Admin Guide

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Table of Contents

1 Admin guide overview **30**

1.1 Navigation 30

1.1.1 Logging in 30

1.1.2 Tab navigation 30

1.1.3 All tabs menu 33

1.1.4 Tab strip 34

1.1.5 User options 36

1.1.6 UI framework 39

1.1.7 Resetting your password 42

1.1.8 Favorites 43

1.1.9 Quick nav 45

1.1.10 Quick nav functionality 46

1.2 Logging into Relativity 46

1.2.1 Logging in to Relativity with a password 46

1.2.2 Password 47

1.2.3 Two-factor authentication 47

1.2.4 Active Directory 49

1.2.5 Integrated Authentication 50

1.2.6 RSA 50

1.2.7 OpenID Connect 50

1.2.8 SAML 2.0 51

1.2.9 Creating or resetting a password 51

2 Relativity applications **53**

2.1 System secured applications 53

2.1.1 Applications installed in the Application Library 53

2.1.2 Applications installed in workspaces 54

2.2 Relativity custom applications 54

2.3 Administering Relativity applications 54

2.4 Global applications 55

2.4.1 Viewing global applications 55

2.5 Exporting applications 56
2.5.1 Avoiding errors during application export 57
2.5.2 Application state settings on export 59
2.5.3 Exporting an application 60
2.6 Locking and unlocking applications 60
2.6.1 Locking an application 61
2.6.2 Customizing locked applications 61
2.6.3 Modifying saved searches in a locked application 62
2.6.4 Unlocking an application 63
2.7 Installing applications 63
2.7.1 Installing applications to the Application Library 64
2.7.2 Pushing an application from the Application Library to a workspace 66
2.7.3 Installing applications to workspaces 66
2.8 Troubleshooting application installation errors 72
2.8.1 Installation error list 72
2.8.2 Resolving installation errors 73
2.8.3 Pre and Post Install event handler errors 74
2.8.4 Checking the error statuses 74
2.9 Uninstalling and deleting applications 75
2.9.1 Uninstalling applications 75
2.9.2 Deleting applications 84
2.10 Upgrading applications 84
2.10.1 Upgrading an application 84
2.10.2 Troubleshooting application upgrades 86
3 Authentication 88
3.1 Authentication overview 88
3.1.1 Authentication methods 88
3.1.2 Authentication object model 89
3.1.3 Authentication object permissions 90
3.2 Configuring Relativity authentication 90
3.2.1 Enabling authentication provider types 90
3.2.2 Creating authentication providers 90

3.2.3 Assigning a login method to individual users 91
3.3 Authentication provider settings 91
3.4 OpenID Connect with Microsoft Azure AD 93
3.4.1 Configuring your external identity provider 93
3.4.2 Configuring this method in Relativity 98
3.4.3 Completing your external identity provider set up 99
3.4.4 Adding users to the application in Azure 103
3.5 Using Relativity as an OpenID Connect Provider 104
3.6 SAML 2.0 provider 106
3.6.1 Configuring Okta as a SAML 2.0 identity provider 107
3.6.2 Configuring ADFS as a SAML 2.0 identity provider 112
3.7 Managing user authentication methods 113
3.7.1 Invitation workflow 113
3.7.2 Manually setting passwords 116
3.7.3 Active Directory 117
3.7.4 Integrated Authentication 117
3.7.5 OpenID Connect 118
3.7.6 SAML 2.0 118
3.7.7 Client Certificate 119
3.7.8 RSA 120
3.8 Authentication procedures 121
3.8.1 Setting IP address range 121
3.8.2 Configuring integrated authentication 122
3.8.3 Sending Email 123
3.8.4 RSA configuration 123
3.9 OAuth2 clients 124
3.9.1 Creating or editing an OAuth2 client 124
3.9.2 Resetting a client secret 126
3.9.3 Deleting an OAuth2 client 127
Viewing an OAuth2 client audit history 127
3.10 Federated instances 127
3.10.1 Creating or editing a federated instance 128

3.10.2 Deleting a federated instance 129
Viewing a federated instance audit history 129
4 Bandwidth tester 131
4.1 Launching the bandwidth tester 131
4.2 Executing a latency test 132
4.2.1 Measuring network delay with a latency test 132
4.2.2 Executing a latency test 133
4.3 Executing a download test 134
4.3.1 Measuring download speed with a download test 134
4.3.2 Executing a download test 134
5 Batches 136
5.1 Batch fields in Relativity 136
5.2 Creating and editing batch sets 137
5.2.1 Batch Sets for Reviewers 137
5.2.2 Fields 138
5.2.3 Batch Set console 139
5.3 Deleting an individual batch 140
5.4 Deleting a batch set 141
5.5 Searching for documents not included in existing batch sets 142
5.6 Assigning batches and checking batches in and out 142
5.6.1 Assign a batch or check a batch out 142
5.6.2 Reassign a batch or check a batch in 143
5.7 Building views for checked-out documents 144
5.7.1 Build a checked-out documents view 144
6 Choices 145
6.1 Accessing the Choice editor 145
6.1.1 Accessing the Choice editor from the Fields tab 145
6.1.2 Accessing the Choice editor from the Choices tab 146
6.1.3 Accessing the Choice editor from layouts 147
6.2 Permission considerations for the Choice editor 148
6.3 Adding choices 149
6.3.1 Adding a choice from the Fields tab 149

6.3.2 Adding a choice from the Choices tab 150
6.3.3 Adding a choice from a layout 150
6.3.4 Adding multiple choices 151
6.4 Editing choices 152
6.4.1 Editing choice names 153
6.4.2 Editing choice details 153
6.5 Choice detail fields 153
6.6 Deleting choices 155
6.7 Performing mass operations on choices 155
6.8 Organizing choices 156
6.8.1 Dragging and dropping choices 156
6.8.2 Alphabetizing choices 157
6.8.3 Reordering top level choices 157
6.9 Fields in workspaces 158
6.10 Admin choices 159
6.10.1 Admin fields 159
7 Clients 161
7.1 Creating or editing a client 161
7.1.1 Fields 161
7.2 Enabling client domains on a client 161
7.2.1 Generating a client domain request 162
7.2.2 Applying the activation key 162
8 Dashboards 164
8.1 Creating commonly-used dashboards 168
8.1.1 Data Load QC 168
8.1.2 Database Stats 169
8.1.3 Document Characteristics 170
8.1.4 Review Prioritization 171
8.1.5 Review Progress/QC 172
8.1.6 Privilege Review/QC 173
8.1.7 Reviewer Stats 174
8.1.8 Search Term Review 175

8.1.9 Pre-Production QC 176
8.1.10 Post-Production Review 177
8.1.11 Email Threading 178
8.1.12 Language Identification 178
8.1.13 Special considerations 179
9 Errors 180
9.1 Fields 181
10 Fields 183
10.1 Fields permissions 183
10.2 System fields 183
10.3 Creating and editing fields 185
10.4 Fields on field 186
10.4.1 Field Information 186
10.4.2 Field Settings 186
10.4.3 Advanced Settings 188
10.4.4 List and Dashboard Settings 196
10.4.5 Choices 198
10.5 Field types 198
10.5.1 Fixed-length text 199
10.5.2 Long text 199
10.5.3 Date 199
10.5.4 Whole number 199
10.5.5 Decimal 199
10.5.6 Currency 200
10.5.7 Yes/No 200
10.5.8 Single choice 200
10.5.9 Multiple choice 200
10.5.10 User 200
10.5.11 File 201
10.5.12 Single object 201
10.5.13 Multiple object 201
10.5.14 Fields and performance 202

10.5.15 Linking Fields to Field Categories 202
10.6 Applying propagation to documents 202
10.6.1 Propagating to documents in multiple groups 203
11 Field Categories 206
11.1 Creating a field category 206
11.2 Viewing fields associated with a field category 207
11.3 Link a field or fields to a field category 207
11.4 Unlink a field or fields from a field category 208
12 Filters 210
12.1 Showing and hiding filters in the item list 210
12.2 Setting a filter 211
12.3 Filter types 212
12.3.1 Using Boolean filters 213
12.3.2 Using numeric filters for numbers 214
12.3.3 Using List filters 215
12.3.4 Using date filters 217
12.3.5 Using multilist filters 219
12.3.6 Using textbox filters 221
12.3.7 Textbox filter search examples 222
12.3.8 Using advanced textbox filtering 224
12.4 Changing item sets per page 225
12.5 Saving filters as a search 226
13 Groups 227
13.1 System groups 227
13.2 Creating and editing groups 227
13.3 Fields 228
13.4 Adding users to groups 229
13.5 Adding or removing groups from a client domain 230
14 History 232
14.1 History view fields 232
14.2 Filters on the History tab 233
14.3 Audited actions 234

14.4 Exporting the history list 236
15 Imaging 237
15.1 Required security permissions for imaging 237
15.2 Installing imaging agents 238
15.3 Troubleshooting imaging 240
15.4 Image on the fly 241
15.5 Mass image 241
15.6 Imaging profiles 241
15.6.1 Creating and editing an imaging profile 242
15.6.2 Fields 242
15.6.3 Native file imaging profile validation 251
15.6.4 Viewing imaging profile details 252
15.7 Imaging sets 255
15.7.1 Using imaging sets 255
15.7.2 Creating and editing an imaging set 255
15.7.3 Fields 256
15.8 Image upload 258
15.8.1 Required security permissions 258
15.8.2 Uploading an image 258
15.8.3 Audits for image upload 260
15.9 Application Field Codes 260
15.9.1 Application Field Codes in Relativity 261
15.9.2 Application Field Code formats 263
15.9.3 Creating or editing an Application Field Code 263
15.9.4 Fields 264
15.9.5 Linking an Application Field Code to a native imaging profile 265
15.10 Running an imaging set 265
15.10.1 Special considerations 265
15.10.2 Imaging Set console 266
15.10.3 Imaging profile caching 267
15.10.4 Password Bank 267
15.11 Monitoring imaging status 267

15.12 Imaging errors 269
15.12.1 Viewing imaging errors 270
15.12.2 Imaging error scenarios 273
15.12.3 Error email notification 273
15.12.4 Retrying imaging errors 274
15.12.5 Password Bank in imaging workflow 274
15.13 Imaging Warnings 275
15.13.1 Special considerations 275
15.13.2 Imaging Warnings tab 275
15.13.3 All imaging warnings 278
15.13.4 Core Reviewer layouts 279
15.13.5 Re-imaging emails with tables 280
15.14 QC Review 282
15.14.1 Hiding images for QC 282
15.14.2 Releasing images 283
15.15 Imaging jobs in the Worker Manager Queue 285
15.16 Native imaging - dithering algorithm options 287
15.16.1 Dithering algorithm details 287
15.17 Imaging native types 301
15.17.1 Editing a native type 302
15.17.2 Generating a complete list of native types and their respective imaging engines 302
15.18 Supported file types for imaging 303
16 Instance Details tab 305
16.1 Monitoring Relativity environments from the Instance Details tab 306
16.1.1 License information 306
16.1.2 Alerts 306
16.1.3 Security 307
16.1.4 User Information 308
16.1.5 Queues 308
16.2 Adding and editing a Message of the Day 308
17 Instance settings 312
17.1 Creating and editing a new instance setting 312

17.1.1 Editing an instance setting 312
17.2 Instance Setting Information layout fields 312
17.3 Deleting an instance setting 315
Viewing an instance setting's history 315
18 Keyboard shortcuts 316
18.1 Keyboard shortcuts legend 317
18.2 Special considerations for keyboard shortcuts 318
18.3 Document field type shortcuts 319
18.4 Document choice shortcuts 320
18.5 Creating keyboard shortcuts 320
19 Layouts 323
19.1 Layout permissions 324
19.2 Creating and editing layouts 324
19.3 Layout Information fields 325
19.3.1 Changing layouts 327
19.4 Using the layout builder 327
19.4.1 Layout Options console 328
19.4.2 Creating and editing a layout group 329
19.4.3 Saving the layout 331
19.5 Adding a choice to a layout 331
19.6 Pop-ups on the layout 332
19.7 Adding and editing an object list 332
19.7.1 Adding and editing an object list 332
19.8 Adding fields and text 334
19.8.1 Layout options 334
19.8.2 Adding fields to a category 336
19.8.3 Removing fields from a category 336
19.8.4 Making a field one or two column 336
19.8.5 Making a field read-only 337
19.8.6 Other fields considerations 337
19.8.7 Field properties 337
19.9 Creating a new category 338

19.9.1 Adding and editing categories 338
19.9.2 Category properties 339
19.10 Copy from Previous 340
19.10.1 Adding the Copy from Previous toolbar 340
19.10.2 Using Copy from Previous 341
19.11 Using the rich text editor 342
19.11.1 Rich text editor features 342
20 Lists 346
20.1 Enabling lists on an object 347
20.2 Viewing items in a list 348
20.2.1 Converting a new list of documents into a saved search 348
20.2.2 Incorporating a list of documents as a search criterion in a saved search 349
20.2.3 Creating a view from a saved list 349
21 Relativity Script Library 351
21.1 Analytics billable estimate 353
21.1.1 Special considerations 353
21.1.2 Inputs 353
21.1.3 Results 353
21.2 Australian Document ID 353
21.2.1 Installing to the Relativity Script Library 354
21.2.2 Installing Australian Document ID application to a workspace 354
21.2.3 Running the solution 354
21.3 Billing statistics - case rollup 355
21.3.1 Inputs 355
21.3.2 Results 355
21.4 Billing statistics - users 358
21.4.1 Inputs 358
21.4.2 Results 359
21.4.3 Retrieving historical data 360
21.5 Choice field stratified sampling 360
21.5.1 Special considerations 360
21.5.2 Inputs 361

21.5.3 Results 361
21.6 Copy To Legacy Document Fields 361
21.6.1 Special considerations 361
21.6.2 Inputs 362
21.6.3 Results 362
21.7 Create sample set 362
21.7.1 Special considerations 362
21.7.2 Inputs 363
21.7.3 Results 364
21.8 dtSearch index auto incremental build 364
21.8.1 Special considerations 364
21.8.2 Results 364
21.9 Forgotten password reset audit 364
21.9.1 Inputs 364
21.9.2 Results 365
21.10 Globally administer keyboard shortcuts 365
21.10.1 Category 365
21.10.2 Special considerations 365
21.10.3 Inputs 365
21.10.4 Results 367
21.11 Moving Analytics indexes and structured analytics sets 367
21.11.1 Moving Analytics indexes and structured analytics sets 367
21.11.2 Migrating the Analytics server 372
21.11.3 Backing up or archiving Analytics data 375
21.11.4 Restoring Analytics data 376
21.12 Moving dtSearch indexes 378
21.12.1 Requirements 378
21.12.2 Special considerations 378
21.12.3 Moving dtSearch indexes 378
21.13 Propagate sent date to family documents 379
21.13.1 Special considerations 380
21.13.2 Inputs 380

21.13.3 Results 380
21.14 Relativity SMTP configuration script 380
21.14.1 Inputs 380
21.14.2 Results 381
21.15 Report sample-based statistics 382
21.15.1 Report types 382
21.15.2 Inputs 382
21.15.3 Results 383
21.16 Reviewer statistics 383
21.16.1 Inputs 383
21.16.2 Results 384
21.17 Set duplicate flag field 386
21.17.1 Special considerations 386
21.17.2 Inputs 386
21.17.3 Results 387
21.18 Set extracted text size field 387
21.18.1 Special considerations 387
21.18.2 Inputs 388
21.18.3 Results 388
21.19 Set native file size field v4 388
21.19.1 Special considerations 388
21.19.2 Inputs 388
21.19.3 Results 388
21.20 Set production beg/end attach fields 389
21.20.1 Special considerations 389
21.20.2 Inputs 389
21.20.3 Results 389
21.21 Set Relativity folder path field 389
21.21.1 Special considerations 390
21.21.2 Inputs 390
21.21.3 Results 390
21.22 Upgrade legacy applications 390

21.22.1 Inputs 390
21.22.2 Results 391
21.23 Workspace status report 391
21.23.1 Special considerations 391
22 Markups 393
22.1 Permissions 393
22.2 Highlights 393
22.2.1 Creating highlights 393
22.3 Redactions 393
22.3.1 Creating basic redactions 394
22.3.2 Creating inverse redactions 394
22.3.3 Creating full-page redactions 395
22.3.4 Creating mass redactions 396
22.4 Editing markups 397
22.5 Deleting markups 397
22.5.1 Working with overlapping markups 397
22.5.2 Working with markups outside of page boundaries 398
22.5.3 Editing redaction text with a markup set 399
22.5.4 Editing redaction text 400
22.5.5 Editing font size in text box redactions 400
22.6 Mass deleting markups 400
22.7 Controlling markup visibility 401
22.8 Viewing markup history 401
22.9 Using the Markup Navigation pane 402
23 Markup sets 403
23.1 Creating and editing a markup set 404
23.2 Fields 404
23.3 Copying markup sets 405
24 Mass operations 406
24.1 Cancel Production Job 407
24.1.1 Security configuration 407
24.1.2 Using Cancel Production Job 408

24.2 Mass edit 408
24.2.1 Working with multi-choice fields on the mass edit form 409
24.3 Mass copy 411
24.4 Mass move 412
24.5 Mass delete 412
24.5.1 Performing a mass delete on documents 413
24.5.2 Performing a mass delete on other objects 415
24.5.3 Enabling or disabling snapshot auditing on delete 416
24.6 Mass replace 416
24.7 Mass image 417
24.8 Tally/sum/average 419
24.9 Send to CaseMap 420
24.10 Mass export to file 422
24.10.1 Fields 423
24.11 Move to folder path 423
24.11.1 Prerequisites for the move to folder path mass operation 423
24.11.2 Running the move to folder path mass operation 425
24.12 Mass Save as List 428
24.13 Mass PDF 429
24.13.1 Prerequisites 430
24.13.2 Download PDF application 430
24.13.3 Install PDF application 431
24.13.4 Add PDF application agent 431
24.13.5 Relativity service account 432
24.13.6 Upgrade PDF application 432
24.13.7 PDF permissions 432
24.13.8 PDF profile 433
24.13.9 Creating PDFs via mass operation 435
24.14 Mass convert 438
24.15 Retry Production Job 439
24.15.1 Security configuration 439
24.15.2 Retrying production jobs 440

24.16 Set long text field size 440
24.16.1 Before you begin 440
24.16.2 Using the mass operation 441
24.17 Invite users 441
25 Matters 443
25.1 Creating or editing a matter 443
25.2 Adding or removing matters from a client domain 444
26 Client domains 445
26.1 Considerations before enabling client domains 445
26.2 Enabling client domains on a client 446
26.2.1 Generating a client domain request 447
26.2.2 Applying the activation key 447
26.3 Client domain admins 447
26.3.1 Client domain admin considerations 448
26.3.2 Assigning a client domain admin 449
26.4 Client domain limitations and considerations 449
26.5 Adding or removing objects from a client domain 451
27 OCR 452
27.1 Creating and editing an OCR profile 452
27.2 Fields 453
27.3 Creating and editing an OCR set 454
27.4 Fields 455
27.5 Running an OCR set 456
27.6 Viewing OCR text 459
27.7 OCR queue 459
27.8 OCR on redacted production documents 460
27.8.1 Running the OCR job 460
27.8.2 Exporting the production 460
28 Pivot 462
28.1 Pivot profiles 462
28.1.1 Creating or editing a Pivot profile 463
28.2 Running Pivot reports 465

28.2.1 Adding a Pivot widget 465
28.2.2 Pivot options 467
28.2.3 Working with Pivot chart results 469
28.2.4 Working with Pivot table results 473
29 Persistent highlight sets 476
29.1 Getting started with persistent highlight sets 478
29.1.1 Showing and hiding persistent highlight sets in the Viewer 479
29.1.2 Navigating highlighted terms in the Viewer 482
29.1.3 Persistent highlight set behavior across Viewers 484
29.1.4 Persistent highlight behavior 484
29.2 Using multiple persistent highlight sets 485
29.3 Performance considerations 486
29.3.1 Individual document size 487
29.3.2 Number of terms 487
29.3.3 Types of operators used 487
29.3.4 Local machine 487
29.4 Creating persistent highlight sets 487
29.4.1 Fields 488
29.5 Entering highlight terms 489
29.5.1 Color-coding persistent highlights 489
29.5.2 Guidelines for adding terms or phrases 490
29.6 Using the highlight fields source 491
29.6.1 Best practices 494
29.7 Importing search terms for persistent highlighting 494
29.7.1 Relativity component setup 494
29.7.2 Importing terms 495
29.8 Creating efficient searches for persistent highlighting 497
29.8.1 Using terms search 497
29.8.2 Using highlight fields 499
30 Printing in Relativity 501
31 Production 502
31.1 Upgrading production 504

31.2 Basic production workflow 504
31.3 Production information 504
31.3.1 Production information tab 505
31.4 Production sets 506
31.4.1 Creating and editing a production set 506
31.4.2 Basic Settings 507
31.4.3 Numbering 508
31.4.4 Branding 515
31.4.5 Sorting 518
31.4.6 Other 519
31.4.7 Viewing production set details 519
31.4.8 Tracking multiple redaction sets 520
31.5 Production data source 521
31.5.1 Adding a production data source 521
31.6 Production placeholders 523
31.6.1 Creating an image placeholder 523
31.6.2 Creating a custom placeholder 524
31.6.3 Previewing placeholders 525
31.7 Production console 525
31.7.1 Manage Production 526
31.7.2 Run Production 527
31.7.3 Advanced Options 528
31.7.4 Stage and run a production 528
31.7.5 Stage a production 534
31.7.6 View documents 536
31.7.7 Check for production conflicts 537
31.8 Run a production 538
31.8.1 Checking production status 538
31.9 Production errors 540
31.9.1 Staging errors 540
31.9.2 Validation errors 541
31.9.3 Branding errors 542

31.10 Re-production 543
31.10.1 Special considerations 543
31.10.2 Security configuration 544
31.10.3 Re-production types 544
31.10.4 Re-production scenarios 548
31.10.5 Re-produce documents 550
31.10.6 Re-production job status 551
31.10.7 Re-production views 552
31.11 Branding queue 553
31.11.1 Branding queue fields 553
31.12 Production queue 553
31.12.1 Change job priority 554
31.12.2 Retry Production Job mass operation 554
31.12.3 Cancel Production Job mass operation 555
31.12.4 Production queue fields 556
32 Overview 557
32.1 Template change log 557
32.2 Accessing the template file 561
32.3 Recommended pre-work 562
32.3.1 Advanced components 562
33 Tab structure 564
33.1 Documents 564
33.1.1 Saved searches 568
33.2 Workspace admin 572
33.2.1 Workspace details 574
33.2.2 Search indexes 574
33.2.3 Fields 575
33.2.4 Choices 576
33.2.5 Layouts 576
33.2.6 Views 577
33.2.7 Tabs 578
33.2.8 Relativity applications 579

33.2.9 Audit Migration Reports 580
33.2.10 Audit Workspace Setttings 581
33.2.11 User Status 582
33.3 Entities 582
33.4 Processing 583
33.5 Indexing & Analytics 584
33.6 Imaging & OCR 585
33.7 Scripts 585
33.8 Search Terms Reports 586
33.9 Review batches 587
33.10 Summary reports 588
33.11 Pivot profiles 588
33.12 Domains 589
33.13 Production 590
33.13.1 Production sets 591
33.13.2 Production placeholder 591
33.14 Audit 592
33.15 Case admin 592
33.15.1 Batch sets 593
33.15.2 Markup sets 593
33.15.3 Persistent highlight sets 594
33.15.4 Transform sets 594
33.16 Dashboards 595
33.17 Processing Duplication Workflow 596
33.18 Integration Points 597
34 Resource pools 599
34.1 Creating a resource pool 600
34.2 Adding resources to a pool 601
34.3 Removing an Analytics server from a resource pool 602
34.4 Adding or removing a processing source location 603
34.5 Adding or removing resource pools from a client domain 604
35 Sampling 605

35.1 Enabling sampling on an object 605
35.2 Generating a sample 606
35.2.1 Creating a fixed size sample set 607
35.2.2 Creating a percentage sample set 608
35.2.3 Creating a statistical sample set 608
36 Scripts 609
36.1 Relativity Script Library 609
36.2 Script compatibility and updates 610
36.3 Selecting a library script 610
36.4 Creating a new workspace script 611
36.5 Adding a library script to the script tab 612
36.6 Running a library script 612
37 Script groups 613
37.1 Setting up a script group 613
38 Search terms reports 617
38.1 Guidelines for using search terms reports 617
38.2 Creating a search terms report 618
38.2.1 Fields 618
38.2.2 Adding terms and highlight colors 621
38.2.3 Editing terms and highlight colors 622
38.2.4 Deleting terms 622
38.2.5 Copying a search terms report 622
38.3 Running a search terms report 623
38.3.1 Search terms report status 624
38.4 Accessing tagged documents using the Field Tree browser 624
38.5 Using tagged search terms in a saved search 625
38.6 Permissions 627
39 Searching overview 629
40 Security and permissions 631
40.1 Instance security 631
40.2 Workspace and object security 631
40.3 Levels of Security in Relativity 631

40.4 Instance security 632
40.4.1 Object Security tab 632
40.4.2 Tab Visibility tab 634
40.4.3 Admin Operations tab 635
40.4.4 Group Permissions report 636
40.4.5 Uneditable admin permission settings for the Everyone group 637
40.4.6 Script library permissions available only to system admins 637
40.5 Setting instance permissions 638
40.5.1 Group Management tab 638
40.5.2 Object Security tab 641
40.5.3 Tab Visibility tab 642
40.5.4 Admin Operations tab 642
40.6 Workspace security 643
40.6.1 Workspace permissions 645
40.6.2 Object security 645
40.6.3 Object list 646
40.6.4 Tab visibility 653
40.6.5 Browsers 656
40.6.6 Mass operations 656
40.6.7 Admin operations 657
40.6.8 Workspace admin group 659
40.6.9 Features in workspaces available only to system admins 660
40.7 Setting workspace permissions 660
40.7.1 Group Management 661
40.7.2 Saving permissions for a group 663
40.7.3 Object Security 663
40.7.4 Tab Visibility 664
40.7.5 Other Settings 664
40.8 Relativity object security 665
40.8.1 Securing a folder for selected groups 666
40.9 Preview security 667
40.9.1 Previewing security from the Workspace Details tab 668

40.9.2 Previewing security from the Groups tab 668
40.9.3 Previewing security from the Users tab 668
40.9.4 Preview security audit 669
41 Servers 670
41.1 Servers automatically added during Relativity installation 670
41.1.1 Agent server 670
41.1.2 Cache location server 670
41.1.3 Services server 671
41.1.4 SQL - Distributed server 671
41.1.5 SQL - Primary server 671
41.1.6 Web server 671
41.2 Servers requiring manual addition after Relativity installation 671
41.2.1 Analytics server 671
41.2.2 Worker manager server 671
41.3 Restarting Windows Services 672
41.3.1 Service Status 672
41.3.2 Manage Service 672
41.4 Analytics servers 672
41.4.1 Adding an Analytics server 672
41.4.2 Fields 673
41.4.3 Editing an Analytics server 674
41.4.4 Adding an Analytics server to a resource pool 675
41.4.5 Connectors functionality 675
41.5 Cache location servers 676
41.5.1 Adding a cache location server 676
41.5.2 Fields 677
41.5.3 Editing a cache location server 677
41.5.4 Adding a cache location to a resource pool 677
41.5.5 Clearing the cache 678
41.5.6 Resolving cache alerts 678
41.6 SQL, agent, services, and web servers 678
41.6.1 Adding SQL, agent, services, or web servers 679

41.6.2 Editing SQL, agent, services, or web servers 679
41.6.3 Monitoring Relativity user load balancing (RULB) on web servers 681
41.7 Configuring the worker manager server 682
41.7.1 Resource server information 683
41.8 Workers 686
41.8.1 Adding a worker 686
41.8.2 Fields 686
41.8.3 Editing worker designated work 687
41.8.4 Starting and stopping workers 689
41.8.5 Limiting workers to particular resource pools 689
41.9 Worker monitoring 690
41.9.1 Monitoring workers 690
41.9.2 Monitoring threads 693
41.9.3 Errors 695
41.9.4 Security considerations 695
42 Summary reports 697
42.1 Creating and editing a summary report 697
42.2 Fields 698
43 Tabs 700
43.1 Creating and editing tabs 701
43.2 Fields 701
43.2.1 Tab Information 702
43.2.2 Tab Location 703
43.3 Nesting children tabs 704
43.4 Assigning a GUID to an object 704
44 Transform sets 706
44.1 Domain parsing 706
44.1.1 Prerequisites 707
44.1.2 Creating a domain parsing transform set 707
44.1.3 Fields 707
44.1.4 Adding a transform 708
44.1.5 Fields 708

44.1.6 Running the transform set 709
44.1.7 Domain Parsing - SMTP, X400, X500 711
44.2 Conversation index parsing 711
44.2.1 Prerequisites 711
44.2.2 Creating a conversation index transform set 712
44.2.3 Fields 713
44.2.4 Adding a transform 713
44.2.5 Fields 713
44.2.6 Running the transform set 714
45 Users 715
45.1 User status 715
45.2 Creating and editing a user 715
45.3 Adding a user login type 716
45.4 Fields 716
45.5 Viewing user audit records 719
45.6 Sending messages to users 721
45.7 Forcing users to log out 721
45.8 Adding or removing users from a client domain 721
45.9 Auto-disable users 722
46 Views 724
46.1 Workspace system views 725
46.2 System views from Home 726
46.3 Creating a view 726
46.3.1 Creating a view with field categories 726
46.3.2 Creating a view without field categories 727
46.4 Information tab 728
46.5 Other tab 728
46.6 Fields tab 729
46.7 Conditions tab 730
46.8 Sort tab 732
46.9 Editing view information 732
46.9.1 Using the four-step wizard 733

46.10 Basic Information 733
46.11 Fields 734
46.12 Conditions 735
46.13 Sort 737
46.14 Linking a dashboard to a view 738
46.15 Displaying family groups in a view 740
46.15.1 Creating the family group view 740
47 Viewer 742
47.1 Native Viewer 743
47.1.1 Navigating the Native Viewer 744
47.1.2 Copying text in the Viewer 750
47.1.3 Streaming audio and video files 751
47.1.4 Document Intelligence 752
47.1.5 Document Conversion 755
47.2 Image Viewer 756
47.2.1 Navigating the Image Viewer 756
47.2.2 Saving an image as a PDF 760
47.3 Extracted Text Viewer 761
47.4 Productions Viewer 765
47.4.1 Navigating the Productions Viewer 765
47.4.2 Imaging on the fly 769
47.5 PDF Viewer 769
47.6 Document actions menu 772
47.7 Viewer settings menu 773
47.7.1 Pop Out Viewer 774
47.7.2 Standalone Viewer 776
47.7.3 Document preview panel 778
47.7.4 Related items card 779
47.7.5 Thumbnail Viewer 781
47.7.6 Document conversion troubleshooting 782
47.8 Save as PDF in mixed mode 790
47.8.1 WinAuth and FormsAuth instance setting values 791

47.9 Document compare 791
47.10 Viewer-supported file types 793
47.10.1 Text only designation 794
47.10.2 File ID only designation 794
47.10.3 Supported File ID-only file types 794
47.10.4 Supported Text-only file types 795
47.10.5 Supported File types 795
47.10.6 Viewer audio and video-supported file types 806
47.10.7 Troubleshooting errors 807
47.10.8 Supported audio file types 807
47.10.9 Supported video file types 808
48 Workspaces 810
48.1 Creating and editing a workspace 812
48.2 Fields 813
48.3 Viewing workspace details 816
48.3.1 Deleting a workspace 817
48.4 Using the utilities console 818
48.4.1 System Settings 818
48.4.2 Relativity Downloads 818
48.4.3 Re-run event handlers 819
48.5 Managing system keyboard shortcuts 819
48.6 Viewing the personal items of workspace users 821
48.7 Adding and editing production restrictions 821
48.7.1 Managing production restrictions in templates 822
48.8 Workspace admin group 822
48.9 Adding workspaces to a client domain 823
48.10 Workspace navigation 823
48.10.1 Browser panel 823
48.10.2 View bar 827
48.10.3 Document preview panel 828
48.10.4 Item list 831
48.10.5 Document set information bar 833

49 Resources **834**
49.1 Tutorials 834
49.2 Relativity Community 834
49.3 Extensibility tools 834
49.4 Relativity Support team 834
49.5 Relativity User Experience Research 834

1 Admin guide overview

The Admin guide will help give you the knowledge to effectively manage Relativity's flexibility and granular security rights. This can help in providing an intuitive interface for your users. This guide explains the majority of features available to you in Relativity. For more information about features not discussed in this guide, review our available information on the 9.5 documentation site.

1.1 Navigation

Relativity is a complex application with many screens and functions. This section describes the Review Interface you use to review documents as well as some of the standard procedures you'll need to perform as you use the product.

1.1.1 Logging in

Relativity offers several ways to log in and it's possible to have two or more methods available to you. Your system admin will provide you with all the information you need to log on. Contact your system admin if you have additional questions.

For procedures to log in, see Logging in to Relativity.

1.1.2 Tab navigation

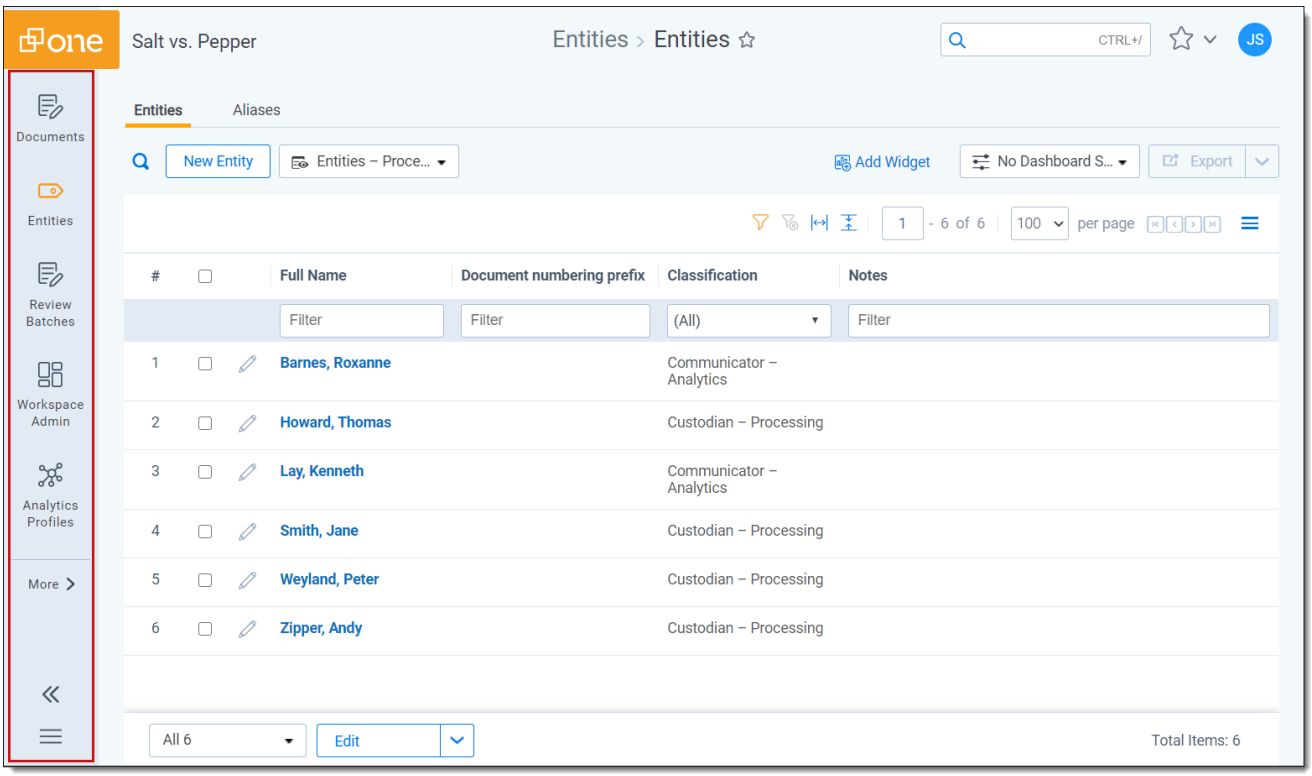
When you log in to Relativity, you see tabs displayed in the Sidebar on the left side of the page. You may also be able to access tabs using the Tab strip which runs horizontally across the top of the page. The Sidebar and Tab strip display the currently available tabs whether you are on the instance or workspace-level. The active tab in the Sidebar is indicated by the tab icon displaying in orange and in the Tab strip, the active tab is indicated by an orange line displaying under the name.

The tabs are arranged based on the Order value for each tab.

You can navigate tabs using the following features.

1.1.2.1 Sidebar

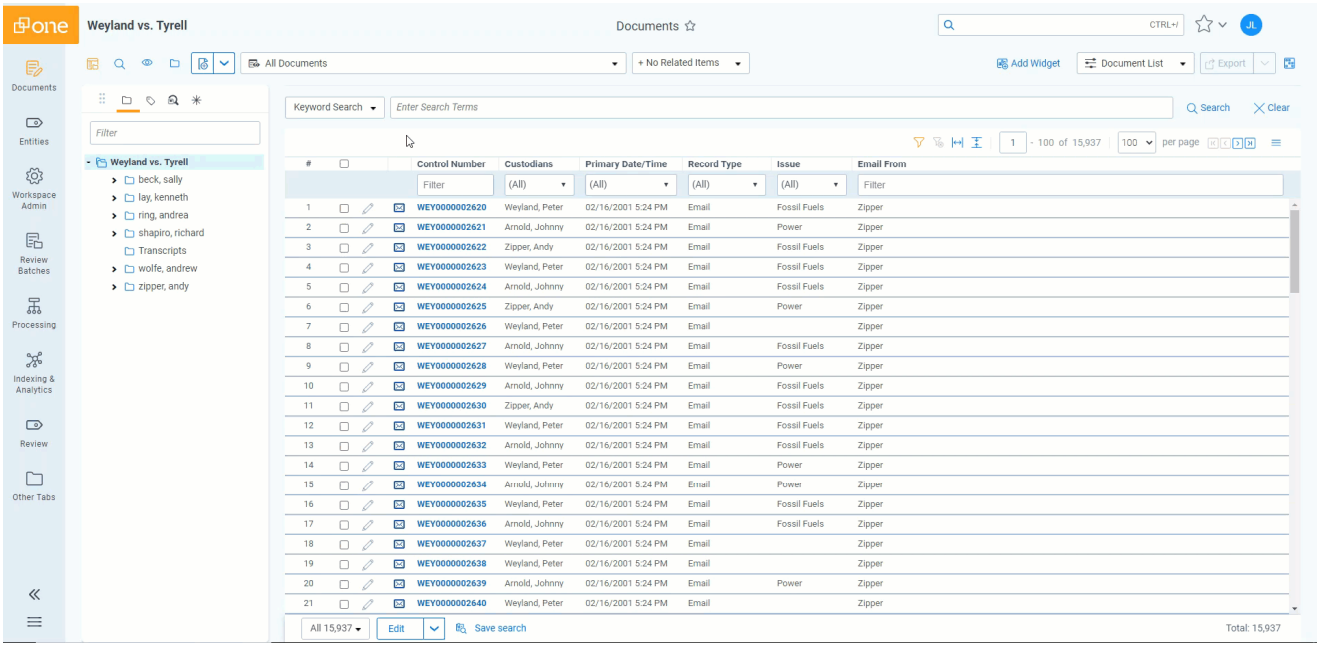
The Sidebar allows you to place tabs that you commonly use on the left-side of Relativity so that you can access them at your convenience.



Tabs are ordered from top to bottom of the Sidebar based on the value entered in **Order**. The lowest Order value displays at the top and the highest value displays at the bottom.

The total number of tabs that display in the Sidebar is determined by the resolution of your browser. Tabs that have been assigned to the Sidebar and do not fit, are available by hovering your cursor over the

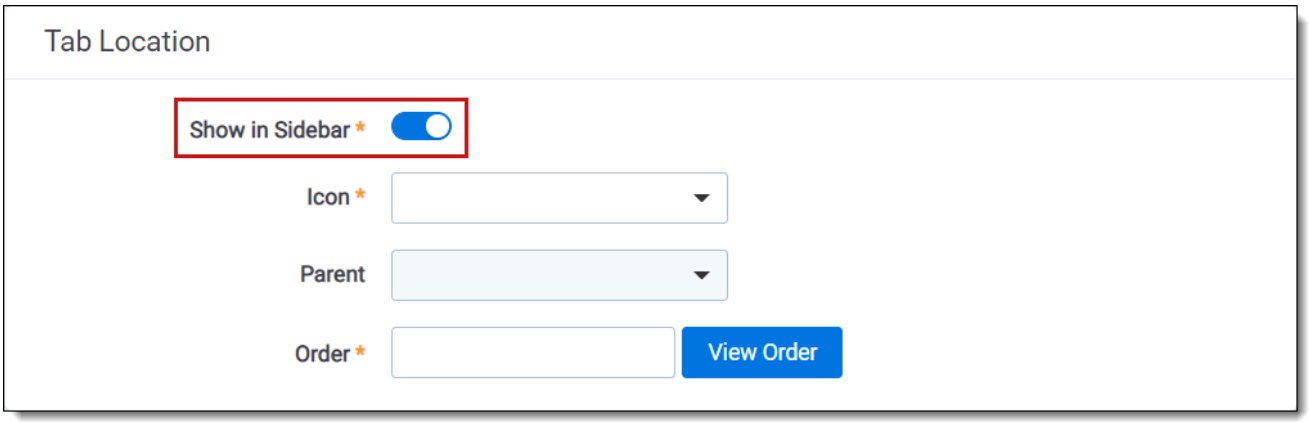
icon. If a tab has one or more child tabs, you can view and select those tabs by hovering over the parent tab's row in the fly-out menu.



The More icon will display with an orange bar on the right side

to indicate that the active tab is located in the More menu.

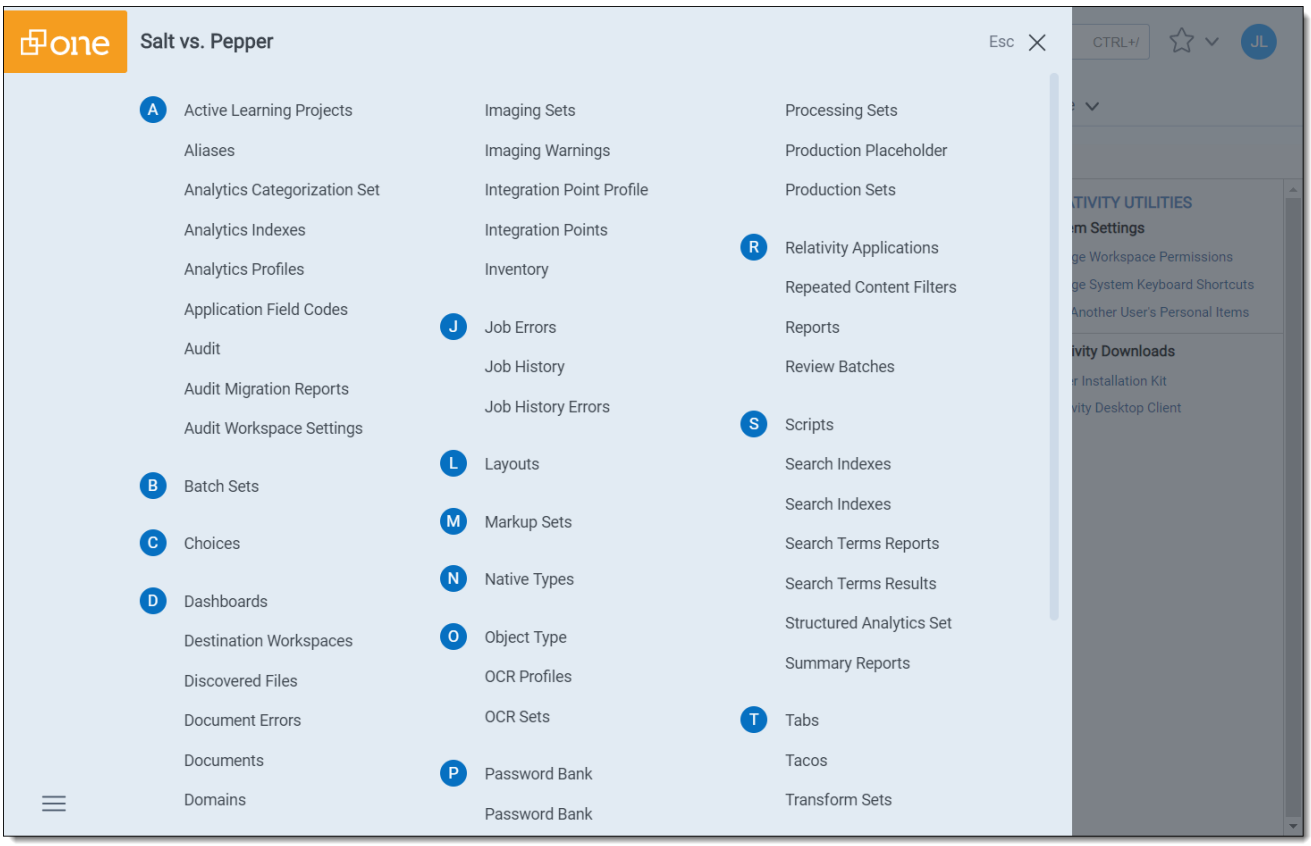
To add a new or pre-existing tab to the Sidebar, toggle the **Show in Sidebar** on and click **Save**.



Tabs can display in the Sidebar with their name and icon. Alternatively, to reduce the width of the Sidebar and increase the number of icons that can display, you can click the Collapse icon to only display the icon for each tab.

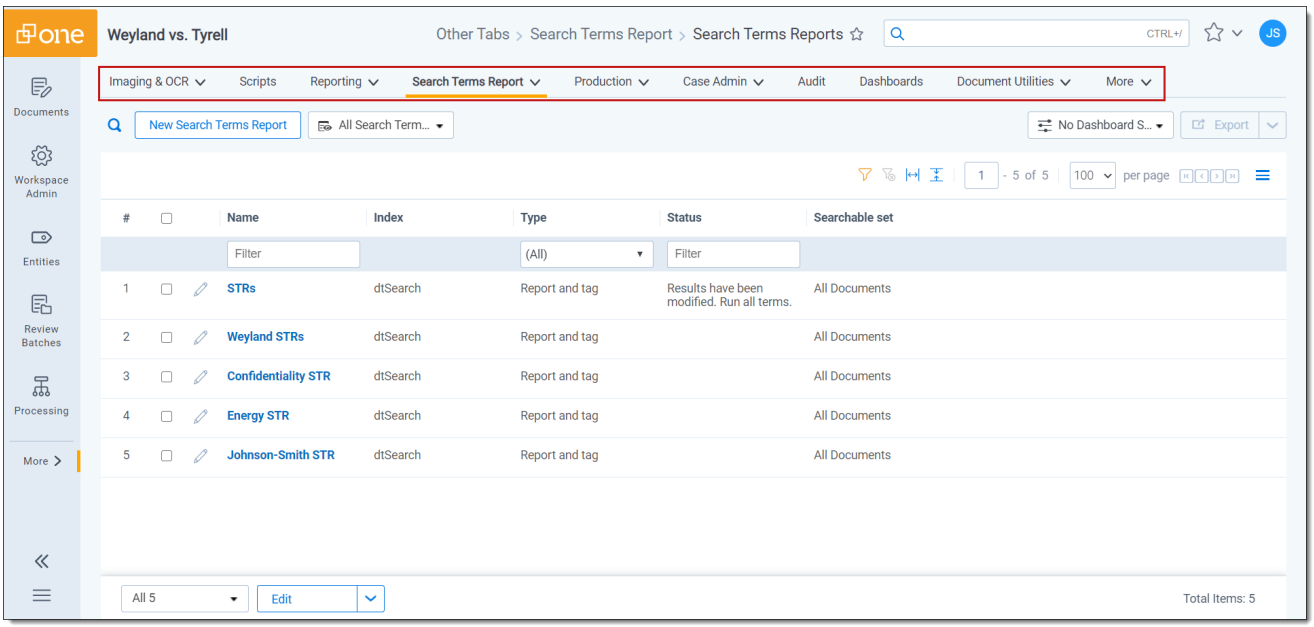
1.1.3 All tabs menu

Click the icon at the bottom of the Sidebar to display the All tabs menu. Every child tab that a user can view, as determined by their permissions, will display in the menu in alphabetic order. This menu does not display parent tabs.



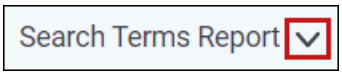
1.1.4 Tab strip

If you select a tab that either has child tabs or is a child tab to a parent tab, the Tab strip will display horizontally across the top of Relativity. If a tab in the Tab strip has one or more children tabs, hover your cursor over it to view and select the desired tab. Depending on the size of your browser, there may be more tabs than can display in the Tab strip. You can hover your cursor over More in the Tab strip to view additional tabs in a fly-out menu.

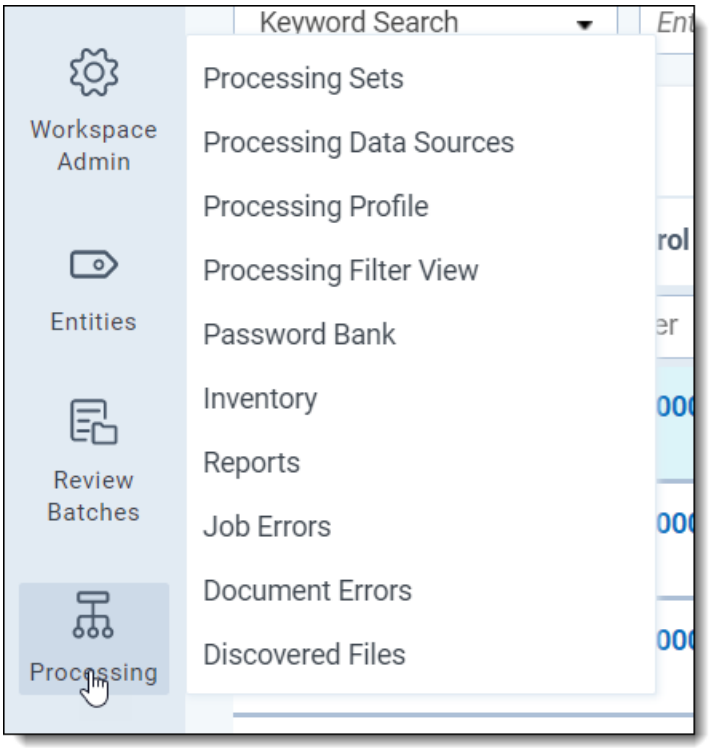


1.1.4.1 Parent and child tab display

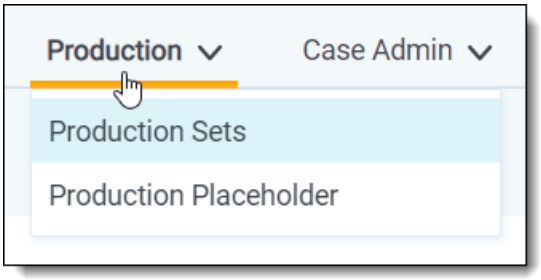
Parent tabs can be displayed in the Sidebar or the Tab strip. Tabs that have child tabs in the Tab strip will display with an arrow on the right side.



To view the child tabs of a parent tab in the Sidebar or Tab strip, hover your cursor over the parent tab and the child tabs will display in a fly-out menu.



When you select a child tab (for example, Production Sets) from the Sidebar or the Tab strip, you are taken to that page. In addition to an orange bar displaying underneath the parent tab in the Sidebar, the child tab and the path to reach the active tab is highlighted in blue to help you track your location in the Sidebar or the Tab strip.



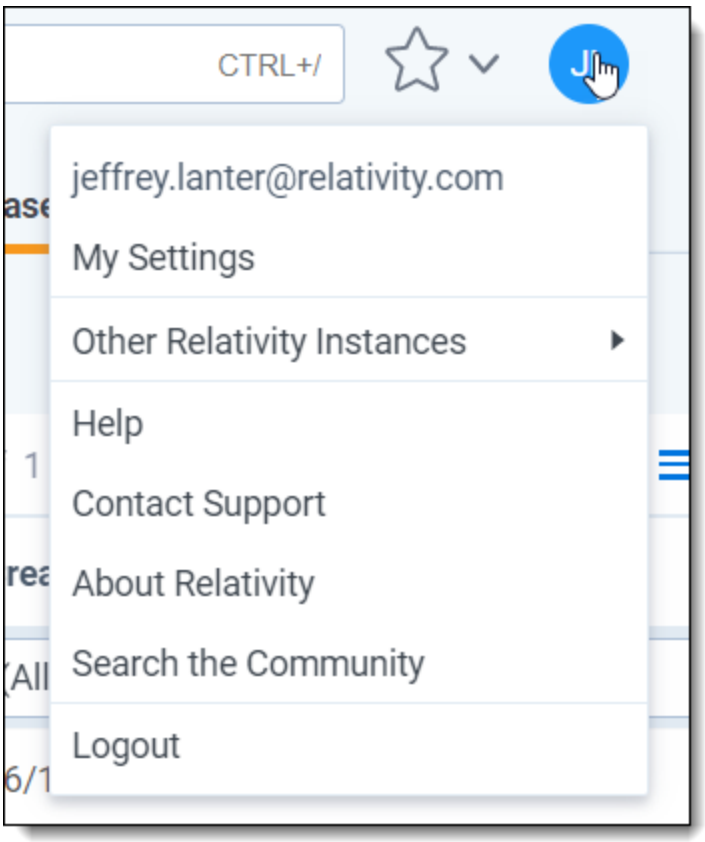
Instead of clicking the drop-down arrow, you can also click the parent tab itself. Clicking the parent tab takes you to the default child tab, which is identified by the Order setting for each child tab.

1.1.5 User options

When you first log in to Relativity, you see the default Home tab. Relativity displays the Workspaces tab as your default Home tab when you navigate to Home, but you can change the default Home tab to be any tab you want.

A system admin is a user with rights to see every item in a Relativity environment.

System admins have access to admin tabs, which allow them to create and edit new clients, matters, users, groups, and views, among other capabilities. You can grant many admin permissions to groups as needed for the various roles certain users might have in your organization. A system admin has full rights to view all tabs within the Relativity environment, but you can grant lower level admin groups access to the particular admin tabs necessary to fulfill their roles.



The Relativity Instances section includes federated instances you have access to. Federated instances links allow reviewers to easily switch to other Relativity environments. For more information, see Federated instances.

The user drop-down menu options are:

- **My Settings** - opens a pop-up where users can change their personal settings. See My settings on the next page for more information.
- **Other Relativity instances** - hover your cursor over this option to display a fly-out menu of federated instances that have been linked to your current one. Click on the desired federated instance to switch to that linked instance.
- **Help** - launches the Relativity Documentation website in your internet browser, which provides all Relativity user, system admin, and systems documentation in a navigable format.
- **Contact Support** - opens a new window in your internet browser containing the Technical Support page of the Relativity website where you can open a support ticket.
- **About Relativity** - opens a pop-up displaying the Relativity version number, your instance details, and licensing agreement information.
- **Ask the Community** - opens a new window in your internet browser containing the Relativity Community page where you can find applications for Relativity to download, stay up to date on the latest Relativity events, and interact with other Relativity users.
- **Logout** - logs users out of Relativity.

1.1.5.1 Changing the default Home tab

Relativity displays the Workspaces tab as your default Home tab when you navigate to Home, but you can change the default Home tab to be any tab that is available for default and that is not a specific tab within a workspace.

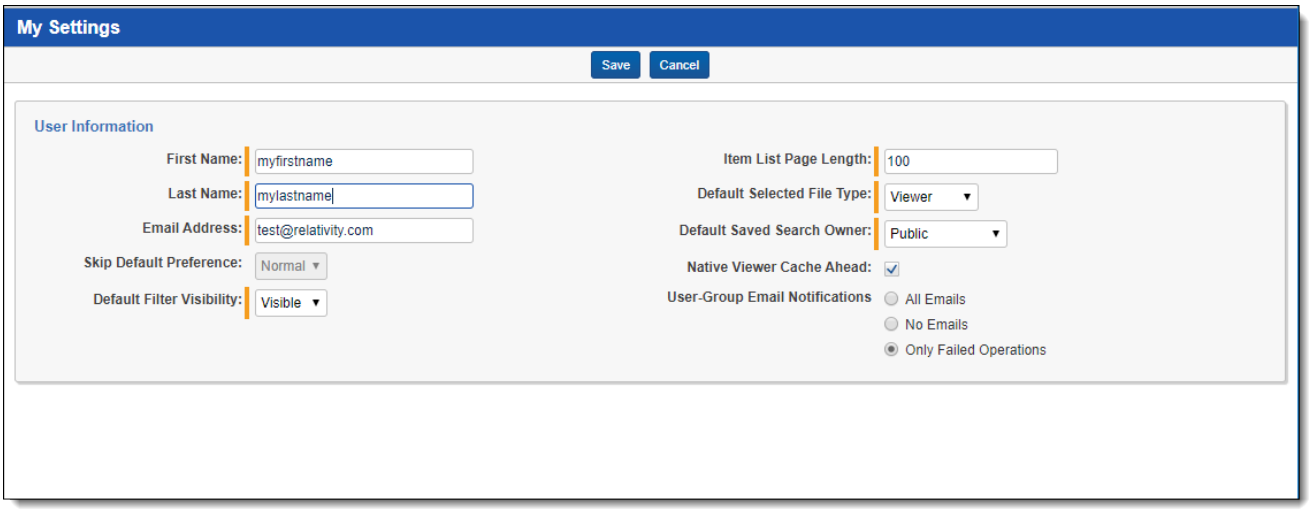
Perform the following steps to change the default Home tab:

1. Navigate to the **Tabs** tab.
2. Click on the tab you want to set as the default Home tab.
3. Click the in the row of the tab you wish to edit.
4. Toggle the **Set as Default Tab** field on.
5. Click **Save**.

Note: If a user is not a member of a group with permission to view the tab set as the default Home tab, Relativity redirects to the lowest ordered tab the user's permissions allow.

1.1.5.2 My settings

Clicking **My Settings** from within the user drop-down menu opens a settings mode pop-up, which displays your user information. Click **Edit** to change your settings.



- **First name** - your first name.
- **Last name** - your last name.

  Note: Your first and last name appear as your username throughout Relativity.

- **Email address** - your email address and login.
- **Skip Default Preference** - When reviewing documents, skip prevents a reviewer seeing documents that are already coded (depending on the selected view). Choose one of the following options:

- **Normal** - this setting disables the skip feature.
- **Skip** - this setting turns on the skip feature.

- **Default Filter Visibility** - determines whether or not the filters for columns in views display by default.
  - **Hidden** - hides filters by default.
  - **Visible** - displays filters by default.
- **Item list page length** - a numeric field indicating the default list length for all lists in Relativity. It can be set from 1 to 200.
- **Default Selected File Type** - the default viewer mode (Viewer, Native, Image, Long Text, or Production) used when first loading the Viewer. If the mode selected is not available, the Viewer will instead use the first available option. See Viewer on page 742 for details.
- **Default Saved Search Owner** - determines whether saved searches are public or private by default. If set to Public, the search is public and all users with rights to it can see it. If set to Logged in User, the search is private and only the logged in user is able to see it.

  Note: Depending on your permissions, you may not have rights to edit the **Default Saved Search Owner** field.

- **Native Viewer Cache Ahead** - if checked, this field pre-loads the next native document in your review queue when the active document is loaded.
- **User-Group Email Notifications** - user's preference for email notifications when adding or deleting Users or Groups.
  - **All Emails** - receive all email notifications.
  - **No Emails** - receive no email notifications.
  - **Only Failed Operations** - receive email notifications on failed operations only.

  Note: Depending on your permissions, you may not have rights to edit the **User-Group Email Notifications** field.

After changing your settings as needed, click **Save**.

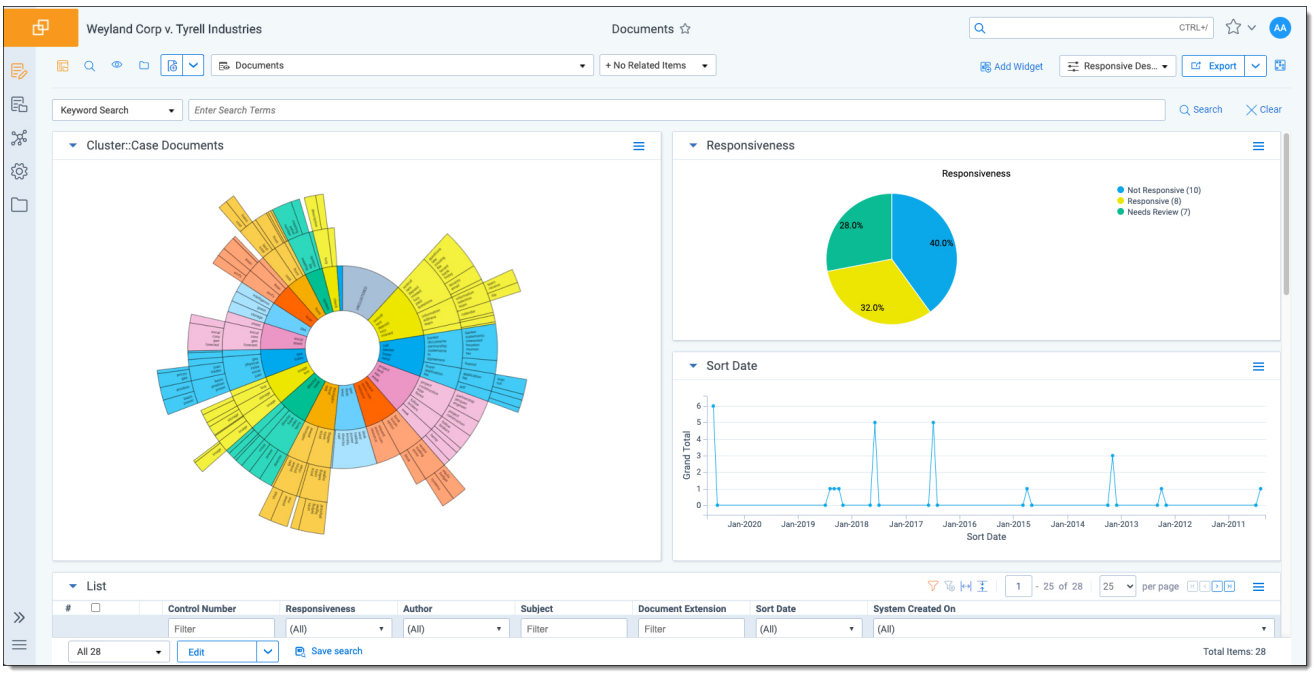
1.1.6 UI framework

In the UI framework, you can access dashboards and the search panel.

1.1.6.1 Dashboards

When you've created a page configuration you'd like to preserve, you can create a customized dashboard. You can save multiple dashboards to quickly change the page configuration. The item list and any widgets on the dashboard will update automatically in response to filtering or searching. Dashboards only report on data within the workspace you are in.

Note: For a list of dashboards that provide an effective starting point for administrators to help review teams visualize their data set, see the Creating commonly-used dashboards in the Admin Guide.



The page initially appears with the folder browser on the top left, the search panel on the bottom left and the item list to the right. Within this new framework, you have multiple options for customizing your display.

You can resize, move, or collapse any panel on the page, including any widgets you create.

- To resize any panel, hover over the line separating the item list from the panel until you see the mouse pointer change to horizontal arrows, then click and drag.
- To move, hover over the top of the panel until you see the icon. Then, click and drag the panel to the new location.
- To collapse the search panel or browser pane, click the icon. Once collapsed, click the icon to restore the browser pane or the icon to restore the search panel.

Additionally, you can drag and drop panels to rearrange on the page. Click any panel and drag it to a new location. The other panels will automatically move to accommodate the panel you're dropping.

Dashboards and widgets can be copied over to newly created workspaces if they are part of a template. Dashboards only report on data within the workspace you are in if data is loaded in the workspace.

Note: You must have the correct workspace permissions to add, edit, or save a dashboard and to save pivot widgets to your dashboard.
You can also export individual Pivot widgets to Excel or to PNG format from each widget's context menu. See Exporting a Pivot widget in the Admin Guide for more information.

Note: To enable the Add Widgets button and Pivot functionality for an Relativity Dynamic Object (RDO), you must select Enabled for the **Pivot** property in the Object Type Information section for the object.

Creating a dashboard

To create a dashboard:

1. Click the **Dashboards** drop-down menu in the top right corner of the screen.

Note: You can only access the drop-down if Pivot is Enabled for the given object type.

2. Click **New Dashboard** to save the current page configuration as a new dashboard.
3. Enter a name and an order number for the dashboard.

Note: The dashboard with the lowest order number will appear by default when you log in to Relativity.

Adding widgets to a dashboard

You can add the following widgets to customize your dashboard:

- **Pivot charts and tables** - You can use Pivot to summarize data in tables or charts to visually analyze trends in your data.
- **Cluster visualizations** - On the Documents tab, you can use Relativity Cluster Visualization to render your cluster data as an interactive visual map by adding a Cluster Visualization widget. This offers you a quick overview of your document cluster sets and quickly drill into each cluster set to view subclusters and conceptually-related clusters of documents. Please note that there may be only one cluster visualization widget per dashboard.
- **Communication Analysis** - After running the name normalization operation within structured analytics, you can use this widget to visualize communication frequencies, patterns, and networks between the entities linked to the documents in the view.

Note: When you reach the maximum number of widgets allowed on a dashboard, the **Add Widget** button will be grayed out and a tooltip displays when you hover over it that lets you know the reason you cannot add any additional widgets to your dashboard. This is controlled by the **MaxNumberDashboardWidgets** instance setting.

Saving changes to a dashboard

You can also make changes on the fly and save a dashboard with the changes. If a dashboard has not been saved, an orange notification displays in the Dashboard drop-down menu until it is saved.

1. Click the Dashboards drop-down menu in the top right corner of the screen to display the list of dashboards available on the current tab.
2. Click **Save** to save the changes to the existing dashboard. Click **Save As** to save the page configuration as a new dashboard, and then enter a **Name** and **Order** number.

Note: If a dashboard is part of a locked application, the option to save the dashboard is unavailable.

Deleting a dashboard

To delete a dashboard from the current tab you are in, click the icon to the right of the dashboard you want to delete in the Dashboards drop-down menu.

Click **Delete** in the Delete Dashboard Confirmation popup to delete the dashboard.

Note: If a dashboard is part of a locked application, the option to delete the dashboard is unavailable.

Renaming a dashboard
To rename a dashboard:

1. Click on the icon next to the name of the dashboard in the Dashboard drop-down menu.
2. Enter a **Name** and an **Order** number for the dashboard. The order number controls the order in which the dashboard displays in the list.
3. Click **Save** to save your changes.

Note: If a dashboard is part of a locked application, the option to edit the dashboard is unavailable.

1.1.6.2 Using the search panel

While working in the Document list in the new UI framework, you can use the search panel to filter your data.

1.1.7 Resetting your password

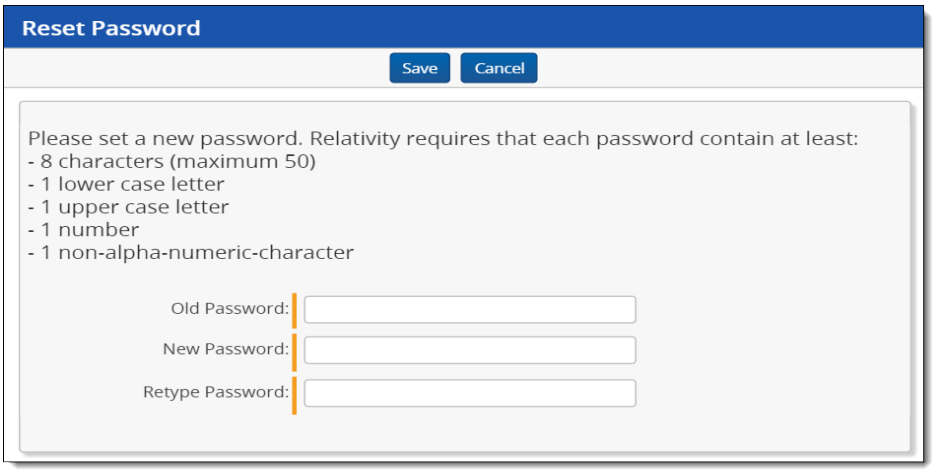
There are two ways you can reset your password if your system admin has given you the appropriate permissions. You can use the **Reset Password** option inside Relativity or the **Forgot your password?** link on the Relativity login screen.

Note: If your password has expired, the Reset Password dialog appears automatically when you log in to Relativity. Your system admin determines when your password expires and the number of previous passwords that you can't reuse.

1.1.7.1 Resetting your password inside Relativity

If you're already logged in to Relativity, you can reset your password by clicking **Reset Password** in the Home drop-down menu. This directs you to a Reset Password pop-up.

Enter your old password, then enter and retype your new password. Click **Save**.

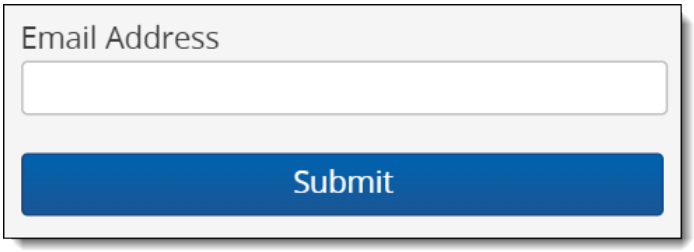


You can use your new password next time you log in to Relativity.

1.1.7.2 Resetting your password outside Relativity

If you can't log in to Relativity because you've forgotten your password, perform the following steps to reset your password.

1. Click **Forgot your password?** on the login screen.
2. Enter your email address in the pop-up.

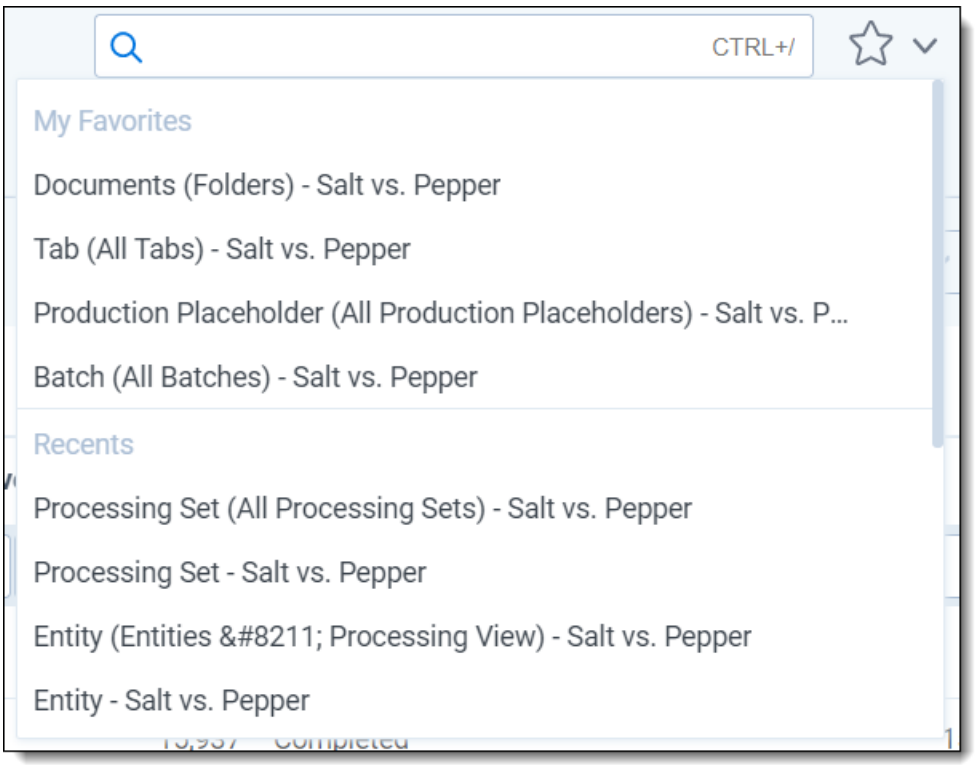


   Relativity sends an email to the address you provide. You should receive this message within a few minutes. If you don't receive an email, check your spam or junk mail folder.

3. Click the link in the email to reset your password. This link will be active for 15 minutes and expires after that time. If the link has expired, or if you click the link more than once, you'll have to generate a new password reset request.
4. The link directs you to a page where you can create a new password.
5. Enter a new password and retype it, then click **Submit**. After your password successfully resets, you'll get a message prompting you to log in with your new password. An email will be sent to the address you entered, notifying you that your password reset was successful.

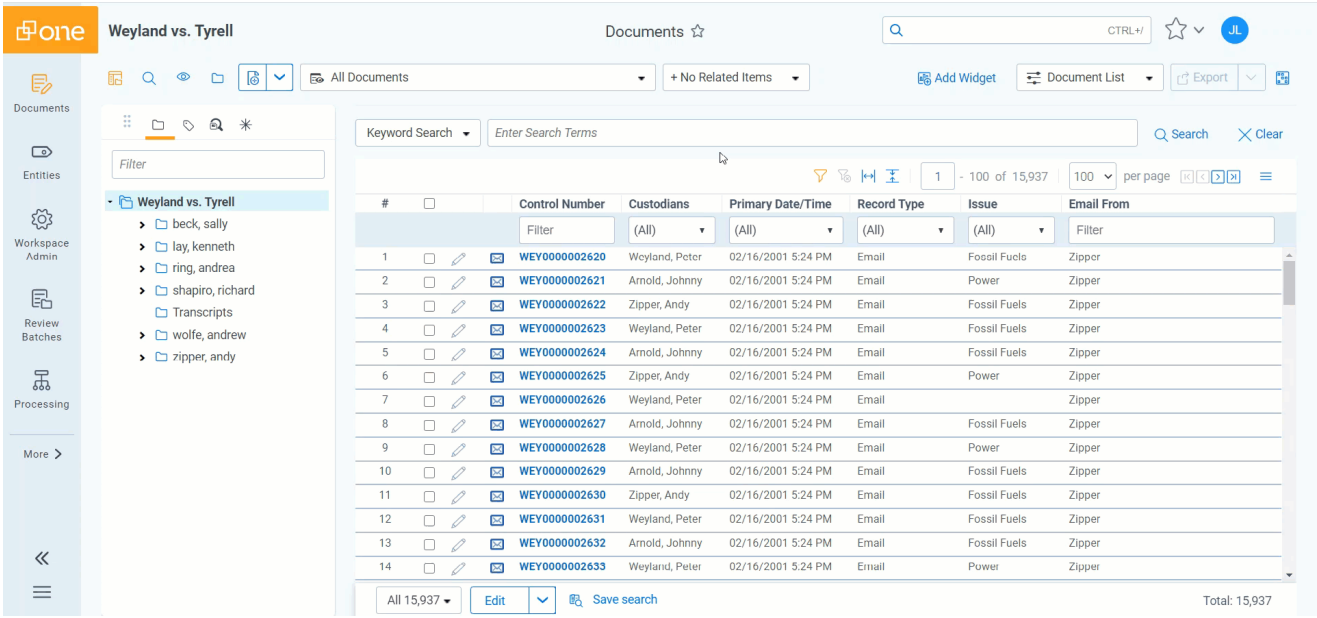
1.1.8 Favorites

The Favorites menu contains all your bookmarks (Favorites) and the last 10 pages in your browsing history (Recents). The Favorites menu can be accessed by clicking the icon in the upper-right part of the page.



Use Favorites to quickly navigate the Relativity application. If you visit a particular page on a regular basis, minimize the number of clicks it takes to get there by adding the page as a favorite.

To mark a page as a favorite, click the star to the right of the breadcrumbs at the top of the page. The star turns yellow and Relativity adds the page to the Favorites section. Relativity doesn't limit the number of pages you can mark as a favorite.



Relativity records pages in the Recents section on each page load. That means that pop-up windows aren't recorded as Recents.

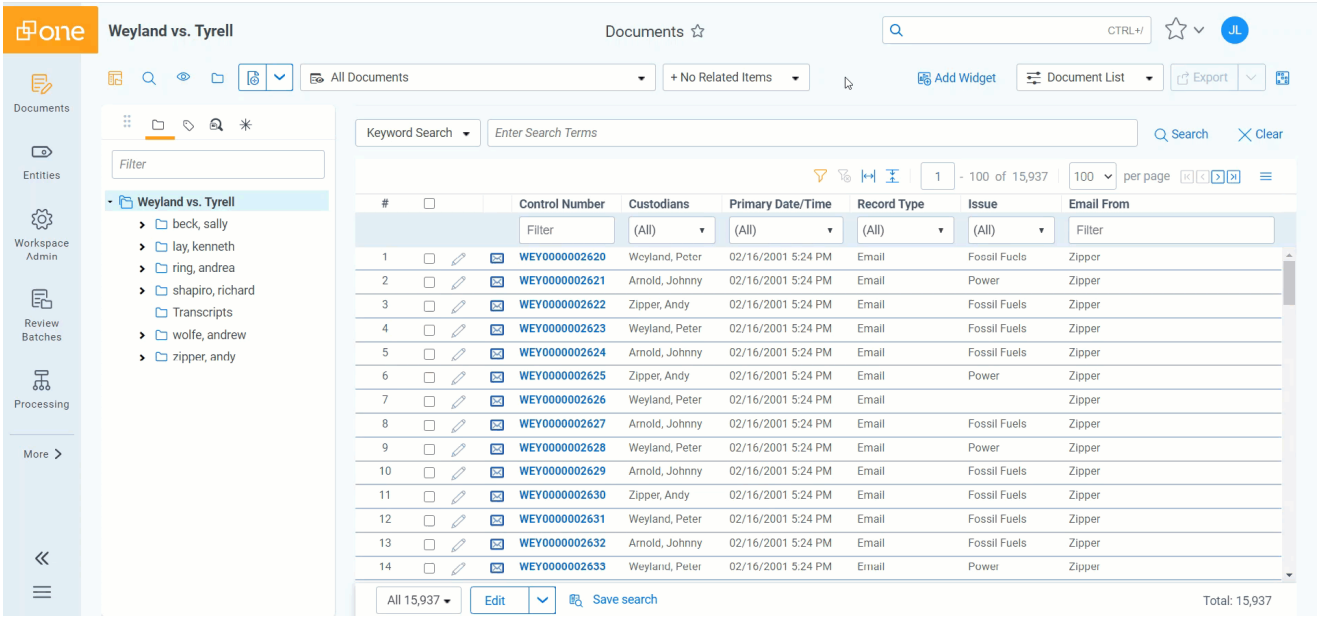
Note: If you're a system admin, you can turn off this feature by editing the RecentHistoryEnabled and FavoritesEnabled instance setting values. You can also change the number of Recents the Favorites menu displays by editing the RecentHistoryNumberOfItemsDisplays instance setting value.

1.1.9 Quick nav

Quick nav can be used to quickly search for and navigate to any workspace or tab in Relativity. To access quick nav, click Quick nav search box in the upper right corner of Relativity, or use the keyboard shortcut **Ctrl+/**.

Note: Verify that the quick nav Ctrl+/ keyboard shortcut works on custom pages. Contact Customer Support with any problems.

Open quick nav, and type the name of any tab or workspace.



Any tab or workspace that contains the character string within the name appears in the list of results. Results appear after you type more than one character, and they refine with each character you type. The results link you directly to the tab or workspace in Relativity.

Note: In Relativity terms, the search works the same as a leading and trailing wildcard search.

You can click on any result or use the up and down arrow keys to move through the results. Press **Enter** to navigate to the selected item.

Your search remains until the page is refreshed or you navigate to a new tab. The Esc key also clears your search from quick nav. If no text is entered in the quick nav search field, the Esc key closes quick nav. You can also click anywhere outside the quick nav window to close it.

Quick nav displays three types of results in the following order:

- **Workspace tabs** - lists all workspace tabs that fit the search criteria and are available with your permission settings.

Note: This item only appears when you are in a workspace.

- **Admin Tabs** - lists all admin tabs that fit the search criteria and are available with your permission settings.
- **Workspaces** - lists all workspaces that fit the search criteria and are available with your permission settings. Click the workspace to go to the default tab for that workspace.

Quick nav results only reflect items available with your permission settings.

Using quick nav

Imagine you're a system admin in a workspace within Relativity, and a user emails you with a password reset request. You press Ctrl+/ and type the letters “use”. The results filter to only contain Admin and Workspace tab names with the letters u-s-e.

The results display a Users tab in the Admin tabs section. You click the Users tab and find the user who needs a password reset in the list. Once their password is reset, you use quick nav to get back to the workspace you were previously working in.

1.1.10 Quick nav functionality

The following list highlights more features of quick nav functionality.

- Type the word "home" in quick nav to navigate to your default Home tab.
- Quick nav is enabled or disabled with the QuickNavEnabled instance setting.
- Quick nav is available to look up workspaces and admin tabs from Home for groups assigned the **Use Quick Nav** admin permission, and it is available to look up tabs in a workspace for groups assigned the **Use Quick Nav** workspace permission.
- The maximum number of returned quick nav search results is limited to any number between 2 and 50, but the default is 20. Use the QuickNavMaxResults instance setting to adjust the maximum number of results.
- The maximum number of searchable characters is 50.

1.2 Logging into Relativity

Relativity offers several ways to log in and it is possible to have two or more methods available to you. As a Relativity user, your system admin provides you with all the information you need to log in.

1.2.1 Logging in to Relativity with a password

1. Enter your **Username**.
2. Click **Continue**.
3. Enter your password.
4. Click **Login**.

Note: The **Forgot your password?** link only displays if the admin enables Allow Password Recovery via Email setting, for more information see the Authentication Guide.

1.2.2 Password

This method uses only a user name and a password. Your system admin provides you with the following:

- Login email address.
- Password request email.

Prior to logging in, if you have not already, create your password. See Creating or resetting a password on page 51.

To log in:

1. Navigate to the Relativity site.
2. Log in with your password. See Logging in to Relativity with a password on the previous page

1.2.3 Two-factor authentication

The two-factor authentication method requires a passcode in addition to the user name and password. The system emails you the passcode during login and is different each time. Your system admin provides you with the following:

- Login email address.
- Password request email.

Prior to logging in, if you have not already, create your password. See Creating or resetting a password on page 51.

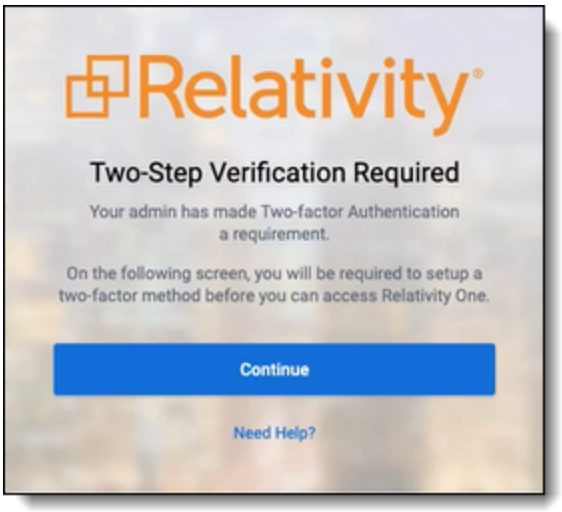
Prior to logging in, if you have not already, download the required two-factor authentication app. When using the authenticator app for the first time, Relativity will need to connect your profile to the app.

Note: When using email for two-factor authentication, your web servers must have access to the SMTP server so it can distribute emails and passwords to authenticate.

To connect your authentication app,

1. Enter your user name.
2. Enter your password.

3. On the Two-Step Verification Required step, click **Continue**.



4. Open your authenticator app on your device.
5. In your app, tap the button to add a new account.
6. Hold phone up and scan the QR code provided by Relativity.

If you are unable to scan the QR code, click the **Can't scan QR code?** link below the QR code. Once clicked, a code will appear. Enter the code into your authenticator app on your phone. Once entered into the authenticator app, you can continue to the next step.

7. Click **Next**.
8. Re-enter your email and password.
9. Enter the authentication code in the app.
10. Click **Next**.
11. Click **Done**.

To log in with an authenticator app method:

1. Navigate to the Relativity site.
2. Log in with your password.
3. Follow the instructions on the app or enter the authentication code from the authentication app.
4. Click **Next**.

To log in with the Relativity email method:

1. Navigate to the Relativity site.
2. Log in with your password. An **Authenticate Login** dialog appears. The system immediately emails you a passcode, and the passcode will be different each time.
3. Enter that value in **Passcode**.

4. Click **Login**.

1.2.4 Active Directory

This method uses Microsoft Active Directory Domain Services to log in. You must log in from a computer within a valid domain. Your system admin provides you with the following:

- Login email address.
- An account on a Windows domain.
- Windows network password.

To log in:

1. Navigate to the Relativity site.
2. Enter your Relativity email address in **Username**.
3. Click **Continue**.

4. Enter your Windows network password in **Password**.
   Contact your system admin or IT department for password requirements.
5. Click **Login**.

1.2.5 Integrated Authentication

This method uses Integrated Windows Authentication to log in. There are no additional requirements to log in other than having a Windows domain account.

To log in, navigate to the Relativity site. The system automatically logs you in to Relativity. If you are not connected or if the Relativity logon dialog appears, contact your system admin.

1.2.6 RSA

This method requires an RSA SecurID token along with a username and passcode. Your system admin provides you with the following:

- Username
- RSA SecurID token
- (Optional) PIN

To log in:

1. Navigate to the Relativity site.
2. Enter your username in **Username**.
3. Click **Continue**.
4. Enter your RSA password in **Password** in the format set by your system administrator. This password is either:
   - The RSA tokencode, the eight-digit number from the RSA SecurID token hardware, if you have not been assigned or created a PIN
   - Your combined PIN and RSA tokencode without a space between them
5. Click **Login**.

You may also be asked to create or to reset your PIN. Follow the instructions on those screens.

1.2.7 OpenID Connect

This method requires you to have an OpenID Connect account. Your system provides you with the following:

- OpenID Connect account user name from the identify provider's side.
- Relativity OpenID Connect button name on the login page.

To log in:

1. Navigate to the Relativity site.
2. Click the Relativity OpenID Connect button name.

3. Enter your user name.
4. Click **Logon**.
5. Authenticate with your OpenID provider.

1.2.8 SAML 2.0

This method requires you to have an account with SAML 2.0 authentication provider set up by your system admin. Your admin provides you with a Relativity account with a SAML 2.0 login method.

To log in:

1. Log into the SAML 2.0 provider system.
2. Navigate to the Relativity instance using a shortcut in the SAML 2.0 provider interface or a bookmark in your browser. You are automatically logged in.

1.2.9 Creating or resetting a password

Use this procedure if you are logging in to Relativity for the first time or if you are resetting your password. Your system admin must send you a password reset email. If you forget your password, you can click the **Forgot your password** link on the login screen if it is available, or contact your system admin. In either case, the system sends you a new password email.

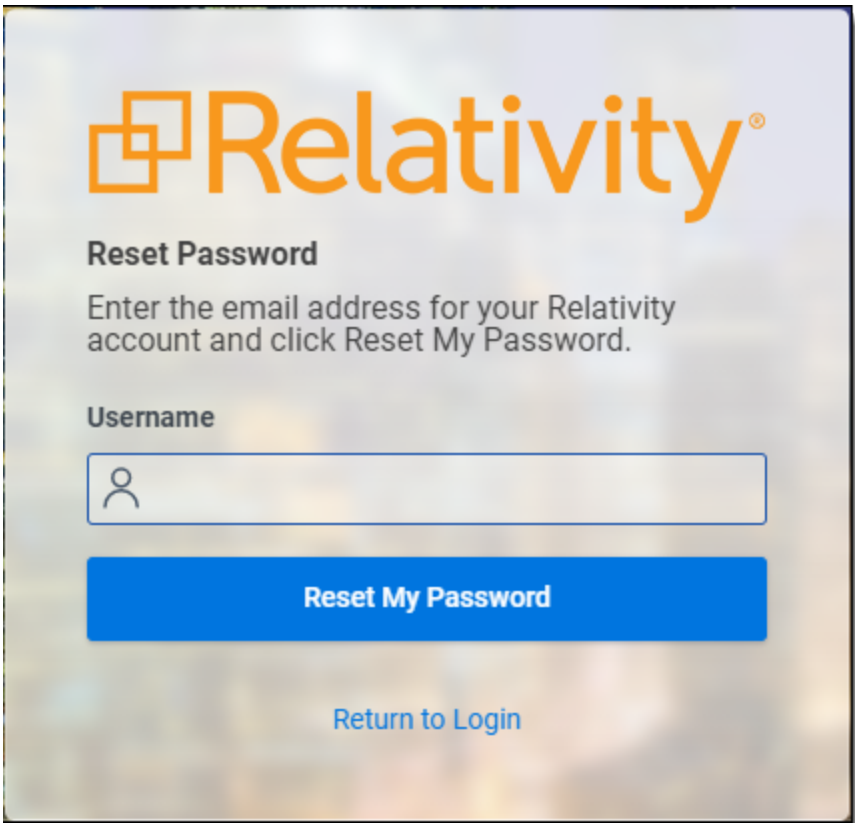
Note: If you are a system admin, the Password Reset Email will not be sent to you. For more information, see the Authentication Guide.

1. Within the password request email, click **Reset Password** or enter the full URL into your browser.

> We received a request to reset the password associated with this email address. Click the link below to reset your password. This link will expire after 15 minutes.
>
> Reset Password
>
> We recommend opening this link in Internet Explorer.
>
> You can also copy and paste the following text into your address bar:
>
> https://ml14.testing.corp/Relativity/Identity/ResetPassword?token=74a572da-60e1-4058-2ffe-20b36965c0f9
>
> If you did not request this change, contact your system administrator.
>
> Please do not reply to this email.

2. Enter a password following the restrictions listed on the screen. You must remember this password to log in. The link within the email is valid for 15 minutes, and you can only use the most recent email. Although, once the password is set, you do not have to log in immediately.

Note: The following non-alpha-numeric characters are not allowed: \, ", <, >, £ in passwords.



3. Click **Submit**.
4. Click **Return to Relativity**.

2 Relativity applications

Relativity applications extend core functionality by providing specialized features or workflows. When you install Relativity, your environment is automatically updated with several applications that are called "system secured."

In addition, you may have workflow requirements or other business needs that require custom applications designed specifically for your organization. Business analysts or third-party developers can implement these applications using Relativity Dynamic Objects (RDOs), the Application Deployment System (ADS), and custom code.

The following sections briefly describe the differences between system secured, custom, and Global applications.

2.1 System secured applications

Relativity comes with several key out-of-box features called system secured applications, which you can find in the Application Library or at the workspace level.

In contrast to custom applications, you can't modify or edit system secured applications. The Relativity installer also automatically upgrades these applications when you install a new version of the software.

2.1.1 Applications installed in the Application Library

The Application Library tab includes these system secured applications:

- Active Learning

  Note: Once you install the Active Learning application, you can't uninstall it.

- Analytics
- Analytics Core

  Note: The Analytics Core application must be present in all workspaces, and may not be uninstalled.

- Case Dynamics
- ECA and InvestigationECA and Investigation
- Integration Points
- Processing (requires licensing)
- Production
- Assisted Review
- Relativity Event Handler Express
- Relativity Legal Hold
- Set Extracted Text Size

2.1.2 Applications installed in workspaces

In a workspace, the Relativity Applications tab includes system secured applications:

- Imaging on page 237
- OCR
- Lists on page 346
- Search terms reports on page 617
- Transform sets on page 706

2.2 Relativity custom applications

Custom applications extend the existing Relativity functionality by providing new solutions for case management, review processes, specific workflows, or other business needs for your organization. For example, you might want to develop an application to manage tasks and projects or to facilitate a large-scale review of structured data.

You can implement custom applications using the following features in Relativity:

- **RDOs** - You can develop Relativity dynamic objects that represent real world business entities that your organization uses, such as custodians, contacts, or companies. In addition, you can create custom workflows that use your objects by designing views, layouts, tabs, and other Relativity objects. You don't need any programming experience just the appropriate security permissions to build these objects. For example, the sample application Media Tracker illustrates how to use RDOs, views, and layouts to track content received from vendors, clients, and opposing counsel. See Building Media Tracker with RDOs on the Relativity Documentation Site.
- **ADS** - You can use the ADS to package the RDOs, layouts, views, fields, and other Relativity components that you want included in your custom application. The ADS provides you with a framework available through the Relativity UI for packing the components that you create, as well as custom code developed to add advanced functionality to your applications. By using the ADS, you can export your applications for installation across workspaces and on other Relativity instances. You don't need any programming experience to package your applications with the ADS, but you must have the required security permissions. For more information about the ADS, see the Relativity Developers Site.
- **Custom code** - You can add advanced functionality to your custom applications by developing custom code for event handlers, agents, and custom pages. After building files or assemblies with your custom code, you can easily upload them to Relativity for inclusion in your applications. For more information about event handlers, agents, and custom pages, see the Relativity Server 2022 Developers site.

2.3 Administering Relativity applications

You can perform various admin tasks with custom applications that use the Application Deployment System (ADS). These administrative tasks include installing applications in your Relativity environment, exporting applications for installation on other Relativity environments or for further customization, and removing them from workspaces or your environment.

You can manage custom applications developed with ADS through the Relativity UI by performing these and other tasks:

- **Install applications** - Add custom applications to your Relativity environment by installing them in the Application Library or on individual workspaces. In addition, you can push an application installed on a workspace to the Application Library.
- **Export applications** - Export applications from one workspace for deployment in another workspace. You can also install exported applications in the Application Library on another Relativity instance. In addition, you can export applications for further customization.
- **Uninstall or delete applications** - Remove applications that you no longer need from a workspace. You can choose to delete just the application or uninstall the applications and its related components.
- **Upgrade applications** - Add new or updated features to an existing custom application.

2.4 Global applications

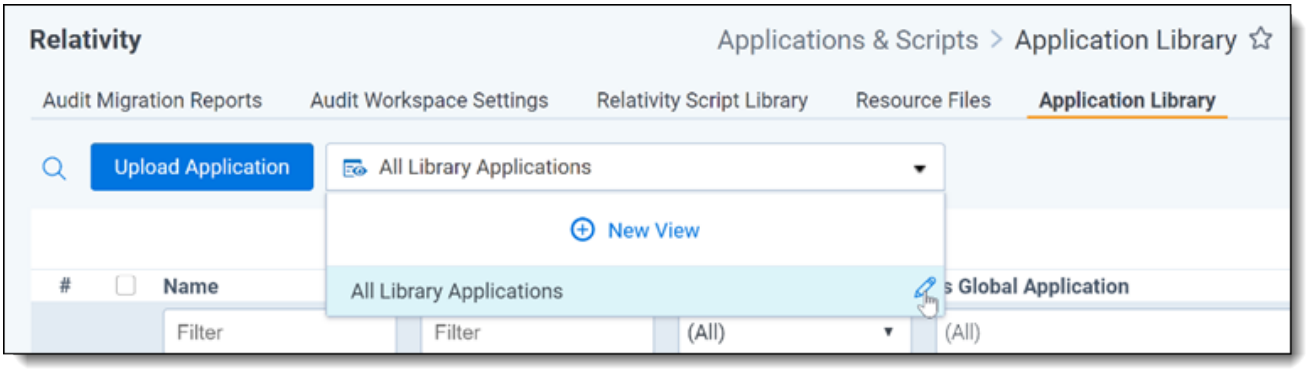
Note: Global applications cannot be install into workspaces.

Global applications are applications installed on the admin level of a Relativity instance. Their schema versions are not validated, they don't support RDOs, object-type or workspace-based event handlers.

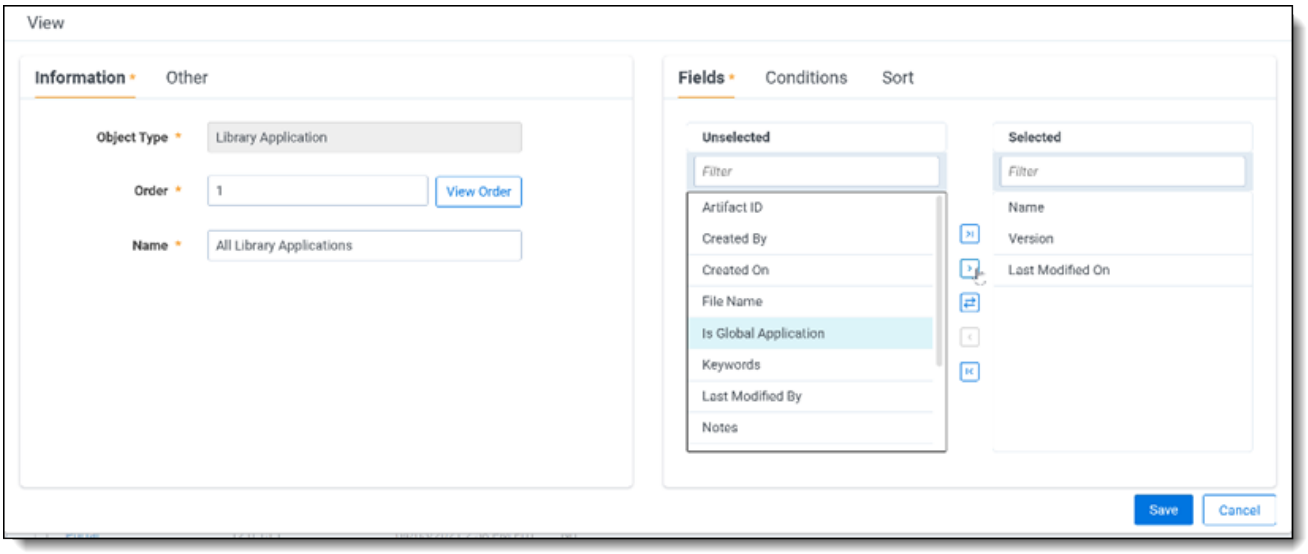
2.4.1 Viewing global applications

Administrators of production environments can view global applications in the Application Library. Complete the following steps to view which applications are applied to the environment globally:

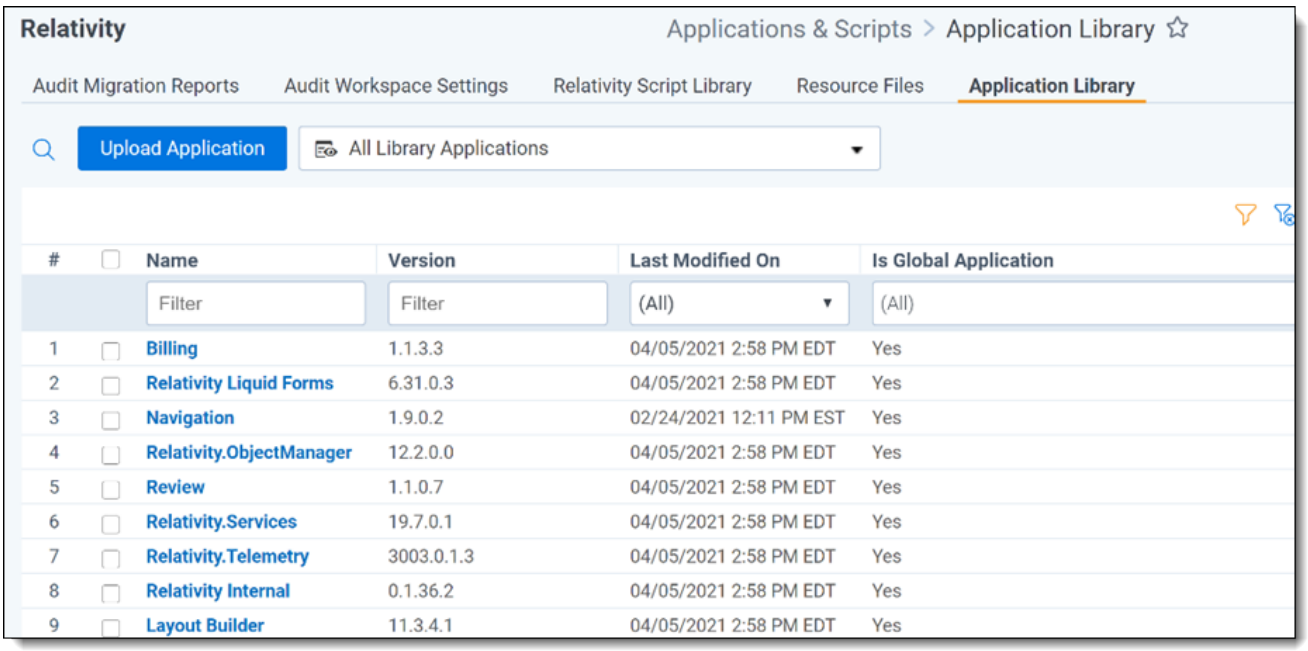
1. Navigate to the **Application Library** tab.
2. In the Views tab in a workspace, click the icon next to All Library Applications.



3. On the right side of the newly opened View window, select **Is Global Application** under **Unselected**.



4. Move the **Is Global Application** in your view to the right box, **Selected**. You can move fields between boxes by:
   - Double-clicking the field name.
   - Using the arrows between the boxes.
5. Click **Save**.
6. The **Is Global Application** column is added to the Application Library.



2.5 Exporting applications

You can export applications that you want to install in other workspaces or instances of Relativity. Additionally, you may want to export an application for upgrading in your development environment. You

can export applications as RAP files.

2.5.1 Avoiding errors during application export

You're unable to export an application until you've manually resolved all errors listed via the Show Errors link on the application console.

Because of this, it's helpful to note the ways by which you can reduce those errors or avoid them completely before you're ready to export the application.

The following table provides the actions you can take to avoid errors.

Object you're adding	Notes for preparing the application for export	Error you'll avoid
Object type	Make sure the Dynamic field on all object types you add to the application is set to Yes.	Object Type <Name of Object Type> is not exportable because it is not dynamic.
Add all object types to the application before adding event handlers.	The <Name of Object Type> object type is associated with the <Name of Event Handler> event handler. Please add the object type to your application in order to proceed.	
Add the objects to the application before adding the fields.	The <Name of Object> object associated with Document field <Name of Field> is required in order to proceed. Please add this object to your application.	
Add all layouts to the application before adding the object types.	The <Name of Object> object that owns the <Name of Layout> layout must be added to your application in order to proceed.	
Tab	Make sure none of the tabs you link to from your application are parent tabs.	The <Name of Tab> tab is a parent tab. Parent tabs cannot be included in an application. If your application contains any non-parent tabs they will be placed under an auto-generated tab named after the application on install. Please remove this tab from your application to proceed.
Add all object types to your application before adding tabs separately.	The <Name of Tab> tab is associated with the <Name of Object Type> object type. Please add this object type to your application in order to proceed.	
View	Add the views to the application before adding the layouts and fields.	The <Name of View> view includes the following field(s): Field X, Field Y, etc. Please add the field(s) to your application in order to proceed.
Add the views to the application before adding the layouts	The <Name of View> view is referenced in the <Name of Layout> layout. Please add this	

Object you're adding	Notes for preparing the application for export	Error you'll avoid
and fields.	view to your application in order to proceed.	
Add all views to the application before adding the object types, with the exception of any non-dynamic object types.	The <object type> associated with the <view name> is required in order to proceed. Please add this object to your application.	
Layout	Add the layouts to the application before adding the fields.	The <Name of Layout> layout includes the following field(s): Field X, Field Y, etc. Please add the field(s) to your application in order to proceed.
Add the views to the application before adding the layouts and fields.	The <Name of Layout> layout includes popup pickers using the following view(s): View X, View Y, etc. Please add the view (s) to your application in order to proceed.	
Field	Make sure all views, including relational views, are added to the application before you add the fields.	The field <Name of Field> is a relational field. The view, Family Documents, associated with this relational field must be added to your application in order to proceed.
Make sure all unsupported fields are removed from the application.	Relativity applications don't support the Batch::Assigned To field. Remove Batch::Assigned To field from your application to proceed.	
Add all fields to your application before adding the choices with which they are associated.	The Handler associated with the choice <Name of Choice> is required in order to proceed. Please add this field to your application.	
Remove all system fields from the application.	The Document field <Name of Field> is a System field. You must remove this field from the application in order to proceed.	
Add all fields to the application before adding object types, with the exception of any non-dynamic object types.	The <object type> associated with the <field name> is required in order to proceed. Please add this object to your application.	
Dashboard	Make sure all the fields found in the dashboards you include in	The <Name of Dashboard> dashboard associated with the <Name of Object Type> object type

Object you're adding	Notes for preparing the application for export	Error you'll avoid
	the application are added to the application.	includes the following field(s): Field X, Field Y, etc. Please add the field(s) to your application in order to proceed.
Agent	Make sure the correct agents are attached with the application.	<Name of Agent> agent is not assigned to the correct application domain.
Rule	Add all object types to your application before adding object rules separately.	The <Name of Rule> Object Rule is associated with the <Name of Object Type > Object Type. Please add the Object Type to your application in order to proceed.
Saved Search	Add all choices to the application before adding the saved searches.	The <Name of Saved Search> saved search is associated with the <Name of Choice> choice. Please add this choice to your application in order to proceed.
Add all fields to the application before adding the saved searches that contain them.	The <Name of Saved Search> saved search includes the following field(s) in its conditions: Field X, Field Y, etc. Please add these field(s) to your application in order to proceed.	
Event Handler	Make sure all event handlers that you intend to add to the application are correctly configured.	Event Handler <Name of Event Handler> is not assigned to the correct application domain.
Mass Operation	Add all object types to the application before adding the mass operations with which they are associated.	The <Name of Mass Operation> mass operation is associated with the <Name of Object Type> object type. Please add the Object Type to your application in order to proceed.
System Artifact	Remove all system artifacts from the application.	You have included one or more System Artifacts in the application. You must remove these artifacts to proceed: Artifact X, Artifact Y, etc.

2.5.2 Application state settings on export

When you export an application, Relativity automatically updates the following state settings on the application:

- **Locking** - Relativity automatically locks any unlocked applications on export. See Locking and unlocking applications.
- **applicationIsDirty flag** - Relativity automatically resets the **applicationIsDirty** to false on any unlocked applications with the applicationIsDirty flag set to true. The value of false indicates that application is in a clean, unedited state. This flag determined the type of upgrade required for an application installed in a workspace.

- **Application version** - Relativity increments the revision number of the application version with each export if the application is unlocked, the application schema has been modified, or if Developer Mode is enabled.
-

Additionally, Relativity automatically increments the version of any application that contains saved searches, which have been modified. For more information, see Modifying saved searches in a locked application on the Relativity Server 2022 Documentation site.

2.5.3 Exporting an application

During export, Relativity automatically assigns a version number to any application that doesn't already have a version.

Note: If you are writing custom code, you can also use the ExportApplication() method on the RSAPIClient to export an application programmatically. For more information, see Using the Services API on the Relativity Server 2022 Developers site.

Use the following procedure to export an application:

1. In the target workspace, select the **Relativity Applications** tab.
2. Click the name of the application that you want to export.
3. Click **Export Application** in the **Application Console**.
4. If your application contains external resources, click **Export** on the Confirm Application Export dialog. Relativity only displays this dialog for applications with external resources, such as custom pages. It exports those applications as a RAP files.

   Note: If you export an application with a Single or Multiple Choice field without choices, you receive a message asking if you want to continue with the export. Click **OK** on this message dialog.

5. Click **Save** or **Save As** to download the file to your selected location.
6. Click **Refresh Page** in the **Application Console**. You can find the RAP file for your application in the folder that you selected. Upload this file to the workspace or Relativity instance where you want to deploy the application.

2.6 Locking and unlocking applications

In Relativity, you can edit applications by unlocking them. You can also lock applications to prevent any modifications to them. On the Relativity Application tab, use the **Lock Application** and **Unlock Application** buttons to perform these operations. You need the appropriate system admin permissions to lock or unlock an application. For more information, see Workspace security.

You can't lock or unlock system secured applications that are shipped with Relativity. The Relativity Application tab doesn't display these options for system secured applications. See System secured applications.

2.6.1 Locking an application

You can't edit a locked application or any of its components except for saved searches, layout, views and default tab. On the details view of the application, you can't add new components to an application, delete them, or unlink them. On the details view of a specific component, you can't edit any of its fields without receiving an error message.

For example, you attempt to modify a locked application that contains a custom Entities object. Because the application is locked, you can't remove this object from the application through its details view. You also can't add or remove a field from the Entities object through its details view. For information about saved searches, see Customizing locked applications below. For information about layouts, views, and default tab, see Customizing locked applications below.

If you attempt to edit any of the following components in a locked application, you receive an error message:

- Choice
- Field
- Layout
- Object Type
- Relativity Script
- Tab
- View
- Dashboard

Note: Relativity automatically locks an unlocked application on export. See Exporting applications.

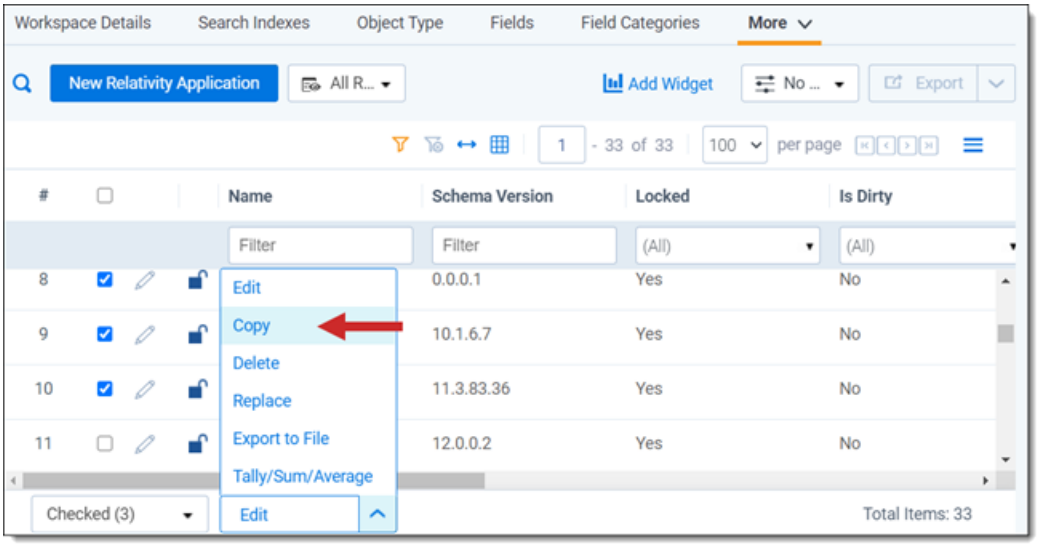
Use the following procedure to lock an application:

1. Navigate to the workspace containing the application that you want to lock.
2. Click the **Relativity Applications** tab.
3. Click the name of the application that you want to lock.
4. Click **Lock Application** in the Application Console.

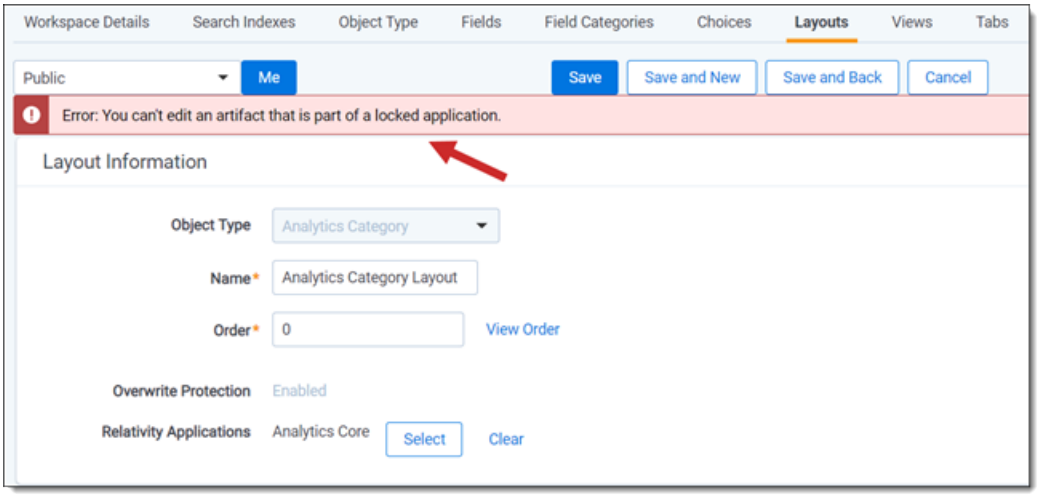
2.6.2 Customizing locked applications

You can make the following customizations to locked applications without unlocking the application:

- You can set a tab in a locked application as the default tab for the workspace.
- You can use the Copy mass operation to copy views and layouts in a locked application.



  - The copied views and layout are identical to the original and can be customized.
- When you open views and layouts in a locked application, Relativity displays a user-friendly alert:



If you later upgrade the application, Relativity preserves any changes made to the customized layouts, views, and default tab.

2.6.3 Modifying saved searches in a locked application

You can perform the following tasks to modify saved searches included in locked applications:

- Move a saved search to a different folder in the saved searches browser. For more information, see Saved search on the Relativity Server 2022 Documentation site.
- Change the index type for a saved search.

If you later upgrade the application, Relativity preserves any changes made to the saved searches. It also increments the version when you export an application with modified saved searches.

2.6.4 Unlocking an application

When an application is unlocked, you can add components to it, delete them, or unlink them. You can also edit the fields on any the components in an unlocked application. For example, you want to modify an unlocked application with a custom view. You can add or remove columns from the view when you unlock the application. Consequently, you only want to unlock an application when you purposely want to update it.

The RelativityApplication object has the **applicationIsDirty** property. This property is set to true when you unlock an application. The current state of an unlocked application is unknown because users may inadvertently modify it. The **applicationIsDirty** property also determines the type of upgrade installation required for an application in a workspace.

Use the following procedure to unlock an application:

1. Navigate to the workspace containing the application that you want to unlock.
2. Click the **Relativity Applications** tab.
3. Click the name of the application that you want to unlock.
4. Click **Unlock Application** in the Application Console.
5. Click **OK** on the confirmation message. You can now edit the application by adding or removing components. In addition, you can update individual components by adding, removing, or making other changes to their fields.

2.7 Installing applications

Relativity provides you with several different options for installing applications. You can:

- Install an application that exists as an external file to the Application Library. The application becomes available for installation to all workspaces. This is useful for when you need to install an individual application .xml file or .rap file to multiple workspaces that Relativity support provided to you. For more information, see Installing an application from an external file to the Application Library on the next page.
- Push an application that exists in a single workspace to the Application Library, so the application is available for installation to other workspaces. This is useful for when you install an individual application .xml file or .rap file to a single workspace, and then decide to install the application to other workspaces. For more information, see Pushing an application from a workspace to the Application Library on page 65.
- Push an application from the Application Library to one or more workspaces. For more information, see Pushing an application from the Application Library to a workspace on page 66.
- Install an application from the Application Library to a workspace. This is the standard route of adding an application after you install or upgrade to a new version of Relativity and have access to the most up-to-date Application Library. For more information, see Installing applications from the Application Library on page 66.

- Install an application that does not exist in the Application Library to a workspace as an external file. This is useful for when you need to install an individual application .xml file or .rap file that was not included in a Relativity upgrade or installation to a single workspace. For more information, see Installing an application from an external file to a workspace on page 67.

2.7.1 Installing applications to the Application Library

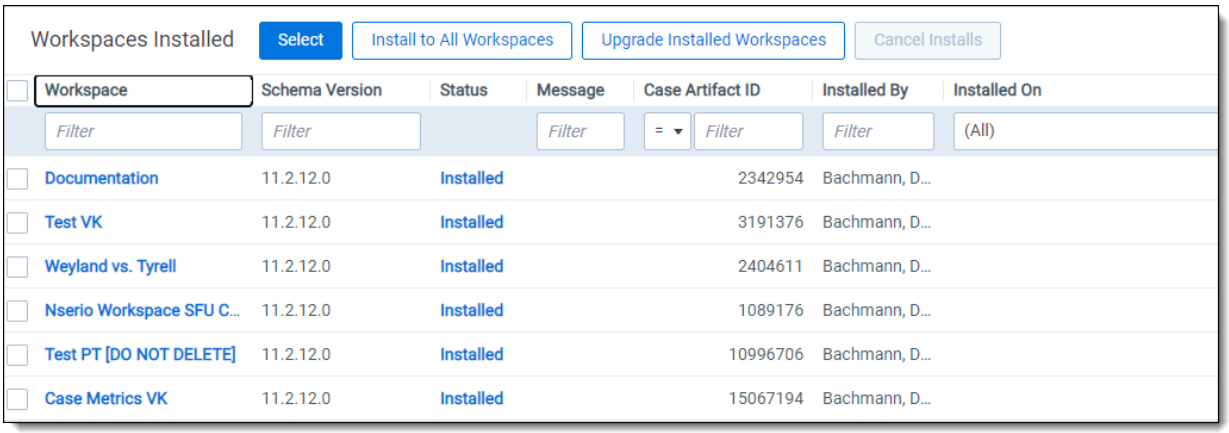
You can add applications across multiple workspaces by installing them to the Application Library. You can do this by installing applications as external files or pushing them from a single workspace.

2.7.1.1 Installing an application from an external file to the Application Library

You need to upload the external file for the application to the Library Application tab. After you add it to the Application Library, you can install the application to workspaces directly from this tab. You can also use the Relativity Application tab to add it to the current workspace. Confirm you have appropriate system admin permissions for application installation. For more information, see Workspace security on page 643.

Use the following procedure to install an application to the Application Library:

1. Click the **Application Library** tab.
2. Click **Upload Application**.
3. Click **Select File** on the required **Application File** field.
4. Click **Open** , and then click **Save** to upload the file to the Application Library.
   The application appears on the list page.
5. Click **Install** in the Workspaces Installed section to install the application on workspaces.
6. In the **Workspaces Installed** list, select **Install to All Workspaces** or select the workspaces you want to install the application to through the following steps:
   a. Click **Select**.
   b. In the column on the left, select the workspaces you want to install the application to.
   c. Use the single arrow between the columns to move the selected workspaces over to the column on the right.
   d. Click **Apply**.
7. These workspaces now contain the application. Relativity lists the workspaces in the Workspaces Installed section on the detail view of the application.



8. Review the installation status of the application in a specific workspace. One of the following statuses appear in the Status column for the workspace:

Application Installation Status	Description
Pending...	Relativity flags the workspace for installation, but is not installing. To cancel the installation, select the check box next to the workspace name, and then click **Cancel**.
Errors	The install failed due to one or more errors. Click **Errors** to try to resolve conflicts within Relativity. See Troubleshooting application installation errors on page 72.
Application out of date. May not work properly.	The version of the application that's installed to this workspace is lower than what's installed to the Application Library. Select the workspace's checkbox, and then click **Install** to upgrade the application in the workspace.
Installation in progress	The application is currently installing to the workspace; you can no longer cancel the installation.
Installed	The application installed successfully. Click the **Installed** link to view the import status details.

2.7.1.2 Pushing an application from a workspace to the Application Library

When you want to add any application in a workspace to the Application Library, you can use **Push To Library** available on the detail view of an application. You can then install the application to workspaces throughout your Relativity environment. In Relativity, confirm that you have the appropriate system admin permissions to install an application. For more information, see Workspace security on page 643.

Note: You override any existing applications with the same GUID when you push an application from a workspace to the library.

1. Navigate to a workspace where the application you want to add to the Application Library is installed.
2. Click the **Relativity Applications** tab.
3. Click the name of the application to display its detail view.
4. Click **Push To Library** in the Relativity Application console.

2.7.2 Pushing an application from the Application Library to a workspace

To install an application from the Application Library to one or more workspaces, perform the following steps:

See an animated GIF of the installation steps

1. Navigate to the **Application Library**.
2. Open the application you wish to install on at least one workspace.
3. In the **Workspaces Installed** list, select **Install to All Workspaces** or select the workspaces you want to install the application to through the following steps:
   a. Click **Select**.
   b. In the column on the left, select the workspaces you want to install the application to.
   c. Use the single arrow between the columns to move the selected workspaces over to the column on the right.
   d. Click **Apply**.
4. Verify that the workspaces show up in the associated list view below with an initial status of **Pending installation** and then a status of **Installed**.

Once installation is complete, navigate to any of the workspaces you selected, select the Relativity Applications tab, and verify that the application was installed.

2.7.3 Installing applications to workspaces

You can install applications to workspaces from the Application Library tab or by importing an external application file.

Note: When you install an application, all components are public regardless of the permissions that you assign to them in your application. The ADS framework ignores any permissions or security assigned to a component added to an application during deployment in a workspace.

2.7.3.1 Installing applications from the Application Library

If you added the application to the Application Library, you can install it to the current workspace without importing an external file to Relativity. In Relativity, confirm that you have the appropriate system admin permissions to install an application. For more information, see Workspace security on page 643.

Use the following procedure to install an application from the Application Library:

1. Navigate to a workspace where you want to install the application.
2. Click the **Workspace Admin** tab and the **Relativity Applications** tab.
3. Click **New Relativity Application** to display an application form.
4. Click the **Select from Application Library** radio button in the Application Type section.

   Note: Global applications are not listed in the **Select from Application Library** option when attempting to add an application to a workspace.

5. Click ... in the **Choose from Application Library** field.
6. Select the application that you want to add to your workspace on the Select Library Application dialog. This dialog displays only applications added to the Application Library.
7. Click **Ok** to display the application in the **Choose from Application Library** field. The application form also displays the following fields:
   - **Version**—displays the version of the application that you are installing.
   - **User-friendly URL**—displays a user-friendly version of the application's URL. This field may be blank.
   - **Application Artifacts**—displays object types and other application components.
8. (Optional) Click **Clear** to remove the application from the form.
9. Map fields if necessary to prevent installation errors. If your application does not contain any fields corresponding to those currently in the workspace, the following message displays. Otherwise, the Map Fields section displays a mapping grid. For more information, see Mapping fields on page 70.

   Map Fields

   There are no fields available for mapping.

10. Click **Import** to save your mappings and import the application.
    Relativity installs the application into the workspace.
11. Review the import status of the application. Verify that the install was successful or resolve errors. See Viewing import status on page 72 and Troubleshooting application installation errors on page 72.

2.7.3.2 Installing an application from an external file to a workspace

You can install an application to the current workspace by importing an external file if the application has not been added to the Application Library tab. Relativity automatically stores shared components the application uses in the Application Library and overwrites any lower versions. Shared components may include event handlers, scripts, custom pages, mass operations, or agents. In Relativity, confirm that you have the appropriate system admin permissions to install an application. For more information, see Workspace security.

Note: You can also use the Application Install API to import an application programmatically. For more information, see Application Install (.NET) on the Relativity Server 2022 Developers site.

Use the following procedure to install an application from an external file:

1. Navigate to a workspace.
2. Click the **Relativity Applications** tab.
3. Click **New Relativity Application** to display an application form.
4. Click **Import from File** in the Application Type section.

5. Click ... in the **File** field to browse for the application file.

> **Note:** Relativity Applications use .rap files. If you upload the wrong file type, the following error message appears: *The uploaded file is not a valid Relativity Application file*.
>
> If the application includes a custom page of a restricted file type, you receive an error message and cannot install the application. See Best practices for custom pages on the Relativity Server 2022 Developers site.

6. Click **Open** to upload the file to Relativity. The application form displays the following fields:
   - **Application Name**—displays the name of the application.
   - **Version**—displays the version of the application you're installing.
   - **File Name**—displays the name of the application file. To remove the file from the form, click **Clear** in this field.
7. Expand the tree to view the artifacts associated with your application in the Application Artifacts section. This hierarchy tree includes Object Types, External Tabs, Scripts, Custom Pages, Agent Types, as well as Pre and Post Install Event Handlers contained in your application.
8. Map fields if necessary to prevent installation errors. If your application does not contain any fields corresponding to those currently in the workspace, the following message displays. Otherwise, the Map Fields section displays a mapping grid. For more information, see Mapping fields on page 70.

   Map Fields

   There are no fields available for mapping.

9. Click **Import** to save your mappings and import the application. Relativity installs the application into the workspace.
10. Review the import status of the application. Verify that the install was successful or resolve errors. See Viewing import status on page 72 and Troubleshooting application installation errors on page 72.

2.7.3.3 Installing applications containing saved searches

Relativity applications may contain saved searches that use keyword, dtSearch, and Analytics indexes. When you install the application, Relativity creates the folder structure used to organize the searches in the saved search browser of the workspace. It adds the saved search to the correct folder by matching the globally unique identifier (GUID). If it does not find a match, Relativity continues to traverse the folder structure to the root before creating the required folder. Otherwise, it adds any new or updated saved searches to the existing folder with the matching GUID, even if the user has moved the folder to a new location in the saved search browser. For more information, see Customizing locked applications on page 61.

Note: While Relativity 9 and above assigns a GUID to any saved search added to an application, older versions of Relativity do not use GUIDs to identify saved searches. You can build an application using a saved search in a template workspace created before upgrading to Relativity 9 or above. However, deploying your application in a workspace created with this template results in duplicate copies of the saved search. Since Relativity identifies saved searches by GUID, it does not recognize that the legacy search in the workspace is the same as the search in the application, so it creates a new one with the matching GUID.

In general, you install these applications following the same steps used for other applications, but you may want to complete the verification steps before you install them in a workspace. If the workspace does not contain a dtSearch or an Analytics index with the same name as the one included in the application, Relativity creates it using the system defaults. The post-installation steps require you to build the index after Relativity completes this process. For information about building applications with saved searches, see the Creating an application in Relativity on the Relativity Server 2022 Developers site.

Note: When you install an application, all saved searches are public regardless of the permissions that you assigned to them in your application or folder structure. The ADS framework ignores any permissions or security assigned to a saved search added to an application during deployment in a workspace.

Before you begin

You may want to complete the following verification steps before you install an application containing saved searches using dtSearch and Analytics indexes to avoid possible errors:

- **Saved searches using dtSearches**—confirm that a file share for this index type exists in your environment. The Relativity installer requires you to create this file share during the installation of the primary SQL Server. For more information, see Relativity installation on the Relativity Server 2022 Documentation site.
- **Saved searches using Analytics indexes**—confirm that an Analytics server is installed in your Relativity environment. For more information, see Upgrading or installing Analytics on the Relativity Server 2022 Documentation site.

Installation steps

To install the application, follow the instructions in Installing applications from the Application Library on page 66 or Installing an application from an external file to a workspace on page 67.

Post-installation steps

If your workspace already contains a dtSearch or Analytics index, Relativity automatically maps it to the saved search using the index name and type. It ignores any spaces or case differences in the index name.

If your workspace does not contain an index with a matching name or type, Relativity creates a shell for a dtSearch or Analytics index. You need to complete one of the following steps to build the index:

- **dtSearch index**—navigate to the Search Indexes tab in Relativity, and click the **Edit** link for your dtSearch index. Select settings for the **Order**, **Searchable set**, **Index share**, or other fields as necessary, and save your changes. Next, build the index by using **Build Index: Full** option on the index details page. For more information, see dtSearch on the Relativity Server 2022 Documentation site.
- **Analytics index**—navigate to the Search Indexes tab in Relativity, and click the **Edit** link for your Analytics index. Select settings for **Analytics profile**, **Analytics server**, **Data source**, **Training**

data source, and fields as necessary. Next, build the index. For more information, see Analytic Indexes on the Relativity Server 2022Documentation site.

2.7.3.4 Mapping fields

When you import an application, you can optionally map the fields that are similar to those in an application currently installed on the workspace. You can use mapping to avoid having multiple copies of a field that stores similar information in your workspace.

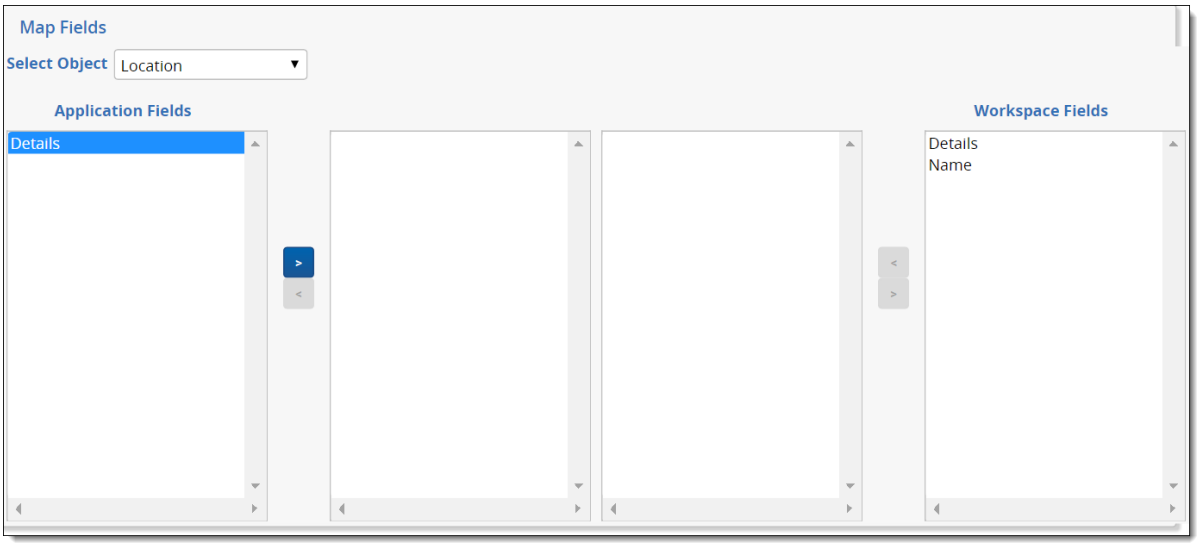
For example, you might import a new application that contains a long text field on a Document object called *Email Cc*, but your workspace already contains another application with a similar field on the Document object called *Email Cc Addresses*. Instead of two fields storing similar information, you might want all applications to use the same field for this metadata. By mapping these fields, you can avoid renaming the new field and using two different fields to store this metadata in your workspace.

Use these guidelines when mapping an application to workspace fields:

- **Fixed length text fields**—you can map application fields of this type only to workspace fields of equal or lesser length. Workspace fixed text fields that have a length longer than the application fields are not displayed in the Workspace Fields column of the mapping interface.
- **Renaming fields**—you can rename a field after you map it without impacting future application upgrades.
- **Renaming fields and exporting**—if you rename a field in an application installed on Workspace A, and then export the application, this field is still renamed when you import the application to Workspace B. This practice does not apply to Document System Fields.
- **Target workspace fields renamed**—when you map an application field to a workspace field, the application renames the workspace field to match the application field. The application now owns the field.
- **Handling of removed components**—if you remove a component from an application installed in Workspace A, and the export the application, this component is still part of the application when you import it to Workspace B. In other words, the component that you removed from Workspace A imports to Workspace B. Application components include choices, fields, object rules, and others.

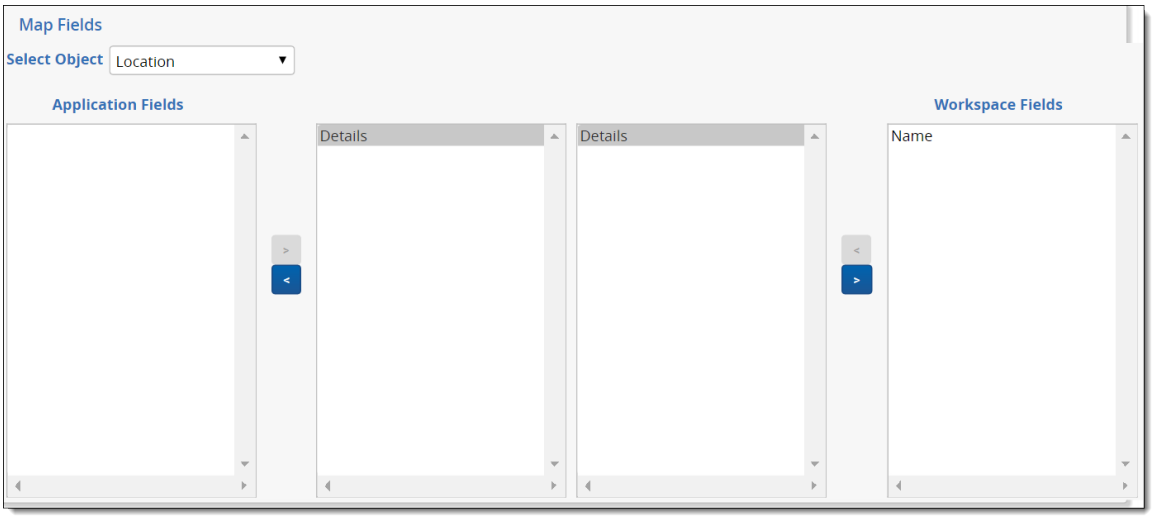
Use the following procedure to map application fields to workspace fields:

1. Complete the steps for installing an application described in the previous sections.
2. Locate the Map Fields section on the application form. The Map Fields section displays the mapping interface if the application contains fields corresponding to those in the workspace.



3. Complete these steps to map the available application fields of your choice through the Field Mapping interface:
   - Highlight a field in the Application Fields box, and then click the arrow to move it to the center box. The Workspace Fields box displays the fields in the target workspace that may match the application field. The Workspace Fields box does not display any fields when no matches exist.
   - Highlight a field in the Workspace Fields box, and then click the left arrow to move it to the center box.

   Note: You can also double-click a field name to move it to a mapping box. To remove a field from the mapping box, use the left arrow for the application fields, and right arrow for the workspace fields.



2.7.3.5 Including fields in text index

Including imported fields in text index requires the index to be rebuilt and can impact Relativity performance. By default, the fields imported with Relativity applications are not included in text index even if the Include In

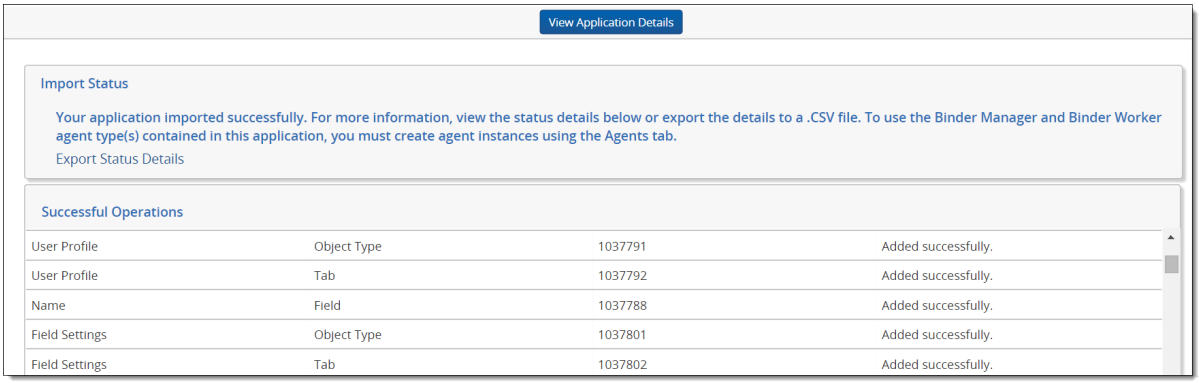
Text Index property is set to Yes. You can use the UpdateIncludeInTextIndexOnRapImport instance setting to override this behavior and use the value of Include In Text Index from the application.

Note: The UpdateIncludeInTextIndexOnRapImport must be used only when existing fields conflict with imported application fields, and by default existing field settings take precedence.

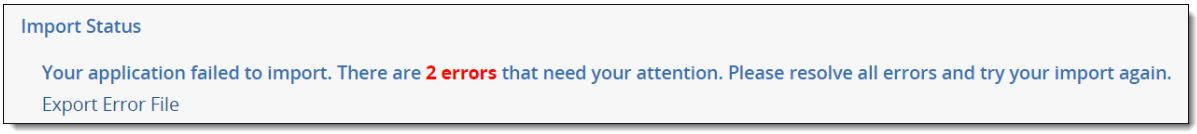
2.7.3.6 Viewing import status

After you install an application through the Relativity Application tab, you can view the status page, which appears immediately after this process completes. The **Import Status** section indicates whether your installation was successful.

The Artifact Name section displays a list of all the artifacts in your application, which includes its Artifact Type, Artifact ID, and installation status. For artifacts installed without errors, the Status column displays the message *Updated successfully*.



For unsuccessful installations, the Import Status section indicates that your application installation failed as illustrated in the following message. The message lists the number of errors encountered during the installation. In addition, the Status column describes each error that occurred during a failed installation. For more information, see Troubleshooting application installation errors.



To export the Status section report to a .csv file, you can click the **Export Status Details**. You can also view status information for the installation of an application from the Application Library tab. Click on an application to display a detail view, and then click its **Installed** link to display the status page.

2.8 Troubleshooting application installation errors

You can use this page to identify the causes of common application installation errors.

2.8.1 Installation error list

Use the following table to identify common causes of errors that may occur when you attempt to install an application. You can resolve some of these errors manually through the target workspace or you may be able to resolve them as you install the application.

Error sources	Possible resolutions
Application contains duplicate Object Type or field names	■ Rename the item in the target workspace ■ Rename the item in the application ■ Remove the item from the application ■ Remove the item from the target workspace
Application file contains a relational field that uses a friendly name that a relational field in the target workspace already uses	■ Map fields before installing ■ Change the friendly name of the relational field in the target workspace ■ Change the friendly name of the relational field in the application
Application contains an Object Type that already exists in the target workspace inside a locked application	■ Map fields before installing ■ Unlock the application in the target workspace ■ Remove the object type from the application
Application has a malformed file	■ Re-export the application and try again
Application contains an external resource of a restricted file type	■ Remove the external resource from the application and re-install

2.8.2 Resolving installation errors

You can resolve conflicts through the Import Status page without having to modify the application or its artifacts in the current workspace. This page displays errors by type, such as locking errors, name conflicts, or other errors.

You can view the Artifact Name, Artifact Type, and Artifact ID of the component associated with an error, as well as the error status. In the artifact status section, you may have the option to resolve an error before retrying the installation. Error resolution options vary according to error type.

After you finish resolving errors, click **Retry Import**. Relativity disables this button until you resolve all the errors.

2.8.2.1 Locking conflicts

To resolve a locking conflict, select the **Unlock** checkbox, and then click **Retry Import**.

You can use this operation to temporarily unlock the application while you resolve a locking conflict during installation. After you successfully import the application, Relativity locks the application again so that you can't inadvertently modify it. See Locking and unlocking applications.

2.8.2.2 Name conflicts

You can rename the conflicting artifact so that you can import the components of your application.

Use the following procedure to resolve these errors:

1. Select an option in the **Resolve Errors** drop-down menu. Available options include Rename and Map Field.
2. Perform one of the following tasks:
   - **Rename** - Enter a new name in this field to resolve the Name Conflict error. When you've entered a valid name, a green check mark appears next to the new name field.
   - **Map Field** - When you select this option, Relativity automatically maps the field that you're importing to the conflicting field in the target workspace.

2.8.2.3 Other errors

For other errors, the Resolve Errors column may display a message that you can only resolve the error manually in the workspace. You must resolve the issue in the target workspace before proceeding with the application import.

2.8.3 Pre and Post Install event handler errors

Your applications may contain custom code for Pre and Post Install event handlers, which run when you install them. These event handlers configure your Relativity environment so that it can support your applications. If an error occurs while the event handlers are running, your application fails to install. The third-party developer who created your application may provide custom error messages to help you resolve these types of installation failures.

2.8.3.1 Failure of Pre Install event handler

When a Pre Install event handler fails, you may receive an error message that indicates the status of the event handler.

In this case, follow the instructions provided in the message. After you resolve the error, reimport the application.

2.8.3.2 Failure of Post Install event handler

Post Install event handlers execute after the Application Deployment System (ADS) has updated all of the components in the application. When a Post Install event handler fails, an error message appears on the details view of the application.

2.8.4 Checking the error statuses

When a Pre or Post Install event handler fails from the Application Library, you can check the status of that error.

Use this procedure to check the error statuses:

1. From **Home**, click the **Application Library tab**.
2. Click on the name of your application.

3. In the Workspaces Installed section, locate the workspace containing the application with errors, and then click the **Errors** link to display a pop-up containing an import status message.
   You can review the error message returned by the failed event handler during the last installation attempt.

2.9 Uninstalling and deleting applications

You can control the applications that workspaces contain by exporting, uninstalling, and deleting them. When you export an application, you have a file that you can use to import it into other workspaces. You can also uninstall or delete applications that you no longer want in a workspace.

2.9.1 Uninstalling applications

You can remove an application and all of its components from a workspace by uninstalling it. When you uninstall an application, Relativity deletes all child objects and associative objects, unless other applications or dependencies restrict their removal. Relativity also deletes any saved searches your application includes, but it doesn't remove the associated indexes from the workspace. This is because the indexes aren't part of the application. You must have the appropriate system admin permissions to lock or unlock an application. For more information, see Workspace security.

For example, you might need to uninstall an application that you accidentally deployed to a template case. If you want to remove only the application instance, or if you created an application that you haven't pushed to the library, you may want to delete it, rather than uninstall it. See Deleting applications on page 84.

Note: Applications installed via the Application Library can only be removed by System Administrators.

2.9.1.1 Uninstalling an application

Use the following steps to uninstall an application.

To ensure optimum performance of Relativity, uninstall applications only during off-hours when users aren't actively reviewing documents in any workspaces.

1. Select the **Relativity Applications** tab in the workspace that contains the application you want to uninstall.
2. Click the application name to display the details view.
3. Click **Unlock Application**, if necessary. You can't uninstall a locked application.
4. Click **Uninstall Application** to display the Component Summary page. This page lists object types fields, event handlers, custom pages, and other components of your application.
5. (Optional) Click to expand the list of components. The hierarchy tree shows the parent-child relationships for component types in your application.
6. (Optional) Clear the check box for any components that you don't want to uninstall.
7. Click **Validate Components to Uninstall** to view the Application Uninstall Alerts and Modification Alerts for Non-Application Components reports. See Uninstall and modification alerts on the next page.

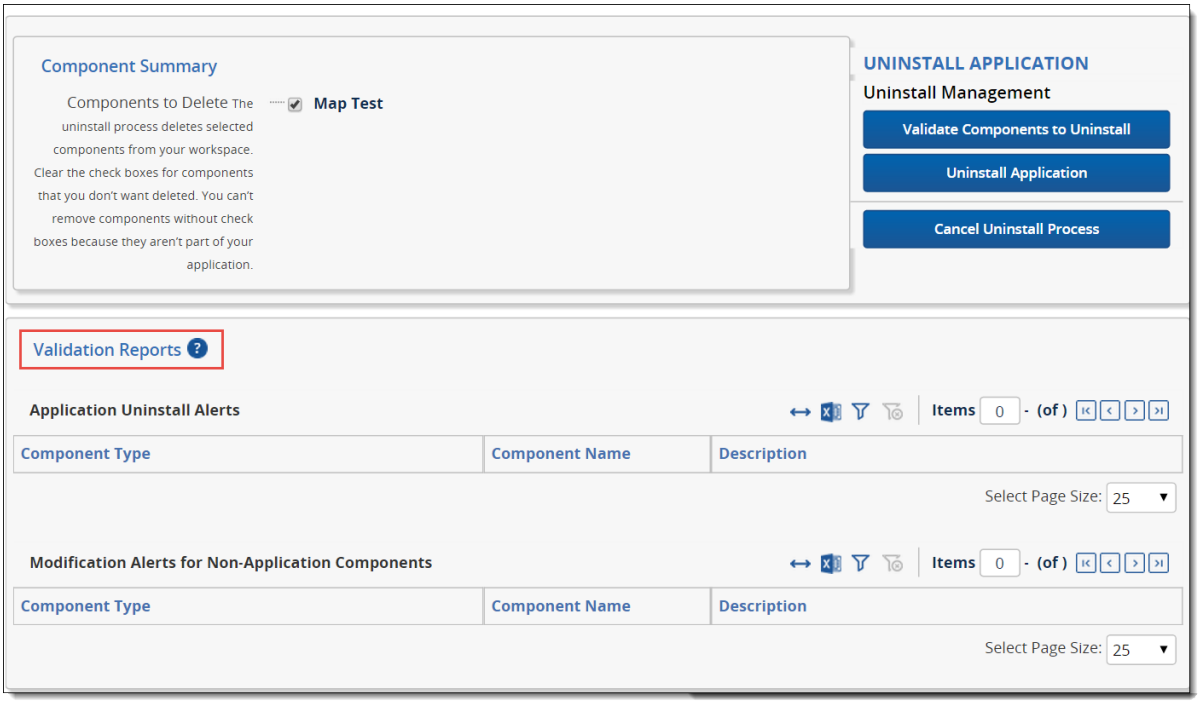
8. Click **Uninstall Application**. When the confirmation message appears, click **Yes** to complete uninstalling the application. You can manually uninstall custom pages if your application includes these components. See Manually uninstalling custom pages on page 77.

2.9.1.2 Uninstall and modification alerts

The process of uninstalling an application deletes the same components that you would delete manually through the Relativity UI. When you delete components manually, Relativity provides you with the option to view a dependencies report. You can also view reports that provide information about object dependencies, and modifications to existing objects, that occur when you uninstall an application:

- **Application Uninstall Alerts** - lists dependencies that may prevent the removal of an application component. For example, Relativity doesn't remove an object type that a locked application references or the parent object of a child that you want to retain in the workspace.
- **Modification Alerts for Non-Application Components** - lists components that aren't part of the application, but Relativity must modify them in order to uninstall the application. Other objects may reference components that are deleted as part of the uninstall process. For example, Relativity may delete an object type that an unlocked application references.

To view these reports, click **Validate Components to Uninstall** on the Component Summary page. See Uninstalling an application on the previous page.



2.9.1.3 Viewing application uninstall errors

Relativity displays the view for the Relativity Applications tab after you click Uninstall Application on the Component Summary page. When an application fails to uninstall properly, Relativity locks the application and generates a list of errors that occurred during the uninstall process. The application also continues to appear in the list view of the Relativity Applications tab.

To view uninstall errors, click the application name in the list view to display the details page, and then click **Show Errors**.

2.9.1.4 Auditing the uninstall process

When you uninstall an application, Relativity audits deleted and updated components. You can view this audit information from the History tab in a workspace by selecting the All History view and filtering on a specific action. In addition, you can view changes to specific objects by clicking View Audit on their details page.

If you want to disable auditing for update or delete actions during the uninstall process, set the AuditApplicationUninstallenabled instance setting to False.

2.9.1.5 Manually uninstalling custom pages

You can uninstall custom pages that you develop for an application by manually deleting them from the IIS where the application is. You can only uninstall custom pages associated with applications that you push to the application library or that you install on a workspace.

To complete this task, you need permissions to the following machines:

- Web server (IIS) where you deploy the application.
- SQL Server where the EDDS resides.

Note: You should only uninstall custom pages when you don't want any workspace in your Relativity environment to use the application associated with them.

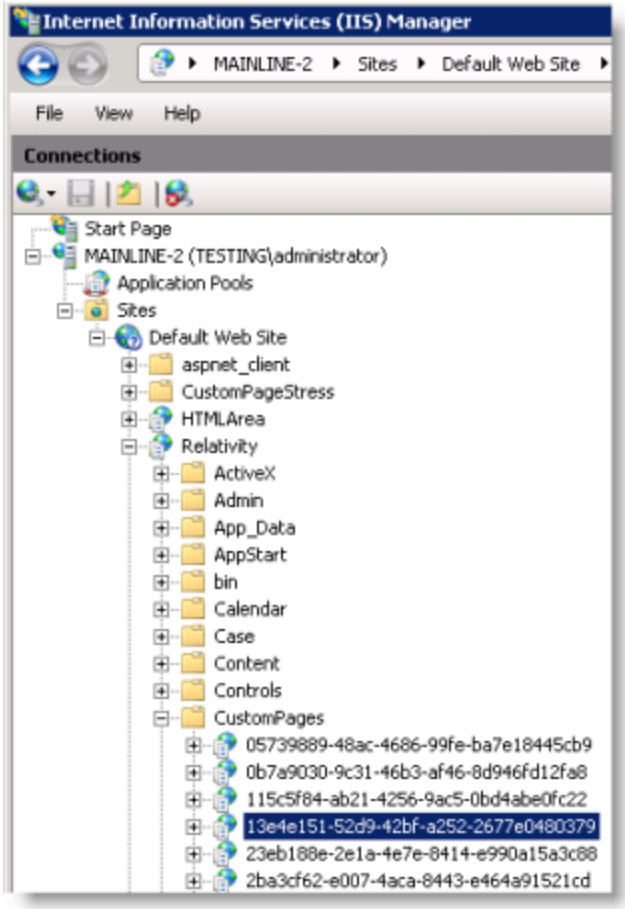
Determining the application GUID

You need to know the GUID for the application to uninstall its custom pages deployed on the IIS. To determine the GUID, open Microsoft SQL Server Management Studio. Run this query on the ApplicationServer table in the EDDS. Replace **YourApplicationName** with the name of your application.

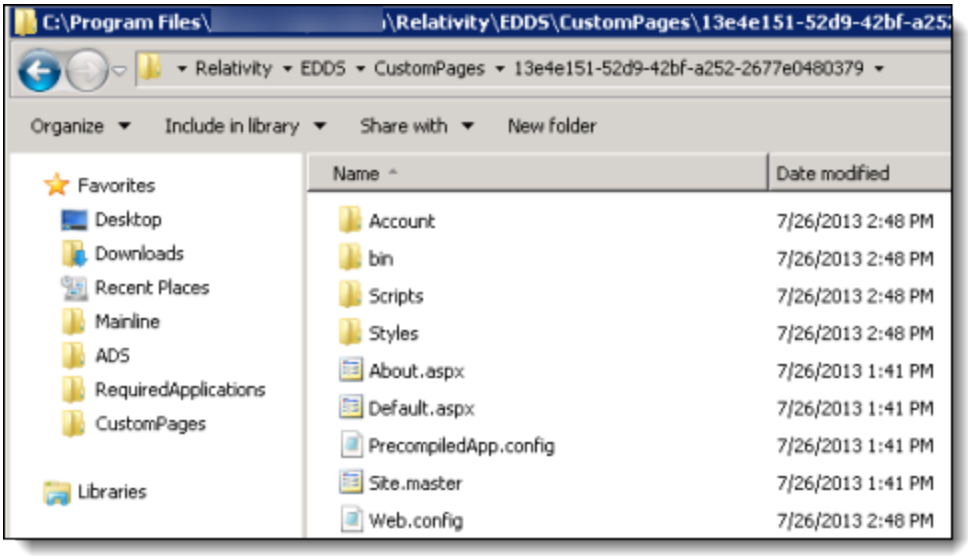
```
select Name, [GUID] from EDDS.eddsdbo.LibraryApplication
where Name = 'YourApplicationName'
```

Uninstalling custom pages from the IIS

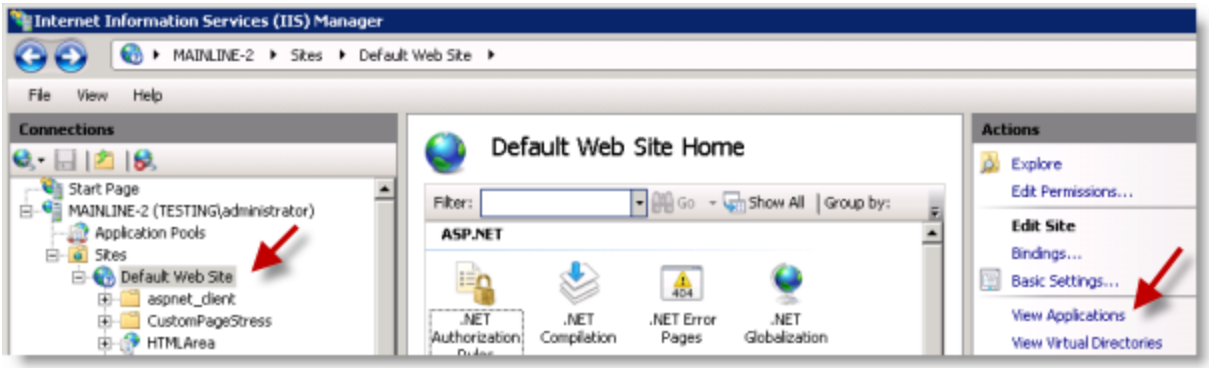
1. Open the IIS Manager on the web server where you deployed the application with custom pages that you want to uninstall.
2. Expand the **Default Web Site** > **Relativity** > **CustomPages** folders. The CustomPages folder should contain the application GUID associated with the custom pages that you want to uninstall.



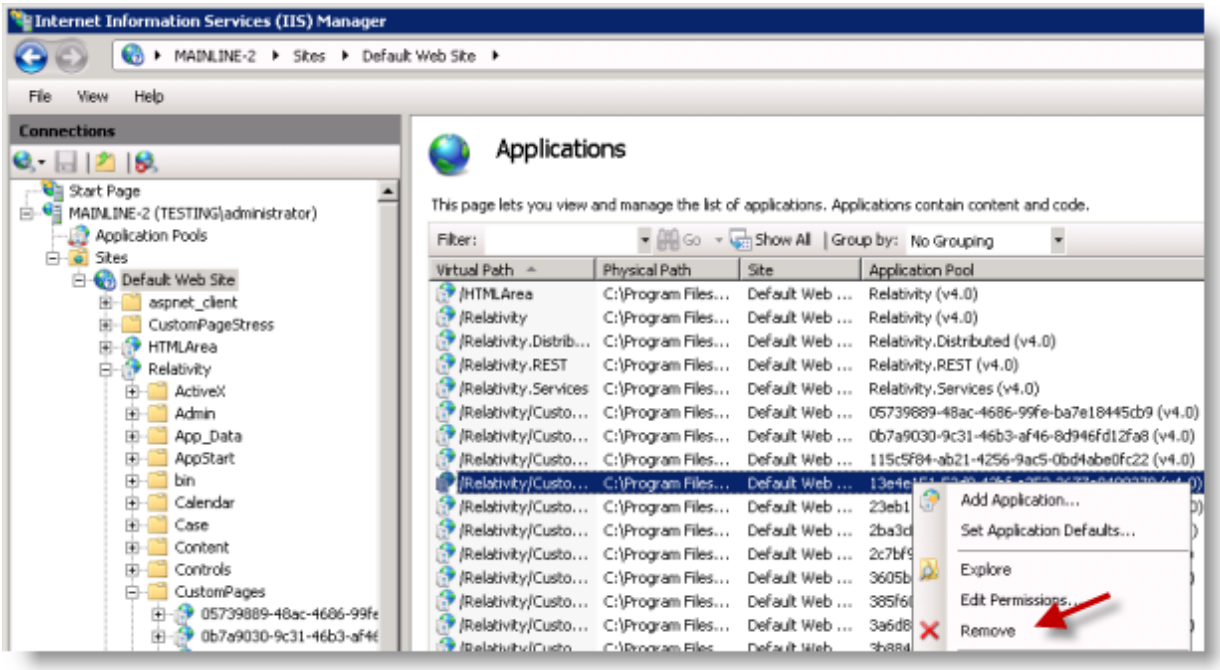
3. Right-click on your application GUID, and then click **Explore** in the menu. Windows Explorer opens and displays a folder with the same name as your GUID. Minimize this window for later use in step 9.



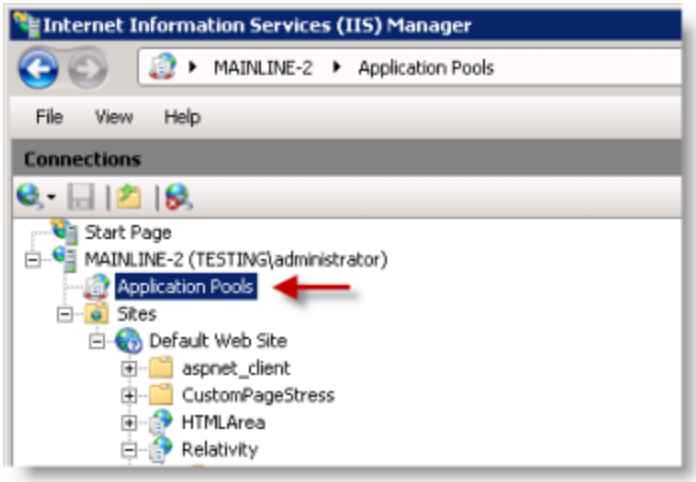
4. Highlight the **Default Web Site**, and then click **View Applications**.



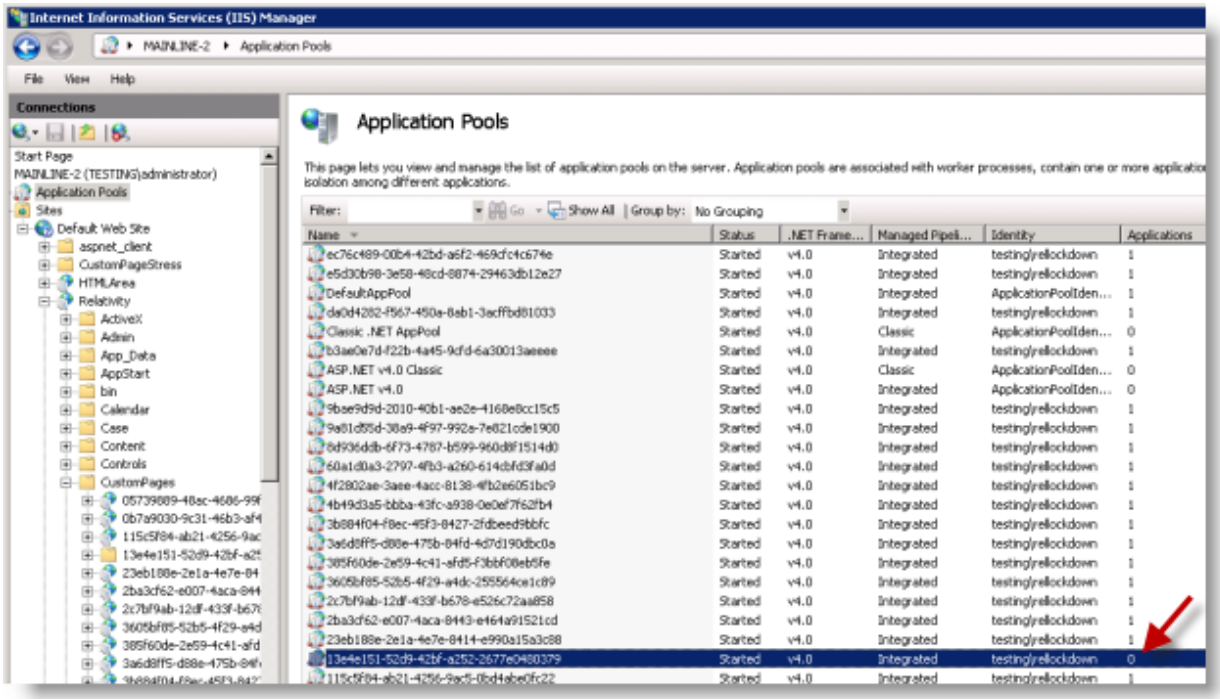
5. Right-click on your **application GUID**, and then click **Remove** on the menu. Click **Yes** on the Confirm Remove dialog.



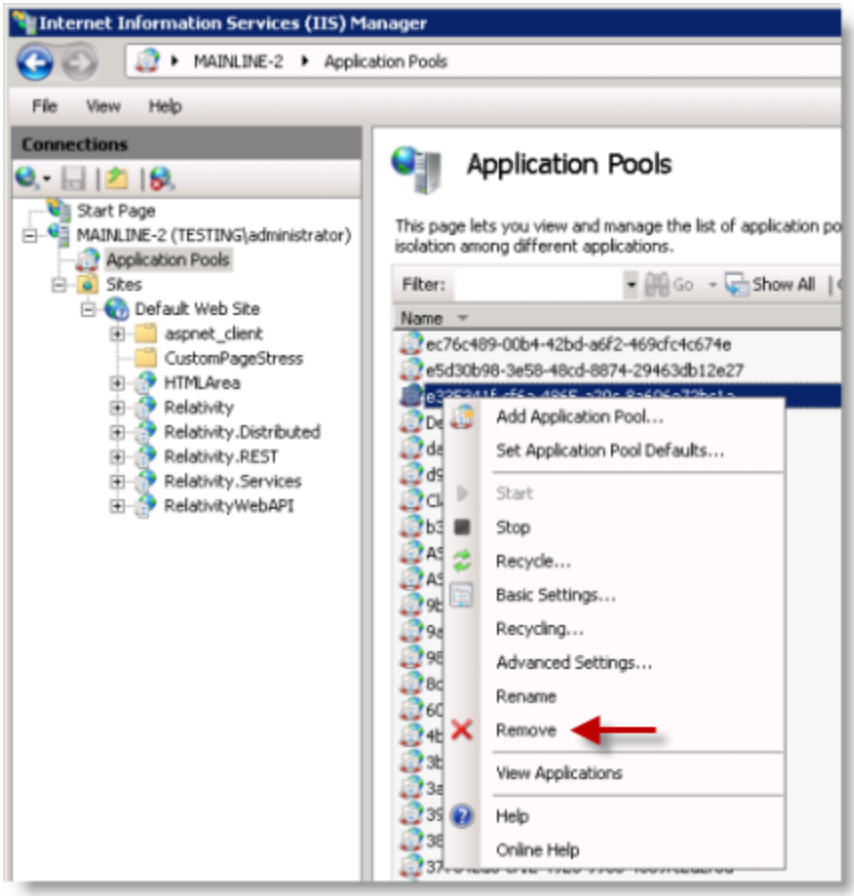
6. Click **Application Pools** located under the server name in the Connections pane.



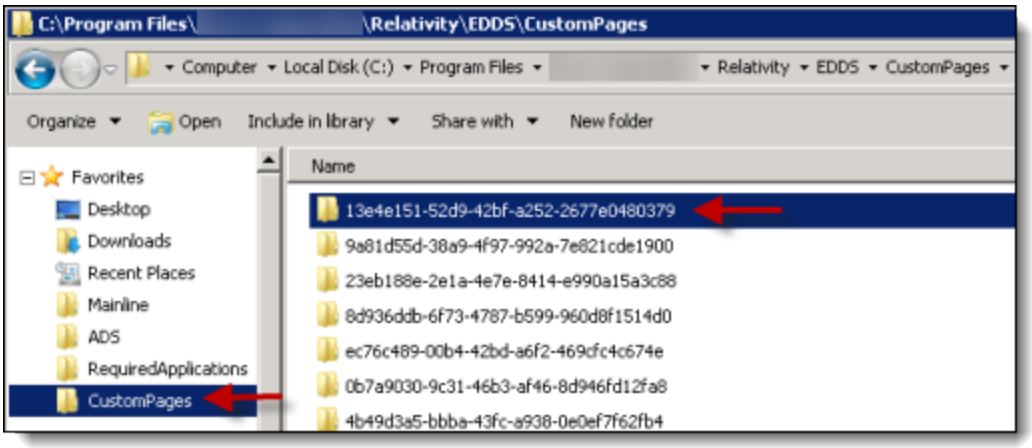
7. Locate the GUID for your application in the **Application Pools** pane. Confirm that the Application column displays 0.



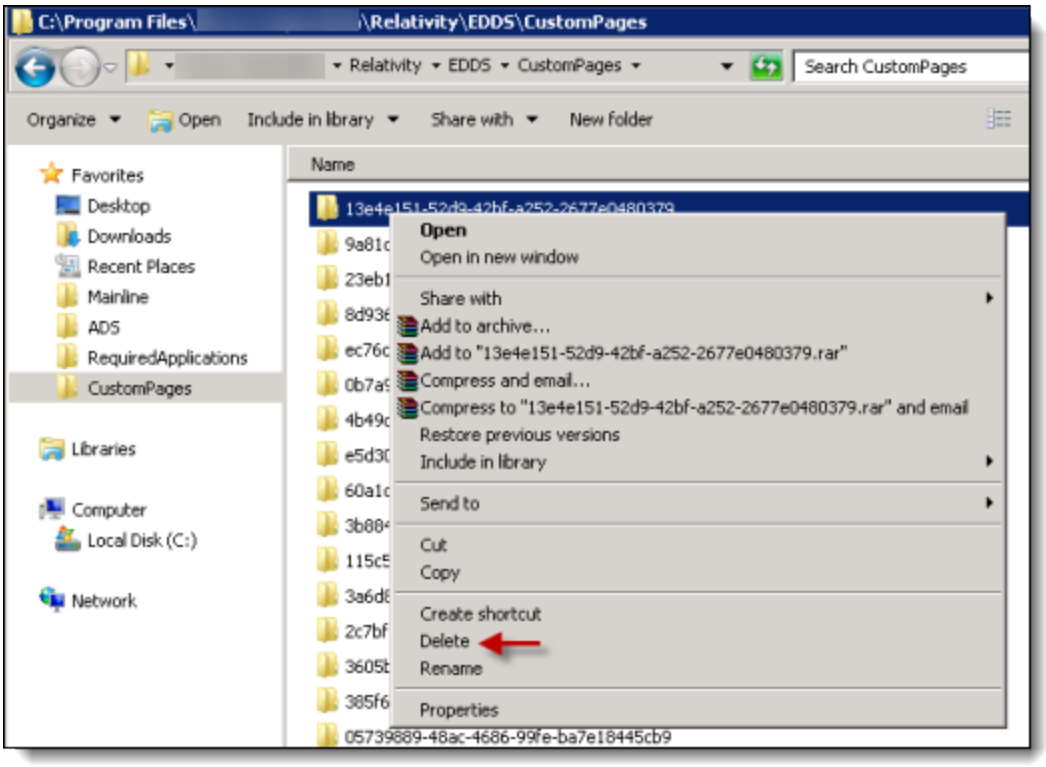
8. Right-click on the application pool with your GUID, and then click **Remove** on the menu. Click **Yes** on the Confirm Remove dialog.



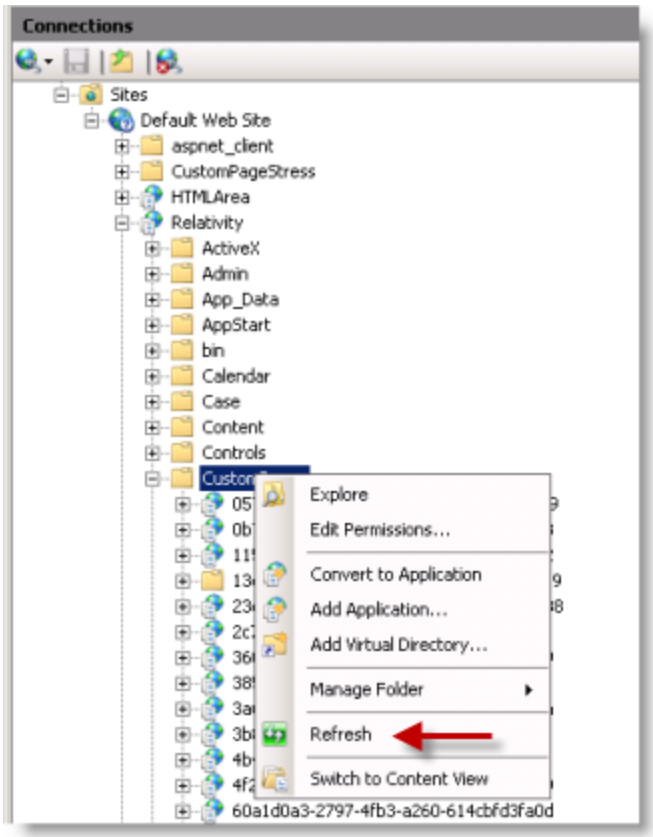
9. Maximize the Windows Explorer window that you opened in step 3. In the left pane, click the **Custom Pages** parent folder for your GUID subfolder.



10. Right-click on your GUID folder, and then click **Delete**. Click **Yes** on the Delete Folder dialog.



11. Right-click on the **CustomPages** folder in the Connections pane of the IIS Manager, and then click **Refresh**. The tree no longer displays your GUID subfolder under the **CustomPages** folder.



12. Open **Microsoft SQL Server Management Studio**. To ignore the custom pages that you want uninstalled, run the following update statement on the ApplicationServer table in the EDDS. Replace **YourApplicationGUID** with the GUID assigned to your application.

    ```
    update edds.eddsdbo.ApplicationServer
    set State = 3
    where AppGuid = 'YourApplicationGUID'
    ```

    This statement sets the state of the custom pages to 3, which indicates that the custom pages should be ignored.

13. Repeat these steps 1-12 on each server in your environment where you deployed the application.

Updating the state on custom pages

If you need to deploy the uninstalled custom pages, you can update their state to make them active. Run the following update statement on the ApplicationServer table in the EDDS. Replace **YourApplicationGUID** with the GUID assigned to your application.

```
update edds.eddsdbo.ApplicationServer
set State = 0
where AppGuid = 'YourApplicationGUID'
```

This statement sets the state of the custom pages to 0, which redeploys them.

2.9.2 Deleting applications

You can remove an application instance from a workspace by deleting it. When you delete an application instance, Relativity deletes child objects and unlinks associative objects. However, it doesn't delete the associative objects from the workspace. If you want to delete these objects referenced by the application, uninstall it. Deleting instead of uninstalling an application may be useful when building and testing an application that hasn't been pushed to the application library. For complete details on uninstalling applications, see Uninstalling applications on page 75.

Use these steps to delete an application:

1. Select the **Relativity Applications** tab in the workspace containing the application that you want to delete.
2. Unlock the application if necessary. You can't delete a locked application. See Locking and unlocking applications on page 60.
3. Click the application name to display the details view.
4. Click **Delete**.
5. (Optional) Click **Dependencies** in the pop-up window to view a report containing the following information:
   - Child objects to be deleted with the application
   - Associative objects to be unlinked from the application
6. Click **Delete**. Relativity deletes the application and its children and unlinks any associative objects.

2.10 Upgrading applications

You can upgrade an existing application by using the Upgrade Application option available on its detail view.

2.10.1 Upgrading an application

Before you upgrade an application, review the following information:

- Some Relativity applications are pre-populated with instances of object types used to store settings, which you can modify to control application functionality. Upgrading the application resets these instances, so any modifications made to them are lost. As a best practice, create new instances of these object types in your application instead of modifying the default settings. For example, you might create a new profile with your custom settings in the Imaging application.

  Note: You can avoid resetting instances of object types by developing applications that use Post Install event handlers set to run only once. Using these event handlers, you can create instances of objects and set default values on them during the initial application installation, but not on subsequent upgrades. See Post Install event handlers on the Relativity Server 2022 Developers site.

- Relativity preserves modifications made to saved searches included in locked applications. For more information, see Modifying saved searches in a locked application on the Relativity Server 2022 Documentation site.

- Confirm that any existing application jobs have completed before upgrading out-of-the-box Relativity applications, such as OCR, search terms report, transform set, or imaging. You may interrupt the current job if you upgrade the application while it is running.

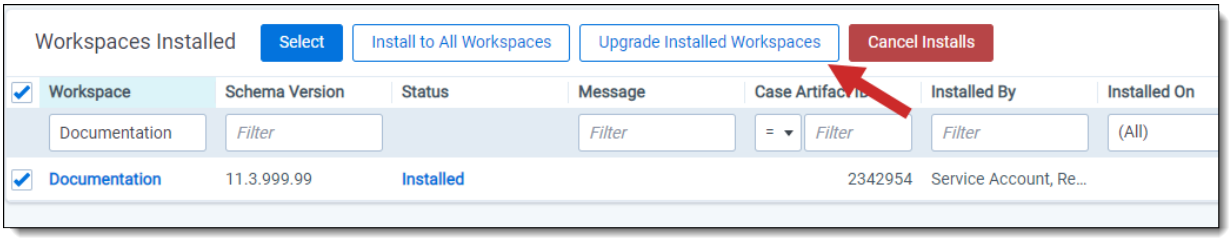
2.10.1.1 Upgrading an application in a workspace

Use the following procedure to upgrade an application:

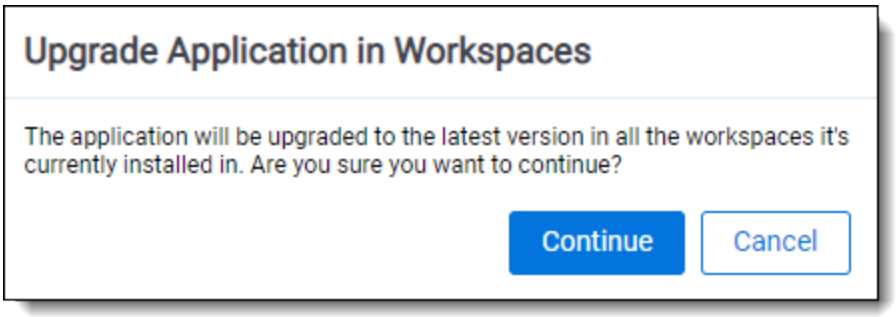
1. Confirm that you have the appropriate system admin permissions to install an application in Relativity. For more information, see Workspace security.
2. Select the **Relativity Applications** tab in the target workspace.
3. Click the name of the application that you want to upgrade.
4. Click **Upgrade Application** in the Relativity Application console. If you don't see this button, then you don't have the appropriate system admin permissions.
5. Select **Import from file** in the Application Type field.
6. Click **Browse** to select a application file.
7. Click **Open** on the browse dialog.
8. Click **Upload** to initiate upgrade script.

2.10.1.2 Upgrading an application through the Application Library

1. Confirm that you have the appropriate system admin permissions to install an application in Relativity. For more information, see Instance Security.
2. Select the **Application LIbrary** tab.
3. Click the name of the application that you want to upgrade.
4. In the Workspaces Installed associated object, select the workspaces in which you want to upgrade the application and click **Upgrade Installed Workspaces**. If you don't see this button, then you don't have the appropriate system admin permissions.



5. Click **Continue** on the confirmation modal to proceed with upgrading the application in all the workspaces it's installed in.



6. Select **Import from file** in the Application Type field.

Relativity will upgrade the selected application, and the new version will be visible in the applications list in the workspaces it's installed in.

2.10.1.3 Application resource file purge

Beginning in July 2017, the application upgrade process purges assembly resource files (DLLs) no longer associated to the newer application version:

- Physically deletes all DLL resource files that were part of the original application version.
- Removes event handler associations on objects types such as Document or Entities.
- Remaps object references in the workspace database to reference the new DLL.
- Eliminates workspace references to resources that no longer exist.
- If an agent of a removed type is currently running, it will complete its work and then self-destruct.

The following application components are not deleted by the upgrade process:

- Object types (fields, views, layouts, etc.)
- Scripts
- Saved searches
- Dashboards

2.10.2 Troubleshooting application upgrades

You can use the following information to identify and resolve issues that may occur when upgrading your applications.

2.10.2.1 Applications from older versions not available after upgrading to Relativity 7.0

If you have Relativity 6.8 or below installed on a workspace, and you upgraded the server to Relativity 7.0, your application is no longer available. It continues to exist in the database, but the Relativity Applications tab no longer includes it. You can't export or upgrade the application.

2.10.2.2 Including object rules when upgrading from Relativity 6.10

If you have an application created in Relativity 6.10 installed on a workspace, and then you upgrade the server to Relativity 7.0 or above, you must manually add any Object Rules that you want included in the

application after completing the upgrade.

2.10.2.3 Making older applications compatible with Relativity 7.0 or above

If you have applications from Relativity 6.8, 6.9 , or 6.10 that were both exported through the ADS, you can make them compatible with Relativity 7.0 or above by running the **Upgrade Legacy Applications** script. This script is available in the Relativity Script Library.

2.10.2.4 Exporting choices attached to single or multiple choice fields

When you update an existing application with a single or multiple choice field, you can make the choices attached to these fields available for export by setting the **Auto Add Choices** field property to **Yes**. If you have a single or multiple choice field that was added to an application prior to upgrading to Relativity 7.2 or above, that field still has all the choices added to the application by default.

2.10.2.5 Custom pages not working properly when multiple application versions exist on the same server

If you have an application with custom pages in Workspace A, and import a new version of the same application to Workspace B on the same server, then the custom pages may not function as expected since they are outdated. However, they continue to display as components of the application.

2.10.2.6 Applications can't be downgraded

You can't import an application with an earlier version number into the Relativity applications library. However, an application with an earlier version number can exist in a workspace even though the application in the environment's library has a higher version number.

3 Authentication

Relativity uses several industry-standard technologies, enabling versatile authentication options. It supports local, such as password related, or external, such as external identification providers, authentication methods. You can add and enable each type individually, as well as assigning at least one, and in some instances multiple methods, for each user.

If you are upgrading from a prior version of Relativity, there are some important differences to be aware of. See the following page:

- Upgrade considerations for Relativity - Authentication

3.1 Authentication overview

Review the following sections to learn more about the authentication methods, the object model, and the permissions model supported by Relativity:

3.1.1 Authentication methods

Relativity supports the following authentication mechanisms.

- **Password**—a method that includes a username, the user's email address, and a password.
- **RSA**—a method using an RSA SecurID token, a third party security solution, and validates credentials from an RSA server.
- **Active Directory**—a method using an email address and user's Active Directory password.
- **Integrated Authentication**—previously called Windows authentication. A method using a directory service, such as Kerberos or NTLM (NT LAN Manager). The authentication attempt is automatically initiated if the user logs in from a specific IP address range.
- **OpenID Connect**—a protocol for an external identity provider, authenticating against an external identity provider using the OpenID Connect protocol. OpenID Connect is a modern authentication protocol can be used to connect to providers such as Azure Active Directory. See OpenID Connect for more information.
- **SAML 2.0**—a method that authenticates against an external identity provider using the SAML 2.0 protocol. SAML 2.0 is an older authentication protocol that is still in widespread use. See SAML 2.0 for more information.

Notes:

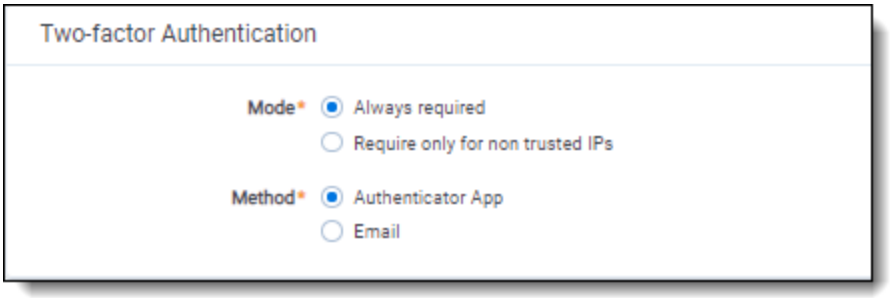
- When implementing single sign-on (SSO) across Relativity instances, the following scenarios are supported:
  - Identity Provider-initiated SSO using SAML 2.0
  - ID provider and service provider-initiated SSO with OpenID Connect

In addition to the above protocols, Relativity has the following additional authentication features:

- **Two-factor Authentication**—when logging in with the Password method, you can require the user to pass an additional two-factor check based on an email or message sent to the user's phone

through a mobile email gateway.

- **Mode**—always required or require only for non-trusted IPs
- **Method**—authenticator app or email. For more information, see the authenticator app's documentation.



- **Trusted IP Range**—limit access to the Relativity application based on the user's source IP address.

3.1.2 Authentication object model

Relativity provides several tabs or object types that are used to configure authentication. By combining these object types, the system admin is able to control the Relativity login page and authentication options for the users in the environment.

Authentication Provider Type. Each authentication protocol is represented by an Authentication Provider Type object. You can navigate to the **Authentication Provider Type** tab in Home mode to see all of the environment's protocols and whether they are enabled or not. In Relativity you can disable specific Provider Types that you do not intend to use in your environment. As a best practice you should disable any Provider Types that will not be used.

Note: Users log in to the Relativity Desktop Client (RDC) with the same provider method as they have with Relativity. The RDC supports most Relativity authentication providers, such as password, Integrated Authentication, and OpenID Connect, by displaying the Relativity login page within the RDC as a dialog window. The only provider that does not work with the RDC is SAML because the Relativity's IdP-initiated SAML does not display the Relativity login page directly.

Authentication Provider. Authentication Providers allow you to configure the specific settings for a login protocol. For example, you can add the Password Provider to your environment to set minimum and maximum password length, password history settings, and more. Some protocols have multiple configuration options, while others have very few. Every instance of Relativity has Default Password, Default Integrated Authentication, Default Active Directory, Default RSA, and Default Smart Card providers. You cannot have additional, non-default, providers of those types.

You can add OpenID Connect and SAML 2.0 external identity providers. Unlike the previous five protocols, you can have as many of these Providers as you wish in an environment.

Login Method. The **AuthenticationData** field on the User page has been replaced with the Login Method associated list. Users can have one or more Login method objects that binds that user to a particular Authentication Provider. For example, if you have a Password Authentication Provider in the environment, the Password Login Method contains the specific password for a given user. If you have Azure Active Directory configured as a Provider, each user's AAD subject identifier would be stored in an associated Login method.

User. The User object still holds the TrustedIPs setting. By setting a TrustedIP for a user, that user will only be able to authenticate with Relativity from that IP range. All other authentication-related fields have been moved from the User object to the Provider and Method objects.

3.1.3 Authentication object permissions

These default object permissions are recommended for managing user authentication:

- **System admins only**—full permissions, including view, update, delete, secure, add
  - **Authentication Provider Type**
  - **Authentication Provider**
  - **Login Method**
  - **OAuth2 Clients**
- **Anyone with the ability to view a user**—view
  - **Authentication Provider Type**
  - **Authentication Provider**
  - **Login Method**
- **Anyone with the ability to edit a user**—update, delete, add
  - **Login Method**

3.2 Configuring Relativity authentication

System admins must assign users at least one authentication method in order for users to log in. To create and to assign methods, follow these steps.

3.2.1 Enabling authentication provider types

Authentication Provider Types are Relativity dynamic object (RDOs) types that permit authentication methods for users to log in with. You cannot add or delete provider types, only enable or disable them. By default, provider types are enabled. You enable methods in two places: the authentication provider type tab and the authentication providers tab. To be enabled, the method has to be enabled in both places.

To enable or disable an authentication provider type:

1. Select **Authentication Provider Type** tab.
2. Click on a provider type name. The Authentication Provider Information section appears.
3. Click **Edit**.
4. Select Enabled status **Yes** or **No**. **Yes** enables those methods, and **No** disables them throughout the Relativity instance.
5. Click **Save**.

3.2.2 Creating authentication providers

Authentication providers are instances of authentication provider types. You create only the instances of the provider types you need. For example, if you plan to support only password methods, you only have to create an authentication provider for passwords, and not for any other provider types.

Note: Adding a new authentication provider of the same type overwrites the existing ones of the same type.

You may only have one instance of each provider type. The exceptions are for OpenID Provider and SAML 2.0 provided types. You can have multiple instances of those if they have different names.

To create an Authentication Provider:

1. Select the **Authentication Provider** tab.
2. Click the **New Authentication Provider** button.
3. Enter a **Name**. This is the friendly name of the provider instance.
4. Optionally select the **Enabled** status. By default, each authentication provider is enabled. If not enabled, then users cannot log in with that method.
5. Select a **Provider Type** from among the authentication provider types. You can select OpenID Connect or SAML2.
   The **Authentication Provider Settings** section appears.
6. Set the Authentication Provider Settings, if any. See Authentication provider settings below for the specific method.
7. Click **Save**.

3.2.3 Assigning a login method to individual users

You assign an authentication method to each user for them to log in with. Each user must have at least one authentication method in order for them to log in but you may assign multiple methods. See Managing user authentication methods on page 113.

3.3 Authentication provider settings

Authentication providers may have associated settings that you can configure and applies to all instances of that authentication provider.

Each provider instance has at least one setting: Enabled. If set to **Yes**, this authentication provider is available. If **No**, you cannot use this method to log in with. To enable an instance both this setting and the Enabled for the Authentication Provider must be set to **Yes**. If either one is set to **No**, that method is not available for the user.

Authentication providers that do not require additional settings:

- **Default Integrated Authentication provider**
- **Default Active Directory provider**
- **Default RSA provider**
  You may need to set RSA configuration files to the web server prior to users logging in with this method. See RSA configuration on page 123 for additional details.

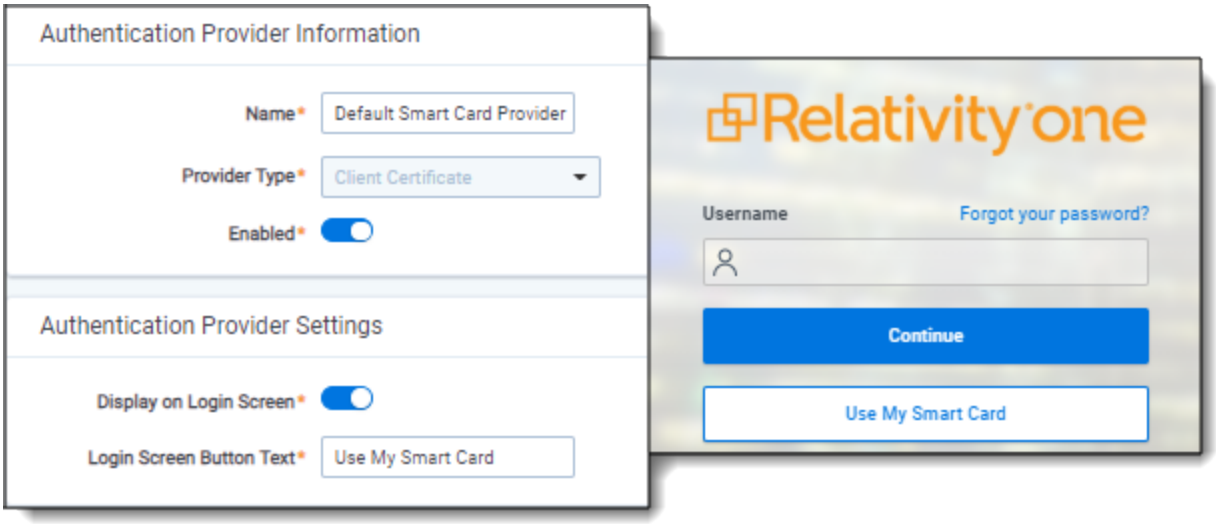
Authentication providers that require additional settings:

- **Default Password provider** —additional settings for the Default Password provider include:
  - **Minimum Password Length**—sets the minimum number of characters for a password.
  - **Maximum Password Length**—sets the maximum number of characters for a password.
  - **Maximum Password Attempts Before Reset Required**—sets the maximum number of consecutive unsuccessful login attempts before being locked out. You must send the user a password reset request before they can attempt to log in again.
  - **Maximum Password Age (in days)**—sets the maximum number of days a password remains valid. The user will be prompted for a new password on a log on at the expiration date. If set to zero, the password does not expire.
  - **Users Can Change Password Default**—enables the user to change their password.
  - **Allow Password Recovery via Email**—enables the user to use email to recover a forgotten password. **Yes** displays the Forgot Password link on the user's login screen.
  - **Password Recovery Request Limit**—sets the maximum number of password resets before Relativity locks out the user. You must send the user a password reset request before they can attempt to log in again. This value resets to zero on each successful log in.
  - **Maximum Password History**—sets the maximum number of previous passwords that users cannot use for a new password. The default value of zero enables any previous password.
  - **Additional Work Factor**—increases the number of encryption hashes. Relativity already provides several built in hash levels represented by the default zero value. Changing this value to 1, 2, or 3 adds additional encryption protection but may significantly increase login time.

    Note: The following non-alpha-numeric characters are not allowed: \, ", <, >, £ in passwords.

- **Default smart card provider** - additional settings for the Default smart card provider include:
  - **Display on Login Page**—determines if the client certificate button displays in the login screen.
  - **Login Screen Button Text**—sets the client certificate button text.

  The example below illustrates the relationship between the two settings and the login screen.



- **OpenID Connect with Microsoft Azure AD**—see OpenID Connect with Microsoft Azure AD below.
- **SAML 2.0 provider**—see SAML 2.0 provider on page 106.

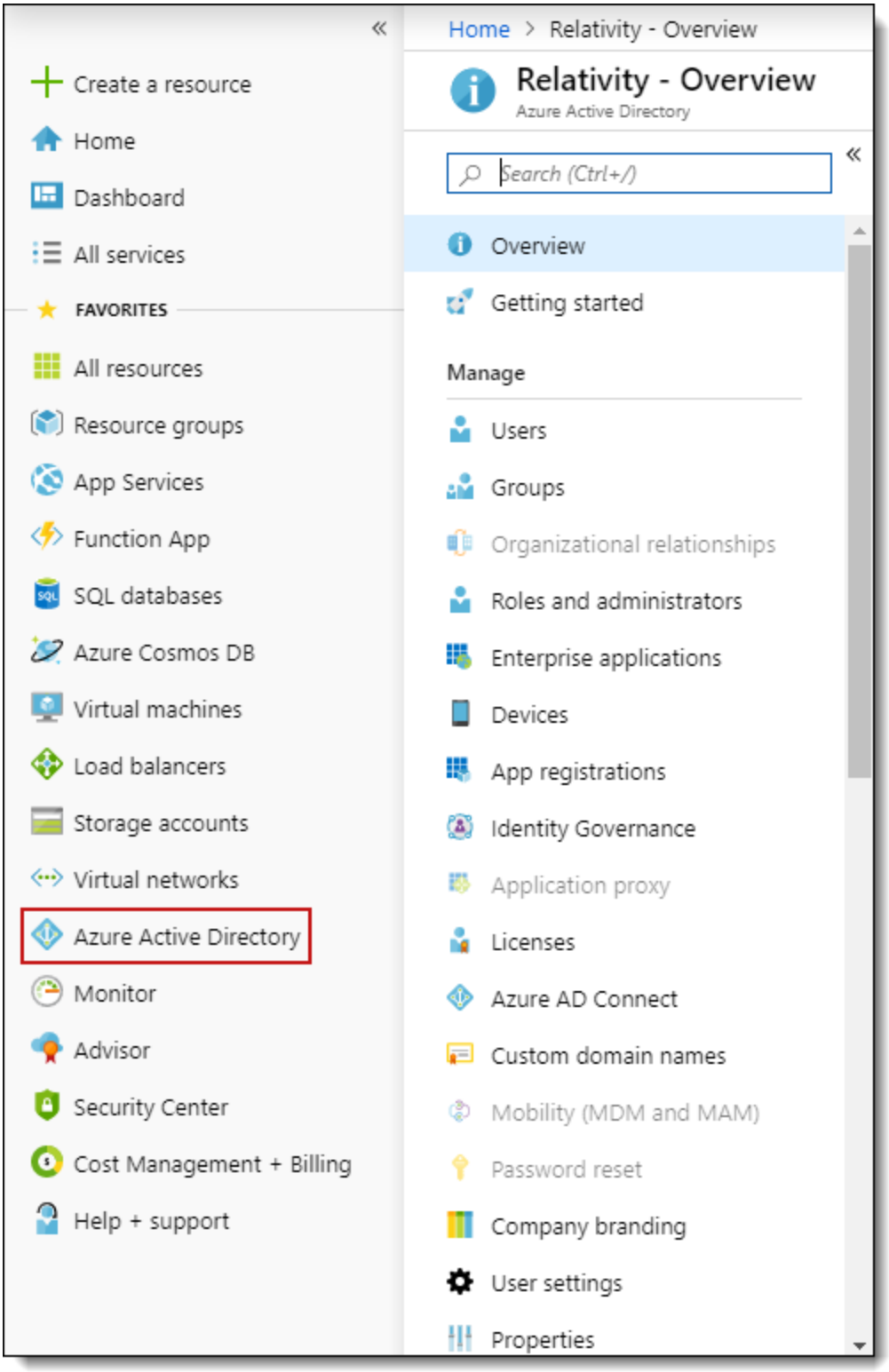
3.4 OpenID Connect with Microsoft Azure AD

OpenID Connect 1.0 is a simple identity layer on top of the OAuth 2.0 protocol. Clients can verify the identity of the end-user based on the authentication performed by an authorization server, as well as to obtain basic profile information about the end-user. You can use any provider that supports the OpenID Connect protocol. The examples here use Microsoft Azure AD.

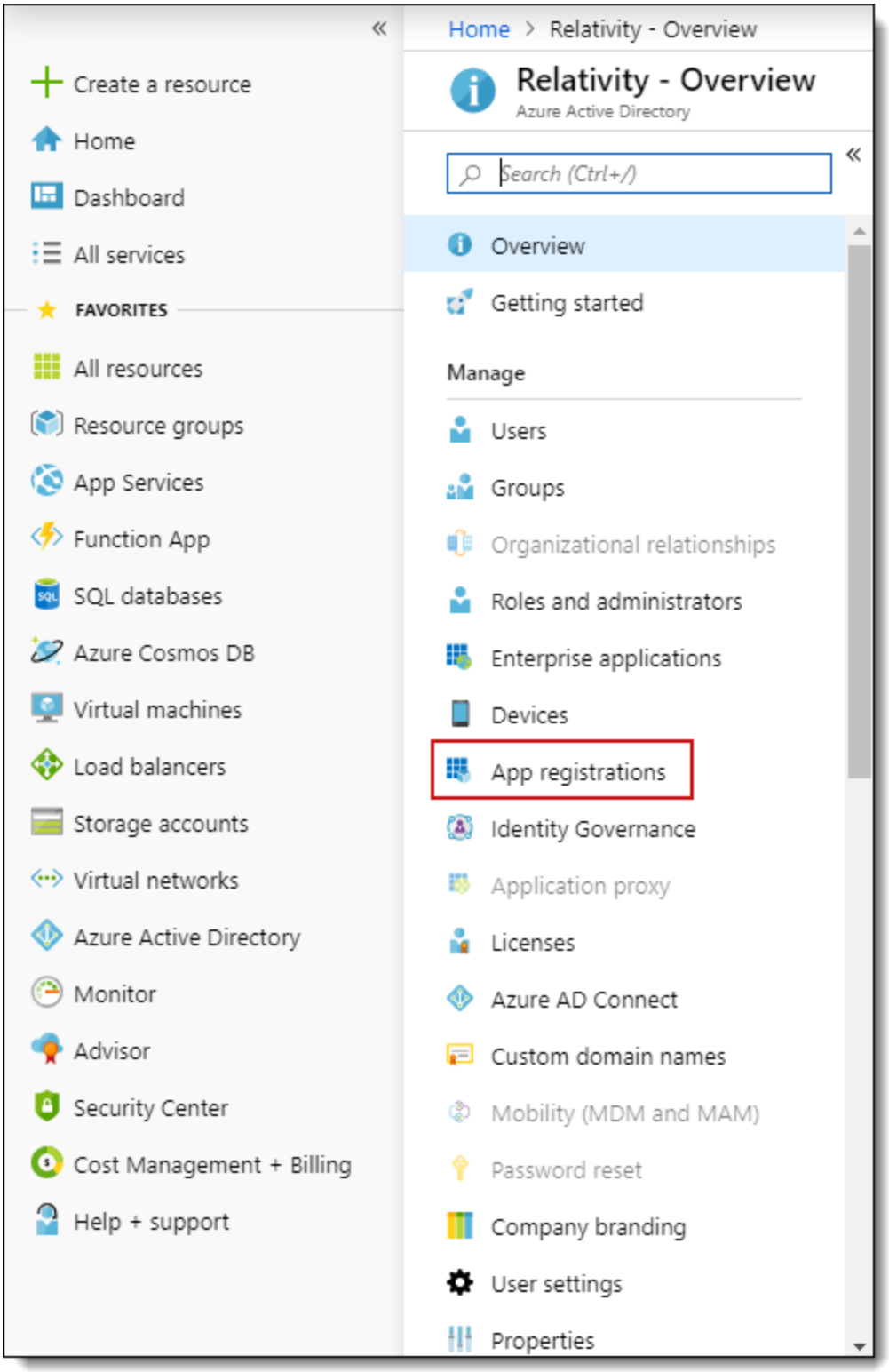
Note: OpenID Connect 1.0 authentication providers are not compatible with Relativity User Load Balancing (RULB).

3.4.1 Configuring your external identity provider

1. Log in to Azure Portal.
2. Click **Azure Active Directory**.

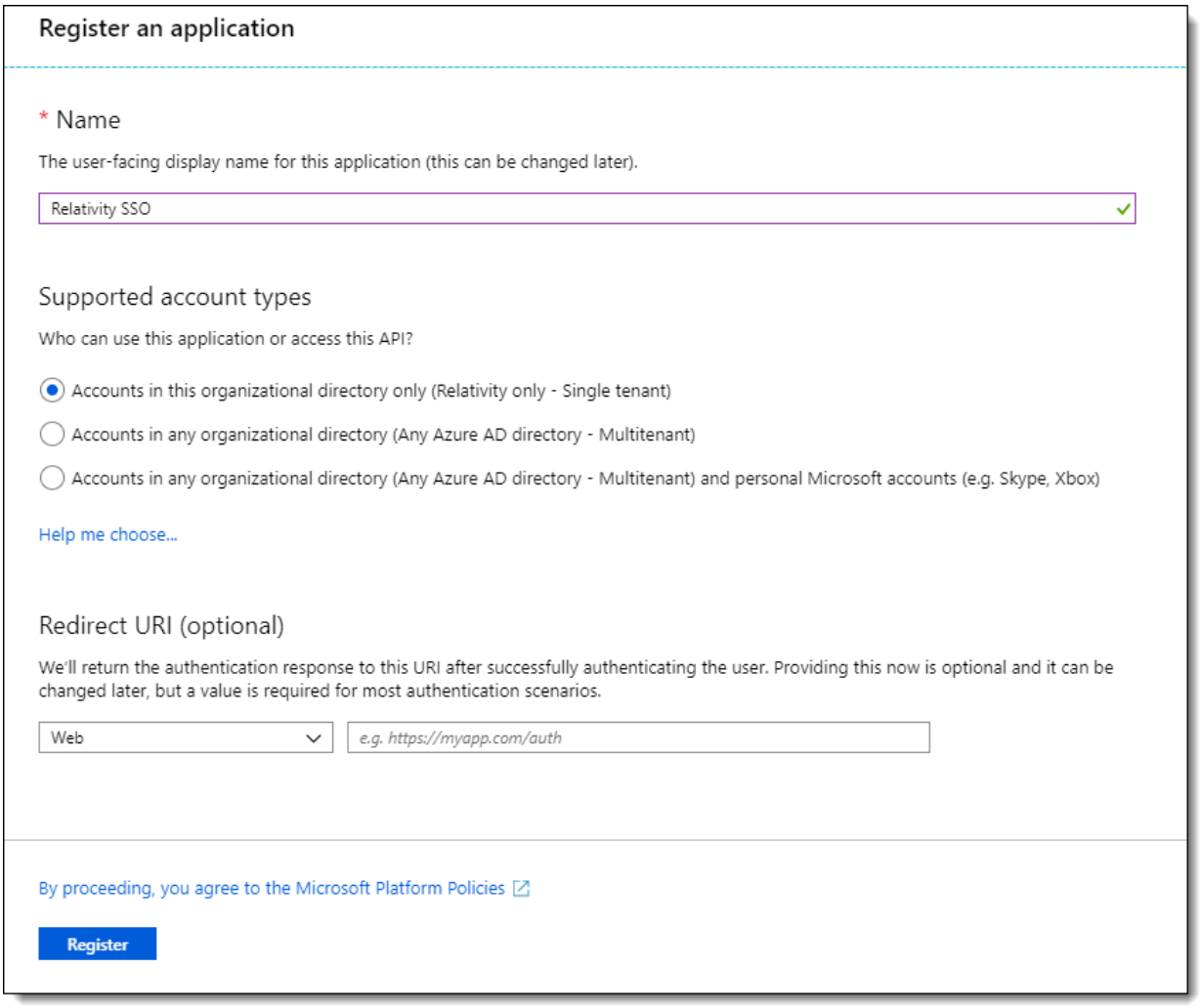


3. Click **App registrations**.

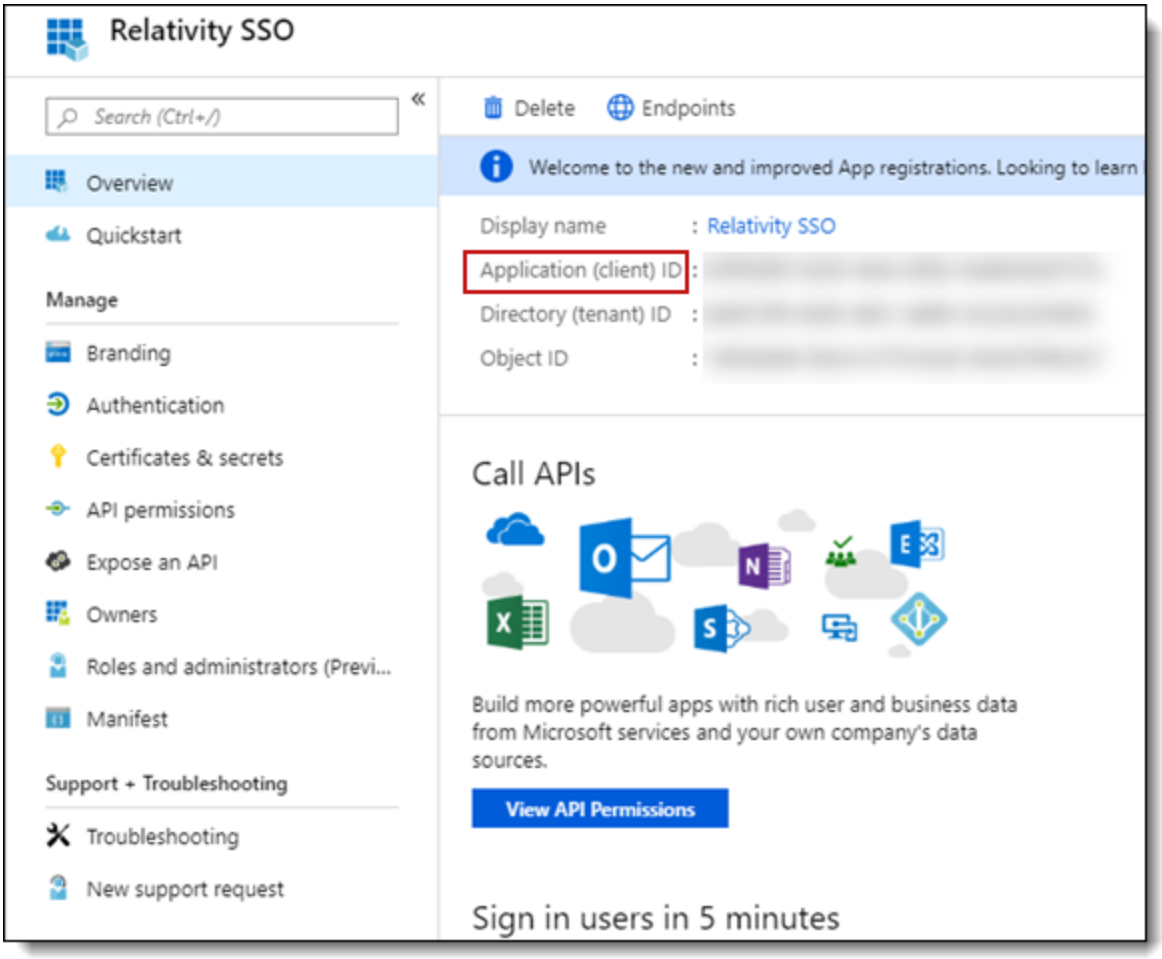


4. Click **New registration**.

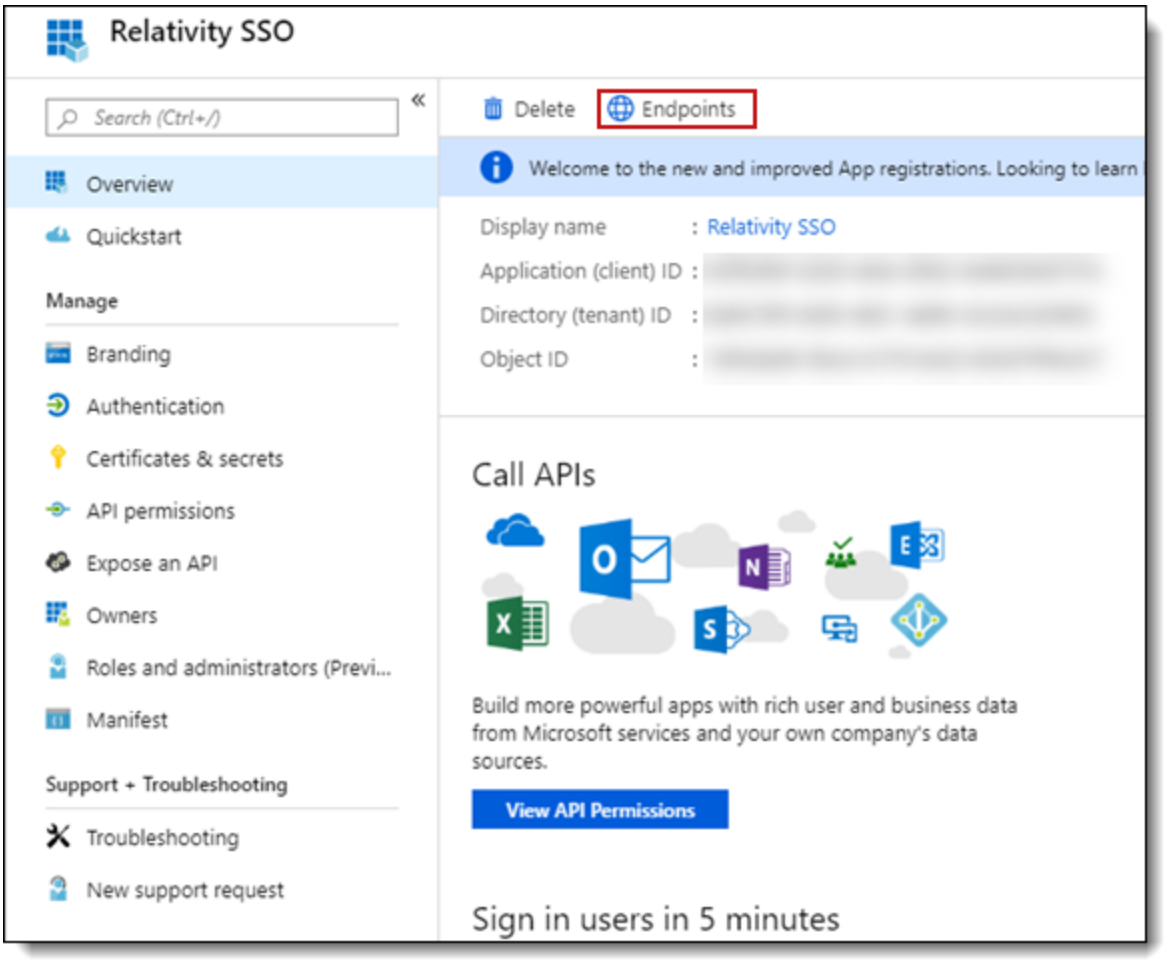
5. Give the application a name.



6. Click **Register**.
7. Copy the Application (client) ID.


Relativity SSO
Search (Ctrl+/)
Overview
Quickstart
Manage
Branding
Authentication
Certificates & secrets
API permissions
Expose an API
Owners
Roles and administrators (Previ...
Manifest
Support + Troubleshooting
Troubleshooting
New support request
Delete
Endpoints
Welcome to the new and improved App registrations. Looking to learn
Display name : Relativity SSO
Application (client) ID :
Directory (tenant) ID :
Object ID :
Call APIs
Build more powerful apps with rich user and business data from Microsoft services and your own company's data sources.
View API Permissions
Sign in users in 5 minutes

8. Click the **Endpoints** button.



9. Copy the OAuth 2.0 authorization endpoint (v2) URL.
10. Trim the oauth2/v2.0/authorize from the URL. For example:

```
https://login.microsoftonline.com/8a3fa923-3223-4978-9d4d-
fa012e19898b/oauth2/authorize
https://login.microsoftonline.com/8a3fa923-3223-4978-9d4d-fa012e19898b/
```

3.4.2 Configuring this method in Relativity

Review the following list of settings that display on the Authentication Provider form. You can configure or update these settings based on your authentication needs.

3.4.2.1 Authentication Provider Information

- **Name**—enter a user-friendly name for the authentication provider.
- **Provider Type**—select OpenID Connect.
- **Enabled**—the provider is enabled by default. However, you can disable it.
- **Site URL**—set the URL that users enter in the browser to access an instance of Relativity.

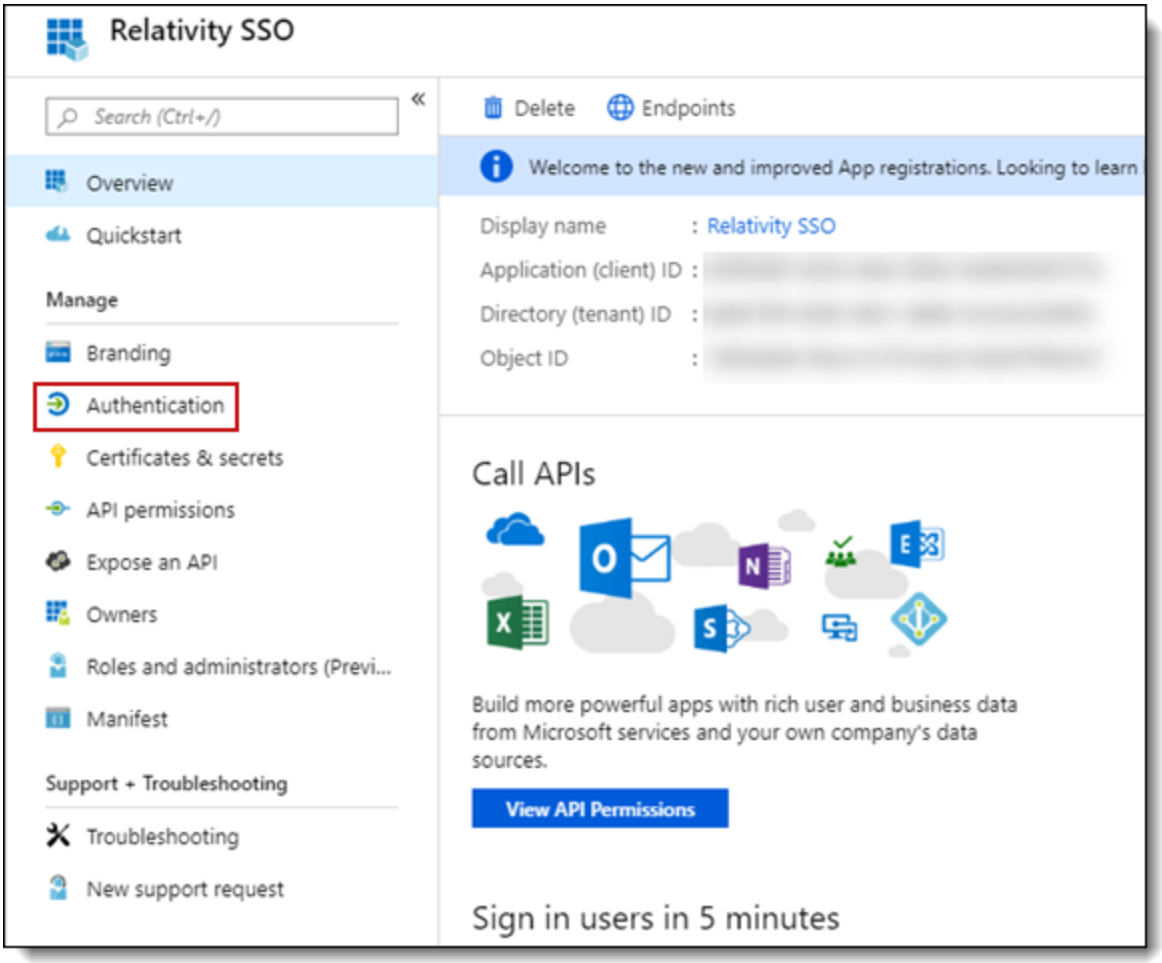
3.4.2.2 Authentication Provider Settings

- **OAuth2 Flow**—select either **Implicit** or **Code**.
- **Client ID**—enter the Azure AD's Application ID.
- **Display on Login Screen**—determines if the OpenID Connect button displays on the login page.
- **Login Screen Button Text**—determines the text that appears on the button displayed on the login page.
- **Authority URL**—enter the Authority from the trimmed OAUTH 2.0 AUTHORIZATIONENDPOINT from step 9 in Configuring your external identity provider.
- **Scopes**—the default value for this field is **openid**. The **openid** checkbox must be selected because it is a required setting. However, you can also select the email or profile option.
  The identity provider responds with the claims associated with the scopes that you request. In other words, the scopes translate into claims that you can use.
- **Subject Claim Type**—the default value for this field is **sub**. Enter one of the following values based on the scopes that you set:
  - If you selected only OpenID in the Scopes field, this field must be set to **sub**.
  - If you selected OpenID and email in the Scopes field, set this field to **upn**.
  - If you selected OpenID and profile in the Scopes field, set this field to a property available from the identity provider. These properties differ for each provider.

  The identity provider sends an identity token to you, which contains the claims for your selected scopes. When you request only the OpenID scope, then sub is used as the claim type. It often represents a unique identifier for the user within your system. If you are using Azure AD, then see Microsoft identity platform ID tokens for a full list of token identifiers.

3.4.3 Completing your external identity provider set up

1. Log in to Azure AD and navigate to the application you created earlier, if you have closed the window.
2. Click **Authentication**.

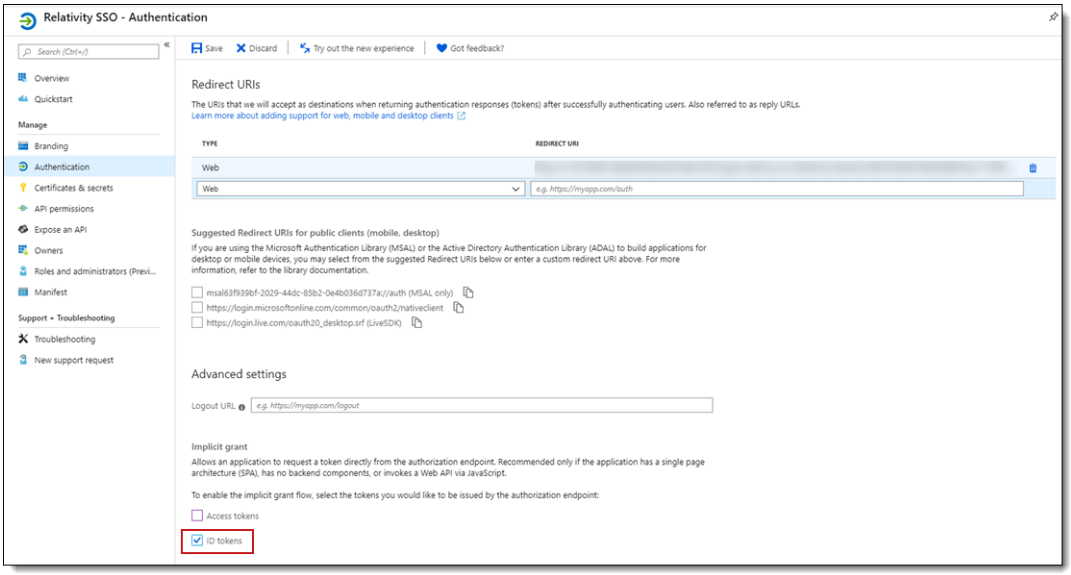


3. Add your Redirect URL from the Relativity Authentication Provider.

Note: Leave the Type as Web.

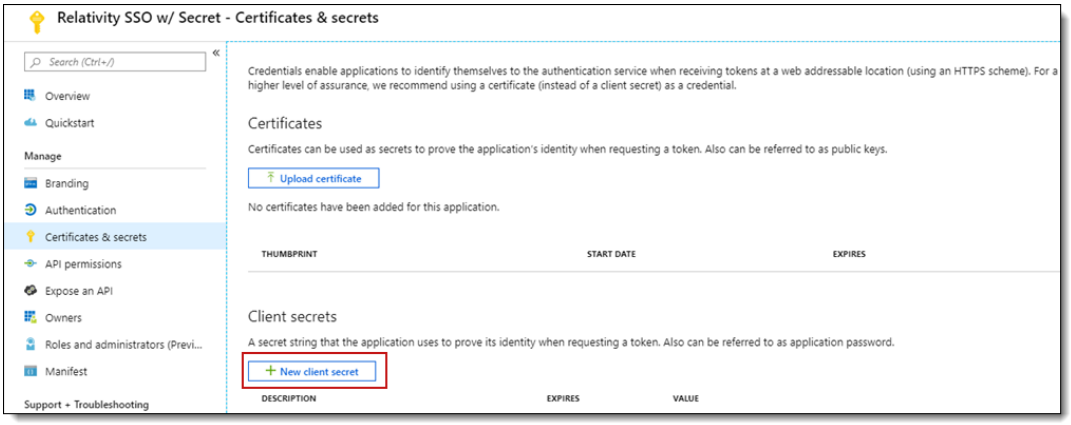
4. Complete the scenario that matches the value you selected for OAuth2 Flow.

- Scenario: you selected **Implicit** for OAuth2 Flow.
  - Check the **ID Tokens** box.

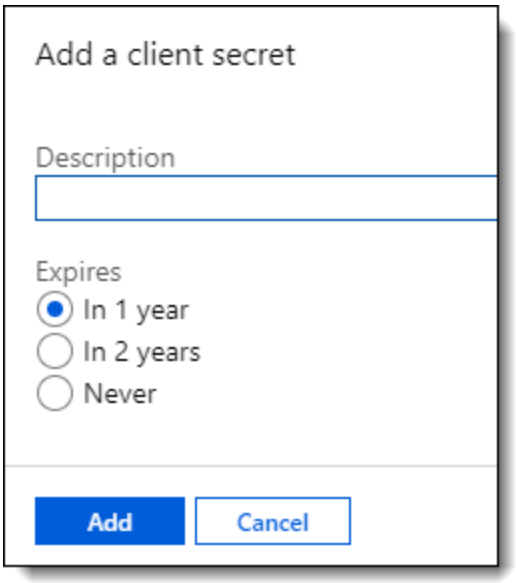


  - Click **Save**.

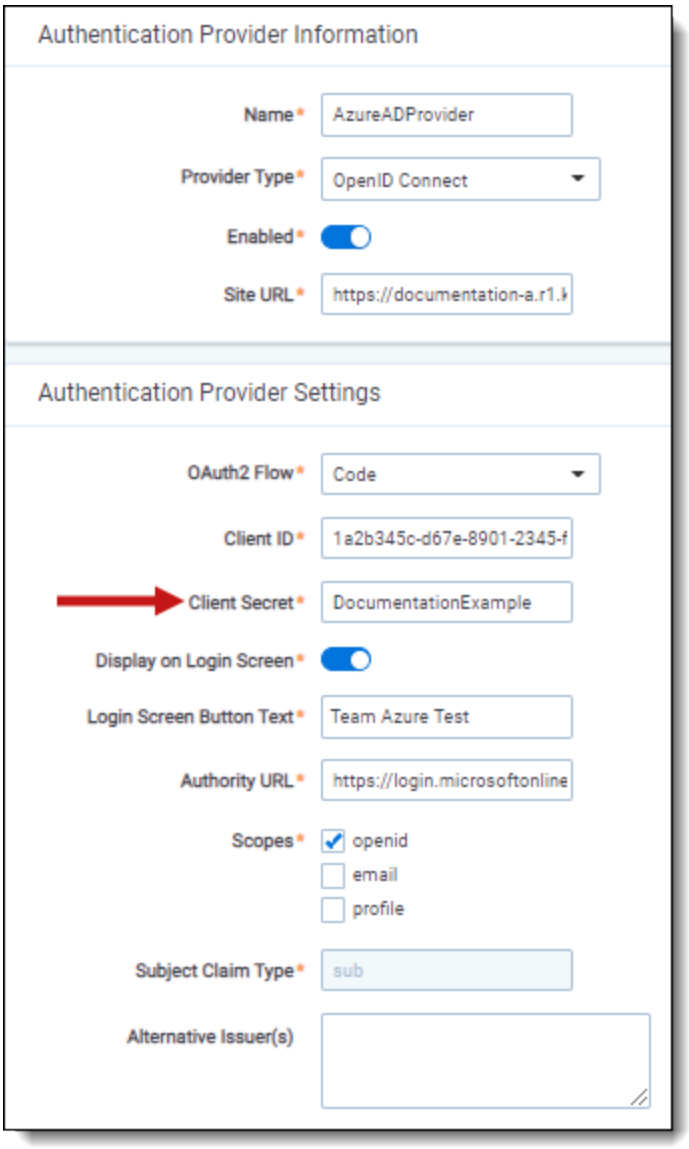
- Scenario: you selected **Code** for OAuth2 Flow.
  - Click **Certificates & Secrets**.
  - Click **New client secret**.



  - Click **Add**.



- Copy the client secret value.
- Navigate back to the Authentication Provider in Relativity.
- Click **Edit**.
- Paste the value for Client Secret with the value from step 4.

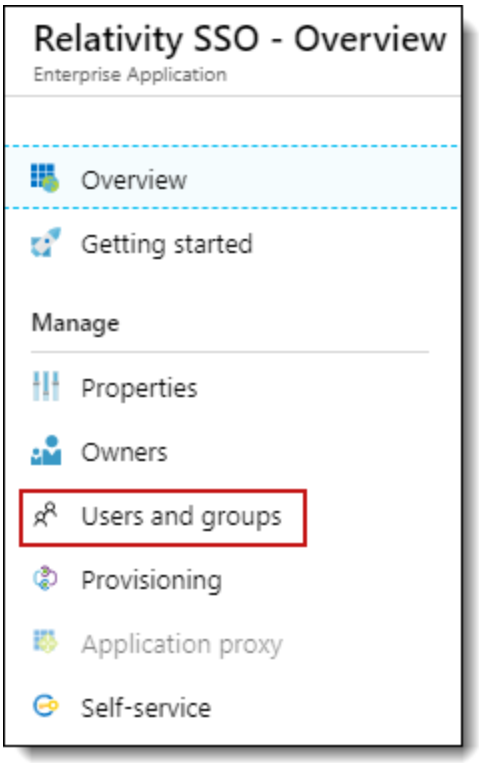


- Click **Save**.

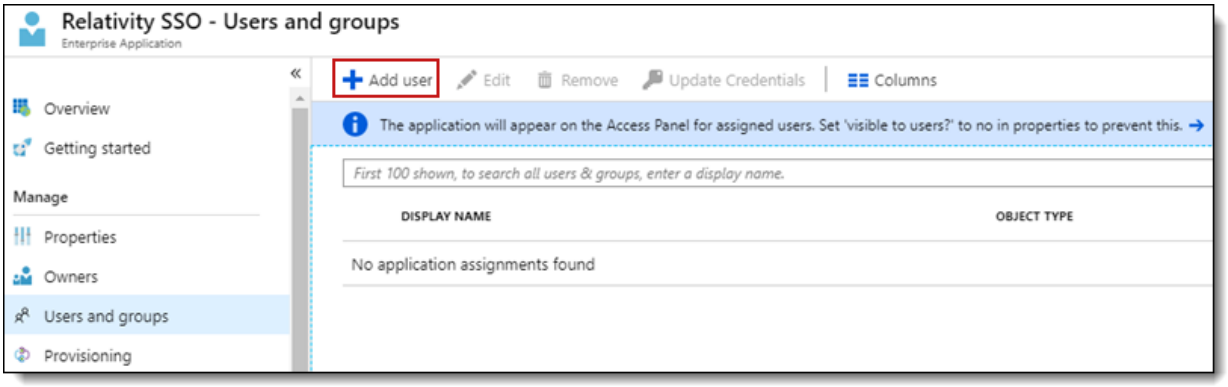
3.4.4 Adding users to the application in Azure

1. Click **Azure Active Directory**.
2. Click **Enterprise Applications**.
3. Click into the application that you have created for Relativity authentication.

4. Click **Users and groups**.



5. Click **Add user**.



6. Select your users.
7. Click **Assign**.

3.5 Using Relativity as an OpenID Connect Provider

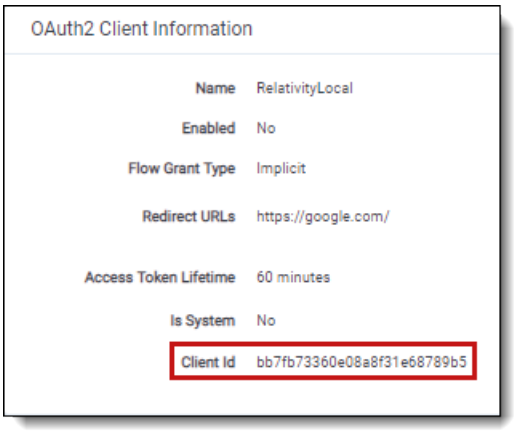
Relativity can be set up as an OpenID Connect authentication provider to log users into a different Relativity instance. For example you can set up a Relativity Server environment, primary instance, to act as authentication provider for a RelativityOne cloud instance, secondary instance.

Before you begin:

- Ensure that the primary instance is set up to use HTTPS.
- Verify that the secondary instance can resolve the host address of the primary instance.
- Confirm that the authenticated users are defined in both systems.

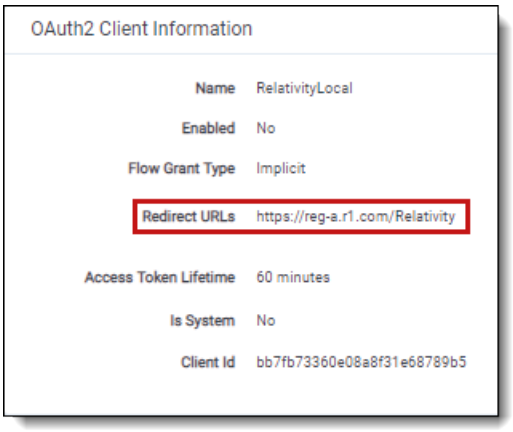
Configuring an OpenID Connect provider for Relativity
To configure an OpenID Connect provider for Relativity:

1. Navigate to the primary instance and set up an OAuth2 client. You must specify Implicit as the OAuth2 Flow.
   Initially, you do not have the redirect URL value. You get it when you set up the Authentication Provider on the secondary instance. Specify any placeholder URL instead. For more information, see OAuth2 clients on page 124.
2. After you save the OAuth2 client, note the generated value of the Client Id. This is required to set up the authentication provider in the secondary instance.

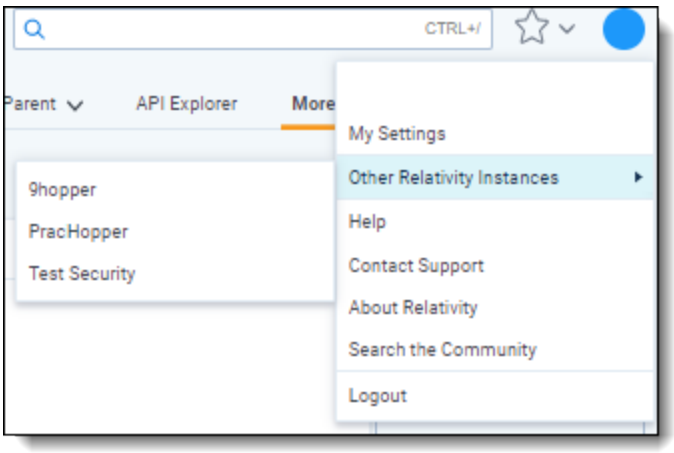


3. Navigate to the secondary instance and configure a new OpenID Connect authentication provider using the Client Id value from the previous step.
   The OAuth2 Flow values must also be Implicit, and the Authority URL must point to the Relativity Identity service of the primary instance. An example of a Redirect URL is *https://-mycompany.relativity.one/Relativity/Identity*.
4. After you save the provider, note the generated value of the Redirect URL. It is required to complete the OAuth2 client setup in the primary instance.
5. Set up the users to use the Authentication Provider as the Login Method, specifying the user's email, Relativity user ID, as the **OpenID Connect Subject** field value. For more information, see Managing user authentication methods.

6. Navigate back to the primary instance and update the OAuth2 provider with the Redirect URL.



7. In the primary instance, set up a federated instance pointing to the secondary Relativity instance. Note the use of the Home Realm Discovery (HRD) URL parameter to provide a single sign-on experience. The Home Realm discovery URL is generated when the Authentication Provider is created and can be found in the Authentication Provider Information section of the Authentication Provider page. For more information, see Federated instances on page 127.
8. Navigate back to the secondary instance and set up a federated instance pointing to the primary Relativity instance. Do not set up the HRD redirect for that federated instance.
9. Log out of the secondary instance.
10. Use the federated instance link to log in to the secondary instance from the primary instance.



11. Use the federated instance link in the secondary instance to return to primary instance.

You have now configured a Relativity environment to serve as an authentication provider for another Relativity instance.

3.6 SAML 2.0 provider

SAML is an open-standard format for exchanging authentication and authorization data between an identity provider (IdP) and a service provider (SP). As a service provider, Relativity supports SAML IdP-initiated single sign-on (SSO). SP-initiated SSO is not supported. Relativity uses SAML assertions (tokens) to verify

the users mapped to the identity provider.

SAML assertions contain information on the identity of the individual who has logged in. Assertions also contain the identity provider issuing the assertion, known in Relativity as the Issuer URL. Each assertion is typically prepared for a specific receiver, known as the Audience. Assertion protects this information by cryptography signing it. An assertion is only valid if it is from a known Issuer URL to the expected Audience and correctly signed.

Note: SAML assertions must be cryptographically signed for Relativity to verify their authenticity. Make sure your SAML IdP is configured accordingly.

You can use Relativity with any SAML 2.0-compliant IdP, such as Centrify, Okta, Microsoft Active Directory Federation Service (ADFS), or OneLogin.

Note: SAML 2.0 authentication providers are not compatible with Relativity User Load Balancing (RULB).

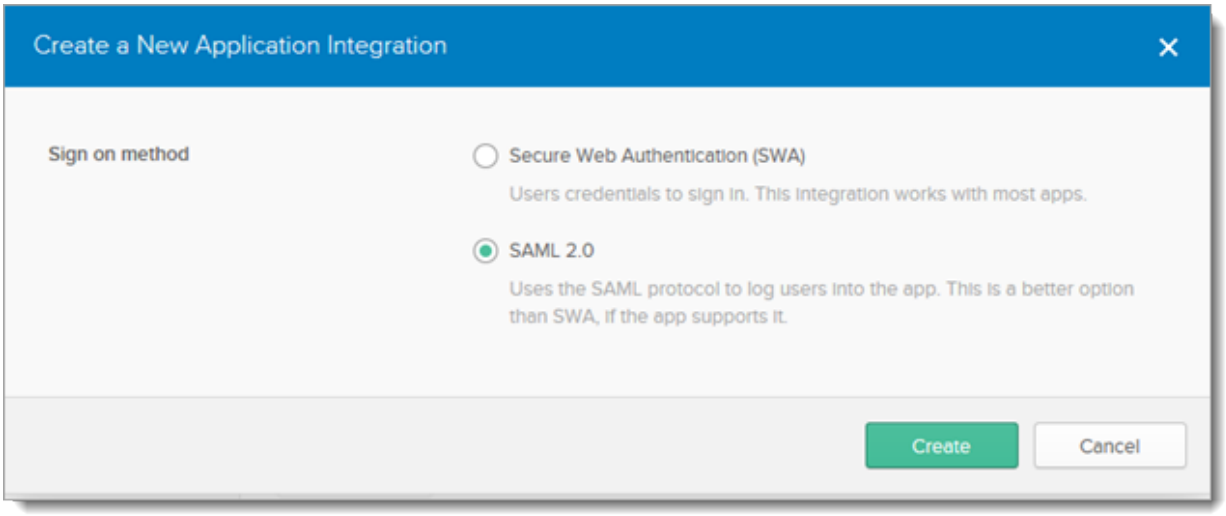
The following sections provides the guidelines for integrating Relativity with Okta and ADFS.

3.6.1 Configuring Okta as a SAML 2.0 identity provider

This is an example of configuring Okta.

Initial configuration:

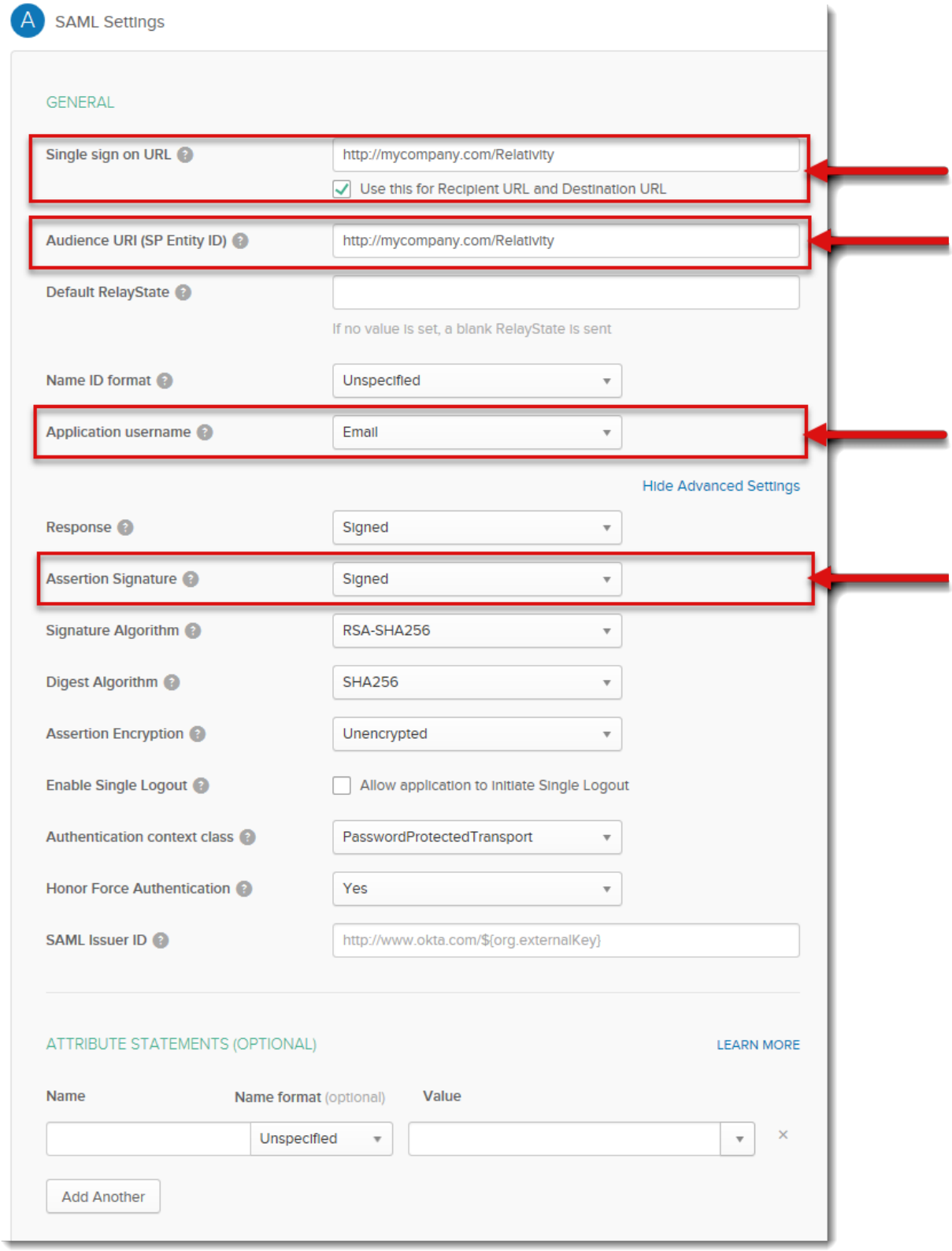
1. In Okta admin console, create a SAML 2.0 application:



2. Specify these SAML settings:
   - For the single sign-on URL, for enter your Relativity Instance URL. This is the URL that is used for public access to go to your web servers.
   - For Audience URI (SP Entity ID) put in a unique identifier, such as the URL for your instance. Note this value for later.

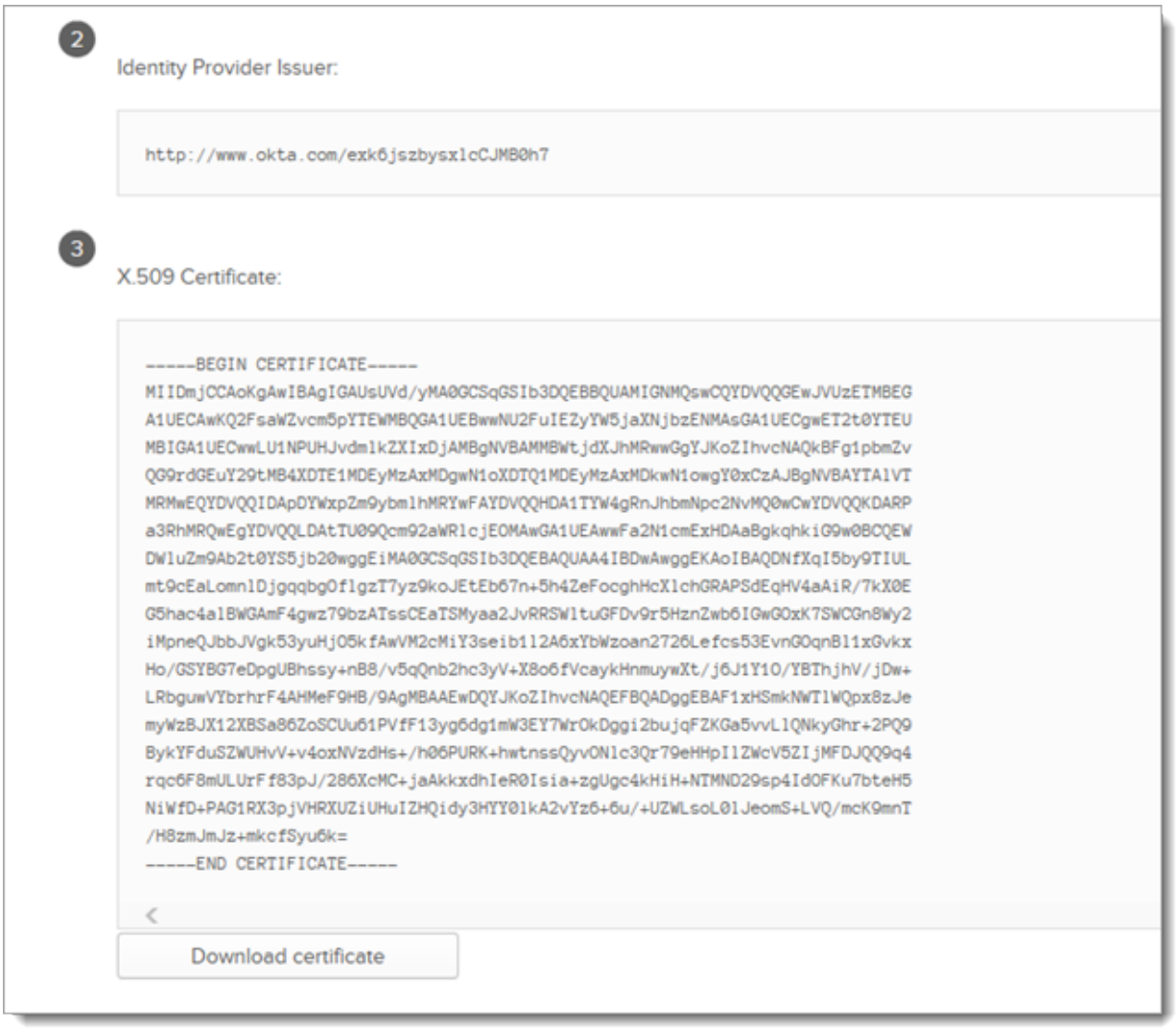
     Note: Audience URI is case-sensitive. Specifying **/relativity** instead of **/Relativity** can break your authentication.

- Application user name you would like to use for logging in. In this use case, select **Email**.
- For Assertion Signature, select Signed.



3. You have now partially configured you application in Okta to set up logging in to Relativity. You must now configure the SAML provider in Relativity. You need these Okta values:

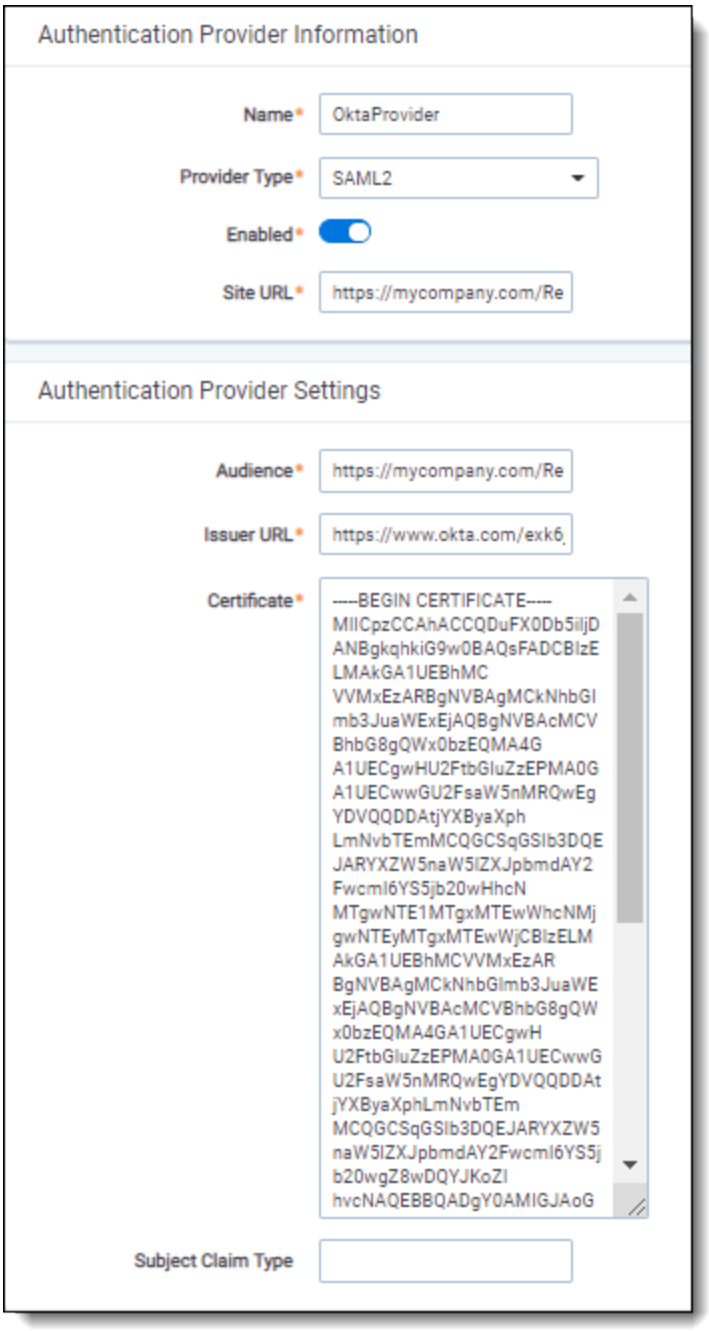
- The Audience URI. SP Entity ID, from the previous step.
- The Identity Provider Issuer. In Okta, click **View Setup Instructions** on the Sign On tab.
- The X.509 Certificate. Also in Setup instructions.



Next, set up the SAML 2.0 authentication provider in Relativity:

1. Log in to Relativity with system admin credentials.
2. Open the **Authentication Provider** tab.
3. Click **New Authentication Provider**. The Authentication Provider Information form opens.
4. Enter a name for your provider.

5. Select SAML2 from the Provider Type drop-down menu.



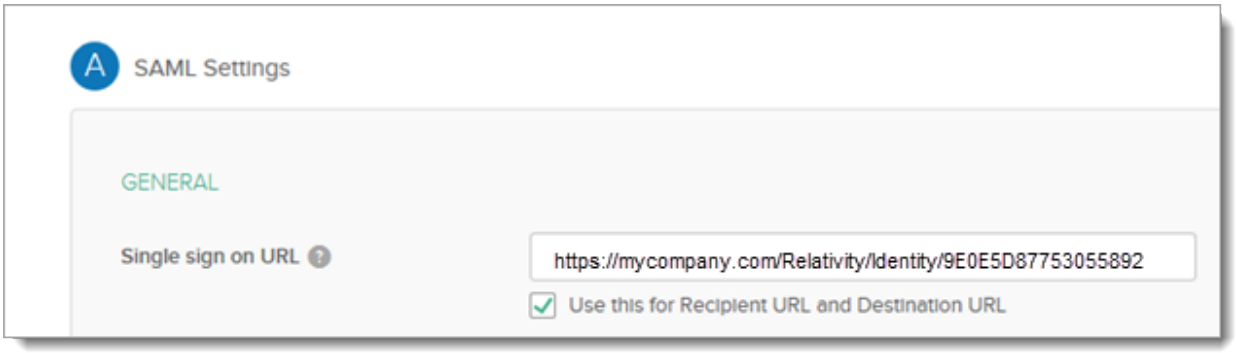
6. Enter the site URL. This is the URL users enter into the browser to access this instances of Relativity.
7. Enter the Audience URI (SP Entity ID) from Okta in the Audience field.
8. Enter the Identity Provider Issuer from Okta in the Issuer URL with.
9. Enter the X.509 certificate from in Okta in the Certificate field.
10. (Optional) If you are using a specific user identifier claim that is not the default claim, enter it as the Subject Claim Type.

11. Click **Save**.
12. Note the Redirect URL on your new authentication provider.

You have now set up your Relativity instance to list for SAML 2.0 assertions at a given endpoint on your server, the Redirect URL.

Next, finish setting up the SAML IdP in Okta:

1. Log in to Okta and navigate to the application you created earlier.
2. Update the single sign-on URL to be the Redirect URL given to us by Relativity on the authentication provider you have created.



You have now configured Okta to send SAML 2.0 assertions to your Relativity instance, and Relativity is set up to verify the SAML assertions.

Note: You must also assign Okta users to the SAML application, and then map the users to SAML login method in Relativity. When configuring the login method, you must specify the user's email in the SAML2 Subject field, if you select Email as the application user name in Okta. For more information, see Managing user authentication methods on the next page.

3.6.2 Configuring ADFS as a SAML 2.0 identity provider

You can also configure ADFS as a SAML 2.0 authentication provider for Relativity.

Note these terminology difference between Relativity and ADFS:

	ADFS	
Audience	Relying Party Identifiers	https://relativity.example.com/Relativity
Redirect URL	End-Point URL	https://relativity.example.com/Relativity/Identity/<random string>
Issuer URL	Services Trust End-Point (SAML)	http://<adfs-service>/adfs/services/trust

ADFS		
SAML Subject Name	Claim Type	Name ID, E-Mail Address, UPN. Leave blank in Relativity SAML Provider configuration.
n/a	Claim Rules	Incoming, Transformation, Outgoing Claim Rules. See below.

When setting up claim rules, you must send Name ID as default claim type for Relativity. Use these guidelines:

1. Add Send LDAP Attributes As Claims: Select Email Addresses or User-Principal-Name to E-Mail Address from the AD store.
2. Add Pass Thru Claim for E-Mail Address or a Transforming claim.
3. Add Transforming Claim, from E-Mail Address to Name ID.

3.7 Managing user authentication methods

As a system admin, you must assign at least one authentication method to each user in order for them to log in. A user can have multiple login methods but only one from among Password, RSA, and Active Directory.

3.7.1 Invitation workflow

A significant security improvement to the Relativity authentication process is that the system admin no longer knows or can set user passwords. The invitation workflow, called that because you invite users to log in to Relativity, is the new mechanism for them to set and to manage their own passwords. Now, a system admin (when creating a new user), or a user (if they forget their password) initiates an email sent to them at their specified address, and they create or reset their password directly within Relativity.

Note: For Relativity 9.4.378.21 and above, you must set the RelativityInstanceURLinstance setting if you want to use this feature and don't have OpenID Connect or SAML providers configured in your environment. Ensure that the value for this setting is the URL for your Relativity instance. For example, the URL would have the format: *https://example.relativity.com/Relativity*. The user receiving the invitation email must have access to this URL. For more information, see the Instance Settings Guide.

The invitation workflow applies to the following methods:

- Password below
- Two-factor authentication on page 115
- Password Outside Trusted IP on page 115

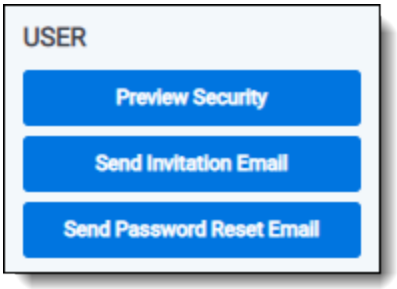
3.7.1.1 Password

The password option requires the user to enter only a password for authentication. It does not require an additional check or two-factor criterion.

To assign and to configure this option for a user:

1. After creating a new user, edit their profile (**Users** tab, and click their full name).
2. In the **Login Method (User)** section, click **New**.

3. In the **Login Method Information** pop-up window, select the password provider method from the Provider drop-down list. The password provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance.
   The **Default Password Settings** section appears.
4. Disable the **Enable Two-factor Authentication** toggle. For more information, see Two-factor authentication on the next page.
5. Set the **Default Password Settings**.
   - **Can Change Password** - enable to let user change the password at any point.
   - **Require Change Password on Next Login** - enable to have user change given password.
   - **Maximum Password Age** - enable to set number of days a password can work. Set the number of days in the text box.
   - **Set Password for User** - enable to create a password for the user.
6. Click **Save**.
7. Click **Send Invitation Email**.



This sends an invitation email to the user at the email address listed in their profile's User Information section. By default, the link in the email is valid for one week (10080 minutes).

Note: You can use the InvitationLinkLifetimeInMin instance setting to increase the default invitation link expiration period.

If the email can't be sent because your system email SMTP settings are not configured properly, a warning is displayed.

You can also use the Invite mass action on the Users tab to send invitation email to multiple users.

To customize the invitation email, use the following instance settings:

- **InvitationEmailRequestBody (Relativity.Authentication section)** - the invitation email message text. The email text must be formatted as HTML.
- **InvitationEmailRequestFrom (Relativity.Authentication section)** – the invitation email message sender's email address.
- **InvitationEmailRequestSubject (Relativity.Authentication section)** – the invitation email message subject.
- **InvitationLinkLifetimeInMin (Relativity.Authentication section)** – the number of minutes the link sent in the invitation email remains valid.

3.7.1.2 Two-factor authentication

The two-factor authentication is a variation of the Password method that requires a passcode in addition to a password.

To assign and configure this option for a user,

1. Edit their profile (**Users** tab, and click their full name).
2. In the **Login Method (User)** section, click **New**.
3. In the **Login Method Information** pop-up window, select the password provider method from the Provider drop-down list. The password provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance.
   The **Default Password Settings** section appears.
4. Enable the **Enable Two-factor Authentication** toggle.
5. Select the **Mode**, "always provide passcode" or "ignore passcode for Trusted IPs."
6. Select the **Method**, use an "authenticator app" or "email" address.
7. Set the preferred **Default Password Settings**.
8. Click **Save**.

For authenticator app, the user will follow the instructions on the app or enter the app's passcode. For email two-factor authentication, the system emails a passcode to the user during logon, and it's different each time. For more information on signing in with an authenticator app, see the Admin Guide.

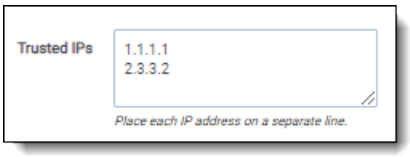
Note: The link in the email is valid for 5 minutes, and only the most recently-sent email can be used. The link expiration time is not configurable.

3.7.1.3 Password Outside Trusted IP

The Outside Trusted IP is a variation of the Password method that requires a passcode only if the user logs in outside of a specified IP range. If the log on is inside the trusted range, then only a password is required.

To define a Trusted IP range:

1. After creating a new user, edit their profile (**Users** tab, and click their full name).
2. In the **User Information** section enter the IP range in the **Trusted IPs** field.
   You can specify an individual address, a range of IP addresses, or multiple addresses. Each address must be on a separate line, and you can use wildcards. For more information on setting trusted IP addresses, see Setting IP address range on page 121. The default value of empty defines all IP addresses as untrusted. You can enter *.*.*.* to trust any IP address.



Note: Relativity only supports the IPV4 format for Trusted IP addresses. It doesn't support the IPV6 format.

3. Click **Save**.

To assign and to configure this option for a user:

1. After creating a new user, edit their profile (**Users** tab, and click their full name).
2. In the **Login Method (User)** section, click **New**.
3. In the **Login Method Information** section, select the password provider method from the Provider drop-down list. The password provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance. The **Login Method Settings** section appears. You can assign only one instance from among Password, RSA, and Active Directory methods.
4. Select **Require only for non Trusted IPs** in the **Two-factor Authentication** section.
5. Enter the user's email address you want to send the password to in the Email Address field. This address can be different from the email in the user's profile.
6. Click **Save** and then **Back**.
7. Click **Send User Invitation Email**.

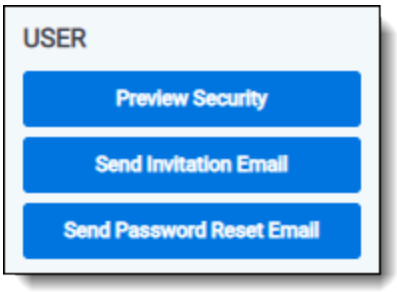
3.7.1.4 Password reset

Sometimes it may be necessary to reset a user's password. In Relativity, passwords are reset by sending the user an email with a reset link.

Note: If using a Relativity version earlier than 9.4.378.21, the **Send Password Reset Email** is also used to send out invitations for new users.

To reset a user's password:

- Click **Send Password Reset Email**.



The link within the email is valid for 15 minutes, and only the most recently sent email can be used.

Note: You can use the PasswordResetEmailExpirationInMinutes instance setting to increase the default reset link expiration period.

3.7.2 Manually setting passwords

By default, system admins can't set or see user passwords. Instead, system admins can send a password reset email, and users create and manage their own passwords. However, there are some situations, such as for testing or project development, that may require system admins to explicitly and manually set passwords.

To set this option in your Relativity instance, add the AdminsCanSetPasswords instance setting to the **Relativity.Authentication** section and set it to **True**. You must manually enter this setting and value because it is not present from the default Relativity installation.

To set a password, use the following procedure.

1. After creating a new user, open their profile (Click the Users tab, and then click their full name).
2. In the **Login Method (User)** section, click **New**.
3. In the **Login Method Information** section, select the password provider method from the **Provider** drop-down list.
   The password provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance. The **Login Method Settings** section appears.You can assign only one instance from among Password, RSA, and Active Directory methods.
4. Select **Set Password** to **True**.
   The password requirements appear.
5. Enter the password in the **Password** field.
6. Re-enter the password in the **Retype Password** field.
7. Click **Save** and then **Back**.

The password information doesn't appear except when you're editing it. If a current password exists, it doesn't appear either. Each new password overwrites the existing password.

3.7.3 Active Directory

The Active Directory method uses Windows Active Directory to authenticate the user.

To assign and to configure this option for a user.

1. After creating a new user, edit their profile (**Users** tab, and click their full name).
2. In the **Login Method (User)** section, click **New**.
3. In the **Login Method Information** section, select the active directory provider method from the **Provider** drop-down list. The provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance. The **Login Method Settings** section appears. You may have only one instance from among Password, Active Directory, or RSA methods.
4. Enter the user's Windows domain and username in **Active Directory Account**.
   An example of the *domain\username* format is if the user's email address is jsmith@example.com, you'd enter *example\jsmith*. Alternatively, you can use the user's email address without the domain ending, such as *jsmith@example*. If an LDAP server is installed, you can use the full email address, such as *jsmith@example.com*.
5. Click **Save** and then **Back**.

3.7.4 Integrated Authentication

Integrated Authentication (previously called Windows Authentication or Integrated Windows Authentication) uses Windows supported authentication protocols, such as Kerberos, to automatically log in users. Make

sure the following instance settings are configured correctly.

- **UseWindowsAuthentication** - must be set to **True** to use Integrated Authentication. If False, Integrated Authentication isn't active.
- **WindowsAuthIpRange** - set this to the IP address or addresses for a trusted range of computers. If a user logs in within the trusted IP range, they will automatically be logged in with their integrated authentication credentials. If a user logs in outside of the trusted IP range, the user will be prompted with the login page. If the user has another assigned authentication method, they can use that to complete their login. The IP address can use wildcards.

To assign and to configure this option for a user:

1. After creating a new user, edit their profile (**Users** tab, and click their full name).
2. In the **Login Method (User)** section, click **New**.
3. In the **Login Method Information** section, select the integrated authentication provider method from the **Provider** drop-down list.
   The provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance. The **Login Method Settings** section appears.
4. Enter the user's Windows domain and username in **Windows Account**.
   An example of the *domain\username* format is if someone's email address is jsmith@example.com, you'd enter *example\jsmith*.
5. Click **Save** and then **Back**.

3.7.5 OpenID Connect

1. After creating a new user, edit their profile (**Users** tab, and click their full name).
2. In the **Login Method (User)** section, click **New**.
3. In the **Login Method Information** section, select the OpenID Connect provider method from the **Provider** drop-down list. The provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance. The **Login Method Settings** section appears.
4. Enter the subject identifier for the authentication provider as the **OpenID Connect Subject**.
5. Click **Save** and then **Back**.

3.7.6 SAML 2.0

1. After creating a new user, edit their profile (**Users** tab, and click their full name).
2. In the **Login Method (User)** section, click **New**.
3. In the **Login Method Information** section, select the SAML 2.0 provider method from the **Provider** drop-down list. The provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance. The **Login Method Settings** section appears.

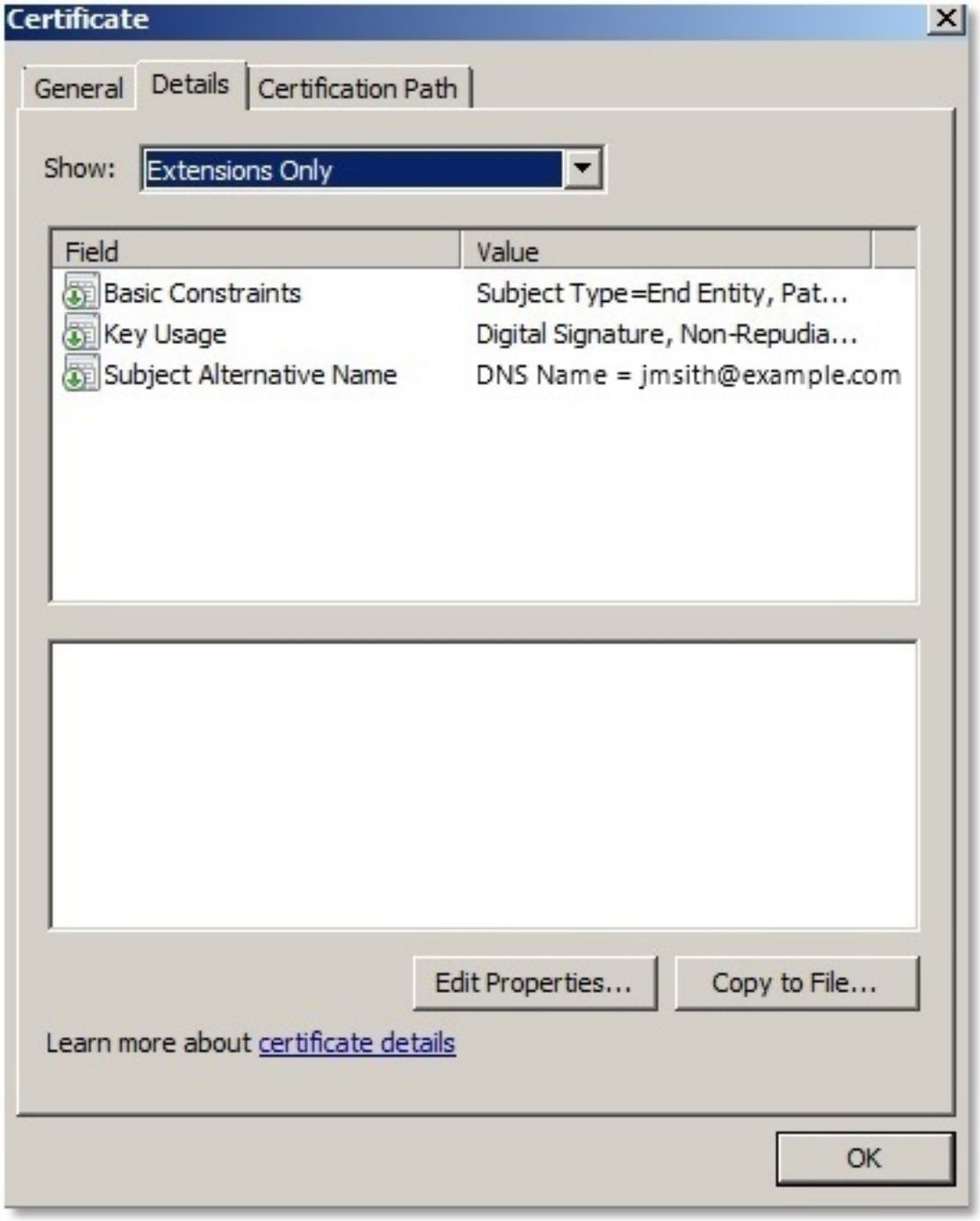
4. Enter the subject identifier for the authentication provider as the **SAML2 Subject**. For example, if you select Email as the application username in Okta, you must enter the Relativity user's email here.
5. Click **Save** and then **Back**.

3.7.7 Client Certificate

This client certificate authentication uses a smart card assigned to a user. Contact your smart card provider for card details.

To assign and to configure this option for a user:

1. After creating a new user, edit their profile (**Users** tab, and click their full name).
2. In the **Login Method (User)** section, click **New**.
3. In the **Login Method Information** section, select the client certificate provider method from the **Provider** drop-down list.
   The provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance. The **Login Method Settings** section appears.
4. Enter the subject alternate name in Certificate Subject in **Certificate Subject**. The subject alternate name is the value from the certificate's **Subject Alternate Name**. In the following example, use *jsmith@example.com*. However, your smart card vendor may provide a different specification and you should use that instead.



5. Click **Save** and then **Back**.

3.7.8 RSA

This method requires a user to have an RSA SecurID token that is registered with your RSA Authentication provider.

1. If you need to configure RSA files for the web server, see the RSA configuration on page 123
2. After creating a new user, edit their profile (**Users** tab, and click their full name).

3. In the **Login Method (User)** section, click **New**.
4. In the **Login Method Information** section, select the RSA provider method from the **Provider** drop-down list.
   The provider name may vary for each Relativity instance. See Authentication on page 88 for creating and naming a password method instance. The **Login Method Settings** section appears.
5. Enter the subject identifier for the authentication provider as the **RSA Subject**.
6. Click **Save** and then **Back**.

3.8 Authentication procedures

- Sending Email on page 123

3.8.1 Setting IP address range

You define an IP address or addresses as valid locations from which users can log in from in a combination of two settings.

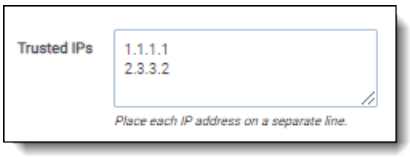
The first uses the instance settingRelativity.Authentication WindowsAuthIpRange to define the valid range for the Relativity instance. The default defines all IP addresses as valid.

The second setting specifies a valid IP address or addresses for each user. This can be an individual address, a range of addresses, or combination of either. The specified range is called the Trusted IPs. Users outside of this range or ranges won't be able to login except by using Password authentication with the Two Factor Mode set to **Outside Trusted IPs**.

Note: The settings (WindowsAuthIpRange and Trusted IP range) cannot be used to prevent users from logging in if they access Relativity from the same server where it is installed. To secure Relativity login from the server where it is installed, you must disable non-admin user remote access to the server.

To set the user Trusted IP range:

1. Select the **Users** tab.
2. Click the user's name.
3. Click **Edit**.
4. Enter the IP range in the **Trusted IPs** field. If you have multiple trusted IPs, enter each IP range on a new line.



5. Click **Save**.

By default, no value is empty, which indicates any IP address is valid.

In case of setting either **WindowsAuthIpRange** or the user's Trusted IP range, you can specify an individual address, a range of addresses, or a combination of either, separate each one with a carriage return.

Addresses use the "###.###.###.###" format. The following wildcards are available for both settings:

	Description	Example
Asterisk (*) (Asterisk wildcard)	Matches zero or more characters.	192.168.31.*. You can't use this notation with the match range of digits wildcard.
Hash (#) (Hash wildcard)	Matches any single digit 0-9.	192.168.31.**##**. You can't use this notation with the match range of digits wildcard.
[start-end] (Match range of digits wildcard)	Matches a range of digits.	192.168.31. **[0-255]**. You can't use this notation with the asterisk and/or hash wildcards.
16-bit mask	A 16-bit number that masks an IP address.	192.168.0.0/16 is the same as 192.168.0.0/255.255.0.0. Network address range is 192.168.0.0-192.168.255.255.
24-bit mask	A 24-bit number that masks an IP address.	192.168.31.0/24 is the same as 192.168.31.0/255.255.255.0. Network address range is 192.168.31.0 - 192.168.31.255.
25-bit mask	A 25-bit number that masks an IP address.	192.168.31.0/25 is the same as 192.168.31.0/255.255.255.128. Network address range is 192.168.31.0 - 192.168.31.127.

3.8.2 Configuring integrated authentication

Enabling a server to accept integrated authentication log ins must be configured explicitly. You use the **UseWindowsAuthentication** and **WindowsAuthIpRange** instance settings to define integrated authentication behavior. Integrated authentication follow these guidelines.

- If **UseWindowsAuthentication** is **False**, then integrated authentication can't be used. In this case, Relativity ignores the **WindowsAuthIpRange** value.
- If **UseWindowsAuthentication** is **True** and **WindowsAuthIpRange** isn't set, then integrated authentication will always be used regardless of IP address.
- If **UseWindowsAuthentication** is **True** and **WindowsAuthIpRange** is an IP address or address range, then Integrated Authentication is used when the computer's IP address falls within the **WindowsAuthIpRange** value. If the IP address falls outside the **WindowsAuthIpRange**, the log in screen displays other assigned log in methods.

You can configure your environment so that some Web servers use Integrated Authentication, while others don't use it. To specify a server to use integrated authentication , create a new instance setting of **UseWindowsAuthentication**with the following values:

- Set **MachineName** to the web server name
- Set **Value** to **True**.

You must create a new **UseWindowsAuthentication** instance setting for each server

3.8.3 Sending Email

Several authentication providers may send email, such as part of a two factor password authentication or a password reset. You will need an SMTP server. Contact your IT system admin for additional details. Use the following instance settings to define the emails addresses and body text. For more information, see the Instance setting guide.

- **AuthenticationEmailFrom** - sets the email address that appears in the From field of email messages that contain authentication information for users.
- **EmailFrom** - sets the email address populated in the "From" field when sending email notifications.
- **ForgotPasswordRequestEmailFrom** - sets the value in the From field for the forgotten password request email message.

3.8.4 RSA configuration

Before you integrate RSA SecurID with Relativity, you must complete the following tasks:

- Make sure that your web server has a 64-bit version of the Windows operating system.
- Install Relativity, and verify that it is working properly.
- Set up the RSA Authentication Manager server. Relativity Server 2022 supports RSA Authentication Manager 8.1.

  Note: Relativity isn't certified to work with any version of *RSA Authentication Agent for Web for Internet Information Services*.

- Set up the Authentication agent on the RSA Authentication Manager server. You can add this agent through the RSA Security Console, where you must set the **Agent Type** field to **Standard Agent**. The RSA Authentication Manager server uses this setting to communicate with Relativity. For more information, see the documentation provided for your RSA Authentication Manager server.

  Note: You must add one agent for each web server in your Relativity environment. For example, if there are two web servers, set up two Authentication agents on the RSA Authentication Manager server.

You must copy the RSA configuration files to your Relativity web server before you configure RSA authentication in Relativity.

Use the following procedure to copy the required RSA configuration files:

1. Open the **RSA Security Console**.
2. Locate the **sdconf.rec** and **sdopts.rec** configuration files in the console.
3. Download the **sdconf.rec** and **sdopts.rec** files to your machine.
4. Log in to the Relativity web server.
5. Copy these files to the RSAConfigFilePath directory. The following is the default path:

```
%SYSTEMDRIVE%\Program Files\kCura Corporation\Relativity\EDDS\RSA
```

Note: You can use a different location for your **RSAConfigFilePath** directory.

6. Update the value of the RSAConfigFilePath instance setting in the EDDS database with the location where you copied the files in step 5. See Instance setting table in the Relativity Server 2022 Documentation site.

Note: The RSAConfigFilePath value must include the drive letter. For example,

```
C:\Program Files\kCura Corporation\Relativity\EDDS\RSA
```

You cannot use the %SYSTEMDRIVE% environment variable.

7. Verify that the **DOMAIN\EDDSServiceAccount** has **Write** permissions to the RSAConfigFilePath directory. The Relativity application pool runs under the DOMAIN\EDDSServiceAccount account.

3.9 OAuth2 clients

The OAuth 2.0 authorization framework enables a third-party application to obtain access to an HTTP service. OAuth2 clients allow you to configure external services and applications to authenticate against Relativity in a secure manner. For example, a client application can present the user with the Relativity login page to get an access token to call Relativity APIs. The application can then call the APIs to perform tasks for customizing e-discovery workflows and automation. For background information on OAuth2, see OAuth2 Specification.

OAuth2 clients can be used in conjunction with Relativity authentication providers and federated instances in different enterprise integration scenarios, including:

- Relativity as an authentication portal for another instance of Relativity
- Relativity as an authentication portal for another website
- Authenticating to Relativity's APIs from a standalone application without needing a Relativity user's username and password
- Embedding the Relativity login form in a native desktop application
- Embedding the Relativity login form in a mobile application

To set up an OAuth2 client in Relativity, you must correctly determine the grant type required for your application. The OAuth2 client setup information also includes a client ID, a redirect URI, and a client secret key. These details will be used to validate your application and authorize the API calls. Occasionally it may be necessary to reset the client secret for security purposes.

3.9.1 Creating or editing an OAuth2 client

To create OAuth2 clients or edit information for an existing OAuth2 client:

1. Open the **OAuth2 Client** tab.
2. Click **New OAuth2 Client** to create a new OAuth2 client, or click **Edit** next to the OAuth2 client you want to edit. The OAuth2 Client Information form appears.

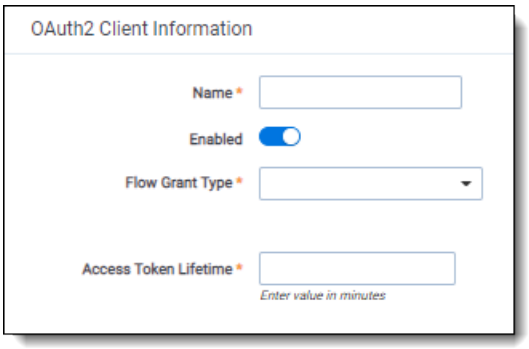
3. Complete the fields on the form. Fields in orange are required.
   - **Name** – the descriptive name of the OAuth2 client. The name must be unique.
   - **Enabled** – yes/no value indicating whether the client will be given access to Relativity.
   - **Flow Grant Type** – the mechanism for acquiring an authentication token also known as OAuth2 grant type. Relativity supports the following grant types:
     - **Client Credential** – for applications such as background processes that may need to get an access token for their own account, outside the context of any specific user. This grant type requires a client secret.
     - **Code** – for apps running on a web server. The grant type is used to obtain both access tokens and refresh tokens and is optimized for server-side applications. The client must be capable of interacting with the resource owner's user-agent (typically a web browser) and capable of receiving incoming requests (via redirection) from the authorization server. This grant type requires a client secret.

       Note: You can't change the flow value when editing an OAuth2 client.

     - **Implicit** – for lightweight browser-based or mobile applications typically implemented using a scripting language such as JavaScript. The implicit grant type is used to obtain access tokens (it does not support the issuance of refresh tokens) and is optimized for public clients known to operate a particular redirection URI. The client receives the access token as the result of the authorization request. This grant type does not require a client secret.
     - **Resource Owner** – suitable in cases where the resource owner has a trust relationship with the client, such as the device operating system or a highly privileged application. The authorization server should take special care when enabling this grant type and only allow it when other flows are not viable. This grant type can be used for clients capable of obtaining the resource owner's credentials (username and password, typically using a command line prompt). It is also used to migrate existing clients using direct authentication schemes such as HTTP Basic or Digest authentication to OAuth by converting the stored credentials to an access token. This grant type requires a client secret.
   - **Redirect URLs** – the URLs that the user can be redirected back to after the request is authorized. Specify values only if Implicit or Code are selected in the Flow field. The URLs must include the *http* or *https* protocol prefix.
   - **Context User** – Relativity user context for OAuth2 client authorization. This enables an administrator to restrict the access privileges on an OAuth2 client based on the user's permissions as well as audit. Context User is required if Client Credentials is selected as the OAuth2 flow, and can't be specified for other flows.
   - **Access Token Lifetime** - the duration (in minutes) for which access tokens issued to the clients are valid. The recommended value varies depending on the specified OAuth2 flow:
     - Client Credentials and Code Flow must have a short lifetime. It is recommended that the value match the Identity Server default of 1 hour (60). For more information, see Identity Server documentation (https://identityserver.github.io/Documentation/docsv2/configuration/clients.html).

    - Resource Owner access token must also have a lifetime of 1 hour because a client secret and a refresh token are available.
    - Implicit flow tokens must match Relativity's token lifetime of 10 hours (600), after which the user must log in again.

4. Click **Save**. The form displays the new OAuth2 client with these generated field values:
    - **Enabled** – yes/no value indicating whether the client will be given access to Relativity.
    - **Flow Grant Type** - the mechanism for acquiring an authentication token also known as OAuth2 grant type.
    - **Redirect URLs** - the URLs that the user can be redirected back to after the request is authorized.
    - **Access Token Lifetime** - the duration (in minutes) for which access tokens issued to the clients are valid.
    - **IsSystem** – specifies whether the OAuth2 client is part of an internal Relativity application.



    - **Client ID** – the unique identifier for the Client autogenerated by Relativity.
    - **Client Secret** – the unique secret used by the client. Also auto generated by Relativity if you select Client Credential, Resource Owner, or Code as the value of the Flow field.

You have set up Relativity for access by an OAuth2 client application.

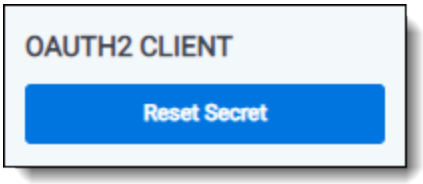
3.9.2 Resetting a client secret

You can reset an OAuth2 client secret for the following Flow values (grant types):

- Client Credential
- Resource Owner
- Code

To reset an OAuth2 client secret:

1. From the **OAuth2 client** tab, locate and open the OAuth2 client you wish to delete.
2. Click **Reset Secret** in the OAuth2 Client console.



3. From the confirmation dialog, click **Ok**. The OAuth2 client secret is reset.

3.9.3 Deleting an OAuth2 client

To delete an OAuth2 client:

1. From the **OAuth2 client** tab, locate and open the OAuth2 client you wish to delete.
2. Click **Delete**.
3. From the confirmation dialog, click **Ok**. The OAuth2 client is removed.

Note: System clients can't be deleted.

Viewing an OAuth2 client audit history

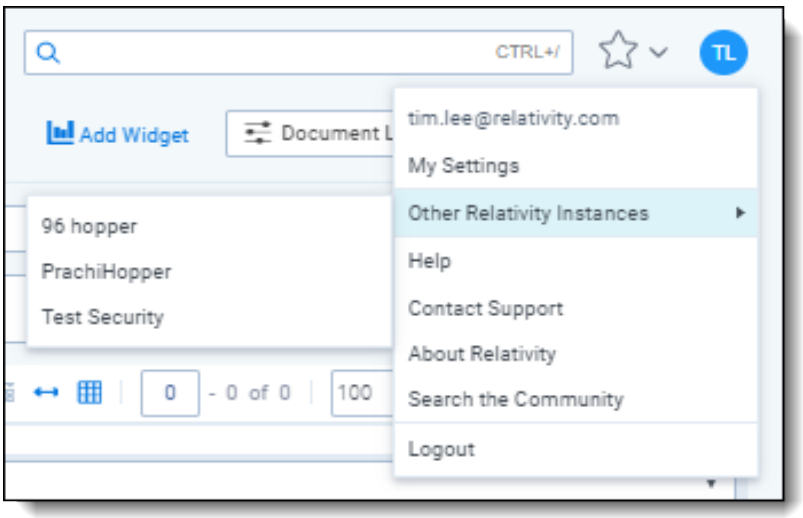
Use the OAuth2 client audit history to view all actions taken on a record. Use this information to view what the values were prior to a change.

To view an OAuth2 client's audit history:

1. From the OAuth2 client tab, locate and click the OAuth2 client for which you wish to view its history.
2. Click **View Audit**. A dialog appears, listing all actions taken on that OAuth2 client.
3. (Optional) Using the **Export to File** drop-down list at the bottom of the dialog, click **Go** to export the following audit history details in a .CSV file:
   - User Name
   - Action
   - Timestamp
4. Close the dialog when finished viewing the audit.

3.10 Federated instances

Federated instances provide a way for reviewers to easily switch to other Relativity environments. In Relativity, links to federated instances appear in the User drop-down.



You can use federated instances in combination with OAuth2 clients and authentication providers to enable single sign-on for multiple environments in your Relativity ecosystem.

3.10.1 Creating or editing a federated instance

To create a federated instance or edit information for an existing federated instance:

1. Open the **Federated Instances** tab.
2. Click **New Federated Instance** to create a new federated instance, or click **Edit** next to the federated instance you want to edit. The Federated Instance Information form appears.
3. Complete the following fields:
   - **Name** – the name of the federated instance. Enter a name that makes the instance easy for users to recognize, like RelativityOne Reviewer.

     Note: You can't change the name of an existing federated instance.

   - **Instance URL** – the URL address of the instance you want to create a link to. To obtain this URL, navigate to the Relativity instance you want to appear in the dropdown. Copy and paste the URL from that instance into this field.
     You can also choose to add the Home Realm Discovery (HRD) parameter to mimic single sign-on experience inside your Relativity cluster. HRD is a redirect URL to a configured authentication provider for the federated instance. It is supported for OpenId Connect, Integrated Authentication, and Client Certificate providers.

     The HRD parameter value can be found in the individual provider details on the Authentication Provider tab. Generally, it is as follows:

     - **OpenId Connect** – the name of the authentication provider:

       ```
       https://mycompany.com/Relativity?HRD=<Provider Name>
       ```

     - **Winauth** – *integrated*:

       ```
       https://mycompany.com/Relativity?HRD=integrated
       ```

- **Client Certificate** – *smartcard*:

  ```
  https://mycompany.com/Relativity?HRD=smartcard
  ```

By setting the HRD Hint, you enable the users to automatically sign into another instance by clicking the federated instance link from the user dropdown. Note that the authentication provider must be set up correctly for single sign-on to work. If the authentication by the provider fails, the user will be presented with the login screen of the Federated Instance.

4. Click **Save**.

The federated instance appears in the User dropdown.

You can restrict access to the federated instances you create using the padlock icon and assigning the appropriate groups access to the instance. If you restrict access to a federated instance, it doesn't appear in the User dropdown.

3.10.2 Deleting a federated instance

To delete a federated instance:

1. Navigate to the **Federated Instance** tab.
2. Locate and open the federated instance you wish to delete.
3. Click **Delete**.
4. From the confirmation dialog, click **Ok**.

The federated instance is removed.

Viewing a federated instance audit history

Use the federated instance audit history to view all actions taken on a record. Use this information to view what the values were prior to a change.

To view a federated instance's audit history:

1. Navigate to the Federated Instance tab.
2. Locate and click the federated instance for which you wish to view its history.
3. Click **View Audit**. A dialog appears, listing all actions taken on that federated instance.
4. (Optional) Using the **Export to File** drop-down list at the bottom of the dialog, click **Go** to export the following audit history details in a .CSV file:
   - User Name
   - Action
   - Timestamp

5. Close the dialog when finished viewing the audit.

4 Bandwidth tester

Note: The bandwidth tester is not available by default in the new Review Interface. You can access this feature, by changing your Viewer to the Classic Review Interface. You can do this by setting the Document Viewer field on Users to **HTML**. To learn more, visit Users.

You can use the bandwidth tester to test the capacity of a network connection. The bandwidth tester helps system admins troubleshoot issues related to network connectivity. If a reviewer experiences network lags or complains about long wait times between documents, the problem might be due to issues related to insufficient bandwidth. The bandwidth tester helps detect and eliminate problems causing reduced performance.

The bandwidth tester includes latency and download tests that determine the cause of an underperforming computer on your network. The latency test reports the time in milliseconds it takes for a byte of data to reach its destination on the network.

With a download test you can specify a payload size from 1 MB to 100 MB. The test reports the download speed for the specified payload size. If the bandwidth tester reports results indicating unusually slow performance on a particular machine, these tests might reveal an issue with the computer's network card. If multiple machines experience similar substandard performance, the issue is probably due to problems affecting the entire network.

Note: The bandwidth tester only provides the approximate throughput of the Viewer and isn't suitable for using to troubleshoot larger network issues.

Using the bandwidth tester

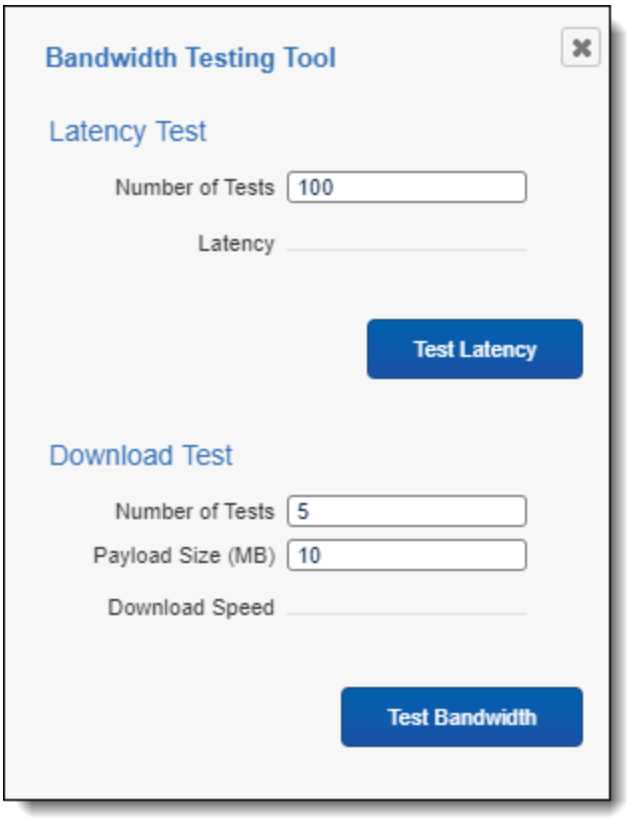
As a system admin you're familiar with the benchmark speeds in your environment. One of your litigation support specialists is complaining about network lag, and they're not sure what to do. You decide to run the bandwidth tester from the Viewer to test latency and download speeds. After performing these tests, you determine that latency is the issue because it took 10,000 milliseconds for a byte of information to reach its destination when it normally takes between 10 and 15. You suspect your network is experiencing unusually high traffic volumes, so you contact your IT department to perform network diagnostics.

4.1 Launching the bandwidth tester

Use the following steps to launch the bandwidth tester and execute various tests for network performance.

1. Open a document in the Viewer.
2. Click the icon. The icon appears in the bottom right corner of the Viewer and to the left of the layout or related items pane.

   The Bandwidth Testing Tool window opens.



3. Configure and run one of the following tests:
   - **Latency Test** - measures time elapsed for a single byte to reach its destination. See Executing a latency test below.
   - **Download Test** - measures the time it takes for a local system to receive data from a remote system. See Executing a download test on page 134.

4.2 Executing a latency test

Note: The bandwidth tester is not available by default in the new Review Interface. You can access this feature, by changing your Viewer to the Classic Review Interface. You can do this by setting the Document Viewer field on Users to **HTML**. To learn more, visit Users.

4.2.1 Measuring network delay with a latency test

Latency measures the amount of time network traffic delays while the system is processing the network traffic. You can think of this terms of the total time for a network packet to travel from the application on one server, through the network adapter, over the wire, through a second adapter, and finally into an application on another server.

Note: Another name for a latency test is a ping test. Ping is a utility used to test whether a particular host is reachable across an IP network. It also measures the round-trip time for packets sent from the local host to a destination computer, including the local host's own interfaces.

Latency test results vary per user and from test to test within the same environment. The following factors affect the latency test results:

- Distance between the user and the server
- Operating system
- Protocol overhead

These factors are overhead and do not contribute information to the message content. Instead, they support computer communications schemes. This prevents an application from using the full bandwidth of the communications' medium. Some of the transferred data is necessary for routing the message, describing the information content of the message, and other protocol needs. Protocol overhead, expressed as a percentage, is the number of non-application bytes divided by the total number of bytes in the message:

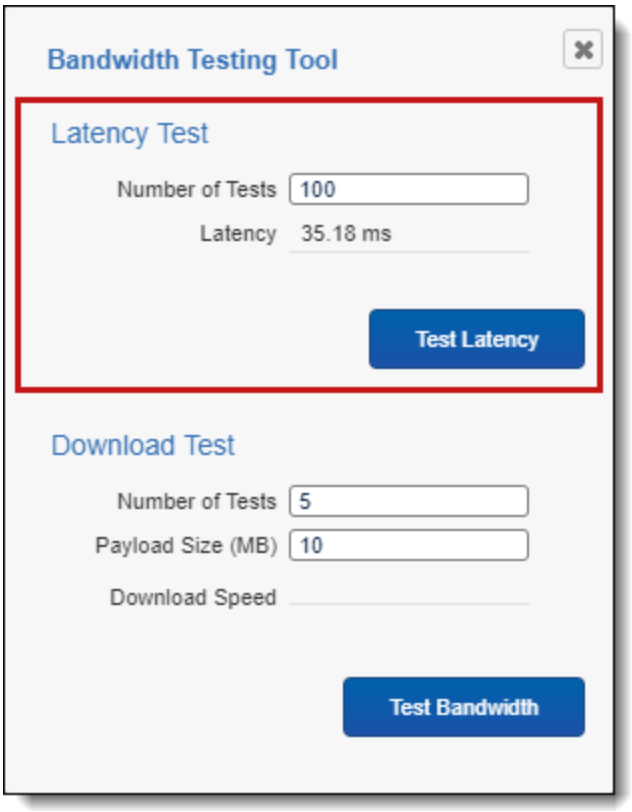
- Number and characteristics of the devices that the data must pass through, including network adapters and switches.
- Additional load or congestion on the network.

4.2.2 Executing a latency test

To execute a latency test from the Viewer, perform the following steps:

1. Click the **Launch Bandwidth Tester** icon. The icon appears in the bottom right corner of the viewer and to the left of the layout or related items pane.
2. Enter a value between 1-500 in the **Number of Tests** field for the number of tests that you want to run.
3. Click **Test Latency**. A request is sent to the Web API to measure network speed. The system measures latency in milliseconds from the moment it receives the request to when it returns the ping.
4. Review the results in the **Latency** field reported in milliseconds. The suggested latency maximum is 250ms. A latency over 250ms may indicate a network issue.

   Note: 1 ms is the highest acceptable level of latency when running the Bandwidth Tester from the Viewer directly on the web server.



5. Click ✖ to close the Bandwidth Testing Tool window.

4.3 Executing a download test

Note: The bandwidth tester is not available by default in the new Review Interface. You can access this feature, by changing your Viewer to the Classic Review Interface. You can do this by setting the Document Viewer field on Users to **HTML**. To learn more, visit Users.

4.3.1 Measuring download speed with a download test

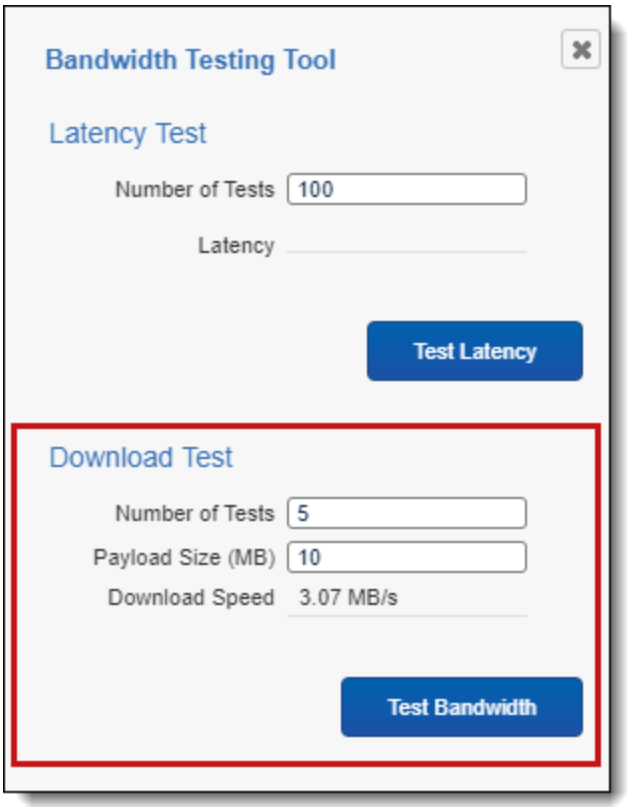
When you execute a download test, the system sends a request to the EDDS.Distributed virtual directory, and the directory accepts or rejects it. If the directory accepts the request, it generates data that streams to the client via HTTP. If the data send completes, the system measures latency from the moment it sent the request when it receives data.

4.3.2 Executing a download test

To execute a download test from the Viewer, perform the following steps:

1. Click the **Launch Bandwidth Tester** icon. The icon appears in the bottom right corner of the Viewer and to the left of the layout or related items pane.
2. Enter a value between 1-10 in the **Number of Tests** field for the number of tests that you want to run.

3. Enter a value in MB between 1-100 in the **Payload Size** field for the size of the payload you want to use for the bandwidth test.
4. Click **Test Bandwidth**.
5. Review the results in the **Download Speed** field reported in milliseconds. The suggested download bandwidth minimum is 1 MB/s (equivalent to 8 Mbps). Download speeds that are under 1 MB/s may indicate a network issue.



6. Click ✖ to close the Bandwidth Testing Tool window.

5 Batches

You can create batches in Relativity by splitting a static set of documents into multiple document sets based on criteria set by a system admin. With the appropriate permissions, users can then check out these batches and assign themselves documents.

Batching can bring structure to managing a large-scale document review with multiple reviewers. You can generate batches automatically or manually. Automatic document assignment reduces the chances of accidental redundancy in the review process.

Using batches

Imagine you're a Review Manager managing multiple teams of reviewers. You're starting a new case, and first pass reviewers need to begin reviewing all documents in the workspace, but you want to ensure that the same documents aren't getting a first pass review multiple times. You can use Relativity batches to lump all the documents into groups of 50 documents, then assign each batch to a particular reviewer ensuring that each reviewer performs a first pass review on a set of documents without repeating the work of another reviewer.

When a reviewer logs in to Relativity all the documents that reviewer is responsible for are neatly arranged in 50 document collections. The reviewer can check out the batch of documents, perform the first pass review, and check the batch back in.

Once your first pass review team codes a sufficient number of documents, you can start a new set of batches composed only of documents coded as relevant to a team of second pass reviewers. You can also automate this process so that the batches automatically create once your first pass review team reviews a minimum threshold of documents. First pass reviewers can work concurrently with second pass reviewers.

5.1 Batch fields in Relativity

The fields in Relativity that store batch-related values are:

- **Batch Set** - the batch set to which the batch belongs.
- **Batch** - the name of the batch.
- **Batch Status** - the status of the batch. A batch may be:
  - Blank
  - In progress, meaning the batch is checked out
  - Completed, meaning the batch is checked in as completed
- **Batch Unit** - the optional grouping condition on the batch.
- **Assigned To** - the reviewer to whom the batch is checked out.
- **Reviewed** - specifies whether the batch is reviewed.
- **Batch Size** - the number of records in the batch.

5.2 Creating and editing batch sets

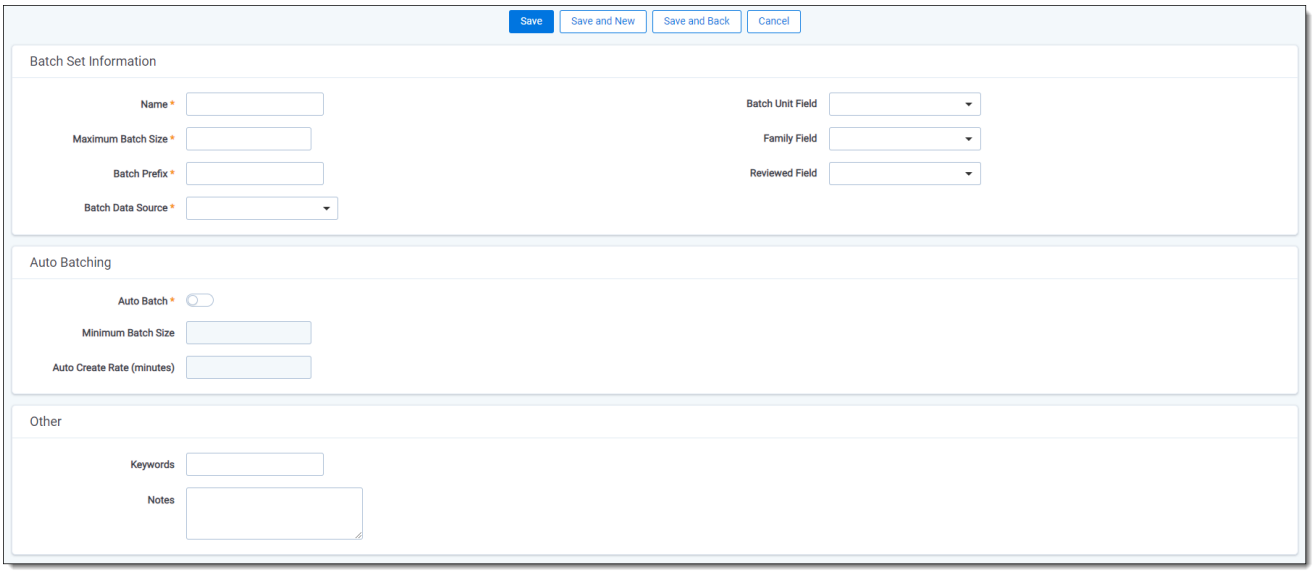
Note: Documents are pre-converted for viewing upon the checkout of a batch set based on the **NumberOfDocumentsToAutoPreconvert** instance setting. This setting is set to 1000 by default and can be adjusted to suit your needs. Please note that if the value is set to 0, pre-conversion will be disabled.

To create or edit a batch set, perform the following steps:

1. Click the **Batch Sets** sub-tab from the Case Admin tab.
2. Click **New Batch Set** to create a new batch set, or click **Edit** next to the batch you want to edit.

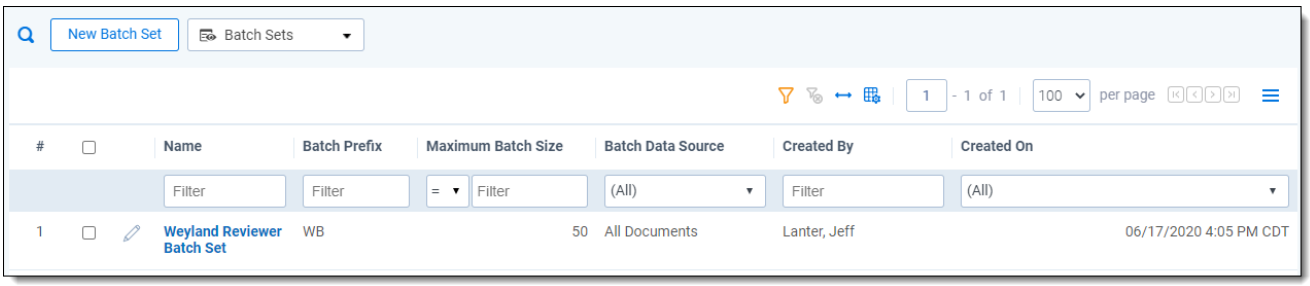
   Note: If you select a value in the **Family Field**, then the batch set will include family documents from that related group that are also included in the data source.

   The Batch Set Information form appears with required fields in orange.
   Complete the fields to create or edit the batch set. See Fields on the next page.
3. Click **Save**.



5.2.1 Batch Sets for Reviewers

Once you've created the batches, navigate to the **Batch Sets** tab using the quick search (CTRL + /) function. Here you'll see a reviewer's view of the newly created batches.



5.2.2 Fields

The following fields display on the New Batch Set information form:

- **Name** - the name of the batch set.

  Note: If you're performing a multi-stage review with multiple batch sets per phase, be sure to include the phase name in the batch set name. This helps you search for information within a specific phase.

- **Maximum Batch Size** - the maximum number of documents in one batch.

  Note: Your batch may contain fewer documents than this value if there are no more documents to batch or no more documents with the current Batch Unit value.

- **Batch Prefix** - sets the prefix for the batch numbering.
- **Batch Data Source** - the saved search containing documents that you want to batch. If the saved search references a dtSearch or an Analytics index, that index must be active. The sort order of the data source carries over to the batch.
- **Batch Unit Field** - an optional grouping mechanism, enabling you to group similar documents in the same batch. Documents with different values in a batch unit field are not included in the same batch unless the Family Field would override this.
- **Note:** A common batch unit field is custodian. However, you can use any single choice, multi-choice, single object or non-relational and non-system fixed length text field.

  When using multiple choice fields for the Batch Unit Field, the choice values must be the same in order for them to be grouped in a batch. If the combination of choices is unique enough for the choice values, the documents are batched in separate batch groups.

- **Family Field** - you can select your workspace group identifier. Documents in a family group are not split across batches, even if their batch unit field differs.

  Note: When a value for Family Field is selected, the resulting number of documents within each batch may be larger than the value for the Maximum Batch Size field. For example, if your maximum batch size is set to 100, the first 100 documents that the batch source returns puts into the first batch. After this is done, any family members to the documents in the first batch are then included in that batch. This may result in the batch being larger than 100. Depending on the size of your family groupings, the size of your batches may vary significantly.

- **Reviewed Field** - an optional field that you can select from any yes/no, single-choice, or multi-choice field from the drop-down menu. Based on your selection, a tally is kept of how many documents in the batch have been reviewed. The batch set monitors the field you specify as the Reviewed Field. It also increments a count for each document in the batch that has been coded with a value for that field.
- **Auto Batch** - enables the system to automatically generate batches.
  - **Disabled** - the default, which enables standard manual batch processing.
  - **Enabled** - automatically generates batches according to the settings below.
- **Minimum Batch Size** - only available if Auto Batch is enabled. This is the smallest possible number of documents in a batch.
- **Auto Create Rate** - only available if Auto Batch is enabled. This represents how often (in minutes) the system attempts to create batches.

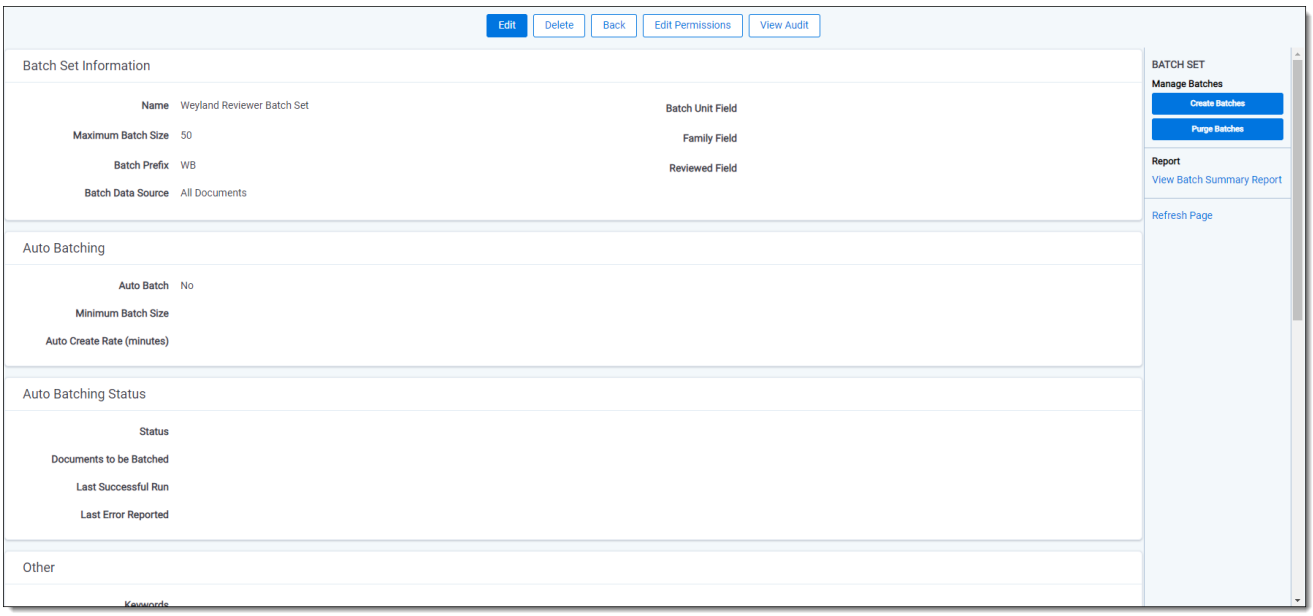
  Newly created batches appear on the Review Batches tab. Any users with access to the Review Batches tab will be able to see any batches that they have permissions for.

  Note: With auto batching enabled, the Relativity service account runs the saved search specified as your batch data source. The Relativity Service account is a system admin account.

5.2.3 Batch Set console

Once you save your batch set, the Batch Set console displays the following options:

- **Create Batches** - creates the batches based on the entered settings. Created batches display on the bottom half of the batch set details page.
- **Purge Batches** - deletes any batches associated with the entire batch set.
- **View Batch Summary Report** - displays the Batch Summary report. This field is only enabled after you've created batches.
- **Refresh Page** - refreshes the page.
- **Auto Batching Status:**
  - **Status** - displays the current status of the batch: Pending, Processing, Error or Finished
  - **Documents to be Batched** - displays the remaining documents that don't meet the minimum batch size. You must manually create a batch for these remaining documents.
  - **Last Successful Run** - the date and time stamp of the last successful batch run.
  - **Last Error Reported** - the date and time stamp of the last error that occurred.



Note: Previously created batches do not update to include new properties. For example, if you create batches with a batch size of 500 and then need to lower the size, you should purge the existing batches. You can then make any changes and recreate the batches. Any existing data in the original batch set is lost when those batches are purged.

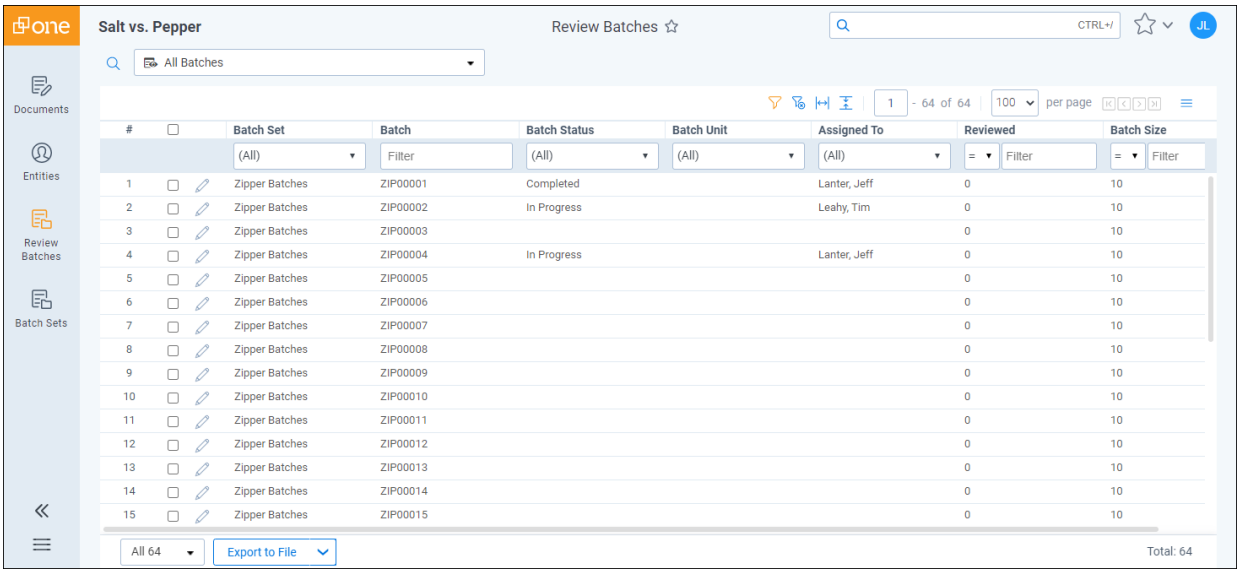
5.3 Deleting an individual batch

The following permissions are required to delete an individual batch:

Object Security	Tab Visibility	Other Settings
▪ Batch Set: View, Edit ▪ Batch: View, Edit, Delete	▪ Review Batches	▪ Mass Operations: Delete

To delete an individual batch using the Delete mass operation, do the following:

1. Navigate to the **Review Batches** tab.



2. Select the individual batch you'd like to delete.
3. Select **Delete** from the mass operations drop-down menu in the bottom-left.
   A pop-up window displays.
4. Click **Delete** in the pop-up.
   The selected batch is removed.

5.4 Deleting a batch set

The following permissions are required to delete a batch set:

Object Security	Tab Visibility	Other Settings
▪ Batch Set: View, Edit, Delete ▪ Batch: View, Edit, Delete	▪ Case Admin ▪ Batch Sets	▪ Mass Operations: Delete

Use the following procedure to delete a batch set.

1. Navigate to the **Batch Set** tab.
2. Select the checkbox next to the batch you want to delete.
3. Select **Delete** in the mass operations drop-down menu, and click **Go**.

   A confirmation message appears.

4. Click **OK**.

For more information, see Mass delete on page 412.

5.5 Searching for documents not included in existing batch sets

In some cases, you may need to search for all documents not included in a batch set. To properly search for documents not included in a batch set, use the following search criteria:

- Field: **Batch**
- Operator: **not these conditions**
- Value:
  - Field: **Batch::Batch Set**
  - Operator: **any of these**
  - Value: select all existing batch sets

Documents included in the batch set(s) you select for the **Batch::Batch Set** field value are excluded from your search results.

Note: If you want to run a search that excludes only certain batch sets select **these conditions** as the first operator. Select **none of these** as the second operator. Documents belonging to more than one batch set may return in your search results. Using this combination of search operators returns documents that belong to any batch set you don't specify in the **Batch::Batch Set** value.

5.6 Assigning batches and checking batches in and out

Any batches you or another user create for your account appear in the Review Batches tab. You can control which batches reviewers see by:

- Applying views to the batches tab, creating any list of batches you'd like to see. You can restrict these views.
- Securing batch sets, where you can then assign permissions to all batches in a batch set.
- Securing individual batches.

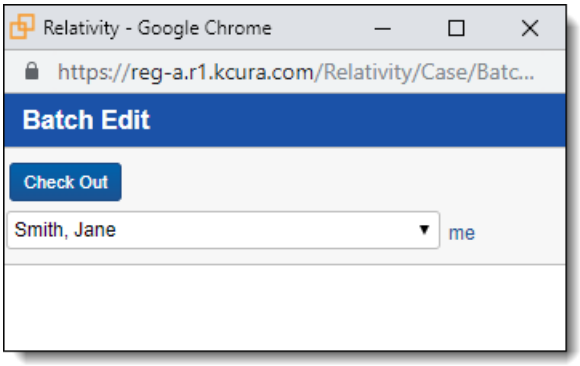
You can also restrict the Batches tab so only workspace managers and system admins can see it. In this model, a system admin or a user with Assign Batch permissions would need to check out batches to reviewers as needed.

Note: Reviewers can assign batches to other reviewers with the Assign Batches permission. Reviewers without this permission can only check out batches for themselves. By default, reviewers don't have this permission.

5.6.1 Assign a batch or check a batch out

To check out batches, perform the following steps:

1. Click the **Review Batches** tab.
2. Click **Edit** next to the batch you want to check out.



   Depending on permissions, you might see a drop-down menu where you can select other users to assign batches to. If the drop-down menu is not available, you can only check out batches for yourself. You can't check out batches that another user has checked out.

3. Click **Check Out** to assign the documents in the batch to the selected reviewers. Once you assign batches, the **Batch::Assigned To** field contains the reviewer's name.

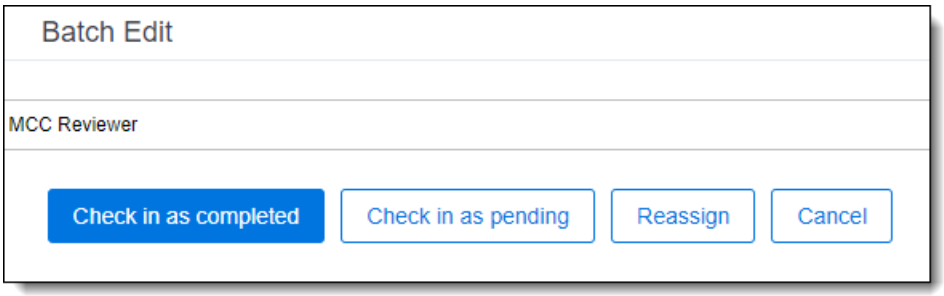
   Note: System admins can't check out batches using the **Me** link.

Reviewers can check out batches one at a time but they may assign multiple batches to themselves or others as needed. A batch may also be checked out for as long as desired. Reviewers need to check in the checked out batch as Completed or Pending before they can check out another. A batch that has been checked in as completed can still be checked out again. For more information on checking in a batch, see Reassign a batch or check a batch in below.

5.6.2 Reassign a batch or check a batch in

A batch can be checked in at any time including when you have finished reviewing all of the documents in a batch. To check a batch in, perform the following steps:

1. Navigate to the **Review Batches** tab.
2. Click the icon in the row of your desired batch.



3. Select one of the options on the Batch Edit pop-up. Depending on permissions, you might not see the **Reassign To** button.

- **Check in as pending** - you can check in the batch as pending for the assigned user.
- **Check in as completed** - you can check in the batch as completed for the assigned user.

  Note: You can select the Check in as completed option even if not all of the documents have been reviewed.

- **Reassign** - you can assign the batch to another user.

5.7 Building views for checked-out documents

5.7.1 Build a checked-out documents view

You can build views for a reviewer to access their checked-out documents. For more details about creating a view, see Views on page 724. Use this procedure to create a view for checked-out documents.

1. Click the **Views** subtab from the **Administration** tab.
2. Click **New View**.
3. Complete the required fields. See Views on page 724 for details.
4. In the **Set Conditions** section, choose **Batch** in the **Field** drop-down list.
5. Click in the **Value** field. The **Batch Criteria Selector** displays.

   To create a simple view that shows the reviewer their checked-out documents, you could create the following conditions; however, you can make your conditions as simple or complex as your workspace's workflow requires.

   - **Field** - Batch::Assigned To
   - **Operator** - is logged in user

   and

   - **Field** - Batch::Status
   - **Operator** - any of these
   - **Value** - In progress
6. Click **OK**.
7. Click **Save**.

6 Choices

Choices are the predetermined values that you apply to single and multiple choice list fields. With the necessary permissions, you can create choices for workspace fields and admin fields.

In a workspace, you use choices in coding fields to allow users to record decisions on a document. For example, a Responsiveness field might have choices like Responsive, Not Responsive, and Not Sure. You can add and edit workspace choices directly within Field forms and the Choices tab. Within the Field forms, any saved single or multiple choice field contains the choice editor, so you can create and manage choices directly within the field. Within, the Choices tab you may also add single or multiple choices, reorder choices, and create parent and child choices.

From Home, choices are predetermined values applied to pre-workspace objects, such as workspaces, clients, and matters. These choices function the same as choices within a workspace.

Using choices

Imagine you're a system admin setting up a workspace for a new case, and you want to allow reviewers to code documents as responsive or not responsive. Additionally, you want to track the status of all of your managed cases from Home.

You create a new field in the workspace called **Responsiveness** and create three choices for this field named **Responsive**, **Not responsive**, and **Not sure**. After you add the choices to the appropriate coding layouts, reviewers have radio buttons for each of the choices you created so they can begin coding documents.

Additionally, you create three admin choices in the Case Status field named **First pass review complete**, **Second pass review complete**, and **Senior review complete**. You can now easily record and track the progress of review for all cases you're managing in Relativity.

6.1 Accessing the Choice editor

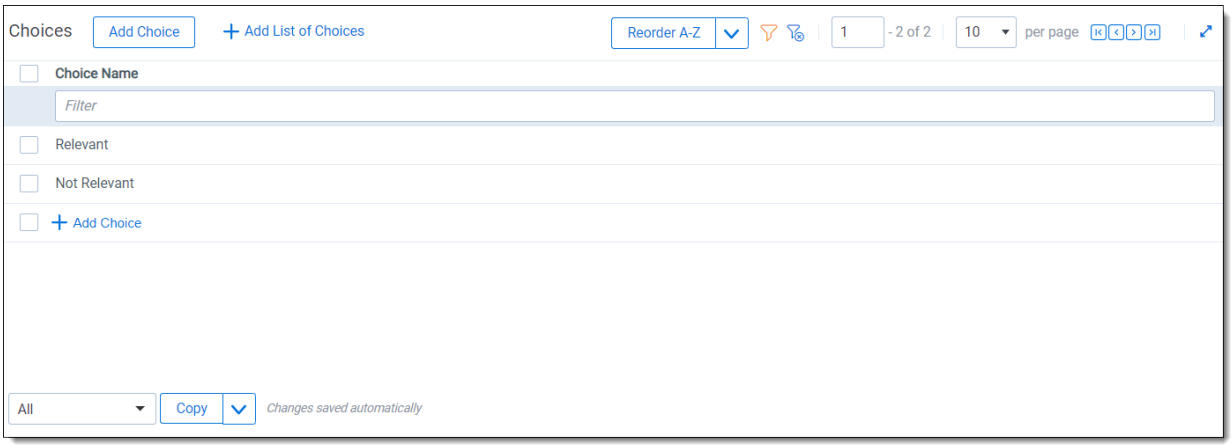
With the Choice Editor, you can add and edit choices from the Fields tab, the Choices tab, and layouts.

6.1.1 Accessing the Choice editor from the Fields tab

To access the Choice editor from the Fields tab:

1. Navigate to the **Fields** tab.
2. Click on the Name of an existing single or multiple choice field or create and save a new single or multiple choice field.

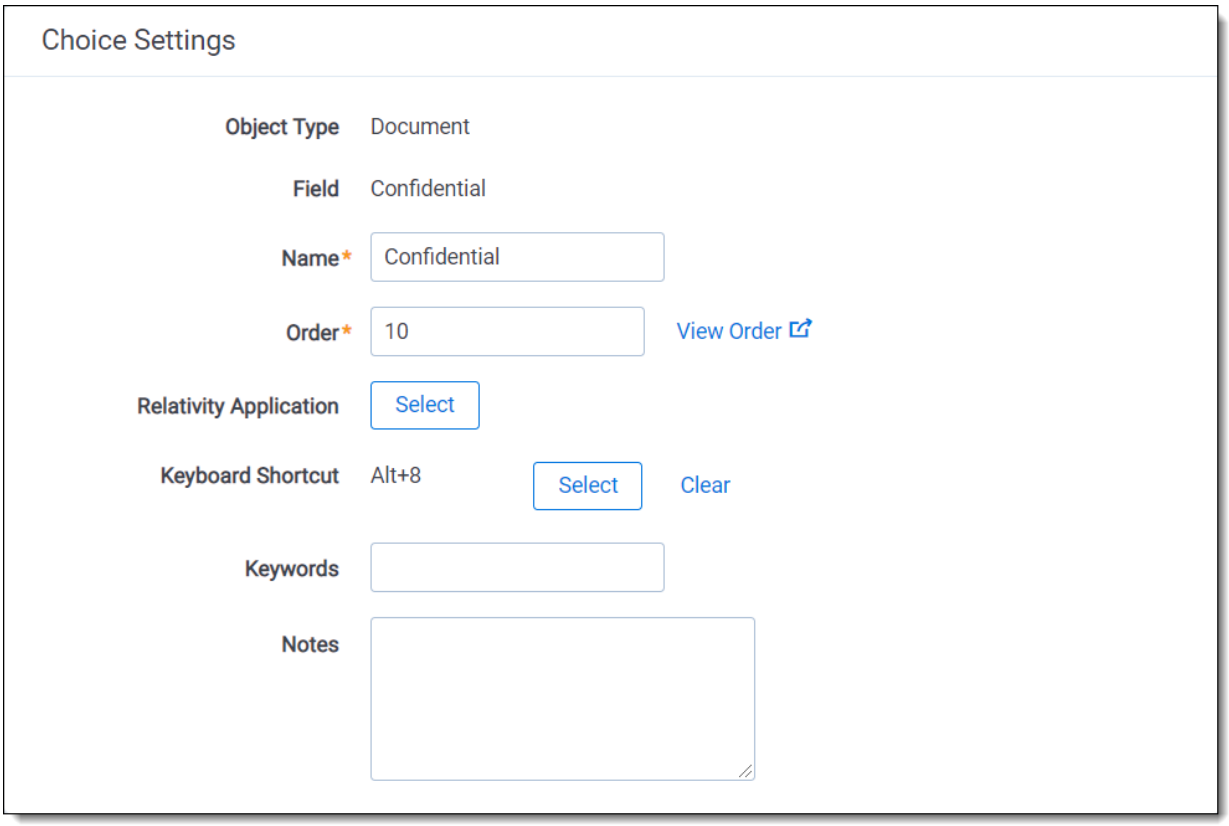
3. Locate the Choice editor in the **Choices** section on the Fields form.



6.1.2 Accessing the Choice editor from the Choices tab

To access the Choice editor from the Choices tab:

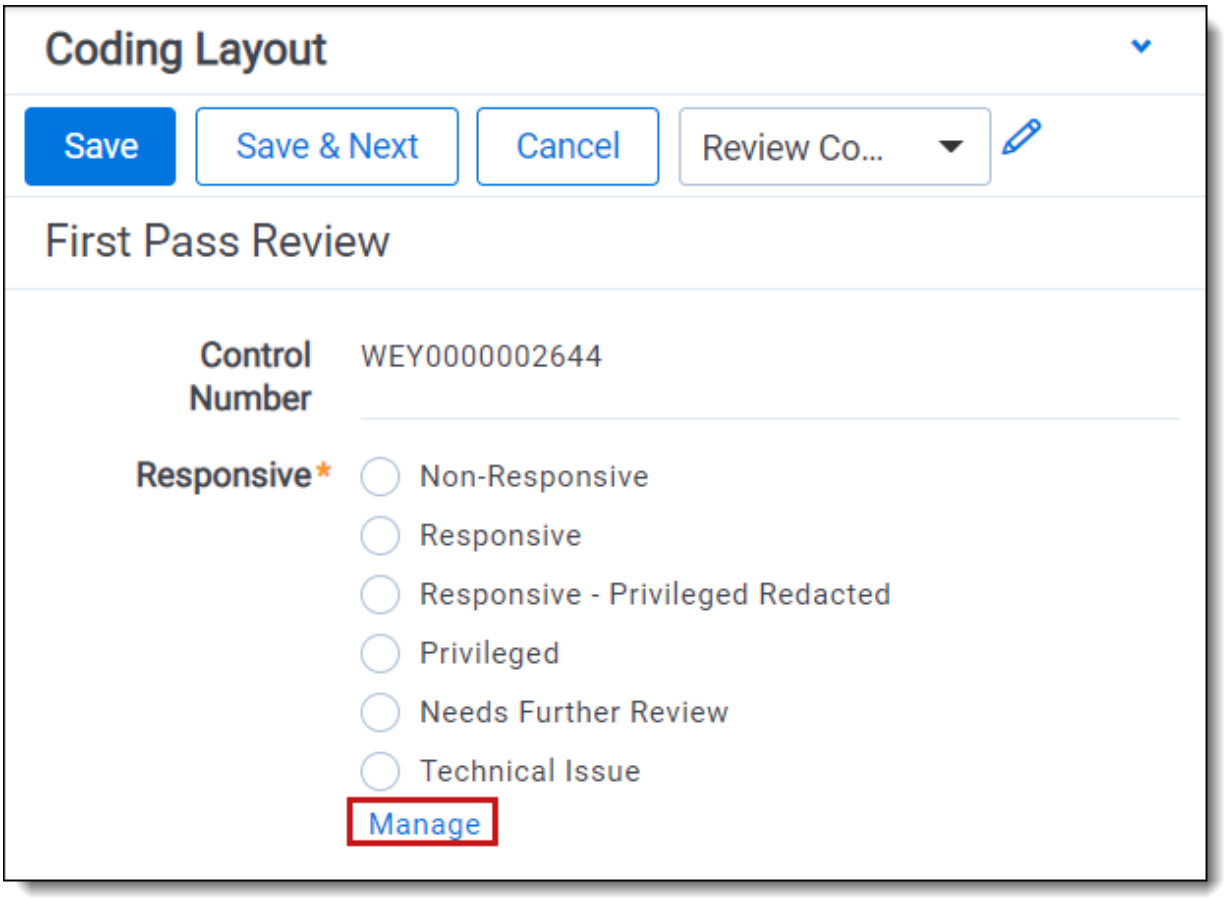
1. Navigate to the **Choices** tab.
2. Click **Edit** next to a choice.
3. The **Choice editor** opens.



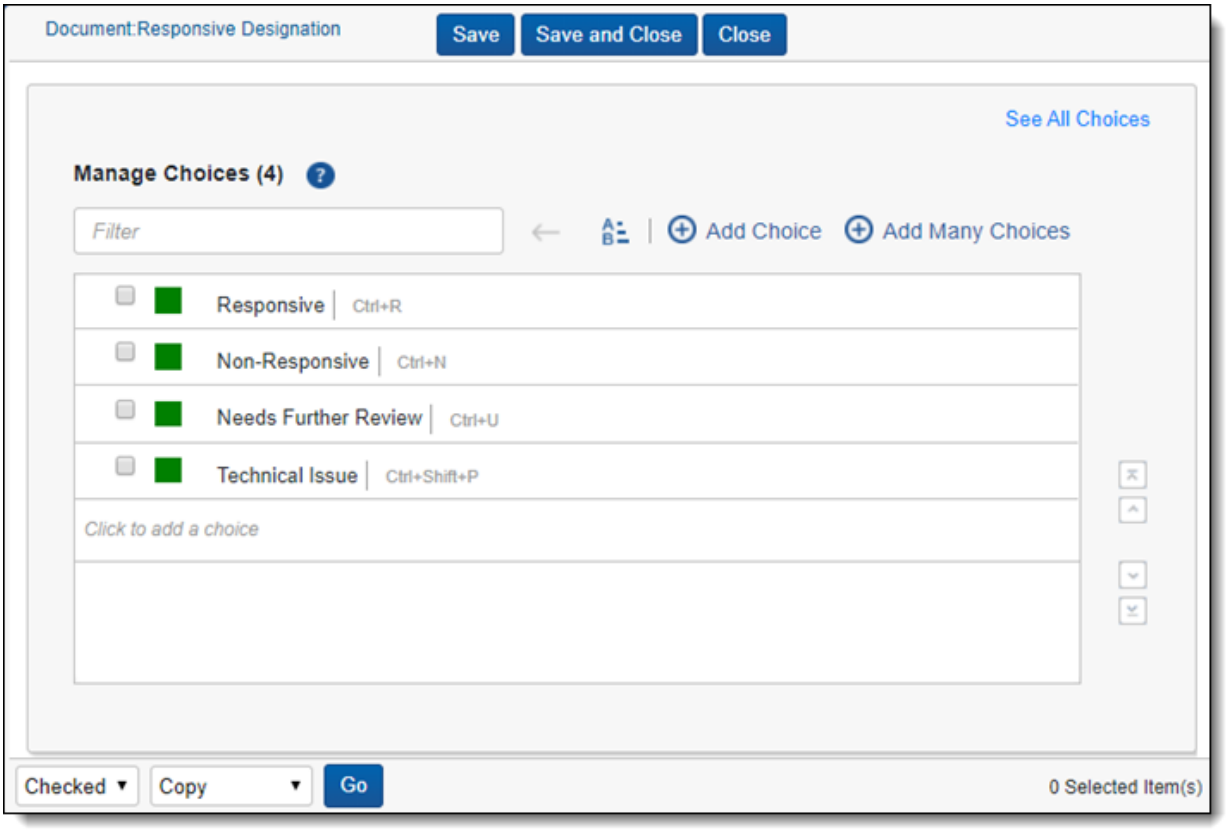
6.1.3 Accessing the Choice editor from layouts

To access the Choice editor from layouts:

1. Open a document in the Core review interface.
2. Click **Edit** on the layout.
3. Click **Manage** for the field that you want to add another choice.



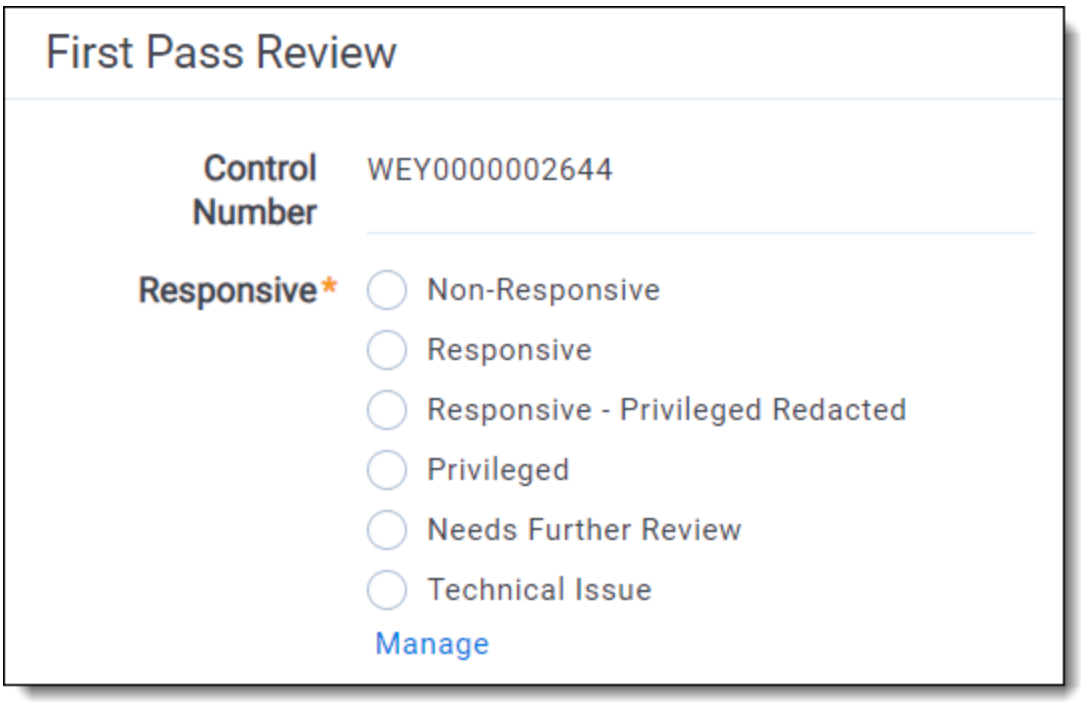
4. The **Choice editor** opens.



6.2 Permission considerations for the Choice editor

In order for a group to be able to edit and add choices, you must grant them Edit and Add permissions on the Choice object.

If the **Add Field Choice By Link** box is checked, users can view the Choice editor through the **Manage** link on the layout, but they still cannot edit and add choices without those permissions.



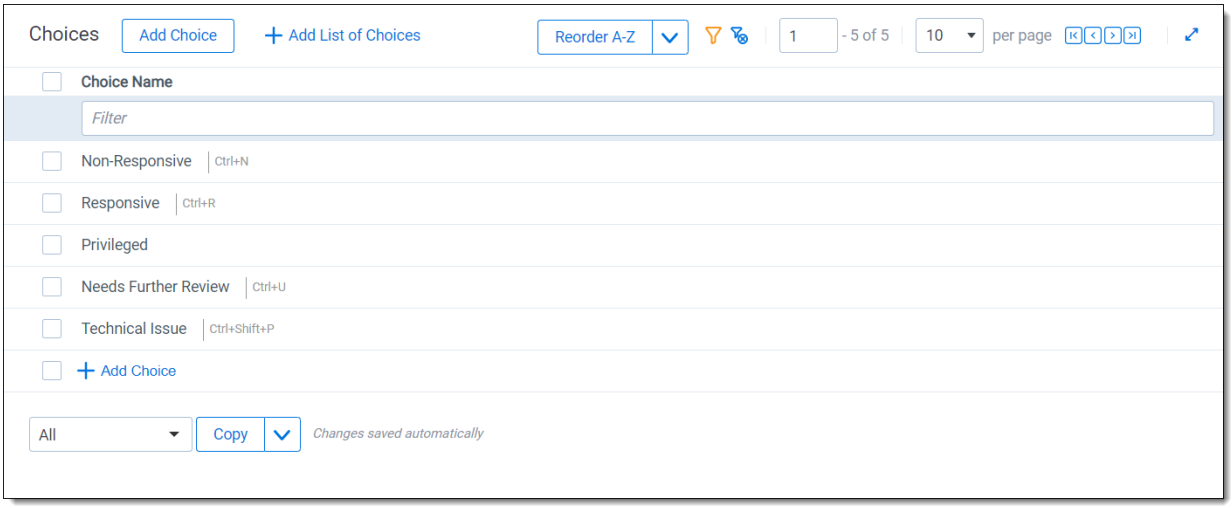
6.3 Adding choices

Using the Choice editor, you can add a single or multiple choices to a field.

6.3.1 Adding a choice from the Fields tab

To add a choice from the Fields tab:

1. Navigate to the **Fields** tab.
2. Click on the Name of an existing field or create and save a new single or multiple choice field.
3. Locate the Choice editor in the **Choices** section on the Fields form.
4. Click **Add Choice** at the top or bottom of the Choice editor.



5. Enter the name of the choice you want to add. The new choice is automatically saved.
6. (Optional) Click **Details** to customize the choice, and then click **Save**. See Choice detail fields on page 153.

6.3.2 Adding a choice from the Choices tab

To add a single choice from the Choices tab:

1. Navigate to the **Choices** tab.
2. Click **New Choice**.
3. In the Field section, select an **Object**.
4. In the Field section, select a **Field** that you want to associate the new choice with. The **Choices** section appears.
5. In the Choices section, click **Add Choice**.
6. Enter the name of the choice you want to add. The new choice is automatically saved.
7. (Optional) Click **Details** to customize the choice, and then click **Save**. See Choice detail fields on page 153.

6.3.3 Adding a choice from a layout

To add a choice from a layout:

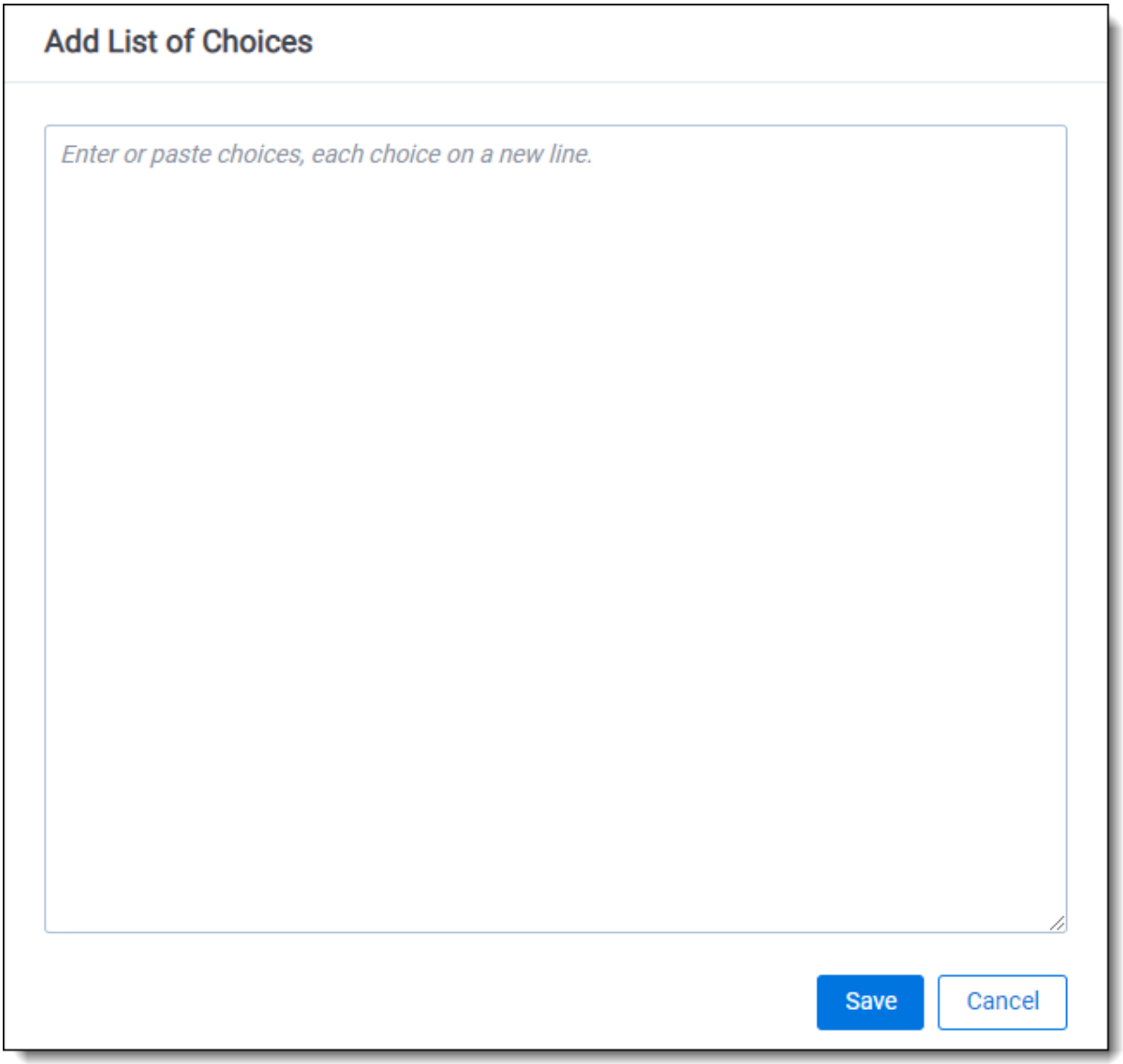
1. Under the field that you want to add a new choice, click **Manage**. The Manage Choices window opens.
2. Click **Add Choice** or **Click to add a choice**.
3. (Optional) Click **Options** to customize the choice, and then click **Apply**.
4. Click **Apply**.

6.3.4 Adding multiple choices

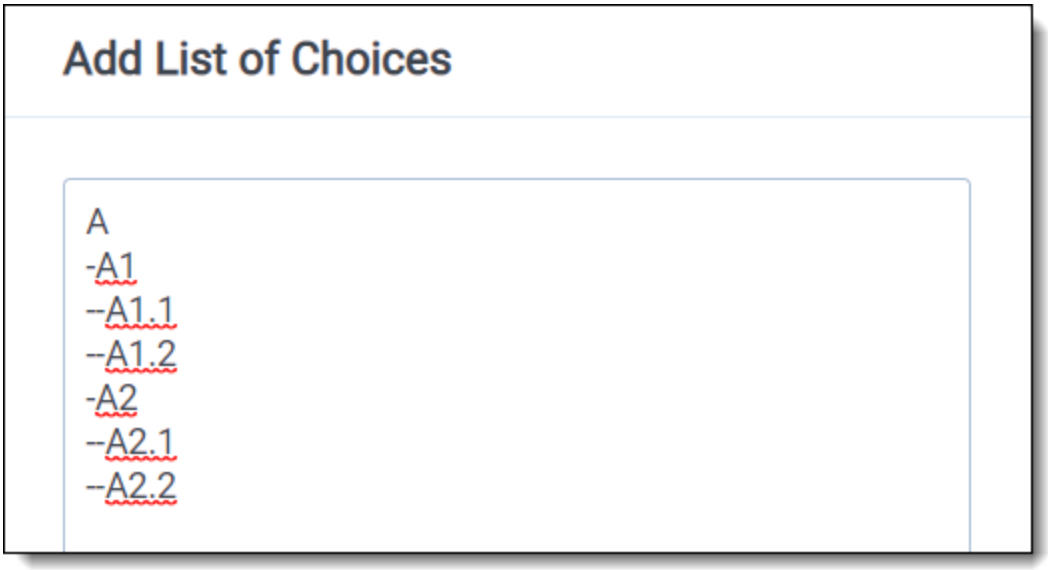
To add many choices:

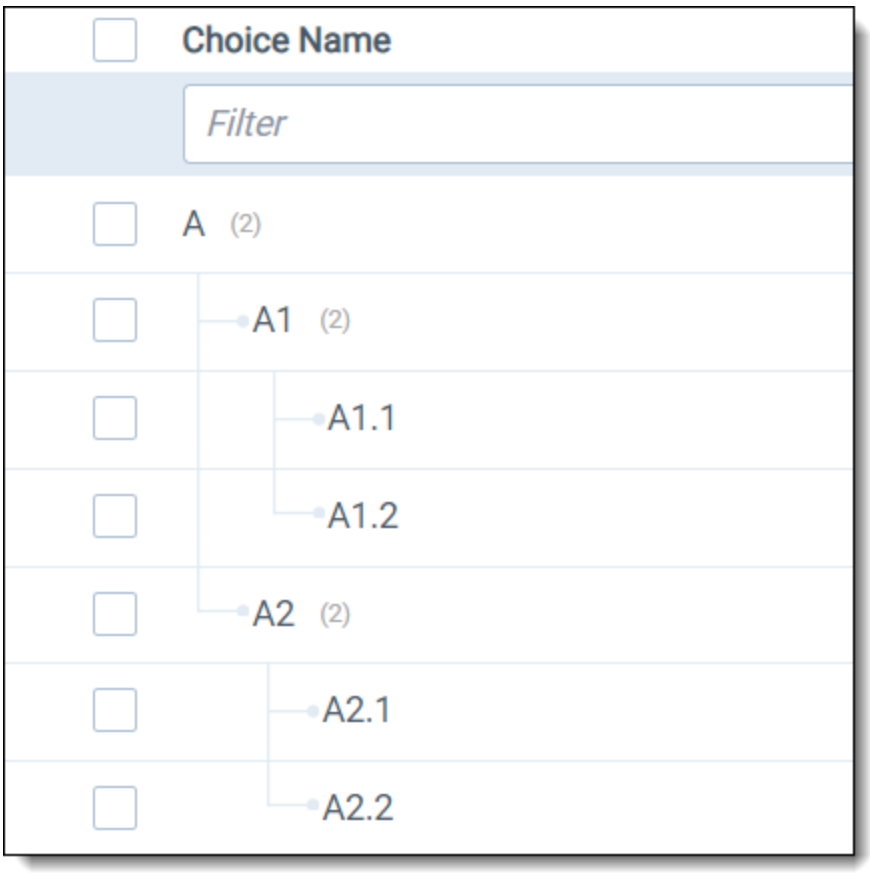
Note: You can't create more than 300 choices at one time. If you attempt to create more than 300 choices at one time, then only the first 300 choices get created.

1. From the Choice editor, click **Add List of Choices**. The **Add List of Choices** textbox appears.
2. Enter each choice on a separate line. You can also copy and paste a large list of choices, but ensure each choice is entered on a separate line.



3. (Optional) To create families of choices, use hyphens at the beginning of each separate line. Each hyphen represents a level between parent and child choices. If a choice contains a hyphen, but there is no parent relation, a warning will display.





4. Click **Save**.

6.4 Editing choices

After you create a choice, you can edit the name and the details of the choice using the Choice editor.

6.4.1 Editing choice names

To edit the name of a choice:

1. Navigate to the **Choice editor**. See Accessing the Choice editor on page 145.
2. Click on the name of the choice that you want to rename.
3. Enter the new name of the choice. The new name is automatically saved.

6.4.2 Editing choice details

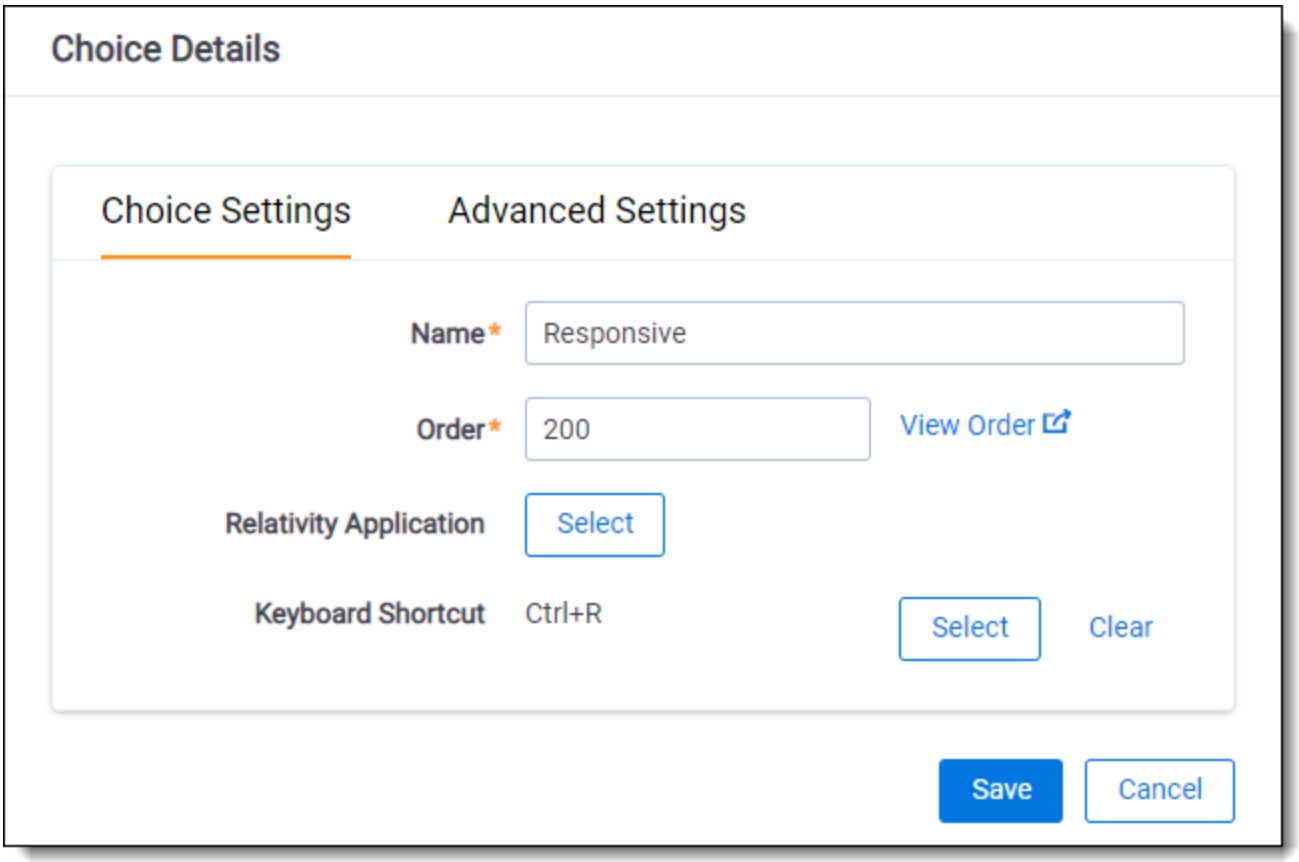
To edit the details of a choice:

1. Navigate to the **Choice editor**. See Accessing the Choice editor on page 145.
2. Hover over the name of the choice that you want to edit.
3. Click **Details**.
4. Modify the details of the choice. See Choice detail fields below.
5. Click **Save**.

6.5 Choice detail fields

The Choice Details editor has two tabs: Choice Settings and Advanced Settings.

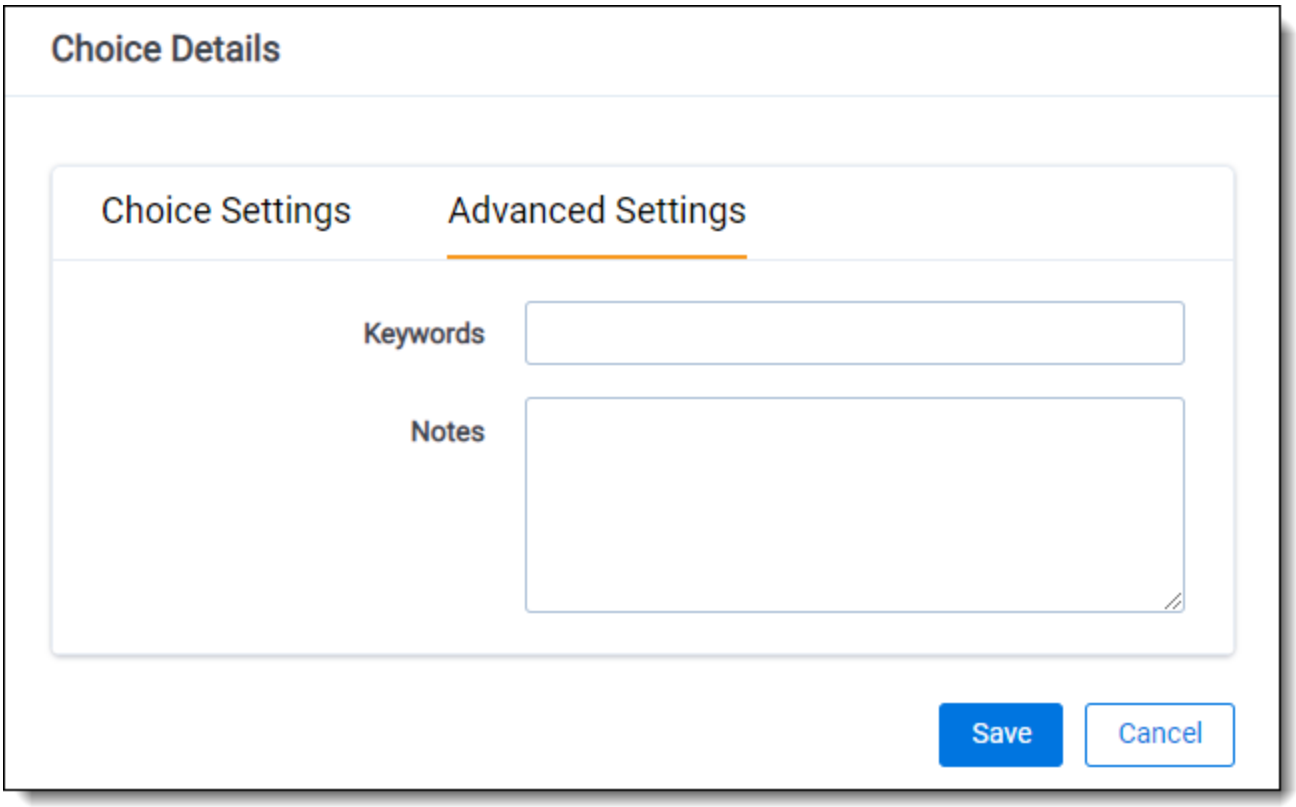
Choice Setting tab fields include:



- **Order** - a number that represents the position of the choice in relation to the field's other choices. The lower the number, the higher the position on the list. Pane order can be any positive or negative integer, but you can't use decimals.
- **Parent choice** - sets the parent choice.
- **Relativity Applications** - associates an existing application in your workspace to the new choice, in order to link to Relativity Dynamic Objects. See Building Relativity applications.See the Applications section in the Admin guide.
- **Keyboard Shortcut** - designates a keyboard shortcut for the document choice you're editing or creating. You can use the shortcut to code and edit documents in the core reviewer interface. You need to be in edit mode before you can use keyboard shortcuts for choices. This setting is only available for document fields and consists of the following checkboxes. You have to use Ctrl and/or Alt or you get an <Invalid Keyboard Shortcut> warning next to the Key drop-down field:
  - **Ctrl** - sets the Control key as part of the combination used to trigger the keyboard shortcut.
  - **Alt** - sets the Alt key as part of the combination used to trigger the keyboard shortcut.
  - **Shift** - sets the shift key as part of the combination used to trigger the keyboard shortcut.
  - **Key** - sets the key you want to use in combination with the key specified in one or more of the checkboxes (Ctrl, Alt, and Shift).

  A pipe character and the keyboard shortcut appear next to the name of the choice when you create a keyboard shortcut.

Advanced Settings tab fields include:



- **Keywords** - keywords associated with the choice.
- **Notes** - any notes, such as a description, that you want associated with the choice.

6.6 Deleting choices

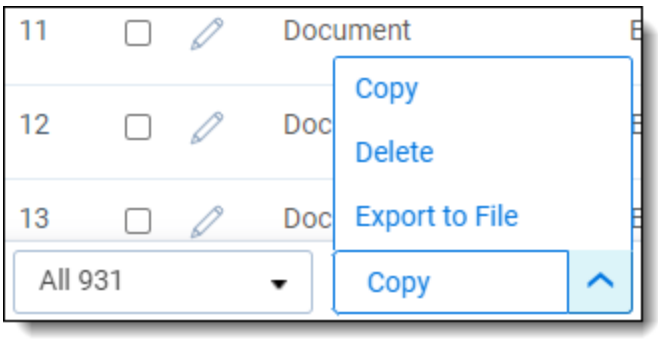
To delete a choice:

1. Navigate to the Choice editor. See Accessing the Choice editor on page 145.
2. Hover over the name of the choice that you want to delete.
3. Click **Delete**.

You can also delete multiple choices using the **Delete** mass operation from the **Choices** tab.

6.7 Performing mass operations on choices

You can perform mass Copy, Delete, and Export to File on choices from the **Choices** tab.



Notes:

- If you apply a mass operation on a parent choice, the mass operation is not automatically applied to the child choice.
- When deleting a parent choice in the Choice editor, Relativity also deletes the children.
- When using mass delete from a list page, you must delete all the children choices of a parent choice first before you can delete the parent choice.

6.8 Organizing choices

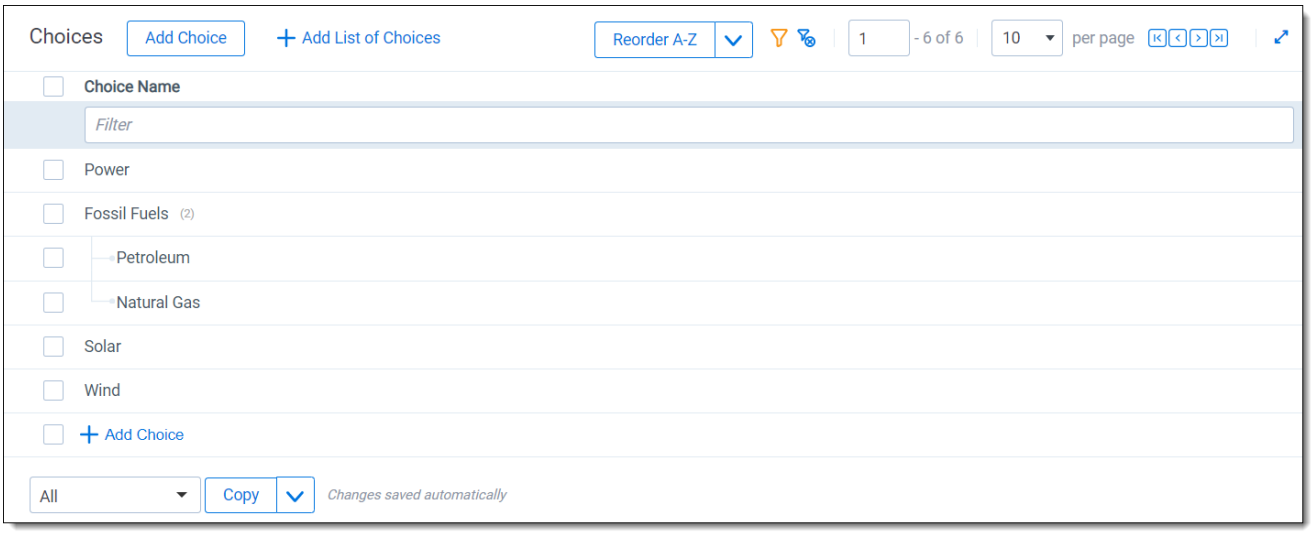
Using the Choice editor, you can reorder choices and create families of choices.

6.8.1 Dragging and dropping choices

To reorder choices, click the choice row you want to move and drag and drop the choice to the desired position. A blue bar appears in the position where the choice is moved to.

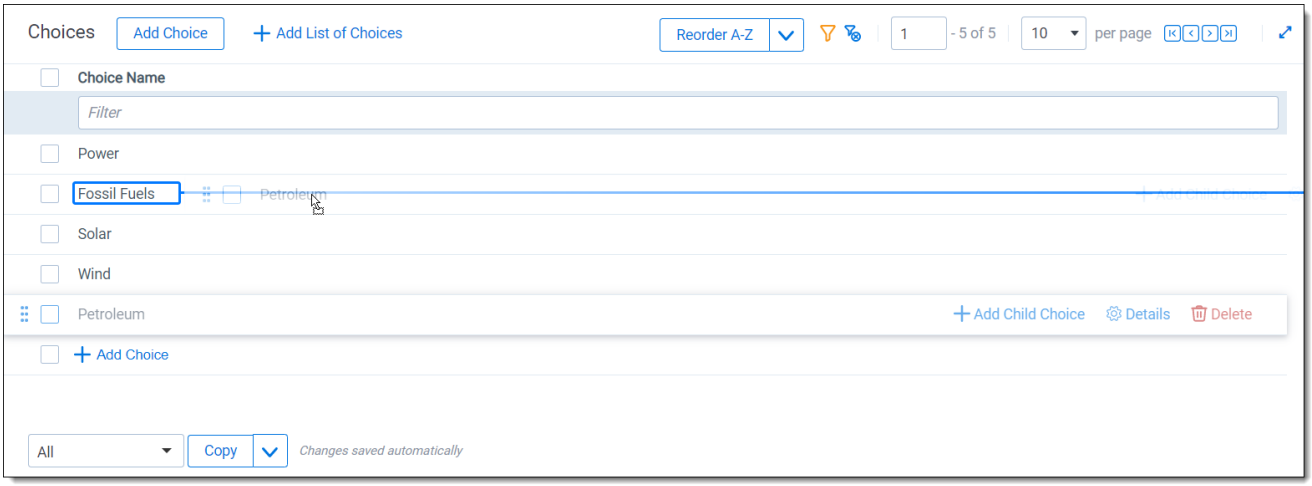
6.8.1.1 Creating choice families

Using the Choice editor, you can create choice families by nesting choices to create a parent choice. When a child choice is selected in a layout, the parent choice is automatically selected as well. A dotted gray line connects the parent choice to its children. In the screenshot below, **Fossil Fuels** is the parent choice of child choices, **Petroleum** and **Natural Gas**.



Note: You can only nest multiple choice field types.

To create a child choice, click the choice row and drag the choice into a preexisting choice. The preexisting choice becomes the parent choice. A double blue bar appears under the new parent tab where the child tab is moved to.



6.8.2 Alphabetizing choices

You can also alphabetize choices, parent choices, and child choices. To reorder choices in ascending alphabetical order, starting with A, click the Reorder drop-down menu and select **Reorder A-Z**. To reorder choices in descending order, starting with Z, click the drop-down on the reorder button and click **Reorder Z-A**.

Notes:

- You must have edit permissions for the field to reorder choices. If you don't have edit permissions for the field, the **Reorder A-Z** button will not appear in the Choice editor.
- Once you alphabetize the choices you can also rearrange choices within the sort. The alphabetize button will not automatically re-alphabetize the choices if you move choices individually.

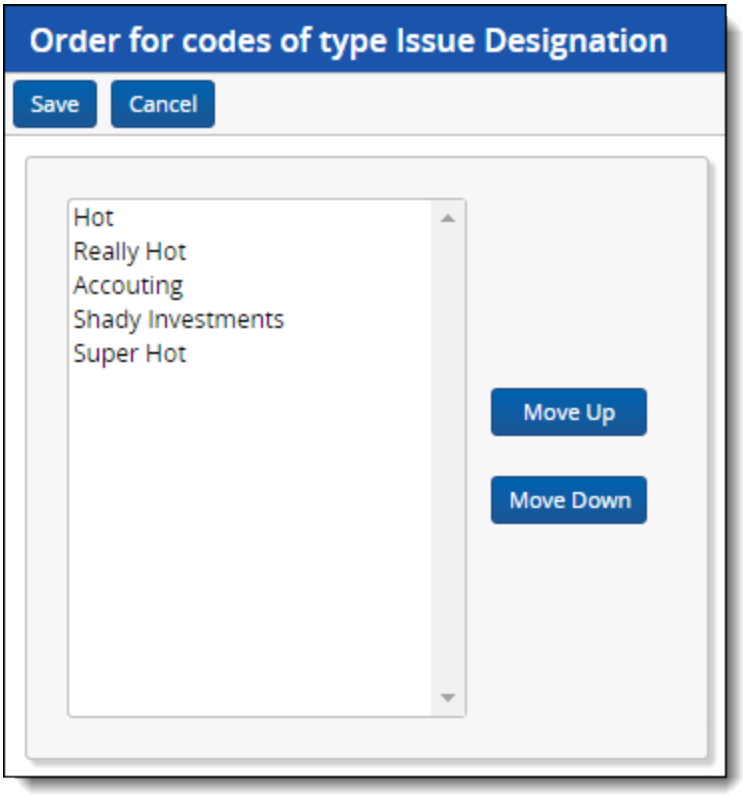
6.8.3 Reordering top level choices

You can reorder top level choices in the Choices List using the Sort top level choices feature. You can use this method to edit the sort order of choices according to your preferences without manually editing each choice directly. This only reorders top level choices, not nested choices.

Follow these steps to Sort top level choices:

1. Click **Select All Choices**. The Choices List opens.
2. Click the **Sort Top Level Choices** link in the Sort Top Level Choices column for the field whose choices you want to reorder.

3. Select a choice in the **Order for codes of type** window.



4. Use the **Move Up** or **Move Down** buttons to order your choices.
5. Click **Save**.

Note: It is a suggested practice to order your choices in multiples of 10 so that it is easier to insert more choices in your intended order in the future. If you enter choices with orders that are not in multiples of 10 and use the Sort top level choices feature to reorder your choices, then Relativity automatically reorders all previously entered order numbers in multiples of 10.

6.9 Fields in workspaces

- **Field** - the single choice or multiple choice list field in which you want the choice to appear.
- **Name** - the choice value that appears to users. For example, if you want the choice to read "Responsive," name it "Responsive." Choice names can be up to 200 characters.
- **Order** - a number that represents the position of the choice in relation to the field's other choices. The lower the number, the higher the position on the list. Items that share the same value appear in alphanumeric order. Pane order can be any positive or negative integer, but you can't use decimals.

Note: We recommend setting the tab order by 10's, starting with 10, then 20, 30, etc. Numbering in groups of 10 lets you later insert an item into any position without reordering all items (e.g., 10, 20, **25**, 30, 40).

- **Parent choice** - when you create a sub-choice, you can select a parent choice under which the current choice appears. Be aware that once you set your family of choices and tagged values, editing a parent choice causes inconsistencies.

  Note: If you need to change a parent choice, create a new choice family, mass edit the applicable documents, and then remove the old choice.

- **Relativity Applications** - associate an existing application in your workspace to the new choice, in order to link to Relativity Dynamic Objects. See Building Relativity applications.See the Applications section in the Admin guide.
- **Keyboard Shortcut** - designates a keyboard shortcut for the document choice you're editing or creating. You can use the shortcut to code and edit documents in the Review Interface. You need to be in edit mode before you can use keyboard shortcuts for choices. This setting is only available for document fields and consists of the following checkboxes. You have to use Ctrl and/or Alt or you get an <Invalid Keyboard Shortcut> warning next to the Key drop-down field:
  - **Ctrl** - sets the Control key as part of the combination used to trigger the keyboard shortcut.
  - **Alt** - sets the Alt key as part of the combination used to trigger the keyboard shortcut.
  - **Shift** - sets the shift key as part of the combination used to trigger the keyboard shortcut.
  - **Key** - sets the key you want to use in combination with the key specified in one or more of the checkboxes (Ctrl, Alt, and Shift).

6.10 Admin choices

From Home, choices are predetermined values applied to pre-workspace objects, such as workspaces, clients, and matters. These choices function the same as choices within a workspace.

To create or edit an admin choice:

1. Click your name in the upper right corner of Relativity and click **Home**.
2. Click the **Choices** tab.
3. Click **New Choice**. If you want to edit an existing choice, click the **Edit** link next to the Choice name.
4. Complete the fields on the form. See Admin fields below.
5. Click **Save**.

6.10.1 Admin fields

- **Field** - sets the type of admin choice. You can select one of the following options:
  - **Case status** - choices available in the **Status** field on workspace objects.
  - **Client status** - choices available in the **Status** field on client objects.
  - **dtSearch Index Share Location** - choices available in the **Index share** field on dtSearch index objects.
  - **File location** - choices available in the **Default file repository** field on workspace objects.

- **Matter status** - choices available in the **Status** field on matter objects.
- **Processing Source Location** - choices available in the **Select source for files to process** field in processing set objects.
- **User type** - choices available in the **Type** field under user information for user objects.

- **Name** - the choice value that appears to administrators. For example, if you want the choice to read "Internal," name it "Internal." Choice names can be up to 200 characters.
- **Order** - a number that represents the position of the choice in relation to the field's other choices. The lower the number, the higher the position on the list. Items that share the same value appear in alpha-numeric order. Pane order can be any positive or negative integer, but you can't use decimals. You can click the View Order button to access the order of other choices.

Note: We recommend setting the tab order by 10's, starting with 10, then 20, 30, etc. Numbering in groups of 10 lets you later insert an item into any position without reordering all items (e.g., 10, 20, **25**, 30, 40).

You can also add or edit an admin choice on the Choices tab. See Adding choices on page 149.

7 Clients

Clients are companies or organizations. In Relativity, link clients with associated users, matters, groups, and workspaces.

Using clients

The company, Cloud Gate, Inc., just hired you for their case Cloud Gate, Inc. vs. Chicago. As the system admin, it's your job to set up the workspaces and prepare the system for document review. The first step is creating the client. Since Cloud Gate, Inc. hired you, you click Create New Client in the Client tab and name the client "Cloud Gate, Inc." This client relates directly to the matter you create next.

Cloud Gate's case is just one of many your firm is in the process of handling, so you also track the status of the case with the Status field. When Cloud Gate's casework is complete, you switch the client's status to "Inactive" so you can focus your attention on other cases that are currently in progress.

7.1 Creating or editing a client

To create a client or edit information for an existing client, perform the following steps:

1. Select the **Clients** tab and then click **New Client** to create a new client, or click **Edit** next to the client whose information you want to edit. The New Client form appears.

   Note: If your Clients tab view list does not contain the **Edit** field, you can add it.

2. Complete the fields on the form. See Fields below.
3. Click **Save**. You can optionally enable tenancy on the client. See Enabling client domains on a client below.

7.1.1 Fields

The following fields display on the Client Information form. Fields in orange are required.

- **Name** - the name of the client. The name must be between 1 and 210 characters.
- **Client Number** - the billing number for the client. This value must be between 1 and 50 characters.
- **Status** - the current status of the client. The default options are active or inactive, but you can add any status value. Use the status value to organize and display lists of clients using Relativity views. See Views on page 724.

7.2 Enabling client domains on a client

Note: This feature was formerly referred to as multi-tenancy in versions of Relativity previous to 9.5.162.111.

The following things occur automatically after client domains are enabled:

- The system creates a new **Everyone - [Client's Name]** group and adds that group to the client domain. Only users whose client field is set to the client domain are included in the client domain everyone group. The system also removes those users from the default Relativity Everyone group. A system admin can add any users to any group regardless of client domain status.

Note: The **Everyone - [Client's Name]** group should not be assigned as the workspace administrator group for a given workspace that is part of a Client Domain.

- The system creates a unique copy of all resource pools associated with any workspaces under the client domain.

Note: Permissions assigned to groups override client domain isolation. If a non-client domain group has permissions to see a client domain's workspace or users, then those non-client domain users in the non-client domain group can still access client domain items. Enabling client domains does not change previously configured item level security settings applied to any objects within the client domain.

- The system creates a client domain admin group that permits its members to perform admin operations within the client domain.
- The Billing statistics - case rollup and Billing statistics - users reports include columns called Client Domain Name and Client Domain Artifact ID. These columns display client name and artifact ID when you enable client domains for a client.

Note: After enabling client domains, system administrators needing to make group or permission changes should be extra cautious and thoroughly investigate the potential impact to client domain separation before implementing any new group/permission changes.

7.2.1 Generating a client domain request

To enable client domain on a client, you first generate a client domain request key in Relativity.

1. or click the name of a client on the Client tab. The details view of the client appears.
2. Click **Create Client Domain Request Key** and then the **Client Domain Request Key** window appears.
3. Copy the Client Domain Request Key text and paste it into an email to Customer Support.
4. Close the Client Domain Request Key window.

7.2.2 Applying the activation key

After you receive an activation key from us, you enable client domains by applying it to the client.

1. Navigate to the **Client** tab.
2. Click the name of a client associated with the client domain request.

   Note: You must select the client that you originally used to generate the request key. If you attempt to apply the activation key to a different client, Relativity displays an error message.

3. Click **Submit Client Domain Activation Key** and then the Apply Client Domain Activation Key window appears.
4. Copy the client domain activation key received in the email message that Customer Support sent. Paste it into **Client Domain Key** field in the Apply Client Domain Activation Key window.
5. Click **Apply**.

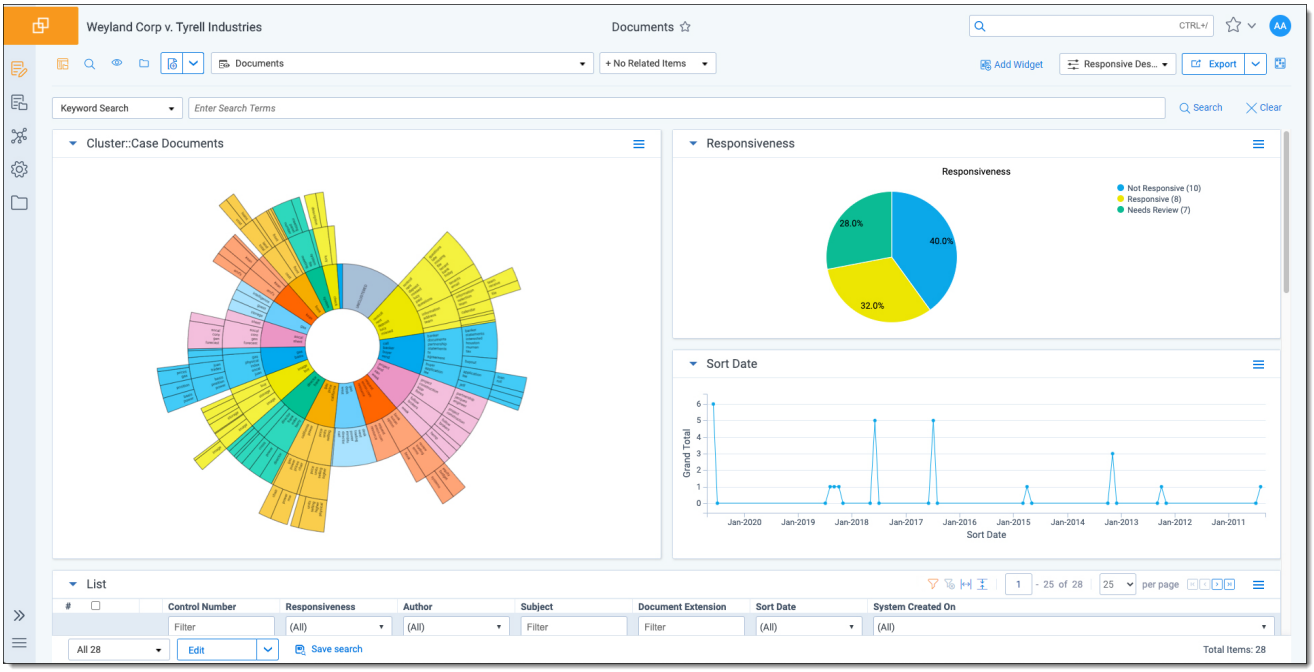
   Note: If Relativity displays an error message, verify that you copied the activation key correctly. Contact Customer Support if you have any questions about applying your activation key.

6. Verify that the **Client Domain Status** field in the **Client Information** section displays the word Client Domain.

8 Dashboards

When you've created a page configuration you'd like to preserve, you can create a customized dashboard. You can save multiple dashboards to quickly change the page configuration. The item list and any widgets on the dashboard will update automatically in response to filtering or searching. Dashboards only report on data within the workspace you are in.

Note: For a list of dashboards that provide an effective starting point for administrators to help review teams visualize their data set, see the Creating commonly-used dashboards in the Admin Guide.



The page initially appears with the folder browser on the top left, the search panel on the bottom left and the item list to the right. Within this new framework, you have multiple options for customizing your display.

You can resize, move, or collapse any panel on the page, including any widgets you create.

- To resize any panel, hover over the line separating the item list from the panel until you see the mouse pointer change to horizontal arrows, then click and drag.
- To move, hover over the top of the panel until you see the icon. Then, click and drag the panel to the new location.
- To collapse the search panel or browser pane, click the icon. Once collapsed, click the icon to restore the browser pane or the icon to restore the search panel.

Additionally, you can drag and drop panels to rearrange on the page. Click any panel and drag it to a new location. The other panels will automatically move to accommodate the panel you're dropping.

Dashboards and widgets can be copied over to newly created workspaces if they are part of a template. Dashboards only report on data within the workspace you are in if data is loaded in the workspace.

Note: You must have the correct workspace permissions to add, edit, or save a dashboard and to save pivot widgets to your dashboard.
You can also export individual Pivot widgets to Excel or to PNG format from each widget's context menu. See Exporting a Pivot widget in the Admin Guide for more information.

Note: To enable the Add Widgets button and Pivot functionality for an Relativity Dynamic Object (RDO), you must select Enabled for the **Pivot** property in the Object Type Information section for the object.

8.0.0.1 Creating a dashboard

To create a dashboard:

1. Click the **Dashboards** drop-down menu in the top right corner of the screen.

   Note: You can only access the drop-down if Pivot is Enabled for the given object type.

2. Click **New Dashboard** to save the current page configuration as a new dashboard.
3. Enter a name and an order number for the dashboard.

Note: The dashboard with the lowest order number will appear by default when you log in to Relativity.

8.0.0.2 Adding widgets to a dashboard

You can add the following widgets to customize your dashboard:

- **Pivot charts and tables** - You can use Pivot to summarize data in tables or charts to visually analyze trends in your data.
- **Cluster visualizations** - On the Documents tab, you can use Relativity Cluster Visualization to render your cluster data as an interactive visual map by adding a Cluster Visualization widget. This offers you a quick overview of your document cluster sets and quickly drill into each cluster set to view subclusters and conceptually-related clusters of documents. Please note that there may be only one cluster visualization widget per dashboard.
- **Communication Analysis** - After running the name normalization operation within structured analytics, you can use this widget to visualize communication frequencies, patterns, and networks between the entities linked to the documents in the view.

Note: When you reach the maximum number of widgets allowed on a dashboard, the **Add Widget** button will be grayed out and a tooltip displays when you hover over it that lets you know the reason you cannot add any additional widgets to your dashboard. This is controlled by the **MaxNumberDashboardWidgets** instance setting.

8.0.0.3 Saving changes to a dashboard

You can also make changes on the fly and save a dashboard with the changes. If a dashboard has not been saved, an orange notification displays in the Dashboard drop-down menu until it is saved.

1. Click the Dashboards drop-down menu in the top right corner of the screen to display the list of dashboards available on the current tab.
2. Click **Save** to save the changes to the existing dashboard. Click **Save As** to save the page configuration as a new dashboard, and then enter a **Name** and **Order** number.

Note: If a dashboard is part of a locked application, the option to save the dashboard is unavailable.

8.0.0.4 Deleting a dashboard

To delete a dashboard from the current tab you are in, click the icon to the right of the dashboard you want to delete in the Dashboards drop-down menu.

Click **Delete** in the Delete Dashboard Confirmation popup to delete the dashboard.

Note: If a dashboard is part of a locked application, the option to delete the dashboard is unavailable.

8.0.0.5 Renaming a dashboard

To rename a dashboard:

1. Click on the icon next to the name of the dashboard in the Dashboard drop-down menu.
2. Enter a **Name** and an **Order** number for the dashboard. The order number controls the order in which the dashboard displays in the list.
3. Click **Save** to save your changes.

Note: If a dashboard is part of a locked application, the option to edit the dashboard is unavailable.

8.0.0.6 Exporting a dashboard

You can export the pivot charts and cluster visualization images on your dashboard to Microsoft Excel. The charts can then be modified as needed in Excel. Cluster visualization images cannot be modified using Excel, however, since they are a PNG image of the visualization.

Note: Exporting to Excel functionality does *not* require Microsoft Excel to be installed (except for viewing of the exported file).

To export your dashboard to Excel:

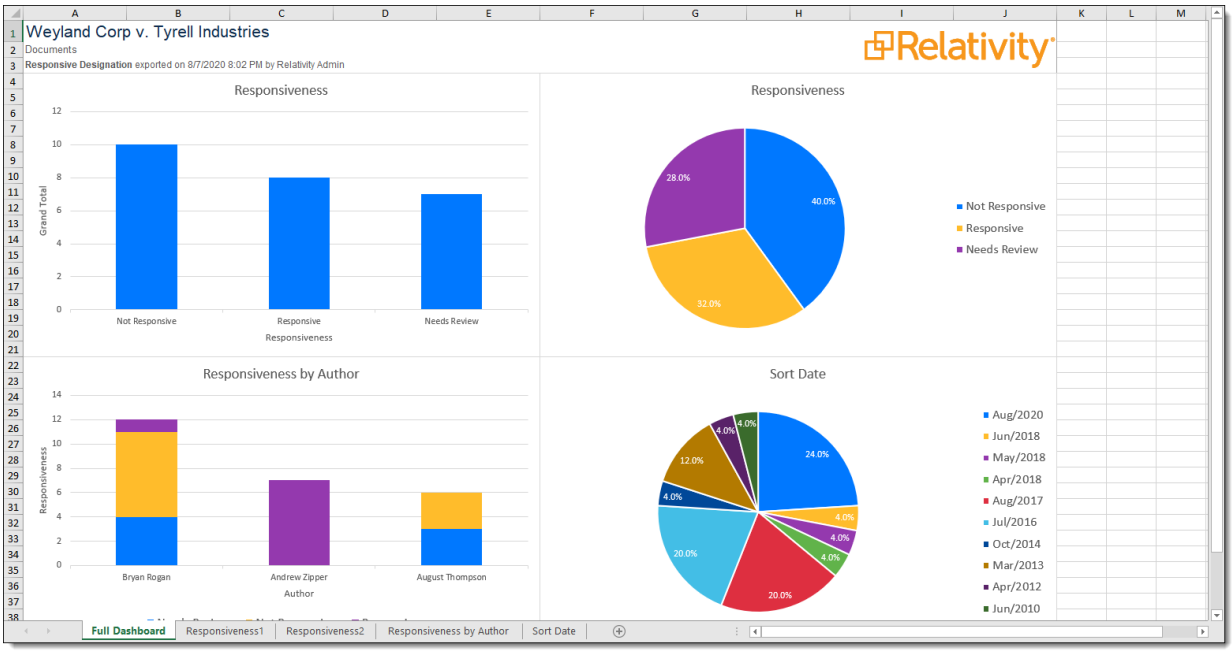
1. On your current dashboard, click the Export button to the right of the Dashboard drop-down to export your dashboard with the currently selected export format settings.

   Alternatively, click the drop-down arrow to the right to make the following export format setting selections, and then click the Export button at the bottom of the drop-down menu. By default, all listed items are selected, but the individual selections that you make persist until you change them.

- **Dashboard name** - selecting this means the name of the dashboard will be included in the export.
- **Export date and time** - selecting this means the date and time of the export will be included in the export.
- **Show data worksheets** - selecting this means the data for the individual widgets will be included in the export (and you can then modify this data).
- **Relativity logo** - selecting this means the Relativity logo will be included in the export.
- **User Name** - selecting this means the username that created the export will be included in the export.
- **View Name** - selecting this means the name of the view from which the export was generated will be included in the export.
- **Workspace Name -** selecting this means the name of the workspace will be included in the export.

Relativity will automatically generate and download the new Excel workbook locally for you.

1. Click on the new Excel document that was downloaded locally to open it.



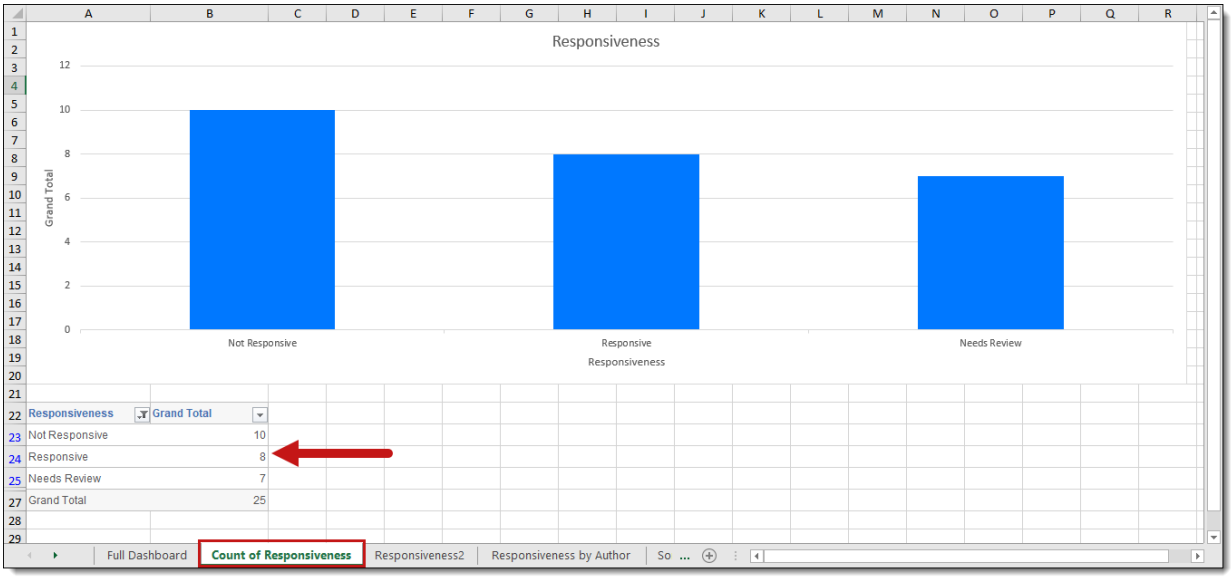
The full dashboard displays on the **Full Dashboard** worksheet tab. The individual charts that make up your dashboard along with their data can be found on the subsequent worksheet tabs.

Note: If you export a scroll-able table widget, it will not be shown on the Full Dashboard worksheet tab.

2. You can modify the data on the relevant worksheet for the chart and all the charts including the Full Dashboard worksheet update to reflect the modified data using Excel's built in chart functionality. Furthermore, the data table is sortable and filterable—the chart will reflect the data listed in the table.

You can refer to user documentation on how to use charts in Microsoft Excel for more information on modifying these charts for other purposes.

Note: You cannot modify any cluster visualization using Excel, since this is just a PNG image of the visualization.



Note: You can also export individual Pivot widgets to Excel or to PNG format from each widget's context menu. See Exporting a Pivot widget in the Admin Guide for more information.

8.1 Creating commonly-used dashboards

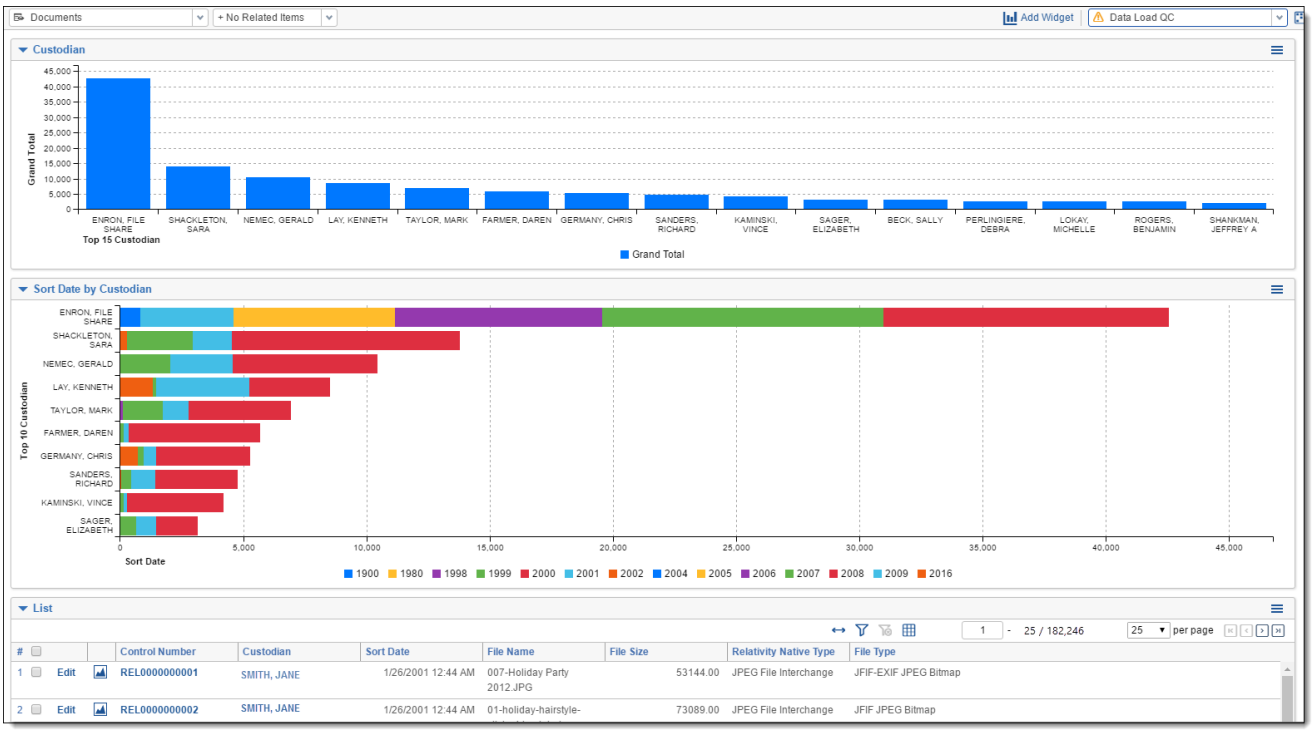
This topic walks through the fields to group by and pivot on to create some commonly used dashboards in your case life cycle. With these workflows, you and your case team will be better equipped to explore and prioritize your review, identify patterns and trends across custodians, and develop better review strategies with real-time insight with these dashboards.

Use the examples described below to generate ideas for dashboards you may want to create in your cases.

8.1.1 Data Load QC

To create the Data Load QC dashboard, group by and pivot on the following fields:

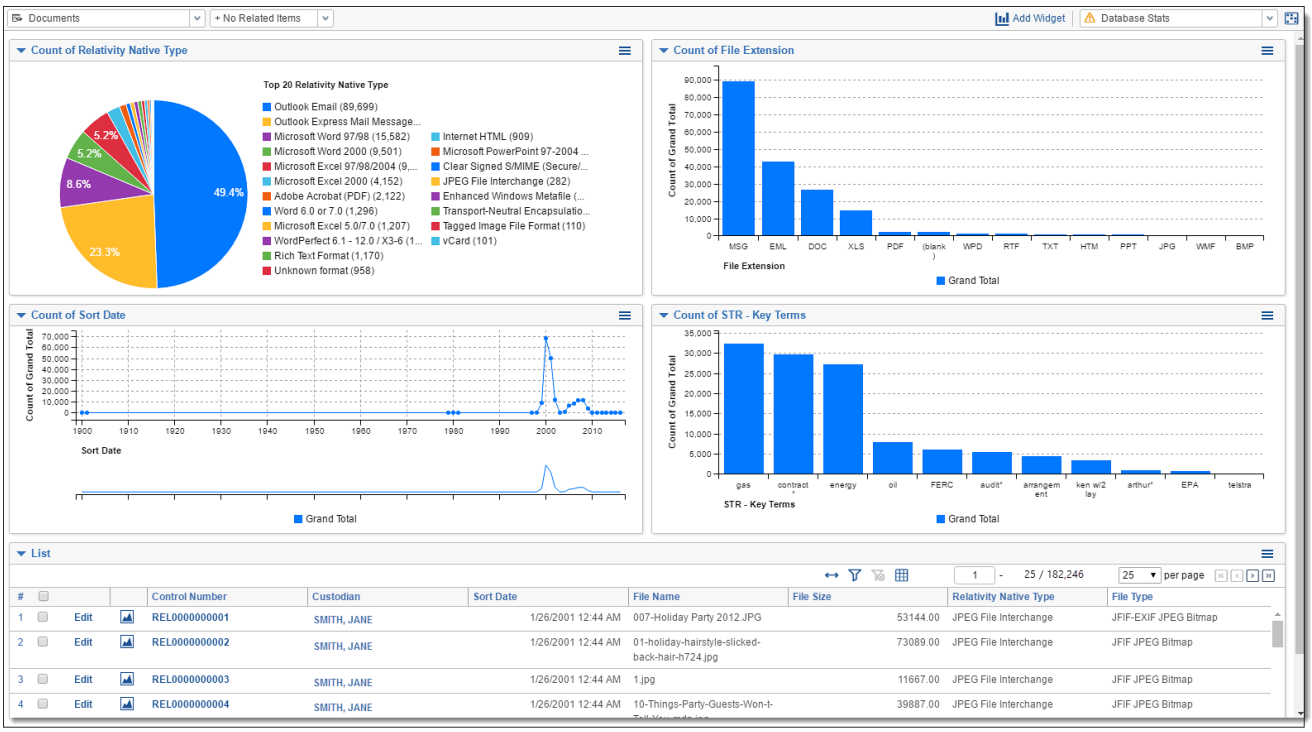
- Group by Custodian
- Group by Custodian and pivot on Sort Date (Year)



8.1.2 Database Stats

To create the Database Stats dashboard, group by and pivot on the following fields:

- Group by Native Type
- Group by Extension
- Group by Sort Date
- Group by Key Term STR

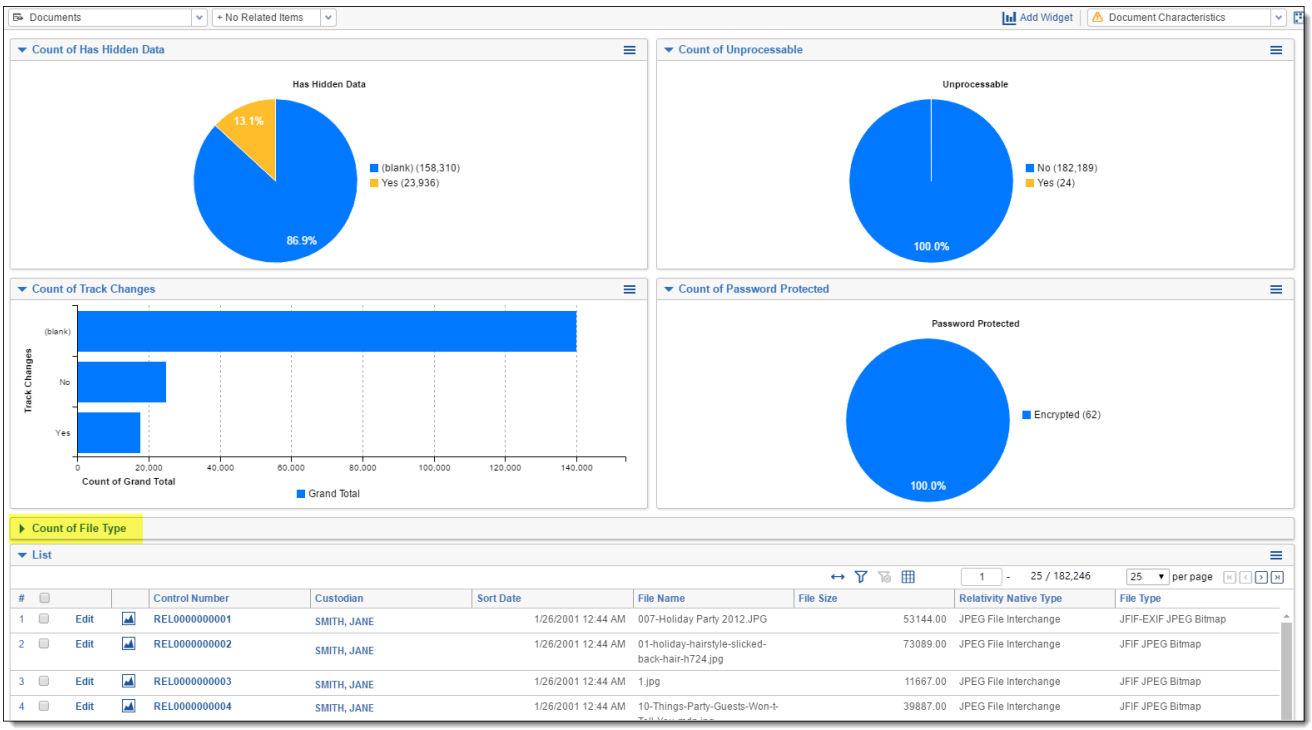


8.1.3 Document Characteristics

To create the Document Characteristics dashboard, group by and pivot on the following fields:

- Group by Has Hidden Data
- Group by Unprocessable
- Group by Track Changes
- Group by Password Protected
- Group by File Type - Note that this field collapsed in the dashboard example below.

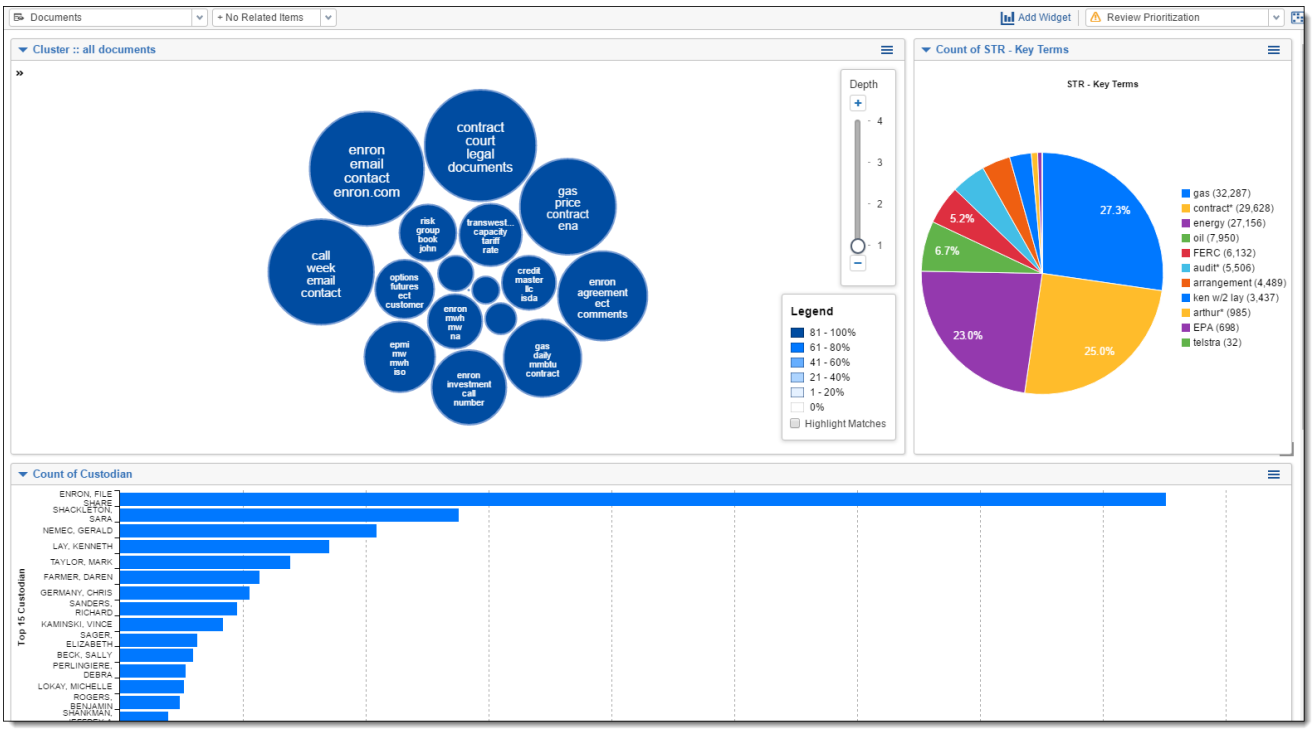
Note: You can collapse your widgets (Count of File Type highlighted below). If you save your dashboard with a widget collapsed, it will remain collapsed.



8.1.4 Review Prioritization

To create the Review Prioritization dashboard, group by and pivot on the following fields:

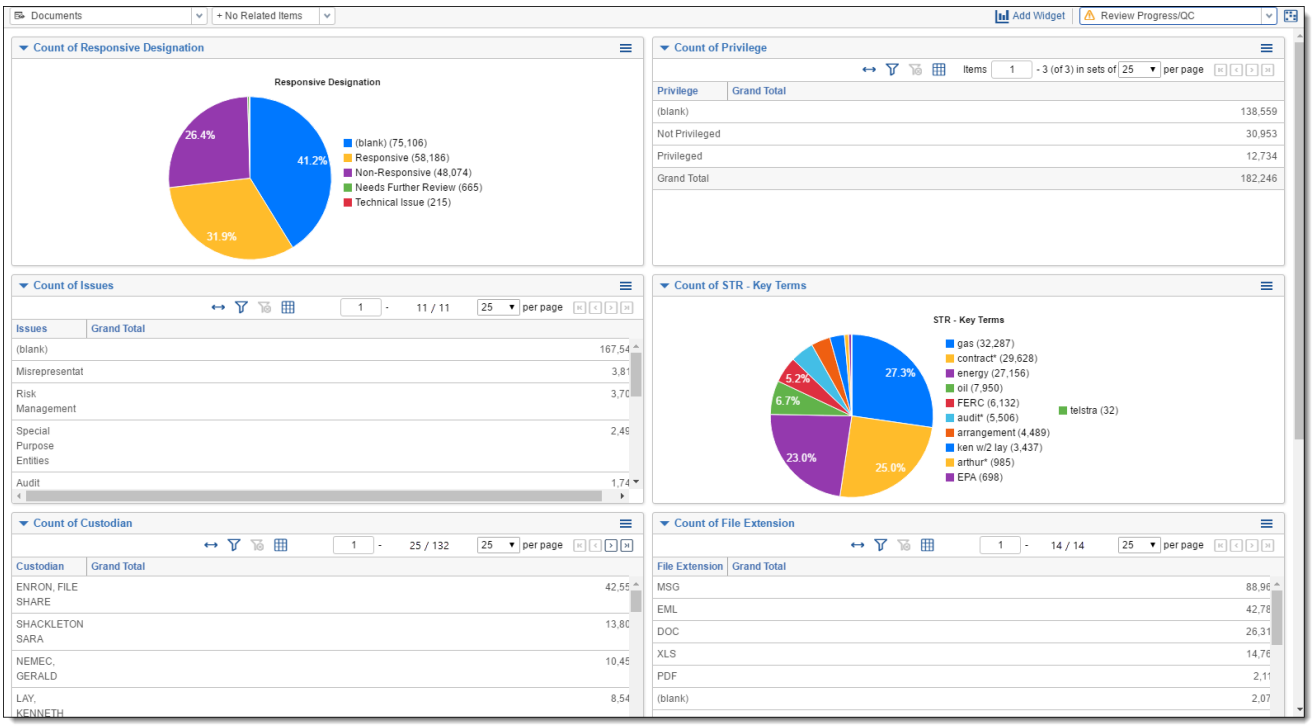
- Cluster Visualization Widget
- Group by Key Term STR
- Group by Custodian



8.1.5 Review Progress/QC

To create the Review Progress/QC dashboard, group by and pivot on the following fields:

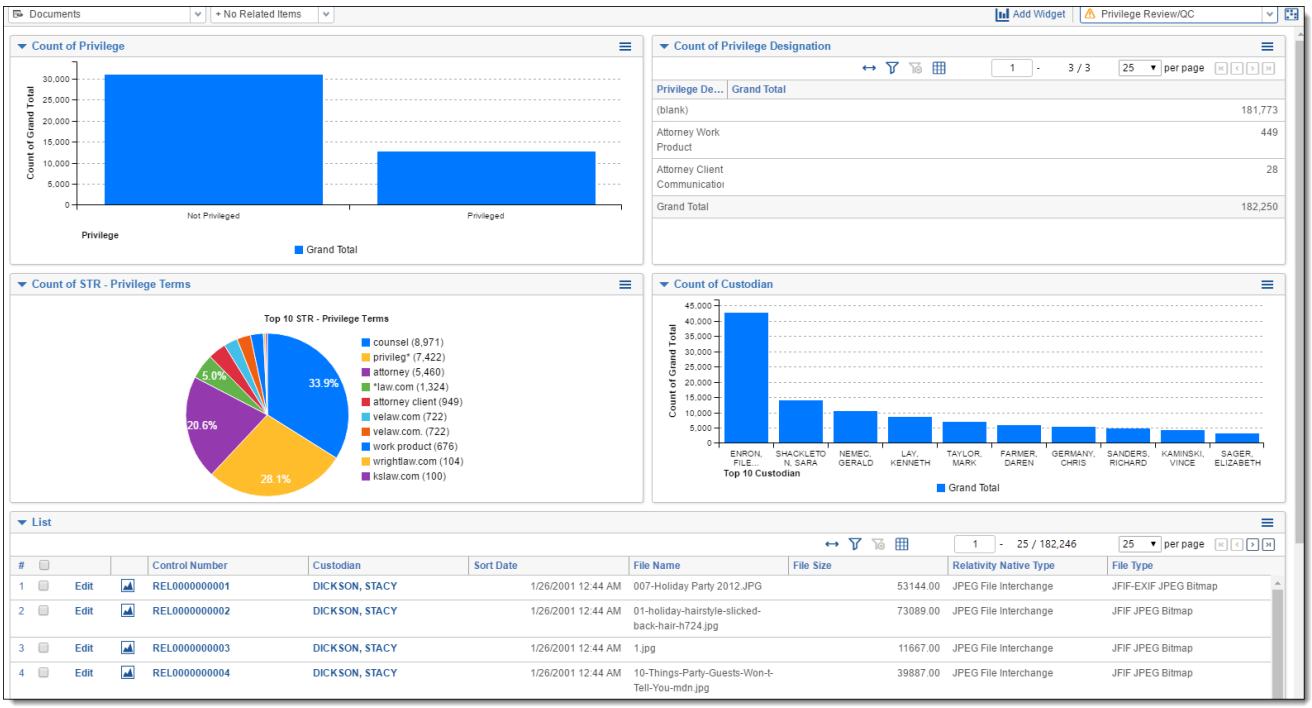
- Group by Responsive Designation
- Group by Privilege
- Group by Issues
- Group by Key Term STR
- Group by Custodian
- Group by File Extension



8.1.6 Privilege Review/QC

To create the Privilege Review/QC dashboard, group by and pivot on the following fields:

- Group by Privilege
- Group by Privilege Designation
- Group by Privilege Terms STR
- Group by Custodian

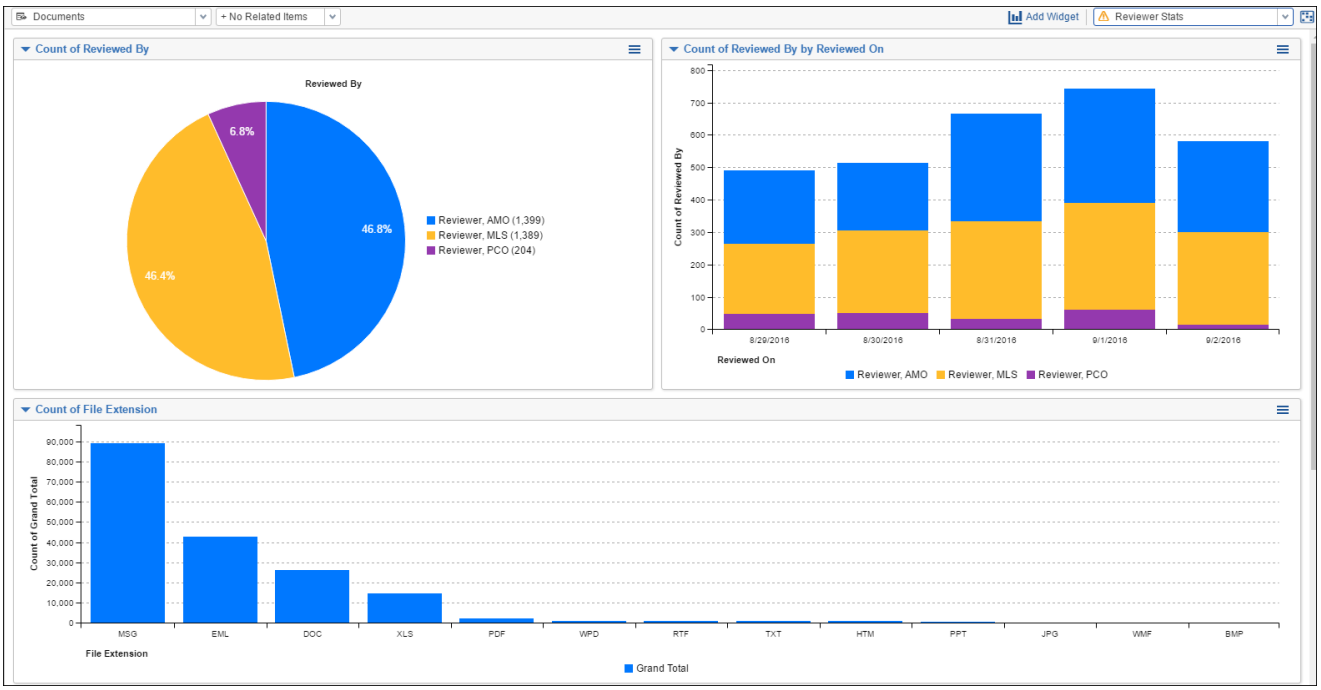


8.1.7 Reviewer Stats

To create the Reviewer Stats dashboard, group by and pivot on the following fields:

- Group by Reviewed By
- Group by Reviewed By and Pivot on Reviewed On
- Group by File Extension

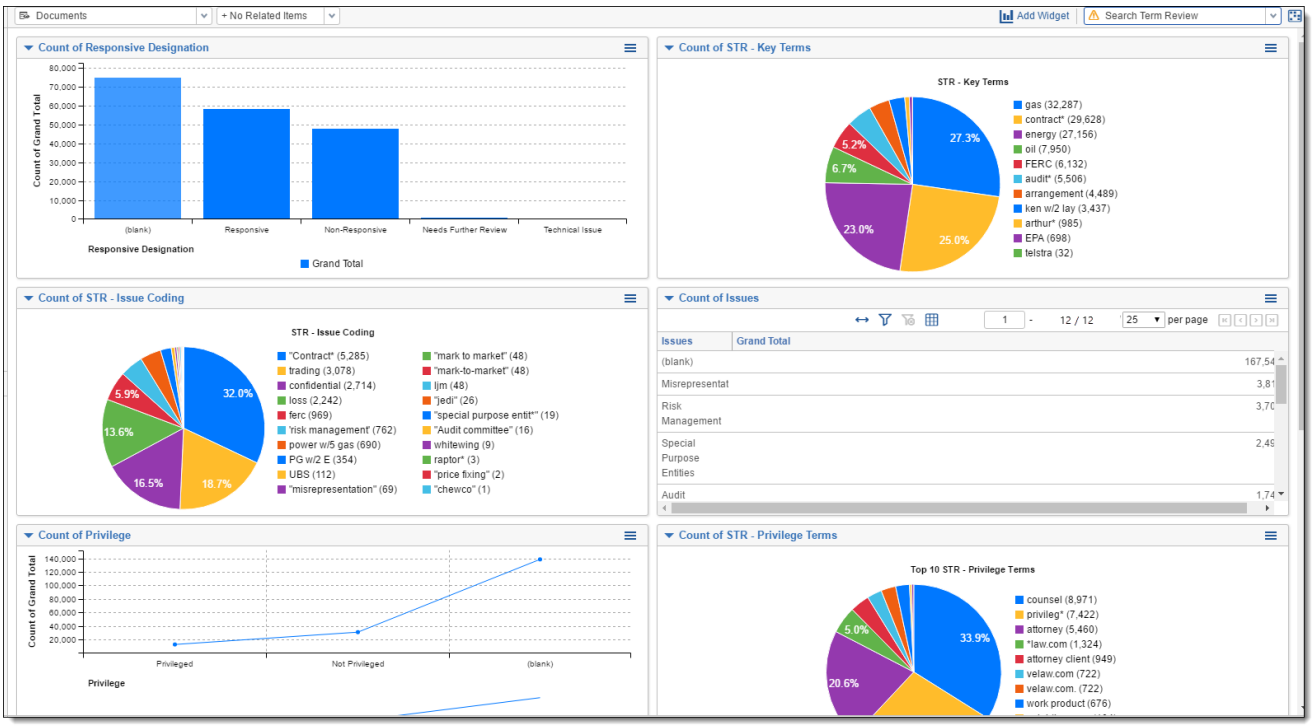
Note: This was created using the Track Document Field Edits by Reviewer application, found in the Relativity Community. It was set up to track the first edit on the Responsive Designation field. If you aren't setting up this application in your template, you'll need to create this dashboard in your workspace, once you've installed the application and created the fields.



8.1.8 Search Term Review

To create the Search Term Review dashboard, group by and pivot on the following fields:

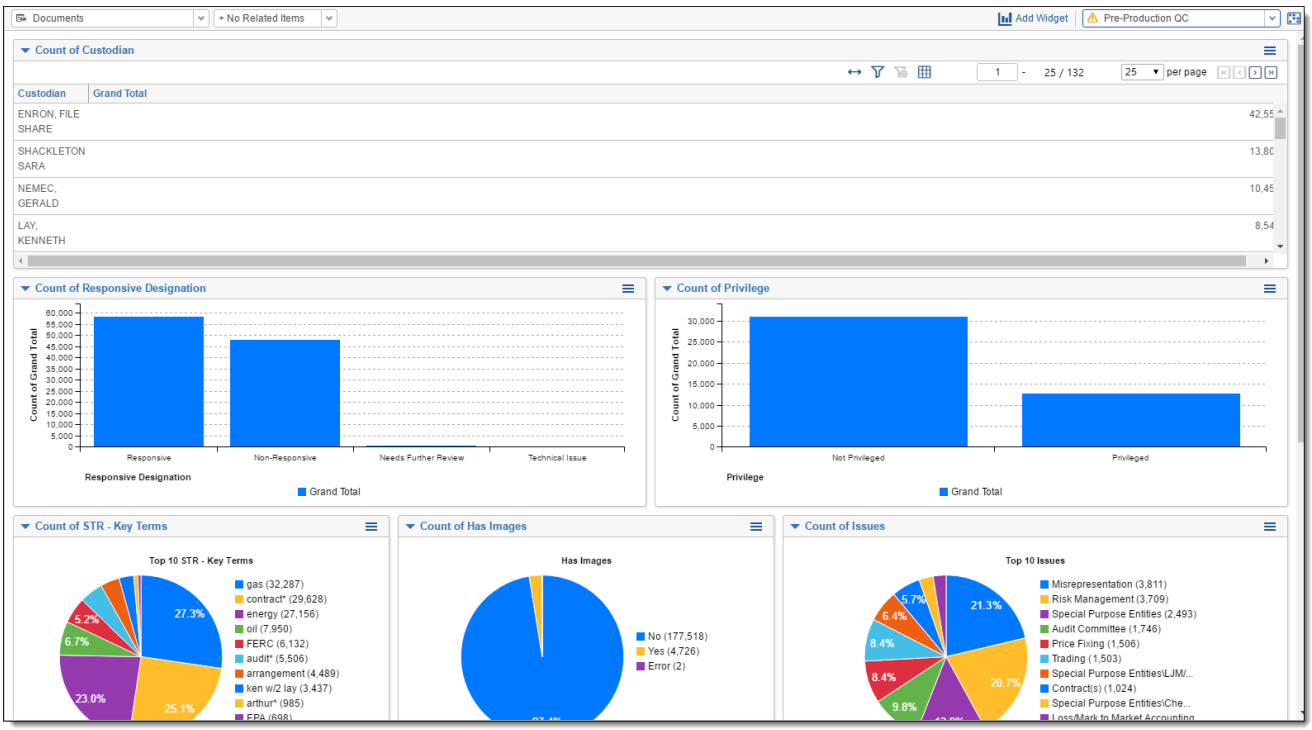
- Group by Responsive Designation
- Group by Key Term STR
- Group by Issue Coding STR
- Group by Issues
- Group by Privilege
- Group by Privilege Terms STR



8.1.9 Pre-Production QC

To create the Pre-Production QC dashboard, group by and pivot on the following fields:

- Group by Custodian
- Group by Responsive Designation
- Group by Privilege
- Group by Key Term STR
- Group by Has Images
- Group by Issues

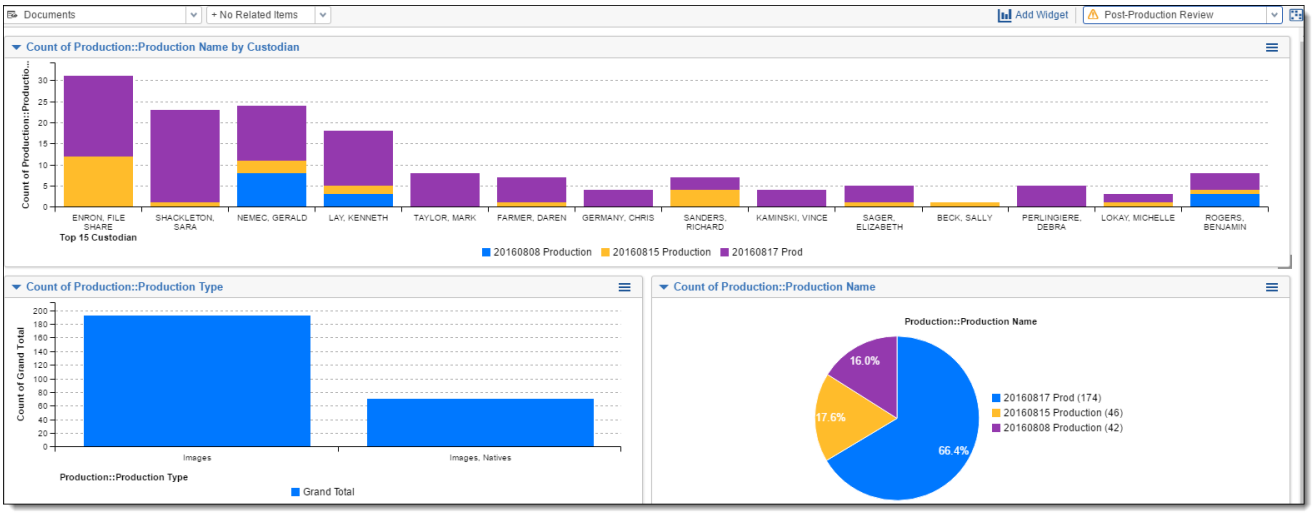


8.1.10 Post-Production Review

To create the Post-Production Review dashboard, group by and pivot on the following fields:

- Group by Custodian and pivot on Production::Production Name
- Group by Production Type
- Group by Production::Production Name

Note: Currently the production fields are not enabled for group by/pivot on and the application is locked. In future releases we plan to have the fields enabled for grouping and pivot in the production application.

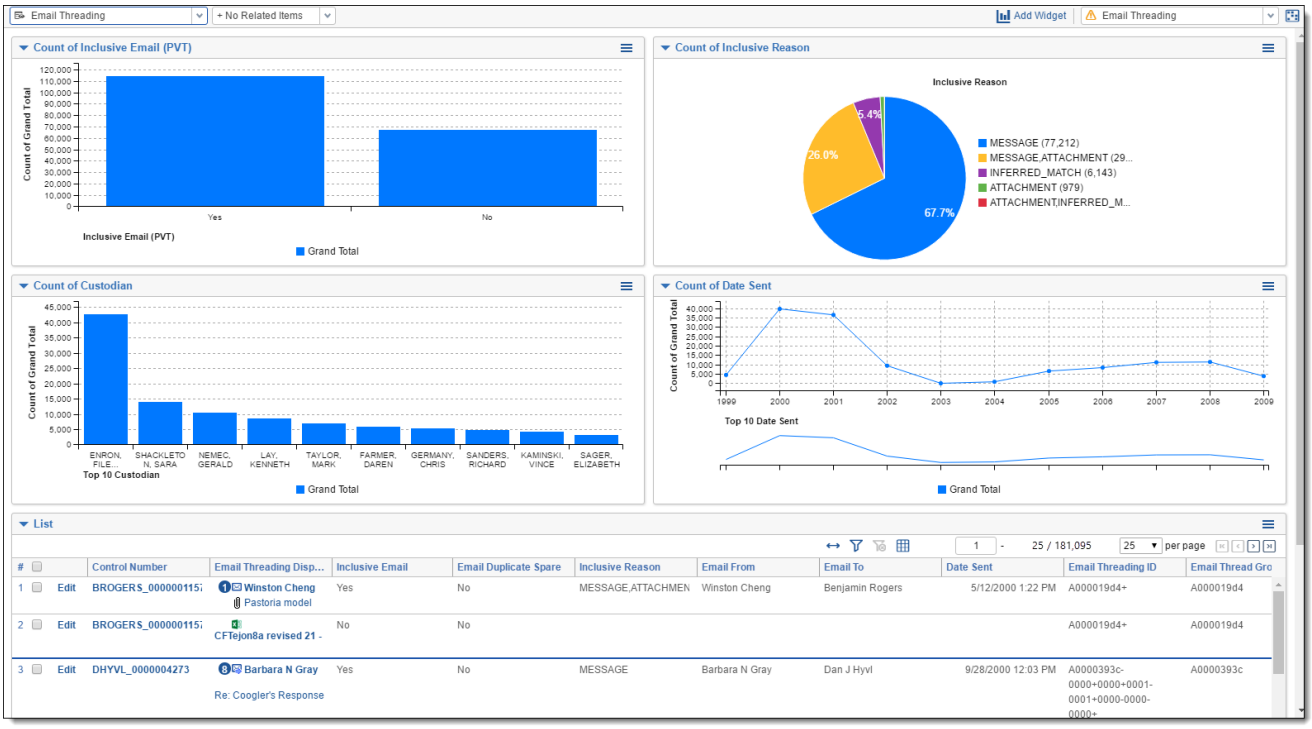


8.1.11 Email Threading

To create the Email Threading dashboard, group by and pivot on the following fields:

- Group by Inclusive Email
- Group by Inclusive Reason
- Group by Custodian
- Group by Date Sent (year)

Note: We recommend using your Email Threading view with this dashboard.

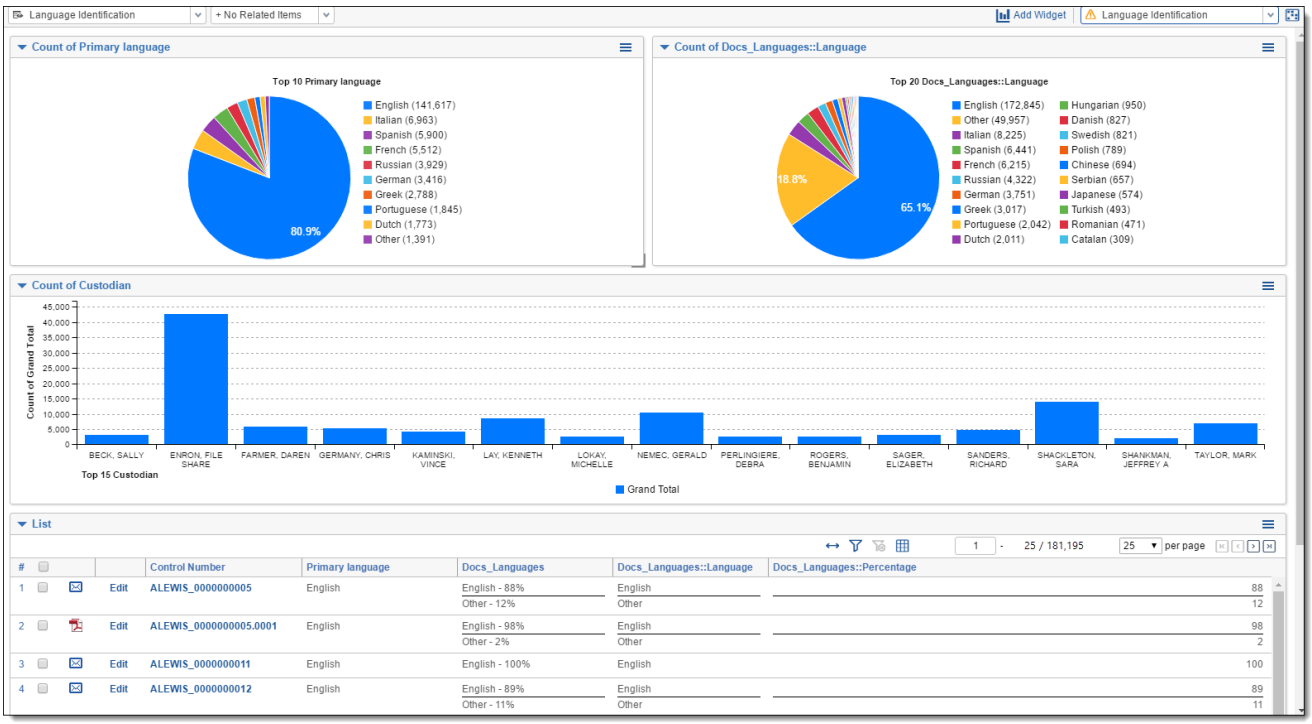


8.1.12 Language Identification

To create the Language Identification dashboard, group by and pivot on the following fields:

- Group by Primary Language
- Group by Docs_Languages::Language
- Group by Custodian

Note: We recommend using your Language Identification view with this dashboard.

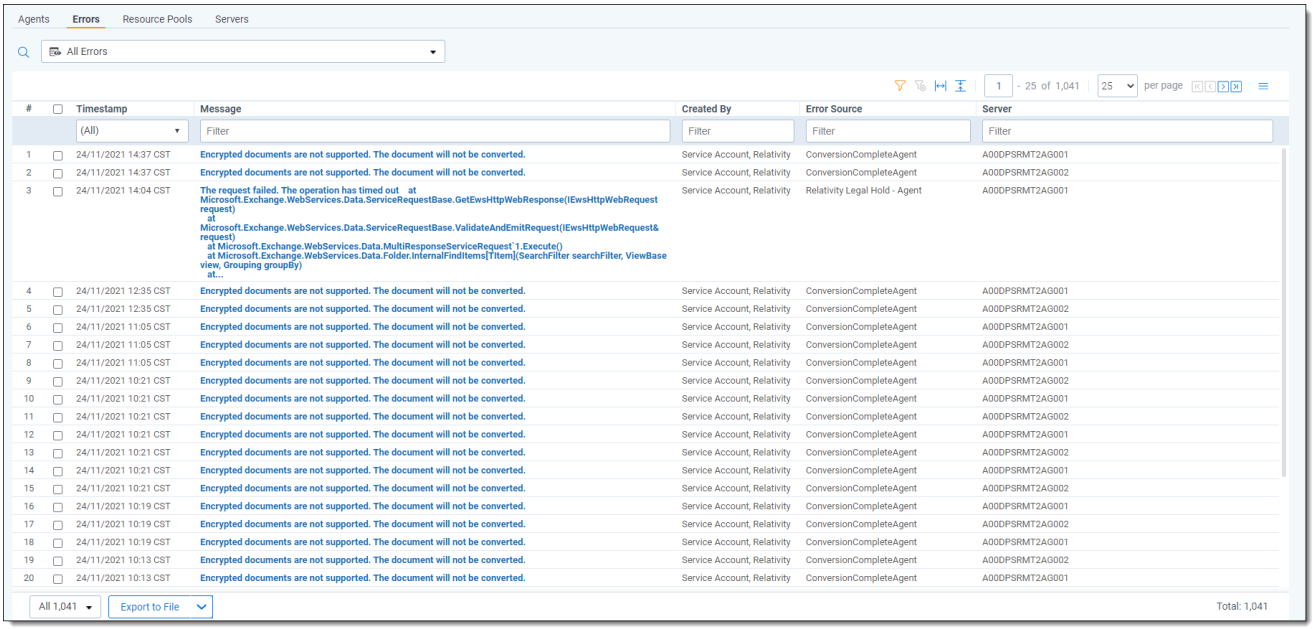


8.1.13 Special considerations

- Create a default Document List dashboard (lowest order number) with only the item/document list, no additional widgets.
- You can only have one Cluster Visualization widget on a dashboard.
- You can create dashboards on other objects.
- Dashboards can be created in your template, so they carry over to your new workspaces. However, some dashboards, such as those with search term report widgets or cluster visualization, will need to be created in the individual workspace once you've created your clusters and/or STRs.

9 Errors

The Errors admin tab shows all the errors that have occurred in the Relativity environment. Due to the number of servers and features involved in your environment, it's possible for there to be thousands of items listed in this tab.



You can also customize the Errors tab view to fit your needs. See Views on page 724.

This page contains the following sections:

- Using errors
- Fields

Using errors

You're a project manager facilitating an Assisted Review project and you've been experiencing consistent issues when executing rounds in that project. Most of those issues have to do with timeouts, and you suspect that adjustments might be required for any of the instance setting table values relevant to Assisted Review, possibly to the default value of the DefaultQueryTimeout.

Before you go to your infrastructure manager for help in adjusting any values in the instance setting table, you decide to look at the Errors tab for entries having to do with timeout expirations in the workspace containing your project. If need be, you can record the stack traces of errors that appear relevant or you can simply export the list of timeout errors to a spreadsheet.

You go to the Errors tab and see that there are well over 1,000 errors in the environment. You perform a simple filter for "timeout" on the Message field in the default Errors view and narrow the list of errors down to a manageable number.

After some initial investigation, you find no obvious clues in any of the error stack traces, so you export the list to a file and email it to your infrastructure manager, who knows what to look for. The

errors tell her that there is a problem not with the timeout values in the instance setting table but with an interruption in agent-server communications.

Through the data gathered from the stack trace on a particular error layout, she's able to go into the back end and correct the issue. Now you can proceed with your Assisted Review project.

9.1 Fields

You can filter any of the fields to quickly find specific types of errors.

The default errors view includes the following fields:

- **Timestamp** - the date and time at which the error occurred.
- **Workspace Artifact ID** - the artifact ID of the workspace in which the error occurred.
- **Message** - describes the nature of the error. This is the same message the user receives when the error occurs. You can click on the linked error message to go to that error's layout, where you can view the error's complete stack trace. The following are examples of error messages you could see. The resolutions for these errors vary, and you may need to consult with a database or infrastructure administrator for steps on how to resolve them:
  - *Workspace with ID ####### is of a different version than Relativity.*
  - *Index 0 is either negative or above rows count.*
  - *Problem registering server.*
  - *Timeout expired. The timeout period elapsed prior to completion of the operation or the server is not responding.*
- **Created By** - the name of the user whose action received the error.
- **Error Source** - the component of the server in which the error occurred. This may be related to an application pool automatically added to the environment during Relativity installation. You may see any of the following listed as error sources:
  - **EDDS - Web** - indicates that the error originated in the primary web server.
  - **EDDS - Agents** - indicates that the error originated in the agents server.
  - **EDDS - Distributed: Forms Authentication** - indicates that the error originated in the server that was put in place to accommodate authentication. The authentication is based on specific code for distributed web servers.
  - **EDDS - Template Manager** - indicates that the error originated in the template manager component of the ADS due to an outdated or otherwise unusable application in the application library.
- **Server** - the name of the machine on which the error occurred.
- **Workspace Name** - the name of the workspace in which the error occurred.
- **Artifact ID** - the unique identifier of the error.

- **URL -** the location of the error. This may not be populated if the error wasn't logged. This may take the form of a file path or the name of a component of the error source, for example, *Application Installer Agent*.

10 Fields

Fields store object information, document metadata, and coding choices within Relativity. You can use fields to display metadata on views and layouts. You can also use fields to create associations between different objects in Relativity.

Using fields

Imagine you're an admin. The lead attorney at your firm asks you to configure Relativity to have an easy way to track the job titles of custodians involved in an employee discrimination case. Besides knowing who sent which emails to who when, she wants to know the relationship of each custodian to the company's overall hierarchy, to determine whether or not decisions to fire an employee were made based on discriminatory bias or due to legitimate employee incompetence.

You navigate to the Fields tab and create a new field named "Job Title". You specify this field to relate to the Entity object. You also configure it to be a multiple , read- only field that lists all relevant positions within the organization. And codes each custodian according to their position. You then add this field to the attorney's layout, so she can determine the role of each custodian in the case.

She also wants a field for reviewers to track the presence of derogatory content, regardless of whether or not it relates directly to the case so that she has evidence to present against the defendant's character witnesses.

You add another field to the Document object. This field has a Yes/No checkbox labeled "Derogatory Content" that reviewers can check within their layouts.

When review is complete, your attorney can search for all documents that include derogatory content.

10.1 Fields permissions

The following permissions are needed to use fields:

Object Security	Tab Visibility	Other Settings
▪ Field - View, Edit, Delete, Add ▪ Relativity Application - View	▪ Workspace Admin ◦ Fields	

10.2 System fields

All Relativity workspaces contain the following system fields:

- **Artifact ID** - uniquely identifies all database objects in Relativity.
- **Batch, Batch::Assigned to, Batch::Batch Set, Batch::Status** - stores values related to any document batches.

- **Document Compare** - displays the Document Compare icon. Use Document Compare to compare the extracted text of one document to another.

  Note: Document Compare is particularly useful when working with groups of near duplicates or conceptually similar documents.

- **Control Number** - the workspace identifier. You can rename this field.
- **Extracted Text** - stores any full text or OCR text loaded into Relativity. It's available for searching and as a radio button in the viewer.
- **FileIcon** - an icon representing the document's Relativity Native File Type.
- **Folder Name** - the name of the folder where the document resides.

  Note: This is just the location folder, not the full folder path.

- **Has Images** - a single choice field indicating whether a document has images.
- **Has Natives** - a yes/no field indicating whether a document has natives.
- **Has Inline Tags** - a yes/no field indicating whether a document has a right-click tag markup.
- **Relativity Image Count** - the number of non-production images associated with a document.
- **Relativity Native Time Zone Offset** - a numeric field that offsets how header dates and times appear in the Viewer for emails. If the value in this field is blank or 0 for a document, the date and time appears as Coordinated Universal Time (UTC) in the Viewer.
  - If Relativity was used to process the documents, the Native Time Zone Offset field will be populated with the UTC offset value of the time zone chosen in the Relativity Processing profile. For example, documents processed to Central Standard Time (CST), would be populated with a value of "-6" because CST is UTC-6.
  - You can also manually update this field with a whole number, positive or negative, to offset the time from UTC to the desired time zone in the viewer.
  - For example, if you have documents that were processed in UTC and you wish to show the time in the viewer in Pacific Standard Time (PST), you would enter "-8" in the Native Time Zone Offset field because PST is UTC-8. Note that you can mass edit this field.
  - The Native Time Zone Offset field controls how the header dates and times for all email messages appear in the viewer. This does not apply to images or extracted text in the viewer. It doesn't modify the actual metadata fields associated with these values.
  - In the HTML5 viewer, note that the conversion agent applies the value of this field at the time that it converts and caches the document. Once the document is cached, the user needs to manually convert from the mass operations bar. After this action is complete, the adjusted time will appear in the viewer.

- **Note:** Relativity doesn't automatically account for Daylight Savings Time. If you need the Viewer to account for Daylight Savings Time, deploy the Set Native Timezone Offset with DST script from the Lists section of the Relativity Community. You must be a Relativity admin to deploy this script.

- **Relativity Native Type** - the type of native file loaded into the system. The system assigns this value.
- **Supported by Viewer** - a yes/no field indicating whether the viewer supports the native document.
- **System Last Modified On** - the date and time at which the document was last modified.
- **System Last Modified By** - identifies the user who last modified the document.
- **System Created On** - the date and time when the document was created.
- **System Created By** - identifies the user who created the document.
- **<Markup Set Name>** - created when a user creates a markup set. Its values are:
  - Blank when the document has no highlighting or redactions for the markup set
  - **Has Redactions** when the document has redactions for the markup set.
  - **Has Highlights** when the document has highlights for the markup set.

  Note: If a highlight or redaction is created using a third party application or script, this field may not be automatically updated

- **<Production Name>** - created when a user creates a production. This field stores how the document was added to a production. It's either blank, contains Images Only, Natives Only, or Images and Natives.
- **Production Alerts** - a yes/no field to warn of any production execution problems

Note: You can't edit the Source value for processing fields that are system-mapped. For a list of processing system fields, see the Processing User Guide.

10.3 Creating and editing fields

To create a new field or edit an existing one:

1. Navigate to the **Fields** tab in your workspace.
2. Click **New Field**. To edit a field, click the **Edit** next to the field's name.

   Note: You can add an Edit link to your field list view if it doesn't already exist.

3. Input and modify field information on the field details page. If you are creating a new field, the Field Information section must be completed before the remaining sections will display. See Fields on field on the next page.

   Note: You can't change a field's type after creating the field. See Field types on page 198.

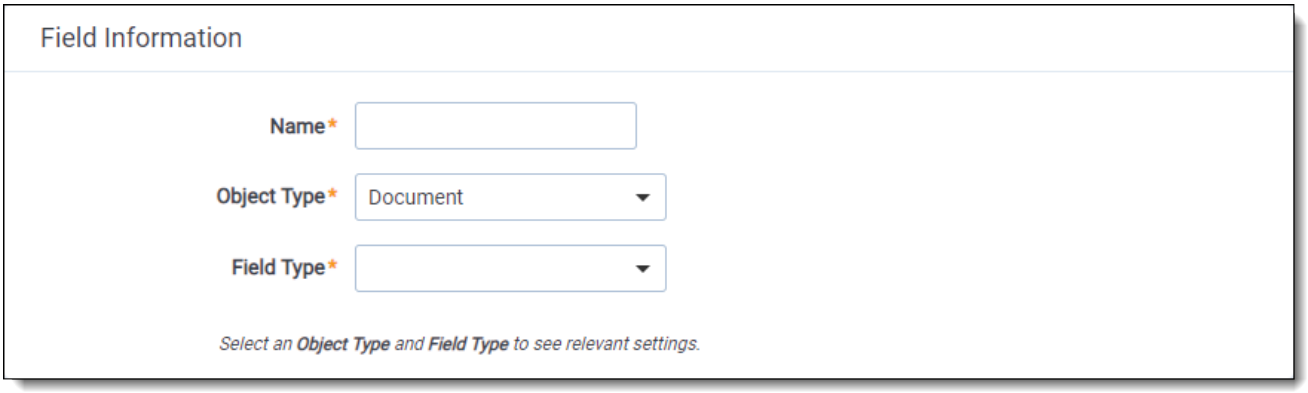
4. Click **Save** to save the field details.

10.4 Fields on field

The fields object includes the following field sections:

10.4.1 Field Information

Each field in the Field Information section must be completed before the fields in the remaining sections will display. The options you select in this section will determine what fields display in the Field Settings and Advanced Settings sections.



- **Name** - the field's name. This must be between 1 and 50 characters.
- **Object Type** - determines which object Relativity uses to classify the field.
  - You create object types in the Object Type tab.
  - If you're not sure which Object Type to select, ask "What object do I want to add information to?" The answer is your object type. For example, if you want your new field to store information about a document, select Document.

    Note: You can create new objects within Relativity. These dynamic objects are securable, non-document objects within your workspace. By connecting objects to each other you can create powerful custom applications within your workspace.
- **Field Type** - the type of the catalog field to which you're mapping. This must match the type of the field you're creating or editing.
- **Associative Object Type** - an object that the single object or multiple object field type uses to create a relationship. The objects selected in the Object Type and Field Type options determine the available associative object types.

10.4.2 Field Settings

The fields in this section depend upon which options were selected in the Field Information section. You may see any of the following options in this section:

- **Available in Field Tree** - places the field and its choices in the Field Tree browser.
  - This field defaults to no.
  - This field is only editable for Document object type fields. The field type must be one of the following: single choice, multiple choice, single object, or multiple object.
- **Available in Viewer** - displays the field in the viewer. The user can then check text against the original document or image. This setting is only editable for long text fields with a Document object type. If set to Yes, the field is available in a drop-down menu on the Extracted Text setting in the viewer.

  Note: Copies of reflected fields aren't available in this drop-down menu. If you select an empty long text field in the viewer, the viewer displays a blank page.

- **Default Overlay Behavior** - defines how Relativity handles multiple choice or multiple object fields when importing a load file.
  - **Merge Values** - merges previous values with load file values.
  - **Replace Values** - removes previous values and replaces them with the values in the load file.

  This field defaults to Merge Values and is only available for multiple choice and multiple object fields.
- **Formatting** - determines the field's format and only applies to the following fields:
  - **Date** - displays only the date.
  - **Date+Time** - displays the date and time.
  - **Use Thousands Separator** - if enabled, a comma displays between digits where appropriate for decimal and whole numbers fields.
  - **Whole Number** - None displays the value as a string of numbers. Integer displays the value with commas separating each group of three digits.
- **Identifier** - indicates if the field is the workspace's unique identifier with a value of yes or no. You are unable to edit this field.

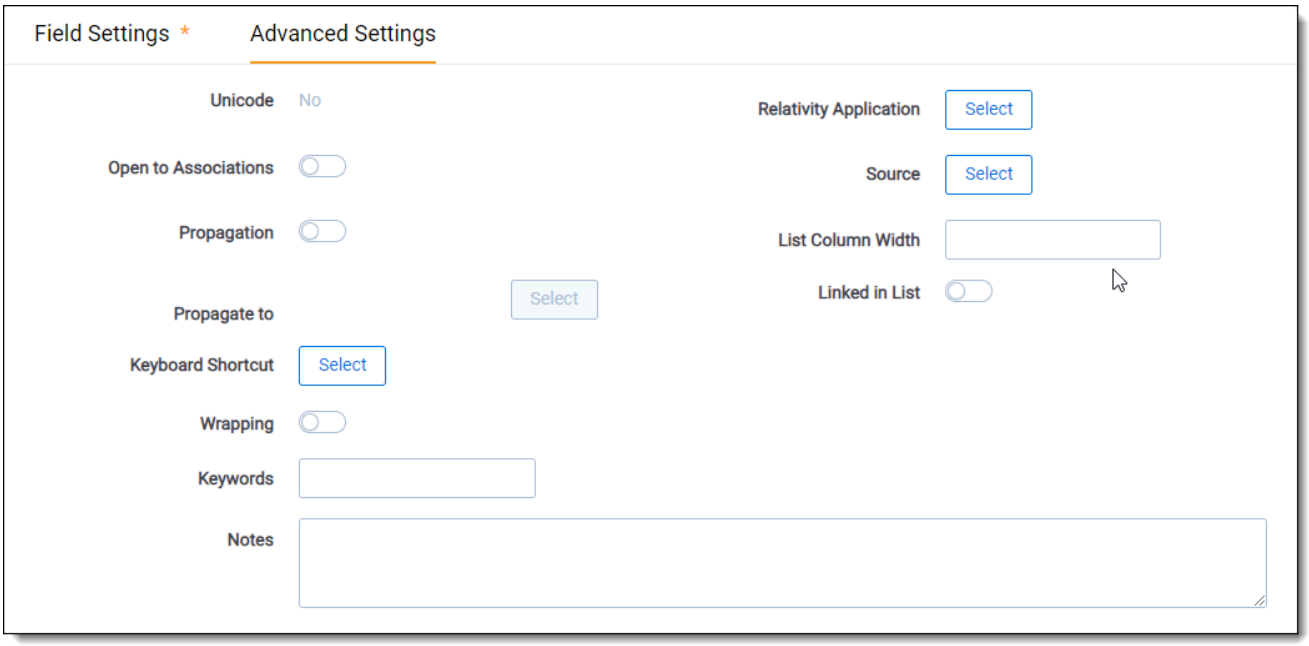
  Note: Relativity does not enforce uniqueness.

- **Include in Text Index** - adds the field values to the workspace's SQL text index, making the field searchable via keyword search.

- **Maximum Length** - The value entered is the maximum number of characters permitted in the field. The value is set to 50 by default.
- **"No" Display Value** - determines how a "no" value is displayed in a list. No is the default value but you may edit it as desired.
- **Required** - determines whether the user must populate the field on a layout with information in order to continue coding documents. This doesn't apply when loading workspace data.
- **"Yes" Display Value** - determines how a "yes" value is displayed in a list. Yes is the default value but you may edit it as desired.

10.4.3 Advanced Settings

The fields in this section depend upon which options were selected in the Field Information section. You may see any of the following options in this section:



- **Auto Add Choices** - adds all choices associated with a single or multiple choice field to an application. This property only applies to single and multiple choice fields.

  Note: If you're changing this property from No to Yes and the field has already been added to applications in your workspace, the choices aren't added until you re-add the field to each application. The **Relativity Applications** property in this section lists each application to which this field is currently assigned.

- **Store in Data Grid** - this field is only available if you have a valid endpoint URL configured to store Long Text fields in Relativity Data Grid.
  - **Disabled** - saves all data imported into this field to the SQL Server.
  - **Enabled** - saves all data imported into this field to the Data Grid.

    Understanding the benefits and limitations of Data Grid

Enabling Data Grid lets you store long text document fields (e.g. extracted text) outside of the SQL document table. Data Grid leverages the Relativity file share to store long text document fields, which is the same location where native and image file data is stored.

The benefits of enabling Data Grid include:

- Limiting the impact on your SQL document tables, especially for larger cases that include a large amount of long text document field data.
- Reducing your SQL footprint or being able to re-allocate resources to other workflows in your Relativity instance.
- Having the option to store your long text document field data in a separate file share location than your natives and image file data.
- Easy to setup and include in your workspace templates before loading data into the workspace.
- A front-end application, the Data Grid Text Migration application, to move long text document fields in existing workspaces without downtime

Note: In order to store text in Data Grid, you must both enable Data Grid in the workspace and on the long text field. Once you enable access to Data Grid, you can't disable it.

Special considerations

- Text or information stored in Relativity Data Grid is inaccessible for some third-party applications. It's recommended that you contact any vendors of third-party applications to confirm their compatibility with Data Grid.
- Data Grid supports Windows servers only.

Supported and unsupported functionality

The following describes supported and unsupported functionality for long text fields stored in Data Grid.

Once you enable a long text field's access to Data Grid, you can't disable it, so it's important to understand the benefits and limitations of storing text in Data Grid.

Supported extracted text functionality	Currently unsupported functionality
• Import/export through the Relativity Desktop Client • Viewer • Preview	• Keyword search • SQL queries to long text fields stored in Data Grid • Adding extracted long fields stored in Data Grid to layouts (including the Document panel)

Supported extracted text functionality	Currently unsupported functionality

• OCR
• dtSearch indexing and searching
• Persistent highlight sets
• Processing
• Integration Points
• Analytics
• ARM
	• RSAPI query
	• Pivot and Sort in the UI
	• Filtering in the Document list on extracted text
	• Mass operations:
	  ◦ Edit
	  ◦ Replace
	  ◦ Tally/Sum/Average
	  ◦ Export to File

Migrating long text to Data Grid

If you have existing long text fields stored in SQL, you can use the Data Grid Text Migration application to migrate those fields from SQL to Data Grid. For more information, see Data Grid Text Migration application.

Note: Once you enable a field for Data Grid, you can't disable it. The option to edit the field is unavailable. after you've saved.

- **Enable HTML** - indicates whether or not to allow HTML code to execute within the field.
  - **Enabled** - executes the code when the layout displays the field.
  - **Disabled** - displays the field as plain text.

Note: Using allow HTML, you can configure Relativity to throw an alert when the field appears in a layout. HTML will always be displayed as plain text in a view.

Note: The AllowHTMLVisible instance settings table value controls whether or not the Allow HTML value is displayed on the Field page. To modify this default setting, see the Instance Settings guide.

- **Field Tree View** - determines the values and the order they appear in the field tree. It also determines the views that appear in the pickers when you set conditions for searches and views. To select a view, the field must be single object or multiple object.
  - When Available in Field Tree is No, this property is disabled. When Available in Field Tree is Yes, this property reflects the default value of <All Items>.
  - When you select a view for Field Tree View, Relativity respects the sort order of that view. If no sort order is defined, it sorts by Artifact ID.

- If you choose search terms reports as the associated object type and you're adding the field to the Field Tree View, only search term report items with a status of Completed appear in the field tree.

> **Note:** For Field Tree View, you can select any view you have rights to see. However, a warning appears when you attempt to save the field, if the selected view is personal. If you edit the view selected as the Field Tree View, you receive a warning when you attempt to save it as a personal view.

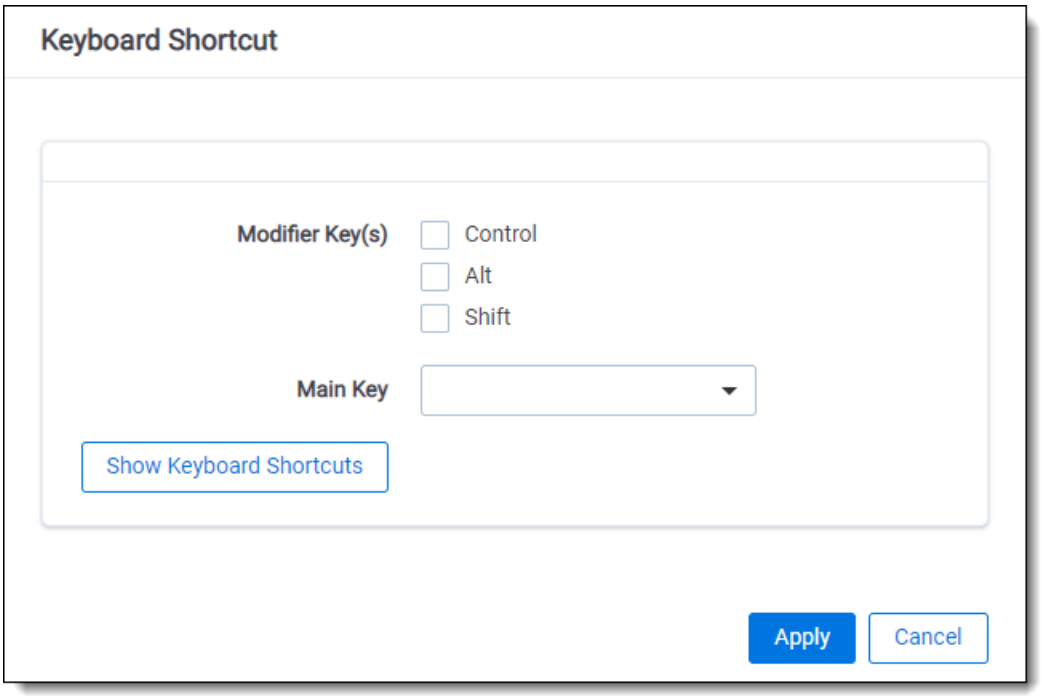
The Field Tree View property includes two icons:

- edits the view by opening Conditions (Step 3 of 4) in the view wizard.
- creates a new view from Basic Information (Step 1 of 4) of the view wizard.

- **Field Type** - determines the field's functionality and presentation. For example, a Yes/No field type indicates that the reviewer must choose a value of either yes or no to edit the field.
- **Keyboard Shortcut** - You can define a keyboard shortcut for the document field you're editing or creating with keyboard shortcuts. You can then use this shortcut to code and edit documents in the Review Interface. This setting is available only for document fields.

  You can use the following key options to define the shortcut trigger. You must use Ctrl, Alt, and/or Shift, and the workspace can't have duplicate keyboard shortcuts.
  - **Modifier Keys** - Check the desired key option to define the shortcut trigger. You must use Ctrl, Alt, and/or Shift. The workspace can't have duplicate keyboard shortcuts.
  - **Main Keys** - Click on the drop-list and click on the desired key to use in combination with the other specified keys.

- **Show Keyboard Shortcuts** - Click to view a list of the current keyboard shortcuts.



Note: You can modify the key combinations for system keyboard shortcuts if you have the Modify System Keyboard Shortcuts security permission.

- **Keywords** - allows you to enter words that describe the field you are creating. There is a 50 character limit.
- **Length** - the length of a fixed-length text field.
  - Defaults to 255 characters.
  - Maximum length is 4,999 characters.
  - Maximum length is 4,000 if Unicode enabled.
- **Linked in List** - sets the field as a hyperlink.
  In the example below, the Date Sent field was set to Linked: Yes. As a result, Date Sent appears as a hyperlink in the view. Clicking the date launches the related document in the viewer. Similarly, clicking any link in the document record also launches the document in the viewer.

#				Control Number	Custodian	Created Date
				Filter	Filter	Filter
1				WEY0000002620	Weyland, Peter	5/11/2009
2				WEY0000002621	Weyland, Peter	5/11/2009
3				WEY0000002622	Weyland, Peter	5/11/2009
4				WEY0000002623	Weyland, Peter	5/11/2009

Note: When you create a Yes or No field, set the width to 30 pixels for the optimum column size.

- **List Column Width** - the width (in pixels) of the column in the view. To accept Relativity's default, leave this field blank.
- **Notes** - allows you to enter words that describe the field you are creating. there is not a character limit.
- **Open to Associations** - determines whether an object field can display its information on an associated object field. Fields that are open to association are sometimes referred to as *reflected* fields. Reflected fields can be re-named and exported via the Export to File mass action.
  - When you open a field to association, that field's information is viewable and editable on an associative list found on the object with which you associate it.
  - For example, you have two associated objects: Entity and Company. You want to add a field called Address to hold addresses on the Company object and to display addresses on an Entity. To do this, create a new field with an object type of Company and set the Open to Associations field to Yes. This creates two fields: a Company object field called Address and a Company::Address field on the Entity object.
    If the generated reflected field name exceeds the maximum length of 100 characters, it is handled as follows:
    - Each field is allocated 50 characters, anything over that 50 character limit is truncated.
    - The field's ArtifactID is appended to the field's name part.
    - Additional space is truncated to allow room for the field's ArtifactID to become part of the new name.
    - The two field name parts are joined with "::", for example: "AAAAAAAAA BBBBBBBBB CCCCCCCCC DDDDDDDDD EEEEEEE (1000012)::GGGGGGGGG HHHHHHHHH IIIIIIIII JJJJJJJJJ KKKKKKK (1000013)".
- **Propagation** - forces a coding value to a specified group of related items. This value must be set to **Yes** before you can propagate to a related item.

- **Propagate To** - Click the Select button to access the propagation options. The available options depend on the relational fields set for the workspace. Check the desired related items and click > to move the selected items to the right. Click **Apply**.
- **Relational** - You can make a fixed-length text field relational. A relational field is used to identify a group of related documents, such as families, duplicates, or near duplicates. For example, MD5 Hash is commonly used to identify duplicates.
  If set to Yes, identifies the field as relational. Once set to Yes, the Friendly Name, Import Behavior, and Order fields become required in order to save the field.

  Note: You can only set relational field properties on fixed-length text fields that don't exceed 450 characters.

- **Relational Properties** - Click the Select button to access the following relational options:
  - **Friendly Name** - a label for the relational field that users can easily understand. For example, you could change the relational MD5 Hash field to Duplicates, since it's used to group copies of the same document. This name displays in the Include Related Documents menu in workspaces and in the Related Items pane.
  - **Import Behavior** - controls how blank values are handled when importing through the Relativity Desktop Client. Depending on how your vendor processes these group identifiers, the relational field on the parent document may be blank. Select an option to determine how blank fields are imported:
    - **Leave blank values unchanged** - Relativity imports the fields with blank values.
    - **Replace blank values with identifier** - Relativity updates the blank relational field with the document identifier.

      Note: When you append documents through the Relativity Desktop Client, with a relational field's Import Behavior set to **Replace blank values with identifier**, blank values are replaced on that relational field even if it's not mapped to a load file field. The same action occurs when you import blank values mapped to the relational value using an overlay.
  - **Pane Icon** - select and upload an icon for display in the Related Items pane of the Review Interface. Users can click on the icon to display a list of items grouped by this relational field. You can download the Relativity-provided Relational Field Icons.zip, or you can upload a custom icon. Icons shouldn't exceed 16 x 16 pixels.
  - **Order** - controls the pane icon order on the bottom of the Related Items pane. Use the following guidelines:
    - Icons with low order numbers appear to the left.
    - Icons with the same order number are sorted alphanumerically.
    - The order number can be any positive or negative integer. We recommend using groups of 10 (such as 10, 20, and 30), so you can easily insert a new icon without having to

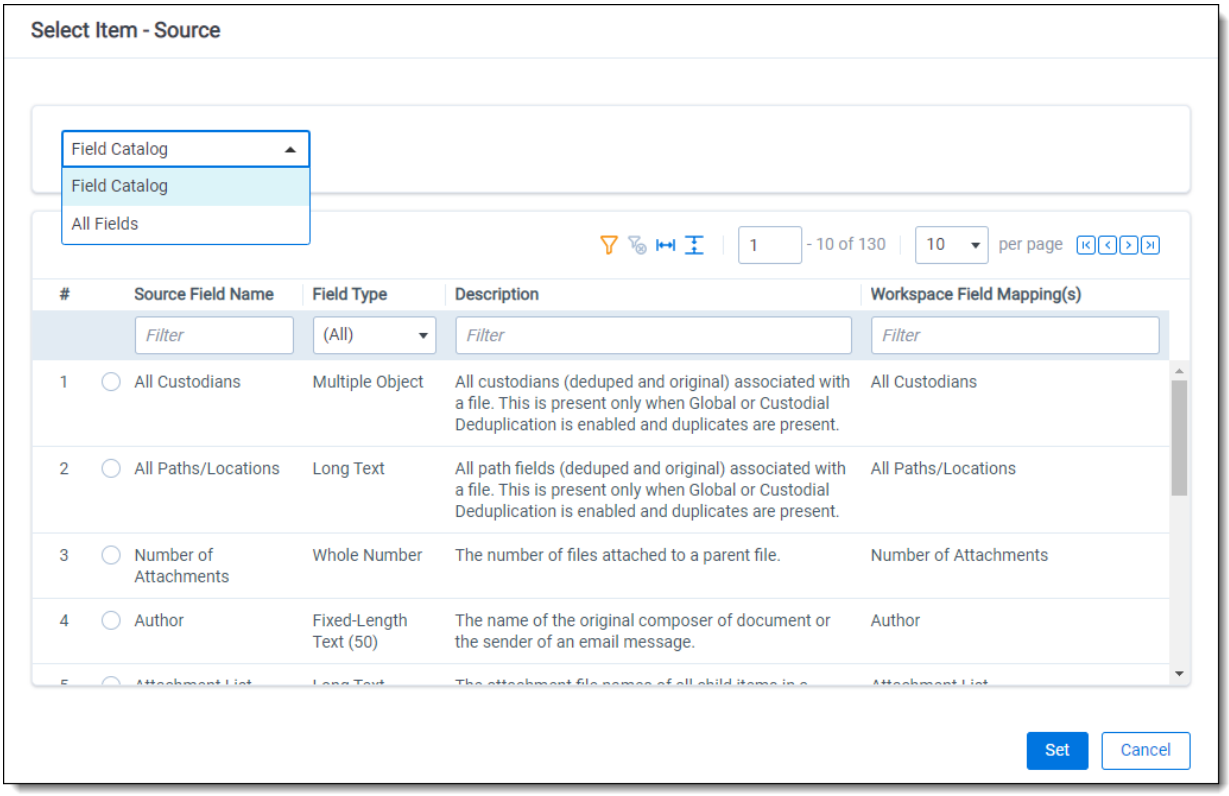
reorder existing ones. You can use the **View Order** button to see how icons are currently ordered in the Related Items pane. The Order Reference window displays the leftmost icon at the top of the list.

- **Relational View** - controls the view that appears in the Related Items pane. Shared values in this field determine the documents the view displays. This field contains and icons you can use to edit the selected view or create a new view.

> **Note:** You can't select a view that contains conditions or add/edit conditions to a view referenced by a relational field. You also can't make a relational view personal.

- **Relativity Applications** - associates the field with a Relativity application. Click the Select button to select an existing application. Check the desired applications and click to move the selected items to the right. Click **Apply**.
  This option is only available for those who have the Manage Relativity Applications permission.

- **Source** - the list of fields that you can use when mapping processing fields. Click Select button to access the Field Catalog, which contains all mappable processing fields, as well as the All Fields view, which contains all discovered metadata fields. The Field Catalog view provides the following fields:



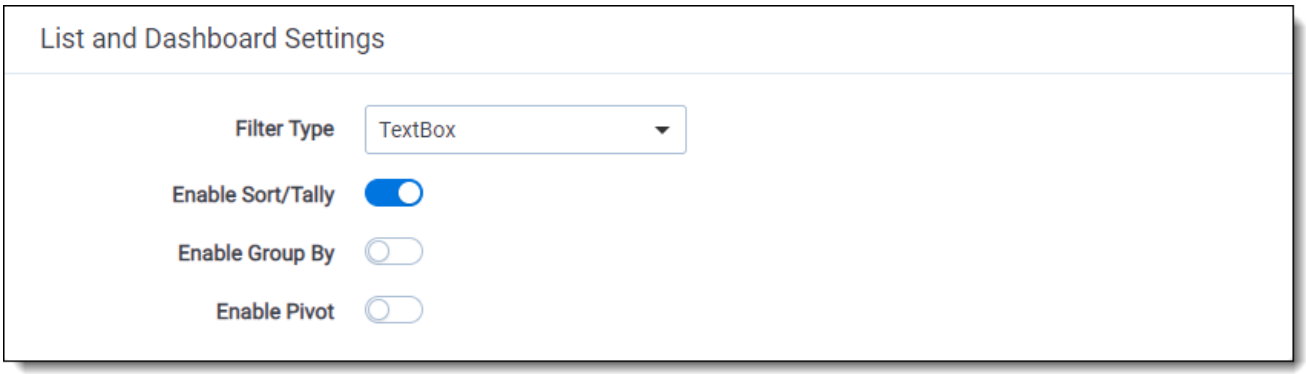
- **Source Field Name** - the name of the catalog field to which you're mapping the field you're creating or editing.
- **Field Type** - displays the category of each field.
- **Description** - the description of the catalog field.
- **Workspace Field Mapping(s)** - the name of the Relativity field to which the catalog field is mapped. This is blank if the field has not yet been mapped. Note the following about the field catalog:
  - The Source field and Field Catalog were introduced in Relativity 9.4.
  - If you want to display every field available for mapping, switch to the All Fields view from the Field Catalog view. All fields are accessible in the All Fields view, but the Field Catalog only provides the processing-related fields.
  - The Source field is disabled if you don't select Document as the Object Type.
  - The Source field is disabled for processing fields that are system-mapped, meaning processing system fields that were automatically mapped when you installed or upgraded the Processing application.
  - For more information on using the field catalog to map processing fields, see the Relativity Processing User Guide.

- **Unicode** - special characters are permitted. This option must be enabled before you can load any Unicode data into the field. We recommend keeping this option enabled.

  Note: If Unicode data is loaded into a non-Unicode enabled field, then the data becomes unreadable.

- **Wrapping** - toggles text wrapping for the field.
  - **Enabled** - wraps all of a field's text, displaying the contents on multiple lines.
  - **Disabled** - the field extends as far right as necessary within the screen to display the text.

10.4.4 List and Dashboard Settings



- **Filter Type** - determines type of filter available for the field.

  Note: When using the new UI framework, Filter Type is not used except for the following scenarios: disabling filtering on the field by selecting None, selecting List filters for Fixed Length fields, or selecting a custom popup picker view for a multiple and single object fields.

  - **None** - disables filtering on the field.
  - **List** - displays a drop-down list of all the field's values in the workspace. Users can select only one of the values.

    Notes:
    - Fields that contain a large number of items may also cause the List filter to take longer to populate. We recommend you only select the List filter type for Single Choice and Yes/No fields. For fields that may contain a large number of choices, you can designate a Popup filter instead.
    - **Fixed Length Text fields** - if the field contains more than 255 items, the List filter type you specify for the field will revert to the Textbox filter type and an error will be written to the Error Log when you visit a Document list view containing the field.
    - **Single Choice / Single Object fields** - if the field contains more than 255 items, the List filter type you specify for the field will revert to None (disabled) and an error will be written to the Error Log when you visit a Document list view containing the field.

  - **TextBox** - displays a textbox that a user can query for text. You can use search operators in the filter box. See Filters in the Searching guide.
  - **Multi-list** - displays a list for a user to select one or more fields to filter.
  - **Boolean** - displays Boolean choices for the field. Users can select one option.
  - **CustomOnly** (Advanced) - searches with multiple search terms and operators. When you use this filter in a view, the operators that display are dependent upon the field type. The CustomOnly filter type is available for the following field types:
    - Fixed Length
    - Long Text
    - Decimal
    - Whole Number
    - Currency
    - Date

    For more information on how the CustomOnly filter works, see Filters in the Searching guide.
  - **Popup** - displays a popup picker where you can select values to use while filtering a list, or modifying criteria in a saved search or view.
    You can access these popup pickers from layouts, field filters (through a **Select...** button), view conditions, advanced search conditions, and the mass edit window. You can access this picker via the Check and Uncheck buttons next to the field name. For more information, see Mass edit on page 408.

Note: In the popup picker view drop-down field, you can select any view you have rights to see. However, a warning appears when you attempt to save the field, if the selected view is personal. If you edit the view selected as the Field Tree View, you receive a warning when you attempt to save it as a personal view.

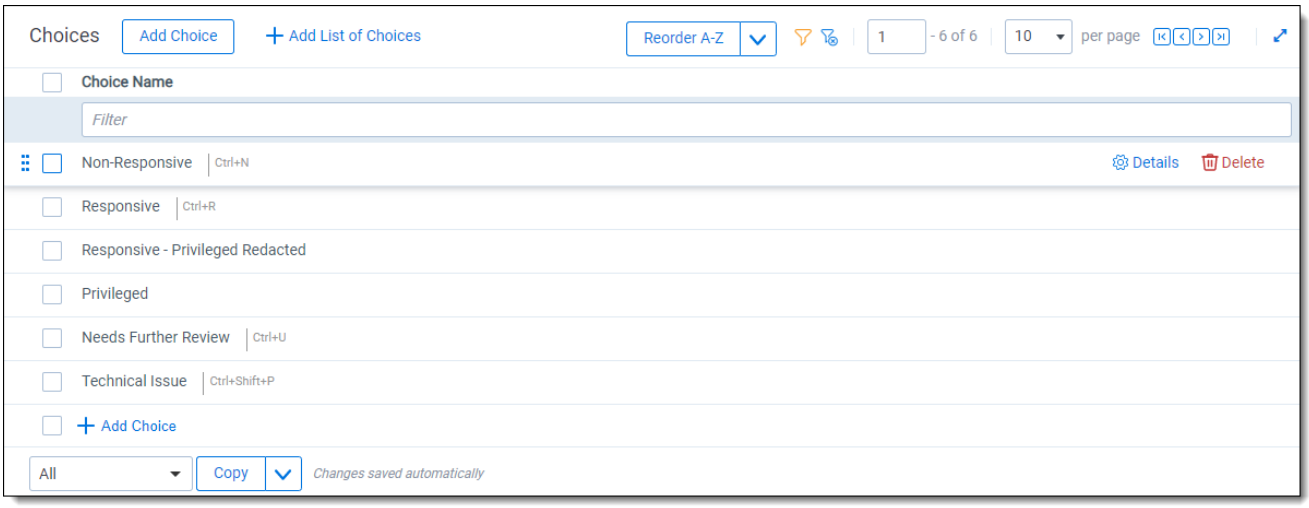
Depending on the type of field you're creating, only certain filters are available.

Filter	Field types
List	Fixed-length text, single choice, single object, user
TextBox	Fixed-length text, long text, date, whole number, decimal, currency, object
Multi-list	Single choice, multiple choice, multiple object
Boolean	Yes/No
Custom Only	Fixed-length text, date, whole number, decimal, and currency
Popup	Single object, multiple object, single choice, and multiple choice

- **Enable Sort/Tally** - if enabled, sorts document lists based on the field.
- **Enable Group By** - if enabled, makes the field available to group by when using Pivot. Relativity does not support Pivot On for Long Text fields due to the performance impact.
- **Enable Pivot** - if enabled, makes the field available to pivot on. Relativity does not support Pivot On for Long Text fields due to the performance impact.

10.4.5 Choices

The Choices section contains the Choice editor, which you can use to add and edit choices for a single or multiple choice field.



10.5 Field types

Relativity supports the following field types:

10.5.1 Fixed-length text

The fixed-length text field type is a text field with a limited length. You can use up to 4,999 characters. Unicode-enabled fixed-length text fields cannot exceed 4,000 characters.

- The sum of all fixed-length text fields for any individual object should be no larger than 8,060 bytes. To see how many of your 8,060 bytes remain, go to object you are checking. The control panel section displays remaining bytes in the usage field.
- Examples: Email from, Email subject, Conversation, Document extension, File Name, Parent Document ID, Subject.

10.5.2 Long text

You can add more than 4,999 characters in a long text field.

- The technical limitation of a long text field is 2 GB. Relativity usually defaults to streaming only files smaller than 50 MB. To modify this default setting, see the Instance setting guide.
- Examples: Full text, Conversation ID, Email BCC, Email To, Source File, Title

10.5.3 Date

The date field type stores the date or date and time. Dates must be in a valid format. For example, 01/00/2000 isn't valid. Attempting to load an invalid date produces an error.

- Relativity accepts many formats, including SQL-accepted formats that match your SQL Server's regional settings. However, the date displays as mm/dd/yyyy for the US or dd/mm/yyyy for the UK. When entering a date field, you can use the picker to choose from a calendar or enter a date directly in the field.
- Example: Email sent date, Date Created, Date Last Modified, Date Received, Date Sent.

Note: When you search on a user-created date field using a relative date (ex. Last 7 Days), you may see different results between a saved search and a search from the search panel if you aren't in the same timezone as your Relativity instance.

10.5.4 Whole number

The whole number field type stores any natural numbers or their negatives.

- This value can't exceed 2,147,483,647. In other words, 2,147,483,64**8** and higher is invalid.
- Example: Page count, Number of Attachments.

10.5.5 Decimal

The decimal field type stores numeric values that may include decimals.

- With this field you can have a maximum of 15 digits before the decimal and two digits after the decimal.
- Example: Percentage, File Size.

10.5.6 Currency

The currency field type stores numeric values in a currency format. 10 digits is the maximum for this field.

- Your currency symbol is set based on Windows regional currency settings in the server hosting Relativity. The formatting, such as decimal, commas, negative number sign, the position of currency symbol, are based on the browser's language. When using RelativityOne, the settings of the regional server cannot be changed. They are set to the US currency symbol.
- Example: Amount sold.

10.5.7 Yes/No

The Yes/No field type accepts one of two values. The default values are Yes and No.

- You can edit the display values in the Yes/No display values section. See Fields on field on page 186.
- Example: Reviewed.

Note: If you are exporting a Yes/No field type with Relativity Desktop Client or Integration Points, the values will display as True/False in the exported files.

Yes/No fields are useful, but consider the following caveat:

Searching for yes/no fields can be difficult, especially if the field displays as a check box. The check box only displays as checked or unchecked; however, a yes/no field has three potential values. These values include yes, no, or null. Because of the searching difficulties, you may want to display yes/no fields as dropdown menus.

10.5.8 Single choice

The single choice field type provides a predetermined set of values called choices.

- You can choose only one value.
- Example: Responsiveness, Custodian

10.5.9 Multiple choice

The multiple choice field type provides a predetermined set of values called choices.

- You can choose multiple choices. You can also nest the choices in a hierarchy structure.
- Example: Issues, Deponent

Note: If Overlay Behavior is set to Replace Values on this field, a warning message appears stating that on import that the current values for this field will be deleted and replaced with the values included in the load file. The Overlay Behavior setting must be set to Merge Values in order to merge the values from the load file with the field's current values.

10.5.10 User

The user field type contains users with rights to the current workspace. Depending on the function of the field, Relativity filters the list of users to display only members of certain groups.

Examples:

- On layout - displays non-admins.
- On review batch - displays non-admins.
- Owner of a saved search - displays system admins and other group members.
- Saved search condition - displays system admins and other group members.

10.5.11 File

With the file field you can upload files for a non-document object. When you add a file field, Relativity automatically creates file size, file icon, and text fields for the object. The text field contains the extracted text of all files uploaded to the file field. The Text Extraction Manager agent must be running in the Relativity environment to populate the text field.

Note: Relativity prohibits users from uploading certain file types to file fields. The RestrictedNativeFileTypes instance setting value defines the prohibited file types. See Instance setting guide.

10.5.12 Single object

The single object field type defines a one-to-many relationship between two objects. You add a single object field on the selected object under the Object Type option. You can then create a one-to-many relationship with the selected object using the **Associative Object Type** option.

- For example, you could use a single object field called Sender Domain to create a relationship between email messages and the domains of their senders. You add the Sender Domain field to a Document object and associate it with a Domain object. By doing so, you used a single object field to create a one-to-many relationship, since each email message can originate from only one domain, but many different domain options are available.

10.5.13 Multiple object

The multiple object field type defines a many-to-many relationship between two objects. You add the Multiple Object field on the selected object under the Object Type option. You can then create a many-to-many relationship with the object selected in the **Associative Object Type** option.

For example, you could use a multiple object field called Recipient Domains to create a relationship between available domains and the email recipient domains from email messages.

Note: If Overlay Behavior is set to Replace Values on this field, you will be prompted with a warning message on import that the current values for this field will be deleted and replaced with the values included in the load file. The Overlay Behavior setting must be set to Merge Values in order to merge the values from the load file with the field's current values.

- You add the Recipient Domains field on a Document object and associate it with a Domain object. By doing so:
  - You used a multiple object field to create a many-to-many relationship, since you can have multiple domains, and each recipient of an email message can have a different domain.

- Relativity automatically creates two fields when you define Multiple Object field type. The first Recipient Domains field has a Document object type. The second Recipient Domains field represents the relationship between the Recipient Domains object type and the Domain associative object type.

Note: The **Assigned to** field displays user information in the format "last name, first name." You must use the user's email address when loading this field in Relativity. For example, you would load a user named John Smith as johnsmith@example.com.

10.5.14 Fields and performance

Field configuration can dramatically impact database performance. Use the following guidelines to improve field efficiency:

- Set fixed-length text fields to the minimum size needed and to no more than 400 characters.
- Store choice data in single or multiple choice fields if possible.
- Use separate objects to store repetitive content when possible.
- Set up fields as Unicode in advance because the system will have to re-index a field if the change is made following data load.
- Only include fields in the text index when it's truly necessary to do so.

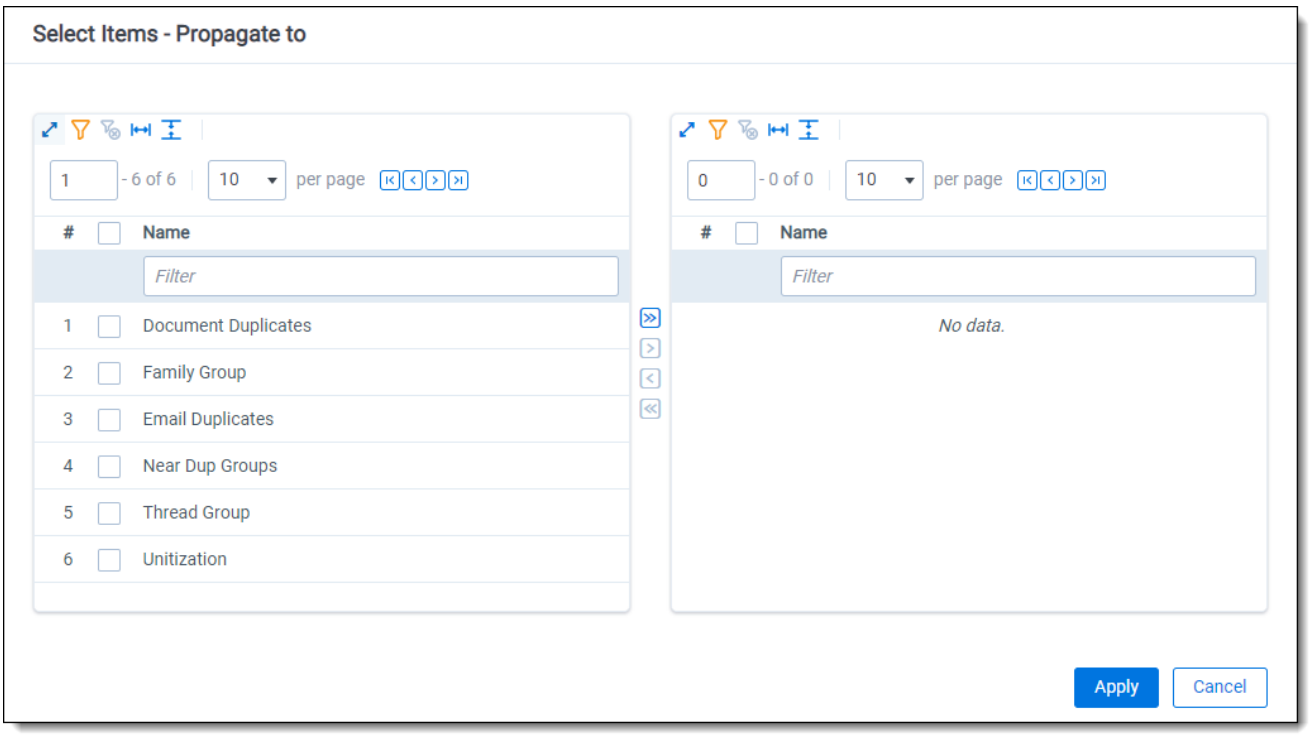
10.5.15 Linking Fields to Field Categories

Once a field has been created, it can be linked to a field category to help you efficiently find that field and apply it when adding conditions in the search panel. To learn more about linking a field to a field category, visit Field categories.

10.6 Applying propagation to documents

The propagation function can help enhance your document review workflow to save time spent coding documents. For example, you can tag a document as Responsive and have the value propagate to that document's family members.

To enable propagation, toggle **Propagation** on. Click the Select icon in the **Propagate To** row. The available options depend on the relational fields set for the workspace.



When you code a document in a field on which propagation is enabled, the propagation function automatically codes related documents with the same value. Click **Save** or **Save & Next** in the layout to apply the field propagation rules.

Note: Propagation works on all document object field types. Associative Object Lists do not work with propagation.

Propagation doesn't cascade or cause chain reactions, meaning that only the documents in the saved document's groups receive the propagated values. For example, if you create a responsiveness field to propagate both family and duplicates, and you code a parent email as Responsive, these actions occur:

- **Family propagation** - codes child email attachments as responsive
- **Duplicate propagation** - codes duplicate emails of the parent as responsive

Duplicates of the child attachments aren't coded as responsive. This action would be a duplicate propagation triggered by family propagation.

10.6.1 Propagating to documents in multiple groups

When you code a document that's a member of multiple related groups – for example, Duplicates and Email Families – it's important to understand how coding decisions propagate in specific scenarios.

Note: If you enable document skip, Relativity skips documents that do not meet the view's condition. To use this to expedite the review process, the view criteria such as Responsive field is not set would then skip over any documents that are already coded on this field.

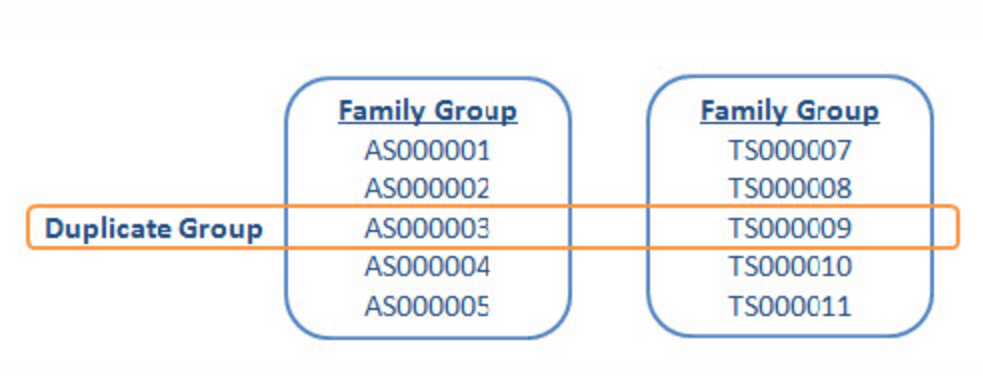
The following scenarios illustrate how propagation applies to a set of documents. Assume that propagation is active for both email families and duplicates.

There are two email families:

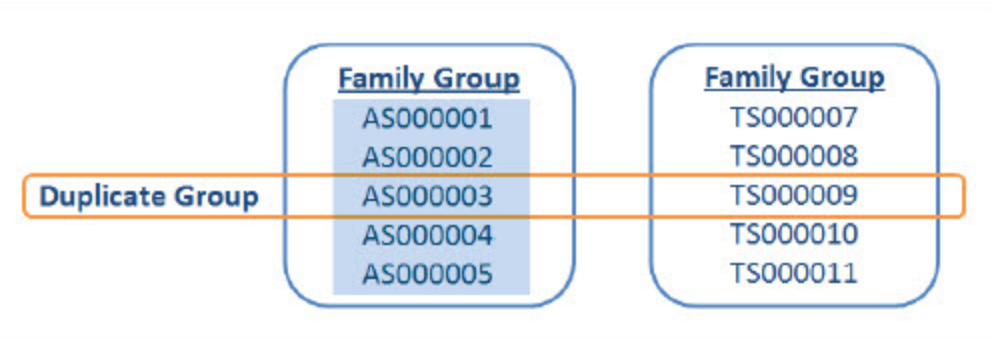
- AS000001 – AS000005
- TS000007 – TS000011

Within these families, two documents are duplicates:

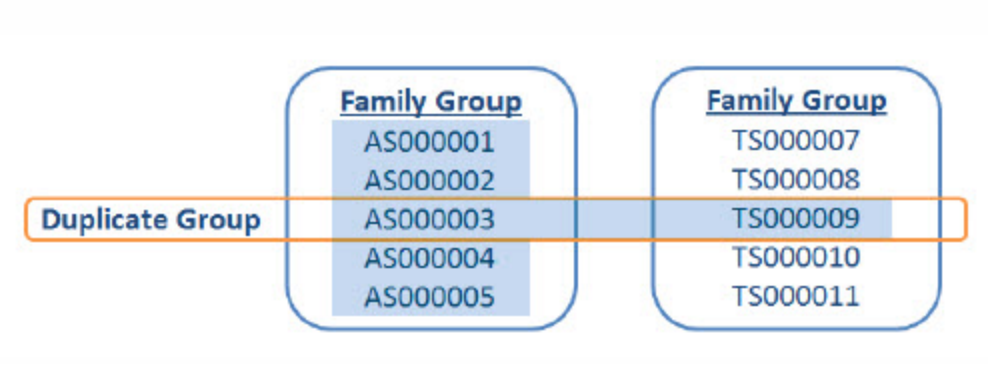
- AS000003
- TS000009



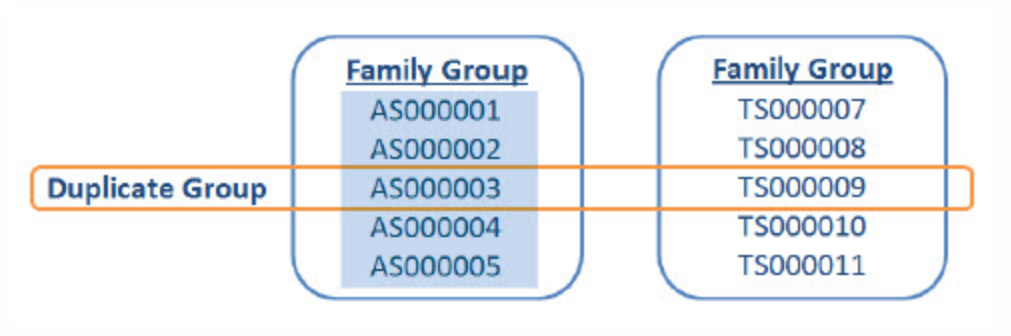
Coding **AS000001** as **Responsive** tags only the family, shown in blue.



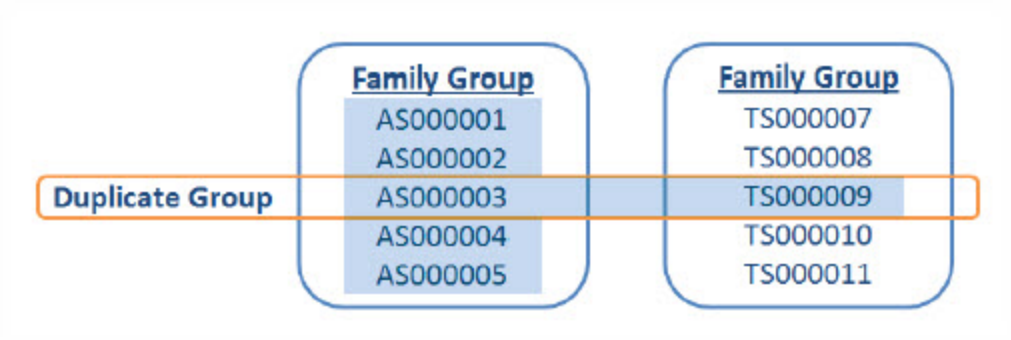
Coding **AS000003** as **Responsive** tags the family, and the duplicate, shown in blue.



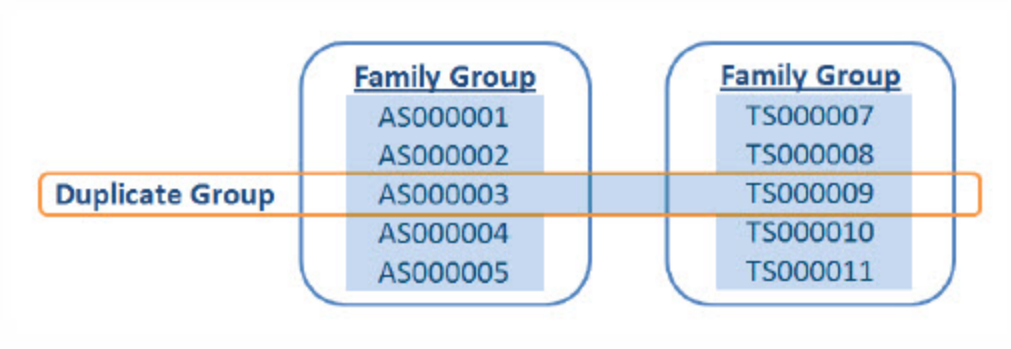
Mass editing **AS0000001** and **AS000002** as **Responsive** tags only the family, shown in blue.



Mass editing **AS000002** and **AS000003** as **Responsive** tags the family and the duplicate, shown in blue.



Mass editing **AS000003** and **TS000009** as **Responsive** tags all of the listed documents.



11 Field Categories

Field categories allow you to quickly and accurately apply field conditions to the document list, a saved search, or a view. Once a field category has been created, it can be linked to as many fields as desired. The field category can then be selected when adding fields or conditions in the search panel, a view, or a saved search to conveniently access and apply the linked fields.

All Fields is a system default field category that displays every non-secured field in your workspace. It cannot be edited or secured from other users and it will always display at the bottom of the Field Categories drop-list. All Fields allows you to conveniently switch between viewing all of the fields and the fields included in a particular field category.

Field categories have object permissions so that they can be created and limited to a specific group or workflow within in Relativity. Securing a field category only determines whether it is visible in the drop-list of field categories that can be selected when adding conditions in the search panel.

Note: Field categories that you create are carried over during workspace upgrades and when those cases are used as templates. The All Fields field category will also carry over after an upgrade, though it is currently a system default that cannot be configured by users.

This page contains the following sections:

- Creating a field category
- Viewing fields associated with a field category
- Link a field or fields to a field category
- Unlink a field or fields to a field category

11.1 Creating a field category

To create a new field category, do the following:

1. Navigate to the **Field Categories** tab.

   Note: All Fields is a field category that is always present in Relativity but it does not display on the Field Categories tab since it cannot be edited.

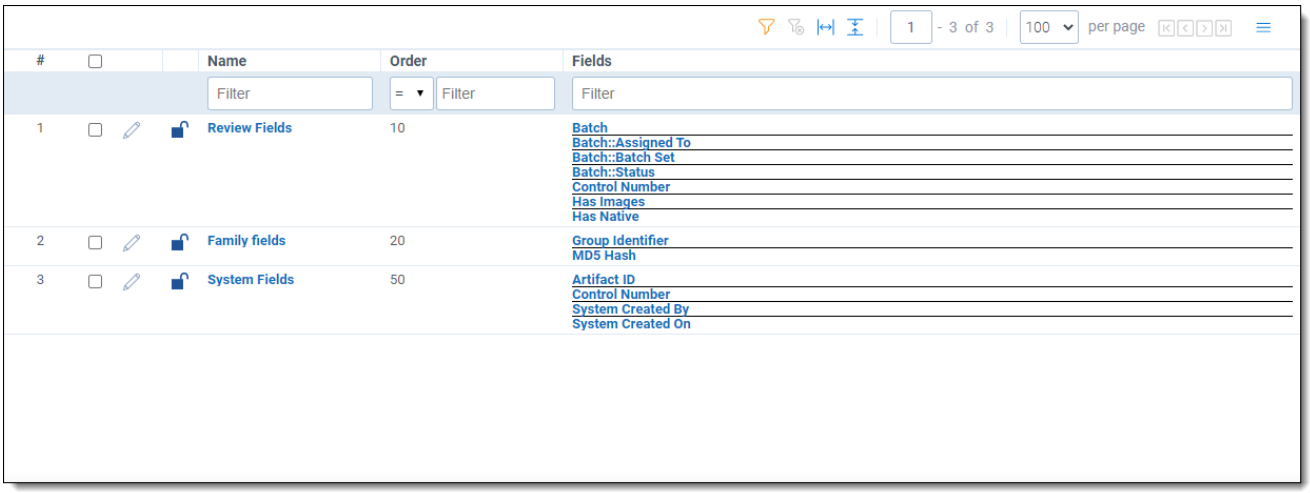
2. Click **New Field Category**.
3. Enter the desired information for the following fields:
   - **Name** - the title of the field category
   - **Order** - determines where the field category appears within the view drop-down list. Items that share the same value are sorted in alphanumeric order.
     - Order can be any integer (positive or negative). No decimals are allowed. You can use the **View Order** button to see how items are currently ordered.

       Note: Ordering by 10's, starting with 10, then 20, then 30, etc. is recommended because you can insert an item into any position later in the workspace, without the need to reorder all items.

4. Click **Save** to create the new field category.

11.2 Viewing fields associated with a field category

Before linking and unlinking fields to a field category, it can be helpful to see what fields are associated with each field category. To do this, add the Fields field to the desired field category view and select that view on the Field Categories tab.

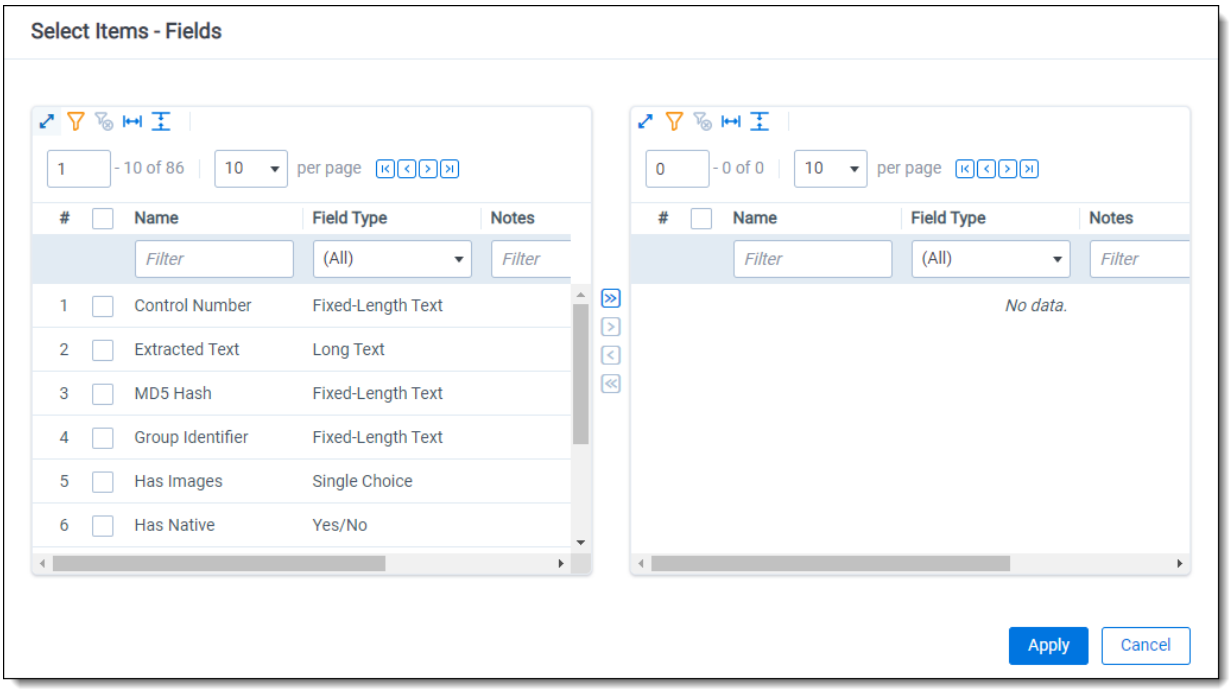


11.3 Link a field or fields to a field category

To link a field or fields to a field category, do the following:

1. Navigate to the **Field Categories** tab.
2. Click on the desired field category in the list.

3. Click **Link**.



4. Filter the field list as needed and check any desired fields.

5. Once the desired fields have been selected, click Move selected left to right.

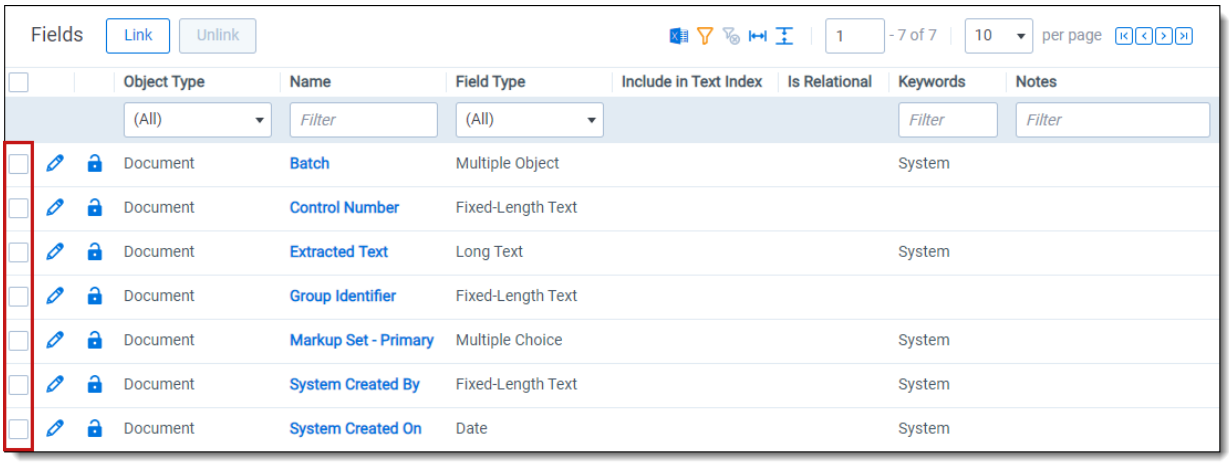
6. Click **Apply**.
   The selected fields are linked to the field category and display in the Fields section.

11.4 Unlink a field or fields from a field category

To unlink a field or fields from a field category, do the following:

1. Navigate to the **Field Categories** tab.
2. Click on the desired field category in the list.

3. Click the checkbox on the left side of the row for any fields you wish to unlink.



4. Click **Unlink**.
5. Click **Unlink** again in the pop-up.
   The selected fields are no longer linked to the field category.

12 Filters

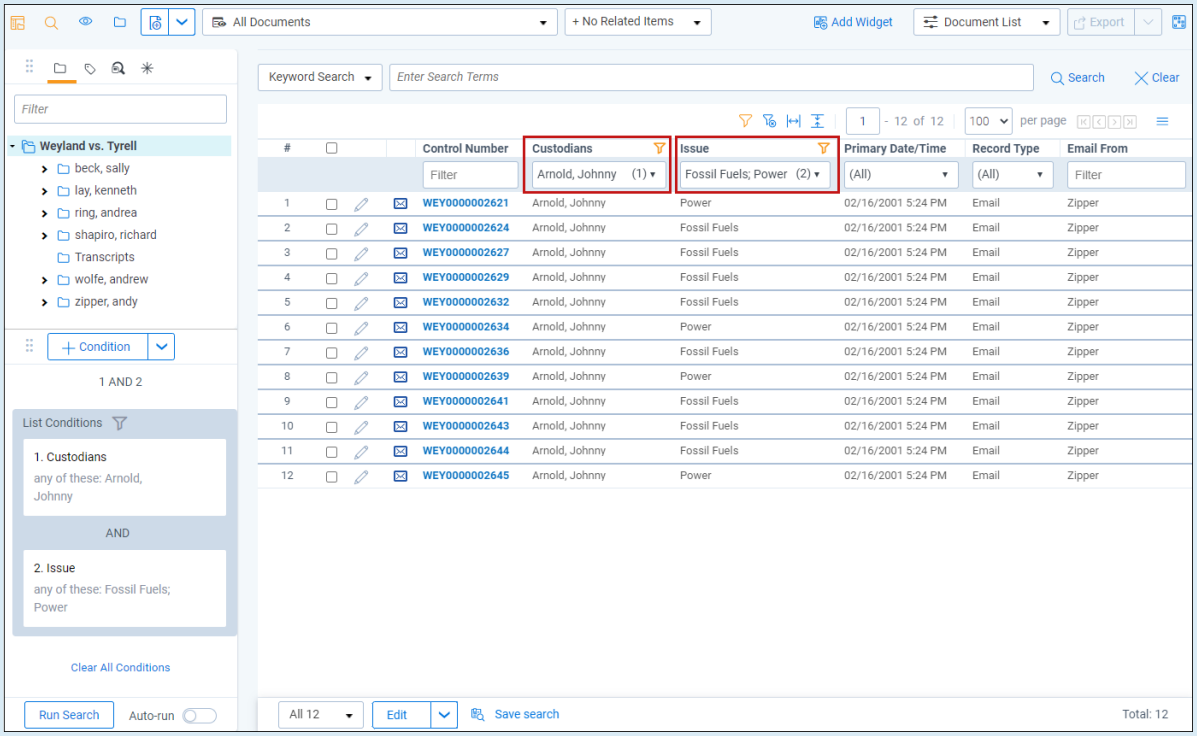
Filtering provides a fast and easy way to search for items in a list in Relativity. You can use filters to search for values in the fields on the active view, and across all records available in the searchable set. Filters are also available for item lists on tabs and pop-up windows.

The field type associated with each column determines the available filter types, such as textboxes, popup pickers, and drop-down lists. You don't need any specific security permissions to use filtering.

Using filters

You're a Relativity admin facilitating a review project on a huge set of documents that includes thousands of emails between traders and investors in your client's products. You need to quickly find all documents owned by trader Johnny Arnold that are related to gas and power, because the evidence they might contain may not be admissible in court. To do this, you turn to filters.

You find the view you set up for documents already coded for key issues and you click the filter icon. In the Custodian field you enter the last name of the employee in question, "Arnold." In the Key Issue field you select the Gas and Power choices.



This simple filtering job returns a small set of documents on which you do a quick review and find that they contain references that make them inadmissible.

12.1 Showing and hiding filters in the item list

You can use filters to quickly narrow your searchable set, allowing you to browse through the key documents in the viewer efficiently.

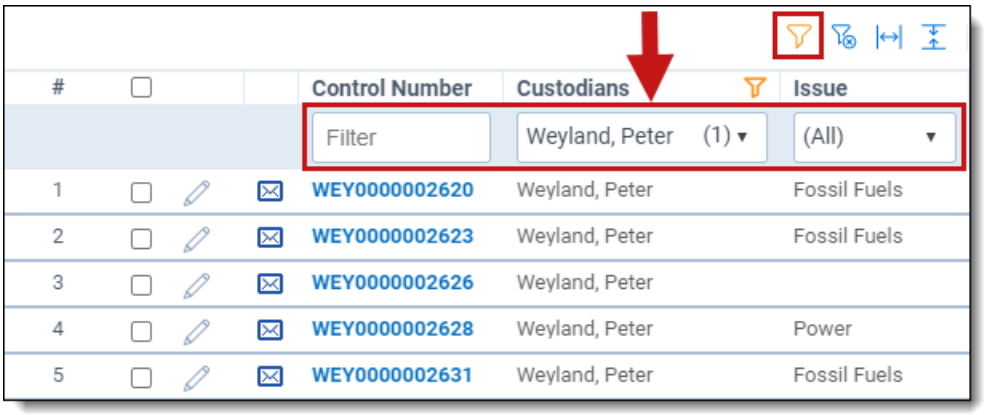
The following filter buttons display above item lists in Relativity:

- **Show/Hide filters** - Displays the field column filters for an item list at the top of each column. This icon turns orange when filters are activated. Click the icon again to hide the filters if filtering options are displayed. Your filter settings remain unchanged.
- **Clear all** - Removes the current filter settings. This option is only available after you set a filter.

The filter type determines the steps required to set the search criteria that it uses. See Filter types on the next page

Note: When you create or edit a field, you can select its **Filter Type**. See Fields in the Admin guide.

In the following example, the active filters display on the Documents tab.



12.2 Setting a filter

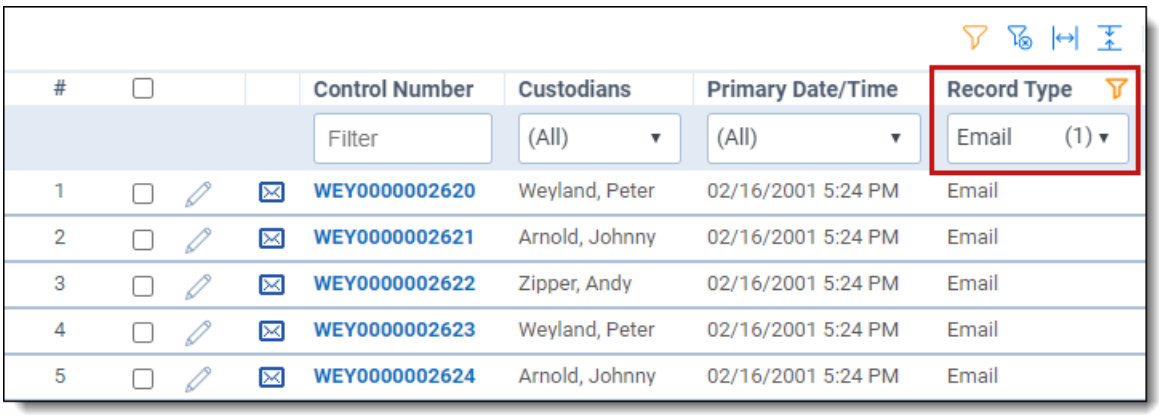
To activate the filter options at the top of each column in the item list, click the icon. The icon turns orange when filters are activated. Click the icon again to hide the filters.

Note: Before defining a new search filter, click or click **Clear Conditions** in the search panel to remove any previous settings. For example, say you create a filter on the Privileged field, but now want to search only by the Custodian field. If you don't clear the filter, Relativity filters your documents by both the Privileged and Custodian fields, and your result set may include fewer documents than you expect.

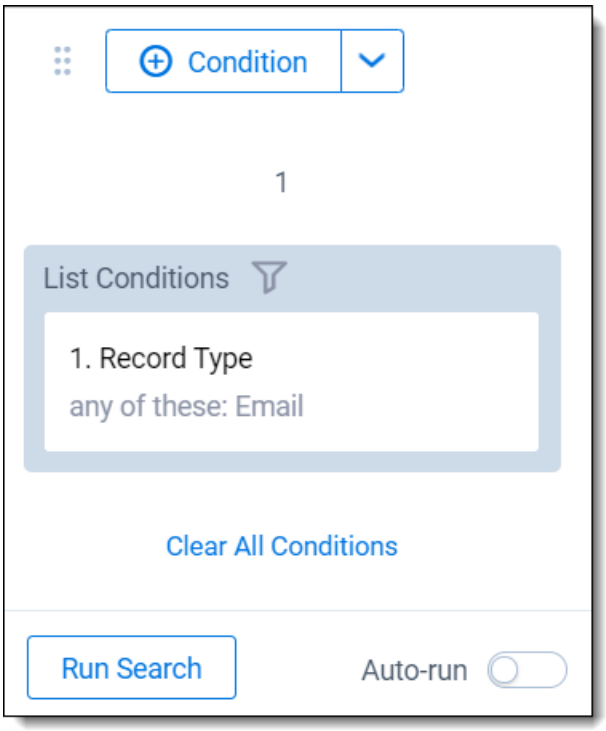
Select a field or fields that you want to filter (e.g., Record Type). The filter type determines the steps required to set the search criteria that it uses. See Filter types on the next page

Make your selections from the filter drop-down menu or enter text in the filter textbox (if the field is a text field), and then click **Enter**.

The field column header is highlighted in orange and has a filter icon in the top right corner to let you know that filtering has been applied to that field. This will persist whether or not you have the filters shown or hidden.



The search panel is also updated with the applied filter conditions and displayed as a filter card in a List Conditions box.



You cannot edit the filter card by clicking on it. However, you can clear the list condition the same way you can clear any search conditions on the search panel. The item list will update accordingly.

See Filter types below and Textbox filter search examples on page 222 for more information on using specific filters.

12.3 Filter types

Relativity includes the following filter types:

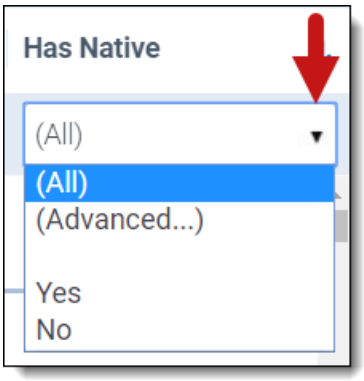
- Boolean filters
- Numeric filters

- List filters
- Date filters
- Multilist filters
- Textbox filters

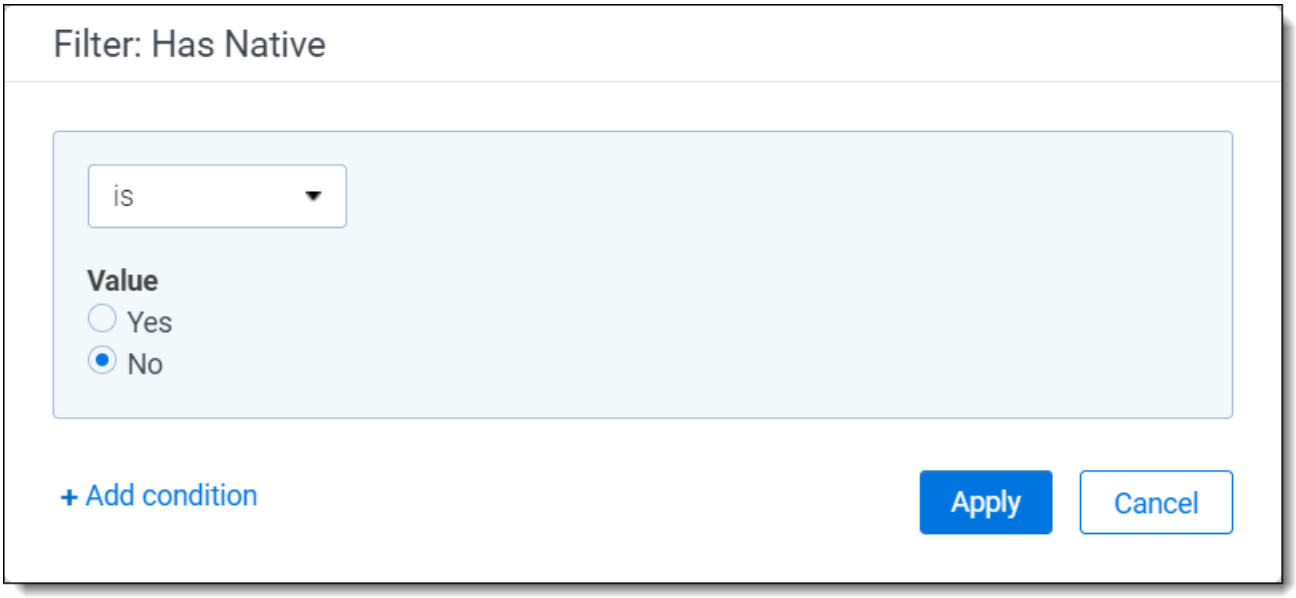
12.3.1 Using Boolean filters

Boolean filters are available only on Yes/No field types. To use a Boolean filter, click the drop-down menu arrow and select **True**, **False**, or **<blank>** from the list to apply the filter.

In the following example, selecting **True** would display only documents that have native files (where the field has a Yes value). If selected, <blank> displays only items that don't have the a True (Yes) or False (No) value assigned to the Boolean field (is not set).



If you click on **Advanced**, the pop-up for the Boolean filter appears where you can specify multiple filter conditions that are connected with explicit OR operators. Click **Apply** to apply the specified filter conditions to the field.



Click **Add Condition** to add an additional condition to the filter.

12.3.2 Using numeric filters for numbers

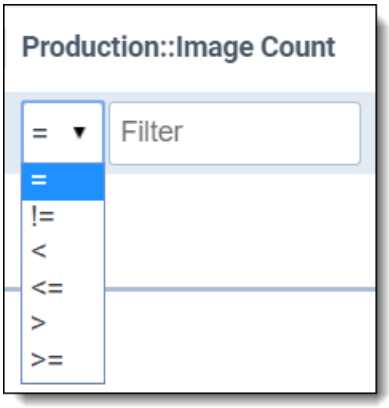
The numeric filter type is available for the following field types only:

- Decimal
- Whole Number
- Currency

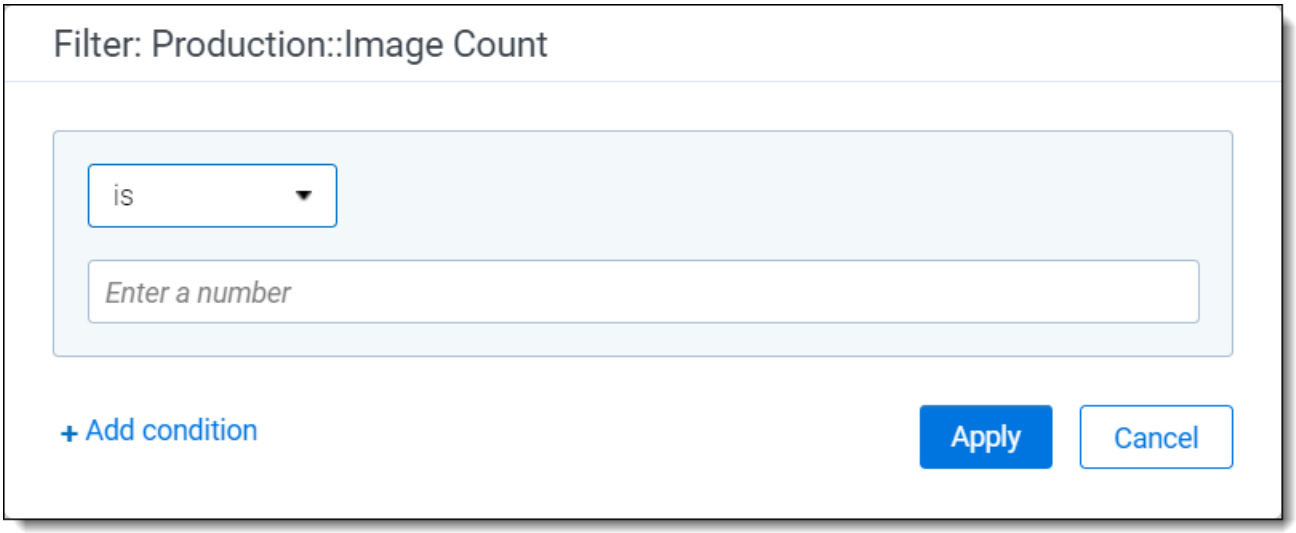
To use a numeric filter, click the drop-down menu arrow and select an operator (i.e., equal to (=), not equal to (!=), greater than (>), less than (<), less than or equal to (<=), or greater than or equal to (>=)), and then enter a numerical value in the **Filter** textbox.

Note: Relativity will also correctly read the thousands separator (e.g., 100**,**000.00) in numeric filters.

After you enter the value in the textbox, hit **Enter** to apply the conditional expression for filtering the list (e.g., filter the list for File Size greater than a certain number).



If you click into the Filter textbox, a drop-down menu will appear. You can select the **Advanced** option that appears in the drop-down menu to display the pop-up for the numeric filter. This is where you can specify multiple filter conditions that are connected with explicit OR operators. Click **Apply** to apply the specified filter conditions to the field.



Click **Add Condition** to add an additional condition to the filter.

12.3.3 Using List filters

The List filter type is available for the following field types only:

- Single Choice
- Single Object
- User
- Fixed Length Text

Notes:

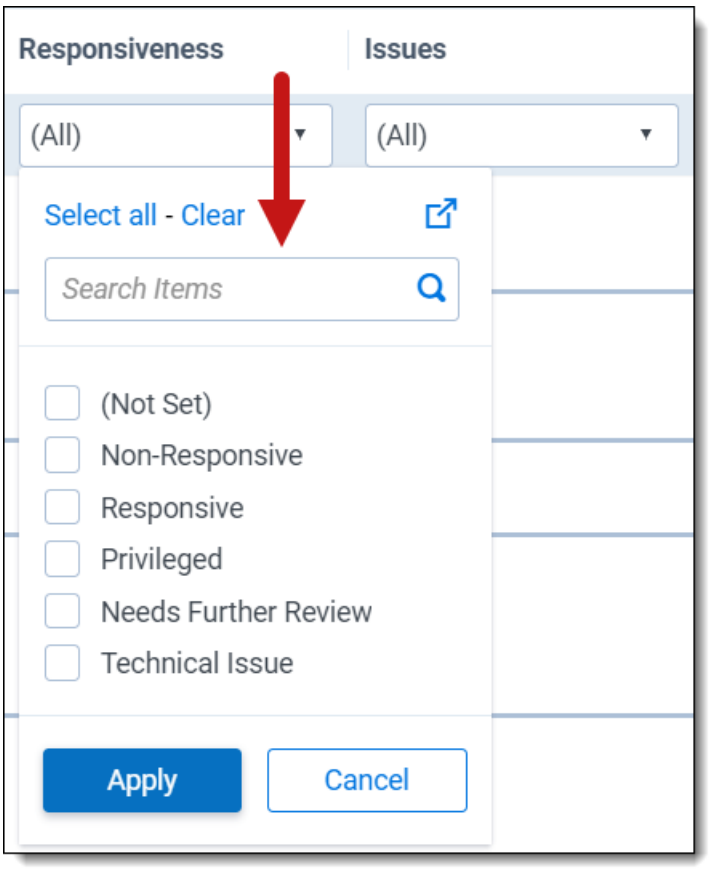
- Fields that contain a large number of items may also cause the List filter to take longer to populate. For fields that may contain a large number of choices, you can designate a Popup filter instead.
- **Fixed Length Text fields** - if the field contains more than 255 items, the List filter type you specify for the field will revert to the Textbox filter type and an error will be written to the Error Log when you visit a Document list view containing the field.
- **Single Choice / Single Object fields** - if the field contains more than 255 items, the List filter type you specify for the field will revert to None (disabled) and an error will be written to the Error Log when you visit a Document list view containing the field.

List filters are frequently associated with fields used for coding documents. The conditions displayed in the drop-down menu for this filter vary by the type and purpose of the associated field. For example, a field called Responsiveness might have the filter conditions of Responsive, Not Responsive, or Needs Further Review. You can select the checkboxes of the options that you want to filter for, and then click **Apply** to apply the filter to the item list. Alternatively, you can click **Select all** to select all filters in the list, you can click **Clear** to remove all selections in the menu or you can select **(Not Set)** to only show items where the field has not been set (null).

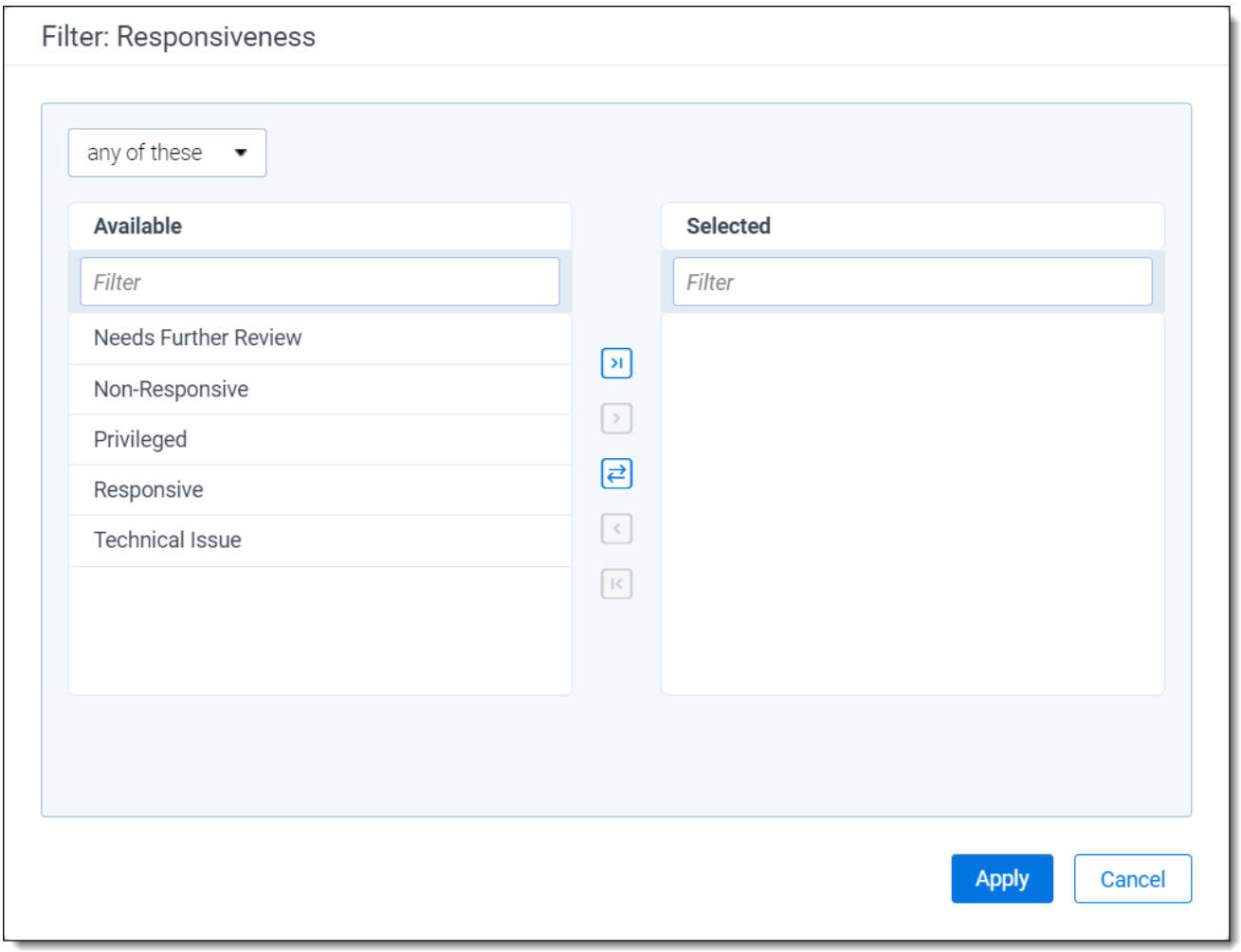
If there is a single choice that you would like to immediately apply as a filter to the document list, hover your cursor over that choice's row and then click **Only** on the right side of the row.

In this example, if you only select the Non-Responsive checkbox, then only documents that have been coded with this value will display in the item list.

Note: You can find a specific option in a long list by entering all or part of the name of the option you are looking for in the Filter textbox under the Apply button. The list will filter automatically as you type.



Click the icon in the upper-right corner of the drop-down menu to launch a pop-up where you can select items in the list and use additional operators such as filtering for items that do NOT contain certain field values. Click **Apply** to apply the specified filter conditions to the field.



12.3.4 Using date filters

The date filter type is only available for Date field types. Using the date filter, you can quickly and efficiently filter for items meeting the specific date criteria that you want.

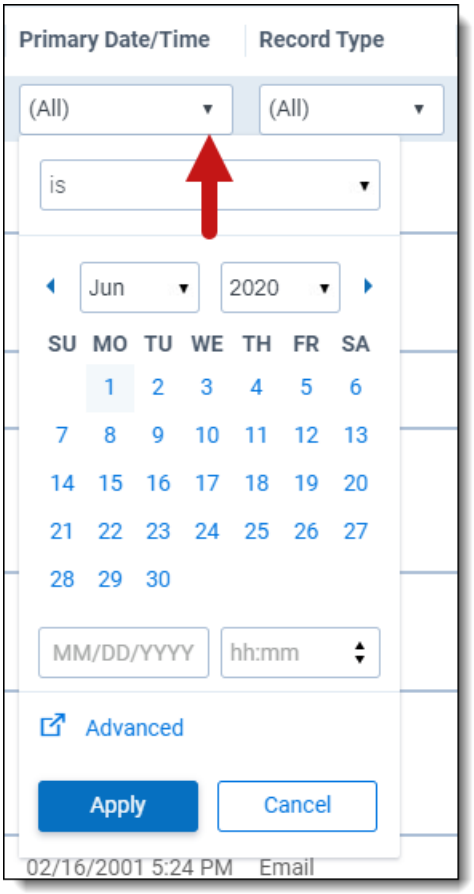
The following operators are available:

- All
- Not Set
- Is
- Is before
- Is before or on
- Is after
- Is after or on
- Between

For example, you only want to view items that were sent before or on 7 AM on January 21, 2015. To set and apply a date filter for this scenario:

1. Select your operator from the drop-down list underneath the Apply button (e.g., is before or on).
2. Use the calendar interface to select the date criteria (e.g., January 21, 2015). There are drop-down menus for selecting a specific month and year or you can use the forward / backward arrows to navigate by month.
3. Enter the time below the calendar (e.g., 7:00 AM).

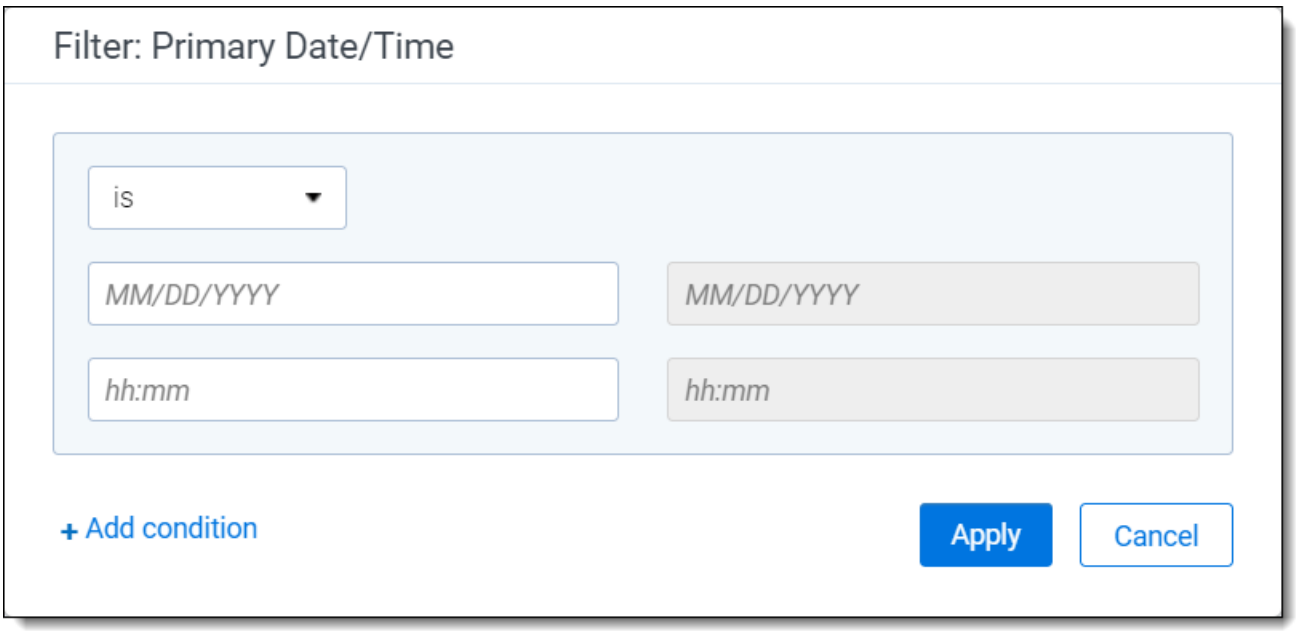
Note: Filtering on fields using the date/time format does not support using "@Today". If you do not enter a specific time, a time of 12:00 AM will be entered explicitly for the filter.



1. Click **Apply** to apply the date filter. Only items that were sent before 7 AM on January 21, 2015 will display in your item list.

Note: When you select the Between operator, two calendars will display in the drop-down date filter, allowing you to pick the start and end date / time for the time range.

You can click the **Advanced** option in the drop-down date filter to launch a pop-up to take advantage of additional operators such as "is in" that let you filter for items where the date is in this week, last week, last month, this month, etc. and create more complex date filter criteria using multiple conditions. Click **Apply** to apply the specified filter conditions to the field.



12.3.5 Using multilist filters

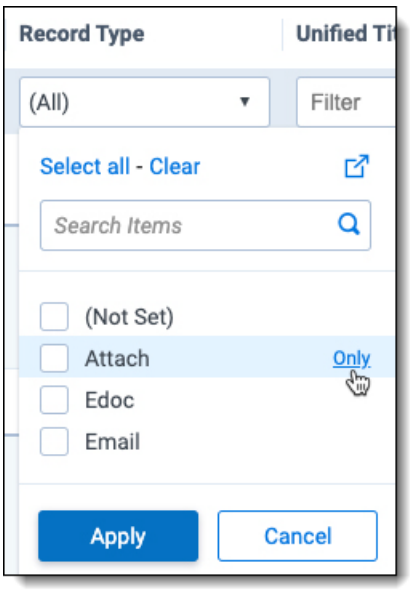
The multilist filter type is available for the following field types only:

- Multiple Choice
- Multiple Object
- Single Choice

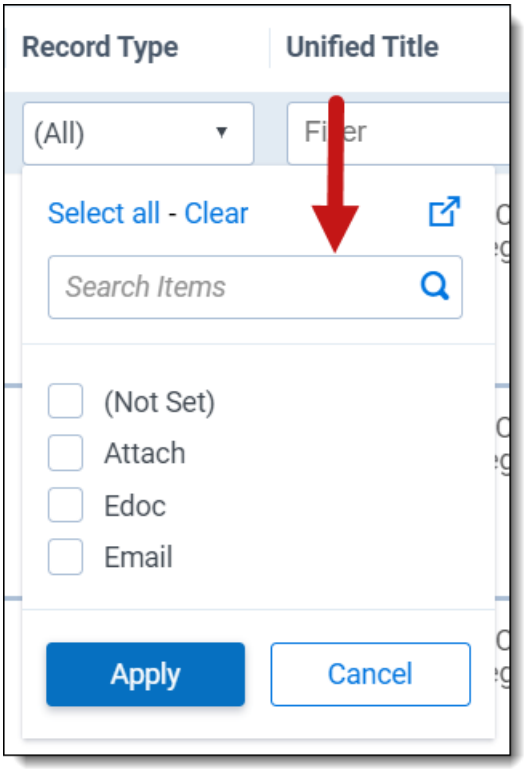
Using multilist filters, you can select multiple conditions from a drop-down menu. These filters are frequently associated with fields used for coding documents.

To apply a multilist filter, click the drop-down arrow to display the conditions list. Select the conditions that you want to filter on. You can click **Select all** to select all filters in the list, you can click **Clear** to remove all selections in the menu or you can select **(Not Set)** to only show items where the field has not been set (null). Click **Apply** to apply the selected filter conditions.

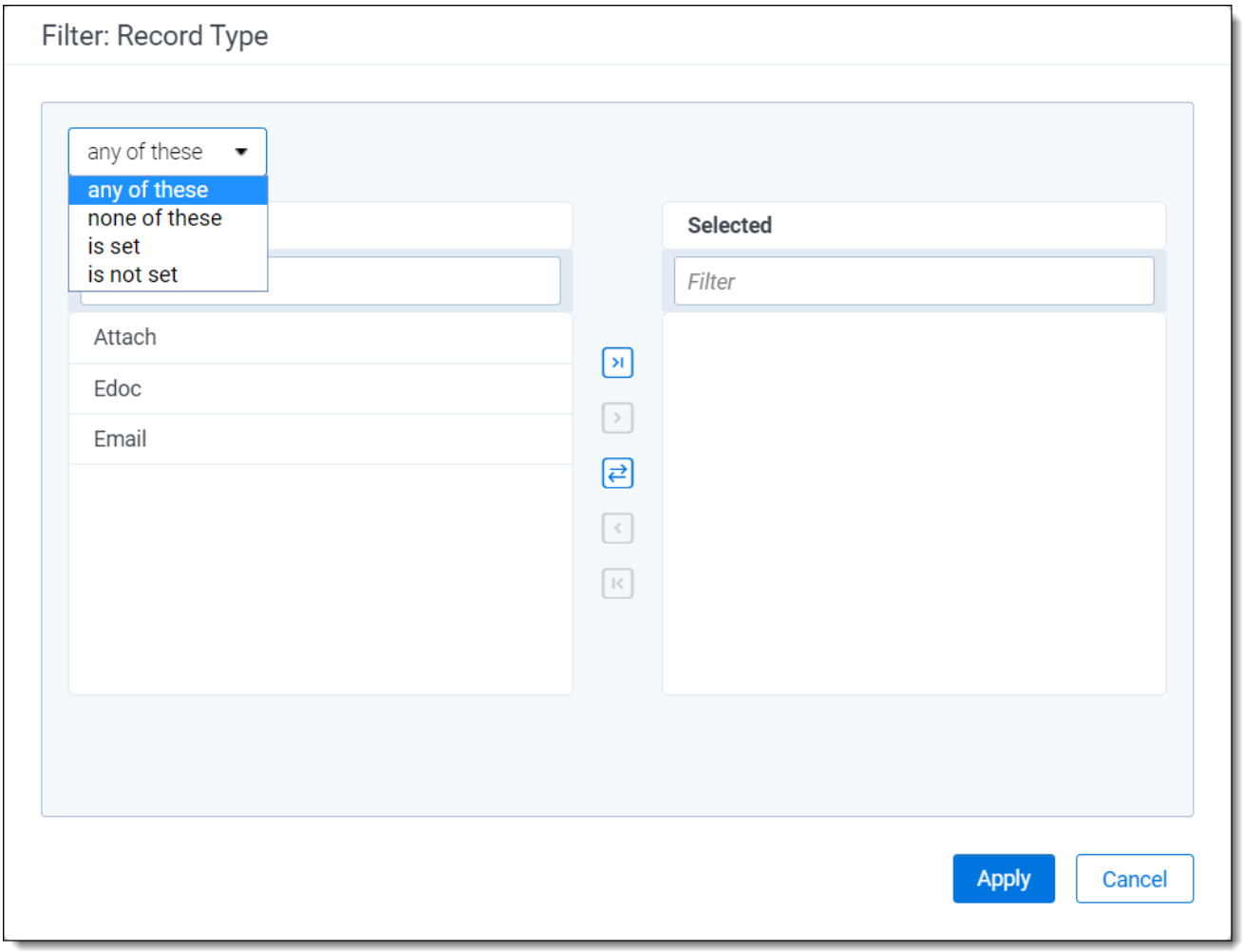
If there is a single choice that you would like to immediately apply as a filter to the document list, hover your cursor over that choice's row and then click **Only** on the right side of the row.



Note: You can find an specific option in a long list by entering all or part of the name of the option you are looking for in the Filter textbox under the Apply button. The list will filter automatically as you type.



Click the icon in the upper-right corner of the drop-down menu to launch a pop-up where you can select items in the list and use additional operators such as filtering for items that do NOT contain certain field values. Click **Apply** to apply the specified filter conditions to the field.



12.3.6 Using textbox filters

The textbox filter type is available for the following field types only:

- Fixed-length Text
- Long Text
- Date
- Whole Number
- Decimal
- Currency
- Object

You can use textbox filters to search on specific terms, numbers, and dates. You can directly enter one or more terms in the filter textbox and connect multiple terms with any of the following operators:

- AND
- OR
- IS SET
- IS NOT SET
- BETWEEN
- = (equal)
- >= (greater than or equal to)
- <= (less than or equal to)

When entering terms and operators directly in a textbox filter, you must use the proper syntax. See Textbox filter search examples below for more information.

Note: The textbox filter treats each search term as if it were preceded and followed by a wildcard (*) and returns all versions of the term. Don't add an asterisk (*) to the beginning or ending of a search term. The filter won't return any results if you use this operator.

You can also use the advanced textbox filter feature to build more advanced filter queries on the selected text field. See Using advanced textbox filtering on page 224.

12.3.7 Textbox filter search examples

You can perform text searches using Boolean operators by directly entering search strings in the filter textbox as follows or you can use the Advanced feature to build more advanced filter queries on the text field (see Using advanced textbox filtering on page 224).

12.3.7.1 Boolean and other search operators

The following table lists examples of valid search strings using Boolean and other operators.

Valid search strings	Returns items where…
cubs OR sox	([FIELD VALUE] like '*cubs*') OR ([FIELD VALUE] like '*sox*')
cubs AND sox	([FIELD VALUE] like '*cubs*') AND ([FIELD VALUE] like '*sox*')
cubs OR sox AND kcura	**([FIELD VALUE] like '*cubs*') OR (([FIELD VALUE] like '*sox*') AND ([FIELD VALUE] like '*kcura*'))**
percent sign (%)	Use this operator to check whether the field is set to a value. It behaves like the "Is like" operator in a query.
underscore (_)	Wildcard for a missing character. Don't use the underscore to check if a field is set to a value; it's slower and more resource-intensive than using the percent sign (%).
= with term	Returns an exact phrase.
cubs sox	Returns the exact phrase (that is, the word "cubs" followed by a space and the word "sox").
IS SET	Returns only items where the field has a value.
IS NOT SET	Returns only items where the field does not have a value (null).

The following table shows examples of invalid search strings.

Invalid search strings	Description
cubs AND	The AND operator requires a right search term.
cubs OR	The OR operator requires a right search term.
AND cubs	The AND operator requires a left search term.
OR cubs	The OR operator requires a left search term.

12.3.7.2 Alphabetical filtering

The following table lists examples of valid search strings you can use to filter text alphabetically.

Alphabetical filtering	Returns items where…
>= cubs	[FIELD VALUE] >= 'cubs'
<= cubs	[FIELD VALUE] <= 'cubs'
= cubs	[FIELD VALUE] = 'cubs'
= cubs AND sox	[FIELD VALUE] = 'cubs AND sox'
cubs BETWEEN sox *	([FIELD VALUE] >= 'cubs') AND ([FIELD VALUE] <= 'sox')
kcura and cubs BETWEEN sox	([FIELD VALUE] >= 'kcura and cubs') AND ([FIELD VALUE] <= 'sox')

* If you attempt to use more than one BETWEEN operator in a single filter string (for example, 12/13/2000 BETWEEN 1/0/2008 BETWEEN 5/4/2009), you'll receive an Incorrect Syntax error in the filter box. If you need to search for documents based on multiple BETWEEN operators, you can create a saved search with multiple conditions, each of which uses a date field with a between operator and a date range value. For more information, see the Saved search documentation on our website.

12.3.7.3 Dates and numbers

The following table lists examples of valid date and number searches, as well as the expected result set.

Valid search strings	Returns items where…
>= 7/24/2008	[FIELD VALUE] >= '7/24/2008'
<= 7/24/2008	[FIELD VALUE] <= '7/25/2008'
= 7/24/2008	([FIELD VALUE] >= '7/24/2008') AND ([FIELD VALUE] < '7/25/2008')
>= 07/27/2008 1:23 PM	[FIELD VALUE] >= '07/27/2008 1:23 PM'
<= 07/27/2008 1:23 PM	[FIELD VALUE] <= '07/27/2008 1:23 PM'
= 07/27/2008 1:23 PM	[FIELD VALUE] = '07/27/2008 1:23 PM'
7/24/2008 BETWEEN 8/24/2008	([FIELD VALUE] >= '7/24/2008') AND ([FIELD VALUE] < '8/25/2008')
7/24/2008 1:23 PM BETWEEN 8/24/2008 3:45 PM	([FIELD VALUE] >= '7/24/2008 1:23 PM') AND ([FIELD VALUE] <= '8/24/2008 3:45 PM')
7/24/2008 BETWEEN 8/24/2008	([FIELD VALUE] >= '7/24/2008') AND ([FIELD VALUE] <'8/25/2008')
07/27/2008	([FIELD VALUE] >= '07/27/2008') AND ([FIELD VALUE] < '7/28/2008')
>= 100	[FIELD VALUE] >= '100'

Valid search strings	Returns items where…
<= 100	[FIELD VALUE] <= '100'
= 100	[FIELD VALUE] = '100'

The following table includes examples of invalid data and number search strings.

Invalid search strings	Description
> 7/24/2008	The equal sign must be used with the greater than operator (as in >=).
< 7/24/2008	The equal sign must be used with the less than operator (as in <=).
>= 0/24/2008	The search string includes the value 0 for the month.
= 0/24/2008	The search string includes the value 0 for the month.
0/24/2008 BETWEEN 8/24/2008	The search string includes the value 0 for the month in the starting date.
7/24/2008 BETWEEN 0/24/2008	The search string includes the value 0 for the month in the ending date.

12.3.8 Using advanced textbox filtering

You can use the following operators with advanced filtering:

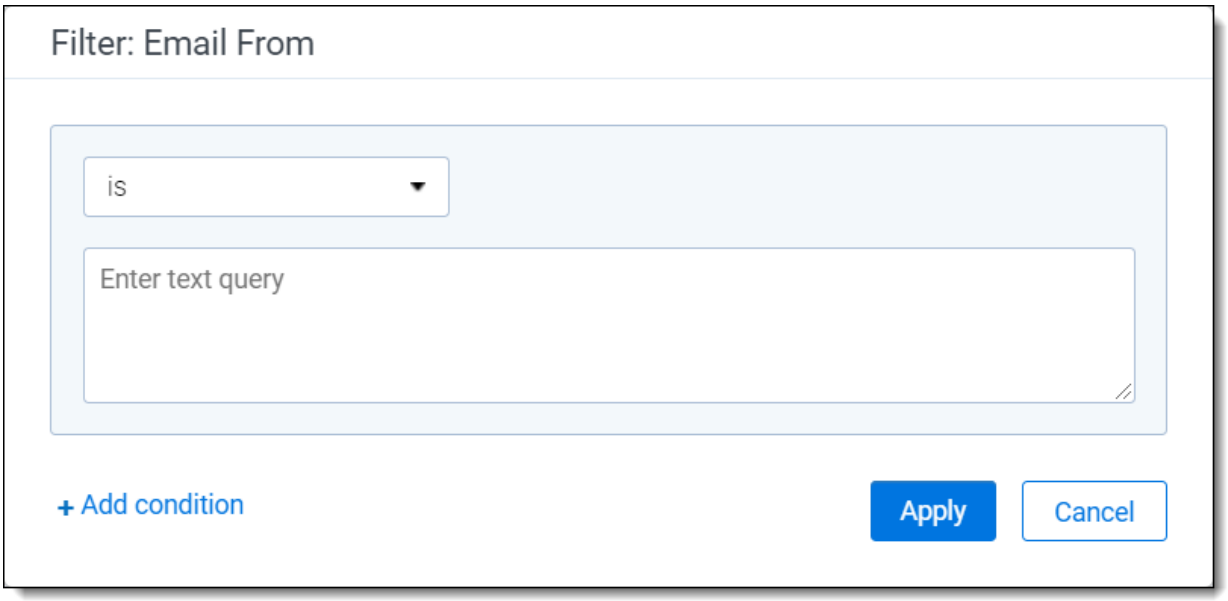
- Is
- Is not
- Is set
- Is not set
- Is less than
- Is greater than
- Is like
- Is not like
- Contains
- Does not contain

To use advanced textbox filtering:

1. Click inside the **Filter** textbox for the text field in the column header.

   A drop-down filter displays the **Advanced** option.
2. Click the **Advanced** option to launch the Filter popup screen.
3. Choose an operator (e.g., is greater than). See Fixed-length, long, or extracted text operators in the

Searching guide for a list of definitions of the available operators.



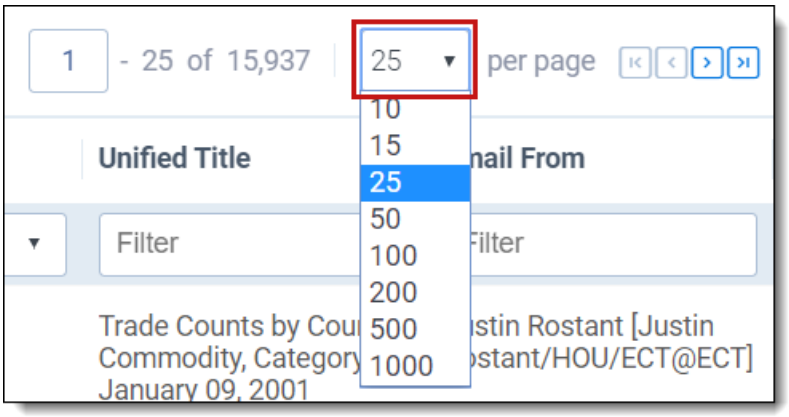
4. Enter the desired value (e.g., 100. The filter will only return items where the value of the field is greater than 100).
5. (Optional) Click **Add condition** to add a new filter condition (e.g., you may want to also return items where the text field contains the word privilege).

   Note: Multiple conditions are automatically connected with an OR operator.

6. Click **Apply** to apply the filter condition.

12.4 Changing item sets per page

You can use the set selector menu to change the number of items that appear per page. The set selector menu appears at the top of the screen. The option you select remains the default setting during your session until you select another option.



12.5 Saving filters as a search

To save your filtered item set as a saved search:

1. Click Save search next to the mass operations drop-down menu at the bottom of the item list to open the Saved Search window.
2. Select or enter the following required information:
   - **Name** - Enter a title for the search. The title appears in the saved searches browser.
   - **Owner** - Select **Public** to make the search available to all users or choose a specific user from the list. Click **Me** to select your name from the list, making the search private. (Users must have the appropriate privileges to view searches.) See Controlling the visibility of saved searches in the Searching guide.
   - **Search Folder** - Click the **Select** Select button to launch a pop-up window where you can save the new search to a specific folder on the saved searches browser. Highlight the folder where you want to save the search, and then click **OK** to select it.
3. Add to or modify the search criteria as needed. See Creating or editing a saved search in the new UI framework in the Searching guide.
4. Click **Save**.

13 Groups

With groups you can organize users in Relativity. A user can be a member of one or more groups. You can grant groups permission to view admin tabs from Home. You can also add groups to workspaces and set permissions per group on a workspace-by-workspace basis.

Using groups

As a system admin, you want your reviewers to have access to all the documents in your workspace to begin review on a case.

You create a group called "First Pass Reviewers" and assign permissions to that group to be able to view and code documents. You then add that group to the workspace and send an email to all the reviewers announcing that they can begin review in that workspace.

One of the users in the First Pass Reviewers group is also in another group that manages a message of the day with preliminary announcements that all reviewers need to see upon log in. While other users in the First Pass Reviewers group can only see the tabs in workspaces available to that group, an admin reviewer can also see the Instance Details tab, so he can post announcements in the Message of the Day section to everyone who accesses Relativity.

13.1 System groups

Relativity workspaces include the following default system groups:

- **Everyone** - All users are members of the Everyone group. System admins can manage the permissions all users have on system level views and scripts. You are unable to revoke certain permissions for the Everyone group.
- **System Administrators** - Relativity system admins have rights to see every item in a Relativity environment. System admins have full access to all admin tabs. System admins can then create and edit new clients, matters, users, groups and views, among other capabilities. System admins also have the following script and applications-related permissions: view, run, preview, create/write, edit (unlocked scripts only), link, and import applications.

  Note: Regardless of permissions, system admins can't edit locked scripts.

The following table shows script permissions for each group.

	View	Run	Edit (locked scripts)	Edit (unlocked scripts)	Preview	Write	Link
System Admin	✓	✓		✓	✓	✓	✓
Standard User	✓	✓					✓

13.2 Creating and editing groups

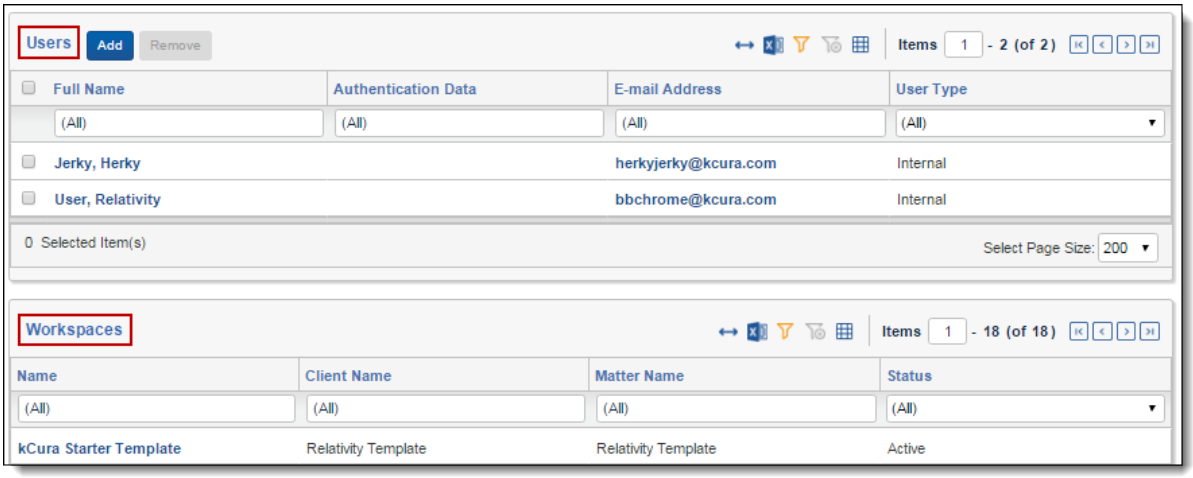
To create a new group or edit an existing group:

1. Click your name in the upper right corner of Relativity, and then click **Home**.
2. Click the **Groups** tab.
3. Click **New Group**. To edit group information, click the **Edit** link next to an existing group name.

   Note: If your groups list doesn't show Edit links, edit the All Groups view to display the Edit link.

4. Add or edit the fields on the group details page. See Fields below for details.
5. Click **Save** to save the group information.

The group details page displays a list of users added to the group as well as group-accessible workspaces. For more information, see Managing security in the Admin guide.



13.3 Fields

The groups object contains the following fields:

Group Information

- **Name** - the group's name, which is a required field for creating a group.

  Note: As your Relativity environment grows, arbitrary group names like "Group 1" can produce a confusing administrative workflow. Name each group according to their purpose and permission level, such as "ACME Co. Reviewer" and "ABC Corp. Administrators."

- **Client** - a required field that makes the group a child object of the chosen client.
- **Group Type** - an uneditable field that displays one of the following categories:
  - System Admin
  - System Group
  - Personal
  - Everyone
  - Workspace Admin

- **Keywords** - an optional field where extra group information may be recorded.
- **Notes** - an optional field where extra group information may be recorded.

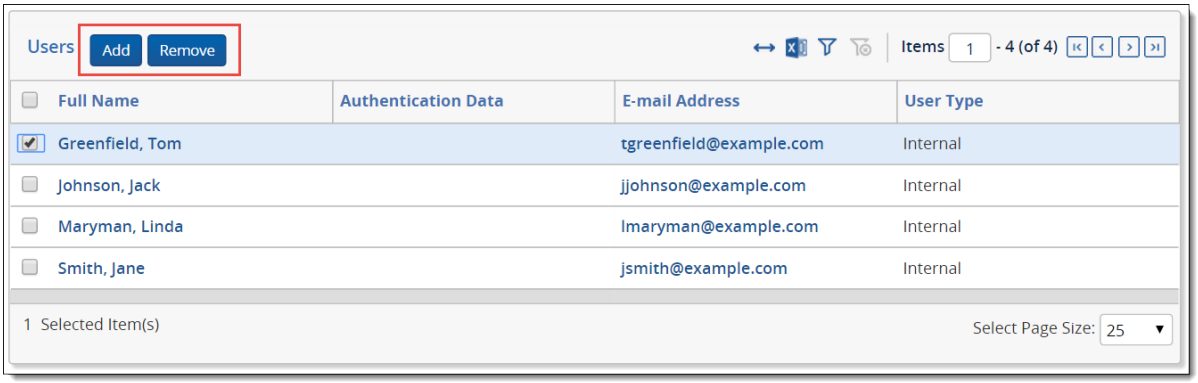
13.4 Adding users to groups

You can add and/or remove users from groups from either the group details page or the user details page. The procedure is the same for both.

Note: A job is executed when you add users to a group or when you remove them from one. If your Relativity environment is configured with an SMTP server, you receive an email message when the job is completed. To use the notification feature, set the RelativityInstanceURL instance setting. Ensure that the value for this setting is the URL for your Relativity instance. For example, the URL would have the format: https://example.relativity.com/Relativity. The user receiving the notification must have access to this URL. For more information, see the Instance Setting Guide.By default, user and group operations are disabled. Contact Customer Support for information about enabling user and group operations in your Relativity environment.

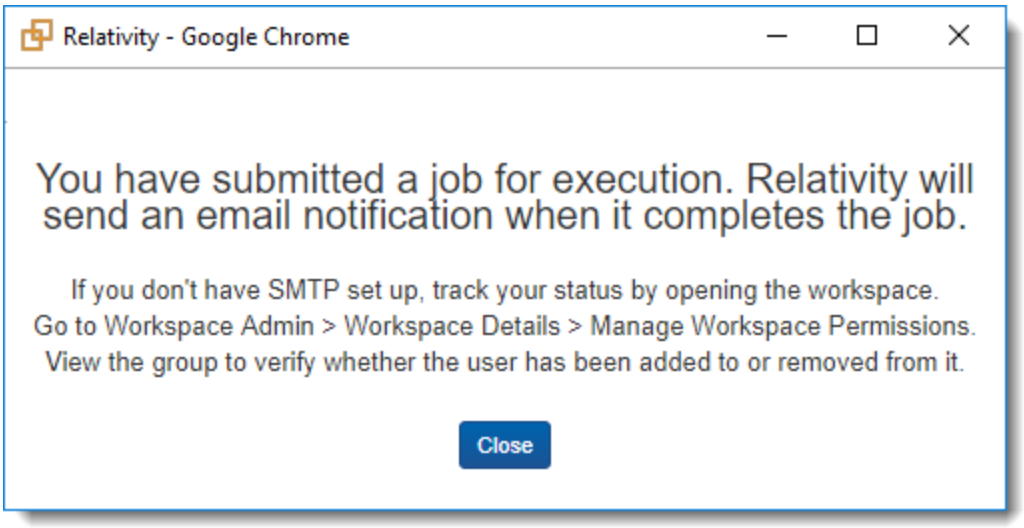
To add or remove users:

1. Click your name in the upper right corner of Relativity, and click **Home**.
2. Click the **Groups** tab. You can complete the following steps from either the Users or Groups tabs:
   - From the **Users** tab, click the name of a user and scroll down to the Groups section on the form.
   - From the **Groups** tab, click the name of a group and scroll down to the Users section on the form.
3. To add a user to the group, click **Add** in the Users or Groups section depending on the tab.



4. Choose an item on the selection dialog, and click **OK**.

5. Click **Close** on the message indicating that you have submitted a job.



Note: Relativity sends an email message notifying you when the job is completed. If an error occurs, the email message contains a link that you can use to retry the job. You must be logged into Relativity before you click the retry link. The Errors tab also displays the retry link. For more information, see Errors on page 180.

6. To remove a user from a group, click **Remove**. Click **OK** on the confirmation message, and then click **Close**.

Note: You can preview the security of a group to determine whether or not the appropriate permissions are granted to that group over particular workspaces. For more information about previewing group security see Preview security.

13.5 Adding or removing groups from a client domain

You can add or remove objects from client domains if you activate the client domains feature.

Note: Moving a group into a client domains may cause the group to lose previously configured permissions.

Note: Relativity displays a warning message when a sys admin attempts to edit or copy permissions for any group in a client domain. This warning makes the sys admin aware that modifying permissions may have significant consequences. For example, changing permissions may allow client domain users to modify items outside their tenancy. The sys admin can click **Manage Permissions** to proceed with the update or **Cancel** to exit the pop-up window.

Use the following steps to add a group to a client domain:

1. Navigate to the **Groups** tab.
2. Select the group you want to add to the client domain from the list.
3. Click **Edit**.

4. Click **Select** next to the **Client** field in **Group Information** section.
5. Select the client with client domains enabled from the list.
6. A warning message requires you to confirm your decision by clicking **Save**.
7. Click **Save**.

Use the following steps to remove a group from a client domain:

1. Navigate to the **Groups** tab.
2. Select the group you want to remove from the client domains from the list.
3. Click **Edit**.
4. Click **Select** next to the **Client** field in **Group Information** section.
5. Select a client not associated with a client domain from the list.
6. Click **Save**.

14 History

On the History tab, you can view the actions of users throughout the workspace. Relativity has a comprehensive audit system that logs actions that users perform, object types, timestamps, and other details. This tab also includes views and filters to help you navigate through the audit records.

If the workspace has been restored, ensure that Audits have been migrated properly. Also, ensure you have allowed viewing of audits at the workspace level for the group.

Note: When you view a document in the Review Interface, you can display its history in the related items pane by selecting the Document History icon.

Using history

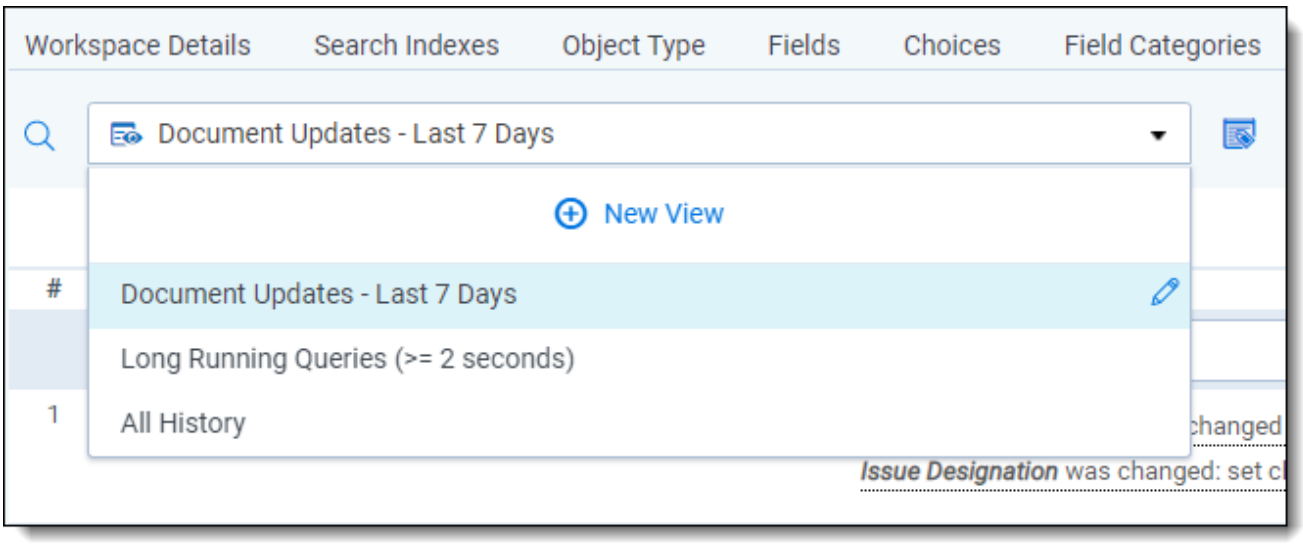
You are a system admin and you recently had to let one of your reviewers go after it was discovered that he had insufficiently redacted sensitive information contained in a large group of documents right before you were planning to produce those documents and send them to the presiding judge. In addition to going back and correctly applying that reviewer's redactions, you need to look up all the other places in the workspace in which he might have incorrectly coded documents or, in general, entered inaccurate information.

To find all areas in the workspace that this reviewer touched, you navigate to the Administration tab, then to the History tab. Since he'd been working on this project for at least a month, you change the view from its default of Document Updates - Last 7 Days to All History. Then you simply filter the User Name field and select the name of the reviewer.

When the results come back, you notice that this reviewer was particularly active and that there are over 1,000 user actions attached to his name. To ensure that none of these actions compromised any other segment of the review project or skewed information intended to be used as evidence, you need to review each one. To help in this effort, you enlist two of your more reliable reviewers to go through this list of History items and check the departed reviewer's clicks.

14.1 History view fields

You can customize the views available on the History tab or create new views as necessary. The History tab includes pre-configured views for recently updated documents, long running queries, and imaging history, which you can modify.



The following fields are available in views on this tab:

- **Action**—the user activity captured in the audit record.
- **Artifact ID**—the artifact ID of the audit action.
- **Details**—the detailed description of the audit action.
- **Execution time**—the length of time in milliseconds for a document query to run.
- **ID**—the identifier for the audited item; each tracked action has its own unique identifier.
- **Name**—the name of the object.
- **Object type**—the type of object.
- **Request origination**—the connection details for the user that sent the change request.
- **Timestamp**—the date and time when the audit action occurred.
- **User name**—the user who initiated the action.

You can export the contents of a view to Excel using at the top of the screen. Only the currently-loaded records are included in the Excel file. For example, in the following workspace, only 1,000 records would be included instead of the full 2,501 records.

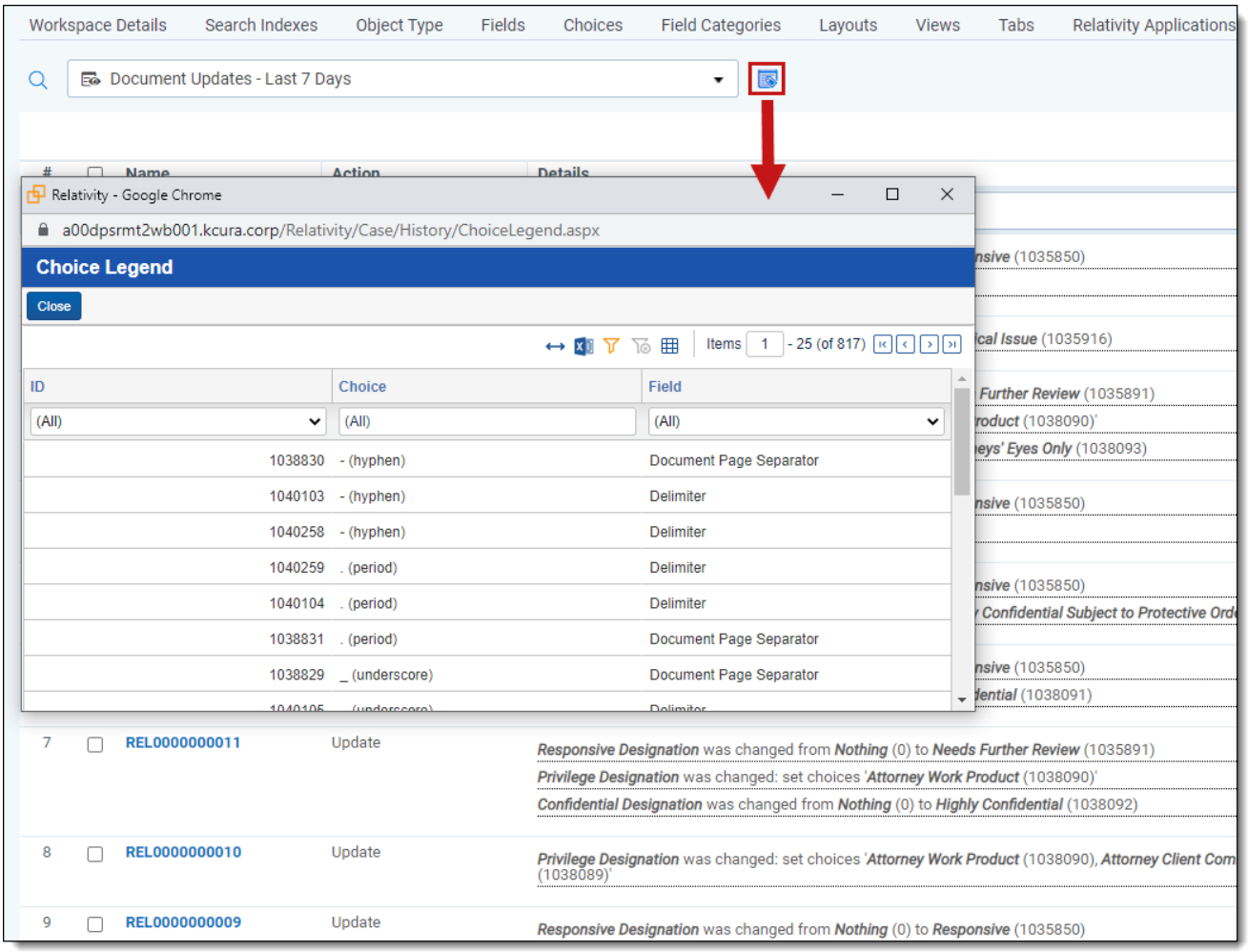
Some features' history views are more detailed.

- For more information, see Saved search history in the Searching Guide.

14.2 Filters on the History tab

On the History tab, you can search for specific audit records by using filters just as you would on other tabs. For more information on filtering, see Filters in the Searching Guide.

You can also search for choice values using the **Details Filter**. Actions related to field choices are recorded using Artifact ID. To display the Artifact ID for choice values, click the **Choice Legend** icon in the view bar.



On the Choice Legend pop-up, you can search for choices in the workspace, their artifact IDs, and their associated fields. You can then enter Artifact ID listed for a choice value in the Details Filter and filter the audit records.

Note: You can also use views to filter audit records. See History view fields on page 232.

14.3 Audited actions

The following table lists audited actions in Relativity:

Note: If you perform a job while previewing a user's security settings, the audit action will be credited to your user name and not to the user whose security you were previewing when you started the job.

Action name	Description of activity
CaseMap - Add Document	A document was sent to CaseMap.

Action name	Description of activity
CaseMap - Add Fact	A selection of text from the viewer was sent to CaseMap as a fact.
Conversion Complete	A file was converted by way of a user clicking on a file link in the document list, running an imaging set, imaging on the fly, running a mass image operation, or switching to text or production mode in the viewer.
Create	An item was created.
Delete	An item was deleted.
Document Query	A query was run on a list of documents, or a document query was canceled. (A message indicating that a query was canceled is displayed in the details and on the Query Text pop-up.)
Export	The contents of a production set, saved search, folder, or subfolder were exported.
Images - Created	Images were created.
File Download	A file was downloaded through the Single Simple File Upload application. For example, a user clicked Download File on the Error Actions console of an individual processing error layout.
File Upload	A file was uploaded through the Single SimpleFile Upload application. For example, a user clicked Upload Replacement File on the Error Actions console of an individual processing error layout.
Images - Created for Production	Images corresponding to a production outside of Relativity were imported into the system.
Images - Deleted	Images were deleted.
Import	Content associated with a load, production, or image file was imported.
Markup - Image - Created	Redactions or highlights were added to an image.
Markup - Image - Deleted	Redactions or highlights were removed from an image.
Markup - Image - Modified	Redactions or highlights were moved, resized or edited on an image.
Markup - Native - Created	Redactions or highlights were added. This audit entry applies to transcripts only.
Markup - Native - Deleted	Redactions or highlights were removed. This audit entry applies to transcripts only.
Markup - Native - Updated	Redactions or highlights were moved, resized or edited. This audit entry applies to transcripts only.
Move	A document was moved from one folder to another.
Native - Created	A native file was loaded into Relativity.
Native - Deleted	A native file was removed from Relativity.
Pivot Query	A Pivot report was run, or a Pivot report was canceled. (A message indicating that a query was canceled is displayed in the details and on the Query Text pop-up.)
Print	A document was printed. (ActiveX viewer only)
Production - Add Document	A document was added to a production.

Action name	Description of activity
Production - Remove Document	A document was removed from a production.
Query	A process ran a query (such as categorization), or a query was canceled. (A message indicating that a query was canceled is displayed in the details and on the Query Text pop-up.)
RelativityScriptExecution	A Relativity script was run.
ReportQuery	A summary report was run.
Run	A file was imaged, saved as a PDF, or otherwise converted for viewing
Search Cache Table Creation	A search cache table was created. (Search cache tables are created the first time you search for a term or phrase using dtSearch or Relativity Analytics.)
Security	Security rights were assigned or changed
Tally/Sum/Average	The mass operation Tally/Sum/Average was run in the workspace.
Update	Document metadata was updated on a single-document basis. In addition, filters on information related to applications installed through the workspace or by an agent.
Update - Mass Edit	Document metadata was updated on a mass basis.
Update - Mass Replace	Document metadata was edited using a text mass replacement.
Update - Propagation	Document metadata was edited according to a propagation rule.
View	A document was viewed.
Workspace Upgrade	Details about scripts run on a workspace during an upgrade.

Note: No login action exists when you access a workspace. Relativity interprets the login based on any other auditable action in the workspace. For example, if you view a document in Workspace A, Relativity audits that view action on the History tab and indicates that a user accessed Workspace A.

14.4 Exporting the history list

You can export a history list view as a .csv file using the following steps:

Note: When Audit is installed, you can't export from the History tab.

1. Navigate to the **History** tab.
2. Select the history objects you would to export.
3. Click **Export to File**.
4. A pop-up appears. Select values for the fields:
    1. **Format**—select Comma Separated Values, .csv, which creates a comma delimited text file.
    2. **Encoding**—select the desired encoding for the output file.
    3. **Escape Formulas**—select yes or no. When you select yes, any line starts with the following special characters: =,@,+,-, or if the line starts with any combination of spaces before those characters, Relativity prepends a single quote to the line.
5. Click **Run** to export the file or **Cancel** to cancel the export.

15 Imaging

You can use imaging to convert a group of documents to images using imaging profiles and sets. You can fine-tune how your images generate by creating reusable profiles that use specific image settings.

With imaging sets, you can image a group of documents by selecting a saved search and a specific imaging profile. Imaging sets also provide error-handling functionality you can use to view error messages and rerun imaging on specific documents or jobs.

Beginning in Relativity 9 the worker manager server is required to perform both basic and native imaging.

Note: Beginning in Relativity 9.0, Oracle is no longer built into the Relativity agent framework, but is instead built into the Invariant worker. The required Worker Manager Server/Invariant component actually does the work of basic imaging by using Oracle's imaging capabilities.

Note: Starting in Relativity 8, when you upgrade the Imaging application, your default native imaging settings aren't over-written, which means that you aren't required to re-set them.

Using imaging

You're a system admin and the workspace you're managing contains 500 files that you need to make into TIFF's so that a group of reviewers in England can apply markups and redactions to these images and eventually produce them. This is too many files to ask your reviewers to image individually by themselves in the Viewer, as this would add unnecessary time to their review.

You create a new imaging profile that provides the appropriate settings for European reviewers. Then you create a new imaging set that uses a saved search containing the 500 documents you need to image and that references the profile you created. Then you run the imaging set, which images all 500 documents at once, thus equipping your reviewers with the images they need and saving hours of time.

15.1 Required security permissions for imaging

The following security permissions are required to image documents in Relativity. These apply to all imaging options, including image-on-the-fly, mass image, and imaging sets, unless otherwise noted.

Object security	Tab visibility	Other settings
▪ **Document** – Add, View ▪ **Imaging Profile** - View, Edit, Add ▪ **Imaging Set** - View, Edit, Add **Notes:** You can still use mass imaging and image-on-the-fly even if you don't have the Edit permission on the Imaging Set object. ▪ **Native Type** - View	▪ Documents ▪ Imaging Profiles ▪ Imaging Sets	Mass Operations ▪ Image System Field requirements ▪ Has Images field

Object security	Tab visibility	Other settings
Notes: View permission for the Native Type object is needed to create a new Basic and/or Native Imaging Profile.		

*View permission for the Native Type object is needed to create a new Basic and/or Native Imaging Profile.

Note: When you run imaging on a specific saved search used in an imaging set, documents that don't have the "Add Image" permission will be skipped.

15.2 Installing imaging agents

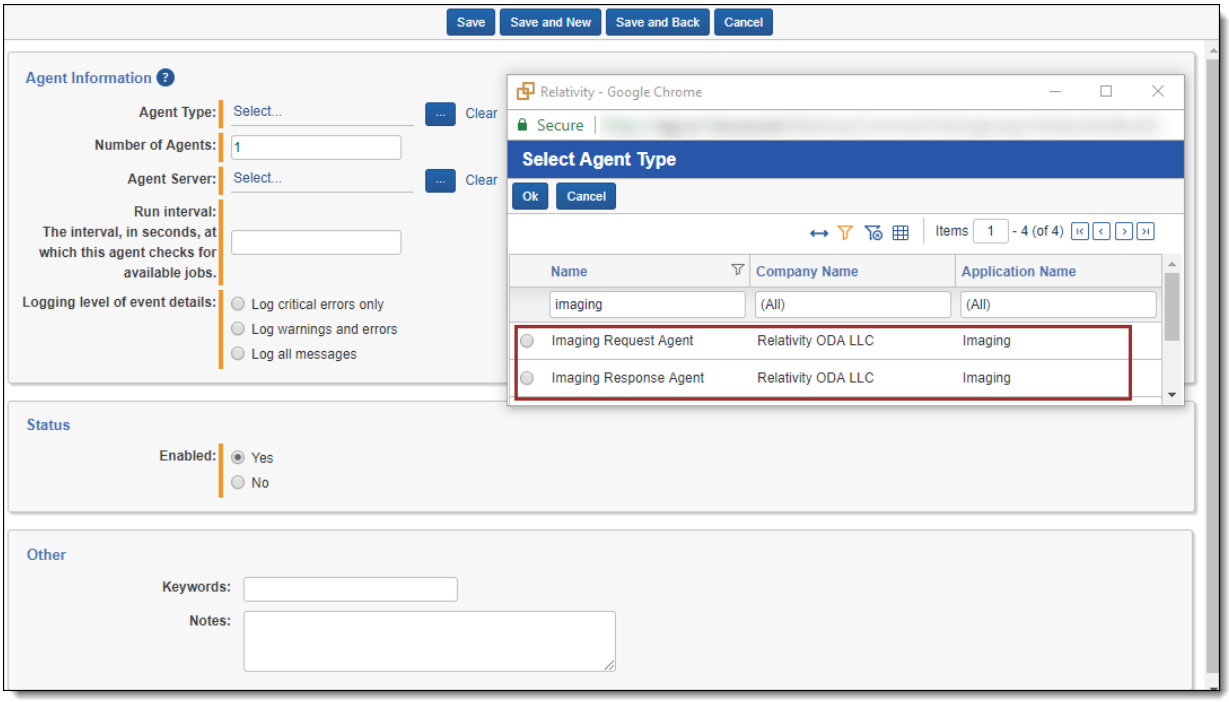
To run any imaging job in your environment, you need the following agents:

- **Imaging Manager Agent** - ensures that Imaging is functioning properly. This includes tasks such as cleaning up stuck imaging jobs and deleting Imaging Warnings that are no longer linked to documents.
- **Imaging Request Agent** - performs background tasks when any imaging request is submitted via mass imaging, image on the fly, or imaging set.
- **Imaging Response Agent** - picks up imaging set, mass imaging, and image-on-the-fly messages from Service Bus (as published by Workers) and directing them to the proper finalization logic in Relativity.

These agents are automatically installed and enabled in your environment.

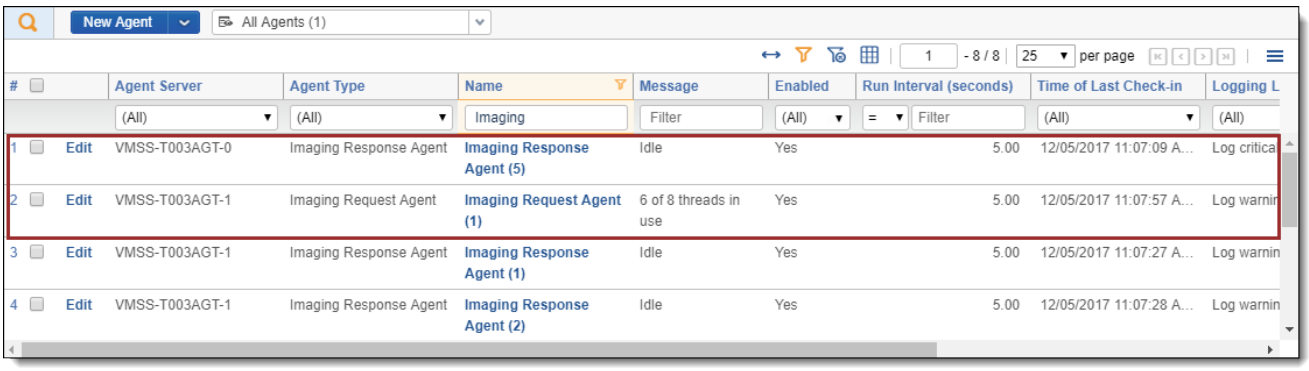
To install an additional agent:

1. Navigate to the **Agents** tab.
2. Click **New Agent** and complete the following required fields:

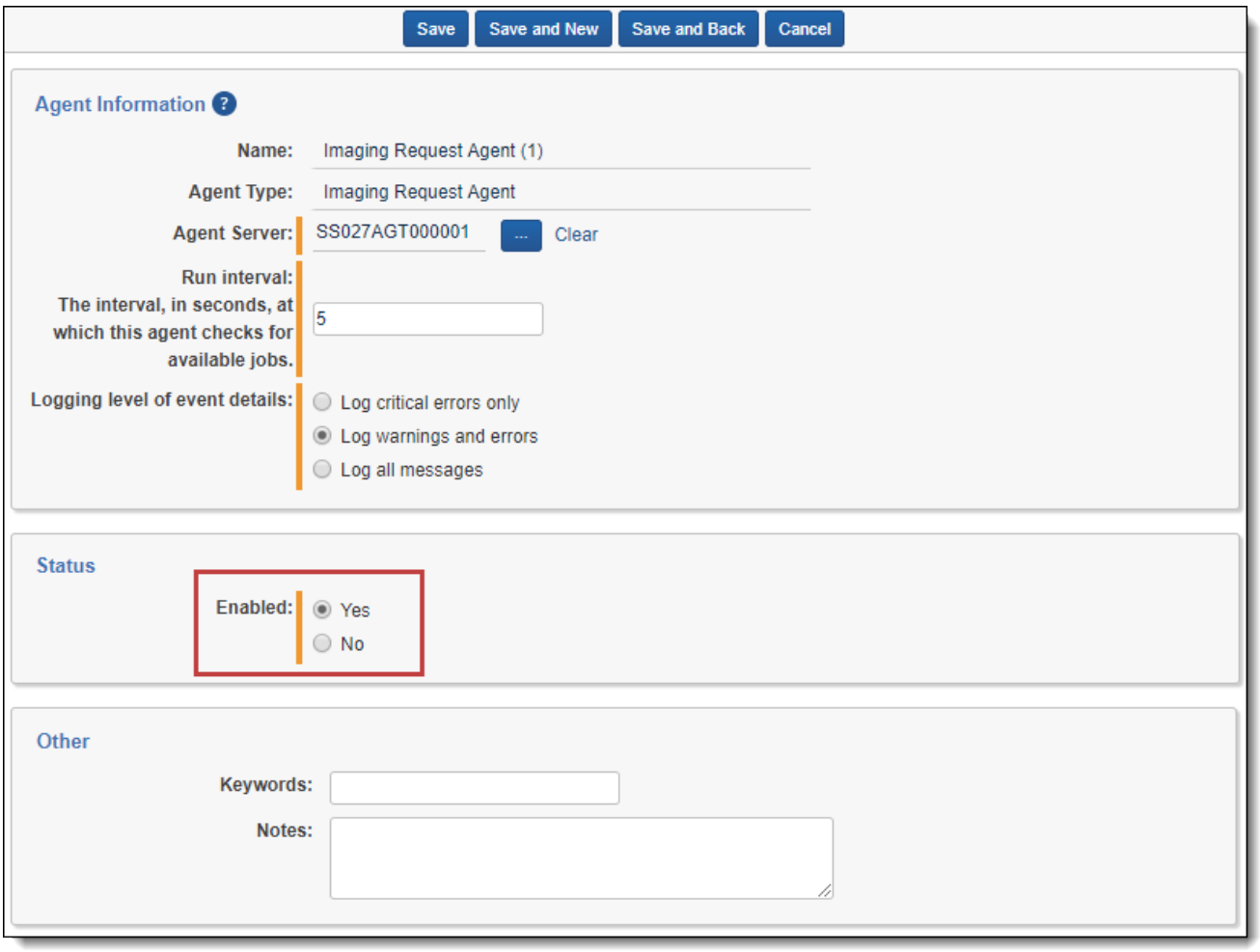


   - **Agent Type** - access the list of agents, filter for the Imaging Request/Response Agent, select it, and click **OK**.
   - **Number of agents** - enter the number of agents you want to add.
   - **Agent Server** - select a server and click OK.
   - **Run interval** - enter the interval, in seconds, at which the agent should check for available jobs.
   - **Logging level of event details** - select Log critical errors only (recommended), Log warnings and errors, or Log all messages.
   - **Enabled** - select **Yes**.
3. Click **Save**.

Verify the **Enable** column displays Yes for the Imaging Request and Response agents.



You won't be able to start any imaging jobs in your workspace if this agent becomes disabled. To re-enable a disabled Imaging Request/Response Agent, click **Edit** on the appropriate agent, set the **Enabled** field to Yes, and click **Save**.



15.3 Troubleshooting imaging

In the event a user reports missing **Image** commands (in the Viewer or mass operations menu), or the Imaging Sets **Run** button is disabled, address the following potential causes:

- The **Imaging** application was uninstalled from **Relativity Applications**
- The user is a member of a group that doesn't have one or both of the following security permissions granted:
  - **Mass Images** (Mass Actions permissions)
  - **Add Image** (Document security permissions)

15.4 Image on the fly

By using the Imaging option in the Viewer, you can image a single document on the fly with any imaging profile you have permissions to. For more information, see Imaging on the fly on page 769.

15.5 Mass image

You can image multiple documents at the same time by using the Mass Image operation in the document list. Select an Imaging Profile to use when imaging a group of documents. For more information on mass imaging, see Mass image on page 417.

15.6 Imaging profiles

An imaging profile controls the settings used to image a group of documents. You can convert documents to black and white TIFF files or colored JPEG files. After you create a profile, you can use it in multiple imaging sets, update the profile settings, and set permissions on it. Imaging profiles, as well as any updates to the default profile, are included in workspace templates.

Relativity includes a default imaging profile that has the recommended default settings preset. It's best practice to make a copy of this default profile and make changes as appropriate when creating additional profiles. The mass image and the image-on-the-fly functionality defaults to this profile, but you can select any other profile when converting documents to images.

Note: Imaging profiles are to be used solely on the needs of your case, such as on document type or on the format needed for production. Imaging profiles don't correspond directly to Relativity user types, in which case there is no single imaging profile type that is better suited for a case/project manager, reviewer, or lit support specialist than any other.

There are two main options for creating an imaging profile:

- **Basic Imaging Engine Options** - provides a select number of simple settings for creating the profile.

  Note: The imaging method must be set to Basic only if the resource pool isn't set up to perform native imaging.

- **Native Imaging Engine Options** - provides an expanded range of settings for creating a profile with Relativity's worker manager server.

For more information on installing the worker manager server, see the Worker manager server Installation Guide.

Using imaging profiles

You need to provide reviewers in England with a group of 500 TIFFs so that they can redact and apply markups to them in the Viewer without having to first image them individually. To do this, you create a new imaging profile specifically tailored to their needs, which include an above-normal DPI of 450 and an image size of A4 (8.27 in x 11.69 in).

Once you create this profile, you can use it as part of the imaging set.

15.6.1 Creating and editing an imaging profile

To create or edit an imaging profile:

1. Navigate to the **Imaging** tab and select the **Imaging Profiles** tab in a workspace.
2. Click **New Imaging Profile** to launch the Imaging Profile form.
3. Complete all required fields. See Fields for details.
4. Click **Save**.

Note: When you create a new profile from scratch, no default values exist for any profile fields. If you'd like to create a new profile with default values already in place, you can copy the Default profile provided by Relativity, give it a unique name, and use it as a base for an imaging job.

Note: Relativity propagates native file types to imaging profiles only when the profile is created.

15.6.2 Fields

Expand the below drop-downs to view the fields and their descriptions associated with each section of the imaging profile.

Note: * indicates fields that are set automatically with default settings. You can change these settings as needed.

Imaging Profile Options

- **Name** - the name of the imaging profile.

  Note: You can not rename the default profile.

- **Imaging Method** - sets the type of imaging for the profile. The imaging engine options appear for the selected imaging method.
  - **Basic** - uses a select number of user-specific settings to image documents using Oracle.
  - **Native** - uses an expanded range of user-specific settings to image documents using the worker manager server.

    Note: A warning appears if you cannot perform native imaging.

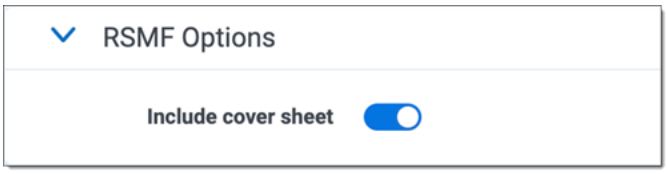
Basic Imaging Engine Options

- **Basic Image Output Quality (DPI)*** - controls the resolution and density of an image in dots per inch. The higher the DPI, the more detail is shown in the image. A typical range for DPI is 200-

600.The default for this field is set to **300**; this is the value found in the Default profile.

- **Basic Image Format*** - sets the image format for files sent to the basic imaging engine for the profile, the default for this field is set to **TIFF**. The options are:
  - **JPEG** - renders the image as a color JPEG file. Selecting this can possibly decrease imaging performance because JPEGs have larger file sizes than TIFFs and therefore require more disk space.
  - **TIFF** - renders the image as a black and white TIFF file. This is recommended; this is the value in the Default profile.
- **Basic Image Size*** - sets the image size for all images rendered with the basic imaging engine profile, the default for this field is set to **Original setting**. The options are:
  - **Original setting** - renders the image with the original document settings.
  - **Letter (8.5 in x 11 in)** - renders the image in standard letter size.
  - **A4 (8.27 in x 11.69 in)** - renders the image in A4 size.
  - **Legal (8.5 in x 14 in)** - renders the image in legal paper size.
  - **Custom** - sizes the image by using either or both values in the Maximum Image Width and Maximum Image Height fields. When you enter a value in either or both of these fields, Relativity converts the document to an image size that fits within these parameters, while maintaining the aspect ratio. If both of these fields are empty, Relativity displays an error message indicating that you must enter a value in one of them.
- **Maximum Image Height (Inches)** and **Maximum Image Width (Inches)** specify the largest allowable size for the generation of custom images. Relativity converts the document to an image size that fits within these parameters, while maintaining the aspect ratio. Only the Custom option references these fields, requiring you to enter a value in at least one of them.

RSMF Options
Select the **Include cover sheet** toggle to include or exclude a cover sheet.



Native Imaging Engine Options

- **Native Image Output Quality (DPI)*** - controls the resolution and density of an image in dots per inch. The higher the DPI, the more detail in the image. A typical range for DPI is 200-600.The default for this field is set to **300**; this is the value found in the Default profile.
- **Native Image Format*** - sets the image format for files sent to the native imaging engine for the profile, the default for this field is set to **TIFF**. The options are:
  - **JPEG** - renders the image as a color JPEG file. Selecting this can possibly decrease imaging performance because JPEGs have larger file sizes than TIFFs and therefore require more disk space.

- **TIFF** - renders the image as a black and white TIFF file. This is recommended and is the value in the Default profile.

- **Automatically detect and render color pages to JPEG*** - (Overrides 'Native Image Format' selection of TIFF) auto-detects and images color pages as JPEG files even if you selected TIFF as the Native Image Format. If you select Yes, Relativity overrides the TIFF Native Image Format for color pages only. If you select No, color pages remain as TIFFs. The default for this field is set to **No**.
- **Maximum pages imaged per file** - a native global setting for all document types that sets the maximum number of document pages that are imaged. For example, if you set this value to 50 and have a 100-page document, Relativity only images the first 50 pages of the document. Use this option to image only the number of pages entered in this box.
- **Dithering Algorithm*** - the procedure the native imaging engine uses to convert images from color to black and white TIFFs. This setting is only used if Native Image Format is set to TIFF, the default for this field is set to **Floyd Steinberg**. The algorithm options are:
  - **Clustered 6x6** - groups pixels into clusters of 6x6.
  - **Clustered 8x8** - groups pixels into clusters of 8x8.
  - **Clustered 16x16** - groups pixels into clusters of 16x16.
  - **Dispersed 4x4** - disperses pixels in a 4x4 matrix.
  - **Dispersed 8x8** - disperses pixels in an 8x8 matrix.
  - **Dispersed 16x16** - dispersed pixels in a 16x16 matrix.
  - **Floyd & Steinberg** - diffuses the difference between the actual analog value and quantized digital value of a pixel to its neighboring pixels.
  - **Threshold** - compares each pixel value against a fixed threshold. During this process, individual pixels in an image are marked as object pixels if their value is greater than the threshold value. If their value is less, they're marked as background pixels. If you select this, you must provide a value between 0-255 in the Dithering Threshold field.
- **Dithering Threshold** - sets the threshold against which all pixels are compared. This is required if you chose Threshold for the Dithering Algorithm field above. You can provide any value between 0 - 255. The recommended default threshold is 128. When the pixel RGB color model in an image is greater than the threshold, it's converted to black. When less, it's converted to white.
  - See Native imaging - dithering algorithm options on page 287 for details on the various dithering algorithms available within Relativity native imaging, as well as use cases for each algorithm, including the size and clarity of images you create.
- **Native Image Time Zone**—determines what time zone is used to display dates/times in a document image. While this field updates the date sent when native imaging an email, the native document and metadata stays unchanged.

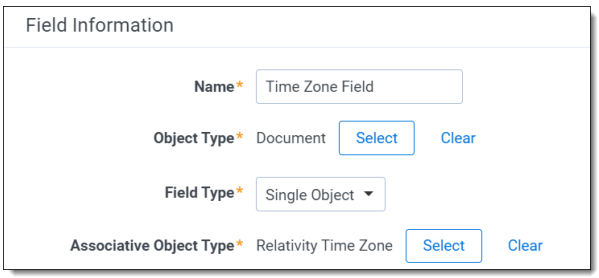
Notes:

- For Native Image Time Zone to apply, you must select Date Sent for the Native Image Date field. If you don't make a selection, Native Image Time Zone will not apply and defaults to the current date.
- Native Image Time Zone field only supports MSG and EML files for email.

To set the time zone value on documents in Relativity, click the drop down next to the Native Image Time Zone field and then select a time zone field from the picker. If you don't select an option here, the time zone defaults to Coordinated Universal Time (UTC).

To add an option to the Native Image Time Zone picker list:

- From the **Fields** tab, click **New Field**.
- Set these fields:



  - **Name**—type the name of the Native Image Time Zone option that you are creating.
  - **Object Type**—select Document.
  - **Field Type**—select Single Object.
  - **Associative Object Type**—select Relativity Time Zone.
- Click **Save**.

- **Native Image Date** - select any document-level date field available in the pop-up picker as the current date used when rendering date-related document field codes. If no selection is made here, the Native Image Date defaults to the current date (today's date). Microsoft Visio documents are incompatible with Native Image Date. If this field is set set for an imaging profile with linked time and date Application Field Codes, the linked Application Field Codes override the Native Image Date setting on the profile.

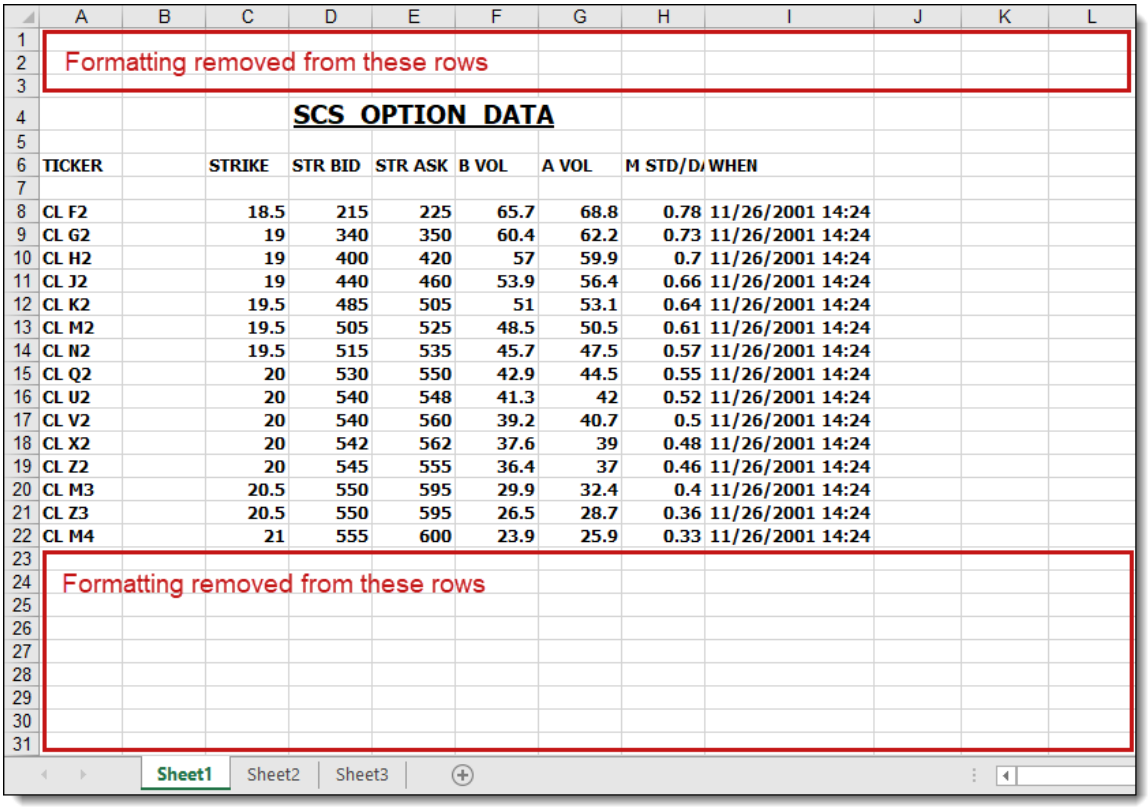
Spreadsheet Options

- **Paper size/orientation*** - specify a paper size and orientation for your spreadsheet, the default for this field is set to **Original setting**. The options are:
  - **Original setting**
  - **Letter (8.5 in x 11 in)**
  - **Letter (11 in x 8.5 in)**
  - **Tabloid (11 in x 17 in)**
  - **Ledger (17 in x 11 in)**

- **Page Order*** - determines the order used to render spreadsheets when data exceeds one page, the default for this field is set to **Original setting**. Options include:
  - **Original setting** - renders a spreadsheet based on the spreadsheet's original page setting.
  - **Down, then over** - renders a spreadsheet first from the top of the page to the bottom and then from the left to the right.
  - **Over, then down** - renders a spreadsheet first from the left of the page to the right and then from the top to the bottom.
- **Print Area*** - override any pre-defined print area in an Excel file. When you select Ignore Print Area, Relativity images the entire document, the default for this field is set to **Ignore print area**. The options are:
  - **Original setting** - uses the original print area settings of the document.
  - **Ignore print area** - ignores the original print area settings of the document.
- **Hide and page break after _ consecutive blank rows and columns*** - sets a maximum value for consecutive blank rows or columns. By default, the native imaging engine checks for a run of 10 blank rows or columns and compresses them to limit the number of pages rendered for a spreadsheet. The default for this field is set to **10**.
- **Show track changes in spreadsheet*** - displays any modifications made to the document through the Track Changes option in Excel, the default for this field is set to **Yes**. The options are:
  - **Yes** - shows track changes.
  - **No** - doesn't show track changes.
- **Include row and column headings*** - renders row and column headings (the number assigned to rows and the letters assigned to columns). The options are:
  - **Original setting** - uses the original row and column headings of the document.
  - **Yes** - renders the row and column headings.
  - **No** - doesn't render row and column headings.
- **Include comments*** - determines whether Relativity renders comments found in the spreadsheet, the default for this field is set to **Yes**. The options are:
  - **Yes** - renders comment found in the spreadsheet. This is the value used in the Default profile.
  - **No** - doesn't render comments found in the spreadsheet.
- **Include headers and footers*** - renders headers and footers in the spreadsheet. The printing of these items interferes with the ability of the native imaging engine to detect blank pages – for this reason, it's recommended that you leave this set to No, the default for this field is set to **Yes**. The options are:
  - **Original setting** - uses the original header and footer settings of the document.
  - **Yes** - renders the headers and footers of the document.
  - **No** - doesn't render the headers or footers of the document.
- **Include gridlines*** - renders the gridlines between rows and columns in the spreadsheet, the default for this field is set to **Yes**. The options are:

- **Original setting** - uses the original gridline settings of the document.
- **Yes** - renders the gridlines between rows and columns in the spreadsheet.
- **No** - doesn't render the gridlines between rows and columns in the spreadsheet.

- **Include borders*** - renders the borders of the spreadsheet, the default for this field is set to **Yes**. The options are:
  - **Yes** - renders the borders of the spreadsheet.
  - **No** - doesn't render the borders of the spreadsheet.
- **Unhide hidden worksheets*** - displays hidden worksheets, the default for this field is set to **Yes**.
- **Limit spreadsheet rendering to _ pages** - images only the whole number value of pages entered in this field's textbox. This value must be less than or equal to the maximum pages imaged per file value entered in the Native Imaging Options section above.
- **Zoom Level %** resets the zoom level for a spreadsheet. This value overrides the default settings internally stored in the file. The zoom level range is 10% - 400%.
- **Fit to _ pages wide** - resets the page width for a spreadsheet. This value overrides the default settings internally stored in the file.
- **Fit to _ pages tall** - reset the page height for a spreadsheet. This value overrides the default settings internally stored in the file.
- **Formatting** - determines the formatting of the spreadsheet with the following options:
  - **Auto-fit rows** - expands the dimensions of rows to accommodate their content. When you select these options, Relativity displays any hidden rows. This option is selected by default.
  - **Auto-fit columns** - expands the dimensions of columns to accommodate their content. When this option is selected, any hidden columns display. This option is selected by default.
  - **Clear formatting in empty rows** - clears the formatting from entire rows that do not have content in any of their cells and whose adjacent rows are both empty. This option does not remove the formatting from an empty cell that is a part of a row that has cells with content. With this option, the number of pages rendered is reduced.



Formatting removed from these rows

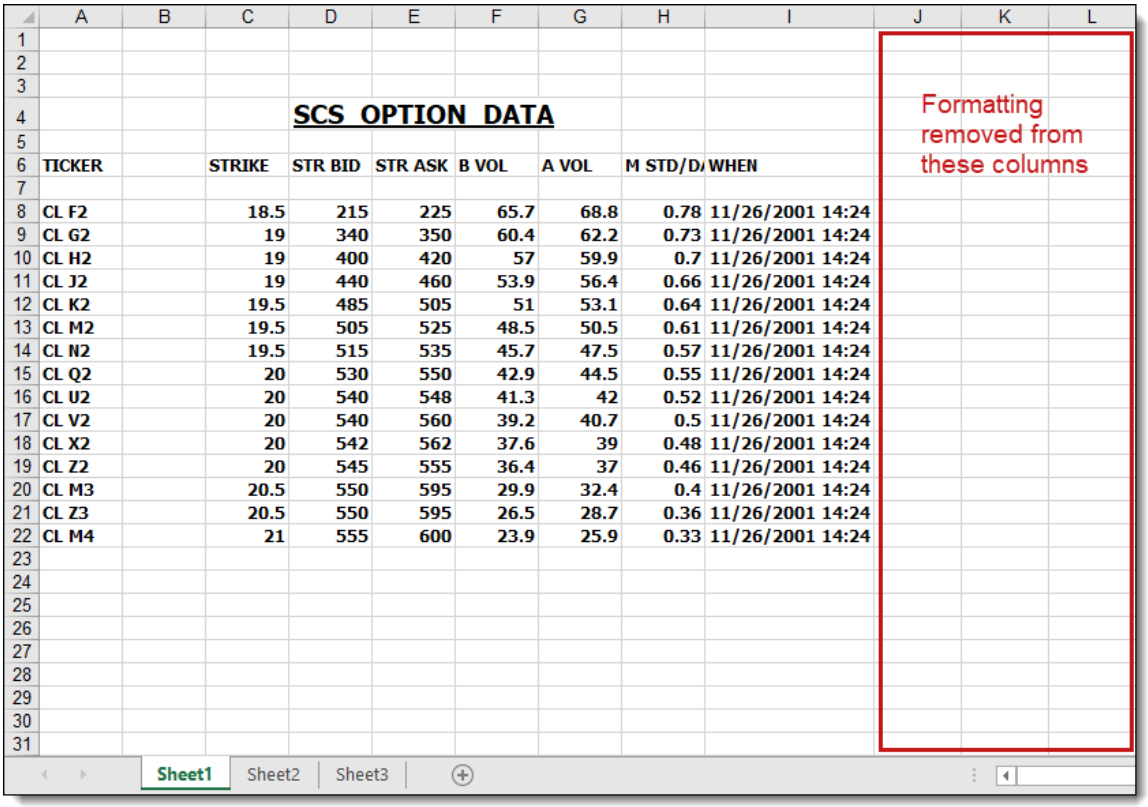
SCS_OPTION_DATA

TICKER	STRIKE	STR BID	STR ASK	B VOL	A VOL	M STD/D/	WHEN
CL F2	18.5	215	225	65.7	68.8	0.78	11/26/2001 14:24
CL G2	19	340	350	60.4	62.2	0.73	11/26/2001 14:24
CL H2	19	400	420	57	59.9	0.7	11/26/2001 14:24
CL J2	19	440	460	53.9	56.4	0.66	11/26/2001 14:24
CL K2	19.5	485	505	51	53.1	0.64	11/26/2001 14:24
CL M2	19.5	505	525	48.5	50.5	0.61	11/26/2001 14:24
CL N2	19.5	515	535	45.7	47.5	0.57	11/26/2001 14:24
CL Q2	20	530	550	42.9	44.5	0.55	11/26/2001 14:24
CL U2	20	540	548	41.3	42	0.52	11/26/2001 14:24
CL V2	20	540	560	39.2	40.7	0.5	11/26/2001 14:24
CL X2	20	542	562	37.6	39	0.48	11/26/2001 14:24
CL Z2	20	545	555	36.4	37	0.46	11/26/2001 14:24
CL M3	20.5	550	595	29.9	32.4	0.4	11/26/2001 14:24
CL Z3	20.5	550	595	26.5	28.7	0.36	11/26/2001 14:24
CL M4	21	555	600	23.9	25.9	0.33	11/26/2001 14:24

Formatting removed from these rows

Sheet1 Sheet2 Sheet3

- **Clear formatting in empty columns** - clears the formatting from entire columns that do not have content in any of their cells and whose adjacent columns are both empty. This option does not remove the formatting from an empty cell that is a part of a column that has cells with content. With this option, the number of pages rendered is reduced.



SCS OPTION DATA

TICKER	STRIKE	STR BID	STR ASK	B VOL	A VOL	M STD/D/	WHEN
CL F2	18.5	215	225	65.7	68.8	0.78	11/26/2001 14:24
CL G2	19	340	350	60.4	62.2	0.73	11/26/2001 14:24
CL H2	19	400	420	57	59.9	0.7	11/26/2001 14:24
CL J2	19	440	460	53.9	56.4	0.66	11/26/2001 14:24
CL K2	19.5	485	505	51	53.1	0.64	11/26/2001 14:24
CL M2	19.5	505	525	48.5	50.5	0.61	11/26/2001 14:24
CL N2	19.5	515	535	45.7	47.5	0.57	11/26/2001 14:24
CL Q2	20	530	550	42.9	44.5	0.55	11/26/2001 14:24
CL U2	20	540	548	41.3	42	0.52	11/26/2001 14:24
CL V2	20	540	560	39.2	40.7	0.5	11/26/2001 14:24
CL X2	20	542	562	37.6	39	0.48	11/26/2001 14:24
CL Z2	20	545	555	36.4	37	0.46	11/26/2001 14:24
CL M3	20.5	550	595	29.9	32.4	0.4	11/26/2001 14:24
CL Z3	20.5	550	595	26.5	28.7	0.36	11/26/2001 14:24
CL M4	21	555	600	23.9	25.9	0.33	11/26/2001 14:24

- **Text Visibility** - determines the visibility of the text in a spreadsheet through the following options:
  - **Remove background fill colors** - removes background color and ensures that any hidden text or rows formatted to match the background color appear.
  - **Set text color to black** - displays the font color of text as black and ensures that any hidden text appears, such as text with a white font on a white background.

Note: If an Excel spreadsheet contains comments, those comments appear on a separate page after Relativity renders the spreadsheet. Also, native imaging clears any filters set in a spreadsheet.

Email Options

- **Orientation*** - determines the orientation of the email when it's rendered, the default for this field is set to **Portrait**. The options are:
  - **Portrait** - selects a standard portrait display in which the height is greater than the width.
  - **Landscape** - selects a standard landscape display in which the width is greater than the height.
- **Resize images to fit page*** - modifies the image sizes to make them compatible with the page size. Select Yes for resizing. Select No to prevent resizing. The default for this field is set to **Yes**.
- **Resize tables to fit page*** - modifies the table sizes to make them compatible with the page size. Select Yes for resizing. Select No to prevent resizing. The default for this field is set to **Yes**.

- **Split tables to fit page*** - wide tables are split and re-printed on a new line when they are imaged, so no content is lost. Select Yes to split tables. Select No to prevent table splitting. The default for this field is set to **Yes**.
- **Download images from Internet*** - download images from the Internet. This option also applies for Word files. The default for this field is set to **Yes**.
- **Clear indentations*** - removes the tabs from e-mail threads to improve their display. Select Yes to prevent the entries in the thread from aligning too far to the right. Select No to keep tabs in email threads. The default for this field is set to **No**.
- **Detect character encoding*** - analyzes text in the email body to determine the best language encoding to use during imaging. Select Yes for the native imaging engine to determine the language encoding to use during imaging. Select No for the character encoding specified in the email header metadata to set the language encoding used during imaging. The default value is set to Yes.
- **Display SMTP addresses*** - renders SMTP addresses for To, Cc, and Bcc fields instead of Microsoft Exchange information. Select Yes for rendering. Select No to prevent rendering. The default for this field is set to **No**.
- **Show message type in header*** - adds text in the header identifying the image as a message, appointment, distribution list, etc. Select Yes for the addition of text. Select No to prevent the addition of text. The default for this field is set to **No**.

Note: Imaging email settings do not affect emails with a native file type of MHT within Processing application.

Word Processing Options

- **Show track changes*** - renders any markups added to the document through the Track Changes feature in Word, the default for this field is set to **Yes**. The options are:
  - **Yes** - renders the document's markups.
  - **No** - doesn't render the document's markups. No is the default.
- **Page Orientation*** - determines the rendered page orientation of Word files, the default for this field is set to **Original setting**.
  - **Original setting** - retains the original page orientation.
  - **Portrait** - renders the imaged Word file in portrait mode.
  - **Landscape** - renders the imaged Word file in landscape mode.
- **Show** - determines which additional document attributes to render. The options are:
  - **Comments** - renders any comments added to the document through the Review feature in Word.
  - **Field codes** - renders the field that Microsoft Word used as a placeholder for potentially changing data rather than the actual data in the document. Selecting Show Field Codes shows all field codes when imaging Word documents with the native imaging profile. If any Word field codes associate with a rendering option other than Show Field Codes or Document Default are linked to the native imaging profile, that behavior overrides this setting. See Microsoft Word field code considerations.

- **Hidden text** - renders any comments or directions added to the text of a document through the Hidden text feature in Microsoft Word. Selecting this makes the hidden text specified in the Microsoft Word file visible in the same manner as the normally-entered text.

Presentation Options

Show speaker notes* - renders the slide at the top of the page and the speaker's notes at the bottom. If you select Yes, the orientation of the presentation is portrait. If you select No, the orientation is landscape with the slide only. The default for this field is set to **Yes**.

- **Slide Orientation*** - determines the rendered page orientation of slide files. If you have "show speaker notes" selected, the image orientation is in portrait mode to accommodate the notes. The default for this field is set to **Original setting**.
  - **Original setting** - retains the original page orientation.
  - **Portrait** - renders the imaged PowerPoint file in portrait mode.
  - **Landscape** - renders the imaged PowerPoint file in landscape mode.

Note: Native imaging unhides any hidden slides in a presentation.

HTML Options

- **Remove non-breaking space (NBSP) codes*** - removes long rows of non-breaking spaces (NBSP) codes. These prevent the text from wrapping properly. Native imaging automatically formats page breaks without cutting text or margins when rendering HTML as PDF. The default for this field is set to **No**.

15.6.3 Native file imaging profile validation

Native imaging profiles must follow specific validation guidelines. Imaging profile validation reviews the following rules for all Native Imaging Engine Options:

- **Valid numerical values** - numerical values fit within a designated range based on individual numerical field requirements
- **Configuration specific to format type** - option selections and requirements vary based on the Native Image Format selection
- **Field dependencies** - specific fields require additional field configurations to satisfy groups of settings available for native imaging, and specific fields are ignored based on the configuration of a related field

Native File Imaging profile validation only runs when using the default **Native Imaging Profile Layout** for new imaging profiles.

15.6.3.1 Numerical Field Values

The following table provides valid numerical value ranges and recommended values for select numerical configuration fields. Valid value ranges include the minimum and maximum values provided.

Field	Minimum Value	Maximum Value	Recommended Value
Native Image Output Quality (DPI)	0	2400	300
Dithering Threshold	0	255	128

15.6.3.2 Format Specific Requirements

The following table states whether a field is set required or ignored based on the selected Native Image Format. If applicable, select the required field value.

Native Imaging Format	**Field**	**Field Required/Ignore**	Required Field Value (if applicable)
JPEG	Images/Dithering Algorithm	Ignored	
JPEG	Dithering Threshold	Ignored	
JPEG	Render color pages to JPEG	Ignored	
TIFF	Images/Dithering Algorithm	Required	
TIFF	Render color pages to JPEG	Required	Yes

15.6.3.3 Field Dependencies

The following table lists field dependencies and required field values if applicable. The Field 1 and Field 1 Value columns list fields and values that require you to configure the fields and values listed in the Required Field 2 and Required Field 2 Value columns.

For example, if Images/Dithering Algorithm is set to Threshold, you must configure a value for the Dithering Threshold field.

Field 1	**Field 1 Value**	**Required Field 2**	Required Field 2 Value
Images/Dithering Algorithm	Threshold	Dithering Threshold	<any>
Dithering Threshold	<any>	Images/Dithering Algorithm	Threshold
Fit to ___ pages wide	<any>	Fit to ___ pages tall	<any>
Fit to ___ pages tall	<any>	Fit to ___ pages wide	<any>

When fields in the Field Set column are configured, values set for fields listed in the Field Ignored column are ignored:

Field Set	**Field Ignored**
Zoom Level %	Fit to pages ___ wide
Zoom Level %	Fit to pages ___ tall
Fit to ___ pages wide	Zoom Level %
Fit to ___ pages tall	Zoom Level %

Note: With validation rules you can only configure Zoom Level % or the set of Fit to ___ pages fields. Don't set values for all three fields.

15.6.4 Viewing imaging profile details

On the Imaging Profile Details page, Relativity displays profile settings and a list of restricted native type files.

Native Type (Restricted Native Types) Link Unlink Items 1 - 10 (of 101)

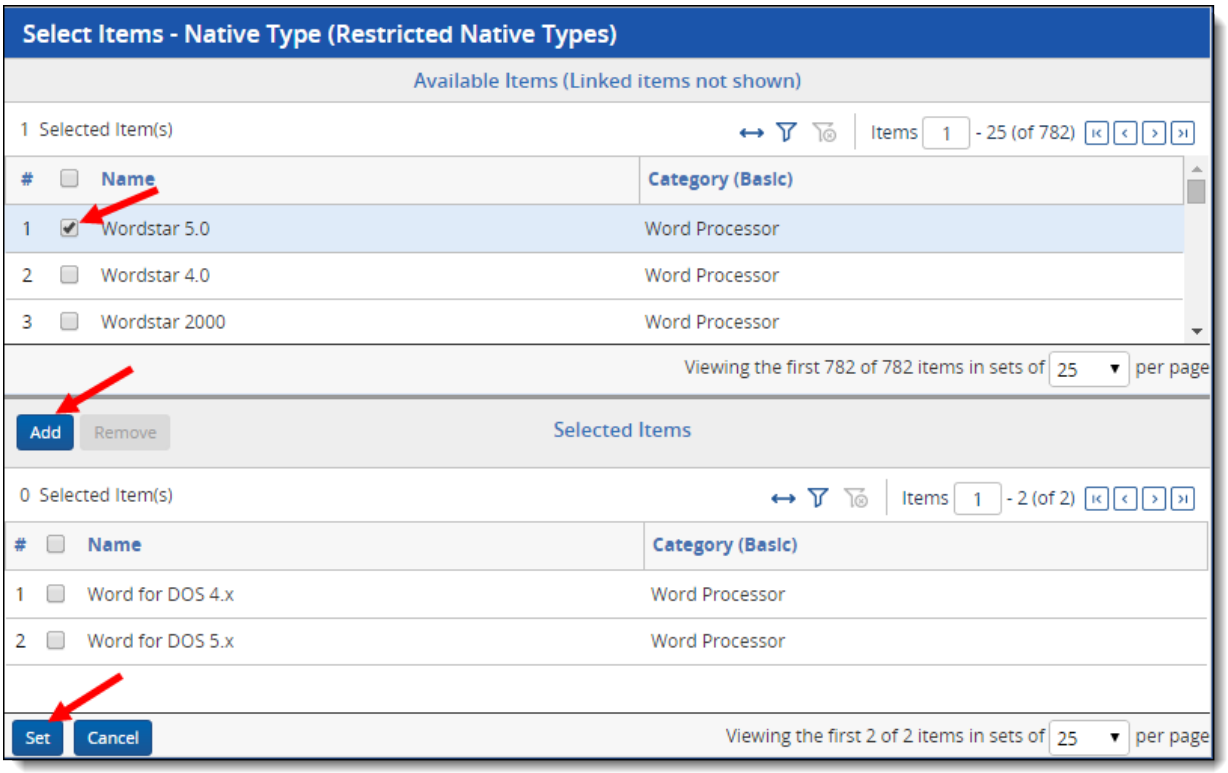
Name	Category (Basic)
Smart DataBase	Database
DBase III	Database
DBase IV or V	Database
Framework III	Database
Microsoft Works DB	Database
DataEase 4.x	Database
Paradox 2 or 3	Database
Paradox 3.5	Database
Q&A Database	Database
Reflex	Database

0 Selected Item(s) Select Page Size: 10

15.6.4.1 Restricted native types

The Restricted Native Types section lists the file formats that Relativity won't convert into images. It also includes features that you can use to modify this list. You see the following columns and options displayed in the Restricted Native Types section:

- **Name** - lists file formats.
- **Category (Basic)** - indicates a grouping of related file types or formats. For example, Word Processor is the category for common word processing formats such as Word, WordStar, WordPerfect, and others. (Additional super types are Database, Spreadsheet, Graphic, Multimedia, and Other.)
- **Link** - adds existing native types to the restricted list through the Select Items pop-up. Select one or more file types in the Available Items list, click **Add** to include them in the Select Items list, and then click **Set** to link them to the profile.



Note: You can't add new native file types to Relativity. For a list of native types that Relativity supports, see the Native Types tab or Viewer-supported file types on page 793. Contact Support if you have additional questions about supported native types.

- **Unlink** - removes restricted native types from the list. When you use this profile, Relativity images these documents. Select one or more file types, and click **Unlink**.
- **Resize, export, filter -** - resize columns, export, and filter the list of restricted native types. These features function similarly to those available on views.
- **Export the list** - creates a list of restricted native types in Excel.

15.6.4.2 Application field codes

Application Field Codes is how Relativity refers to fields that Microsoft documents use to store document data. For example, [Date] is a field code in Microsoft that shows the date of document creation. Excel and PowerPoint refer to these fields as header and footer, Word refers to them as field codes, and Visio refers to them as fields. But for simplicity, Relativity refers to them as field codes, regardless of which Microsoft application document you're viewing.

When imaging Microsoft application documents in Relativity, field codes embedded within a document can contain incorrect or irrelevant information. The imaged field code functions as it should, but instead of using the original Date, for example, the field code captures the date the document was imaged within Relativity instead of the date the document was actually created. By creating Application Field Codes in Relativity, however, you can determine how various field codes appear on imaged documents.

Relativity comes with 17 of the most commonly-used field codes automatically linked to the default native imaging profile with the most common rendering options supported. You can edit these linked field codes or remove them from the default native imaging profile based on your rendering preferences. You can also add additional field codes to Relativity beyond the 17 we include.

Note: Application Field Codes are only configurable with native imaging.

For more information on Application Field Codes and how to link them to native imaging profiles, see Application Field Codes.

15.7 Imaging sets

An imaging set consists of an imaging profile and a saved search containing the documents you want to image. You run the imaging job from the imaging set console. In addition, on the Imaging Set Details page, you can view document-level error messages and rerun an imaging job if it failed.

15.7.1 Using imaging sets

You need to provide reviewers in England with a group of 500 TIFFs so that they can redact and apply markups to them in the **Viewer**[1] without having to first image them individually. You've already created an imaging profile specifically tailored to their needs.

Now you just need to create a saved search containing the 500 documents you want to provide as TIFFs to your reviewers. This is required because you need to select it as a data source when you go to create the imaging set.

Next you create an imaging set that references both the profile and the saved search you created. Once you save the set, you select to image the documents through the set's console. When this imaging job is complete, your reviewers can redact and apply markups to the images you created.

15.7.2 Creating and editing an imaging set

Note: You need to install the Imaging Request and Imaging Response agents in order to perform image on the fly, run an imaging set, or execute a mass imaging operation. The maximum recommend amount of Imaging Response agents is 8, any more can cause database issues. The standard configuration is 4, for details on installation and activation of these agents, see Imaging.

To create or edit an imaging set:

1. Navigate to the **Imaging** tab, and then click **Imaging Sets** in a workspace.
2. Click **New Imaging Set**.

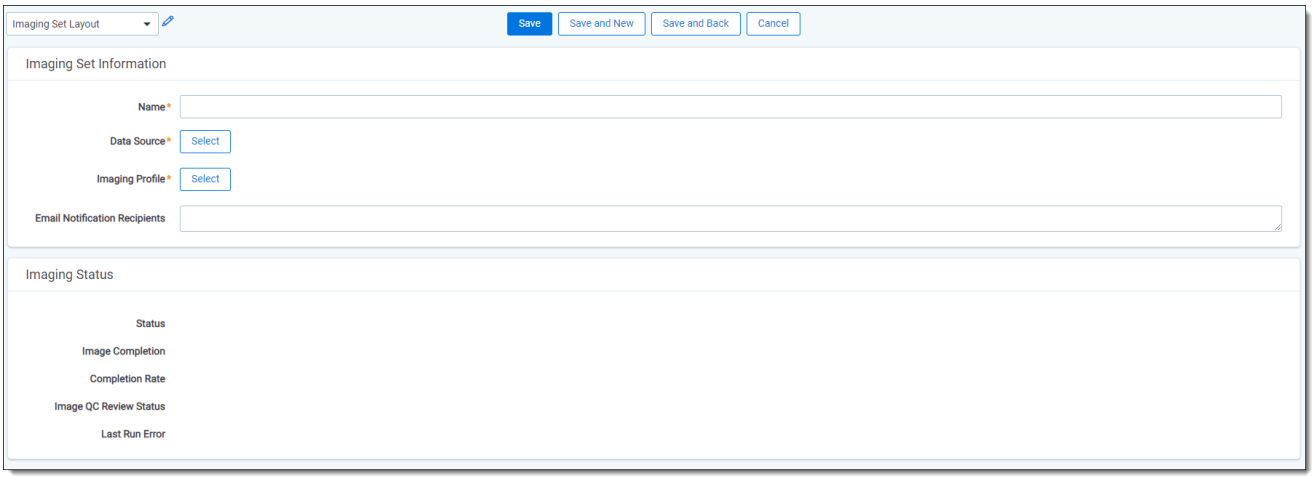
   The Imaging Set Form appears.

[1]The Viewer is the area of the core reviewer interface in which document review takes place. It displays loaded forms of documents from the workspace and provides options for controlling the mode in which those documents display. Reviewers can apply markups, redactions, and persistent highlights to documents in the viewer.

3. Complete all required fields. See Fields for details.
4. Click **Save.** The saved set layout provides the set details and the imaging set console, from which you run the imaging job.

15.7.3 Fields

The imaging set form contains the following fields:



Imaging Set Information

- **Name** - the designation for the imaging set.
- **Data Source** - a saved search, which includes a group of documents to image. Only documents in the saved search are imaged.
- **Imaging Profile** - a pre-determined set of parameters that control how the images generate. The list you encounter when clicking the ellipsis contains both Native and Basic profiles.
- **Email Notification Recipients** - adds email addresses of those who require notification of the completion of processes within the imaging job. Separate multiple email addresses with a semi-colon delimiter. Those processes are:
  - Imaging Set completed successfully
  - Imaging Set completed with errors

Imaging Status

- **Start Time** - this field will appear with the following conditions are met:
  - The imaging set is in the Submitting status.
  - The imaging set is in the Imaging status and the job has commenced.
- **Status** - the current state of the imaging job. This value depends on issues encountered during the job and how often you refresh the page while the job is running. The possible values for this field are:
  - **Staging** - you've started the job, but no documents from the imaging set have been sent to the worker manager server yet.

- **Submitting** - Relativity is currently submitting documents from the imaging set to the worker manager server to be imaged. The Image Completion field below reflects the number of documents remaining and submitted. This value is new starting in November 2017.
- **Imaging** - the job is currently being performed in the worker manager server.
- **Completed** - the last document in the set has come back from the worker manager server and there is no longer a job in the ImagingJob database table.
- **Completed with Errors** - the last document in the set has come back from the worker manager server, there were errors in the job that are now visible in the Errors tab, and there is no longer a job in the ImagingJob database table.
- **Stopped** - the imaging set was stopped by Relativity.
- **Stopped by User** - the imaging set was manually stopped by the user through the Stop Imaging button on the console.

- **Image Completion** - lists the following information:
  - **# documents pending submission** - the number of documents from the imaging set that have yet to be submitted to the worker manager server to be imaged.
  - **# documents submitted** - the number of documents that have already been submitted to the worker manager server.
  - **# documents remaining** - the number of documents received by the worker manager server and are waiting to be imaged.
  - **# documents successfully imaged** - the number of documents that were imaged by the worker manager server without any errors.
  - **# documents with errors** - the number of documents that were submitted to the worker manager server and that received an error during imaging.
  - **# documents skipped** - the number of documents from the imaging set that were never submitted to the worker manager server to be imaged.
- **Completion Rate** - lists the following information:
  - **# documents submitted per hour** - during the submission phase, this is the average number of documents submitted to the worker manager server per hour. It is calculated by normalizing the number of documents submitted over a 10 minute interval, and then scaling up to an hour.
  - **# documents imaged per hour** -during the imaging phase, this is the average number of documents completed by the worker manager server per hour. It is calculated by normalizing the number of documents imaged over a 10 minute interval, and then scaling up to an hour.
- **Image QC Review Status** - the number of documents set to be hidden from QC review, per your selection for the Hide Images for QC Review option right after clicking Image Documents on the console. This also lists the number of documents that currently have viewable images.
- **Last Run Error** - the date and time of the last error.

15.8 Image upload

Use Relativity's image upload feature to open a file in the viewer and upload a single image for that record without having to use the RDC to create a load file to re-import the image.

You can manage review and productions more efficiently by reducing the number of steps involved and avoiding some of the errors that were previously common when importing an image.

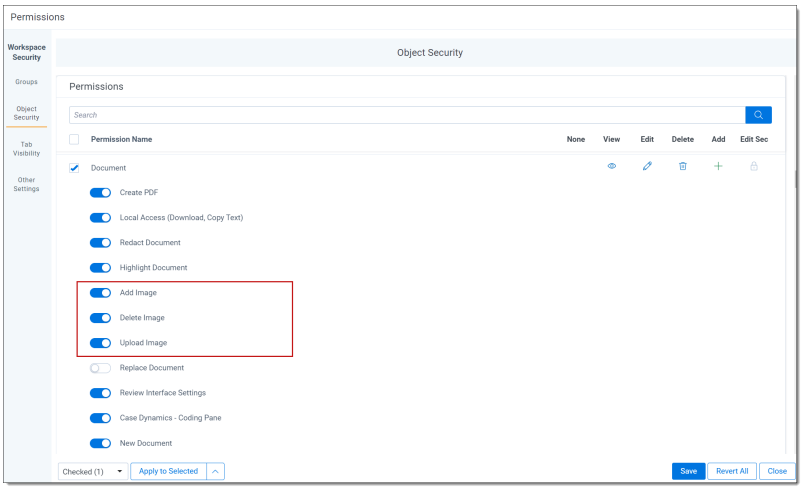
With this feature, you're able to upload the following file types:

- GroupIV TIFF
- JPEG
- PDF

15.8.1 Required security permissions

To use the image upload feature, you must have the following permissions enabled in the Object Security console:

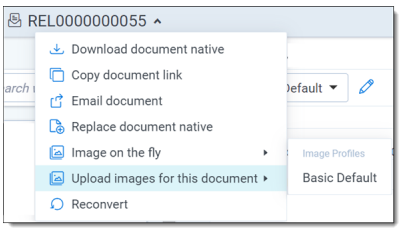
- Upload Image
- Add Image
- Delete Image



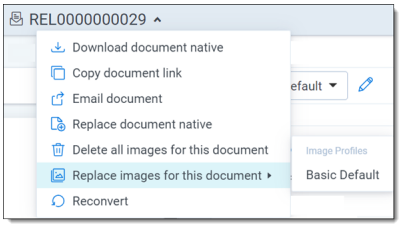
Note: You need to install the Imaging Request and Imaging Response agents in order to perform image on the fly, run an imaging set, or execute a mass imaging operation. The maximum recommend amount of Imaging Response agents is 8, any more can cause database issues. The standard configuration is 4, for details on installation and activation of these agents, see Imaging.

15.8.2 Uploading an image

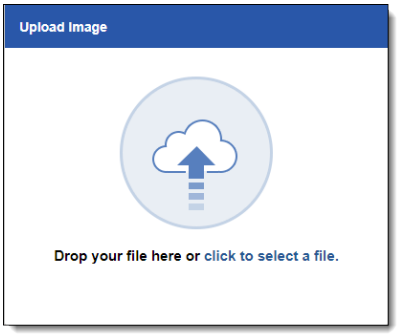
To upload an image for a file in the viewer, click the file name and select **Upload images for this document**. In the menu, select the imaging profile you want to upload the image with. For more information see, Imaging profiles on page 241.



If an image already exists for a document, you can replace it by clicking the document name and selecting **Replace images fore this document**. In the menu, select the imaging profile you want to upload the new image with. Replacing the image with a supported image type replaces the entire image not just a single page of an image. For example, if you have a 5 page document, but you upload a JPG or TIFF file, you will have 1 image. If you upload a 5 page PDF file, then 5 images will upload.

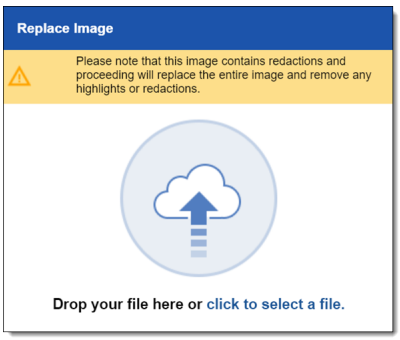


Once you choose an image profile after selecting Upload images for this document or Replace images for this document, the upload/replace image window will appear. Select **click to select a file** to open the folder containing the image you want to upload. You can also drag a single file from your local machine and drop it into the upload window.

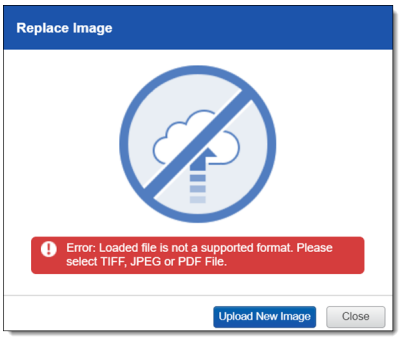


Once you select the file in the folder, Relativity automatically begins to upload it. When the upload is successful, the image is visible in the viewer.

If you've redacted or added highlights to an image in the viewer and then you attempt to upload a new image, you'll receive a message informing you that you're about to remove those redactions or highlights when you replace the image. Note that replacing an image with redactions will update the **Has Redactions** field for that file to No and remove all existing redactions and markup.



If you attempt to upload an unsupported file type, you'll receive an error message.



From here, you can click **Upload New Image** to select a new image to upload.

15.8.3 Audits for image upload

The following actions are available in Relativity to assist in identifying how the logged-in user has been using image upload.

- **Images - Created** - indicates that the logged in user generated an image in the viewer.
- **Images - Deleted** - indicates that the logged-in user deleted an image from the viewer.

15.9 Application Field Codes

Application Field Codes is how Relativity refers to fields that Microsoft documents use to store document data. For example, [Date] is a field code in Microsoft that shows the date of document creation. Excel and PowerPoint refer to these fields as header and footer, Word refers to them as field codes, and Visio refers to them as fields. But for simplicity, Relativity refers to them as field codes, regardless of which Microsoft application document you're viewing.

When imaging Microsoft application documents in Relativity, field codes embedded within a document can contain incorrect or irrelevant information. The imaged field code functions as it should, but instead of using the original Date, for example, the field code captures the date the document was imaged within Relativity instead of the date the document was actually created. By creating Application Field Codes in Relativity, however, you can determine how various field codes appear on imaged documents.

Relativity comes with 17 of the most commonly-used field codes automatically linked to the default native imaging profile with the most common rendering options supported. You can edit these linked field codes or

remove them from the default native imaging profile based on your rendering preferences. You can also add additional field codes to Relativity beyond the 17 we include.

Note: Application Field Codes are only configurable with native imaging.

Using Application Field Codes

You're a lit support analyst and you're ready to produce a set of responsive documents in an imaged format to hand over to attorneys for review. You image the document set using the default native imaging profile and hand the documents over to the attorneys for review. The attorneys notice that all of the imaged Microsoft Excel documents show the date May 1, 2015, even though the documents were originally created on May 1, 2007. The attorneys can't produce the documents with the incorrect date. You realize the Excel documents must have the [Date] field code embedded in them and the document default behavior is causing the date you opened the documents in the viewer to appear.

You tell the attorneys you can re-image the documents and they can select the rendering option for the Date field code. You explain that they can choose to show the field code as [Date], show nothing at all, or replace the field code with a Relativity field value like Date Created on the Excel documents. The attorneys decide to show the field code on the Excel documents.

To do this, you create a new Application Field Code to link to the default native imaging profile. You select the Date field code from the pop-up picker and then select the Show Field Code option. You then link the Application Field Code you created to the native imaging profile. You then re-image the documents and [Date] appears on the Excel documents.

15.9.1 Application Field Codes in Relativity

Use the following table to view the 17 Application Field Codes that come with Relativity. An asterisk denotes the default rendering behavior.

Field Code	Supported Rendering Options			
	Show Field Code	Show Nothing	Document Default	Replace with Relativity Field
Microsoft Word				
Date	✓*	✓	✓	✓
FileName	✓	✓	✓*	✓
NumPages	✓	✓	✓*	✓
Pages	✓	✓	✓*	✓
Time	✓*	✓	✓	✓
Microsoft Excel				
Date	✓*	✓	✓	✓
File	✓*	✓	✓	✓
Page	✓	✓	✓*	✓
Pages	✓	✓	✓*	✓
Path	✓*	✓	✓	✓
Time	✓*	✓	✓	✓

Field Code	Supported Rendering Options			
	Show Field Code	Show Nothing	Document Default	Replace with Relativity Field
Microsoft Powerpoint				
DateTime	✓*	✓	✓	✓
Footer	✓	✓	✓*	✓
Slide Number	✓	✓	✓*	✓
Microsoft Visio				
Directory	✓*	✓	✓	✓
FileName	✓*	✓	✓	✓
Now	✓	✓	✓*	✓

Note: For PowerPoint, Relativity only supports field codes for headers and footers. Field codes for speaker notes and text boxes are not supported.

If you need to add field codes beyond the 17 that come pre-loaded, Relativity provides additional field codes you can select via a pop-up picker or enter manually. Those field codes are:

Field Code	Supported Rendering Options				Relativity Availability	
	Show Field Code	Show Nothing	Document Default	Replace with Relativity Field	*Popup Picker*	*Manual Entry*
Microsoft Word						
Author	✓	✓	✓	✓	✓	✓
Citation		✓	✓			✓
CreateDate	✓	✓	✓	✓	✓	✓
Embed			✓			✓
Link			✓			✓
PrintDate	✓	✓	✓	✓	✓	✓
SaveDate	✓	✓	✓	✓	✓	✓
Microsoft Excel						
Picture	✓	✓	✓	✓	✓	✓
Tab	✓	✓	✓	✓	✓	✓
Microsoft Visio						
DocCreation	✓	✓	✓	✓	✓	✓
DocLastEdit	✓	✓	✓	✓	✓	✓
DocLastPrint	✓	✓	✓	✓	✓	✓

Field Code	Supported Rendering Options				Relativity Availability	
	Show Field Code	Show Nothing	Document Default	Replace with Relativity Field	*Popup Picker*	*Manual Entry*
PageCount	✓	✓	✓	✓	✓	✓
PageNumber	✓	✓	✓	✓	✓	✓

Please note that Relativity currently does not support the following Microsoft Word field codes:

- AutoNum
- AutoNumLgl Time
- AutoNumOut
- Custom
- GoToButton
- IncludePicture
- MacroButton
- PageRef
- Seq

15.9.2 Application Field Code formats

If you want to add field codes beyond the 17 that come with Relativity or the field codes available in the pop-up picker, you can manually enter the field code for each Microsoft application. Code means any string of non-special characters, for example, DateTime.

Microsoft Word format
Acceptable formats are {Code}, [Code], and Code.

Microsoft Excel format
Acceptable formats are [Code], Code, &Code, &[Code].

Microsoft PowerPoint format
Acceptable formats are [Code] and Code.

Microsoft Visio format
Acceptable formats are [Code] and Code.

15.9.3 Creating or editing an Application Field Code

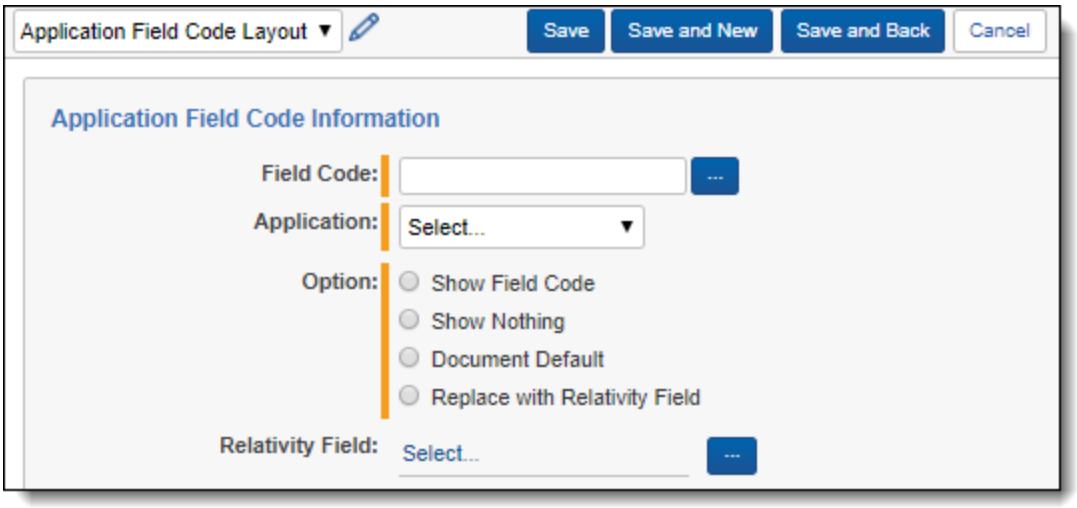
You can create a field that's available in the pop-up picker, create a field code that isn't available already in Relativity, or edit one of the pre-loaded 17 field codes or a field code you've already created. To create a new Application Field Code:

Note: When creating Application Field Code RDOs, when the option is Relativity Field, you cannot use the following system fields: System Modified By, System Created By, or Folder Name.

1. In a workspace, navigate to the **Job Admin** tab and select the **Application Field Code** tab.
2. Click **New Application Field Code**, or click the **Edit** link of an existing Application Field Code. The Application Field Code Information layout opens.
3. Complete all required fields. See Fields below for details.
4. Click **Save**.

15.9.4 Fields

The Application Field Code Information fields are:



- **Field Code** - The field code that appears on your document set. Click ... to see a full list of available field codes. See Application Field Codes on page 260 for details.

  Note: You can add a field code to your imaging profile even if the field code isn't a part of the default or available lists. See Application Field Code formats on the previous page for details.

- **Application** - The application used to create the documents. This field automatically populates once a field code is selected.
- **Option** - The way field codes render on the imaged document set.
  - Select from the following options:
    - **Show Field Code** - This option displays the field code in the imaged document.
    - **Show Nothing** - This option hides the selected field code in the imaged document.
    - **Document Default** - This option applies the default setting of the document to the field code in the imaged document.
    - **Replace with Relativity Field** - This option replaces the selected field code text with a Relativity date, fixed-length, or whole number field value that you choose in the imaged document.

- **Relativity Field** - The Relativity field value to replace the selected field code text. This option is required when Replace with Relativity Field is selected.

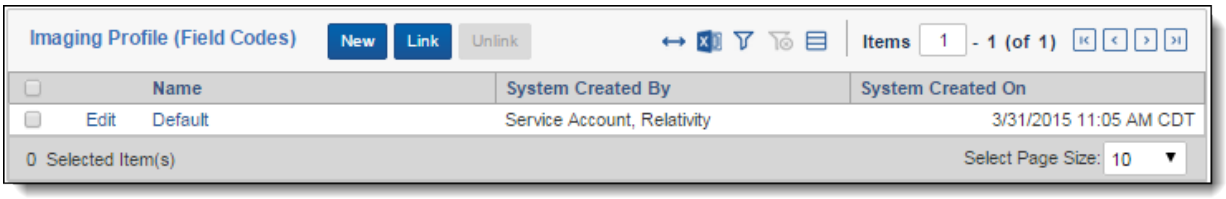
15.9.5 Linking an Application Field Code to a native imaging profile

Note: View permission needs to be selected on Application Field Code for the Application Field Code layout to display in the imaging profile page.

Once you create your Application Field Code, link the field code to the appropriate native imaging profile. This is only required if you create a new Application Field Code that isn't linked to a native imaging profile by default. The Imaging Profile (Field Codes) section lists the available native imaging profiles in a workspace.

To link an Application Field Code to an existing native imaging profile:

1. Click **Link**. The Select Items - Imaging Profile (Field Codes) popup picker opens.
2. Select the imaging profile where you want to link the Application Field Code.
3. Click **Add**.
4. Click **Set**.



15.10 Running an imaging set

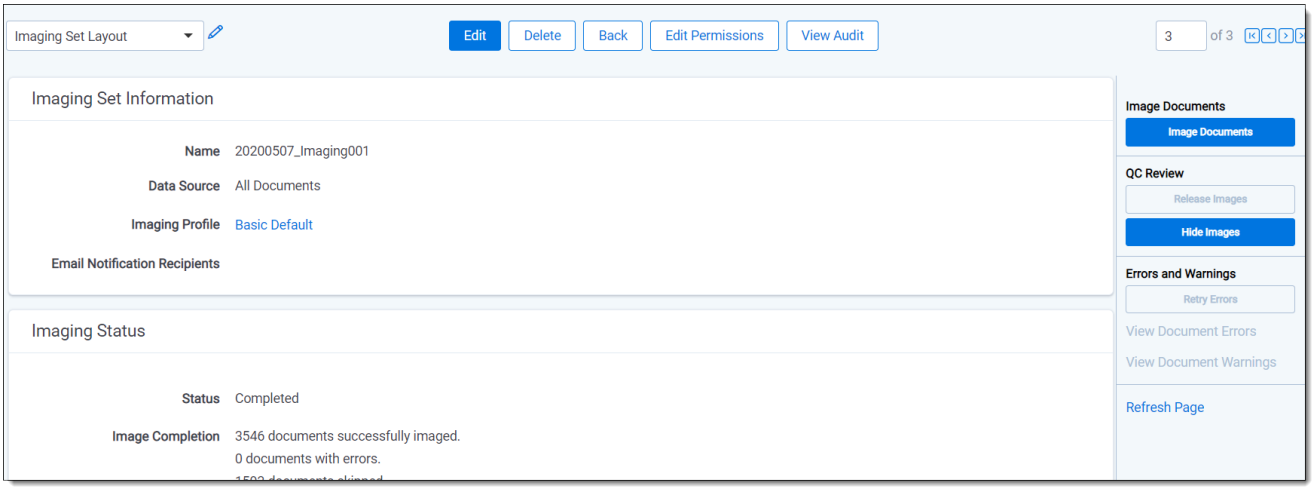
To run an imaging set, click **Image Documents** on the imaging set console. This kicks off the conversion of documents to images. While the job is running, this button toggles to **Stop Imaging**. Use the Stop Imaging button to stop the imaging job. With the Image Documents Options prompt you can Hide Images for QC Review. See QC Review on page 282 for more information.

15.10.1 Special considerations

Keep in mind the following special considerations:

- Never upgrade your Relativity version while there are jobs of any type currently in progress in your environment. Doing this leads to inaccurate results when you attempt to finish those jobs after your upgrade is complete. This is especially important for imaging and processing jobs.
- Imaging is not available if the resource pool has no workers designated for imaging.
- The default priority for all image jobs is determined by the current value of the ImagingJobPriorityDefault entry in the Instance setting table.
- You can't delete an imaging set while it is running.
- Imaging Sets will not re-image documents that already have an image.

15.10.2 Imaging Set console



Depending on the progress of the job, the following options are available on the console:

- **Image Documents** - begins the imaging job.
- **Release Images** - allows users to see the images after the QC review process is complete.
- **Hide Images** - prevents users from viewing the images until the QC review process is complete.
- **Retry Errors** - reruns documents with imaging errors. This is only enabled if errors have occurred during the imaging job.

  Note: Retry Errors will use the same imaging profile the documents with imaging errors were created with, even if the imaging profile is changed.

- **View Document Errors** - redirects you to the Imaging Document Error tab, where the results are filtered by all imaging errors associated with the documents in the imaging set. You can expand the results by modifying the filters.
- **View Document Warnings** - redirects you to the Imaging Warnings tab, where the results are filtered by all Imaging Warnings associated with the documents in the imaging set. You can expand the results by modifying the filters.
- **Show Errors** - provides the option to view document-level errors for an imaging set run prior to Relativity 9.7.229.5. When you click this button, a pop-up displays a filterable list of documents and fields. The fields include:
  - **Control Number** - the control number of the item in error.
  - **Artifact ID** - the artifact ID of the item in error.
  - **File Type Identification (Native)** - the file type of the item in error as identified by the native imaging engine. This is only populated if the native imaging engine runs the imaging set.
  - **File Type Identification (Basic)** - the file type of the item in error as identified by the basic imaging engine. This value is populated when the basic engine identified the document when you import the document into Relativity.

- **Imaging Method** - the method selected in the Native Types table for the identified file type in error – Basic or Native.
- **Actual Imaging Method** - the method that was used to image the item in error – Basic or Native.
- **Message** - the description of the cause of the error.
- **Full Text** - the complete error text string the system provides, including stack trace.

- **Refresh Page** - refreshes the page and see the current state of the imaging job.

Note: When you mass image, image on the fly, run an imaging set, and retry an imaging set, the list of passwords specified in the password bank accompanies the imaging job so that password-protected files are imaged in that job. For more information see Password Bank in the Processing User Guide.

15.10.3 Imaging profile caching

Relativity caches all imaging profile settings until the imaging job you kick off through the imaging set console completes. The only exceptions to this are the following scenarios:

- In the case of fatal errors, the imaging profile information remains cached until you delete the set or you delete the job record associated with that set from the ProcessingQueue table.
- In the case of non-fatal errors, Relativity no longer caches all profile information except for the Time Zone and Last Modified Date information.

15.10.4 Password Bank

The Password Bank stores passwords used to protect certain files. When you process or image files protected by the passwords in this bank, Relativity sends the passwords to the respective engine, which then uses them to unlock the corresponding file.

Notes:

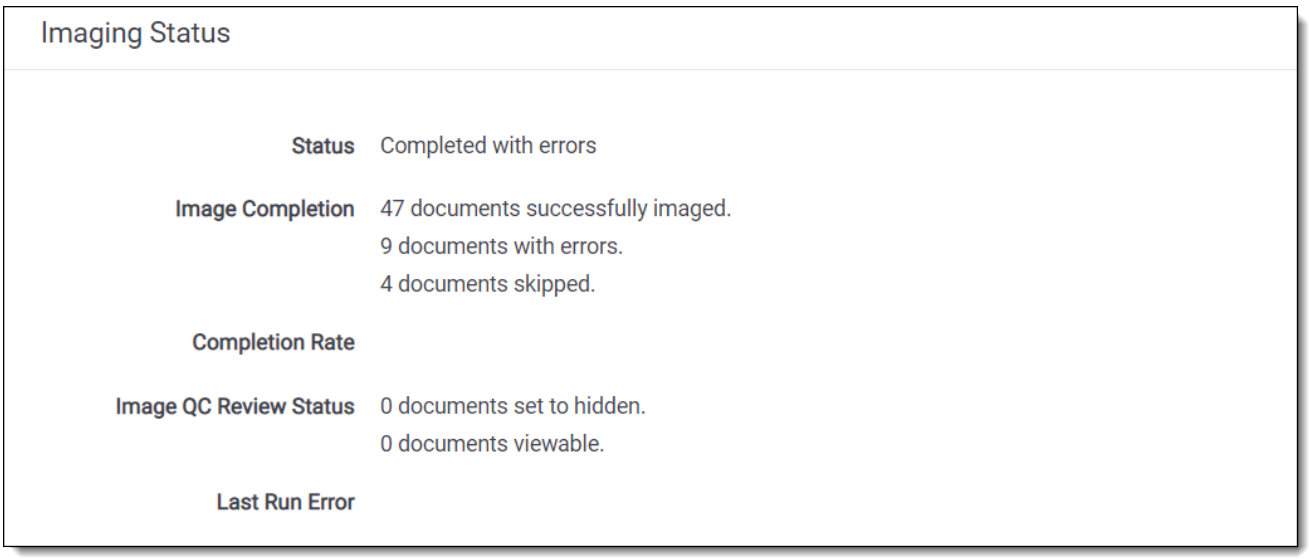
- The Password Bank tab appears under both the Imaging and the Processing applications and is updated in each to reflect the most current entries are added, deleted, or edited.
- Save as PDF does not integrate with the Password bank. If you select Save as PDF when imaging a native document that is password protected, an error occurs.

For more information see Password Bank in the Processing User Guide.

15.11 Monitoring imaging status

In the imaging status section, you can monitor the progress of the imaging job by referring to the Status field after clicking the Refresh Page link on the console. The Imaging Set status information is also available in the default Imaging Set view.

The Imaging Status section provides the following fields:



- **Start time** - displays the start time and date of the imaging set. Only available when the imaging set is in Submitting or Imaging states.
- **Status** - provides any of the following values, depending on the imaging job in the imaging status section and in the default Imaging Set view:

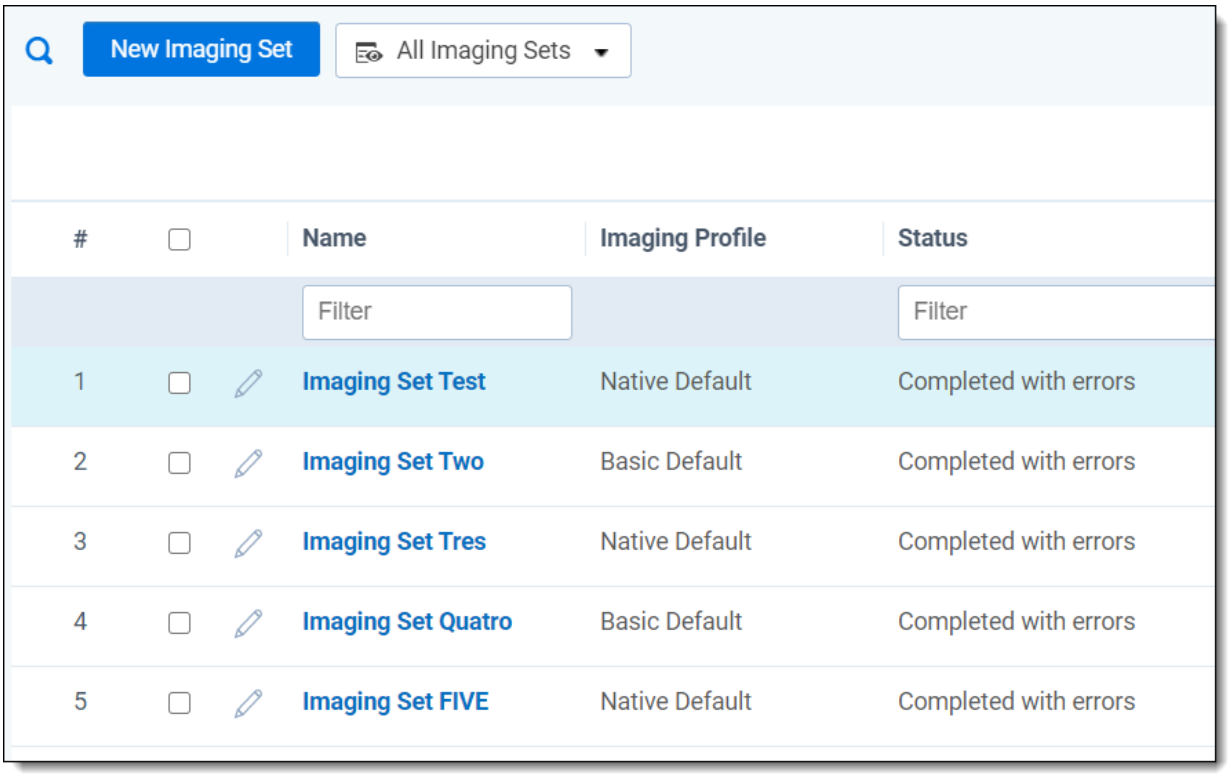
Status Value	What Happened	What It Means
Staging	User clicked Image Documents.	Job is in queue table and the Imaging Set is awaiting execution.
Submitting	The Imaging Request Agent is submitting documents to the worker manager queue.	The Imaging Request is creating the imaging job and doing necessary work to submit documents.
Imaging	All documents have been submitted to worker manager queue.	Invariant workers are creating images of the documents.
Completed	Job has completed.	All documents imaged successfully.
Completed with errors	Job has completed with imaging errors.	One or more documents encountered an error during imaging job.
Error - Job Failed	Job manager encountered an exception.	Manager terminated imaging job due to exception.
Stopping	User clicked Stop.	Worker manager queue is stopping worker jobs, and Documents are being updated to Has Images = No
Stopped by user	Job has stopped.	All worker agents have stopped imaging documents; job manager has stopped the job.

- **Image completion** - displays the number of remaining documents, successfully imaged documents, documents with errors, and skipped documents.

- **Completion Rate** - displays the rate at which documents are submitted. For example, X documents submitted per hour or X documents imaged per hour.
- **Last Run Error** - displays the most recently run job that completed with errors.

Note the following:

- During the conversion process, Relativity skips documents that already have images, documents with restricted native types, and documents with images in a pending state (that's with the Has Images field set to Yes). It includes these items in the skipped documents count.
- If you need to delete an Imaging Set, you should only delete those with the following statuses:
  - Stopped by User
  - Error - Job Failed
  - Completed with Errors
  - Completed
- In Relativity 9.7.229.5, the Status field was added to the default Imaging Set view.



15.12 Imaging errors

Document level imaging errors are common when you run an imaging set, and you may encounter several of them when you go to check the progress of your set.

Note: If you upgrade to Relativity Server 2022 and your environment contained imaging sets with errors, the Retry errors button on the Imaging Set console is disabled, and you won't be able to retry those errors in Relativity 9.0. You will, however, be able to re-run the imaging set that contains the errors after you upgrade to Relativity Server 2022.

15.12.1 Viewing imaging errors

To view document level imaging errors, go to the **Imaging Document Error** tab. The Imaging Document Error tab contains all imaging error history, including errors that are resolved. The error name provides succinct descriptions for easy understanding and resolution, these include:

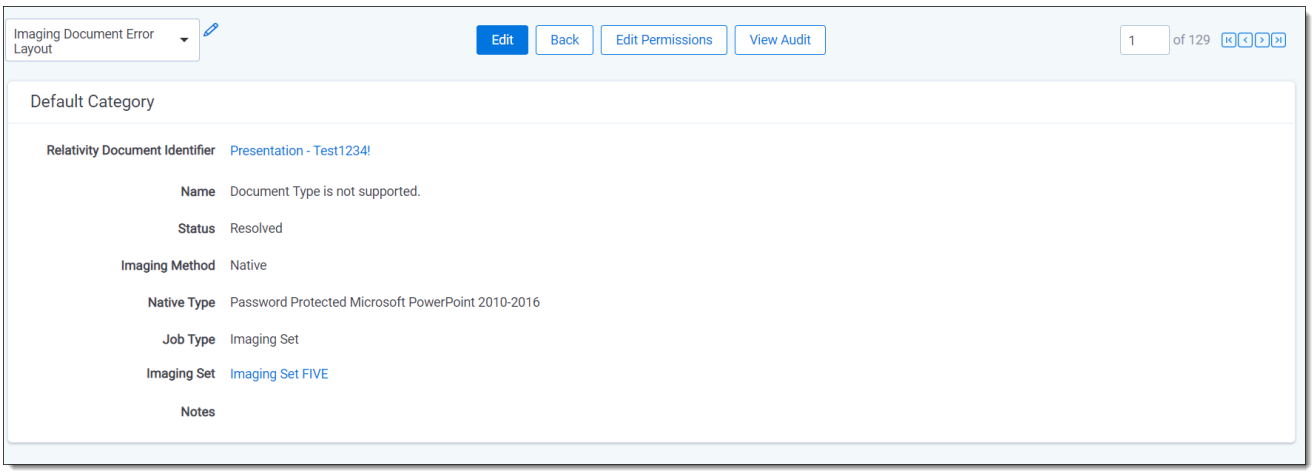
- Document Type is not supported.
- OI EXOpenExport failed - 11: file is password protected or encrypted.
- OI EXOpenExport failed - 4: no filter available for this file type.
- OI EXOpenExport failed - 9: file is corrupt.
- OI EXOpenExport failed - 10: file is empty.

#			Relativity Document I...	Name	Status	Job Type	Imaging Set	Imaging Method	Native Type
			Filter	Filter	(All)	(All)	Filter	(All)	Filter
1	☐		Presentation - Test1234!	Document Type is not s...	Resolved	Imaging Set	Imaging Set FIVE	Native	Password Protected Microsoft PowerPoint 2010-2016
2	☐		PasswordProtectedExcel2007preSP1 - Test1234!	Document Type is not s...	Resolved	Imaging Set	Imaging Set FIVE	Native	Password Protected Microsoft Excel 2007/2008
3	☐		Word Sheet - Test1234!	Document Type is not s...	Resolved	Imaging Set	Imaging Set FIVE	Native	Password Protected Microsoft Word 2010-2016
4	☐		PWPre2007MultiPageLongTextHeaderFooter - Test1234!	Error occurred when at...	Resolved	Imaging Set	Imaging Set FIVE	Native	Microsoft Excel 2000
5	☐		PDF Sheet - Test1234!	Error occurred when at...	Resolved	Imaging Set	Imaging Set FIVE	Native	Adobe Acrobat (PDF)

Note: Legacy errors in the system before upgrading to 9.7.229.5 stay in the Show Errors pop-up dialogue and do not migrate to the Imaging Document Errors tab.

To learn more about an imaging error, click the **Name** field for a document on the Imaging Document Error tab. The Imaging Document Error Layout will open. Layout fields include:

- **Relativity Document Identifier** - the document identifier of the document.
- **Status** - the status of the imaging error - Ready to retry, Retried, or Resolved.
- **Imaging Method** - the method that was used to image the document – Basic or Native.
- **Native Type** - the file type of the item in error as identified by the native imaging engine.
- **Job Type** - the method used to image the document - Imaging Set, Mass Imaging, or Image on the fly.
- **Imaging Set** - the imaging set that the document belongs to if the Job Type is Imaging Set. If you click on the Imaging Set, you will be taken to the Imaging Set Layout.
- **Notes** - space to record any notes that you have about the imaging error.



You can also navigate to the Imaging Document Error Layout from the

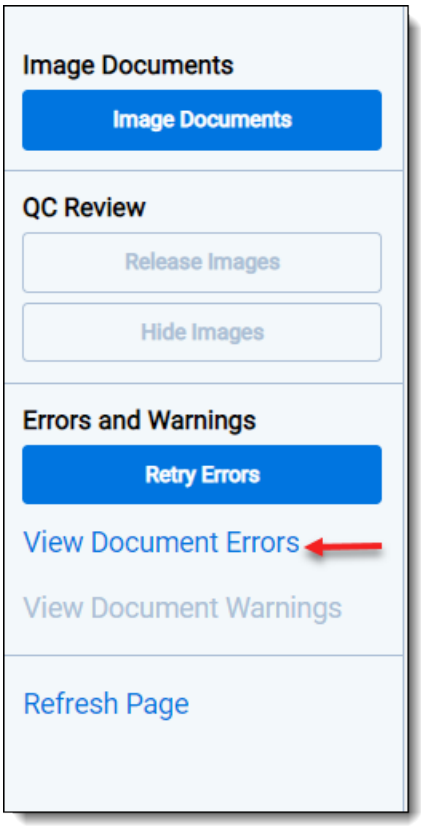
- Imaging Sets tab below.
- Documents tab on the next page.
- Review Interface on the next page.

15.12.1.1 Imaging Sets tab

To see imaging errors via the Imaging Sets tab:

1. Go to the **Imaging Sets** tab.
2. Click on an Imaging Set. The Imaging Set Layout will open.
3. Click **View Document Errors** on the Imaging Set console. This brings up the Imaging Document Error tab with a list of the errors that occurred during the job. By default, this action will add a filter to

the Imaging Document Error tab to show only errors with a status of Ready to retry.



4. Click on the **Name** field for a document to obtain more information about the error. The Imaging Document Error Layout will open.

15.12.1.2 Documents tab

To see documents with imaging errors via the Documents tab:

1. Go to the **Documents** tab.
2. Create a new view.

Fields	Conditions	Sort
▪ Originating Imaging Document Error	▪ Has Images, any of these: Error	▪ NA

3. Select the view you just created from the View bar.
4. In the Document list, click on the **Originating Imaging Document Error** link for a document. The Imaging Document Error layout will open.

15.12.1.3 Review Interface

To see imaging errors on the Review Interface layout:

1. Click on the Layout.
2. Add the **Originating Imaging Document Error** field to the Layout.
3. Click **Save and Close**.
4. In the layout, click on the **Originating Imaging Document Error** link for a document that has an imaging error. The Imaging Document Error layout will open.

15.12.2 Imaging error scenarios

Errors will occur in your imaging job in any of the following scenarios:

- The Native Imaging engine attempts to render a corrupted native file.
- The Native Imaging engine attempts to render a password-protected native file that doesn't have a valid corresponding entry listed in the password bank tab. For more information, see Password Bank in imaging workflow on the next page.
- The Native Imaging engine attempts to render a document when the native file for that document is deleted from the repository.
- The Native Imaging engine attempts to render a native file when the FileShare repository is unavailable (access is denied).
- The Native Imaging queue service is stopped when the user attempts to run an imaging job.
- The Native Imaging queue service becomes disabled in the middle of an imaging job.
- The Native Imaging engine attempts to render a native file when there is no hard drive space in the file share repository.
- The Native Imaging engine is installed but the imaging job is not pointing to a valid server because the Native Imaging URL in the instance setting table is incorrect or invalid.
- The conversion request failed.
- The imaging request is no longer tracked. Something occurred on the server that resulted in a request key getting wiped out. This error is only visible in the population table and not in the Errors tab. This is usually the result of an IIS reset. This applies to running an imaging set, mass image, and image-on-the-fly jobs.
- The request key has become invalid because Invariant was attempting to report on a conversion or imaging job that Relativity isn't tracking anymore because Invariant failed to recognize that the job timed out. This could be caused by an IIS reset. This applies to running an imaging set, mass image, and image-on-the-fly jobs.

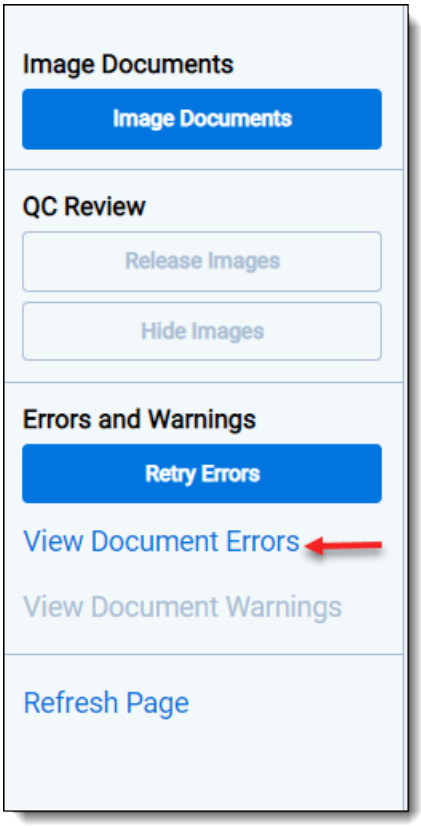
When Relativity Native Imaging encounters an error, it retries the imaging job one time. Relativity logs additional errors in the error report.

15.12.3 Error email notification

When errors occur in an imaging set, an email is sent to all users included in the Email Notification Recipients field for that imaging set. The email notification summarizes the errors and directs you to the Imaging Document Errors tab in Relativity.

15.12.4 Retrying imaging errors

To retry errors that occurred during the completion of your imaging set, click **Retry Errors, View Document Errors** on the console.



When you retry imaging errors, you are simply imaging those documents again. Thus, the retry errors button changes to Stop Imaging once the retry job begins and reaches a status of Initializing. Click Stop Imaging to stop the error retry job.

15.12.5 Password Bank in imaging workflow

The following steps depict how the Password Bank typically fits into the imaging cycle.

1. You create a password bank that includes a list of passwords that correspond with the files you intend to image.
2. You create an imaging set with the data source that contains the encrypted documents.
3. You start imaging the documents in the imaging set by clicking **Image Documents** in the Imaging Set console.
4. All passwords you supplied to the password bank become synced via an agent and accompany the job as it goes to the imaging engine.
5. The imaging engine images the files in the imaging set and refers to the passwords provided in the password bank. It then sends the imaged files back to Relativity.
6. Once the imaging status changes to Completed, you review and release images from QC review.

7. The imaged documents become available for review in the workspace, along with all the other previously-encrypted documents whose passwords you provided.

To view and resolve password-protection errors:

1. Click View Document Errors in the Imaging Set console after you run an imaging set.
2. Outside of Relativity, locate the passwords designated to unlock those files.
3. Return to Relativity, go to the Password Bank, and create entries for every password that corresponds with the errored files.
4. Click Retry Errors in the Imaging Set console to retry imaging the files that previously resulted in password-protection errors.

For more information, see Password bank in the Processing User Guide.

15.13 Imaging Warnings

The Imaging Warnings object identifies possible cut-off content on imaged MSG or EML files and stores that information.

To view a list of documents that have Imaging Warnings, go to the Imaging Warnings tab. You can also add Imaging Warning fields to a Core Reviewer layout or Document view.

15.13.1 Special considerations

Keep in mind the following special considerations when working with Imaging Warnings:

- If you delete an image, the Imaging Warnings associated with the deleted image will still exist.
- If you delete a document that has associated Imaging Warnings, the warnings will no longer be visible and cannot be searched for later.
- Relativity will not perform the warning detection process on images uploaded using the image replacement feature in the Document viewer.
- Relativity will not perform the warning detection process on images longer than 25 pages. Documents longer than 25 pages will be marked as Cut-off Detection Not Performed in the Warning Type field.

15.13.2 Imaging Warnings tab

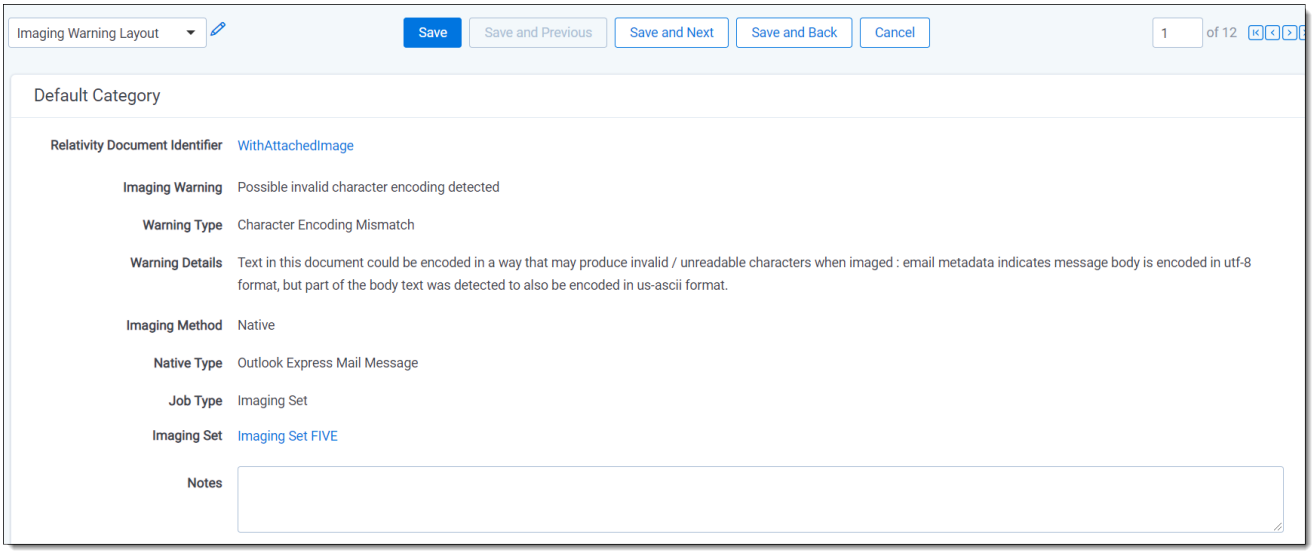
The Imaging Warnings tab displays information related to current Imaging Warnings.

#		Relativity Document I...	Imaging Warning	Warning Type	Warning Details	Imaging Method	Native Type	Job Type
		Filter	Filter	(All)	Filter	(All)	Filter	(All)
1		WithAttachedImage	Possible invalid charac...	Character Encoding Mismatch	Text in this document could be encoded in a way that may produce invalid / unreadable characters when imaged : email metadata indicates message body is encoded in utf-8 format, but part of the body text was detected to also be encoded in us-ascii format.	Native	Outlook Express Mail Message	Imaging Set
2		29350	Possible invalid charac...	Character Encoding Mismatch	Text in this document could be encoded in a way that may produce invalid / unreadable characters when imaged : email metadata	Native	Outlook Email	Imaging Set

Historic imaging warning information is not preserved. If a document with an Imaging Warning is re-imaged, the previous Imaging Warning is deleted.

15.13.2.1 Imaging Warning layout

When you click on the Imaging Warning field for a particular document, the Imaging Warning layout opens.



Note: The Imaging Warning layout cannot be accessed from the Documents tab. Access the Imaging Warning layout from the Imaging Warnings tab or from the Core Reviewer layout by clicking on the Imaging Warning field for a particular document.

The Imaging Warning layout has the following fields:

- **Relativity Document Identifier** - the control number of the document imaged along with a link to that document in the Viewer.
- **Imaging Warning** - a description of the problem detected. Description options are:
  - Possible cut-off embedded image detected.
  - Possible cut-off text detected.
  - Cut-off detection not performed.

- Split performed on table larger than page width.
- Possible missing or invalid Rich Text Format content detected in the email body.
- Possible invalid character coding detected.

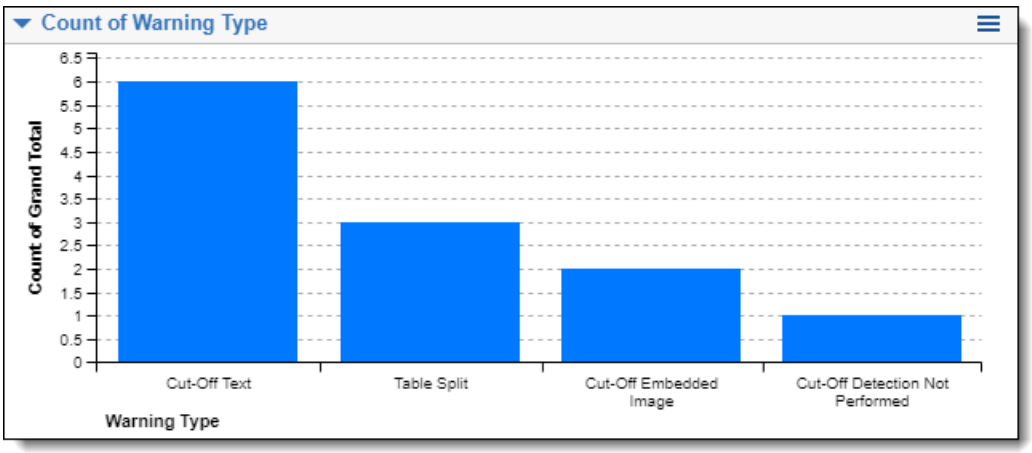
For more information, see All imaging warnings on the next page.

- **Warning Type** - a predefined list of options that facilitates searching when trying to group warnings. This field has better searching performance than a text-based field, such as Imaging Warning. Warning Types include:
  - Cut-Off Text.
  - Cut-Off Embedded Image.
  - Cut-Off Detection Not Performed.
  - Table Split.
  - Missing or Invalid Rich Text Format Content.
  - Character Encoding Mismatch.
- **Warning Details** - additional information related to the problem found, such as the page range where problems are detected.
- **Imaging Method** - Basic or Native.
- **Native Type** - the Relativity supported file type of the document before it was imaged.
- **Job Type** - the method used to create the image. Job Types are:
  - On-the-fly.
  - Mass imaging.
  - Imaging Set.
- **Imaging Set** - links to the Imaging Set that the image was produced through if the image was created via an Imaging Set.
- **Notes** - a space for you to enter notes.

Note: Except for the Notes field, you cannot modify the Imaging Warning fields, and you cannot link or unlink Imaging Warnings to documents.

15.13.2.2 Warning Type pivot table

In the Imaging Warnings tab, you can create a pivot table based on the Warning Type field and then export the pivot or dashboard. See the Admin Guide.



Note: You can only create the Warning Type pivot in the Imaging Warnings tab. The Warning Type field is not available for widgets on the Documents tab.

15.13.3 All imaging warnings

The following table lists the all the imaging warnings:

Imaging Warning Type	Why the warning occurred	Next step
Character Encoding Mismatch	Text in this document could be encoded in a way that may produce invalid or unreadable characters when imaged. Specifically, email metadata indicates that the message body is encoded in <format>, but part of the body text was also encoded in <another format>. Example formats include: ▪ utf-8 ▪ Windows-1252 ▪ us-ascii	Create a saved search with this warning type as a search condition and manually QC the returned documents.
Cut-Off Detection Not Performed	Email that is greater than 25 pages cannot have cut-off detection performed on it.	Create a saved search with this warning type as a search condition and manually QC the returned documents.
Cut-Off Embedded Image	Embedded images within a table go beyond the boundaries of the page.	Use different imaging profile options, such as landscape, auto-fit tables, split tables and auto-fit images.
Cut-Off Text	Text within a table goes beyond the boundaries of the page.	Use different imaging profile options, such as landscape, auto-fit tables, and split tables.

Imaging Warning Type	Why the warning occurred	Next step
Missing or Invalid Rich Text Format Content.	Rich Text Data within the email is possibly missing or incorrect. As a result, text in the email body may be missing from the image generated.	Create a saved search with this warning type as a search condition and manually QC the returned files.
Table Split	Tables that go beyond the boundaries of the page have been split and re-printed on a new line.	Create a saved search with this warning type as a search condition and manually QC the returned files.
Table Split Not Completed	Tables that are beyond boundaries of the page could not be split. Reasons for this include an abnormally wide first column, when there are rows that span across multiple columns, or a table within a table. The exact page where the table begins will be reported.	Use different Imaging Profile options, such as landscape, auto-fit tables, and split tables.

15.13.4 Core Reviewer layouts

To facilitate the QC of documents, you can link the Imaging Warnings layout to a Review layout. See the Admin Guide.

You can also add Imaging Warnings fields to a Core Reviewer layout. The Core Reviewer layout can be configured to show Imaging Warning details or create pop-ups with that information. See the Admin Guide.

Imaging Warnings fields that you can add to a layout include:

- **Imaging Warning** - a description of the problem detected. Description options are:
  - Possible cut-off embedded image detected.
  - Possible cut-off text detected.
  - Cut-off detection not performed.
  - Split performed on table larger than page width.
  - Possible missing or invalid Rich Text Format content detected in the email body.
  - Possible invalid character coding detected.
- **Warning Type** - a predefined list of options that facilitates searching when trying to group warnings. This field has better searching performance than a text-based field, such as Imaging Warning. Warning Types are:
  - Cut-Off Text.
  - Cut-Off Embedded Image.
  - Cut-Off Detection Not Performed.
  - Table Split.
  - Missing or Invalid Rich Text Format Content.
  - Character Encoding Mismatch.

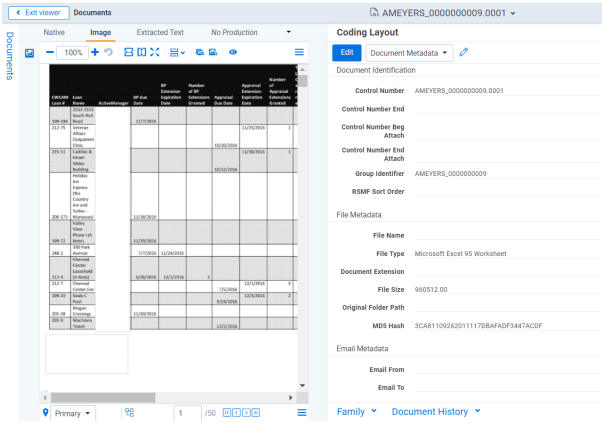
- **Warning Details** - additional information related to the problem found, such as the page range where problems are detected.

15.13.5 Re-imaging emails with tables

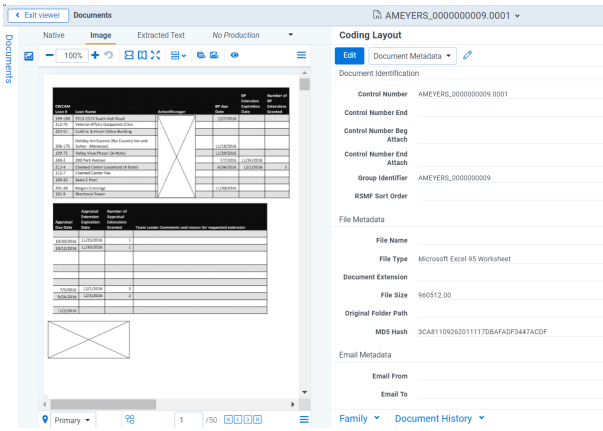
You can image large tables in emails without the table being cut-off in the resulting image by setting the Split tables to fit page width field in the Native imaging profile to Yes. When this field is set to Yes, wide tables are split and re-printed on a new line when they are imaged with no content lost.

The first screen shot below is of an imaged email where the Split tables to fit page width field was set to No on the imaging profile. That same field was set to Yes on the second screen shot.

(Click to expand image)



(Click to expand image)

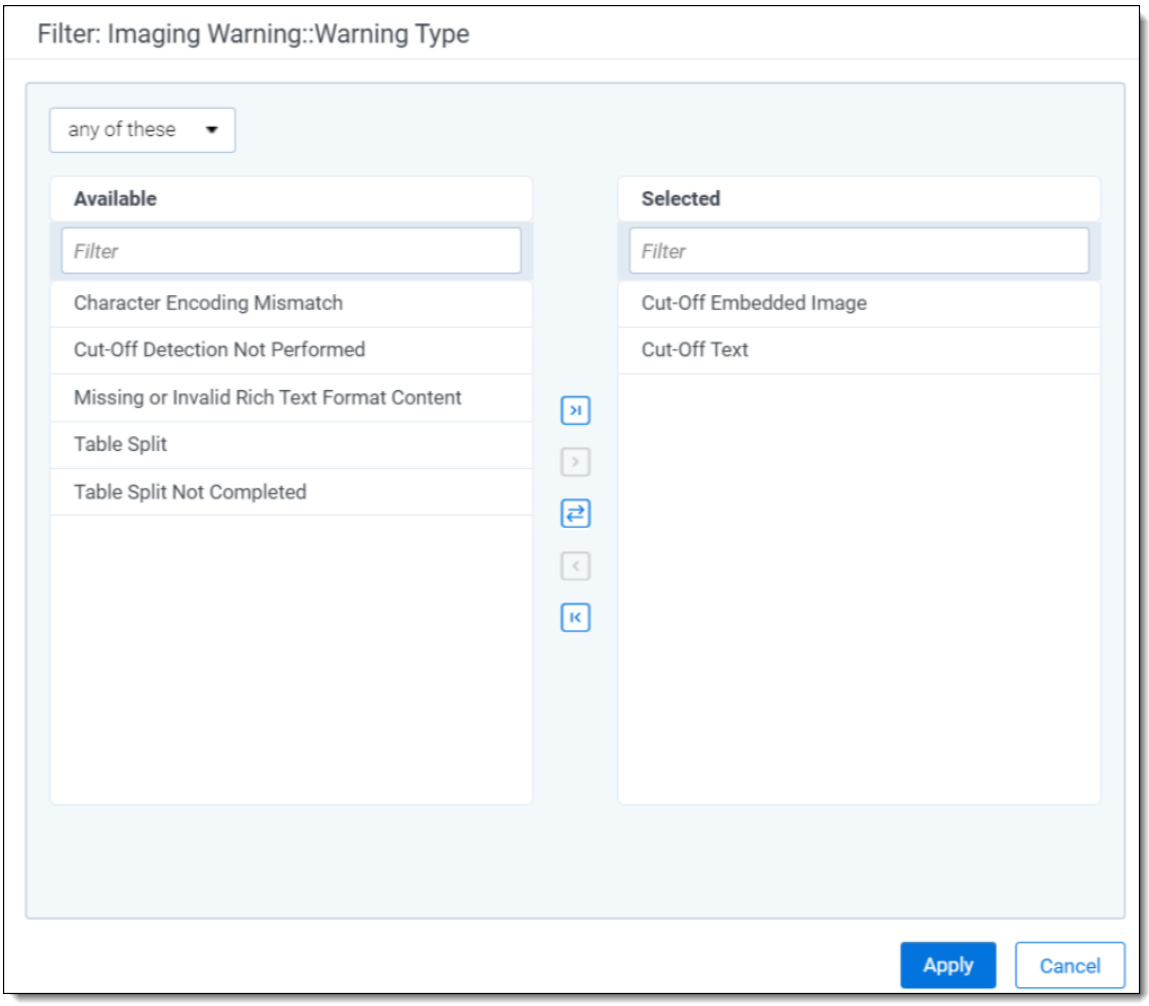


Selecting the Split tables to fit page width field will slow down your imaging time. As a result, you may want to image documents without the field set to Yes first and then re-image all of the documents that acquire an Imaging Warning.

To re-image documents that have an imaging warning:

1. Create a saved search that brings back documents with Imaging Warnings.
   - Select Imaging Warning from the Add Condition drop-down menu. A pop-up window will open.
   - Select **these conditions** from the Operator.

- Click **Add Condition** and select **Imaging Warning::Warning Type**.
- Select **any of these** from the Operator drop down.
- Move **Cut-Off Embedded Image** and **Cut-Off Text** from Available to Selected and click **Apply**.
  (Click to expand image)



- Click **Apply**.

For more information, see the Admin Guide.

2. Delete the images in documents that have Imaging Warnings.
   - Filter on the saved search you just created.
   - Select **Delete** from Mass Operations.
   - Select **Delete only images from selected documents**.
   - Click **Delete**.
3. Create a Native Imaging Profile, and in the Email Options tab, set the Split tables to fit page width field to **Yes**. For more information, see the Admin Guide.

(Click to expand image)

4. Create an Imaging Set.
   - Select the saved search you just created for Data Source.
   - Select the native imaging profile you just created for Imaging Profile.
   - Click **Save**.

   For more information, see the Admin Guide.
5. Open the Imaging Set.
6. Click **Image Documents** from the Imaging Sets console.

15.14 QC Review

Using QC Review you can prevent users from viewing or editing images in an Imaging Set until a QC reviewer has a chance to review the images. The QC reviewer has access to the images, but the images are hidden from other groups until you release them. A permission setting in the Admin Operations section of the Workspace Details tab determines whether or not members of a particular group are able to view images held for QC Review. If a user without sufficient permissions views a document in an Imaging Set that is held for QC Review, the Image radio button is unavailable in the Viewer until you release the Imaging Set.

Sometimes it's necessary to have one team of professionals perform a preliminary review of the images in a particular data set before releasing the images to a larger group of reviewers. With QC Review you can restrict access to a collection of images from one group, while another group performs quality checks. When the QC review process is complete, you can release the images to other groups to view.

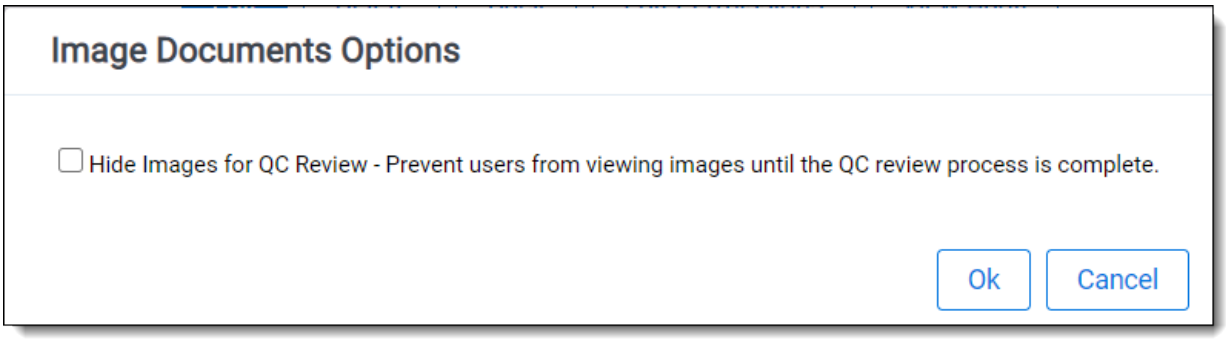
Note: QC Review of Imaging Sets that contain large volumes of documents can be optimized with Random Sampling. See Sampling on page 605

15.14.1 Hiding images for QC

The suggested workflow for the QC Review feature is as follows:

1. Click the **Imaging Set** tab.
2. Select an Imaging Set.
3. Click **Image Documents**.

4. An option to **Hide Images** appears. Selecting this checkbox prevents all users without sufficient permissions from viewing the document images in that particular Imaging Set.



5. Click **OK**.

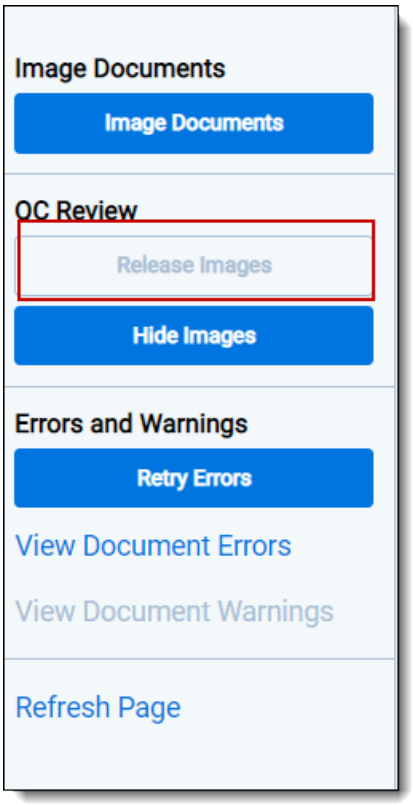
> **Note:** The ImageQCOnByDefault instance setting value makes this checkbox default to checked. See the Instance setting guide.

All images in that Imaging Set are only viewable by users whose groups have the permission to **View Images Hidden for QC Review**. Apply this permission to any group from the Workspace Details tab.

15.14.2 Releasing images

When the QC review process is complete use the following steps to grant other groups to access the images of all documents associated with that Imaging Set.

1. Click the **Imaging Set** tab.
2. Select the Imaging Set.
3. Click the **Release Images** button. A Release Images Confirmation window prompts you to confirm your intention to release all images in this Imaging Set.

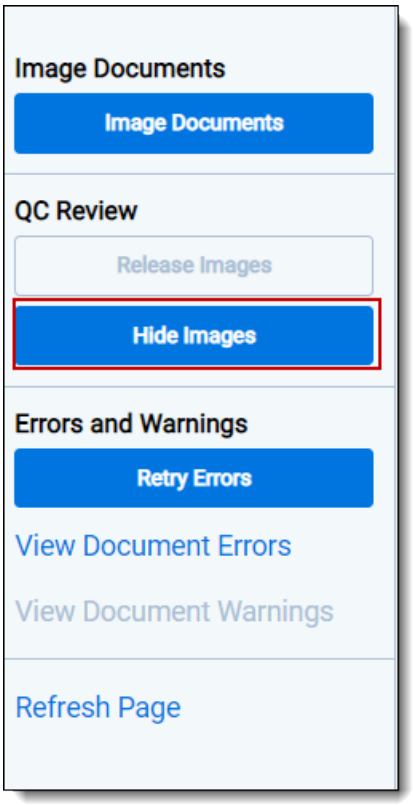


4. Click **OK**.

If the documents in the Imaging Set you want held for QC Review already have images:

1. Click the **Imaging Set** tab.
2. Select an Imaging Set.

3. Click the **Hide Images** button in the QC Review section of the Imaging Set.



15.14.2.1 QC Review fields

If you image a document in more than one Imaging Set, the Imaging Set system field lists the most recent Imaging Set. The following two fields are relevant to QC Review:

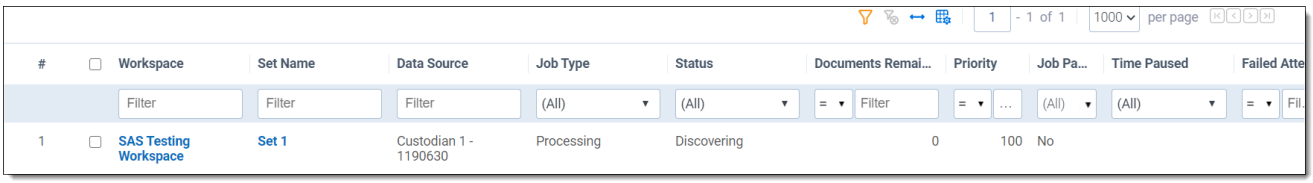
- **Image QC Status** - this choice field defines whether or not the image for the document is **Hidden for QC**. The value is null if it is not hidden.
- **Imaging Set** - this field displays the most recent Imaging Set associated with that document. If the document's image originates from outside of Relativity or with Image on the fly functionality, this field is null.

15.14.2.2 Image QC Review Status

- **Documents set to hidden** - displays the number of images hidden during the imaging process.
- **Documents viewable** - displays the number of documents with viewable images.

15.15 Imaging jobs in the Worker Manager Queue

The Imaging Queue displays all current imaging jobs running in your environment. You can view the queue if you have system admin rights to see the tab. Select the **Queue Management** tab, and click **Worker Manager Queue**.



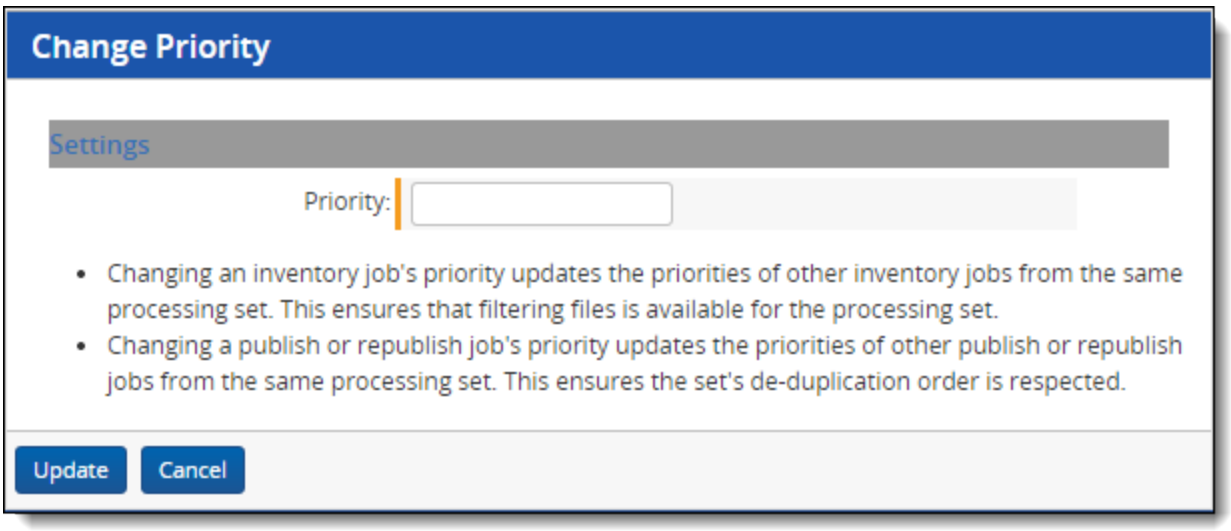
#	Workspace	Set Name	Data Source	Job Type	Status	Documents Remai...	Priority	Job Pa...	Time Paused	Failed Atte
	Filter	Filter	Filter	(All)	(All)	= Filter	= ...	(All)	(All)	= Fil
1	SAS Testing Workspace	Set 1	Custodian 1 - 1190630	Processing	Discovering	0	100	No		

Note: If you have processing installed, the **Queue Management** tab displays **Worker Manager Queue** instead of **Imaging Queue** as a subtab. You can use the Worker Manager Queue subtab to manage both imaging and processing jobs. For more information, see the Processing User Guide.

The Imaging Queue view displays the following fields:

- **Workspace**- indicates the workspace associated with the imaging set, Mass Image, or Image-on-the-fly job.
- **Imaging Set Name**- indicates the imaging set, Mass Image, or Image-on-the-fly operation used for the job. Mass Image and Image-on-the-fly jobs are named and auto-incremented when they are added to the queue.
- **Set Name**- indicates the imaging set, Mass Image, or Image-on-the-fly operation used for the job. Mass Image and Image-on-the-fly jobs are named and auto-incremented when they are added to the queue.
- **Data Source** - only populated for processing jobs.
- **Job Type**- indicates the job being run, will say "Imaging" for all types of Imaging jobs.
- **Imaging Set Artifact ID**- is unique identifier for the imaging set. The artifact ID will be set to blank for Image-on-the-fly or Mass Image jobs because these operations do not have imaging sets.
- **Imaging Profile** - lists the name of profile used to create the document images.
- **Documents Remaining**- lists the number of documents waiting to be imaged. the "Submitting" status indicates the number of Documents remaining for submission to the Worker Manager Server. The status "Imaging" indicates the number of Documents remaining for the Worker Manager Server to image.
- **Status**- displays the current stage of the imaging job. Image-on-the-fly or Mass Image operations have only Waiting and Processing statuses. When it is "Submitting," the Imaging Request Agent is submitting Documents to the Worker Manager Server. When it is "Imaging," all Documents have been received by the Worker Manager Server and are waiting to be imaged.
- **Priority**- indicates the order in which the imaging job will be run. Jobs initiated through image sets or Mass Image operations have default values of 100, while jobs initiated by Image-on-the-fly have default values of 1 (which means they will be worked on before mass image operations).
- **Submitted Date**- indicates the date and time when an imaging job was submitted, or an attempt was made to resolve errors in a job through the Imaging Set Console.
- **Submitted By**- lists the name of the user who initiated the imaging job.

Relativity sends jobs to the imaging engine by priority, and then orders them by submitted date. To change the priority of a job, click **Change Priority** at the bottom of the view. Enter a new integer value in the **Priority** field, and then click **Update**. Jobs assigned a lower value have a higher priority.



To cancel imaging jobs, select one or more jobs, and click **Cancel Imaging Job**. You can only cancel jobs that are in a Status of 'Imaging.' Requests to cancel during 'Submitting' will be ignored.

Note: If you cancel an imaging job or delete an imaging set during an imaging job, all images from imaged documents within that set remain in the database.

15.16 Native imaging - dithering algorithm options

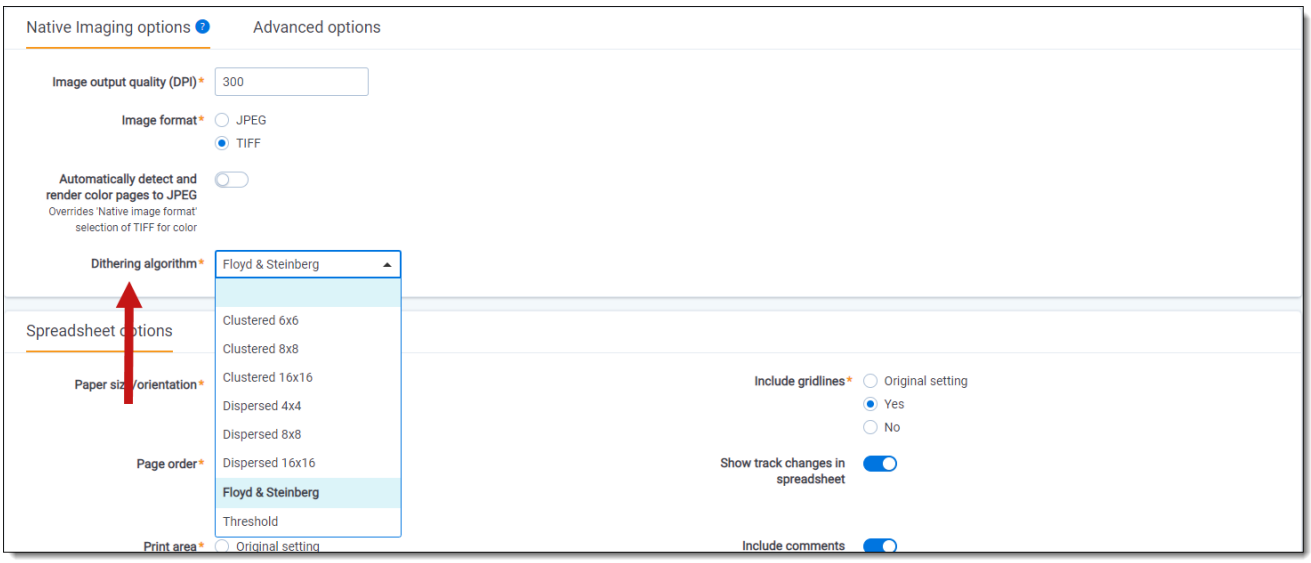
Relativity native imaging offers multiple dithering algorithms you can apply towards imaging your documents.

This topic provides details on the various dithering algorithms available within Relativity native imaging, as well as use cases for each algorithm, including the size and clarity of images you create.

15.16.1 Dithering algorithm details

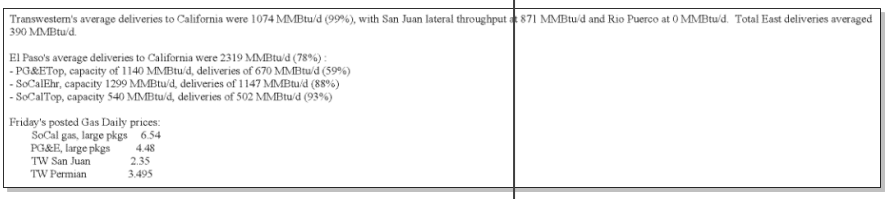
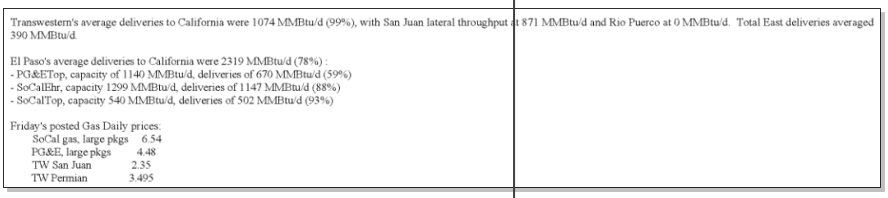
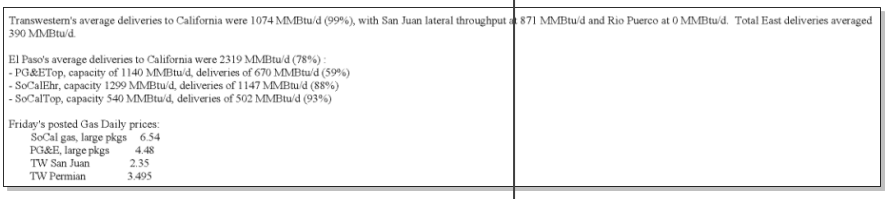
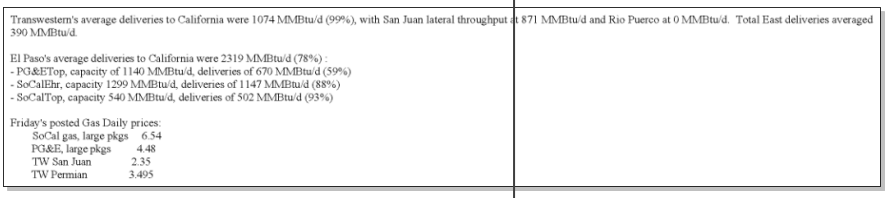
System admins can select from one of eight different dithering algorithms when they choose to image with native imaging:

- Clustered 6x6
- Clustered 8x8
- Clustered 16x16
- Dispersed 4x4
- Dispersed 8x8
- Dispersed 16x16
- Floyd & Steinberg
- Threshold



15.16.1.1 Dithering results for text-rich documents

Below are the testing results with the different algorithms for text-rich documents. All results are 300DPI B&W only.

Image Dithering Type	Size	Image Sample Magnified (150% scale)
Clustered 6x6	27 KB	
Clustered 8x8	25 KB	
Clustered 16x16	23 KB	
Floyd & Steinberg	24 KB	

Transwestern's average deliveries to California were 1074 MMBtu/d (99%), with San Juan lateral throughput at 871 MMBtu/d and Rio Puerco at 0 MMBtu/d. Total East deliveries averaged 390 MMBtu/d.

El Paso's average deliveries to California were 2319 MMBtu/d (78%) :
- PG&ETop, capacity of 1140 MMBtu/d, deliveries of 670 MMBtu/d (59%)
- SoCalEhr, capacity 1299 MMBtu/d, deliveries of 1147 MMBtu/d (88%)
- SoCalTop, capacity 540 MMBtu/d, deliveries of 502 MMBtu/d (93%)

Friday's posted Gas Daily prices:

SoCal gas, large pkgs	6.54
PG&E, large pkgs	4.48
TW San Juan	2.35
TW Permian	3.495

Image Dithering Type	Size	Image Sample Magnified (150% scale)
Dispersed 4x4	24 KB	Transwestern's average deliveries to California were 1074 MMBtu/d (99%), with San Juan lateral throughput at 871 MMBtu/d and Rio Puerco at 0 MMBtu/d. 390 MMBtu/d. El Paso's average deliveries to California were 2319 MMBtu/d (78%) : - PG&ETop, capacity of 1140 MMBtu/d, deliveries of 670 MMBtu/d (59%) - SoCalEhr, capacity 1299 MMBtu/d, deliveries of 1147 MMBtu/d (88%) - SoCalTop, capacity 540 MMBtu/d, deliveries of 502 MMBtu/d (93%) Friday's posted Gas Daily prices: SoCal gas, large pkgs 6.54 PG&E, large pkgs 4.48 TW San Juan 2.35 TW Permian 3.495
Dispersed 8x8	24 KB	Transwestern's average deliveries to California were 1074 MMBtu/d (99%), with San Juan lateral throughput at 871 MMBtu/d and Rio Puerco at 0 MMBtu/d. 390 MMBtu/d. El Paso's average deliveries to California were 2319 MMBtu/d (78%) : - PG&ETop, capacity of 1140 MMBtu/d, deliveries of 670 MMBtu/d (59%) - SoCalEhr, capacity 1299 MMBtu/d, deliveries of 1147 MMBtu/d (88%) - SoCalTop, capacity 540 MMBtu/d, deliveries of 502 MMBtu/d (93%) Friday's posted Gas Daily prices: SoCal gas, large pkgs 6.54 PG&E, large pkgs 4.48 TW San Juan 2.35 TW Permian 3.495
Dispersed 16x16	24 KB	Transwestern's average deliveries to California were 1074 MMBtu/d (99%), with San Juan lateral throughput at 871 MMBtu/d and Rio Puerco at 0 MMBtu/d. 390 MMBtu/d. El Paso's average deliveries to California were 2319 MMBtu/d (78%) : - PG&ETop, capacity of 1140 MMBtu/d, deliveries of 670 MMBtu/d (59%) - SoCalEhr, capacity 1299 MMBtu/d, deliveries of 1147 MMBtu/d (88%) - SoCalTop, capacity 540 MMBtu/d, deliveries of 502 MMBtu/d (93%) Friday's posted Gas Daily prices: SoCal gas, large pkgs 6.54 PG&E, large pkgs 4.48 TW San Juan 2.35 TW Permian 3.495
Threshold 0	2 KB	
Threshold 127	22 KB	Transwestern's average deliveries to California were 1074 MMBtu/d (99%), with San Juan lateral throughput at 871 MMBtu/d and Rio Puerco at 0 MMBtu/d. 390 MMBtu/d. El Paso's average deliveries to California were 2319 MMBtu/d (78%) : - PG&ETop, capacity of 1140 MMBtu/d, deliveries of 670 MMBtu/d (59%) - SoCalEhr, capacity 1299 MMBtu/d, deliveries of 1147 MMBtu/d (88%) - SoCalTop, capacity 540 MMBtu/d, deliveries of 502 MMBtu/d (93%) Friday's posted Gas Daily prices: SoCal gas, large pkgs 6.54 PG&E, large pkgs 4.48 TW San Juan 2.35 TW Permian 3.495

Image Dithering Type	Size	Image Sample Magnified (150% scale)
Threshold 215	22 KB	Transwestern's average deliveries to California were 1074 MMBtu/d (99%), with San Juan lateral throughput at 871 MMBtu/d and Rio Puerco at 0 MMBtu/d. 390 MMBtu/d. El Paso's average deliveries to California were 2319 MMBtu/d (78%) : - PG&ETop, capacity of 1140 MMBtu/d, deliveries of 670 MMBtu/d (59%) - SoCalEhr, capacity 1299 MMBtu/d, deliveries of 1147 MMBtu/d (88%) - SoCalTop, capacity 540 MMBtu/d, deliveries of 502 MMBtu/d (93%) Friday's posted Gas Daily prices: SoCal gas, large pkgs 6.54 PG&E, large pkgs 4.48 TW San Juan 2.35 TW Permian 3.495
Threshold 255	22 KB	Transwestern's average deliveries to California were 1074 MMBtu/d (99%), with San Juan lateral throughput at 871 MMBtu/d and Rio Puerco at 0 MMBtu/d. 390 MMBtu/d. El Paso's average deliveries to California were 2319 MMBtu/d (78%) : - PG&ETop, capacity of 1140 MMBtu/d, deliveries of 670 MMBtu/d (59%) - SoCalEhr, capacity 1299 MMBtu/d, deliveries of 1147 MMBtu/d (88%) - SoCalTop, capacity 540 MMBtu/d, deliveries of 502 MMBtu/d (93%) Friday's posted Gas Daily prices: SoCal gas, large pkgs 6.54 PG&E, large pkgs 4.48 TW San Juan 2.35 TW Permian 3.495

15.16.1.2 Dithering results for image-rich documents

Below are the testing results with the different algorithms for image-rich documents. All results 300DPI B&W only.

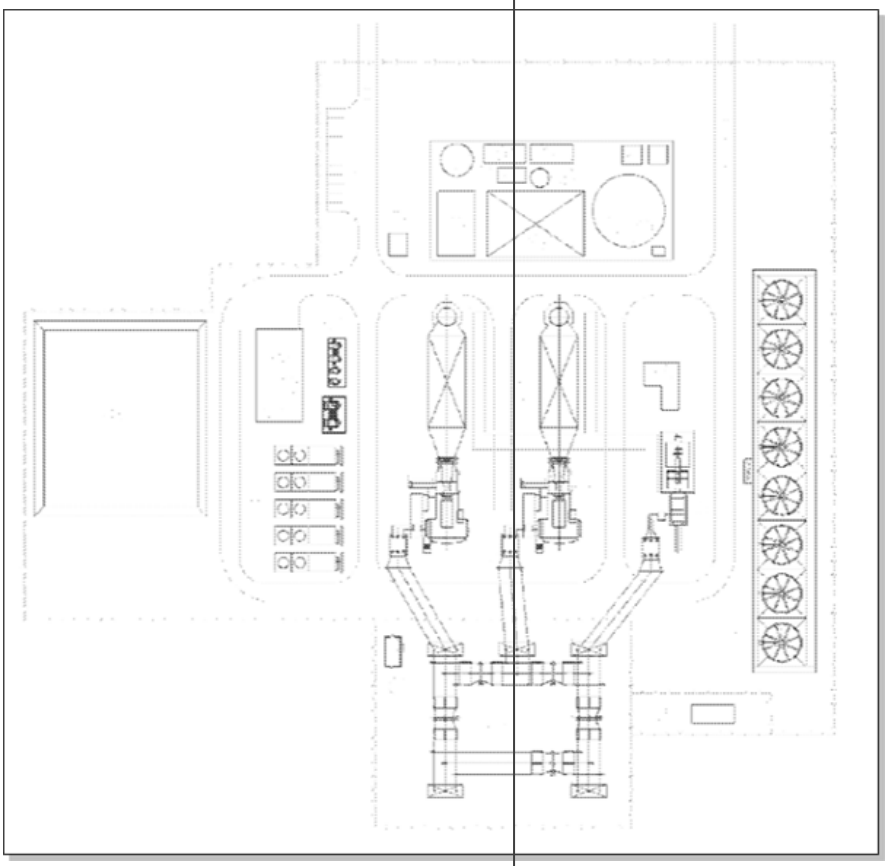
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Clustered 6x6	45 KB	

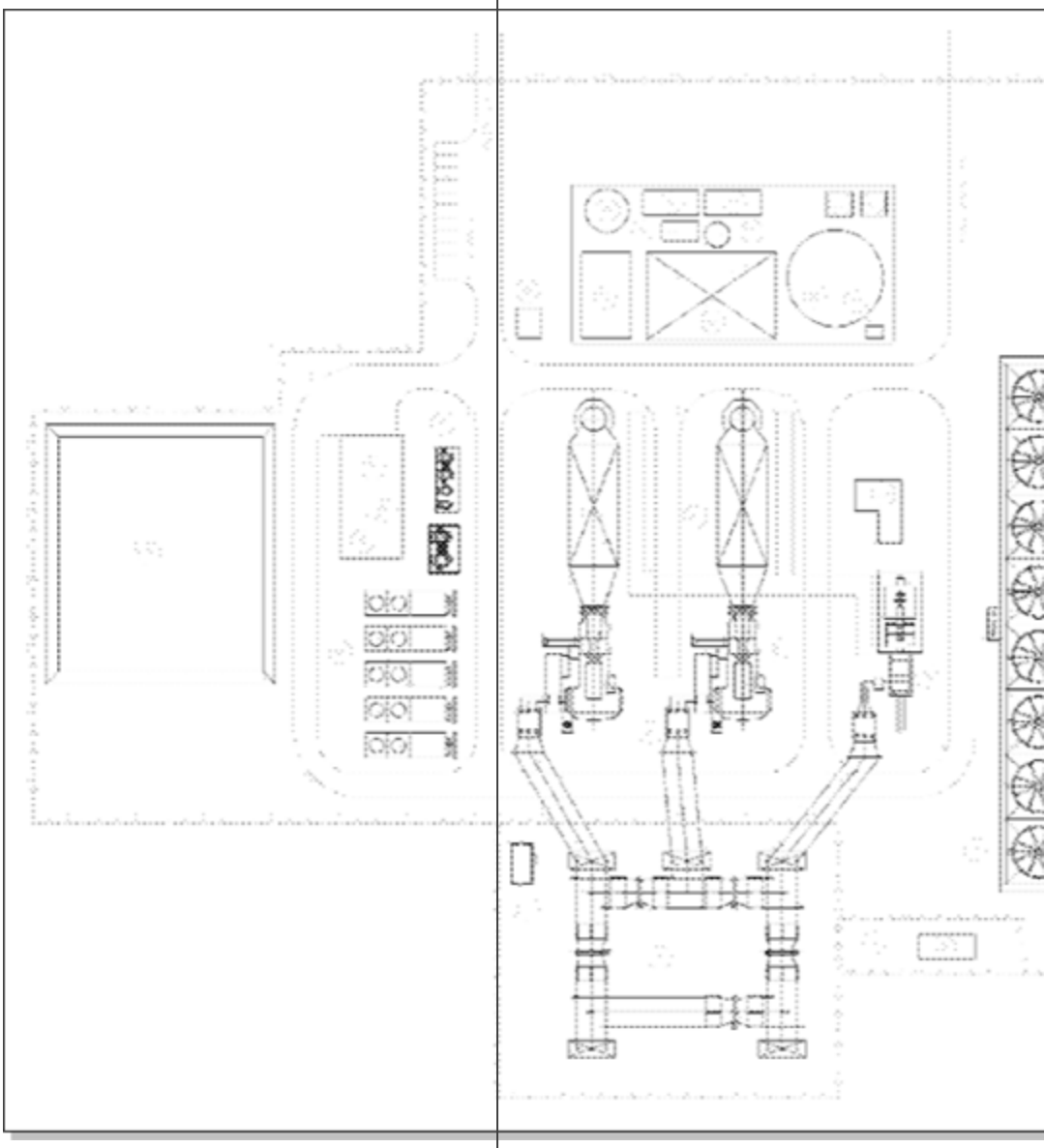
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Clustered 8x8	39 KB	

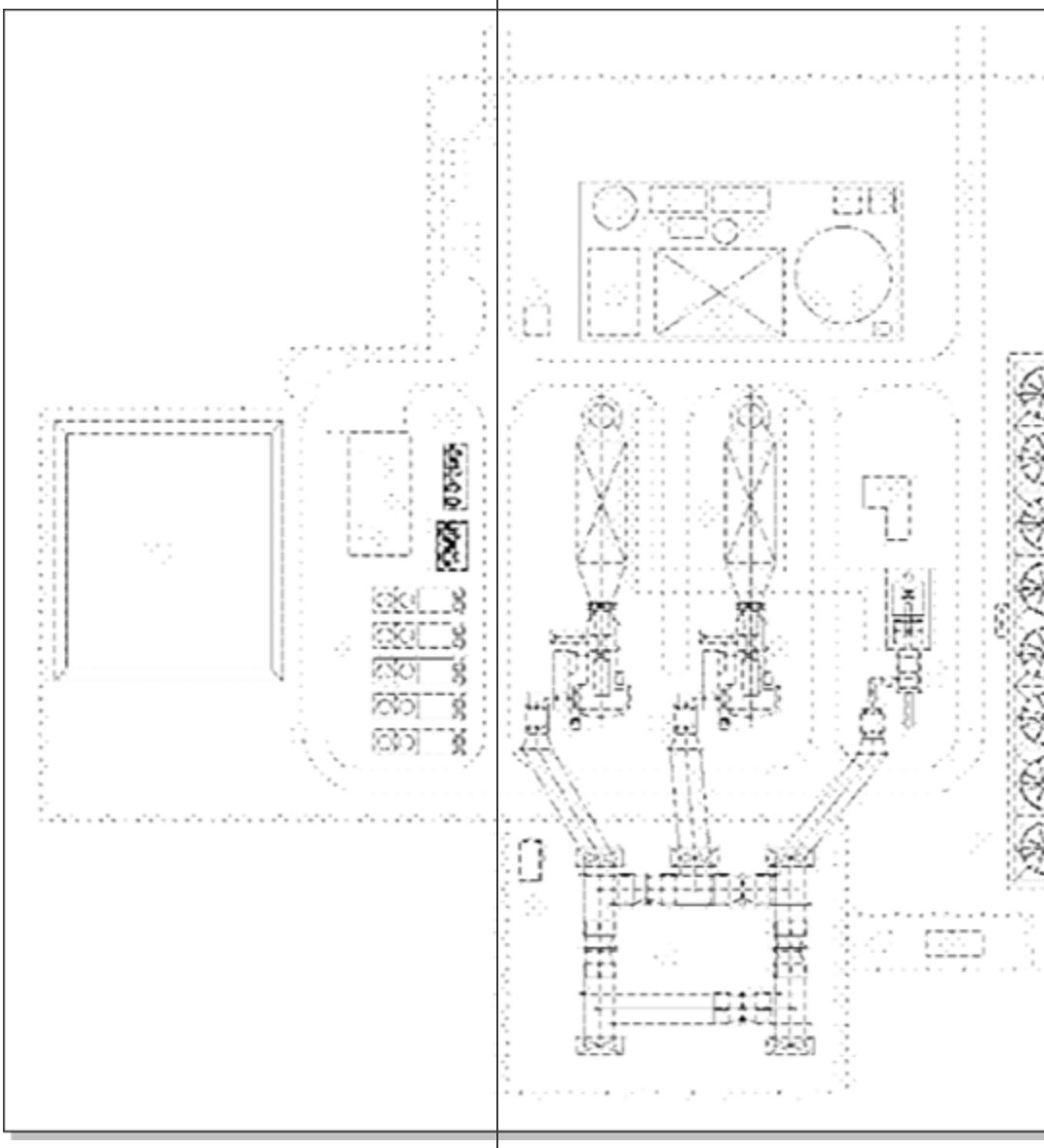
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Clustered 16x16	33 KB	

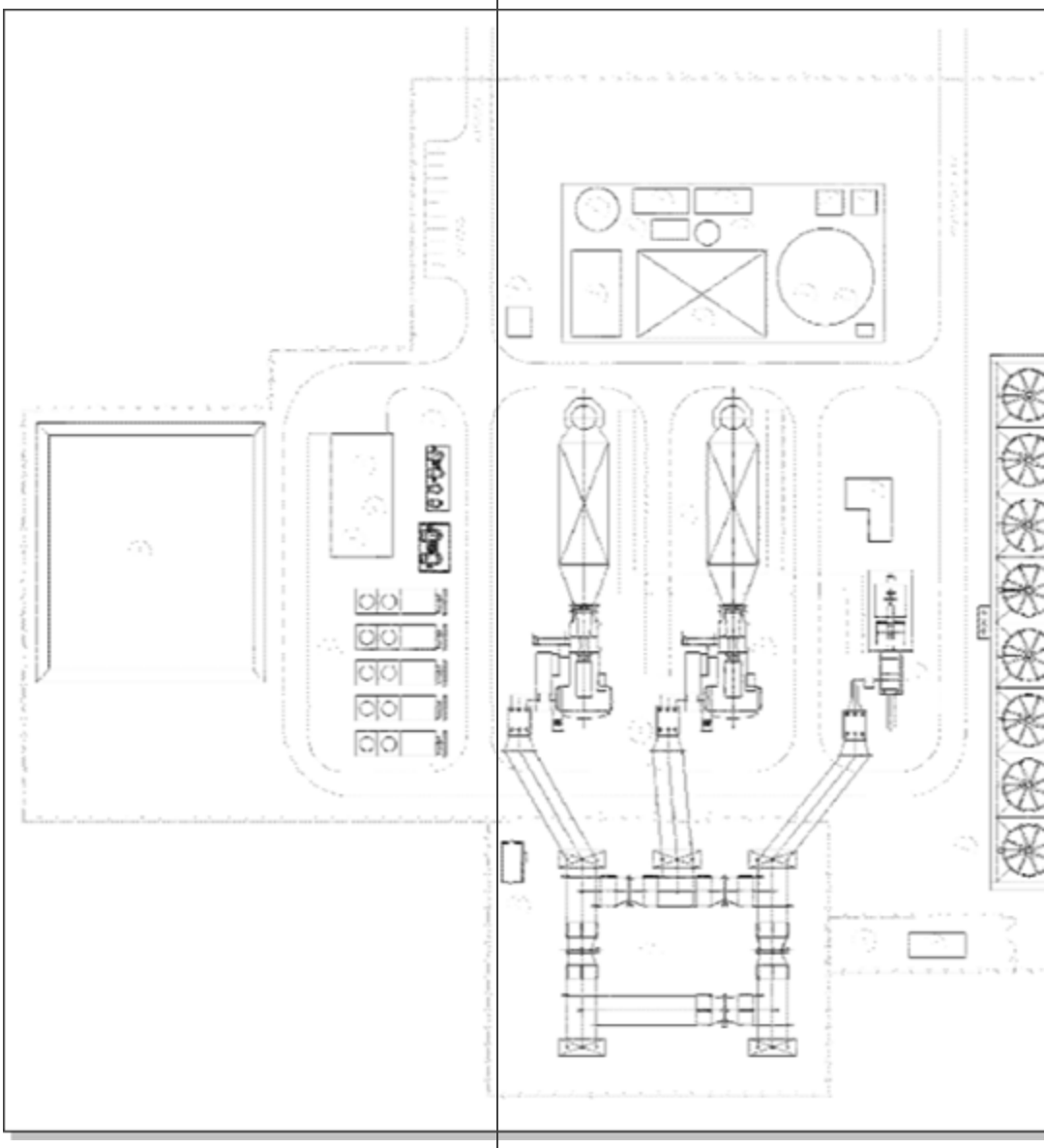
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Floyd & Steinberg	70 KB	

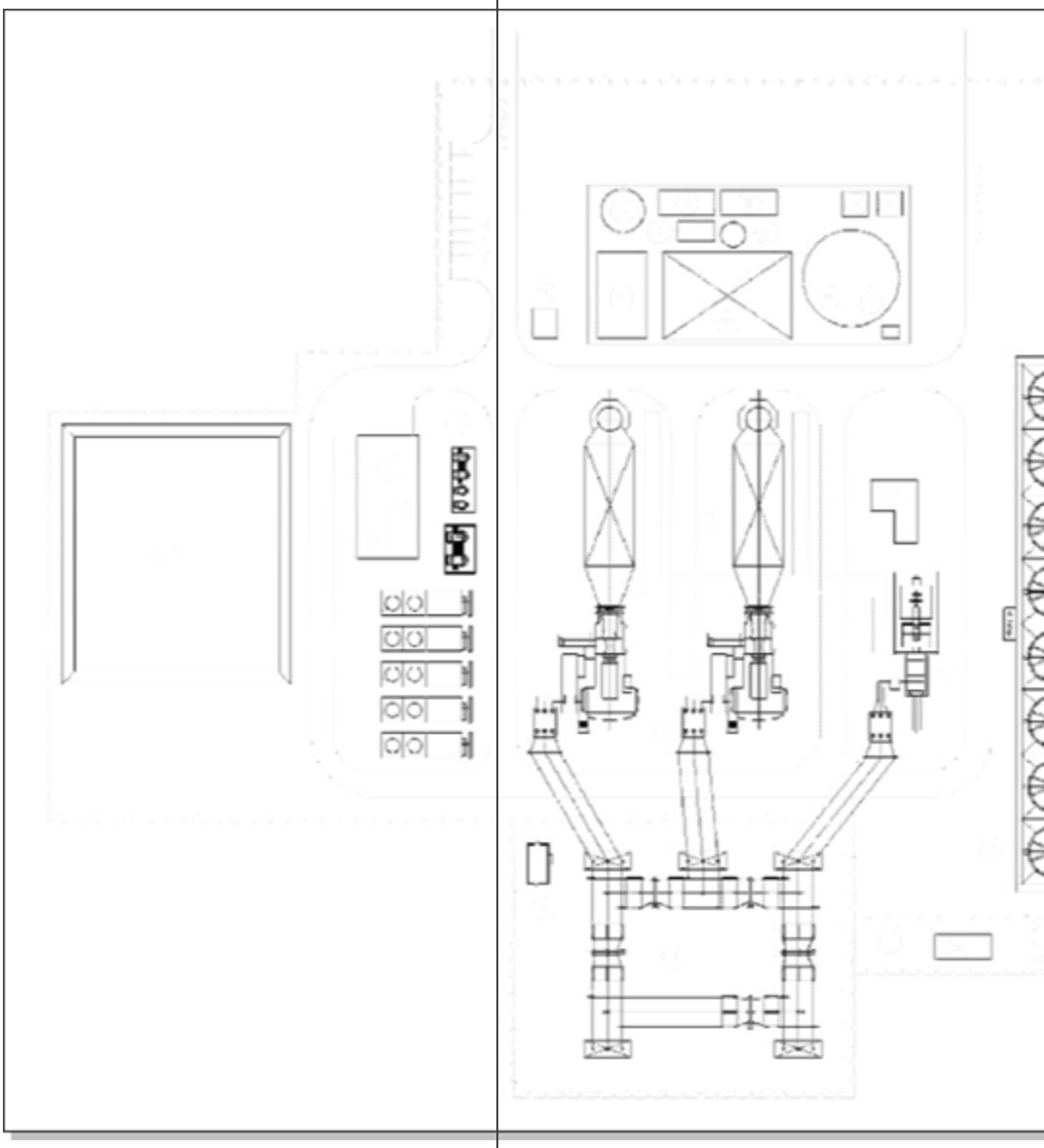
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Dispersed 4x4	64 KB	

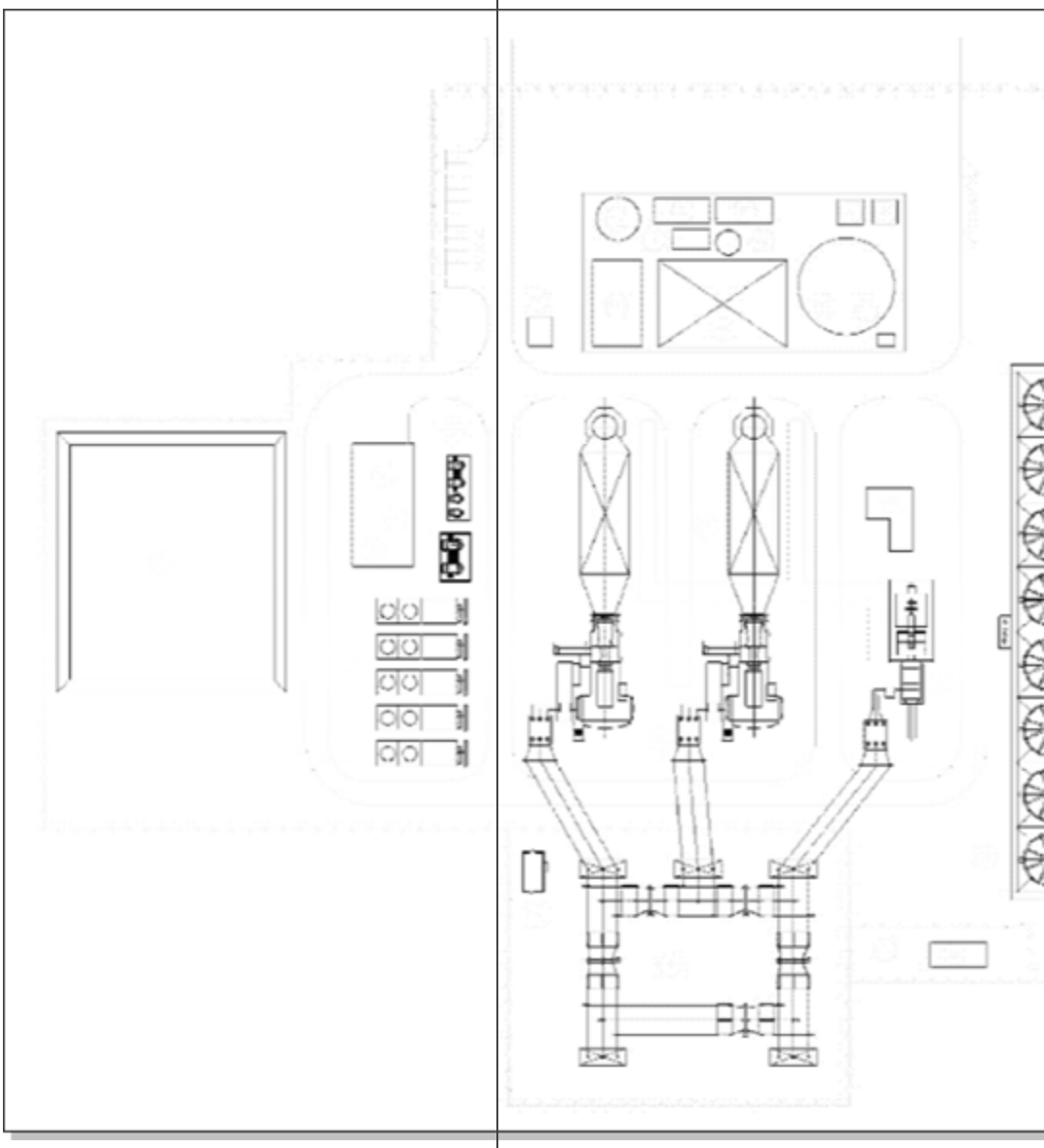
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Dispersed 8x8	52 KB	

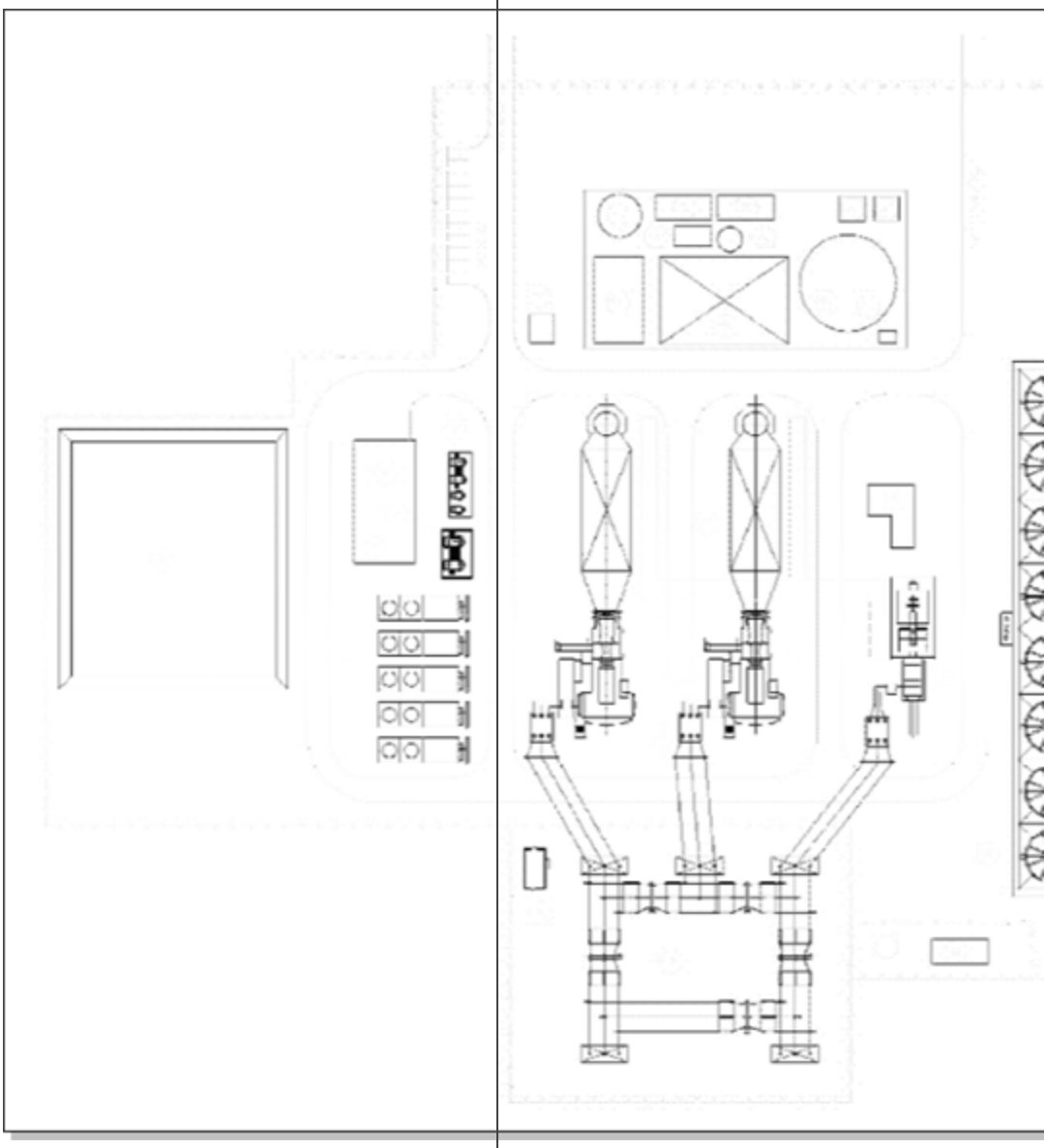
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Dispersed 16x16	69 KB	

Image Dithering Type	Size	Image Sample Magnified (150% scale)
Threshold 0	2 KB	

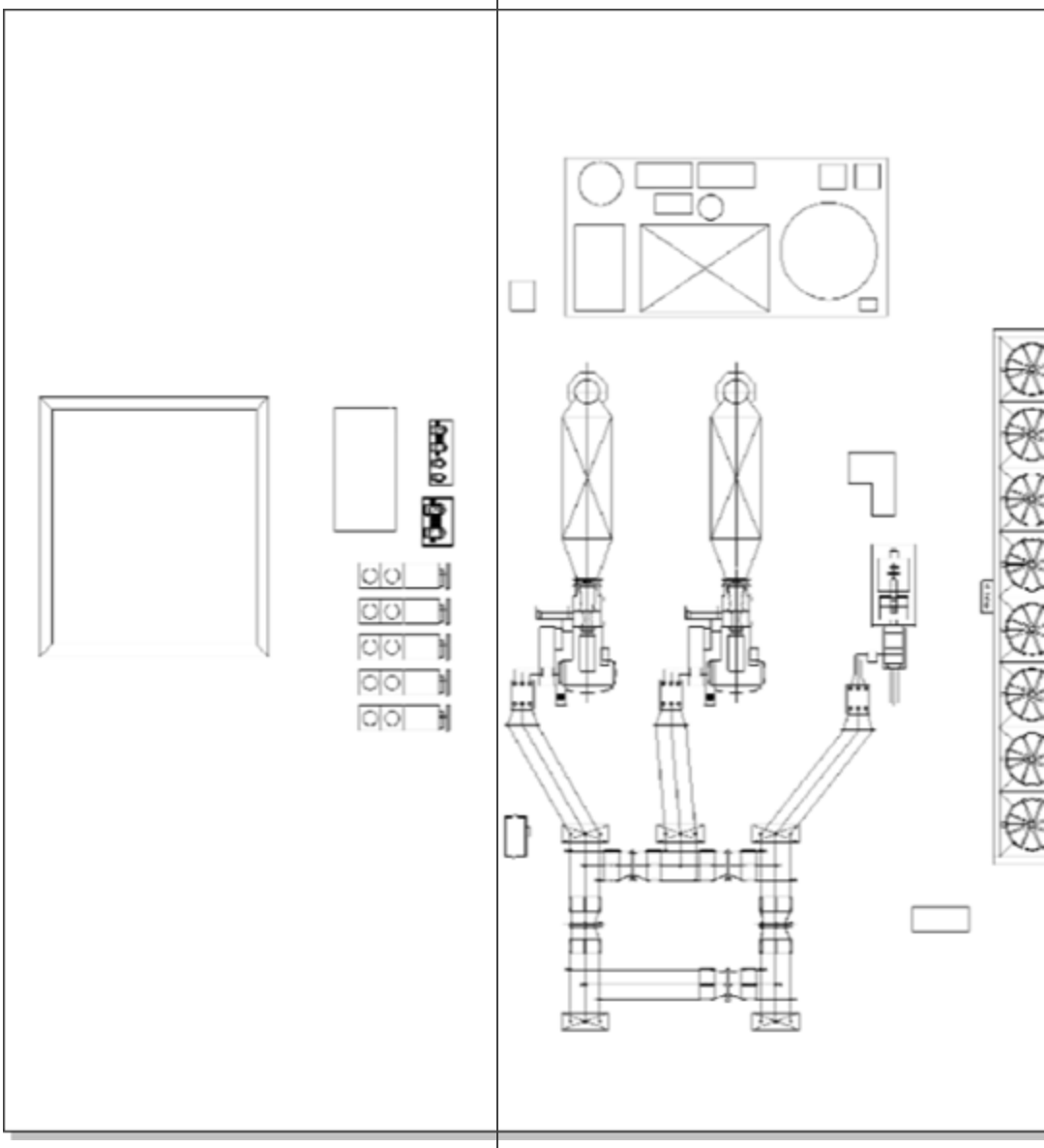
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Threshold 127	79 KB	

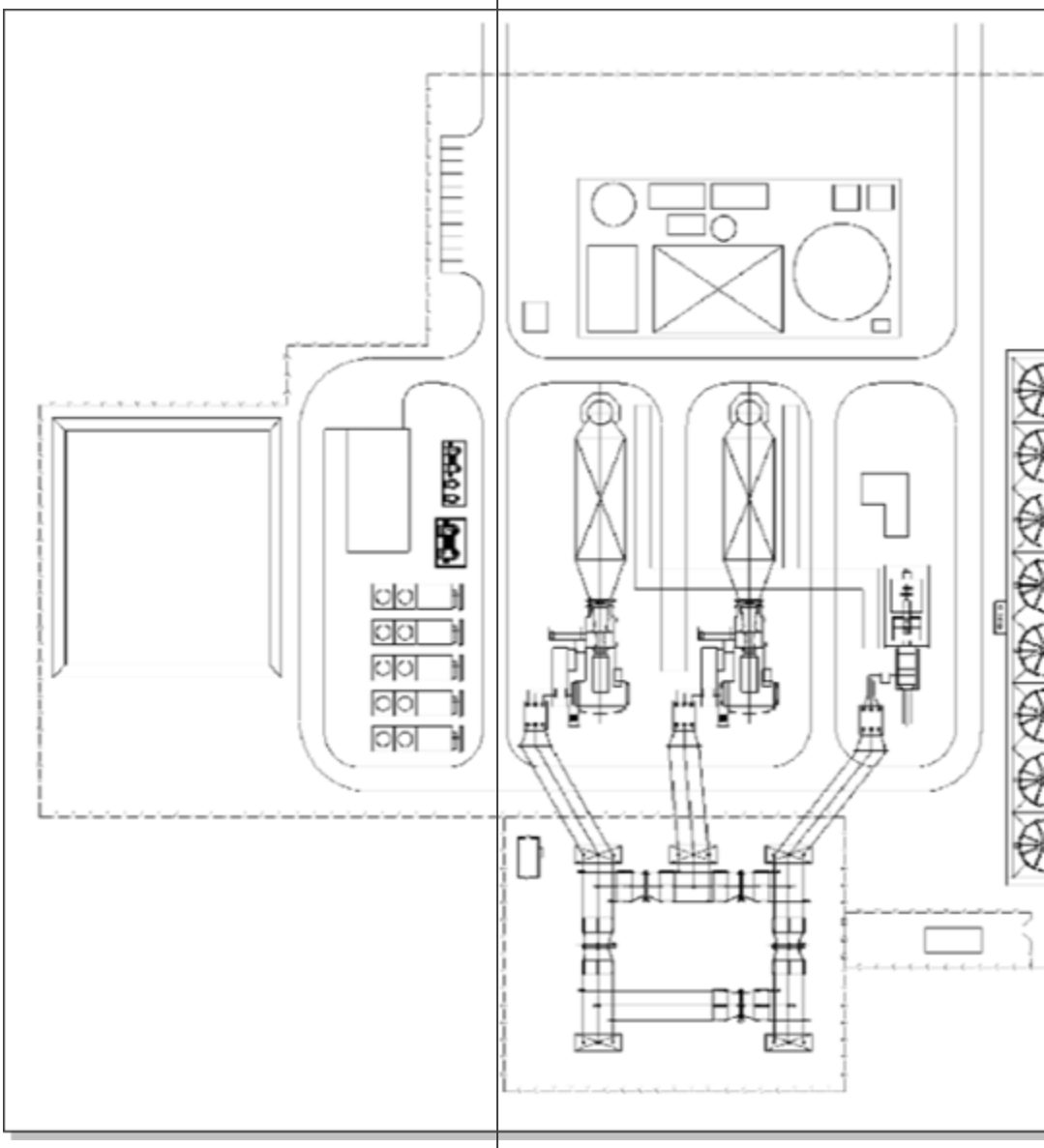
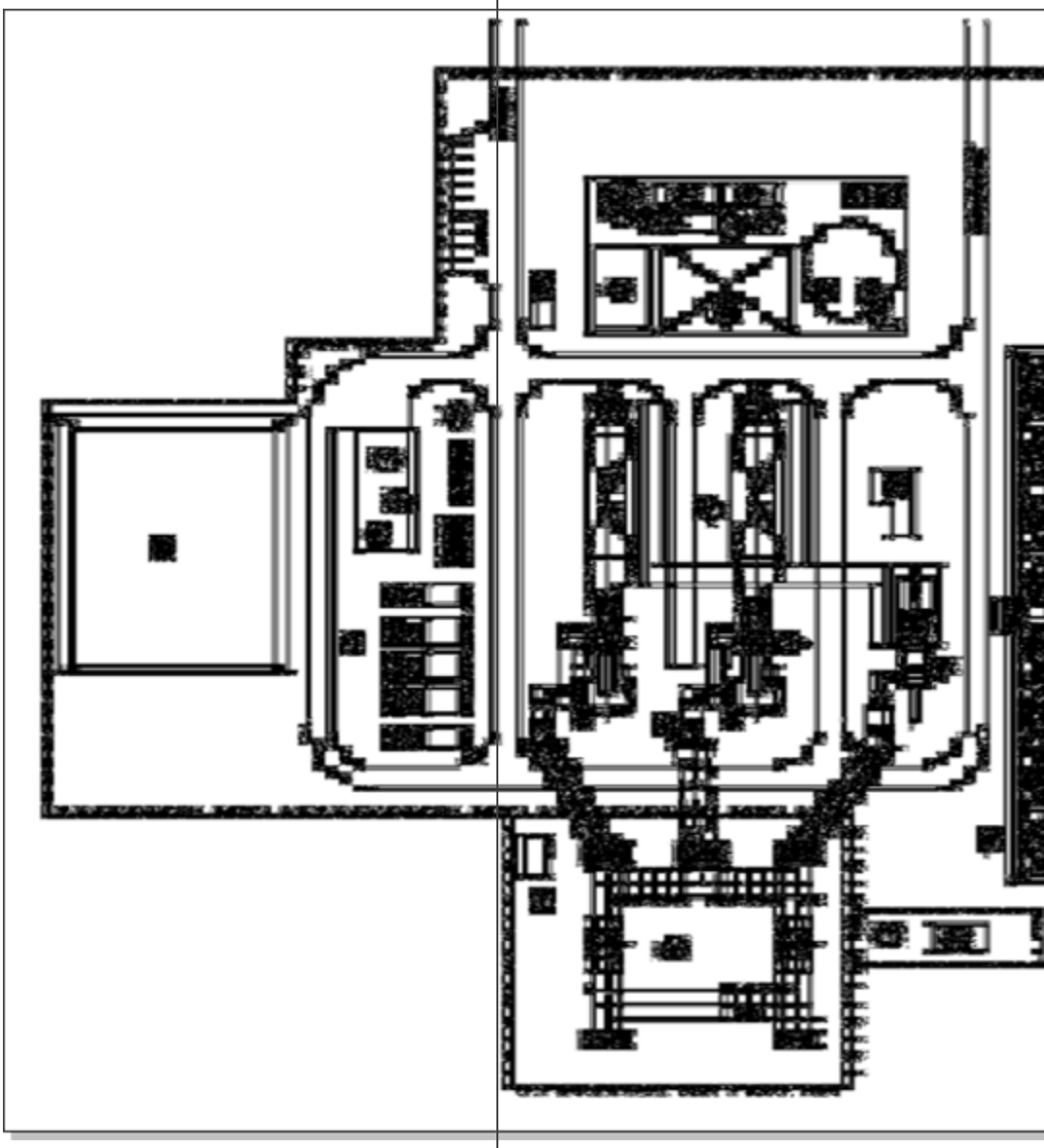
Image Dithering Type	Size	Image Sample Magnified (150% scale)
Threshold 215	27 KB	

Image Dithering Type	Size	Image Sample Magnified (150% scale)
Threshold 255	20 KB	

15.17 Imaging native types

On the Native Types tab, you see a list of file types that Relativity supports. Refer to this list when selecting file types that you want to restrict from imaging. The Relativity Desktop Client also supports the same list of file types.

#			Name	Imaging Method	Category (Basic)	Restricted From Imagi...	Prevent Native Download
			Filter	(All)	(All)	(All)	(All)
1	☐		Word for DOS 4.x	Basic	Word Processor	No	No
2	☐		Word for DOS 5.x	Basic	Word Processor	No	No
3	☐		Wordstar 5.0	Basic	Word Processor	No	No
4	☐		Wordstar 4.0	Basic	Word Processor	No	No
5	☐		Wordstar 2000	Basic	Word Processor	No	No
6	☐		WordPerfect 5.0	Basic	Word Processor	No	No
7	☐		MultiMate 3.6	Basic	Word Processor	No	No
8	☐		MultiMate Advantage 2	Basic	Word Processor	No	No

To locate specific file types, use the **Show Filters** option or create a new view to customize the content that appears on the tab. Default restricted file types propagate to new imaging profiles. You can edit the default value for the option that restricts the imaging of a file type and also edit the option that prevents native download for specific file types by clicking the Edit link.

If you restrict a particular file type, Relativity doesn't apply the restriction you choose to previously-existing Imaging Profiles. Restricted file type settings only affect Imaging Profiles that you create after you edit the setting.

15.17.1 Editing a native type

1. Click the **Edit** link for a file type. You can also click the **Edit** button on the details page.
2. On the edit form, select the Yes or No radio button for the **Restricted From Imaging By Default** option. This value is set to No by default.
3. Select the Yes or No radio button for the **Prevent Native Download** option. This value is set to No by default. If the **Prevent Native Download** option is set to Yes, all users of that workspace will not see the Native button in the Viewer for files of that particular type.
4. Click **Save.**

15.17.2 Generating a complete list of native types and their respective imaging engines

Use the following steps to generate a .CSV file that lists all native types and their imaging methods, categories, restriction status, and native download prevention status:

1. Navigate to the **Native Types** tab.
2. Select **All** in the mass action drop-down menu in the lower left.
3. Select **Export to File** in the mass action drop-down menu.
4. Click **Go**.

Note: Relativity doesn't support Framesets in MHT files.

15.18 Supported file types for imaging

Relativity Imaging supports many different file types. The table below lists supported and unsupported file types for Native and Basic imaging.

- √ - indicates that the file type is supported.
- If the cell is empty, the file type is not supported.

File type	Extensions	Native Imaging	Basic Imaging
Adobe files	PDF, FM, PS, EPS	√	√
AppleDouble	AppleDouble-encoded attachments in e-mails		√
CAD files	DXF, DWG, SLDDRW, SLDPRT, 3DXML, SLDASM, PRTDOT, ASMDOT, DRWDOT, STL, EPRT, EASM, EDRW, EPRTX, EDRWX, EASMX		√
Compressed files	7Z, ZIP, TAR, GZ, BZ2, RAR, Z, CAB, ALZIP		√
Database files	DBF		
Email	MSG, P7M, P7S, ICS, VCF, EML, EMLX, TNEF	√	√
Email containers	PST, OST, DBX, MBOX, NSF, and Bloomberg XML		√
EnCase	E01, Ex01, L01, LX01		
Excel	XLSX, XLSM, XLSB, XLAM, XLTX, XLTM, XLS, XLT, XLA, XLM, XLW, UXDC	√	√
Hangul Word Processor	HWP		√
HTML	HTML, MHT, HTM, MHTML, XHTM, XHTML	√	√
Image files	JPG, JPEG, ICO, BMP, GIF, TIFF, TIF, JNG, KOALA, LBM, PBM, IFF, PCD, PCX, PGM, PPM, RAS, TARGA, TGA, WBMP, PSD, CUT, XBM, DDS, FAX, SGI, PNG, EXF, EXIF, WDP	√	√
Image files	WEBP **Note:** This extension can be imaged using the native imaging method on Server 2022, Server 2023 and RelativityOne. It cannot be imaged on Server 2021.	√	
JungUm Global	GUL	√	√
Microsoft Project 2013 **Note:** Microsoft Project 2016 is not supported	MPP	√	
OneNote	ONE	√	√
OpenOffice	ODC, ODS, ODT, ODP, XPS	√	√

File type	Extensions	Native Imaging	Basic Imaging
PowerPoint	PPTX, PPTM, PPSX, PPSM, POTX, POTM, PPT, PPS, POT	√	√
Publisher	PUB	√	√
Relativity Collection Container	RCC		
Short message	RSMF		√
Text files	TXT, CSV, and others	√	√
Vector files	SVG, SVGZ, WMF, PLT, EMF, SNP, HPGL, HPG, PLO, PRN, EMZ, WMZ	√	√
Visio	VSD, VDX, VSS, VSX, VST, VSW, VSDX, VSDM	√	√
Word	DOCX, DOCM, DOTX, DOTM, DOC, DOT, RTF	√	√
WordPerfect	WPD, WPS	√	√

16 Instance Details tab

In the Instance Details tab you can monitor some of the most basic information about your instance of Relativity.

You can view, edit, and enable the Message of the Day (MotD), monitor all users within Relativity, check your license expiration date, view alerts and queue statuses, and view or edit group admin security settings.

Using the Instance Details tab

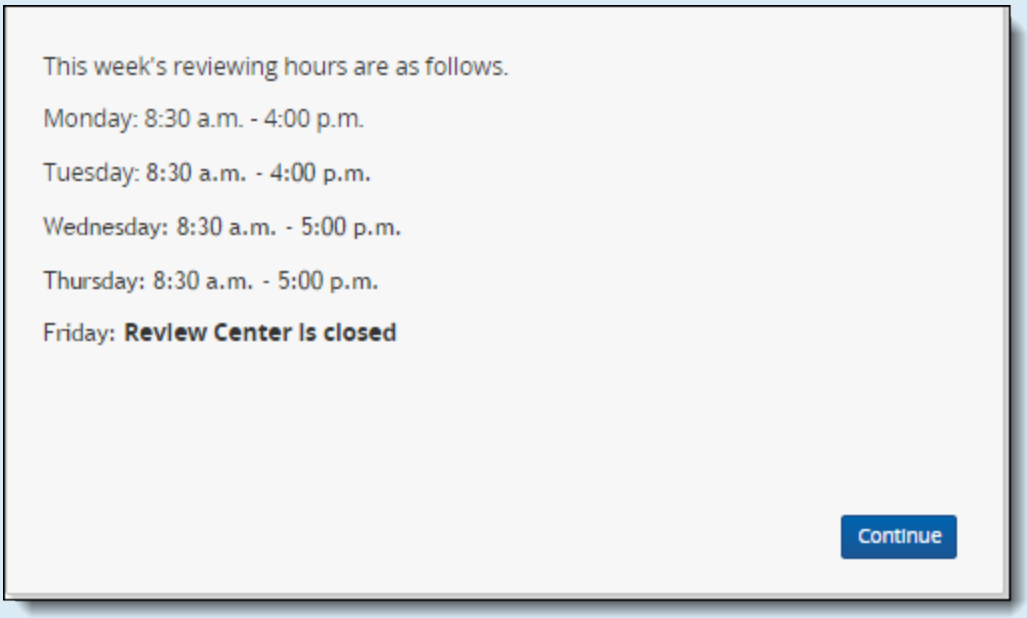
Scenario 1:

Imagine you're a system admin, and a user notifies you that an OCR job is failing. You navigate to the **Instance Details** tab and review the **Queues** section. You confirm the failures and see that a server is disabled in the **Alerts** section. You click on the **servers** link and proceed to troubleshoot the server error.

Scenario 2:

As a system admin who needs to communicate the reviewing schedule for the week to a team of reviewers, you decide to show a message of the day to users when they log in to Relativity as a reminder. You click the **Instance Details** tab, and then click **Edit** in the Message of the Day section to begin writing your review schedule message.

Using the Message of the Day editor, you create your message and select **Show Message of the Day** to enable the notification. With your message of the day enabled, your review team now sees the reviewing schedule reminder every time they log in to Relativity.

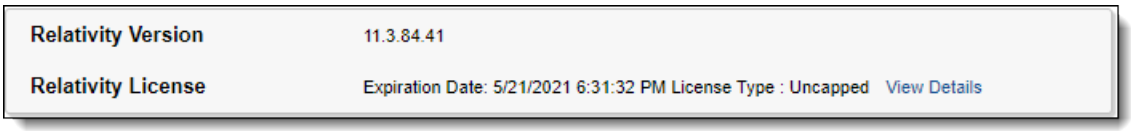


16.1 Monitoring Relativity environments from the Instance Details tab

The following sections on the Instance Details tab display important information about your instance of Relativity.

16.1.1 License information

The first section displays your Relativity license's Version, Expiration Date, and Type. Click View Details to navigate to the License tab.



16.1.2 Alerts

The Alerts section displays information about anything that might require attention or reduce performance for your instance of Relativity. If an agent is disabled, the agents link in the Alerts section directs you to the Agents tab. You can also click on the server name or the servers link to navigate to the Servers tab if you have one or more unresponsive servers in your environment.

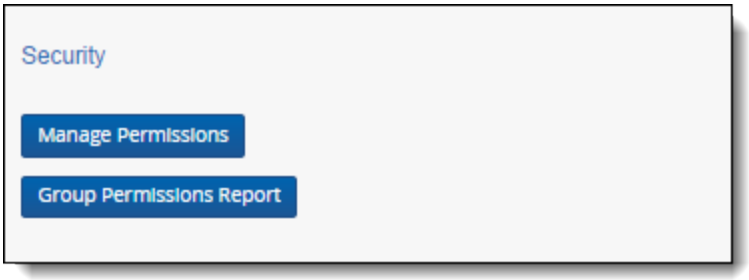
The following table provides all of the possible alerts you could see in the Alerts section of the Instance Details page and under the Alerts link on the Relativity homepage. It also provides a basic description of the solution for each alert. Note that the solutions provided here may not always work, depending on the root cause, and you may need to contact Support for further assistance.

Alert	Solution
One or more agents are disabled.	Go to the **Agents** tab and identify any agents for which the Enabled value is No. Enable them, if necessary.
One or more agent servers are not assigned to any active resource pools.	Navigate to the **Resource Pools** tab, select the resource pool associated with the workspace, click **Add** on the Agent and Worker Servers category and add the appropriate agent server to the resource pool.
The {server name} agent server has not been responding for {#}.	Go to the **Errors** tab, filter for the name of the agent server in the Error Source field, and review any messages associated with it. Or go the event viewer on the agent server and review recent messages.
Telemetry metrics have not been transmitted for more than {#} hours. You have less than {#} days to correct the issue before Relativity access is disabled.	See for troubleshooting details. See the Relativity Metrics Guide for troubleshooting details.
This offline instance of Relativity requires that	Go to the **Agents** tab, locate the **Telemetry Host**

Alert	Solution
billing metrics be collected. This has not been done for {#} days. To resolve this, ensure the Telemetry Host Agent is running.	agent, and enable it.
The Relativity Web Processing Windows Service has been stopped on the following servers: {server names}. Please restart.	Go to the **Servers** tab, select the appropriate server containing the Windows Service, and click **Restart Windows Service**.
The server {server name} could not install the custom pages for the application {application name}.	Try to re-install the application.
Your Relativity Processing license has expired.	Contact support to obtain a new license.
Your Relativity Processing license will expire in less than {#} days. Users will be unable to process data in Relativity after the expiration date. Please contact support to obtain a new license.	Contact support to obtain a new license.
Your Relativity trial license will soon expire. You have less than {#} days before access to your Relativity environment is disabled.	Contact support to obtain a new license.
Your Relativity license has expired. You have less than {#} days before access to your Relativity environment is disabled.	Contact support to obtain a new license.
Your Relativity license will expire in less than {#} days. Users will be unable to access Relativity after the expiration date. Please contact {support} to obtain a new license.	Contact support to obtain a new license.
The cache {#}, {#} is above its upper threshold.	Go to the **Servers** tab, select the **Cache Location Server** and review the cache details. Then go to the **Instance Settings** tab, select the **CacheLocationUpperThreshold** setting, and increase the value.
One or more {#} servers are inactive.	Go to the **Servers** tab, locate any server that has a status of Inactive, open it, and edit the **Status** field to be **Active**.

16.1.3 Security

The Security section is where you can manage admin group permission settings and generate a Group Permissions Report.



16.1.3.1 Manage Permissions

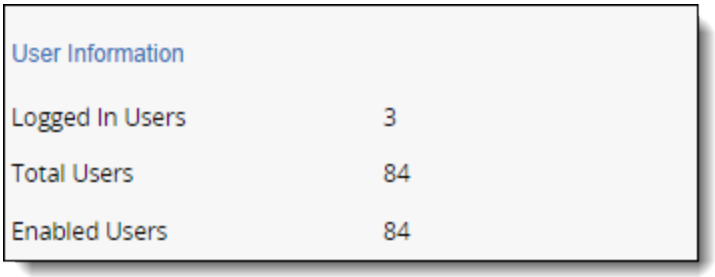
Click Manage Permissions to edit admin permission settings. See Instance security for more information about managing admin permission settings.

16.1.3.2 Group Permissions Report

Click the Group Permissions Report button to open the Script: Admin Group Permissions console. See Instance security for more information on Group Permissions Reports.

16.1.4 User Information

The User Information section displays the total number of Logged In Users, Total Users, and Enabled Users. Enabled users are users whose Relativity Access setting is set to Enabled. You can enable or disable users from the Users admin tab. See Users for more information about managing users.



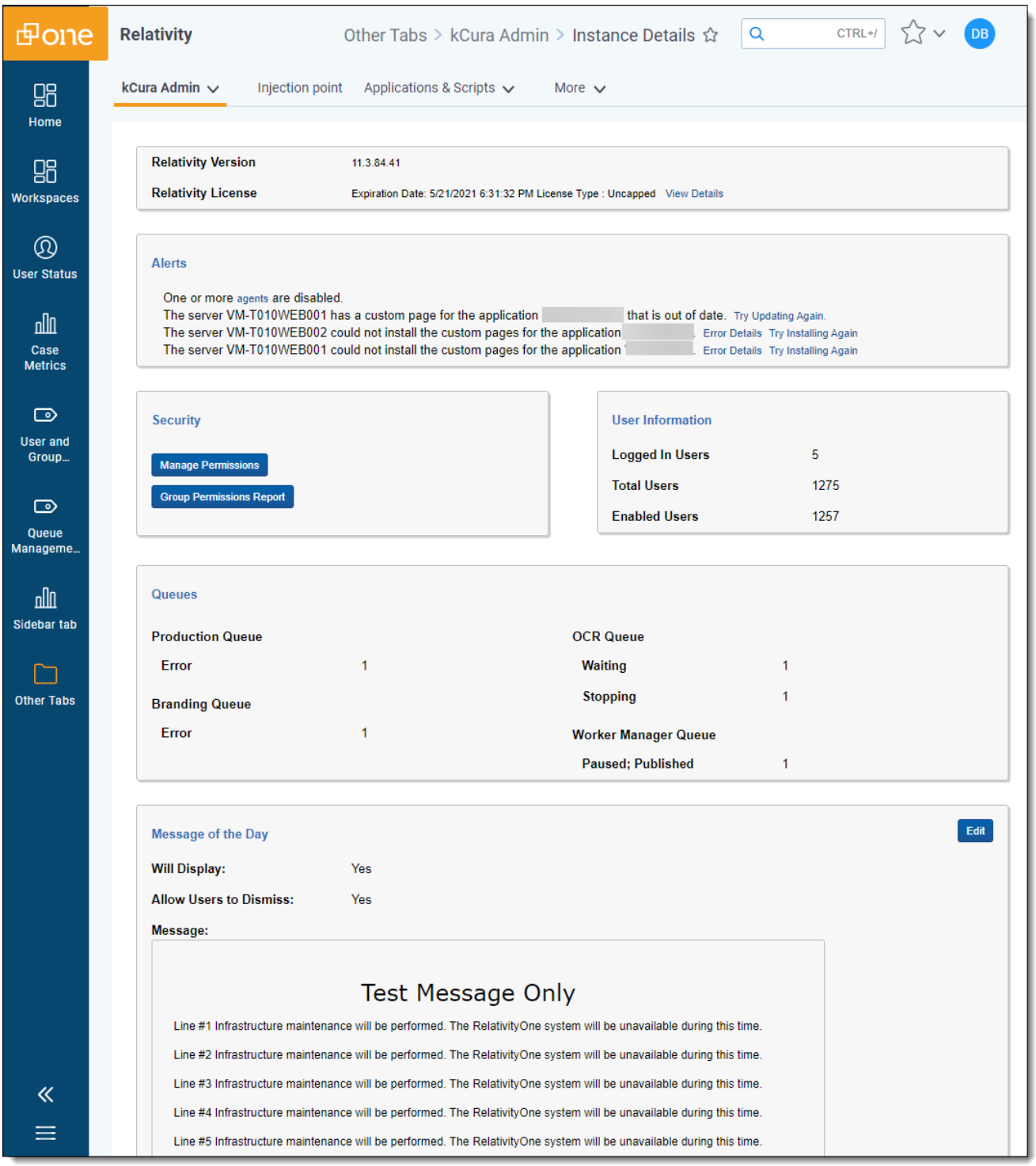
16.1.5 Queues

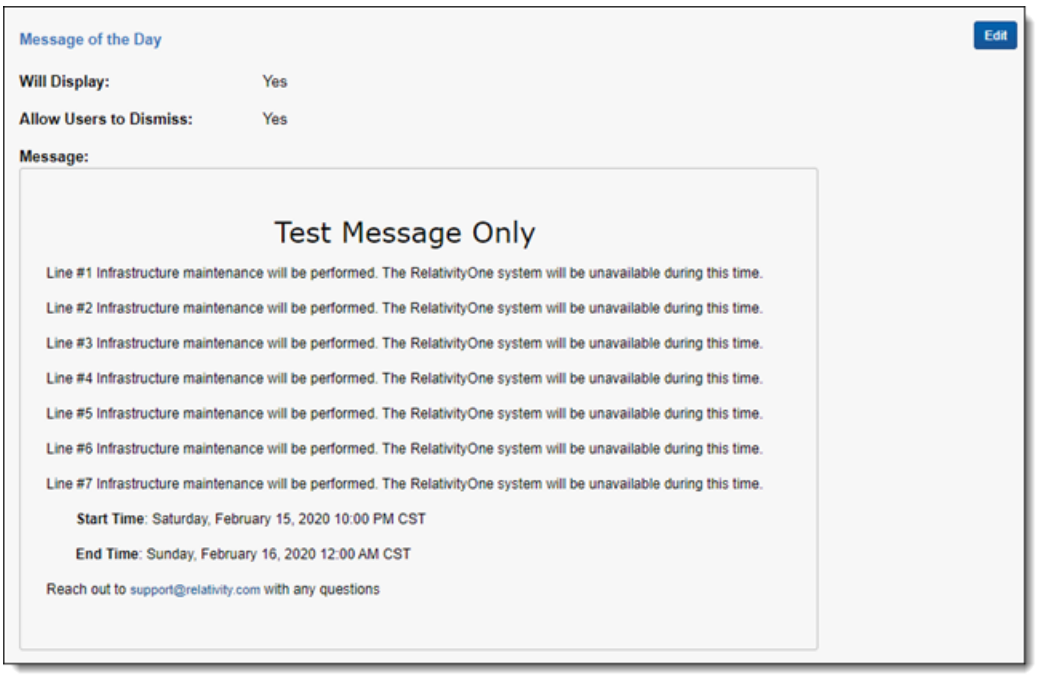
The Queues section displays the current status of your Production Queue, Branding Queue, OCR Queue, and Imaging Queue so that you can easily determine the status of your environment's current behavior.

16.2 Adding and editing a Message of the Day

The Message of the Day (MotD) is a message you create that appears to all users when they log in to Relativity. MotD is most commonly used to inform users of planned system maintenance, but you can create any message you want to send to your users.

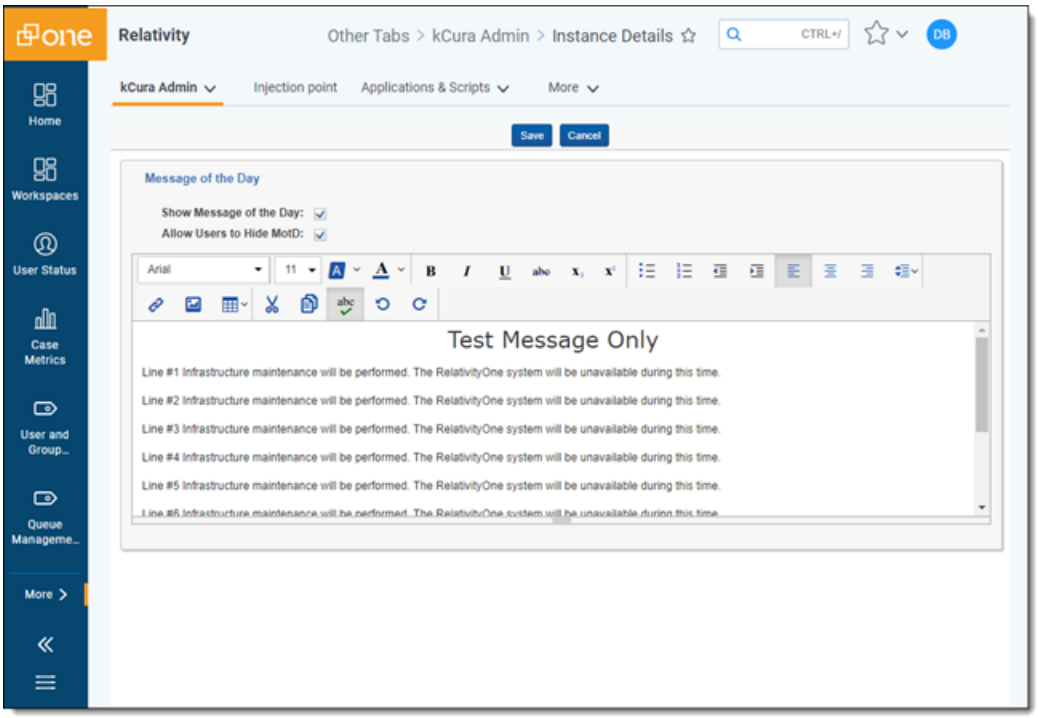
Note: The Sanitizer object controls whether HTML attributes are sanitized and how specific HTML content is sanitized from fields on page render. You can modify the sanitizer object to add HTML alerts and links. We recommend not modifying the default setting.


one
Relativity
Other Tabs > kCura Admin > Instance Details
CTRL+/
DB
Home
Workspaces
User Status
Case Metrics
User and Group...
Queue Manageme...
Sidebar tab
Other Tabs
kCura Admin
Injection point
Applications & Scripts
More
Relativity Version
11.3.84.41
Relativity License
Expiration Date: 5/21/2021 6:31:32 PM License Type : Uncapped
View Details
Alerts
One or more agents are disabled.
The server VM-T010WEB001 has a custom page for the application that is out of date. Try Updating Again.
The server VM-T010WEB002 could not install the custom pages for the application . Error Details Try Installing Again
The server VM-T010WEB001 could not install the custom pages for the application . Error Details Try Installing Again
Security
Manage Permissions
Group Permissions Report
User Information
Logged In Users 5
Total Users 1275
Enabled Users 1257
Queues
Production Queue
Error 1
Branding Queue
Error 1
OCR Queue
Waiting 1
Stopping 1
Worker Manager Queue
Paused; Published 1
Message of the Day
Edit
Will Display: Yes
Allow Users to Dismiss: Yes
Message:
Test Message Only
Line #1 Infrastructure maintenance will be performed. The RelativityOne system will be unavailable during this time.
Line #2 Infrastructure maintenance will be performed. The RelativityOne system will be unavailable during this time.
Line #3 Infrastructure maintenance will be performed. The RelativityOne system will be unavailable during this time.
Line #4 Infrastructure maintenance will be performed. The RelativityOne system will be unavailable during this time.
Line #5 Infrastructure maintenance will be performed. The RelativityOne system will be unavailable during this time.



To activate or change the Message of the Day:

1. Click the user drop-down menu in the upper right corner of Relativity, and then click **Home**.
2. Click the **Instance Details** tab.
3. Click **Edit** to add or edit the text of the message.



4. Enter or edit your message.
5. Click **Save**.

17 Instance settings

Access instance settings, formerly known as configuration table values, from the Instance Settings tab in the Relativity user interface. Instance settings are now objects that you can create and update using the Instance Settings tab or via SQL Server in the EDDSDBO.InstanceSetting database table. See the Instance setting guide.

Using the Instance Settings tab

You're a system admin. One of your clients is reporting an issue where one of their searches against a dtSearch index in a large workspace times out. You check it out it and see that it's a complex multi-term query with a couple of wild cards. Using the Instance Settings tab, you navigate to the SearchIndexerLongRunningQueryTimeout instance setting and decide to increase the default value so that this long running query will complete.

17.1 Creating and editing a new instance setting

Note: You must have system admin-level access to view the Instance Settings tab. Control access using item-level security permissions and admin groups. See Setting instance permissions on page 638.

To create a new instance setting:

1. From the **Instance Settings** tab, click **New Instance Setting**.
2. Complete the fields on the Instance Setting Information layout. See Instance Setting Information layout fields below.
3. Click **Save**. A Record History section appears on the Instance setting layout. See Record History on page 315.
4. Relativity adds the new instance setting to the Instance setting list.

17.1.1 Editing an instance setting

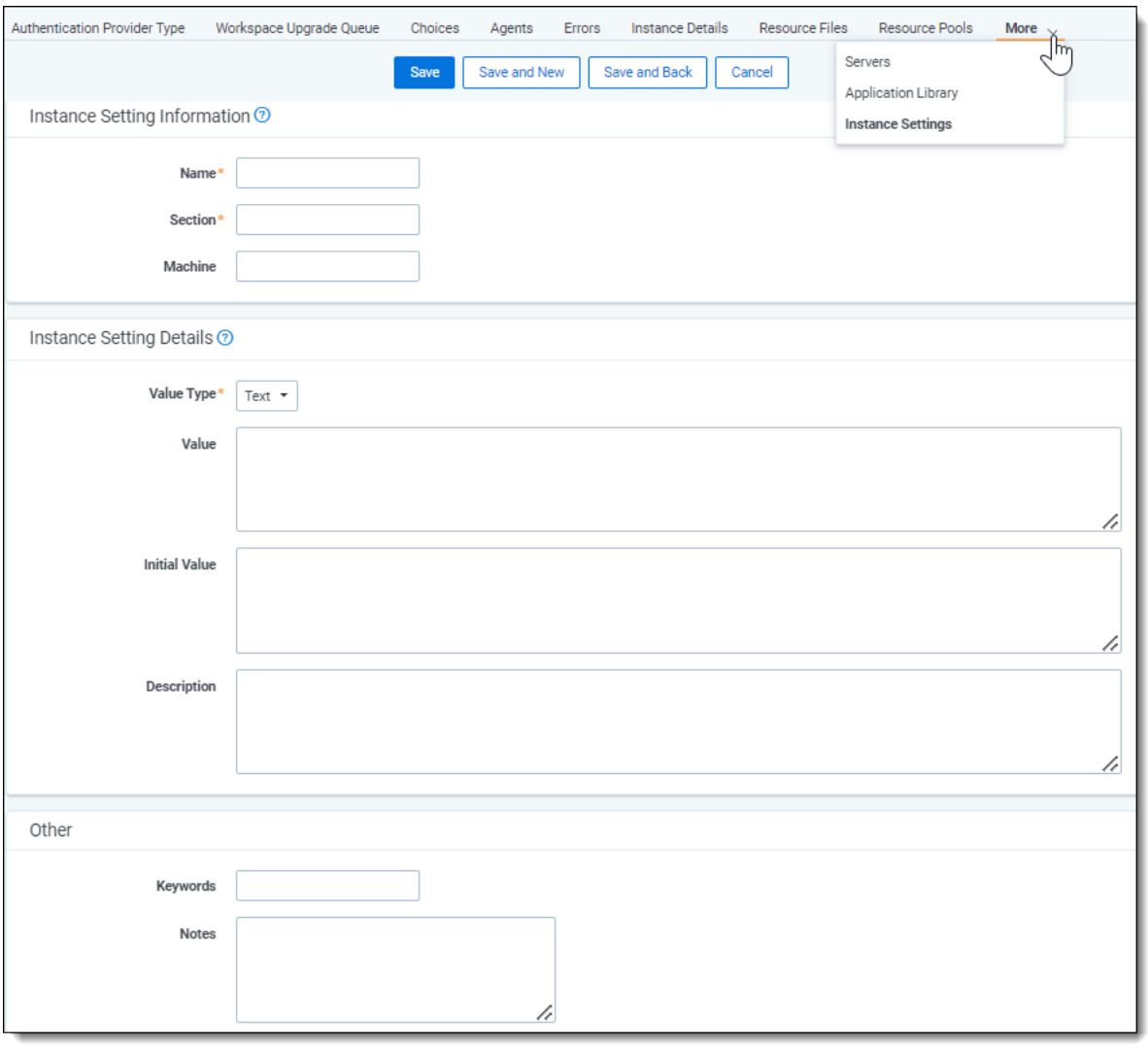
To limit accidental changes and their scope of impact, you can only edit an instance setting's Value and Machine Name fields.

To edit an instance setting:

1. From the **Instance Settings** tab, locate and click the instance setting you wish to edit.
2. Click **Edit**.
3. Edit the Value and/or Machine Name field(s).
4. Click **Save**.

17.2 Instance Setting Information layout fields

The Instance Setting Information layout contains the following fields:



Instance Setting Information

- **Name** - the instance setting name. We recommend the following when creating a new instance setting name:
  - Use CamelCase style without spaces, capitalizing the first letter of each word or abbreviation. For example, NewInstanceSetting.
  - Choose a name that is as concise and descriptive as possible.
- **Section** - the section of the EDDSDBO.InstanceSetting table used to categorize the functionality to which the instance setting belongs.
- **Machine Name** - the default value for all machines or a certain machine in the Relativity instance. If this value is null, the instance setting applies to all machines. If this value is populated, the instance setting applies for the specified machine.

Instance Setting Details

- **Value Type** - specify the instance setting value type that Relativity uses for validation.

  Note: Instance settings support up to 64-bit values.

  - **Integer 32-bit** - a 32-bit integer value. For example, -2,000,000,000.
  - **Integer 64-bit** - a 64-bit integer value. For example, -8,000,000,000,000,000,000.
  - **Nonnegative Integer 32-bit** - a 32-bit integer value constrained to be above -1. For example, 0.
  - **Nonnegative Integer 64-bit** - a 64-bit integer value constrained to be above -1. For example, 0.
  - **Positive Integer 32-bit** - a 32-bit integer value constrained to be above 0. For example, 1.
  - **Positive Integer 64-bit** - a 64-bit integer value constrained to be above 0. For example, 1.
  - **Text** - text that includes any ASCII (American Standard Code for Information Interchange) strings. For example, .exe, .com, .bat.
  - **True/False** - a Boolean value of True or False. If you select this value type, a Value field appears. Select True or False to set the value for this instance setting.

  Note: Relativity provides several instance settings that enable you to customize email notifications, for example, user invitation and password reset emails. These instance settings include system variables enclosed in braces, such as {LOGINLINK}, {LINKTEXT}, and {LOGINTEXT}. Their values are generated by Relativity and cannot be changed. For more information, contact Customer Support.

- **Encrypt** - this field specifies whether the settings for the Value field is stored in the Secret Store. You can only encrypt text and integer values. When you create a new instance setting and set the Encrypt field to **Yes**, its value doesn't display in the Relativity UI, audit history, and the database. For an existing instance setting, you should change its value when you update the Encrypted field to **Yes**. You should make this update because the original value still appears unencrypted in the audit history.
  If you select **Yes**, a message displays asking you to confirm your choice by clicking **OK**. The Value and Initial Value fields now display "***Secured Value***" rather than the actual value entered for the setting. By default, the Encrypt field is set to **No**, which means that settings for the Value field is visible in the Relativity UI, audit history, and the database.

  Notes:
  - Applications and integration scripts that use standard SQL statements won't be able to access encrypted instance settings. For more information about helper classes for use with these encrypted values, see the Developers documentation site.

- **Value** - specify a value that Relativity uses for validation.
- **Initial Value** - the value that comes with a new Relativity installation. Use this field as a guide for system admins. You may leave this value may blank when creating new instance settings.
- **Description** - describes what the instance setting controls. The description should explain all possible use case scenarios, and include any recommendations or warnings when using the instance setting.

Other

- **Keywords** - include any key words to be associated with the instance setting.
- **Notes** - contains any notes regarding the instance setting.

Record History

Once you create a new instance setting, a Record History section appears on the Instance Setting layout. For a more detailed history, see Viewing an instance setting's history below.

- **Created** - specifies the user login name that created the instance setting, with the associated date and time.
- **Last Modified** - specifies the user login name that last modified the instance setting, with the associated date and time.

17.3 Deleting an instance setting

Consider the following when deleting an instance setting:

- You can't delete an instance setting that is a system artifact.
- Not all instance settings are system artifacts.

To delete an instance setting:

1. From the **Instance Settings** tab, locate and click the instance setting you wish to delete.
2. Click **Delete**.
3. From the confirmation dialog, click **Ok**. The instance setting is removed.

Viewing an instance setting's history

Use the instance setting's audit history to view all actions taken on an instance setting. Use this information to view what the values were prior to a change.

To view an instance setting's audit:

1. From the **Instance Settings** tab, locate and click the instance setting for which you wish to view its history.
2. Click **View Audit**. A dialog appears, listing all actions taken on that instance setting.
3. (Optional) Using the **Export to File** drop-down option at the bottom of the dialog, click **Go** to export the following audit history details in a .CSV file:
   - User Name
   - Action
   - Timestamp
   - Details
4. Close the dialog when finished viewing the audit.

18 Keyboard shortcuts

With keyboard shortcuts you can edit and navigate in the Review Interface. Using keyboard shortcuts, you can change Viewers, populate choices, save edits, cancel edits, and move between and within documents. Keyboard shortcuts are enabled by default. To disable shortcuts while using the Review Interface, click on the Viewer Settings menu in the upper-right and select the **Disable Keyboard Shortcuts** option.

Users with permissions to edit fields and choices can create additional shortcuts using the Keyboard Shortcuts property on the choice.

You can modify the key combinations for system keyboard shortcuts if you have security permission for the Admin Operation called **Modify System Keyboard Shortcuts**. For more information about this permission see workspace security in the Admin guide.

This page contains the following information:

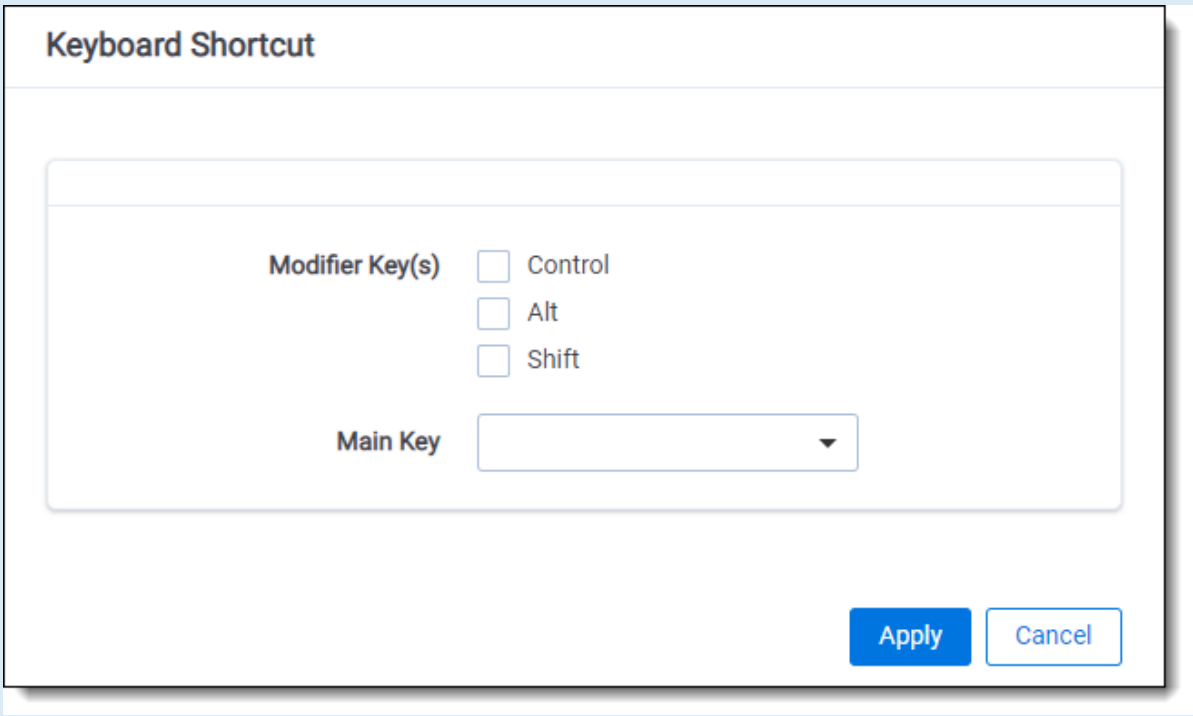
- Keyboard shortcuts legend
- Special considerations for keyboard shortcuts
- Document field type shortcuts
- Document choice shortcuts

Using keyboard shortcuts

You're a system admin facilitating a document review project for a health care provider involved in litigation related to an information breach, and you need your reviewers to tag as many documents as quickly as possible for the following issue choices:

- Social security number
- Biometrics
- Medicare
- Insurance
- Diagnosis
- Treatment
- Beneficiaries

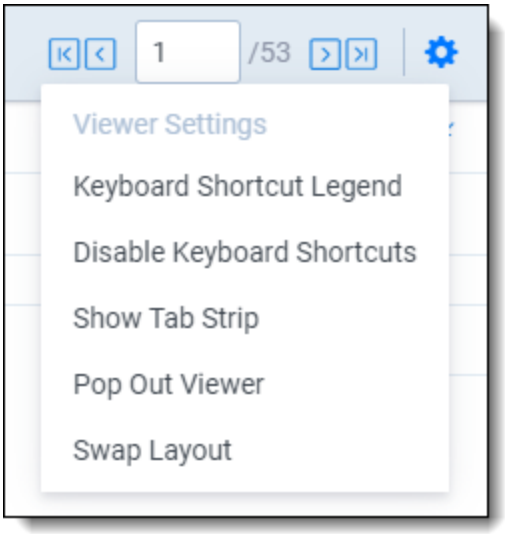
To equip your reviewers for efficient issue coding, you edit each choice and specify a key combination in the Keyboard Shortcut field.



You then provide each reviewer with a list of the shortcuts and corresponding choices so that they can automatically enter those shortcuts on a coding layout, thus reducing the number of clicks required of them.

18.1 Keyboard shortcuts legend

By default, standard user actions use system keyboard shortcuts. Keyboard shortcuts are listed in the Keyboard Shortcut Legend along with those used by the browser. You can access the legend by clicking on the Viewer Settings menu in the upper-right of the Review Interface and selecting the **Keyboard Shortcut Legend** option.

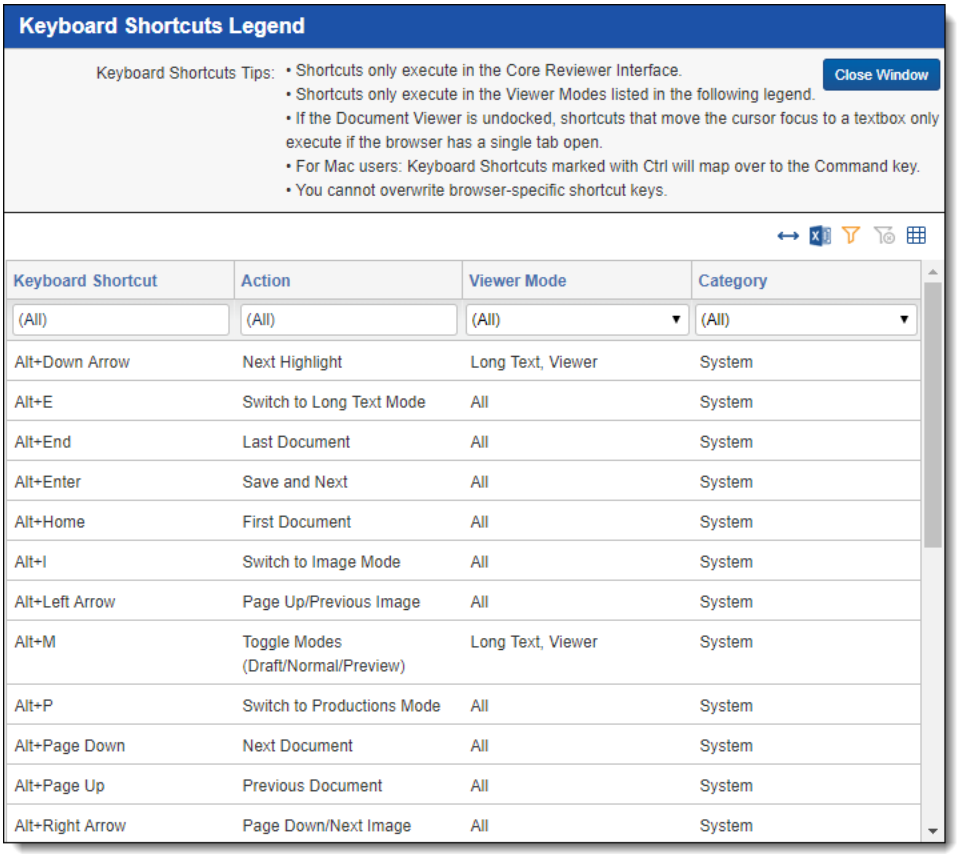


Within the legend, you can sort, filter, Export to Excel, and print. You can print by right-clicking and choosing the browser's print option.

(Click to expand)

The Keyboard Shortcuts Legend includes the following sortable columns:

- **Keyboard Shortcut** - the key combination used to execute the shortcut during document review.
- **Action** - the action that results from using the keyboard shortcut.
- **Viewer Mode** - the type of Viewer for which each shortcut is available. You can use most of the system category shortcuts in all viewer modes.
- **Category** - the shortcut type. Below, the legend displays only those shortcuts designated by the System and the browser. This column also lists all field and choice shortcuts that your system admin configured via field and choice properties.



Keyboard Shortcut	Action	Viewer Mode	Category
(All)	(All)	(All)	(All)
Alt+Down Arrow	Next Highlight	Long Text, Viewer	System
Alt+E	Switch to Long Text Mode	All	System
Alt+End	Last Document	All	System
Alt+Enter	Save and Next	All	System
Alt+Home	First Document	All	System
Alt+I	Switch to Image Mode	All	System
Alt+Left Arrow	Page Up/Previous Image	All	System
Alt+M	Toggle Modes (Draft/Normal/Preview)	Long Text, Viewer	System
Alt+P	Switch to Productions Mode	All	System
Alt+Page Down	Next Document	All	System
Alt+Page Up	Previous Document	All	System
Alt+Right Arrow	Page Down/Next Image	All	System

18.2 Special considerations for keyboard shortcuts

Keep in mind the following when working with Relativity's keyboard shortcuts feature:

- For Mac users, keyboard shortcuts marked with Ctrl map over to the Command key.
- Keyboard shortcuts are active when:
  - Keyboard shortcuts are enabled.
  - Focus is in the Review Interface.
  - The Viewer is either docked or undocked while the browser only has one tab open.
  - If the shortcut overlaps with a Windows shortcut, both shortcuts are triggered. For example, if a program installed on a user's computer uses the Ctrl + Alt + R shortcut, clicking Ctrl + Alt + R triggers that action regardless of whether a user is in any of Relativity's supported browsers.
- Keyboard shortcuts aren't triggered when:
  - Keyboard shortcuts are disabled.
  - Focus is not in the Review Interface.
  - The Viewer is undocked or in standalone mode, and the browser has more than one tab open.
- When the numbers 0-9 are used as shortcuts, they only fire when you press these digits in the main section of the keyboard. The shortcut doesn't fire if you press those digits found in the keypad.
- Keyboard shortcuts only execute in the Review Interface.
- Keyboard shortcuts only execute in the Viewer Modes listed in the legend.
- If the document viewer is undocked, shortcuts that move the cursor focus to a text box only execute if the browser has a single tab open.

18.3 Document field type shortcuts

The following table outlines what document field types users can define shortcuts for and what behavior the shortcuts trigger. You can also define keyboard shortcuts on individual choices for single & multiple choice fields, rather than the field itself. See the Document choice shortcuts table below for information on setting keyboard shortcuts for individual choices.

Field Type	Can define shortcut?	Layout Display Type	Behavior
Fixed Length Text	Yes	Text	Focus jumps to textbox
Long Text	Yes	Text Only	Focus jumps to textbox
Rich Text	NO ACTION		
Date	Yes	Date	Focus jumps to textbox
Whole Number	Yes	Integer	Focus jumps to textbox
Decimal	Yes	Decimal	
Currency	Yes	Currency	
User	Yes	Drop-down menu	Drop-down menu choices are toggled
Picker	NO ACTION		

Field Type	Can define shortcut?	Layout Display Type	Behavior
Boolean	Yes	Checkbox	Checkbox state is toggled
Drop-down menu	Drop-down menu choices are toggled		
Radiobutton	Radio button selected		
Single Choice	No		
Multiple Choice	No		
Single Object	No		
Multiple Object	No		
File	No		

18.4 Document choice shortcuts

The following table outlines what document individual choices users can define shortcuts for and what behavior the shortcuts trigger:

Choice Type	Can define shortcut?	Layout Display Type	Behavior
Choice associated with Document Single Choice Field	Yes	Radio button	Choice is selected/deselected
	Drop-down menu	Choice is selected/deselected	
Choice associated with Document Multiple Choice Field	Yes	Checkbox	Choice is selected/deselected
	Popup Picker	NO ACTION	

18.5 Creating keyboard shortcuts

Any user with permissions to create or edit a choice can create keyboard shortcuts.

The action that a shortcut triggers depends on the layout display type selected for the fields and choices. See Document field type shortcuts on the previous page and Document choice shortcuts above.

You can't define shortcuts for system actions or browser-defined shortcuts. See Keyboard shortcuts on page 316 and Keyboard shortcuts on page 316 for details.

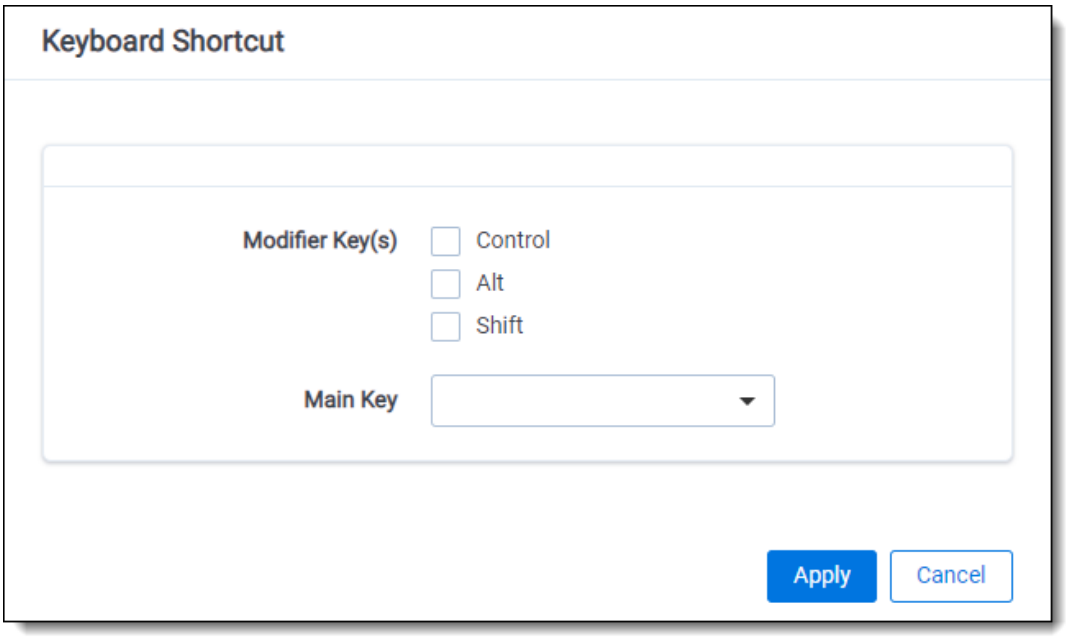
You can configure user defined keyboard shortcuts on the Choices tab. These properties are identical to each other. To configure a choice shortcut, perform the following steps:

1. Navigate to the **Choices** tab.

   Note: You can also edit an existing Document field in same this manner. See Fields on page 183.

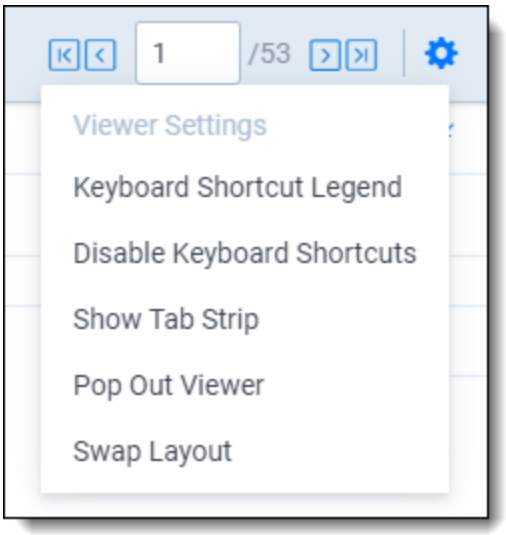
2. Click the icon in the row of the choice you would like to edit.

3. Assign the existing choice the following parameters:
   - **Keyboard Shortcut** - click the Select button to display the Keyboard Shortcuts pop-up.
     - **Modifier Key(s)** - select the desired key.
     - **Main Key** - Choose the desired from the drop-down menu.



4. Click **Apply**.
   If this shortcut is valid, you receive a message saying **<Valid Keyboard Shortcut>**
5. Click **Save**.
6. Open a document in the Documents tab.

7. Click on the Viewer Settings menu in the upper-right and select the **Keyboard Shortcut Legend** option.



8. Edit any layout and add a field that contains the choice that you assigned a keyboard shortcut to.
9. Using your keyboard, verify that the keyboard shortcut is working by holding down and pressing the assigned keys.

19 Layouts

Layouts are web-based coding forms that give you the ability to view and edit document fields. You can use layouts to develop workflows specific to the needs of your case. You can develop layouts that contain only the fields required to complete specific review tasks, making the review process clean and intuitive. You can also use object-level permissions to turn layouts on and off as necessary.

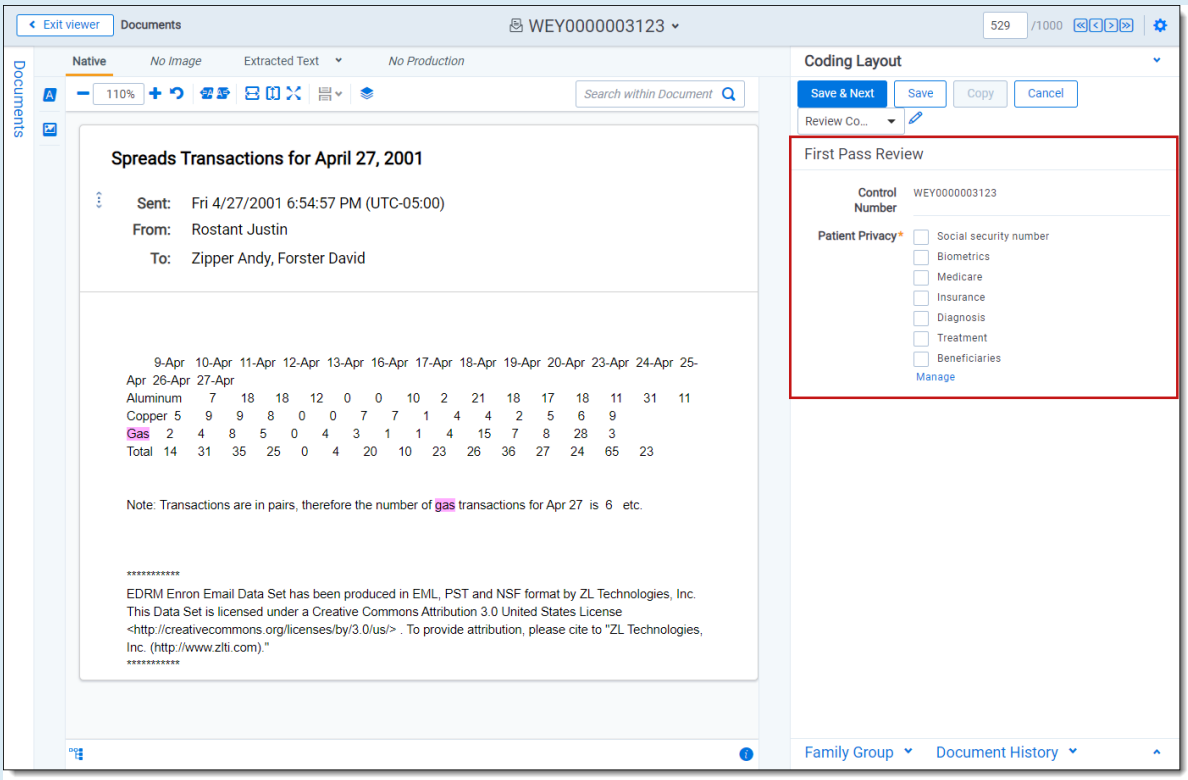
Using layouts

You’re a system admin and one of your clients, a medical patient advocate group, is suing a hospital system because their IT department accidentally allowed a security breach that resulted in the theft of thousands of patients’ social security numbers and pieces of personal health information.

Among the other objects you've created to prepare the workspace for this case is a field called “Issues – Patient Privacy," to which you've added a number of choices. You created the following choices to correspond with the pieces of patient information that were compromised during the breach, as highlighted in the lawsuit:

- Social security number
- Biometrics
- Medicare
- Insurance
- Diagnosis
- Treatment
- Beneficiaries

Now you just need to set up a coding layout for reviewers to use to tag documents with these issues. You go to the Layouts tab and create a new layout with the name of Patient Privacy. After saving the layout, you build the layout by adding the Issues – Patient Privacy field to the default category and whatever other fields you deem necessary. Once you save the built layout, reviewers can select that layout in the Viewer and tag documents that contain references to any or all of the issue choices you’ve provided them.



Once reviewers code these documents, you can easily identify documents that contain references to, for example, patient beneficiaries and insurance numbers, by filtering the Issues - Patient Privacy field in a view.

19.1 Layout permissions

The following permissions are needed to use layouts:

Object Security	Tab Visibility	Other Settings
■ Layout - View, Edit, Delete, Add ■ Relativity Application - View	■ Workspace Admin ○ Layouts	

19.2 Creating and editing layouts

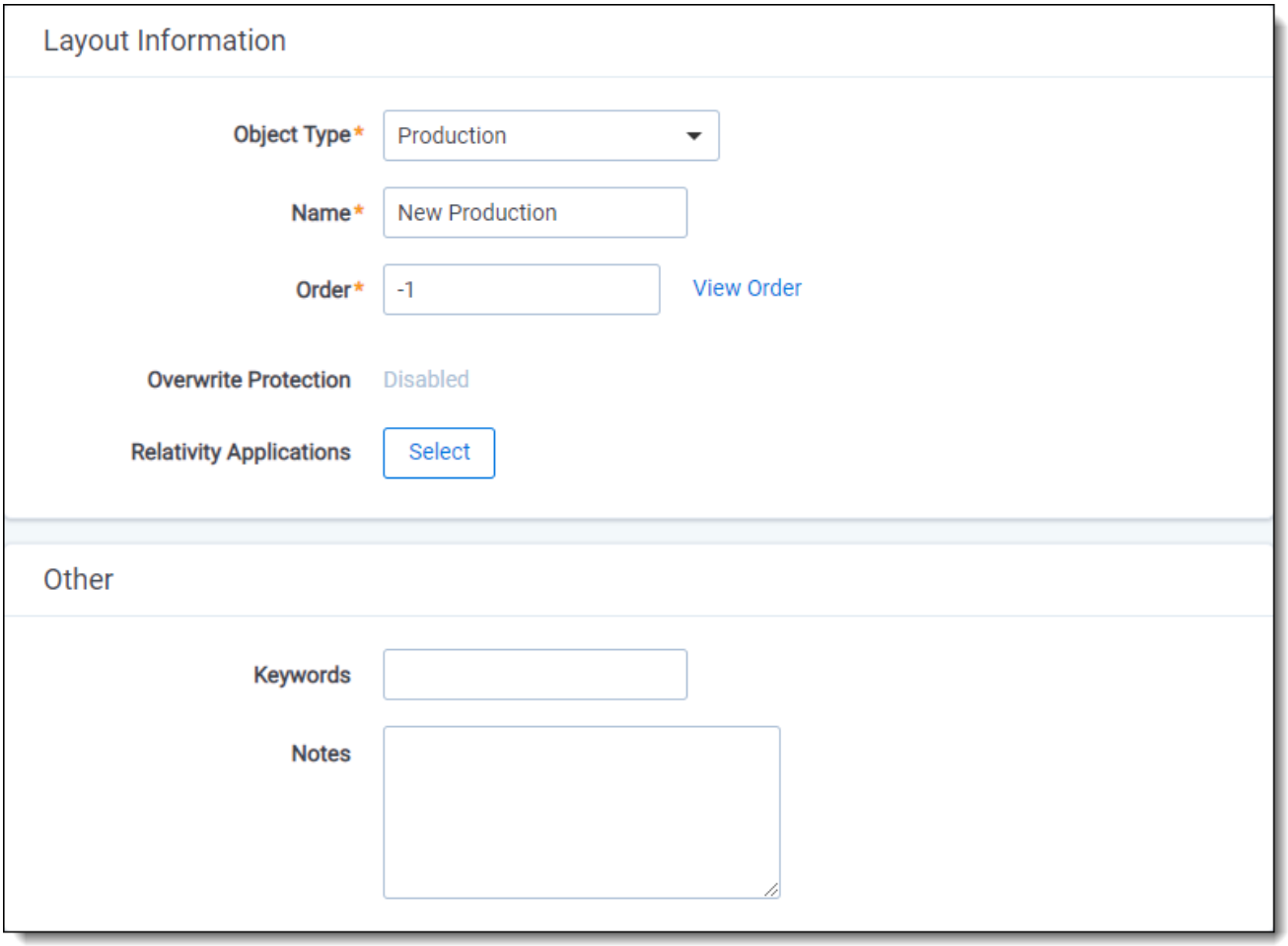
To create a new layout or edit an existing one:

1. Navigate to the **Layouts** tab.
2. Click **New Layout**. To edit a layout, click the **Edit** link next to the layout's name. The Layout Information details layout opens.

3. Complete the required fields on the Layout Information layout. An orange bar to the right of the field name indicates that it is required. See Layout Information fields below
4. Click **Save**.
5. From the Layout console, click **Build Layout** to open the layout builder. See Using the layout builder on page 327.

19.3 Layout Information fields

The Layout Information layout contains the following fields:



Layout Information

- **Owner** drop-down - determines which users can view the layout. Select from the following options:
  - **Public** - all users can see the layout. This is the default selection.
  - **Specific User** - limits the visibility of the layout to the selected user in the drop-down.

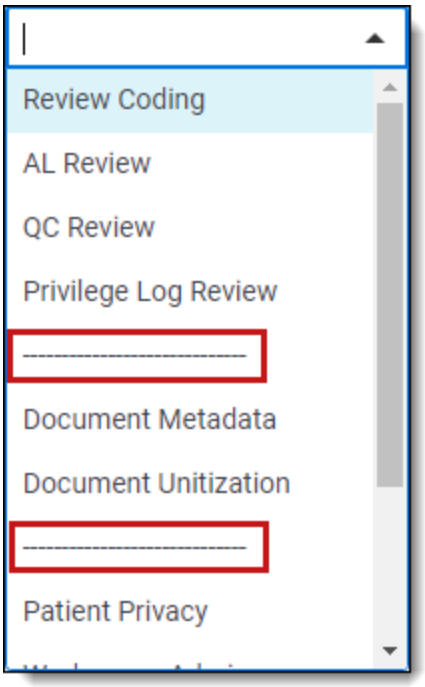
- **Me** - limits visibility to the logged in user.

> **Note:** System admins can view layouts and other securable items that users have made private.

- **Object Type** - the object type that the layout uses to modify or code. For example, select Document as the object type if you were creating a layout for coding documents.

> **Note:** The Document layout is the only layout that contains the Enable Copy From Previous field. See Copy from Previous on page 340.

- **Name** - the name of the layout. There is a 50 character limit for this field.
- **Order** - the number that represents the position of the layout in relation to the other layouts. The lower the number, the higher the position on the list. Layout order can be any positive or negative integer, but you can't use decimals.
  - **View Order** - click to open up a pop-up window displaying the order of existing views.
- **Overwrite Protection** - prevents a user from saving changes to an item that another process has modified since the user opened or edited the layout. By default, this field is set to **Enabled**.
  - You can edit this field only when the instance setting **AllowChangesToOverwriteProtection** is set to **True** in the Instance setting table in SQL. By default, this value is False. See AllowChangesToOverwriteProtection instance setting in the Instance Setting Guide.
  - If you disable Overwrite Protection, we recommend that you avoid using **Save & Next** while coding documents because there is a possibility that your coding decisions may not be saved if another user is editing the same document at the same time. Instead, as a best practice, we recommend clicking **Save** and then carefully reviewing the layout to ensure your coding selections have been saved before navigating to the next document.
- **Relativity Applications** - associates the layout with an application created in the Relativity Applications tab. Click Select to display the Select Items pop-up, and choose an application. To set this option, you must have the permission Manage Relativity Applications, available under Admin Operations on the Security page.
  If users have many layouts that they use during document review, you can add a new layout with dashes in the Name field, (----------) and an appropriate order number to serve as a separator. This assists in organizing layouts and building the workflow.



Other

- **Keywords** - include any key words to associate with the layout.
- **Notes** - contains any notes regarding the layout.

19.3.1 Changing layouts

The layout with the lowest Order number displays by default when a user opens a document. Depending on your screen resolution and the length of the current layout's name, it may appear truncated in the layouts drop-down menu. To display a tool-tip with the layout's full name, hover your cursor over the layouts drop-down menu.

You can change layouts before or while you are reviewing documents by doing the following:

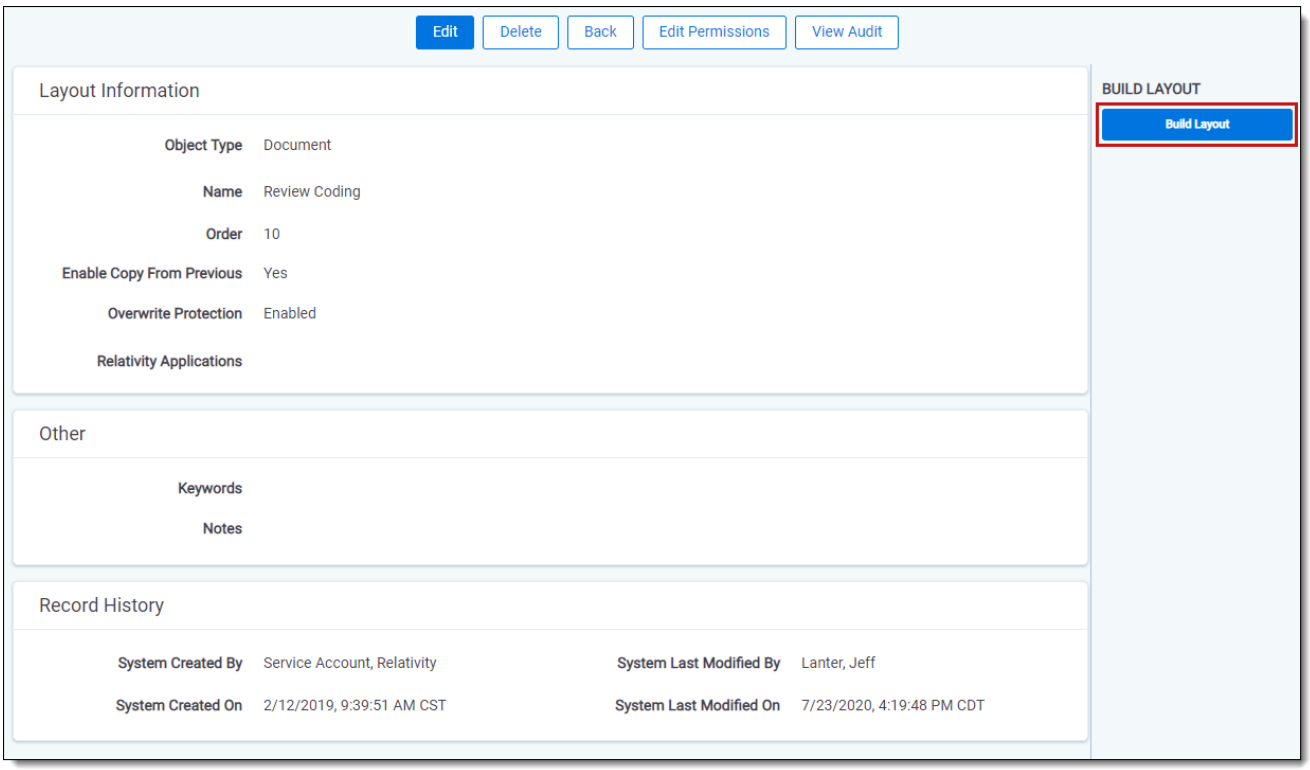
1. Click on the layouts drop-down menu.
2. Select the desired layout.

> **Note:** If you have entered a coding decision and have not saved it before selecting a new layout, a pop-up will display. Click **Cancel** to go back and save the coding decision before changing layouts or click **OK** to discard the coding decision and proceed to the new layout.

19.4 Using the layout builder

The layout builder is a customizable screen where users can create a layout. The layout console exists within the layout builder, which is available once you save a layout or when you select an existing layout from the Layout List page.

To build a layout, click **Build Layout** in the **Layout console**. The layout builder appears.



The layout builder contains the following components:

- **Edit Layout Information: [Layout Name]** - click this link to navigate back to edit mode for the layout you're currently updating. See Creating and editing layouts on page 324.
- **Category** - contains fields on the layout. See Adding and editing categories on page 338.
- **Layout group** - consists of one or more categories or object lists in a tabular format. See Creating and editing a layout group on the next page.

19.4.1 Layout Options console

Use the Layout Options console to build your layout. Clicking an item to the left of the console displays that item's properties for you to interact with.

The Layout Options console contains the following items:

- **Properties** - depending on the selected item in the layout, that item's properties appear here. See Field properties on page 337 or Object list properties on page 333.

  Note: From the Properties section, click ▼ to collapse the properties or click ▲ to expand an item's properties.

- **Add Category/Add Object List** drop-down - use these buttons to add a category or an object list to the layout.
  - **Add Category** - adds a new category to the layout. See Adding and editing categories on page 338.

- **Add Object List** - adds a new object list to the layout. See Adding and editing an object list on page 332.

- **Fields** - drag and drop available fields onto the layout category or object list. See Adding fields and text on page 334.

Note: You can't add fields stored in Data Grid to layouts.

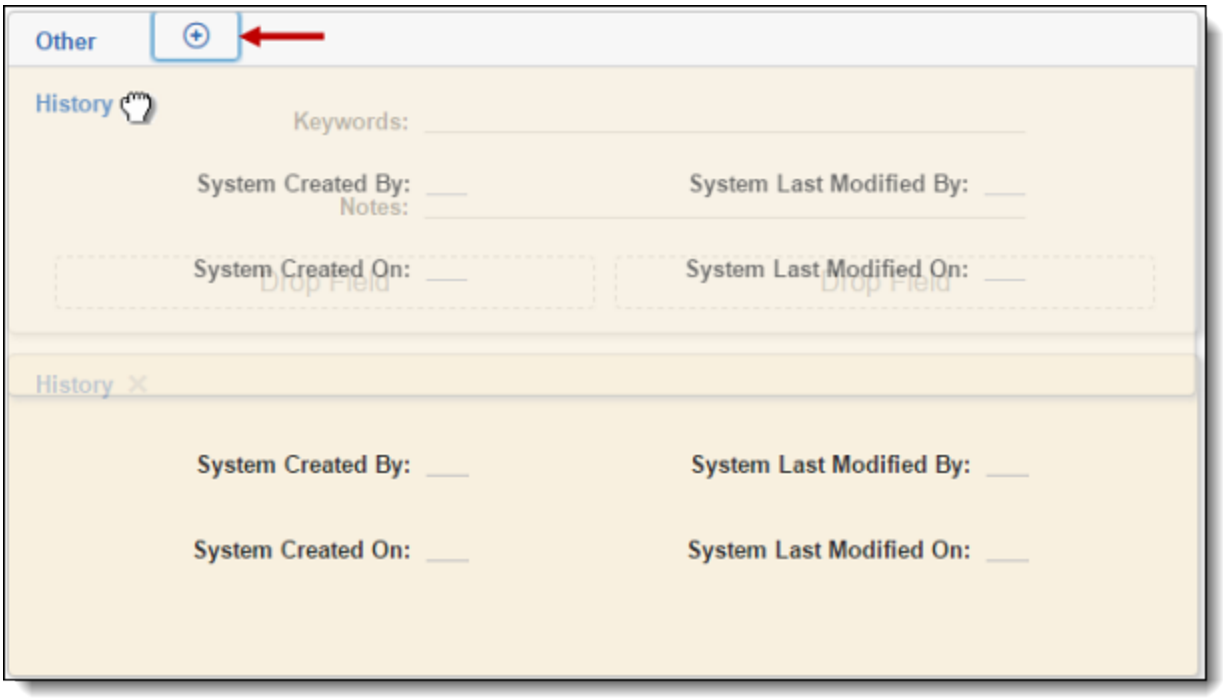
19.4.2 Creating and editing a layout group

A layout group consists of one or more categories or object lists that display in a tabular format to maximize screen space and eliminate scrolling in the layout. Use layout groups on the Document or RDO layout.

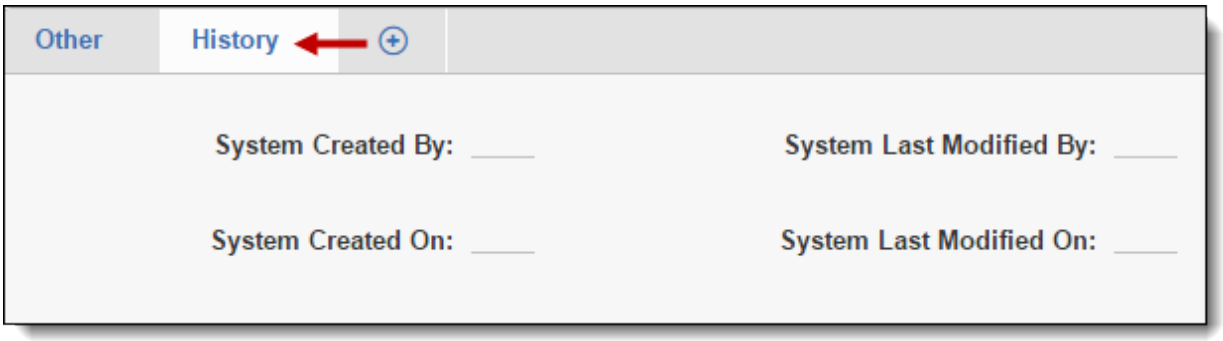
Note: A layout group may consist of both categories and objects.

To create a layout group:

1. From the layout builder, click and drag a category/object list over another category/object list, then let go of your cursor click. A plus sign appears to the right of the category that you're dragging the other category onto.

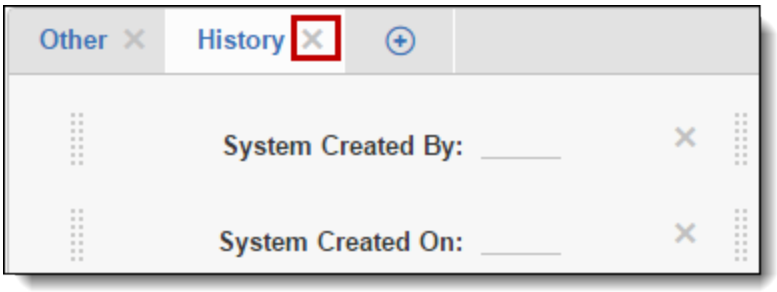


The category/object list appears in a new tab.



2. Click or drag another existing category/object list onto the layout group to add more items to the group.
3. Click **Save** or **Save and Close**.

To delete a category/object list, click next to the item. If the category/object list contains fields, a warning appears before deletion.

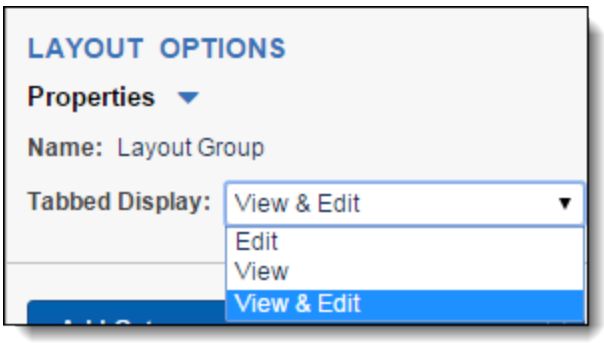


To move a category/object list outside of a layout group, click and drag that item out of the group and place anywhere on the layout.

19.4.2.1 Layout Group properties

When you select a layout group, the Layout group properties appear in the Layout Options console.

Note: From the Properties section, click to collapse the properties or click to expand an item's properties.



The layout group properties contain the following items:

- **Name** - the name of the layout group property.
- **Tabbed Display** - this option determines when to render the layout group as tabs. When the layout group doesn't display as tabs, it displays in a sequential, vertical list.
  - **Edit** - displays the tabbed layout group only when a user is in edit mode. Once the user saves and views the layout, the categories render in a list.
  - **View** - displays the tabbed layout group only when a user is in view mode. When the user is editing the layout, the categories render in a list.
  - **View & Edit** - displays the tabbed layout group when a user is in view and edit mode.

19.4.3 Saving the layout

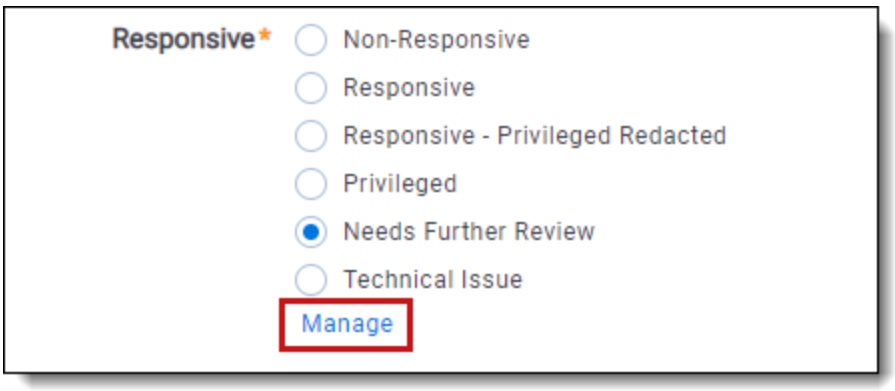
Changes made to a layout are applied when you click **Save**. The next time a user loads the layout when editing or selecting to go to the next document, the changes are visible.

If a user is in the process of editing a document when a change is made to the layout, the Overwrite Protection setting determines whether the user can successfully save those edits, or if they need to re-open the layout and make their selections again before saving.

By default, Overwrite Protection is enabled and stops a user from saving edits made to a document before reloading the layout after changes have been made to that layout.

19.5 Adding a choice to a layout

To add a choice to a layout in edit mode:



1. Click the **Manage** link on a single choice or multiple choice field on the layout. The Choice editor modal opens.
2. Click **Add Choice**,**Add Many Choices**, or **Click to add a choice**.
3. Enter a name for the choice or many choices.
4. (Optional) Click **Details** to further customize the choice.
5. Modify the details of the choice.
6. Click **Close**.

New choices appear at the bottom of the list of choices. New choices also appear in the Choices tab and Field forms.

Note: If you have edit permissions, you can reorder the choice.

19.6 Pop-ups on the layout

In most instances, choices and objects appear as checkboxes and radio buttons. Occasionally there are too many options to reasonably display on the layout, such as in a large list of issues. In these cases, you can display the choices in a pop-up picker. To add a field with a pop-up display, select **Popup Picker** on the **Display Type** field on the Add or Edit Field to Layout form.

To access the pop-up display for a field, click Select. You can filter the choices in the pop-up to locate the desired one.

19.7 Adding and editing an object list

You can add a list of child objects to layouts for the parent object type, and you can add associative object lists to objects related by a single or multiple object field. Use the Layout Options console to add these lists to layouts when child or associative objects exist for the current object type.

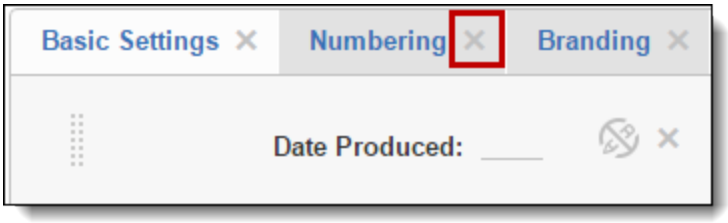
Note: Child and associative objects frequently refer to user-created objects in Relativity. These Dynamic Objects are securable, non-document objects that you can add to a workspace. You can link Dynamic Objects to documents and to other object types to create powerful custom applications within your workspace.

19.7.1 Adding and editing an object list

To add an object list:

1. From the Layout Options console, click the **Add Category** drop-down > **Add Object List**. A new Object List appears in the layout builder and its corresponding properties appear in the Layout Options console. To edit an existing object list, click the object list.
2. Make changes to the properties as applicable. See Object list properties on the next page.
3. Click **Save** or **Save and Close**.

To delete an object list, click ✕ next to the item. If the object list contains fields, a warning appears before deletion.



To move an object list, click and drag the item to anywhere on the layout.

19.7.1.1 Child and associative object lists

Once you add an object list to a layout, the child object layout details includes a child list of all items. The list provides the following option for working with the child objects:

- **New** - creates a new object of the type represented in the list.
- **Delete** - removes objects from Relativity.

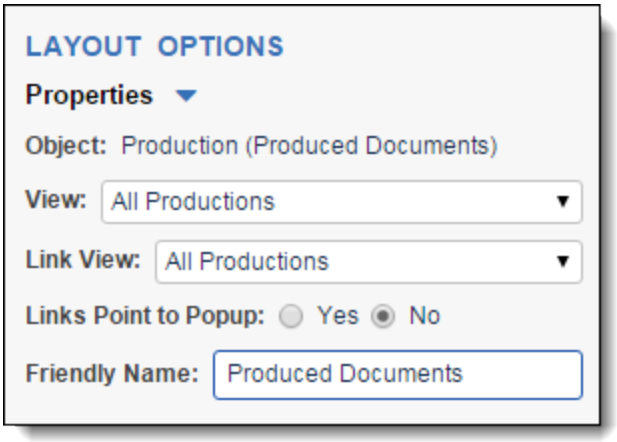
The associative object list provides the following options:

- **New** - creates a new object of the type represented in the list.
- **Link** - displays a pop-up for adding objects of the same type to list.
- **Unlink** - removes objects from the list.

19.7.1.2 Object list properties

Note: From the Properties section, click to collapse the properties or click to expand an item's properties.

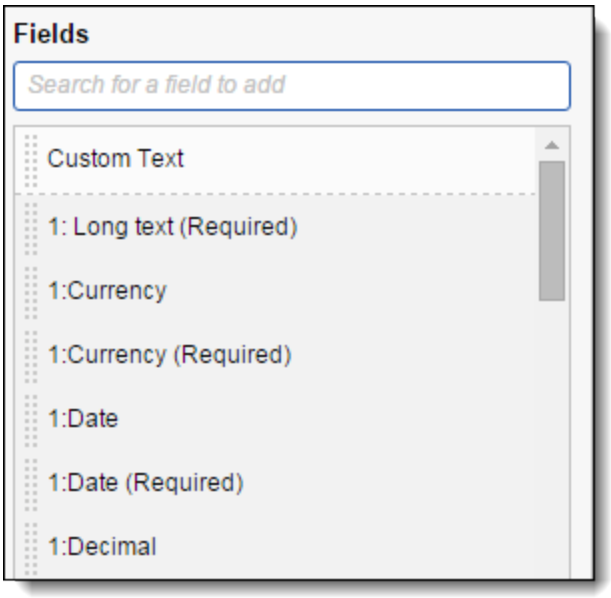
The object list properties contain the following items:



- **Object** - displays available object types (child or associative). Your selection determines the type of objects that appear in the list. If there are no available linked objects, a warning appears.
- **View** - displays views available for the selected child or associative object.
- **Link View** - determines which fields are available when clicking the Link button to link to an existing object to the current layout's object.
- **Links Point to Popup** - creates a hyperlink that displays object details in a pop-up. Select **Yes** to create the link or **No** if you do not want the link available.
- **Friendly Name** - re-name the object list to a more user-friendly name.

19.8 Adding fields and text

Use the fields in the Layout Options console to create your layout. Search for available fields in the search box. Relativity automatically places wild cards at the beginning and end of the entered characters. The list of available fields is dependent on the layout Object Type and any fields created with the same Object Type.



19.8.1 Layout options

The Layout Options contain the following fields:

- **Field** - displays the name of the field that is added. You can select any available workspace field. You can add a specific field only once to the layout.

  Note: You can't add fields stored in Data Grid to layouts.

- **Display Type** - controls how the field appears on the layout. The field type determines the available display options:
  - **Fixed length** - text appears as text.
  - **Whole number** - appears as an integer.
  - **Date** - appears as a date.
  - **Yes/no** - has three values - blank, yes, or no. This field can be displayed as a drop-down menu, checkbox, or radio button list.
  - **Long text** - appears as text.

    Note: If a field with long text is selected and it contains enough text, the long text field may affect the display of other fields in the layout that are beneath it.

- **Rich text** - appears as text with bold and italics. This option is only available if the field has the Allow HTML property set to Yes.

  > **Note:** The Sanitizer object controls whether HTML attributes are sanitized and how specific HTML content is sanitized from fields on page render. You can modify the sanitizer object to add HTML alerts and links. We recommend not modifying the default setting.

- **Single-choice list** - appears as a drop-down menu or radio button.
- **Decimal** - appears as a decimal.
- **Currency** - appears as currency.
- **Multiple-choice** - list can appear as a checkbox list or pop-up picker. A pop-up picker displays the field label and a box containing the current field values. Reviewers click Select, which displays a filterable list of field choices. Filtering can be applied to pop-up picker views to find choices. For more information on the pop-up picker, see Pop-ups on the layout.

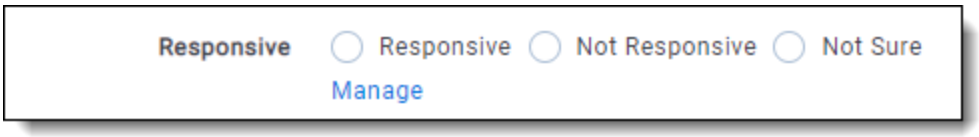
  > **Note:** If a coding layout becomes long and cumbersome, change the field display from checkbox list to pop-up picker. This unclutters the layout by effectively hiding the field's choices and presenting them only if necessary. Displaying a large number of choices with check boxes, drop-down menus, or radio buttons on a layout can also slow performance. The display type automatically flips to a pop-up picker if the number of choices exceeds the configurable choice display limit.

- **User** can appear as a drop-down menu or a picker.

- **Repeat Columns** controls how single and multiple-choice lists appear on a layout. When you select this option for a multiple-choice field, choices are ordered left to right, and top to bottom.
  - **Single Column Display:** Enter 0, 1, or leave the option blank.

  - **Multiple Column Display:** Enter any value higher than 1 to set the number of columns. A value of 2 results in a two column display.

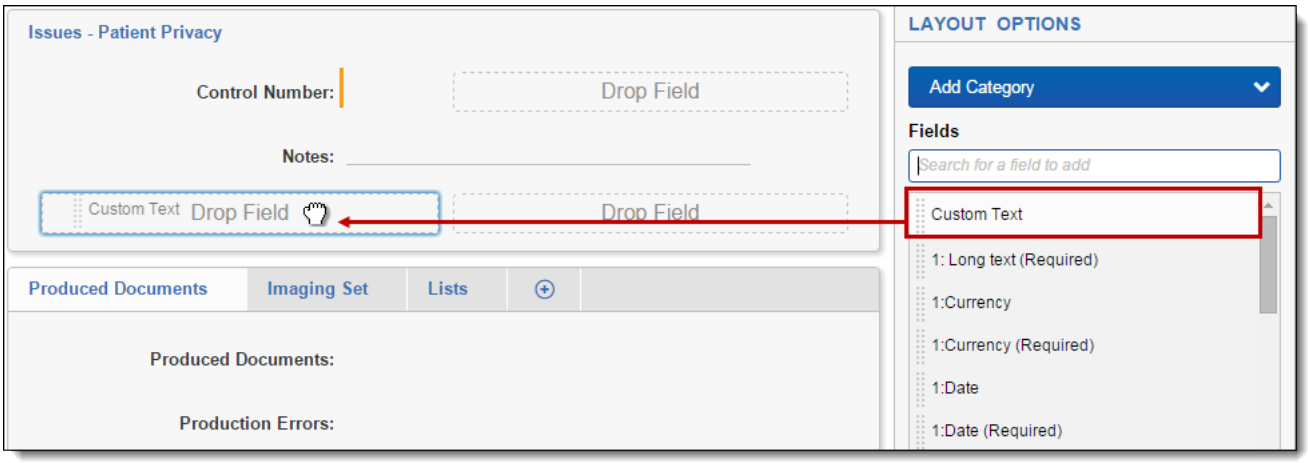
  A value of 3 results in a three column display.



- **Custom label** is used to display your own text instead of the field name. Click button to enter your custom label.

19.8.2 Adding fields to a category

To add fields to a category, drag and drop a field from the Fields section to the category. *Drop Field* placeholder text appears to indicate where you can place fields on the category.



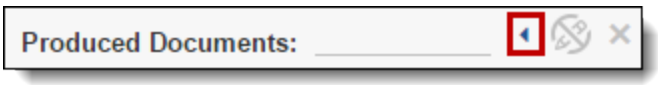
19.8.3 Removing fields from a category

To remove a field from a category, click next to the field. The layout builder moves that field back to the Fields list for future use.

19.8.4 Making a field one or two column

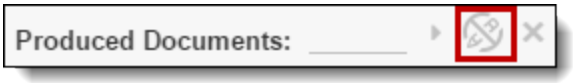
To make a one column field two columns, click .

To make a two column field one column, click .



19.8.5 Making a field read-only

To make a field read-only, click .



Note: The option **Allow Copy from Previous** is disabled for fields that have their **Read-Only** option set to **Yes**, as well as for system and relational fields such as MD5 HASH. See Copy from Previous on page 340.

19.8.6 Other fields considerations

- You can drag and drop fields from one category to another.
- You can drag and drop fields from one column to another.
- Add custom text by dragging and dropping the Custom Text field to a layout. To edit, select the Custom Text field and edit the Custom Text in the text box or the rich text editor. If you enter rich text, the message *Rich text added* appears. See Using the rich text editor on page 342.
- Certain HTML-enabled text fields such as Email Threading Display may not display correctly if you add them to a layout. The SanitizeHTMLOutput instance setting controls whether HTML content is sanitized and how specific HTML content is sanitized from fields on page render. You can set **SanitizeHTMLOutput** to False to add HTML alerts and links. To modify this default setting, see Instance settings' descriptions.

19.8.7 Field properties

Depending on the field selected in the layout builder, different properties appear. Below is a list of the following field properties:

Display Type - controls how the field appears on the layout. The field type determines the available display options:

- **Fixed length** - text appears as text.
- **Whole number** - appears as an integer.
- **Date** - appears as a date.
- **Yes/no** - has three values - blank, yes, or no. This field can be displayed as a drop-down menu, checkbox, or radio button list.
- **Long text** - appears as text.

  Note: If a field with long text is selected and it contains enough text, the long text field may affect the display of other fields in the layout that are beneath it.

- **Rich text** - appears as text with bold and italics. This option is only available if the field has the Allow HTML property set to Yes.
- **Single-choice list** - appears as a drop-down menu or radio button.
- **Decimal** - appears as a decimal.
- **Currency** - appears as currency.
- **Multiple-choice** - list can appear as a checkbox list or pop-up picker. A pop-up picker displays the field label and a box containing the current field values. Reviewers click ..., which displays a filterable list of field choices. Filtering can be applied to pop-up picker views to find choices. For more information on the pop-up picker, see Pop-ups on the layout.

  Note: If a coding layout becomes long and cumbersome, change the field display from checkbox list to pop-up picker. This unclutters the layout by effectively hiding the field's choices and presenting them only if necessary. Displaying a large number of choices with check boxes, drop-down menus, or radio buttons on a layout can also slow performance. The display type automatically flips to a pop-up picker if the number of choices exceeds the configurable choice display limit.

- **User** can appear as a drop-down menu or a picker.
- **Show Name Column** displays the field name as label when you select this checkbox. Clear the checkbox to hide the label.
- **Rows (long text only)** is used to set the number of visible lines in a long text box, such as attorney comments.
- **Custom label** is used to display your own text instead of the field name. Edit the Custom Text in the text box or click ... to open the rich text editor. See Using the rich text editor on page 342. If you enter rich text, the message *Rich text added* appears.

19.9 Creating a new category

Categories act as headers that visually divide the layout into different sections. You can create a category for each sub-task in a review.

For each layout, Relativity automatically creates a default category. The category contains a default name field that Relativity assigned to it based on the layout's object type. For example, the default category contains the document identifier when the object type of the layout is document and a Name field when the object type is OCR Set or Analytics Profile.

19.9.1 Adding and editing categories

A category contains fields on your layout. Use categories to organize layout content.

To add a new category:

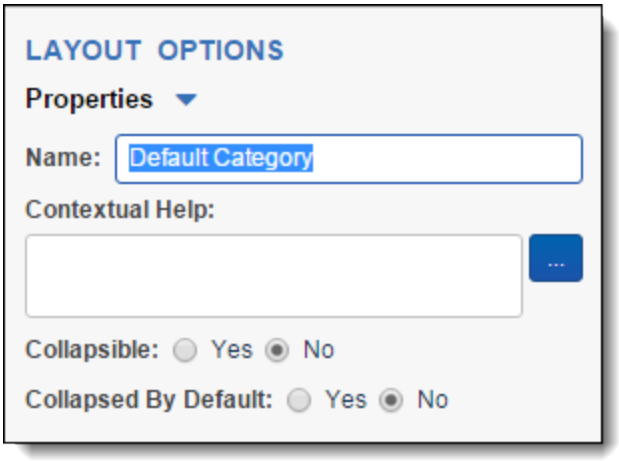
1. From the Layout Options console, click **Add Category**. A new Default Category appears in the layout builder and its corresponding properties appear in the Layout Options console. To edit an existing category, click the category.

2. Make changes to the properties as applicable. See Category properties below.
3. Click **Save** or **Save and Close**.

19.9.2 Category properties

Note: From the Properties section, click to collapse the properties or click to expand an item's properties.

The category properties contain the following items:



- **Name** - the name of the category. This name appears as a section header in the layout.
- **Contextual Help** - add contextual help text to the layout to further guide users as they are interacting with the fields in this category.
  - Enter text in the field to add plain text contextual help.
  - Click ... to load a web-based rich text editor where you can enter and edit rich text contextual help. See Using the rich text editor on page 342. If you enter rich text, the message *Rich text added* appears.
  - Contextual Help appears as ? in the layout. Users can click this icon to display the contextual help message.
- **Collapsible** - Determines whether the category can be collapsed or not in a layout. If **Yes** is selected, the category can be collapsed by the user. If **No** is selected, the category cannot be collapsed by the user even if Collapsed By Default is set to **Yes**.
- **Collapsed By Default** - Determines whether the category is collapsed when each document is loaded in the Viewer or not. If Collapsible is set to **Yes** and **Yes** is selected for this option, the category will be collapsed by default whenever a document is opened in the Viewer. If **No** is selected, the category will be expanded whenever a document is opened in the Viewer.

19.10 Copy from Previous

You can design a layout to include the **Copy from Previous** toolbar. This enhances review by providing the ability to copy coding values from one document to another within a review session.

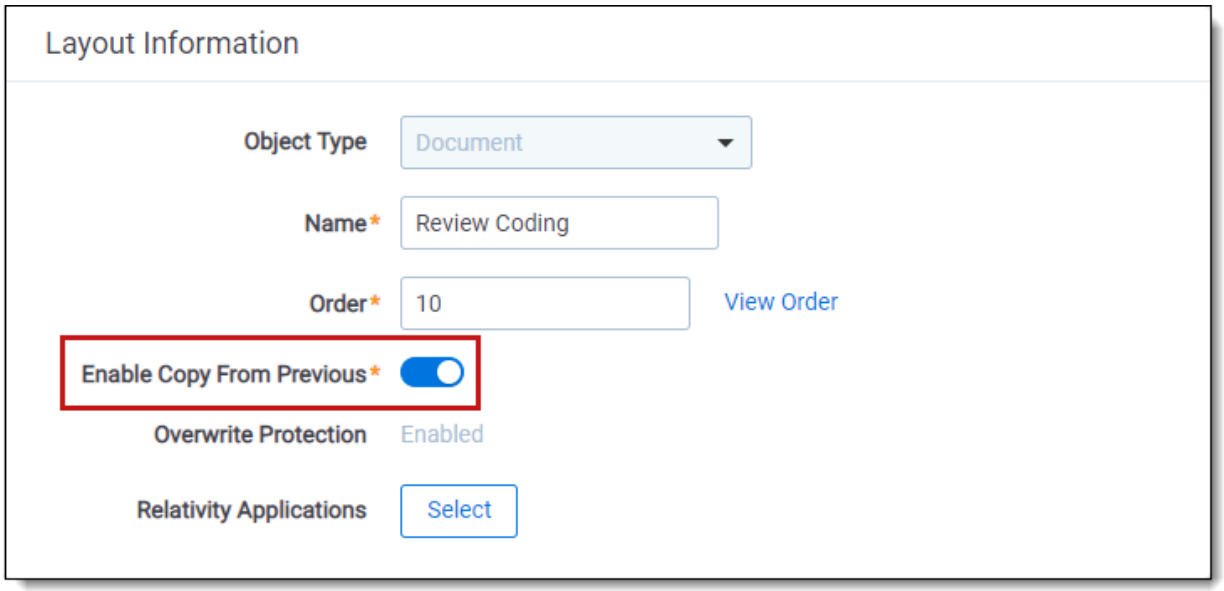
Copy from Previous is not available for the following fields:

- Single object fields
- Multi-object fields
- Read only fields
- System fields
- Relational fields
- Control Number (Document ID)

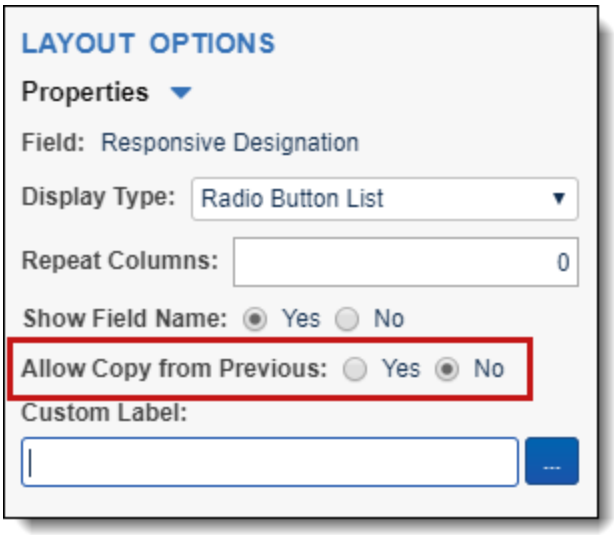
19.10.1 Adding the Copy from Previous toolbar

You can add the Copy from Previous toolbar to any layout with a Document object type. To add this toolbar:

1. Navigate to the **Layouts**, click the layout on which you want to enable Copy from Previous.
2. Click **Edit**.
3. On the layout, click on the desired field and set **Enable Copy from Previous** to **Yes**.



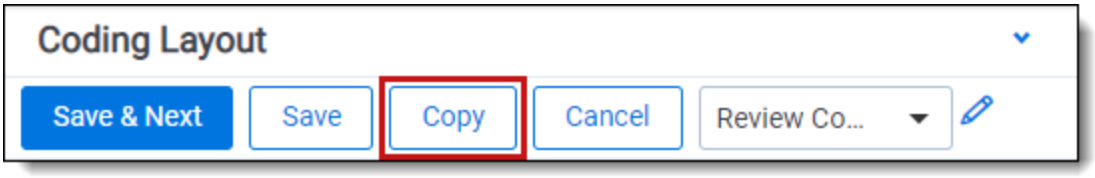
4. Ensure that all applicable fields on the layout have the option **Allow Copy from Previous** set to **Yes**. If those fields are set to No and you want their values to be copied during review, set the Allow Copy from Previous option to **Yes**. If you need to remove the Copy from Previous option from a layout click **Disable Copy from Previous**. This button only becomes available after you add the toolbar to a layout.



5. Click **Save** or **Save and Close**.

19.10.2 Using Copy from Previous

When the toolbar appears in the Coding card, it provides the following options:



- **Copy** - applies the coding values to fields that have the option **Enable Copy from Previous** set to **Yes**. The coding values from the copyable fields are applied to the document currently displayed in the Viewer. The reviewer can modify the values as necessary, and then save these changes.
- **Previous icon** - displays to the left of any fields that were previously saved. The copyable coding values assigned to this document are applied to current document, when the reviewer clicks the Copy button.

Note: Copy from previous is not available for system fields.

Relativity displays next to fields with values that you can copy from the previous document. After you copy the value into the field, this icon is replaced with . The icon redisplays next to a copied field that you have modified.

To use Copy from Previous:

1. When you start a review session, code the values for the first document and click **Save & Next**. This enables the **Copy** option on the document layout. The Previous field is updated with the document identifier of this first document.

2. Click **Copy** when you want to copy the coding values of the designated fields from the previously-saved document to the current one. After Relativity populates the layout with these coding values, you can continue to modify them.
3. Click the **Save & Next** button to save your changes, and continue the review process.
   - If you click **Save** or **Cancel**, the layout appears as read-only and the Copy is disabled. You can click **Edit** to restart the review. You must then code the first document, and click **Save & Next** before the Copy button is enabled. Whenever you leave Edit mode or select a different layout, you need to repeat this process.
   - In the layout, the Previous icon displays to the left of the field that you previously saved.

Note: The default keyboard shortcut for the Copy from Previous button is **Alt + Shift + Z**. However, your workspace may be configured with a custom keyboard shortcut. Contact your system admin for additional information.

19.11 Using the rich text editor

The rich text editor provides support for hyperlinks, images, and tables.

It also features the following:

- Supports both inline and pop-up display type for a more seamless experience. See Adding fields and text on page 334.
- You can configure the maximum text values for long text fields using the instance setting MaximumNumberOfCharactersSupportedByLongText in the Instance setting guide.

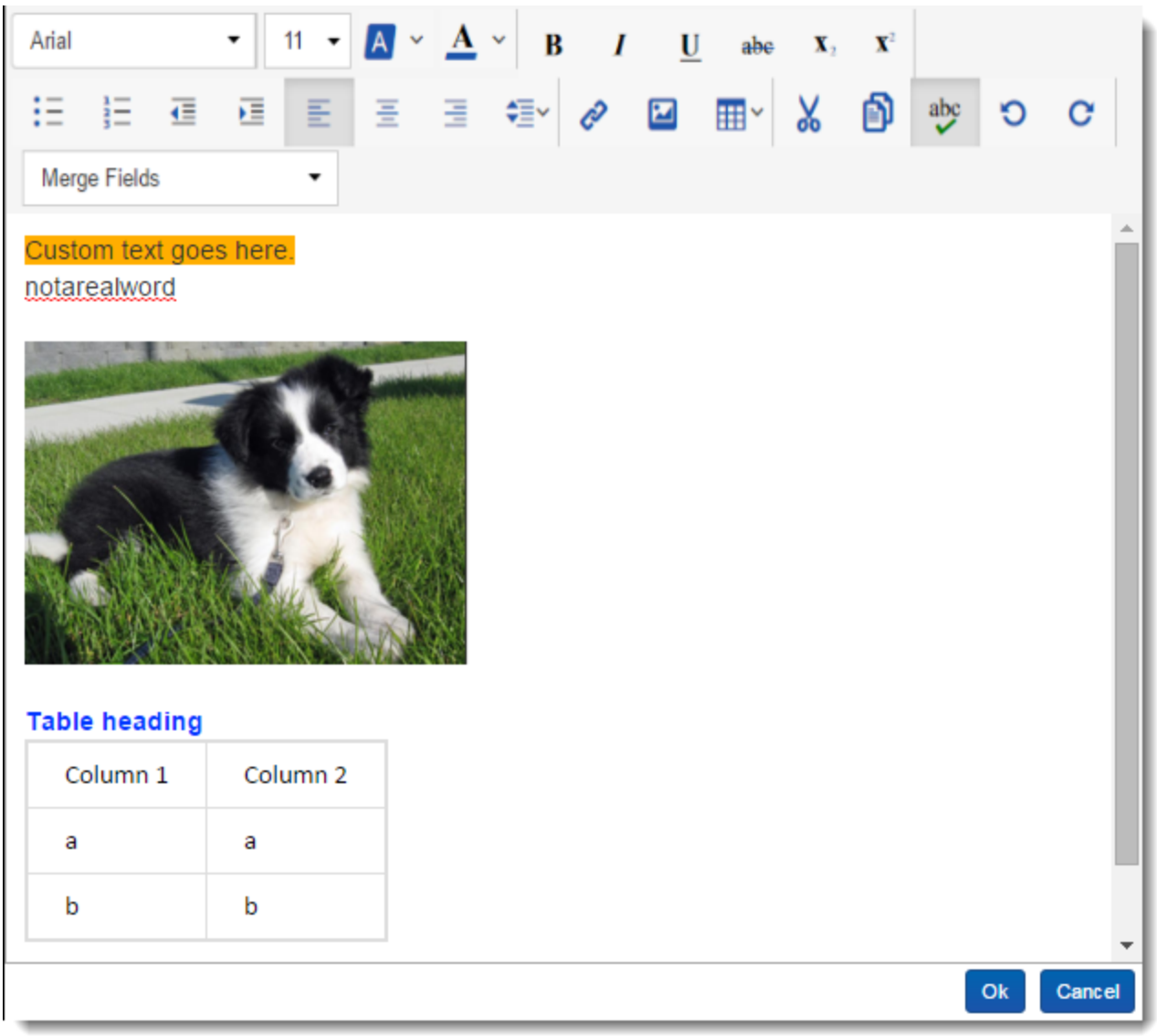
The rich text editor is available in several circumstances:

- **Long Text field** - the Enable HTML field option is enabled on a long text field which is added to a layout. See Enable HTML in Field Information on page 186.
  - Set the long text field with the Display Type: Inline Rich Text.
  - On the layout builder, make the long text field two column. This will render the inline text editor as a two column width in an RDO layout. See Adding fields and text on page 334.
- **Contextual help or Custom text** - when adding contextual help or custom text to a layout. See Layouts on page 323.
- **Custom Label** - when adding a custom label to a field.

Note: The Sanitizer object controls whether HTML attributes are sanitized and how specific HTML content is sanitized from fields on page render. You can modify the sanitizer object to add HTML alerts and links. We recommend not modifying the default setting.

19.11.1 Rich text editor features

The rich text editor contains the following features:



-

- change the font type. Arial is the default font type. You can configure the default font using the instance setting, RichTextEditorFontDefault. See RichTextEditorFontDefault in the Instance setting guide.

  Note: In Microsoft Internet Explorer and Edge, the font type drop-down menu does not appear. You can, however, change the default font face in IE using the RichTextEditorFontDefault instance setting. See RichTextEditorFontDefault in the Instance setting guide.

-

- change text font size.

-
- changes selected text background highlight color.

- - changes selected text color.
- - bolds selected text.
- - italicizes selected text.
- - underlines selected text.
- - adds a strikethrough to selected text.
- - add subscript or superscript to selected text.
- - arrange content in a bulleted or numbered list, outdent or indent text, and align text left, center, or right.
- - customize the space between each line of text.
- - insert hyperlink. Here, you can specify the URL, link text, and whether the link opens in a new tab.

  Note: If the default HTMLSanitizerWhitelist is in place, links will need to follow the following format: start with https://, and can include forward slashes, periods, and alphanumeric characters. Example: Relativity Customers.

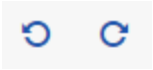
- - insert an image from a URL. You can re-size the image in the text editor.

  Note: If the default HTMLSanitizerWhitelist is in place, links will need to follow the following format: start with https://, and can include forward slashes, periods, and alphanumeric characters. Example: .

- - insert a table.
- - cut or copy selected content.

-

- select to enable spell check as you type and de-select to disable spell check. You can configure whether spell check is turned on or off by default using the instance setting, RichTextEditorSpellCheckDefault. See RichTextEditorSpellCheckDefault in the Instance setting guide.

-  - use to undo or redo actions taken in the rich text editor.

19.11.1.1 Copying and pasting

You can copy and paste from Microsoft Word with most formatting staying intact. Always double-check formatting before saving the communication because formatting from another application may not be carried over.

Copying and pasting bullet or numbered lists from MS Word, Chrome, and Firefox convert into HTML lists in the rich text editor. The HTML lists will consist of and tags in the editor. These pasted lists can then be edited in like other lists in the editor.

Note: Copying and pasting into the rich text editor only works when copying from MS Word, Chrome, and Firefox. This is currently not possible for Internet Explorer 11.

20 Lists

Lists provide a simple way to save a list of objects, such as documents, without specifying the types of conditions you do for a saved search. Since lists aren't based on conditions, they remain constant unless you replace an existing list.

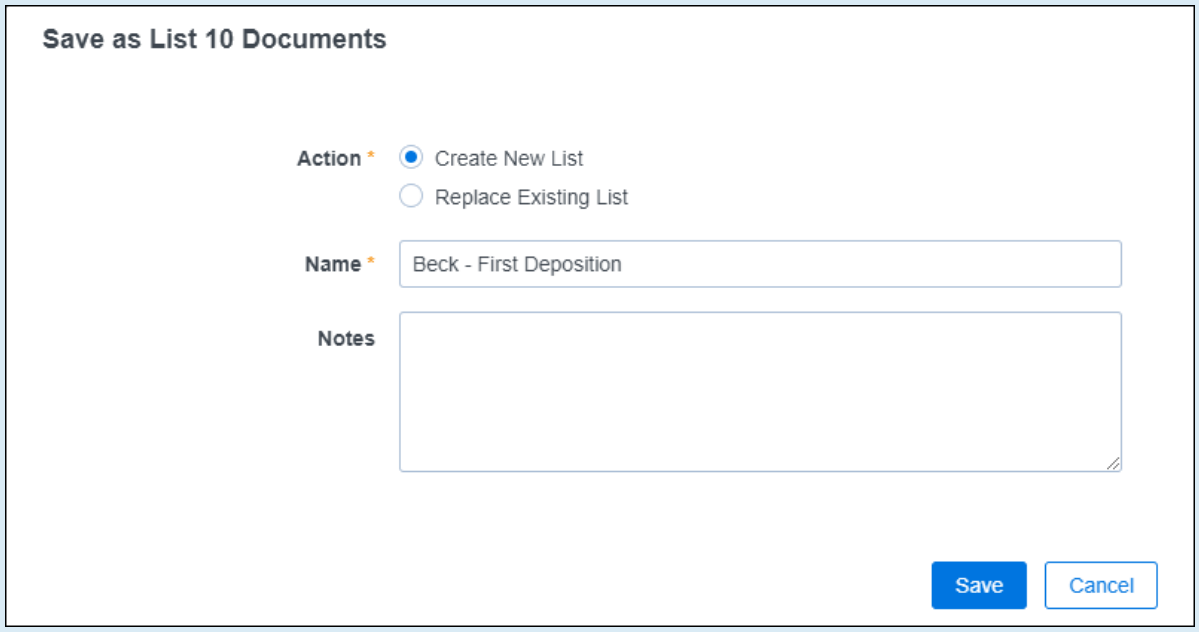
Lists are especially useful when saving a list of sampled items. When using Sampling, you can save a random sample set of documents as a list in order to access the same sample set again later. See Sampling on page 605. When saving a list of documents, you can view the list later by creating a saved search with the list set as search criteria. The Lists console includes a command to automate the creation of a saved search from a list.

Auditing is performed when a user creates or deletes a list. Individual documents are not audited when added to a list.

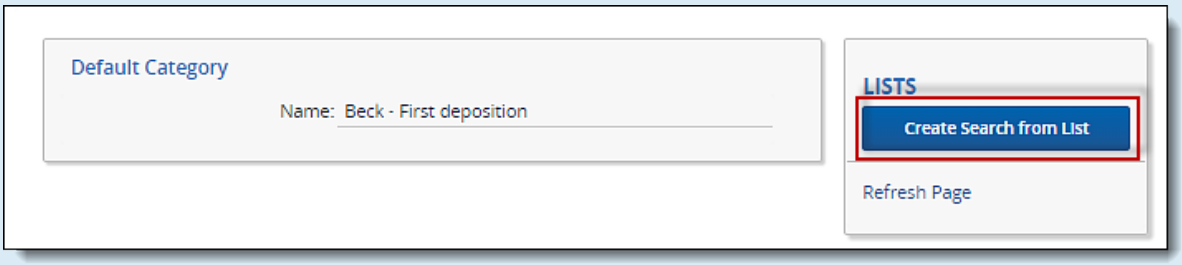
Using lists

As a paralegal, you want to save a list of 13 specific documents used by the lead attorney for the first deposition interview with a key witness. You already know a second interview with the same witness is likely following a review of new documents you just imported into Relativity and only want to focus on new information discovered since the witness's first testimony. To keep record of the exact list of first deposition documents, you search for the documents in Relativity and perform a Mass Save as List operation

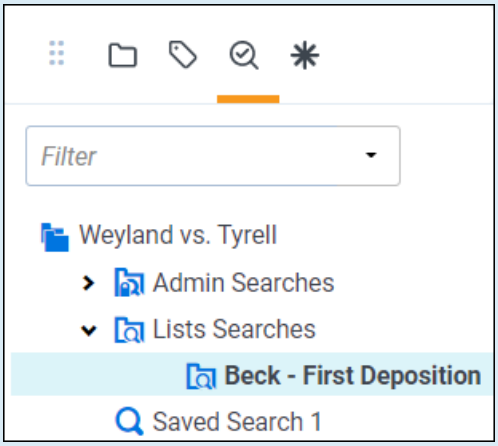
You name the list based on the witness's name to easily find the first deposition list for reference later.



Now that your review of the new witness documents is complete, you need to access your first deposition documents to compare the original information to what you identified in the new documents. So, you create a search from the Beck - First deposition list to view the initial deposition documents.



When your new saved search automatically opens, you quickly view the original documents before you start comparing them to the new information.



After using your original list for comparison in Relativity, you quickly determine a smaller subset of new documents on which you need to focus in preparation for the second deposition with the witness.

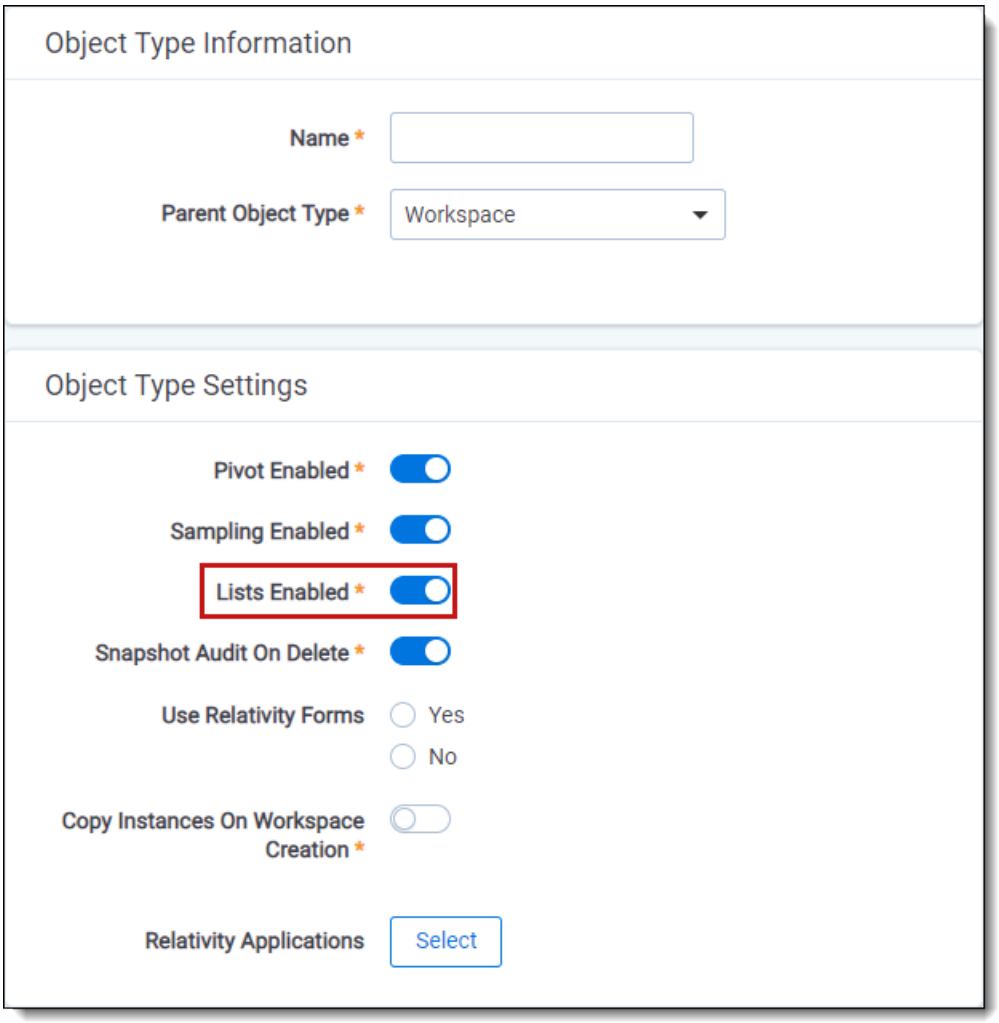
20.1 Enabling lists on an object

The option to save items to a list is available on any object type that has the **Lists** field enabled.

To enable an object to be saved to a list:

1. Navigate to the **Object Type** tab.
2. Click **Edit** on an object type.

3. Toggle the **Lists Enabled** field on..



4. Click **Save**.

After enabling **Lists** for an object, you can perform a Mass Save as List operation to save a search as a list. For more information, see Mass Save as List in the Admin guide.

20.2 Viewing items in a list

To view items in a saved list, create a new saved search or view based on the list.

20.2.1 Converting a new list of documents into a saved search

Follow these steps to create a new document search from the **Lists** tab:

1. Click the name of a saved list on the **Lists** tab.
2. Click **Create Search from List**.

The new search saves to the List Searches folder in the Saved Searches browser and the list contents automatically display on the Documents tab. The Create Search from List button changes to Run Search from List if a saved search already exists for a list.

Note: Only document object lists provide the **Create Search from List** option. To create a view that displays items in a saved list of objects, see Creating a view from a saved list below.

20.2.2 Incorporating a list of documents as a search criterion in a saved search

Follow these steps to create a new saved search using a saved list of documents as the search criteria:

1. On the **Documents** tab, click to open the Saved Searches browser.
2. Click **Create New Search**.
3. Type a name for the saved search in the **Name** field.
4. Add a condition with the following column settings:
   - **Field** - select **Lists**.
   - **Operator** - select **these conditions**.
   - **Value** - select the following value criteria:
     - **Field** - select **Lists**.
     - **Operator** - select **any of these**.
     - **Value** - select one or more saved lists to include in the search criteria.
5. In the **Fields** category, select the fields you want to include when viewing your saved search results. Select the **Lists** field to show the list(s) with which an object is associated.
6. Click **Save** to save the search. Or, click **Save & Search** to save and execute the search.

For more information on creating a saved search, see the Searching guide.

20.2.3 Creating a view from a saved list

To view the items saved as an object list, create a view with a field condition using the Lists field. Follow these steps to create a new view that displays the items saved in a list for any object type.

1. Click the object's tab in your workspace. For example, if the name of the object type for which you saved a list of items is Media, click the Media tab.
2. Click **Create View** .
3. Type a name for the new view in the **Name** field.
4. Verify **Object Type** is set to the object type for which you saved a list.
5. Click **Next**.
6. Add the fields you want to include in your view to the **Selected Fields** box.
7. Click **Next**.

8. Add a condition with the following settings:
   - **Field** - select **Lists**.
   - **Operator** - select **these conditions**.
   - **Value** - click the ellipsis and select the following Lists criteria:
     - **Field** - select **Lists**.
     - **Operator** - select **any of these**.
     - **Value** - select and add one or more saved lists to include in your view.
9. Click **Next**.
10. (Optional) Select one or more fields with ascending or descending sort order for your view.
11. Click **Save**.
12. Select your new view from the view drop-down menu on your object tab to display the saved list of items.

Note: For more information on creating a view, see Creating a view with field categories on page 726.

21 Relativity Script Library

The following is a list of standard scripts available in Relativity. This list may vary per version of Relativity.

These scripts are available in the Relativity Script Library. To access the script library:

1. Navigate to **Home**.
2. Click the **Relativity Script Library** tab.

To add library scripts to your Script tab in a workspace for your users to run, refer to the Relativity Admin Guide.

Caution: Changes to SQL fields executed by Relativity Scripts do not produce Audit logs.

Script	Description
Analytics billable estimate	Allows a partner to assess the billable size of a potential Analytics index submission.
Billing statistics - case rollup	Reports on peak billable data for all cases in a Relativity environment; this can be used in environments where the auto-emailed statistics feature is not possible.
Billing statistics - users	Reports on all users who have had access to the case at any time during the month.
Case permission audit	Reports on all users, workspaces, groups, and each group's permissions in a Relativity environment.
Choice field stratified sampling	Selects a specified number of sample documents across categories chosen by the user, ensuring that each category is represented equally.
Create Cluster Upgrade Jobs	Creates job entries in the EDDS database to upgrade Analytics clusters for CAAT 3.17.2. This was introduced in Relativity 9.2.271.9.
Create sample set	Randomly samples documents from a saved search to create a sample set
dtSearch index auto incremental build	Incrementally builds all dtSearch indexes in all cases.
Forgotten password reset audit	This Relativity script provides audit records for user password reset requests generated using the **Forgot your password?** link on the login screen.
Globally administer keyboard shortcuts	Forcibly assigns a keyboard shortcut to a specific system function; this script runs against all workspaces.
Monitor Cluster Upgrade Jobs	Checks and reports the status of all Analytics cluster upgrade jobs recorded in the EDDS database.
Populate parent to child	Populate parent to child is a workspace-level script propagates the Document ID of the parent document to any children of that document.
Processing statistics	Provides a report of processed data sizes per processing set and user in all workspaces in the environment and a summary of all processed data in all workspaces in the environment.
Propagate sent date to family documents	Sets all email families' documents to the same sent date as their parent documents in a case.
Relativity SMTP	Sets up the available SMTP fields in the kCura.Notification section of the Instance set-

Script	Description
configuration	ting table.
Report sample-based statistics	Generates reports for the deprecated sample-based learning feature.
Reviewer statistics	Reports on the efficiency of reviewers over the specified date range; the returned statistics provide a count on how many documents were reviewed over a certain period of time.
Saved search gap and overlap check	Identifies documents with gaps in Bates numbers or overlapping Bates numbers in a workspace.
Set duplicate flag field	Identifies and sets a Yes/No field on all case documents to indicate it as a duplicate or master.
Set extracted text size field	Stores a document's extracted text data length (in Kilobytes) in a decimal field for all documents in a case.
Set native file size field	Stores the native file size (in KB), for each case document in a decimal field.
Set production beg/end attach fields	Populates the production beginning and end attachment range fields for each case document included in a production.
Set Relativity folder path field	Stores the current Relativity folder path of each document in a long text field.
Upgrade legacy applications	Upgrades a legacy application (v 6.8 and earlier) to a Relativity Application object
Workspace status report	Reports on the last action performed by a non-system admin in each workspace in a Relativity instance.

The Relativity Script Library includes all scripts installed with your version of Relativity. To request additional scripts, contact Relativity Customer Support.

The following scripts are available outside the script library:

Script	Description
Australian Document ID	Renumbers your Relativity documents and Host/Family fields into a standard Prefix, Box, and Document format.
Case Dynamics Pre-Entity Integration Script	Aims to detect possible upgrade conflicts, data truncation, and customization on the Person and Organization objects that may need to be re-created on the Entity object during a Case Dynamics upgrade from Relativity 10.1 or below to Relativity 10.2 or above.
Moving dtSearch indexes	Moves a dtSearch index from one location to another
Moving Analytics indexes and structured analytics sets	Moves an Analytics index from one location to another
Get database size	Displays size and location information for all database files in a specific workspace. Use the following SQL command to run this script: `exec sp_helpdb <databaseName>`

21.1 Analytics billable estimate

This script allows a partner to assess the billable size of a potential Analytics index submission. This script allows a user to select a saved search, and returns the total number of native documents, the total number of image documents, the total number of text only documents, and the total file size of documents which are not already part of an Analytics index or structured analytics set.

21.1.1 Special considerations

- This script must be run from a workspace.
- Documents already included in an Analytics index and structured analytics sets are not reported on during the execution of this script.

21.1.2 Inputs

1. Create a saved search that returns the documents you would like to index. No special fields are required.
2. Navigate to the **Scripts** tab.
3. Select the Relativity Analytics Billing Estimate script. If the script is not present in the workspace's script tab, you must add it.
4. Click **Run**.
5. Select the saved search created in step 1.
6. Click **Run**.

21.1.3 Results

The following fields are returned:

- Document Total
- Documents with Natives
- Documents with Images
- Documents with Text Only
- Total Billable Size in GB

21.2 Australian Document ID

The Australian Document ID Relativity script gives you the flexibility to renumber your Relativity documents and Host/Family fields into a standard Prefix, Box, Folder and Document format. For example, ABC.001.001.0001.

The script will maintain an audit of all changes.

Note: This script is not included by default in the Relativity Script Library. To request this script, contact Relativity Support.

21.2.1 Installing to the Relativity Script Library

Note: Upload the RAP first to the Application Library, which then produces the script.

Perform the following steps to install Australian Document ID to Relativity's Application Library:

1. Log into Relativity as a system admin.
2. Navigate to the **Applications & Scripts** tab and click **New Relativity Script**.
3. Paste the contents of the script file in the provided Script Body field.
4. Click **Save**. The script is now added to the Script Library.

21.2.2 Installing Australian Document ID application to a workspace

You can install the Australian Document ID application to your workspace from the Application Library tab from Home or from the Relativity Applications tab within the workspace.

Follow these steps to install the application from within the workspace:

1. Access your workspace and navigate to the Scripts tab.
2. Click **New Relativity Script**.
3. Under the Script Type section, select the radio button next to **Select from Script Library**.
4. Click ... to browse the script library.
5. Click ... to browse the script library.
6. Select the Australian Document ID script and click **Ok**.
7. Click **Save**.

21.2.3 Running the solution

You can run the solution by completing the following steps:

1. Access your workspace and navigate to the Scripts tab.
2. Click the **Australian Document ID Format** script.
3. Click **Run Script**.
4. Complete the following required fields:
   - **Saved Search** – a required list of documents to renumber
   - **Document Identifier** – a required Identifier field, e.g. "DocumentID" or "Control Number"

- **Document Group** – an optional family host/field, e.g. “Document Host”
- **Prefix** - a required alphanumeric field (3-6 characters), e.g. “ABC”
- **Box** - an optional numeric field (3-6 characters), e.g. “001”
- **Folder** - a required numeric field (3-6 characters), e.g. “001”
- **Document** - an optional numeric field (3-6 characters), e.g. “0001”

5. Click **Run**.

21.3 Billing statistics - case rollup

The Billing Statistics - Case Rollup script is a billing script that reports on peak billable data for all cases in a Relativity environment. The peak billable data is the highest value within the range of a single month. This script can be used in environments where the auto-emailed statistics feature isn't possible.

Note: You must run this script in Admin mode and not from within a workspace. Otherwise, you will receive a warning and the script won't complete.

21.3.1 Inputs

After clicking **Run** on the Script console, enter values for the following fields:

- **Usage Period Year (YYYY)**- the year you wish to report on.
- **Usage Period Month (MM)** - the month you wish to report on.
- **Replace Case Name With Artifact ID** - determines whether the name of the case is replaced by the case artifact ID in the report results.
- **Replace Matter Name With Hash Value** - obfuscate the matter names in billing metrics.
- **Replace Client Name With Hash Value** - obfuscate the client names in billing metrics.

21.3.2 Results

After you run the script, the Billing Statistics – Case Rollup report is displayed for the specified month and year. In this table, the term **peak** refers to the highest value within the range of a single month.

The report includes the following columns (listed alphabetically):

Column	Definition
Account	The name designated as the account name.
Activity Status	Indicates that the workspace is active (based on workspace view actions in the audit history for the given month).
Archive Status	Indicates a status of Archived if an ARM workspace restore is in progress. Otherwise the status is Online.
AuditRecordCount	The total number of audit records stored in Data Grid per workspace
AuditSize	The total size of audits in GB for that workspace. If the workspace does not have the Audit application installed, this calculation will be blank
CA Image Documents	Number of documents with images and without natives run through a

Column	Definition
	Analytics Index or Structured Analytics Set for the first time during the reported month.
CA Native Documents	Number of Native documents that were indexed with Content Analyst for first time, during the reported month.
CA Native Size	Size in GB of all Native documents indexed with Content Analyst for first time, during the reported month.
Case Artifact ID	Unique artifact ID associated with a workspace in the environment.
Case GUID	The case Globally Unique Identifier (GUID) associated with the workspace to that environment.
Case ID	Unique identifier for the workspace across all environments which combines Instance and workspace artifact ID.
CA Text Only Documents	Number of documents without an image or native that were run through a Analytics Index or Structured Analytics Set for the first time during the reported month.
CA Total Documents	Total number of all documents run through a Content Analyst Index for the first time, during the reported month.
Client Artifact ID	Unique artifact ID of the client associated with the workspace. If the workspace is deleted, no value is reported.
Client Name	The name of the client associated with the workspace. If the workspace is deleted, no value is reported.
Client Status	The current status of the workspace. This value is automatically inserted by the system based on a setting in Workspace Details Advanced Settings.
CurrentBillableFileSize	Current day's data for BillableFileSize in GB.
CurrentDataGridFileSize	Current day's data for DataGridFileSize in GB.
CurrentDocumentCountTextOnly	Current day's data for DocumentCountTextOnly.
CurrentFileCount	Current day's data for FileCount.
CurrentFileSize	Current day's data for FileSize in GB.
CurrentImageFileSize	Current day's data for ImageFileSize in GB.
CurrentNativeFileSize	Current day's data for NativeFileSize in GB.
CurrentProductionFileSize	Current day's data for ProductionFileSize in GB.
Data Generated UTC	The time when the Billing Agent ran to generate the metrics used by the Case Statistics report.
Data Grid File Size	The sum of all files in GB that are stored in Data Grid per workspace.
Document Count	The peak total document count in the workspace.
Document Count Text Only	The number of documents that do not have any images, natives, or productions per workspace. This value is calculated as the number of documents that are in the document table but not the file table, aggregated per workspace, and reported as the maximum found for the month (similarly to the Document Count column).
DtSearch Index Size	Column currently not used.
ECA Application Installed	True/False value indicates if the ECA application is installed to a work-

Column	Definition
	space.
File Count	The peak count of the total number of files in the workspace.
File Size	The peak total file size of files in the workspace in GB. This value only counts items in the file table and doesn't include container files in the repository. Therefore, not everything in the file repository is necessarily included in this value. For example, the file size total doesn't take into account working files/copies generated by a processing job. This value also doesn't count the SQL database.
Image File Size	The peak size in GB of images files in the workspace that haven't been imported using Integration Points with file pointers. This value is taken from the peak of Total Billable File Size field.
Instance	The name designated as the instance name.
LDF Size	The peak database log data file (LDF) size of the workspace in GB.
Matter Artifact ID	Unique artifact ID of the matter (through client) associated with the workspace. If the workspace is deleted, no value is reported.
Matter Name	The name of the matter associated with the workspace. If the workspace is deleted, no value is reported.
MDF Size	The peak database primary data file (MDF) size of the workspace in GB. **Note:** If your MDF is split into multiple NDFs, the sum of all NDF sizes is returned.
Name	The instance name and the workspace name; if the workspace name is obfuscated, it is replaced by the workspace identifier.
Native File Size	The peak size in GB of native files in the workspace that haven't been imported using Integration Points with file pointers. This value is taken from the peak of Total Billable File Size field.
Peak Status	The peak status of any workspace in the environment. If any workspace was active during the reported month, the status is Active; otherwise, it is Inactive.
Prior CA Image Documents	Number of documents with images and without natives run through a Analytics Index or Structured Analytics Set for the first time during the prior month.
Prior CA Native Documents	Number of Native documents that were indexed with Content Analyst for first time, during the prior month.
Prior CA Native Size GB	Size of all Native documents indexed with Content Analyst for first time, during the prior month.
Prior CA Text Only Documents	Number of documents without an image or native that were run through a Analytics Index or Structured Analytics Set for the first time during the prior month.
Prior CA Total Documents	Total number of all documents run through a Content Analyst Index for the first time, during the prior month.
Prior CA Year Month	The prior month for the Analytics data. For example if the report is running in October, the metrics are from September.
Production File Size	The peak size in GB of production files in the workspace that haven't

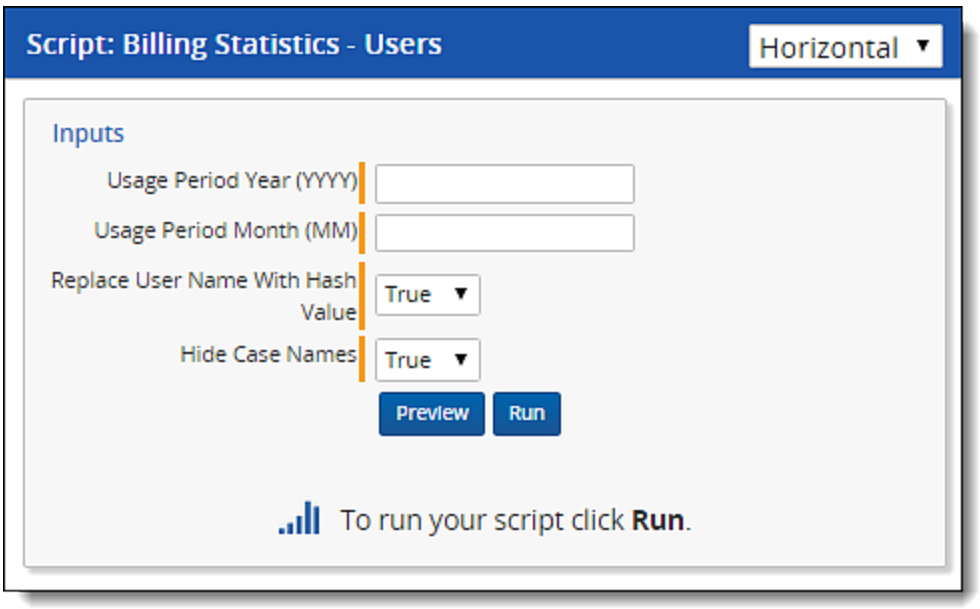
Column	Definition
	been imported using Integration Points with file pointers. This value is taken from the peak of Total Billable File Size field.
Relativity Case Name	The name given to the workspace in Relativity.
Relativity Integration Point Pushed Documents	True/False value indicates if documents were pushed from a workspace using Integration Points.
SQL FT Size	The peak size of the disk space that is allocated to the index (the file group) in GB. This will be within 5-10% of the actual size of the index. To estimate the actual size of the Full Text index, reduce the value reported by 5-10%.
Status	Column currently not used.
Time Executed	Date on which the report was generated.
Time Executed UTC	The UTC time when the report is generated.
Total Billable File Size	The peak billable size in GB of all files in the workspace (this does not include files that have been imported using Integration Points with file pointers). Total Billable File Size and the size of SQL database files are not directly related. Total Billable File Size is reporting on the size of natives, images, productions in the file repository. No SQL database files are included in this calculation.
Usage ID	The usage ID given to the workspace. This is a unique identifier which combines instance, workspace artifact ID, year, and month.
Year & Month	The year and month of the reported data.

21.4 Billing statistics - users

This script is a billing script that reports on all users who had their Relativity access enabled, and belonged to a group which was assigned to a workspace during a specific month. The data is taken as a snap shot daily when the Billing Agent runs. This script can be run at any time from Home.

21.4.1 Inputs

After clicking **Run** on the Script console, enter values for the following inputs:



- **Usage Period Year (YYYY)** is the year you wish to report on.
- **Usage Period Month (MM)** is the month you wish to report on.
- **Replace User Name With Hash Value** determines whether the username portions of user e-mail addresses are replaced by a hash value.
- **Hide Case Names** determines whether the case names are hidden in the report.

21.4.2 Results

After you run the script, the Billing Statistics - Users report displays.

The report includes the following columns:

Column	Definition
Case Name	The name given to the workspace in Relativity.
Case Artifact ID	The unique Artifact ID associated with the workspace specific to that environment.
Usage ID	The usage ID given to the workspace. This is a unique workspace and month identifier which combines Instance, Case Artifact ID, Year, and Month.
Case User ID	The unique identifier for that workspace, user, and month which combines Usage ID and User Artifact ID.
User Artifact ID	The unique system-level Artifact ID associated with the user.
Relativity Case User Name	The user's name as entered in the Relativity workspace.
Original Email Address	The original e-mail address of the user if changed during the month.
Flag	Indicates whether the user e-mail associated with that account, changed during the month.
Is System Admin	Indicates whether the user is associated to the System Administrators group.

Column	Definition
Logged In This Month	If a user accesses the instance, a 1 appears in this column.
Last Login	Date on which the user last logged into the system.
Last Login UTC	The time the user last logged into relativity in UTC time.
Replace User Name With Hash	Indicates whether the username portions of user e-mail addresses are replaced by a hash value.
Time Executed	Date on which the report was generated.
Time Executed UTC	The UTC time when the report was generated.

21.4.3 Retrieving historical data

When you upgrade to Relativity 9.7 or above, the roll-up script pulls information for the following columns from a table that is pre-populated with data from the month that you upgrade as well as the previous month:

- Last Login UTC
- Last Login
- Logged In This Month

If you want to use this script to pull older historical data, contact our Support team for the *Billing statistics – users script* version 11, which supports this functionality. Additionally, verify that your Audit table contains the historical data that you need.

21.5 Choice field stratified sampling

This script selects a specified number of sample documents across categories chosen by the user, ensuring that each category is represented equally. These documents can then be reviewed or set aside for any process which benefits from sampling a broad variety of documents.

Examples of how to use this script include:

- Sampling documents with different coding tags
- Sampling documents across different folders
- Sampling across clusters
- Sampling documents coded by different reviewers for quality checks

The most common use of this script is sampling documents from each cluster in a conceptual cluster, then pre-coding those documents before starting an active learning project. The variety of content in the sample gives the active learning engine a strong foundation for its relevance predictions, and it can increase the accuracy of those predictions early in the project.

21.5.1 Special considerations

Consider the following when running this script:

- If you plan to sample documents across clusters, you must create the clusters first. For more information, see Clustering in the Analytics guide.

- You can use any single-choice or multiple-choice field to define the categories for the script.
- When used on a multiple choice field with parent and child choices, this script only considers the child choices. In a cluster visualization, these are represented as the outermost ring of clusters.

21.5.2 Inputs

1. Before running the script, create a Yes/No field to track which documents have been selected by the script. If you use a previously created Yes/No field, the script will overwrite any existing values.
2. Create a saved search which includes documents from all categories you want to sample. If you are sampling from a specific set of clusters, make sure only the desired clusters are selected when creating your saved search.
3. Navigate to the **Scripts** tab.
4. Select the Choice Field Stratified Sampling script. If the script is not present in the workspace's Script tab, you must add it.
5. Click **Run**.
6. In the pop-up window, fill out the following fields:
    1. **Choice to sample from** - select the choice field containing the categories you want to sample.
    2. **Saved Search** - select the saved search created in step 2.
    3. **Number from each choice** - enter the number of documents you want to sample from each category.
    4. **Is Sampled Field (Yes/No)** - select the Yes/No field created in step 1.
7. Click **Run**.

21.5.3 Results

Once run, this script updates the Yes/No field to Yes for the sampled documents. To view all sampled documents, go to the Document List view and search for a Yes value in that field. You can then code the documents or create a saved search to set them aside for later.

21.6 Copy To Legacy Document Fields

This script updates Bates fields you create on the Document table with the Bates numbering information stored in the Production Information RDO of a production you select.

21.6.1 Special considerations

Consider the following risks before running this script:

- You can't undo this script after you run it.
- This script updates the Document table and may impact performance. Run this script during off-hours.
- Users must have View Script permissions to run this script.

21.6.2 Inputs

Before running the script, perform the following tasks:

- Run and produce a production. For more information, see Production console.

Before running the script, ensure you create the following Document fields in the workspace:

- Begin Bates
- End Bates
- (Optional) Begin Bates Attachment
- (Optional) End Bates Attachment
- (Optional) Batch Size (Default 10000)

Running the script populates these fields on the Document table.

21.6.3 Results

This script updates and stores the Bates fields you create on the Document table so you may continue using previous production workflows.

21.7 Create sample set

This script is used to randomly sample documents from a saved search to create a sample set. This is a case functionality script to be run at the case level. This script should not be run at the system level.

21.7.1 Special considerations

Consider the following when running this script:

- When the script runs, the selected Yes/No field is set to NULL if that field was populated with a value at the time of running.
- The universe size is the number of documents in the saved search selected in the Sample Universe input.
- If a value is entered in the Sample Size Percent input, a random selection of that percentage of documents from the Sample Universe are designated as sample set documents. Documents are designated as sample set documents with Yes in the new Yes/No choice field that was selected in the Sample Indicator input.
    - For example, if you have a sample universe of 1000 documents and you enter a Sample Size Percent of 30 (or 30%), 300 documents in the Sample Universe is designated as Yes in the Yes/No choice field.
    - Sample Set = Sample Universe * Sample Size Percent (in decimal form)
    - Sample Set = 1000 * .3 = 300 documents
- If you enter a value in the Sample Size input, a random selection of that number of documents from the Sample Universe are designated as sample set documents. Documents are designated as

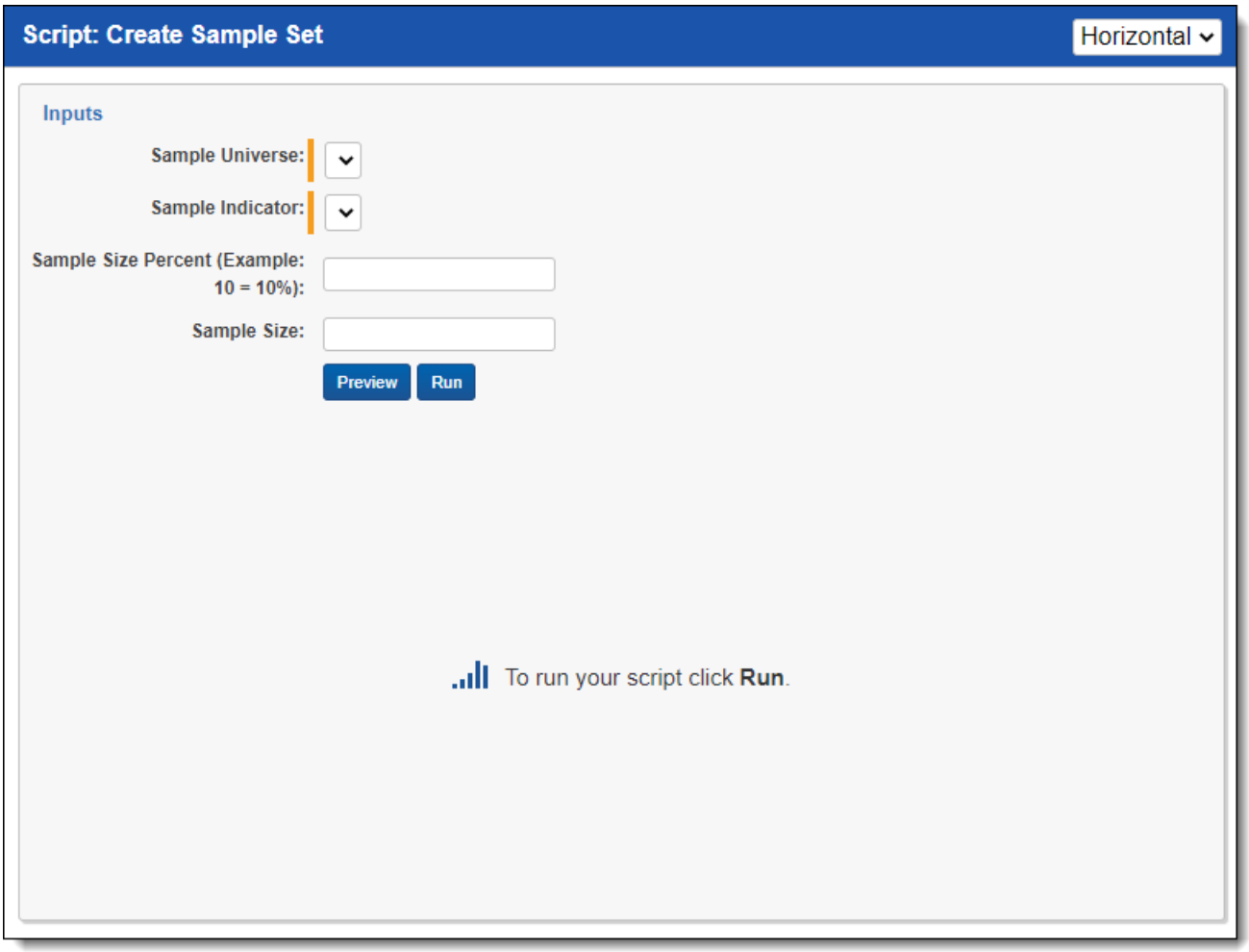
sample set documents with Yes in the new Yes/No field that was selected in the Sample Indicator input.

For example, if you have a sample universe of 1000 documents, and you enter 250 as the Sample Size, 250 documents in the Sample Universe are designated as Yes in the Yes/No choice field.

21.7.2 Inputs

Before running this script, you must create a new Yes/No field to select as the Sample Indicator when running the script. Use this field only to designate randomly selected documents to be included in the sample set.

Complete the following inputs:



- **Sample Universe** - select a Saved Search from the drop-down list.
- **Sample Indicator** - select the newly created Yes/No field.
- **Sample Size Percent** - enter a value for the Sample Size Percent if you wish to calculate the sample size as a percentage of the entire universe. The percentage should be entered as a whole number of 2 digits or fewer. For example, '10' represents 10%. You can enter a value for either the Sample Size

Percent or the Sample Size field but not both. If you attempt to run the script with values for both a warning will appear.

- **Sample Size** -enter a value for the Sample Size input if you wish to calculate the sample size as a number of documents in the entire universe. The sample size should be entered as a whole number smaller than the size of the entire universe. You can enter a value for either the Sample Size Percent or the Sample Size field but not both. If you attempt to run the script with values for both a warning will appear.

21.7.3 Results

The output of the script displays the number of documents in the **Sample Universe** as well as the number of documents designated as Yes in the **Sample Set**.

21.8 dtSearch index auto incremental build

This Relativity script runs a dtSearch incremental build on all dtSearch indexes in your environment. This is a system functionality script to be run over a Relativity environment. You can view instructions for downloading and running the script from the Relativity Community.

21.8.1 Special considerations

Consider the following when running this script:

- This script can't be undone.
- The script may run for some time without reporting any progress.
- The script won't incrementally build any dtSearch index that has an invalid search specified as its Searchable Set. This includes a private search or a search associated with a deactivated search provider.
- The dtSearchIndexJob table on the EDDS database is populated with the dtSearch jobs for the dtSearch agent to run.

21.8.2 Results

The dtSearch Indexes of all cases are incrementally built. There is no returned output for this script.

21.9 Forgotten password reset audit

This Relativity script provides audit records for user password reset requests generated using the **Forgot your password?** link on the login screen.

21.9.1 Inputs

After clicking **Run** on the Script Console, enter values for the following inputs:

- **Start Date** - the starting date for the report.
- **End Date** - the ending date for the report.

- **Display Audit Records** determines which password reset requests the report includes. Your options are:
  - All requests
  - Valid user requests
  - Invalid user requests
  - Failed requests
- **Maximum Number Of Results** determines the maximum number of results that are included in the report. The default value is 1,000.

21.9.2 Results

When you select your inputs and click **Run**, the Results section displays the selected password reset requests for the date range you've specified.

The following columns are included in the report:

Column	Description
Action	The action taken by the user who submitted the password reset request.
Details	Results of the action or details about why the action was unsuccessful.
DateTime	The date and time the password reset request was submitted.
FirstName	The first name of the user associated with the submitted email address.
LastName	The last name of the user associated with the submitted email address.
UserArtifactId	The artifact ID of the user associated with the submitted email address.
EmailAddress	The email address submitted during the password reset request.
IPAddress	The IP address the request came from.

21.10 Globally administer keyboard shortcuts

The Relativity script for globally administering keyboard shortcuts forces the assignment of a keyboard shortcut for a specific system function across all workspaces. The script overwrites existing keyboard shortcuts currently assigned to other system functions, fields, or choices. After the script runs, the updated keyboard shortcut is available for use in the Review Interface. For more information about these shortcuts, see the Admin Guide.

21.10.1 Category

System Functionality

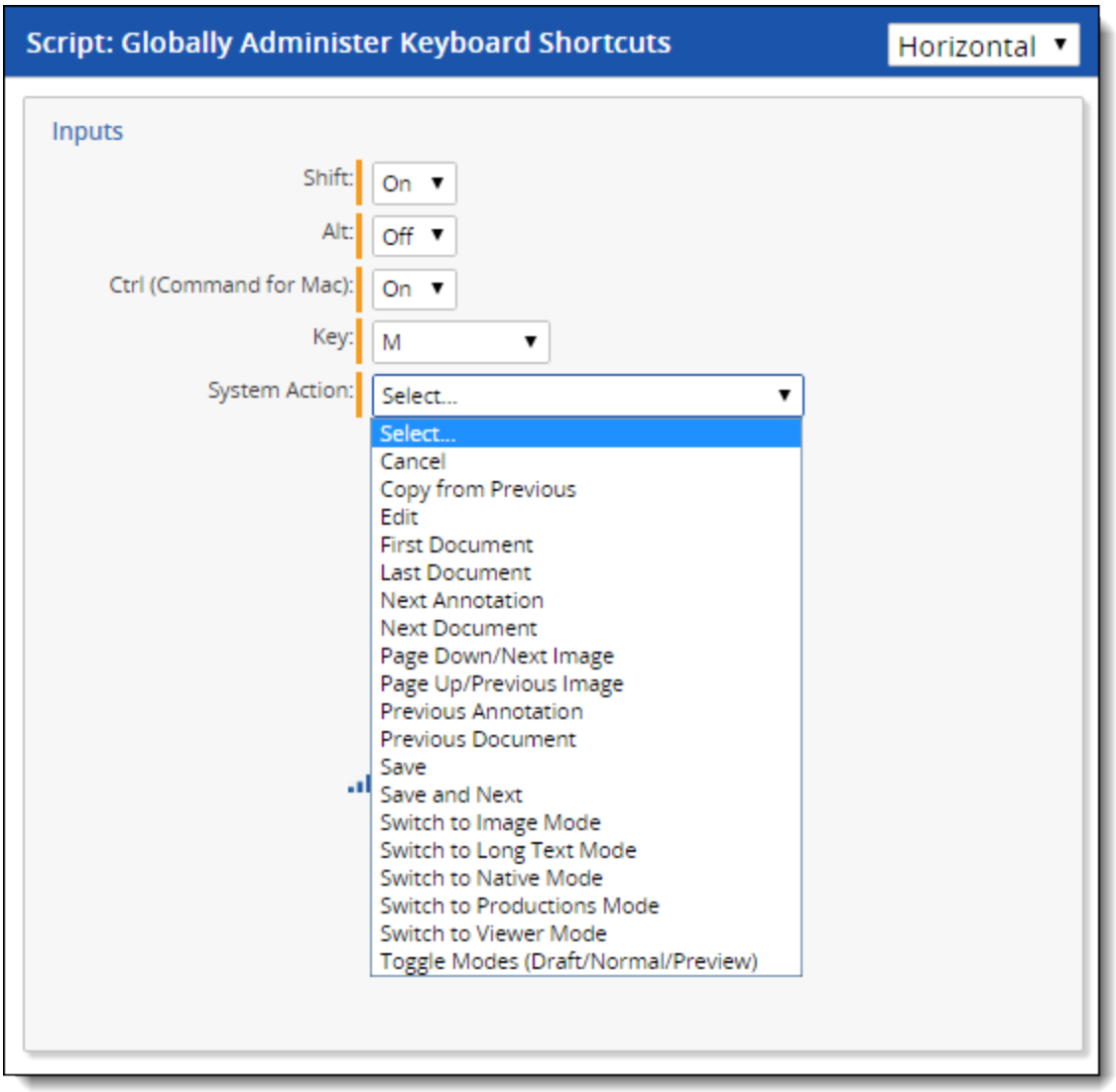
21.10.2 Special considerations

This script overwrites an existing keyboard shortcut combination assigned to a system function, field, or choice across all Relativity workspaces. You may want to review your current review workflows to determine how they are affected by modifications to the shortcut combinations.

21.10.3 Inputs

Use the following steps to run the script Globally Administer Keyboard Shortcuts:

1. From Home, select the **Relativity Script Library** tab.
2. Use the **Name** column to filter on the script Globally Administer Keyboard Shortcuts.
3. Click on the script name to display details page.
4. Click **Run** to display a pop-up for configuring a shortcut key.



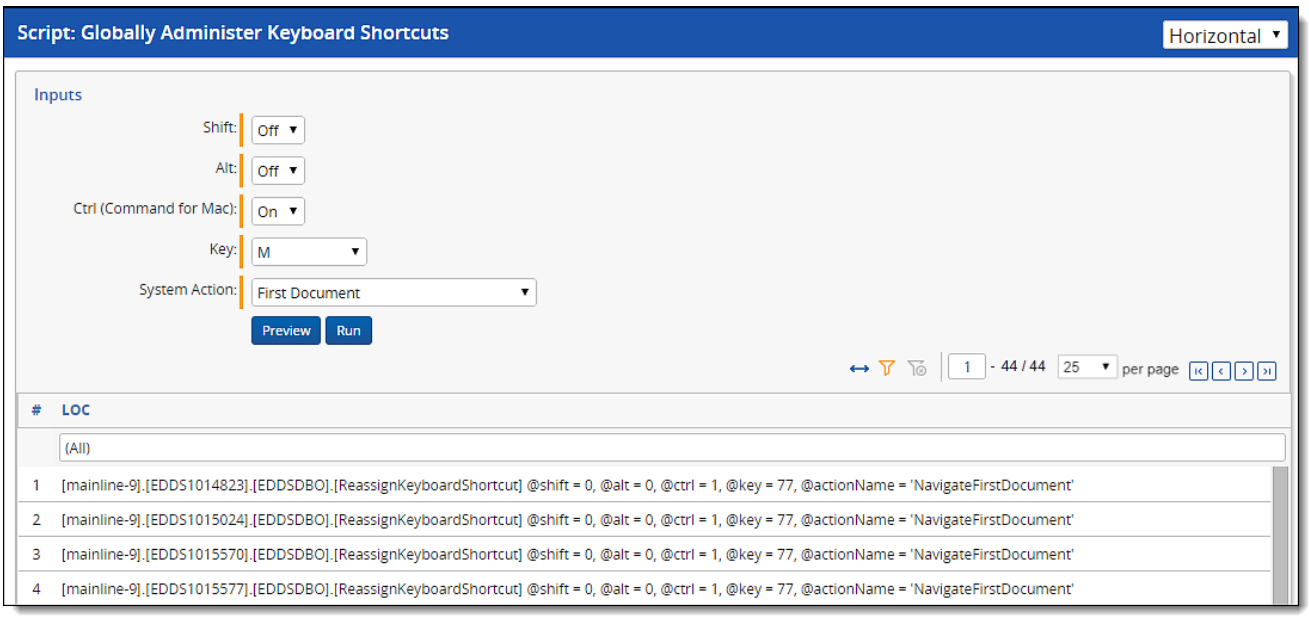
5. Select options in the following boxes:
   - **Shift**, **Alt**, and **Ctrl** list the options **On** or **Off** for enabling or disabling these keys. You must select a value for each of these options.
   - **Key** lists alphanumeric values from 0-9, and A-Z. It also lists options for the keys: End, Home, Space, Return, Down Arrow, Up Arrow, Left Arrow, Right Arrow, Page Down, and Page Up.
   - **System Action** lists the system keyboard shortcuts used in the Review Interface, and Keyboard Shortcut Legend. For more information about these shortcuts, see the Admin Guide.
6. Click **Preview** to view the script that runs across the workspaces.
7. Click **Run** to display a confirmation message.

8. Click **OK** to display the results of the update.

> **Note:** If you later want to modify this keyboard shortcut, you need to rerun the script with the new settings. You cannot rollback the changes.

21.10.4 Results

In the Results section, you can review the list of workspaces updated with the new keyboard shortcut combination. A list of parameters used by the script to perform the update appears. To download a list of workspaces with the updated shortcut, click the **Go** button next to the **Export to File** option.



21.11 Moving Analytics indexes and structured analytics sets

21.11.1 Moving Analytics indexes and structured analytics sets

The steps below assist with Analytics index and structured analytics set moves, where the Analytics installation remains on its original server. These instructions differ depending on whether the Analytics server is using Single Data Directory mode.

> **Note:** Please note that there can only be one index and structured analytics set location per Analytics server. Indexes and structured analytics sets must use the same location. Moving indexes requires downtime of all Analytics functionality in Relativity, such as clustering, categorization, index creation, etc. This doesn't impact any functionality in Relativity other than Analytics functions. For this reason, we recommend performing the move during off-hours.

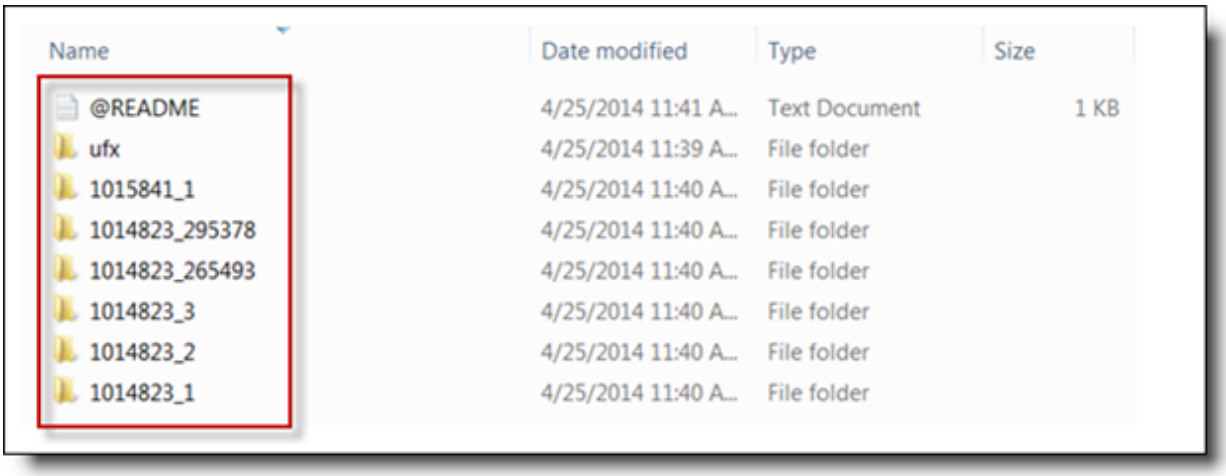
Step 1 - Identifying the directory mode

Single Data Directory mode is only available on new Analytics installations; you can't enable it on upgrades. To determine whether or not the server is using Single Data Directory, take the following steps:

1. Open a browser on the Analytics server and navigate to the Analytics REST URL: **https://<servername.FQDN>:8443/nexus/r1/system/devices**
2. Log in with the Analytics REST credentials.
3. Verify the configured device and the device's path.
   If the server is in Single Data Directory mode, the device appears with a special name of **single-data-directory** and the file path.

Step 2a - Moving the data in non-Single Data Directory Mode

1. After verifying that the server is not in Single Data Directory Mode, stop the Content Analyst (CAAT)/ Relativity Analytics Engine Windows service on the Analytics server.
2. Copy the indexes and sets from the original location to the new location. You must copy all sub-folders, even if they are empty. The CAAT® software needs this folder structure in order to access the index or set. Be sure to copy all indexes and structured analytics sets to the same folder location:
   a. Move the contents of the **C:\CAAT\data-default** folder to the new location. This folder contains a .ufx folder and a @README text file.
   b. Move the contents of the **C:\CAAT\indexes** folder to the new location.
   c. If applicable, move the contents of the **C:\CAAT\staging** folder the new location.
3. Verify that the new location contains all indexes and structured analytics sets with no separation using subfolders, as shown below.



Name	Date modified	Type	Size
@README	4/25/2014 11:41 A...	Text Document	1 KB
ufx	4/25/2014 11:39 A...	File folder	
1015841_1	4/25/2014 11:40 A...	File folder	
1014823_295378	4/25/2014 11:40 A...	File folder	
1014823_265493	4/25/2014 11:40 A...	File folder	
1014823_3	4/25/2014 11:40 A...	File folder	
1014823_2	4/25/2014 11:40 A...	File folder	
1014823_1	4/25/2014 11:40 A...	File folder	

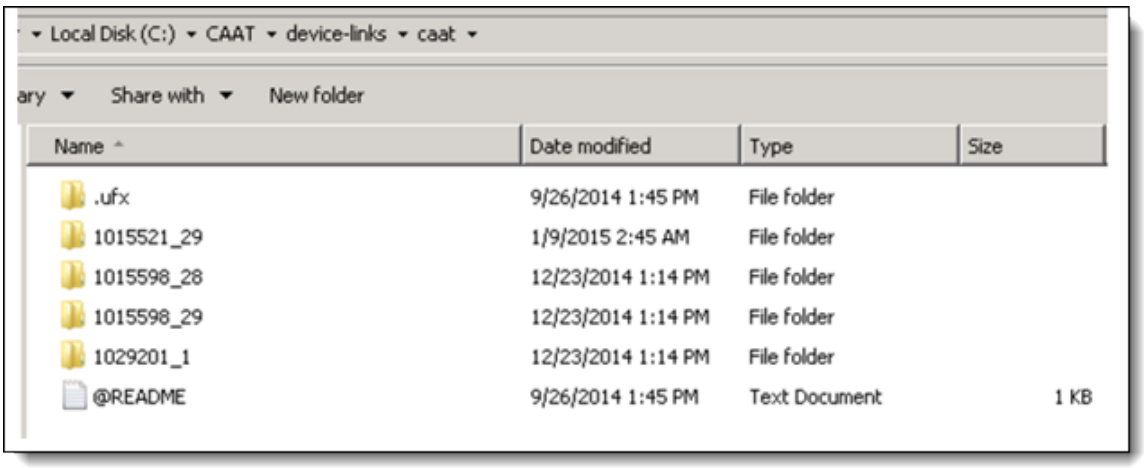
4. Navigate to the **C:\CAAT\device-links** folder. Delete the **caat** symbolic link folder.

caat	3/14/2017 11:10 AM	File folder

   a. Open a Windows command prompt.
   b. Run the following command: **cd C:\CAAT\device-links**

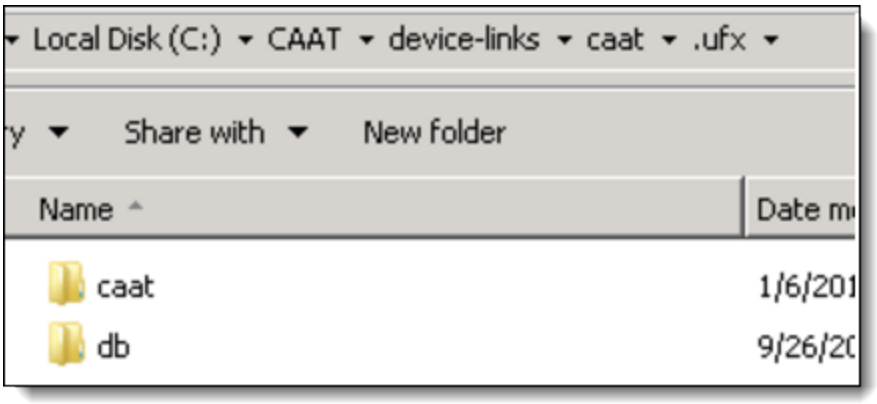
c. Run the following command: **mklink /d caat F:\NewDataLocation**
(In the previous command, "F:\NewDataLocation" represents the file path where the data was migrated from the data-default folder.)

d. Double-click the new **caat** symbolic link.
This displays your new folder location. In Windows Explorer, it will look like you are in **C:\CAAT\device-links\caat**. However, this is not really a folder (it is a link pointing to the data location).
You should see a folder structure similar to the following in the caat directory:



There should be a **.ufx** folder as well as any Analytics indexes listed outside of the .ufx folder.

5. Open the **.ufx** folder and verify that it contains both **caat** and **db** folders.



6. Navigate to the **C:\CAAT** folder, and then delete the **C:\CAAT\data-default** folder.
7. Navigate to the **C:\CAAT\etc** directory.
8. Open the **itemstore.properties** file in a text editor. Change the “device-caat” line to point to your new index location. The file path should have a forward slashes (/).

```
# --- current device configuration values ---
#Tue Mar 14 11:04:30 CDT 2017
device-caat=F\:/Newlocation
default-device-name=caat
show-device-prefix-on-api=true
```

9. Save the **itemstore.properties** file.
10. Start the Content Analyst (CAAT)/Relativity Analytics Engine Windows service.
11. Verify the new location.
    To verify that the new directory is working properly, perform the following steps:
    a. Open a browser on the Analytics server, and then navigate to the Analytics REST URL: **https://<servername.FQDN>:8443/nexus/r1/**
    b. Verify that you can see and access all expected Analytics indexes and structured analytics sets.
    c. Log in to Relativity, and then navigate to the **Servers** tab.
    d. Activate the Analytics server.
    e. Verify that you're able to run concept searches against the pre-existing indexes.
    f. Create a small Analytics index in one of the demo workspaces, such as Salt vs. Pepper.
    g. Once complete, confirm the new index resides in the new location.
    h. Create a small Language ID structured analytics set in one of the demo workspaces, such as Salt vs. Pepper.
    i. Once complete, confirm the new structured analytics set resides in the new location in the **.ufx** folder.

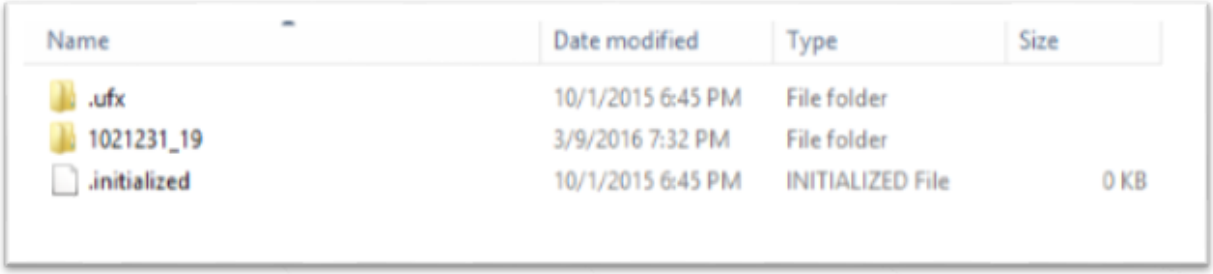
Step 2b - Moving the data in Single Data Directory Mode

1. After verifying that the server is in Single Data Directory Mode, stop the Content Analyst (CAAT)/Relativity Analytics Engine Windows service on the Analytics server.
2. Copy the indexes and sets from the original location to the new location.

   Note: You must copy all subfolders, even if they are empty. The Analytics software needs this folder structure in order to access the index or set. Be sure to copy all indexes and structured analytics sets to the same folder location.

3. Move the index directory to the new location. This will include all indexes, older structured analytics sets, a **.ufx** folder, and an **.initialized** file.
4. Verify that the new location contains all indexes and structured analytics sets with no separation

using subfolders, as shown below.



Name	Date modified	Type	Size
.ufx	10/1/2015 6:45 PM	File folder	
1021231_19	3/9/2016 7:32 PM	File folder	
.initialized	10/1/2015 6:45 PM	INITIALIZED File	0 KB

5. Navigate to the **C:\CAAT\etc** directory.
6. Open the **single-data-dir.properties** file in a text editor. Change the “caat.single.data.directory” line to point to your new index location. The file path should have a forward slashes (/).

```
# INSTRUCTIONS FOR UPDATES YOU CAN MAKE TO THIS FILE
#
# When operating in data directory mode, CAAT uses this system property to look up the
# location of the data directory. The data directory specified should reference an absolute
# path, complete with leading slashes and/or drives. The directory specified must be empty or
# previously initialized as a single data directory by a CAAT instance. This properties file
# can be overridden by a startup argument, pass -Dcaat.single.data.directory=(SOME_DIRECTORY)
# to the startup script.
# NOTE that forward slashes ('/') should be used to separate directory names
# (not back slashes '\') since back slashes are special characters in properties files.
# For example, use "D:/mydir" not "D:\mydir". If you must use back slashes then they
# must be doubled, as in "D:\\mydir".
#Tue Aug 09 19:02:59 CDT 2016
caat.single.data.directory=F:/Indexes/Analytics
```

7. Save the **single-data-dir.properties** file.
8. Start the Content Analyst (CAAT)/Relativity Analytics Engine Windows service.
9. Verify the new location.
   To verify that the new directory is working properly, perform the following steps:
   a. Open a browser on the Analytics server, and then navigate to the Analytics REST URL: **https://<servername.FQDN>:8443/nexus/r1/**
   b. Verify that you can see and access all expected Analytics indexes and structured analytics sets.
   c. Log in to Relativity, and then navigate to the **Servers** tab.
   d. Activate the Analytics server.
   e. Verify that you're able to run concept searches against the pre-existing indexes.
   f. Create a small Analytics index in one of the demo workspaces, such as Salt vs. Pepper.
   g. Once complete, confirm the new index resides in the new location.
   h. Create a small Language ID structured analytics set in one of the demo workspaces, such as Salt vs. Pepper.
   i. Once complete, confirm the new structured analytics set resides in the new location in the **.ufx** folder.

21.11.2 Migrating the Analytics server

If you need to migrate the Analytics server to a new server, use these instructions. For this procedure, you need to move the Analytics installation as well as the indexes and structured analytics sets.

Note: This requires downtime of all Analytics functionality in Relativity, such as clustering, categorization, index creation, etc. This doesn't impact any functionality in Relativity other than Analytics functions. For this reason, we recommend performing the move during off-hours.

21.11.2.1 Step 1 - Copying the Analytics indexes

You must copy all indexes from the old Analytics server to the new Analytics server. If the index directory is stored in another path, you will copy this directory to the desired location on the new server in Step 4 - Restoring the Analytics indexes on the next page.

1. Navigate to the Analytics index location.
2. Stop the Content Analyst (CAAT) service, which has a hold of all of the indexes.

   Note: This causes an outage of all Analytics functionality on this server.

3. Copy the existing folders with the following naming convention:
   AnalyticsEngineIndexID
4. Be sure to copy all subfolders, including empty ones. Take care when using the command line copy to verify that you copy all folders.

   Note: Do not rename any of these folders.

5. Start the Content Analyst (CAAT) Windows service after completion.

21.11.2.2 Step 2 - Copying over the structured analytics sets

You must migrate all structured analytics sets from the old Analytics server to the new Analytics server. Contact Support for the **Analytics Backup/Restore** script and follow the below instructions:

Verifying the structured analytics sets for backup:

1. From the Analytics server, run the **Analytics backup** script as an admin.
2. Input **option 1** to verify the structured analytics sets that need to be backed up on the Analytics server.
3. Input the location of where the structured analytics sets are stored on the server, and then press **Enter**.
   A notepad file opens indicating which sets are available for backup.

Backing up the structured analytics sets:

1. Input **option 3** to begin the process of backing up the structured analytics sets.
   The system prompts you to input the location of where the structured analytics sets reside. In this will be the folder location you inputted during the verification process.

2. Input the location of the **staging-backup.cmd** file. This file is stored in the **C:\CAAT\bin** location. Depending on your folder structure, you may need to rename the CAAT portion to point to the bin folder correctly.
3. Input the location of where the backup folder is created. This folder will be created automatically by the script.
4. Press **Enter** to begin the backup process.
   To verify that the backup is running, navigate to the location of the backup folder. You should see staging area files being written to the backup folder specified in step 3 and the size of the files growing. If you run into any issues during backup, please contact Support.
5. Once the backup process completes, copy over the backup folder to the new Analytics server.

21.11.2.3 Step 3 - Installing Analytics on the new server

To install Analytics on the new server:

1. Run through the pre-installation steps.
2. Run the Analytics installer as a clean install on the new server. Be sure to use the correct Analytics server installer for the Relativity environment.
3. Stop the Content Analyst (CAAT) Windows service after the installer completes.

21.11.2.4 Step 4 - Restoring the Analytics indexes

To restore your Analytics indexes on the new server:

1. Navigate to the Analytics index location.
2. Using the Analytics indexes you copied in Step 1 - Copying the Analytics indexes on the previous page, paste in the backed up indexes, including all empty folders that may reside in the parent index folder.
3. Restart the Content Analyst (CAAT) Windows service after all the files are copied over.

21.11.2.5 Step 5 - Restoring the structured analytics sets

After installation, restore the structured analytics sets from the old Analytics server to the new Analytics server. Contact Support for the **Analytics Backup/Restore** script and follow these instructions:

Verifying the structured analytics sets for restoring:

1. Ensure that the backup folder is present on the new Structured Analytics server.
2. From the Analytics server, run the **Analytics Backup/Restore** script as an admin.
3. Input **option 2**, which provides you a list of structured analytics sets that are available for restore.

Restoring structured analytics sets:

1. Input **option 4**, to restore the structured analytics sets.
2. Input the location of the **staging-restore.cmd** file. This file is stored in the **C:\CAAT\bin** location. Depending on your folder structure, you may need to rename the CAAT portion to point to the bin folder correctly.
3. Input the location of the backup folder where the structured analytics sets are backed up.

4. Press **Enter**to kick off the restore.
   To verify that the process is running, navigate to the location where your current structured analytics sets are stored. The sets are commonly restored to the **C:\CAAT\.ufx\work** location. Depending on your configuration, the sets may be restored to a different location.

21.11.2.6 Step 6 - Adding the Analytics server to Relativity

Analytics is now configured on the new server. You now need to add this server to Relativity.

To add the Analytics server to Relativity, use the following steps:

1. Verify that you have a valid URL value entered for the RestUriForCAAT instance setting. This is the fully qualified domain name (FQDN) URL to the web server hosting your Kepler services (e.g., **https://client.domain.name/Relativity.REST/API**).
2. Add a new Analytics server from the Servers tab in Relativity. See Adding an Analytics server in the Admin Guide for more information.
   When entering the URL:
   a. Use this format: **https://<servername.FQDN>:8443/**.
   b. Duplicate all other settings from the original Analytics server.
3. Add the new Analytics server to all of the same Resource Pools as the original server.
4. Add the Analytics Move script to the Relativity Script Library and run the script.
   a. Navigate to the **Relativity Script Library** tab.
   b. Click **New Relativity Script**.
   c. Select and copy the contents of the **Analytics Move** script file. Paste the script text into the **Script Body** field, overwriting the default script body text.
   d. Click **Save**.
5. Test functionality by creating a small structured analytics set or index.
6. Run the Analytics Move script to swap all references from the original server to the new server just created.
7. Delete the old Analytics server from the Servers tab in Relativity.

21.11.2.7 Step 7 - Verifying the migration

To verify that the new installation is working properly, follow these steps:

1. Log in to Relativity to verify you are able to query against the current indexes.
2. Create a small Analytics index in one of the demo workspaces, such as Salt vs. Pepper.
3. Once complete, confirm the new index resides in the new location.
4. Create a small Language ID structured analytics set in one of the demo workspaces, such as Salt vs. Pepper.
5. Once complete, confirm the new structured analytics set resides in the new location in the **.ufx** folder.

21.11.2.8 Step 8 - Uninstalling the old Analytics installation

Now that Analytics is installed on the new server, perform the following steps:

1. Delete the old Analytics server from the Servers tab.
2. Uninstall the Analytics installation from the old Analytics server. For more information, see the Relativity Upgrade Guide..
3. Delete the Analytics installation files and indexes from the old server.

21.11.3 Backing up or archiving Analytics data

Use these instructions for backing up or archiving Analytics data.

21.11.3.1 Backing up or archiving an Analytics index

Click to expand instructions for backing up or archiving an Analytics index
Copy all needed indexes from the Analytics server using these instructions:

1. Navigate to the Analytics index location.
2. Stop the Content Analyst (CAAT) Windows service, which has ahold of all of the indexes.

   Note: This causes an outage of all Analytics functionality on this server.

3. Copy the folders with the following naming convention:
   AnalyticsEngineIndexID
4. Be sure to copy out all subfolders, including empty ones. Take care when using the command line copy to verify that you copy all folders.

   Note: Do not rename any of these folders.

5. Start the Content Analyst (CAAT) Windows service after completion.

21.11.3.2 Backing up an individual structured analytics set

Click to expand instructions for backing up an individual structured analytics sets
To back up only select structured analytics sets, use these instructions:

1. Open a browser on the Analytics server and navigate to the Analytics REST URL: **https://<servername.FQDN>:8443/nexus/r1/staging/**
2. Log in with the Analytics REST credentials. This will show the list of all structured analytics sets.
3. Take note of the ones you would like to back up. The naming convention is as follows: **ArtifactIDofWorkspace_ArtifactIDofStructuredAnalyticsSet**
4. Open a Windows command prompt, and then change to the following directory:

   ```
   cd C:\CAAT\bin
   ```

5. Run the next command to back up the structured analytics set, using the name of the structured analytics set that was recorded.
   In the following example command, **1016636_1111253** is the name of the structured analytics set, and **C:\migration\1016636_1111253backup** is the location where the backup file will be written.

   ```
   staging-backup 1016636_1111253 C:\migration\1016636_1111253backup
   ```

6. Copy the resulting file.
7. Repeat these steps for all needed structured analytics sets.

21.11.3.3 Backing up all structured analytics sets

Click to expand instructions for backing up all structured analytics sets
If you would like to back up all structured analytics sets on the server, use the **Analytics Backup/Restore** script from Relativity Support. This script sequentially backs up every structured analytics set.

Note: This script differs based on the directory mode that the server is using. If Single Data Directory is enabled, the structured analytics sets are commonly stored in **C:\CAAT\.ufx\work**. If the server is not on Single Data Directory, the structured analytics sets are commonly stored in **C:\CAAT\device-links\caat\.ufx\caat**. See Identifying the directory mode above.

Verifying the structured analytics sets for backup:

1. From the Analytics server, run the **Analytics Backup/Restore** script as an Administrator.
2. Input **option 1** to verify the structured analytics sets that need to be backed up on the Analytics server.
3. Input the location of where the structured analytics sets are stored on the server and then press **Enter**. A notepad file will open indicating which sets are available for backup.

Backing up the structured analytics sets:

1. Input **option 3** to begin the process of backing up the structured analytics sets.
2. You will be prompted to input the location of where the structured analytics sets reside in this will be the folder location you inputted during the verification process.
3. Input the location of the **staging-backup .cmd** file.
   This file is stored in the **C:\CAAT\bin** location. Depending on your folder structure, you may need to rename the CAAT portion to point to the bin folder correctly.
4. Input the location of where the backup folder is created. This folder will be created automatically by the script.
5. Press **Enter** and then the backup process will begin.

   Note: To verify that the backup is running, navigate to the location of the backup folder. You should see staging area files being written to the backup folder specified in step 4 and the size of the files growing. If you run into any issues during backup, please contact Relativity Support.

6. Once the backup process completes, copy over the backup folder to a safe location.

21.11.4 Restoring Analytics data

Use these instructions for restoring Analytics data.

21.11.4.1 Restoring necessary Analytics indexes

Click to expand instructions for restoring all Analytics indexes
Restore the needed indexes to the Analytics server using these instructions:

1. Navigate to the Analytics index location.
2. Paste in the backed up indexes, including all empty folders that may reside in the parent index folder.
3. Restart the Content Analyst (CAAT) Windows service after the copy is complete.

21.11.4.2 Restoring an individual structured analytics set

Click to expand instructions for restoring an individual structured analytics sets
Perform the following steps to restore a structured analytics set.

1. Make sure that the backed up structured analytics sets are on a lettered drive on the Analytics server, but not located in the Analytics indexes directory.
2. From the Analytics server, open a Windows command prompt and change to the following directory:

   ```
   cd C:\CAAT\bin
   ```

3. Run the **staging-restore.cmd** script as follows:

   ```
   staging-restore <new structured analytics set name> <path to backup file>
   ```

   For example, to restore a structured analytics set called **1015041_1111253** from a backup file called **1015041_1111253backup** in the Backups directory on the C: drive, the following statement would be used:

   ```
   staging-restore 1015041_1111253 C:\Backups\1015041_1111253backup
   ```

4. If you receive the message in parentheses after the restore ("The staging area was successfully restored, but CAAT had some issue in recognizing this new staging area"), then navigate to the following URL on the Analytics server to allow the structured analytics set to be recognized: **http://localhost:8443/nexus/r1/staging/1015041_1111253**
5. Repeat these steps for all structured analytics sets in the workspace.

21.11.4.3 Restoring all structured analytics sets

Click to expand instructions for restoring all structured analytics sets
If you would like to restore all structured analytics sets to the server, use the **Analytics Backup/Restore** script from Relativity Support. This script sequentially restores every structured analytics set.

Note: This script differs based on the Directory mode that the server is using. If Single Data Directory is enabled, the structured analytics sets are commonly stored in C:\CAAT\.ufx\work. If the server is not on Singe Data Directory, the structured analytics sets are commonly stored in **C:\CAAT\device-links\caat\.ufx\caat**. See Identifying the directory mode above.

Verifying the structured analytics sets for restoring:

1. Ensure that the backup folder is present on the new Structured Analytics server.
2. From the Analytics server, run the **Analytics Backup/Restore** script as an admin.
3. Input **option 2**. This will provide you a list of structured analytics sets that are available for restore.

Restoring structured analytics sets:

1. Input **option 4**, to restore the structured analytics sets.

2. Input the location of the **staging-restore .cmd** file. This file is stored in the **C:\CAAT\bin** location. Depending on your folder structure, you may need to rename the CAAT portion to point to the bin folder correctly.
3. Input the location of the backup folder where the structured analytics sets are backed up.
4. Press **Enter** to kick off the restore.

> **Note:** To verify that the process is running, navigate to the location where your current structured analytics sets are stored. The sets are commonly restored to the **C:\CAAT\.ufx\work** location. Depending on your configuration, you may be able to restore the sets to a different location.

21.12 Moving dtSearch indexes

This page outlines the steps for moving dtSearch indexes from their current location to a new location.

21.12.1 Requirements

In order to perform this task, you need access to a SQL Server where the Relativity custom SQL utility was automatically installed with Relativity and a system admin account within Relativity.

The custom SQL utility is located at the following file path:

C:\Program Files\kCura Corporation\Relativity\Procuro\kCura.EDDS.CustomSQL.exe

Before you begin, verify the size of the existing dtSearch indexes and confirm that the new location has adequate disk space to house this and any new indexes which may be created.

21.12.2 Special considerations

Moving indexes is a reasonably safe procedure. However, problems can arise if Relativity attempts to access the indexes during the move. Accordingly, ensure:

- No new indexes are created during the move.
- Existing indexes are not incrementally built during the move.

We recommend that you perform the move during off hours or a down period to minimize any potential issues.

21.12.3 Moving dtSearch indexes

In order to successfully move the dtSearch indexes the following steps must be completed.

21.12.3.1 Pre-move

First, prepare the new location.

1. Create a new shared folder.
2. Grant the Relativity Service Account full rights to the new folder.
3. Verify that the share is accessible from the Relativity Web Server and the Agent server.
4. Add the new index share as a choice for the dtSearch Index Share Location field via the **Choices** tab

from Home.

5. Add the share to the appropriate Resource Pools to make it available for use.

21.12.3.2 Moving the indexes

Once the new location is prepared, you can move the dtSearch indexes.

1. Copy over the indexes to the new location.
2. Open the custom SQL utility on any RelativitySQL Server where it's installed and click **Select All** to select all of the workspace databases, unless you are only planning to move indexes for certain workspaces.
3. Select the **Execute Custom SQL** button and copy the contents of the dtSearch Move.sql script into the Execute Custom SQL window. You can find the dtSearch Move.sql script in the Library script | Moving dtSearch indexes documentation on the doc site.
4. Be sure to follow the instructions noted in the script, updating the appropriate lines to specify the old and new IndexShareCodeArtifactIDs.
   a. This will only update indexes at the specified old location to the specified new location. Any other locations must be updated separately.
   b. To find the IndexShareCodeArtifactID of the old and new index shares, you can run the following query against the EDDS database and reference the ArtifactID column in the results for the corresponding locations:
   ```
   SELECT * FROM [EDDS].[eddsdbo].[Code] WHERE CodeTypeID = 8
   ```
5. Leave the **Include EDDS Database** checkbox unchecked and click the **Execute** button. This script updates the appropriate tables in the SQL database for each workspace to reference the new location of the dtSearch indexes.

21.12.3.3 Verifying the move

The final step is to confirm the move was successful.

1. Login to Relativity and select a workspace that has a dtSearch index.
2. Click on the Search Indexes tab, and select the existing dtSearch index.
3. Ensure that the dtSearch index references the new location.
4. Create a new dtSearch index and confirm it populates with the new index location.
5. Navigate to the Documents tab.
6. Select a dtSearch index from the Search drop-down menu.
7. Run a dtSearch query to verify the success of the move.

21.13 Propagate sent date to family documents

This Relativity script sets all email families documents to the same sent date as their parent documents in a case. This allows for chronological sorting within all documents.

This is a case functionality script to be run at a case level.

21.13.1 Special considerations

Consider the following when running this script.

- This script cannot be undone.
- The script may run for some time without reporting any progress.
- This script updates the Document table.

21.13.2 Inputs

Before running the script, complete the following inputs:

- **Date Field - Original** - the date field that is read.
- **Date Field Sort** - the date field that date is written to.
- **Family Identifier** - the relational field used to identify which documents are grouped together.
- **Date Propagated** - a Yes/No field that indicates which documents the script updates, also letting the user know where data is changed.
- **Document Sort Field** - instead of using ArtifactID to order documents in each family, use this input to select your choice field in which to order documents by. This accounts for some document families where the lowest ArtifactID isn't the parent.

21.13.3 Results

Once this script has been run, the Sent Date field will be updated so all family documents in a case have the same value as their parent document. The parent must be the record with the lowest ArtifactID.

Note: This script ignores records where the field assigned to Date Propagated field is set to Yes. As a result, this script will only affect documents where this field is empty or set to No.

21.14 Relativity SMTP configuration script

Relativity SMTP Configuration script updates the following values in the Relativity Instance setting table: Email From, Email To, SMTP Server, SMTP Port, SMTP Username, and SMTP Password. It also provides the option to encrypt the SMTP Password.

21.14.1 Inputs

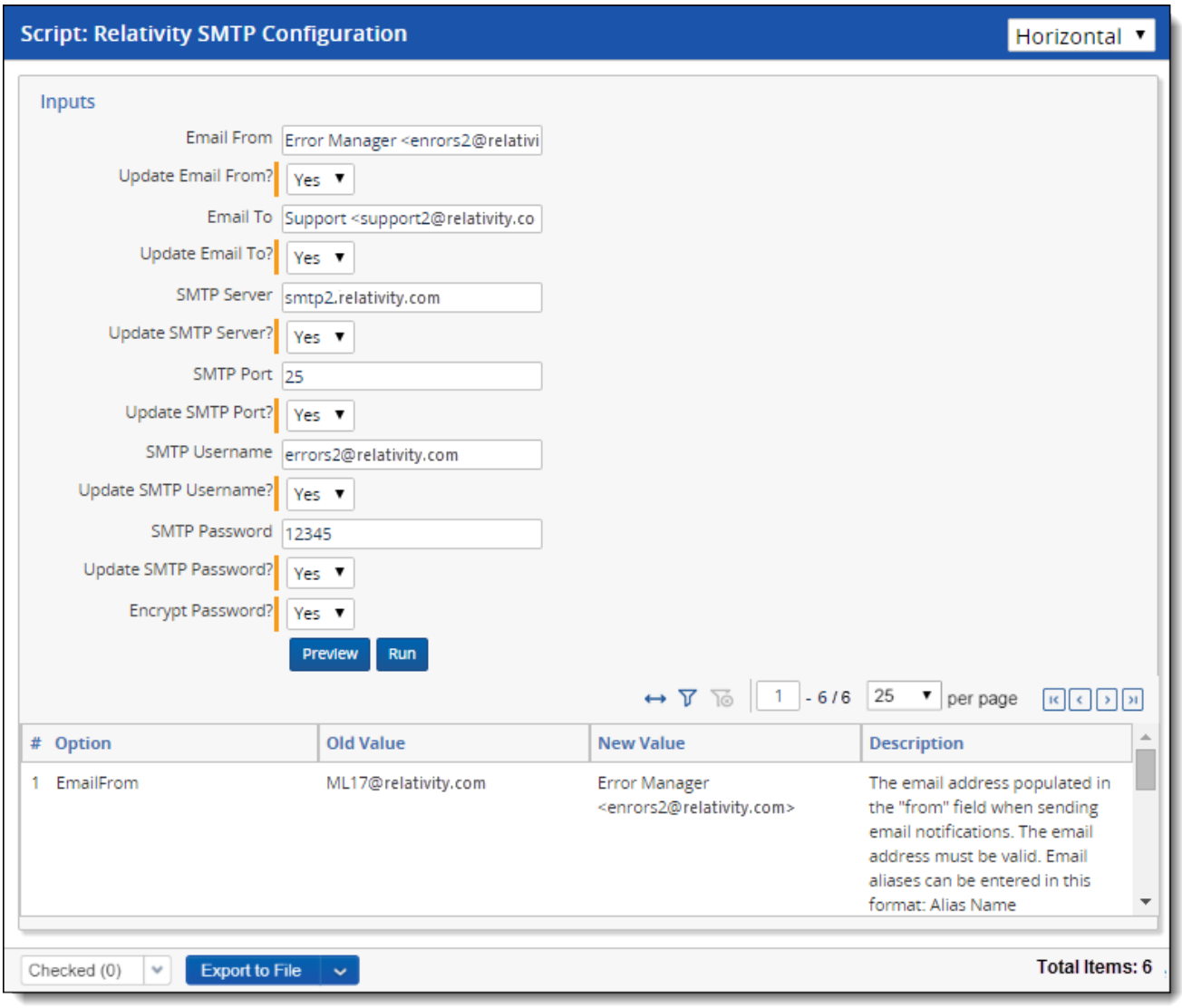
Note: If you want to modify the value of a field, you must select **Yes** in the update question box. The script won't update the Instance setting table when the update question box is set to No.

- **Email From** specifies the email address populated in the From field when Relativity sends email notifications. The email address must be valid. Email aliases can be entered in this format:
  Alias Name <username@example.com>
- **Email To** specifies the email address populated in the “To” field when Relativity sends email notifications. The email address must be valid.

- **SMTP Server** is the server used to send notifications
- **SMTP Port** indicates the port used for SMTP transactions.The port number is based on the setup of the SMTP server in your environment. It must be an integer value.
- **SMTP Username** is associated with the credentials of the SMTP server. It is validated against the SMTP authentication. The SMTP Username must be associated with the same account as defined in Email From.
- **SMTP Password** is a password for the username associated with the credentials of the SMTP server. This password is validated against the SMTP authentication.
- **Encrypt Password** indicates that Relativity encodes the SMTP Password before storing it in the Instance setting table.

21.14.2 Results

In the Results section, you can review the original and new value assigned to each configuration option that you updated. A brief description of each value is also provided.



21.15 Report sample-based statistics

This script generates reports for the deprecated sample-based learning feature. If you have legacy sample-based learning projects in your workspace, you can select one and generate several types of reports based on its contents.

Because the sample-based learning feature is now deprecated, you cannot modify the data within the projects or create new ones. These reports show each legacy project as-is, regardless of whether the project was completed.

21.15.1 Report types

The available reports are:

- **Project Summary**—this provides a consolidated set of quality metrics from the entire project so that you can see the state of the project based on the last round completed. It includes manually coded documents, project categorization results, project overturn results, and control set statistics.
- **Overturn Summary**—this provides a high-level view of a project's overturn percentages and tallies from round to round. The accompanying table gives even greater detail, including a breakdown of responsive and non-responsive overturn rates.
- **Round Summary**—this report is split into two graphs. The first graph provides a categorization breakdown of each category per round, allowing you to track categorization results as the project progressed. The second graph displays the volatility of each category per round, while accompanying tables provide additional information such as document tallies and population size changes.
- **Issue Summary**—this provides a breakdown of issue coding categorization results. The table version of the report also displays document tallies and previous round information.
- **Designation Issue Comparison**—this provides insight into designation and issue coding categorization results and how they relate to one another.
- **Rank Distribution**—this provides insight into categorization results according to their rank score. The accompanying table also provides document tallies.
- **Control Set Statistics**—this displays a project's accuracy trends from round to round. The report displays precision, recall, and F1 scores for each round in a single line chart.

21.15.2 Inputs

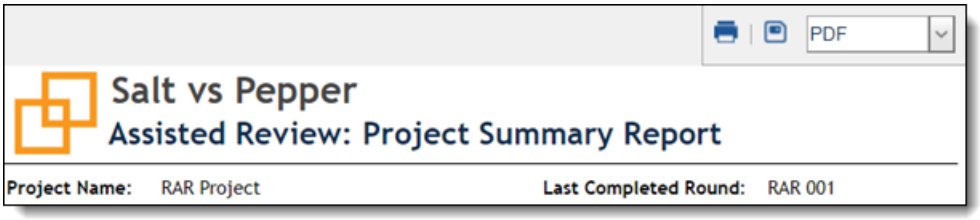
1. Navigate to the **Scripts** tab.
2. Select the Report Sample-Based Statistics script. If the script is not present in the workspace's Script tab, you must add it.
3. Click **Run**.
4. In the pop-up window, fill out:
    1. **Project**—select the legacy project you want the report based on.
    2. **Report Type**—select the type of report.
5. Click **Run**.
6. Click **Accept** on the pop-up confirmation.

This script may take a few minutes to process.

21.15.3 Results

After the script finishes, a custom URL will appear in the Script Output pane. To view the report, copy and paste the URL into a new browser tab.

This report can be exported into a variety of formats using the drop-down menu in the upper right corner.



21.16 Reviewer statistics

Note: If the workspace has a large amount of audit data, we recommend breaking up the date ranges to smaller data sets to be able to retrieve the data efficiently. If a data set becomes too large, the report performance begins to degrade and may result in an error.

The Relativity Reviewer Statistics scripts report on the efficiency of reviewers over the specified date range. The returned statistics provide a count on how many documents were reviewed over a certain period of time. Time zone of the reviewers must be specified in order for the report to accurately account for reviewers in different time zones.

The returned statistics provide a count of how many documents were reviewed over a certain period of time. For simple coding fields like textbox, radio button, drop down, etc., edit tracking occurs when a user clicks Save, or Save and Next. For example, when a user commits coding changes.

You can use the following scripts to generate this information:

- **Reviewer Statistics** - use this script to generate a report that lists the system admins.
- **Reviewer Statistics - No System Administrators** - use this script to generate a report that does not include system admins.

Note: Ensure that users running this script have both the Relativity Script Object Security > View permission enabled and View All Audits checked in the Admin Operations section of Other Settings.

21.16.1 Inputs

Enter the following field information:

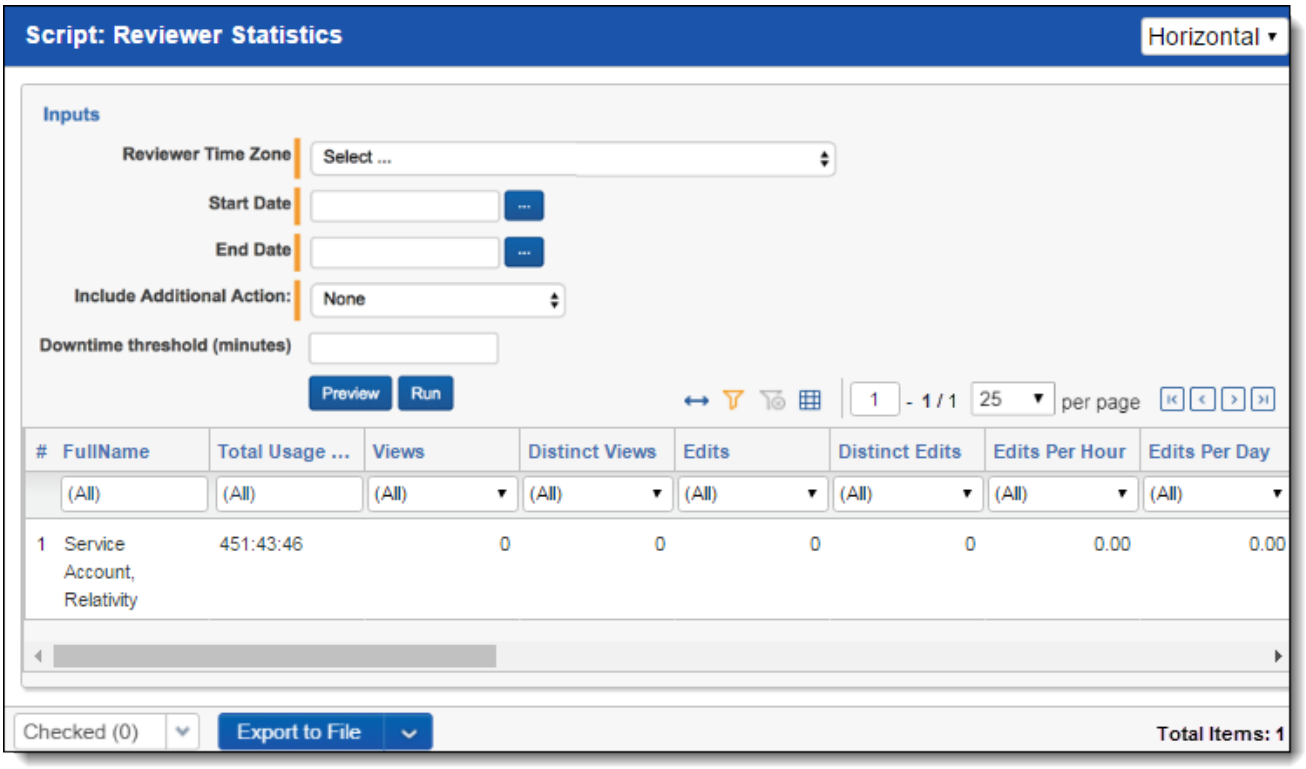
- **Reviewer Time Zone** - The reviewer time zone for which you wish to report on.
- **Start Date** - the start date for which you wish to report on.
- **End Date** - the end date for which you wish the report on.
- **Include Additional Action** - set this field to add statistics for Mass Edits and Propagation.

- **Downtime threshold (minutes)** - this field helps to calculate the Total Usage Time metric and determines whether two audits belong to the same group of action. The default value for this field is 60 minutes. If the time difference between the two actions is less than the Downtime threshold, that time will be included to add up to the Total Usage metric; if it's greater than the Downtime threshold, only two minutes will count for these two actions (one minute for each action).

Note: If the Audit application is installed in your workspace, the script pulls audit data from Elasticsearch.

21.16.2 Results

Once you run this script, the Reviewer Statistics report displays.



The report includes the following columns:

Note: By default, the following columns are not included in the output. To include these columns, in the **Include Additional Action** drop-down list, select **Mass Edits and Propagation**.
Propagations
Distinct Propagations
Propagations Per Hour
Propagations Per Day
Distinct Propagations Per Hour
Distinct Propagations Per Day

Column	Definition
Full Name	The reviewer's full name.
Total Usage	The total usage time is calculated as the difference between the time the user first views or

Column	Definition
Time	edits any document in the workspace and the time the user last views or edits any document in the workspace per session. A session is anytime the user has logged in to Relativity. All sessions for the selected date range are then totaled per user. When audits are stored in Elasticsearch, the session ID is used to calculate the total usage time for the session.
Views	The total number of documents a reviewer looked at over the reported period.
Distinct Views	The number of unique documents a reviewer looked at over the reported period.
Edits	The total number of editing/coding decisions made over the reported time period.
Distinct Edits	The total number of documents edited, excluding repeated edits of the same document. The "distinct" classification is meant to account for duplicate actions performed against unique documents.
Edits Per Hour	The number of edits per hour based on the reviewer's total usage time.
Edits Per Day	The number of edits performed per day over the period reported on.
Distinct Edits Per Hour	The number of distinct edits per hour based on the reviewer's total usage time.
Distinct Edits Per Day	The number of unique edits performed per day over the period reported on.
Mass Edits	The total number of document edits using the Mass Edit action.
Distinct Mass Edits	The total number of unique document edits using the Mass Edit action.
Mass Edits Per Hour	The number of Mass Edits per hour based on the reviewer's total usage time.
Mass Edits Per Day	The number of Mass Edits per day over the period reported on.
Distinct Mass Edits Per Hour	The number of distinct Mass Edits per hour based on the reviewer's total usage time.
Distinct Mass Edits Per Day	The number of distinct Mass Edits per day over the period reported on.
Propagations	The total number of documents that were updated via propagation.
Distinct Propagations	The total number of unique documents that were updated via propagation.
Propagations Per Hour	The number of propagations applied per hour based on the reviewer's total usage time.
Propagations Per Day	The number of propagations applied per day based on the period reported on.
Distinct Propagations Per Hour	The number of unique documents that had propagations applied per hour based on the reviewer's total usage time.
Distinct Propagations Per Day	The number of unique documents that had propagations applied per day based on the period reported on.

21.17 Set duplicate flag field

This Relativity script identifies and sets a Yes/No field on all case documents to indicate them as original or duplicate.

This is a case functionality script to be run at a case level.

21.17.1 Special considerations

Consider the following when running this script:

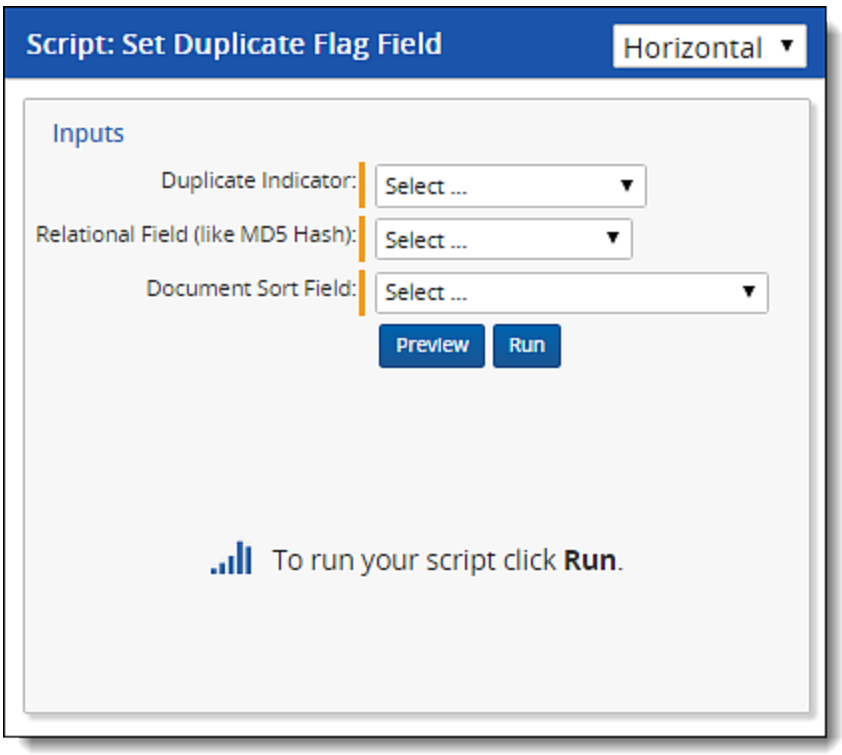
- This script cannot be undone.
- The script may run for some time without reporting any progress.
- The script skips any documents which already have their duplicate flag field already set to Yes. (It updates only documents on which this field isn't set.)

21.17.2 Inputs

Note: Before running this script, you must create a Yes/No field to act as the Duplicate Indicator.

- **Duplicate Indicator** - the Yes/No field that determines whether documents are duplicates.
- **Relational Field** - the field that shows document relationship (such as MD5 Hash).
- **Document Sort Field** - the sort order field for duplicate documents. For example, if MD5 Hash is specified as the Relational Field and Control Number as the Document Sort Field, the document with the lowest Control Number will be flagged as original; the other documents with the same MD5 Hash field

value will be flagged as duplicates.



21.17.3 Results

When you run this script, all documents that are duplicates are marked **Yes** and all documents that are original are marked **No**.

21.18 Set extracted text size field

Note: This script is no longer available in the Relativity Script Library. If you have this script installed in a workspace, it is removed upon upgrade. You can use the Set long text size mass operation in place of this script. For more information, see the Admin Guide.

This Relativity script stores a document's extracted text data length (in Kilobytes) in a decimal field.

Note: This script only updates documents in a case where the field's value is empty.

This is a case functionality script to be run at a case level.

Note: The Set extracted text size field script is not compatible with Data Grid and won't display results for workspaces that use Data Grid.

21.18.1 Special considerations

Consider the following when running this script:

- This script will not set text sizes for text fields stored in Data Grid.
- This script cannot be undone.
- The script may run for some time without reporting any progress.
- This script updates the Document table.
- Extracted Text is declared as an uncompressed nvarchar(max). This means it will always hold each character as 2 bytes.

21.18.2 Inputs

Before running the script, first create a decimal field to store the extracted text data length.

1. Then, navigate to the Scripts tab. (You must have the appropriate Admin script permissions.)
2. Select the Set Extracted Text Size Field script. If this script isn't available, you or a Script Admin must add it to the library. See the Scripts topic in the Admin guide for more information.
3. Click **Run**.

21.18.3 Results

When run, this script updates the Extracted Text Data Length field with the length of the extracted text for any document in the case where the field's value was empty.

21.19 Set native file size field v4

This Relativity script stores the native file size (in Kilobytes), for each case document in a decimal field; used where the field's value is empty.

This is a case functionality script to be run at a case level.

21.19.1 Special considerations

Consider the following when running this script:

- This script cannot be undone.
- The script may run for some time without reporting any progress.
- This script updates the Document table.

21.19.2 Inputs

Before running the script, create a decimal field to store the native file size.

21.19.3 Results

Once run, this script updates the Native File Size field with the native file size for any document in the case where the field's value was empty.

21.20 Set production beg/end attach fields

This script populates the production beginning and end attachment range fields for each document included in a production. This is a case functionality script to be run at a case level.

21.20.1 Special considerations

The risks outlined below must be considered when running this script:

- This script can't be undone.
- The script may run for some time without reporting any progress.
- This script utilizes the Family Identifier field, which must be present and valid.
- This script updates the Document table.

21.20.2 Inputs

Before running the script:

- Run a production

Also, ensure that the Attachment relational field is set in the production settings for the following multi-object fields:

- Production::BegAttach
- Production::EndAttach

Note: You can still run this script after running a production if the Attachment relational field wasn't set on the production.

21.20.3 Results

Once run, this script updates:

- The BegAttach field with the beginning bates of the family group
- The EndAttach field with the end bates of the family group

If you want to combine the attachment bates range data into one field for a singular range, run the Copy to Legacy Document Fields script, then mass replace those fields into the document object fields. See Copy to Legacy Document Fields in the Admin Guide.

21.21 Set Relativity folder path field

This Relativity case script stores the current Relativity folder path of each document in a long text field. A document cannot be in more than one folder path. See the full path structure of a folder for example, Custodian / J Smith / Inbox.

This script populates the new long text field with the current case folder structure.

This is a case functionality script to be run at a case level.

Note: The script will not work on long text fields stored in data grid. You must disable the Stored in Data Grid option when creating the long text field.

21.21.1 Special considerations

The risks outlined below must be considered when running this script:

- This script cannot be undone.
- The script may run for some time without reporting any progress.
- This script updates the Document table.
- If, at any time, a folder is renamed or a document is moved, the folder path value is inaccurate.

21.21.2 Inputs

By default, this script will only update documents that do not have an existing folder path. To update the folder path of documents with existing folder paths, ensure the following are in place before running the script:

- Create a long text field to store the folder path.
- Ensure the Folder Path field is not populated. Otherwise, the script won't return results.

  Note: If you want to able to search the original folder path after running the script, save the original folder path in a separate field before you clear the existing folder path.

21.21.3 Results

Once the script has run, it reports on each distinct folder path in the case, returning the number of documents per path, and the execution time of the script. It also updates the Folder Path field with the Relativity folder path of that document.

A table with the following is returned:

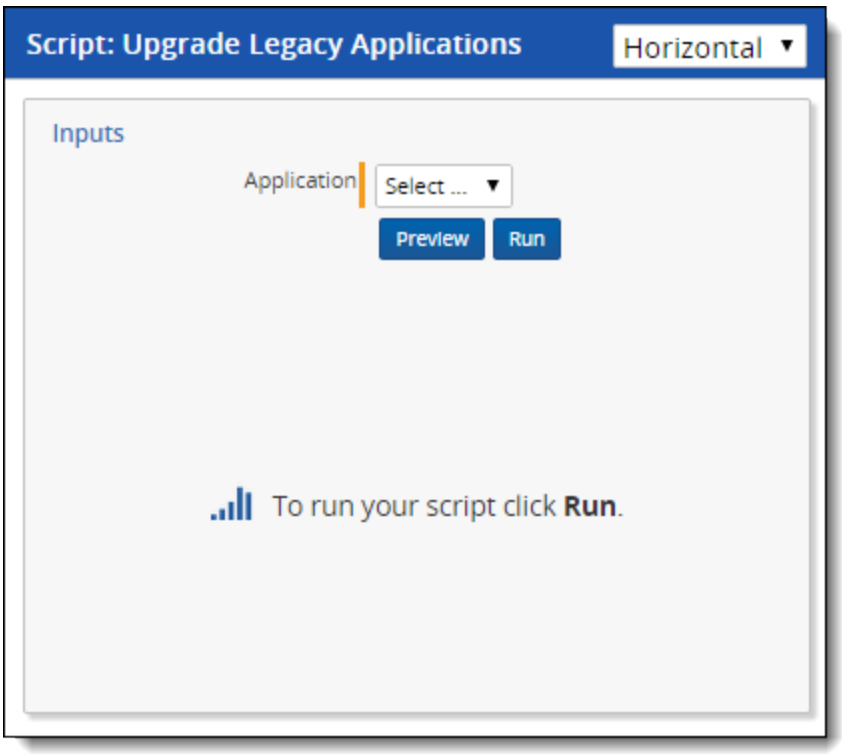
Column	Definition
Timestamp	An indication of when the step or path finished processing.
Message	The name of a distinct Relativity folder path or an execution step in the script.
DocCount	The count of documents for a folder path or, if -1, the execution step of the script.

21.22 Upgrade legacy applications

This Relativity script performs an upgrade of version 6.8 Relativity applications and earlier. It can also be used to upgrade a 6.9 or 6.10 Relativity application if it was exported with the ADS Utility.

21.22.1 Inputs

Choose an application from the **Application** field. Only applications from Relativity 6.8 or earlier and 6.9 or 6.10 applications that were exported with the ADS utility are available in this drop-down menu.



21.22.2 Results

Once this script is run, a Completed message appears.

After running, this script the application is available in the Relativity Applications tab. Use this to export the application and import/upgrade the application using the Relativity Desktop application.

21.23 Workspace status report

The Workspace Status Report script reports on the last action performed by a non-system admin in each workspace in the Relativity instance.

21.23.1 Special considerations

Consider the following when working with the Workspace Status Report script.

- The script runs from Home.
- The script's results exclude users in the System Administrators group.
- If non-system admins complete no actions in a given workspace, then that workspace still appears in the results with its Last Action and Username fields blank.
- Only workspaces with an "Active" status appear in the report.
- The report excludes any audit actions performed by users in the System Administrators group.

21.23.1.1 Performance

The script's performance depends on the number of workspaces in the environment. In an environment with 79 workspaces, the script executed in 20 seconds.

Custom components may not exhibit the same performance and behavior as native Relativity features.

To run the script:

1. Click your name in the upper right corner of Relativity, and click **Home**.
2. Click the **Relativity Script Library** tab.
3. Click the **Workspace Status Report** link.
4. On the script details page, click the **Run Script** button.
5. (Optional) To exclude actions performed by certain users from the results, enter each user's artifact ID in a comma-delimited list. Don't end the list in a comma.

   Note: To find a user's Artifact ID, click on the user from Home, and locate the artifact ID in the URL. For example, a user with the URL <http://localhost/Relativity/Admin/User/View.aspx?AppID=-1&ArtifactID=1020915> has an artifact ID of 1020915.

6. In the Run Script window, click **Run** again.

For additional assistance, contact Customer Support.

After the script executes, the Results section contains the following information:

Column	Description
Workspace Name	The name of the workspace.
Workspace Artifact ID	The artifact ID of the workspace.
Date of Last Audit Report	The timestamp of the last audit record in the workspace in mm/dd/yyyy format. The report excludes any actions performed by users in the System Administrators group or in the Users to Exclude list.
Latest Action in Workspace	The action of the last audit record in the workspace.
Username	The user who performed the action of the last audit record in the workspace in <Last Name>, <First Name> format.

22 Markups

Markups in Relativity refer to highlights and redactions. You can add markups to documents that contain an image using the Image Viewer. When you open a document in the Native Viewer that has not been imaged, select **Image on the Fly** from the Document actions menu to image the document which can then be opened in the Image Viewer.

Note: If two people edit a markup at the same time, an error occurs.

22.1 Permissions

The following permissions are required to use markups:

Object Security	Tab Visibility
Document: View, Edit ▪ Redact Document ▪ Highlight Document	Documents

Note: The Redact Document and Highlight Document allow a user to apply any redaction and any highlight respectively. For example, if the user has the Redact Document permission and not the Highlight Document permission, they can apply any type of redaction but they cannot apply any highlights.

22.2 Highlights

When you create a highlight, a colored box appears in the area you select, just like using a highlighter.

22.2.1 Creating highlights

To create a highlight, perform the following steps:

1. Click . Blue is the default color. Click the drop-down menu to select a different color.
2. Draw the highlight across the section(s) of text you want to highlight.

When you create a highlight, it appears in the Markup Navigation Pane. See Using the Markup Navigation pane on page 402.

22.3 Redactions

A redaction hides text on a page. In Relativity, you can create several different types of redactions:

- Creating basic redactions on the next page
- Creating inverse redactions on the next page

- Creating full-page redactions on the next page
- Creating mass redactions on page 396

When you create a redaction, it appears in the Markup Navigation Pane. See Using the Markup Navigation pane on page 402.

22.3.1 Creating basic redactions

To apply a basic redaction to a document, perform the following steps:

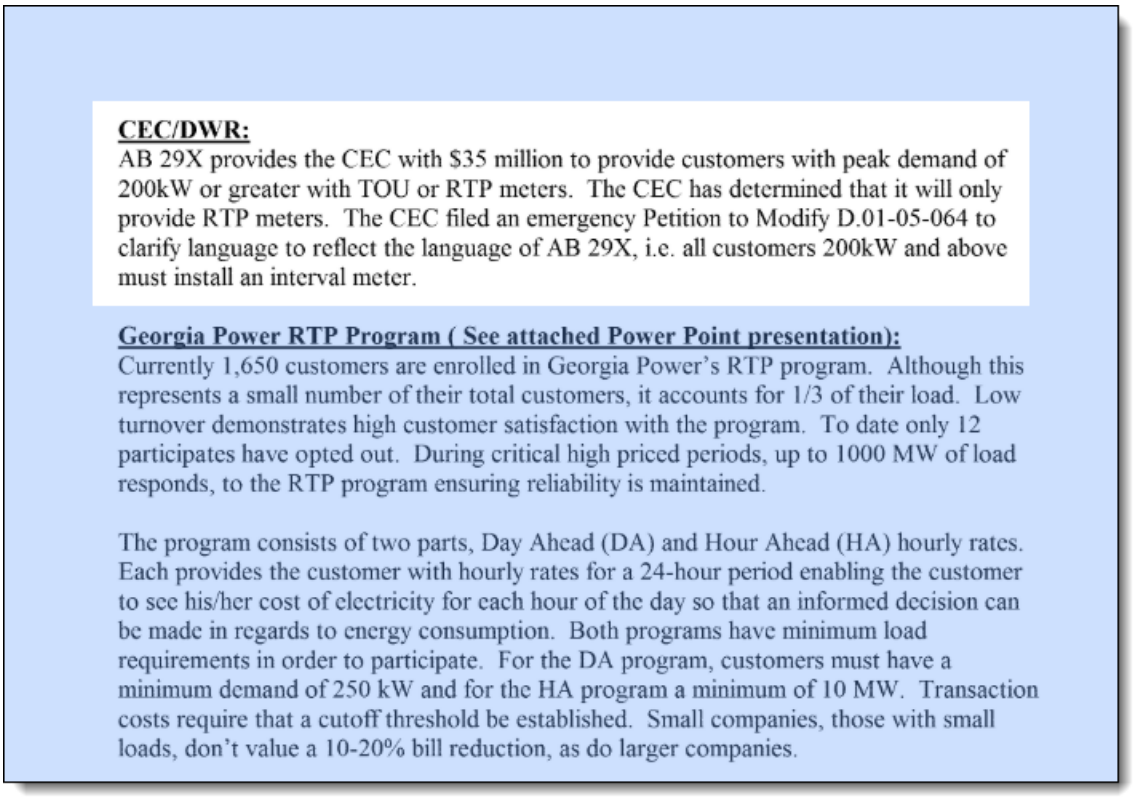
1. Click . The black redaction tool is the default. Click the drop-down menu to select a different tool. You can select from the following:
   - **Black Redaction** —creates a solid black box, like using a black marker. While you draw the box, a gray translucent fill appears.
   - **Cross Redaction** —creates a white redaction box black border and a black X from corner to corner.
   - **Text Redaction** —creates a white redaction box with black text. The text will fill the box by default. To change the font size, keep the redaction box selected and click Auto, and then select a new font size from the drop-down menu. You can right-click a text box redaction to apply different text. See Editing redaction text on page 400. The system admin determines which text options are available.
   - **White Redaction** —creates a solid white box with a gray border. The gray border won't be printed or produced.
2. Draw the redaction box(es) across the section(s) of the page you want to redact. You can draw in any direction.

22.3.2 Creating inverse redactions

An inverse redaction creates a black redaction across the full page except on the locations where you draw boxes. To create an inverse redaction, perform the following steps:

1. Click the Redaction Mode icon and select **Inverse Redact** from the drop-down menu.
2. Draw the inverse redaction box(es) across the section(s) of the page you do not want to redact. A blue cast indicates where the black redaction is created, and the white box indicates the area that is not redacted. You can move or resize the white box using the controls. You can also highlight text that

is not redacted.



CEC/DWR:
AB 29X provides the CEC with $35 million to provide customers with peak demand of 200kW or greater with TOU or RTP meters. The CEC has determined that it will only provide RTP meters. The CEC filed an emergency Petition to Modify D.01-05-064 to clarify language to reflect the language of AB 29X, i.e. all customers 200kW and above must install an interval meter.

Georgia Power RTP Program (See attached Power Point presentation):
Currently 1,650 customers are enrolled in Georgia Power's RTP program. Although this represents a small number of their total customers, it accounts for 1/3 of their load. Low turnover demonstrates high customer satisfaction with the program. To date only 12 participates have opted out. During critical high priced periods, up to 1000 MW of load responds, to the RTP program ensuring reliability is maintained.

The program consists of two parts, Day Ahead (DA) and Hour Ahead (HA) hourly rates. Each provides the customer with hourly rates for a 24-hour period enabling the customer to see his/her cost of electricity for each hour of the day so that an informed decision can be made in regards to energy consumption. Both programs have minimum load requirements in order to participate. For the DA program, customers must have a minimum demand of 250 kW and for the HA program a minimum of 10 MW. Transaction costs require that a cutoff threshold be established. Small companies, those with small loads, don't value a 10-20% bill reduction, as do larger companies.

22.3.3 Creating full-page redactions

A full-page redaction creates a redaction across the entire page. To apply a full-page redaction, click the Redaction Mode icon and select **Full-Page Redact** from the drop-down menu. The black full page redaction tool is the default. Click the Redaction Type drop-down menu to select a different tool. You can select from the following:

- **Black Redaction** —creates a solid black box, like using a black marker.
- **Cross Redaction** —creates a white redaction box with a black border and a black X from corner to corner.
- **Text Redaction** —creates a white redaction box with black text. You can right-click a text box redaction to apply different text. See Editing redaction text on page 400. The system admin determines which text options are available.
- **White Redaction** —creates a solid white box with a gray border. The gray border won't be printed or produced.

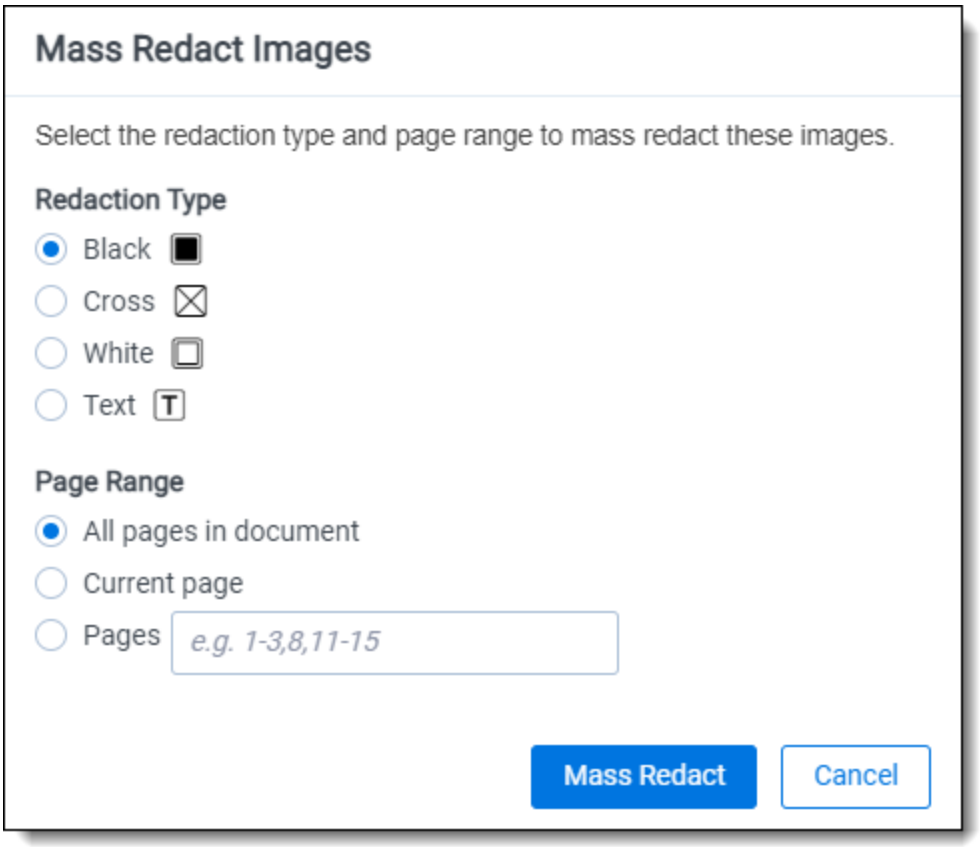
You can also create a keyboard shortcut to apply a full-page redaction. See Creating keyboard shortcuts on page 320.

After you apply a full-page redaction, you can resize it to make it smaller than the full page and then work with it like a normal redaction. Additionally, you can create new redactions on top of a full-page redaction if desired.

22.3.4 Creating mass redactions

You can use the mass redact option to apply full-page redactions of any type to a set of pages in your document. To apply mass redactions, perform the following steps:

1. Click the Redaction Mode icon and select **Mass Redact** from the drop-down menu. . The Mass Redact Options pop-up appears.
2. Select the type of redaction to apply. You can select from the following:



   - **Black**—creates a solid black box, like using a black marker.
   - **Cross**—creates a white redaction box with a black border and a black X from corner to corner.
   - **Text**—creates a white redaction box with black text. In the Text Options section, you can select the font size and text to apply to the redactions. To apply custom text, select **<Enter Custom Text>** from the **Text** drop-down menu, then enter the text in the **Text** field.
   - **White**—creates a solid white box with a gray border. The gray border won't be printed or produced.
3. Specify a range of images to apply the redaction to. Select **Pages** and enter a set of pages or select **All pages in document** to apply the full-page redactions to the entire document.
4. Click **OK**. The redactions apply to the set of pages you specify.

22.4 Editing markups

To re-size a single markup, click inside the markup shape. Blue dot controls appear on the corners and edges of the markup. Select any control and drag to re-size the markup. You can also re-size markups using the arrow keys. To re-size a markup in a larger increment, press **Shift** + the arrow key on your keyboard that points in the direction you would like to expand the markup. To re-size a markup in a smaller increment, press **Ctrl** + **Shift** + the arrow key on your keyboard that points in the direction you would like to expand the markup.

You can move markups individually or as a set. To select multiple markups on a page, click the selector tool and drag across the markups. Alternatively, press **Shift** or **Ctrl** and click to select individual markups, or click **Ctrl + A** to select all markups on an image. Controls appear on the corners and edges of all selected markups.

To move, click and drag the selected markups to a new location. You can also move selected markups using the arrow keys. To move a markup in a larger increment, press the arrow key on your keyboard that points in the direction you would like to move the markup. To move a markup in a smaller increment, press **Ctrl** + the arrow key on your keyboard that points in the direction you would like to move the markup.

22.5 Deleting markups

You can delete markups individually or as a set. To delete a single markup, right-click a markup and click **Delete**. You can also press the **Delete** key with a markup selected and click **Yes** on the Confirm Delete pop-up. For Mac users, press **Fn + Delete**.

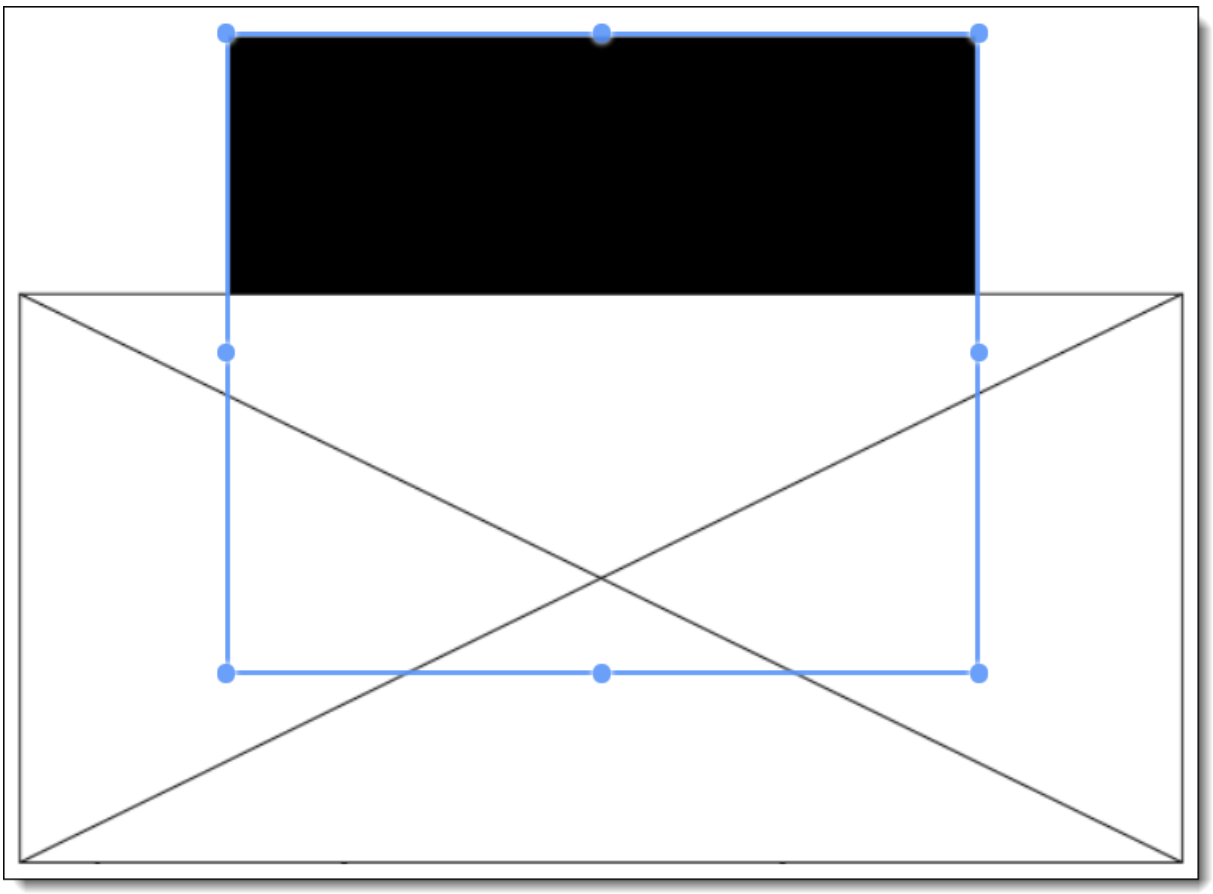
To delete multiple markups, do the following:

1. You can use any of the following methods to select markups for deletion:
   - Left-click and drag the selection box over the markups you wish to delete.
   - Hold down on **Ctrl** on your keyboard, and left-click on each markup you wish to delete.
   - Right-click on a markup after selecting any other markups you would like to delete.
2. Select **Delete** from the right-click menu.
   The Delete Markups modal displays.
3. Verify that you wish to delete the number of markups displayed in the modal and click the **Delete X Markups** button.
   The selected markups are deleted.

Note: If you have a full-page redaction applied to an image, then you apply an additional full-page redaction, the most recently applied full-page redaction appears on top. If you then delete the second redaction, the first full-page redaction persists.

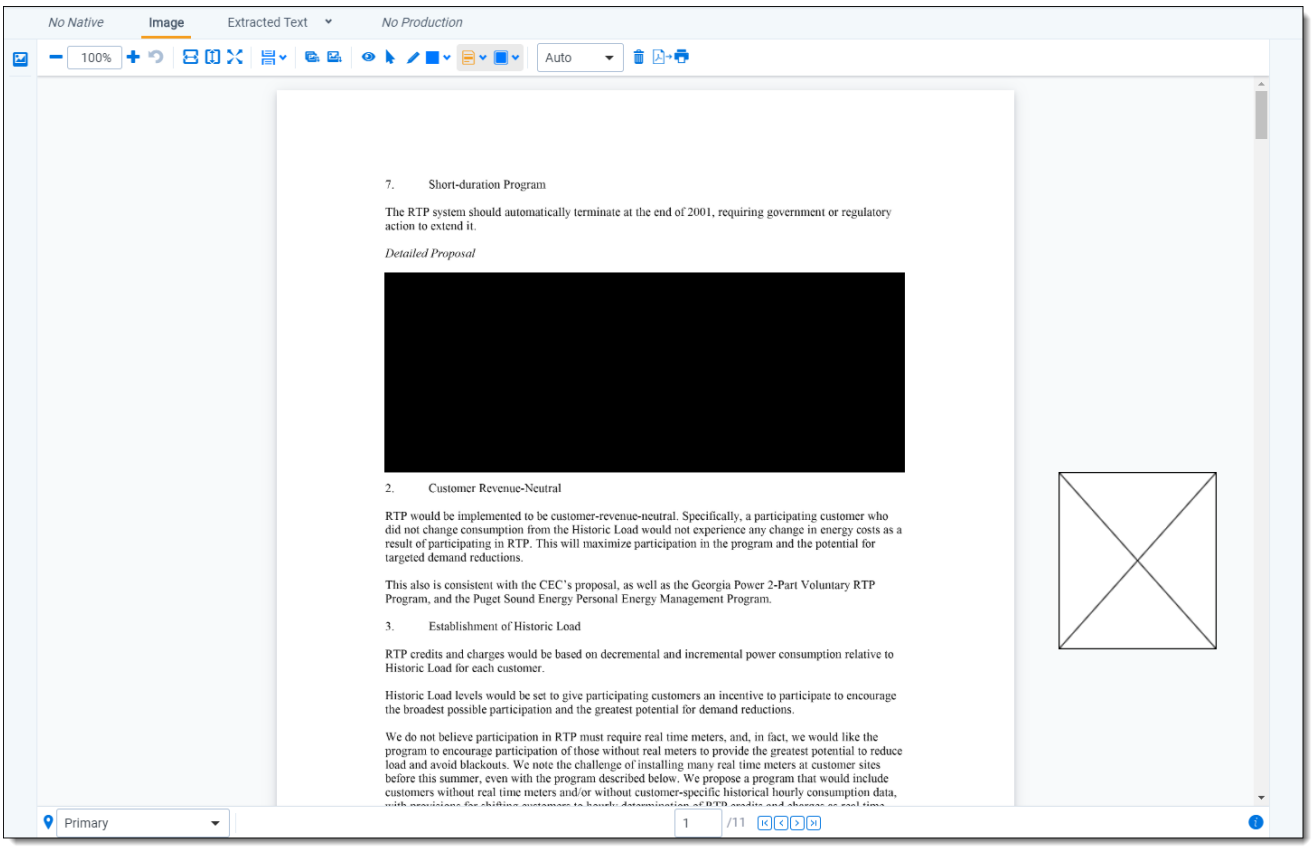
22.5.1 Working with overlapping markups

If you have multiple markups on a page that overlap each other, when you hover over the markups, translucent controls appear. Click the markup you want to work with, and the controls become active to indicate which markup is active. In the following example, the black box redaction is active.



22.5.2 Working with markups outside of page boundaries

If you have markups that exist outside the boundaries of an image, such as those created by custom applications, they will render in their currently saved coordinates in the Viewer. Interacting with the markup by attempting to move or select it will move the markup within the page boundaries. This change is saved and audited in the workspace.



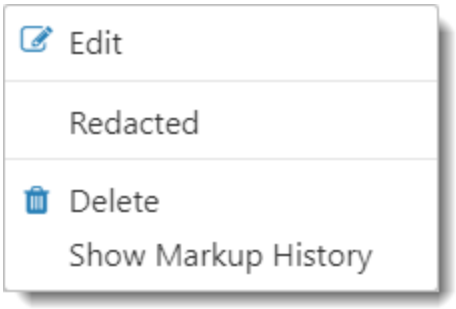
22.5.3 Editing redaction text with a markup set

When you create a text redaction, it will display the most recent word or phrase you entered while editing a redaction. If you have never edited or created a text redaction before, it will display **Redacted** instead.

To perform this task you need the permissions for the markup sets object as well as the individual markup set you wish to use.

To edit the text in a text box redaction using the default text for a markup set, perform the following steps:

1. Choose the desired markup set from the drop-down list in the bottom-left corner of the Viewer.
2. Right-click the redaction and select the default redaction text from the markup set.



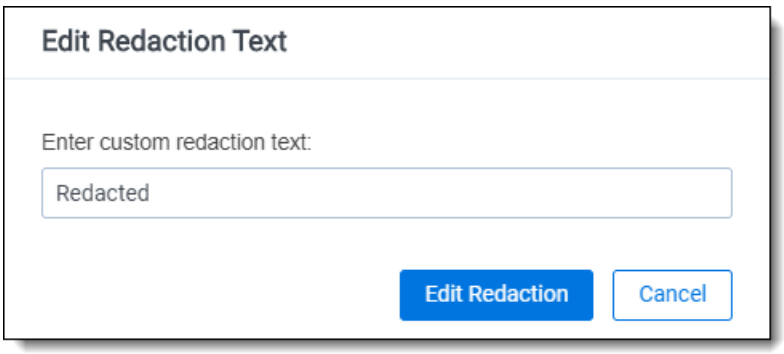
The new text appears in the redaction.

22.5.4 Editing redaction text

To edit the text in a text box redaction, perform the following steps:

1. Right-click the redaction and select **Edit**.

   The Edit Redaction Text pop-up opens.



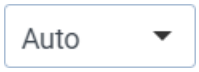
2. Enter the new redaction text in the field and click **Edit Redaction**.

   The new text appears in the redaction. Any new redactions you create will display the same text until you edit a redaction or use the default Redacted option.

22.5.5 Editing font size in text box redactions

The font size for text box redactions defaults to fill the entire text box. To edit the font size, perform the following steps:

1. Select the text box redaction(s). You can press **Ctrl** or **Shift** and click to select multiple text box redactions.

2. Click the Font Size 

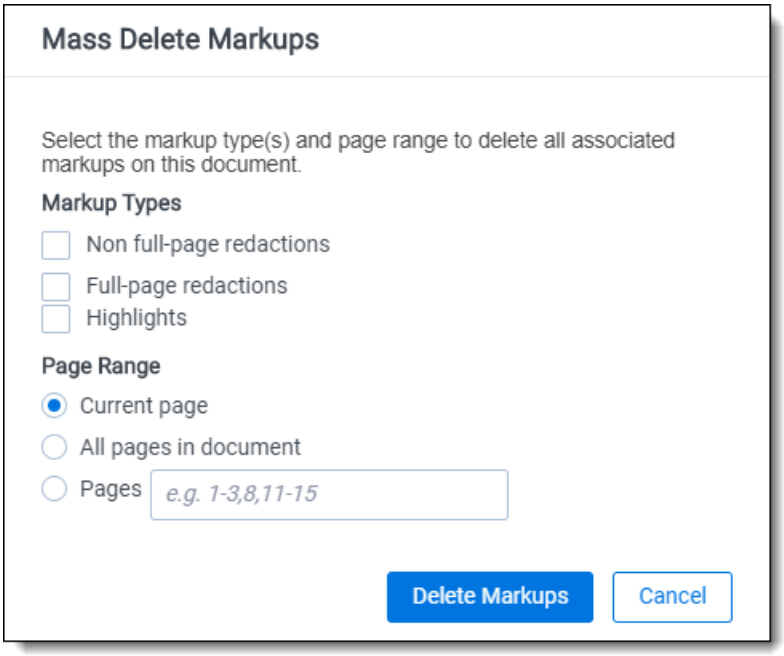
drop-down menu and select a font size. The font size applies to the text in all selected text box redactions.

When you create a new text box redaction, the last selected font size automatically applies to the text.

22.6 Mass deleting markups

You can mass delete markups from a single page, from a range of pages, or from your entire document at once using the delete redactions and highlights option. To mass delete markups, perform the following steps:

1. Click . The Mass Delete Markup pop-up appears.



2. Select the markup types you want to delete. You can select **Non full-page redactions**, **Full-page redactions**, **Highlights**, or any combination of these.
3. Select the range of pages from which to delete the selected markups. You can select **Current page**, **Pages** (enter a set of pages), or **All pages in document**.
4. Click **Delete Markups**. The selected markup types are deleted from the range of pages you selected.

22.7 Controlling markup visibility

You can toggle redaction visibility between visible, transparent, and invisible. Use the **Change Markup Visibility** button to change the setting.

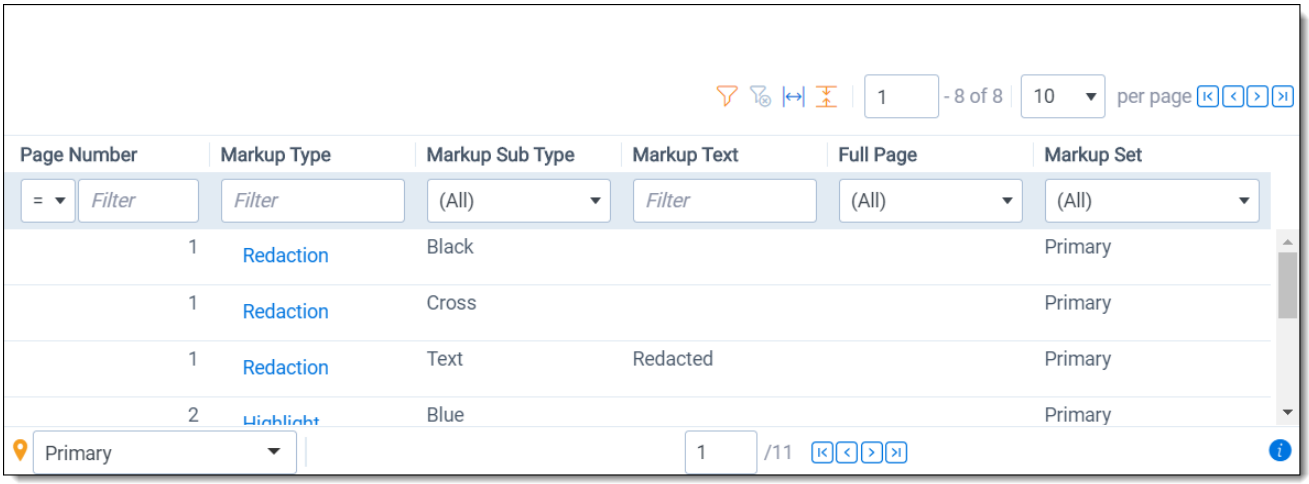
- Click once to set the markups to transparent.
- Click a second time to set the markups to invisible. The redactions are not deleted, just temporarily hidden.
- Click a third time to return the markups to full visibility.

22.8 Viewing markup history

To view the history of any highlight or redaction, right-click it and select **Show Markup History**. The Markup Information pop-up appears with information identifying each action, the user who performed the action, and the date and time at which the action was performed.

22.9 Using the Markup Navigation pane

In the viewer, you can locate markups in a document using the Markup Navigation pane. To open this pane, click in the lower left corner of the viewer. The Markup Navigation pane displays a list of all redactions and highlights that reviewers created in the document, as well as references to their page numbers and parent markup sets.



You can click anywhere on the markup row to jump to the page where the markup occurs. In addition, Relativity updates the active markup set to the one associated with your row selection in the Markup Navigation pane.

23 Markup sets

Markup sets are securable sets of redactions available to reviewers for applying text redactions to documents in the viewer.

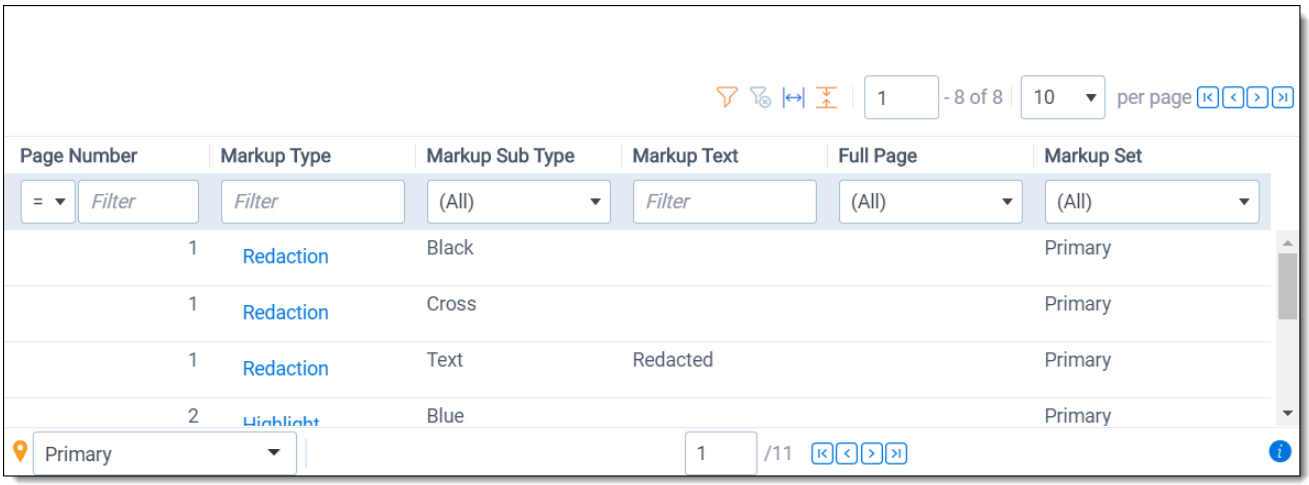
For example, if you want to mark certain redactions as Confidential and others as Private, you can create a markup set containing the words "Confidential" and "Private" and apply them to your document set without manually entering the words for each textbox redaction.

Note: The only proper way to secure the text behind a redaction is to the produce the document that contains the redacted text. If a group has View rights only to a markup set (not Edit or Delete rights) and a reviewer in that group loads a document in the Viewer because they have no other way to view that document, they can actually see the text behind the redaction.

You can create as many markup sets as you want. You could create a different markup set for each group of reviewers, or you could create one markup set containing all redaction types you make available. You can select any available markup set from a drop-down menu in the viewer.

While viewing a document, you can change markup sets in the drop-down menu and see different highlights and redactions in the document. Multiple reviewers can redact the same document at the same time using different markup sets.

In the viewer, you can locate markups in a document using the Markup Navigation pane. To open this pane, click in the lower left corner of the viewer. The Markup Navigation pane displays a list of all redactions and highlights that reviewers created in the document, as well as references to their page numbers and parent markup sets.



You can click anywhere on the markup row to jump to the page where the markup occurs. In addition, Relativity updates the active markup set to the one associated with your row selection in the Markup Navigation pane.

Note: Before you apply markup to a document, note that the Native Time Zone Offset field controls the date and time that displays on redacted and highlighted images. You may want to review and adjust the UTC value to avoid placing incorrect time designations on documents you intend to produce.

Using markup sets

You're a system admin and you're facilitating a document review project for a client, a healthcare provider, that has recently become involved in litigation related to inadequate protection of private patient information. This means that some of your reviewers have to redact imaged documents to prepare them for eventual production and submission to the judge. This requires the reviewers to redact sensitive patient information, and you want the produced document to clearly display that the redacted text is privileged to the patient.

To expedite this process, you provide your reviewers with a markup set that they can use when loading a document in the Viewer. You give this markup set a name of "Patient Privacy" and order of 10. For the Redaction Text field, you enter "PATIENT PRIVILEGED."

Once you save the markup set, reviewers can select it and apply to documents wherever they encounter private patient information. When they select the markup set and apply a text box redaction, they have the option of selecting the redaction text you entered when you created the set. That text then becomes the default for all subsequent text box redactions.

Reviewers can now apply the patient privileged redaction to each document that requires it. When it's time for you to create the production set, you'll select this markup set.

23.1 Creating and editing a markup set

To create or edit a markup set:

1. Navigate to the **Markup Sets** tab.
2. Click **New Markup Set**. If you want to edit an existing markup set, click the **Edit** link next to the markup set name.
3. Complete the fields on the markup set form. See Fields below.
4. Click **Save**.

23.2 Fields

Markup sets contain the following fields:

- **Name** - the name of the markup set.
- **Order** - indicates the placement of the markup set in the markup set drop-down menu in the viewer. Use the following guidelines when ordering markup sets:
  - The **Markup Set** drop-down menu displays markup sets with low order numbers near the top of the list. (The default markup set has the lowest order number.)
  - Sets with the same order number sort alphanumerically.
  - You can use any positive or negative integer for the order number. You can't use a decimal as an order number.

Note: We recommend ordering markup sets by groups of 10, such as 10, 20, 30, and so on. Using this numbering scheme you can easily insert another markup set without having to reorder the existing ones.

- **Redaction text** - enter the words or phrases that you want to set as textbox redaction options. To set multiple options, enter each term on a separate line.

23.3 Copying markup sets

On the markup set list, you can use the Copy mass operation to duplicate a markup set. When you copy a markup set, you also copy any existing redactions that have been applied to documents.

For example, you redact documents with the markup set Attorney, and then you copy this markup set, and rename it Expert. In the viewer, you open a document previously redacted with the Attorney markup set, but now you select the Expert markup set. The viewer displays the document with the redactions previously applied with the Attorney markup set.

To copy a markup set, follow these steps:

1. Navigate to the **Markup Sets** tab.
2. Select the checkbox next to the markup set(s) you want to copy.
3. Select **Copy** from the mass operation drop-down list, and click **Go**.
   The markup set automatically copies and appears in the markup set list. To edit the name of the new markup set, click the **Edit** link, enter a new name, and click **Save**.

   Note: When copying a Markup Set, any existing associated redactions on documents are also copied to the new Markup Set.

24 Mass operations

Using mass operations, you can perform actions on a set of documents at once instead of performing the same action for each individual document. Some mass operations are available to reviewers, while other mass operations will only display in the mass operations bar if you are a system administrator. Access to each mass operation can be granted individually.

Notes:

- Some mass operations like Edit, Replace, and Delete can temporarily lock down the document table while executing. In a workspace with a large number of records and users, the table may be locked for an extended period of time and prevent users from performing standard edits. In such cases, we recommend carrying out mass operations at night or an off-peak time.
- You can't use mass operations on Data Grid-enabled fields.

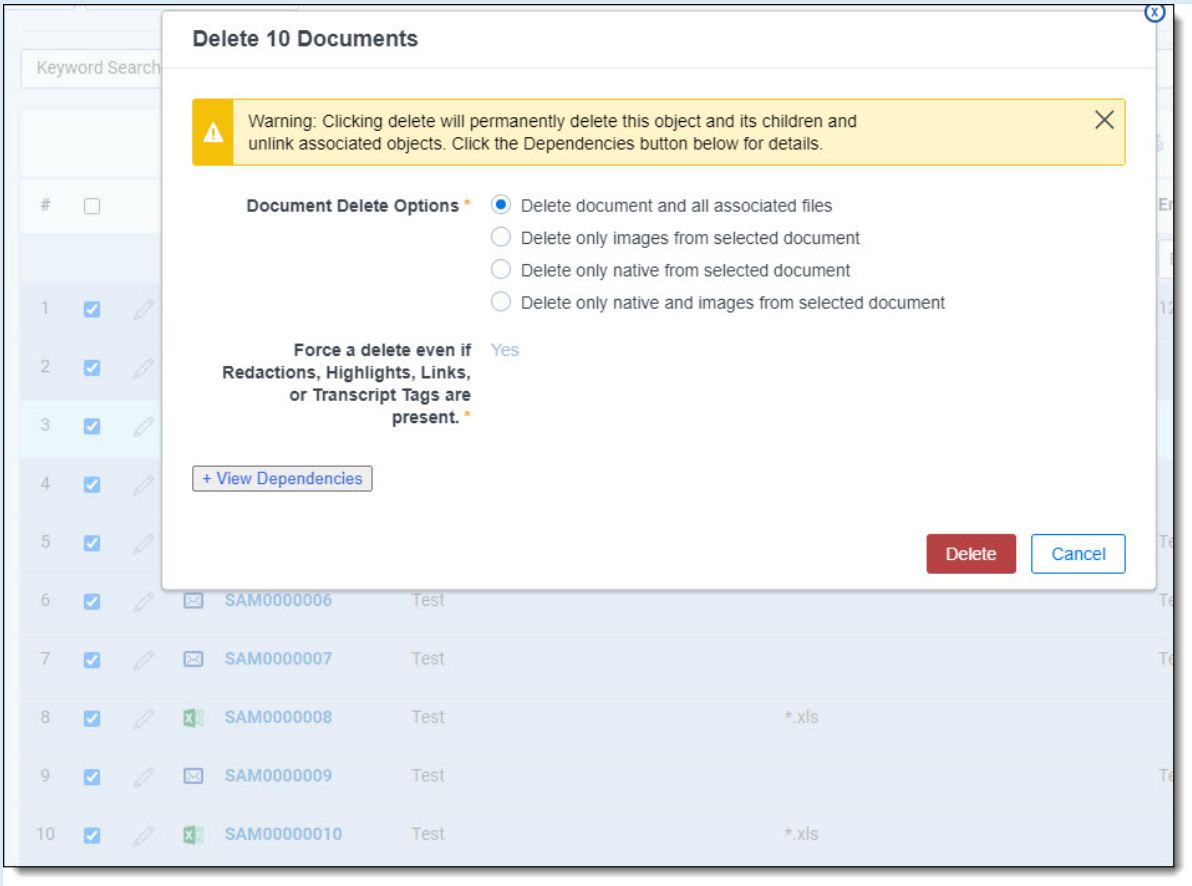
See the following mass operations for details:

- Cancel Production Job on the next page
- Mass edit on page 408
- Mass copy
- Mass move on page 412
- Mass delete on page 412
- Mass PDF on page 429
- Mass replace on page 416
- Mass image on page 417
- Tally/sum/average on page 419
- Send to CaseMap on page 420
- Mass export to file on page 422
- Mass convert on page 438
- Move to folder path on page 423
- Mass Save as List on page 428
- Mass cluster (see Creating or replacing clusters in the Analytics guide)
- Re-produce
- Set long text field size on page 440
- Invite users on page 441

Using mass operations

As a system admin, you're dealing with a case that uses the following issues in Relativity: Lead, Asbestos, Asphalt, and Radioactive isotopes. You just learned that Asphalt is no longer relevant to the case, so you need to remove any document tagged as Asphalt. You could do this a number of ways, but the most efficient way is to use filters and the Delete mass operation.

You can filter the Issues view for documents that have been coded for asphalt on the Issues – Hazardous Materials field and select those documents. In the mass operations drop-down menu, you leave the selection column as Checked and you select the **Delete** operation. You select the option to Delete documents and all associated files. You then click **Delete** to remove these documents from the workspace.



In this way, you've used a mass operation to mitigate the danger of inappropriately connecting the supplier to this potentially hazardous material, an association that could have proven problematic when submitting produced documents to the judge. You can now proceed with the case.

24.1 Cancel Production Job

To cancel multiple production jobs from the Production Queue tab, use the Cancel Production Job mass operation.

24.1.1 Security configuration

You must configure certain instance level permissions to use Cancel Production Job.

To configure the security permissions:

1. Navigate to the **Instance Details** tab.
2. Click **Manage Permissions**.
3. Click **Edit Permissions** for a group on the Group Management tab.
4. Enable the following security permissions:

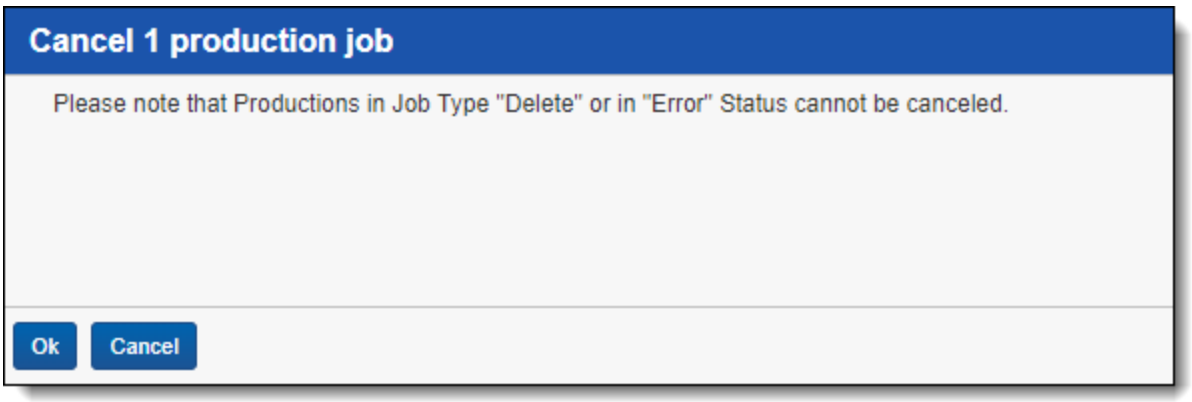
Object Security	Tab Visibility	Admin Operations
▪ N/A	▪ Queue Management (parent) ◦ Production Queue (child)	▪ Change Queue Priority ▪ View Admin Repository

Note: As long as users have the listed security permissions, they do not need view permissions to the workspaces or the production jobs to use Cancel Production Job.

24.1.2 Using Cancel Production Job

To cancel multiple production jobs from the Production Queue tab:

1. Navigate to the **Production Queue** tab.
2. Select the productions jobs that you want to cancel.
3. Click **Cancel Production Job** from the mass operations bar. The Cancel production job window opens.



4. Click **Ok**.

For more information about the Production queue, see Production queue.

24.2 Mass edit

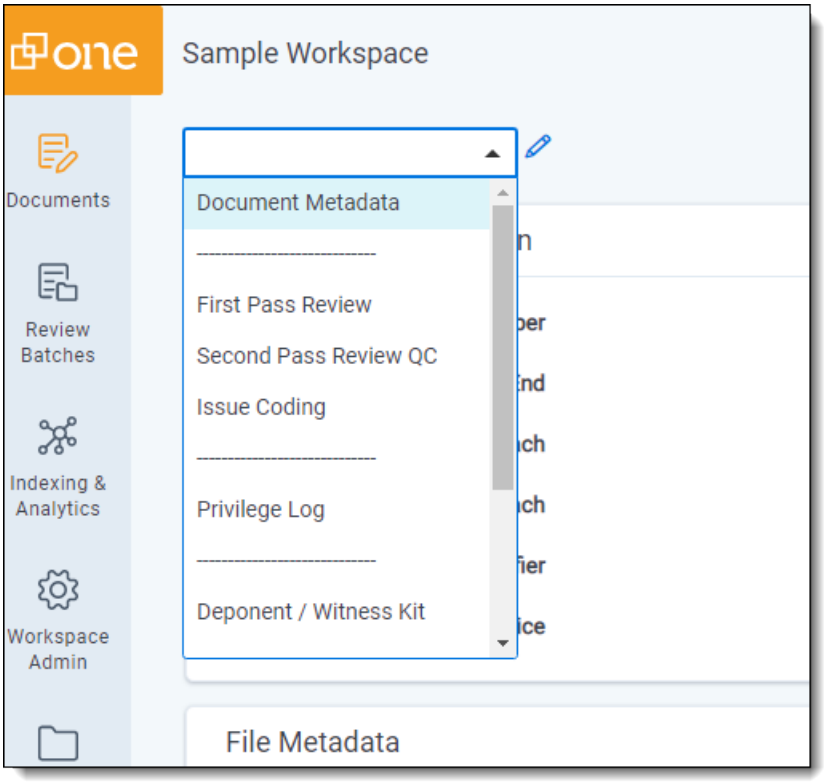
You can use the mass edit operation to modify fields and coding values for multiple documents or objects at the same time. You can use any layout that you have rights to.

Note: You can't use mass operations on Data Grid-enabled fields.

To perform a mass edit operation, perform the following steps:

1. From the mass operations bar on the document list, choose whether to edit **All** searchable items, **Checked** items or **These** items in the current returned set.
2. Select **Edit** in the drop-down menu.

   The Mass Edit form displays. Using the drop-down menu, you can select from all layouts you have rights to see.



3. Select to edit the layout and fields.

   There are three options for multiple-choice field values, known as a tri-state check box:

   - Blank removes the value from any of the selected documents.
   - Shaded leaves any values on the selected documents as-is.

     Note: When mass editing Yes/No fields, the shaded check box sets the value to null.

   - Checked applies the option to all selected documents.
4. Click **Save** to apply your changes.

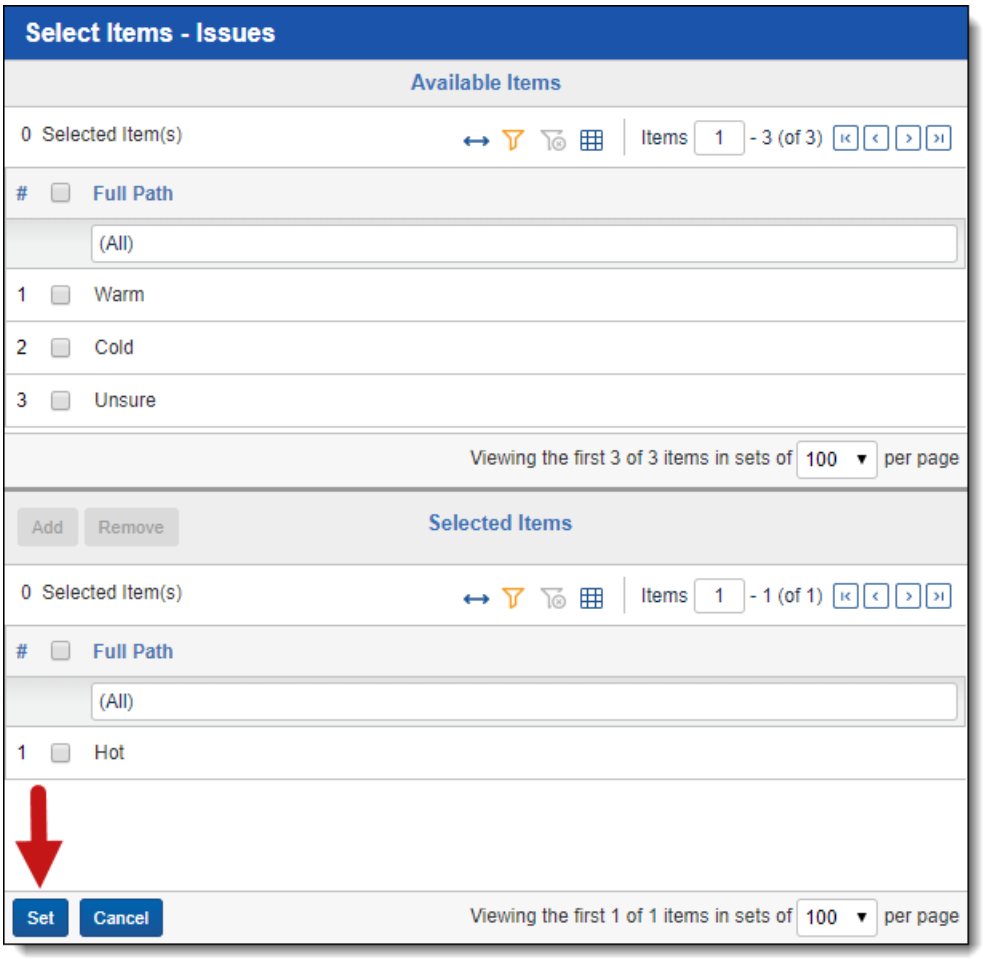
24.2.1 Working with multi-choice fields on the mass edit form

In the mass edit form, there are two options for editing multi-choice fields: a checkbox or a pop-up picker. When you select the pop-up picker as the display type during the layout build, there are two options to edit

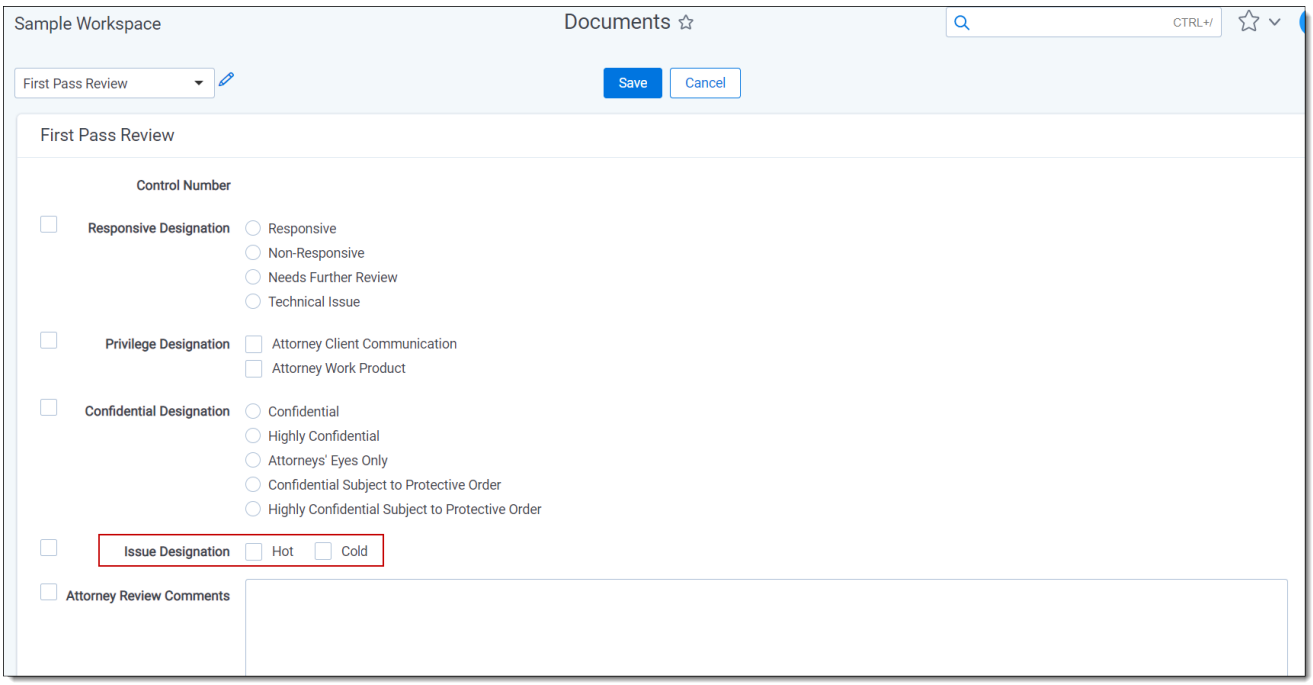
the field: **Check** and **Uncheck**.

Click **Check** to create a list of items to add to the field. Click **Uncheck** to create a list of items to remove from the field. Items not selected remain unchanged. Clicking either **Check** or **Uncheck** opens the Available Items window.

From the **Available Items** window, you can move choices and objects into the Selected Items list below. Select the check box next to the desired selection, and then click **Add**. This builds a list in the bottom window of selected items. To remove something from this list, select it and click **Remove**. Click **Set** to proceed with the action to **Check** or **Uncheck** the items from the field. **Cancel** stops any action.



Below, the mass edit form reflects checked and unchecked objects and choices.



Once values have been set, a **Clear** link displays next to the Check and/or Un-Check buttons. You can then clear the set values without returning to the Items to Check window to remove them. You can add a new choice to a multi-choice field using the Add link.

Click **Save** to apply your updates and redisplay the item list. If the item list loads slowly, and you cancel the request, your updates to the documents remain saved.

Note: When you attempt to mass edit documents in the Related Items pane while there are unsaved changes in the current layout, Relativity displays a message indicating that your changes will be lost. If you continue, the coding values in the layout are updated to match those selected for the mass edit.

24.3 Mass copy

Use Mass copy to copy items within Relativity. By using mass copy you can easily copy and rename items to improve workflows. Mass copy is not available on the Document object.

Note: You can't use mass operations on Data Grid-enabled fields.

To perform a mass copy:

1. From the mass operations bar on the document list, choose whether to copy **All** searchable items, **Checked** items, or **These** items in the current returned set.
2. Select **Copy** in the drop-down menu.

   The Copy window displays.
3. Click **Ok** to copy the items.

24.4 Mass move

You can use the mass move operation to move selected documents from their current folder to another existing folder. If you mass move any documents, any custom security applied to those documents is lost. The document inherits the rights of the new parent folder.

Note: You can't use mass operations on Data Grid-enabled fields.

1. From the mass operations bar on the document list, choose whether to move **All** searchable items, **Checked items** or **These** items in the current returned set.
2. Select **Move** in the drop-down menu.

   The mass move select folder form displays.
3. Select the target location and click **OK**. Note that all documents move to the target directory. The sub-directory structure of the source folder is maintained.

24.5 Mass delete

You can use the Mass delete operation to remove a group of documents or objects from Relativity in a single operation. When you delete documents, you can also remove their images and natives from the file servers.

If you have the appropriate permissions, you may also be able to force delete documents and certain objects, which includes unlinking associative objects and deleting child objects. This option is available when you have the **Delete Object Dependencies** permission listed in the Admin Operations section of the security page.

Notes:
- You can't undo a mass delete operation
- You can't use mass operations on Data Grid-enabled fields.

24.5.1 Performing a mass delete on documents

Users need the following permissions to successfully mass delete documents:

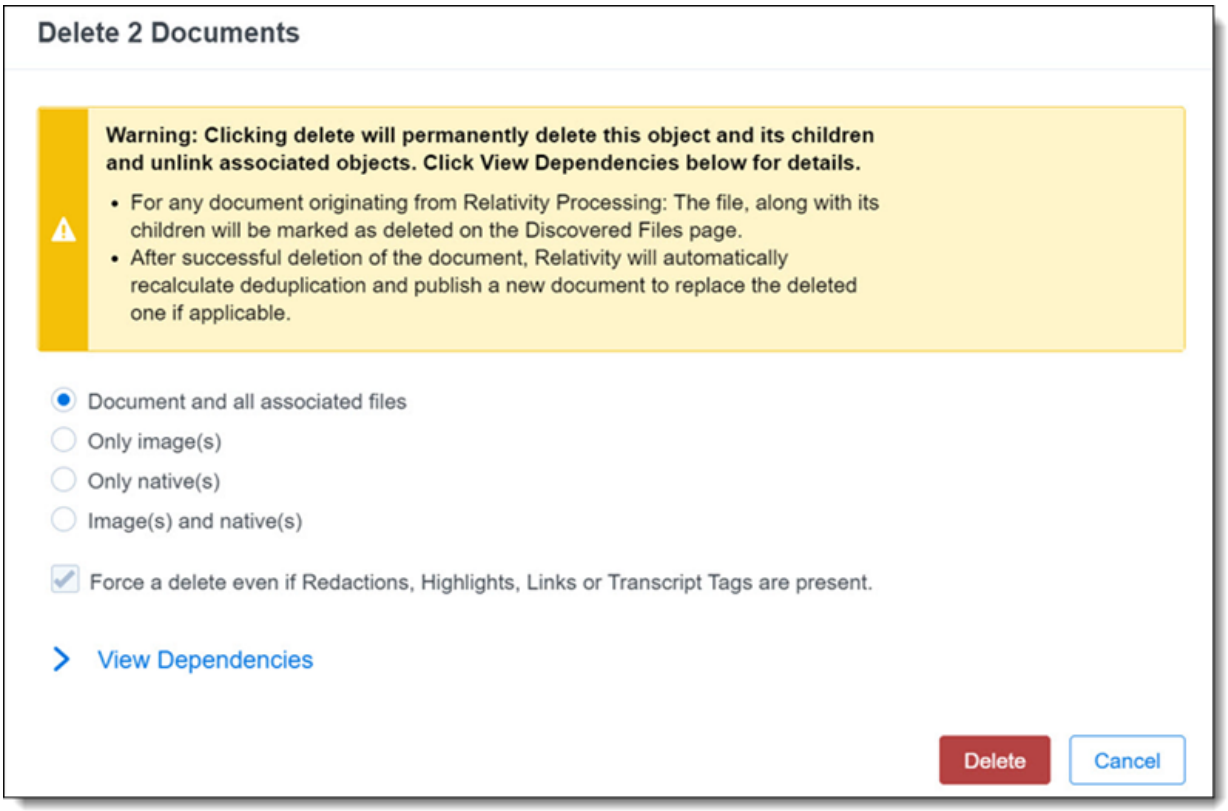
Object Security	Other Settings	
Document	Mass Operations	Admin Operations
▪ View (Eye icon) ▪ Edit (Pencil icon) ▪ Delete (Trash can icon) ▪ Add Image ▪ Delete Image	▪ Delete ▪ Edit ▪ Image	▪ Delete Object Dependencies

Note: If you delete documents that were published via Relativity Processing, those files are marked as Yes on the Processing Deletion field on the Discovered Files page. In addition, Relativity recalculates deduplication, and publishes new primary documents, if applicable. See Post-publish delete.

To perform a mass delete on documents, perform the following steps:

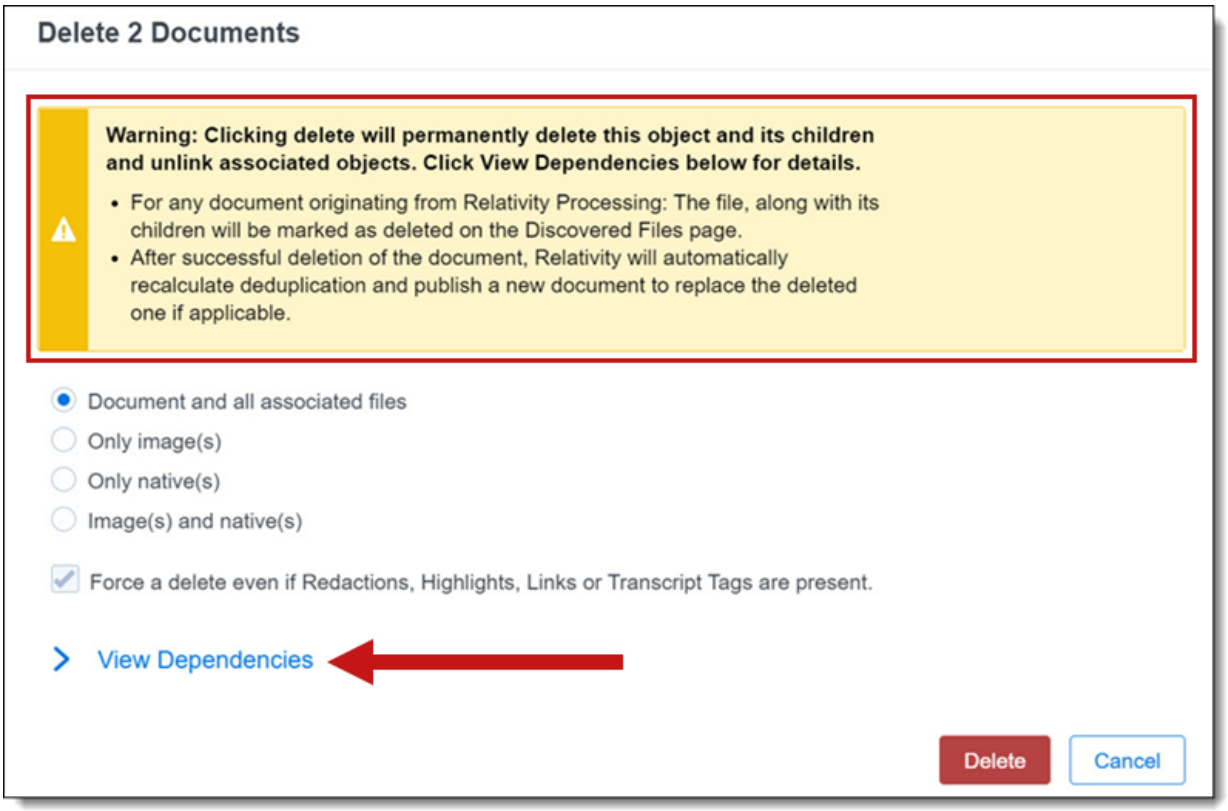
1. From the mass operations bar on the document list, choose whether to delete **Checked items** or **All items** in the current returned set.
2. Select **Delete**. The Delete Details pop-up displays.

3. Select the files associated with the documents that you want to delete.



Note: Force a delete even if Redactions, Highlights, Links, or Transcript Tags are present. option can be set to Yes or No if one of the last three list options are selected. It is set to Yes for the first list option automatically and can not be set to No.

4. (Optional) To view a report showing affected objects, click **View Dependencies**. When the current object doesn't have any children or associative objects, the **View Dependencies** button is disabled.



5. Click **Delete** again to permanently remove the items you selected.

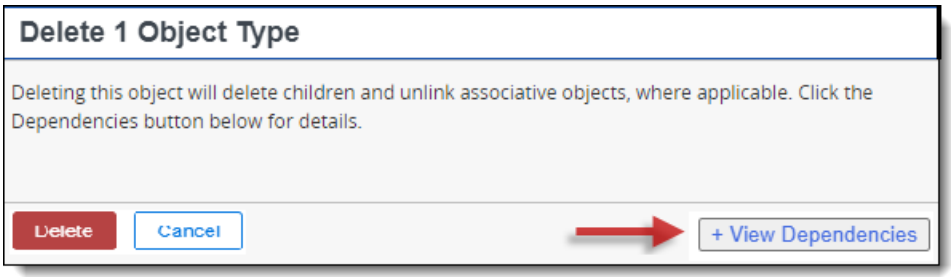
Note: Relativity deletes the documents in batches. If an error occurs in a batch, Relativity doesn't delete documents that haven't been processed, and Relativity continues by processing the next batch.

24.5.2 Performing a mass delete on other objects

To perform a mass delete operation on other objects, perform the following steps:

1. Navigate to the tab for the object that you want to delete.
2. Select **Checked items** or **All items** in the current returned set.
3. Select **Delete**. The Delete Details form prompts you to confirm the deletion.

Note: Depending on your security permissions, you may see a message on the Delete Details Form indicating that Relativity deletes children and unlinks associative objects when you remove the selected objects. This option is available when you delete Dynamic Objects such as Transform Sets, Analytics Categorization Sets, Search Terms Reports, OCR Sets, Image Sets, and their associated objects.



4. Click **Delete** to delete the object and its children, as well as unlink associative objects. This message displays when you have the security permission **Delete Object Dependencies** listed in the Admin Operations section of the Security page.
5. (Optional) To view a report showing affected objects, click **View Dependencies**. When the current object doesn't have any children or associative objects, the **View Dependencies** button is disabled.

To improve mass delete performance when deleting large numbers of documents, disable snapshot auditing. See Enabling or disabling snapshot auditing on delete below.

24.5.3 Enabling or disabling snapshot auditing on delete

When performing a delete, you can optionally create a snapshot of the current field values in the deleted record. Relativity stores this data in the history for the workspace. While you can enable this property to facilitate searching workspace history, it can also significantly increase the size of the audit table for the workspace. Disabling snapshot and removing any PreDeleteHandlers on the document object will improve mass delete performance. For information on PreDeleteHandlers, see Pre Mass Delete event handlers.

To enable or disable this option, navigate to the **Object Type** tab, and edit the **Document** object type.

Note: Enabling Snapshot Auditing On Delete increases the database size.

24.6 Mass replace

You can use the mass replace operation to replace existing long or fixed-length field text with new content.

Note: You can't use mass operations on Data Grid-enabled fields.

To perform a mass replace operation, perform the following steps:

1. From the mass operations bar on the document list, choose whether to replace text in **Checked items** or **All items** in the current returned set.
2. Select **Replace** in the drop-down menu.

   The Replace Documents form displays.

3. Complete the fields on the Replace Documents form.
    - **Field** - the field you want to update. Select from workspace fixed length or long text fields.
    - **Action** - determines the action to be performed:
        - **Replace Entire Field** - replaces the field entirely.
        - **Append to End** - adds the new value to the end of the field. A delimiter option appears. Enter a character to separate the existing and appended values.
        - **Insert at Beginning** - adds the new value to the beginning of the field. A delimiter option appears. Enter a character to separate the existing and prepended values.
        - **Search For** - use to search (and thus replace) only selected text in the field instead of the entire field. A new text option displays, where you can enter the text you want to replace.
    - **Update With** - determines what is applied to the field.
        - **Text** - adds text to the field.
        - **Field** - adds another field's value to the field set above.
    - Click **Add Another Field** at the top of the form to add an additional replacement action to the form.

24.7 Mass image

Mass imaging creates TIFF or JPEG images for a document set based on the settings in the imaging profile you select. Relativity also provides a default imaging profile that you can use out-of-the-box. You can customize profiles to create color JPEG images, adjust image size, and leverage other formatting options.

Note: Beginning in Relativity 9.5.342.116, the Imaging Request Agent is required to run any imaging job in your environment. This agent is responsible for performing background tasks when any imaging request is submitted via mass imaging, image on the fly, or imaging set. For initial installations of Relativity 9.5.342.116, an Imaging Request Agent is automatically installed and enabled in your environment. If you're upgrading to Relativity 9.5.342.116 or if at any point you need to install an additional agent, you need to do so manually. Beginning in Relativity 9.5.370.136, the Imaging Response Agent is also required to run any imaging job in your environment. This agent is responsible for properly picking up imaging set, mass imaging and image-on-the-fly messages from Service Bus (as published by Workers) and directing them to the proper finalization logic in Relativity. For initial installations of Relativity 9.5.370.136, an Imaging Response Agent is automatically installed and enabled in your environment. If you're upgrading to Relativity 9.5.370.136 or if at any point you need to install an additional agent, you need to do so manually. For details, see Installing imaging agents.

The mass image operation uses the same technology as the Relativity native file viewer.

Note: The mass image operation is disabled if the Imaging application isn't installed.

To perform a mass image operation, perform the following steps:

Note: You can't use mass operations on Data Grid-enabled fields.

1. From the mass operations bar on the document list, choose whether to image **Checked items** or **All items** in the current returned set.

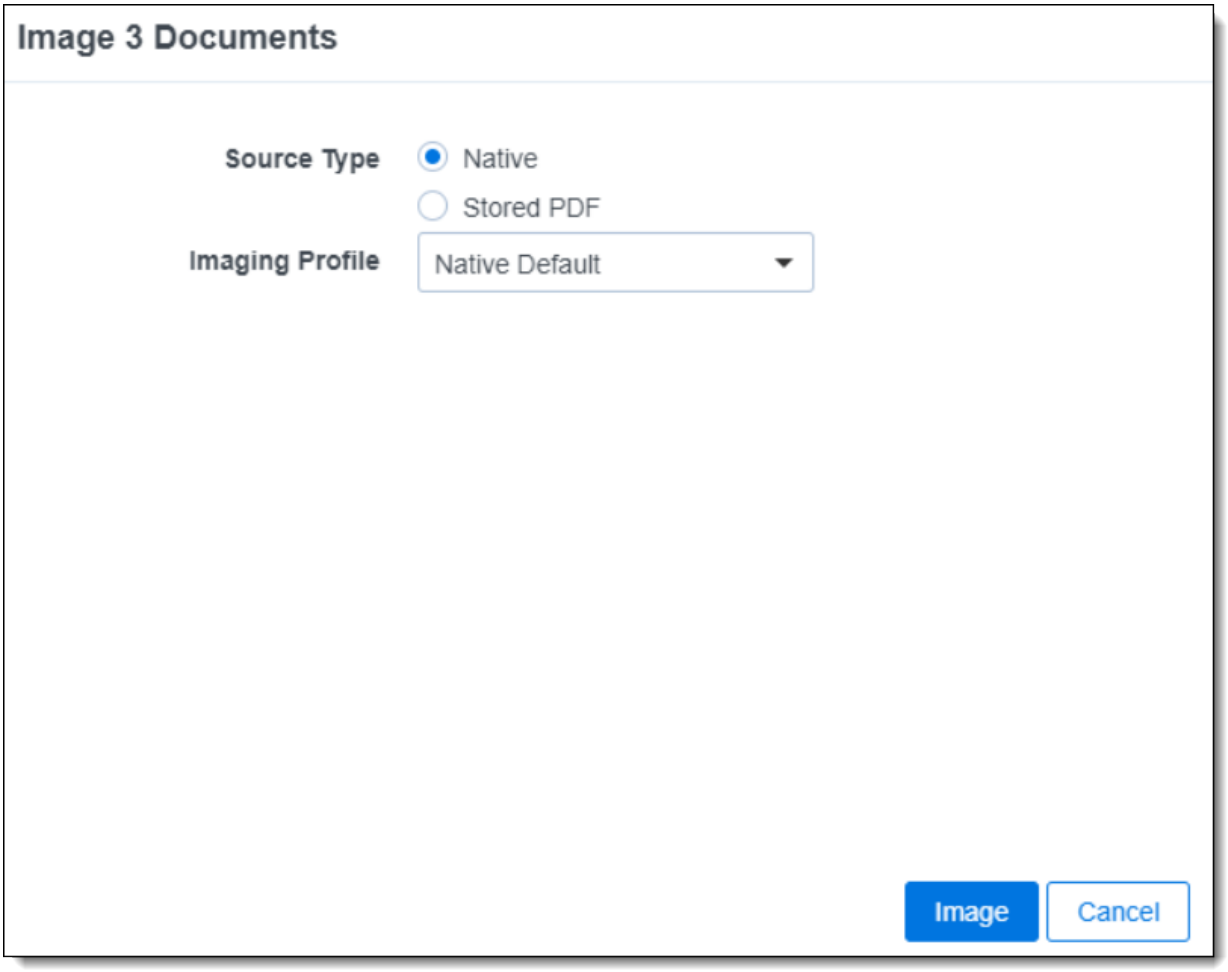
   Note: The maximum number of documents you can select at one time for the mass image action is 10,000 documents. If the number of documents selected exceeds this value, a warning appears and prevents the job from running. If you want to image more than 10,000 documents, create and run an imaging set.

2. Select **Image** in the drop-down menu.

   The Image Documents pop-up displays.

3. Select a **Source Type**.

4. Select an option in the **Imaging Profile** drop-down menu. Only profiles that you have permissions to use appear. You can also use the **Default** profile for the imaging job.



5. Click **OK** to create the images. Depending on the number of documents you submit, this may take some time. Image-on-the-fly jobs take precedence over batch image jobs.

   Note: The default priority for all image jobs is determined by the current value of the ImagingJobPriorityDefault entry in the Instance setting table.

Note: If any of the documents you selected to image is of a type that is included in the Restricted Native Types object on the imaging profile you selected for the mass image job, that document can't be imaged and you receive a corresponding error message.

24.8 Tally/sum/average

You can use the tally/sum/average operation to tally, sum, or average the values of fields associated with documents or objects.

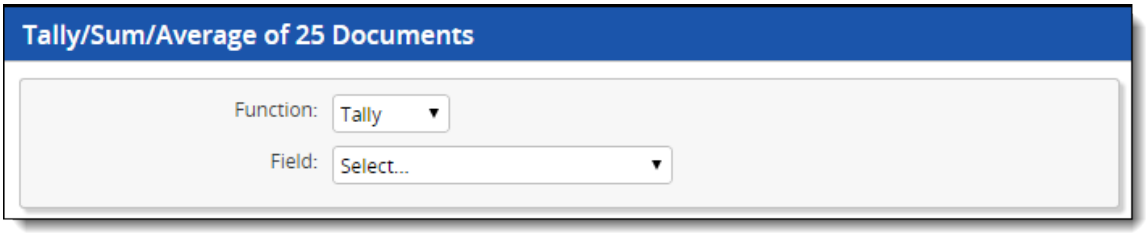
Note: You can only use tally/sum/average on fixed-length text, choice, user, and number fields.

This operation is commonly used to determine the number of pages in a print job or production. For documents, it's recorded under the document history.

Note: You can't use mass operations on Data Grid-enabled fields.

To perform a tally/sum/average operation, perform the following steps:

1. Choose whether to tally/sum/average **Checked items** or **All items** in the current returned set
2. Select **Tally/Sum/Average** in the drop-down menu. The Tally/Sum/Average pop-up displays with options for the following fields:
   - **Field** - used as the basis of the calculation. For example, you could select a custodian field if you want a tally of these entries.
   - **Function** - the option performed on the field:
     - **Tally** - lists a count for each item type in the specified fields of all selected documents or objects.
     - **Sum** - adds the values in the specified numeric fields of all selected documents or objects.
     - **Average** - calculates mean value of the specified numeric fields for all selected documents or objects.



The result of a tally is similar to a summary report; it outlines the values of a field and the count for each. The tally runs across the entire section, but only reports the top 100,000 values.

After your results appear, you can perform the following actions:

- Filter the results.
- Clear All filter text.
- Browse through the results using the blue arrows.

- Sort the results.
- Export results to an external file.

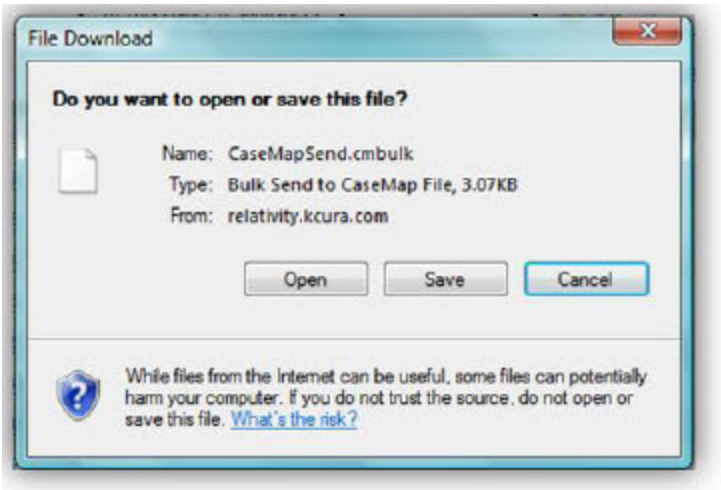
24.9 Send to CaseMap

You can use the Send to CaseMap feature to bulk-send items to your CaseMap database, versions 7 and above. To perform the bulk send, you must have CaseMap installed, the HideCaseMapContextMenuOption instance setting set to False, and open to the correct workspace. There is a Relativity system view called CaseMap fields that controls which fields are sent to CaseMap. See Views on page 724 for more information about editing views.

Note: You can't use mass operations on Data Grid-enabled fields.

To perform a send to CaseMap operation, perform the following steps:

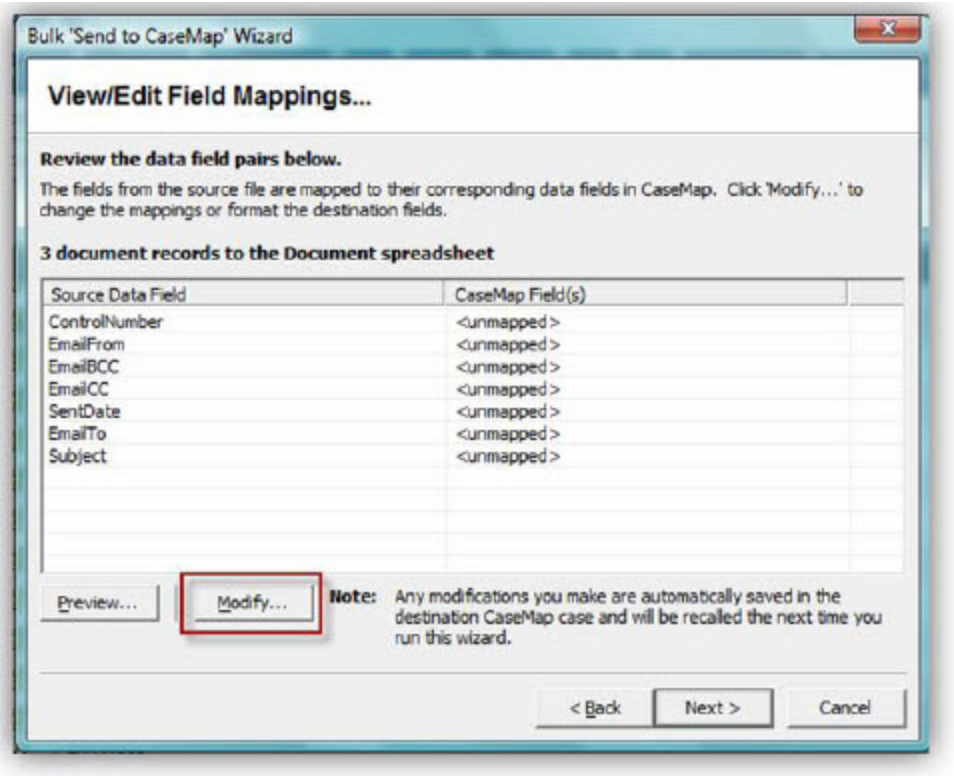
1. Choose whether to export **Checked items** or **All items** in the current returned set.
2. Select **Send to CaseMap** in the drop-down menu, and then click **Go**. You may be prompted to open or save a file, CaseMapSend.cmbulk. If so, click **Open**. This launches the Bulk Send to CaseMap wizard.



3. Click **Next** on the main screen. If you don't have CaseMap open, you're prompted to launch the application. Once CaseMap is open, the wizard prompts you to switch to the application.
4. Click the **Switch to CaseMap** button, and then click **Next**. The wizard asks you to confirm that the case workspace you have open is the correct target workspace.
5. Click **Next** if the workspace listed is the correct target.

   The View/Edit Field Mappings section displays, where you can map the Relativity fields (set in the CaseMap fields view) to CaseMap fields. The first time you go through this process, you need to map the fields. CaseMap should automatically populate the matches on subsequent bulk sends.

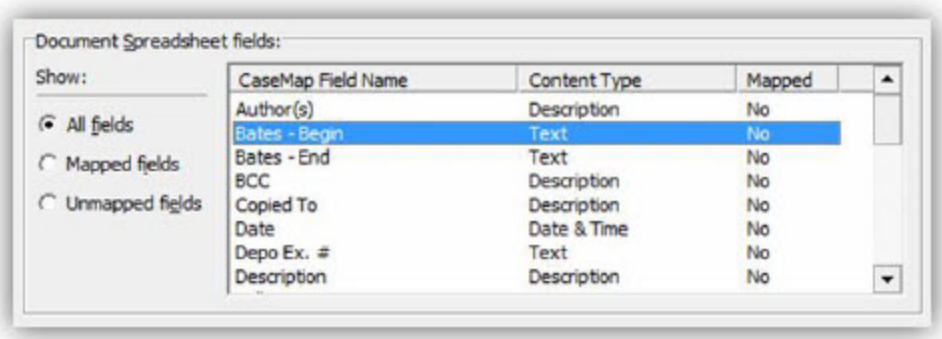
6. Click **Modify** to bring up the field mapping section of the wizard.



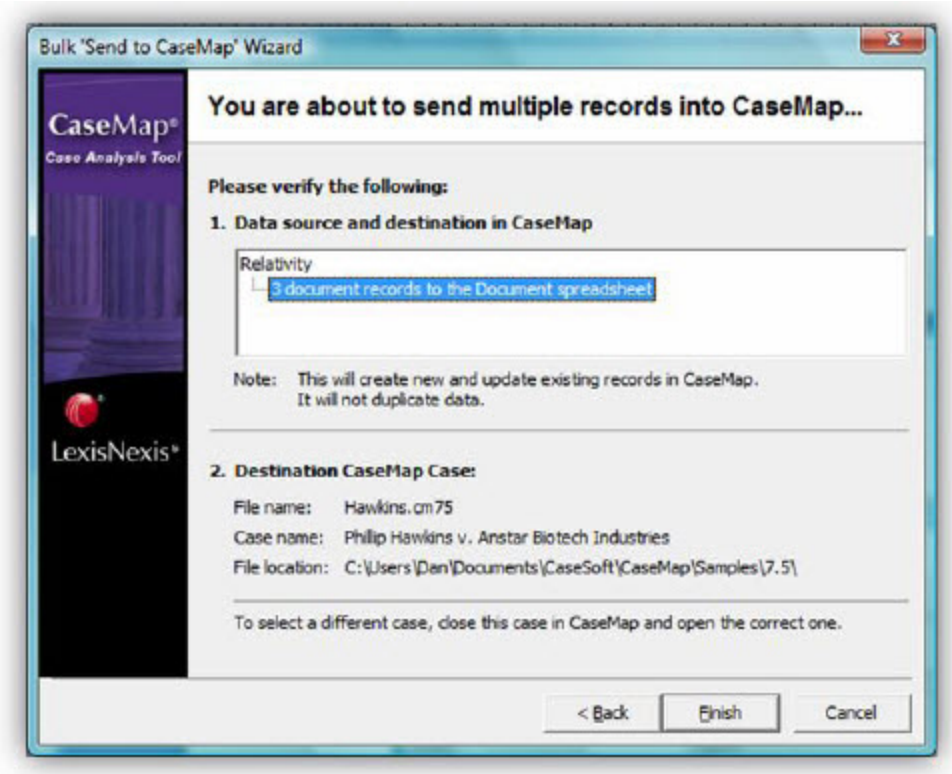
You can use the options to preview any of the data, reset the mappings, load mapping settings from a previous load, or save your current mappings.

Note: The full range of Unicode characters is not supported by CaseMap.

7. Go to the **Document Spreadsheets** field and double-click on the field you'd like to map to open the New Item box.



8. Select the Relativity field from the **Select a source Data field** box, and then click **OK**.
9. Repeat the above for all fields you'd like to map, and then click **OK** in the **Bulk Send to CaseMap** wizard. Clicking **OK** brings you back to the second screen of the wizard. Review the matches, and then click **Next**. A final confirmation screen displays.
10. Click **Finish** to complete the send.



24.10 Mass export to file

Use the Export to file option from the Mass Operations bar to export the current View to a file (e.g., .xls, .cvs, .dat). If no individual records are selected, Relativity will export all records in the current view, regardless of how many records are displayed per page. For example, if a saved search returns 1,000 records and you 'Export to File' the view without selecting individual records, Relativity will export 1,000 records.

All fields in the current view and its content are exported, including unicode characters.

Note: The Mass export to file option displays in the mass operations bar on the Views, Tabs, and Relativity Scripts Library tabs.

To perform the Export to file mass operation, perform the following steps:

Note: You can't use mass operations on Data Grid-enabled fields.

1. Select the records you want to export from the view. Do not select any records if you would like to export all of them.
2. Select **Export to File** in the drop-down menu.

   The Exporting form displays.
3. Select values for the fields on the Exporting Documents form. See Fields on the next page.
4. Click **Run** to export the file or **Cancel** to cancel the export.

24.10.1 Fields

- **Format**
  - Excel spreadsheet via HTML (.xls) creates an Excel file.
  - Comma Separated Values (.csv) creates a comma delimited text file.
  - Concordance DAT format (.dat) creates a DAT text file with the standard concordance delimiters.

  Note: The names of exported files include the word *export*, the date (YYYYMMDD), the time (HHMMSS in UTC), and a file extension. For example, the name of an exported file might be export_20131119_16073.xls.

- **Encoding** - Select the desired encoding for the output file.
- **Escape Formulas** - select yes or no. When you select yes, any line starts with the following special characters: =,@,+,-, or if the line starts with any combination of spaces before those characters, Relativity prepends a single quote to the beginning of the line.

24.11 Move to folder path

You can use the move to folder path mass operation to move documents to a new folder that you specify in a text field on the document object. Relativity automatically creates the new folder when you run this mass operation. You can also specify a default folder that Relativity uses when the destination folder path isn't set on a document. You must install the Document Utilities application to add the Move to folder path mass operation to your workspace.

A sample use case for this mass operation involves updating the folder path for documents loaded into the wrong folder on a workspace. For example, you may have inadvertently selected file path as the folder path when importing documents through the Relativity Desktop Client (RDC).

In addition, the move to folder path mass operation provides you with the ability to move multiple documents to different folders simultaneously. Unlike the mass move operation, where you can only select a single folder when moving documents. For more information, see Mass move on page 412.

24.11.1 Prerequisites for the move to folder path mass operation

You must complete the following prerequisites before you can use the move to folder path mass operation:

24.11.1.1 Installing the Document Utilities application

You must install the Document Utilities application to add the Move to folder path mass operation to your workspace. The installation process follows the same steps used to install other Relativity applications. For more information, see Installing applications on the Relativity Server 2022 Documentation site.

You must have system admin permissions to install an application. See Workspace security on page 643.

Complete these steps to install the application:

1. The Document Utilities application requires Relativity 9.4 or above of Relativity. Confirm that you are running Relativity 9.4 or above in your environment.

2. Log in to the Relativity Community (https://community.relativity.com/s/files), and search on Document Utilities. When the search results appear, locate the Relativity.DocumentUtilities.rap in the Files section.

   Note: You need to register to access the Relativity Community if you don't currently have an account. You also must have an Admin Contact account type in the Relativity Community to download applications. If you don't currently have this account type, contact an Admin Contact in your organization, who can then request that Customer Support assign this account type to you. For more information, contact Customer Support via the Community site.

3. Download the Relativity.DocumentUtilities.rap file.
4. Install the Document Utilities application in a workspace or add it to the Application Library tabs making it available for installation in workspaces across your environment. For more information, see Installing applications on the Relativity Server 2022 Documentation site.

After installing the application, Relativity displays the **Move to folder path** option in the drop-down menu on the mass operations bar.

24.11.1.2 Setting required security permissions

You must have the following security permissions to run the move to folder mass operation:

- **Mass operations** - Under the Mass Operations section of the Other Settings Tab in Workspace Security, you need permissions to the following:
  - **Move**
  - **Move to folder path**
- **Object security** - you need to have the following permissions on these objects in the Object Security tab under Workspace Security:
  - **Document** - requires **Add** and **Delete** permissions.
  - **Folder** - requires **Add** and **Edit** permissions. If you want to remove empty folders, you also need **Delete** permissions.
- **Layout security** - you need to have **View** permissions on the **Move Documents to Folder Path Layout** in the Layouts tab.
- **Folders security** - you need permissions to **Folders** in the **Browsers** section of the **Other Settings** tab.

For more information about permissions, see Workspace security on the Relativity Server 2022 Documentation site.

24.11.1.3 Creating a destination folder path field

Before you can run this mass operation, create a fixed-length or long text field type for storing a destination folder path on the document object. For more information, see Fields on the Relativity Server 2022 Documentation site.

Use these guidelines for formatting your folder path:

- Separate nested folders in the path with forward slashes (/) or backward slashes (\).
- Don't use a slash as the initial character in your folder path. A final slash isn't required in the folder path.
- Don’t use these special characters (/ \ : ? " * < > |) in your folder names. If your folder names include these characters, Relativity strips them out, except for back and forward slashes used as delimiters. For example, a path with folders named *Custodians|<>/Revie\wed/Ja*?ne* would become *Custodians/Reviewed/Jane*.
- Folder paths may include Unicode characters.
- Folder paths may include the workspace name, but it isn't required. For example, if you have a document with a destination path of *<WorkspaceName>\Custodian* and another one with the path of *Custodian*, this mass operation moves both documents to the *Custodian* folder under the workspace root.

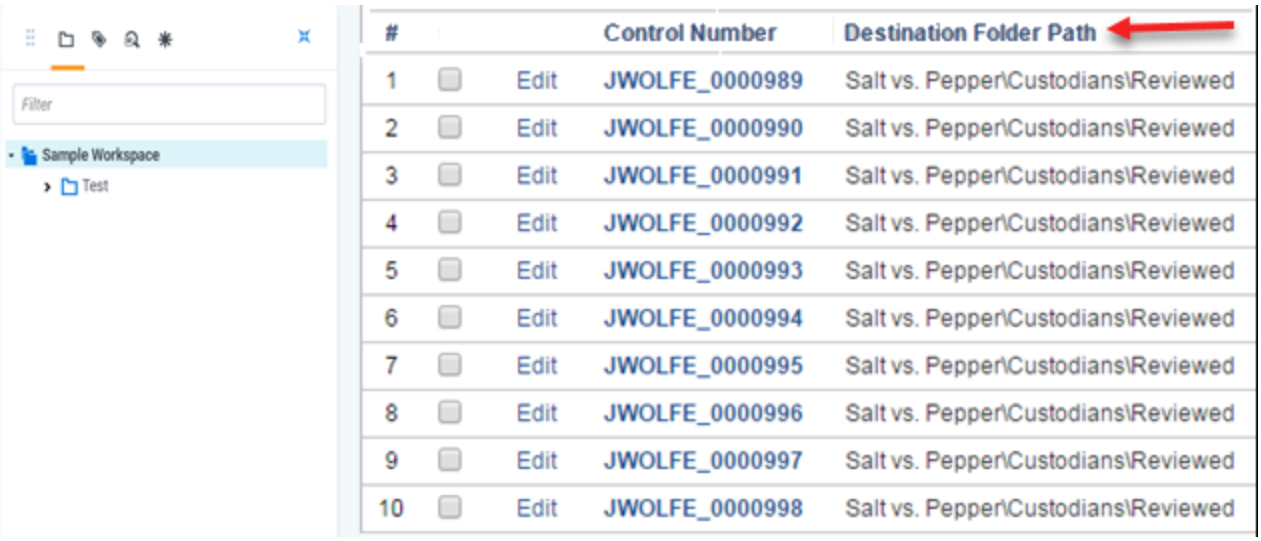
24.11.1.4 Populating the folder path field on the document object

After creating a folder path field on the document object, you must populate it with a destination folder path for the documents that you want to move.

Perform one of the following tasks to populate this field with the destination folder path:

- **Edit the field** - click the **Edit** link that appears on the Documents tab, and update this field on the document when Relativity displays the layout containing it.
- **Run a mass edit operation** - see Mass edit on the Relativity Documentation site.
- **Overlay the destination folder fields on documents** - see Importing document metadata, files, and extracted text on the Relativity Documentation site.

The following screen shot illustrates a list of documents with a folder path field set to a specific destination:



24.11.2 Running the move to folder path mass operation

When you run the move to folder mass operation, Relativity moves all the documents with the same destination folder in a single batch. While the Move to folder path mass operation batches documents moving to the same folder, the MassCustomBatchAmount and the MassMoveBatchAmount instance settings control the batching process. The MassCustomBatchAmount instance setting controls the number

of documents per batch for each unique destination folder. The MassMoveBatchAmount value controls the number of documents for each batch size. See Instance settings on the Relativity Documentation site.

For optimum performance, use these guidelines when running this mass operation:

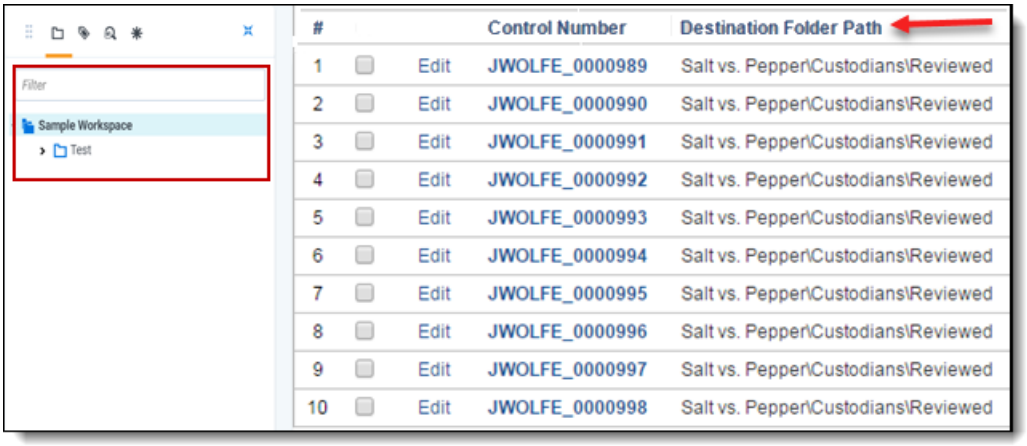
- Perform a test on a small sample set of documents before moving a large number of them.
- Execute only one move to folder path mass operation at a time.

Use these steps to move documents to a new folder:

1. Navigate to the **Documents** tab in your workspace.
2. Select the documents that you want to move to the destination folder path.
3. In the first drop-down menu in the mass operations bar, choose **Checked** or **All** based on your selections from the current document set.
4. Select **Move to folder path** in the second drop-down menu, and then click **Go**.
5. Complete the fields in the Folder path settings dialog. See Fields for move to folder path mass operation below.
6. Click **OK** to run the mass operation. Relativity creates any destination folders that don't currently exist, and moves the documents to their specified destination folders. It also moves any documents with an empty folder path field to the location specified in the **Empty folder path placeholder** field. See Fields for move to folder path mass operation below.

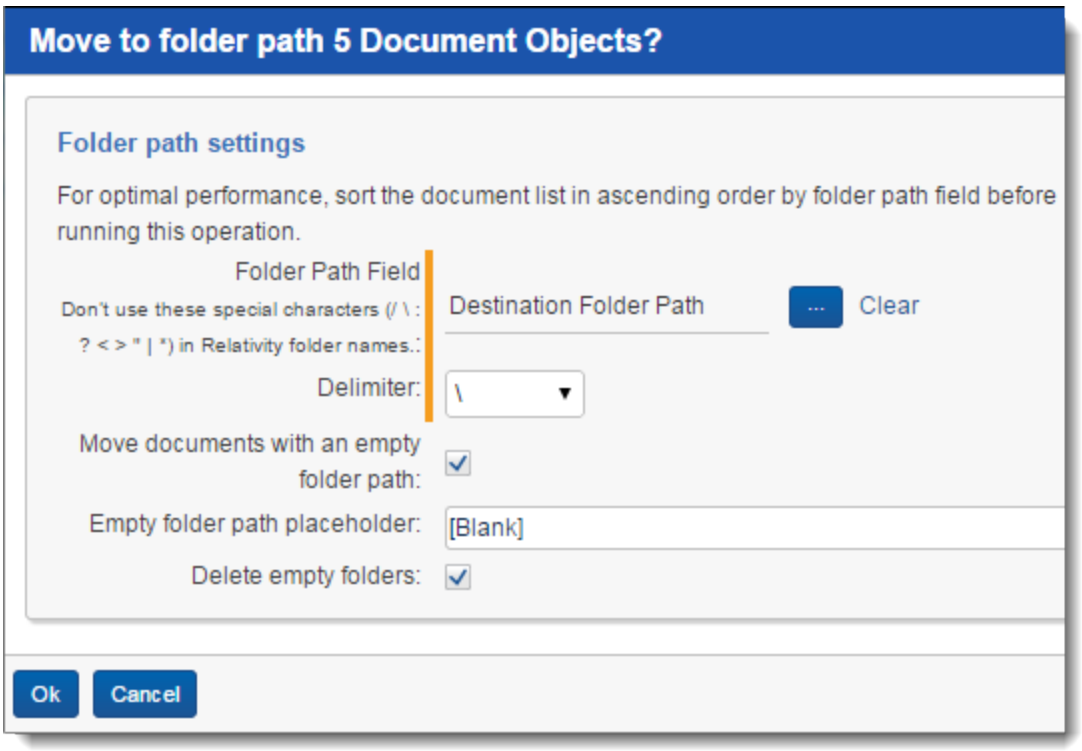
   Note: To stop the mass operation, click **Cancel**. The mass operation finishes moving the current batch of documents before it stops. Relativity then displays a message indicating the percent of documents that were moved.

7. Optionally, refresh the page to see the newly created folders. See the following screen shot for an example of a new folder structure:

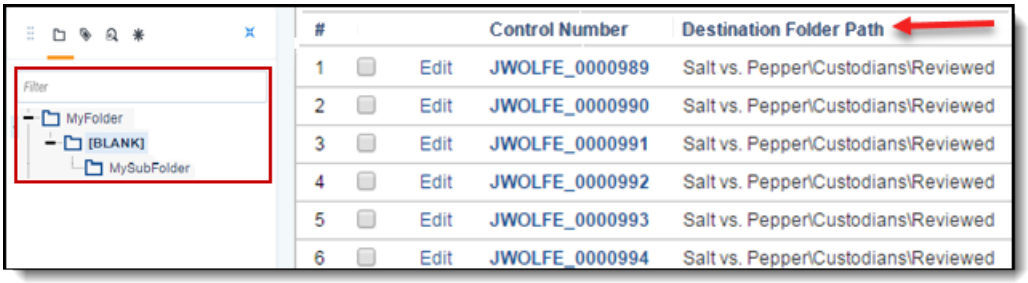


24.11.2.1 Fields for move to folder path mass operation

The Folder path settings dialog includes the following fields:



- **Folder Path Field** - click ... to select the field that you populated with the destination folder path. See Move to folder path on page 423.
- **Delimiter** - select forward slash (/) or back slash (\) as the delimiter for any nested folders.
- **Move documents with empty folder path** - select this checkbox if you want to move documents with empty folder path fields to the location specified in the **Empty folder path placeholder** option. If you don't select this checkbox, Relativity doesn't move documents with empty folder path fields.
- **Empty folder path placeholder** - enter the name of a folder where you want to move documents that don't have a destination specified in their folder path field. If the path contains subfolders, separate the folders with the same delimiter as you selected in the **Delimiter** field. This folder path may include Unicode characters.
  The following list describes how Relativity handles empty folders:
  - If a folder path contains one or more empty folders, then Relativity replaces the blank location with the name in the **Empty folder path placeholder** field. For example, it updates the folder path **MyFolder\\MySubfolder** to **MyFolder\[BLANK]\MySubfolder**, if the name in this field is [BLANK].



- If a folder path contains consecutive empty directories, Relativity consolidates them into a single directory, so that **MyFolder\\ \\\MySubfolder** becomes **MyFolder\[BLANK]\MySubfolder** when the name in this field is [BLANK].
- If a folder path contains two consecutive delimiters separated by a space, Relativity sets the name of the newly created folder to blank.

- **Delete empty folders** - select this checkbox to delete any folders within the entire workspace that are empty after you move the documents. Relativity doesn't delete empty folders when they have dependencies.

Note: If an error occurs during the deletion of empty folders, Relativity stops this process and displays an error message. It also logs any errors on the Error tab. For more information, see Errors.

24.12 Mass Save as List

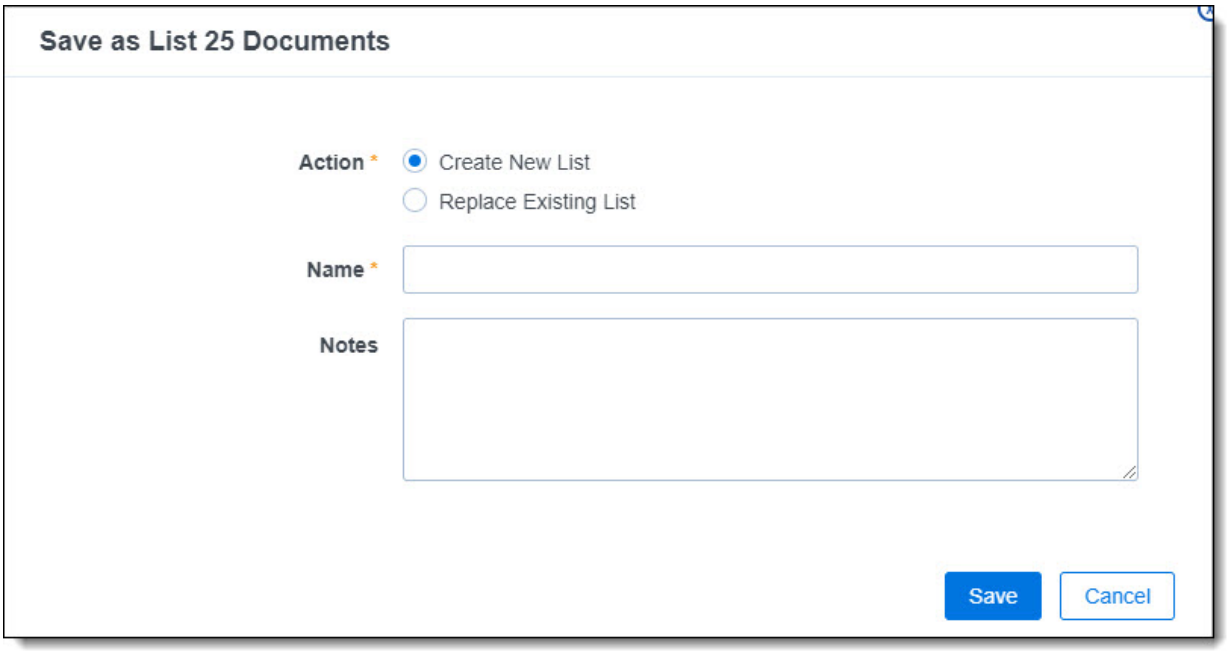
To save a group of documents as a list, follow this procedure. The same steps apply to other objects with **Lists** enabled. Always begin by clicking the tab of the object for which you want to save a new list. Mass Save as List is available from the mass operations bar.

Note: You can't use mass operations on Data Grid-enabled fields.

To save a group of documents as a new list or replace an existing list:

1. Navigate to the **Documents** tab.
2. Display the documents you want to save to a list by selecting a folder, view, saved search, or performing a document search.
3. From the mass operations bar on the document list, choose whether to save **Checked items** or **All items** in the current returned set.

4. Select **Save as List**. The Save as List pop-up window opens.



5. Complete all required fields.
   - **Action** - creates a new list or replace the contents of an existing list. Select one of the following options:
     - **Create new list** - creates a new list with the list name specified in the **Name** field.
     - **Replace existing list** - replaces an existing list with the currently selected objects. Select an existing list from the Select Item - List window.
   - **Name** - stores the name of a new list. Type the new list name.
6. Click **Save**.

24.13 Mass PDF

With the Mass PDF operation you can create PDF files from natives, images, and produced documents, and save those PDFs on your computer. The Mass PDF operation also allows you to store PDFs created from native files or original images in Relativity and review them in the PDF Viewer. The Mass PDF application is available from the mass operations bar on the document list.

Notes: In Server 2022, an integrated PDF application has been introduced to replace the Save as PDF functionality that was previously part of Relativity, including the Save as PDF mass operation and the Save as PDF on-the-fly operations on the Viewer. This new application brings several advantages, including:

- This is an agent-based based application. This resolves many of the stability, performance, and scalability limitations of the Save as PDF functionality that comes out of the box in Relativity Sever 2021.
- By having its own agents, it has dedicated resources. The previous version shared resources with Imaging and Processing. This eliminates the problem of having PDF jobs queued behind a Processing or Imaging job. .
- Maximum supported mass PDF jobs size is now 10,000 documents or 1,000,000 images.
- If a single document errors during a mass PDF jobs, the new application will skip that document and work on the next one. In the previous version, that job would had failed.
- It has new features such as a new PDF profile, a new progress and status bar, error reports, enhancement to production order, and new naming and content options.

Limitations:

- PDFs created from the viewer are named with a unique ID instead of the document control number.
- The options defined on the PDF profile cannot be modified from the mass operation or from the Viewer.
- If you install this application, the Save as PDF mass operation is not available in the related items pane in the review interface.
- You cannot use mass operations on Data Grid-enabled fields.
- PDF does not integrate with the Password bank. If you try to convert a native document that is password protected, an error occurs.

24.13.1 Prerequisites

Before using the PDF application, complete the following prerequisites:

- The PDF application needs to be installed in the Relativity instance before the PDF agents are created.
- The new agents associated with the PDF application, PDF manager, and the PDF worker, utilize the message broker for resilience and scalability. Thus, the message broker needs to be set up in the Relativity instance before agents are created.

24.13.2 Download PDF application

The PDF application is available on the Relativity Community. To obtain the .rap file, please visit the Server 2022 Installation Files file inventory. Download the Server 2022 Release .rap files, for more information click here.

Note: You must have valid Relativity Community credentials in order to download any Community file linked to from the documentation site. You will need to enter those credentials on the Community login screen if you are not already logged in. If you are already logged in to the Community at the time you click a link, the file is automatically downloaded in the bottom left corner of your screen. If you get an error message stating "URL No Longer Exists" after clicking a Community link, it may be due to a single sign-on error related to the SAML Assertion Validator, and you should contact your IT department.

24.13.3 Install PDF application

Perform the following steps to install the PDF application:

1. Navigate to the **Application Library**.
2. Click **Upload Application**.
3. Under the Application Information section, select the **Choose File** button.
4. From the dialog, select the PDF application, then click **Open**.
5. Click **Save**.
6. Install the PDF application on the required workspaces. Relativity recommends installing it on all workspaces.

24.13.4 Add PDF application agent

Customers should only have one PDF manager per Relativity instance and at least one PDF worker agent per Relativity instance. To handle larger quantities of documents in a single mass PDF job or multiple concurrent mass PDF jobs, PDF worker agents can be added as needed. The PDF manager and the PDF worker agents can be added to an existing agent server once the PDF application is uploaded and installed.

Additionally, the following should be taken into consideration when adding more PDF worker agents:

- A PDF worker on a shared agent server can only utilize at most 50% of the CPU.
- PDF workers on a dedicated agent server are multi-threaded. The number of threads are determined by the number of processors on the VM divided by two. For example, an eight core VM results in a PDF worker with four threads.

For optimal performance Relativity recommends that dedicated agent VMs are created with a maximum of two PDF worker agents per machine. This will allow the worker agents to maximize resource usage without performance degradation. If PDF worker agents are added to a shared agent server, only one should be added to limit the impact to other agents on the server.

Note: If users have a dedicated Invariant worker for Save As PDF jobs they can either decommission it, or convert it to an agent server following the recommendation of two PDF Worker agents per VM.

Perform the following steps to install these agents:

1. From the Home menu, navigate to the **Agents** tab, and then click **New Agent**.
2. Click **Browse** next to Agent Type, and then click **PDF Manager Agent** and **PDF Worker Agent**.
3. Click **OK**.
4. Leave all other settings at their default values, and then click **Save**.

24.13.5 Relativity service account

The Relativity service account must be enabled with an integrated authentication provider correctly setup for the PDF application to log into the WebAPIPath and run PDF application jobs.

1. First, you must create a login method for the Relativity Service Account user.
2. When adding the login method to the Relativity Service Account user, select the integrated authentication provider and set the Windows account to the Relativity service account user's Windows user name. For example, domain\username or .\username.

24.13.6 Upgrade PDF application

Perform the following steps to upgrade the PDF application:

1. The PDF application is available for download through the Relativity Community or contact Support to request the newest version of the PDF application that is compatible with your version of Relativity.
2. Navigate to the **Application Library**.
3. Click on the currently installed version of the PDF application. The Application page appears.
4. Click **Edit**.
5. Click **Clear** in the Application File field. The original file is cleared.
6. Click **Choose File** in the Application File field.
7. From the dialog, select the newest version of the PDF application, then click **Open**.
8. Click **Save**.

24.13.7 PDF permissions

The PDF application has the following associated permissions:

- A new Tab Visibility permission, PDF, controls access to the PDF and PDF Profile tabs.
- A new Object Security permission, PDF Profile, controls access and operations over the PDF Profile object.
- The previous Save as PDF permission is replaced with the new PDF permission.

Notes:

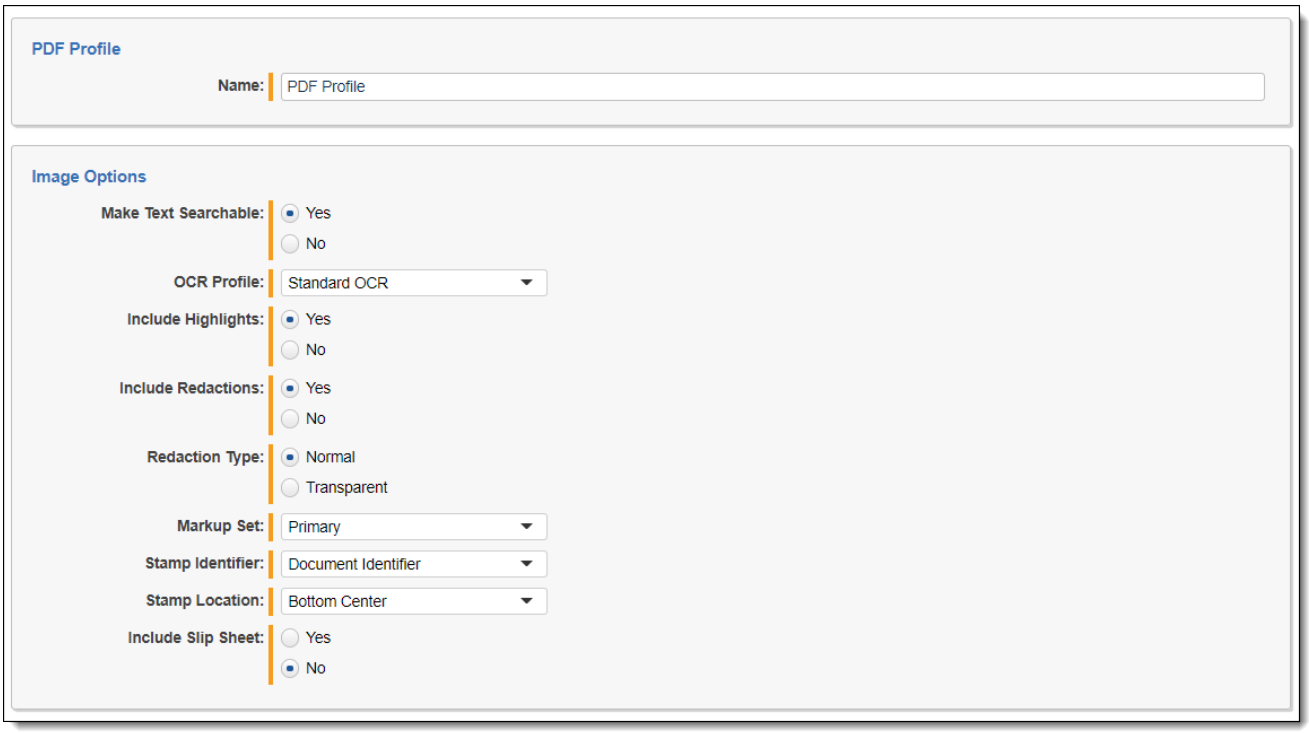
- If installing the new PDF application on 10.3 before upgrading to Relativity 2022, the Save as PDF permissions will be applied to the new PDF application. The new PDF application has to be installed in all workspaces for this to occur and this application needs to be installed as a part of the upgrade workflow. If installing the new PDF application while still active in 10.3, the Save as PDF permissions will not be carried over. The client must re-add the permissions.
- If upgrading from Relativity Server 2021 and above, when the new PDF application is first installed on a workspace, it applies the previous Save as PDF permission settings to all groups.

- System administrators with the correct permissions setup for Save as PDF, are unable to test this in **Preview Security** mode. This is done to prevent downloading documents that haven't been authorized.

24.13.8 PDF profile

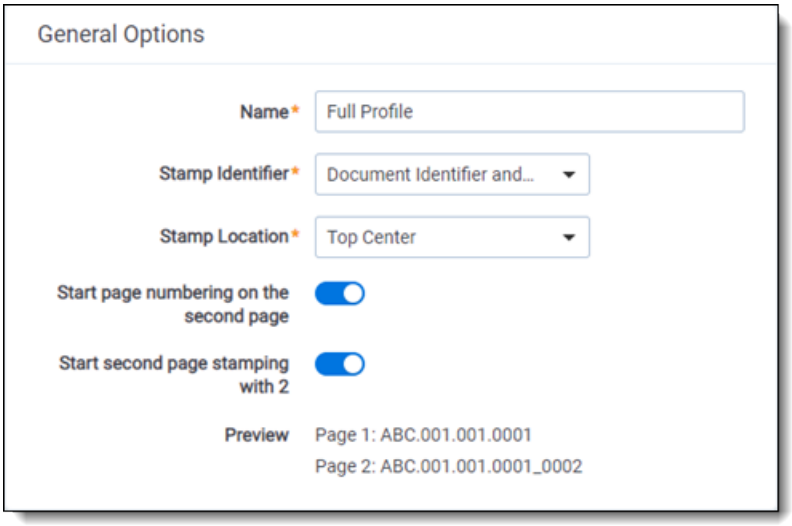
Use the PDF profile to customize how to create and save your PDFs.

To create a new PDF profile, go to the PDF Profile tab or use the quick search to find this tab.



24.13.8.1 General options

The options under this section apply to every file type: natives, original images, and produced images.



- **Name**—provide a name for your PDF Profile.
- **Stamp Identifier**—select this option to add branding on each page of the resulting PDF in a specific page location. You can choose to brand your PDFs after one of the following options:
  - **Document Identifier**—choose this option to stamp each page of the PDF with the document identifier. For example, *REL_00001*.
  - **Document Identifier and Page Number**—this option will stamp [Document Identifier]-[page number]. You can choose among three options:
    - **Add the page number to every page of the PDF**
      - Page 1: REL_00001-0001
      - Page 2: REL_00001-0002
    - **Start the page numbering on the second page**
      - Page 1: REL_00001
      - Page 2: REL_00001-0001
    - **Start the page numbering on the second page with 2**
      - Page 1: REL_00001
      - Page 2: REL_00001-0002
  - **Field**—choose this option to stamp the PDFs with a field value.
  - **Free Text**—choose this option to stamp the PDFs with the a text of your choice.
- **Stamp Location**—select the area of the page where you want to add your stamping.

24.13.8.2 Native options

You can apply a paper size option to both the PDFs that you create to download and to the PDFs you store in Relativity. The paper size option only applies when the source file type of the PDF job is natives. The paper sizes available are: Letter, Legal, A5, A4, A3, and original. The original option will maintain both the original paper size and orientation of each page on the native file. The Letter, Legal, A5, A4, and A3 options will create a PDF with portrait orientation in the selected paper size.

24.13.8.3 Image options

When converting original images or produced images to PDFs, the following options can be configure in the PDF Profile:

- **Make Text Searchable**- select this option to translates images of text, such as scanned and redacted documents, into actual searchable text characters in the resulting PDF.
  - **OCR Profile**- Select the OCR profile to be used to translate images of text into actual searchable text characters.

    Note: If there are not OCR profiles created in the workspace, Relativity will use a default OCR profile.

  - **Include highlights**-select this option to include persistent highlights in the resulting PDFs. This option applies only when converting original images to PDF, and is only for highlights which are associated with a markup set. You will be required to specify the markup set profile to use.

- **Include redactions**- select this option to include redactions in the resulting PDFs. This option applies only when converting original images to PDF, and is only for redactions which are associated with a markup set. You will be required to specify the markup set profile to use.

- **Include Slip Sheet**—select this option to include a slip sheet on the first page of the generated PDF. Available options are:
  - Blank page
  - Identifier only
  - Coding layouts

24.13.8.4 Microsoft Word Options

When converting native file types that are Microsoft Word documents into PDFs, the following options can be configure in the PDF Profile:

- **Show Track Changes**- if the native MS Word document has track changes, this option will include those track changes in the resulting PDF.
- **Show Comments**- if the native MS Word document has comments, this option will include those comments in the resulting PDF.

24.13.8.5 Microsoft PowerPoint Options

When converting native file types that are Microsoft PowerPoint documents into PDFs, the following options can be configure in the PDF Profile:

- **Show Speaker Notes**—if the native Microsoft PowerPoint document has track speaker notes, this option will include those speaker notes in the resulting PDF.
- **Show Presentation Comments**— if the native Microsoft PowerPoint document has presentation comments, this option will include those comments in the resulting PDF.

24.13.9 Creating PDFs via mass operation

Note: If you are creating PDFs to open in the Viewer, it is important to note that the Viewer displays PDF text by mapping the character codes to Unicode in most cases. To check whether PDF text has been properly encoded and will display correctly in the Viewer, copy the text in the original PDF file and paste it into another application like Microsoft Word or Notepad. If the pasted text does not display correctly, the PDF is not properly encoded. If the pasted text displays correctly in another application but not in the Viewer, contact Support for assistance.

To convert multiple documents into PDFs:

1. From the mass operations bar on the document list, choose whether to print Checked items or All items in the current returned set.
2. Select PDF in the mass operations drop-down menu. The PDF options window displays.
3. Select the appropriate settings:

Notes:

- The settings available depend on the file type selected—natives, original images, or produced images. For example, production options are available if you select Produced Images. Likewise, if you are going to save all your documents in a single PDF, then there are no options on how to name the individual PDF.
- When saving your PDF as a zip or PDF portfolio you can choose to name your individual PDFs using just the control number or the control number plus a field.
- You also have the option to decide whether to include a numbering prefix on the file name. In the past that prefix was always added.

Action

- **Download PDF**—download your PDFs.
- **Store in Relativity**—creates a PDF from the native or imaged version of the documents. Those PDFs will be stored in Relativity and can be reviewed using Relativity's PDF Viewer.
- **Delete Relativity**—deletes the stored PDFs associated with the selected natives.

File Types

- **Natives**—saves the native of the documents.
- **Original Images**—saves the imaged versions of the documents.
- **Produced Images**—saves the produced versions of the documents.

PDF Options

- **Individual PDFs In A Zip**—saves resulting PDFs as a zipped file.
- **Single PDF**—creates one PDF with all documents.
- **PDF Portfolio**—creates one PDF Portfolio with all documents.

Notes:

- When you Mass Save as PDF a group of documents, the documents retain their sort order based on the order in which they appear within your document list.
- When saving a PDF as a zip or PDF portfolio you can choose to name your individual PDFs using the control number, the control number plus a field, or just a field.
- When saving a PDF as a zip or PDF portfolio you can decide whether to include a numbering prefix on the file name. In the past, that prefix was always added.

Naming Options

This option defines the name of the individual PDFs created when documents are saved as **Individual PDFs In A Zip** or **PDF Portfolio**. The zip file or the portfolio file itself that contains the PDF files is always named **result.[extension]**.

- **Control Number**—choose this option to name the PDFs after the control number of the original document.
- **Control Number And Field**—this option appends value of a field to the original control number name. When using this option, the resulting name of the document is [control number]_ [field value].
- **Field**—choose this option to name the PDFs after a field value.
- **Append File Type**—appends _native, image, or _production at the end of the file name based on the type of documents used to create the PDF.
- **Prefix Sequential Number**—this option appends a numeric prefix based on the sort order in which they appear within your document list. For example, 01_FirstDocument.pdf.

Note: If the length of file name is longer than 251 characters, the system will use the first 251 characters.

Production Options

- **Include original images for documents that haven't been produced**—if a document has not been produced, you can check this option to create PDFs from the images associated with that document instead.
- **Modify Production Order**—select which produced version of the document to include in the PDF set.
  - The save job first looks at the production set at the top of the list. If the document is included in this production that version is saved. If not, the save job checks if the document is in the next production. Only one production per document is saved.
  - The list includes only the productions related to the documents selected, those productions are sorted by recent to oldest. For example, if there are 8000 productions in your workspace, but the selected documents are produced across only 100 productions, the list will show only those 100 productions.

4. Click **Create PDF**. The system submits your PDF job. Once completed, the browser automatically downloads the resulting file. You also receive a confirmation email with a link to your PDFs to

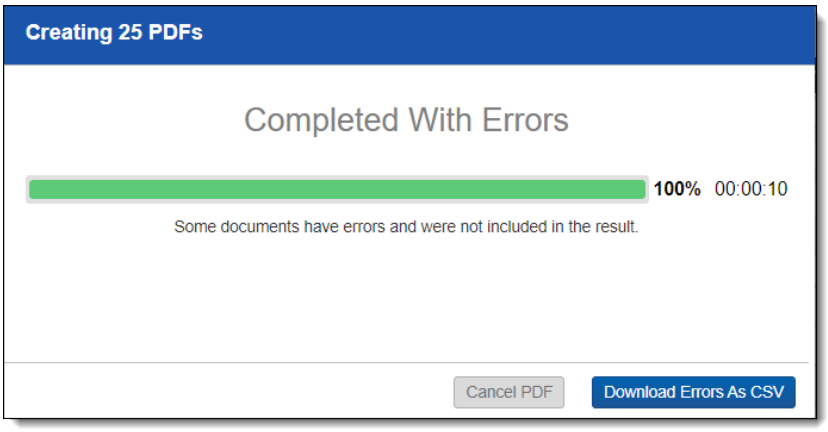
download.

24.13.9.1 Mass PDF progress bar

The PDF application has a progress bar where you can see the status of your job, the number of documents completed, percentage completed, and the total duration of the job from start to completion. The progress bar will show the following status:

- **Creating**—your PDF job is being created and added to the queue.
- **Picked up**—your PDF has been picked up from the queue.
- **In Progress**—your PDFs are being created.
- **Packaging**—all PDF were created and now the zip file, or the portfolio file is being created.
- **Completed**—job is complete.

If the job completes with errors, you have the option to download a CSV file with the list of errors. For example, if you try to create a PDF for a native file that is password protected, or if you try to create a PDF from images and a document does not have images, those PDFs will not be created and those documents are included in the CSV error file.



24.14 Mass convert

Use Mass convert to pre-convert a large set of documents into HTML5 format before review. By using mass convert you can eliminate document load time in the viewer. This operation is only available on the Document object.

Notes:

- Mass convert is not available in repository workspaces.
- You can't use mass operations on Data Grid-enabled fields.

To perform a mass convert:

1. From the mass operations bar on the document list, choose whether to convert **Checked items** or **All items** in the current returned set.
2. Select **Convert** in the drop-down menu.

3. Complete the fields on the Convert Documents layout.
   - **Natives**
     - **Yes** - converts any natives
     - **No** - doesn't convert natives
   - **Images**
     - **Yes** - converts any images in the documents
     - **No** - doesn't convert images in the documents
   - **Productions** If the selected documents are contained in a production set, the production set (s) appears here.
     - **None -** this option appears if there are no production sets containing the selected documents.
   - **Re-convert if previously converted** - select this checkbox to convert selected documents, regardless if they've already been converted. The newly converted documents are stored in the cache.
4. Click **Run** to convert the documents. Once you click Run, you are unable to cancel the convert job.

Note: Converting a large number of documents can deplete the available disk space on the file server.

24.15 Retry Production Job

To retry multiple production jobs from the Production Queue tab, use the Retry Production Job mass operation.

24.15.1 Security configuration

You must configure certain instance level permissions to use Retry Production Job.

To configure the security permissions:

1. Navigate to the **Instance Details** tab.
2. Click **Manage Permissions**.
3. Click **Edit Permissions** for a group on the Group Management tab.
4. Enable the following security permissions:

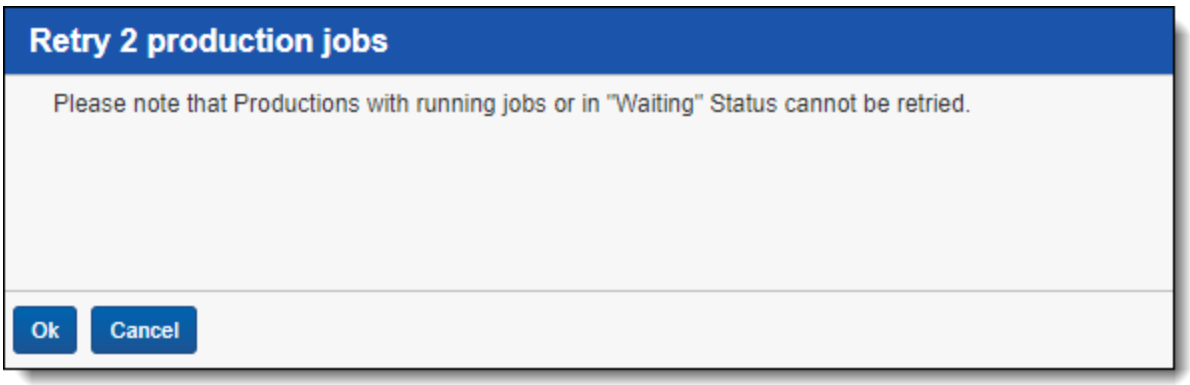
Object Security	Tab Visibility	Admin Operations
▪ N/A	▪ Queue Management (parent) ◦ Production Queue (child)	▪ Change Queue Priority ▪ View Admin Repository

Note: As long as you have the listed security permissions, you do not need view permissions to the workspaces or the production jobs to use Retry Production Job.

24.15.2 Retrying production jobs

To retry production jobs from the Production Queue tab:

1. Navigate to the **Production Queue** tab.
2. Select the productions jobs that you want to cancel.
3. Click **Retry Production Job** from the mass operations bar. The Retry production job window opens.



4. Click **Ok**.

24.16 Set long text field size

You can use the set long text field size operation to calculate long text size and save the value in a decimal field for each selected document. You can use the mass operation with Data Grid-enabled or SQL extracted text fields. This feature is useful when creating views and saved searches of documents based on long text size. In Relativity, long text is declared as an uncompressed nvarchar(max). This means it will always hold each character as 2 bytes in terms of how this operation calculates the size of the long text field.

24.16.1 Before you begin

To enable the mass operation in your Relativity instance, you must import the Long Text Size application from the application library. To do this, you must have the appropriate admin rights.

To install the Set Long Text Field Size application in your workspace:

1. Navigate to the **Relativity Applications** tab.
2. Click **New Relativity Application**.
3. Select **Select from Application Library**.
4. Click ... on **Choose from Application Library**.
5. Select **Set LongText Field Size**, and click **OK**.
6. Click **Import**.

Note: After the application is installed, review the workspace permissions and remove the Set Long Text Field Size permission for the groups that should not have access to the mass operation.

24.16.2 Using the mass operation

To set long text size:

1. Create a decimal field for saving the extracted text size. For more information, see Fields on page 183.
2. From the mass operations bar on the document list, choose whether to select **Checked items** or **All items** in the current returned set.

   Note: The set long text size mass operation permits the user to edit documents even if they have read-only permissions.

3. Select **Set long text field size** in the mass operations drop-down menu.
   The Set LongText Size form displays.
4. Select a source field to calculate long text size. The drop-down menu includes all long text fields you have permissions to see.
5. Select a decimal field to store the calculated long text size. The drop-down menu includes all decimal fields you have permissions to see.
6. Click **Run** to apply your changes.

Note: The mass operation stores the size of the text, in kilobytes, in the decimal field.

24.17 Invite users

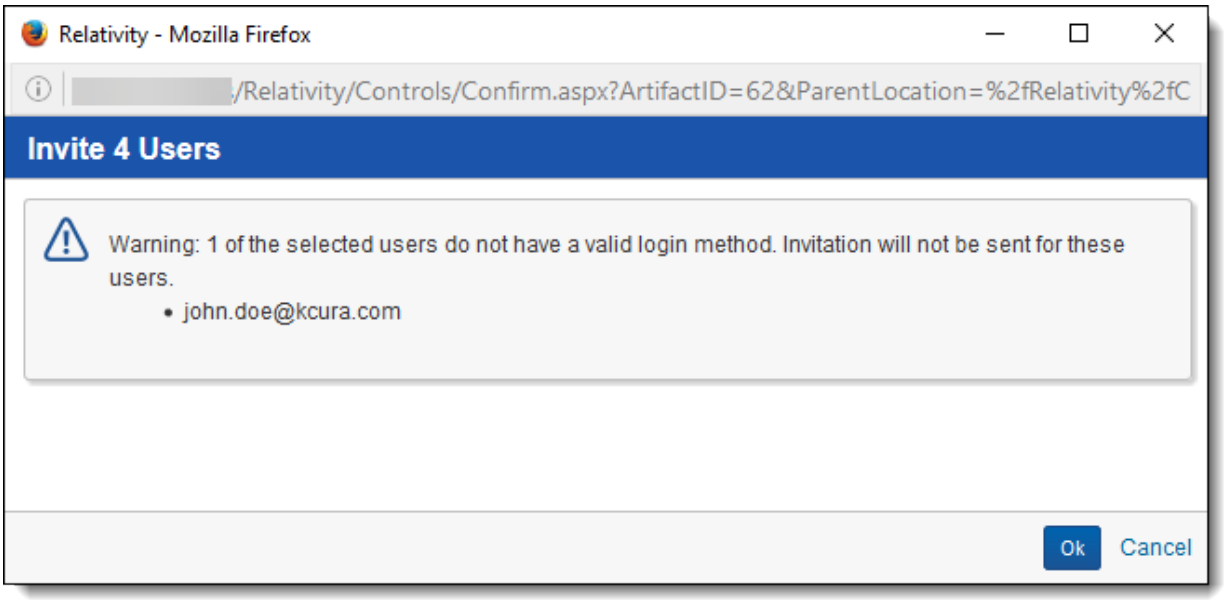
You can use the Invite operation to send out invitation to newly-created users to log in to Relativity and set their passwords. This feature is useful when you setting up a large number of reviewers in a new case.

Note: You can't use mass operations on Data Grid-enabled fields.

To send invitations to multiple users:

1. Navigate to the Users tab.
2. From the mass operations bar, choose whether to select **Checked items** or **All items** in the current returned set.
3. Select **Invite** in the mass operations drop-down menu.

4. The Invite Users dialog opens.



If any of the users can't be invited, they are listed in the dialog. The reasons may include:

- The user you are inviting doesn't have a valid login method. To correct this, assign the user a login method.
- You don't have edit permissions to the user(s) that you are inviting. Make sure you have edit permissions to the users.

5. Click **Ok**. The invitation emails are sent to the users.

Note: If the email can't be sent because your Relativity email setting are not configured properly, a warning is displayed. Make sure SMTP-related instance settings are configured properly.

25 Matters

Clients in Relativity are associated with one or more matters. Matters are used to define the different cases, disputes or advising that a firm may be involved with for a client. Within Relativity, a matter must be associated with an existing client. A matter can also be associated with one or more workspaces, but it's not required.

Using matters

Imagine you're a system admin preparing a case for one of your firm's clients, Cloud Gate, Inc. Your firm handled cases for Cloud Gate, Inc. in the past, but they hired you to handle a new case, Cloud Gate, Inc. vs. Chicago.

You switch the Client's status from Inactive to Active and create a new matter named Cloud Gate vs. Chicago. With theclient and matter created, you can begin preparing the workspace needed to begin document review.

25.1 Creating or editing a matter

Note: Once a workspace is created, only System Administrators and Client Domain Administrators can make updates to the Matter object. Even users with full permissions for Matters and Clients will not have the ability to modify this object unless they are System Administrators or Client Domain Administrators.

To create or edit a matter, perform the following steps:

1. Select the **Matters** tab.
2. Click **New Matter** to create a new matter, or click **Edit** next to the matter whose information you want to edit. The Matter Information form displays with required fields in orange.
3. Complete the fields on the Matter Information form.
   - **Name** is the matter's name. This field must be between 1 and 210 characters.
   - **Matter Number** is a unique number that identifies the matter. Use this number internally to organize your matters.
   - **Status** is the matter's current status. The default options are Active or Inactive, but you can click **Add** to add any value. This field is useful when organizing and displaying lists of matters using Relativity views. For information about using the Status field as an organizational tool, see Views on page 724.
   - **Status** is the matter's current status. The default options are Active or Inactive, but you can click **Manage** to add any value. This field is useful when organizing and displaying lists of matters using Relativity views. For information about using the Status field as an organizational tool, see Views on page 724.

- **Client** is the matter's associated client. Click ... to select from all available clients.

> **Note:** If your client list is too large, click **Show Filters** to quickly narrow the list by any available field criteria. Items in the client list are set by a system view. Therefore, it is possible to only see a subset of items.

25.2 Adding or removing matters from a client domain

You can add or remove objects from client domains if you have the client domains feature activated.

Use the following steps to add a matter to a client domain:

1. Navigate to the **Matters** tab.
2. Select the matter you want to add to the client domain from the list.
3. Click **Edit**.
4. Click ... next to the **Client** field in **Matter Information** section.
5. Select the client with client domain enabled from the list.
6. Click **Save**.

Use the following steps to remove a matter from a client domain:

1. Navigate to the **Matters** tab.
2. Select the matter you want to remove from the client domain from the list.
3. Click **Edit**.
4. Click ... next to the **Client** field in **Matter Information** section.
5. Select a client not associated with a client domain from the list.
6. Click **Save**.

26 Client domains

The client domains feature enables Relativity authorized partners to deliver more powerful managed service offerings for enterprise customers in a single Relativity instance by providing an easier way to securely isolate users, workspaces, groups, resource pools, and matters by client.

Using client domains, Relativity system admins can empower a user group that is not part of the System Administrator group (client domain admins) to perform common administrative tasks within their own client domain while limiting their visibility into the Relativity environment as a whole. The client domain admins can customize the permission settings to various objects according to their preferences within their own domain, but cannot access any permissions outside of that. This resource isolation functionality grants your enterprise clients more administrative control over their own portions of the environment while preventing back-end visibility and unauthorized changes to your Relativity instance as a whole.

Note: Client Domains are targeted for the above use case only and it is important to consider all the limitations outlined in Client domain limitations and considerations.

Implementing client domains requires an additional license from Relativity ODA LLC. Each client domain license is unique, and client domains can have different terms encoded on their license keys. The license for a client domain is unrelated to any other license for Relativity (e.g., number of seats). Client domain licenses are not transferable from one client to another.

Using client domains

You're approached by an Enterprise customer who wants to use your services to facilitate an important litigation. The customer wants to be able to add and remove users, matters, groups, and workspaces as needed throughout the litigation process without having to contact a system admin. They also want to be sure that other clients in the environment don't have visibility to the objects related to their case.

You create the client in Relativity (verifying that no workspaces are currently assigned to the client and then submit a RelativityOne request via the Community site as detailed in the following knowledge article.

You assign the resource pools available to the client. Next, assign existing workspaces or create new workspaces under the new client domain-associated client record. Finally, you can add the users the client has elected to be client domain admins to their client domain admin group. Now the client domain admins can add and remove users, groups, matters, and workspaces as needed, and other clients in the environment can't view or edit any of the objects within the client domain, unless they are system admins or have been granted this permission by a system admin.

26.1 Considerations before enabling client domains

Consider the following before enabling client domains:

- If you enable client domains on a client:
  - You can't disable it on that client later.
  - You can't edit the name of the client, but you can edit the Client ID number.
  - You can’t delete the client.

- Enabling client domains on a client involves generating a client domain request and then applying an activation key. By enabling it, you ensure that any content or other Relativity components associated with this client are visible only to a select group of users.
- **Permissions** - the root object of a client domain is the client object in the administrative workspace. By default, groups associated with a given client only have permission to perform actions on users, groups, matters, and workspaces associated with that client, unless a system administrator has given special permission across client domain boundaries. Additionally, each client domain has an associated group known as the client administrator group. By default, members of this group can create administrative objects (users, groups, matters, and workspaces) associated with the client. This group does not have permission to interact with or view objects of these types associated with other clients.
- You can add objects to a client domain after the client has client domains enabled, but it's best to verify that all objects you want to isolate within the client domain are child objects of the client.
- If you have client domains enabled, we recommend locking down System Administrator access to only those absolutely necessary.

Note: You must set the ClientDomainFeatureAvailable instance setting value to True to view and edit client domain settings.

26.2 Enabling client domains on a client

The following things occur automatically after client domains are enabled:

- The system creates a new **Everyone - [Client's Name]** group and adds that group to the client domain. Only users whose client field is set to the client domain are included in the client domain everyone group. The system also removes those users from the default Relativity Everyone group. A system admin can add any users to any group regardless of client domain status.

Note: The **Everyone - [Client's Name]** group should not be assigned as the workspace administrator group for a given workspace that is part of a Client Domain.

- The system creates a unique copy of all resource pools associated with any workspaces under the client domain.

Note: Permissions assigned to groups override client domain isolation. If a non-client domain group has permissions to see a client domain's workspace or users, then those non-client domain users in the non-client domain group can still access client domain items. Enabling client domains does not change previously configured item level security settings applied to any objects within the client domain.

- The system creates a client domain admin group that permits its members to perform admin operations within the client domain.
- The Billing statistics - case rollup and Billing statistics - users reports include columns called Client Domain Name and Client Domain Artifact ID. These columns display client name and artifact ID when you enable client domains for a client.

Note: After enabling client domains, system administrators needing to make group or permission changes should be extra cautious and thoroughly investigate the potential impact to client domain separation before implementing any new group/permission changes.

26.2.1 Generating a client domain request

To enable client domain on a client, you first generate a client domain request key in Relativity.

1. or click the name of a client on the Client tab. The details view of the client appears.
2. Click **Create Client Domain Request Key** and then the **Client Domain Request Key** window appears.
3. Copy the Client Domain Request Key text and paste it into an email to Customer Support.
4. Close the Client Domain Request Key window.

26.2.2 Applying the activation key

After you receive an activation key from us, you enable client domains by applying it to the client.

1. Navigate to the **Client** tab.
2. Click the name of a client associated with the client domain request.

   Note: You must select the client that you originally used to generate the request key. If you attempt to apply the activation key to a different client, Relativity displays an error message.

3. Click **Submit Client Domain Activation Key** and then the Apply Client Domain Activation Key window appears.
4. Copy the client domain activation key received in the email message that Customer Support sent. Paste it into **Client Domain Key** field in the Apply Client Domain Activation Key window.
5. Click **Apply**.

   Note: If Relativity displays an error message, verify that you copied the activation key correctly. Contact Customer Support if you have any questions about applying your activation key.

6. Verify that the **Client Domain Status** field in the **Client Information** section displays the word Client Domain.

Once client domains functionality is enabled for the client, you must assign a client domain admin.

26.3 Client domain admins

Client domain admins are essentially workspace admins for workspaces within the client domain. Any limitations are based on the permissions you set for the user group in Relativity that the client domain admin belongs to. The administrative actions available to client domain admins are only in the scope of the client domain. For example, client domain admins can edit or delete users belonging to that client domain, but they cannot do the same action for users part of a different client domain or users not associated with a client domain.

Client domain admins can do things like:

- Modify, add, and remove groups, users, and workspaces.
- Create all workspace and admin objects across the Relativity Framework, such as matters, fields, layouts, choices, and views.
- Start jobs like processing, imaging, and productions.
  - Tenants have access to the full complement of the Processing features, including inventory, discovery, publish, and errors.
- Import data.

26.3.1 Client domain admin considerations

Consider the following when assigning a client domain admin:

- Client domain admins cannot perform tasks that are exclusive to Relativity System Administrators.
- **Permissions assigned to groups override client domain isolation**. If a non-client domain group has permissions to see a client domain's workspace or users, then those non-client domain users in the non-client domain group can still access client domain items. Enabling client domains does not change previously configured item level security settings applied to any objects within the client domain.
- Transferring data via Integration Points uses a standard Relativity permissions check. If a client domain admin has access to a source and destination workspace and permissions for importing / exporting data, they can transfer data to the workspace even if it’s outside the client domain.
- Relativity displays a warning message when a system admin attempts to edit or copy permissions for any group in a client domain. This warning makes the sys admin aware that modifying permissions may have significant consequences. For example, changing permissions may allow client domain users to modify items outside their tenancy. The system admin can click Manage Permissions to proceed with the update or Cancel to exit the pop-up window.
- If a system admin assigns additional permissions for other Admin objects to a client domain admin (e.g., Queues), the client domain admin may be able to see information for other client domains.
- System Administrators should note the following behavior to avoid accidentally granting users access to data outside their domain: When you add a user that is already a member of a domain admin group to another group that has the Relativity Script system permission, that user will gain access to all users and groups in the Relativity instance. Once that user is removed from the new group, access will again be limited to users and groups associated with their own client.
- If you use the Relativity User Import Application to import a Client Domain Admin, the application adds that new user to the Everyone group by default, which will then break the Client Domain security in your Relativity instance. To resolve this issue, remove the user from the Everyone group and place it into the client-specific Everyone group by switching the user to any other client that is not linked to a domain and then back to the domain client.
- You can grant workspace admins within the client domain permission to edit security settings for groups within the client domain, but they can't edit permissions on groups outside of the client domain.

The following table provides a breakdown of the default instance permissions for a client domain admin:

Group	Permission	Type
Client Domain Admin for <Client>	View Admin Repository	Admin Operations
Client Domain Admin for <Client>	Add Matter	Add
Client Domain Admin for <Client>	Add User	Add
Client Domain Admin for <Client>	View View	View
Client Domain Admin for <Client>	View Choice	View
Client Domain Admin for <Client>	Add Group	Add
Client Domain Admin for <Client>	Add Workspace	Add
Client Domain Admin for <Client>	View Error	View
Client Domain Admin for <Client>	Add Error	Add
Client Domain Admin for <Client>	Edit Error	Edit
Client Domain Admin for <Client>	View Relativity Script	View
Client Domain Admin for <Client>	View Server	View
Client Domain Admin for <Client>	View Tab Type	View

26.3.2 Assigning a client domain admin

Once you enable client domains on a client, you must assign a client domain admin.

Use the following steps to assign a client domain admin.

1. Navigate to the **Groups** tab.
2. Select the client domain admin group.
3. Click the **Add** button in the **Users** section.
4. Select the user you want to be the client domain admin.
5. Click **OK**.

A system admin can make any user a client domain admin by adding them to the client domain admin group. You can tailor the permission settings of a client domain admin group the same way you manage permissions for all other groups. See Setting instance permissions on page 638 for more information. See Client domain admin considerations on the previous page for more information on default permissions.

26.4 Client domain limitations and considerations

The following items are features and operations that are not available when using client domains:

- Multi-tiered client domains - an enabled Client Domain cannot have their own sub/child client domains
- Unique logos or URLs per client domain
- Self-provisioning / enabling of client domains - requires request to Support

The following items are features and operations that are have limitations in client domains or can only be used or performed by top-level system admins or a Relativity staff resource.

Item	Limitation	Client domain admin	System admin
Client domains setup and configuration			
SSO setup	A system admin can configure client domain user accounts to use an SSO provider provided that the provider is configured correctly.	No access	Yes
Client domain setup	▪ Cannot disable client domain on Client once enabled ▪ Cannot rename Client once enabled ▪ Cannot delete client once enabled	No access	No access
Instance settings	Not available per client domain	No access	No access
Feature access			
ARM	ARM is not available to Client Domain Admins. **Note:** ARM archives can be restored directly to a client domain.	No access	Has access
Creating / editing Relativity scripts	Not available to Client Domain Admin. ▪ Admins can run scripts that have already been added to the workspace from the library. ▪ Admin scripts are not supposed to be run by client domain admins. These scripts should not be part of the template workspace.	No access	Has access
Migrate	Migrate (similar to ARM) is supported for client domains, but migrations can only be performed by a Relativity System Admin. Migrate cannot be used by a client domain administrator due to security restrictions.	N/A	Has access
Relativity applications	▪ Client Domain Admin is not able to install or upgrade Relativity applications ▪ No support of multiple app versions ▪ Case Dynamics, Case Metrics (as of RAP version 11.0.5.3), and Transcripts applications have been tested and work without issue in environments with client domains. ▪ Most applications are typically not built or tested with client domain structure or concerns in mind.	No access	Has access
Remote Processing Console (RPC)	RPC is not available to Client Domain Admins.	No access	Has access
SFTP for Data Transfer	SFTP is not available for client domain users.	No access	Has access
User and Group Synchronization application	The User and Group Synchronization application is not compatible with Client Domains.	No access	Has access

Item	Limitation	Client domain admin	System admin
View, edit or cancel jobs / queues	Jobs / queue status not available to Client Domain Admins. Since client domain admins can't see or modify jobs in the queue, a system admin may need to inform client domain admins of the status of jobs they've start or if the job is still waiting in the queue.	No access	Has access
Workspace Portal	The Workspace Portal tab is not be accessible by default to client domain users. Permissions to view this tab can be technically be granted to client domain admins. However, adding a non-admin client domain group to the necessary instance level permissions violates client domain security restrictions for this group.	No access	Has access

26.5 Adding or removing objects from a client domain

Any workspaces, users, groups, matters, or resource pools associated with a client domain during creation become automatically governed by that client's domain settings. When you move an object into a client domain, you're making it a child object of the client domain.

See the following pages for more information on moving objects to and from client domains:

- Adding workspaces to a client domain on page 823
- Adding or removing users from a client domain on page 721
- Adding or removing groups from a client domain on page 230
- Adding or removing matters from a client domain on page 444
- Adding or removing resource pools from a client domain on page 604

27 OCR

Optical Character Recognition (OCR) translates images of text, such as scanned and redacted documents, into actual text characters. There are three main steps involved in OCRing documents:

Note: There is a size limit on images that can be OCR'd, any image over 8400 x 8400 pixels will throw an error. Any image over 8400 x 8400 pixels we suggest shrinking and re-uploading to Relativity.

1. Defining a **production** or **saved search** that contains the documents you want to OCR. See Creating a saved search in the Searching guide or Creating and editing a production set.

   Notes: All documents, including native files, must be imaged before using OCR.

2. Creating an **OCR profile**. See Creating and editing an OCR profile below.
3. Creating an **OCR set** that references your OCR profile. See Creating and editing an OCR set on page 454.

With OCR you can view and search on text that's normally locked inside images. It uses pattern recognition to identify individual text characters on a page, such as letters, numbers, punctuation marks, spaces, and ends of lines.

Note: Go here for information on running OCR on redacted production documents.

Using OCR

Your client is charged with a patent violation, and you need to present a load file with all emails and exchanges between members of their organization related to the technology in question to the opposing counsel. Some of the documents contain redacted privileged information and trade secrets.

You run OCR on your document set prior to producing documents to ensure that the text you provide excludes the redacted content. This ensures that all extracted text in the load file excludes privileged information.

27.1 Creating and editing an OCR profile

An OCR profile is a saved, reusable set of parameters that you use when creating an OCR set. To run an OCR job, you must first create an OCR profile.

You don't have to create a profile for every OCR set you create. You can use only one profile for all sets. However, you may want to have multiple profiles saved with different accuracy or language settings to use for different document sets you plan to OCR.

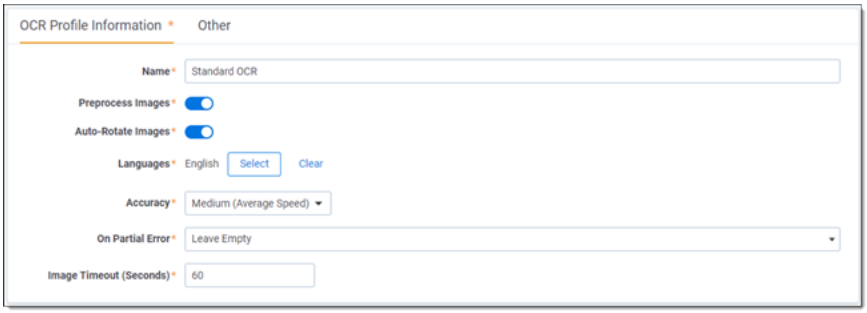
To create an OCR profile, follow these steps:

1. Click the **OCR Profiles** tab under the **OCR** tab.
2. Click **New OCR Profile**.

3. Complete the fields on the form. See Fields below.
4. Click **Save**.

27.2 Fields

Complete the following OCR profile fields:



- **Name** - the name of the profile.
- **Preprocess Images** - enhances the images to get rid of distortions before OCRing. If you set this to Yes, preprocessing occurs before the OCR engine attempts to recognize characters. This improves the accuracy of the results while significantly slowing down job completion. Setting preprocess images to Yes also arranges for any or all of the following sub-processes:
  - To improve visibility, resolution enhancement increases pixel density to 1.5 to 2 times of that of the original image.
  - Text line straightening removes the distortion that occurs when capturing curved book pages.
  - Removing parallax distortion assists in situations in which the camera is not perpendicular to the page and the image is flawed as a result; for best results, the image should contain at least six lines of justified text.
  - Deskewing corrects documents that became slanted during scanning.
- **Auto-Rotate Images** - makes the OCR engine detect page positioning, and then reposition the page accordingly. This can potentially impact the accuracy of OCR results. The rotated image is not saved back to Relativity in rotated position.

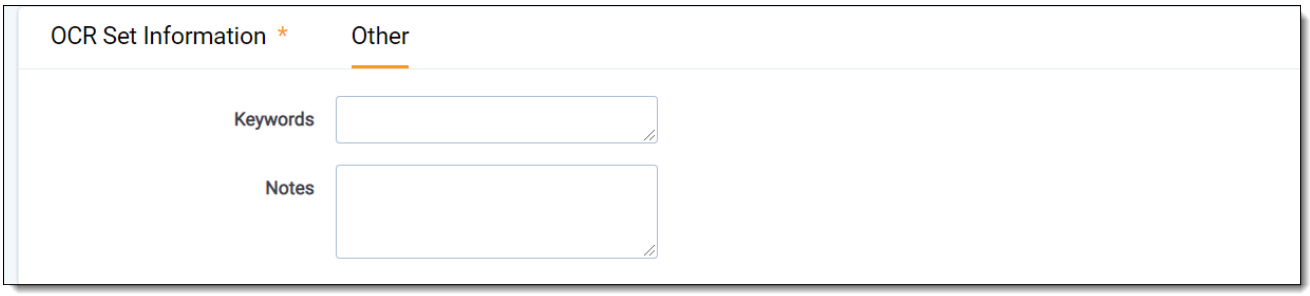
  Note: The auto-rotate images function requires the preprocess images option to be selected for it to take effect, even if the auto-rotate setting is set to "true." The OCR engine will only rotate the image if both preprocess and auto-rotate options are enabled.

- **Languages** - the language(s) you want the OCR engine to recognize while running the job. Click ... to choose from a list of languages. If the saved search or production you plan to use as your document set contains multiple languages, you may want to select more than one from this list. See the Supported languages matrix on the Documentation site.

Note: If the saved search or production you use contains multiple languages and you only select one language from the list, the OCR uses the individual characters of the selected language to OCR all the text.

- **Accuracy** - determines the desired accuracy of your OCR results and the speed with which you want the job completed. This drop-down menu contains three options:
  - **High (Slowest Speed)** - runs the OCR job with the highest accuracy and the slowest speed.
  - **Medium (Average Speed)** - runs the OCR job with medium accuracy and average speed.
  - **Low (Fastest Speed)** - runs the OCR job with the lowest accuracy and fastest speed.
- **On Partial Error** - determines the behavior when the OCR engine encounters an error on an image:
  - **Leave Empty** - records no results if an error is encountered in a document; even images without errors are excluded from being written. For example, if one document contains five images and one of the images errors, no results are written for that document.
  - **Write Partial Results** - records all successfully OCRed text while excluding text from errored images. With this option you can see potentially relevant text that would not be visible if you chose to leave the results of documents containing errored images empty. This option runs the risk of excluding potentially relevant text.
- **Image Timeout (Seconds)** - determines the maximum number of seconds per image before the OCR engine times out. If the job doesn't complete in this amount of time, it errors on that image. The default value is 60 seconds.

If you'd like to further distinguish the profile, click the **Other** tab and enter information in the Keywords and/or Notes fields.



27.3 Creating and editing an OCR set

Using the OCR Sets tab you can submit groups of documents defined by a saved search or production to be OCRed based on the settings defined by the OCR profile. Relativity writes the results to the destination field that you specify.

To create an OCR set, you can copy an existing OCR set. If you copy an OCR set, every current setting in that set copies over.

Before you create an OCR set, you first need to create an OCR profile. See Creating and editing an OCR profile on page 452. To create an OCR set, follow these steps:

1. Click the **OCR Sets** tab under the **OCR** tab.
2. Click **New OCR Set**. If you want to edit an existing OCR set, click the **Edit** link next to the OCR set name.
3. Complete the fields on the form. See Fields below.
4. Click **Save**.
   The OCR Set Console appears. See Running an OCR set on the next page.

27.4 Fields

View OCR set fields

OCR Set Information

- **Name** - the name of the OCR set.
- **Email notification recipients** - list all email addresses you want to receive email notification upon OCR completion. Separate each email address with a semicolon.

OCR status

The following fields are read-only:

- **Status** - view where the OCR set is in the process of running. When you save the set, this field shows a value of Staging until you click the **Run** button in the OCR Set Console. The following statuses occur after you click Run in the console:
  - Pending - awaiting pickup by the OCR Job Manager Agent
  - Building
  - Waiting - awaiting work by an OCR Job Worker Agent
  - In progress - OCR Job Worker Agents are recognizing images
  - Assembling text - The final remaining Documents are getting their text assembled
  - Finalizing
  - Completed (if no errors occurred)
- If errors occurs or the job is canceled for any reason, the following statuses are possible:
  - Failure
  - Completed with errors (can be retried)
  - Stopping
  - Stopped
- **Image Completion** - view the count of images completed in the OCR set, the number of images with errors, and the number of images left to be OCRed. Any errors appear in red.
- **Document Completion** - view the count of documents completed in the OCR set, the number of documents with errors, and the number of documents left to have text assembled. Once documents are completed, it is possible to view their OCR'd text. Any errors appear in red.
- **Last Run Error** - view the last job error that occurred in the running of the OCR set.

OCR settings

- **OCR Profile** - select the OCR Profile that contains the parameters you want to run when you execute the OCR Set.

  Click Select to bring up the OCR Profile Picker on OCR Set view, which lists Profiles that have already been created in the OCR Profiles tab.

- **Destination Field** - specifies the field where you want the OCR text to reside after you run the OCR. This includes Data Grid-enabled long text fields and the extracted text field.

  Click Select to bring up the Field Picker on OCR Set view, which lists all document long text fields you have access to. If you selected non-Western European languages in your OCR Profile, the destination field should be Unicode-enabled. This field is overwritten each time a document is OCRed with that destination field selected.

OCR Document Set

- **Saved Search** - if you're OCRing documents using a saved search, select the saved search containing the appropriate set of documents you plan to OCR.

  Choosing a saved search only OCRs the original image. If a document on the selected saved search does not have an associated image, that document won't be OCRed. Likewise, the OCR engine will not account for redactions added to the image unless there are redactions on the image itself.

- **Production** - if you're OCRing documents using a production set, select the production set containing the documents you plan to OCR.

  Click Select to open the Production Picker on OCR Set view, which displays all production sets with a status of Produced that you have access to. The engine OCRs all burned-in redactions, branding, headers and footers, and text. All documents with images in the production are OCRed, not only those with redactions. This includes placeholders.

- **Only OCR Production Documents Containing Redactions** - you can OCR only produced documents with redactions. You can set this to Yes only if you selected a production set in the production field for the OCR Document Set. However, this setting doesn't check the selected production to see if there are images with redactions before running the OCR set. By default, this is set to No.

Note: The OCR engine does not support OCRing content that represents handwritten text.

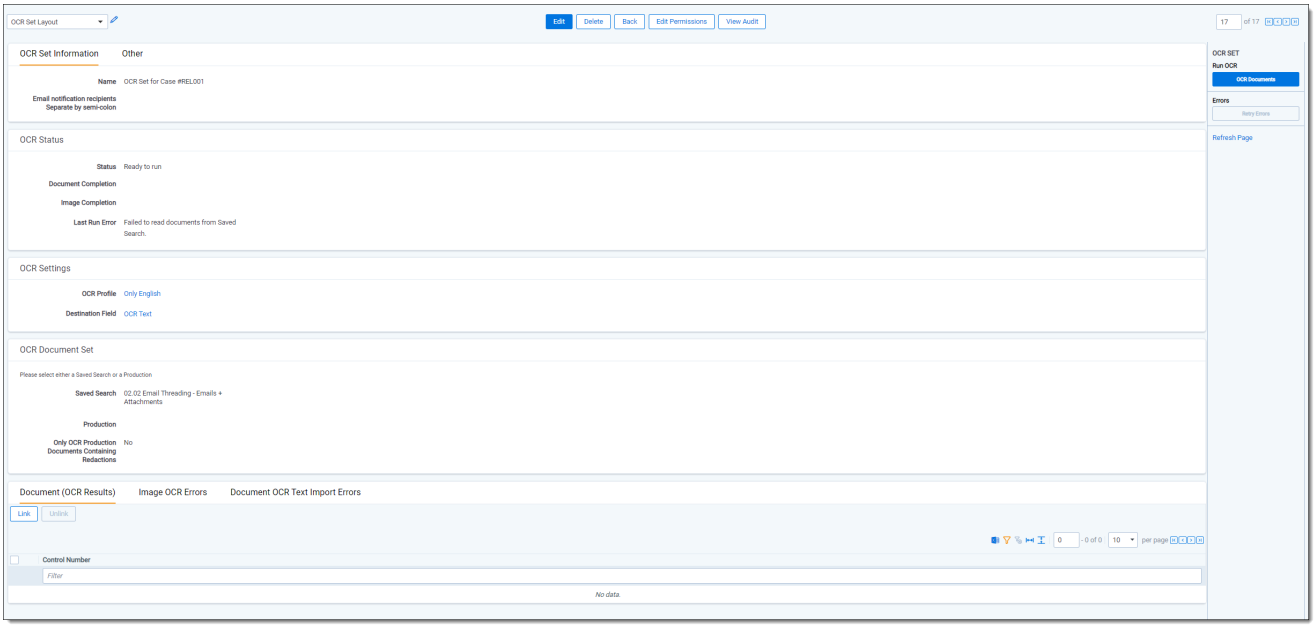
27.5 Running an OCR set

The following permissions are required to Running an OCR set.

Object	Permission
OCR Set	View
OCR Profile	View
Production	View
Saved Search	View
OCR Set Tab	View

Note: These permissions are strictly for running the Set, i.e. if the OCR Set is already set up. A user needs the Add permissions on OCR Set and OCR Profile to create a new one.

When you save an OCR set, the OCR Set console appears that you use to run the OCR job.



The OCR Set console provides the following action buttons:

- **OCR Documents** - starts the OCR job. This processes all images in the selected data source or production.
  If a user stops the job, it completes with errors, or it fails. Click **OCR Documents** to start the job again. If there are documents in the Document (OCR Results) section of the OCR Set Layout form, these aren't immediately cleared when the **OCR Documents** button is clicked on the console. These are only cleared when the job goes into processing, which is reflected in the Status when you click the **Refresh Page** link.

  Note: Only existing images are OCRed when you click **OCR Documents**. Images that are currently being loaded will **NOT** be OCRed if those images are added after you click **OCR Documents**. Changes made to an OCR profile that's referenced by an OCR set aren't reflected until you click **OCR Documents** on that set.

- **Stop OCR** - terminates the running OCR job. This button enables after you click **OCR Documents**. When you stop a job, the text that was already OCRed is not saved, and you can't resume the job from the point it stopped. You have to click **OCR Documents** to being the job over again.
- **Retry Errors** - attempts to re-run a job with errors.

  Note: If an OCR set is in a status of **Completed with errors** and the data source is modified (i.e. the OCR set is updated from a Saved Search to a Production Set), the OCR set will reset to a status of Ready to run and cannot be retried.

Retry is only possible when an OCR set is in **Completed with errors**. Retrying an OCR set attempts to run those images or documents in the OCR set that previously resulted in errors. Only errored images or documents are processed when the system tries to resolve errors.

- **Refresh Page** - updates the Status, Image Completion, and Document Completion fields while the set is running. Clicking this button reloads the page and may reflect different values in those fields depending on what happened during the OCR job.

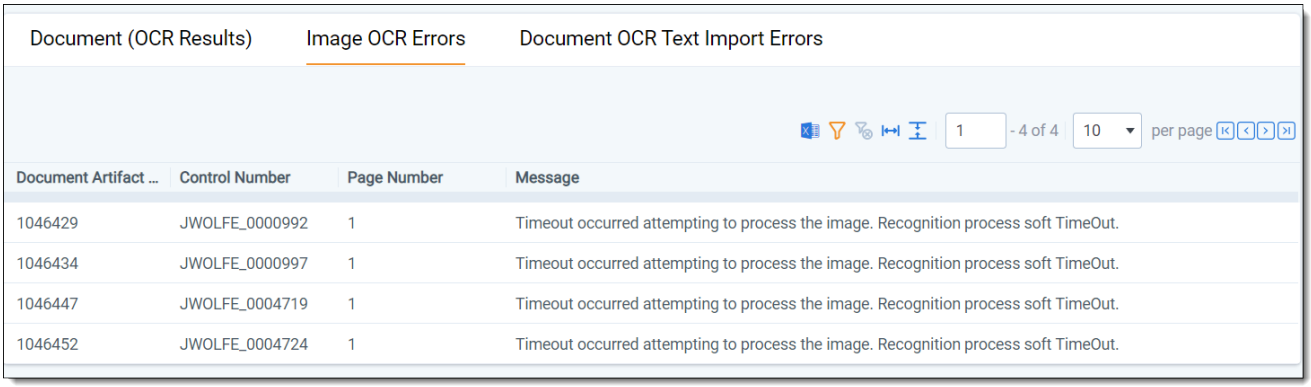
Note: During the **In progress** state, while the OCR Job Worker Agents are OCR'ing text, the OCR Job Manager Agent will find documents that have all of their images complete, and will export the text to the selected Destination Text field for that document. This means that OCR'ed text in the Destination Field of the Document will be updated as the OCR Set is progressing, and not at the end of the job.

Once the OCR job completes, the Document (OCR Results) section of the OCR Set Layout form displays all documents successfully OCRed. The fields in this view are Control Number and File Icon.

In addition, it's possible to see Image OCR Errors or Document OCR Text Import Errors in the same tabbed display as Document (OCR Results).

These errors can be exported.

Note: Only the first 1000 image errors and first 1000 document errors are shown. These errors cannot be filtered.



Document Artifact ...	Control Number	Page Number	Message
1046429	JWOLFE_0000992	1	Timeout occurred attempting to process the image. Recognition process soft TimeOut.
1046434	JWOLFE_0000997	1	Timeout occurred attempting to process the image. Recognition process soft TimeOut.
1046447	JWOLFE_0004719	1	Timeout occurred attempting to process the image. Recognition process soft TimeOut.
1046452	JWOLFE_0004724	1	Timeout occurred attempting to process the image. Recognition process soft TimeOut.

Image OCR Errors shows:

- Document Artifact ID
- Document Identifier
- Page Number
- Message

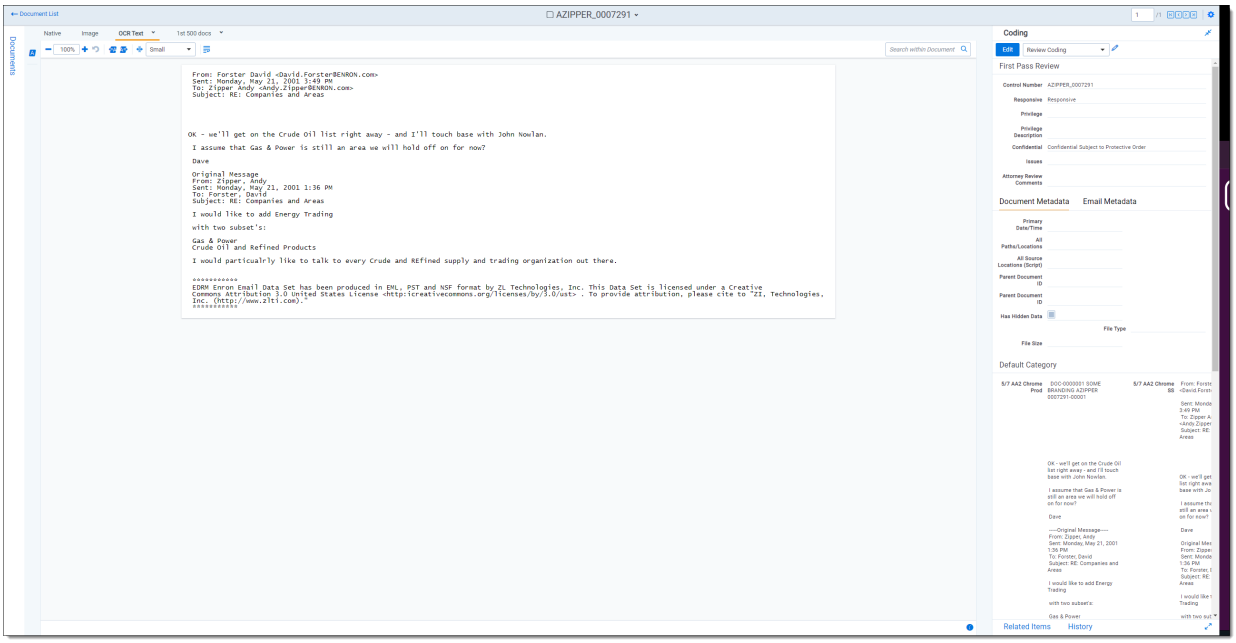
Document OCR Text Import Errors shows

- Document Artifact ID
- Document Identifier
- Message

27.6 Viewing OCR text

Once you run the OCR set, you can review your OCRed text. The most effective way of viewing your OCR text is by following these steps:

1. To launch the Review Interface, click the control number of a document.
2. Select the Field where you stored the OCR text. If a document was multiple fields with OCRed or extracted text, you will be presented with a drop down menu where you can select the field.



27.7 OCR queue

You can view all submitted OCR jobs in the environment to check their status, priority, and the workspace to which they belong. You can only access the OCR Queue tab from Home.

To display the default OCR Queue view, select the **Queue Management** tab, and then click **OCR Queue**. This list displays all OCR jobs submitted by users in your workspace that haven't yet successfully completed.

0 Selected Item(s) 0 - 0 of 0 1000 per page

#	Workspace	OCR Set Name	Artifact ID	Status	Priority	Submitted Date
1	Relativity 9	OCR 1	1141572	Processing - OCRing	100	10/9/2014 4:59:36 PM
2	Relativity 9	OCR 2	1141573	Processing - OCRing	100	10/9/2014 5:00:25 PM

OCR queue columns

- **Workspace** - the name of the workspace containing the OCR set.
- **OCR Set Name** - the name of the OCR set that has a job running.
- **Artifact ID** - the OCR set's artifact ID.
- **Status** - displays the status of the submitted job; this field updates as the OCR job progresses.
- **Priority** - the priority of the OCR set job. This value defaults to 100.
- **Submitted Date** - the date and time at which one of two actions occurred:
  - A user clicked **Run** on the OCR Set console.
  - A user clicked **Resolve Errors** on the OCR Set console when the set was completed with errors.

Jobs are sent to the OCR engine first by priority and then by submitted date. You can change the priority of the OCR job by clicking **Change Priority** in the bottom left of the view. Only one OCR job runs at a time, the lower numbered job runs first and the higher numbered job runs last.

When you click Change Priority, you can specify a new priority for an OCR job in the queue. To change the queue priority, enter a new value in the Priority field and click **Update**.

27.8 OCR on redacted production documents

Preparing redacted documents for production in an efficient manner is a common challenge in eDiscovery. This topic provides details on completing OCR on redacted documents and exporting the text.

27.8.1 Running the OCR job

To run OCR on your production, perform the following steps. You should do so after you run the production but before you perform the final export.

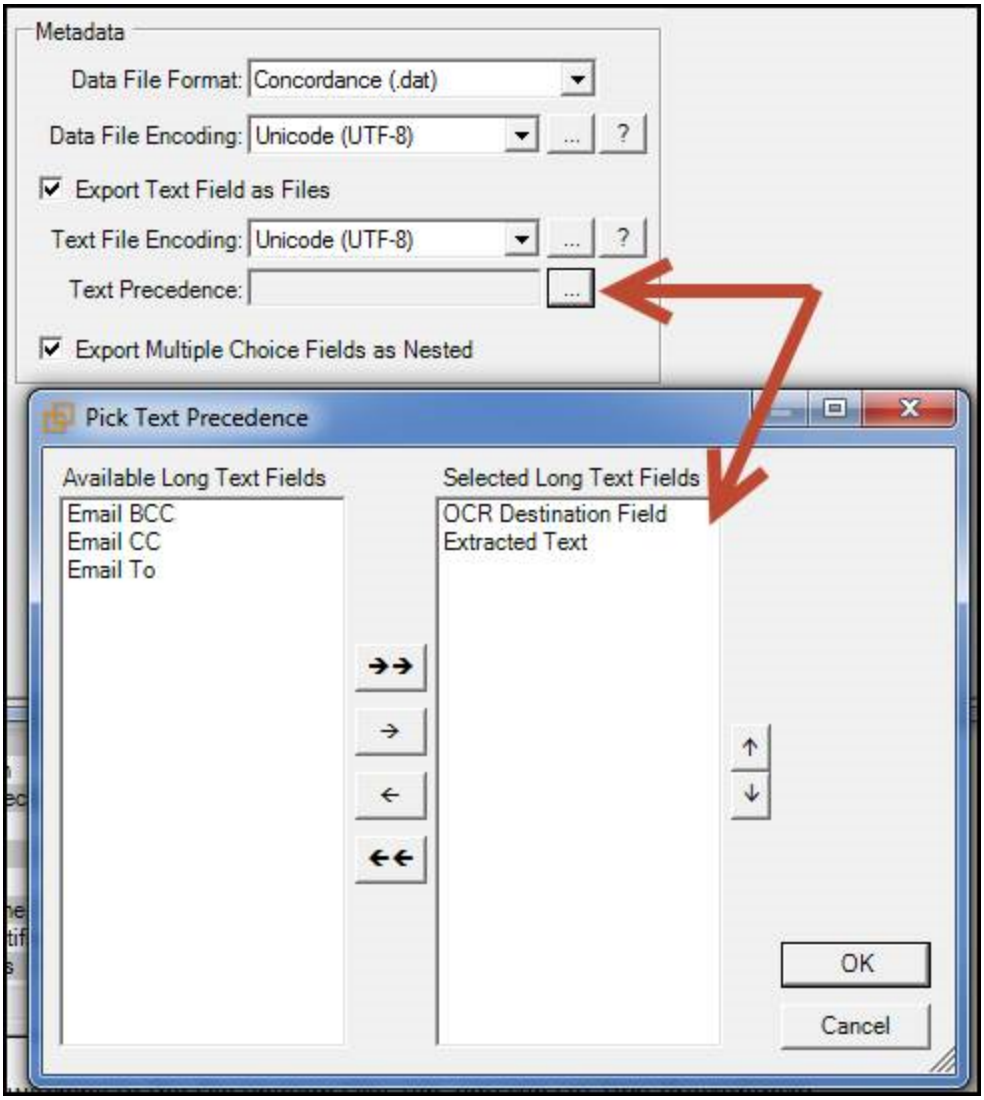
1. Create an OCR profile with your preferred settings. You must have an OCR profile before you can save an OCR Set.
2. Create a long text field to hold your OCR results. You can't OCR directly into the Extracted Text field.
3. Create an OCR Set.
4. Point the OCR Set to the completed Production. If you only want to OCR redacted documents for the production, select **Yes** next to Only OCR Production Documents Containing Redactions.
5. Click **Save** on the OCR Set.
6. On the OCR console, click **OCR Documents** to start the job.
7. When the OCR job is complete, the text becomes ready to export.

27.8.2 Exporting the production

Now you can export the production using text precedence. To only produce non-redacted text when exporting a production, you must use the Text Precedence feature. When you export a production through the RDC, don't add the Extracted Text field to the exported field list. This results in producing redacted text. In order to preserve the integrity of your redactions, don't add the Extracted Text field to the selected columns tab.

When you switch to the Destination Files tab, you can set Text Precedence in the Metadata section. To set Text Precedence:

1. Set the File Format, Encoding, and Export Files options to meet your needs.
2. Click the ellipsis next to Text Precedence. The Pick Text Precedence window appears.
   - Based on the screen shot below, the RDC first checks to see if there is OCR'd text available in the OCR Destination Field. If this field isn't set, the RDC exports the Extracted Text.
3. Export your production set documents.



28 Pivot

Using Pivot, you can quickly analyze your workspace data to identify trends or patterns. You can use Pivot to summarize data in tables or charts, simplifying the analysis process. You can also create ad hoc Pivot reports using the options available on the Pivot menu.

To generate a Pivot report, you specify a field for grouping data totals and further characterize this data by selecting a secondary field. The Pivot grid displays your results in a table format that you can customize for more convenient viewing. See Running Pivot reports.

System admins or users with the appropriate permissions can create custom Pivot profiles that you can reuse on multiple data sets. You can configure these profiles with field information and formatting for charts, including line, pie, and bar graphs.

Note: Relativity does not support Pivot On or Group By for Long Text fields due to the performance impact. However, you can create a Pivot on any Relativity field that is enabled for Group By or Pivot On even if that field doesn't appear in the current view.

28.1 Pivot profiles

Using Pivot profiles, you can create, save, and edit custom Pivot settings to use at any time. Once saved, these profiles are accessible via a drop-down menu in the upper-right corner of the item list.

Pivot profiles include configured settings for the Group By, Pivot On, and Date fields, as well as the chart formats. When you select a profile, the fields in the Pivot menu automatically populate with predefined values. You can modify these values to run additional Pivot reports. Use the Save button to save any updates to the preexisting profile or use the Save As button to create a new Pivot profile.

If you create a Pivot without selecting a profile, you can click **Save** to make the active settings into a profile. The Pivot profile does not save the documents associated with it.

Note: You can't create or save modifications to Pivot Profiles unless you have the required permissions.

Using Pivot profiles

You're a litigation support specialist at a firm and one of your clients is in the middle of a case involving a large number of traders and funds at the nation's largest banks. Someone from your client's office has just contacted you because they need to know which trader at a particular fund has executed the most transactions. They also need to know which month and year saw the highest volume of transactions by this trader. They need this information by the end of the day.

Having worked on this case for the past two months, you're sure these pieces of data are already logged in Relativity, but you don't yet have a way to quickly report on them. You decide to leverage Relativity's Pivot feature. Assuming that you're going to be asked many times to find transaction histories for specified traders throughout the life of this case, you create a Pivot profile to display which traders worked on which funds and how many total transactions they made.

You call this profile Fund/Trader and associate it with the Transactional Data object type that you created to hold the names of traders, the funds they trade, and the total number of transactions they executed. You set your desired display options, making sure to sort on Grand Total, since you need to refer to this often for the total number of transactions made by each trader for each

fund. For the Group By setting, you select the Fund Name field you already created. You select the Trader field you created for the Pivot On setting. Then you save the profile.

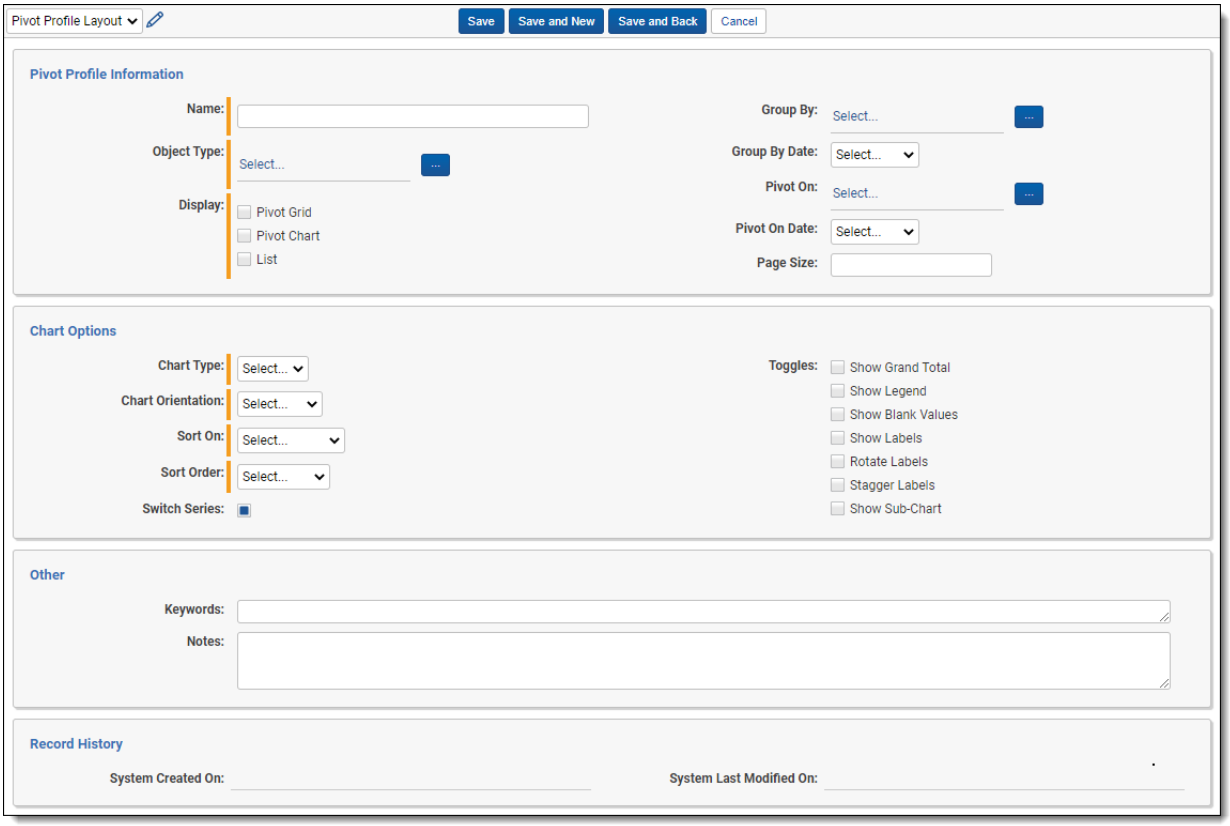
You then create another profile for the Transaction Data object called Trader/Date to bring together the Transaction Date and Trader fields. Once you save the Fund/Trader and Trader/Date profiles, you can select and run them on the item list in the Transactional Data object to easily get at the pieces of data your client needs.

See Running Pivot reports for more information.

28.1.1 Creating or editing a Pivot profile

Perform the following steps to create or edit a Pivot profile.

1. Navigate to the **Pivot Profiles** tab, and then click **New Pivot Profile**. The Pivot Profile Information form appears with required fields in orange.



Note: Only fields that have been Pivot-enabled will be available to select in this form.

2. Complete the fields on the Pivot Profile Information form.

   - **Name** - the name of the profile. You may want the name to reflect fields on which you pivoted.
   - **Object Type** - the object type you would like this profile to appear under.

- **Display** - provides three check boxes to specify which of the three possible Pivot display types you want to be used to represent your profile in the item list:
  - **Pivot Grid** - designates the grid as part of the profile display.
  - **Pivot Chart** - designates the chart as part of the profile display.
  - **List** - designates the list as part of the profile display.
- **Group By** - a list from which you select the field you want to act as your Group By value in your profile. Only fields that are Pivot-enabled on the Field page are available in this list.

  Note: Relativity does not recommend Group By for Long Text fields due to the performance impact. For more information, see Pivot.

- **Group By Date** - a drop-down menu providing the date values for the Group By field:
  - **Date** - displays the date with day, month, and year.
  - **Week** - displays week values.
  - **Two Weeks** - displays every two weeks values.
  - **Year** - displays only a year value.
  - **YearMonth** - displays the year and month values.
- **Pivot On** - the Pivot On field in your profile. Only fields that are Pivot-enabled on the Field page are available in this list.

  Note: Relativity does not recommend Pivot On for Long Text fields due to the performance impact. For more information, see Pivot.

- **Pivot On Date** - provides the same dates for the Pivot On field as found above on Group By, with the addition of the following:
  - **Month** - displays only a month value. Month is only available in Pivot On if your Group By field is also a date.
- **Page Size** - determines the number of sets per page in Pivot chart or graph. Depending on the display specifications you set, you may want to make this value low.
- **Chart Type** - determines what kind of chart is used to represent the profile in the item list:
  - **Bar** - represents values in bar form.
  - **Pie** - represents values in pie form.
  - **Line** - represents values in line form.
- **Chart Orientation** - determines how the chart is positioned. There are two options:
  - **Horizontal** - arranges values horizontally.
  - **Vertical** - arranges values vertically.

- **Sort On** - determines the basis on which the chart information is sorted. There are two options:
  - **Grand Total** - sorts by the total.
  - **Group By Field** - sorts by the Group By field you specified.
  - **Descending** - sorts starting with the first record and ending with the last.
- **Sort Order** - determines the order in which records are sorted. There are two options:
  - **Ascending** - sorts starting with the last record and ending with the first.
- **Switch Series** - switches the Group By and Pivot On fields' positions.
- **Toggles** - configure additional chart instructions. The options are:
  - **Show Grand Total** - toggles the display of grand total in the Pivot Chart. This value can help add context, but may throw off the scale of the Pivot Chart and reduce readability.
  - **Show Legend** - toggles the display of the Pivot Chart legend. This information can often be intuited from looking at the chart. If not, it can be added.
  - **Show Blank Values** - toggles the display of blank values in the chart.
  - **Rotate Labels** - rotates the group by labels at a 45 degree angle. This can help readability in fields with many values.
  - **Stagger Labels** - another option to improve readability of group by values. Stagger labels varies the horizontal position of the labels to improve readability.
  - **Show Labels** - toggles the value count labels on Pivot Charts.
  - **Show Sub-Chart** – toggles the display of sub-chart in Bar Chart, Stacked Bar Chart, and Line Chart.

3. Click **Save**.

28.2 Running Pivot reports

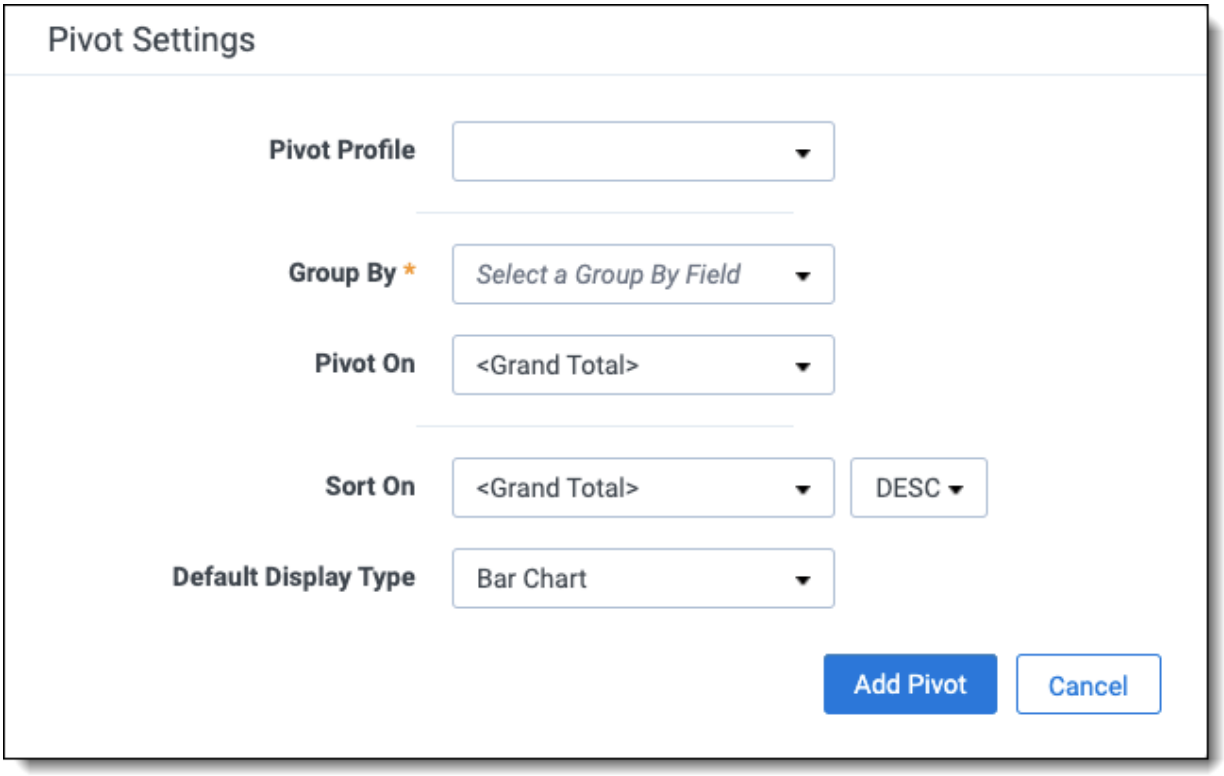
Note: To enable the Add Widgets button and Pivot functionality for an Relativity Dynamic Object (RDO), you must select Enabled for the **Pivot** property in the Object Type Information section for the object.

The Pivot menu displays options to run reports on pivot-enabled fields in views and saved searches.

28.2.1 Adding a Pivot widget

To add a new pivot chart to a dashboard:

1. Click **Add Widget** at the top of the page, and then select **Pivot** to launch the Pivot Settings pop-up.



2. Perform one of the following to define settings for your Pivot widget:
   a. Select an existing Pivot profile from the **Pivot Profile** drop-down menu. The Group By and Pivot On fields populate with the settings defined by that Pivot profile.

      OR

   b. In the **Group By** field, select a field to define the horizontal axis of the Pivot report.

   c. (Optional) In the **Pivot On** field, select a field to break down the totals that appear in each row. This acts as the vertical axis of the Pivot report.
      If you select a date field in either the Group By or Pivot On field, the **Date** drop-down menu becomes enabled for that field.

      Note: If **Every Week** or **Every Two Weeks** is selected, the results are displayed from Sunday through Saturday.

      Select an option from the following:

      - **Every Day** - summarizes on each day.
      - **Every Week** - summarizes every week.
      - **Every Two Weeks** - summarizes every two weeks.
      - **Every Year** - summarizes on each year.
      - **Every Month** - summarizes on each month.

d. (Optional) When you select a Group By or Pivot On field, a drop-down menu appears, allowing you to specify the number of results that will be returned. From the drop-down menu, select All, Top, or Bottom. If you select Top or Bottom, a field appears to the right. In this field, enter the number of results you'd like to see displayed in the Pivot. For example, you can set the Pivot to display the top ten responsive designations for each custodian.

e. (Optional) After setting the Group By and Pivot On field information, you can select a field from the **Sort On** drop-down list and then select a sorting method, which determines how the displayed values for the selected field will be sorted on the screen (i.e., ascending or descending order).

f. Select a **Default Display Type**. Choose from the following:
   - Bar Chart
   - Pie Chart (available when you select only a Group By value)
   - Stacked Bar Chart (available when you select both a Group By and Pivot On value)
   - Line Chart
   - Table

Note: You can select an existing Pivot profile, then modify the settings in the Group By and Pivot On fields. None of your changes are saved to the Pivot profile unless you save your new profile. See Pivot options below.

3. Click **Add Pivot** to add the Pivot widget to your Dashboard.

The Pivot widget now appears on your Dashboard. Each other panel on the page is automatically resized or moved to accommodate the new widget.

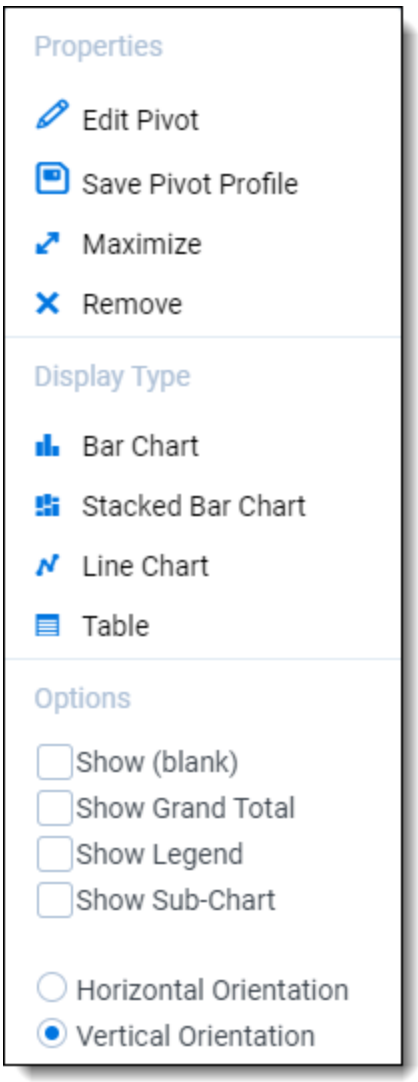
You can size and move panels to create the configuration you prefer. Click and drag to zoom in on the Pivot display. You can hover over any item to get a specific count for that item or click any item to drill down and view more information for that specific item.

Note: Click the value name in the legend to toggle it on and off.

28.2.2 Pivot options

Once you've added a Pivot widget to your Document list page, you can configure settings for the Pivot. Click the icon at the top right of the Pivot widget to display the Pivot options pane.

The Pivot options pane has 4 sections: Properties, Display Type, Export, and Options.

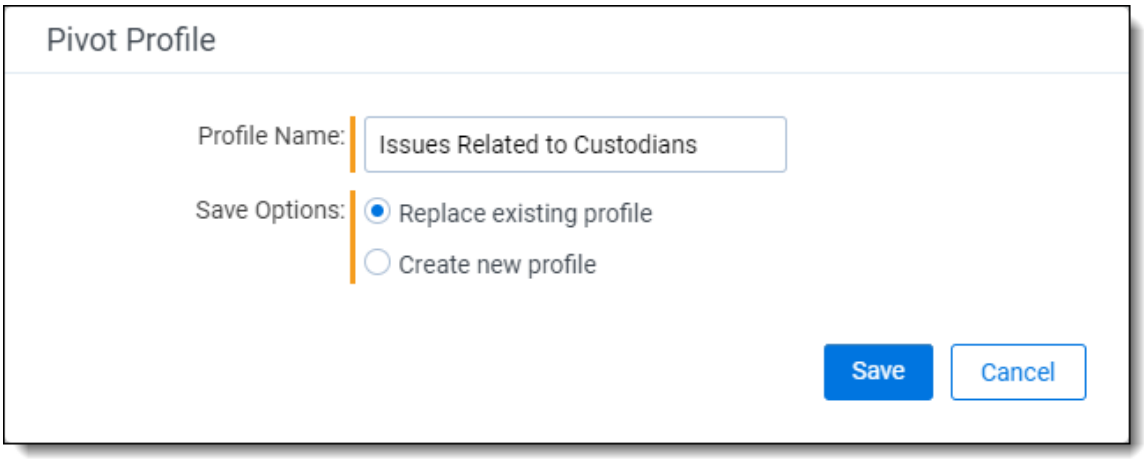


28.2.2.1 Properties

From the Properties section, you can edit the Pivot, save a Pivot profile, maximize the Pivot widget, or remove the widget.

- **Edit Pivot** - Brings up the Pivot Settings window in which you can edit the Pivot settings.
- **Save Pivot Profile** - Brings up the Pivot Profile window in which you can replace or create a new profile.
  - To replace the selected Pivot profile with the current settings, leave the default name in the Profile Name field and select **Replace existing profile**.
  - To create a new Pivot profile with the current settings, enter a new name in the Profile Name

field and select **Create new profile**.



- **Maximize** - When you maximize a widget, it takes over the whole Document list screen. To restore a maximized widget to the size it was before you maximized it, click the icon in the upper right and select **Restore**.
- **Remove** - Click **Remove** to delete the widget.

28.2.2.2 Display type

From the Display Type section on the Pivot options pane, you can change the display type for the Pivot. Select from the following:

- Bar Chart
- Pie Chart (available when you select only a Group By value)
- Stacked Bar Chart (available when you select both a Group By and Pivot On value)
- Line Chart
- Table

28.2.2.3 Export

From the Export section on the Pivot options pane, you can export the Pivot to one of the following formats:

- **Export PNG** - exports the chart as a PNG image file and automatically downloads it locally.
- **Export XLSX** - exports the chart as a Microsoft Excel Document where you can modify and configure the chart using Excel's built in chart functionality.

28.2.2.4 Options

From the Options section on the Pivot options pane, select the checkboxes to display blank values, show grand total, display the chart horizontally or vertically (for bar and stacked bar charts), choose whether to display the legend, and enable the sub-chart.

28.2.3 Working with Pivot chart results

By default, the Pivot chart displays your results as a graph using the Group By field as the horizontal axis and the Pivot On field as the vertical axis. To change between different chart or choose different options,

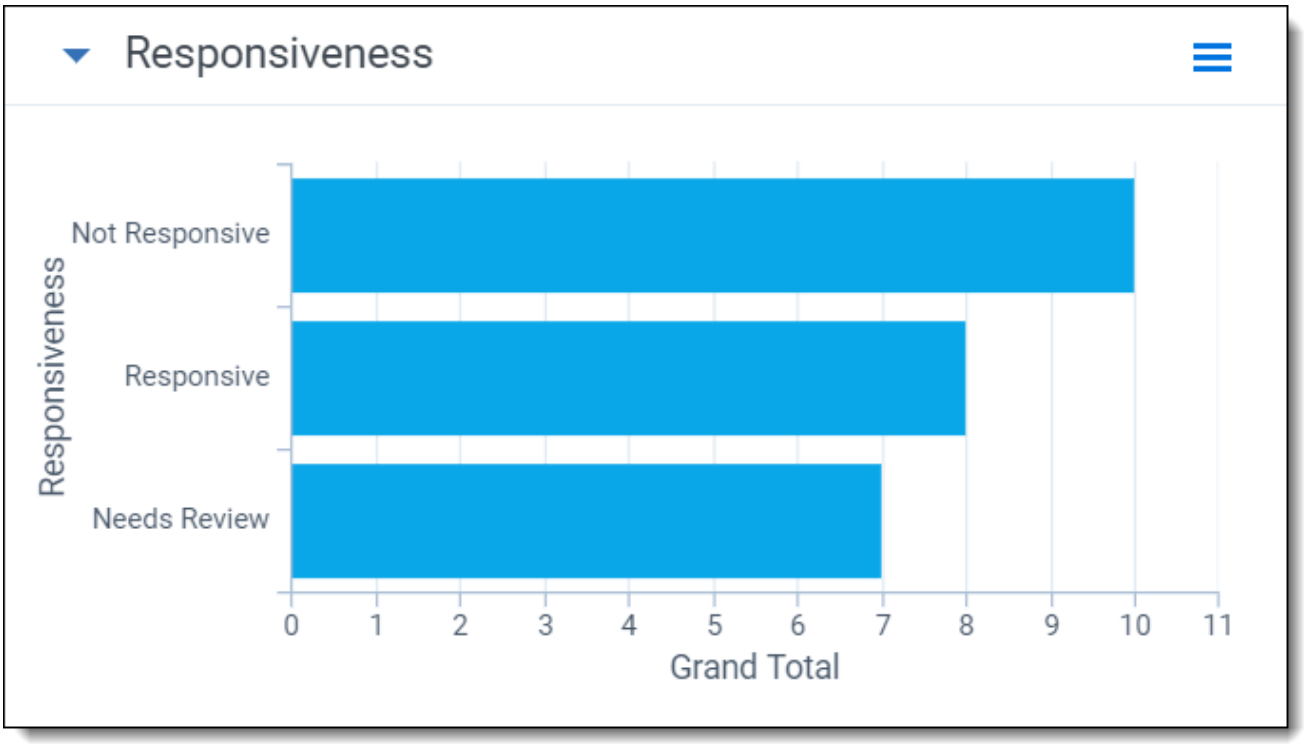
click the ≡ icon at the top right of the pane, then select a chart type from the Display Type section.

You have the following options:

- Using bar charts below
- Using pie charts below
- Using stacked bar charts on the next page
- Using line charts on page 472
- Filtering the Document list from a Pivot chart on page 472
- Exporting a Pivot or cluster visualization widget on page 472

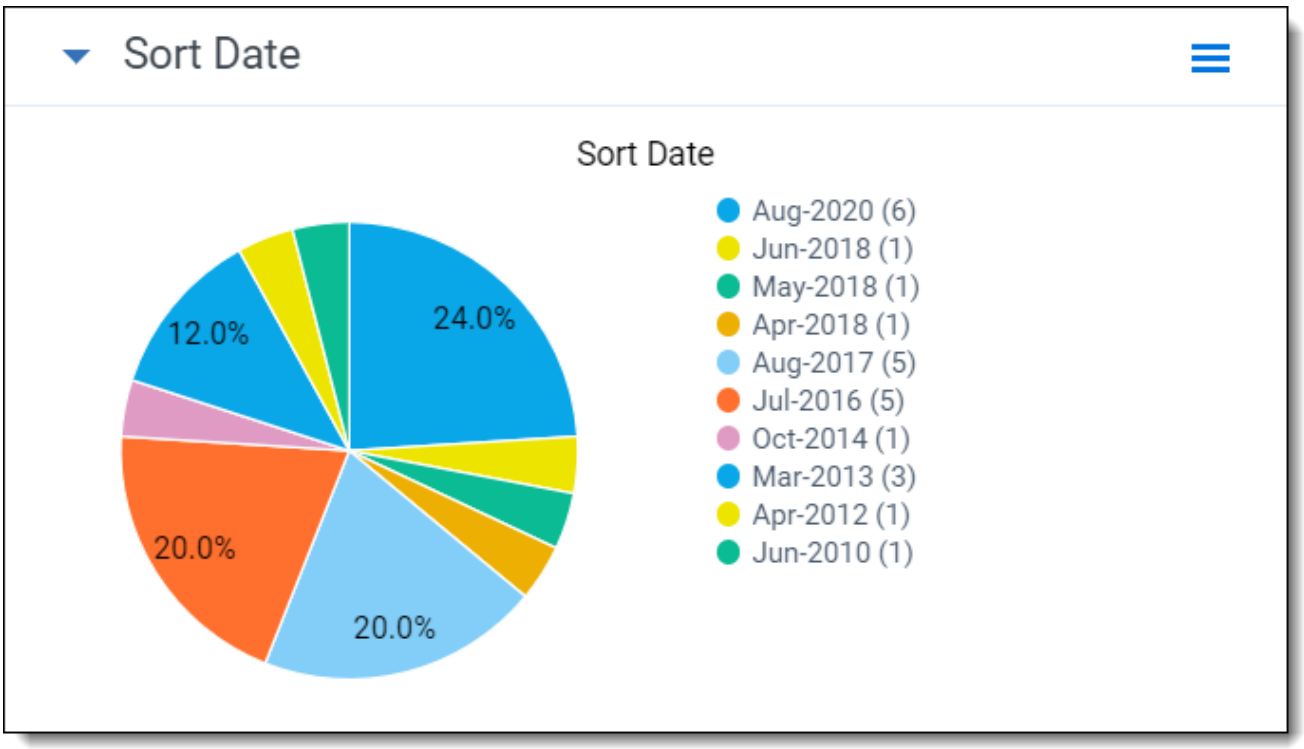
28.2.3.1 Using bar charts

The bar chart displays results in a standard bar format. If you have multiple Pivot On results for your Group By values, the chart displays those results next to each other. Hover over a specific item to view details about that item. Using the Pivot options pane, you can select whether to display the chart vertically or horizontally.



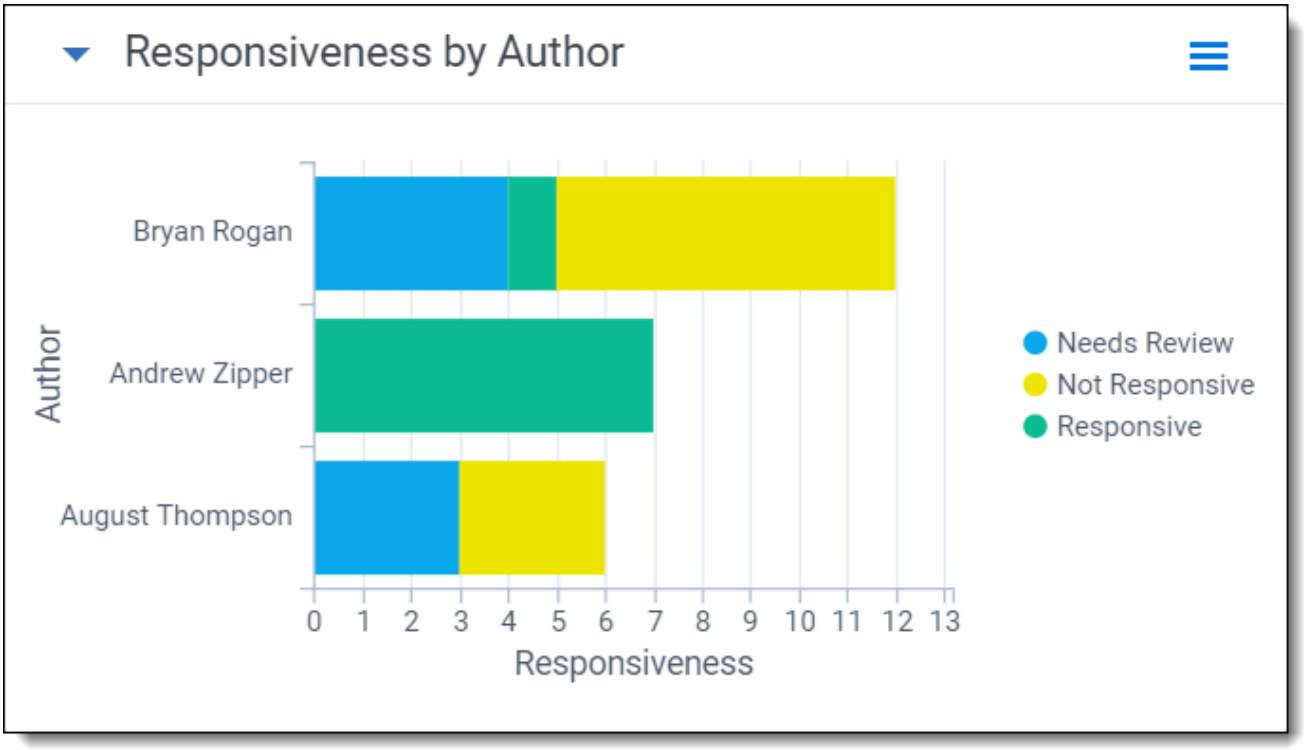
28.2.3.2 Using pie charts

The pie chart displays results in a standard pie format. Hover over a specific item to view details about that item.



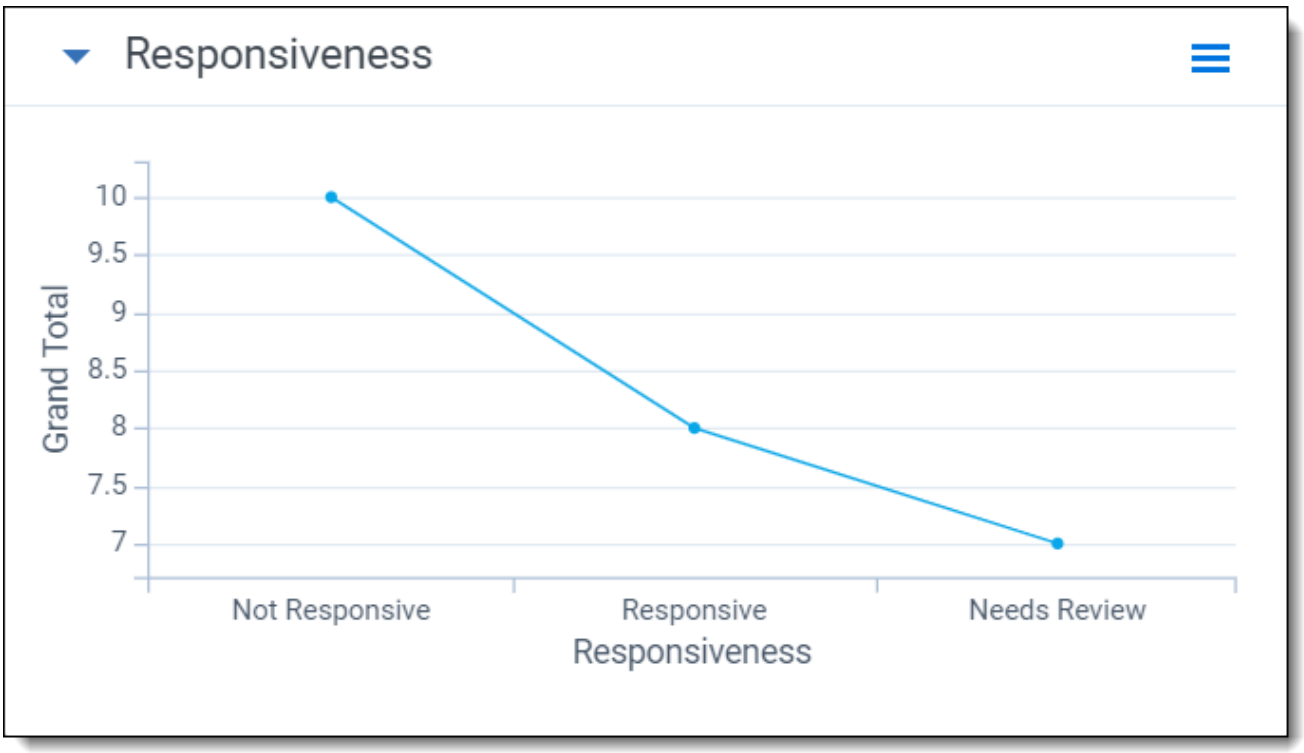
28.2.3.3 Using stacked bar charts

If you have multiple Pivot On results for your Group By values, the stacked bar chart displays those results in a streamlined, comprehensive bar. Hover over a specific item to view details about that item. Using the Pivot options pane, you can select whether to display the chart vertically or horizontally.



28.2.3.4 Using line charts

The line chart displays results in a standard line format. Hover over a specific item to view details about that item. You can also drag and drop a gray box on the smaller version of the line chart above the legend to zoom in on particular areas of interest on the chart.



28.2.3.5 Filtering the Document list from a Pivot chart

Using any chart type, you can click any item to drill down into those results. When you do this, the Document list automatically refreshes to display only the results from the item you've clicked. To activate multi-select mode and select multiple ranges of values for bar and pie charts, use **Ctrl + Click**. To select a range of points on a line chart, click and drag.

28.2.3.6 Exporting a Pivot or cluster visualization widget

Use the Pivot Options pane for the widget to save the information outside of Relativity. You can select from the following options:

- **Export PNG** - exports the widget as a PNG image file and automatically downloads it locally.
- **Export XLSX** - exports the widget as a Microsoft Excel Document where you can modify and configure the chart using Excel's built in chart functionality

> **Note:** Exporting to Excel functionality does *not* require Microsoft Excel to be installed (except for viewing of the exported file).

To export a widget:

1. Click the icon at the top right of the relevant widget to display the options pane.
2. Select **Export PNG** or **Export XLSX**.

The generated filed is automatically downloaded locally to your computer.

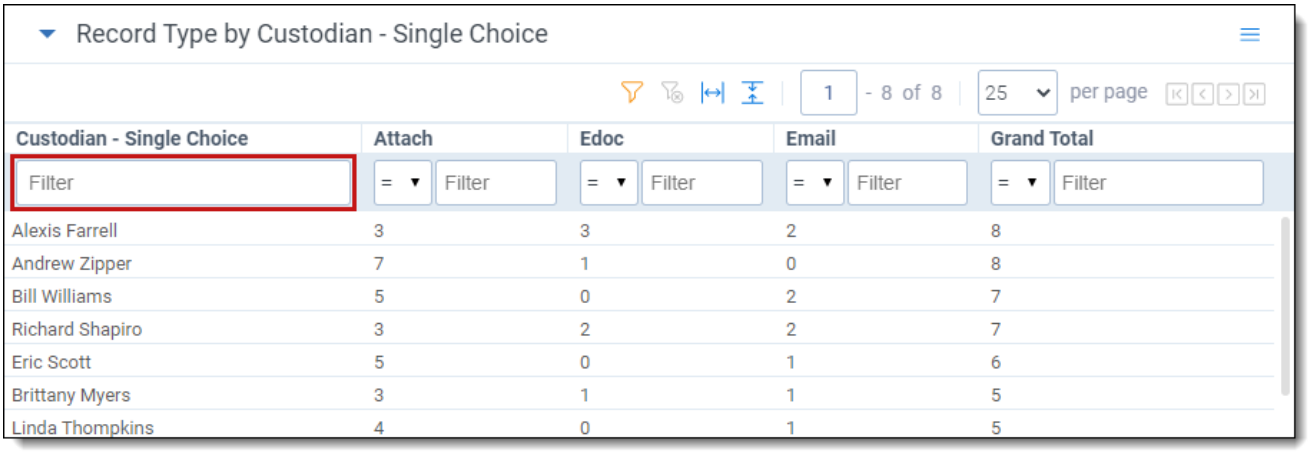
3. Open the file on your computer to view the result.
4. If you exported the widget to Microsoft Excel, you may use Excel's built in chart functionality to edit the chart and its data as needed.

Note: Please note that you cannot modify cluster visualization widget data in Excel.

Note: If you want to export all the widgets on your dashboard to an Excel file, refer to Exporting a dashboard in the Admin Guide.

28.2.4 Working with Pivot table results

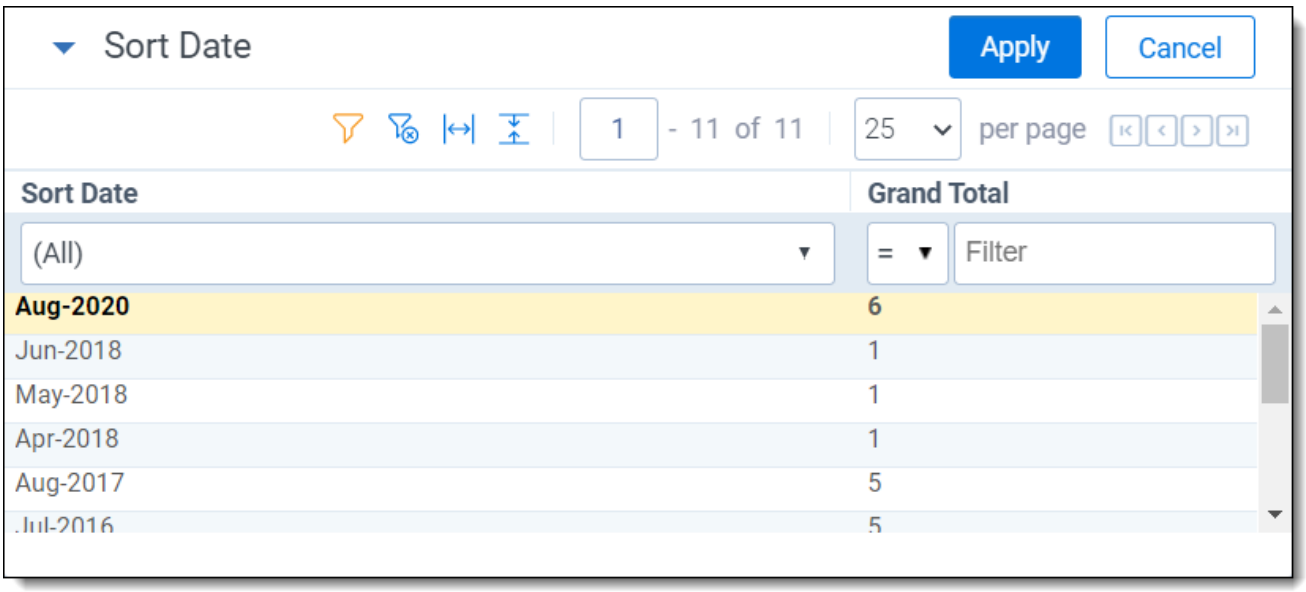
The Pivot table displays your results using the Group By field as rows (horizontal axis) and the Pivot On field as columns (vertical axis). In the example below, the grid displays rows for each custodian and columns for each record type designation.



From the table results, you can modify the sort order of the results. By default, your Pivot results are sorted in descending order based on the **Group By** field. You can modify the sort order by clicking on any of the column headers. (Click once for a descending sort, and twice for ascending.)

28.2.4.1 Filtering the Document list from a Pivot table

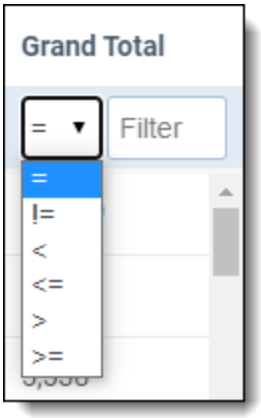
In the Pivot table, click any cell once to highlight it. Click **Apply** to confirm. The Document list refreshes to display only the results from the cell you selected.



To clear the filter, click **Clear All Conditions** in the Search Panel.

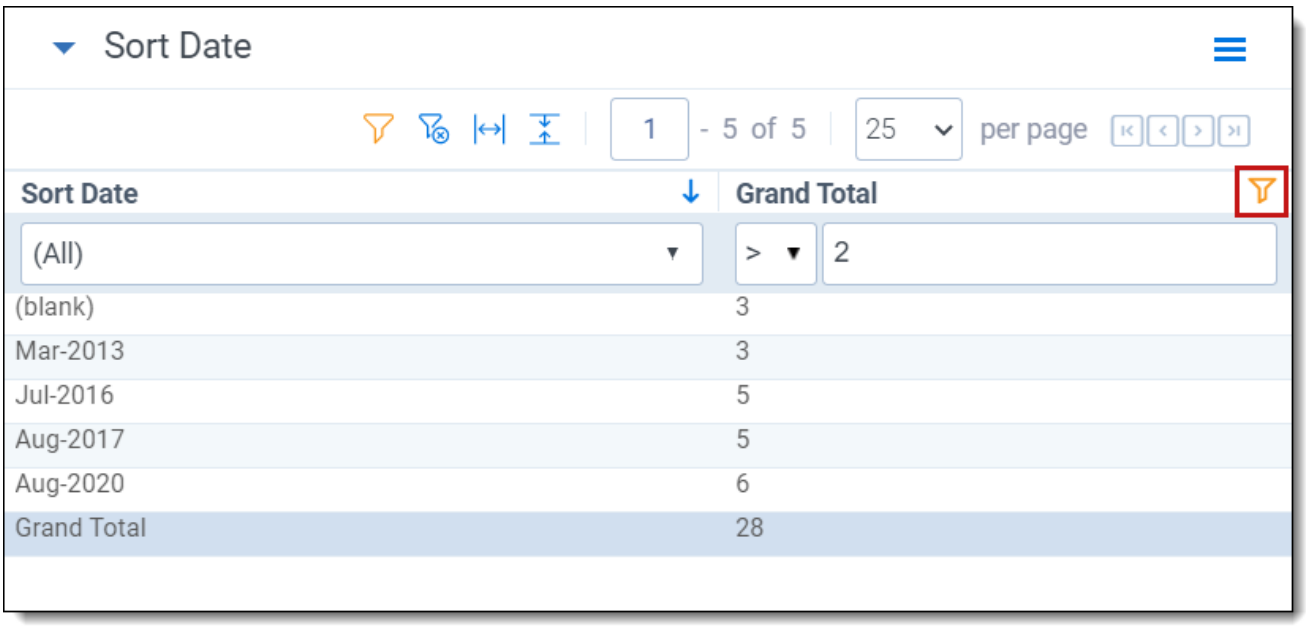
28.2.4.2 Filtering on numeric fields in a Pivot table

In a Pivot table, you can filter on any numeric field to return results that match a certain operator. In the Pivot table display, click the filter icon to apply a filter on a numeric field. From the drop down shown in that field, select an operator:



- = (equal to)
- != (not equal to)
- < (less than)
- <= (less than or equal to)
- > (greater than)
- >= (greater than or equal to)

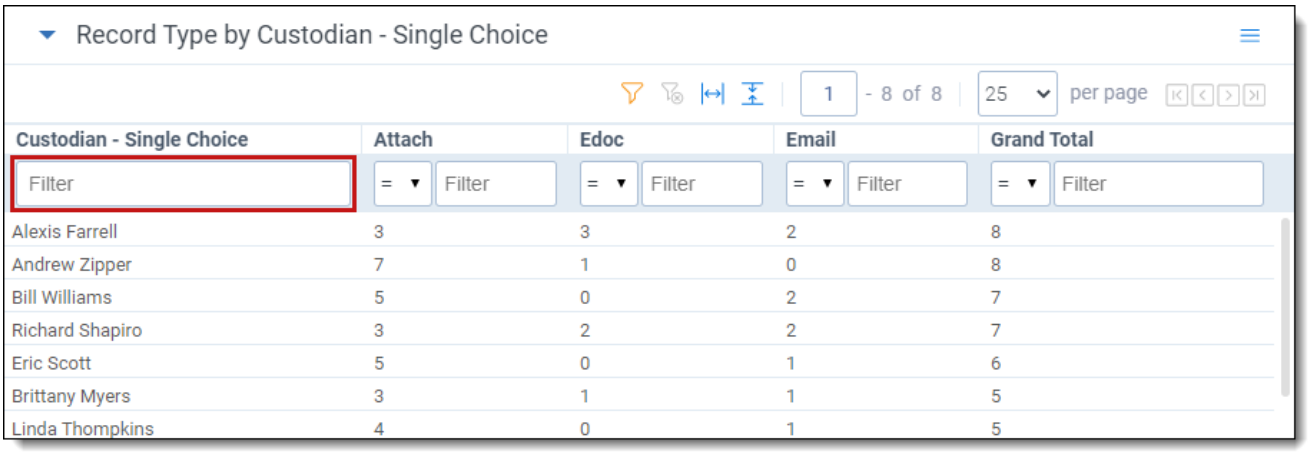
Once you've selected an operator, enter a numerical value in the filter textbox, then click **Enter** to apply the filter. When a filter is applied, the hide filter icon appears in the heading of the column.



To clear the filter, click the clear filter icon .

28.2.4.3 Filtering on the Group By field in a Pivot table

In the Pivot table, you can filter on results from the Group By field. You can limit results to a specific value or range for the field you've selected as the Group By field (in this example, the field Custodian - Single Choice is the Group By field). To filter for specific results on the Group By field, enter a numerical value in the text field at the top of the column.

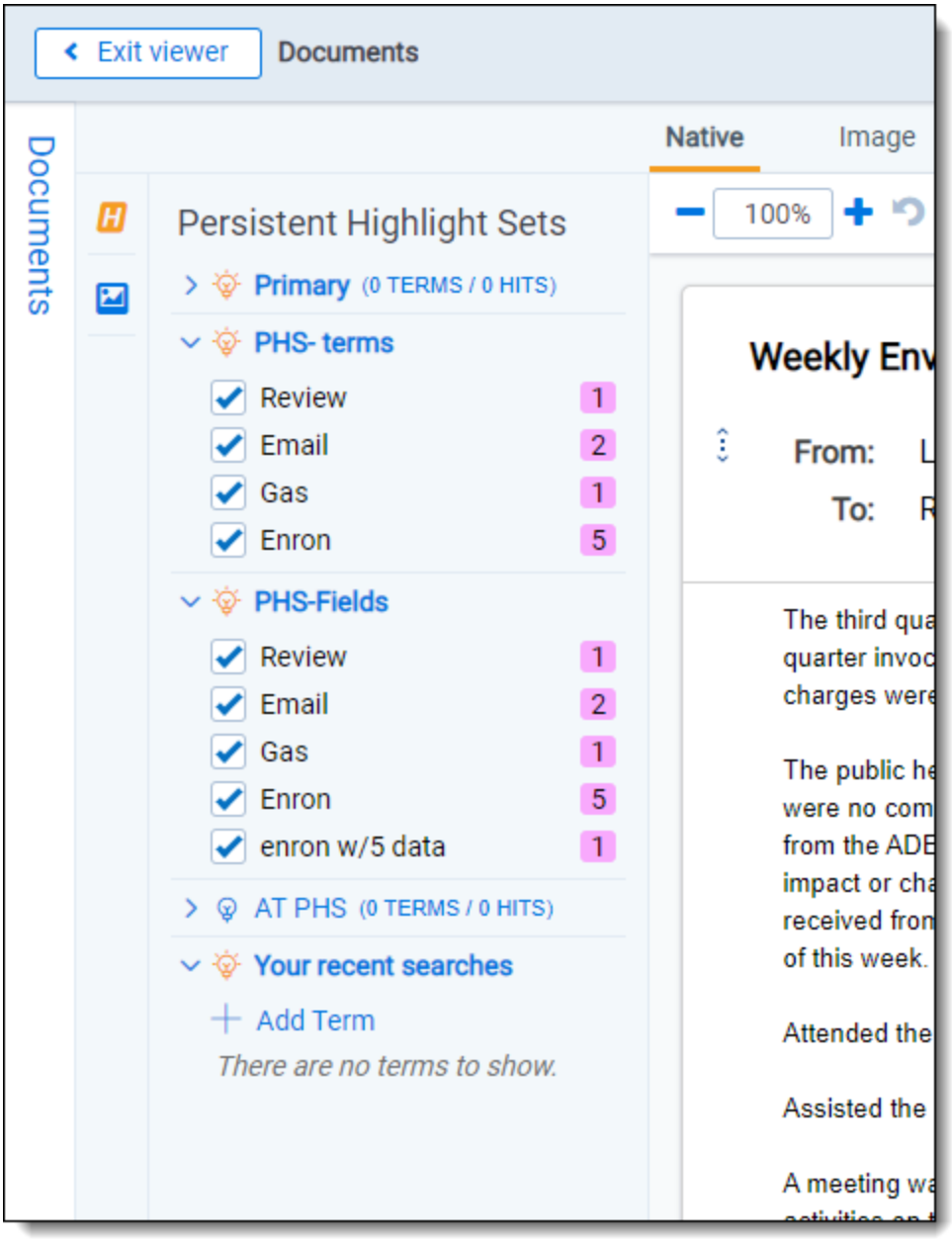


To clear the filter, click the clear filter icon .

29 Persistent highlight sets

With persistent highlight sets you can configure and apply term highlighting to assist with document review in the Viewer. In the Persistent Highlight Pane of the Viewer, you can see all sets saved in a workspace and apply or hide term highlights in the document you're reviewing.

If a document you're reviewing contains any of the terms specified in a set, the list of terms and the number of times they appear in the document appear under the set. If a document contains no terms from the set, you can't expand or collapse the set in the tree. If the document contains some terms in the set, only the terms that exist in the document appear below the set name.



System admins can control which highlight sets different users see when working within a document. See Workspace security on page 643.

Persistent highlight sets are independent of markup sets. See Markup sets on page 403.

Using persistent highlight sets

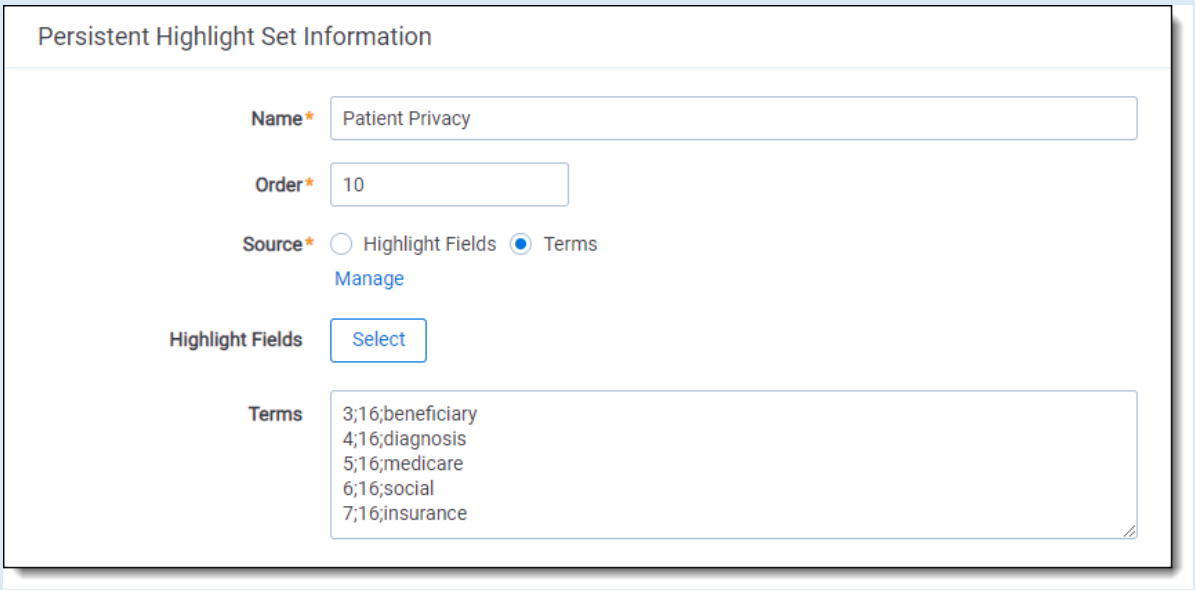
You're a system admin and one of your clients, a medical patient advocate group, is suing a hospital system because their IT department accidentally allowed a security breach that resulted in the theft of thousands of patients' social security numbers and pieces of personal health information.

The data set you need to review for this case includes thousands of emails, invoices, and other notifications containing references to the pieces of information that were compromised in the breach. You need to equip a small group of reviewers with everything they need to find relevant documents as quickly as possible. You want your reviewers to find and code all files related to the following:

- Social security number
- Biometrics
- Medicare
- Insurance
- Diagnosis
- Treatment
- Beneficiaries

You created coding layouts, views, and search indexes, and now you want to enable your reviewers to quickly and easily locate instances of these terms in the documents they're reviewing. For that, you use persistent highlight sets.

You create a new persistent highlight set with a name of "Patient Privacy," which is congruent with the other objects you've already set up for this case. You give this set an order of 10 and you select Terms for the Source field choice. Then, in the Terms field, you enter the terms most prevalent to the data set and the specific highlight colors in which you want those terms to appear.



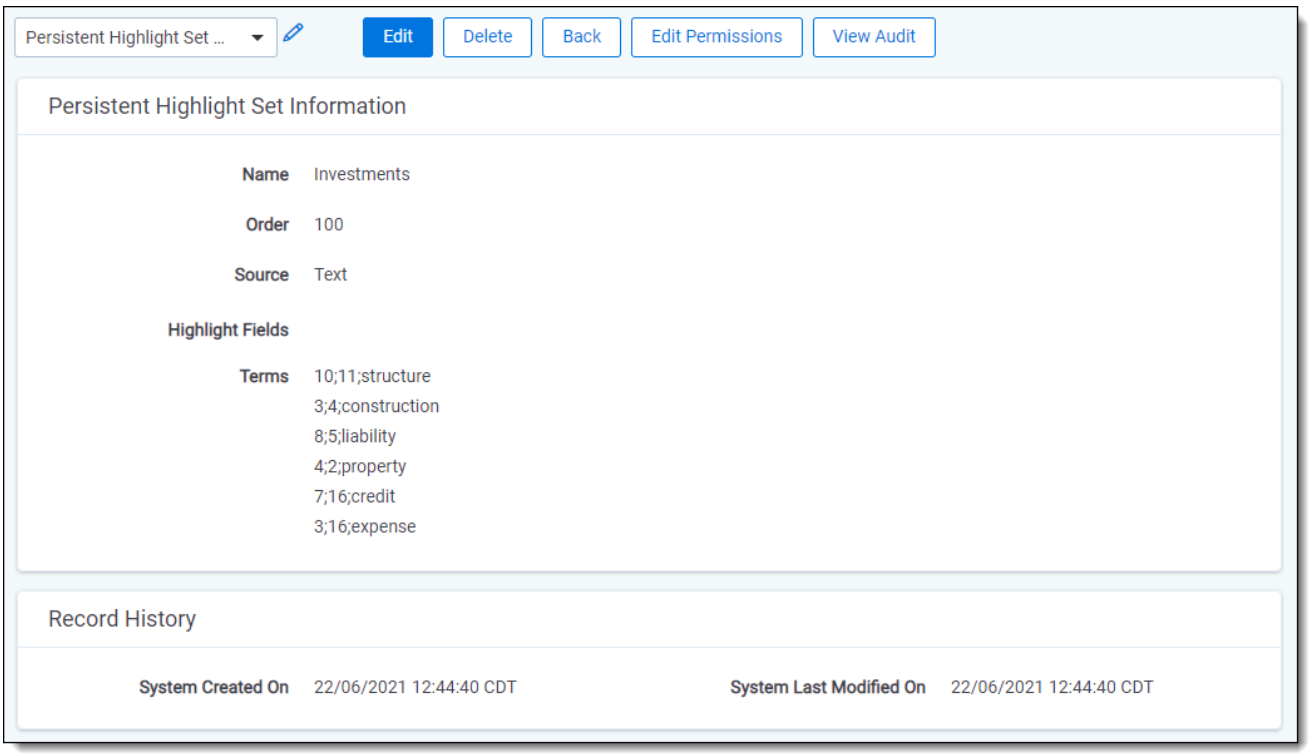
When you save this new persistent highlight set, reviewers can select it from a menu for every document they load in the Viewer. When they apply highlights, the document instantly points them to the locations of each term that appears. From there, they can easily tell if the document is responsive and if it's worthy of being coded for some of the issues you've defined in this case. With this new persistent highlight set, you've expedited and ensured a thorough document review project.

29.1 Getting started with persistent highlight sets

You create persistent highlight sets in the **Persistent Highlight Sets** tab of a workspace. Each set includes a list of terms populated manually or from a source field in the set configuration. After you create a persistent highlight set, the set and its terms are available in the Persistent Highlight Pane of the Viewer.

The following persistent highlight set includes several terms with highlight color-coding. See Color-coding persistent highlights on page 489 for more information.

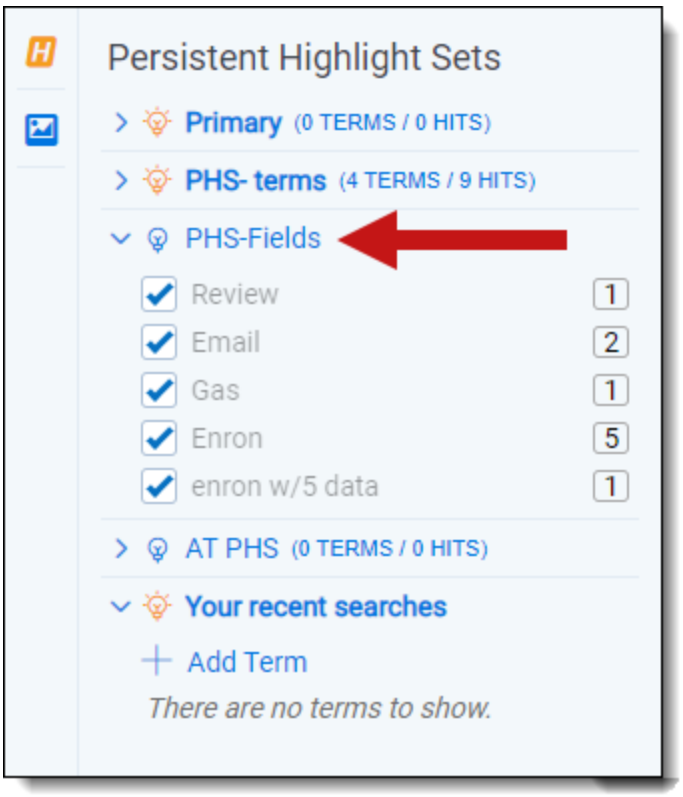
This set is available when a user opens the viewer and any edits made to this set are reflected immediately.



29.1.1 Showing and hiding persistent highlight sets in the Viewer

To view the list of available persistent highlights sets and related terms in the Persistent Highlight pane, click the Show/Hide Persistent Highlight Pane icon in the left drawer.

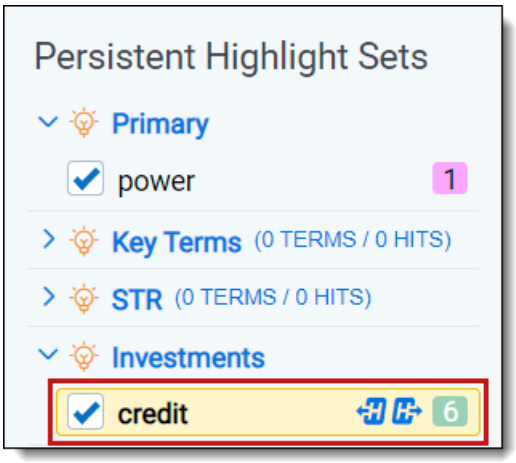
Click the next to a persistent highlight set to expand it and show the list of terms from that set found in the document. By default, all persistent highlight sets are enabled in the Viewer, and terms found in a document are selected in the Persistent Highlight Pane and highlighted in the document. Click a persistent highlight set's name or the icon to hide all term highlights from the set in the Viewer. When a persistent highlight set's icon is and the terms appear partially transparent in the Persistent Highlight Pane, the term highlights for the set are hidden in the Viewer.



Clear a term's check box to hide its highlights in the Viewer. Select its check box to apply highlighting for the term in the Viewer again.

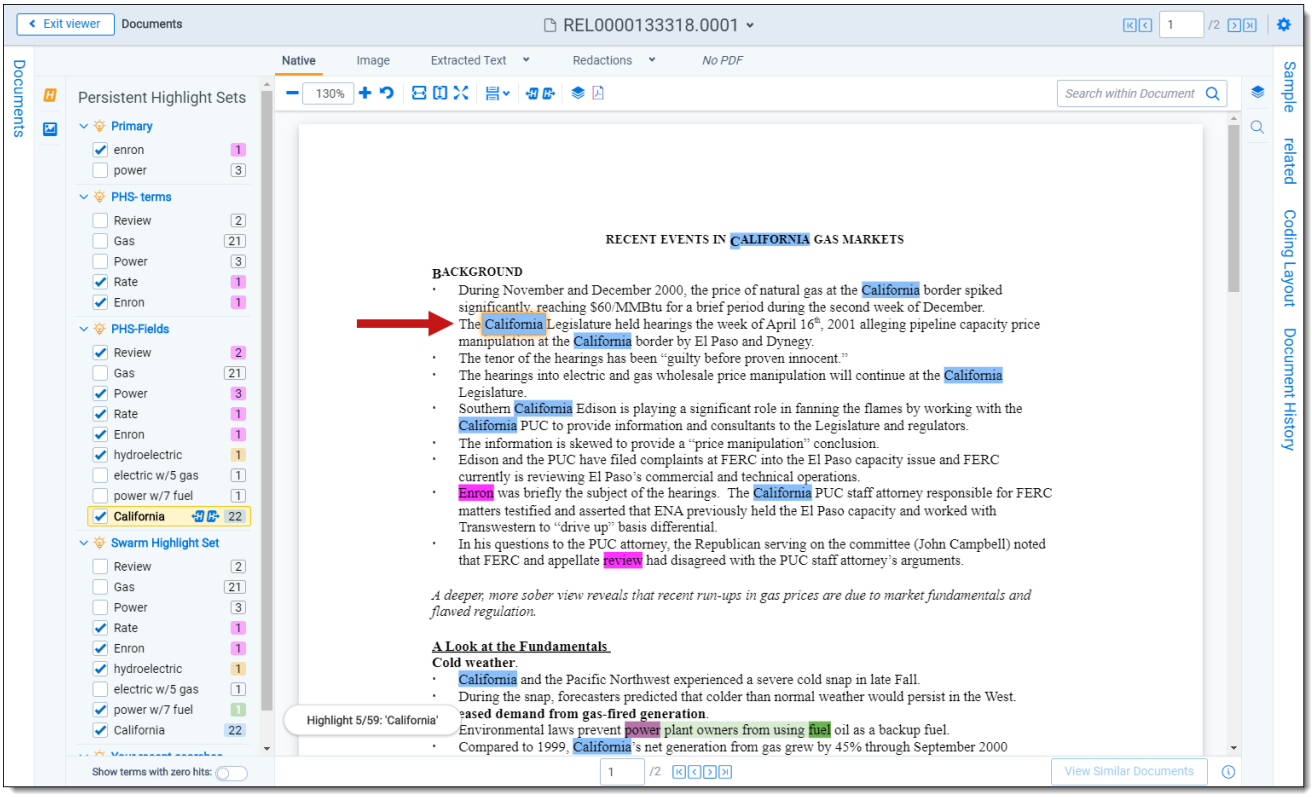
If any of the set's terms aren't present in the current document open in the Viewer, they don't display in the Persistent Highlight Pane. For example, if you created a set named Investments that contains five highlight terms, and only three of the terms show in the pane for a particular document, the other two terms aren't present in the document.

You can navigate through the hits for a persistent highlight set or for a term while viewing a document in the Viewer. Click on either the persistent highlight set or the desired term in the Persistent Highlight Pane and the Go to Next/Previous Highlights icons display in the row.

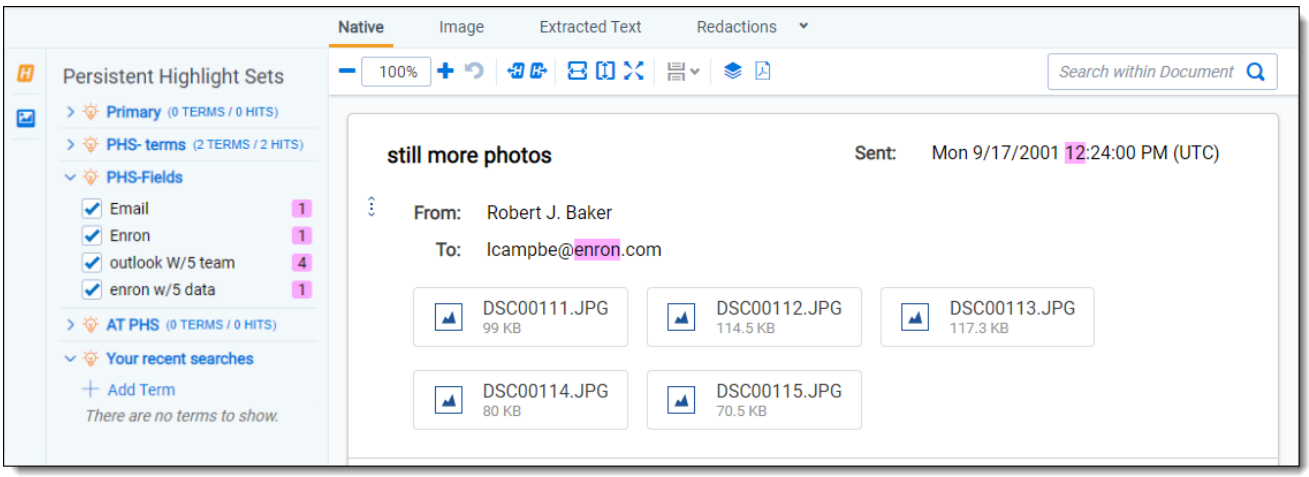


You can use the Next/Previous icons to cycle through the hits for either the persistent highlight set or the highlighted term. Regardless of where you are in a document, when you click the Next icon for the first time, you will be taken to the first highlight in the document for that persistent highlight set or term even if you've moved past it while browsing the document.

Clicking the Next/Previous icons also emphasizes the actively navigated highlight with an orange glow to help you track which one is active.



When you select a persistent highlight term in the Persistent Highlight Pane, in addition to highlighting all instances of that term in the body of an email, the Viewer also highlights instances of the term in the email header.



The number of terms and hits is listed to the left of the persistent highlight set's name. It is possible to have many highlight sets enabled but no highlights appear in a document.

Selections made in the Persistent Highlight pane persist throughout a user's session in Relativity. This includes any of the following changes related to the Persistent Highlight Pane in the Viewer:

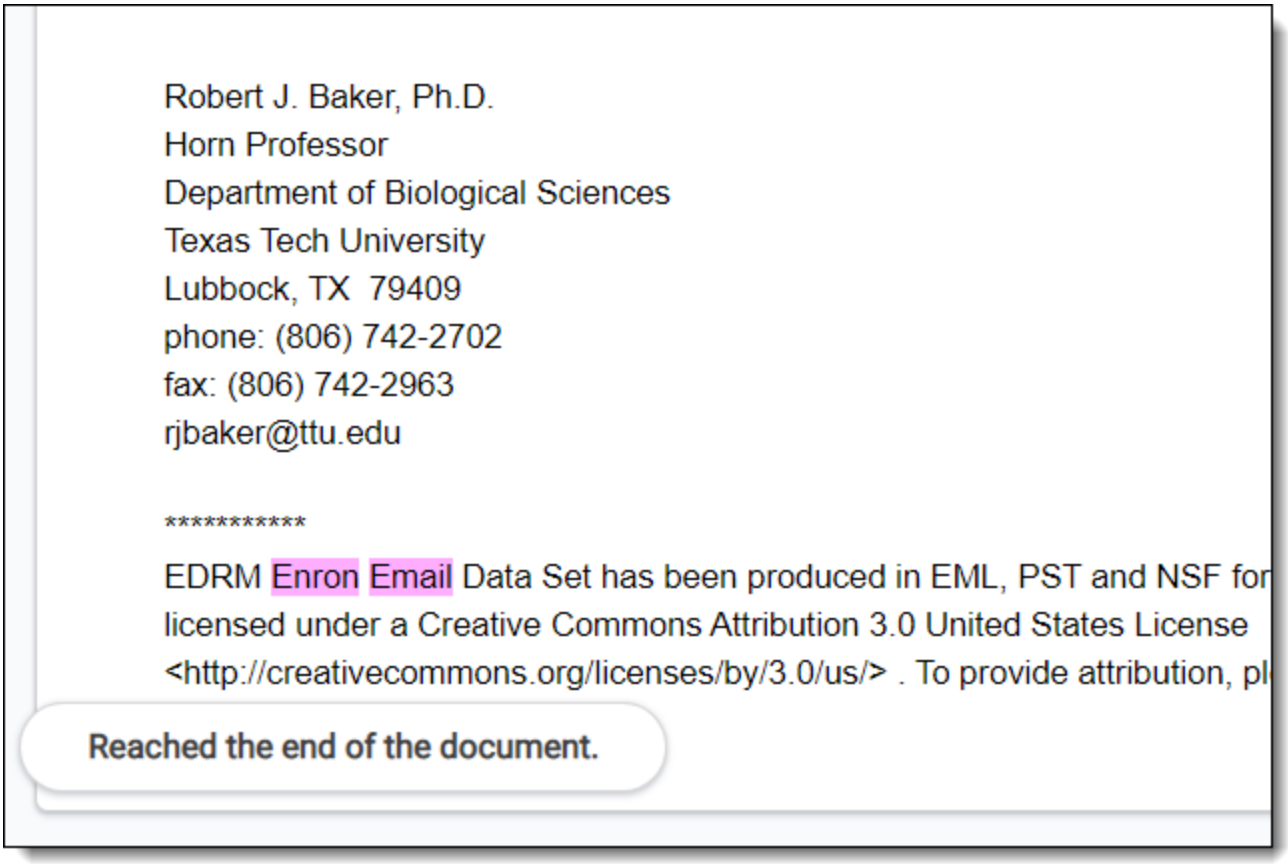
- Showing or hiding the Persistent Highlight Pane.
- Enabling or disabling a persistent highlight set.
- Expanding or collapsing the term list for a persistent highlight set.
- Checking or clearing terms check boxes in a persistent highlight set.

29.1.2 Navigating highlighted terms in the Viewer

To navigate between terms highlighted on a document in the Viewer, use the **Go to Previous Highlight** and **Go to Next Highlight** icons on the Viewer toolbar.

The **Go to Previous Highlight** and **Go to Next Highlight** icons only navigate between terms enabled in the Persistent Highlight Pane.

When navigating through a document's highlighted terms, the following notification displays in the bottom-left to inform you that you've reached the beginning or end of the document and there are no more highlights.



29.1.2.1 Actively navigated and inactive highlights

To support advanced highlights within persistent highlight sets, two types colors can be available in the Viewer - actively navigated and inactive highlights. The colors are the same, but have a different level of opacity. Active highlights are the highlights that the Viewer is focused on. Active highlights are at full opacity and inactive highlights are at a lower opacity level. See Color-coding persistent highlights for more information.

Note: Beginning in Relativity 11.3.1, the auto-contrast feature has been added to color-coding persistent highlights. This feature automatically determines the text color based off the background color you select to ensure readability no matter which colors are selected. For example, if the background color is closer to black, the text will automatically be white or if the background color is closer to white, the text will automatically be black.

Note: The opacity level of the highlights for proximity searching and inactive terms can be adjusted by editing the value of the **ViewerHighlightStyleDefault** instance setting.

Color name	Highlight Color	Number
[Default]		0
Black		1
Dark red		2
Dark green		3
Dark yellow		4
Dark blue		5
Dark magenta		6
Dark cyan		7
Light gray		8
Gray		9
Red		10
Green		11
Yellow		12
Blue		13
Magenta		14
Cyan		15
White		16
Light green		17
Light blue		18
Light yellow		19
Light purple		20
Light red		21
Light orange		22
Purple		23
Orange		24
Dark purple		25
Dark orange		26

29.1.3 Persistent highlight set behavior across Viewers

Note the following regarding persistent highlight set behavior as the reviewer moves from document to document, changes Viewers, and uses pane toggles:

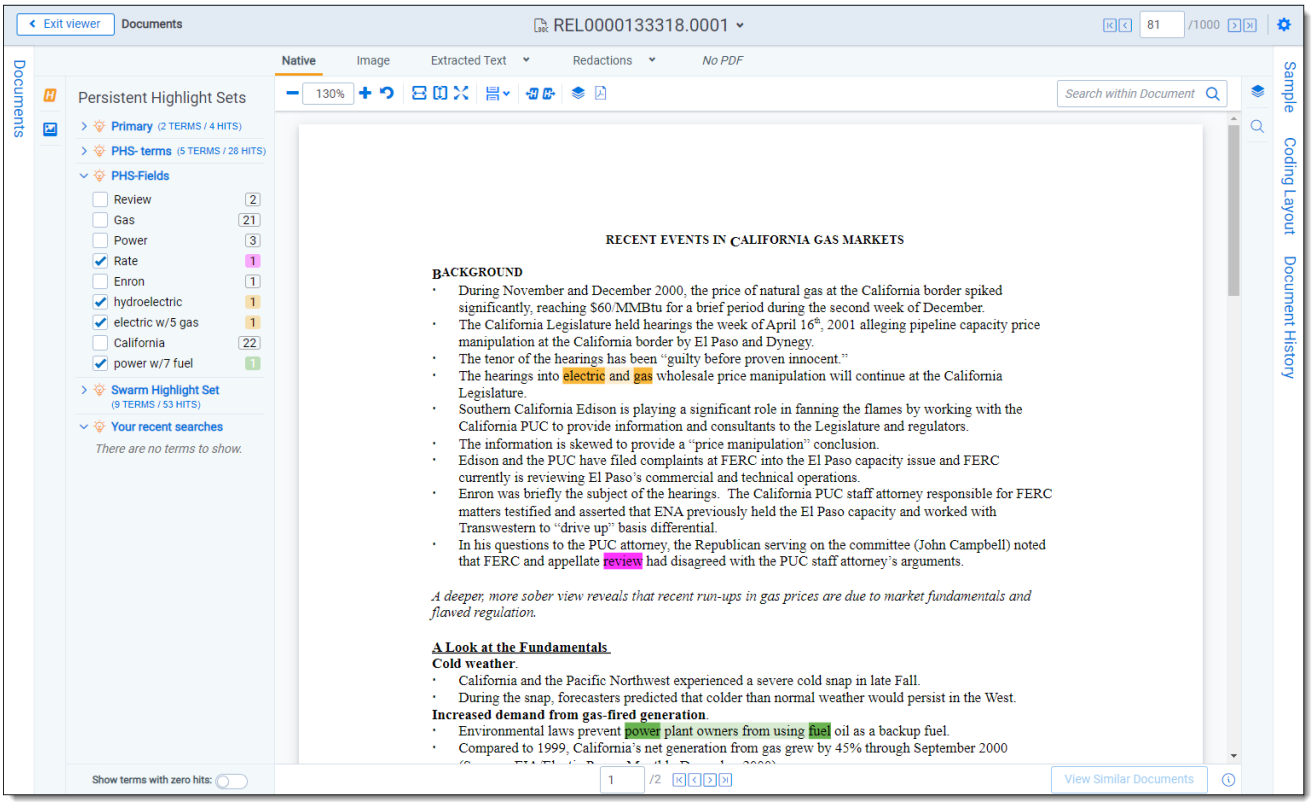
- Any changes made to a persistent highlight set tree in the panel when the Viewer is undocked, such as terms selected or unselected, will display when the Viewer is docked again.
- A synced standalone Viewer won't display changes made to a persistent highlight set, such as terms selected or unselected, in the pane of the main Viewer. However, Persistent Highlight Pane settings remain the same in the standalone Viewer as the reviewer goes from doc to doc within the standalone Viewer.
- The Persistent Highlight Pane maintains its current state when you swap Viewer panes.
- The Persistent Highlight Pane in the Extracted Text Viewer and Native Viewer are independent of each other. A change made to the pane in the Extracted Text Viewer is not automatically reflected when the reviewer switches to the Native Viewer and vice versa.
- Advanced persistent highlighting, available when using a search term report as a highlight field source, is only available in the Native and Extracted Text Viewer. See Using the highlight fields source on page 491.

See the Viewer documentation in the Admin Guide.

29.1.4 Persistent highlight behavior

When using a search term report that includes search syntax as a highlights source field, the highlight behavior is more inclusive than using persistent highlight terms. See Using the highlight fields source on page 491.

The different levels of opacity occur on a key term and interval term level. The key terms in the search are high opacity level highlights. The other interval terms picked up with search syntax are highlighted at a lower opacity level. For example, if you use the search "account w/5 cap" the words "account" and "cap" are highlighted with the full opacity highlight. The words between "account" and "cap" will have the lower opacity level highlight.



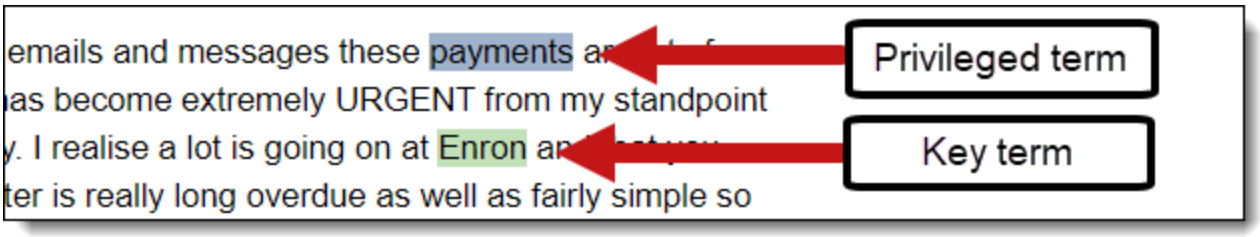
29.2 Using multiple persistent highlight sets

During the course of a review, the number of terms can grow as legal teams learn more about the case and the documents in it. In these cases, it may be beneficial to create multiple highlight sets.

With multiple highlight sets you'll have better organization and control over highlighted terms. For example, you may want to create highlight sets for:

- Key Terms
- Privilege Terms
- Specific Issue Terms (unique terms)

You can visually group related terms by assigning a different highlight color to the terms in each highlight set.



When multiple highlight sets include the same term the colors used in each set will mix together. For example, if a highlight set includes the term "apple" highlighted in blue and another highlight set includes the

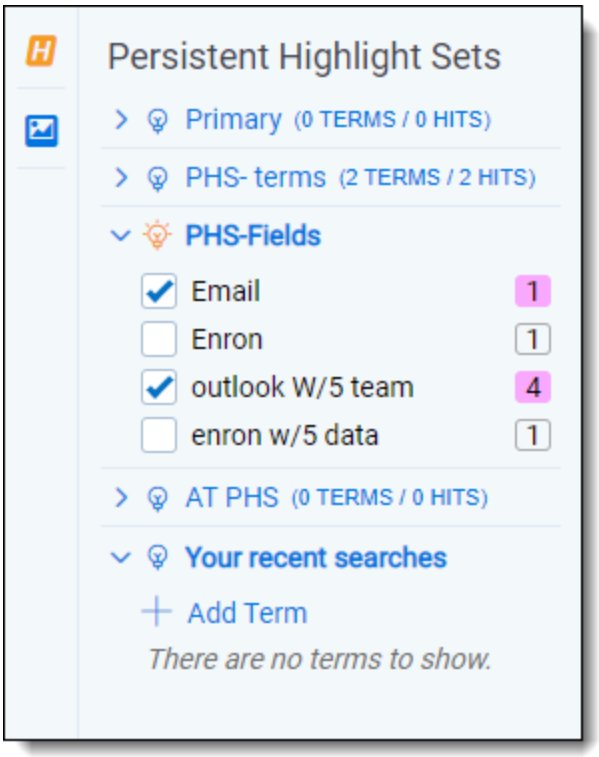
term "apple" highlighted in red, the highlight color will combine and display as purple in the Viewer. This only applies if both highlight sets are active for the same term.

Persistent highlighting sets and individual terms can be toggled on or off depending on reviewers' preferences or needs. A reviewer can control which sets or terms they have highlighted during review.

Clicking on the light bulb icon for a persistent highlight set enables or disables highlighting for the entire set.

The icon indicates a persistent highlight set is enabled in the Persistent Highlight Pane. The icon indicates a persistent highlight set is disabled in the Persistent Highlight pane. When disabling a persistent highlight set in the Viewer, terms included in the set aren't highlighted in documents until the set is enabled again.

Clicking a check box activates or deactivates highlighting for an individual term.



Security is another way to control persistent highlight sets. System admins can use object-level security to display only the persistent highlights sets necessary for users to complete their reviews. Limiting the visibility of persistent highlight sets also provides a cleaner interface for reviewers. See Relativity object security on page 665 for more information.

29.3 Performance considerations

Several factors can affect the performance of persistent highlight sets. These factors include individual document size, the number of terms, the types of operators used, and the performance of the local machine. For more information about how to create high performance searches, visit Creating efficient searches for persisten highlighting.

29.3.1 Individual document size

The size of individual documents affects persistent highlighting performance, not the workspace's document count. The larger the document, the longer it takes for persistent highlighting to compare and highlight each term in the document against the term list.

For example, Excel files with many tabs require more time to load. Persistent highlighting searches the contents of each tab, compares each term against the term list, highlights any term matches, then moves to the next tab until it has gone through the entire document. A 500-page document takes much longer to render highlights than a one-page email.

29.3.2 Number of terms

When using the Terms Search option as your source for persistent highlighting, performance can slow down as the list of terms grows. Performance degradation can occur once the list reaches 100 terms, and significant slowness occurs at 500 terms depending on the resources of your local machine. If you have a large list of terms, using Highlight Fields through search terms reports is a better solution.

29.3.3 Types of operators used

Creating efficient searches improves the performance of persistent highlighting whether working with a Terms Search or Highlight Fields. See Creating efficient searches for persistent highlighting on page 497.

29.3.4 Local machine

Persistent highlighting is rendered by the local machine, not by the Relativity server. If the resources for the local machine are strained, it will also affect performance.

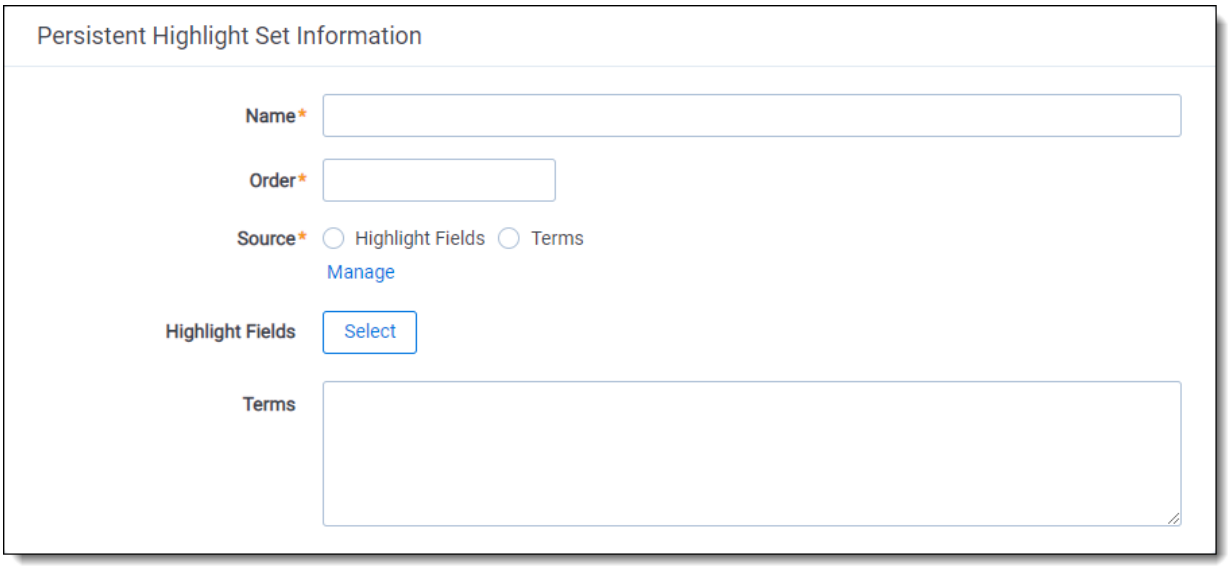
29.4 Creating persistent highlight sets

To create a new persistent highlight set, follow these steps.

Note: If you plan to use the Source: Highlight Fields, you may need to create a search terms report. For more information, see Using the highlight fields source on page 491.

1. Navigate to the **Persistent Highlight Sets** tab.
2. Click **New Persistent Highlight Set**.

3. Complete all required fields in the Persistent Highlight Set Information section. See Fields below for details.



4. Click **Save**.

Note: Verify that reviewers are not actively reviewing documents when creating Persistent Highlight Sets. Creating Persistent Highlight Sets while reviewers are actively reviewing documents can cause errors.

29.4.1 Fields

Persistent highlight sets include the following fields.

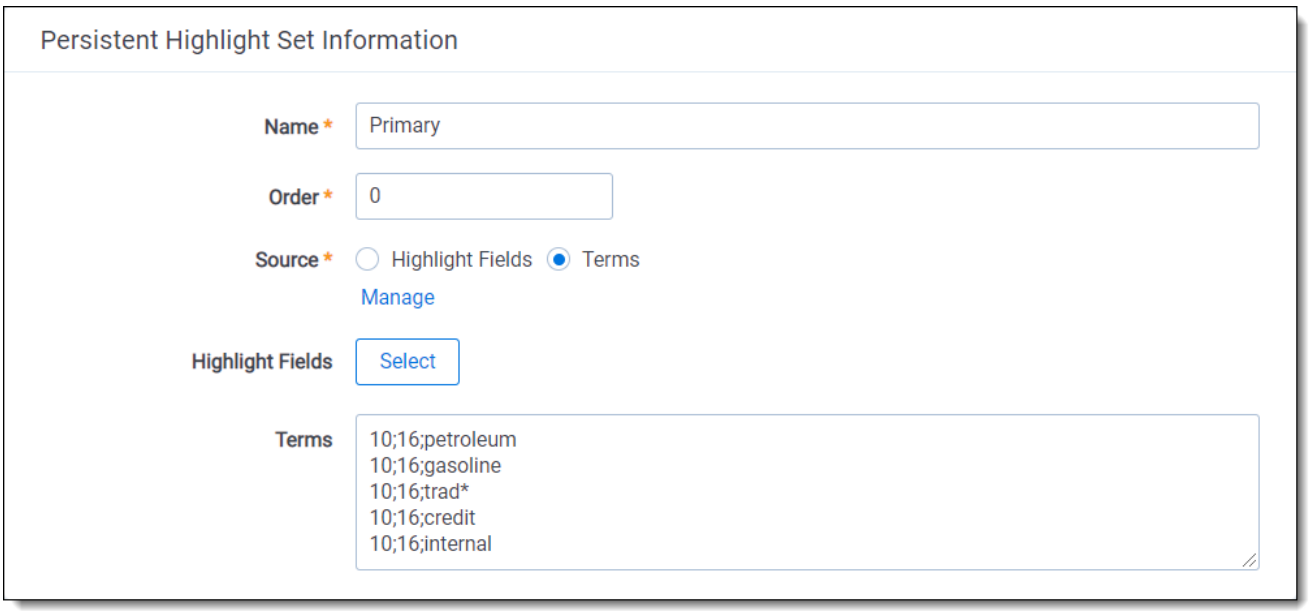
- **Name**- the descriptive name under which you want this set to appear in the Viewer and item list.
- **Order** -the order in which you want this set to appear.
- **Source** - determines the area the set draws from when designating characters to be highlighted and displayed in the Viewer. There are two options:
  - **Highlight Fields** - designates fields as the source of highlighting. Highlight Fields is capable of using dtSearch functionality. Selecting this radio button means you must select a Highlight Field in order to save this set.
  - **Terms**- designates terms as the source of highlighting. Selecting this radio button means you must enter terms into the Terms field below to save this set.
- **Highlight Fields**- choose the field referencing the list of terms to be highlighted. Click the Select button to bring up the system view called Field Picker on Persistent Highlight Sets, which displays the Name and Object Type for applicable multiple object fields. It also includes those created by search terms reports. To select the desired Highlight Field, check the field's box, click Add, and click Set. The field displays on the layout. See Using the highlight fields source on page 491.

Note: If your search terms report is run against a DtSearch index with a customized alphabet file, the hits on the STR may not match the highlights rendered in the Viewer. Depending on how the alphabet file has been customized, you may see fewer highlight hits rendered in the Review Interface.

- **Terms** - enter terms you wish to highlight and select the color code to distinguish them in the Viewer. See Entering highlight terms below.

29.5 Entering highlight terms

If you choose **Terms** as the source of your highlighting, you have to enter the terms in the Terms field text box to save the new highlight set. You also have the option of applying color-coding to these terms in the Viewer.



29.5.1 Color-coding persistent highlights

When you enter a term in the Highlight Terms box, you can also specify the color for both the text and the background. Use the following format to color-code your persistently highlighted text:

[background color];[text color];[term to be highlighted]

For example, enter “3;16;Relativity” to highlight Relativity with dark green background and white text.

Note: Beginning in Relativity 11.3.1, the auto-contrast feature has been added to color-coding persistent highlights. This feature automatically determines the text color based off the background color you select to ensure readability no matter which colors are selected. For example, if the background color is closer to black, the text will automatically be white or if the background color is closer to white, the text will automatically be black.

Highlights are rendered at full opacity (using the original highlight color) when they are active. When they are not active, they will be rendered in a lighter shade of the original highlight color.

Note: The opacity level of the highlights can be adjusted by editing the value of the **ViewerHighlightStyleDefault** instance setting.

The following table includes available color codes.

Color name	Highlight Color	Number
[Default]		0
Black		1
Dark red		2
Dark green		3
Dark yellow		4
Dark blue		5
Dark magenta		6
Dark cyan		7
Light gray		8
Gray		9
Red		10
Green		11
Yellow		12
Blue		13
Magenta		14
Cyan		15
White		16
Light green		17
Light blue		18
Light yellow		19
Light purple		20
Light red		21
Light orange		22
Purple		23
Orange		24
Dark purple		25
Dark orange		26

If you enter terms with no color-coding, the background defaults to magenta and black text.

Note: Default has different implications for text and background. The default background color is white and the default text color is black.

29.5.2 Guidelines for adding terms or phrases

Use the following guidelines when adding terms or phrases into the Terms text box:

- Enter a term that you want highlighted and press **Enter**. You can enter multiple terms but each one must be on a separate line.
- Enter terms for persistent highlighting exactly as they appear in the document. Don't use quotation marks and connectors.

  Note: Quotation marks are not compatible with persistent highlighting with terms as a source, which automatically searches for an exact phrase. Quotation marks are compatible when using highlight fields as a source however. Using highlight fields as a source can result in slower document loading speeds.

- Keep lists simple. Do not use punctuation, special characters, or operators. Do not use dtSearch syntax when entering a list of terms as the source for the set. You may use dtSearch index terms in a search terms report, then use Fields as the Persistent Highlight Source instead to support highlights for dtSearch syntax.
  - AND or OR operators are not used in keyword searching. If used, Relativity looks for the exact phrase including AND or OR. For example, you entered these search terms: Apple AND Banana. Relativity highlights the entire phrase apple and banana in the document. Separate occurrences of apple, and occurrences of banana, are not highlighted.
  - Persistent highlight set terms do support wildcards. You can view highlighted terms that contain an * (asterisk) character, including a wildcard in the middle of a term. For example:

    Note: Wildcards in persistent highlight terms do not respect special characters for highlighting in the Classic HTML Viewer. For instance, if a term contains test* then only the word test highlights.

    - term* matches and highlights any word that starts with term with zero or more following characters.
    - *term matches and highlights any word that ends with term with zero or more preceding characters.
    - *term* matches and highlights any word that has term in it with zero or more preceding or following characters.

- Do not enter duplicate terms.
- Identify and remove terms with large hit counts.
- List variations of a term first and enter the root term last.
- If the list of terms is large (>100 terms), use Highlight Fields with a Search Terms Report. For more information, see Search terms reports on page 617.

29.6 Using the highlight fields source

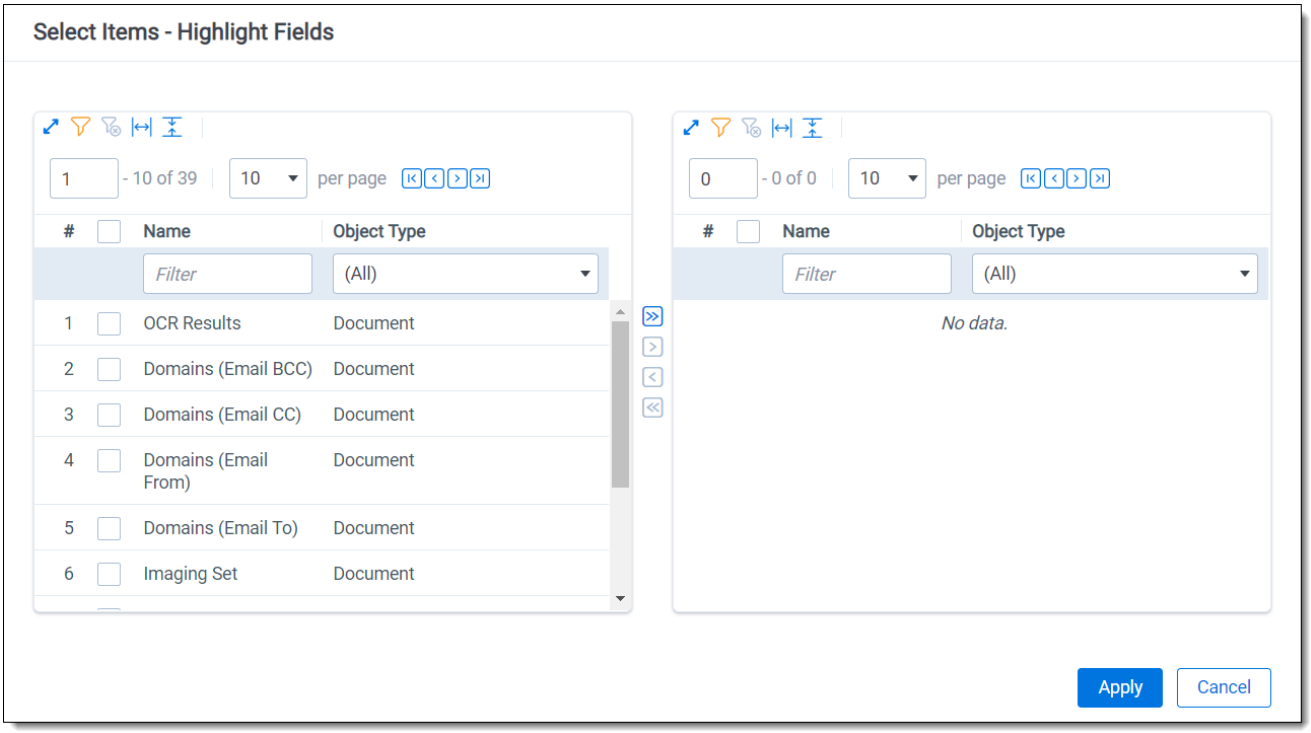
Using the Highlight Fields source in a persistent highlight set you can choose a field referencing a list of terms to highlight.

Select the **Highlight Fields** option, and then click the Select button to open the Select items - Highlight Fields modal. This system view displays the Name and Object Type for applicable multiple object fields, including those created by Search Terms Reports.

Note: Persistent highlights generated by a search terms report don't automatically update after you load new data into a workspace. To incorporate the text from new documents, perform either a full or incremental build on the dtSearch Index, then a full or incremental build on the search terms report.

To select a Highlight Field, check the field's box, click right arrow to move it the right section. Once all of the desired fields have been selected, click **Apply**. The field appears on the layout.

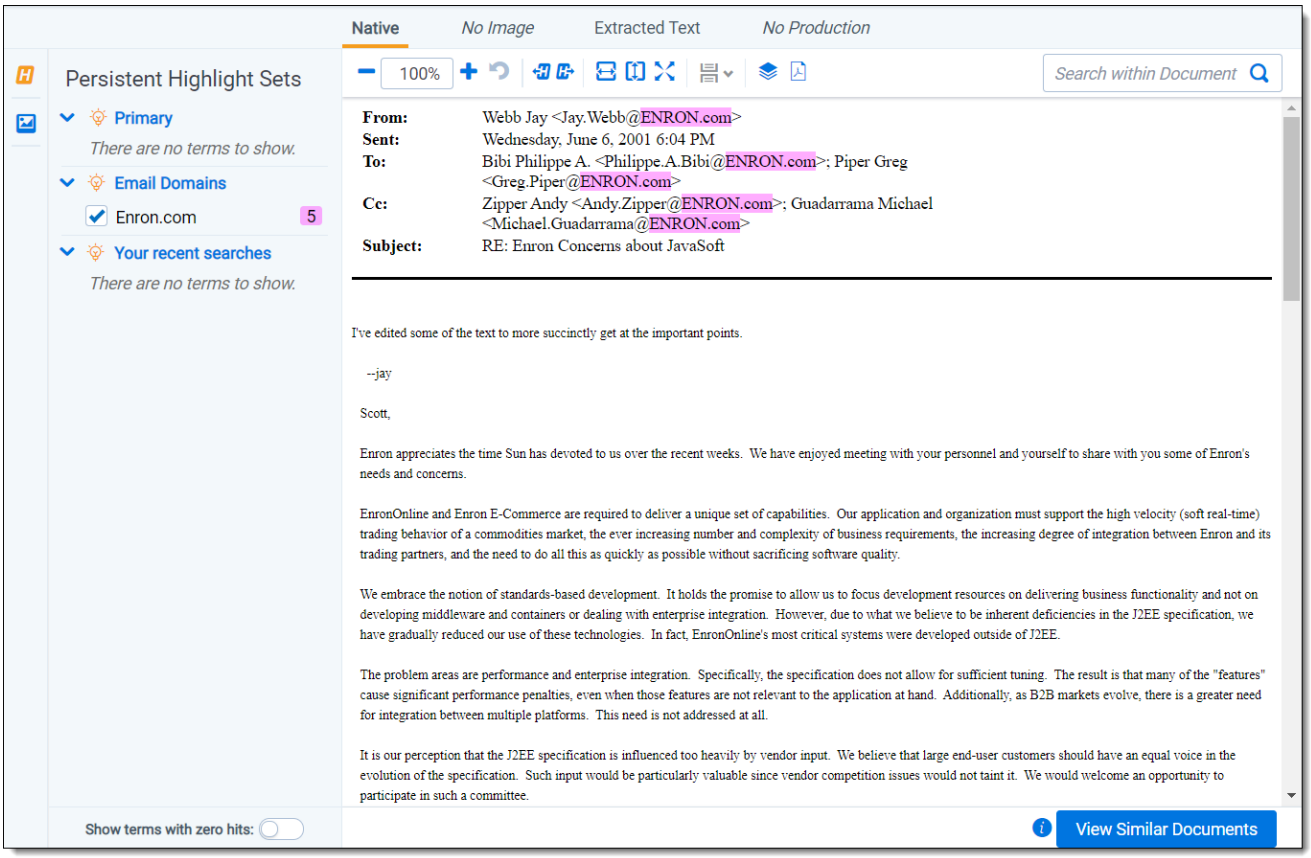
Note: We recommend selecting a search terms report or the Domains field as your highlight fields source.



When using a Search Terms Report as the highlight fields source, the number of terms that Relativity searches for will vary among different records. Relativity only looks for the terms listed in the Search Terms Report for that document.

#	Artifact ID	Control Number	STR - Search term report	Relativity Native Type
	= Filter	Filter	Filter	Filter
5	1048583	REL0000073644	12 attach~ Email Enron enron w/5 data Gas	Outlook Email
6	1102379	REL0000110895	Email Enron enron w/5 data	Outlook Email
7	1079453	REL0000098527	Email Enron enron w/5 data	Outlook Email
8	1134400	REL0000131183	attach~ David Email Enron enron w/5 data Power	Outlook Email

Relativity exhibits similar behavior when using an email Domains field as the highlight fields source. Relativity only looks for the email domains listed in the field for that document.



29.6.1 Best practices

Consider the following guidelines when creating or adding terms using Search Terms Reports as the highlight fields source:

- Enter terms exactly as they appear in the document.
- You can use operators such as AND and OR. For example, if you enter these search terms: Apple AND Banana, Relativity would highlight the two terms “apple" and "banana” in the document. See Search terms reports on page 617 for more information.
- Wildcards are useful in some cases. For example, the search term appl* highlights apple, application, applies, and so on. An excessive use of wildcards affects performance. Leading wildcards such as *itting, are not recommended. Using asterisks in the middle of a term don't count as wildcards.
- dtSearch operators can be used to highlight searches when used for a Persistent Highlight Sets in the Native Viewer. You must use a Highlight Fields source (such as a Search Terms Report results field) to use dtSearch syntax. The highlights for these searches use the active and inactive highlighting functionality. Actively navigated highlights are the highlights that the Viewer is focused on and display with full opacity. Inactive highlights display at a lower opacity level.

  Note: The increase of dtSearch operators does decrease performance.

  - Persistent highlight does understand proximity searching. If you enter the phrase Relativity w/5 software as a search term, the search term report uses a dtSearch to find and tag all documents that meet the criteria. When viewed in the Viewer, the persistent highlighting functions as a dtSearch.
  - Persistent highlights does understand the stemming character (~). If you enter the term apply~ as a search term, the search term report finds and tags all documents with the word apply, or any document that stems from apply; including applied, applies, application, and so on. When looking at the document in the Viewer, the persistent highlight functions as a dtSearch. See Search terms reports on page 617 for information on supported syntax.
  - Any operator in quotes will be treated as literal by the Viewer search. For example, stemming “~” and wildcard “*” operators. However, dtSearch will treat stemming and wild card operators in quotes not as literal, but as the operator itself. For example, "run~” in the Viewer will find the exact phrase “run~” and "run~” in dtSearch will return hits for run, runner, running, etc.

29.7 Importing search terms for persistent highlighting

To import search terms to use as a source for persistent highlighting perform the following procedures.

29.7.1 Relativity component setup

Before importing search terms, use the following steps to create a Relativity Dynamic Object to handle the data.

1. Navigate to the **Object Type** tab in your workspace.
2. Click **New Object Type**.
   a. Provide a name for the new object in the required **Name** property.
   b. Keep all remaining properties at their default values.
   c. Click **Save**.
3. Navigate to the **Fields** tab.
4. Click **New Field** to create the field that to hold the persistent highlight color information. This field also connects your Dynamic Object to the Document object.
5. In the New Field form, specify the following properties:
   a. **Object Type**- <Dynamic Object created in step 2>
   b. **Name**- Highlight Colors
   c. **Field Type**- Fixed-Length Text
   d. **Length**- 10
   e. Keep all remaining properties at their default values.
   f. Click **Save and New**.
6. Create a new field to link your Dynamic Object and the Document object. Specify the following properties:
   a. **Object Type**- Document
   b. **Name**- <User preference>
   c. **Field Type**- Multiple Object
   d. **Associative Object Type**- <Dynamic Object created in step 2>
   e. Keep all remaining properties at their default values.
   f. Click **Save**.
7. Navigate to the **Persistent Highlight Sets** tab in your workspace.
8. Click **New Persistent Highlight Set**.
9. Create a new set with the following properties:
   a. **Name**- <User preference>
   b. **Order**- <User preference>; this controls the position of this set in the Persistent Highlight Tree in the Viewer.
   c. **Source**- Highlight Fields
   d. **Highlight Fields**- <The name of the field created in step 6b.>
   e. Click **Save**.

29.7.2 Importing terms

To import a CSV or other Relativity-supported load file containing terms, use the following procedure.

1. Open the **Relativity Desktop Client**.
2. Select the workspace you are importing into.
3. Select the Dynamic Object you created above from the object drop-down menu.
4. Select **Tools** from the top menu.
5. Select **Import | <Dynamic Object>** load file.
6. Select your terms load file and corresponding delimiters.
7. Map the field in your load file that contains the terms to the Name field in Relativity.
   Here you can also import Relativity Highlight Color. You must have this information in the load file contained in a field in the following format: highlight color; text color (for example, 15;9). If you do not have this information in the load file, you can manually enter it for terms in Relativity. Because the latter can be time consuming, we recommend having this information in the load file if possible.

Color name	Highlight Color Number
[Default]	0
Black	1
Dark red	2
Dark green	3
Dark yellow	4
Dark blue	5
Dark magenta	6
Dark cyan	7
Light gray	8
Gray	9
Red	10
Green	11
Yellow	12
Blue	13
Magenta	14
Cyan	15
White	16
Light green	17
Light blue	18
Light yellow	19
Light purple	20
Light red	21
Light orange	22
Purple	23
Orange	24
Dark purple	25
Dark orange	26

8. Click **Import** to import the terms.

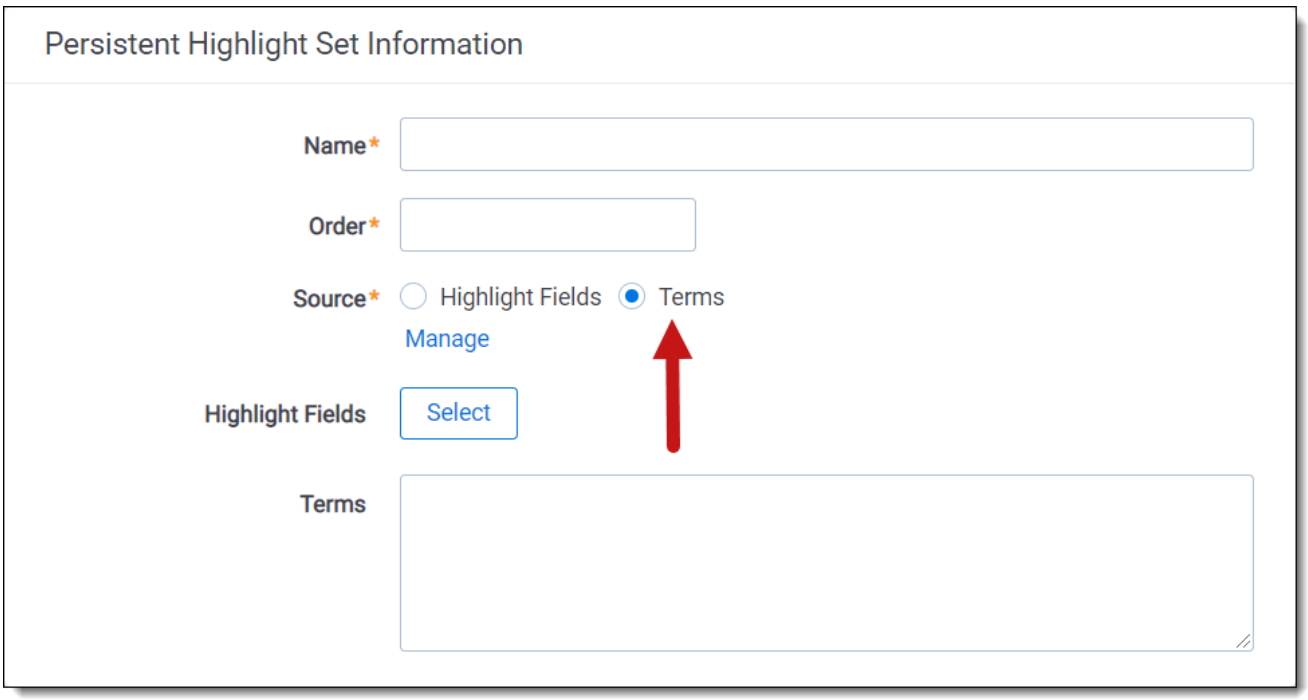
9. Navigate to the object tab you created in step two of the Relativity component setup section.
10. Click on a term.
11. Select the layout you want to use from the drop-down menu.
12. Click the pencil icon to edit the layout.
13. Click **Add Object list**.
14. Use the drop-down menu to select the field you created in 6b of the Relativity component setup section.
15. Set the **View** field to your preferred document view.
16. Set the **Link View** field to your preferred document view.
17. Click **Save**.
18. Click **Link**.
19. Select all documents.
20. Click **Add**.
21. Click **Set**.
22. Repeat steps 10 through 22 on each term.
23. Verify that the terms are highlight through the following:
    a. Open a document in the workspace.
    b. Open the Persistent Highlight Tree in the Viewer.
    c. Note the presence of the newly created Persistent Highlight Set and verify that terms are highlight in the appropriate colors.

29.8 Creating efficient searches for persistent highlighting

Creating efficient searches improves the performance of persistent highlighting, whether you're working with a Terms Search or Highlight Fields. Use the following guidelines to create efficient searches.

29.8.1 Using terms search

Avoid the following when writing searches for persistent highlighting:



- Do not use "AND" or "OR" connectors. Persistent highlighting looks for the exact phrase, trade and complete, instead of the word, trade, and the word, complete.
- Proximity, fuzziness, and stemming logic cannot be used in a Terms Search. Consider using Highlight Fields to access these search features as described below. The system ignores the dtSearch syntax. Terms receive no highlight if you use these advanced searching features. The search terms report Count column still lists the number of matching terms. For example:
  - The search term, oil w/10 water, searches for the exact phrase oil w/10 water.
  - If you enter the term apply~ as a search term, persistent highlighting technology looks for the term apply followed by any special character.
- Avoid using terms with a large number of hits per document. Persistent highlighting highlights each hit. For example, it takes longer to load a Word document containing 1,000 instances of a single term.
- Avoid using terms that only occur once in a document. Use search terms reports for those terms instead.
- Avoid long lists of numbers, such as Bates numbers or account numbers.
- Do not use duplicate terms.

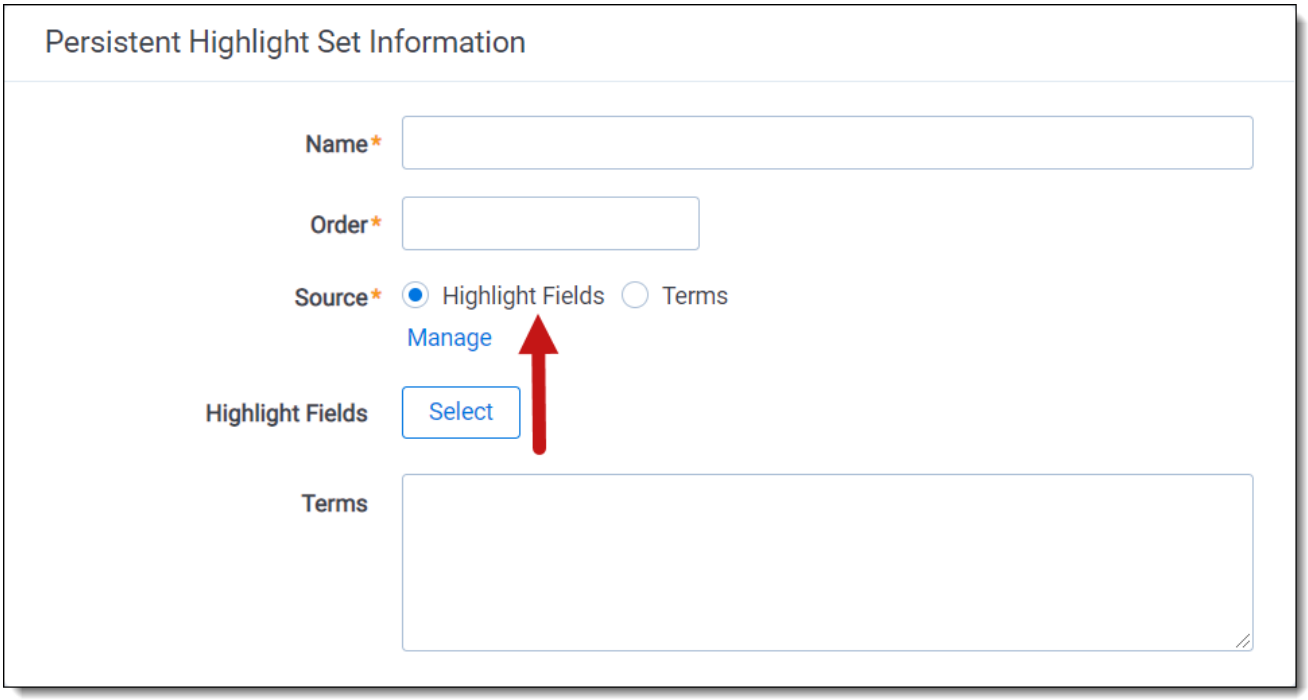
Use the following techniques to optimize your searches:

- Use the dtSearch Dictionary to identify variations of a term instead of using wildcards.
  - Identify which terms should be in the highlight set and which terms are not necessary.
  - You may want to avoid highlighting terms with high word counts.

Note: To highlight terms using objects, create a fixed-length text field for your object called Highlight Colors. You can enter color-coding in this field using the format: **[highlight color];[text color].**

29.8.2 Using highlight fields

Consider the following guidelines when creating or adding terms using Search Terms Reports as the highlight fields source:



- Enter terms exactly as they appear in the document.
- You can use operators such as AND and OR. For example, if you enter these search terms: Apple AND Banana, Relativity would highlight the two terms “apple" and "banana” in the document. See Search terms reports on page 617 for more information.
- Wildcards are useful in some cases. For example, the search term appl* highlights apple, application, applies, and so on. An excessive use of wildcards affects performance. Leading wildcards such as *itting, are not recommended. Using asterisks in the middle of a term don't count as wildcards.
- dtSearch operators can be used to highlight searches when used for a Persistent Highlight Sets in the Native Viewer. You must use a Highlight Fields source (such as a Search Terms Report results field) to use dtSearch syntax. Relativity dtSearch operators are not supported in the Extracted Text Viewer. The highlights for these searches use the active and inactive highlighting functionality. Actively navigated highlights are the highlights that the Viewer is focused on and display with full opacity. Inactive highlights display at a lower opacity level.

  Note: The increase of dtSearch operators does decrease performance.

  - Proximity searching logic can be used with Highlight Fields. If you enter the phrase "Relativity w/5 software" as a search term, the search term report uses a dtSearch to find and tag all documents that meet the criteria. When viewed in the Viewer, the persistent highlighting functions as a dtSearch. See Search terms reports on page 617 for information.

- Stemming, including the stemming character (~), can also be used with Highlight Fields. If you enter the term "apply~" as a search term, the search term report finds and tags all documents with the word apply, or any document that stems from apply; including applied, applies, application, and so on. When looking at the document in the Viewer, the persistent highlight functions as a dtSearch. See Search terms reports on page 617 for information.

- In Search Terms Reports, you can work around these limitations by using the Dictionary Search function to identify search terms using stemming or fuzziness. Copy the list of terms returned in this search. Paste them in the Add Terms box on the Search Terms Report form. Doing this enhances your search term list, while avoiding errors caused by special characters.
- Use the dtSearch Dictionary to identify variations of a term instead of using wildcards.
  - Identify which terms should be in the highlight set and which terms are not necessary.
  - You may want to avoid highlighting terms with high word counts.

30 Printing in Relativity

Relativity includes a few options that you can employ when you need to print natives or images of documents in Relativity. The following easily accessible features support printing a large group of documents or a single document at a time.

Save as PDF

Single Save as PDF is an option within the Viewer in Relativity. With this option you can save the native of the current open document as a PDF file. Once you save the PDF of the file, you can open the PDF and print it to your designated printing location. For more information, see Single Save as PDF.

Mass PDF

Mass PDF is a mass operation you can run from the mass operations bar in the case workspace interface. With Mass PDF you can save a group of documents and customize the way the documents render when you save or print them. After you download the .zip file of the PDFs, you can then print the group of PDFs to your designated printing location. For more information, see Mass Save as PDF.

31 Production

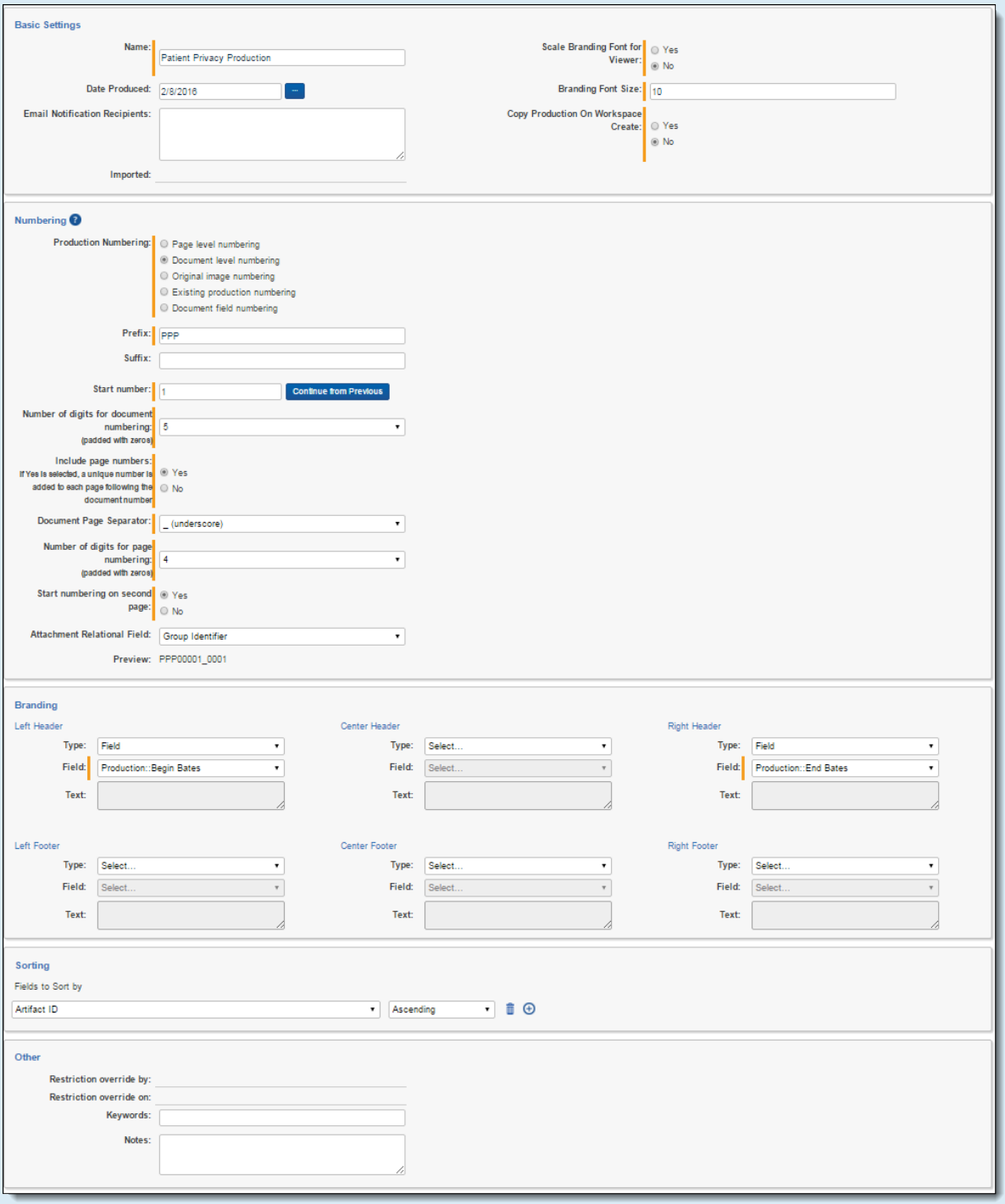
With the Production application you can prepare relevant and non-privileged documents to turn over to opposing counsel after review. Relativity's production application makes it easy to customize your productions from placeholders to custom branding.

Note: If you are upgrading to Relativity Server 2022 from a previous version of Relativity, consider the Production upgrade considerations in the Relativity Upgrade Guide before you begin your upgrade.

Using production

You're a system admin, and you've just completed a document review project for a client, a healthcare provider, that has been involved in litigation related to inadequate protection of private patient information. After coding all the documents for issues and responsiveness and redacting any sensitive patient information that occurred in those documents, it's time to produce these documents and submit them to the presiding judge.

To do this, you create a new production that defines these documents. You name it Patient Privacy Production and you select the Patient Privacy markup set you created and had your reviewers apply to the sensitive patient information they encountered in the documents they reviewed. For the Production numbering field, you select Page level numbering and enter a prefix of "PPP." Just to reduce the number of characters on each document, you change the number of digits for document numbering field from 7 to 5. You then specify the begin and end Bates number fields, leave the other fields at their defaults and save the new production set.



You then use the options on the production console of the saved production set to run the production. Once the production finishes running, you can export it and submit it to the presiding judge.

31.1 Upgrading production

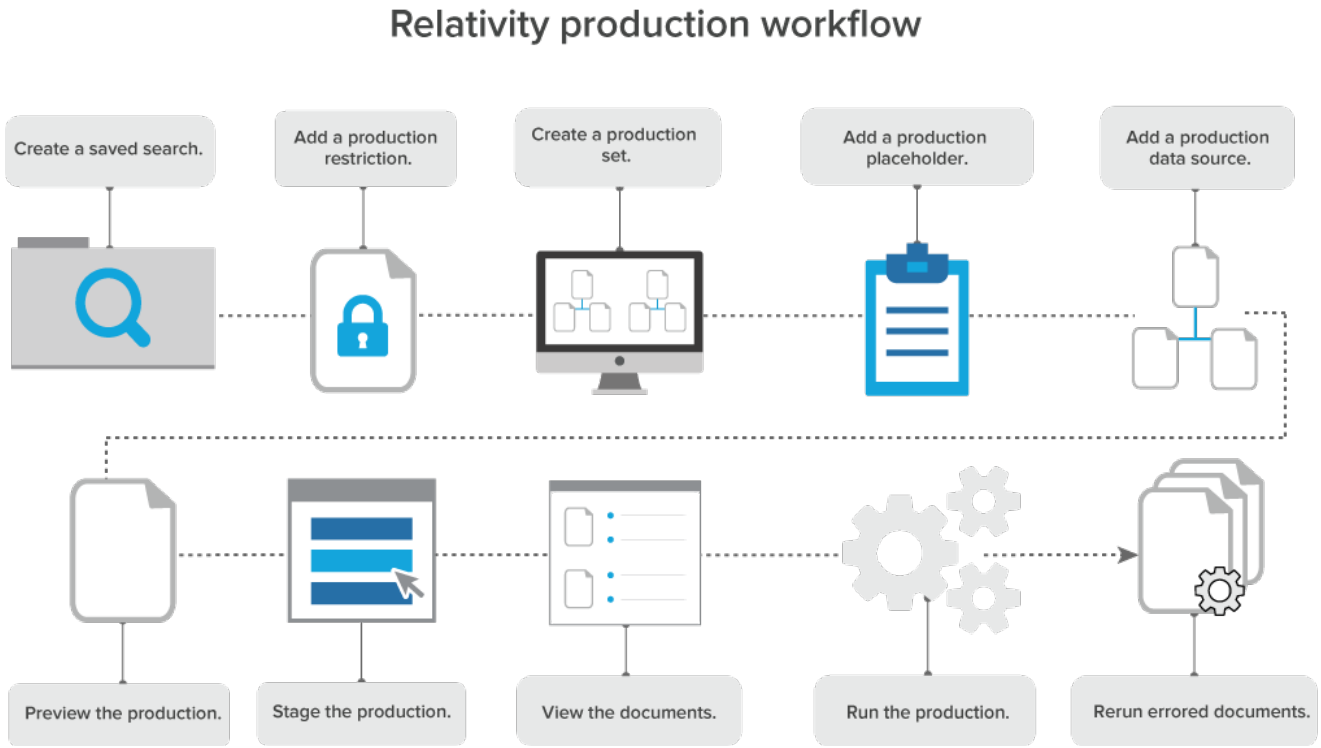
Production application upgrades occur concurrently with Relativity product updates. You can find information about production updates in the Relativity release notes and What's new.

To upgrade the application, use one of the following methods:

1. **Upgrade to the latest Relativity product update** - Upgrading to the latest Relativity update automatically upgrades production to the latest version.
2. **Upgrade production only** - Download the newly released RAP file from the Relativity Community and import it into the Application Library.

31.2 Basic production workflow

In order to produce documents, ensure you use the following workflow to create the necessary production components. Use the links in the image below for more information on each part of the production workflow.



31.3 Production information

The production information object stores important information about your production. Staging a production populates this object in your workspace. As an example, the production information object is useful when you want to look at the amount of documents with redactions, the control number of the documents in your production, which documents were produced with a placeholder, and which documents were produced as a native. The production information object also stores the automatically created Bates numbers associated with the production. Because the Bates numbers automatically populate on production documents, the Bates numbers fields automatically clear when you delete productions.

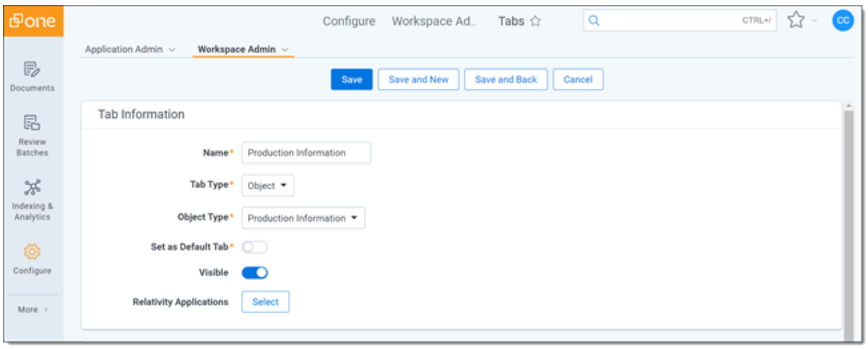
To quickly view the information stored on this object, click **View Documents** in the production console. The **View Documents** pop-up displays information on both documents and individual pages. You can also view information about the documents produced by looking at the saved search that is automatically created when the production job finishes.

Once you run a production, you can view the aforementioned information on the documents list for each produced document by adding the fields to a view and then creating a tab from that view. See Views and Tabs in the Admin guide for more information.

31.3.1 Production information tab

To view production information in greater detail you can create a production information tab and associate it with the production information object.

1. Navigate to Tabs.
2. Select **New Tab**.
3. Enter *Production Information* as the name for the tab.
4. Select **Object** as the tab type.
5. Select **Production Information** as the object type.



6. Configure the tab location.
7. Click **Save.**
8. Navigate to the Production Information tab to view information about your production set.

The following fields are stored on the production information object and can be viewed on the production information tab:

- Artifact id
- Begin attachment
- Begin bates
- Data source
- Document
- Document id
- Edit
- End attachment

- End bates
- Has redactions
- Identifier
- Image count
- Name
- Production type
- Production set
- Security
- Sort order
- System created by
- System created on
- System last modified by
- System last modified on
- With images
- With natives
- With pdf
- With placeholder

31.4 Production sets

When you want to produce documents in a case workspace, you can create a production set that defines the markup set for redactions, the document numbering, the appearance of the numbering, and other settings that Relativity uses when you run the production.

You can then view the produced images in the Review Interface by selecting Production mode and the production set.

31.4.1 Creating and editing a production set

Before you can run a production, you must create a production set, and then add documents to it via a saved search. Use the following steps to create or edit a production set:

1. Navigate to the **Production** tab.
2. Click the **Production Sets** tab.
3. Click **New Production**.

4. To edit an existing production set, click the edit link next to the production set name.

   Note: The name of a production can be changed at any point in the production process.

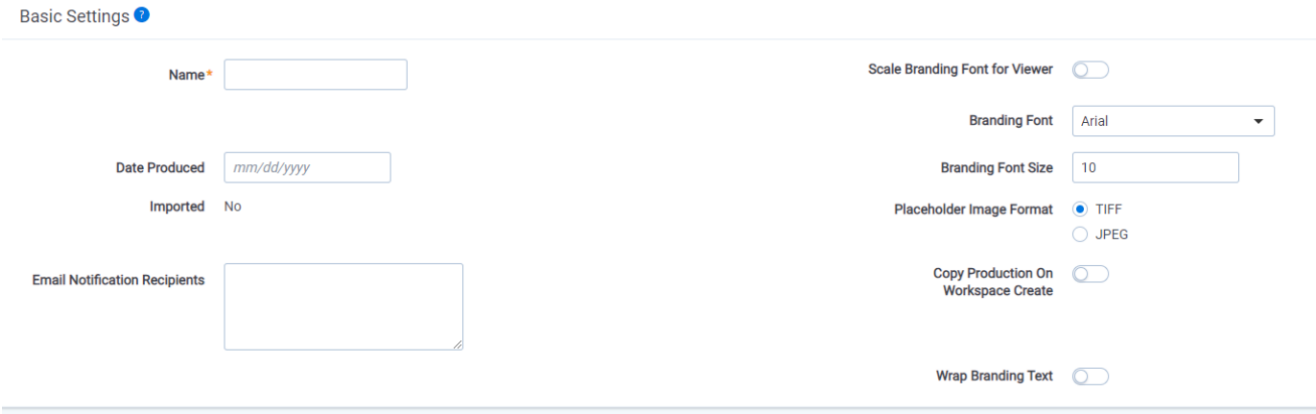
5. Add or edit the fields in the following sections as necessary. Required fields are orange.
   - Basic Settings below
   - Numbering on the next page
   - Branding on page 515
   - Sorting on page 518
   - Other on page 519
6. Save the additions or updates.

   Note: If you imported a production, the page numbering is set by the imported Opticon file. Any markup set selection, branding, or other settings on the Production Set form are not applied to the imported production. The images produce exactly as they were imported.

31.4.2 Basic Settings

When you add or edit a production set, you can begin by modifying the settings in the Basic Settings section of the Production Set form.

The Basic Settings section contains the following fields:

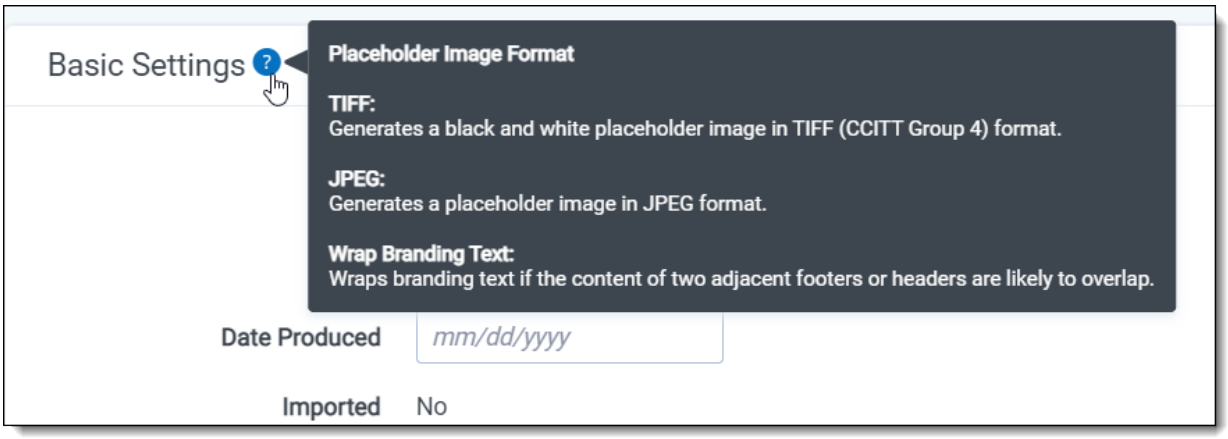


- **Name**- (required) the name of the production set you are creating.
- **Date Produced** - the date that the documents were produced. You can select any date in this field. If you do not select a date, Relativity automatically sets this value with the date that the Production was completed.
- **Email Notification Recipients** - sends email notifications when a production fails or completes. To send the email messages to multiple recipients, enter email addresses separated by a semicolon.
- **Imported** - indicates if the production is open to receive imported production documents.
- **Scale Branding Font for Viewer**- (required) scales up the branding text size to be consistent with Relativity 7.5 behavior for optimal viewing of images in the Viewer when set to **Yes**. Set this field to

No to use the default font scaling when printing images. This field is read-only after you run a production set.

- **Branding Font** - (required) the font type that will be use on the branded text. To set a default branding font for productions, adjust the value of DefaultBrandingFont.
- **Branding Font Size**- (required) the font size for branding added to a page. The font type is Arial. To set a default branding font size for productions, adjust the value of DefaultBrandingFontSize.
- **Placeholder Image Format** - (required) brands the production placeholder image as the file type selected. This field is set to TIFF by default, but users have the option to brand placeholder images as JPEG files too.

Note: Click on the tool tip icon next to Basic Settings for more information on the image file types (see image below).

- 

  Copy Production on Workspace Create - (required) if the current workspace is used as a template the production is copied into the new workspace when the field is set to **Yes**. This option copies the production and associated data sources.

- **Wraps Branding Text** - if the content of two adjacent footers or headers are likely to overlap.

31.4.3 Numbering

On the Production Set form, you can define multiple options that control how numbering is applied to images in your production.

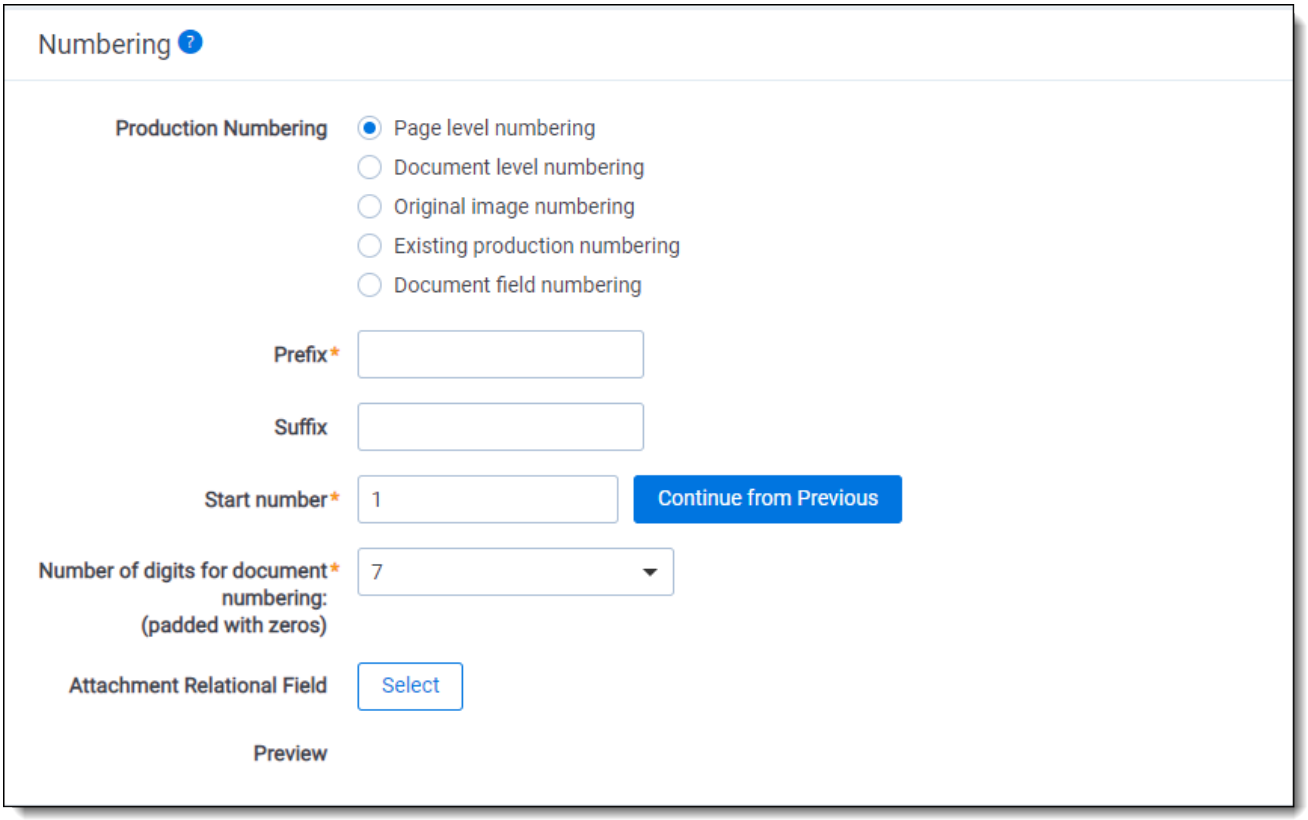
Relativity provides the following numbering types for productions:

- Page level numbering
- Document level numbering
- Original image numbering
- Existing production numbering
- Document field numbering

Page level numbering

Select **Page level numbering** to generate a new incremental number (also known as a Bates number) on every page across your production documents. This number is branded on the images in your production.

The form fields available when you select **Page level numbering** include:



- **Prefix** - (required) the characters added to the beginning of each Bates number. This is limited to 50 characters.
- **Suffix** - optional characters applied to the end of each Bates number. This is a static, non-incremental text string, limited to 50 characters.
- **Start number** - (required) the first number used in a sequence of Bates numbers. To select a previous production and continue with its numbering sequence, click **Continue from Previous**.

  Note: Continue from Previous will not work for productions using original image numbering, existing production numbering, or document field numbering.

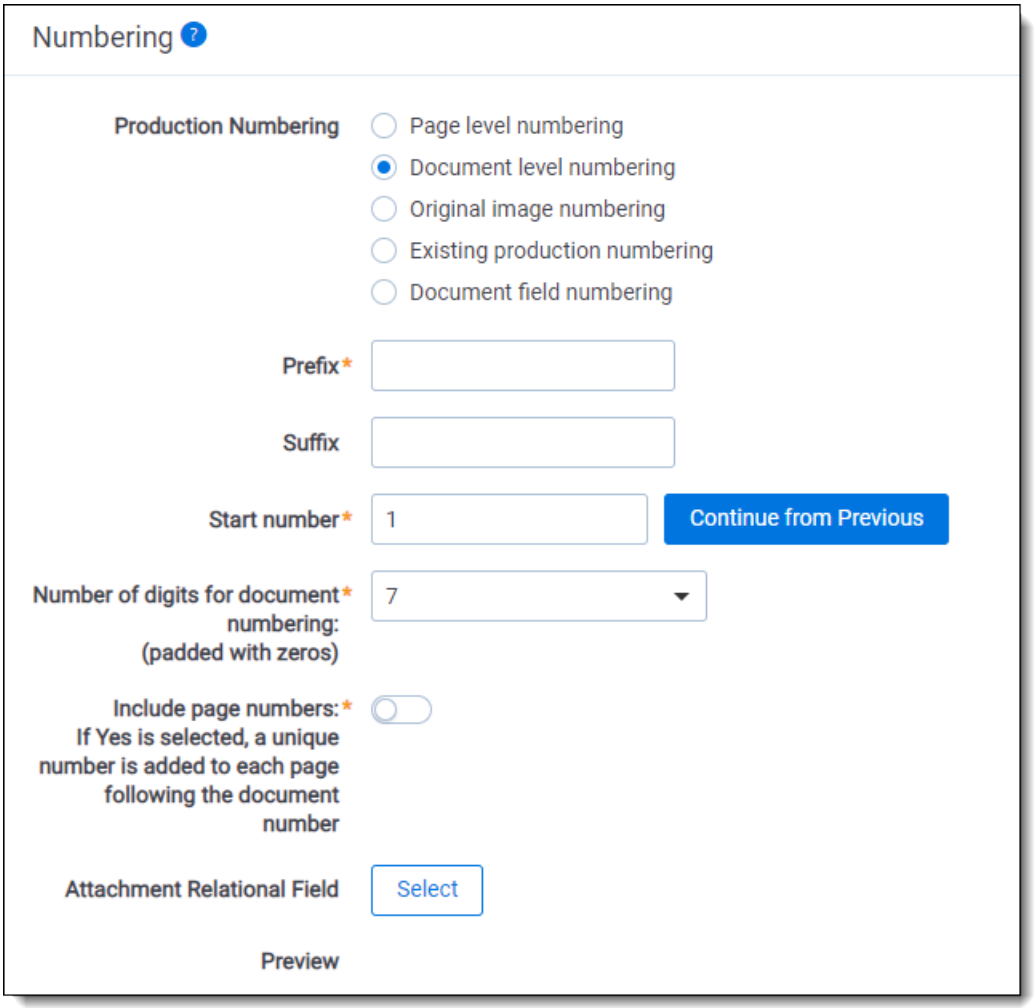
  Relativity automatically populates the **Start number** field with the value that displays for the **Next doc number**.

- **Number of digits for document numbering** - (required) determines how many digits the Bates number contains. The range of available values is between 1 and 10. By default, this option is set to 7 characters.
- **Attachment relational field** - selects a relational field indicating a family group such as group identifier.
- **Preview** - displays sample text illustrating how the Bates number appears in the images.

Note: Relativity does not support the combined length of the Prefix and Suffix exceeding 255 characters when using Page level numbering.

Document level numbering
Select **Document level numbering** to generate a new document number for each document, which is branded on the images in your production.

The form fields available when you select **Document level numbering** include:



- **Prefix** - (required) lists the characters added to the beginning of each document number. This is limited to 50 characters.
- **Suffix** - lists optional characters applied to the end of each document number. The suffix is added after the document number but before the page number when the **Include page number** option is selected. This is a static, non-incremental text string, limited to 50 characters.
- **Start number** - (required) indicates the first number used in a sequence of document numbers. To select a previous production and continue with its numbering sequence, click **Continue from Previous**.

Note: Continue from Previous will not work for productions using original image numbering, existing production numbering, or document field numbering.

Relativity automatically populates the **Start number** field with the value that displays for the **Next doc number**.

- **Number of digits for document numbering** - (required) determines how many digits the document number contains. The range of available values is between 1 and 10. By default, this option is set to 7 characters.
- **Include page numbers** - (required) adds a unique page number after the document number on each page in a document, when it is set to **Yes**. By default, this option is set to **No**.

Note: If you export a production with document level numbering as single-page TIFF, and it does not include page numbering, Relativity automatically adds page numbers to identify each page uniquely.

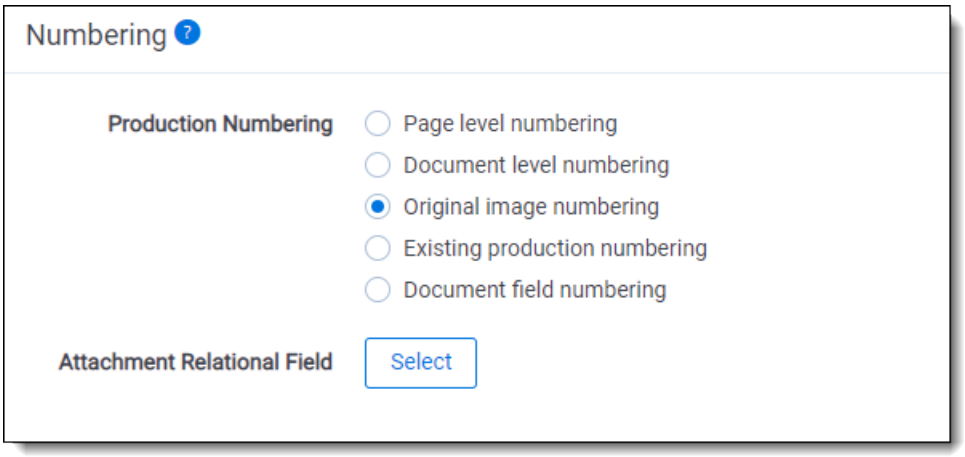
- **Document Page Separator** - displays when you select the Include page number option. The following separators are available:
  - _ (underscore, selected by default)
  - - (hyphen)
  - . (period)
- **Number of digits for page numbering** - determines how many digits the page number contains. The range of available values is between 1 and 6. By default, this option is set to 4 characters.
- **Start numbering on second page** - determines where the document level numbering begins.
  - **Yes** - starts numbering on the second page of the production documents.
  - **No** - starts numbering on the first page of the production documents.
- **Attachment relational field** - selects a relational field indicating a family group such as group identifier.

Note: The combined length of the Prefix and Suffix cannot exceed 255 characters when using Document level numbering.

Original image numbering

Select the **Original image numbering** to retain the identifiers originally associated with your images. For example, you may want to retain the Bates or other numbers already assigned to images uploaded to Relativity. Relativity utilizes these values to create the production and attachment numbers.

The form fields available when you select **Original image numbering** include:



- **Attachment relational field** - selects a relational field indicating a family group such as group identifier.

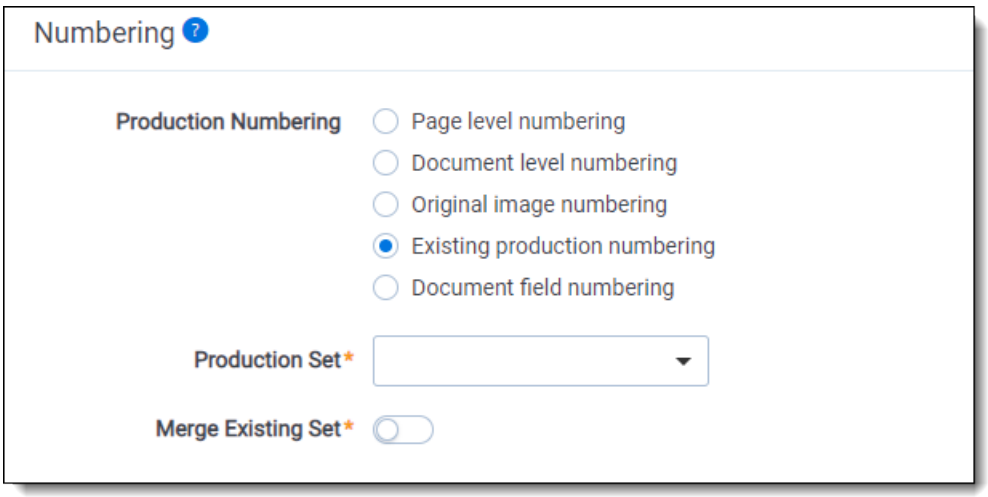
The following table provides several original image numbering scenarios:

Document has	Produced with	Generated Bates numbers with
Natives + imported images	Images and natives	The Image identifiers defined in the Image Load File.
Natives + images	Natives only	The Document Identifier.
Natives + Oracle images	Images only	The Images number created by the TIFF native manager: Document Identifier + <Page Number> + <Hash Value>. For example: Stel_Img_0_272ec3bf-9287-4862-be34-bbb230274a86
Images only (imported)	Images only	The Image identifiers defined in the Image Load File.
Natives only	Natives only	The Document Identifier.
Natives only	Images and natives	The created image place holder, using the Document Identifier field. For Example: e2f448d6-6e19-4d7c-9e50-7fccbf9c5c6b
Natives only	Images only	The created image place holder, using the Document Identifier field. For Example: e2f448d6-6e19-4d7c-9e50-7fccbf9c5c6b

Existing production numbering
Select the **Existing production numbering** choice if you'd like to re-use the Bates numbering fields from a previously-run production set, change the images of the documents produced, or produce only a subset of documents contained in the existing production. More specifically, you may want to select this option if, for example, a court order requires that your documents be produced without an already-applied confidential branding or if you need to redact already-produced documents for privilege.

Notes:

- When creating a production set with Existing production numbering, you cannot add documents not contained in the existing set, change page counts, or change whether or not a document previously produced as native only is produced with a placeholder. You can, however, replace a document produced as a image with a placeholder.
- When you choose a production set with more documents than the existing set, Relativity generates a warning to inform you that it auto-removed the extra documents. If the new production set has a subset of documents contain in the existing set, the new production set will generate without any warnings.



The following required fields appear when you select the Existing production numbering choice:

- **Production Set** - (required) Select the production set containing the numbers you'd like to use for the set you're creating. Only completed production sets are available to select from this drop-down list.
- **Merge Existing Set** - (required) When you merge a new production with an existing production, the new production images replace the images in the previously existing production. The new production still exists for export. Relativity updates the Has Redaction field in the Production Information record in cases where redactions were added or removed. From the viewer, if you compare the existing production and the new production, the images look the same if the images from the existing production set are not in the cache. If existing production images are in the cache, then you'll still see the original produced version of the image when you click on the existing production set production radio button. For more information on merging, see Production sets on page 506.

  Selecting this option fully replaces the original production's produced image inside Relativity. You cannot export the original produced image if you merge the sets.

  Note: If you have an existing production set with document level numbering, no page-level markers, and the existing production is migrated into the environment, you cannot merge the productions together with existing production numbering.

  If one production references an already produced production in the **Production Set** field, you cannot delete the referenced production. You can resolve the error by referencing an existing production or modifying the parameters of the production to eliminate the reference to the deleted production.

Numbering merge conflicts

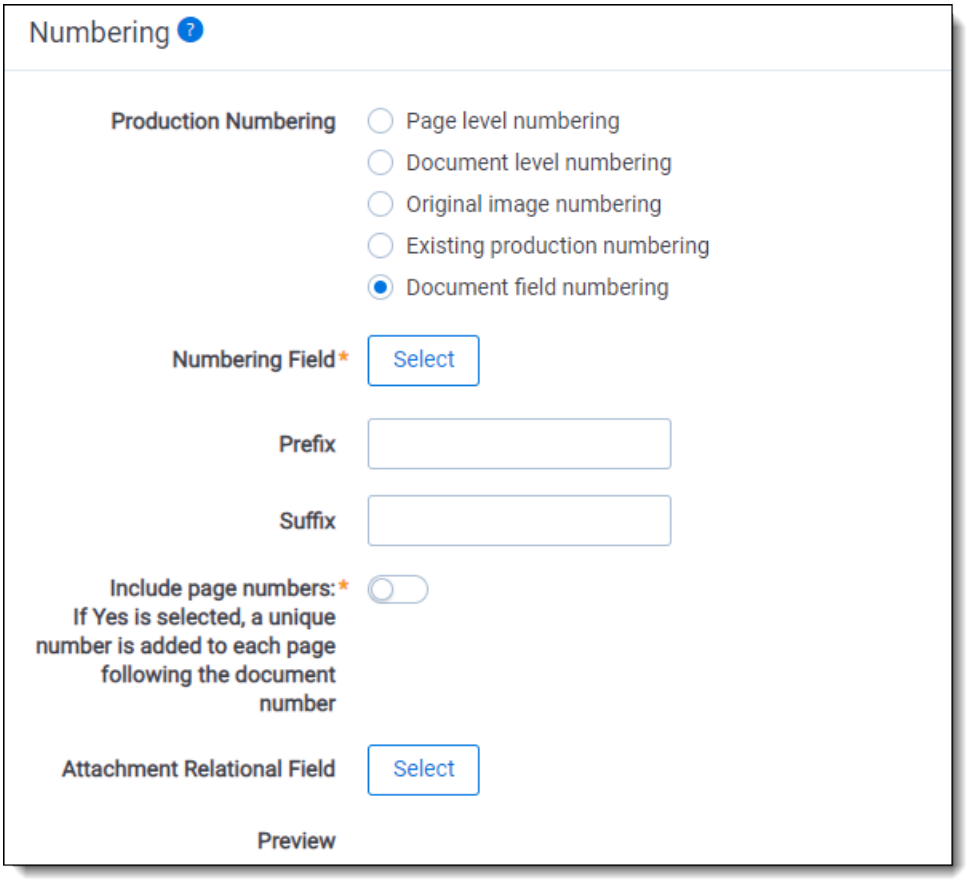
When electing to use an existing production's numbering and then merging that numbering, consider the following conflict scenarios. These scenarios result in errors when you attempt to run a new production set:

- There are any documents in the production set you're creating that weren't included in the existing production set. You must remove these documents from the new production in order to run it.
- The page counts of the documents in the production set you're creating differs from the page counts in the existing production set.
- If documents in a production set are also in the production restriction for that production, you must remove the documents from either the production set or the production restriction.
- You attempt to perform any action on a production set while it is merging with another.

Document field numbering

Select the **Document field numbering** choice if you'd like to use any fixed-length text field on the Document object for your numbering. Reflective fields are not available for this numbering option.

You may want to select this option if, for example, if you import a set of documents into Relativity and want to maintain the original numbering of the documents. For example, you could choose control number as the field and produce documents using the control number as the bates field.



The following required fields appear when you select the Document field numbering choice:

- **Numbering Field** - (required) select the field you'd like to use for numbering from this drop-down list. Only fixed-length text fields are available to select from this drop-down list.

  Note: The content of the numbering field, prefix, and suffix cannot exceed 255 characters.

- **Include page numbers** - (required) adds a unique page number after the document number on each page in a document, when it is set to **Yes**. By default, this option is set to **No**.

  Note: If you export a production with document level numbering as single-page TIFF, and it does not include page numbering, Relativity automatically adds page numbers to identify each page uniquely.

  - **Document Page Separator** - (required) displays when you select the Include page number option. The following separators are available:
    - _ (underscore, selected by default)
    - - (hyphen)
    - . (period)
  - **Number of digits for page numbering** - (required) determines how many digits the page number contains. The range of available values is between 1 and 6. By default, this option is set to 4 characters.
  - **Start numbering on second page** - (required) determines where the document level numbering begins.
    - **Yes** - starts numbering on the second page of the production documents.
    - **No** - starts numbering on the first page of the production documents.
- **Attachment relational field** - selects a relational field indicating a family group such as group identifier.

31.4.4 Branding

In the Branding section of the production set form, you can set branding options for headers and footers. You can position headers and footers to the left, center, and right on the images in your production.

Note: If you experience slowness viewing this page, reduce the instance setting ChoiceLimitForUI until the drop-downs become popup pickers. Changing this instance setting affects all workspaces in an environment.

Select a **Type** for each header or footer position where you want information branded in the image.

The following **Types** are available:

- **Production Bates Number** - displays the Bates number associated with each document page.
- **Production Number** - displays the document number associated with each page. (Available for **Document level numbering** and **Original image numbering** only)
- **Field** - uses the value in the selected document field for branding on each image created for a document.

  Note: Relativity restricts the following field types from branding for document images in a production: user, multiple object, and reflective field types.

- **Free Text** - uses any combination of text, tokens, and carriage returns that you define. However, Relativity doesn't support multi-reflected, multi-object, relational, file, user, and system fields for branding. You can use carriage returns to position the header or the footer closer to the top and bottom margins respectively. Use tokens to include field data as follows:

  Note: If you enter a field ID that represents a field that doesn't exist or is not a document field you cannot produce the production.

  - **Production Number:** {!PRODNUM!}
  - **Any Data Field:** {!FIELD:ARTIFACTID!} as in the example {!FIELD:1040549!}. You can brand multiple fields by separating the entries with carriage returns.

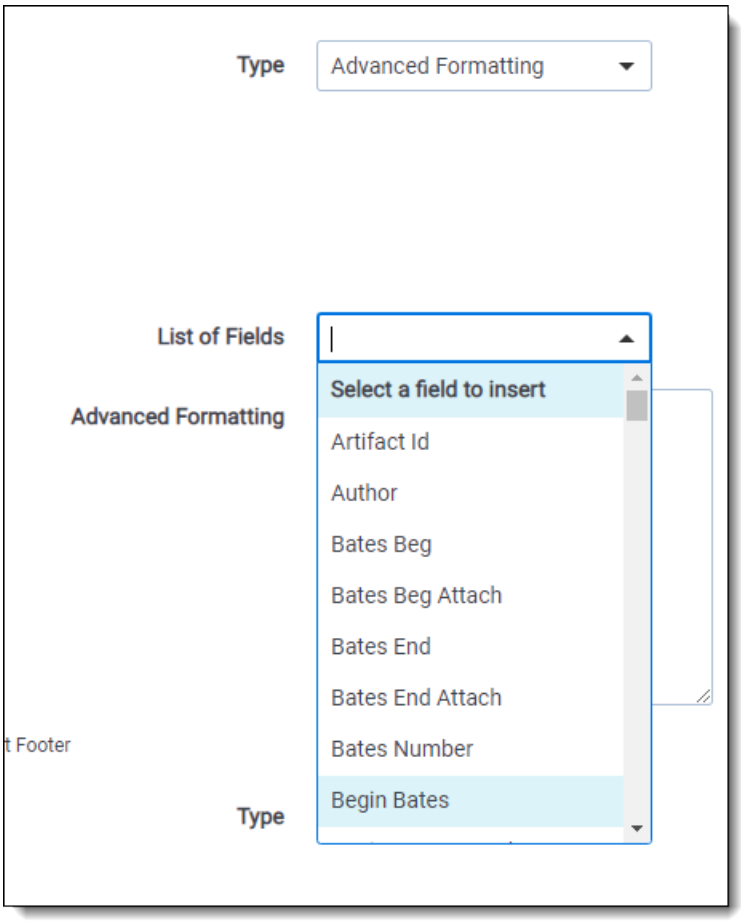
- **Original Image Number** - uses the original page ID assigned by Relativity as follows:
  - Numbering used in load file is applied when an image load file was used to import the data. Beginning in Relativity 9.4.321.2, if you run a production with image placeholders, the original image number is replaced with the Document Identifier field.
  - Document ID, page ID, and a hash value are applied in combination when images were created using the Image-on-the-fly functionality.

In the above example, SSHACKLET_0000112 is the Document ID, 0 is the page ID, and 5b419b77-abe4-4ed6-a68a-197f99390895 is the hash value.

- **Document Identifier + Page Number** - uses the document identifier with the page number appended to it. This option sets the first page number to 1 even when the document contains only a single page. The following pages are numbered incrementally. In addition, the page number is padded with up to four digits as illustrated below.

Note: Depending on the settings for the header and footer, Relativity prevents the image from being cut off by adding approximately five extra pixels to its edges.

- **Advanced Formatting** - uses any combination of fields from the **Advanced Formatting** drop-down list, free-form text, and carriage returns. The Advanced Formatting option also supports a scripting language that you can use to create conditional branding based on production, document, and page fields.



Beginning in Relativity 10.0.318.5, branding text wraps by default if the content of two adjacent footers or headers are likely to overlap with each other. If you copy a production made prior Relativity 10.0.318.5, the branding on the new production may look different than the original production, especially if the original production had additional spacing or new lines to prevent the stamps from overlapping. To keep text from wrapping by default across your entire Relativity instance, add the Relativity.Productions.Domain.Toggles.BrandingOverlayToggle to the Toggle table in the Admin (EDDS) database with the values listed below.

- Name = Relativity.Productions.Domain.Toggles.BrandingOverlayToggle
- IsEnabled = 0

31.4.5 Sorting

In Sorting, you can select a field that determines how your production is sorted. Note that you can sort a production set by more than one field at a time. You can also use a descending or ascending sort order. By default, the sort order is Artifact ID, which is the load order of the documents. When you perform a sort, family groups are not kept together. The sorting applies to all data sources added to the production set. Sorting is only applicable when Production Numbering is set to the following:

- Page level numbering
- Document level numbering

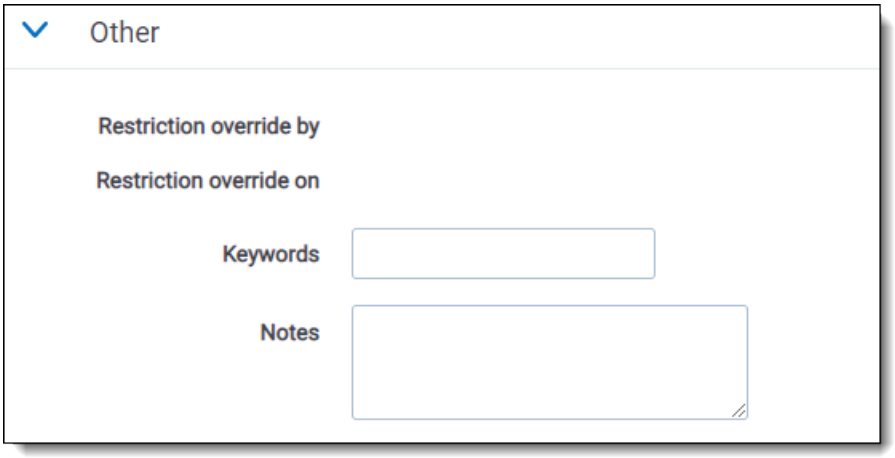
Note: If you experience slowness viewing this page, reduce the instance setting ChoiceLimitForUI until the drop-downs become popup pickers. Changing this instance setting affects all workspaces in an environment.

Note: If no sort order is specified, the documents will be stamped in order of Artifact ID ascending. The production numbering sort order doesn't determine the order of documents in the document list view.

Note: If you would like to keep family group together in sort order, you must set Field 1/5 to Family Group following with other sorting criteria.

31.4.6 Other

The Other section displays additional fields added to the form after the production set was saved:



- **Restriction override by** - displays the name of the user who clicked the **Override and Continue** button when running the production without removing conflicts. This user must have the Override Production Restrictions permission.
- **Restriction override on** - lists the date and time when the production restrictions were overridden.

31.4.7 Viewing production set details

31.4.7.1 Production set details options

You can use the options available on the detail view for production sets to edit permissions, view audit information, preview the production, and perform other tasks. You can access these options through the buttons at the top of the page.

Use the following buttons to complete tasks as necessary:

- **Edit** - re-displays the production set form so you can update values in the fields. See Creating and editing a production set on page 506.
- **Delete** - removes the production set from Relativity. When you delete a production, the production is immediately removed from the Production sets tab. However, you may still see the Bates numbers from the production in the Documents tab. Relativity deletes the Bates numbers, the production data source, and any other remaining production information during off hours.

  If you don't want to lose the previously recorded Bates numbers, run the Assign Legacy Document Bates Fields script from the Relativity Script Library. After you click **Delete**, a confirmation message displays with the **Dependencies** button.

  Note: When deleting a production the production images are deleted, not the original images.

- **Back** - redirects you to the item list on the Production Sets tab
- **Edit Permissions** - displays a security page where you can set user permissions on a production set. You can edit rights only on the current production set. By default, the Production Set tab is secured according to the workspace-level rights. See the Admin guide for more information on setting permissions on objects.
- **View Audit** - displays the history for the production.

The Production Set details options view also shows Production Status Information, Basic Settings, Numbering, Branding, Sorting, Other, and the Production Data Source. Once the production is run, you can also view the First and Last Bates Values associated with the production.

31.4.7.2 Previewing a production

In the Production console, click the **Preview Production** button to preview the newly saved production before running the production. Preview the production to confirm that all basic settings, numbering, branding, sorting, and other options are correct. For more information, see Production console on page 525.

(Click to expand the image)

31.4.8 Tracking multiple redaction sets

If you need to track multiple redaction sets on the same document, you can use the following workflow:

- Create multiple redaction sets by defining different markups. See Markups on page 393.
- Use each markup to redact the same document.
- Create a production and select a specific markup.

When you select the markup, it controls the redactions branded during production, so you can track multiple redaction sets on the same document, and generate different productions.

31.5 Production data source

The production data source attaches saved searches to your production set. With the production data source you can specify the type of production and select placeholders from your placeholder library to customize your production. By setting the placeholder on the data source you can include multiple placeholders within a single production. The placeholder is based on the saved search attached to the production data source.

Note: You must have view, add, and edit permissions for the Production Data Source object in order to successfully create a data set. We also recommend the delete permission.

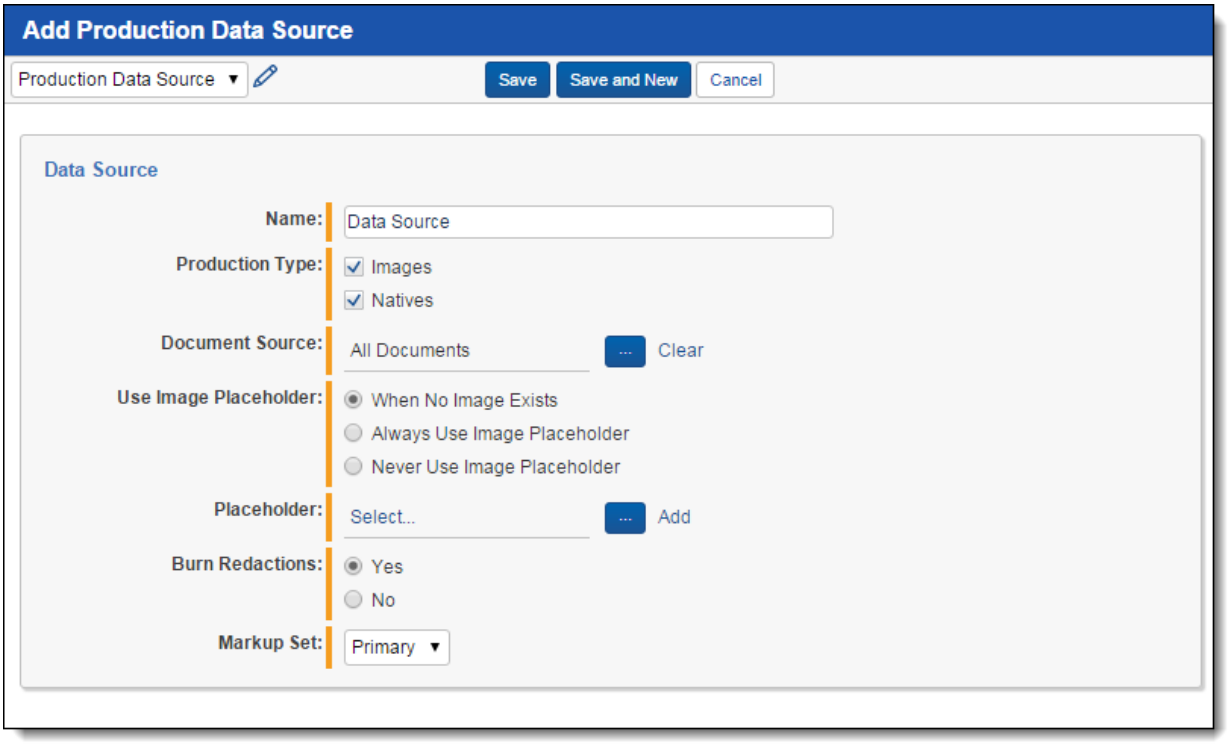
31.5.1 Adding a production data source

To add a production data source to your production:

1. Navigate to the **Production** tab.
2. Select the **Production Sets** tab.
3. Click the name of the production where you want to add a data source.
4. Scroll down to the **Production Data Source** card.
5. Click **New**.

   The Add Production Data Source window opens.

6. Add the following fields as necessary. Required fields are orange.



- **Name** - the name of the production data source.
- **Production Type** - select images, natives, or both. If you select Images for Production Type, additional fields are required.
- **Document Source** - the available saved searches to use as a data source for the production.

  Note: You must create public saved searches in order for your searches to populate another Relativity user's Available Items list.

- **Use Image Placeholder**- a single-choice field to add image placeholders to the data source. Documents without images receive a placeholder (slip-sheet) in their place. The placeholder receives the same branding as the rest of the produced images. This option is only available if you produce images.
  - **When No Image Exists** - inserts a placeholder only when no image exists for a document.
  - **Always Use Image Placeholder** - always inserts an image placeholder even when an image exists for a document.
  - **Never Use Image Placeholder** - this is the default option. Never inserts an image placeholder for any document.
- **Placeholder** - the placeholder used for the data source. Click ... to view a list of available placeholders from your placeholder library. Click **Add** to add a placeholder on-the-fly. This field automatically appears when you select Always Use Image Placeholder or When No Image Exists.

- **Burn Redactions** - indicates that redactions are applied to the documents when set to **Yes**. Set this field to **No** if you do not want redactions applied to the documents.
- **Markup Set** - indicates which markup set is used to apply redactions to the production images.

Notes:
- You can't have the same document in more than one production data source.
- The Native Time Zone Offset field controls the date and time displayed on redacted and highlighted images. If necessary, you may want to review and adjust the UTC value to avoid incorrect time designations on documents and inaccurate productions.

7. Click **Save**.

31.6 Production placeholders

You can create your own unique placeholders for productions using images or custom text. Once you create the placeholders, you can attach the placeholders to the production data source. You can also produce the same document in multiple productions with different placeholders. The Production Placeholder library automatically includes a default image placeholder.

Note: When creating a template workspace using production, Relativity automatically copies production placeholders.

31.6.1 Creating an image placeholder

You can create an image placeholder using saved image files on your machine. Relativity supports uploading of TIF, JPEG, PNG, BMP, and GIF files for image placeholders. When saving the image placeholder, it is saved as a JPG file. To create and save an image placeholder for your productions, follow these steps:

Note: It's recommended image placeholders image size should be 2,550 pixels by 3,300 pixels at 300 DPI.

1. Navigate to the **Production** tab.
2. Click the **Production Placeholder** tab.
3. Click **New Production Placeholder**. To edit an existing image placeholder, click **Edit** next to the placeholder name.
4. Add or edit the following fields as necessary. Required fields are orange.
   - **Name** - the name of your production placeholder. Give your placeholder a descriptive name based on the image.
   - **Type** - the type of placeholder. Select **Image**.
   - **Placeholder** - the location of the image on your computer. Click **Choose File** and browse to the location of the image you want to use.
5. Click **Save**.

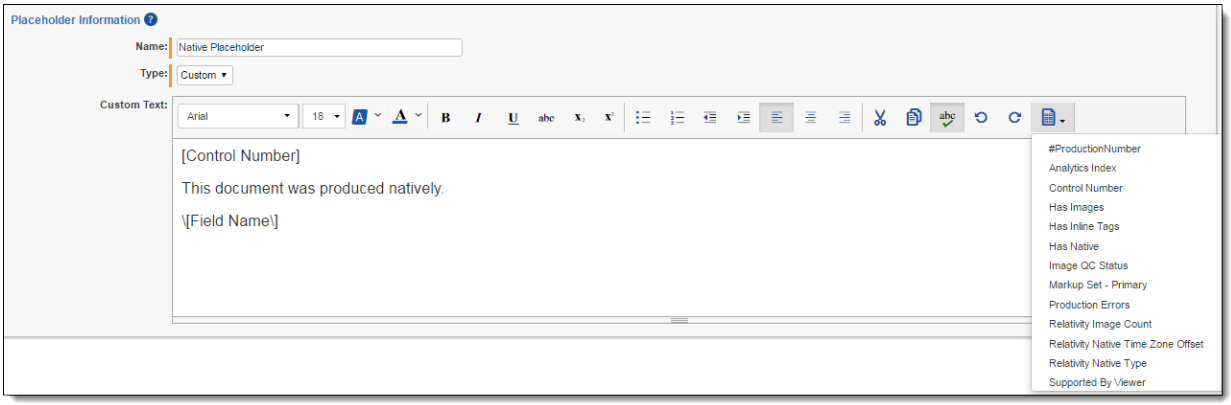
31.6.2 Creating a custom placeholder

You can create a custom placeholder with your own text using the custom text editor within Relativity. To create a custom placeholder for your productions, follow these steps:

Note: If you add a large amount of text or upload large images to your custom placeholders there can be an increase in the staging and producing time of your productions.

1. Navigate to the Production tab.
2. Click the **Production Placeholder** tab.
3. Click **New Production Placeholder**. To edit an existing custom placeholder, click **Edit** next to the placeholder name.
4. Add or edit the following fields as necessary. Required fields are orange.
   - **Name** - the name of your production placeholder. Give your placeholder a descriptive name based on the custom text.
   - **Type** - the type of placeholder. Select **Custom**.
   - **Custom Text** - using the custom text editor enter the text you want to appear on your placeholder. You can also change your entered text using the options in the text editor.
     - The rich text editor for production placeholders contains a plugin you can use to add any document field or Bates number field to stamp on the placeholder. The field name inserts into your custom placeholder, but when you kick off the production, the field name dynamically updates per document. For example, [ControlNumber] updates with the control number field for the document the placeholder corresponds to. Custom type placeholders support document fields using the field name surrounded by brackets: [**Document Field Name**]. To include a square bracket in the plain text of the placeholder, escape it with a backslash: \[bracketed phrase\].

       Note: You can only use the date, decimal, fixed-length text, whole number, yes/no, single and multiple choice fields as a token for your placeholder. You must have permissions to the document fields to use them as a token for your placeholder.
5. Click **Save**.



31.6.3 Previewing placeholders

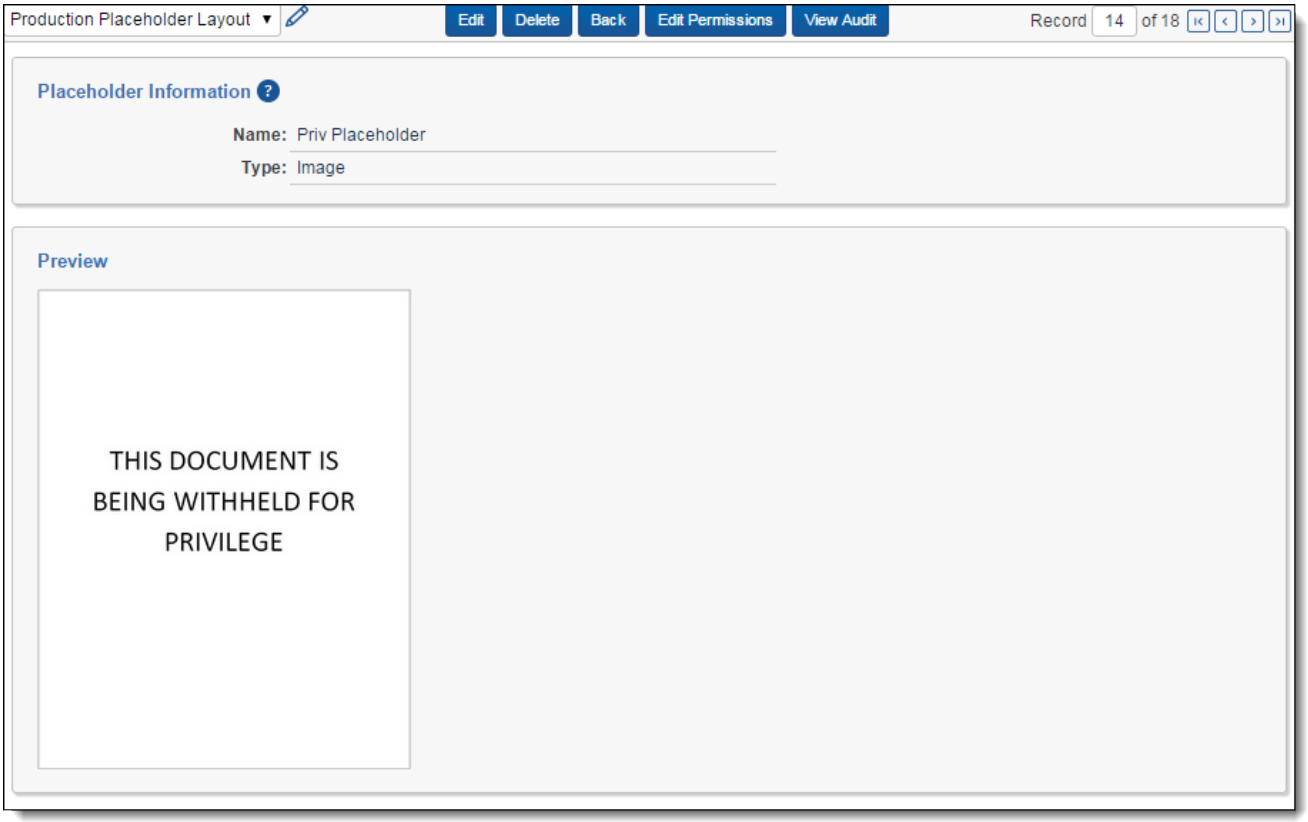
You can preview your image and custom placeholders via the Placeholder Library before you attach the placeholder to your production data source. To preview your placeholders:

1. Select the **Production Placeholder** tab.
2. Click the name of the placeholder you want to preview.

   The placeholder opens in the Production Placeholder Layout displaying placeholder information and a preview.

3. Navigate through your placeholder library using the navigational arrows in the upper right of the Production Placeholder layout.

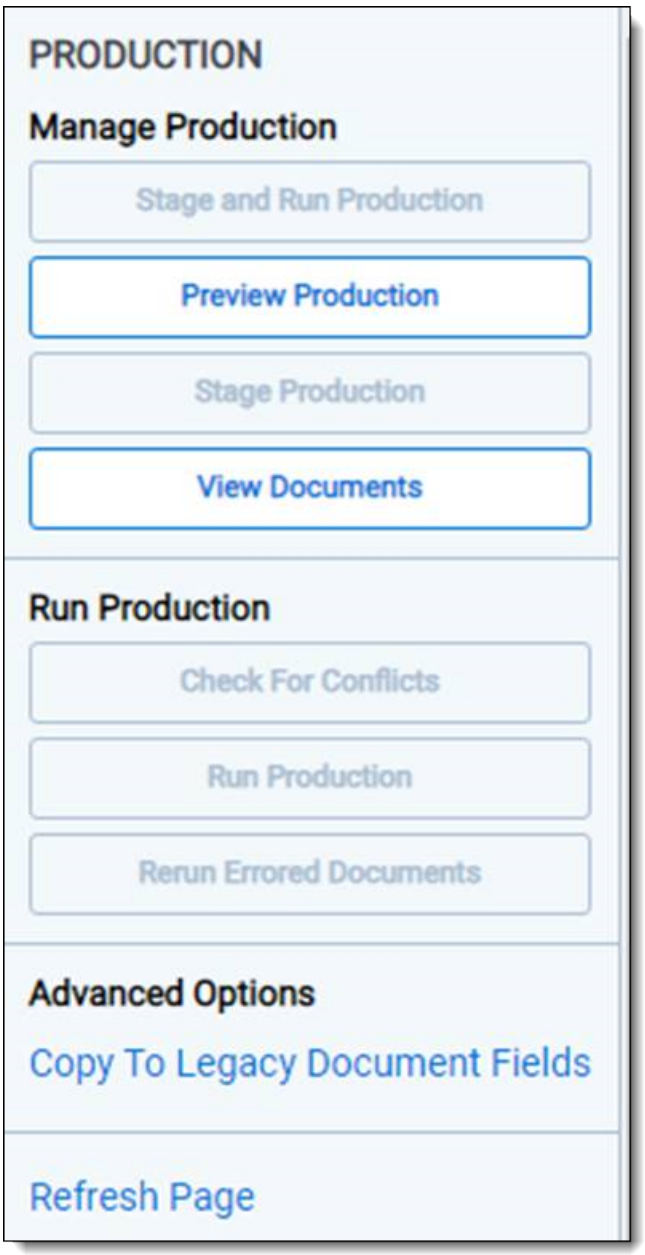
If a placeholder does not generate the way you want it to, click **Edit** to open the placeholder and make any necessary changes.



31.7 Production console

Once you complete your production set and add your data sources, you can access the Production console to stage, run, and monitor your production. The production console also contains a progress bar which seamlessly updates the production statuses.

To access the production console, click the name of the desired production set.



The Production console contains the following sections:

- Manage Production below
- Run Production on the next page
- Advanced Options on page 528

31.7.1 Manage Production

The Manage Production section of the Production console displays the following options:

- **Preview Production** - displays a sample image showing how the branding is applied to documents in the production.

- **Stage Production** - takes a snapshot of the data sources for the production. For more information, see Stage a production.
- **Stage and Run Production** - takes a snapshot of the data sources and then automatically begins producing the staged documents. For more information, see Stage and run a production.
  - **Cancel** - stops the stage and run job.
- **Cancel Staging** - cancels a staging production. This is a dynamic button that appears once you click Stage Production.

  Note: Canceling a production is not an instant operation. Depending on the size of production or number of documents in scope, canceling may take some additional time.

- **View Documents** - displays a list of all documents included in the production set. You can use the drop-down list in the upper right corner to toggle between viewing produced documents and the individual pages of the documents. For more information, see View documents.

  Note: You must have View Production and View Data Source permissions to view the list of documents included in the production set. The list of documents filters out documents you don't have access to.

- **View Staging Errors** - displays problematic documents causing staging errors.

31.7.2 Run Production

The Run Production section of the Production console displays the following options:

- **Check for Conflicts** - determines whether the production set includes any documents that conflict with another pre-determined set of documents.For more information, see Check for production conflicts.
- **Run Production** - proceeds with the production of staged documents. If documents with conflicts have not been removed from the production set, the Production Restrictions appears. Running a production automatically creates a saved search. If you're a system admin, you can resolve the message using the following options:
  - **Override and Continue** - proceeds with the production without removing the conflicts based on the Override Production Restrictions permission.
  - **Cancel** - stops the production from running.

  For more information, see Run a production.
- **Cancel Production** - cancels a running production. This is a dynamic button that appears when you click Run Production.
- **Rerun Errored Documents** - proceeds with the production of previously errored documents after you make corrections. To ensure quality record processing, this button is not active until the production is complete. If any documents in the production set resulted in alerts, click the **Rerun Errored Documents** button to rerun these documents.
- **View Branding Errors** - displays a pop-up with all documents and Branding error messages per document. You can click on a document within the pop-up to open the document and determine the cause of the error. This button only appears if branding errors occur during a production run.

- **View Production Errors and Warnings** - displays a pop-up that lists the validation and production error messages and warning that occurred.

31.7.3 Advanced Options

The Advanced Options section of the Production console displays the following option:

- **Copy To Legacy Document Fields** - launches the script window to update Bates fields you create on the Document table with the Bates numbering information stored in the Production Information RDO of a production you select. For more information, see Copy To Legacy Document fields in the admin guide.

31.7.4 Stage and run a production

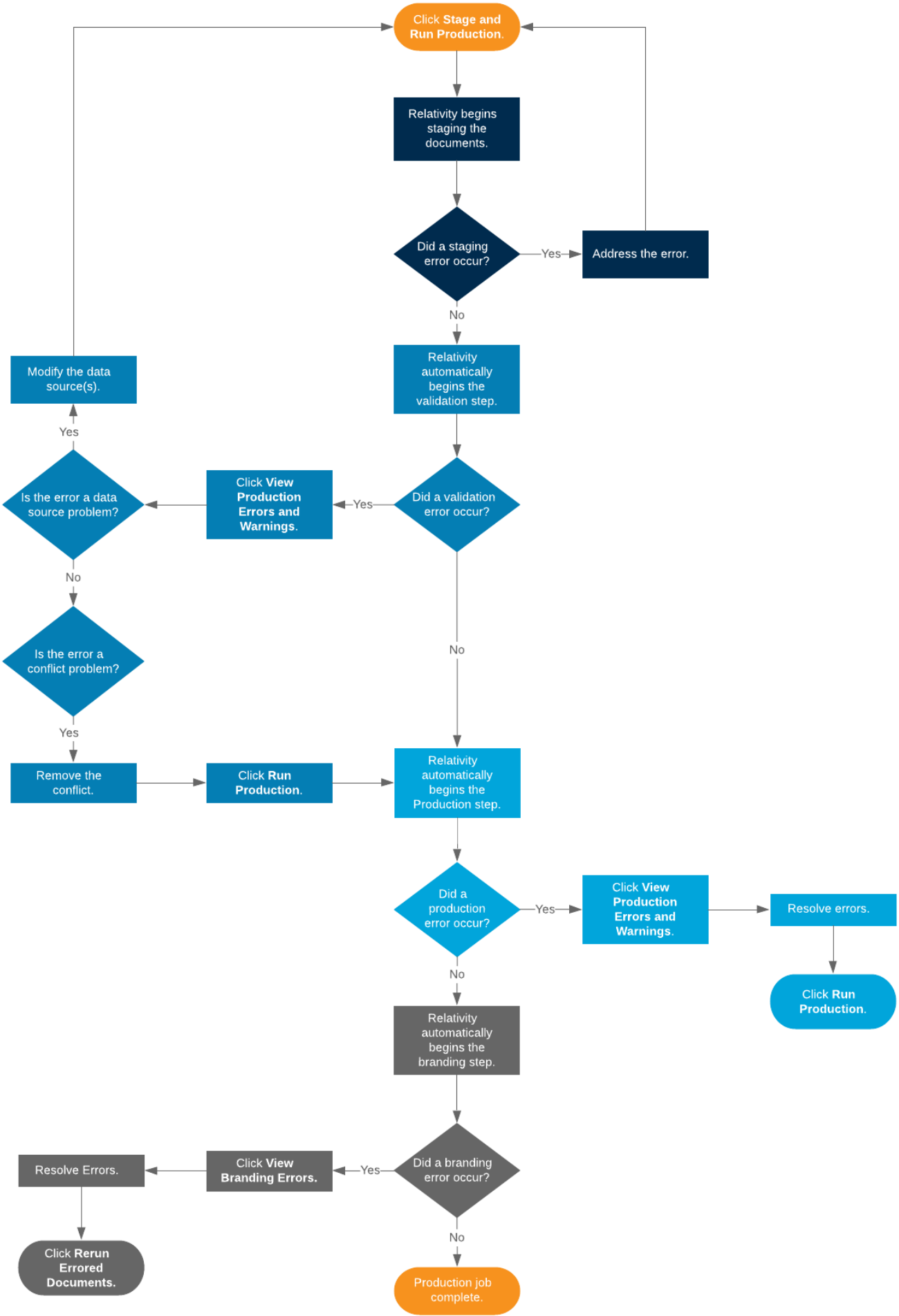
To stage and run a production in a single step, click **Stage and Run Production** on the Production console.

31.7.4.1 Staging and running a production

A stage and run production job goes through 4 steps:

1. Staging on page 530
2. Validation on page 530
3. Production on page 531
4. Branding on page 531

Stage and Run Production

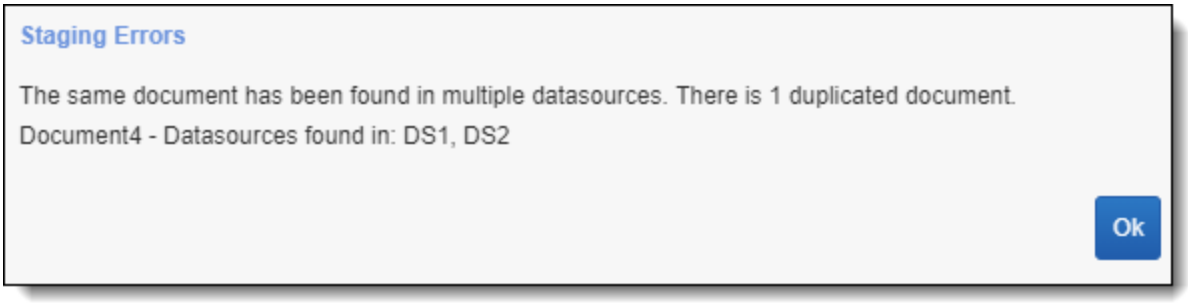


Staging

During the staging step, Relativity takes a snapshot of the data sources. After staging finishes, Relativity automatically begins the validation step.

Staging errors occur when

- **The same document is found in multiple data sources.**
  When the same document is found in multiple data sources, you will receive an error message. The error message identifies the data sources that pulled back the same document and which document they pulled back. To resolve the error, modify the saved searches that you selected as your data sources to ensure that they do not pull back any of the same documents.



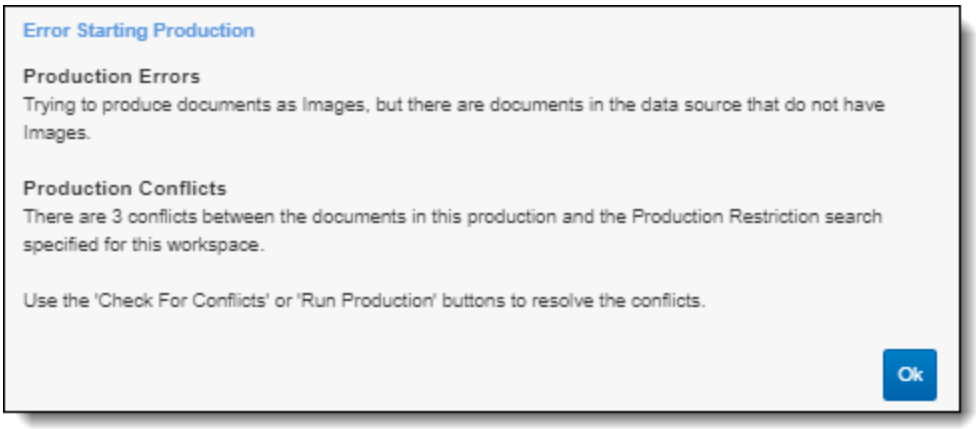
- **There are no documents in the data sources.**
  When no documents are found in the data sources, you will receive an error message. To resolve the error, make sure that the saved searches that you selected as your data sources are pulling back documents.

If a staging error occurs, address the error and then click **Stage and Run Production**.

Validation

During validation, Relativity performs a conflict check and data source validation. After validation finishes, production begins.

When a validation error occurs, click **View Production Errors and Warnings** on the Production console to open the Error Starting Production pop-up. The Error Staging Production pop-up lists the errors that occurred.



There are two types of validation errors.

- **Data source** - occurs when documents in the data source do not have images or natives. To resolve the error, modify the data sources and then click **Stage and Run Production**.
- **Conflict** - occurs when the data sources have documents that are also in the saved search selected in the Production Restriction field.

Conflict resolution option	Fix
Remove the conflict	Remove documents from the production set that are also in the saved search selected in the Production Restriction field. To remove the conflict: ▪ Click **Check for Conflicts** on the Production console. The Production Restrictions pop-up will open. ▪ Click **Remove Conflict** on the Production Restrictions pop-up. ▪ Click **Run Production** on the Production console.
Override the conflict	Keep the documents in the production set that are also in the saved search selected in the Production Restriction field. To override the conflict: ▪ Click **Run Production** on the Production console. The Production Warnings pop-up will open. ▪ Click **Override and Continue** on the Production Warnings pop-up. The production job will continue without removing the conflict documents.
Modify the production restriction	Modify the Production Restriction field so none of the documents in the production restriction saved search are also in the production set. For information on modifying a production restriction, see Adding and editing production restrictions. After modifying the production restriction, click **Stage and Run Production** on the Production console.

Production

During production, Relativity produces the staged documents. After production finishes, branding begins. If a production error occurs, click **View Production Errors and Warnings** on the Production console to see why the error occurred. After addressing the error, click **Run Production** on the Production console.

Branding

During branding, Relativity applies redactions and the specified header and footer to the images. Once this step finishes, your production job is complete.

To resolve branding errors:

1. Click **View Branding Errors** on the Production console to open the Branding Errors pop-up.

2. Read the **Branding Error Message** to determine the cause of the error and resolve it. Possible

errors include:

Branding Error Message	Fix
All branding managers are disabled or no branding manager exists.	Enable or create the Branding Manager and Production Manager agents.
Could not find file <file path>.	Since the system can not find the file path to the image, make sure the image exists at the file path mentioned in the Branding Error Message. You may need to image or import the document again.
The file at <file path> could not be opened or is not a valid image file.	▪ If the document is encrypted, add the document's password to the Password Bank. For more information, see Password Bank. ▪ Make sure Relativity supports the file type of the image. You may need to image or import the document again.
The process cannot access the file <file path> because it is being used by another process.	This is usually the result of antivirus software. To resolve the error, click **Rerun Errored Documents** on the Production console. If you receive the same error after rerunning the errored documents, unlock the file or folder mentioned in the Branding Error Message and then click **Rerun Errored Documents**.
The number of images for document has changed after this production was initially run.	

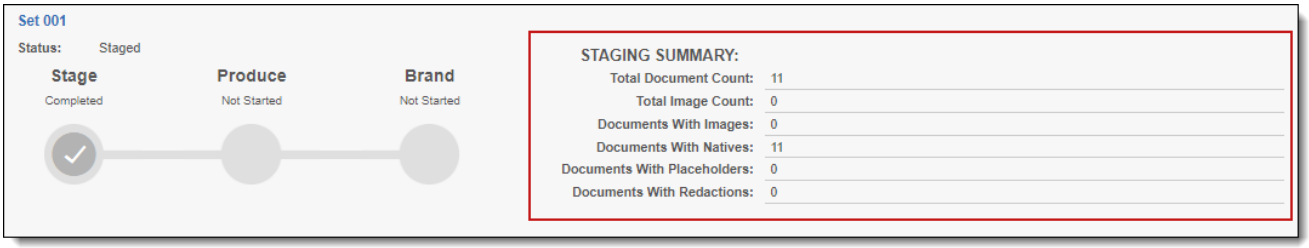
3. Click **Rerun Errored Documents** to finish the production job.

To cancel the job, click **Cancel** on the Production console.

31.7.4.2 Checking production status

During each part of the production, a report is available in the Status section. The Stage, Produce, and Brand steps of the production has its own report. Use these reports to quickly identify the number of documents, images, redacted documents, etc.

Staging Summary fields



Staging Summary fields include:

- **Total Documents Count** - lists the number of documents found during staging.
- **Total Images Count** - lists the number of images found during staging.
- **Documents with Images** - lists the number of documents that include images found during staging
- **Documents with Natives** - lists the number of documents that include native files found during staging.
- **Documents with Placeholders** - lists the number of documents that include production placeholders found during staging.
- **Redacted Documents** - lists the number of documents that include redactions found during staging.

Production Summary fields

PRODUCTION SUMMARY:	
Begin Bates:	AADDD0000001
End Bates:	AADDD0000022
Total Document Count:	22
Total Image Count:	48
Documents With Images:	4
Documents With Natives:	4
Documents With Placeholders:	18
Documents With Redactions:	0
Total Image Size In GB:	0.00
Production Run Date:	10/3/2019, 2:34:06 PM
Completed Re-productions:	All docs as placeholders_REPROD_I-P_2019-10-14
	All docs as placeholders_REPROD_P-I_2019-10-08 [Deleted]
	All docs as placeholders_REPROD_I-P_2019-10-08 [Deleted]
	All docs as placeholders_REPROD_P-I_2019-10-03 [Deleted]

Production Summary fields include:

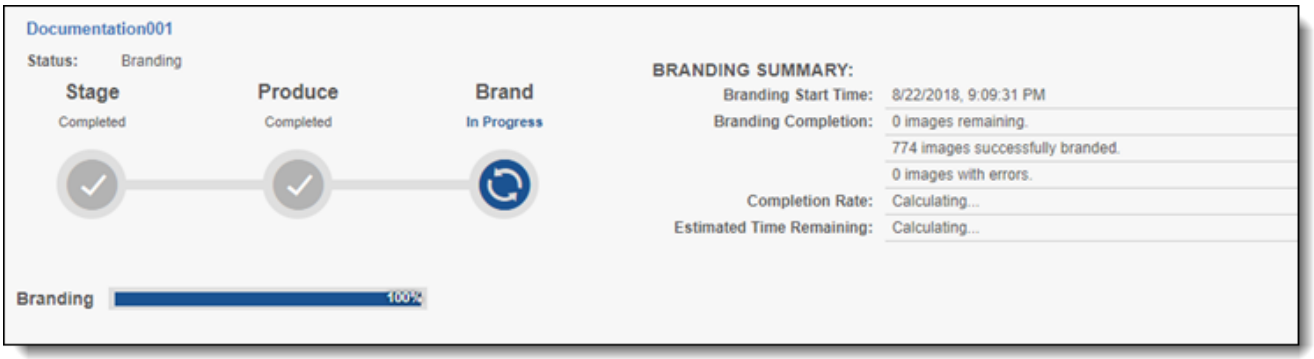
- **Begin Bates** - lists the Bates number of the first document in the production set.
- **End Bates** - lists the Bates number of the last document in the production set.
- **Total Documents Count** - lists the number of documents included in the production set.
- **Total Images Count** - lists the number of images included in the production set.
- **Documents with Images** - lists the number of documents that include images included in the production set.
- **Documents with Placeholders** - lists the number of documents that include placeholders included in the production set.

- **Redacted Documents** - lists the number of documents that include redactions included in the production set.

Note: Production does not include any redactions applied to native documents when using Relativity Redact, only redactions applied using the image viewer and markup set contained on images will be included.

- **Image size in GB** - lists the size of images in GB.
- **Product Run Date** - lists the date of when the production was run.
- **Completed Re-productions** - lists completed re-productions of the current production set. Every time a production set is modified via the Re-production mass action, a new entry is added to the Completed Re-productions field in the Production Summary section of the original production set. Click on the name of a completed re-production to go to the production set for that re-production job. If you delete a re-production job or do not have access to that re-production set, the name of the set will still appear on the list, but you will not be able to click on it.

Branding Summary fields



Branding Summary fields include:

- **Start Time** - lists the start time of branding.
- **Branding Completion** - lists the time of completion for branding.
- **Completion Rate** - lists the progress of branding.
- **Estimated Time Remaining** - lists the amount of time left in branding.

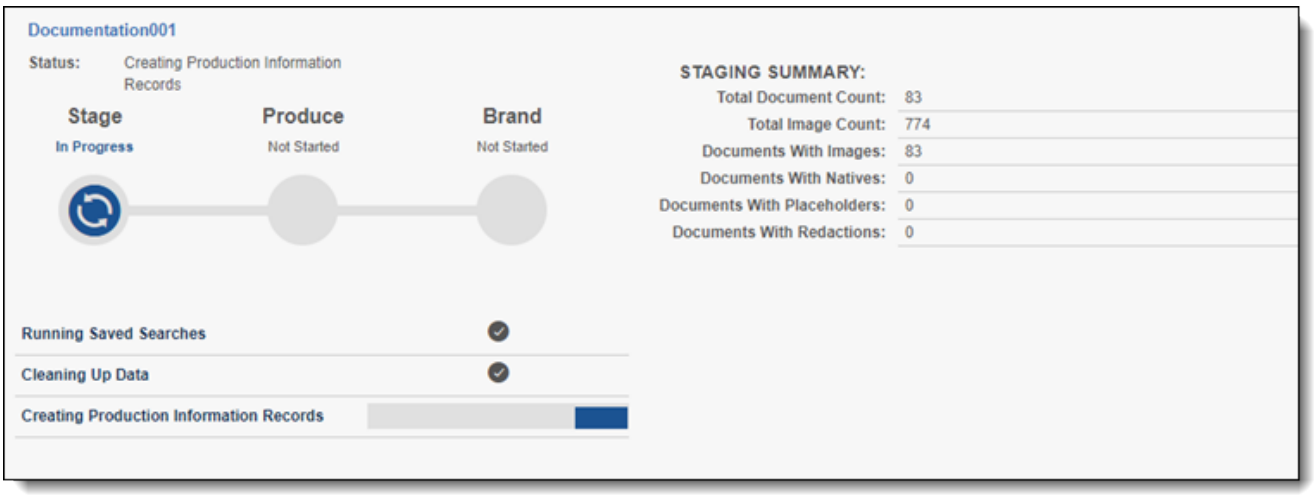
31.7.5 Stage a production

Before you can run a production, you must stage the production. Staging the production takes a snapshot of the data sources to prepare documents. After you assign your data sources, placeholders, and production set, you can stage your production.

31.7.5.1 Stage a production

To stage a production, click **Stage** in the Production console. You can also stage and run a production job in a single step by clicking **Stage and Run Production** on the Production console. For more information, see Stage and run a production.

The progress bar displays the following:



- **Staging** - Relativity is staging the production.
- **Running Saved Searches** - Relativity is running the saved searches associated with the production data sources.
- **Cleaning Up Data** - Relativity pre-sorts the documents and deletes any Production Information objects that may already exist if the production is being restaged.
- **Creating Production Information Records** - Relativity is creating the Production Information records associated with the production.

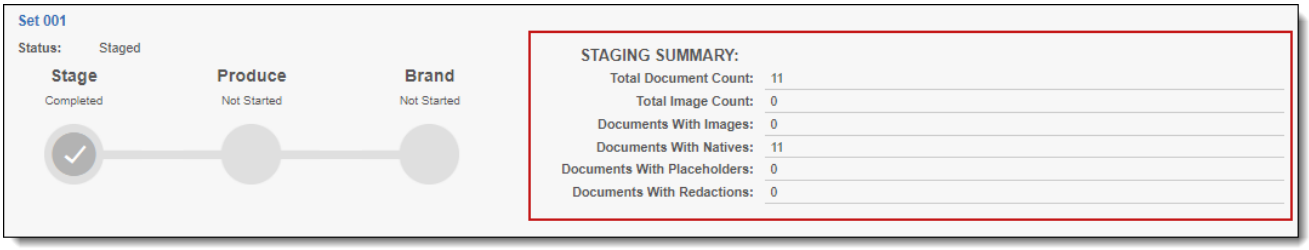
Changes made to any data source after staging completes are not captured when the production is run. Examples of changes include modifying the conditions of a saved search for a data source and adding or deleting a data source from the production. To insure that you capture data source changes, stage or re-stage the production immediately before you run the production.

Note: If you are upgrading productions from Relativity 9.2 to Relativity Server 2022, previously staged or errored productions are set to a status of New and you must restage the production.

If you want to improve staging times, increase the MassCreateBatchSize instance setting. If you want to improve re-staging times, increase the MassDeleteBatchAmount instance setting.

31.7.5.2 Staging Summary fields

During staging, a report is available in the Status section. Use this report to quickly identify the number of documents, images, redacted documents, etc.



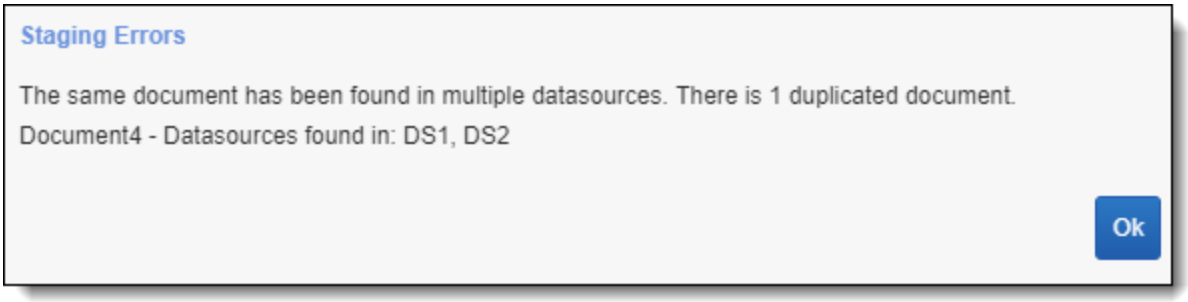
Staging Summary fields include:

- **Total Documents Count** - lists the number of documents found during staging.
- **Total Images Count** - lists the number of images found during staging.
- **Documents with Images** - lists the number of documents that include images found during staging
- **Documents with Natives** - lists the number of documents that include native files found during staging.
- **Documents with Placeholders** - lists the number of documents that include production placeholders found during staging.
- **Redacted Documents** - lists the number of documents that include redactions found during staging.

31.7.5.3 Staging errors

Staging errors occur when

- **The same document is found in multiple data sources.**
  When the same document is found in multiple data sources, you will receive an error message. The error message identifies the data sources that pulled back the same document and which document they pulled back. To resolve the error, modify the saved searches that you selected as your data sources to ensure that they do not pull back any of the same documents.



- **There are no documents in the data sources.**
  When no documents are found in the data sources, you will receive an error message. To resolve the error, make sure that the saved searches that you selected as your data sources are pulling back documents.

31.7.6 View documents

You can view the total number of image and native files to produce and other specific information about each document included in the production by clicking the **View Documents** button in the Production console.

The View Documents window displays the following fields for each production document: Document Identifier, Data Source Name, Production Option, Begin Bates, End Bates, Has Native, Has Images, and Has Redactions. This information is also viewable from the Production Information object.

View Documents

1 - 15 of 221 15 per page

Document	Data Source	Production Option	Begin Bates	End Bates	Has Native	Has Images	Has Redactions
Filter	Filter	Filter	Filter	Filter	(All)	(All)	(All)
REL0000005105	20191210_PROD001	Images	kCura00000001	kCura00000001	True	True	False
REL0000005105.0001	20191210_PROD001	Images	kCura00000002	kCura00000002	True	False	False
REL0000005105.0002	20191210_PROD001	Images	kCura00000003	kCura00000007	True	True	False
REL0000005105.0003	20191210_PROD001	Images	kCura00000008	kCura00000008	True	False	False
REL0000005105.0004	20191210_PROD001	Images	kCura00000009	kCura00000009	True	False	False
REL0000005105.0005	20191210_PROD001	Images	kCura00000010	kCura00000010	True	False	False
REL0000005105.0006	20191210_PROD001	Images	kCura00000011	kCura00000011	True	False	False
REL0000005105.0007	20191210_PROD001	Images	kCura00000012	kCura00000012	True	False	False
REL0000005105.0008	20191210_PROD001	Images	kCura00000013	kCura00000013	True	False	False
REL0000005105.0009	20191210_PROD001	Images	kCura00000014	kCura00000014	True	False	False
REL0000005105.0010	20191210_PROD001	Images	kCura00000015	kCura00000015	True	False	False
REL0000005105.0011	20191210_PROD001	Images	kCura00000016	kCura00000016	True	False	False
REL0000005105.0012	20191210_PROD001	Images	kCura00000017	kCura00000017	True	False	False
REL0000005105.0013	20191210_PROD001	Images	kCura00000018	kCura00000018	True	False	False
REL0000005105.0014	20191210_PROD001	Images	kCura00000019	kCura00000019	True	False	False

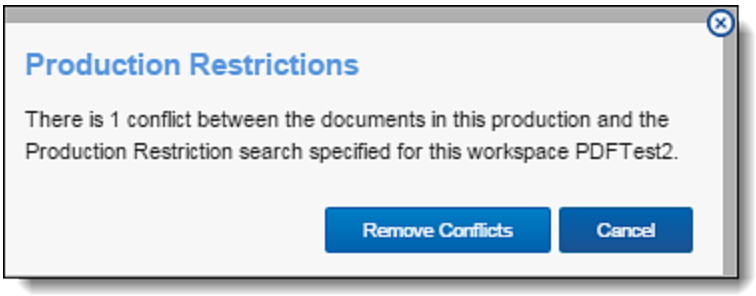
Close

31.7.7 Check for production conflicts

You can perform a conflict check that compares the documents in the production against those in a saved search selected in the **Production Restrictions** field on the workspace details page. For example, the saved search may include conditions that identify privileged documents and their families, which you would not want to produce. See Production restrictions.

Note: You must have permissions to the documents included in a production to remove production restrictions.

When you click **Check for Conflicts**, a Production Restrictions warning may appear if a saved search is being used to restrict productions.



Click one of these buttons to resolve the conflict:

- **Remove Conflicts** - deletes documents identified as conflicts from the production set (based on the Production Restrictions setting). If all the documents are conflicts, they are removed from the production set.

  Note: To view a list of documents removed from the production, navigate to the History tab, and filter on the Production - Remove Document action. See History on page 232 for more information.

- **Cancel** - stops the conflict check and displays the production page.

31.8 Run a production

To run a production, click **Run Production** in the production console. After you click Run Production, the status bar updates with the following stages and fields as the documents produce:

- **Cleaning Existing Files** - deletes placeholder files (slip sheets) and any produced image files from a prior run production, if necessary.
- **Creating Placeholder Images** - creates placeholder images based on the production data source.
- **Creating and Applying Bates numbers** - creates and applies Bates numbers based on your production numbering.
- **Creating Branding Queue Records** - creates branding queue records for later review.

Note: In the viewer, you can view the produced images by selecting the Production mode. You can view the images exactly as they were produced.

31.8.1 Checking production status

During the production step, a report is available in the Status section. Use this report to quickly identify the number of documents, images, redacted documents, etc.

31.8.1.1 Production Summary fields

PRODUCTION SUMMARY:	
Begin Bates:	AADDD0000001
End Bates:	AADDD0000022
Total Document Count:	22
Total Image Count:	48
Documents With Images:	4
Documents With Natives:	4
Documents With Placeholders:	18
Documents With Redactions:	0
Total Image Size In GB:	0.00
Production Run Date:	10/3/2019, 2:34:06 PM
Completed Re-productions:	All docs as placeholders_REPROD_I-P_2019-10-14
	All docs as placeholders_REPROD_P-I_2019-10-08 [Deleted]
	All docs as placeholders_REPROD_I-P_2019-10-08 [Deleted]
	All docs as placeholders_REPROD_P-I_2019-10-03 [Deleted]

Production Summary fields include:

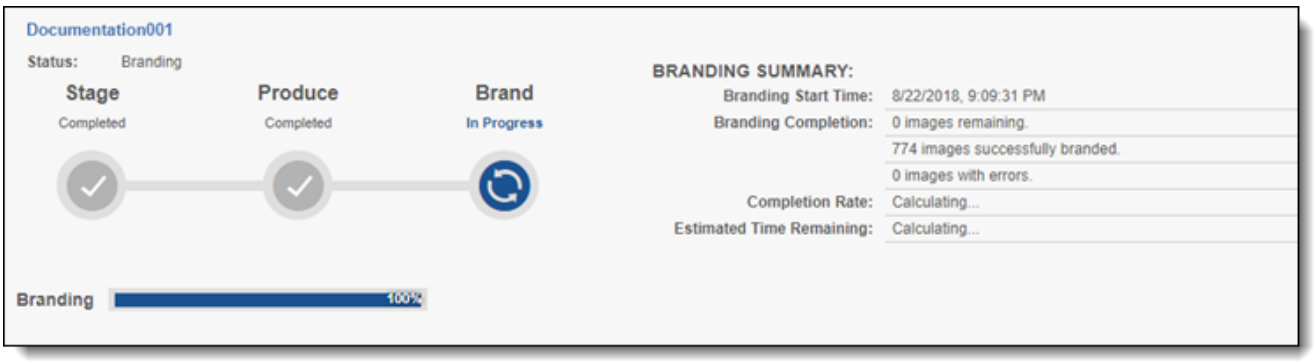
- **Begin Bates** - lists the Bates number of the first document in the production set.
- **End Bates** - lists the Bates number of the last document in the production set.
- **Total Documents Count** - lists the number of documents included in the production set.
- **Total Images Count** - lists the number of images included in the production set.
- **Documents with Images** - lists the number of documents that include images included in the production set.
- **Documents with Placeholders** - lists the number of documents that include placeholders included in the production set.
- **Redacted Documents** - lists the number of documents that include redactions included in the production set.

Note: Production does not include any redactions applied to native documents when using Relativity Redact, only redactions applied using the image viewer and markup set contained on images will be included.

- **Image size in GB** - lists the size of images in GB.
- **Product Run Date** - lists the date of when the production was run.
- **Completed Re-productions** - lists completed re-productions of the current production set. Every time a production set is modified via the Re-production mass action, a new entry is added to the

Completed Re-productions field in the Production Summary section of the original production set. Click on the name of a completed re-production to go to the production set for that re-production job. If you delete a re-production job or do not have access to that re-production set, the name of the set will still appear on the list, but you will not be able to click on it.

31.8.1.2 Branding Summary fields



Branding Summary fields include:

- **Start Time** - lists the start time of branding.
- **Branding Completion** - lists the time of completion for branding.
- **Completion Rate** - lists the progress of branding.
- **Estimated Time Remaining** - lists the amount of time left in branding.

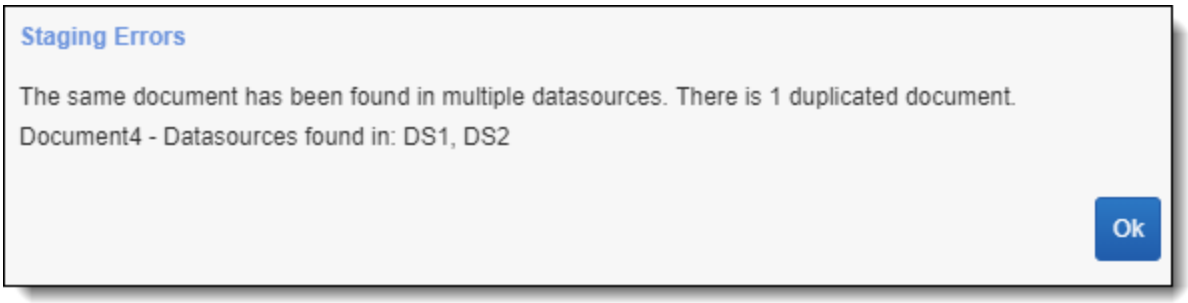
31.9 Production errors

When staging and running a production job, staging, validation, and branding errors can occur.

31.9.1 Staging errors

Staging errors occur when

- **The same document is found in multiple data sources.**
  When the same document is found in multiple data sources, you will receive an error message. The error message identifies the data sources that pulled back the same document and which document they pulled back. To resolve the error, modify the saved searches that you selected as your data sources to ensure that they do not pull back any of the same documents.



- **There are no documents in the data sources.**
  When no documents are found in the data sources, you will receive an error message. To resolve the error, make sure that the saved searches that you selected as your data sources are pulling back documents.

31.9.2 Validation errors

There are two types of validations errors:

When a validation error occurs, click **View Production Errors and Warnings** on the Production console to open the Error Starting Production pop-up. The Error Staging Production pop-up lists the errors that occurred.

There are two types of validation errors.

- **Data source** - occurs when documents in the data source do not have images or natives. To resolve the error, modify the data sources and then click **Stage and Run Production**.
- **Conflict** - occurs when the data sources have documents that are also in the saved search selected in the Production Restriction field.

Conflict resolution option	Fix
Remove the conflict	Remove documents from the production set that are also in the saved search selected in the Production Restriction field. To remove the conflict: ▪ Click **Check for Conflicts** on the Production console. The Production Restrictions pop-up will open. ▪ Click **Remove Conflict** on the Production Restrictions pop-up. ▪ Click **Run Production** on the Production console.
Override the conflict	Keep the documents in the production set that are also in the saved search selected in the Production Restriction field. To override the conflict: ▪ Click **Run Production** on the Production console. The Production Warnings pop-up will open.

Conflict resolution option	Fix
	■ Click **Override and Continue** on the Production Warnings pop-up. The production job will continue without removing the conflict documents.
Modify the production restriction	Modify the Production Restriction field so none of the documents in the production restriction saved search are also in the production set. For information on modifying a production restriction, see Adding and editing production restrictions. After modifying the production restriction, click **Stage and Run Production** on the Production console.

31.9.3 Branding errors

To resolve branding errors:

1. Click **View Branding Errors** on the Production console to open the Branding Errors pop-up.

2. Read the **Branding Error Message** to determine the cause of the error and resolve it. Possible errors include:

Branding Error Message	Fix
All branding managers are disabled or no branding manager exists.	Enable or create the Branding Manager and Production Manager agents.
Could not find file <file path>.	Since the system can not find the file path to the image, make sure the image exists at the file path mentioned in the Branding Error Message. You may need to image or import the document again.
The file at <file path> could not be opened or is not a valid image file.	■ If the document is encrypted, add the document's password to the Password Bank. For more information, see Password Bank. ■ Make sure Relativity supports the file type of the image. You may need to image or import the document again.
The process cannot access the file <file path> because it is being used by another process.	This is usually the result of antivirus software. To resolve the error, click **Rerun Errored Documents** on the Production console. If you receive the same error after rerunning the errored documents, unlock the file or folder mentioned in the Branding Error Message and then click **Rerun Errored Documents**.
The number of images for document has changed after this production was	

Branding Error Message	Fix
initially run.	

3. Click **Rerun Errored Documents** to finish the production job.

31.10 Re-production

You can use the Re-produce mass operation to re-produce select documents from a produced production without having to run the whole production again. For each production that is modified, Relativity creates a new production job, which is a re-production job. Re-production jobs store the modified documents and reuse the numbering format, bates numbers, and branding options from the original productions.

Once a re-production job finishes running, the modified documents merge into the existing, original production set; they overwrite the documents that were previously produced. The previously produced version of the document will no longer display in the Viewer and will not be available for export.

Re-production jobs are stored as regular productions in the system and are not deleted after they are complete. If you want to export just the documents that were modified, use the RDC to export the re-producion job.

31.10.1 Special considerations

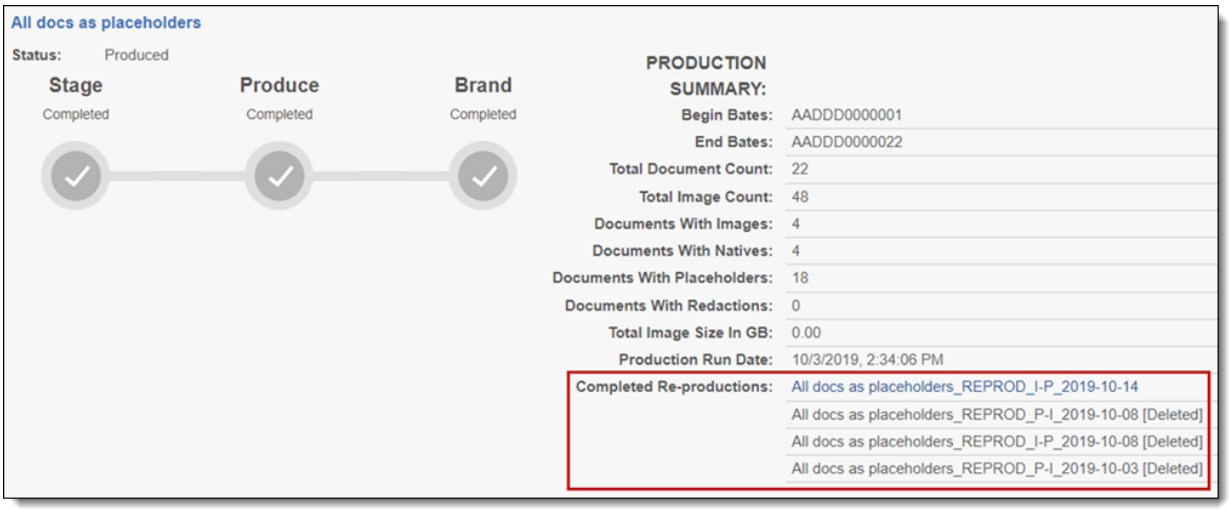
Special considerations for the re-production feature include:

- The re-production feature only works with productions that have been run in Relativity. It will not work with outside productions that have been loaded in.
- You can re-produce documents from multiple production sets with a single mass operation. However, you can only apply one re-production type at a time. Relativity recommends using saved searches to group documents that need the same type of re-production. See Re-production types on the next page.
- A re-production job is named after the original production that is modified and uses this naming convention: [original production name]_REPROD_[re-production type]_[date of the re-production job]. The re-production type in the name is abbreviated. Re-production type abbreviations include:

Re-production type	Abbreviation
Replace produced images with placeholder	I-P
Replace placeholder with images	P-I
Re-produce documents (same number of pages)	I-I

  For example, if on September 30, 2019, you ran a re-production job to replace documents that were produced as placeholders with images from a production set named "Production", the re-production name would be Production_REPROD_P-I_2019-09-30.
- Every time a production set is modified via the Re-production mass action, a new entry is added to the Completed Re-productions field in the Production Summary section of the original production set. Click on the name of a completed re-production to go to the production set for that re-production job. If you delete a re-production job or do not have access to that re-production set, the name of the set

will still appear on the list, but you will not be able to click on it.



31.10.2 Security configuration

You must configure certain workspace level permissions to use the Re-production mass operation.

To configure the required security permissions:

1. Navigate to the **Workspace Details** tab.
2. Click **Manage Permissions**.
3. Click **Edit Permissions** for a group on the **Group Management** tab.
4. Enable the following security permissions:

Object security	Tab visibility	Other settings
▪ Production - View/Edit/Add ▪ Production Data Source - View/Edit/Add ▪ Production Placeholder - View	NA	Mass operations ▪ Re-produce

31.10.3 Re-production types

Relativity supported and unsupported re-production types include:

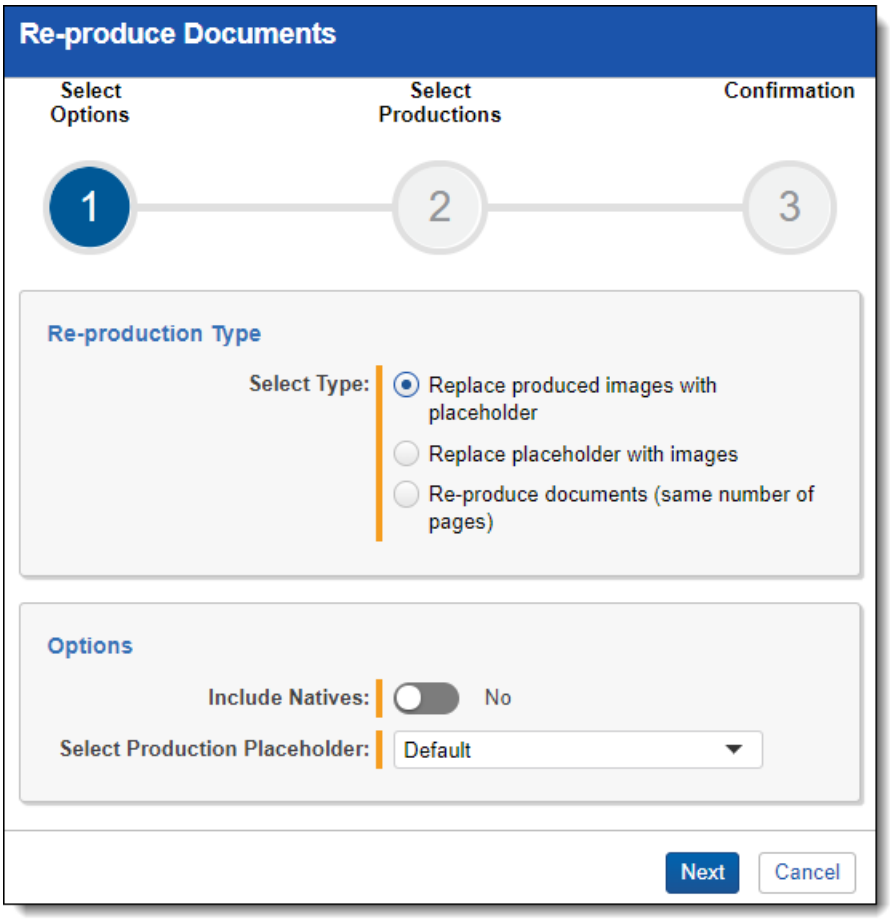
Supported re-production types	Unsupported re-production types
▪ Replace produced images with placeholder (I-P) on the next page ▪ Replace placeholder with images (P-I) on page 546 ▪ Re-produce documents (same number of pages) (I-I) on page 547	▪ Replace a document that was produced as a placeholder with another placeholder. ▪ Replace a document that was produced as native only with produced images or a placeholder. ▪ Re-produce the same document as images but with a different number of images.

While you can re-produce documents from multiple production sets with a single mass operation, you can only apply one re-production type at a time. For example, if you want to re-produce 100 documents, and you want to replace 60 with produced images and replace 40 with a placeholder, you would need to run two mass operations.

If none of the documents selected meet the re-production type you choose, when you move to the next step you will receive this error: “No productions match the re-production criteria. Please verify all selected documents are included in a production and match the original production type of the re-production options.” For example, you will receive this error if you selected five documents that were produced only as Natives and if you selected "Replace produced images with placeholder" as the Re-production type. To resolve the error, exit the module and remove the documents that do not meet the selected re-production type criteria from the group of documents you selected for re-production. To avoid this error, Relativity recommends using saved searches to group documents that need the same type of re-production.

31.10.3.1 Replace produced images with placeholder (I-P)

In the Re-produce Documents module, select **Replace produced images with placeholder** if you need to replace images in a production with a placeholder. With this re-production type, each page of an imaged document is replaced with a placeholder. For example, if an imaged document is 50 pages, each of the 50 pages would be replaced with a placeholder; the re-produced document would contain 50 placeholders. This preserves the original bates numbering.



- **Include Natives** - a boolean field. Select **Yes** to include the natives of the documents you selected for re-production. Set this field to **No** if you only want to include a placeholder for the documents. This option overrides the option on the original production. If the document was originally produced with

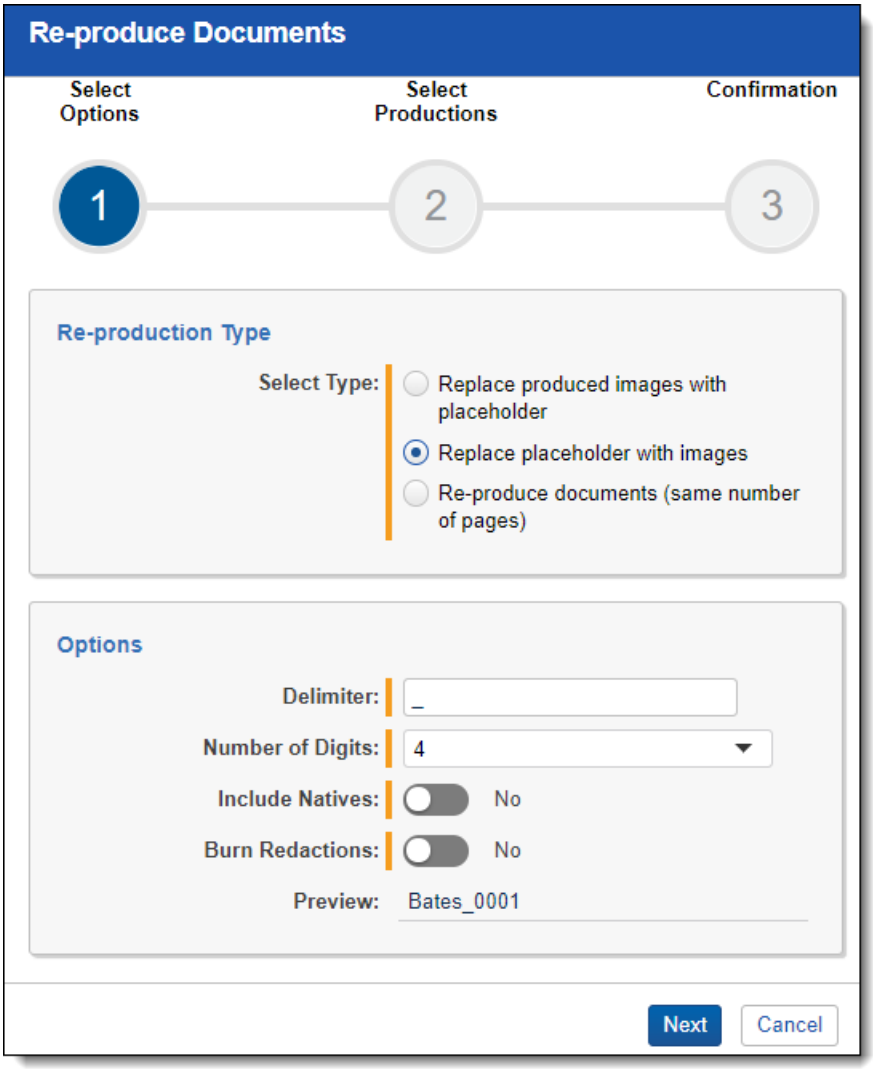
natives, but the user does not select "Include Natives", the document will be merged to the original production with no natives.

- **Select Production Placeholder** - select a production placeholder for the documents you selected for re-production.

31.10.3.2 Replace placeholder with images (P-I)

In the Re-produce Documents module, select **Replace placeholder with images** if you need to replace documents that were produced as placeholders with produced images.

Note: The documents must already be imaged before you run the mass operation, or an error will occur with the mass operation.



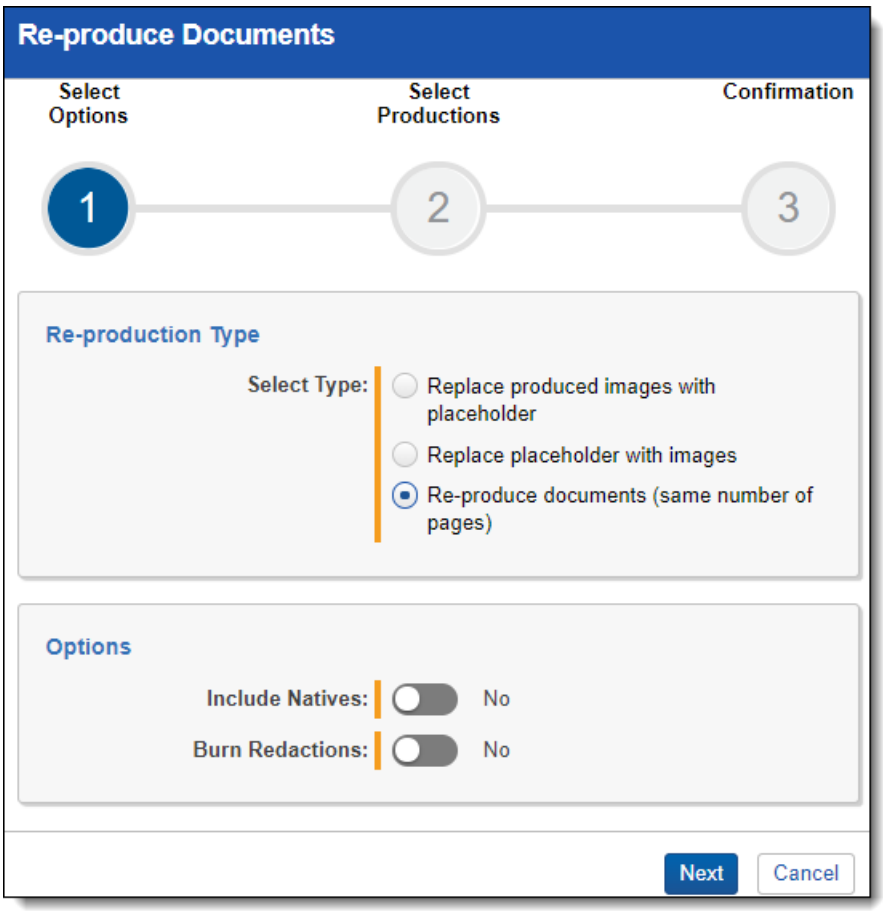
- **Delimiter** - given that you are replacing a placeholder (1-page image) with produced images, it is possible that the new document may have more than 1 page. This option allow you to use a character to suffix the original production bates number from the number of pages in re-produced image. The suffix will start on the second page with number #1. The following separators can be used:

    - _ (underscore, selected by default)
    - - (hyphen)
    - . (period)
- **Number of Digits** - determines how many digits the suffix number contains.. The range of available values is between 1 and 6. By default, this option is set to 4 characters.
- **Include Natives** - a boolean field. Select **Yes** to include the natives of the documents you selected for re-production. Set this field to **No** if you only want to include a placeholder for the documents. This option overrides the option on the original production. If the document was originally produced with natives, but the user does not select "Include Natives", the document will be merged to the original production with no natives.
- **Burn Redactions** - a boolean field. Select **Yes** to apply redactions to the documents you selected for re-production. Set this field to **No** if you do not want redactions applied to the documents.
    - **Select Markup Set** - indicates which markup set is used to apply redactions to the production images.
- **Preview** - displays what the bates number will look like based on your selections.

31.10.3.3 Re-produce documents (same number of pages) (I-I)

In the Re-produce Documents module, select **Re-produce documents (same number of pages)** if you need to replace documents in a production.

Note: The documents that you are using to replace the documents in the production must be the same number of pages as the documents in the production that you are replacing.



- **Include Natives** - a boolean field. Select **Yes** to include the natives of the documents you selected for re-production. Set this field to **No** if you only want to include a placeholder for the documents. This option overrides the option on the original production. If the document was originally produced with natives, but the user does not select "Include Natives", the document will be merged to the original production with no natives.
- **Burn redactions** - a boolean field. Select **Yes** to apply redactions to the documents you selected for re-production. Set this field to **No** if you do not want redactions applied to the documents.
  - **Select Markup Set** - indicates which markup set is used to apply redactions to the production images.

31.10.4 Re-production scenarios

Re-production scenarios include:

Documents selected	Re-production type selected	Productions available for modification	Number of documents to be modified in each production	Outcome
Doc A was produced as placeholder in Prod_1	Replace Placeholders with images	Prod_1 Prod_2	Prod_1 | 1 out of the total of 2 documents selected will be modified in this production	Doc A is re-produced in Prod_1 Doc B is re-

Documents selected	Re-production type selected	Productions available for modification	Number of documents to be modified in each production	Outcome
Doc B was produced as placeholder in Prod_2 Doc A was produced as placeholder in Prod_1 Doc B was produced as Images in Prod_1 Doc A was produced as placeholder in Prod_1	Replace Placeholders with images	Prod_1	Prod_2 | 1 out of the total of 2 documents selected will be modified in this production Prod_1 | 1 out of the total of 2 documents selected will be modify in this production.	produced in Prod_2 Doc A is re-produced in Prod_1
Doc B was produced as images in Prod_1 Doc A was produced as images in Prod_2 Doc B was produced as placeholder in Prod_2 Doc A was produced as placeholder in Prod_1	Replace Placeholders with images	Prod_1 Prod_2	Prod_1 | 1 out of the total of 2 documents selected will be modify in this production. Prod_2 | 1 out of the total of 2 documents selected will be modify in this production.	Doc A is re-produced in Prod_1 Doc B is re-produced in Prod_2
Doc A was produced as images in Prod_2 Doc B was produced as images in Prod_2	Replace Placeholders with images	Prod_1 **Note:** Prod_2 is not displayed because Doc A and Doc B were not produced as placeholder in Prod_2.	Prod_1 | 1 out of the total of 2 documents selected will be modify in this production.	Doc A is re-produced in Prod_1
Doc A was	Replace	Prod_1	Prod_1 | 2 out of the total	Doc A is re-

Documents selected	Re-production type selected	Productions available for modification	Number of documents to be modified in each production	Outcome
produced as placeholder in Prod_1				
Doc B was produced as placeholder in Prod_1			of 2 documents selected will be modify in this production.	produced in Prod_1
Doc A was produced as placeholder in Prod_2	Placeholders with images	Prod_2	Prod_2 | 1 out of the total of 2 documents selected will be modify in this production.	Doc B is re-produced in Prod_1 Doc A is re-produced in Prod_2
Doc B was produced as images in Prod_2				
Doc A was produced as placeholder in Prod_1	Replace Placeholders with images			
Doc B was produced as placeholder in Prod_1	Need to replace Doc A and Doc B in Prod_1.	Prod_1 Prod_2	Prod_1 | 2 out of the total of 2 documents selected will be modify in this production.	Doc A and Doc B are both modified in Prod_1 and Prod_2.
Doc A was produced as placeholder in Prod_2	Need to replace Doc A only in Prod_2.		Prod_2 | 2 out of the total of 2 documents selected will be modify in this production.	
Doc B was produced as placeholder in Prod_2	Doc B should not be replaced in Prod_2.			

31.10.5 Re-produce documents

To re-produce documents:

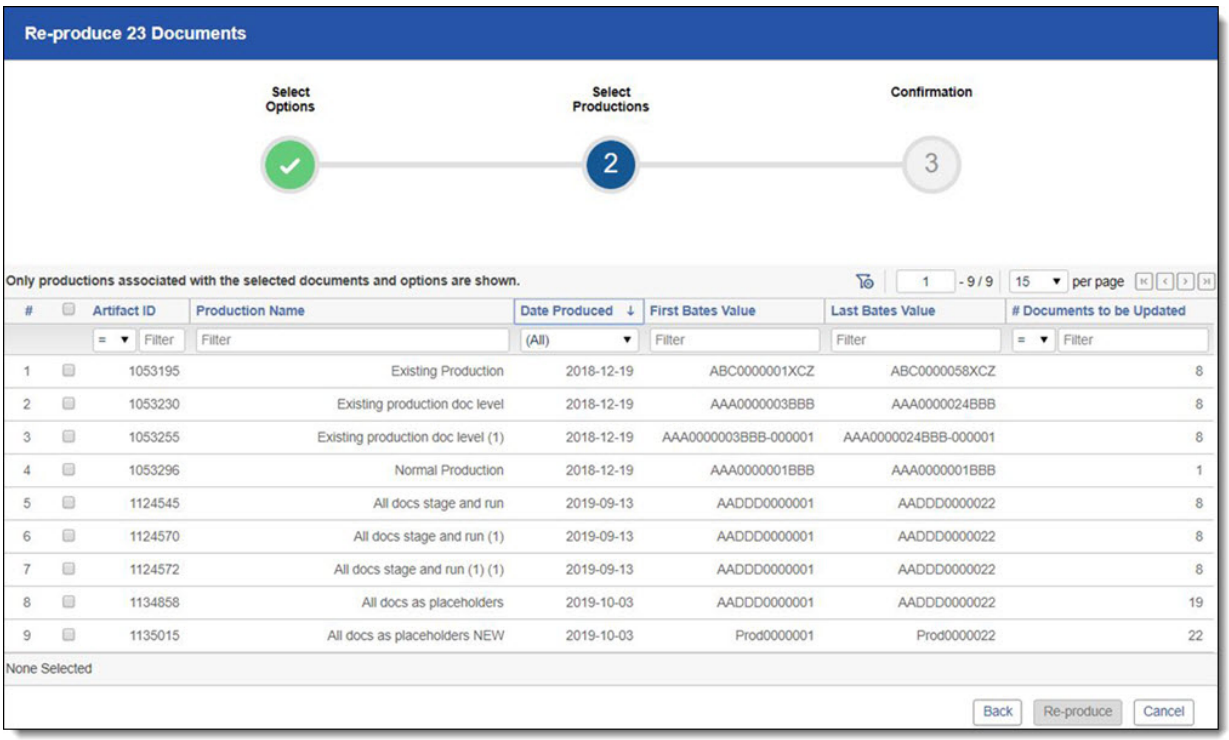
1. Navigate to the **Documents** tab in a workspace.
2. Select the documents that you want to re-produce from a document view, folder, field tree, saved search, or dashboard.
3. Click **Re-produce** from the mass operations menu. The **Re-produce Documents** module opens.

4. Select a Re-production Type, and complete the required fields. See Re-production types on page 544.

Note: If you are modifying multiple productions at the time, the options that you select on this step will apply to all the productions you are modifying, including the placeholder selected in this step, burn redactions, and the options of whether the documents will be produced with natives.

5. Click **Next**.
6. Select the productions that you want modify.

Note: Only productions associated with the selected documents and options display. Productions with a status different to “Produced” or Productions that used Existing numbering will not be available here.



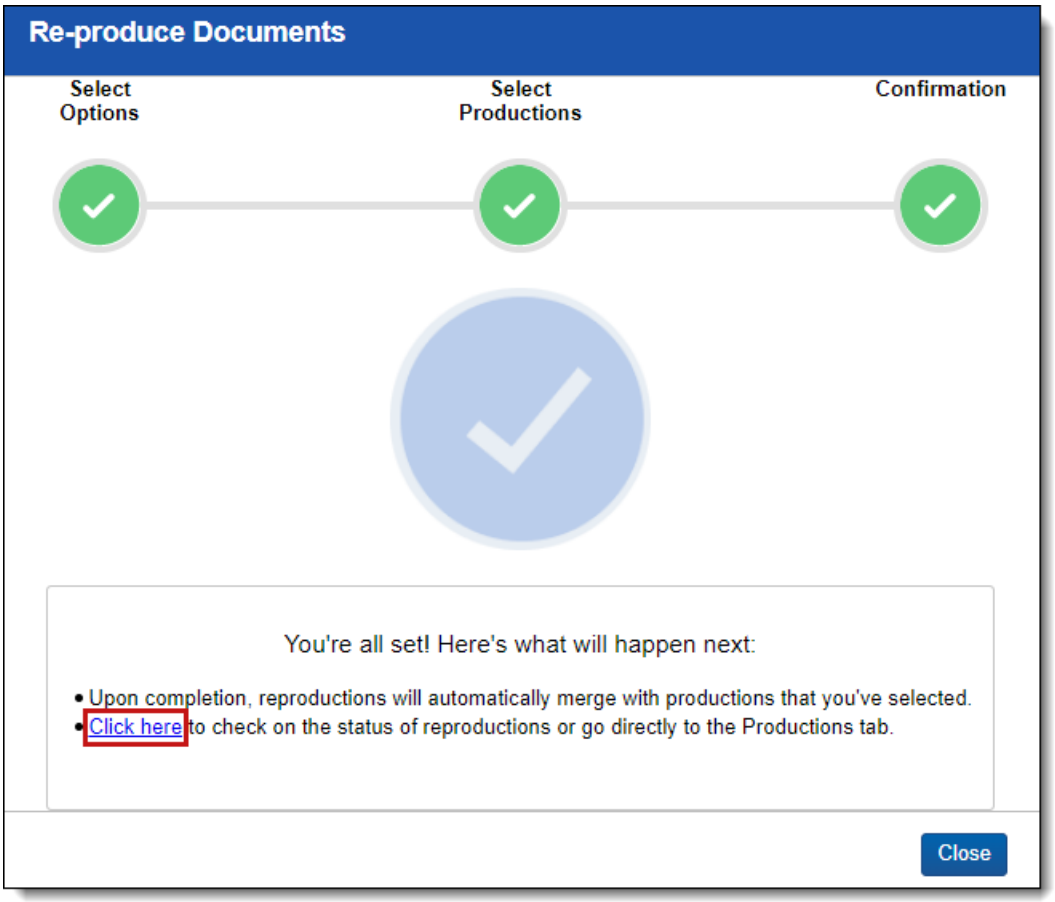
7. Click **Re-produce**.

Note: Do not close the Re-produce Documents module until the Confirmation checkmark appears. Once the Confirmation checkmark appears, the re-production sets have been created and added to the Production queue.

31.10.6 Re-production job status

To see the status of a re-production job:

- Click **Click here** in the Re-produce Documents module. This will take you to the Re-production view. See Re-production views on the next page.



- Navigate to the **Production Sets** tab, and select the **Re-production** view. See Re-production views below.

31.10.7 Re-production views

Two views on the Production Sets tab display information regarding re-productions:

- **Re-productions** - a view that lists every re-production jobs. Fields in the view include:
  - **Name** - the name of the re-production job.
  - **Status** - the status of the re-production job.
  - **First Bates Value** - the first bates number in the production.
  - **Last Bates Value** - the last bates number in the production.
  - **Prefix** - the characters added to the beginning of each Bates number.
  - **Production Set** - the name of and link to the original production set.
- **Original Productions** - a view that lists every production set that have been modified by a re-production job. Fields in the view include:
  - **Name** - the name of the original production.
  - **Status** - the status of the production job.

- **First Bates Value** - the first bates number in the production.
- **Last Bates Value** - the last bates number in the production.
- **Prefix** - the characters added to the beginning of each Bates number.
- **Start Number** - the first number used in a sequence of Bates numbers.

31.11 Branding queue

The Branding Queue displays production jobs receiving branding of redactions, header, footer, or other modifications. A production job displays in this queue only while it has a status of branding. The production job remains in the production queue until all branding is complete.

You can view the branding queue from Home. Select the **Queue Management** tab, and then click **Branding Queue**. See Branding queue fields below for details.

To change the priority of a job, click the **Change Priority** button at the bottom of the view. Enter a new integer value in the **Priority** field, and then click **Update**. Only one OCR job runs at a time, the lower numbered job runs first and the higher numbered job runs last.

Note: Any change to the priority of a job in the branding queue also changes its priority in the production queue.

31.11.1 Branding queue fields

The Branding Queue view displays the following fields:

- **Workspace** - the workspace that contains the production set receiving branding
- **Production Name** - the production set receiving branding
- **Artifact ID** - the unique identifier for the production set
- **Images Remaining** - the number of images that require branding
- **Status** - the current stage of the branding job
- **Priority** - the order in which the branding job is run. Relativity completes branding jobs by priority. The default value is 100.
- **Submitted By** - the user who initiated the job. You can use this information to prioritize branding jobs by user.

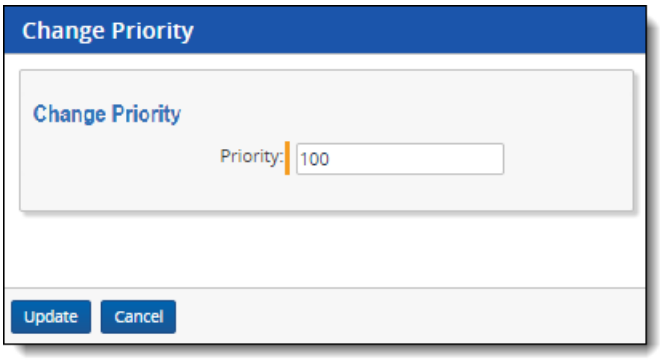
31.12 Production queue

The Production Queue tab displays all current production jobs running in your environment, and any jobs in error status. A job remains in this queue until the completion of branding and other processing.

You can view the production queue from Home. Select the **Queue Management** tab, and then click **Production Queue**.

31.12.1 Change job priority

To change the priority of a job, click **Change Priority** at the bottom of the view. Enter a new integer value in the **Priority** field, and then click **Update**. Only one OCR job runs at a time, the lower numbered job runs first and the higher numbered job runs last.



Note: During a production job, Relativity sends a job to the branding queue for the stamping of redactions, headers, or other modifications. Any change to the priority of a job in the production queue changes its priority in the branding queue.

31.12.2 Retry Production Job mass operation

31.12.2.1 Security Configuration

You must configure certain instance level permissions to use Retry Production Job.

To configure the security permissions:

1. Navigate to the **Instance Details** tab.
2. Click **Manage Permissions**.
3. Click **Edit Permissions** for a group on the Group Management tab.
4. Enable the following security permissions:

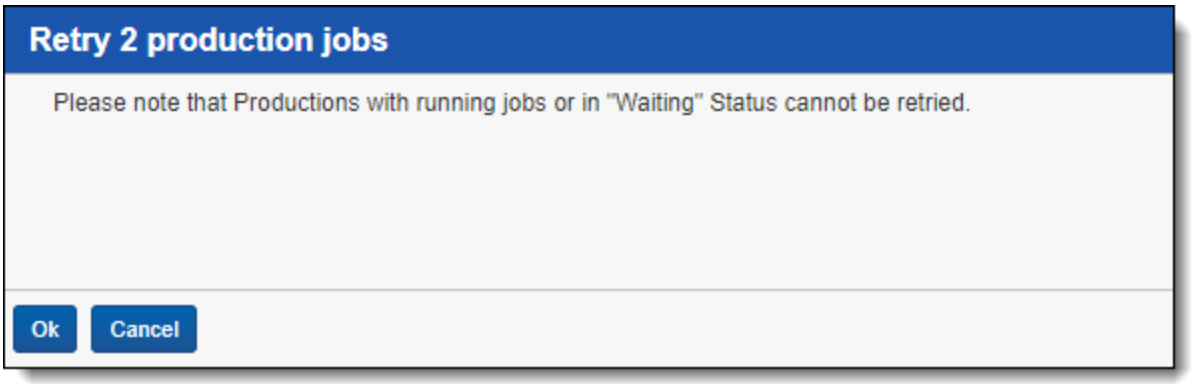
Object Security	Tab Visibility	Admin Operations
■ N/A	■ Queue Management (parent) ○ Production Queue (child)	■ Change Queue Priority ■ View Admin Repository

Note: As long as you have the listed security permissions, you do not need view permissions to the workspaces or the production jobs to use Retry Production Job.

31.12.2.2 Retrying production jobs

To retry production jobs from the Production Queue tab:

1. Navigate to the **Production Queue** tab.
2. Select the productions jobs that you want to cancel.
3. Click **Retry Production Job** from the mass operations bar. The Retry production job window opens.



4. Click **Ok**.

31.12.3 Cancel Production Job mass operation

To cancel productions jobs from the Production Queue tab, use the Cancel Production Job mass operation.

31.12.3.1 Security Configuration

You must configure certain instance level permissions to use Cancel Production Job.

To configure the security permissions:

1. Navigate to the **Instance Details** tab.
2. Click **Manage Permissions**.
3. Click **Edit Permissions** for a group on the Group Management tab.
4. Enable the following security permissions:

Object Security	Tab Visibility	Admin Operations
▪ N/A	▪ Queue Management (parent) ◦ Production Queue (child)	▪ Change Queue Priority ▪ View Admin Repository

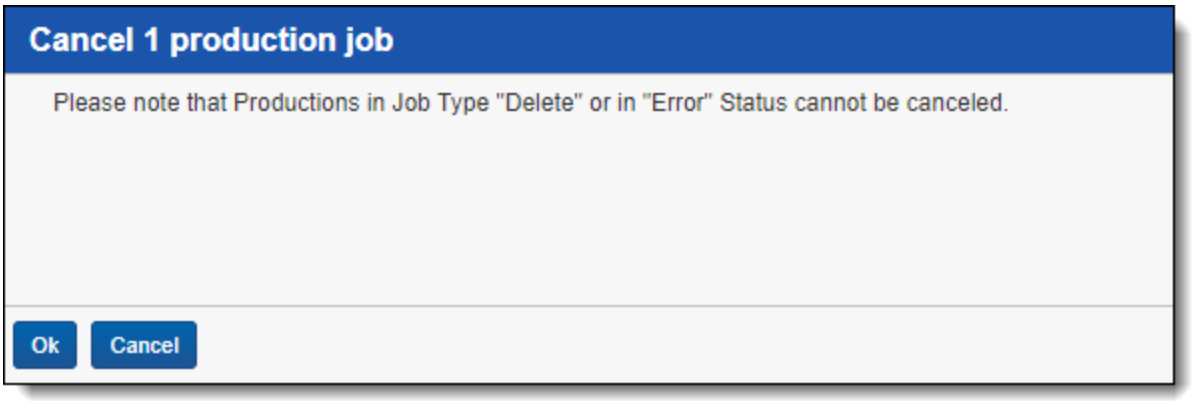
Note: As long as users have the listed security permissions, they do not need view permissions to the workspaces or the production jobs to use Cancel Production Job.

31.12.3.2 Canceling multiple production jobs

To cancel multiple production jobs from the Production Queue tab:

1. Navigate to the **Production Queue** tab.
2. Select the productions jobs that you want to cancel.

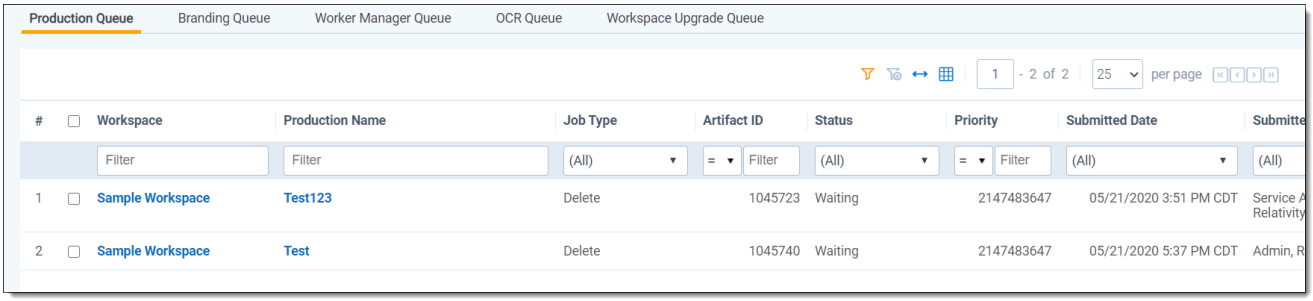
3. Click **Cancel Production Job** from the mass operations bar. The Cancel production job window opens.



4. Click **Ok**.

31.12.4 Production queue fields

The Production Queue displays the following fields:



- **Workspace** - the workspace that contains the production set used for a job.
- **Production Name** - the production set used for the job.
- **Artifact ID** - the unique identifier for the production set.
- **Status** - the current stage of the production job.
- **Priority** - the order in which the production job is run. Relativity sends jobs to the production engine by priority, and then orders them by submitted date and time. The default value is 100.
- **Submitted Date** - the date and time when a production job was submitted, or an attempt was made to resolve errors in a job. (In the Production Set Console, the user clicked **Run**, or **Resolve Errors**.)
- **Submitted By** - the user who initiated the job. You can use this information to prioritize production jobs by user.

32 Overview

You can use the Quick Start template to jump start the creation of a workspace. This template provides components meant for typical litigation workspace setup, including the Processing application with all catalog fields mapped, common searches and Profiles created.

Note that this an optional template that you install via ARM from the Community site and is distinct from the , which is available by default when you deploy Relativity. For more information, see the Starter Template guide.

Note: This template isn't required to use Relativity; it's an option for logically customizing your Relativity environment and minimizing the manual effort associated with new workspace customization.

Note: The New Case Template is also available for selection in your Relativity instance when you're creating a workspace. This template is more simplified than the Quick Start Template in that it doesn't include the following applications: Processing, Analytics, Integration Points, Assisted Review, or Set Long text Field Size. The New Case Template is the most basic form of a Workspace. There are only system fields and the applications required for Standard Relativity to function. This is a great template to test an application or start from scratch for an alternative use of Relativity.

The tab structure in this template is organized to correspond to typical workflow based on use. Tabs are listed from left to right or lowest to highest order into the following workflows: Documents, Workspace Admin, Entities, Processing, Indexing & Analytics, Imaging & OCR, Scripts, Search Terms Reports, Integration Points, Reporting, Production, Audit, Case Admin, Dashboards, Processing Duplication Workflow, and Assisted Review.

32.1 Template change log

To help you determine when to download the latest template files, the following table lists all updates made to the Quick Start template.

(View the change log)

Component	Change	Date updated	Release Version
Fields	Added Message Event Count field and mapped to Message Count in processing	June 21, 2019	
Fields	Added RSMF End Date field and mapped to processing	June 21, 2019	
Fields	Added RSMF Begin Date field and mapped to processing	June 21, 2019	
Fields	Added Deduped Count and mapped to processing	June 21, 2019	
Fields	Image Count Field: Set Open to Associations to No	April 15, 2019	
Fields	System modified on: Change group by and pivot to Yes	April 15, 2019	
Fields	System modified by: Change group by and pivot to Yes	April 15, 2019	

Component	Change	Date updated	Release Version
Fields	System created on: Change group by and pivot to Yes	April 15, 2019	
Fields	System created by: Change group by and pivot to Yes	April 15, 2019	
Fields	Relativity Native Timezone Offset: Change group by and pivot to Yes	April 15, 2019	
Fields	Relativity Image Count: Change group by and pivot to Yes	April 15, 2019	
Fields	Markup Set - Primary: Change group by and pivot to Yes	April 15, 2019	
Fields	Batch: Change group by and pivot to Yes	April 15, 2019	
Fields	Folder Name: Change group by and pivot to Yes	April 15, 2019	
Fields	Has Native: Change group by and pivot to Yes	April 15, 2019	
Fields	Has Images: Change group by and pivot to Yes	April 15, 2019	
Structured Analytics	Name Normalization Structured Analytics Set added	April 1, 2019	Blazingstar 10.1
Views	Create Processing Sets view of set that need to be published	January 29, 2019	
Views	Create view of Unprocessable files	January 29, 2019	
Searches	Add Search Processing Errors Ready for Retry	January 29, 2019	
Searches	Update All Processing Errors search to Processing Errors	January 29, 2019	
Groups	Add template to group names and (do not add users)	January 27, 2019	
Permissions	Added Processing Administrator Group and gave Processing Update permissions	November 29, 2018	
Group	Added Processing Administrator Group	November 12, 2018	
Fields	Change long text Email Sent Date to Sent Date. Change Date Field Sent Date/Time to Email Sent Date/Time.	October 7, 2018	
Scripts	Remove empty script	September 19, 2018	
Applications	Install Integration Points	September 19, 2018	
Searches	Remove minimum size from search from SA	September 9, 2018	

Component	Change	Date updated	Release Version
	Note: This removes attachments that will not get threaded with email(s).		
Searches	Remove minimum size from search from SA **Note:** This removes attachments that will not get threaded with email(s).	September 9, 2018	
Analytics	Create AL Reviews permissions group	September 9, 2018	
Analytics	Remove mapping of Conversation ID in Analytics Profile	September 9, 2018	
Analytics	Create Classification Index	September 9, 2018	
Fields	New AL Designation field and choices	September 9, 2018	
Layouts	New AL Layout	September 9, 2018	
Security	Level 1 permissions add Folders browser, remove export to file	August 21, 2018	
Saved Search	dtSearch index search changed to remove condition of Text Size > .01	July 1, 2018	Bluestem 9.7
Views	Update email view with MSAS fields for sort	June 30, 2018	
Applications	Install Active Learning application	June 28, 2018	
Searches	Remove conditions from dtSearch search.	June 28, 2018	
Views	Update 05.01 Single Recipients with MSAS field	March 18, 2018	
Searches	Update 05.03 Inclusive emails and Family condition to be ETND::Email Thread Group is set.	March 18, 2018	
Searches	Update Textual Near Duplicate Groups	March 18, 2018	
Views	Update Inclusive emails and attachments view	March 18, 2018	
Views	Update email view with MSAS fields	March 18, 2018	
Fields	Original Email Author is now Email Original Author	March 12, 2018	
Fields	Cleaned up keywords and notes fields	February 19, 2018	
Fields	Production OCR Text added	February	

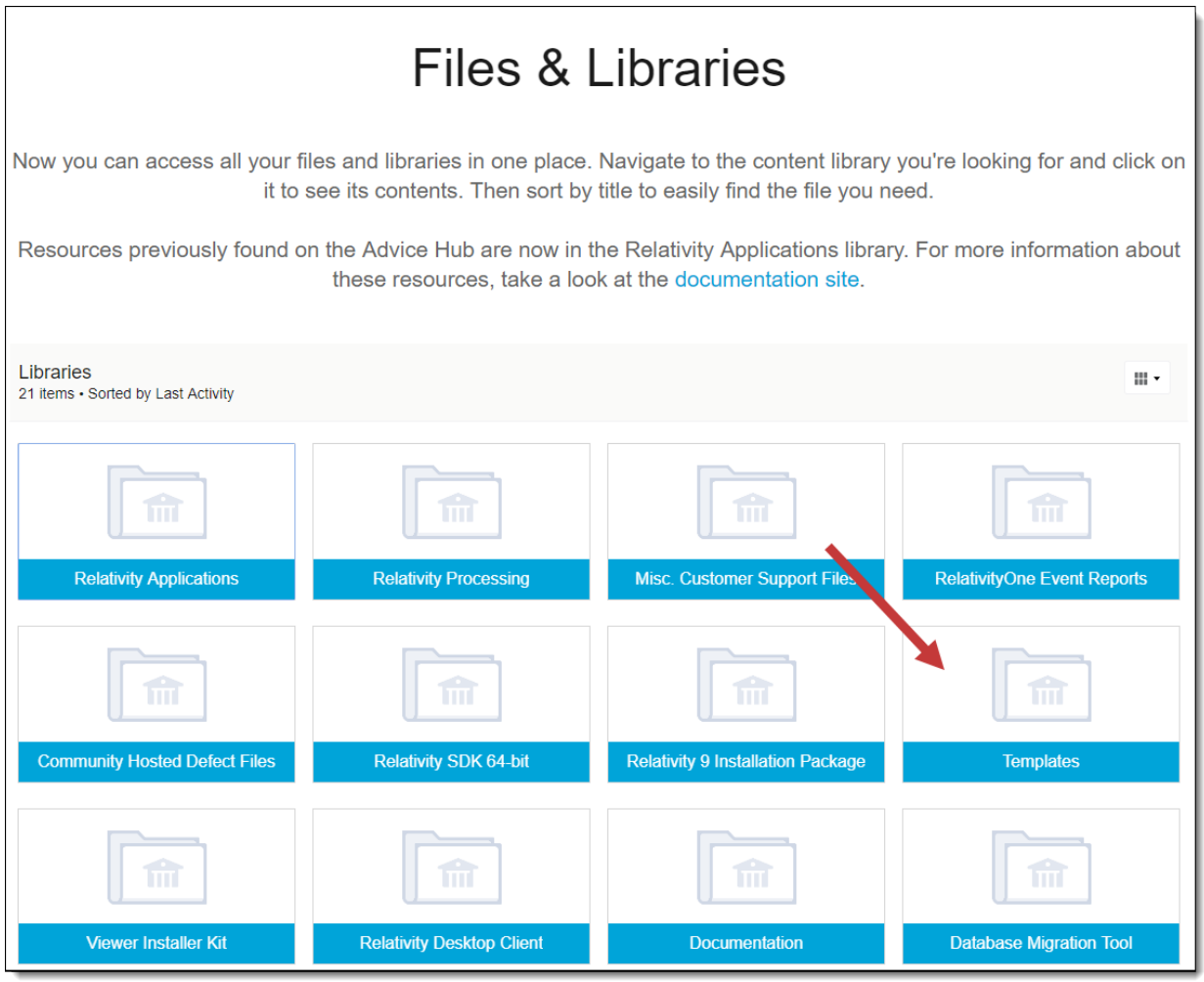
Component	Change	Date updated	Release Version
		19, 2018	
Tabs	Move "Review Batches" tab to top level instead of under reporting	February 19, 2018	
Fields	Changed CC (SMTP Address) to Email CC (SMTP Address)	February 19, 2018	
Fields	Updated keywords and notes fields for all processing fields	February 15, 2018	
Fields	Changed Sent Time to Email Sent Time	February 15, 2018	
Fields	Change Sent Date/Time to Email Sent Date/Time	February 15, 2018	
Fields	Changed Sender Domain to Email Sender Domain	February 15, 2018	
Fields	Production Type with choices of Images, Images and Slipsheets, Natives, Natives and Slipsheets so that you can dictate what type of production is going to be created.	February 15, 2018	
Fields	Added a Production Name Multiple Choice field for the purpose of marking documents for production.	February 15, 2018	
Searches	Changed 02.06 Analytics Training Set to Not Included in Analytics	February 15, 2018	
SAS	Created Structured Analytics sets; Email threading and Near Duplicate; Language ID; Repeated Content	February 15, 2018	
Folders	Create Processed Data folder	February 15, 2018	
Processing Profile	Updated Standard Profile: Change OCR Accuracy to High; Changed Deduplication to Custodial and Propagate Dedupe Data; Turn off Auto Publish; Updated destination folder to Processed Data.	February 15, 2018	
Searches	New folder named Quick Find and popluated with the following searches. By folder, sender domain, sender name,	February 15, 2018	
Searches	Secure admin searches folder from Level 1 and 2 permissions	February 13, 2018	
Fields	Update batch fields with Allow Pivot and Allow Group by: Batch, Batch::Assigned To, Batch::Batch Set, Batch Status	February 13, 2018	
Analytics Index	Index created with saved search and ready for Population after link to Repeated Content	February 13, 2018	
Analytics Profile	Remove mapping to conversation id field	February 13, 2018	
Analytics Index	Deleted and recreated	October 18, 2017	
02.07 Analytics Searchable Set	Renamed to "02.07 Analytics Index"	October 18, 2017	

Component	Change	Date updated	Release Version
02.06 Analytics Training Set	Deleted	October 18, 2017	
02.02 Email Threading - Emails + Attachments	Changed name to "02.02 Email Threading and Near Duplicate Detection	October 18, 2017	
Workspace Details	Workspace Name change from "Relativity Onboarding Template" to Relativity Quick Start Template"	October 18, 2017	

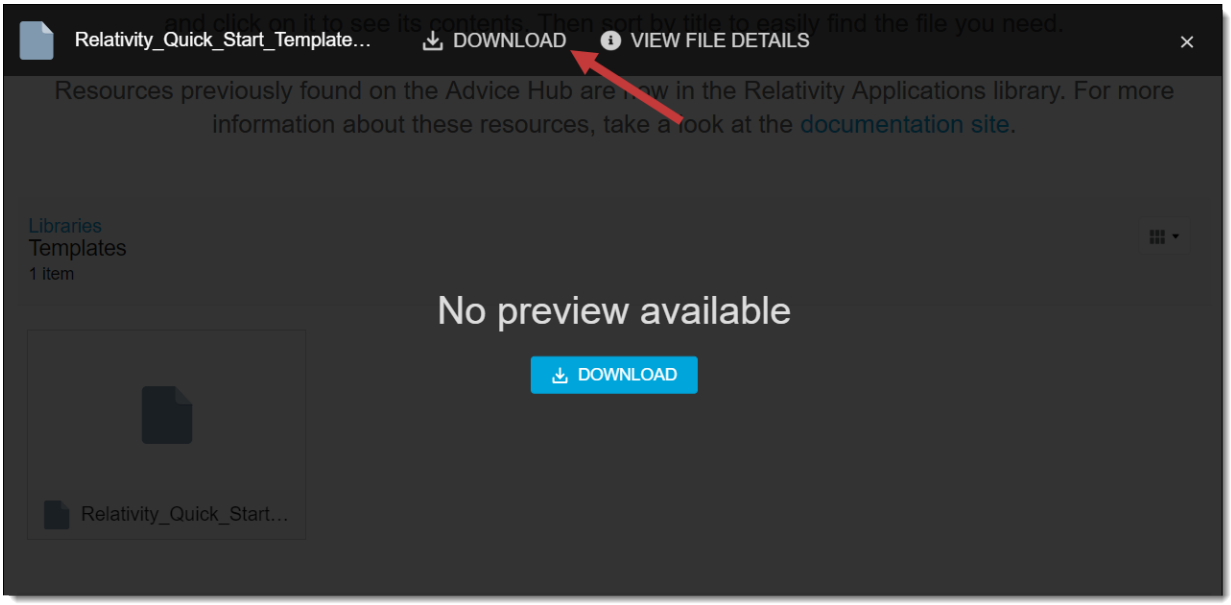
32.2 Accessing the template file

To access the Quick Start Template file:

1. Navigate to the Community and log in with your credentials.
2. Select the **Files** tab and then select the **Templates** folder on the Files & Libraries page.



3. Select the quick start template from the templates list and click **Download**.



32.3 Recommended pre-work

To use the template, it will be useful to understand topics covered in Admin and Processing training.

- Relativity Admin training - https://help.relativity.com/topic.html?t=H6HK2
- See the Environment Optimization guide for more information on Infrastructure setup.
- See the Processing User Guide for more information on Data processing.

All aspects of workspace setup are found in the Admin guide. Use this guide to get a deeper understanding of certain caveats with case setup. Each section discusses different aspects of case setup followed by references that outline the fields, views and layouts that make up the template. This template is just a starting point for creating your own workspace template.

Any Workspace can be used for a template, but be aware that the system is copying the entire Workspace to start and this will require enough server space to hold two copies before it removes all the documents. Also using a large Workspace will increase the time it takes to create a new Workspace. Our suggestion is to keep an empty version of the workspace as a template and update the master as needed.

32.3.1 Advanced components

- Custom pages are available for programmers to use when creating custom layouts and dynamically display information stored in a Relativity database. They enhance application flexibility by providing the means to present or manipulate data in Relativity using formats other than layouts, views, or other Dynamic Objects. For details, see Custom PagesSee the Admin guide for more information on custom pages.
- Object types are for more advanced workflows in Relativity. Each table of data is an object and in this tab you can manage things around a key object like the document or entity objects or create your

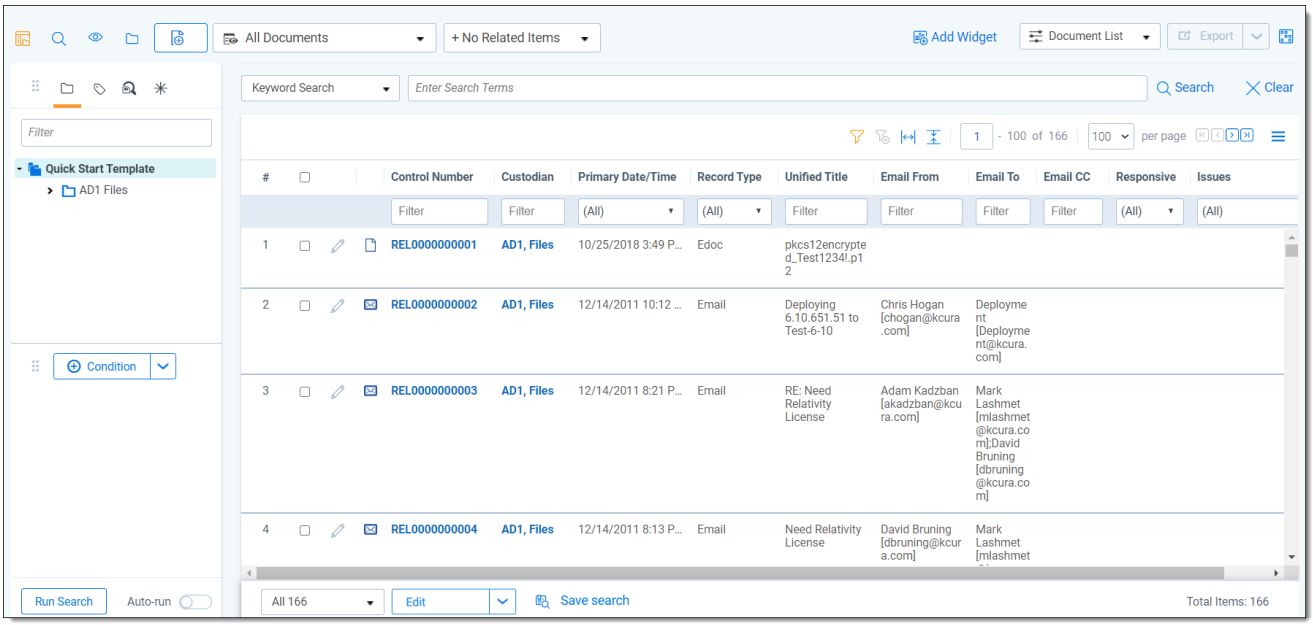
own. Generally, users don't need to access to object types. See the Relativity objects guide for more information on object types.

33 Tab structure

The tab structure in this template is organized into the following workflows: Documents, Review batches, Reporting, Case admin, Index admin, Job admin, Application admin, Workspace admin, and Persistent lists.

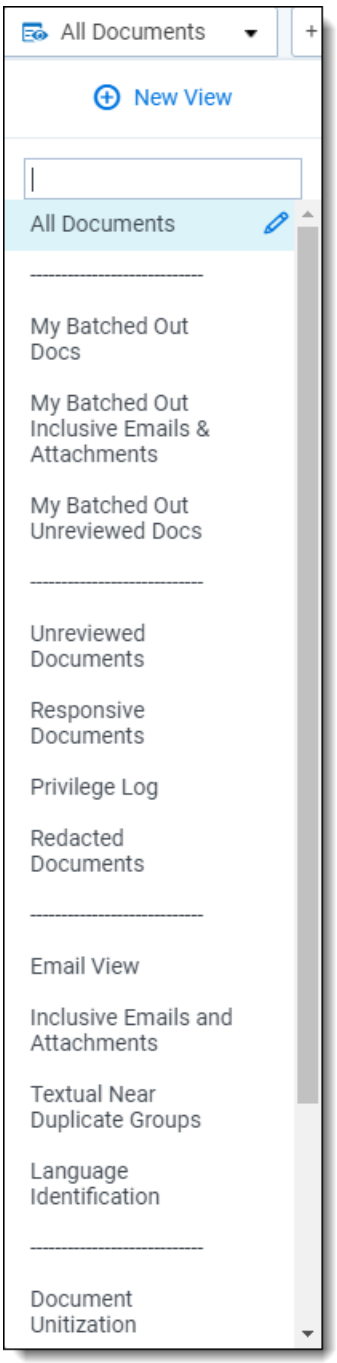
33.1 Documents

The Documents tab in the Quick Start template is the starting point for more users, and it provides reviewers with access to workspace documents. See the User guide for more information on document review.



33.1.0.1 Document views

The Quick Start template includes the following workspace views. Document views guide workflows by dictating which documents get in front of users. Different views are useful for different actions on the database. An example is the email thread view or a privilege view for the privilege log.



Object	View Name	Description	Conditions	Selected Fields	Sort order
Document	All Documents	System default view of all documents loaded in the system	None	Edit, File Icon, Control Number, Custodian, Primary Date/Time,	None

Object	View Name	Description	Conditions	Selected Fields	Sort order
				Record Type, Unified Title, Email From, Email To, Email CC, Responsive, Issues	
My Batched Out Docs	Displays all the logged in user's checked out documents	Batch these conditions – Batch::Assigned To is logged in user AND Batch::Status any of these In Progress	Edit, File Icon, Control Number, Custodian, Primary Date/Time, Record Type, Unified Title, Email From, Email To, Email CC, Responsive, Issues	None	
My Batched Out Inclusive Emails & Attachments	Displays all the logged-in user's checked out inclusive emails and attachments	Batch these conditions – Batch::Assigned To is logged in user AND Batch::Status any of these In Progress AND (Saved Search) document is in Inclusive Emails + Family	Edit, File Icon, Control Number, Email Threading Display, Primary Date/Time, Custodian, Email From, Email To, Email CC, Responsive, Issues	Email Thread Group then Email Threading ID	
My Batched Out Unreviewed Docs	Displays all the user's checked-out documents not coded in designation field	Batch These Conditions – Batch::Assigned To is logged in user AND Batch::Status is any of these: In Progress) AND Responsive is not set	Edit, File Icon, Control Number, Custodian, Primary Date/Time, Record Type, Unified Title, Email From, Email To, Email CC, Responsive, Issues	None	
Unreviewed Documents	Displays a list of documents that have not been reviewed for responsiveness	Responsive is not set	Edit, File Icon, Control Number, Family Group, Custodian, File Name, Sort Date/Time, File Extension, File Type, File Size, Email From, Email To, Email CC, Responsive, Privilege, Confidential, Issues	None	
Responsive Documents	Displays a list of documents that have been reviewed	Responsive is any of these: Responsive	Edit, File Icon, Control Number, Family Group, File Extension, Sort Date/Time, Email Subject, Email From, Email To, Email CC, Last Modified Date/Time, Privilege, Confidential, Issues, Responsive	None	
Privilege Log	Displays a list of	Privilege is set	Edit, File Icon, Control Num-	Sort	

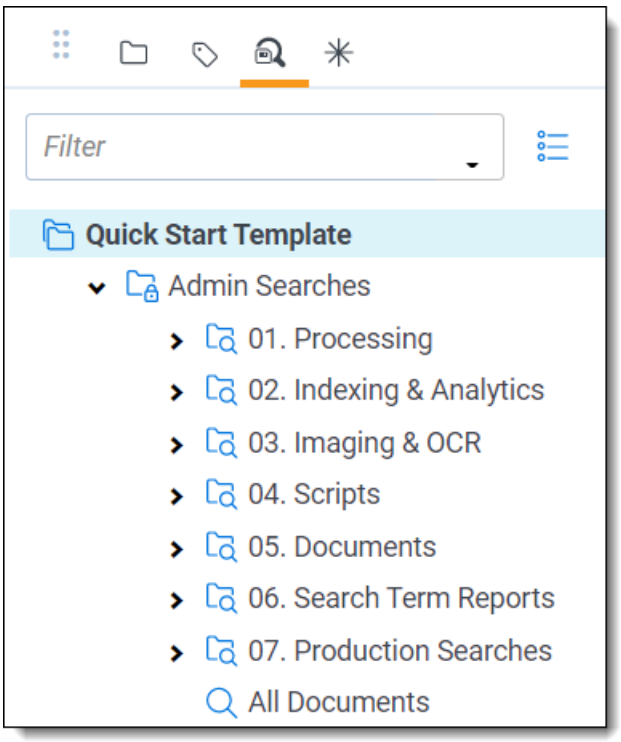
Object	View Name	Description	Conditions	Selected Fields	Sort order
	documents that have been coded as privileged		ber, Family Group, File Extension, Sort Date/Time, Email Subject, Email From, Email To, Email CC, Last Modified Date/Time, Responsive, Privilege, Privilege Description, Confidential, Issues	Date/Time	
Redacted Documents	Displays a list of documents that have redactions applied	Markup Set - Primary has any of these: Has Redactions	Edit, File Icon, Control Number, Family Group, File Extension, Sort Date/Time, Email Subject, Email From, Email To, Email CC, Last Modified Date/Time, Markup Set - Primary, Responsive, Privilege, Confidential, Issues	None	
Email View	Displays a list of emails, arranged by thread group	Email Thread Group is set	Edit, File Icon, Control Number, Email Threading Display, Custodian, Email From, Sort Date/Time, Inclusive Email, Inclusive Reason, Email Duplicate Spare	Email Thread Group then Indentation then Email Threading ID	
Inclusive Emails & Attachments	Displays a list of inclusive emails and attachments	(Saved Search) document is in Inclusive Emails + Family	Edit, File Icon, Control Number, Email Threading Display, Sort Date/Time, Email Thread Group, Email Action, Inclusive Email, Inclusive Reason, Responsive, Privilege, Confidential, Issues	Email Thread Group then Email Threading ID	
Textual Near Duplicate Groups	Displays a list of documents based on their textual near duplicate information	Textual Near Duplicate Group is set	Edit, File Icon, Control Number, Textual Near Duplicate Group, Textual Near Duplicate Similarity, Textual Near Duplicate Principal, Last Modified Date/Time, Custodian, File Type, File Size, Responsive	Textual Near Duplicate Group then Textual Near Duplicate Similarity then Textual Near Duplicate Principal	
Language Identification	Displays a list of documents based on their primary language	Primary Language is set	Edit, File Icon, Control Number, Primary Language, Docs-Languages, Docs-Languages::Percentage, Custodian, Unified Title, File Type, Responsive	None	

Object	View Name	Description	Conditions	Selected Fields	Sort order
Production Documents	Displays a list of documents where the Bates Beg field has been set	Production these conditions Production::Begin Bates is set	Edit, File Icon, Control Number, Family Group, Production:: Begin Bates, Production::End Bates, Production::Begin Attachment, Production::End Attachment, Bates Beg, Bates End, Bates Beg Attach, Bates End Attach, Sort Date/Time, Email Subject, Email From, Email To, Responsive, Privilege, Confidential, Issues	None	
Admin View	Displays system admin view of documents loaded in the system	None	Edit, File Icon, Control Number, Family Group, File Extension, Sort Date/Time, File Name, Document Folder Path	None	
Processing Errors	Displays all documents that received errors during discovery and publish	(Saved Search) document is in <Name of Saved Search>	Edit, File Icon, Control Number, Level, Record Type, Custodian, Unified Title, File Extension, Sort Date/Time, Processing Errors, Processing Errors::Error Status, Processing Errors::Message, Processing Errors::Processing phase, Contains Embedded Files, Has Hidden Data, Password Protected, Speaker Notes, Track Changes, Unprocessable	None	
Technical Issues	Displays a list of documents that have been coded as having a technical issue designation	Responsive any of these: Technical Issues	Edit, File Icon, Control Number, Family Group, File Extension, Sort Date/Time, Email Subject, Email From, Email To, Email CC, Last Modified Date/Time, Responsive, Privilege, Confidential, Issues	None	

33.1.1 Saved searches

You can access saved searches from the Documents tab with the button in the upper left corner of Relativity.

The Quick Start template includes the following saved searches secured for system admins only:



Folder name	Saved search name	Description	Logic group	Conditions	Fields
Processing	Processing errors	Returns all documents on which a processing errors occurred.	+ No Related Items	Processing Errors these conditions Processing Errors is set	Edit, File Icon, Control Number, Level, Record Type, Custodian, Unified Title, File Type, Processing Errors, Processing Errors::Error Status, Processing Errors::Message, Processing Errors::Processing phase, Discover Errors on Child Documents, Discover Errors on Child Documents::Error Status, Discover Errors on Child Documents::Message, Discover Errors on Child Documents::Processing phase
Indexing & Analytics	dtSearch	Returns all documents returned by dtSearch where the extracted text size is greater than .01	+ No Related Items	Extracted Text Size in KB is greater than 0.01	Extracted Text

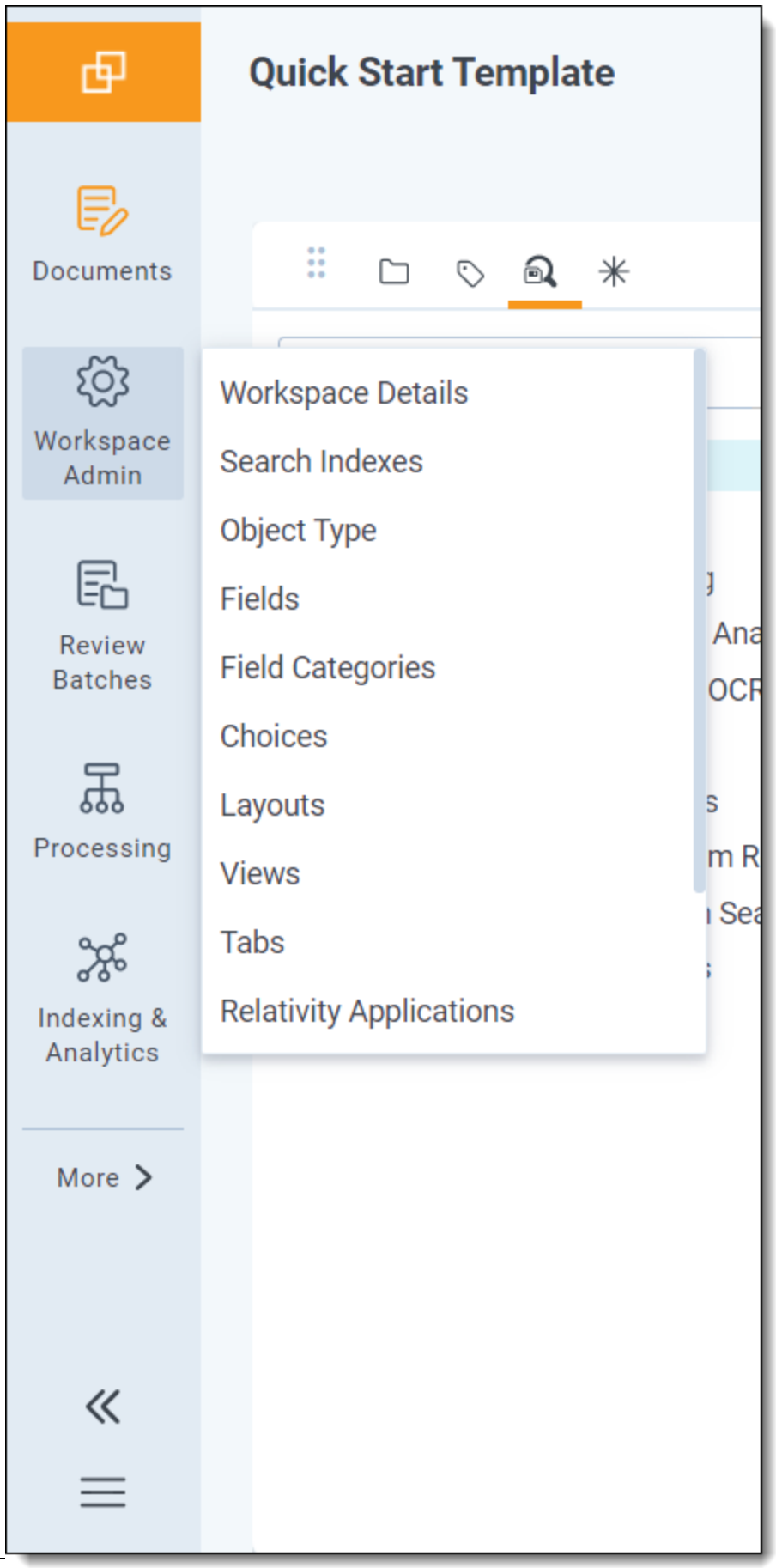
Folder name	Saved search name	Description	Logic group	Conditions	Fields
Indexing & Analytics	Email Threading - Emails + Attachments	Returns all emails and attachments	+ No Related Items	Level is 1 AND Record Type any of these: Email AND Message Type any of these: Message	Edit, File Icon, Control Number
Indexing & Analytics	Email Threading - Parent Emails	Returns all parent emails	+ Family Group	Level is 1 AND Record Type any of these: Email AND Message Type any of these: Message	Edit, File Icon, Control Number, Level, Record Type, Message Type
Indexing & Analytics	Near Duplicate Analysis (No Parent Emails)	Returns all near duplicate documents but no parents	+ No Related Items	(Saved Search) document is not in 02.03 Email Threading - Parent Emails	Edit, File Icon, Control Number, Level, Record Type, Message Type
Indexing & Analytics	Language ID or Repeated Content	Displays a list of documents based on their primary language	+ No Related Items	Extracted Text Size in KB is greater than 0.01	Edit, File Icon, Control Number, Level, Record Type, Message Type
Indexing & Analytics	Analytics - Searchable Set	Returns documents with text present that can be utilized for analytics function where the extracted text size is greater than .01.	+ No Related Items	Extracted Text Size in KB is greater than 0.00 AND Extracted Text Size in KB is less than 30720.00	Extracted Text
Indexing & Analytics	Email Metadata Fields	Returns all emails with their metadata fields displayed	+ No Related Items	None	Email From, Email To, Email CC, Email BCC, Email Subject
Imaging & OCR	Extracted Text is Empty	Returns documents where the extracted text field is	+ No Related Items	Extracted Text Size in KB is greater than 0.01	Edit, File Icon, Control Number, Record Type, Custodian, Unified Title, File Type, File Size, Processing Folder Path, Artifact ID

Folder name	Saved search name	Description	Logic group	Conditions	Fields
		empty			
Scripts	Parent Level Documents	Returns documents returned by the parent level documents script	+ No Related Items	Level is 1	Edit, File Icon, Control Number, Processing duplicate hash
Scripts	Document Level Documents	Returns all documents returned by the document level documents script	+ No Related Item	None	Edit, File Icon, Control Number, Processing duplicate hash
Scripts	Parent Level Dups + Family	Returns all parent level duplicate documents and their family members	+ No Related Item	Level is 1	Edit, File Icon, Control Number, Processing duplicate hash
Documents	Single Recipient Emails + Family	Returns all emails that were received by a single recipient and their family members	+ Family Group	Level is 1 AND Email Recipient Count is 1	Edit, File Icon, Control Number
Documents	Bulk Emails + Family	Returns all emails that were received by bulk recipients and their family members	+ Family Group	Level is 1 AND Email Recipient Count is greater than 49	Edit, File Icon, Control Number
Documents	Inclusive Emails + Family	Returns all emails coded as inclusive and their family members	+ Family Group	Inclusive Email is Yes AND Email Duplicate Spare is No	Edit, File Icon, Control Number
Search Terms Reports	Search Term Report	Returns all documents returned by any search terms report	+ No Related Item	None	Edit, File Icon, Control Number

Folder name	Saved search name	Description	Logic group	Conditions	Fields
Production Searches	Excel Files	Returns all excel files	+ No Related Item	Relativity Native Type is like Excel AND Production these conditions Production::Begin Bates is not set	Edit, File Icon, Control Number, Relativity Native Type
Production Searches	Imaging Complete	Returns all documents that were successfully imaged	+ No Related Item	Has Images any of these: Yes AND Production these conditions Production::Begin Bates is not set	Edit, File Icon, Control Number
Admin Searches (root)	All Documents	Returns all documents loaded into the workspace.	+ No Related Item	None	Edit, File Icon, Control Number

33.2 Workspace admin

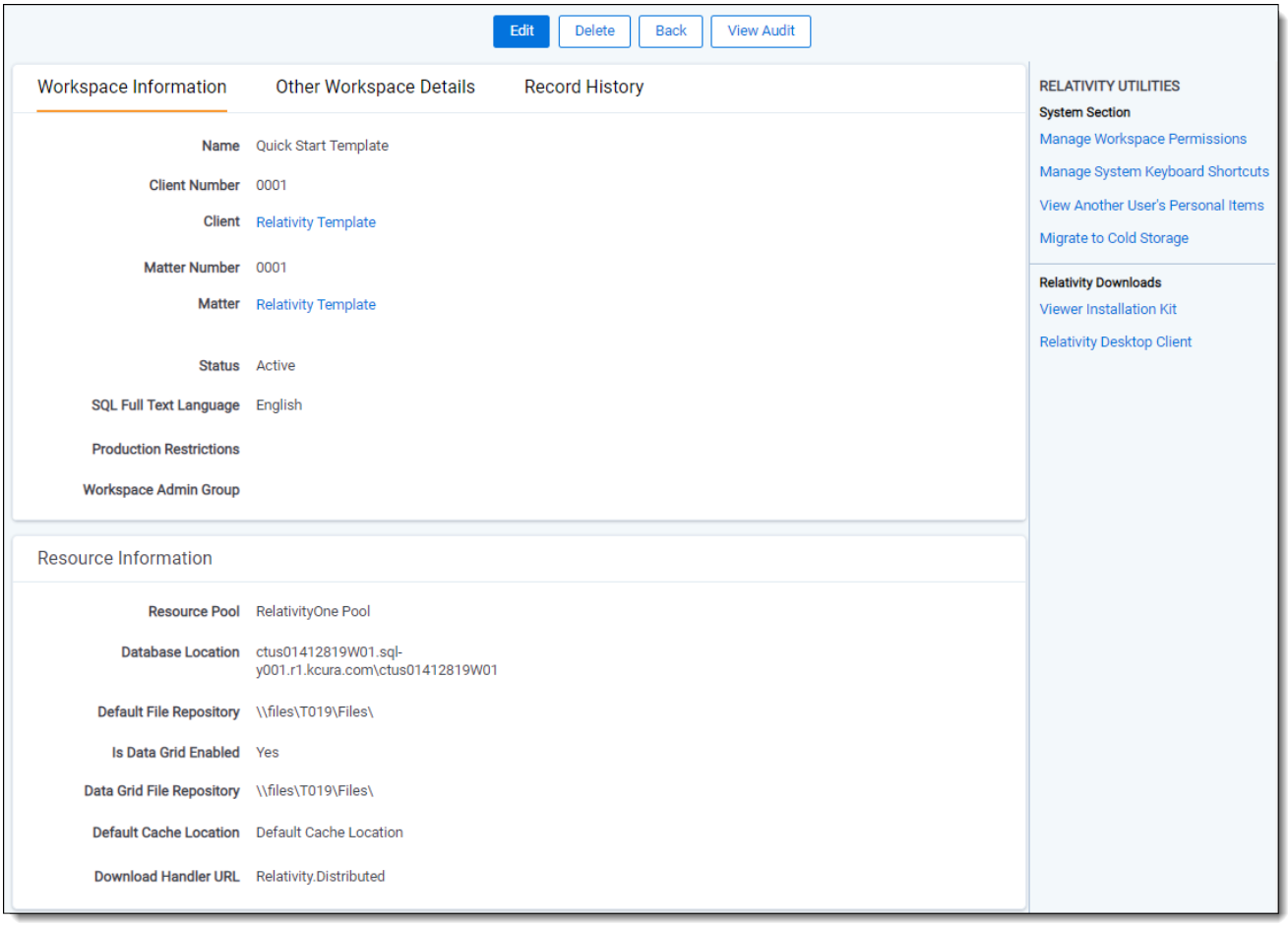
The Workspace Admin tab in the Quick Start template provides options for working with the following features in Relativity:


Quick Start Template
Documents
Workspace Admin
Review Batches
Processing
Indexing & Analytics
More
Workspace Details
Search Indexes
Object Type
Fields
Field Categories
Choices
Layouts
Views
Tabs
Relativity Applications

33.2.1 Workspace details

On the Workspace Details page, Relativity displays read-only workspace settings, history information, Relativity Utilities console, Production Restrictions, and the Workspace Admin Group field. You can update the Production Restrictions field when you edit a workspace.

This page is extremely important for admins. The most useful component is the ability to manage the permissions of the workspace. This is also where you can get the compatible version of the Relativity Desktop Client to load or export data.



See the Admin guide for more information on Workspace details.

33.2.2 Search indexes

Use the Search Indexes tab to create and edit dtSearch and Analytics indexes.

Your database automatically creates a keyword search index. You can also create the structure for a dtSearch Index in the Quick Start template. A dtSearch index can be used to perform proximity searches, stemming, and other advanced searching operations not available in Keyword Search. You can also build a list of custom noise words and an alphabet file in your Quick Start template to be used throughout your instance.

Things to remember:

- If the dtSearch agent encounters a network-related error during the build process, it executes up to three retry attempts at 20-second intervals.
- You can edit a dtSearch alphabet file directly in Relativity before building the index. The alphabet file is displayed in the lower-right corner of a dtSearch index's page and is fully editable. You can edit the alphabet file to enable searching for a single character and symbols.
- You can safely estimate that any dtSearch index built is approximately 25-30 percent of the size of the text you are indexing.
- If you overlay data onto existing records, you can't use an incremental build to update your dtSearch index. An incremental build only looks for new documents in the searchable set. Previously indexed records aren't re-indexed by an incremental build. You must execute a full build to add the newly overlayed data to the index.

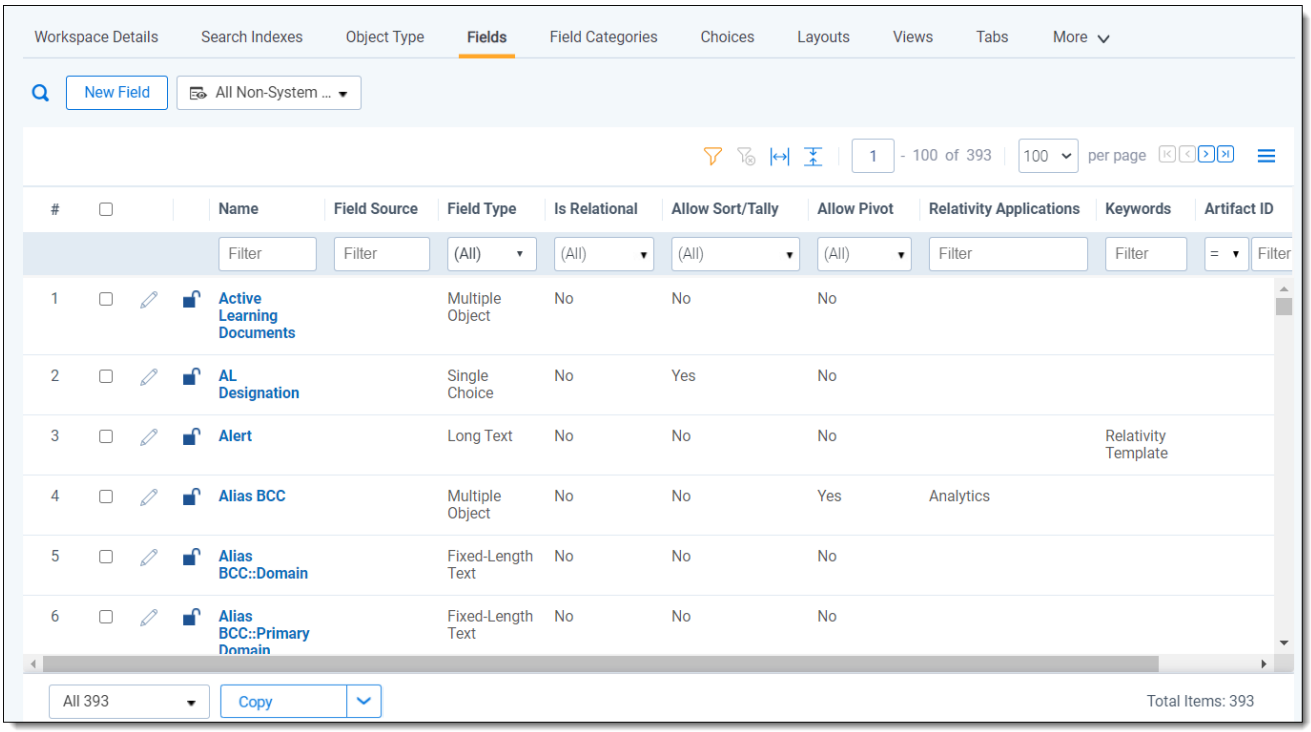
See the Admin guide for more information on search indexes.

See the Recipes section of the documentation site for more detailed steps in updating the index to look for certain symbols and special characters.

33.2.3 Fields

Fields store object information, document metadata, and coding choices within Relativity. You can use fields to display metadata on views and layouts. You can also use fields to create associations between different objects in Relativity.

When creating fields, remember you can edit many aspects of a field; however, after you first save a field, the type is locked in and cannot be changed. As a result, we recommend that you be deliberate in choosing the type for your fields.



See the Admin guide for more information on fields.

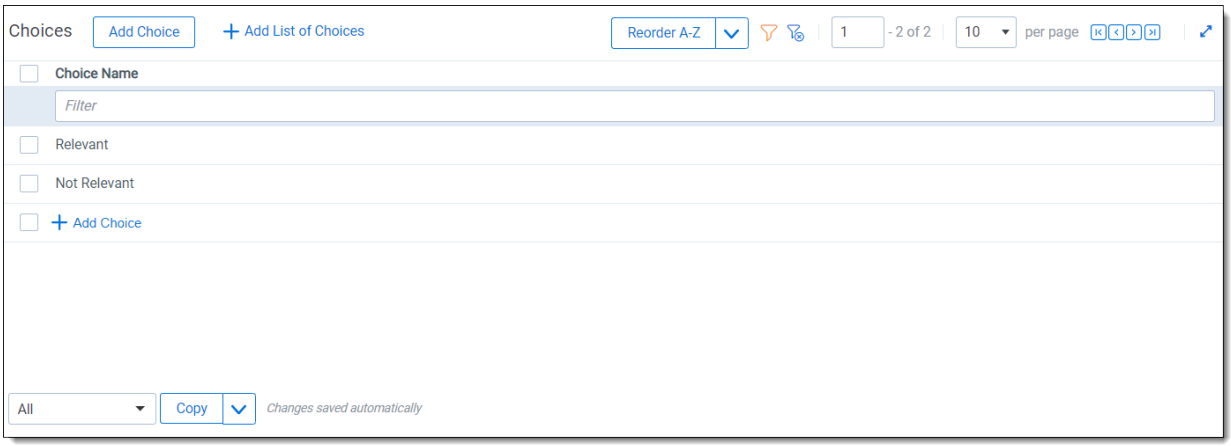
33.2.4 Choices

Choices are the predetermined values that you apply to single and multi -choice list fields. With the necessary permissions, you can create choices workspace fields.

Choices are created on fields that are usually part of the document object.

To access the Choice editor from the Fields tab:

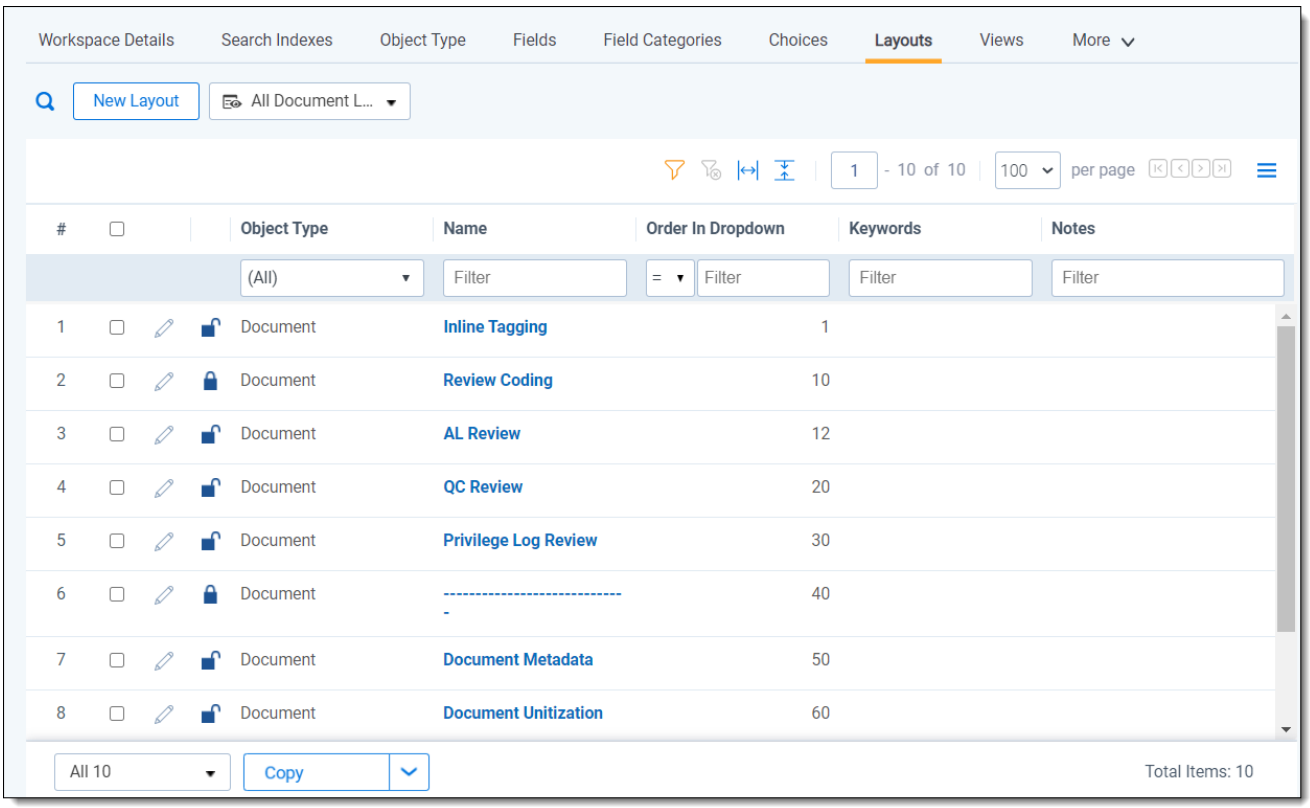
1. Navigate to the **Fields** tab.
2. Click on the Name of an existing single or multiple choice field or create and save a new single or multiple choice field.
3. Locate the Choice editor in the **Choices** section on the Fields form.



See the Admin guide for more information on choices.

33.2.5 Layouts

The Quick Start template includes the following layouts that a reviewer can use to code documents with.



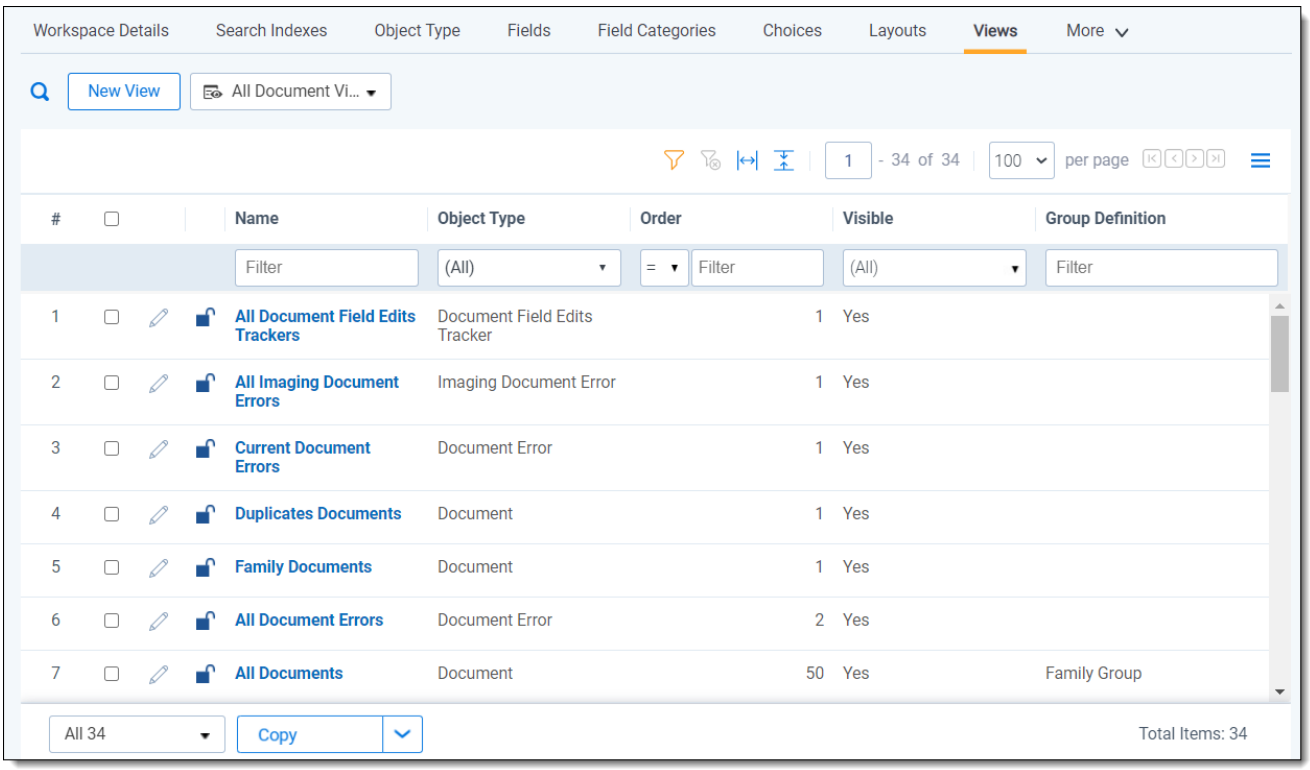
- **Inline Tagging** - an admin layout useful for selection of text in transcripts.
- **Review Coding** - meant for review purposes when assigning categories. The basic fields are updated for responsiveness and attorney comments.
- **QC Review** - contains basic review fields; this is used to provide a field confirmation for first pass review.
- **Privilege Log Review** - updates information for privilege log purposes based off of items deemed as privileged during the responsiveness review.
- **Document Metadata** - contains all of the metadata fields and is generally read only.
- **Workspace Admin** - contains all of the fields for the workspace admin.

See the Admin guide for more information on layouts.

33.2.6 Views

Views are customizable lists of items in Relativity.

Views can be edited from the drop-down list or in the Views tab. The Views tab displays some views that are used only for administrative purposes and are not visible in the main view drop-down list from the Documents tab.

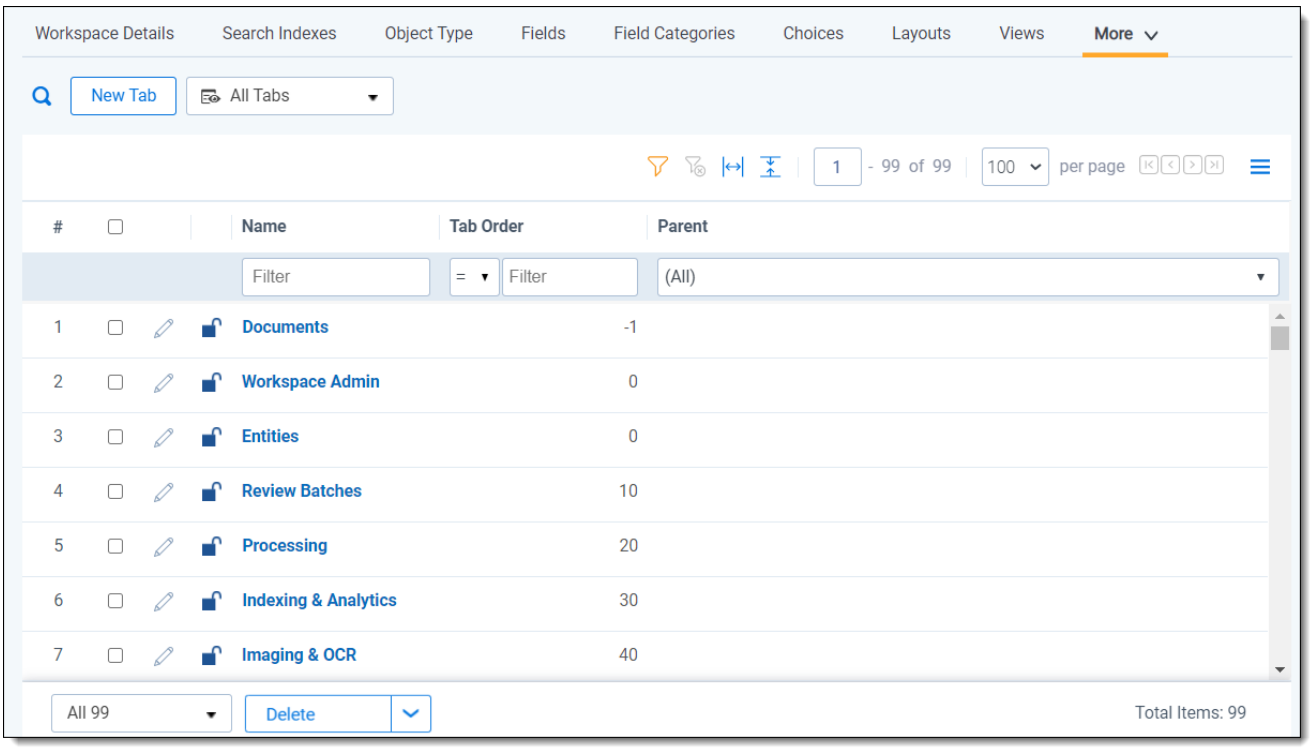


See the Admin guide for more information on views.

33.2.7 Tabs

A workspace contains tabs that provide you with easy access to different Relativity features, including documents, search terms reports, views, and other default functionality. Relativity is a highly customizable platform. You can apply any template with a tabs arrangement that best serves your review needs. Some workspace templates also include custom tabs for specialized functionality.

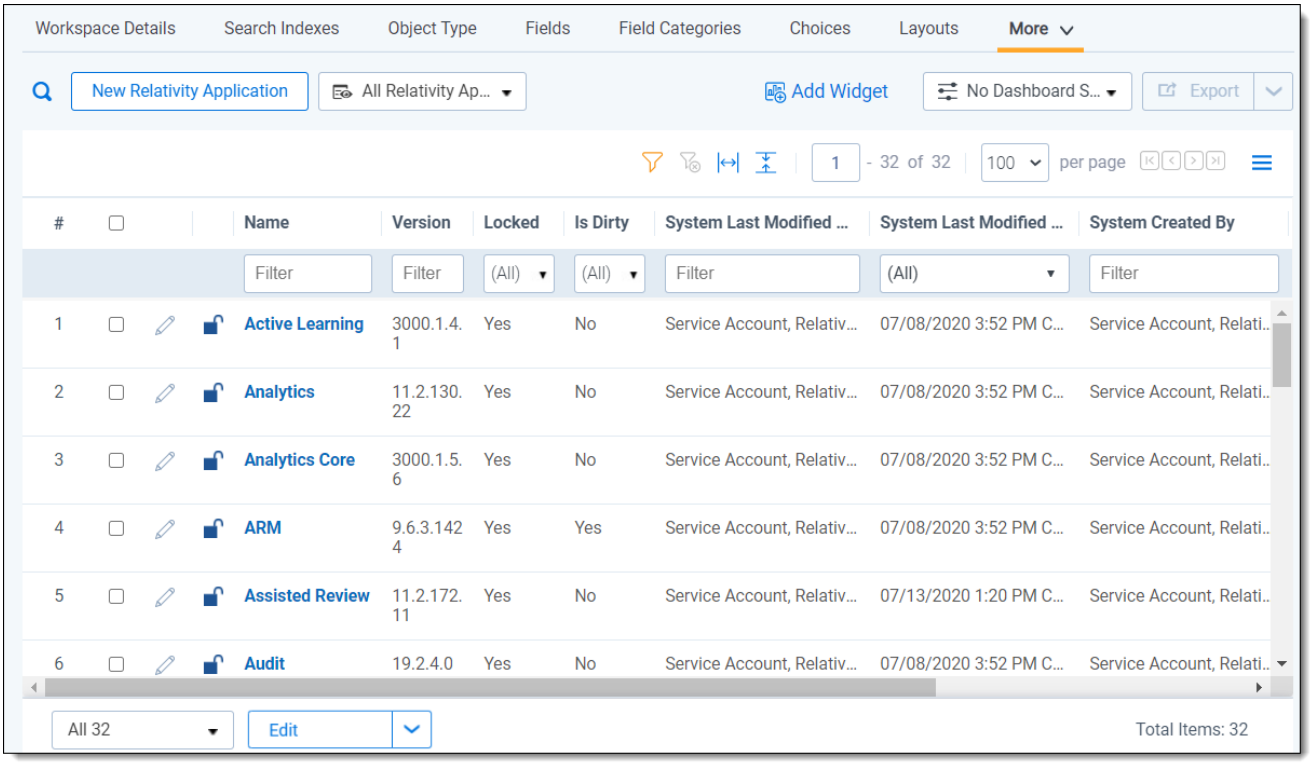
The lowest ordered tab will be the default tab that opens when you select the workspace. Tabs can be hidden and nested. Access to a particular object doesn't mean you have access to the corresponding tab. This means tabs can be used for security.



See the Admin guide for more information on tabs.

33.2.8 Relativity applications

The Quick Start template includes the following Relativity Applications.

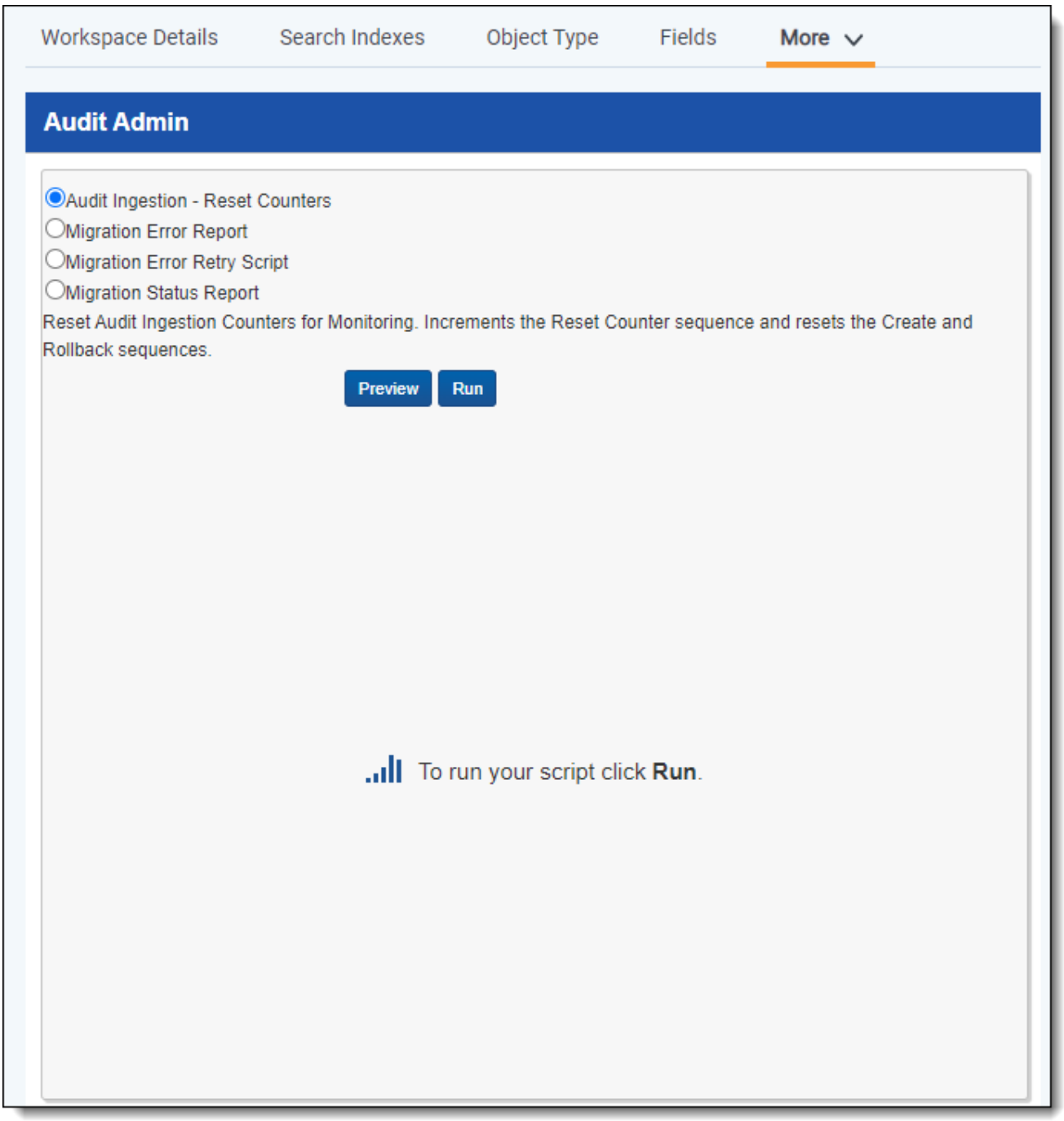


- Analytics - for details, see the Analytics Guide.
- Analytics Core - for details, see the Analytics Guide.
- Assisted Review - for details, see the Assisted Review Guide.
- Choice Editor - for details, see the Admin Guide.
- Data Grid Core - for details, see the Relativity Data Grid Guide.
- Audit - for details, see the Relativity Data Grid Guide.
- Date Field Parsing - for details, see the Admin Guide.
- Document Viewer - for details, see the Admin Guide.
- Environment Statistics - for details, see the Admin Guide.
- Field Catalog - for details, see the Admin Guide.
- Imaging - for details, see the Admin Guide.
- Integration Points - for details, see the Integration Points Guide.
- Processing - for details, see the Processing User Guide.
- Processing Duplication Workflow - - for details, see the Processing User Guide.
- Lists - for details, see the Admin Guide.
- OCR - for details, see the Admin Guide.
- Production - for details, see the Admin Guide.
- Relativity Color Map - for details, see the Admin Guide.
- Search Terms Report - for details, see the Admin Guide.
- Set Long Text Field Size - for details, see the Admin Guide.
- Transform Set - for details, see the Admin Guide.
- Workspace Portal (Duplicate) - for details, see the Admin Guide.
- Workspace Portal (Master) - for details, see the Admin Guide.

Applications allow you to perform specialized functions in a workspace. You can configure new objects or link to existing objects for use with your application. See Creating an application in the Developers site. See the developer Application Deployment System guide for more information on creating an application.

33.2.9 Audit Migration Reports

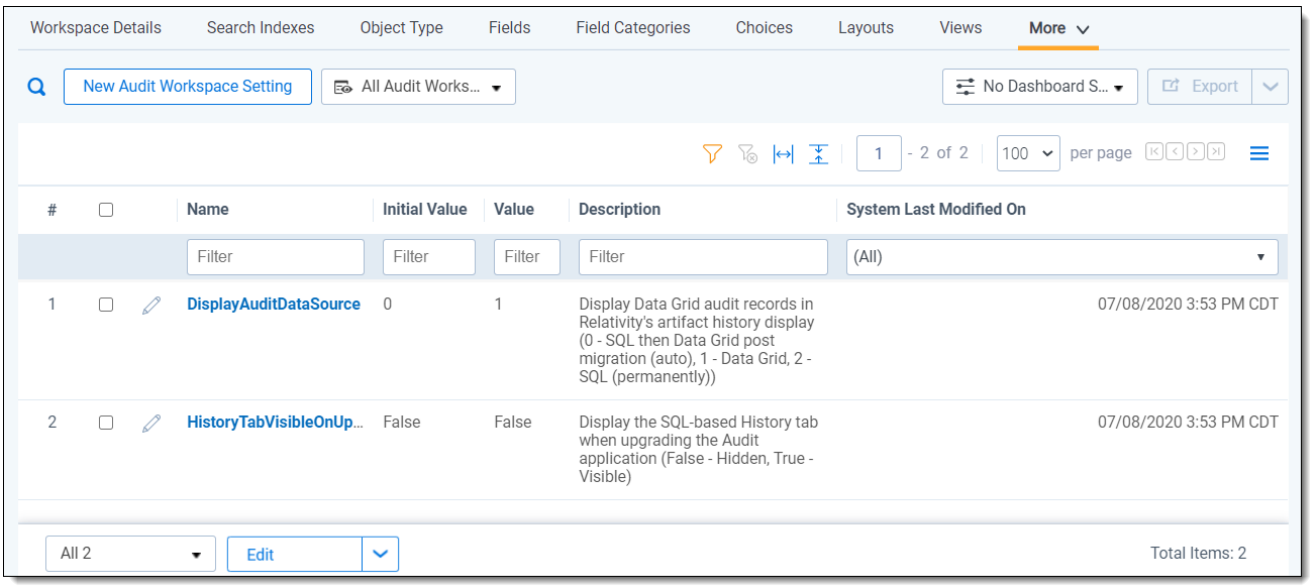
The Audit Migration Reports tab provides you with the option of generating a migration error and migration status report for you to monitor the status of audit data as you migrate it into Elasticsearch. You also have the option of running a migration error retry script.



See the Admin guide for more information on audit migration reports.

33.2.10 Audit Workspace Setttings

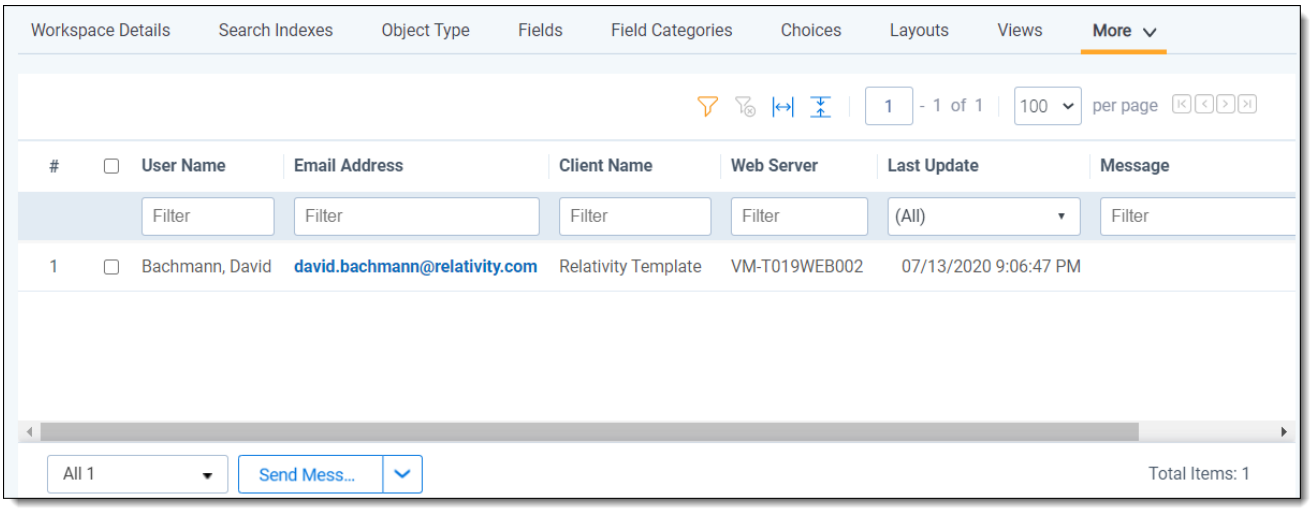
Use the Audit Workspace Setting tab to configure settings specific to the Audit application. The Audit Workspace Setting tab contains two settings, DisplayAuditDataSource and HistoryTabVisibleOnUpgrade.



See the Admin guide for more information on audit workspace settings.

33.2.11 User Status

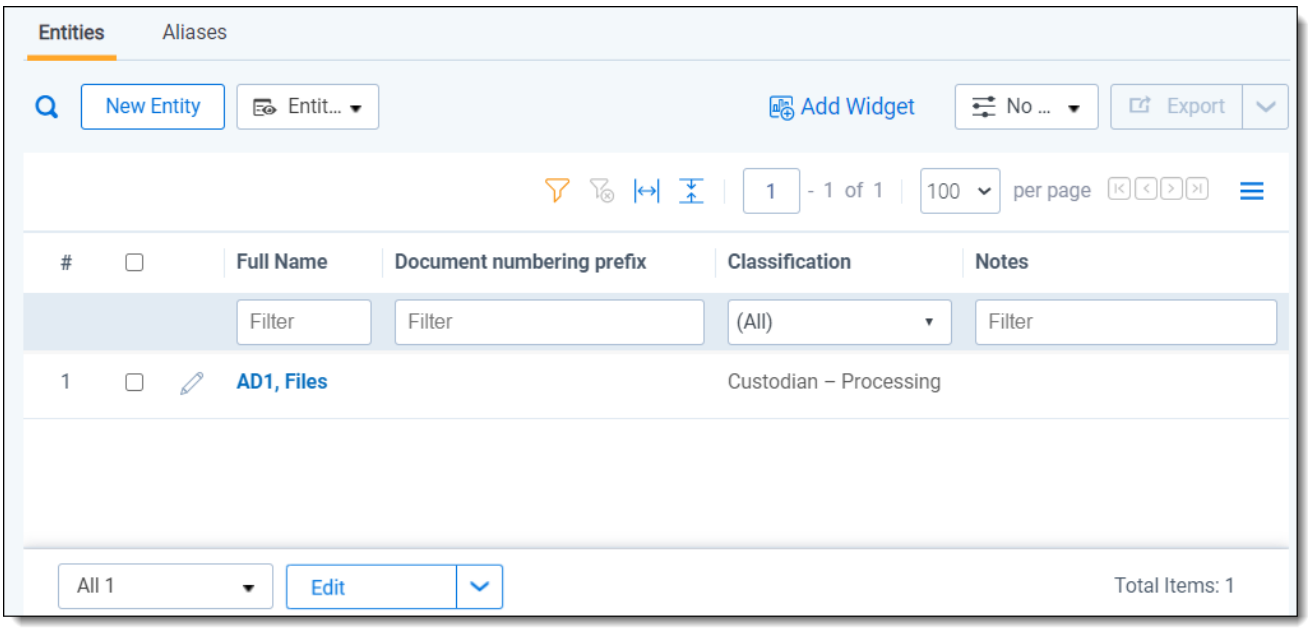
You can view information about users currently logged in to Relativity from the User Status tab, which is available from within any workspace or from Home.



See the Admin guide for more information on user status.

33.3 Entities

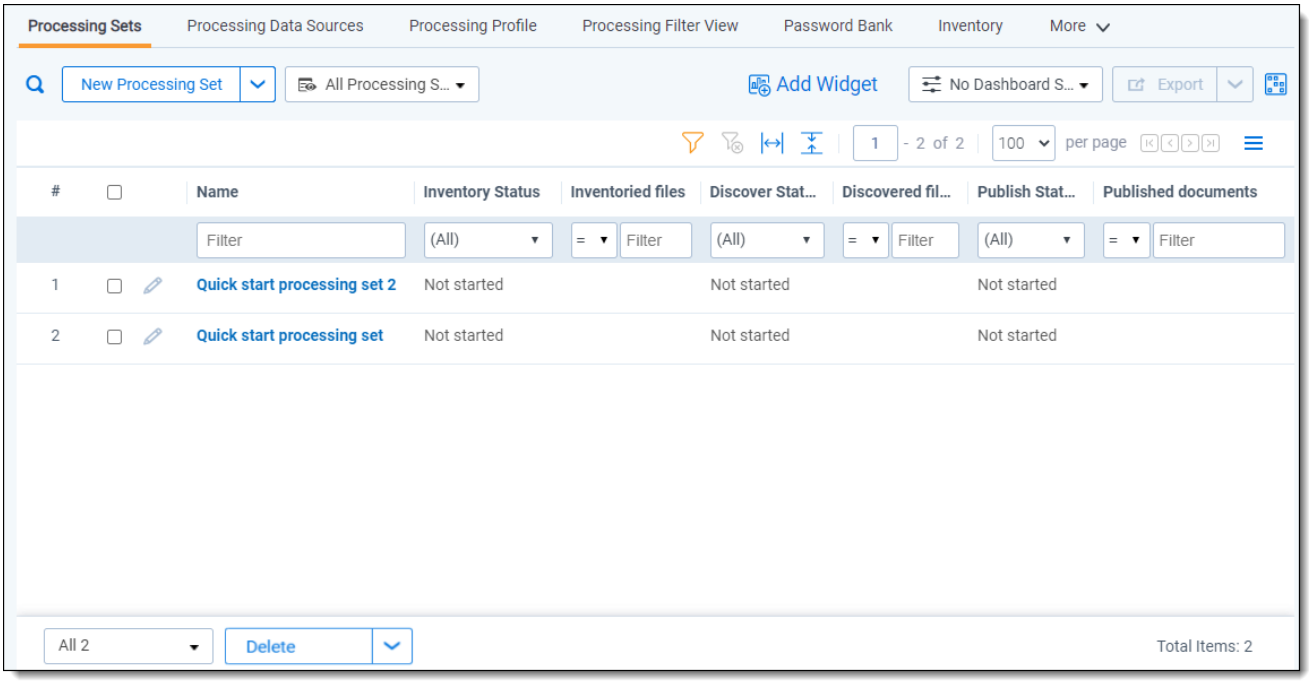
Entities are the people or aliases who own or facilitate the data found in the data sources that you attach to processing sets and then publish to a workspace.



See the Admin Guide for more information on entities.

33.4 Processing

Use the Relativity's processing feature to ingest raw data directly into your workspace for eventual search, review, and production without the need for an external tool. You can use the various processing objects to create custom processing jobs that handle a wide array of information. Folders of files and PST containers will have data imported and fields linked to.

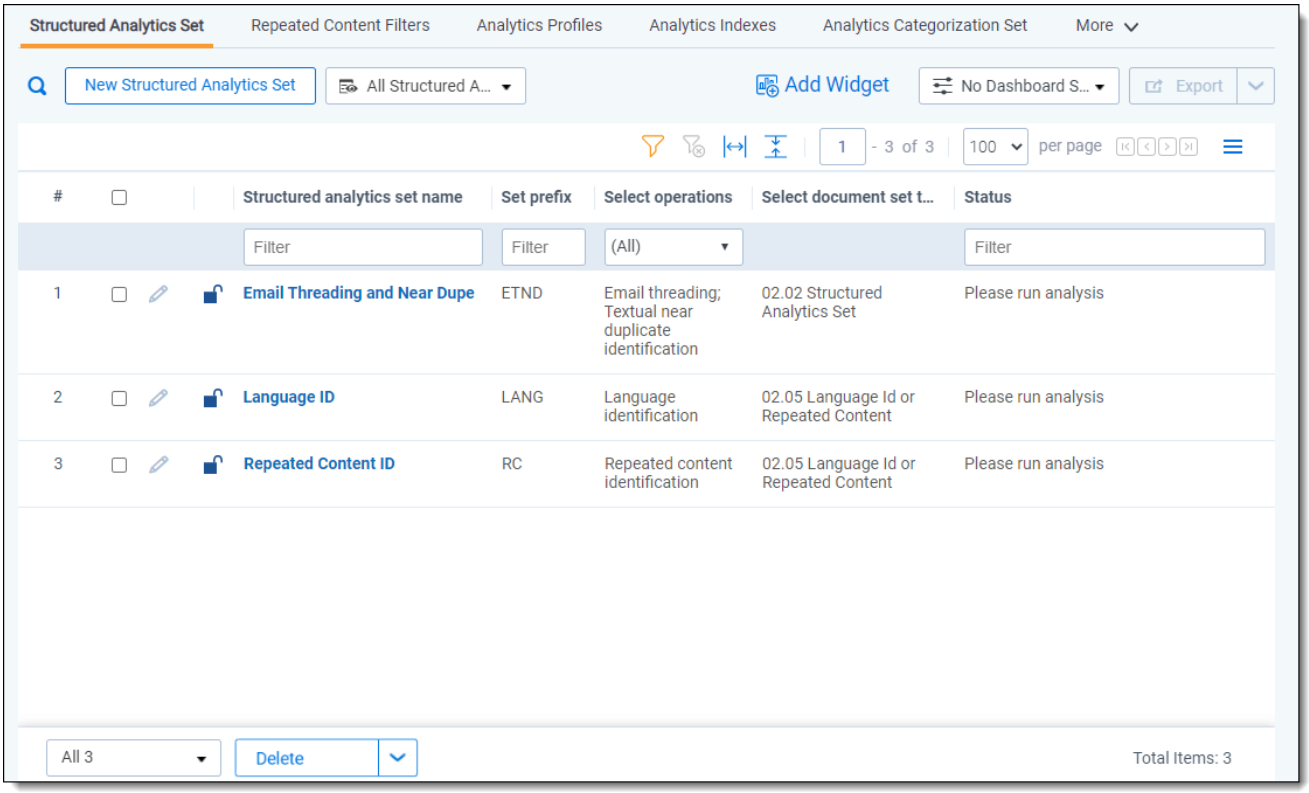


The Processing object contains the following tabs:

- Processing Sets - see the Processing User guide for more information.
- Processing Profiles - see the Processing User guide for more information.
- Password Bank - see the Processing User guide for more information.
- Inventory - see the Processing User guide for more information.
- Errors - see the Processing User guide for more information.
- Reports - see the Processing User guide for more information.

33.5 Indexing & Analytics

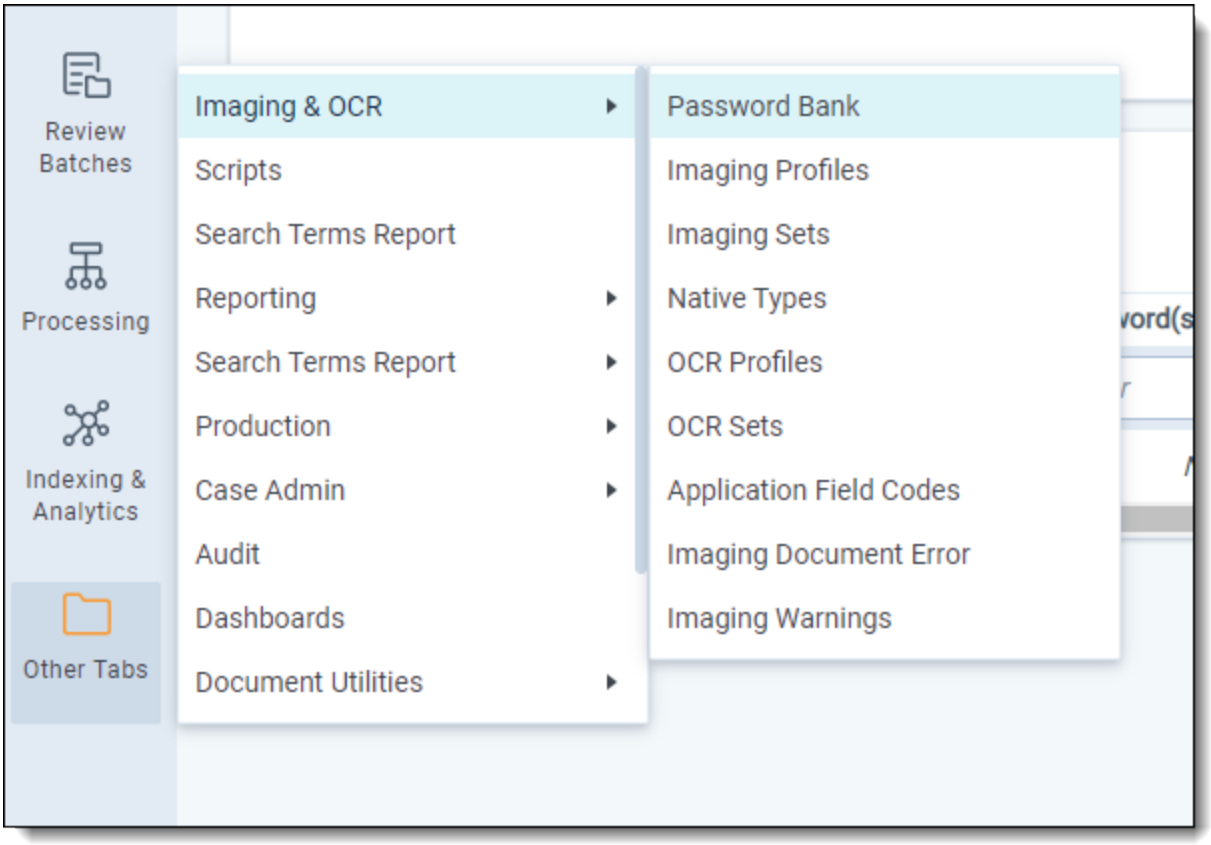
The Indexing and Analytics tab provides the following sub tabs.



- Structured Analytics Sets- see the Analytics guide for more information.
- Repeated Content Filters- see the Analytics guide for more information.
- Analytics Profiles - see the Analytics guide for more information.
- Analytics Indexes - see the Analytics guide for more information.
- Search Indexes - see the Searching guide for more information.
- Analytics Categorization Set - see the Analytics guide for more information.

33.6 Imaging & OCR

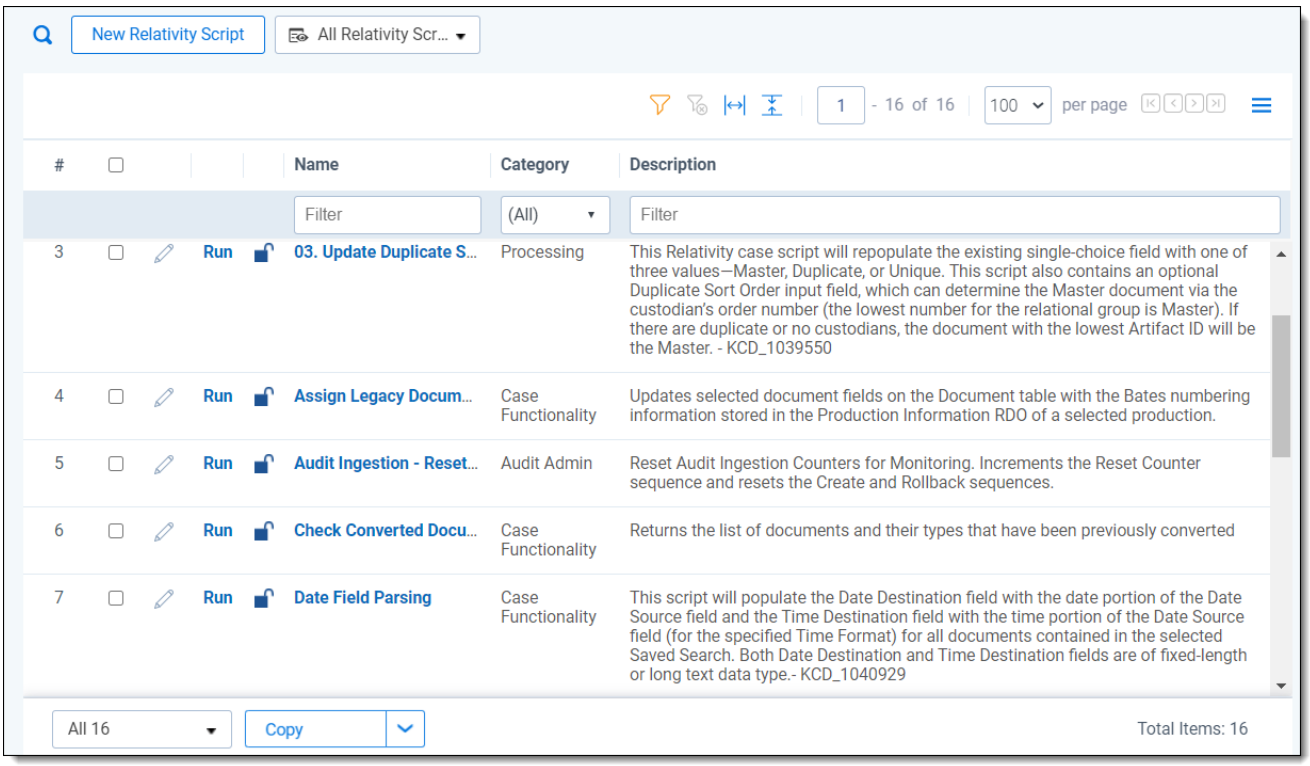
The Imaging & OCR tab in the Quick Start template provides options for working with the following jobs:



- Password Bank - for details on the Password Bank, see the Processing User Guide.
- Imaging Profiles - for details on Imaging Profiles, see the Admin Guide.
- Imaging Sets - for details on Imaging Sets, see the Admin Guide.
- Native Sets - for details on Native Types, see the Admin Guide.
- OCR Profiles - for details on OCR Profiles, see the Admin Guide.
- OCR Sets - for details on OCR Sets, see the Admin Guide.
- Applications Field Codes - for details on Application Field Codes, see the Admin Guide.

33.7 Scripts

You can use Relativity scripts to create and execute flexible SQL-based scripts to customize and augment Relativity functionality. Scripts are Relativity artifacts. This means they have the same features as standard Relativity objects, allowing them to be secured and audited.



Relativity provides scripts as a way to manipulate or verify data. For example, a Parent date field might not be something a vendor can create from processing software; yet it's required to sort family groups by date.

To complete this task, you can use a Relativity Script named **Propagate Sent Date to Family Documents**. It takes the sent date field from emails, copies it to a parent date field, and passes the parent date field to all items of the family group.

This lets family groups remain in order during sorting. If there isn't a parent document with a sent date such as loose files, you'll need to copy another date field over to the parent date field.

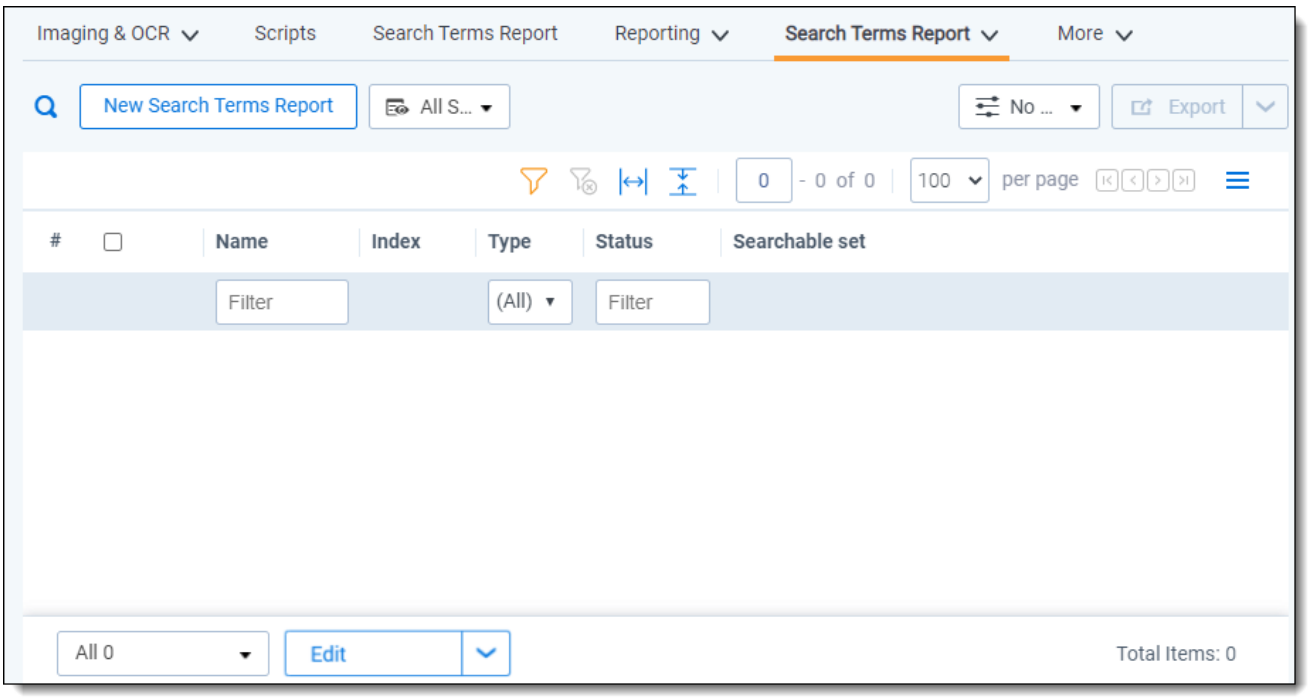
Below are some example scripts you might want to add to your workspace.

Script	Description
Reviewer Statistics	Reports on the efficiency of reviewers over the specified date range. The returned statistics provide a count on how many documents were reviewed over a certain period of time.
Propagate Sent Date to Family Documents	Sets all email family documents to the same sent date as their parent documents in the case.

See the Admin guide for more information on Library scripts.

33.8 Search Terms Reports

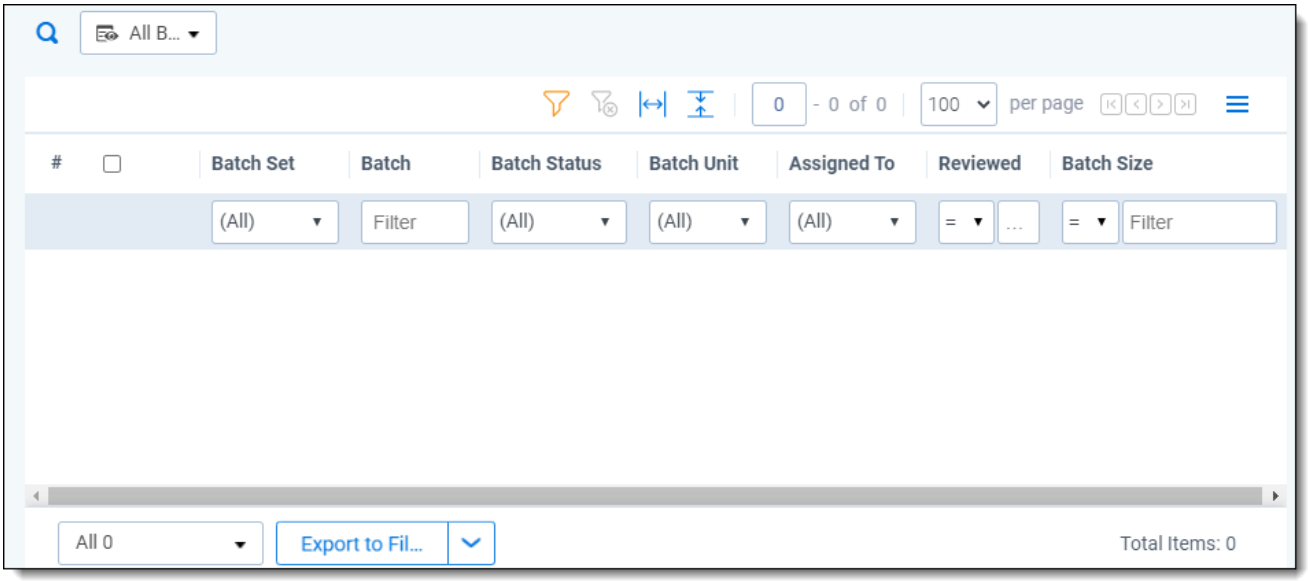
Search terms reporting provides a breakdown of document count per search item. Keyword searching is often used as a method of filtering the initial dataset. Use those terms or search parameters in the search terms report to see which documents return which terms. You can then prioritize certain groups of documents for review.



The template doesn't contain any pre-made reports. You can create a report based on terms related to your case. Remember that you need to create a dtSearch first before creating the report. See the Admin guide for more information on creating a search terms report.

33.9 Review batches

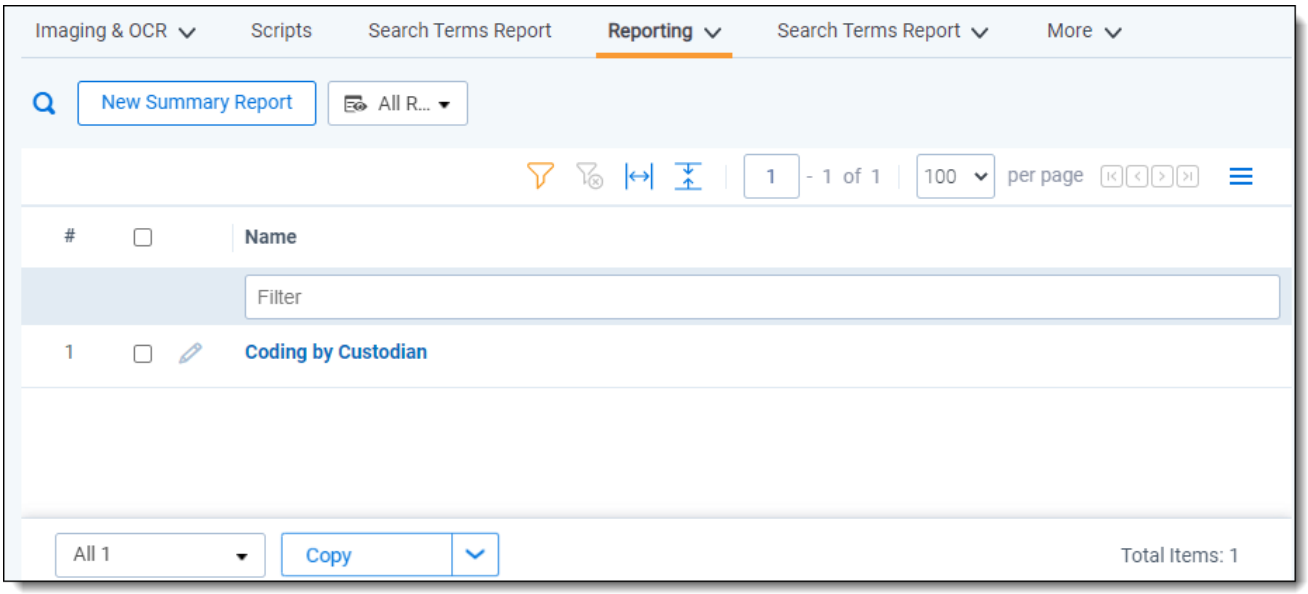
The Review Batches tab in the Quick Start template provides users with access to batches of documents. A user can check out those batches, and begin a review on the documents they contain.



See the User guide for more information on checking out batches.

33.10 Summary reports

Summary Reports provide aggregate tallies of field values. These reports are based on an optional grouping criteria and the fields to be tallied. Your workspace contains one default summary report called **Coding by Custodian**.



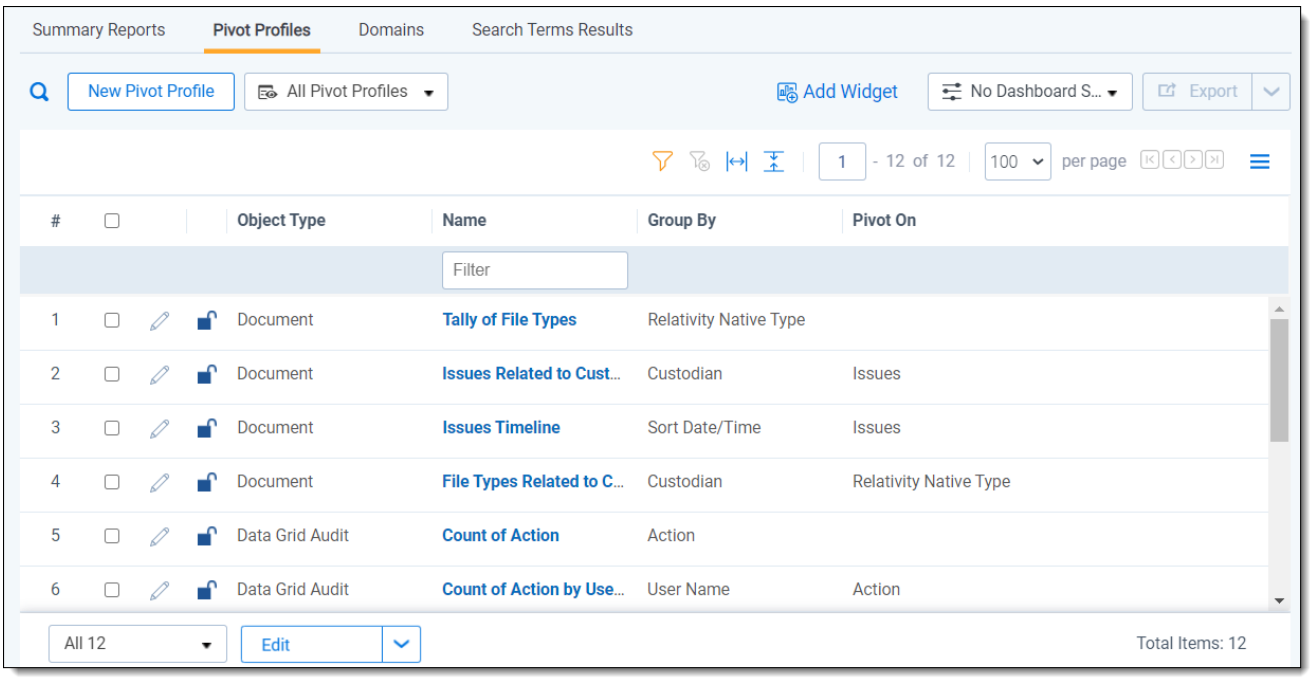
This summary report provides a basic tally of a familiar field and common review task. Click the **Edit** button in the summary information screen to view its settings:

Summary Report	Fields
Designations by Custodian	Group By: Custodian Report on Subfolders: Yes Columns: -Designation: Non Responsive -Designation: (not set) -Designation: Not Sure -Designation: Responsive -Designation: Privilege

You can edit the settings of this, and any additional summary report you create, at any time during the review process.

33.11 Pivot profiles

Pivot Profiles allow you to create, save, and edit custom Pivot settings. You can then apply these Pivot profile settings while using Pivot in the data set.



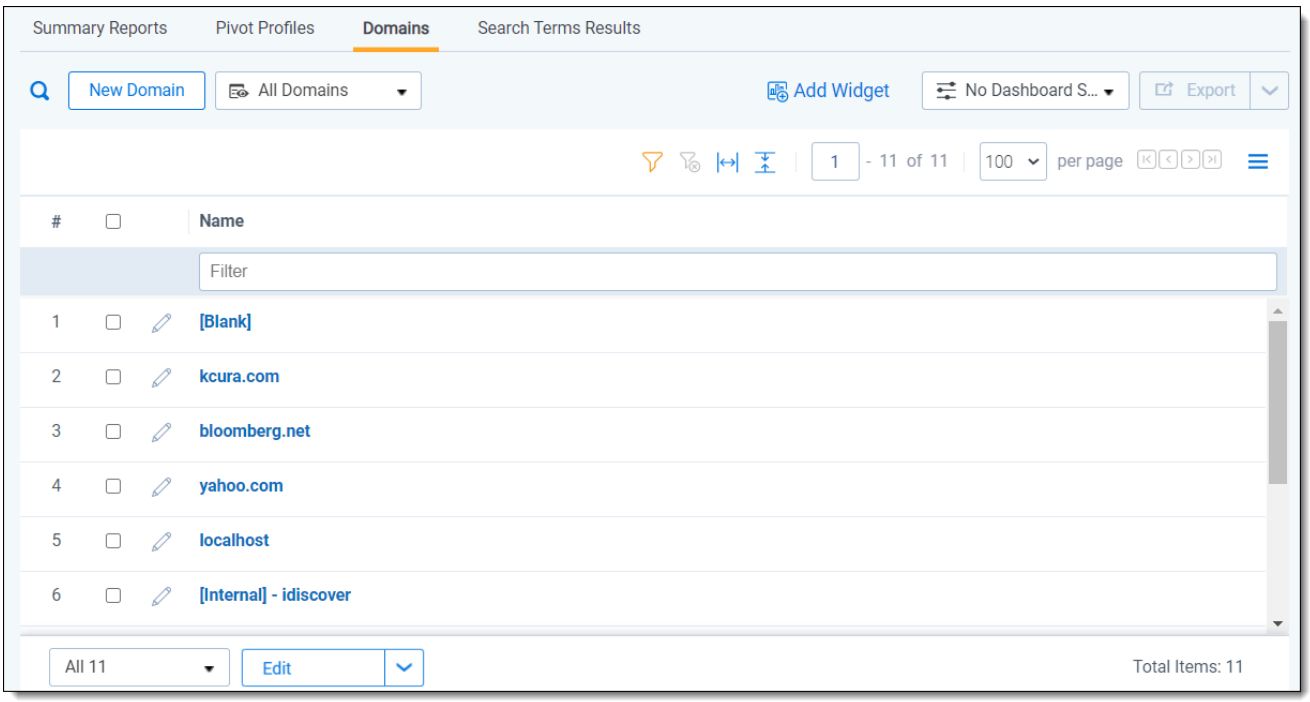
See the Admin guide for more information on Pivot profiles.

By default, the Quick Start template includes the following pivot profiles:

- **Tally of File Types** - returns a grid of the types of files in the workspace
  - Group By... Relativity Native Type
  - Pivot On... <Total Only>
- **Issues Related to Custodians** - returns a pie chart of issue by custodian
  - Group By... Custodian - Single Choice
  - Pivot On... Issue Designation
- **Issues Timeline** - returns a grid of dates and how many issues fall within those dates
  - Group By... Sort Date
  - Pivot On... Issue Designation
- **File Types Related to Custodians** - returns a pie chart of file types by custodian
  - Group By... Custodian - Single Choice
  - Pivot On... Relativity Native Type

33.12 Domains

Use the Domains tab to create a new domain.



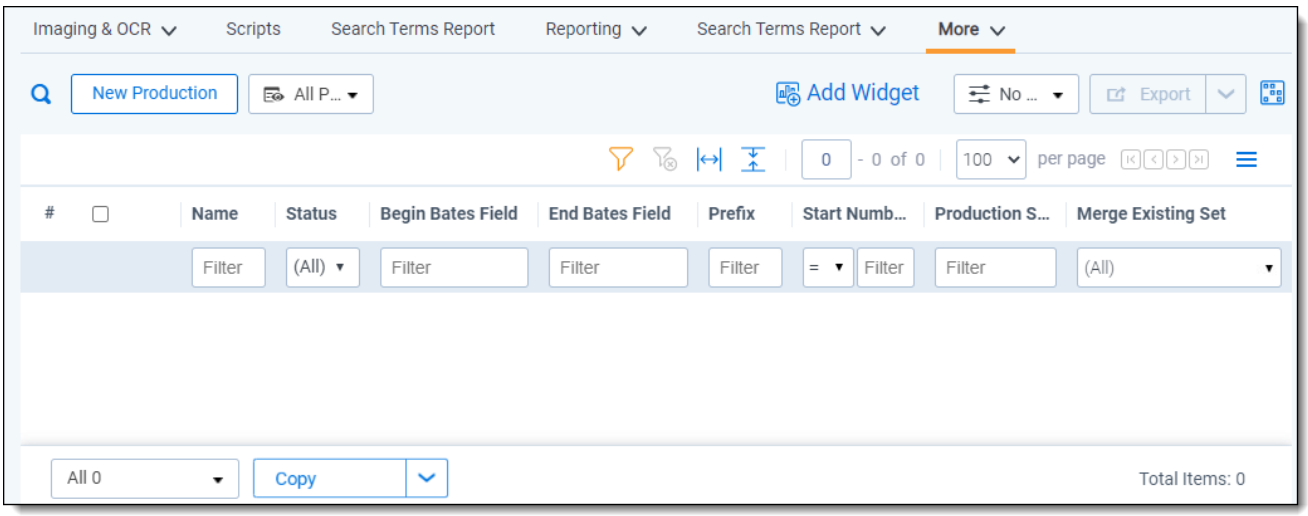
Use the Domains tab to:

- Find domains that might contain privileged information such as law firms and assign accordingly
- Assign lower priority to spam email and personal email addresses; bulk code or assign to entry level reviewers
- Prioritize emails from key domains
- Utilize Author and Recipient domains with Pivot to determine conversation relationships

After domain parsing is complete you'll see a tab with a list of the domains. Click on a domain to bring up the list of documents associated with the domain. This can be useful for a number of different workflows.

33.13 Production

The Production tab in the Quick Start template provides the following sub-tabs.



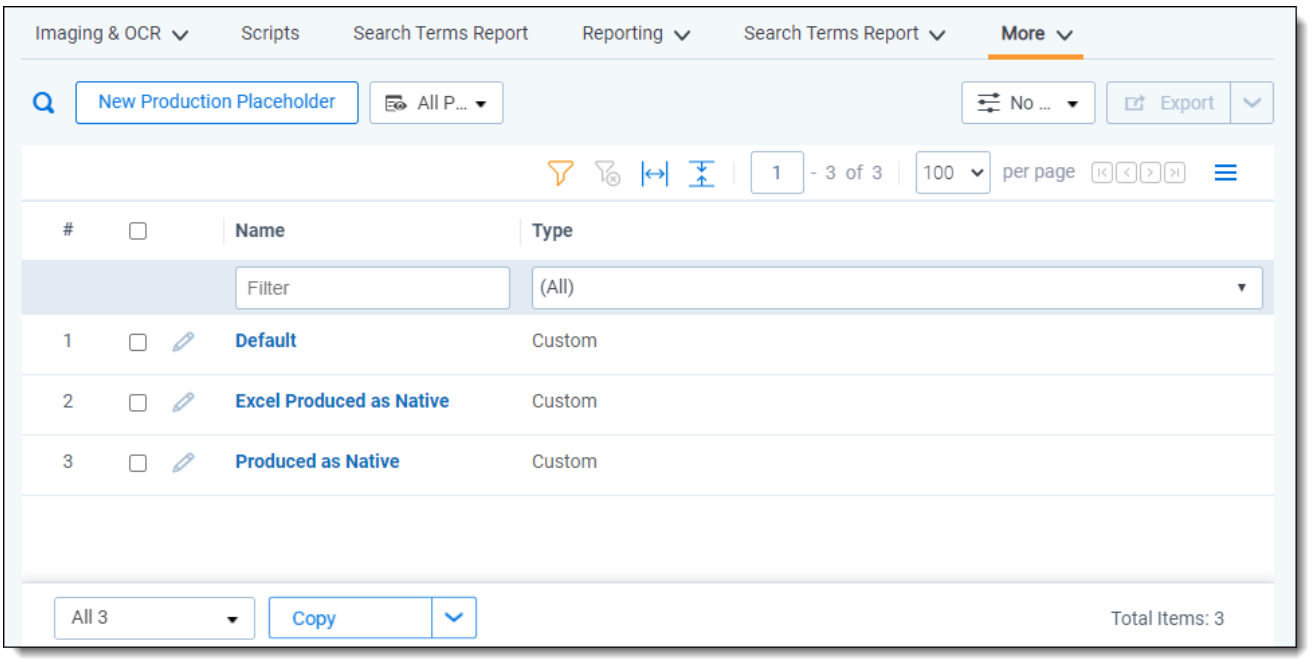
33.13.1 Production sets

When you want to produce documents in a case workspace, you can create a production set that defines the markup set for redactions, the document numbering, the appearance of the numbering, and other settings. Relativity uses these settings when running the production. You can then view the produced images in the Review Interface by selecting Production mode and the production set.

See the Admin guide for more information on adding a production set.

33.13.2 Production placeholder

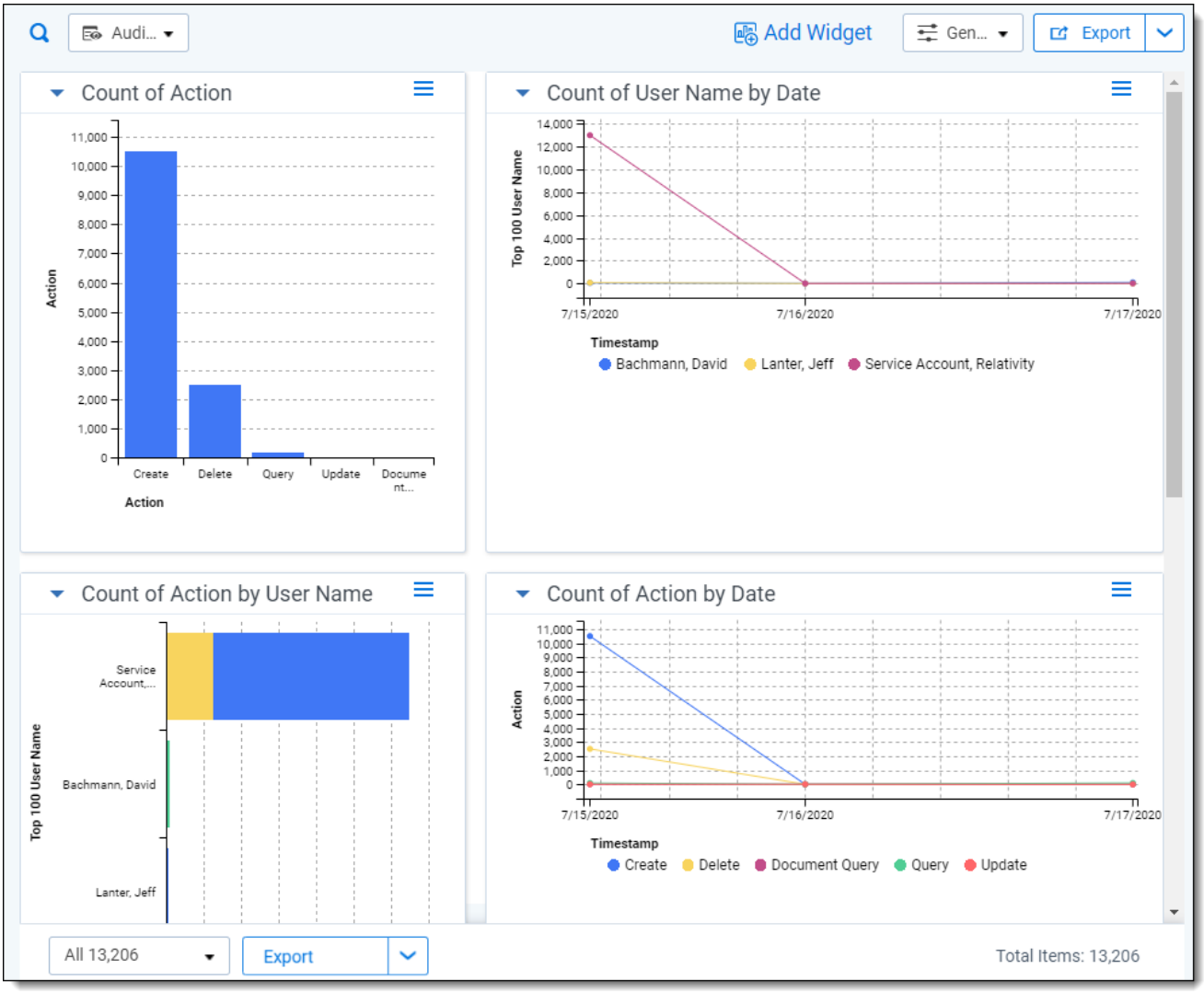
You can create your own unique placeholders for productions using images or custom text. Once you create the placeholders, you can attach the placeholders to the production data source. You can also produce the same document in multiple productions with different placeholders. The Production Placeholder library automatically includes a default image placeholder.



See the Admin guide for more information on production placeholders.

33.14 Audit

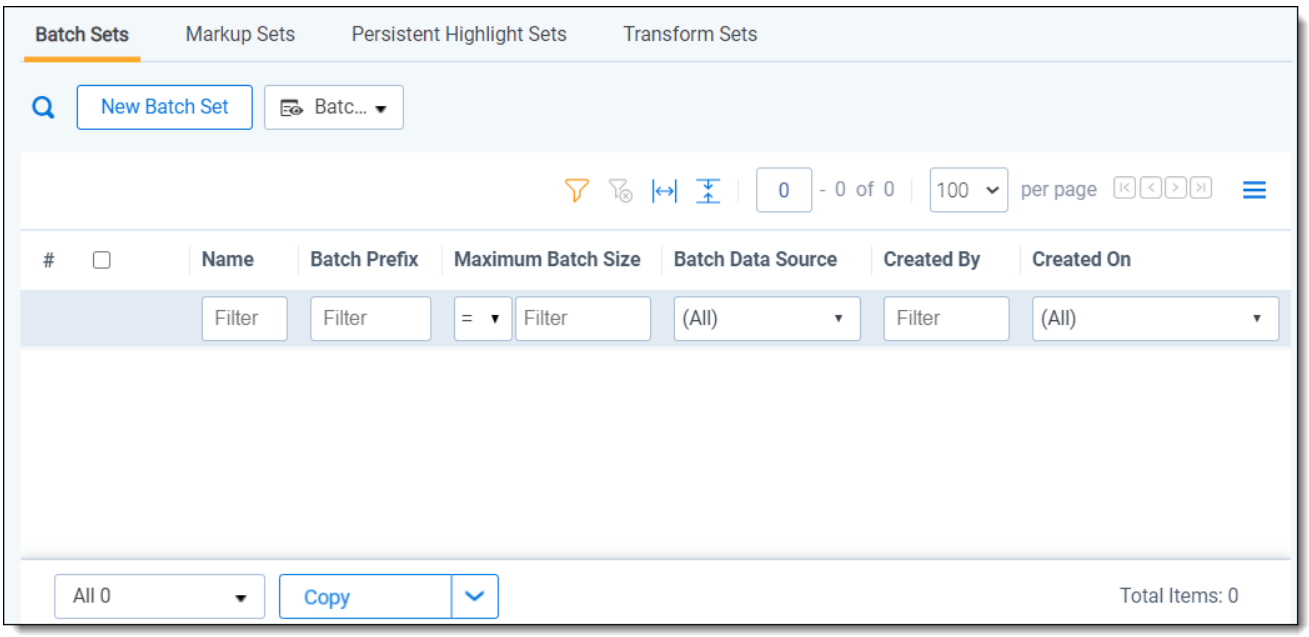
Use the Audit application to monitor and run reports on audited user activity. Audit provides insight into review planning for productivity analysis and enables you to easily find reviewer or propagation coding values for follow-up action. In the Audit application, you can add widgets for custom visualization of audit data, as well as custom dashboards.



For more information, see the Relativity Data Grid guide.

33.15 Case admin

The Case Admin tab in the Quick Start template provides options for working with the following admin functions: Batch Sets, Markup Sets, Persistent Highlight Sets, Production Sets, Scripts, and Transform Sets.



33.15.1 Batch sets

Batching is useful way to secure which documents a user is able to view. Batches can also help in creating a workflow. However, batches don't carry over with the template. As a result, you need to create new batches for each workspace. The template contains views setup to work with batches.

My Checked-Out Batches and **My Checked-Out Batches Not Reviewed** are views setup for first-level reviewers to view only their assigned documents or documents they have checked out.

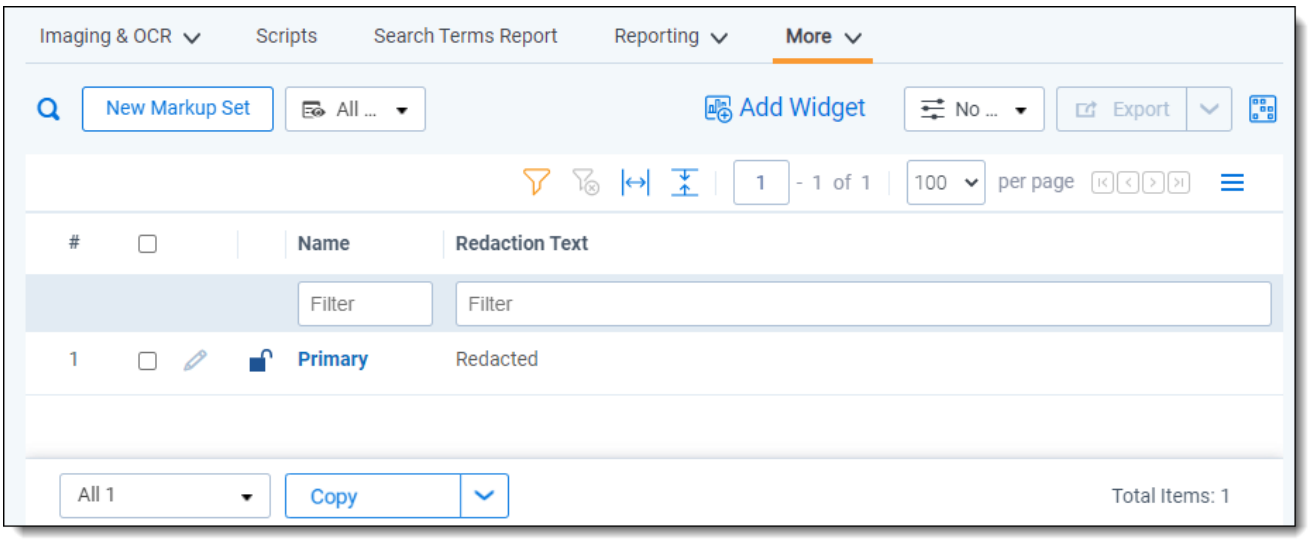
Before you batch documents, you need to create a batch source. The batch source is a saved search containing documents to batch. You can then create a batch based on a specified parameter of these documents. Batches might be based on:

- Custodians
- Entities
- Clusters
- Time Periods

Securing a batch set applies security only to the batches themselves, not to their included documents. See the Admin guide for more information on adding batch sets and batches.

33.15.2 Markup sets

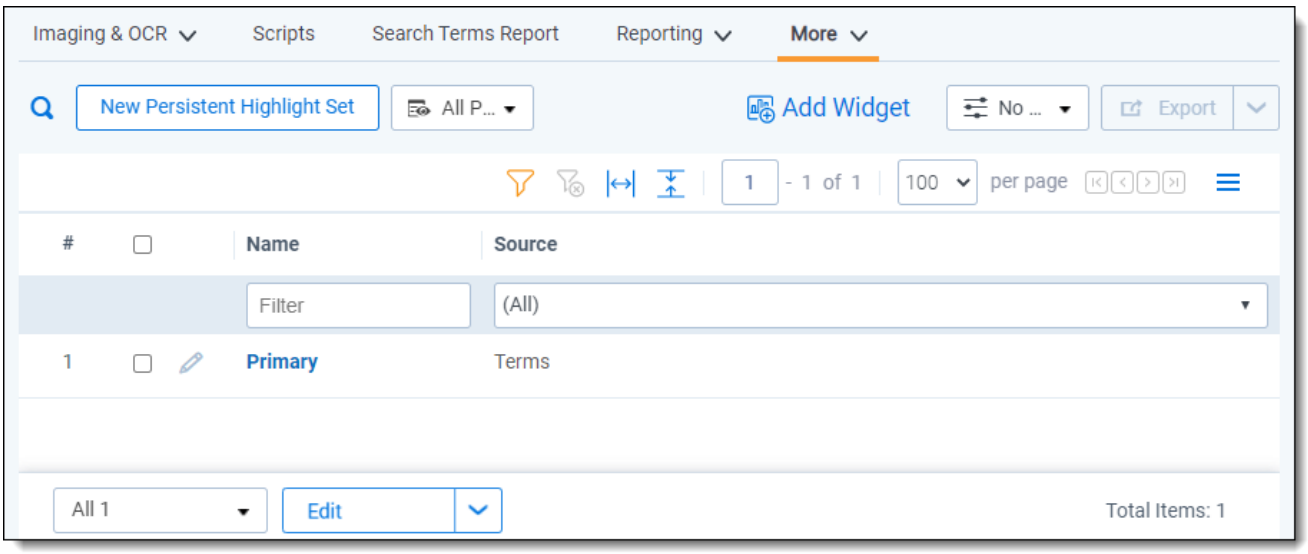
Markup sets are securable sets of highlights and redactions. Reviewers use markup sets to apply highlights and redactions to documents in the Viewer.



See the Admin guide for more information on Markup sets.

33.15.3 Persistent highlight sets

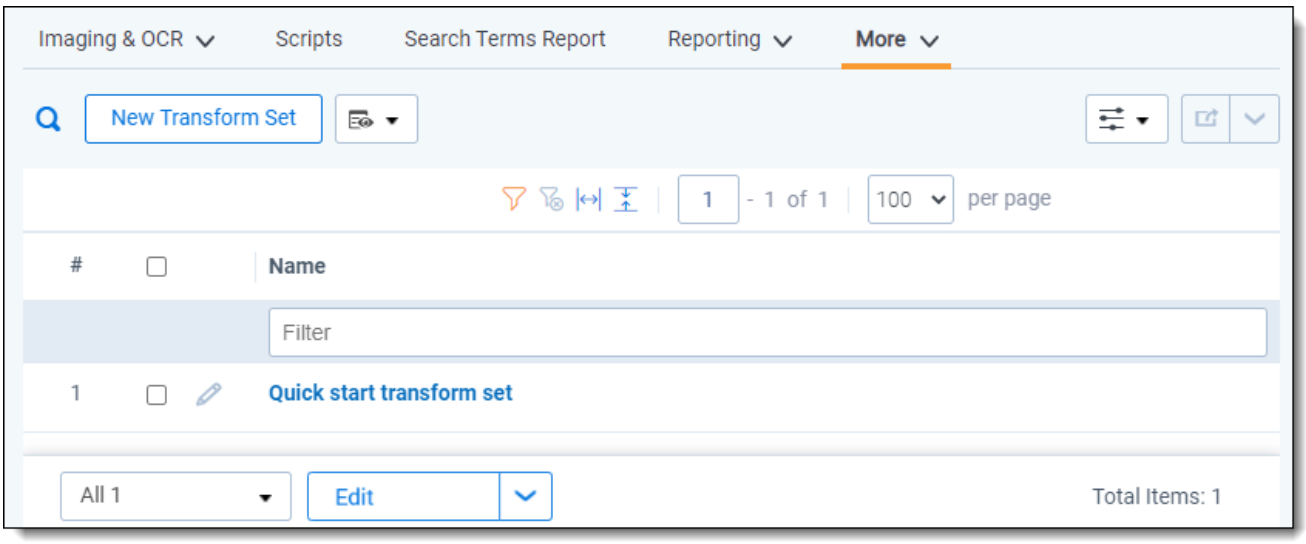
Persistent Highlight Sets are reusable, transferable sets of persistent highlight parameters. You can select Persistent Highlight Sets in the Viewer to assist in document review.



See the Admin guide for more information on Persistent highlight sets.

33.15.4 Transform sets

Transform Sets read through selected fields in a workspace, perform a defined process, and writes the output to other fields or object types.



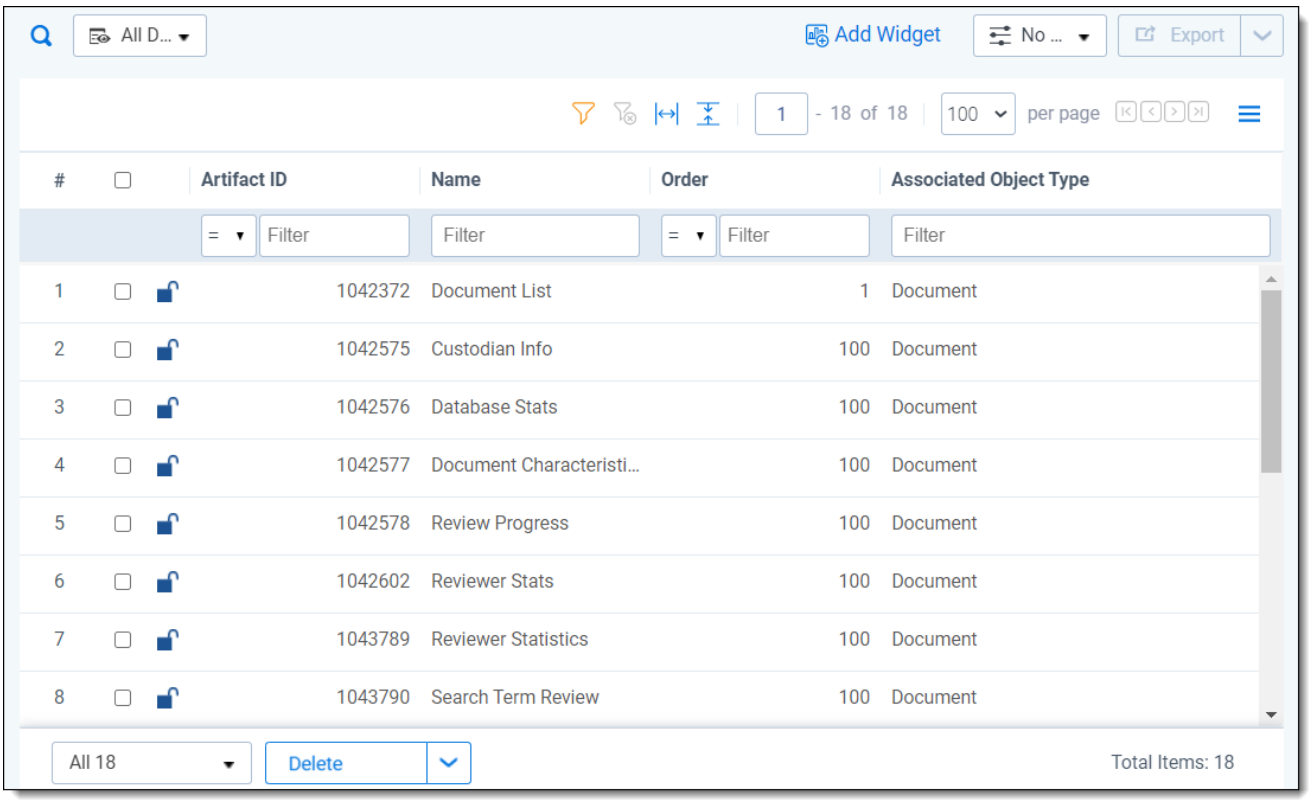
You can create a new transform set in your workspace that pulls from a source field and populate a destination field with the results. In Relativity, the transform set handlers are:

- Domain Parsing - takes field with email addresses, strips out the domain information, and writes it to a new field. For example, the address yourname@relativity.com becomes relativity.com.
- Conversation Index Parsing extracts the first 44 characters of an email thread conversation index to create a relational field with the same number.

See the Admin guide for more information on Transform sets.

33.16 Dashboards

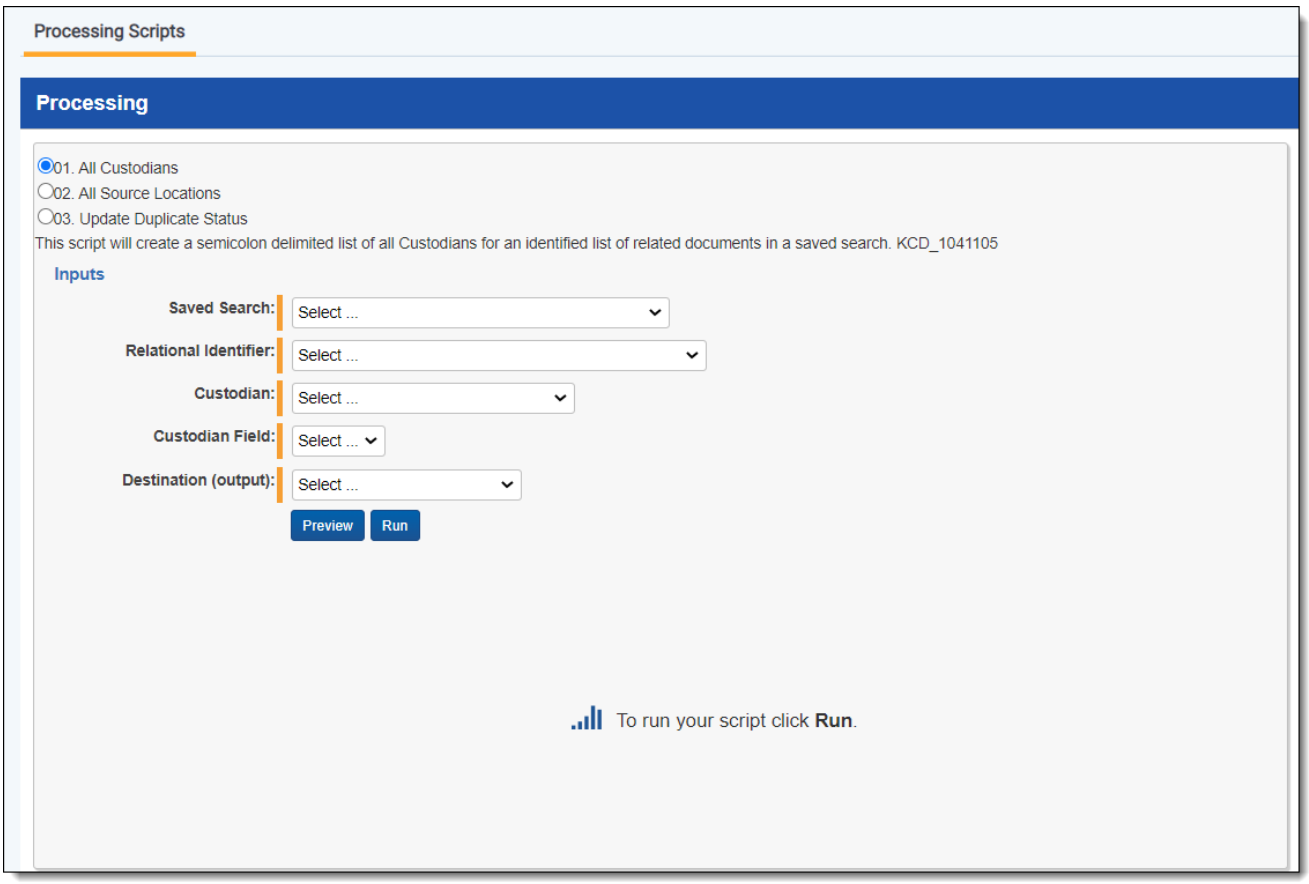
When you've created a page configuration you'd like to preserve, you can create a customized dashboard. You can save multiple dashboards to quickly change the page configuration. The item list and any widgets on the dashboard will update automatically in response to filtering or searching.



For more information on dashboards, see the Admin guide.

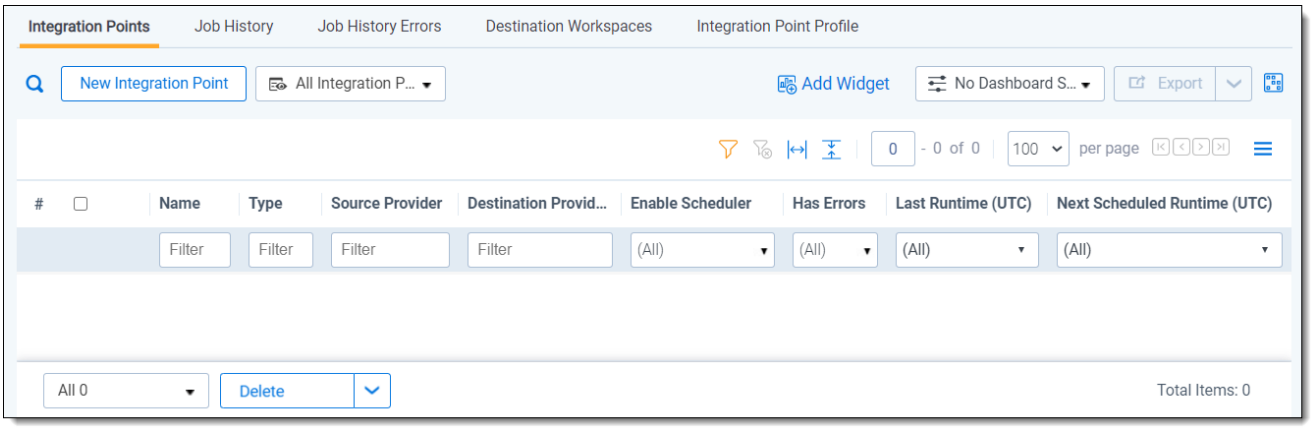
33.17 Processing Duplication Workflow

The Processing Duplication Workflow is a Relativity application that identifies master and duplicate documents, all custodians, and all source files for documents. It also provides capabilities to identify unique, master and duplicate files based on a relational field.



33.18 Integration Points

Integration Points offers a solution to configure integrations from third party systems to Relativity objects, as well as to move data from one workspace to another. Integration Points provides you with the ability to import and export data directly from your workspace through the same functionality that the Relativity Desktop Client (RDC) provides for importing and exporting the document object.



The Integration Points tab provides the following sub-tabs:

- Integration Points - for details on the Password Bank, see the Integration Points Guide.
- Job History - for details on Job History, see the Integration Points Guide.
- Job History Errors- for details on Job History Errors, see the Integration Points Guide.
- Destination Workspaces - for details on Destination Workspaces, see the Integration Points Guide.
- Integration Point Profile - for details on Integration Point Profiles, see the Integration Points Guide.

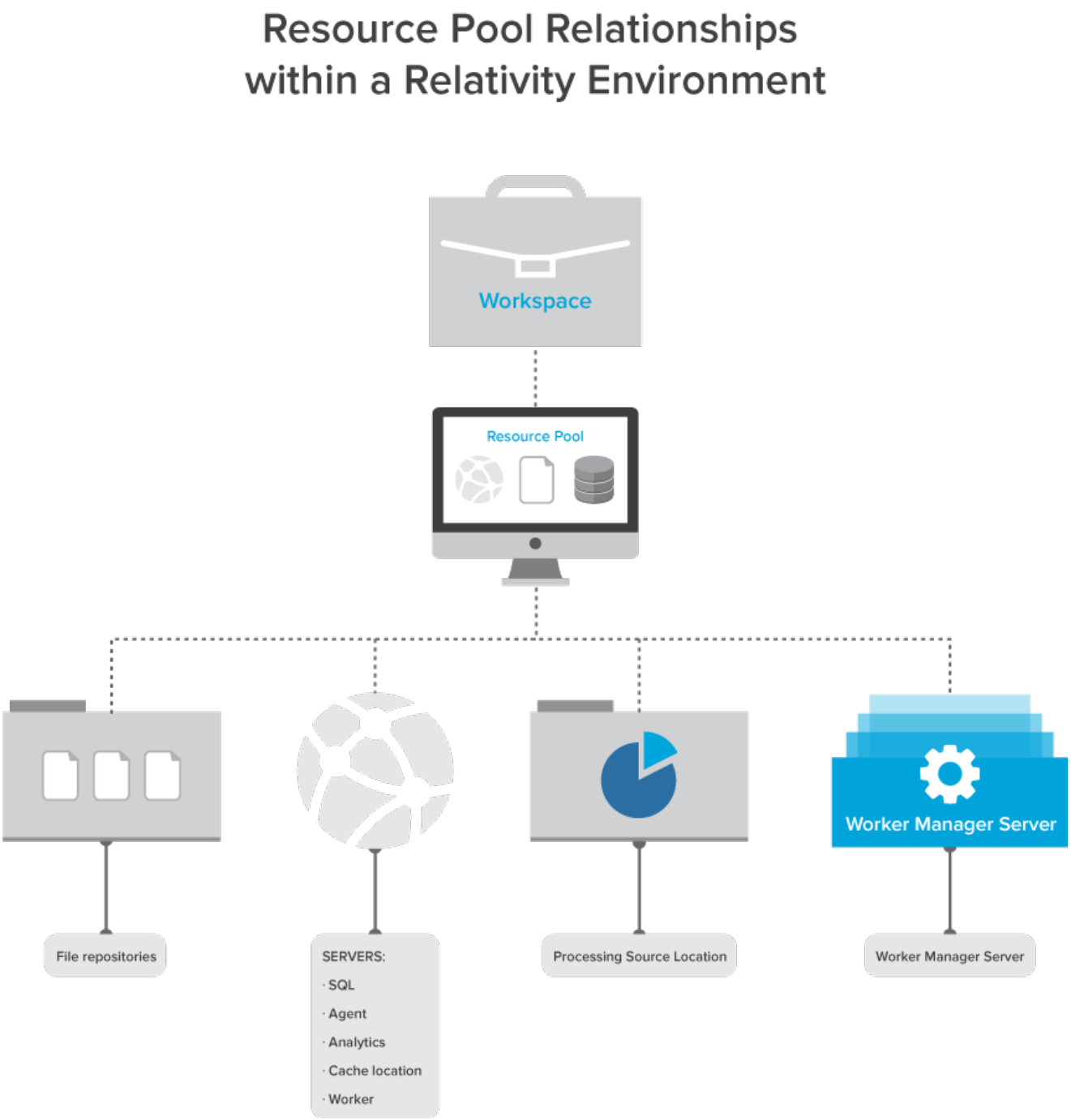
34 Resource pools

A resource pool is a set of servers and file repositories that you can associate with a workspace. Resource pools can be used to group resources based on litigation matter, location, or other categories. For example, you could create resource pools for the West Coast and East Coast to manage resources specific to these regions.

Use the following guidelines when associating resource pools with workspaces:

- You can associate a workspace with only one resource pool.
- Only resource pools that have at least one file repository and SQL Server are available on the Workspace Details page.
- When you create a workspace, the Database Location field lists only SQL Servers associated with the selected resource pool. After you create a workspace, you can't change the SQL Server that appears in this field.
- You can change the resource pool on a workspace, but you can only change it to a resource pool that contains the SQL Server selected as the Database Location.

The following graphic depicts the connections between your resource pools, servers, Relativity environment, and workspaces. This is meant for reference purposes only.



34.1 Creating a resource pool

To create a new resource pool:

1. From **Home**, select the **Resource Pools** tab.
2. Click **New Resource Pool**.

3. Enter information in the following fields:
   - **Name** - the user-friendly name for the resource pool that indicates its purpose. It can't exceed 50 characters.
   - **Visible In Dropdown** - select **Yes** or **No** in the drop-down to display the resource pool as an available item within the drop-down list when creating a new workspace.
   - **Keywords** - key words that you can use to filter on the resource pool in a view and for other identification purposes
   - **Notes** - any additional comments about the resource pool
4. Click **Save**. The Resource Pool Details page appears.

34.2 Adding resources to a pool

After you create a resource pool, you should add the required servers and repositories to it. You can also edit the resources associated with an existing resource pool.

Use the following guidelines when configuring a resource pool:

- **Agent and Worker Servers** - only agents residing on the Agent and Worker Servers in a resource pool are available for pick-up jobs in workspaces associated with the pool. For example, if the Transform Set Manager agent is not added to any of the Agent Servers in a resource pool, you won't be able to run a Transform Set in a workspace associated with it. This functionality applies to all agents, except for Case Manager, Billing Agent, and File Deletion Manager.

  Note: If you add a worker to one or more resource pools, it is unable to perform tasks for any other resource pool. If you don't add the worker to any resource pools, it can perform tasks that originate from any resource pool associated with the worker manager server.

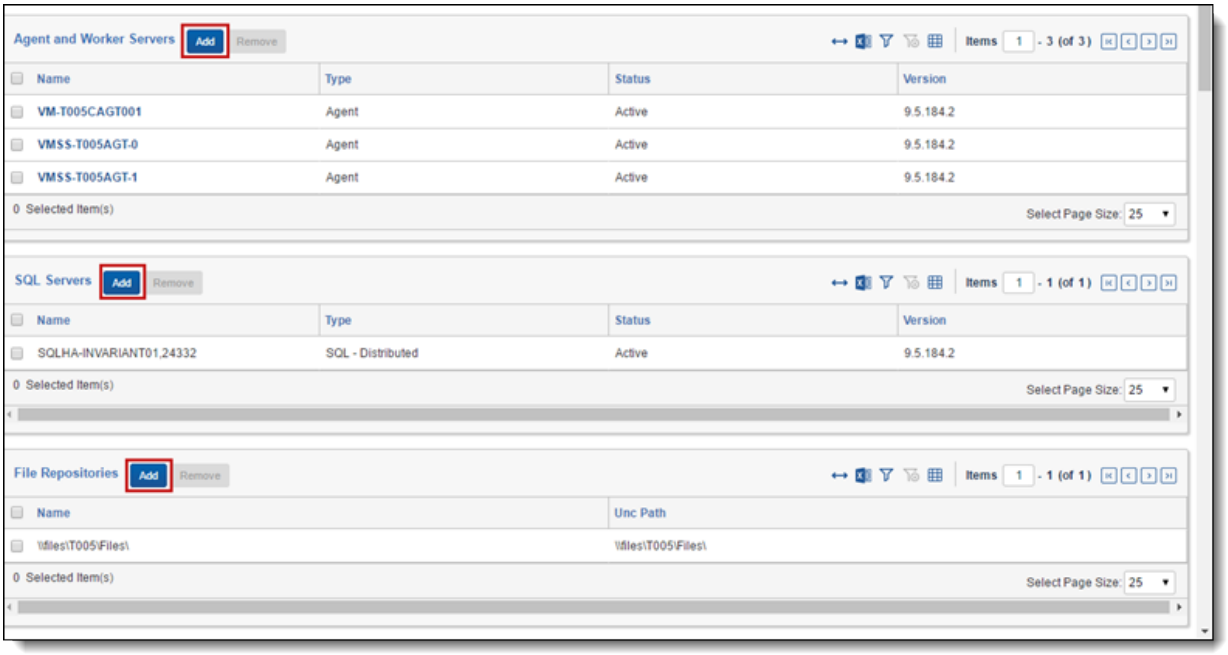
- **Worker Manager Server** - this server is meant for document conversion, imaging, and processing. If the **Is Default** field is enabled on the worker manager server layout, that server is added to any resource pool by default upon creation, as well as to any resource pool that does not currently have a worker manager server. You can assign only one worker manager server to a resource pool. If you have one or more workers assigned to a worker manager server and you remove the worker manager server from a resource pool, its associated workers are also removed.

  Note: Every resource pool should have a worker manager server linked to it. If a resource pool does not have a worker manager server linked to it, any workspace linked to that resource pool is unable to perform imaging and processing.

- **Primary SQL Server** - this server is added to all resource pools during a first-time installation.
- **Cache Location** - a UNC file path that indicates where the cache resides in your environment. This cache temporarily stores natives, images, productions, and other file types used by the viewer. You can add multiple cache location servers to a resource pool. If you want more cache locations, add a new server of type **Cache Location Server**. See Servers on page 670.

To add servers to a resource pool:

1. Click New Resource Pool to create a new resource pool, or click **Edit** to add a resource to an existing pool. The Resource Pool Details page appears.
2. Click **Add** on the title bar for the type of server that you want to include in the resource pool.



Note: When you add a location to the Process Source Location object, that location is visible on the Processing application and on the processing set.

3. In the selection dialog, choose the server that you want to add and click **OK**.

Note: You can also click **Edit** to update the properties of a server. See Servers on page 670 for more information.

4. Continue adding servers and file repositories until you finish configuring the resource pool. It's now available in workspaces.
5. (Optional) Click **Remove** on a title bar to remove a server or repository from the resource pool.

Note: You can't remove an SQL Server when a workspace associated with the resource pool is using it. Similarly, you can't remove an Analytics server when indexes are using it. See Resource pools on page 599.

34.3 Removing an Analytics server from a resource pool

You can remove an Analytics server from a resource pool only when no Analytics indexes are using it. When you want to remove a server, you can display a dependencies report that lists the indexes using it.

1. On the Resource Pool Details page, click **Remove** on the title bar for Analytics Servers.

   Note: If you delete all of the Analytics servers set up for structured data analytics, then users won't be able to run any structured data analytics jobs in the workspaces associated with the resource pool. See the Analytics Guide.

2. Click **Remove** on the confirmation message. If Analytics indexes are currently using the server, click **Dependencies** to view a report.
3. Review the dependencies report, which lists the indexes that you must remove from the Analytics server. The report displays the name of the Analytics server that you selected, as well as the names of the Analytics indexes using this server and the workspaces where they reside. It also indicates which indexes are active.

34.4 Adding or removing a processing source location

In order to make a processing source location available for selection on the data sources that you'll add to a processing set, you need to add that location to the resource pool associated with the workspace in which you're running processing.

Note: Depending on the case sensitivity of your network file system, the source location you add through the resource pool may be case sensitive and might have to match the actual source path exactly. For example, if the name of the file share folder is *\\files\SambaShare\Samba*, you must enter this exactly and not as "\\files\SambaShare\samba" or "\\files\sambashare\Samba", or any other variation of the actual name. Doing so will result in a document-level processing error stating, "The system cannot find the file specified."

To add a processing source location to a resource pool:

1. Open the resource pool.
2. Scroll down to the **Processing Source Locations** object.
3. Click **Add** to pop up the list of available source locations. These are the locations you manually added as choices during the processing installation process. For information, see the Processing User Guide.
4. Select the location you want to add and click **OK**.
5. Confirm that the location you just selected appears with the other locations on the resource pool. When you go to create a new data source, you should see this new location listed with the others.

Note: A processing source location doesn't have to be in the same location as Relativity, but the Relativity Service Account must have read access to that processing source location.

If you need to remove a source location from the resource pool because, for example, it's no longer valid or applicable or because you've already published all of its data, you can select the location name on the resource pool and click **Remove**.

34.5 Adding or removing resource pools from a client domain

You can add or remove objects from client domains if you have the client domains feature activated. See Client domains on page 445 for more information.

Note: This feature was formerly referred to as multi-tenancy in versions of Relativity previous to 9.5.162.111.

Anyone with permissions to edit resource pools can add or remove them from a client domain.When you enable this for a client associated with a specific workspace, Relativity copies the resource pool for this workspace, and adds the copy to the resource pools used by the client. When you enable this feature for a client associated with a specific workspace, Relativity copies the resource pool if it isn't associated with the client for the workspace, and adds the copy to the resource pools used by the client. See Client domains on page 445.

Webservers added to resource pools can load balance and prioritize traffic on a client-by-client basis. You can monitor and manage spikes in resource pools across your environment by adding logging information for resource pool access and usage. Resource availability to Enterprise customers with client domains will vary according to subscription level.

Note: Migrating a workspace that contains published data to a resource pool associated with a different worker manager server results in the loss of all references to previously published data.

Use the following steps to add a resource pool to a client domain:

1. Navigate to the **Resource Pools** tab.
2. Select the resource pool you want to add to the client domain from the list.
3. Click **Edit**.
4. Click next to the **Client** field in **Resource Pool Information** section.
5. Select the client with client domains enabled from the list.
6. Click **Save**.

Use the following steps to remove a resource pool from a client domain:

1. Navigate to the **Resource Pools** tab.
2. Select the resource pool you want to remove from the client domain from the list.
3. Click **Edit**.
4. Click next to the **Client** field in **Resource Pool Information** section.
5. Select a client not associated with a client domain from the list.
6. Click **Save**.

35 Sampling

With sampling you can generate a randomized subset of items from a larger population. You can use that randomized sample to QC the list items or to identify characteristics of the whole population. To execute sampling, Relativity uses a randomization algorithm which guarantees an efficient and unbiased result.

You can enable any object to use Relativity's sampling. By default, sampling is enabled on the Document object.

Once you've enabled sampling for an object, the sampling icon is available at the top right hand side of the view bar in the workspace.

Note: The sampling feature requires the **Use Sampling** Admin Operations permission. See Workspace security on page 643.

Using sampling

As the project manager of a case team, you need an attorney on your team to perform a quality check of nearly 1,000 documents before producing them. Instead of having to check all documents ready for production, you can use sampling to automatically obtain a random selection of documents for the attorney to QC.

On the Documents tab, you search for all documents flagged to be in the production. Once you have your production documents list, you then use sampling to generate a random subset of the production documents. In this case, you decide to use the percentage sampling type to quickly grab a randomized 5% sample of the total number of documents, requiring a review of only 50 documents instead of all 998.

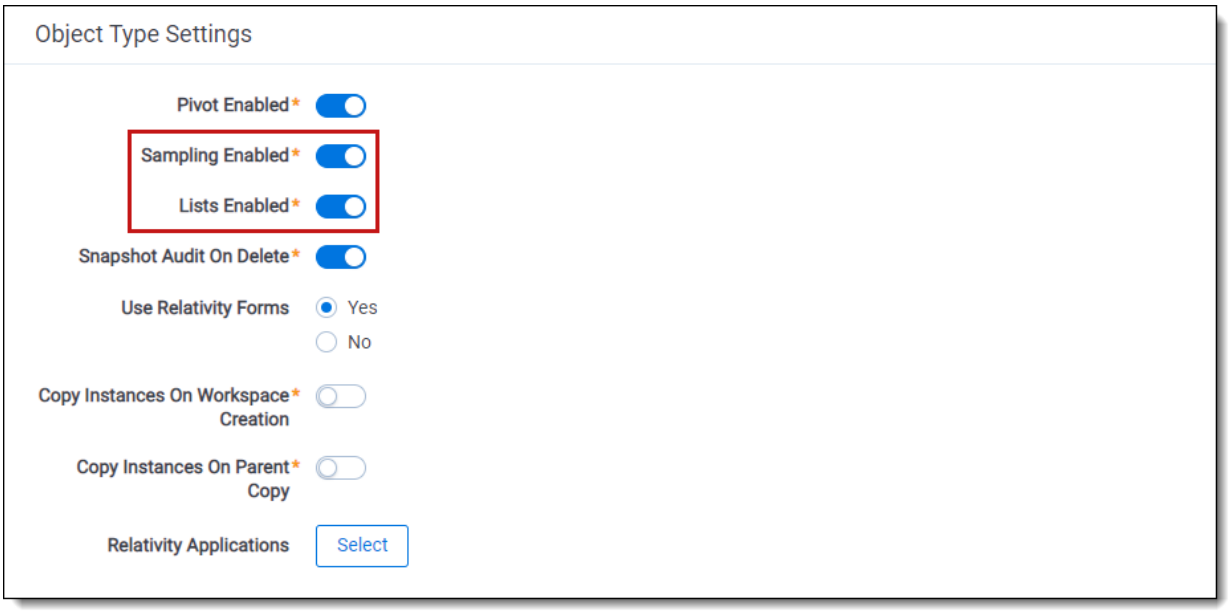
You also have the option to create a fixed size sample set to generate a specific number of documents or a statistical sample set for larger groups of documents or other items. With a random selection of your production documents, you now have a sample set ready for QC review.

You can even combine sampling, lists, and batches by saving the sample set of documents as a list and creating a batch set based on the list to assign for QC review.

35.1 Enabling sampling on an object

To enable an object for sampling:

1. Click the **Workspace Admin** tab and click the **Object Type** tab.
2. Click the name of the object for which you want to enable sampling.
3. Ensure that you are in edit mode.
4. Change the Sampling field to **Enabled**. If you are creating a new object, this is already set to Enabled.



5. Change the Lists field to **Enabled.** If this field is disabled, you can't save the list of sampled items without creating a separate field, and then using mass edit to tag all of the sampled items. This field is set to Disabled by default for new object types.

   Note: You can't save a list of sampled items as a saved search because the sample results are generated randomly.

6. Click **Save**. The sampling icon is now available on the object as long as you are assigned the Use Sampling Admin operation permission.

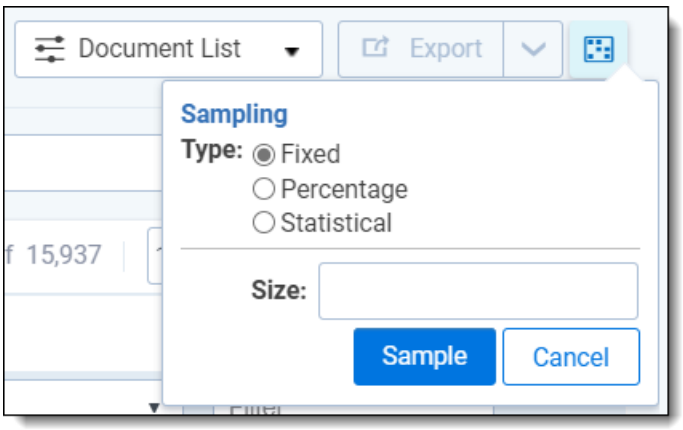
35.2 Generating a sample

The sampling drop-down menu provides three options for setting the sampling type (size):

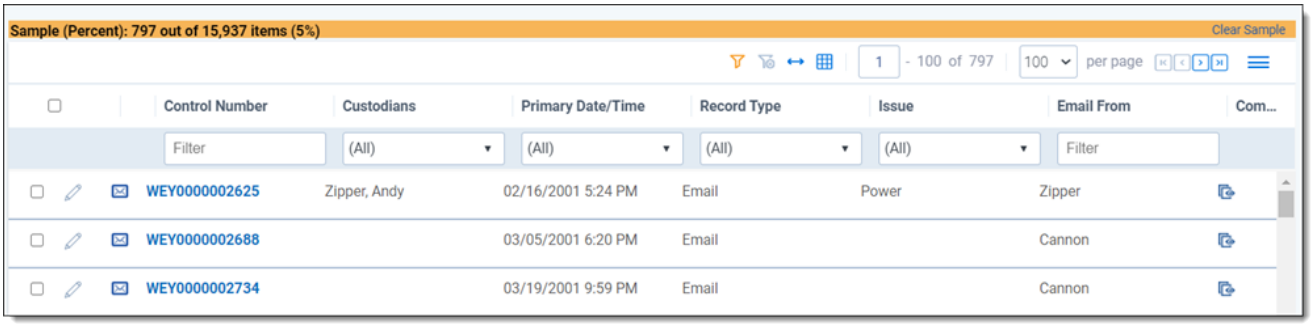
- **Fixed size** - creates a randomized sample set of a specific number of items from the entire item list. See Creating a fixed size sample set on the next page.
- **Percentage** - creates a randomized sample set of a specific percentage of items from the entire item list. See Creating a percentage sample set on page 608.
- **Statistical** - creates a randomized sample set of a size based on statistical sample calculations, which determines how many items reviewers need to address in order to get results that reflect the entire data set as precisely as needed. See Creating a statistical sample set on page 608.

Note: If you select a sampling type you previously applied in the same workspace, Relativity automatically populates the related settings field(s) with your last value(s).

Clicking **Sample** on the sampling drop-down menu applies your sampling settings to the item list and creates the randomized sample set.



The sample summary bar displays the sampling type you applied and a count of the sample set out of the total number of items.



Once you've applied the desired sampling settings, you can save the sampling results as a list using the Save as List mass operation. Then open the list as a saved search. For more information on lists, including creating and viewing lists, see Lists.

Note the following:

- Click **Clear Sample** on the sample summary bar menu to clear the sample. The sample set you create persists on the list of items until a user clears it. This includes while updating search conditions, switching and navigating within browser panels, including adding in relational items, and navigating to other tabs.
- Sampling is disabled (grayed out) when related items are included via the Related Items drop-down list or a search. Selecting an option (e.g., Family) from the Related Items drop-down list for a list of sampled items clears the sample automatically.

Note: Save Search Save search is also disabled for sampling results because the sample results are generated randomly. Clearing a sampled list of items re-enables **Save Search**.

35.2.1 Creating a fixed size sample set

To create a sample set of a fixed size:

1. Click the **Documents** tab.
2. Display the documents you want create a randomized sample of by selecting a folder, view, saved search, or performing a document search.
3. Click the **Sampling** icon to display the sampling drop-down menu.
4. Select **Fixed size** and provide a value greater than 0 in the **Size** field.
5. Click **Sample**.

35.2.2 Creating a percentage sample set

To create sample set of a specified percentage of total documents:

1. Click the **Documents** tab.
2. Display the documents you want to create a randomized sample of by selecting a folder, view, saved search, or performing a document search.
3. Click the **Sampling** icon to display the sampling drop-down menu.
4. Select **Percentage** and provide a percentage value greater than 0% in the **Percentage** field.
5. Click **Sample**.

35.2.3 Creating a statistical sample set

Note: We recommend that you only use the statistical sampling type on data sets that are large enough to return a reliable statistical sample. If a data set contains fewer than 300 items, you may want to consider using a different sampling type.

To create a sample set size based on statistical confidence and margin of error specifications:

1. Click the **Documents** tab.
2. Display the documents you want to create a randomized sample of by selecting a folder, view, saved search, or performing a document search.
3. Click the **Sampling** icon to display the sampling drop-down menu.
4. Select **Statistical**.
5. Select **99%**, **95%**, or **90%** for the **Confidence Level** field.
6. Select a value for the **Margin of Error** field. This is the room for error you want to allow in your sample results when you select a sampling type of statistical. Selecting a lower margin of error requires a larger sample size.
7. Click **Sample**.

36 Scripts

You can use Relativity scripts to create and execute flexible SQL-based scripts to customize and augment Relativity functionality. Scripts are Relativity artifacts. This means they have the same features as standard Relativity objects, allowing them to be secured and audited.

Caution: Changes to SQL fields executed by Relativity Scripts do not produce Audit logs.

Only users who are members of groups with the appropriate permissions can write scripts. System admins have permissions to preview, edit, and create scripts.

If a script is locked, it appears as read only, and you can't edit it. If a script is unlocked it's available for editing.

The following table represents the script permissions allowed for each group.

	Locked Script		**Unlocked Script**					
	View	Run	Edit	Preview	Edit	Preview	Write	Link
System Admin	x	x		x	x	x	x	x
Standard User	x*	x*						x**

* With view rights
** With add rights

Using scripts

You're a system admin and you've been facilitating a document review project for your client, a large construction company, who's involved in litigation regarding the use of materials that they weren't informed were potentially environmentally damaging when they purchased them from a major supplier.

This morning you learned that the other party involved in this litigation, the material supplier, provided evidence that they weren't actually responsible for supplying your client with one of the materials in question, namely the asphalt your client used to pave the driveways in a housing development. You immediately performed a mass operation to remove all documents from the issues view that had been tagged with the "Asphalt" choice so that reviewers didn't waste any more time on those documents in a second-pass review.

Because the same documents you removed were part of at least two separate dtSearch indexes you set up for reviewers, you now need to perform an incremental build on those indexes, as well as any others you may have altered when you performed the mass delete. There's a script for that called dtSearch Index Auto Incremental Build. You go to the Scripts tab, find it in the Relativity Script Library, and run it.

All dtSearch indexes that once returned documents containing references to the inappropriately associated term are removed.

36.1 Relativity Script Library

Relativity houses a library of commonly-used scripts that you can run at any time. It's important to note that, depending on your Relativity version, certain scripts may not be available to you.

By default all Relativity scripts are secured and aren't available for editing. See the Library scripts guide.

36.2 Script compatibility and updates

To improve system performance, architecture improvements are often applied to Relativity's SQL tables for new versions.

When upgrading, your personally created existing scripts must be tested and revalidated before you run them. The only exception to this is Relativity Library scripts, which are automatically updated with any changes affecting the new version.

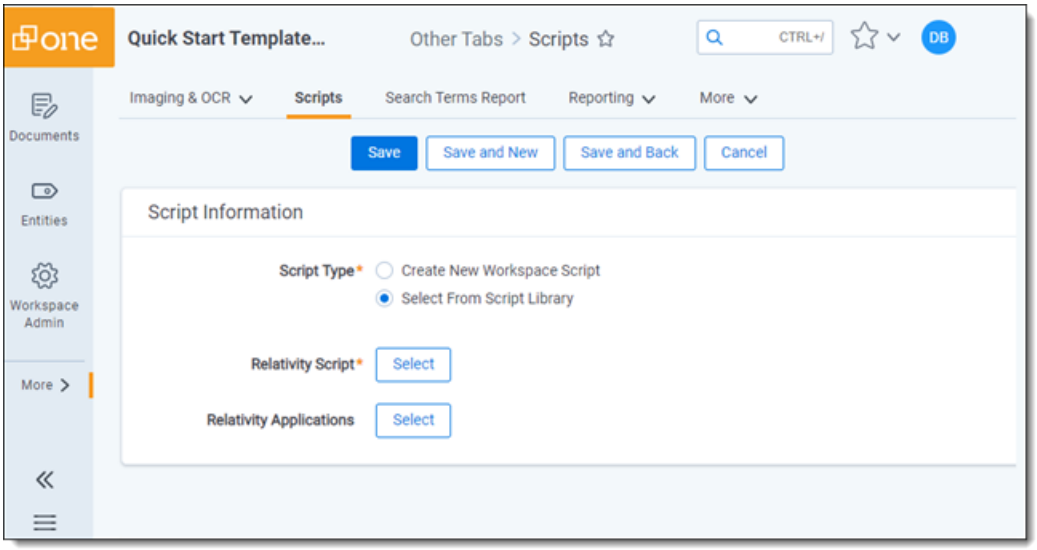
When upgrading your environment, the unique script key is referenced to determine if an update is required. If so, this is performed automatically.

36.3 Selecting a library script

Due to the complexity and impact a script can have, only Relativity, SQL, and XML expert users should create and run them.

To select a library script and add it to your workspace, perform the following steps:

1. Navigate to and select the **Scripts** tab.
2. Click **New Relativity Script**. If you want to edit an existing script, click the **Edit** link next to the script name.
3. Complete the following fields:



- **Script Type** - select **Select from Script Library** to choose from a list of predefined Relativity scripts. The Script Library tab is created when Relativity is deployed. Note that this is the only option available for the Script Type field if the AllowAddOrEditScripts instance setting is set to its default value of False.
- **Relativity Script** - select the script from the script library.
- **Relativity Applications** - associates the script with an application created on the Relativity Applications tab. All existing applications are available when you click the ellipsis. This is only

available for those who have the **Manage Relativity Applications** permission under Admin Operations. For information on applications, see the Applications GuideFor information on applications, see the Applications Guide

4. Click **Save**.

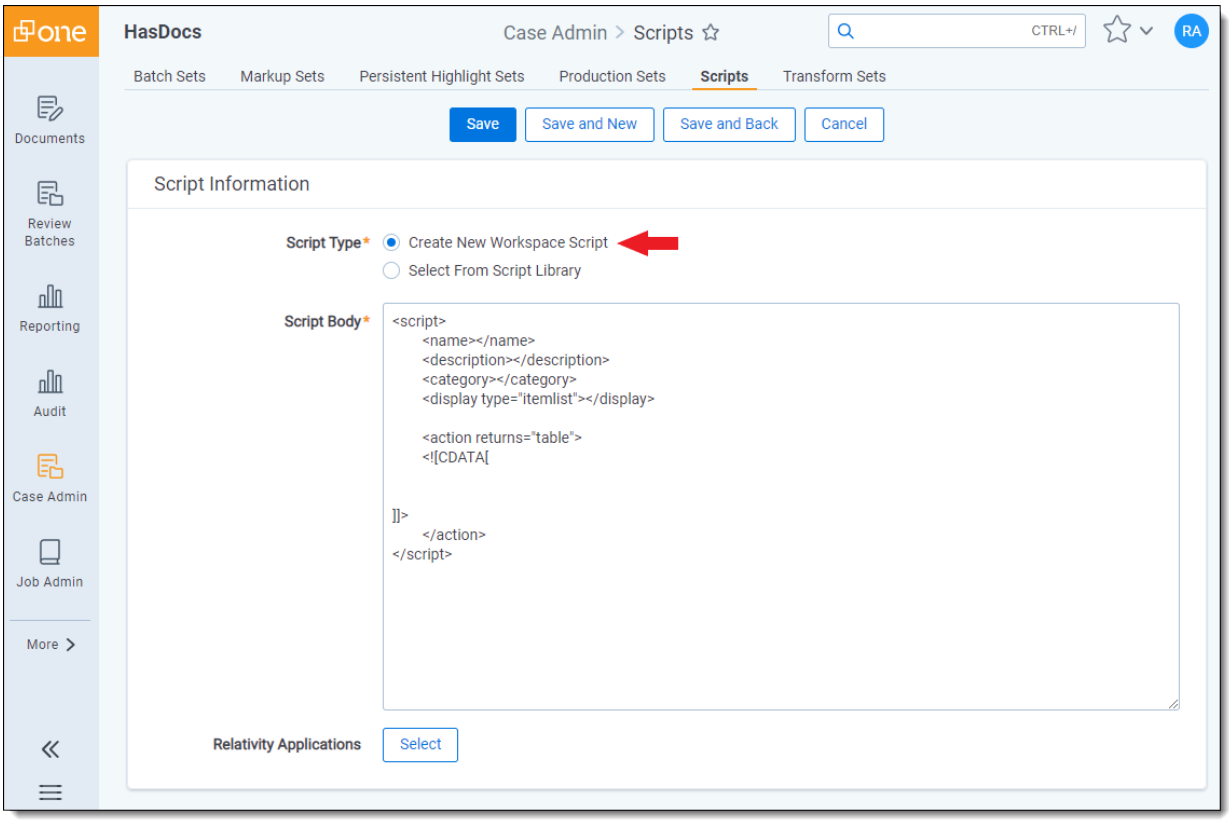
36.4 Creating a new workspace script

You must set the AllowAddOrEditScripts instance setting to True to make the Create New Workspace Script option available. For more information, see AllowAddOrEditScripts in the Instance setting guide.

Due to the complexity and impact a script can have, only Relativity, SQL, and XML expert users should create and run them.

To create a new workspace script, follow these steps:

1. Navigate to and select the **Scripts** tab.
2. Click **New Relativity Script**. If you want to edit an existing script, click the **Edit** link next to the script name.
3. Complete the following fields:



- **Script Type** - select **Create New Workspace Script**.
- **Relativity Applications** - associates the script with an application created on the Relativity Applications tab. All existing applications are available when you click the ellipsis. This is only

available for those who have the **Manage Relativity Applications** permission under Admin Operations. For information on applications, see the Applications GuideFor information on applications, see the Applications Guide

- **Script Body** - enter the script code into this area. For information on how to format a Relativity script, . see the Script Development guide.

4. Click **Save**.

36.5 Adding a library script to the script tab

In order for scripts to appear in your Script tab for your users to run, you must add them. To add a library script to the Script tab, follow these steps:

1. Navigate to and select the **Scripts** tab.
2. Click **New Relativity Script**.
3. Choose **Select from Script Library** on the **Script Type** field.
4. In the **Relativity Script** field, click **Select**, and choose the library script you want to add.
5. Click **Save**.
   The script information screen appears.
6. In the Script console, click **Run Script**.
   The script appears in your Script tab. In addition, Relativity adds the Is Link column to the view and sets it to Yes. When you add a library script to a workspace, it remains linked to the Script Library as indicated in the Is Link column. This column displays No if you add your own custom script to the workspace.

36.6 Running a library script

To run a script, follow these steps:

1. Navigate to and select the **Scripts** tab.
2. Click **Run** next to the script you want to run or open the script and click **Run Script** on the Actions console.
3. Configure the required fields on the script layout.
4. Click **Preview** to display a pop-up of the SQL script, or click **Run** to execute the script.

37 Script groups

You can use script groups in Relativity to create a dashboard view into your scripting activities. Script groups are an extension of the Relativity script page where you can dynamically create script dashboards based on the category specified in the Relativity script XML. These dashboards provide you with a radio button list of all scripts, and they provide a centralized location to run your similar scripts.

Caution: Changes to SQL fields executed by Relativity Scripts do not produce Audit logs.

See Scripts on page 609 for more information.

Using script groups

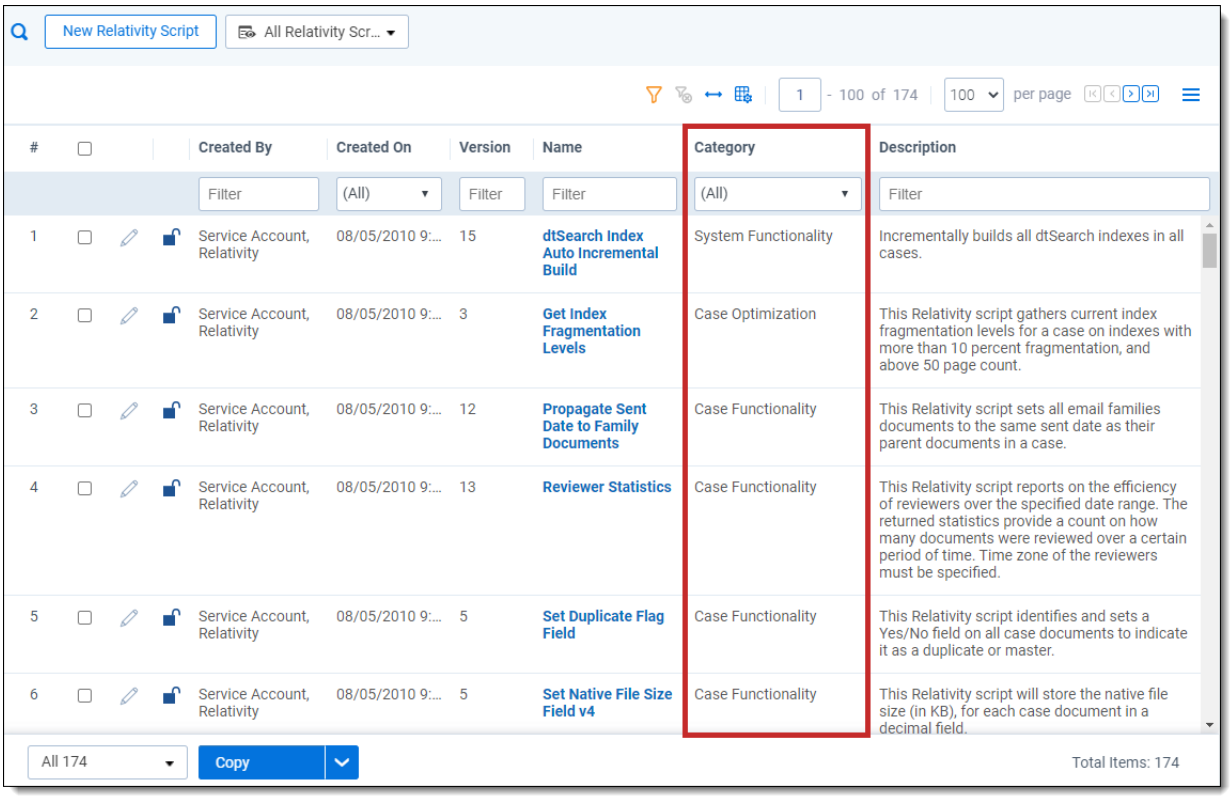
Imagine you're a system admin and you want an easy way to monitor script activities to verify the schedules for running the scripts don't execute during periods of peak activity.

You set up a script group that includes all scripts that have prescheduled executions. You create a tab to monitor and adjust the timing and execution of the various scripts in your environment. You keep this tab open in your Relativity environment, and you notice that someone is running the XYZ script every day at 11:00 a.m. You contact the system admin and ask them to run the script at a less active time.

37.1 Setting up a script group

Follow these steps to set up a script group:

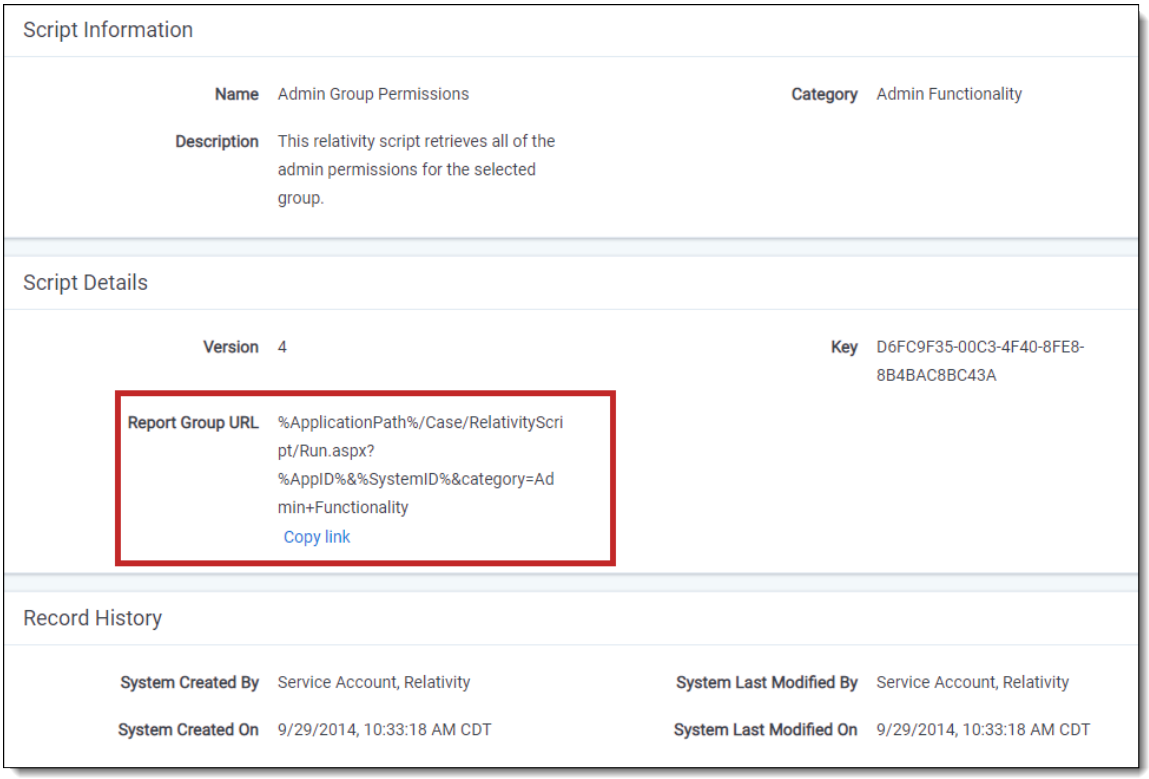
1. Create or select a group of Relativity scripts that you would like to add to a script group . They must all share the same Category. You can also create new categories. See Creating a new workspace script on page 611.



2. Create a new external tab that links to your script group. See Creating and editing tabs on page 701.

Note: If the category name contains spaces, replace the spaces with the + sign.

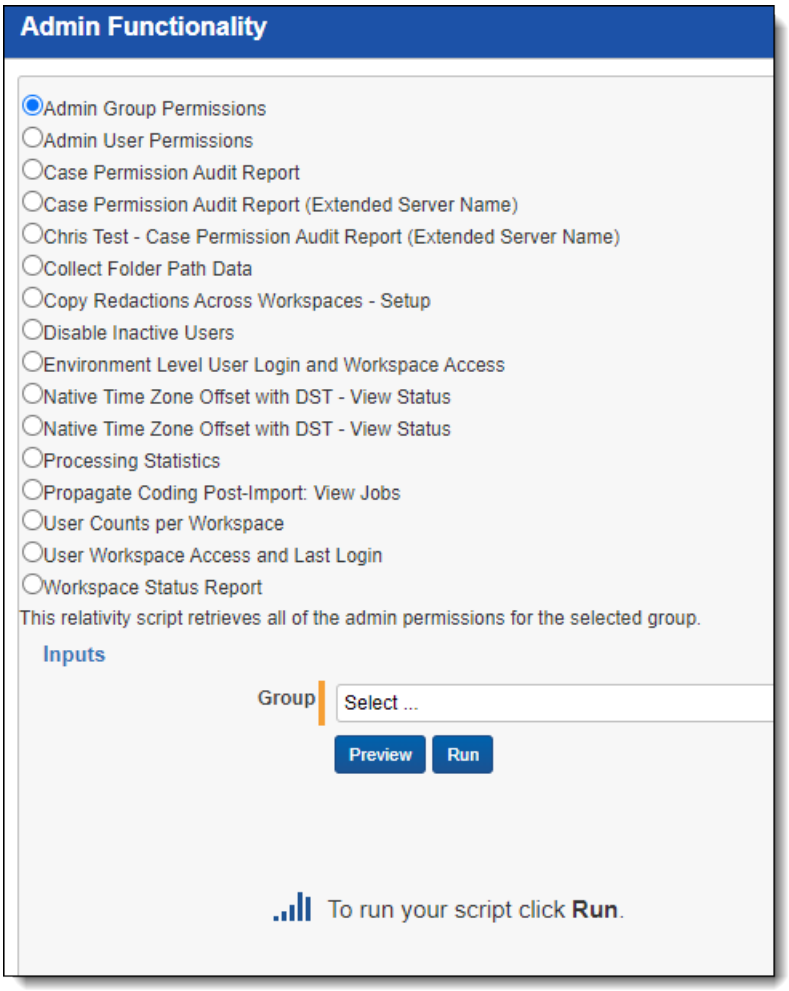
   a. Copy the script category's Report Group URL to your clipboard or Notepad. For example, if you are creating a script group for all scripts whose category is Case Functionality, open any script belonging to this category. Then, copy the entire path listed in Report Group URL.



b. Navigate to **Workspace admin** > **Tabs**, and then select **New Tab**.

c. Enter the following:
   - **Link Type** - External
   - **Link**- Paste the entire Report Group URL path. It should look similar to the following: %ApplicationPath%/ *Case/RelativityScript/Run.aspx?%AppID%&%SystemID%&category=Case+Functionality*
   - Leave all other fields at default settings.

3. Navigate to the new tab you created for your script group.



Note: Linked scripts can only be members of a script group as an admin tab. You can't create script groups of linked scripts within a workspace.

38 Search terms reports

Search terms reports provide the ability to identify documents containing specific keywords or terms. You can enter multiple terms and generate a report listing the number of hits for each term in a document. You can also select an option to create a multiple object field for the search terms report to use in your persistent highlight sets. When you select a search terms report for use with a persistent highlight set, the report determines which terms or phrases to highlight in the documents through the Review Interface.

Using search terms reports

You’re a system admin at a law firm and one of your clients, a construction company, is involved in litigation regarding the use of materials that they were not informed were potentially environmentally damaging when they purchased them from a major supplier.

There are roughly three million files related to this case, including emails, email attachments, invoices, and technical manuals related to construction practices and material handling.

Before you begin review, you want a report that tells you how many times the names of toxic substances appear in the documents. To get this, you create a new search terms report. You give it a name that is consistent with other objects you've created for this case, "Hazardous Materials search terms report." For the Index field, you select the dtSearch index you already created for your reviewers. Since you do not need to actually tag the documents that contain the terms you want to include, you leave the Tag field unselected. For the Searchable Set field, you select the set of documents you specified when you created the saved search for the dtSearch index data source. Finally, in the Add Terms field, you enter the substances you want reported on, which are the same ones included in your client's lawsuit and the same ones for which you've already created choices for an issue coding field. These terms are:

- lead
- asbestos
- asphalt
- radioactive isotopes

You save and run the report. The results tell you how prevalent these terms are in the data set. You now have a better idea of what lies ahead.

38.1 Guidelines for using search terms reports

Use the following guidelines to ensure that your search terms report properly highlights the required terms:

- Define a saved search using conditions that return the required group of documents for the **Searchable Set**. Persistent highlighting applies only to documents in the searchable set. Relativity also only counts hits that fall within the searchable set. Related items not included in the searchable set will not be searched for search terms.
- Confirm that your dtSearch index includes all documents in the **Searchable Set** of the search terms report.

- Select the **Tag Hits** toggle to create a multiple object field for the search terms report. If this field is not created you cannot select it in the **Highlight Fields** option when creating a persistent highlights set. See Persistent highlight sets on page 476.
- When using a search terms report as a highlight source in a persistent highlight set, only the terms in documents associated with the current reports appear highlighted. If you add new search terms to the reports, you must run pending terms so that they appear highlighted in documents.
- The system automatically preserves the precise order in which the terms were entered when generating a report.

38.2 Creating a search terms report

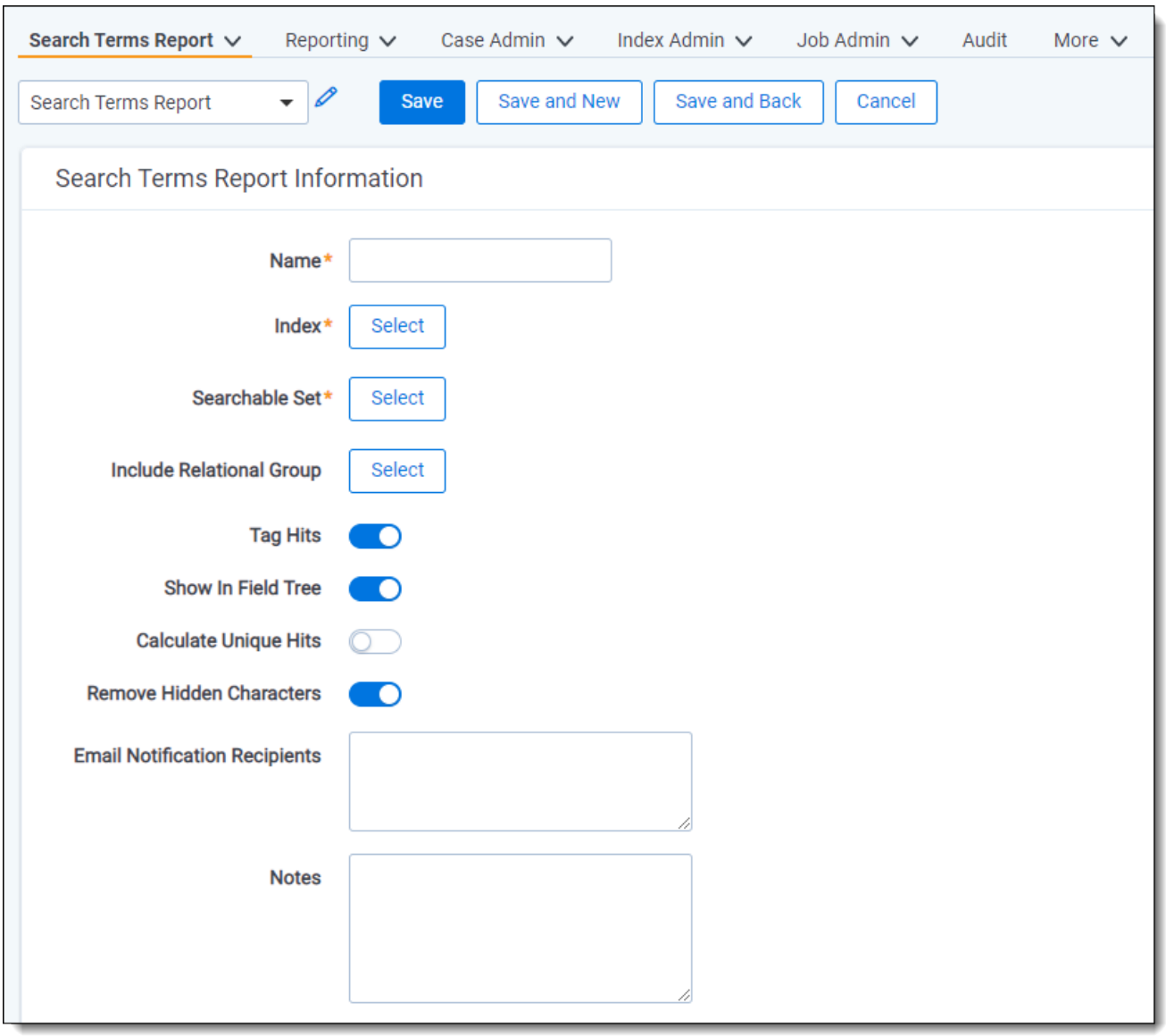
To create a new search terms report, follow these steps:

1. Navigate to the **Search Terms Report** tab.
2. Click **New Search Terms Report**.
3. Complete the fields on the form. See Fields below.
4. Click **Save**.

After saving the search terms report, the Search Terms Report Status section and Search Terms Report console appear. As the status section indicates, you must add terms to your new report. See Adding terms and highlight colors on page 621.

38.2.1 Fields

Search terms reports contain the following fields:



- **Name**—the search terms report's name. This value cannot exceed 75 characters.
- **Index**—the dtSearch index used to create the report.
- **Searchable set**—a saved search that includes the set of documents used to create the report.
- **Include relational group**—includes the "Documents with Hits + [Group Name]" counts for each term in the search terms results. This value counts the documents with hits for each term as well as all documents in the same relational group as the documents with hits. Include relational group only includes hits of related items in the searchable set. Relativity does not look outside of the searchable set. Click **Select** and then choose a relational group to include.
- **Tag Hits**—if enabled, saves the results to a multiple object field named after the search terms report with the prefix STR, like *STR - Industry terms*, so the results can be reviewed later. Tags each document containing search hits using the search terms reports multiple object field with the search terms found in each document.

- **Show in Field Tree**—if enabled, automatically adds the terms to the field tree on the Documents view.
- **Calculate unique hits**—if enabled, includes a unique hits value for each term in the search terms results. Unique hits is the count of documents in the searchable set returned by only that particular term. If more than one term returns a particular document, that document is not counted as a unique hit. Unique hits reflect the total number of documents returned by a particular term and only that particular term.

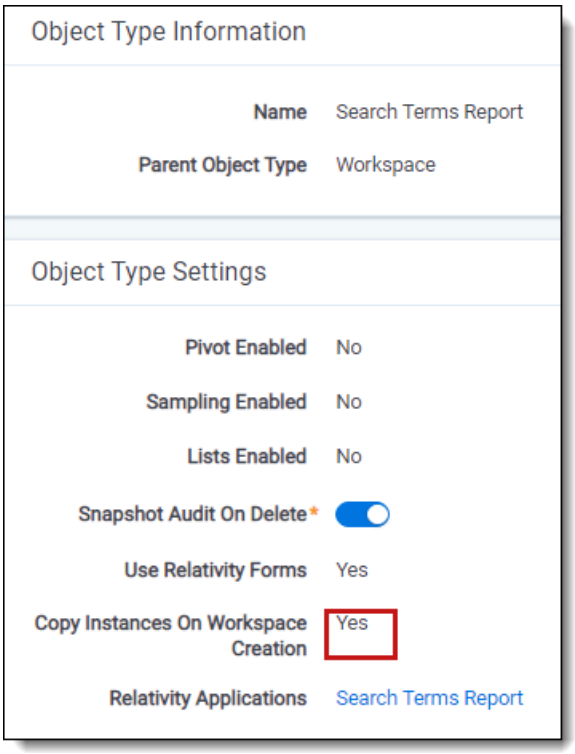
  Note: Unique hits can help you identify terms in your search terms report that may be overly inclusive.

- **Remove Hidden Characters**—if enabled, automatically filters out hidden or non-displayable text control characters when creating or editing terms for the search terms report.
  - These hidden control characters have been known to cause issues in searching and can be unknowingly copied from Word or Excel documents.
  - The list of control characters that are filtered are the same as the default ignore section of the dtSearch alphabet file text.
- **Email notification recipients**—specifies recipients to send an email notification to when your search terms report finishes running. Enter the email addresses of the recipients. Separate entries with a semicolon.
- **Notes**—enter notes specific to the search terms report.

38.2.1.1 Creating search terms reports through workspace templates

Additionally, you can create search terms reports through workspace templates using the following steps:

1. From your active workspace, ensure that the **Search Terms Report** object type setting for **Copy Instances On Workspace Creation** is **enabled**.



2. **Create a new workspace** using the active workspace as your workspace template.
   The search terms reports are copied over to the new workspace.

38.2.2 Adding terms and highlight colors

To add terms to your search terms report:

Note: You must create a persistent highlight set for highlighted terms to appear in your documents. See Persistent highlight sets for more information.

1. Click the name of your search terms report.
2. Click **Add Terms**.
3. Enter your terms in the text box so that each term appears on a separate line.
   Alternatively, you can also click the **Dictionary** link to display the Dictionary Search pop-up. In the pop-up you can perform searches using fuzziness, proximity, and stemming. Click **Copy to List** to add the Dictionary search results to the New Terms text box.

   Note: Each line is treated as an individual dtSearch query. For more information about dtSearch, refer to the Searching Guide .

4. (Optional) Select a background color and text color using the color picker. See the preview text to verify that the resulting highlighted text is readable.

   Note: By default, highlighted terms appear as black text with an orange background.

5. Click **Add** to add your new terms to the terms list.

> **Note:** A single term has a character limit of 450.

A confirmation message displays with the count of new terms added. Duplicate terms are ignored. After adding new search terms to an existing report, you must run the terms so that they appear highlighted in documents. For more information, see Running a search terms report on the next page.

38.2.3 Editing terms and highlight colors

To edit a term in your search terms report:

1. Click the name of your search terms report.
2. In the Term column, click on the term you would like to change. The field will become editable.
3. Edit the text, then press **Enter**.
4. **Run Pending Terms** in order to update the search terms report. For more information, see Running a search terms report on the next page.

To edit the background and text color of terms:

1. Click the name of your search terms report.
2. Select the checkbox next to the terms you want to change, then click **Edit**.
3. Choose the new background and text color, then click **Save**.

> **Note:** Changes to background and text color apply to all terms being edited.

38.2.4 Deleting terms

To remove terms from the search terms report:

1. Click the name of your search terms report.
2. Select the checkbox next to the terms you want to edit, and then click **Edit**.
3. Click **Delete**.
4. Click **Delete**.

If you remove search terms from the reports, the terms automatically disappear from the search terms report results. You must run the report again for accurate totals in the status bar and when using View Term Report.

38.2.5 Copying a search terms report

You can copy an existing search terms report using the mass copy operation.

To copy a search terms report:

1. From the **Search Terms Reports** tab, click the checkbox next to the search terms report you want to copy.

2. From the mass operations bar, select **Checked**. Alternatively, you can select **All** to copy all search terms reports.
3. Select **Copy** in the drop-down menu.

   The Copy window displays.
4. Click **Ok** to copy the items.

38.3 Running a search terms report

You generate a search terms report by using the options available in the search terms report console. The console appears after you save a search terms report or when you open an existing report from the Search Terms Report tab.

The console includes the following options:

- **Run All Terms**—generates counts for each term. Use this option when generating the report for the first time or if you want to regenerate counts for all terms in the report. Run all terms after adding new documents to the searchable set.
- **Run Pending Terms**—updates an existing report. It runs a report on only those terms with a Pending status.
- **View Results**—opens the Search Terms Results page. This page displays the report results, listing the number of document hits for each term.
  The Search Terms Results page provides the following:
  - **Name**—search term included in search terms report.
  - **Documents with hits**—the number of documents in the searchable set that contain the search term.

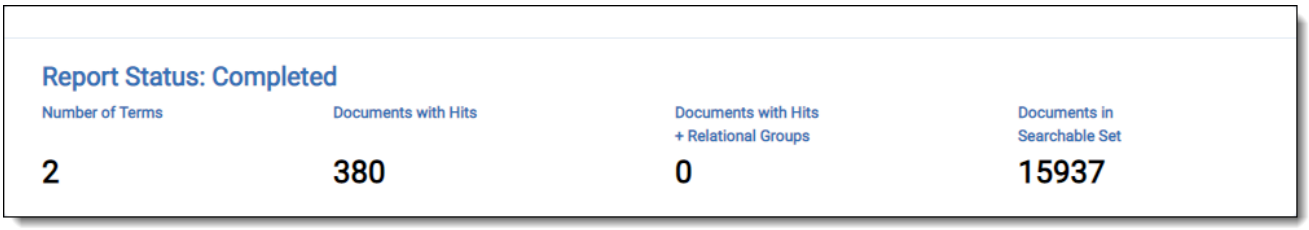
    Note: Documents with hits is not security-aware or influenced by permissions. This means that it includes documents the user cannot view in a basic search. For example, a user could perform a dtSearch that returns a total of five documents, including two inaccessible documents. Even though the user can only view three documents, the search terms count still includes all five documents originally tagged with the search term.
  - **Documents with hits, including group**—counts the documents with hits for each term as well as all documents in the same relational group as the documents with hits. The count only includes hits of related items in the searchable set. It will not look outside of the searchable set.
  - **Unique hits**—counts the number of documents in the searchable set returned by only that particular term. If more than one term returns a particular document, that document is not counted as a unique hit. Unique hits reflect the total number of documents returned by a particular term and only that particular term.
  - **Last run time**—timestamp when the search terms report last ran.

  In this page, you can also access a list of any terms that failed during the creation of the Search Terms Report. To read these error messages, change your view to **Search Terms Results Details**.

- **View Term Report**—In the Search Terms Report console, click **View Term Report** to open the graphical search terms report. You can print or save the report. To save, select a file type at the top of the report.
- **Retry Errors**—attempts to regenerate the report for search terms that returned error messages.

38.3.1 Search terms report status

After running a search terms report, the search terms report status section appears. It lists the search terms report name and status. The status indicates the current progress of the report. This field contains either Searching your terms, Completed, or Error.



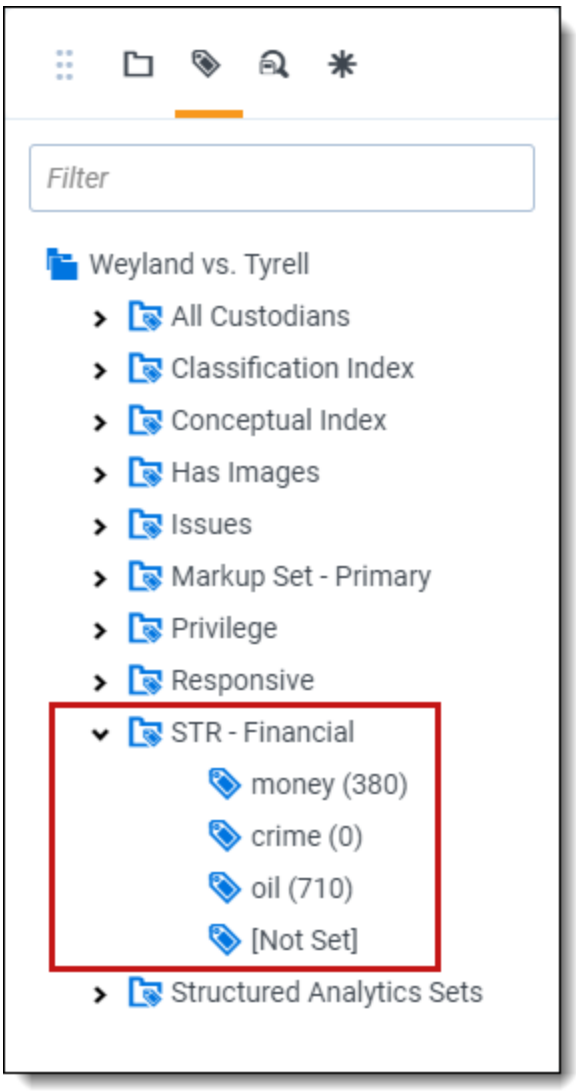
This section also provides a summary of the search terms report and its results:

- **Number of Terms**—total number of terms run in the search terms report.
- **Documents with Hits**—the number of documents in the searchable set that contain the search term.
- **Documents with Hits + Relational Groups**—counts the documents with hits for each term as well as all documents in the same relational group as the documents with hits.
- **Documents in Searchable Set**—total documents in the designated searchable set.

38.4 Accessing tagged documents using the Field Tree browser

After you run a search terms report with the **Tag** option enabled, Relativity creates a folder in the Field Tree browser with documents grouped by tags found by the search terms report. Each tag includes the count of documents containing that term. The folder is named after the search terms reports multiple object field created by the search terms report. For example, if your search terms report is named Produced Documents, the folder in the Field Tree browser is named STR - Produced Documents.

Click a search term tag in the Field Tree browser to view documents in your searchable set tagged with the selected term. You can also email a link to the tagged documents by right-clicking the tag results and selecting **Email Link**.



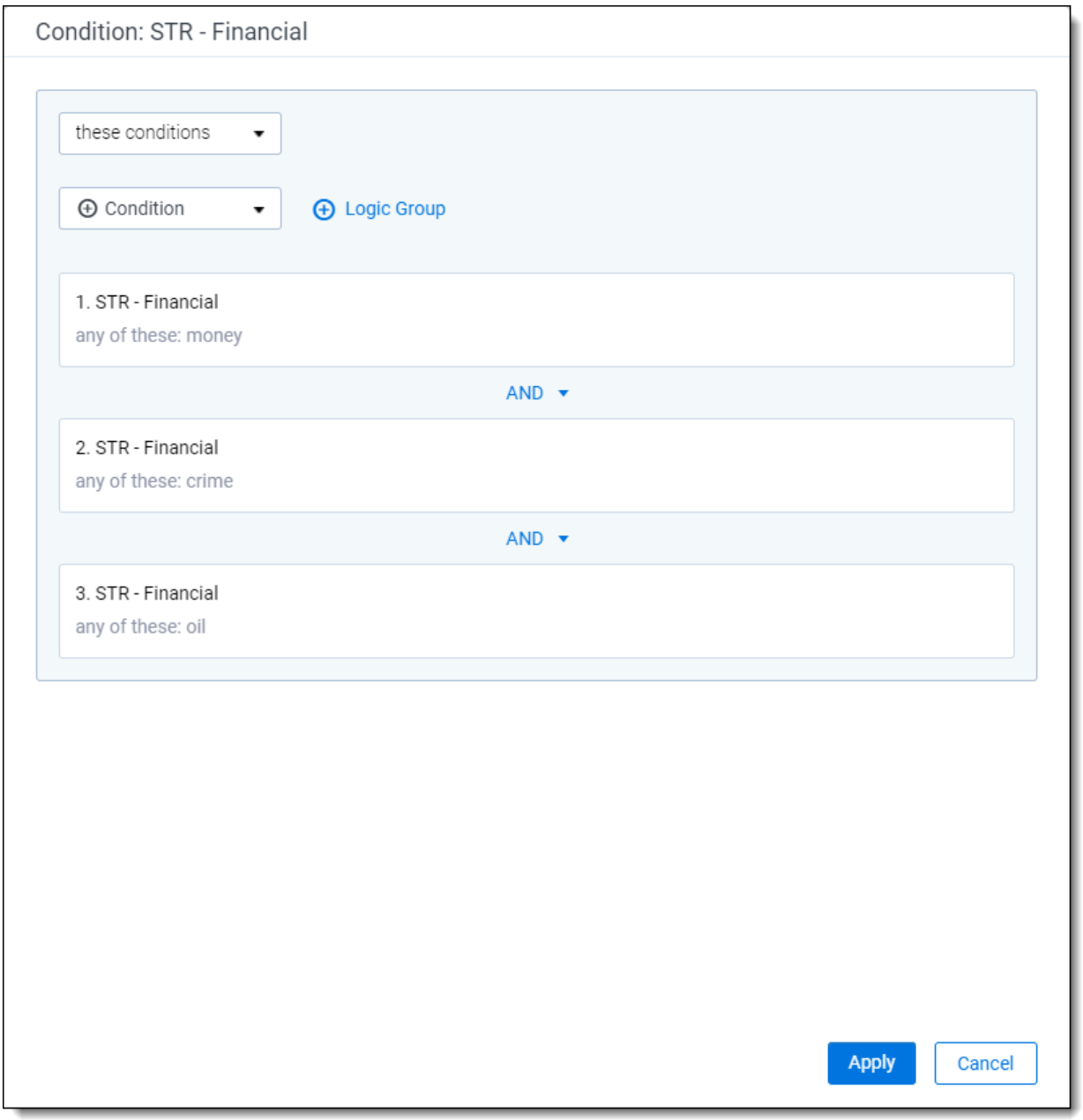
38.5 Using tagged search terms in a saved search

After you run a search terms report with the **Tag** option enabled, Relativity creates choices for each of the terms that you specified. You can then use these choices as criteria in a saved search.

Use this procedure to create a saved search using tagged search terms:

1. Follow the instructions for setting fields in the Information and Search Conditions sections on a saved search.
2. Click on the **Fields** tab in the Saved Search pop-up.
3. Select the desired field in the Unselected section and move it to the Selected section using the arrow icons.
4. Click the **Condition** button and select an option from the pop-op.

5. Perform the following tasks on the **Select STR** dialog:
   a. Select your search terms report in the Field box.
   b. Select an Operator, such *as any of these*.
   c. Select the STR option from the **Condition** drop-down menu to select search terms on the **Select Items** dialog.
   d. Set any other fields as necessary.
6. Click **OK**.
   For example, if you added the tagged search terms called money, crime, and oil, the Conditions section would appear as follows:



7. Repeat steps 1 to 3 for each tagged search terms.

8. Click **Apply** and **Save & Search** to run your query.

38.6 Permissions

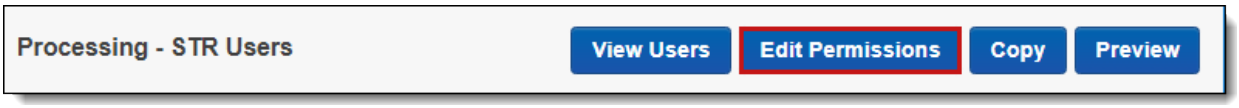
You may have an occasion where you want to grant limited permissions to a group of users outside of the site administrators. For example, you want to limit users from creating new search terms reports to keep your environment organized. However, at the same time, you want users to view, edit, and add to existing terms lists.

To add search terms report permissions to a user group:

1. Create a new user group and add it to your workspace.

   Note: If you do not know how to create a new user group, see The Admin Guide. If you need help adding the group to your workspace, see The Admin Guide.

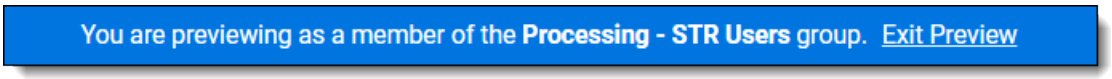
2. From the Manage Workspace Permissions modal window, click **Edit Permissions**.
   In the image below, the group name is **Processing - STR Users**.

3. Scroll down to locate the two entries for search terms reports--Search Terms Report and Search Terms Result. You want to edit permissions for existing terms, so you will edit the Search Terms Result object. The Search Terms Report object grants permissions for reports overall and not the content within the report. Click one or more icons to enable the permission level. Available levels include **Disable**, **View**, **Edit**, **Delete**, **Add**, or **Manage Security**.

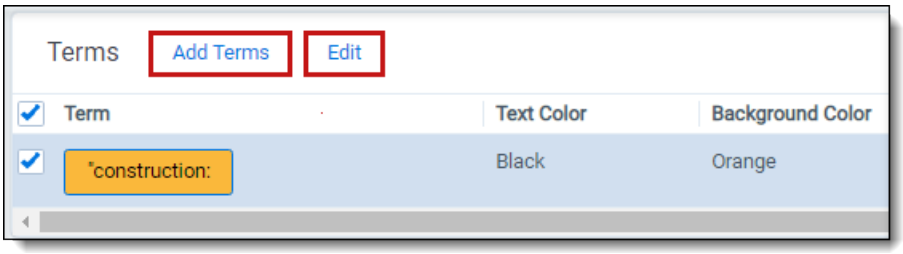
4. Click **Save**.
5. Click the **Manage Workspace Permissions** link.
6. Click the **Preview** button for your group.

   The workspace opens with the group permissions applied. This view is helpful if you want to see how the workspace looks and functions as a group member. A banner across the top of the page reminds you of the preview mode.

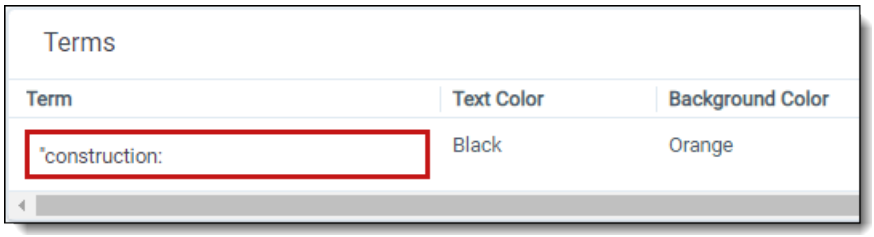
7. Open a search terms report.
   You now see buttons above the search terms list corresponding to the permissions granted. In the image below, add and edit permissions apply.

8. Check the box next to one or more search terms.
   The permission level buttons become active.



9. Click the appropriate button to edit the search term.

Note: If the only permission level granted is Edit, you will not see any buttons above the list. In this case, you can click any search term to enable a text box. Complete your edits and click **Enter** to save and exit.



39 Searching overview

Relativity includes flexible search features designed to facilitate the document review process. These features support a range of searching needs from filtering on fields and simple keyword searches to the development of complex queries. The following list summarizes the searching features available in Relativity.

Filters
You can use filters to limit the documents or items that appear in item lists on Relativity tabs and pop-ups. When you enable the filters for an item list, you can set criteria on single or multiple fields so that only matching documents or items appear in the view. Filters query across the searchable set of documents in the active view to return your results. Relativity supports multiple filter types so that you can choose the best format for different field types. See the Searching Guide for more information.

Keyword searches
You can run keyword searches from the Documents tab and from Dynamic Object tabs. With these searches, you can leverage the basic functionality for querying the SQL full-text index populated with data from extracted text fields. The keyword search engine supports the use of Boolean operators and wildcards. See the Searching Guide for more information.

Saved searches
Saved searches give you the functionality to define and store queries for repeated use. With flexible settings, you can create a saved search based on any Relativity search engine, assign security permissions to it, and define specific columns to display your search results. Saved searches support the development of complex queries that you build using a form with search condition options. These queries run dynamically to ensure that updated results appear when you access a saved search. See the Searching Guide for more information.

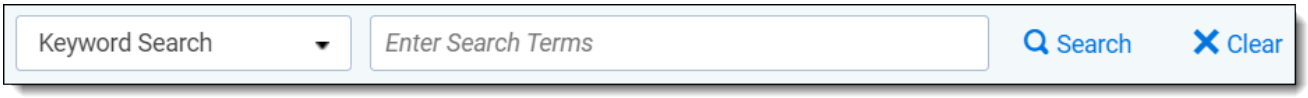
dtSearches
Available on the Documents tab, you can use the advanced searching functionality to run queries with proximity, stemming, and fuzziness operators, along with basic features such as Boolean operators and wildcards. System administrators can create a dtSearch index for a specific subset of documents in a workspace, and then assign security to it. They must manually update indexes when you modify the document search sets used to create them. See the Searching Guide for more information.

Analytics
Supporting conceptual searching, Analytics includes documents in a result set when they contain similar ideas or conceptual relationships, rather than matching specific search terms or conditions. You can create searches with Analytics that categorize your documents based on the concepts contained in a sample document set. Instead of categorizing documents, you can also perform clustering, which uses specific algorithms, system-defined rules, to identify conceptually related documents. See the Searching Guide for more information.

Regular expressions
Regular Expressions (RegEx) is a form of advanced searching that looks for specific patterns, as opposed to certain terms and phrases. With RegEx you can use pattern matching to search for particular strings of characters rather than constructing multiple, literal search queries. You can use RegEx with a dtSearch index using dtSearch syntax options to construct complex queries. See the Searching Guide for more information.

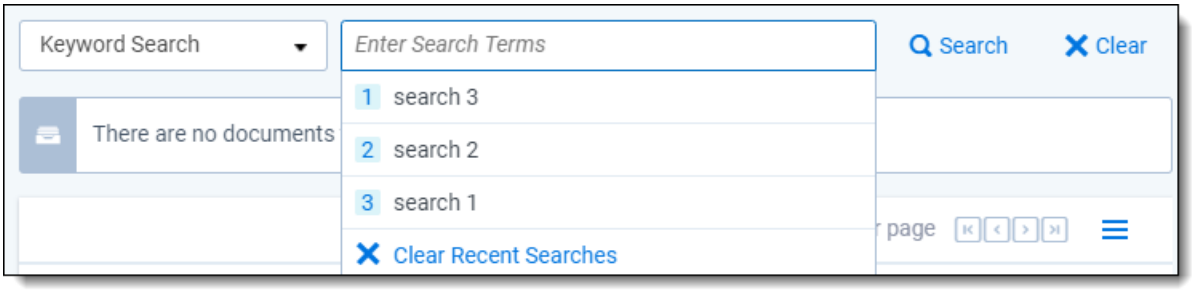
Additional features

Relativity provides additional features that makes searching easy to use from the Documents tab. Use the **search bar** to run a keyword search query, or click the drop-down list to select another search index you created.



With the **search condition** option, you can build queries using the same condition options available for saved searches. You can click **Save as Search** on the Documents tab to create saved searches based on the criteria defined for keyword searches, dtSearches, Analytics, or the search conditions option. See the Searching Guide for more information.

You can also use the search bar to view **recent searches**. Click in the search bar to see up to 10 of the most recent searches from any index in descending order, with the most recently run search first.



Select any search from the list to run that search. To clear the list, click **Clear Recent Searches**.

40 Security and permissions

You can manage varying levels of security for users, system admins, and individual objects such as views, tabs, and fields, across your instance of Relativity and in each workspace. You can quickly edit security for a number of users simultaneously by assigning permissions at group level. After configuring a group's access permissions, you can preview the effective security rights by impersonating a general member of the group or a specific user in your environment.

Note: If a user is a member of multiple security groups, they receive the highest permissions from the combination of groups.

40.1 Instance security

Instance security on the next page

Setting instance permissions on page 638

Preview security on page 667

40.2 Workspace and object security

Workspace security on page 643

Setting workspace permissions on page 660

Relativity object security on page 665

40.3 Levels of Security in Relativity

In Relativity there are two levels of security when assigning permissions, Object-level security, and Item-level security. Depending on how permissions are configured, the two levels of security can be used to grant or exclude access to either a full set of Objects, or a specified set of Items. In Relativity, Object-level security permissions define access for all items belonging to an Object type. Item-level security permissions, on the other hand, define access to a specific item or set of items, regardless of the permissions that have been set for the Object type at large. Item-level security can be used to override or offset the Object-level permissions.

Object-level permissions – an “umbrella” setting for all items belonging to an Object type. Object-level permissions are divided into two groups:

- **Instance permissions** - permissions for system admin groups to limit or grant access to specified system admin objects
- **Workspace permissions** - permissions for user groups added to the selected workspace. If a user group is not added to the workspace, it means users in that group do not have any access to that workspace.

Item-level permissions - permissions for a specific individual object instance and its children. By default, individual items inherit their objects rights (from workspace or instance permissions). Item-level security can override instance and workspace permissions for a specific object instance.

Using Multiple Permission Types to Customize Access

Imagine you're a system admin, and a new member of your firm is going to be trained by your productions team. This person is a member of user group 'Level 3' and should have access to view all OCR profiles, as well as the ability to edit and run OCRs using a test profile. In order to achieve this, an administrator of this workspace must set view-only access to OCR Profiles on the workspace level, and override the permission on the item-level for that one OCR Profile.

For most object types it is possible to grant to one of six permissions on the Item or Object level.

- **None** - user does not have any access to the object.
- **View** - user has access to view the object. This is the lowest object permission.
- **Edit** - user has access to edit and view the object.
- **Delete** - user has access to delete, edit, and view the object.
- **Add** - user has access to add new objects.
- **Edit Security** - grants users the ability to edit the security of objects.

Note: For some object types, options will be missing from the above list of permissions. For example, administrators cannot set permissions to 'None' for the 'Users' or 'Views' objects, because it will make Relativity unusable.

40.4 Instance security

With instance security you can apply permissions to system admin groups to limit or grant access to particular system admin objects. You can access the Admin Security dialog from the Instance Details tab on page 305.

This page contains the following topics:

See the following related pages:

Using Instance security

Imagine you're a system admin, and a new member of your firm is going to be placed in charge of managing agents and resources for your Relativity environment. You don't want this person to have access to any of the workspaces or system admin-level objects beyond the scope of her job functions, but she needs to be able to make the necessary changes to agents and resource pools as needed.

You add the user to a new group that can Add, Delete, Edit, and View the Agents, Agent Types, Resource Pools, and Server objects. You also grant tab visibility rights to the Resource Files tab and the Agents tab. When the user logs in, she is able to access and edit only the items in Relativity necessary to perform her position requirements.

40.4.1 Object Security tab

The Object Security tab lists all system admin objects with their related item-level permissions. Item-level rights include:

- **None** —denies users access to the object.
- **View** —view the object. This is the lowest level object permission.
- **Edit** —edit and view the object.
- **Delete** —delete, edit, and view the object.
- **Add** —add new objects. This icon turns blue when the setting is unsaved; once you click Save, the blue icon becomes grey. This icon turns green when you give users this permission both when the setting is unsaved and saved.
- **Edit Security** —grants users the ability to edit the security of objects. This icon turns blue if you click twice indicating a not applicable status.

You can apply system admin permission settings to any of the following objects in the Object Security tab:

Note: Only system administrators can edit the Client and Matter for a workspace. In addition, the **Errors tab** is only available to system administrators.

- **Agent** - access to the Agents tab.
- **Agent Type** - access to the Agent Types page when creating a new agent.
- **Choice** - access to the Choice tab.
- **Client** - access to the Clients tab.
- **Error** - access to the Errors tab.
- **Group** - access to the Groups tab.
- **License** - access to the License tab. Only full system admins can edit license information.
- **Matter** - access to the Matters tab.
- **Relativity Script** - access to the Relativity Script Library tab.
- **Resource File** - access to the Resource files tab.
- **Resource Pool** - access to the Resource pools tab.
- **Servers** - access to the Server tab.
- **Tab Type** - access to the Tabs tab.
- **User** - access to the Users tab.
- **View** - access to the Views tab.
- **Workspaces** - access to the Workspaces tab.
- **Workspace Application** - access to Workspace Applications.

- **Workspace Portal Services**
  - **Workspace Portal Services Permission** - allows you to view the workspace names from other instances in Workspace Portal.

Note: If you see the Workspace Processing Settings item listed in the object security section of your console, note that this represents an RDO for which there is no front-end implementation. It stores the Invariant StoreID and Data Grid settings for the workspace, but it provides no functionality, and it controls nothing.

40.4.2 Tab Visibility tab

In Relativity, the Tab Visibility setting allows you to control which tabs in the user interface are visible to specific groups. This includes parent and child tabs that can be granted access to groups. To give users the tools they need to complete their tasks, you can combine object security permissions and tab visibility access. However, it's important to note that tab visibility settings do not change the permission rights to the objects displayed on each tab. Rather, they only control whether the user can see the tab in the navigational menu.

It's possible to display a tab to the user, even if the user lacks the necessary permissions to view any of the objects listed on that tab. However, tab visibility cannot be used to restrict access to the objects listed on a particular tab. Users can still access those objects through a direct URL or via the API, even if the tab is not visible to them in the navigational menu.

Note: If you grant tab visibility on a tab to a group that doesn't have view permissions on that object, users within that group are unable to view the tab.

- **Workspaces** - visibility of the Workspaces tab.
- **Administration** - visibility of the Administration tab.
  - **Clients** - visibility of the Clients sub-tab.
  - **Users** - visibility of the Users sub-tab.
  - **Groups** - visibility of the Groups sub-tab.
  - **User Status** - visibility of the User Status sub-tab.
  - **Matters** - visibility of the Matters sub-tab.
  - **Views** - visibility of the Views sub-tab.
  - **Choices** - visibility of the Choices sub-tab.
  - **Tabs** - visibility of the Tabs sub-tab.
  - **Resource Files** - visibility of the Resource Files sub-tab.
  - **License** - visibility of the License sub-tab. Only full system admins can edit license information.
  - **Application Library** - visibility of the Application Library sub-tab.
- **Servers** - visibility of the Servers tab.
- **Agents** - visibility of the Agents tab.

- **Queue Management** - visibility of the Queue Management tab.
  - **Processing Queue** - visibility of the Processing Queue sub-tab.
  - **Production Queue** - visibility of the Production Queue sub-tab.
  - **OCR Queue** - visibility of the OCR Queue sub-tab.
  - **Branding Queue** - visibility of the Branding Queue sub-tab.
- **Instance Details** - visibility of the Instance Details tab.
- **Relativity Script Library** - visibility of the Relativity Script Library tab.
- **Resource Pools** - visibility of the Resource Pools tab.
- **Performance Dashboard** - visibility of the Performance Dashboard tab.
  - **Application Performance** - visibility of the Application Performance sub-tab.
  - **Server Health** - visibility of the Server Health sub-tab.

40.4.3 Admin Operations tab

You can alter the following permission settings from the Admin Operations tab of the Admin Security page.

- **Agent Operations** - access to agent operations.
- **Change Queue Priority** - access to priority of queues.
- **Force Logout on User Status** - access to the ability to bump users out of Relativity.
- **Manage Object Types** - access to edit object types.
- **Send Message** - access to send messages to users in Relativity.
- **Use Quick Nav** - access to the quick nav button.
- **View Admin Repository** - required in order to access tabs and objects from home.

  Note: Users will have access to the Workspaces tab even without the View Admin Repository permission.

- **View Audits** - access to the ability to view audit records on the View Audits tab.

A Note on View Admin Repository

This permission setting is required for some features and supported applications to function properly. Outside of features that specifically require this permission, access can also be granted so that users can run a report and filter against the Workspace/Client/Matter/User/Group objects in report set-up. Please keep in mind that due to this fact, when View Admin Repository is granted to a user for whatever reason, that user is also gaining access to the User and Group objects from the context of the platform. In other words, these users are now capable of retrieving Users and Groups with or without the mobile app.

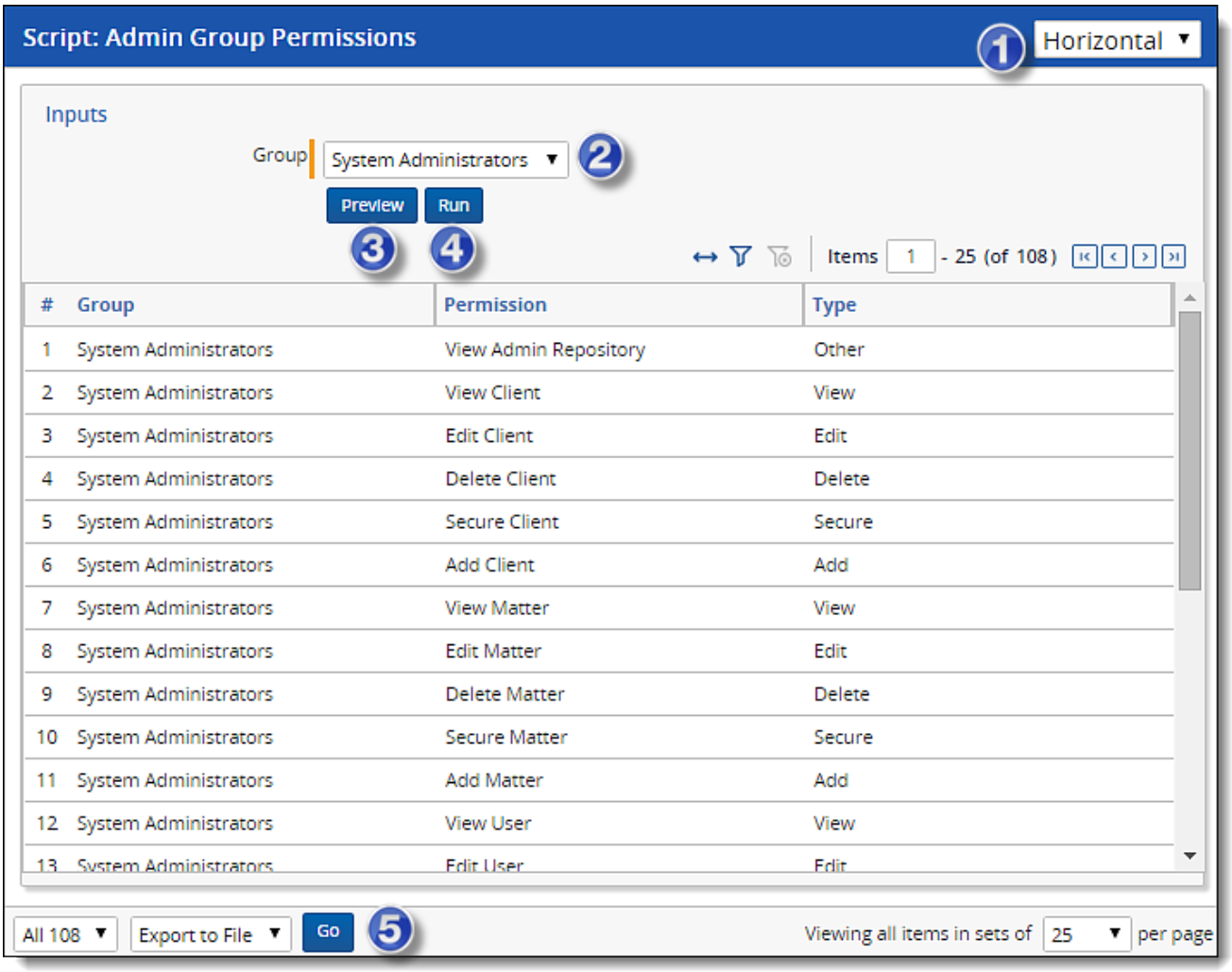
The following features and/or supported applications require the View Admin Repository permission.

- Case Metrics
- Staging Explorer
- Workspace Portal

- Processing Administration
- RelativityOne Activity Dashboard
- Production/Branding Queue
- ARM

40.4.4 Group Permissions report

With the Group Permissions Report you can easily assess all permission settings applied to any group. Navigate to the Instance Details tab and click **Group Permissions Report**.



#	Group	Permission	Type
1	System Administrators	View Admin Repository	Other
2	System Administrators	View Client	View
3	System Administrators	Edit Client	Edit
4	System Administrators	Delete Client	Delete
5	System Administrators	Secure Client	Secure
6	System Administrators	Add Client	Add
7	System Administrators	View Matter	View
8	System Administrators	Edit Matter	Edit
9	System Administrators	Delete Matter	Delete
10	System Administrators	Secure Matter	Secure
11	System Administrators	Add Matter	Add
12	System Administrators	View User	View
13	System Administrators	Edit User	Edit

You can perform the following actions from this console:

1. **Horizontal** or **Vertical** - displays the console horizontally or vertically according to you preference.
2. **Group** - select any group in your Relativity environment from the Group drop-down menu. Click Run to see a list of all system admin permission settings for that group.
3. **Preview** - displays the Script Body that defines the selected group's permission settings.
4. **Run** - generates Group Permissions Report on the selected group.

5. **Export to File** - click Go to export a .CSV file of all the selected group's system admin permission settings.

40.4.4.1 Reading the Group Permissions Report

- **Group** - displays the selected group's name.
- **Permission** - displays the name of the system admin object on which system admin rights are granted for the selected group.
- **Type** - displays the group's permission level on the object listed in the Permission column.

40.4.5 Uneditable admin permission settings for the Everyone group

All users in any instance of Relativity are members of the Everyone group. The following admin permissions apply to the Everyone group by default, and this permission setting configuration is necessary for your Relativity environment to function properly. You can't add or revoke any of the following permission settings on the Everyone group:

- **View User** - visibility of user.
- **View View** - visibility of views.
- **View Code** - visibility of code.
- **View Group** - visibility of groups.
- **View**, **Edit**,and **Add Error** - visibility, edit rights, and add rights to errors.
- **View Relativity Script** - visibility of Relativity script.
- **View Resource Server** - visibility of resource servers.
- **View Tab Type** - visibility of tab types.

40.4.6 Script library permissions available only to system admins

System admins are the only users able to access the following items:

Library Applications View:

- **Upload Application button** - access to the button that uploads applications into workspaces.

Library Application Detail:

- **Install** - access to the Install button on the Application details screen.
- **Upgrade** - access to the upgrade applications button. This button only appears if an upgrade to the application is available.
- **Cancel** - access to the Cancel button. This button only displays during installation.
- **Push to Library button** - access to the Push to library button.

Relativity Script Library view:

- **New Script button** - access to the New Relativity Script button on the Relativity Script Library tab.

New Script page:

- **Edit button** - access to the Edit button on scripts.
- **Delete button** - access to the Delete button on scripts.

- **Script Header** - access to the Script Header in the XML editor.
- **XML Editor** - access to the XML editor on the New Script page.

Edit Script page:

- **Script Header** - access to the Script header on the Edit Script page.
- **XML Editor** - access to the XML editor on the Edit Script page.

Run Script page:

- **Preview button** - access to the Preview button on the Run Script page.

40.5 Setting instance permissions

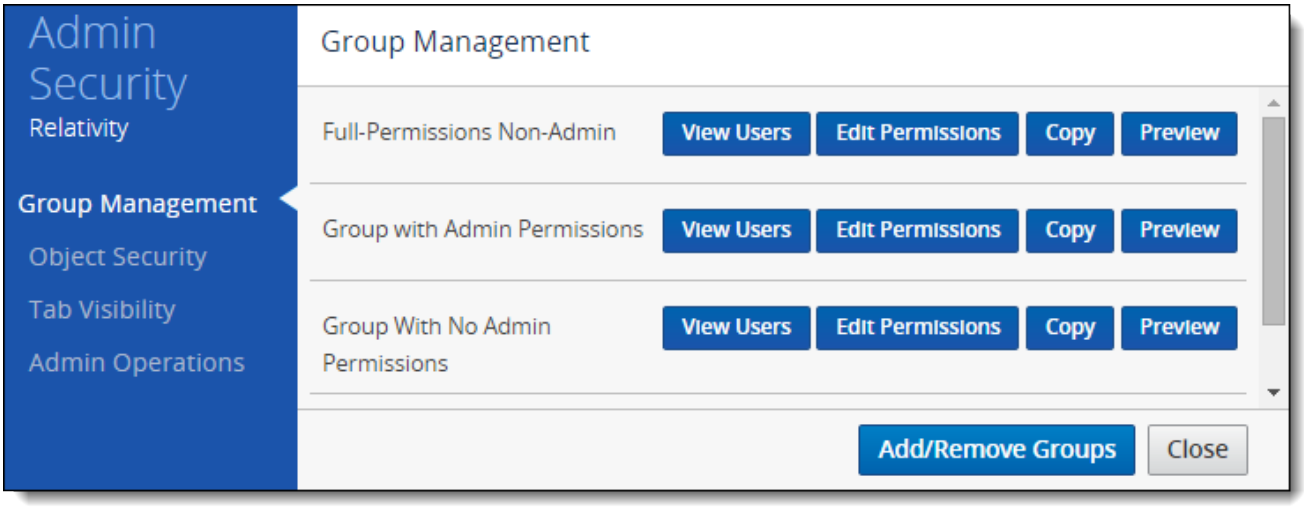
Edit instance permission settings from the **Instance Details** tab. Access Admin security with the following steps:

1. Click the Relativity logo in the upper left corner or navigate to **Home** with the user drop-down menu.
2. Click the **Instance Details** tab.
3. Click **Manage Permissions**.
4. Click **Edit Permissions** next to the group whose permissions you want to manage.

From here you can edit the admin permissions of groups.

40.5.1 Group Management tab

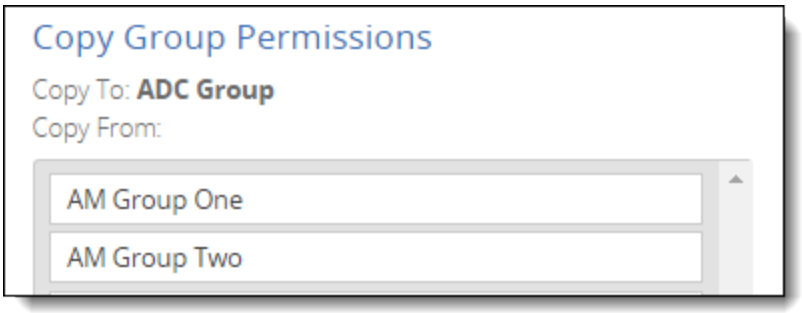
The Group Management tab displays all groups that have admin security privileges.



In the Group Management tab you can view all users in a group, edit the permissions of any group, transfer a group's permissions to another group, or preview a group's current permission settings. The Group Management tab displays all groups that have Admin Security access in Relativity. The following actions are available for groups added to a workspace other than system admins:

- **View Users** - displays a list of users in a group.
- **Edit Permissions** - opens the Object Security tab for editing the admin permissions of a group.

- **Copy** - opens a list of groups whose permission settings you can transfer to the group.



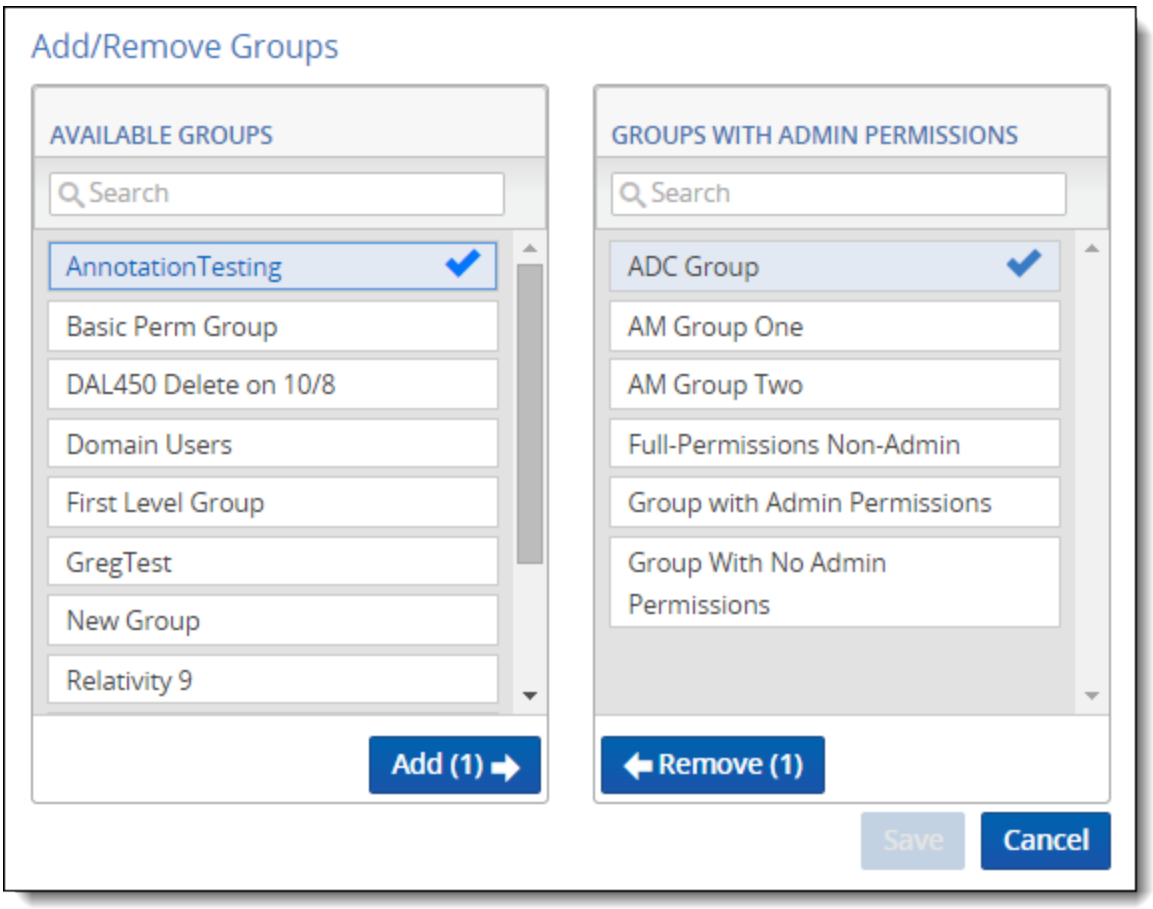
  Click Copy Permissions at the bottom of the list to complete the transfer.

- **Preview** - preview currently applied security settings for a group. See Preview Security for more information.
- **Add/Remove Groups** - opens the Add/Remove Groups dialog to grant admin access to groups. See Add/Remove Groups below for more information.

Note: A system admin is the only user able to grant other users membership into the System Administrators group. Any user who is not a member of the System Administrators group is unable to add themselves to any group.

40.5.1.1 Add/Remove Groups

Click the Add/Remove Groups button on the Group Management tab of the Admin Security window to access the Add/Remove Groups window. The Group Management page displays all groups that exist in your Relativity environment.



The Add/Remove Groups window displays the following lists:

- **Available Groups** - lists groups in your Relativity environment not yet granted access to the workspace.
- **Groups with Admin Permissions** - lists groups granted access to admin permissions.

You must add a group to the Groups with Admin Permissions column to grant the group admin security privileges.

Adding groups to the Groups with Admin Permissions column
To add admin permissions to a group, follow these steps:

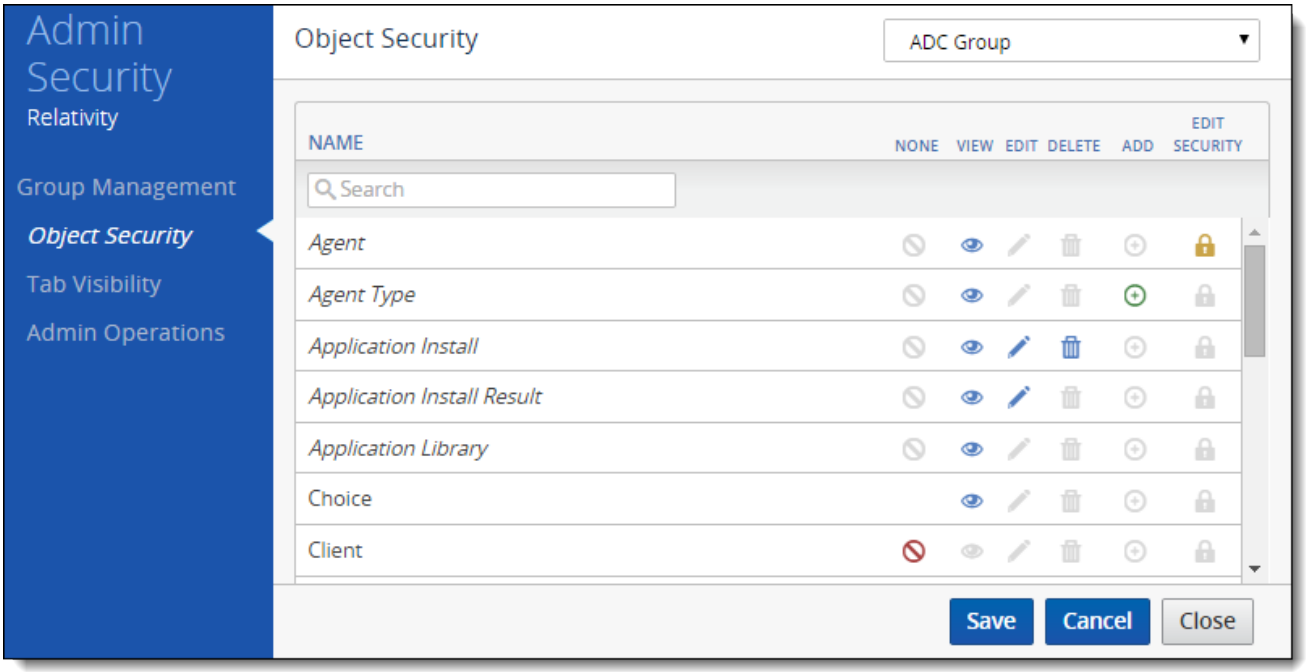
1. Click the **Instance Details** tab.
2. Click **Manage Permissions**.
3. Click **Add/Remove Groups**.
4. Scroll through the Available Groups list or search for a specific group using the search bar.
5. Select one or more groups from the Available Groups list in any order.
6. Click **Add**.
7. Click **Save**.

Removing groups from the Groups with Admin Permissions column
To remove admin permissions from a group, follow these steps:

1. Click the **Instance Details** tab.
2. Click **Manage Permissions**.
3. Click **Add/Remove Groups**.
4. Scroll through the Groups with Admin Permissions list or search for a specific group using the search bar.
5. Select one or more groups from the Groups with Admin Permissions list in any order.
6. Click **Remove**.
7. Click **Save**.

40.5.2 Object Security tab

With the Object Security tab you can grant admin permissions to Relativity objects.



You can apply the following group permission settings to any Relativity object in the Object Security window:

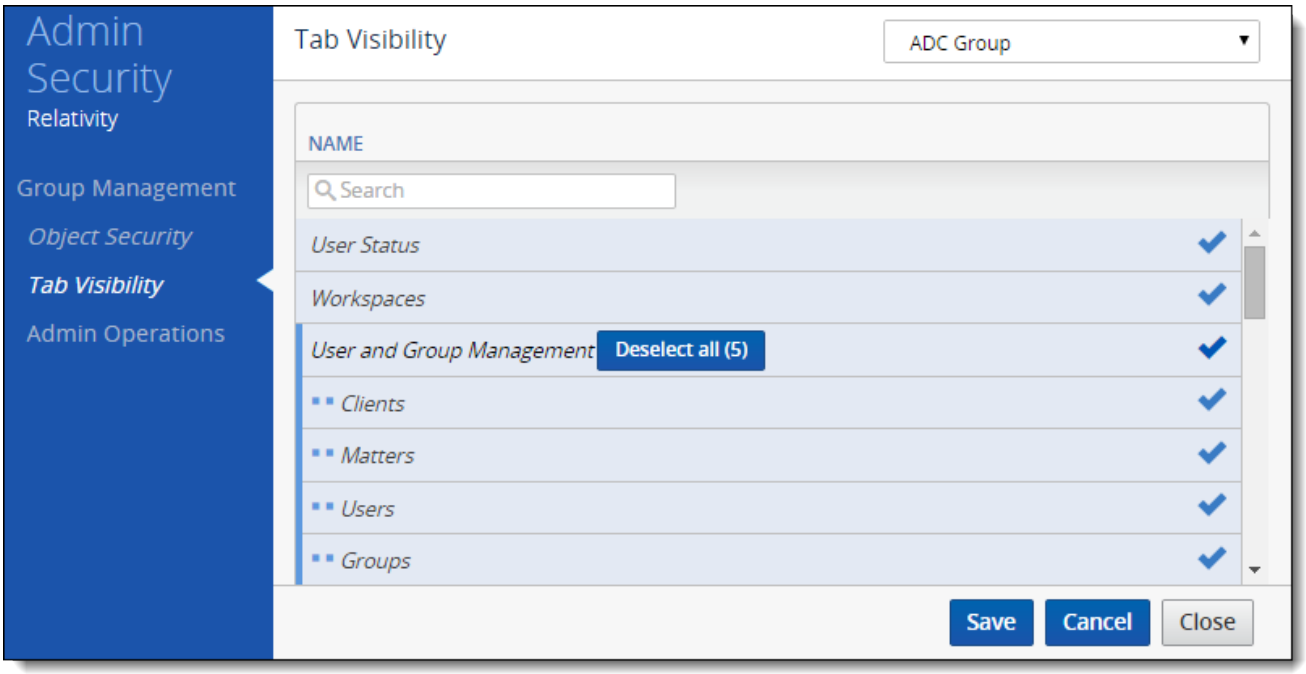
- **None** —denies users access to the object.
- **View** —view the object. This is the lowest level object permission.
- **Edit** —edit and view the object.

- **Delete** —delete, edit, and view the object.
- **Add** —add new objects. This icon turns blue when the setting is unsaved; once you click Save, the blue icon becomes grey. This icon turns green when you give users this permission both when the setting is unsaved and saved.
- **Edit Security** —grants users the ability to edit the security of objects. This icon turns blue if you click twice indicating a not applicable status.

See Relativity object security on page 665 for a complete list of objects and the impact of each assignable security permission.

40.5.3 Tab Visibility tab

With the Tab Visibility tab you can grant a group permission to view admin tabs.

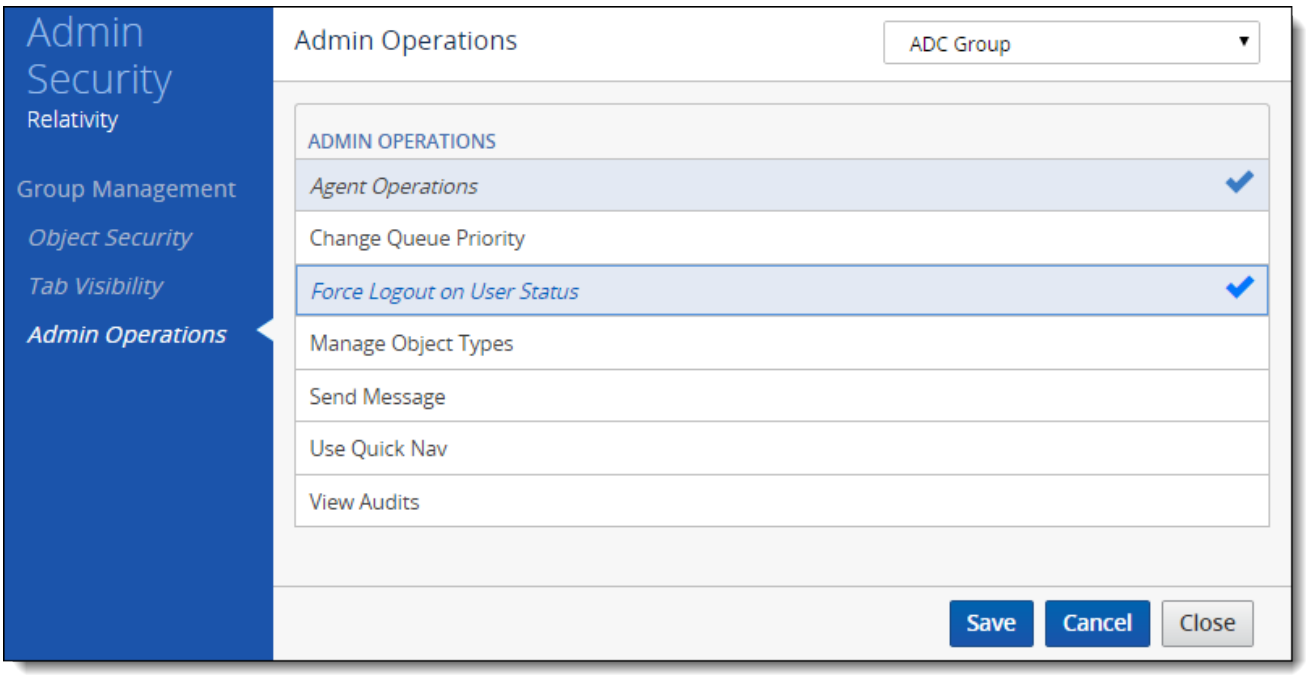


You must grant tab visibility independent of permission settings for users in a group to access a permitted tab. You can make any tab visible by selecting the checkbox in the list. You can also opt to make all sub tabs visible by clicking on the parent tab and clicking Select all (X).

Note: Do not use tab visibility as a sole method of preventing security permissions.

40.5.4 Admin Operations tab

With the Admin Operations tab you can grant admin action permissions to particular groups. See Admin Operations tab on page 635 for a complete list of actions you can grant through this tab.



40.6 Workspace security

Relativity's security rights are highly customizable. Each group you add to a workspace can have vastly different permissions than others. You can also copy an existing group's permissions to save time on configuring them.

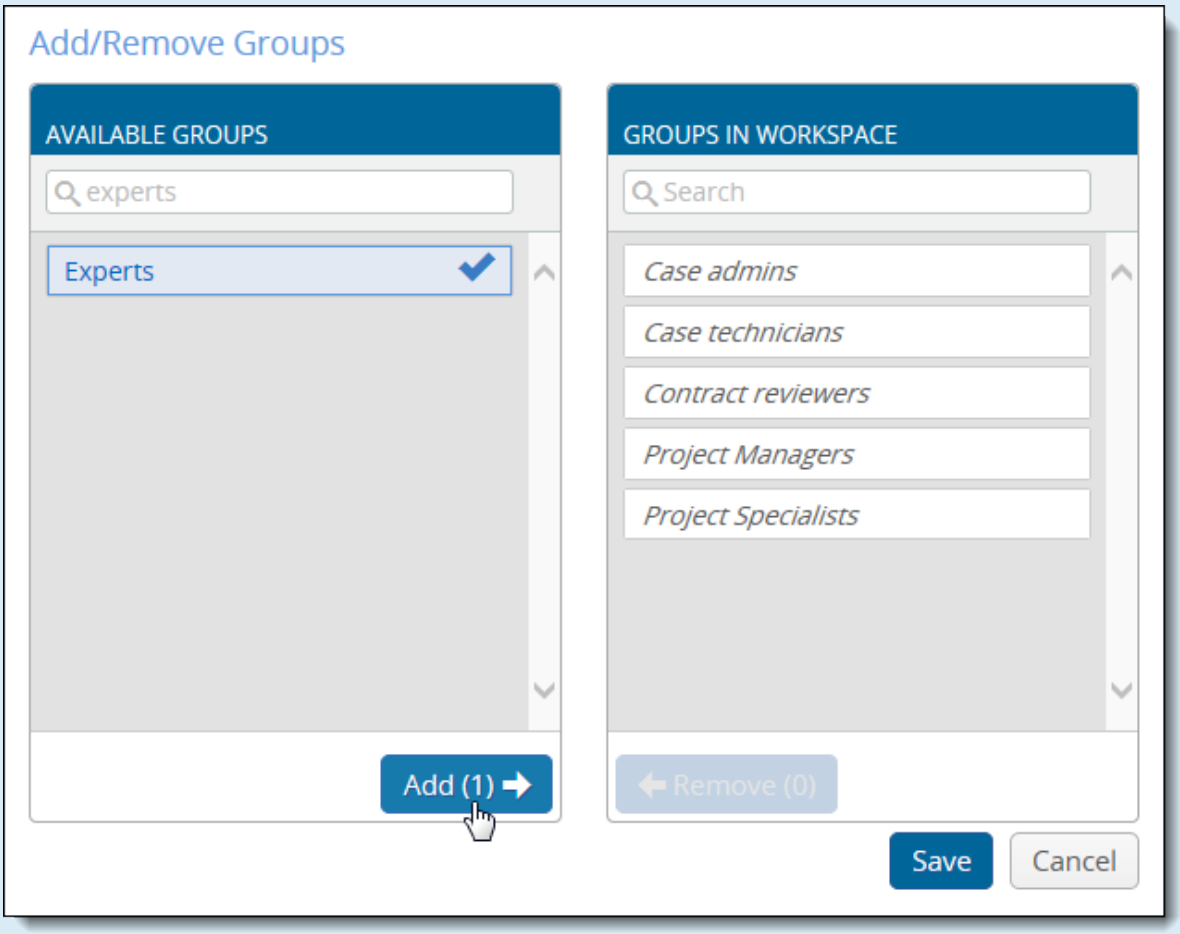
You set group permissions when adding a group to workspace, but you can change these permissions at any time from the Workspace Details page.

Note: If you assign admin permissions to a user group by copying permissions from system admins, you must unset and reset the View Workspace permission to allow the user group to edit the workspace.

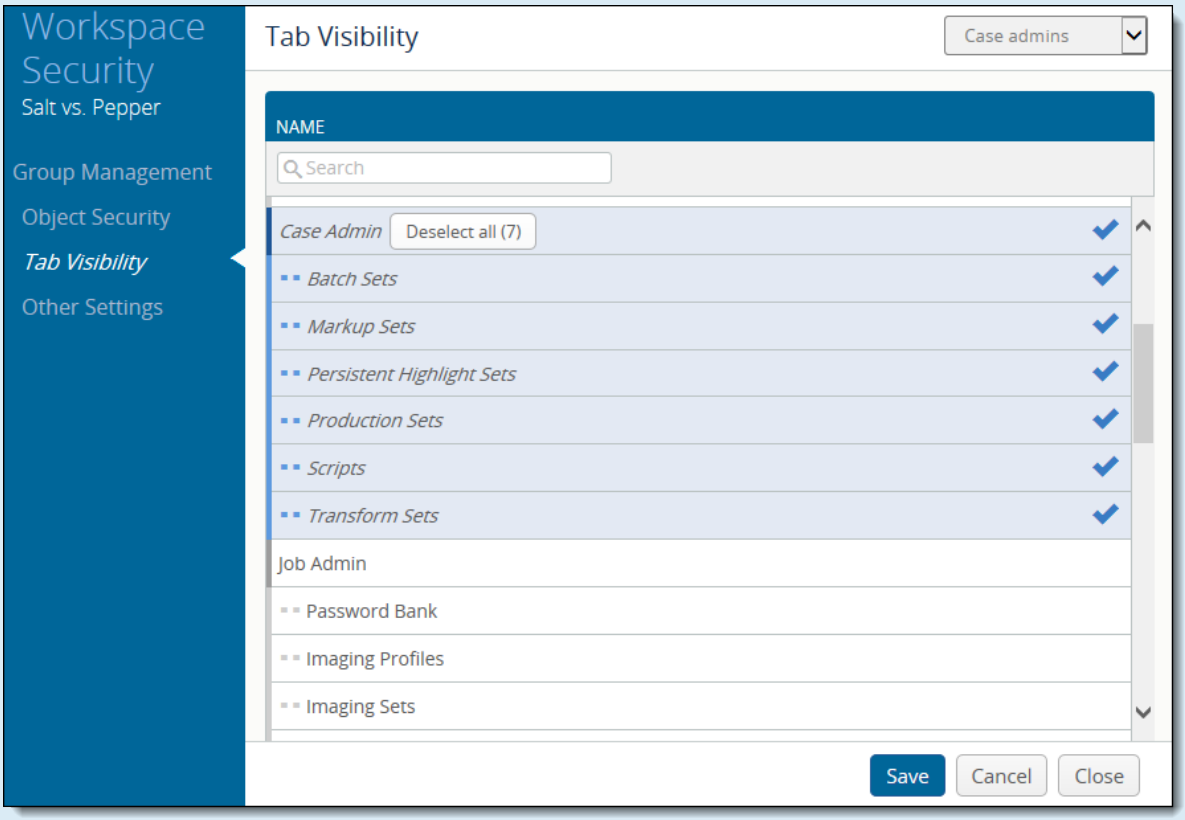
Using workspace security

As a system admin, you need to grant varying levels of workspace access permissions to multiple security groups in a large case workspace. The groups apply to specific roles in this case review including: project manager, project specialist, case admin, case technician, contract reviewer, and experts.

You start by adding all required groups to the workspace from the **Group Management** tab on the Workspace Security dialog.



Then, you start assigning object security, tab visibility, browser access, mass operations, and admin operations permissions using the **Object Security**, **Tab Visibility**, and **Other Settings** tabs. For example, the Case admins group needs access to the Batch Sets, Markup Sets, Persistent Highlight Sets, Production Sets, Scripts, and Transform Sets tabs in your workspace. Select these tabs under **Tab Visibility**.



Before assigning permissions for the next group, you save the permissions assignments for the Case admins group and then return to the **Group Management** tab to begin editing permissions for the next group in your workspace.

To verify the permissions assignments for the Case admins group are accurate, you click the **Preview** button for the Case admins group on the **Group Management** tab. Using the Preview security on page 667 feature, you are able to confirm the permissions are configured correctly.

40.6.1 Workspace permissions

Relativity divides workspace permissions into five categories:

- Object security
- Tab visibility
- Browsers
- Mass operations
- Admin operations

40.6.2 Object security

The Object Security tab lists all workspace objects with their related item-level permissions. Item-level rights include:

- **None** —denies users access to the object.
- **View** —view the object. This is the lowest level object permission.
- **Edit** —edit and view the object.
- **Delete** —delete, edit, and view the object.
- **Add** —add new objects. This icon turns blue when the setting is unsaved; once you click Save, the blue icon becomes grey. This icon turns green when you give users this permission both when the setting is unsaved and saved.
- **Edit Security** —grants users the ability to edit the security of objects. This icon turns blue if you click twice indicating a not applicable status.

Not all item-level rights apply to select objects. Some object permissions require corresponding tab visibility or browser permission. For example, a group with all item-level rights assigned for the Field object can only add, edit, delete, or edit security for fields with access to the Fields tab.

Note: Item-level security permissions override Object-level security permissions.

Note: Once a workspace is created, only System Administrators and Client Domain Administrators can make updates to the Matter object. Even users with full permissions for Matters and Clients will not have the ability to modify this object unless they are System Administrators or Client Domain Administrators.

40.6.3 Object list

The following is a list of common securable objects in a Relativity workspace. Objects with sub-options, related tab visibility permissions, or specific effective rights state the related requirements and rights.

Note: This list contains objects related to core functionality, and additional objects may be described in the documentation for individual features. This list also does not include custom objects you may find in your environment.

- **Agent Type**—a category of agent. Agents manage processes in Relativity and run in the background to complete jobs that you or another user scheduled in your environment.
- **Alias**—a textual representation of an author. Aliases are identified during the Analytics name normalization operation.
- **Analytics Categorization Result**—an object that displays the results of an Analytics Categorization Set.
- **Analytics Categorization Set**—a group of parameters used for gathering example documents that Analytics uses as the basis for identifying and grouping other conceptually-similar documents.
  - Viewing, editing, deleting, or adding Analytics categorization sets, or editing security of Analytics categorization sets requires access to the **Analytics Categorization Set** tab.

- **Analytics Category**—an object in Analytics that define the categories specific to your analytics set.
  - Viewing, editing, deleting, or adding Analytics categories for Analytics categorization sets, or editing security of Analytics categories requires access to the **Analytics Categorization Set** tab.
- **Analytics Example**—a document that Analytics uses to run the Analytics Set against to set a baseline.
- **Analytics Index**
  - Search index permissions must be kept in sync with permissions on the Analytics Index object. If a user has view permissions to Search Index, but no permissions to Analytics Index, they can still access Index Search functionality in the item list and in the viewer. If a user has full View/Edit/Add/Delete security permissions to an Analytics Index, but does not have permissions for Search Index, they will not be able to View/Edit/Add/Delete Analytics indexes.
- **Analytics Profile**—a group of parameters used for specifying an Analytics Index's dimensions, concept noise words, dtSearch noise words, and filter configurations.
  - Editing, deleting, or adding Analytics profiles, or editing security of Analytics profiles requires access to the **Analytics Profiles** tab.
- **Batch**—a group of documents assembled based on criteria that an admin sets and then assigns to a reviewer for review.
  - Edit—group members can view, check out, and edit batches.
  - Delete—group members can view, edit, and delete batches.
  - Viewing and checking out, editing, available batches requires access to the **Review Batches** or **Batch Sets** tab.
  - Adding batches requires access to the Batch Sets tab.
  - Editing security on batches requires access to the **Review Batches** or **Batch Sets** tab.
- **Batch Set**—the set to which the batch belongs.
  - Using any Batch Set permissions requires access to the **Batch Sets** tab.
- **Choice**—a value applied to a single or multi-choice list field that is used in coding fields to allow reviewers to record decisions on a document.
  - Editing, deleting, or adding choices, or editing the security for choices requires access to the **Choices** tab.
- **Cluster Set (Relativity 9.5.196.102 and above)**
  - Permissions for Cluster Set and the multiple choice fields that hold cluster data should be kept in sync.
    If a group has the None permission set on the Cluster Set object, but View/Edit/Add/Delete permissions to the Multiple Choice fields that hold cluster data, users in that group will still see Analytics clusters in the cluster browser and will be able to visualize clusters. To prevent the group from viewing the clusters in the cluster browser, or visualizing clusters, you must item-level secure the multiple choice fields that hold the cluster data for the group.
- **Color Map**
  - Email Thread Visualization requires View permissions or higher for the Color Map object.

- **Custom Page**—a custom web page created that enhances the flexibility of application development by supporting the creation of custom layouts and the display of dynamic content, such as unique graphics, dynamic date, and report results.
- **Dashboard**—a page configuration made up of widgets and item lists.
- **Destination Workspace**—the Destination Workspaces tab in the Integration Points object, which provides information on the workspaces to which users have exported data through Integration Points. Note that this setting has no impact on the Destination Workspace field on the Connect to Source layout of the Integration Point you are creating or editing; this means that you can still select a workspace from that field drop-down list even if you do not have permission to this object.
- **Document**—a record within a workspace.
  - **Upload Image**—group members can use the image upload functionality in the viewer to upload a single image.
  - **Replace Document**—group members can replace a single document in the viewer.
  - **Create PDF**—group members can print and save as PDF individual documents from Relativity.
  - **Local Access** (Download; Copy Text)—group members can open the file in its native application or to copy text from the viewer.
  - **Redact Document**—group members can place stamp or text box redactions on a document.
  - **Highlight Document**—group members can place a highlight on a document.
  - **Add Image**—group members can use Relativity's image-on-the-fly functionality.
  - **Delete Image**—group members can delete images in Relativity.
  - **New Document**—group members can upload a new document.
  - **Case Dynamics - Coding Pane**—group members can use the Case Dynamics coding pane.

  Note: Use the document **Edit** permission to tag documents with workspace coding values using layouts. Do not assign coding users rights to edit fields or edit layouts. Use the **Field** edit permission, along with access to the **Fields** tab, to edit field properties such as changing a fixed length text field from 255 to 320 characters.

- **Domain**—the name of the business or organization on the internet. For example, "@company.com" in the email address "jsmith@company.com" is the domain for that company email address.
- **Entity**—the individuals or entities who own or facilitate the data found in the data sources.
  - Group members can view, add, edit, and delete the entities used for Relativity Processing, Legal Hold, and Collect, and Analytics.
- **Event Handler**—the name of the assembly that helps facilitate the completion of document review and various other functions in Relativity by applying custom business logic to corresponding user actions.
- **Field**—the Relativity entity used to store document metadata and coding values within Relativity.
  - **Add Field Choice By Link**—exposes the **Manage** link option on choice fields, allowing group members to add new choices to a field on a layout.

- Editing, deleting, sorting, or adding fields, or editing the security of fields requires access to the **Fields** tab.

- **Folder**—the name of the container of documents in Relativity that are arranged in a hierarchy in the folder browser.
  - Using any Folder permissions requires access to the **Folder** browser.

    Note: You can customize permissions for individual child folders. This does not change the permissions of a folder's parent, but it can change the behavior of a folder's children, if you configure the children folders to inherit permissions from their parent.

    Note: Changing root folder permissions during import is not a supported workflow.

- **Job History**—the Job History tab in the Integration Points object, which provides information the history of import and export jobs run through Integration Points.
- **Job History Error**—the Job History Errors tab in the Integration Points object, which provides information errors that occurred during import and export jobs run through Integration Points.
- **Imaging Profile**—the name of the profile that controls the settings used to image a group of documents.
  - Editing, deleting, or adding imaging profiles, or editing security of imaging profiles requires access to the **Imaging Profiles** tab.
- **Imaging Set**—the profile and saved search containing the documents you want to image.
  - Editing, deleting, or adding imaging sets, or editing security of imaging sets requires access to the **Imaging Sets** tab.
- **Install Event Handler**—the name of the pre or post install event handler, which is an assembly that runs when you install them to configure your Relativity environment to support your applications.
  - Viewing, adding, or deleting event handlers requires access to the **Object Type** tab.
- **Inventory Filter**—the filter applied when inventorying files to view how inventories data affects data in your processing set using the Processing application.
- **Integration Point**— the entity that you create to configure data integrations from third-party systems to Relativity objects using the Integration Points application.
- **Integration Point Profile**—the profile that you create and save for future use when running future data import or export jobs through the Integration Points application.
- **Integration Point Type**—the integration point type, import or export, that you specify when you create an integration point to configure data integrations from third-party systems to Relativity objects using the Integration Points application.
- **Layout**—the name of the web-based coding form that gives reviewers access to view and edit document fields and complete specific review tasks.
  - Editing, deleting, or adding layouts, or editing security of layouts requires access to the **Layouts** tab.
- **Lists**—an option for saving a group of items without having to specify the types of conditions required for a saved search, which means they remain constant unless someone replaces them with an

existing list.

  - Editing, deleting, or adding lists, or editing security of lists requires access to the **Lists** tab.

- **Markup Set**—a securable sets of annotations and redactions available to reviewers for applying text redactions to documents in the viewer.
  - Editing, deleting, or adding lists, or editing security of markup sets requires access to the **Markup Sets** tab.

Note: The only proper way to secure the text behind a redaction is to the produce the document that contains the redacted text. If a group has View rights only to a markup set, not Edit or Delete rights, and a reviewer in that group loads a document in the Viewer because they have no other way to view that document, they can actually see the text behind the redaction, in which case that text is not totally secured.

- **Mass Operation**—single actions performed on multiple documents or objects at the same time, such as mass edit, move delete, produce, replace, image, print image, send to CaseMap export file, cluster, and process transcripts.
  - Viewing, adding, or deleting mass operations requires access to the **Object Type** tab.
- **Native Type**—a Relativity-supported file type that an admin can import and image; Native Type pertains to the Native Types tab and list, which an admin references when selecting file types to restrict from imaging.
  - **Edit**—group members to edit the **Restricted From Imaging By Default** checkbox for native types.
  - **Delete**—group members to remove native types from the restricted list.
  - **Add**—group members to add existing native types to the restricted list.

Note: Even with all Native Type permissions assigned, a user cannot add new native file types. Relativity is already configured with the native file types that it recognizes.

- **Object Rule**—permits special or additional functions with user-configurable options. For example, a New Button Override that redirects an object's New button action to another Relativity page or other URL as directed by the user.
  - Viewing, adding, or deleting object rules requires access to the **Object Type** tab.
- **Object Type**—the type of object specified when creating a Relativity Dynamic Object. For example, Document and Workspace are object types.
  - Editing, deleting, or adding object types, or editing security of object types requires access to the **Object Type** tab.
- **OCR Language**—determines what language is used to OCR files where text extraction is not possible, such as for image files containing text.
  - Viewing, editing, deleting, or adding OCR languages, or editing security of OCR languages requires access to the **Processing** tab.
- **OCR Profile**—a saved, reusable set of parameters that you use when creating an OCR set.
  - Viewing, editing, deleting, or adding OCR profiles, or editing security of OCR profiles requires access to the **OCR Profiles** tab.

- **OCR Set**—a group of documents defined by a saved search or production to be OCRed based on the settings defined by the OCR profile.
  - Viewing, editing, deleting, or adding OCR sets, or editing security of OCR sets requires access to the **OCR Sets** tab.
- **Password Bank**—a password repository used to decrypt certain password-protected files during inventory, discovery, and native imaging.
- **Password Entry**—a password you enter into the password bank to decrypt password-protected files.
  - Viewing, editing, deleting, or adding password entries in the Password Bank, or editing security of password entries requires access to the **Password Bank** tab.
- **Persistent Highlight Set**—a reusable, transferable set of persistent highlight specifications a reviewer can select in the Viewer to assist in document review.
- **Pivot Profile**—a saved, reusable group of pivot setting that you apply to pivots to quickly analyze case data.
- **Quick Create Sets**—the Quick Create Sets tab, formerly Processing Assistant, lets you create multiple data sources, entities, and processing sets based on a specific file structure from a single object.
- **Processing Data Source**—all data sources associated with all processing sets in the workspace.
- **Processing Error**—a list of errors related to your processing job.
  - **Download and Upload files with processing sets**—group members can download error files and upload replacements for them through the Error Actions console on the error details layout.
- **Processing Set**—an object to which you attach a processing profile and at least one data source and then use as the basis for a processing job.
- **Production**—an application that prepares relevant and non-privileged documents to turn over to opposing counsel after review.
  - Viewing, editing, deleting, or adding production sets, or editing security of production sets requires access to the **Production Sets** tab.

Note: Productions appear in the viewer by default. There are no permissions for specific viewer options. To restrict productions from appearing in the viewer for a certain group, set the Production permission to **None** .

- **Production Data Source**—saved set of parameters that Relativity uses when running a production.
- **Production Information**—information records associated with a production during the Staging process of running a production.
- **Production Placeholder**—text or images you can include in a production as a placeholder for removed or forthcoming information.
- **Relativity Application**—a customizable collection of Relativity objects that provides improved case and matter management.

- Viewing, editing, deleting, or adding Relativity applications , or editing security of applications requires access to the **Relativity Applications** tab.

- **Relativity Script**—a SQL-based command that admins can use to customize and augment Relativity functionality. Scripts are deployed with Relativity and reside in the Relativity script library.
  - Viewing, editing, deleting, or adding Relativity scripts, or editing security of scripts requires access to the **Scripts** tab.
- **Relativity Time Zone**—the Time Zone for which the Relativity environment adheres to.
- **Repeated Content Filter**—a filter that finds the text in each document that matches your configuration parameters and suppresses it from the Analytics index.
  - Viewing, editing, deleting, or adding repeated content filters, or editing security of repeated content filters requires access to the **Repeated Content Filters** tab.
- **Report**—flexible reporting features designed to facilitate roll-ups of information about your case review.
  - Viewing, editing, deleting, or adding summary reports, or editing security of summary reports requires access to the **Summary Reports** tab.
- **Search**—flexible search features designed to facilitate document review process.
  - Security settings for the Search object apply to saved searches.
  - Editing, deleting, or adding saved searches, or editing security of saved searches requires access to the **Saved Searches** browser.
- **Search Container**—the search folder object, which applies to all saved search folders.
  - Security settings for the Search Folder object apply to saved search folders.
  - Editing, deleting, or adding saved search folders, or editing security of saved search folders requires access to the **Saved Searches** browser.
- **Search Index**—access to searching features, such as dtSearch and other searches available from the Documents tab.
  - Search index permissions must be kept in sync with permissions on the Analytics Index object. If a user has view permissions to Search Index, but no permissions to Analytics Index, they can still access Index Search functionality in the item list and in the viewer. If a user has full View/Edit/Add/Delete security permissions to an Analytics Index, but does not have permissions for Search Index, they will not be able to View/Edit/Add/Delete Analytics indexes.
  - **Dictionary Access**—group member can see the dictionary function when searching with a dtSearch index.
  - Using available search indexes with dictionary search requires access to the **Documents** tab.
  - Selecting and using available search indexes requires access to the **Documents** tab.
  - Editing, deleting, or adding search indexes, or editing security of search indexes requires access to the **Search Indexes** tab.
- **Search Terms Report**—a tool an admin can use to enter a list of terms or phrases and generate a report listing those words' frequencies in a set of documents.

    - Viewing, editing, deleting, or adding search terms reports, or editing security of search terms reports requires access to the **Search Terms Reports** tab.
- **Search Terms Result**—a list of results from the search terms report.
- **Source Provider**—group members can see all available source providers when creating an integration point; for example LDAP, FTP, Import Load file, and Relativity.
- **Structured Analytics Errors**—a list of errors related to your Structured Analytics job.
- **Structured Analytics Set**—a saved, reusable group of settings that Structured Analytics uses to shorten your review time, improve coding consistency, optimize batch set creation, and improve your Analytics indexes.
- **Tab**—an interface component that gives the admin or reviewer access to an assortment of Relativity functionality.
    - Editing, deleting, or adding tabs, or editing security of tabs requires access to the **Tabs** tab.
- **Transform**—access to the transform functionality in Relativity.
    - Viewing, editing, deleting, or adding transforms, or editing security of transforms requires access to the **Transform Sets** tab.
- **Transform Set**—a feature that uses handlers to analyze and extract the contents of one field and copy them to another.
    - Viewing, editing, deleting, or adding transform sets, or editing security of transform sets requires access to the **Transform Sets** tab.
- **View**—a customizable list of items in Relativity from which a user can sort and filter to locate specific items.
    - Editing, deleting, or adding views, or editing security of views requires access to the **Views** tab.
- **Workspace**—a securable document repository used to facilitate productions, witness testimony, and other documents in which admins and reviewers conduct searches for relevant materials and set up views to organize that material.
    - Editing or deleting a workspace, or editing security of a workspace requires access to the **Workspace Details** tab. When the edit security permission is selected, it grants the group the ability to manage permission and the Add/Remove Groups button will display.

40.6.4 Tab visibility

Tab Visibility lists all parent and child tabs to which you can grant groups access. Combine object security permissions and tab visibility access to give users the tools they need to complete their tasks. Select a tab to make it visible for a group.

The following is a list of common Relativity parent and child tabs in alphabetical order by parent tab name:

- **Case Admin**
    - **Batch Sets**
    - **Markup Sets**
    - **Persistent Highlight Sets**
    - **Production Sets**

    - Scripts
    - Transform Sets
- Case Metrics
    - Reports
    - Reviewer Metrics
- Dashboard
- Documents
- Entities
    - Entities
    - Aliases
- Indexing & Analytics
    - Structured Analytics Set
    - Analytics Profiles
    - Repeated Content Filters
    - Search Indexes
    - Analytics Categorization Set
- Imaging
    - Imaging Profiles
    - Imaging Sets
    - Native Types
    - Password Bank
- Lists
- OCR
    - OCR Profiles
    - OCR Sets
- Processing
    - Processing Sets
    - Quick Create Sets
    - Processing Data Sources
    - Processing Profile
    - Password Bank
    - Inventory
    - Errors

    - **Reports**
    - **Job Errors**
    - **Document Errors**
- **Processing Administration**
    - **Worker Monitoring**
    - **Processing History**
- **Reporting**
    - **Search Terms Reports**
    - **Summary Reports**
    - **Pivot Profiles**
    - **Domain**
    - **Search Terms Results**
- **Review Batches**
- **Workspace Admin**
    - **Workspace Details**

      Note: If a user has view access or greater, such as edit, delete rights, to the workspace object and has view access to the Workspace Details tab, but does not have permission to View Workspace Details, the admin operation, the user cannot view the Workspace Details tab.

    - **Search Indexes**
    - **Object Type**
    - **Fields**
    - **Choices**
    - **Layouts**
    - **Views**
    - **Tabs**
    - **Relativity Applications**
    - **Custom Pages**
    - **History**

      Note: If a user has view access or greater to the History tab, but does not have permission to View All Audits, the user cannot view the **History** tab.

    - **User Status**
- **Worker Status**

Note: This list does not reflect custom tabs or customized parent tab configurations that may vary by environment.

40.6.5 Browsers

In the Browsers section, you control which browsers are visible to a group. Select a browser type to make it visible for the group.

The following is a list of Relativity browsers:

- **Folders**

  Note: For more information on securing folders, see Relativity object security on page 665.

- **Field Tree**
- **Advanced & Saved Searches**
- **Clusters**

See the Browser panel on page 823 section for complete details regarding each browser type.

Groups not granted access to any of the available browsers in a workspace see their document list spanning the whole screen.

40.6.6 Mass operations

In the Mass Operations section, you control which types of mass action rights the group can access. This section also lists any custom mass operations that you have added to Relativity or that are available in applications currently installed in your environment.

Select the check mark next to the mass action you want group members to have access to.

You can select the following mass actions:

- **Assign to Entity**—gives group members the rights to select and re-assign an alias to a different entity when using name normalization in Analytics.
- **Cluster**—gives group members the rights to cluster documents using Analytics clustering.
- **Copy**—gives group members the rights to copy securable objects such as views, layouts, and summary reports.
- **Delete**—group members can mass-delete documents. Mass delete also requires the rights to delete documents.
- **Edit**—gives group members the rights to use their layouts to simultaneously edit document field values for multiple documents.
- **Export**—gives group members the rights to export audit data via Audit.

  Note: This permission only appears if Audit is installed and configured.

- **Export to File**—gives group members the right to export the contents of a view to a .csv, .xls or .dat file.
- **Image**—group members can simultaneously send image requests for multiple native files.

- **Move**—gives group members the right to simultaneously move documents from one or more folders to one target folder. Mass Move also requires add and delete document rights.
- **Merge**—gives group members the rights to select and merge multiple entities into a single entity when using name normalization in Analytics.
- **Print Image**—gives group members the right to simultaneously print images from multiple documents.

  Note: When you mass print images, you can choose how to print the redactions on those images, normal or transparent. Even if users do not have permission to move or delete redactions, if they mass print images, they can choose to print redactions as normal or transparent.

- **Produce**—gives group members the right to simultaneously add multiple documents to a production set.
- **Replace**—group members can perform a replace operation on multiple documents. Examples include:
  - Copying the contents of one text field to another.
  - Adding a set string to the beginning or end of an existing field.
  - Merging the values of a source field with the values of a target field.
- **Process Transcript**—group members can process imported transcripts for viewing in Relativity.
- **Send To Case Map**—group members can send multiple documents to CaseMap.
- **Tally/Sum/Average**—group members can tally, sum and average the values of any numeric fields. This action is recorded under the document history.
- **Custom mass operations**—may appear in this list. They include mass operations that you added to Relativity or that are available in applications currently installed in your environment.

For more information about mass operations, see Mass operations on page 406.

40.6.7 Admin operations

You can secure several admin operations separately. To assign permissions to a group, select check boxes for any combination of these operations.

The options available in the Admin Operations section include:

- **Allow dtSearch Index Swap**—grants group members the ability to execute the Index Swap function from the dtSearch console. For more information, see the Searching Guide.
- **Allow Export**—grants group members the ability to export files using the Relativity Desktop Client and the export functionality found in Integration Points.
- **Allow Import**—grants group members the ability to import load files using the Relativity Desktop Client and the import functionality found in Integration Points.
- **Assign Batches**—grants group members permissions to check out batches to other reviewers.
- **Communication Analysis Widget**—grants group members permission to add the Communication Analysis widget to a dashboard via the **Add Widget** drop-down menu.

Note: Groups without this permission can still view and interact with the Communication Analysis widget assuming they have access to the dashboard the widget is part of.

- **Delete Object Dependencies**—grants group members permission to force the deletion of an object, which includes unlinking associative objects and deleting child objects. The group members must also have permissions to delete any dependent child or modify associated objects.
- **Download Relativity Desktop Client**—grants group members permission to the **Download Relativity Desktop Client 32-bit** and **Download Relativity Desktop Client 64-bit** buttons. These buttons are located in the Relativity Utilities console on the Workspace Details page. See Using the utilities console on page 818.
- **Email Thread Visualization**—grants group members permissions to access email thread visualization.
- **Export Dashboard**—grants group members permission to download a saved dashboard.
- Manage Cold Storage
- **Manage Object Types**—gives group members permissions to add a new tab for a new object type when adding the new object type.
- **Manage Relativity Applications**—group members can associate objects with applications by making the **Relativity Applications** field available on create and edit pages for Field, Layout, View, Script, Object Types, and all other objects compatible with applications. Users with this and Edit permissions for applications are allowed to lock and unlock an application from editing.
- **Modify System Keyboard Shortcuts**—grants group members permission to the **Manage System Keyboard Shortcuts** button. User groups must also have permissions to see the Workspace Admin and Workspace Details tab along with the View Workspace Details permissions. This button is located in the Relativity Utilities console on the Workspace Details page. See Keyboard shortcuts on page 316

  Note: If a user group is given this permission they can modify and delete keyboard shortcuts for their group within a workspace.

- **Override Production Restrictions**—grants group members permissions to override the setting in the Production Restrictions option on the Workspace Details page. The group members will be able to produce documents that contain conflicts based on these restrictions. See Adding and editing production restrictions on page 821.
- **Use Pivot/Chart**—grants group members permissions to use the Pivot grid and chart functions.
- **Use Quick Nav**—grants group members the ability to search tabs in a workspace using the quick navigation feature. See Quick nav on page 45.
- **Use Sampling**—grants group members permission to the sampling menu on any object that has the Sampling field set to Enabled. The sampling menu users can create sample sets of items using a sampling methodology of their choice. For example, a user can make a sample set of documents to review for QC purposes. For more information, see Sampling on page 605.

- **View All Audits**—grants group members permission to view the history of a document in the Viewer through the Document History icon, as well as workspace objects, such as markup sets, Dynamic Objects, fields, etc., through the View Audit option on those objects' layouts.

  Note: If a user has view access or greater to the History tab, but doesn't have permission to View All Audits, the user can't view the History tab.

- **View Batch Pane**—grants group members permission to view the batches associated with a document in the related items pane.
- **View Images Hidden for QC Review**—grants group members permission to view all images in an imaging set with a QC status set to hide images. For more information, see QC Review on page 282.
- **View User Status**—grants group members permissions to access the User Status tab.
- **View User's Personal Items**—grants group members permission to click the View Another User's Personal Items link on the Workspace Details page and modify the View Other's Personal Items console.
- **View Workspace Details**—grants group members permissions to access the Workspace Details page and the Relativity Utilities console.

  Note: If a user has view access or greater to the Workspace Details tab, but doesn't have permission to View Workspace Details, the user cannot view the Workspace Details tab.

  Note: If you are using RelativityOne, the following admin operations are secured by default and should not be modified. Please contact Relativity Support if you think you need to access this functionality.

- **Download RelativityDesktop Client**—grants group members permission to the **Download RelativityDesktop Client 32-bit** and **Download RelativityDesktop Client 64-bit** buttons. These buttons are located in the Relativity Utilities console on the Workspace Details page. See Using the utilities console.

40.6.8 Workspace admin group

A system admin can assign any group in Relativity to have full admin rights over a particular workspace. A workspace admin has full control over all objects within the workspace, but members of the group do not have the script permissions available only to system admins.

Use the following steps to set a designate a workspace admin group:

1. Click **Edit** on the **Workspace Details** tab.
2. Click in the **Workspace Admin Group** field.
3. Click the radio button next to the group you want to set as the workspace admin group.
4. Click **Ok**.

Note: You can only designate one group per workspace as a workspace admin group.

You can also grant workspace admins permission to alter the security settings of any group.

To grant workspace admins permission to alter the security settings of any group:

1. Click **Manage Workspace Permissions** from the Workspace Details tab.

   The Workspace Security window opens.

2. Select **Object Security**.
3. Select the desired group from the **Select a Group** drop-down menu.
4. Click the **Edit Security** padlock for the **Workspace** object permission.
5. Click **Save**.

40.6.9 Features in workspaces available only to system admins

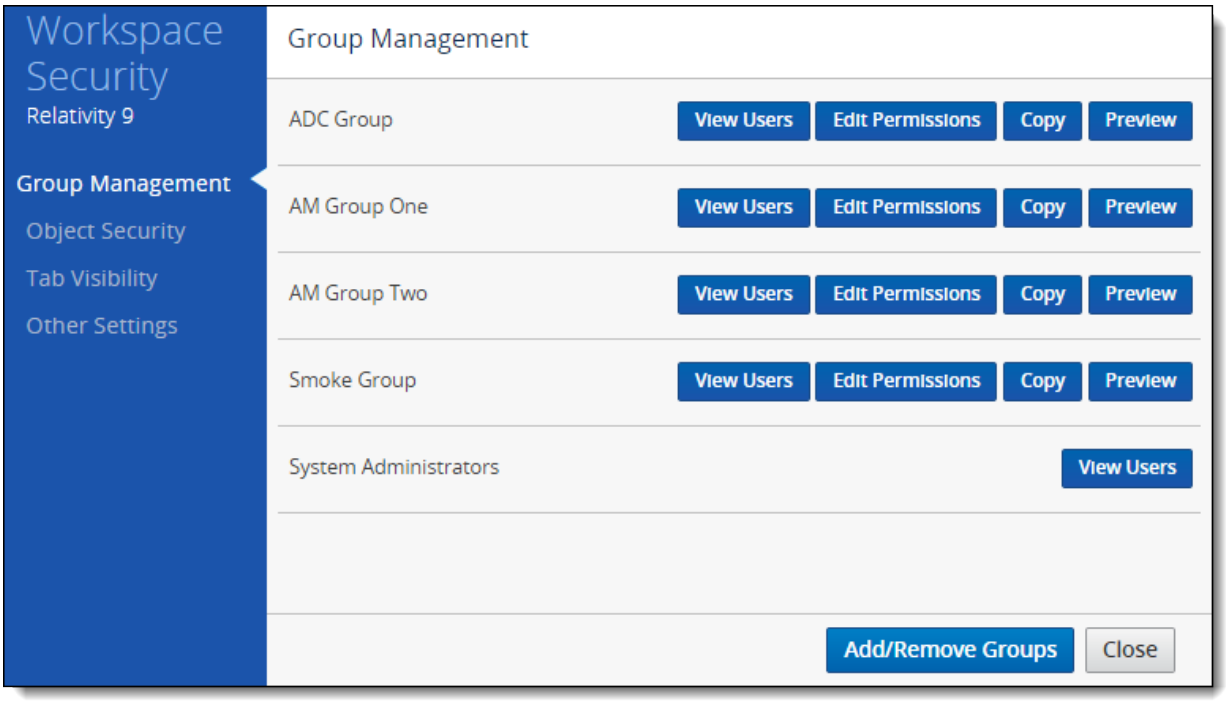
System admins are the only users capable of performing the following operations:

- Script Details
  - Edit Permissions
  - View Audit button
  - Preview Script option
- New Script page
  - Script Body Editor
  - Create New Workspace script
  - Relativity Applications select box link
  - Select from Script Library radio buttons
- Edit Script page
  - Script Body Editor
- New Library Application
  - Import from file radio button
  - Select from Library radio button

40.7 Setting workspace permissions

Edit workspace permissions using the Workspace Security dialog accessible from the **Workspace Details** tab. Access the dialog using the following steps in a workspace:

1. Click the **Administration** tab followed by **Workspace Details**.
2. Click **Manage Workspace Permissions** to open the Workspace Security dialog.

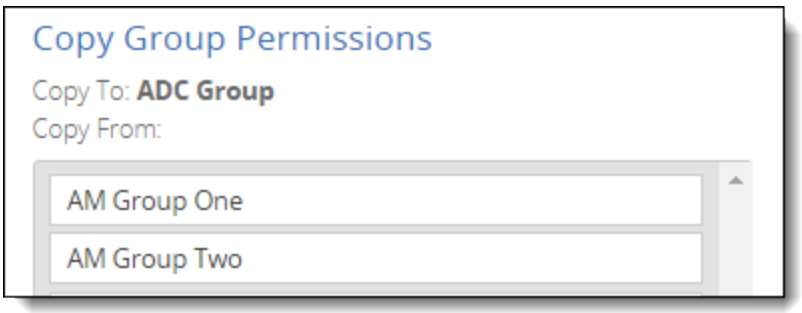


Note: To add and remove groups, you must have the Edit Security permission set for the Workspace object and the Add and Delete permissions set for the Groups object (instance level security).

40.7.1 Group Management

The Group Management tab displays all groups added to a workspace. The following actions are available for groups added to a workspace other than system admins:

- **View Users** - displays a list of users in a group.
- **Edit Permissions** - opens the Object Security tab for you to begin editing the workspace permissions for a group.
- **Copy** - opens a list of groups whose permission settings you can transfer to the group.



Select a group and click **Copy Permissions** at the bottom of the list to complete the transfer.

- **Preview** - preview currently applied security settings for a group. See Preview Security for more information.

- **Add/Remove Groups** - opens the Add/Remove Groups dialog on which you can search for and add or remove groups.

Note: Relativity displays a warning message when a sys admin attempts to edit or copy permissions for any group in a client domain. This warning makes the sys admin aware that modifying permissions may have significant consequences. For example, changing permissions may allow client domain users to modify items outside their tenancy. The sys admin can click **Manage Permissions** to proceed with the update or **Cancel** to exit the pop-up window.

40.7.1.1 Add/Remove Groups

The Add/Remove Groups window displays the following lists:

- **Available Groups** - lists available groups in your Relativity environment not yet granted access to the workspace.
- **Groups in Workspace** - lists groups granted access to the workspace.

Adding groups to a workspace

To add one or more groups to a workspace, follow these steps:

Note: If you are in a Workspace admin group, you must have the instance-level **Edit** permission to the **Group** object to add a group to a workspace.

1. Click the **Administration** tab followed by **Workspace Details**.
2. Click **Manage Workspace Permissions**.
3. Click **Add/Remove Groups** on the Group Management tab.
4. Select one or more groups from the **Available Groups** list in any order. Scroll the list or search for a specific group using the search bar.
5. Click **Add**.
6. Click **Save**.

Removing groups from a workspace

To remove one or more groups from a workspace, follow these steps:

1. Click the **Administration** tab followed by **Workspace Details**.
2. Click **Manage Workspace Permissions**.
3. Click **Add/Remove Groups** on the Group Management tab.
4. Select one or more groups from the **Groups in Workspace** list in any order.Scroll the list or search for a specific group using the search bar.
5. Click **Remove**.
6. Click **Save**.

40.7.2 Saving permissions for a group

In the Workspace Security dialog you can switch between the Object Security, Tab Visibility, and Other Settings tabs before saving modified security permissions for a selected group. If you modify security settings on any of these three tabs, and try to close the dialog or click the Group Management tab, Relativity prompts you with the following options:

- **Save** - saves all permissions changes and applies them to the selected group.
- **Revert** - discards all unsaved permissions changes and reverts to the group's last saved permissions.
- **Cancel** - cancels the attempted dialog close or tab change action.

After making security changes on the Object Security, Tab Visibility, and Other Settings tabs, click **Save** at any time to apply the selected permissions settings.

40.7.3 Object Security

Use the Object Security tab to manage the following object-level permissions for a selected group:

- **None** —denies users access to the object.
- **View** —view the object. This is the lowest level object permission.
- **Edit** —edit and view the object.
- **Delete** —delete, edit, and view the object.
- **Add** —add new objects. This icon turns blue when the setting is unsaved; once you click Save, the blue icon becomes grey. This icon turns green when you give users this permission both when the setting is unsaved and saved.
- **Edit Security** —grants users the ability to edit the security of objects. This icon turns blue if you click twice indicating a not applicable status.

See Object list for a list of securable objects.

40.7.3.1 Assigning object-level permissions

To assign object-level security permissions to a group:

1. Click the **Administration** tab followed by **Workspace Details**.
2. Click **Manage Workspace Permissions**.
3. Click **Edit Permissions** for a group on the Group Management tab. Or, click **Object Security** and select a group from the **Current Group** drop-down menu.

4. Click the applicable object security permission(s) you want to apply to the selected group. Icons for selected security permissions appear in color, and names of objects for which you changed security permissions appear in italic typeface until you save the modified permissions.
5. Click **Save**.

40.7.3.2 Denying object access

To deny a group any access to an object, click the icon. After setting a group's permission level to None, the icon appears in color .

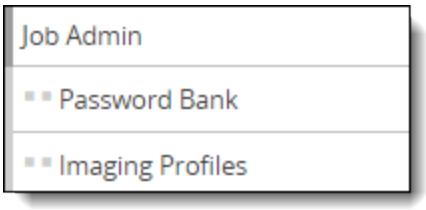
40.7.4 Tab Visibility

The Tab Visibility tab lists all parent and child tabs in a workspace. Combine object-level permissions and tab visibility to give users the tools they need to complete their tasks.

To grant access to workspace tabs, select all tabs you want visible for a selected group and click **Save**. For a complete list of tabs, see Tab Visibility.

40.7.4.1 Selecting parent and child tabs

Indented tab names indicate child tabs of a parent tab. The following example shows Password Bank and Imaging Profiles as child tabs of Job Admin.



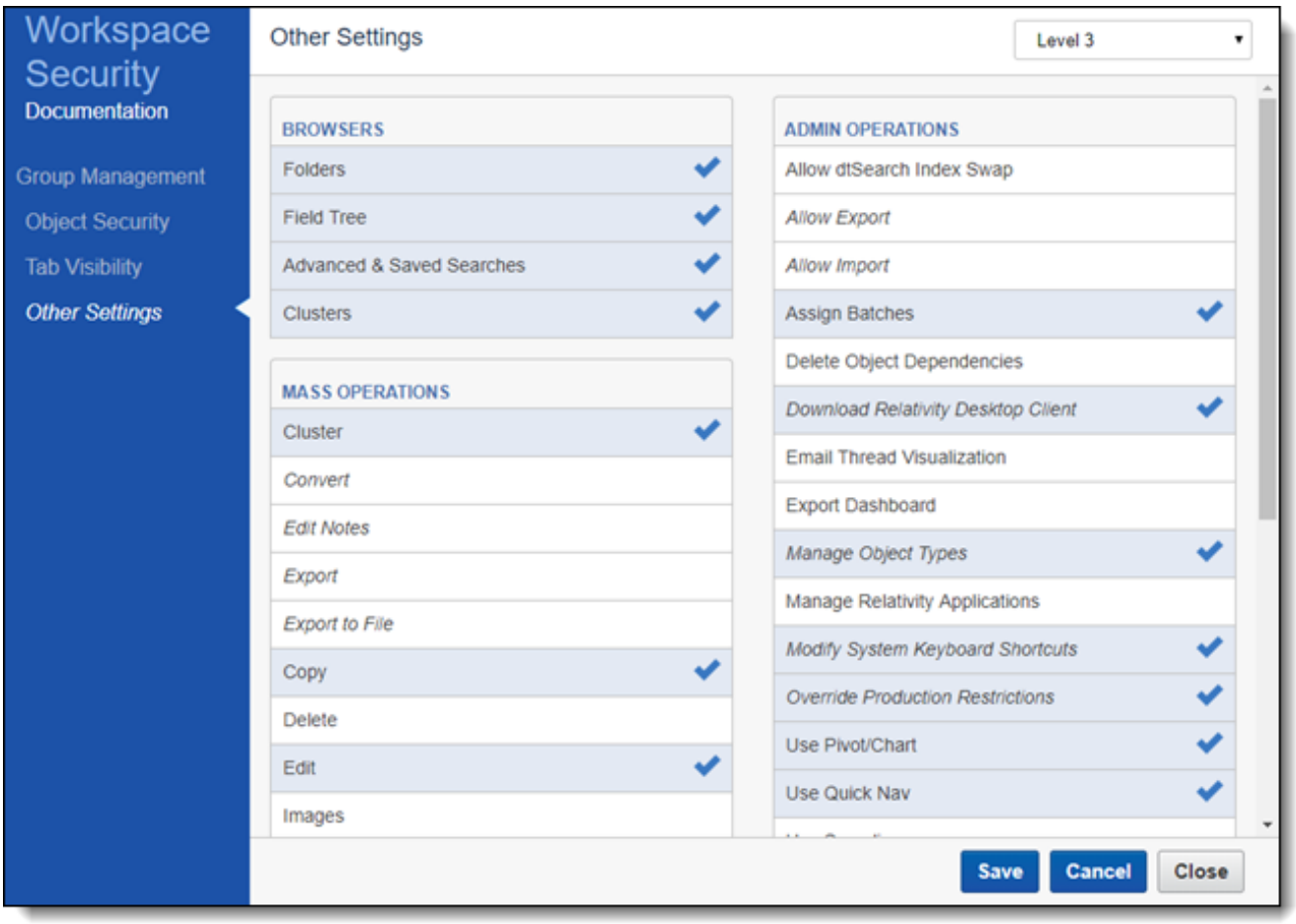
To select a parent tab and all its child tabs, mouse over the parent tab and click **Select all(#)**.

When you select a child tab, the related parent tab is automatically selected. To only select a child tab, click the parent to clear the parent selection.

40.7.5 Other Settings

With the Other Settings tab you can control browser visibility and accessibility to admin operations and mass operations in a workspace. For a complete list of admin operations, see Workspace security in the admin guide.

To enable one or more browsers, mass operations, and admin operations for a selected group in a workspace, select all settings that apply and click **Save**.



40.8 Relativity object security

Individual items inherit their objects' rights. For example, a group's rights to an individual field are determined by the field's rights across the workspace. In some cases, you may want to change the security for certain items.

Say you have a group doing contract review, and you want the group to be able to see the custodian field, but not be able to edit it. You can customize object permissions to ensure users have view rights, and not edit rights to the custodian field object.

To change the security on individual items:

1. Navigate to the item's details page, and then click **Edit Permissions**. For example, to open the details page for a particular view in a workspace, click the **Administration** tab followed by the **Views** tab, and then click the name of a view in the list. Or, click the icon for an object in a item list view with the Security field added.
2. Click the **Overwrite Inherited Security** toggle on the **Group Management** tab to set one of the following options:

- **OFF** - object inherits security settings from its parent object (i.e., case workspace).
- **ON** - modifies group access and object security overrides the workspace level security settings.

Note: Altering security permissions from overwrite inherited security to inherit security and vice versa may involve a wait time for 50,000 records or more. If this occurs, a notification appears to inform you of the impact of the change.

3. If you set **Overwrite Inherited Security** to **ON** to modify an object's security, click **Add/Remove Groups** to add or remove groups for which you want to set explicit object permissions.
4. Click **Edit Permissions** for a group to modify the group's object security rights.
5. Select any of the following object permissions to assign to the group:
   - **None** —denies users access to the object.
   - **View** —view the object. This is the lowest level object permission.
   - **Edit** —edit and view the object.
   - **Delete** —delete, edit, and view the object.
   - **Add** —add new objects. This icon turns blue when the setting is unsaved; once you click Save, the blue icon becomes grey. This icon turns green when you give users this permission both when the setting is unsaved and saved.
   - **Edit Security** —grants users the ability to edit the security of objects. This icon turns blue if you click twice indicating a not applicable status.

     Note: Not all permissions listed above apply to all objects. The Object Security tab doesn't display the icon for a permission that doesn't apply.
6. Click **Save**.

40.8.1 Securing a folder for selected groups

Folders can also be managed so that only selected groups can access a folder's contents.

To change which groups can access a folder:

1. Navigate to the Documents tab.
2. Right-click on the folder you wish to control a group's access to, and then select **Secure**.

   Note: Parent-level folders cannot be secured.
3. Click **Overwrite Inherited Security** to toggle it **ON**.

4. Click **Add/Remove Groups**.
5. Select the group or groups that you wish to add or remove, and then click the **Add** or **Remove** button.
6. Once you've added or removed all of the desired groups, click **Save**.
7. Optionally, click **Edit Permissions** next the desired group to modify that group's folder security rights.
8. Select any of the following folder permissions to assign to the group:
   - **View** - view the folders. This is the lowest level folder permission.
   - **Edit** - edit and view the folders.
   - **Delete** - delete, edit, and view the folders.
   - **Add** - add new folders. This icon turns blue when the setting is unsaved; once you click Save, the blue icon becomes grey. This icon turns green when you give users this permission both when the setting is unsaved and saved.
   - **Edit Security** - grants users the ability to edit the security of folders. This icon turns blue if you click twice indicating a not applicable status.
9. Click **Save**.

   The folder will display a padlock icon to show that **Overwrite Inherited Security** has been toggled **On** for that folder.

40.8.1.1 Folder security inheritance

If a user drags a folder with item-level security into another folder, the new child folder inherits the parent folder's security.

40.9 Preview security

The preview security feature lets system admins interact with Relativity as if they are logged in as a specific user or a member of a specific group. A system admin can then easily verify that the correct permissions are applied without logging in to Relativity under a different account.

For example, say you secured a layout from a user and you want to verify that person no longer has access to the layout. With the preview security feature, you can select the user and view Relativity as that person right from your system admin account.

If you perform a job while previewing a user's security settings, the audited action is credited to your username and not to the user whose security you were previewing when you started the job.

Consider the following:

- The Relativity Applications function must be set to **view** under Object Security in order for Preview Security to perform otherwise the system will display an error message.

- The preview security feature does **NOT** allow the system admin to monitor the actions of a user in real time; it only simulates what the user would see.

This page contains the following sections:

- Previewing security from the Workspace Details tab below
- Previewing security from the Groups tab below
- Previewing security from the Users tab below
- Auditing actions during preview security sessions

40.9.1 Previewing security from the Workspace Details tab

To preview the security of a user at the workspace-level only from the workspace details page, follow these steps as a system admin:

1. Click the **Administration** tab, and then click **Workspace Details**.
2. Click **Manage Workspace Permissions**.
3. Click **Preview** for a group on the **Group Management** tab.

   A preview window opens and shows the workspace as it looks for any user in the group. A bar labeled **You are previewing as a member of the <group name> group.** appears at the top of the window indicating that this instance of the workspace is not the system admin's view, but rather a preview of the group's view according to the assigned permissions.
4. Click **Exit Preview** in the preview bar to close the preview security session and return to workspace details.

40.9.2 Previewing security from the Groups tab

To preview security from the **Groups** tab, follow these steps as a system admin:

1. Navigate to the **Groups** tab.
2. Click the group name of the group whose permissions you want to preview.
3. Click **Preview Security.**
   A preview window opens and shows what members of the group see upon logging in to Relativity. A bar labeled **You are previewing as a member of the <group name> group.** appears at the top of the window indicating that this instance of the workspace is not the system admin's view, but rather a preview of the group's view according to the assigned permissions.
4. Click the **Exit Preview** on the preview bar to close the preview security session and return to the group details.

40.9.3 Previewing security from the Users tab

To preview security from the **Users** tab, follow these steps as a system admin:

1. Navigate to the **Users** tab.
2. Click the full name of the user whose permissions you want to preview.

3. Click **Preview Security**.
   A preview window opens and shows what the user sees upon logging in to Relativity. A bar labeled **You are previewing as <username>.** appears at the top of the window indicating that this instance of the workspace is not the system admin's view, but rather a preview of the user's view according to the assigned permissions.

   Note: If the user is a member of the System Administrators group, the preview security button is unavailable. The favorites menu and some options in the user menu are disabled during preview security sessions.

4. Click the **Exit Preview** on the preview bar to close the preview security session and return to the user details.

40.9.4 Preview security audit

Actions made during preview security sessions are audited as actions of the system admin performing the preview session, not the user being impersonated. Any action performed by a system admin are audited. Additionally, the start and end of a security preview session are audited:

- **View Audit from User Details:** The audit lists the **User Name**, **Action**, and **Timestamp** of any preview security session. The audit reports the username of the system admin performing the preview security session and Timestamps for **Security Preview Started** and **Security Preview Ended**.
- **View Audit from Group Details:** The audit lists the **User Name**, **Action**, and **Timestamp** of any preview security session. The audit reports the username of the system admin performing the preview security session and Timestamps for **Security Preview Started** and **Security Preview Ended**.

41 Servers

The Servers tab provides a complete list of all servers that exist in your environment that you added either manually or during installation. You also have the option of adding new servers to the environment and editing certain settings of existing servers.

Note: Analytics servers register automatically when you upgrade to Relativity 7.5 or above. You can also manually add Analytics and worker manager servers through the Servers tab. The Servers item list displays information like the server name, type, and version.

Using servers

You're a system admin, and one of your firm's clients, handed over a large group of documents.

One of the things you want to accomplish with Relativity's Analytics features is set up a Structured Analytics set to display email threads in an easy-to-read manner for reviewers and system admins who need to look at any of the thousands of emails.

Due to the fact that you're already using a large amount of resources for Analytics indexes in the environment, your infrastructure manager encourages you to create a new server specifically to handle the job of facilitating your Structured Analytics set.

To do this, you navigate to the Servers tab and click New Resource Server. You give this new server a name related to the case matter and Structured Analytics set you're creating. For the Type field, you select Analytics Server. For the Analytics operations field, you deselect the Analytics Indexing choice because there is already at least one server in your environment used for indexing, and you're only going to use this new server to facilitate Structured Data Analytics functions. You provide a valid URL. You also provide all pertinent REST API information, which needs to match the information you entered when you installed the Analytics sever. You then leave the other values at their defaults and save the new server entry.

You can now select the new server when creating your Structured Analytics set.

41.1 Servers automatically added during Relativity installation

41.1.1 Agent server

The agent server facilitates the work of various agents in Relativity. There must be at least one active agent server per environment. For more information, see the Agents Guide.

41.1.2 Cache location server

Cache location servers temporarily store natives, images, productions, and other file types the viewer uses. During installation, Relativity automatically creates one cache location server per file repository that is currently in use. It appends a subfolder called **cache** to the file repository path, such as \\localhost. In addition, you can add cache location servers to resource pools, so that they are available to select when you create a workspace. You must select a default cache location server when you create a workspace. For more information, see Resource pools on page 599 and Workspaces on page 810.

41.1.3 Services server

The Services server accommodates the Relativity.Services application pool, which is added automatically with the Relativity.Services virtual directory during installation.

41.1.4 SQL - Distributed server

The distributed server accommodates a distributed instance of a SQL Server, which can house multiple workspace databases at one time, with the primary SQL instance housing the EDDS database. For more information, see the Upgrade Guide.

41.1.5 SQL - Primary server

The primary server accommodates the primary instance of SQL, which houses the EDDS database. For more information, see the Upgrade Guide.

Note: On an SQL Server profile, you can edit the **Workspace Upgrade Limit** field, which controls the number of agents accessing the server during an upgrade. The setting entered in this field can't exceed the setting in the **GlobalWorkspaceUpgradeLimit** instance setting value. If you enter a number that exceeds this instance setting value, an error occurs that cancels your update. For more information, see Instance setting values and Upgrading workspaces.

41.1.6 Web server

There are multiple types of web servers:

- **Web - Distributed: Forms Authentication** - facilitates authentication based on specific code for distributed web servers. This is added automatically during Relativity installation.
- **Web Background Processing** - facilitates web background processing windows service, which is added automatically with the corresponding application pool during Relativity installation.
- **WebAPI: AD Authentication** - facilitates active directory service for the WebAPI component. This is added automatically during Relativity installation. For more information, see Authentication on page 88.
- **WebAPI: Forms Authentication** - facilitates authentication based on specific code for the WebAPI component. This is added automatically during Relativity installation.

41.2 Servers requiring manual addition after Relativity installation

41.2.1 Analytics server

The Analytics server facilitates Analytics functions. This server, if active, is available for selection when you're creating or editing an Analytics index, Structured Analytics set, and Assisted Review project. For more information, see Adding an Analytics server in the Admin Guide.

41.2.2 Worker manager server

The worker manager server performs processing, imaging, and conversion. This server also facilitates all phases of a processing job, including inventory, discovery, and publish. See Configuring the worker manager server on page 682 for more information.

41.3 Restarting Windows Services

You can restart Windows Services for agent servers, web background processing servers, worker manager servers or analytics servers by using the Windows Service console.

Use the following steps to restart a Windows service from the Windows Service console:

1. Navigate to the **Servers** tab.
2. Click the server with the Windows Service you want to restart.
3. Click **Restart Windows Service**.

41.3.1 Service Status

The Service Status section of the Windows Service console displays the state of the service. A Windows Service can have any of the following service statuses:

- **Running** - appears if Relativity detects the Windows Service is running.
- **Stopped** - appears if Relativity detects the Windows Service is stopped.
- **Pending** - appears if Relativity detects the Windows Service is in the process of restarting.
- **Unknown** - appears if Relativity is unable to detect the status of the Windows Service.

41.3.2 Manage Service

The Manage Service section of the Windows Service console allows you to restart the Windows Service or refresh the page. Click Restart Windows Service to restart the service. Click Refresh Page to revise the Service Status.

Note: You can also restart multiple Windows Services by using the mass operation option at the bottom of the Servers tab.

41.4 Analytics servers

An Analytics server is integral to performing the work of building and populating an Analytics index, which allows you to perform clustering, concept searching, and categorization. This server is also integral to Assisted Review, in that an Analytics index is required to create an Assisted Review project. This server also facilitates Structured Analytics operations, including email threading and the identification of textual near duplicates, language, and repeated content.

41.4.1 Adding an Analytics server

To manually add new Analytics server to your environment:

1. Click your name in the upper right corner of Relativity, and then click **Home**.
2. Select the **Servers** tab.
3. Click **New Resource Server**.

4. Complete the fields on the form. See Fields below.
5. Click **Save**.

Relativity now attempts to retrieve information from the server. If this call fails, you receive an error. To save your changes, ensure that the web server can reach the server.

41.4.2 Fields

The Analytics server fields are:

- **Name** - the name of the Analytics server.
- **Type** - select **Analytics Server**.
- **Analytics operations** - select which Analytics operations can run on the Analytics server. This field defaults to permitting Analytics Indexing and Structured Data Analytics operations. See the Analytics Guide. This field only appears when the server type is Analytics.
- **URL** - enter the URL of the server. An Analytics server URL should be in the following format: https://<servername.FQDN>:8443/
  - For versions prior to Relativity 9.4.361.1, you must add “nexus/services/” after the port number (e.g., 8443/nexus/services/). The nexus/services/ portion of the URL is both case sensitive and requires a trailing slash.
- **REST API port** (this option no longer displays in the server dialog as of Relativity 9.4.361.1) - the port used by the Analytics server's REST API. This value must match the port specified during installation of the Analytics server.
- **REST API username** - the username Relativity uses to authenticate the Analytics server's REST API. This value must match the username specified during installation of the Analytics server.
- **REST API password** - the password Relativity uses to authenticate the Analytics server’s REST API. This value must match the password specified during installation of the Analytics server. As of Relativity 9.4.361.1, this field is required for Analytics servers. This field is required for Analytics servers on which a password as not yet been provided in Relativity. This field is optional if you’re editing an Analytics server that already has a password set. If you need to change the REST API password, you need to run the Analytics server installer and enter the new password. You must then enter the new password here. For information on installing the Analytics server, see the Relativity Upgrade Guide.

  Note: The REST API password entered must be 20 characters or less.

- **Status** - select **Active** or **Inactive**. Relativity automatically updates this value to **Inactive** when the respective agent for an Analytics server exceeds the maximum connection attempts set in the Relativity Instance setting table. After this update is complete, you no longer receive email notifications indicating that the connection has failed. This change doesn’t affect the server functionality, and you can reset the value as necessary.

Note: When you upgrade Relativity, some servers don't list the updated version number until you start them. This means that if a server still lists an old version number after you've already upgraded, you need to click the Edit link next to the server name and change its Status field to Active.

- **Version** - a read-only field that Relativity automatically updates when you click **Save**. It also updates on a nightly basis to reflect any version changes. You should run the same version of Analytics on all Analytics servers that you add.
- **Maximum connectors** - the maximum number of connections allowed between the Analytics server and SQL for each index that uses this server. The default value is 4.
- **Maximum total connectors** - the maximum number of connections allowed between the Analytics server and SQL across all indexes using this server. The default value is 50.

Note: Connectors pass data from the Analytics server to SQL during index population. Connectors have no impact on index build, enabling queries, or search performance. For more information, see Connectors functionality on the next page.

41.4.3 Editing an Analytics server

To edit certain settings for an existing Analytics server, follow these steps:

1. Click your name in the upper right corner of Relativity, and click **Home**.
2. Select the **Servers** tab.
3. Click the **Edit** link next to the server's name to display the server form.
4. Update the following fields as necessary:
   - **Name** - enter a name for the Analytics or worker manager server.

     Note: You can't modify the **Type** or **URL** assigned to a server.

   - **Analytics operations** - select which Analytics operations can run on the Analytics server. This field defaults to permitting **Analytics Indexing** and **Structured Data Analytics** operations. See the Analytics Guide. This field only appears when the server type is Analytics.
   - **REST API port** (this option no longer displays in the server dialog as of Relativity 9.4.361.1) - the port used by the Analytics server's REST API. This value must match the port specified during installation of the Analytics server.
   - **REST API username** - the username Relativity uses to authenticate the Analytics server's REST API. This value must match the username specified during installation of the Analytics server.
   - **REST API password** - the password Relativity uses to authenticate the Analytics server's REST API. This value must match the password specified during installation of the Analytics server. As of Relativity 9.4.361.1, this field is required for Analytics servers.This field is required for Analytics servers on which a password as not yet been provided in Relativity. This field is optional if you're editing an Analytics server that already has a password set. If you

need to change the REST API password, you need to run the Analytics server installer and enter the new password. You must then enter the new password here.

Note: The REST API password entered must be 20 characters or less.

- **Status** - select **Active** or **Inactive**. Relativity automatically updates this value to **Inactive** when the respective agent for an Analytics or worker manager server exceeds the maximum connection attempts set in the Relativity Instance setting table. After this update is made, you'll no longer receive email notifications indicating that the connection has failed. This change doesn't affect the server functionality, and you can reset the value as necessary.
- **Maximum connectors** - the maximum number of connections allowed between the Analytics server and SQL for each index that uses this server. The default value is 4.
- **Maximum total connectors** - the maximum number of connections allowed between the Analytics server and SQL across all indexes using this server. The default value is 50.

Note: Connectors pass data from the Analytics server to SQL during index population. Connectors have no impact on index build, enabling queries, or search performance. For more information, see Connectors functionality below.

5. Click **Save**.

When you click save, Relativity attempts to retrieve information from the server. If this call fails, you'll receive an error message. To save your changes, ensure that the web server can reach the server.

41.4.4 Adding an Analytics server to a resource pool

When you add an Analytics server to your environment, you also need to add that server to the resource pool referenced by the workspace so that you can select it when creating Analytics indexes. For more information, see Adding resources to a pool.

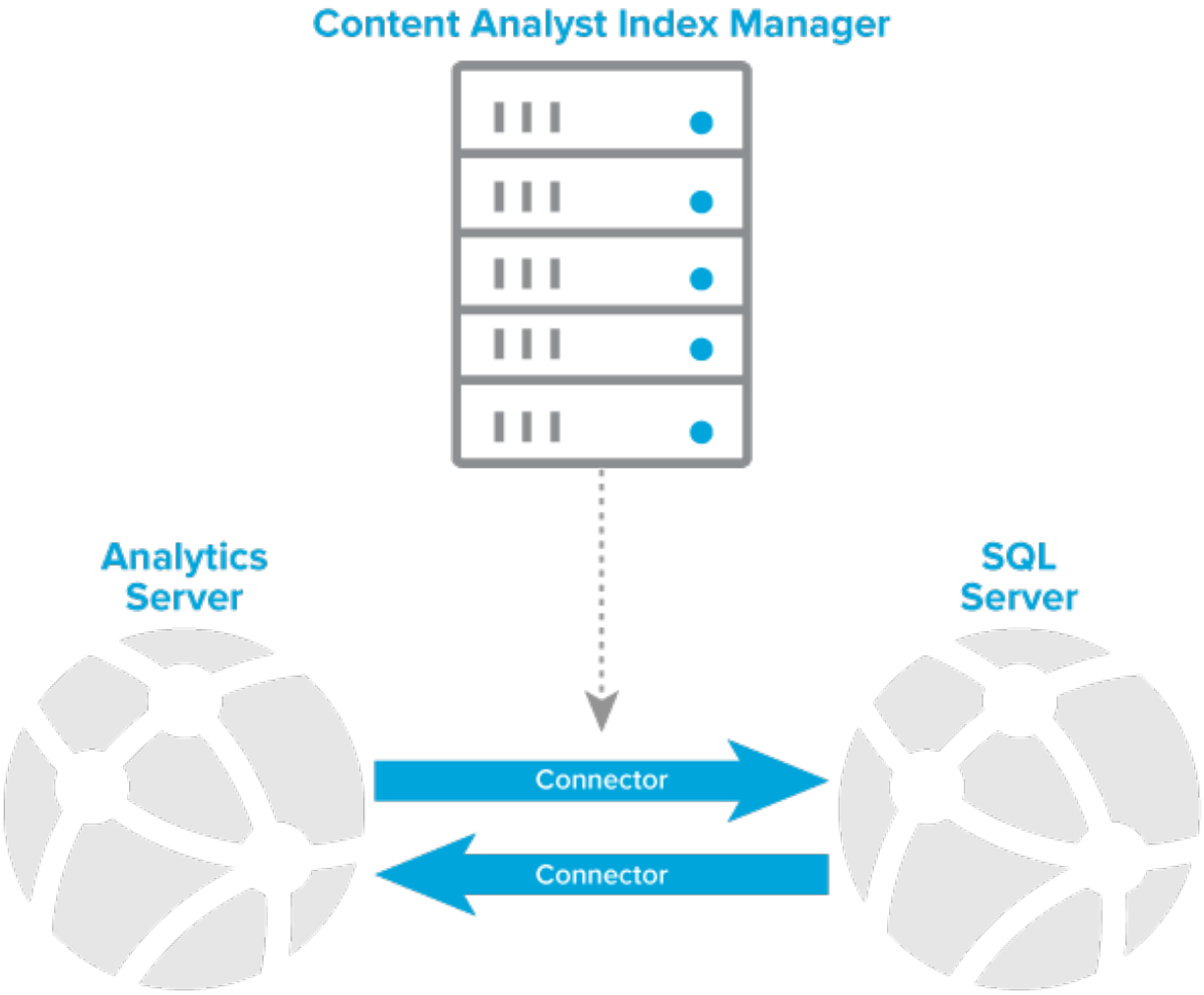
41.4.5 Connectors functionality

Connectors increase performance when populating the index by allowing the Analytics server and the SQL Server to communicate directly with each other and not having to go through the agent to send and receive calls. This direct line between servers reduces the number of entities involved in index population and leads to faster population times.

Analytics index population involves the following:

1. The Content Analyst Index Manager Agent queries SQL to see if it should populate any indexes.
2. If there is an index to populate, the agent creates connectors, not exceeding the number of connectors specified on the Analytics server.
3. The connectors allow the Analytics server to query the SQL database directly.

4. The agent monitors the progress and reports back the status of the population.



41.5 Cache location servers

Cache location servers temporarily store natives, images, productions, and other file types the viewer uses. These servers also provide you with the option to manually clear the cache locations in your environment during off-hours, which mitigates any difficulties your reviewers experience as they display documents in the viewer. It also helps to enhance the review experience.

41.5.1 Adding a cache location server

Whether you've upgraded or installed Relativity for the first time, you can manually add a cache location server through the following steps:

Note: For more information on the cache location parameter of the Relativity installer, see the Relativity Installation Guide.

To add a cache location server:

1. Click the **Servers** tab.
2. Click **New Resource Server**.
3. Complete the fields on the Resource Server Information layout. See Fields below.
4. Click **Save**.

Note: After you save the new cache location server, Relativity updates its layout to include the Cache Details console on the right side, which provides information about the cache and the option for clearing it manually. See Cache location servers on the previous page.

41.5.2 Fields

The fields for a cache location server include:

- **Name** - the name of a cache location server.
- **Type** - select **Cache Location Server**. This option updates the layout so it appears only the fields required for adding a cache location server.
- **Visible In Dropdown** - select **Yes** or **No** in the drop-down to display the server as an available item within the drop-down list when creating a new workspace.
- **UNC Path** - enter the file path for the location where you want to store your cache for natives, images, productions, and other files types that the viewer uses. Relativity displays an error message and prevents you from creating the server if the UNC path is invalid. Additionally, don't enter a URL already in use by an existing cache location server.

41.5.3 Editing a cache location server

You may need to edit a cache location server. For example, your workspace becomes too large and you need to move it to another location, which would then require you to update the UNC path of your cache location server.

To edit a cache location server:

1. Click the **Servers** tab.
2. Locate the server you need to edit and click the **Edit** link next to its name.
3. Edit the **UNC Path** field on the layout for the cache location server. This is the only editable field on the layout.
4. If applicable, edit the **Visible In Dropdown** drop-down on the layout.
5. Click **Save**.

41.5.4 Adding a cache location to a resource pool

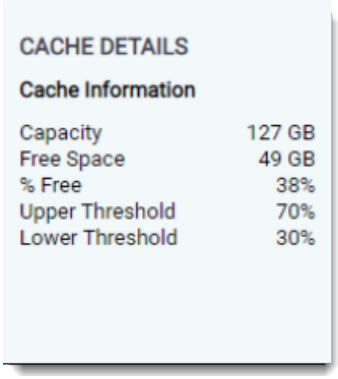
When you install or upgrade to Relativity Server 2022, the installer automatically creates a new cache location server for each file repository currently used in your environment and updates the resource pool that the workspace uses with that cache location server.

If you manually add an additional cache location server to your environment, you need to add that new server to a resource pool. For more information, see Adding resources to a pool.

41.5.5 Clearing the cache

You are not required to manually clear cache locations. Relativity provides the Conversion Cache Manager agent, which automatically clears the cache locations in your environment during off hours. This is useful because when the cache is full, the viewer can only display documents that are already cached.

The details view of a cache location server includes the Cache Details console as illustrated in the following screen shot:



The Cache Details console displays the following information:

- **Capacity** - indicates the total amount of space on the drive or partition where the cache location server resides.
- **Free Space** and **% Free** - indicates the amount of available space on the drive or partition in gigabytes and by percentage respectively.

41.5.6 Resolving cache alerts

Relativity displays an alert when the cache size is greater than the upper threshold listed in the CacheLocationUpperThreshold instance setting. You can resolve this alert by completing one of the following tasks:

- Complete the steps in Cache location servers on page 676. The alert disappears when the cache size falls below the upper threshold.
- Wait for the Conversion Cache Manager agent to clear the cache. Depending on how you have set your instances settings, your cache may have met the value in the CacheLocationUpperThreshold instance setting value, but your drive may still have space on it.
- Increase the space on the hard drive where the server resides.
- Increase the value for the CacheLocationUpperThreshold instance setting value.
- Add a new cache location server to the hard drive with additional space. See Adding a cache location server on page 676.

41.6 SQL, agent, services, and web servers

In addition to Workers, Analytics, cache location, and Worker Manager servers, the Servers tab also lists all SQL, agent, services, and web servers that were automatically registered in your environment when you

upgraded to or installed Relativity. You can't manually add these types of servers to your environment through the Servers tab, but you can monitor their status and view their version.

41.6.1 Adding SQL, agent, services, or web servers

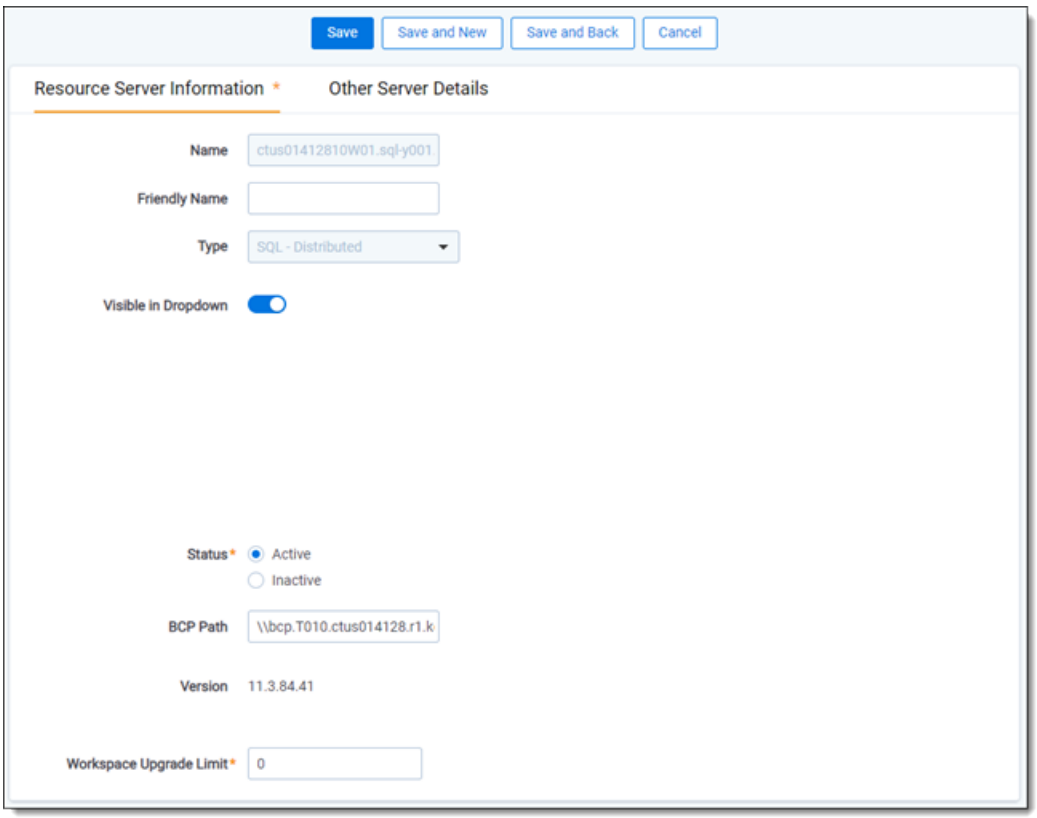
Upon upgrading or installing Relativity, the SQL, agent, services, and web server types on the network automatically register with the Servers table. Therefore, you don't need to manually add these server types.

For more information on how each of these server components fits into the upgrade process, see the Relativity Upgrade guide.

41.6.2 Editing SQL, agent, services, or web servers

To edit a SQL, agent, services, or web server, locate the server you want to edit in the Servers tab and click the **Edit** link next to its name. The fields available for editing vary per server type.

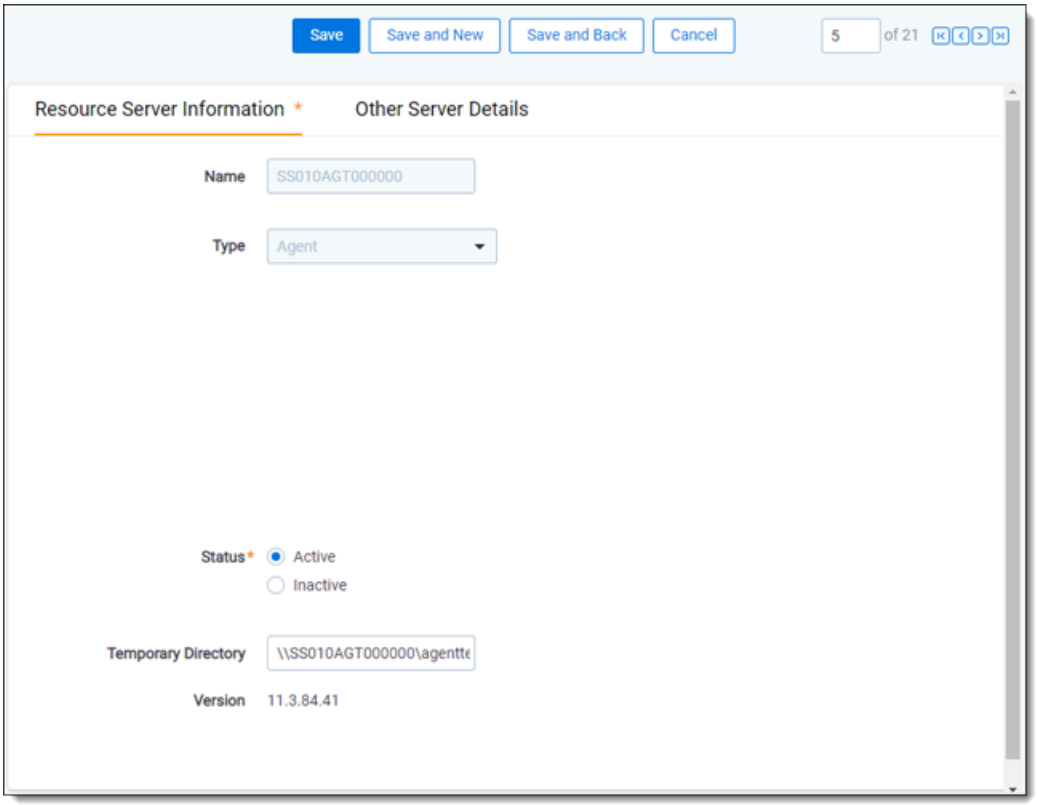
- The following fields are editable on a SQL Server:



  - **Friendly Name** - enter a user-friendly name to the SQL Server that indicates its purpose.
  - **Visible In Dropdown** - select **Yes** or **No** in the drop-down to display the server as an available item within the drop-down list when creating a new workspace.
  - **Status** - indicate whether you want the SQL Server to be Active or Inactive.
  - **BCP Path** - list the UNC share path used to store temporary files during bulk copy operations.
  - **Workspace Upgrade Limit** - enter the maximum number of agents able to access the SQL Server during an upgrade of Relativity. The setting entered in this field can't exceed the setting

in the **GlobalWorkspaceUpgradeLimit** instance setting value. For more information, see the Upgrade guide.

- The following fields are editable on an agent server:



  - **Status** - indicate whether you want the agent or services server to be Active or Inactive.
  - **Temporary directory** - list the UNC share path used to store temporary files during Relativity processes related to the work that the agent did. Note that this field is available for agent and web servers but not for Services servers. Among the Relativity features or components that use the temporary directory for storage purposes are:
    - Analytics (analytics indexer)
    - dtSearch (dtSearch indexer)
    - ECA and Investigation
    - Data Grid
    - Text extraction queue
    - Search Terms Reports

- You can edit the Status and Temporary directory fields on a web server. You can also edit certain load balancing fields on a web server. For details, see Monitoring Relativity user load balancing (RULB) on web servers on the next page.

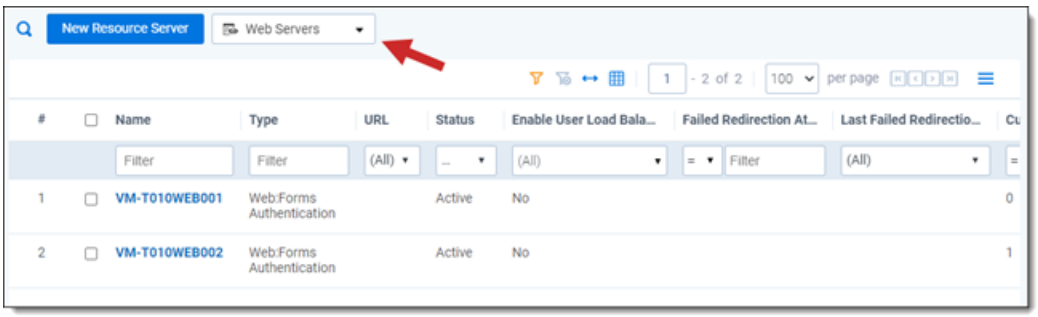
41.6.3 Monitoring Relativity user load balancing (RULB) on web servers

You can equally distribute user loads across all web servers by setting the **Enable User Load Balancing** option, which is available when you edit a web server. Relativity performs load balancing by checking the user status table to determine how many users are logged in to each web server. When a user logs in to the application, the system logs in a user to the server with the smallest number of users. This functionality requires you to set up multiple URLs and web servers.

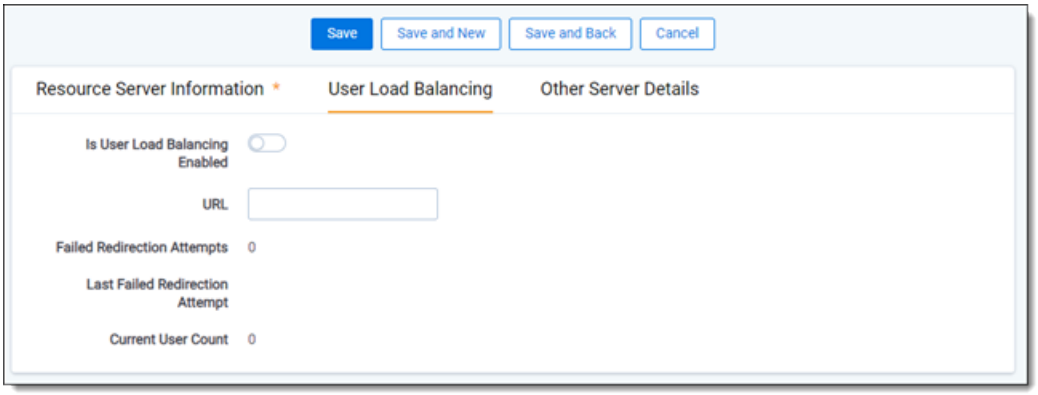
Relativity user load balancing (RULB) leverages Microsoft's network load balancing (NLB), in that it lets you set up multiple web servers through NLB and then assign each server an external IP address and URL.

Note: RSA user load balancing is not supported.

On the Servers tab, you can track load balancing per server. Select the **Web Servers** view to display fields that you can use to monitor load balancing.



The Web Servers layout includes the following user load balancing fields:



- **Enable User Load Balancing** - indicates whether user load balancing is enabled for the server. By default, this is set to No. Set this to **Yes** to arrange for user load balancing between web servers.
- **URL** - enter the URL of the web server location. This must be a valid URL, and you must equip it with a certificate that permits it to communicate with the web server being balanced. For example, you have a URL of *https://relativity.company.com/* to direct traffic to the NLB cluster, which contains two web servers. Those two web servers need their own external facing IP and URL, such as *https://relativity1.company.com*, which brings traffic to web server 1. Meanwhile, *https://relativity2.company.com* brings traffic to web server 2. If you enable Relativity user load balancing and

access Relativity using *https://relativity.company.com*, it directs you to one of those two URLS. Then, the next person to log in to the system would be directed to the other URL, and so on.

- **Failed Redirection Attempts** - lists the number of times that Relativity failed to redirect the user to a URL. When Relativity detects servers participating in user load balancing, it attempts to pass new login requests to the least-utilized server. If this server is unresponsive, Relativity logs a failed redirection attempt and passes the user to the next least-utilized server. Relativity disables user load balancing for the server after 10 failed redirection attempts occur within 10 minutes. Users don't experience any difference in Relativity performance when they're redirected due to a failed attempt.
- **Last Failed Redirection Attempt** - lists the date and time of the last failed redirection to the URL used for load balancing.
- **Current User Count** - lists the number of users currently using a web server.

Note: We recommended that you not bypass NLB when using Relativity user load balancing, as NLB includes a cluster name that then provides redundancy. That cluster name makes it so that if one component goes down, the balancing can be distributed across the other two components of the cluster. Relativity load balancing provides no such redundancy on its own.

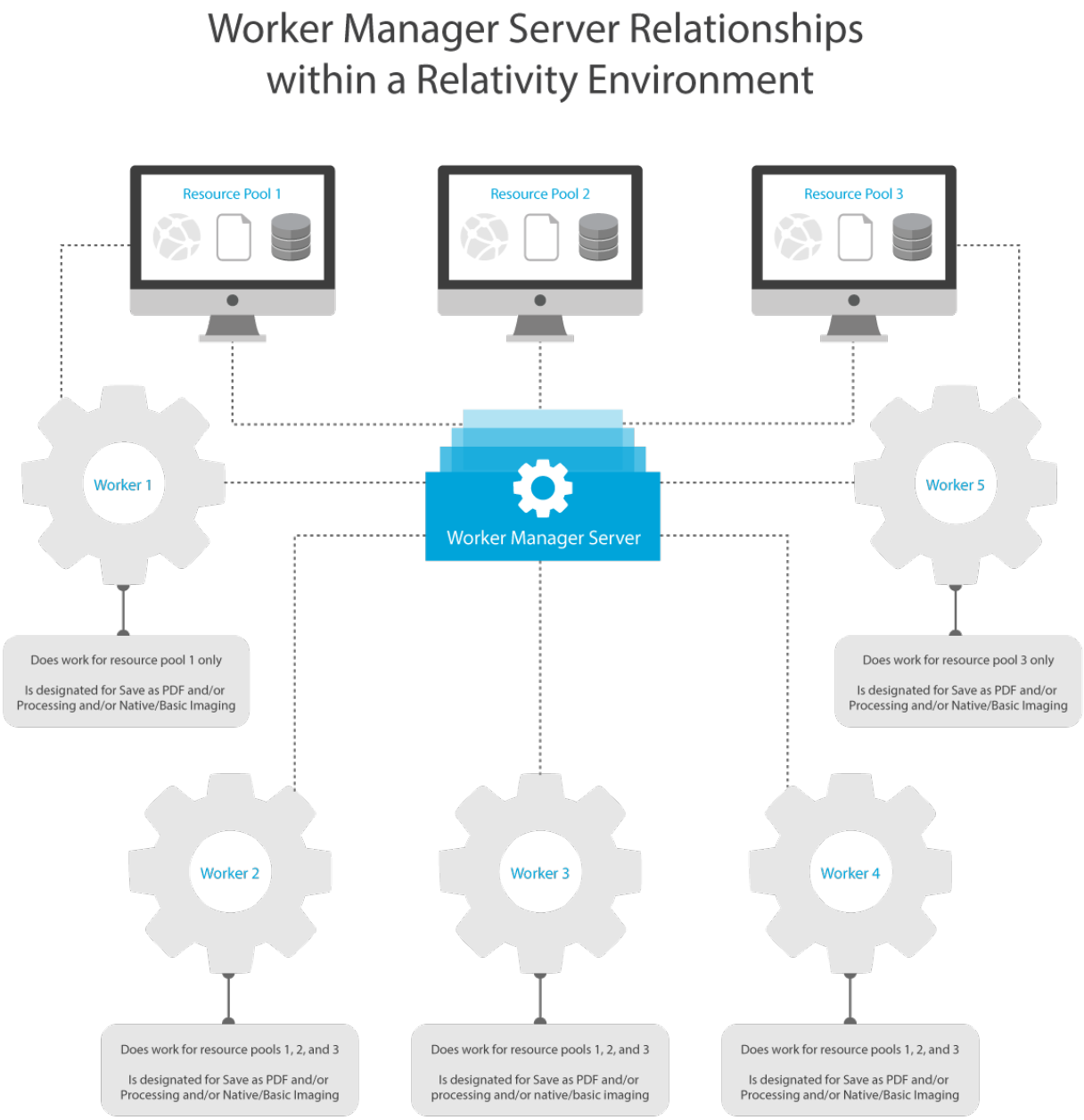
For more information on web server registration, contact Support.

41.7 Configuring the worker manager server

The worker manager server uses workers to perform imaging, and all phases of processing, including inventory, discovery, and publish. You can configure the default queue priorities for your entire environment on the Worker Manager Server layout. If you are not licensed for processing, then the worker manager server only handles save as PDF and imaging.

Note: Even though Invariant is required for Server 2022, you aren't required to purchase a Processing license unless you are using Processing.

The following graphic depicts the connections between your resource pool, worker manager server, and workers. This is meant for reference purposes only.

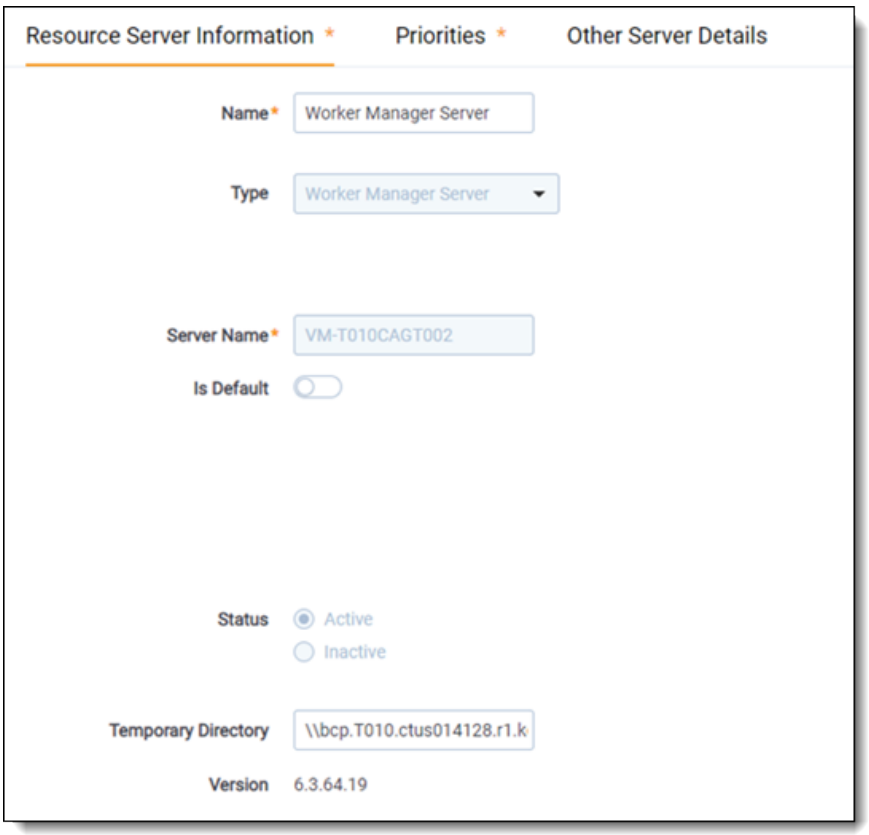


41.7.1 Resource server information

Use the following steps to access the worker server manager settings:

1. Navigate to the **Servers** sub-tab.
2. Click the name of the worker manager server in the list of servers.
3. If you want to edit the fields, click **Edit**, make the desired changes, and click **Save**.

The following fields are visible on a worker manager server:



- **Name**—give the worker manager server a name that appears on the Servers tab.
- **Type**—this is a read only field that displays the server's primary function.
- **Server Name**—the name of the server where the Invariant Queue Manager is installed. This value should include a fully qualified domain if the server is on a domain. For example, *pt-func-sql02.testing.corp*.

  Note: This value does not require a net.tcp reference that includes a port number. It also does not require a domain unless the worker manager server and Relativity are on different domain.

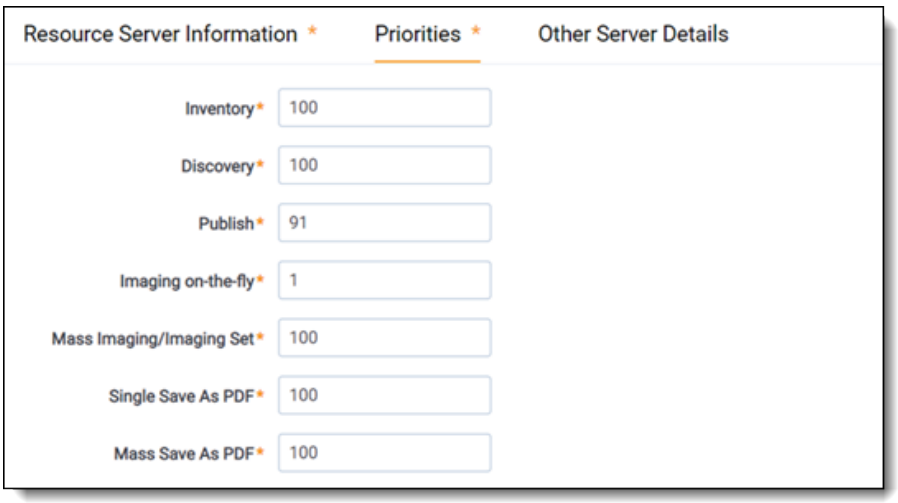
- **Is Default**—if checked, this worker manager server is the default worker manager server added to any resource pool upon creation and any resource pool that does not currently have a worker manager server. On upgrade, the default worker manager server automatically associates with all existing resource pools. If unchecked, you must manually add the worker manager server to each resource pool.

  Note: Every resource pool should have a worker manager server linked to it. If a resource pool does not have a worker manager server linked to it, any workspace linked to that resource pool is unable to perform imaging and processing.

- **Status**—when a worker manager server is added to Relativity, the server manager agent attempts to make a connection and get information about workers. The Status field is automatically set to **Active** if a server is online. Relativity automatically updates this value to **Inactive** when the server manager agent exceeds the maximum connection attempts set by the ServerManagerRetries instance setting.

- **Temporary directory**—a UNC share path used as a temporary location for storing files during Relativity processes. This field is available for all server types except Analytics servers. Use the format **\\<server name>\ <shared folder name>** for the path, and ensure that the directory is accessible to the agent server running the export. Relativity validates the path you enter. If the path format is invalid, you receive an error message when trying to save. If a permission error occurs, Relativity writes a message to the Errors tab.
- **Version**—this read only field displays the version of Invariant installed on the worker manager server.

Use the **Priorities** tab to specify which jobs the worker manager server gives precedence to when managing jobs. Only one OCR job runs at a time, the lower numbered job runs first and the higher numbered job runs last.



- **Inventory**—holds the prioritization for inventory jobs.
- **Discovery**—holds the prioritization for discovery jobs.
- **Publish**—holds the prioritization for publish jobs.
- **Conversion**—document conversion occurs on conversion agents working with Rabbit MQ or Windows Service Bus. You cannot modify the priority of the following conversion jobs on the worker manager server: conversion on-the-fly, pre-convert, mass conversion, and conversion. For more information, see Configuring your conversion agents in the upgrade guide.
- **Imaging**—holds the priority for imaging jobs, both native and basic.
- **Image on the Fly**—holds the priority for Image on the fly jobs.
- **Save As PDF**—holds the priority for Save as PDF jobs.
- **Mass Imaging/Imaging Set**—holds the priority of a mass imaging job or imaging set
- **Single Save As PDF**—holds the priority for when you execute Save as PDF on a single document.
- **Mass PDF**— holds the priority for all Mass PDF jobs. These occur when you select a group of documents from the Documents tab and then select the Save As PDF option from the mass operations drop-down menu.

41.8 Workers

Workers are the machines a worker manager server uses to complete imaging, and processing jobs. Workers are designed to centralize and streamline some of the jobs that used to be performed exclusively by agents. You can designate the types of jobs a worker can perform, limit a worker to only perform jobs for particular resource pools, and start or stop a worker during maintenance periods. A worker performs tasks for all resource pools associated with its worker manager server unless you opt to limit the worker to particular resource pools.

This page contains the following sections:

- Adding a worker below
- Fields below
- Editing worker designated work on the next page
- Starting and stopping workers on page 689
- Workers above
- Limiting workers to particular resource pools on page 689

See these related pages:

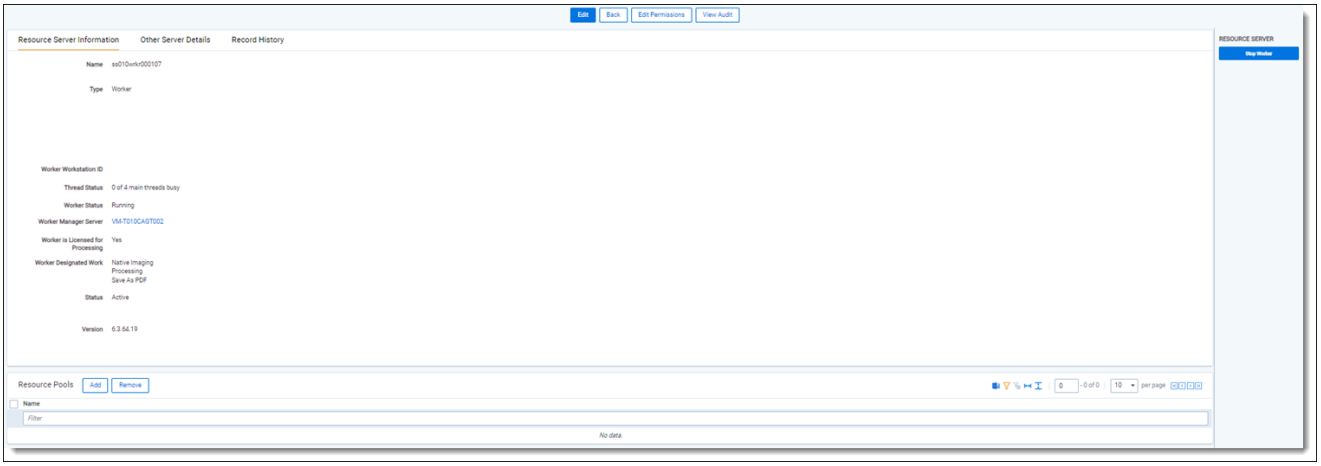
- Servers on page 670
- Configuring the worker manager server on page 682

41.8.1 Adding a worker

When you add a worker manager server to your Relativity environment, you specify the workers that you want that worker manager server to govern. Thus, it's impossible to add workers without adding a worker manager server.

41.8.2 Fields

Access a worker's fields by navigating to the Servers sub-tab and clicking the name of the worker.



Each worker displays the following fields:

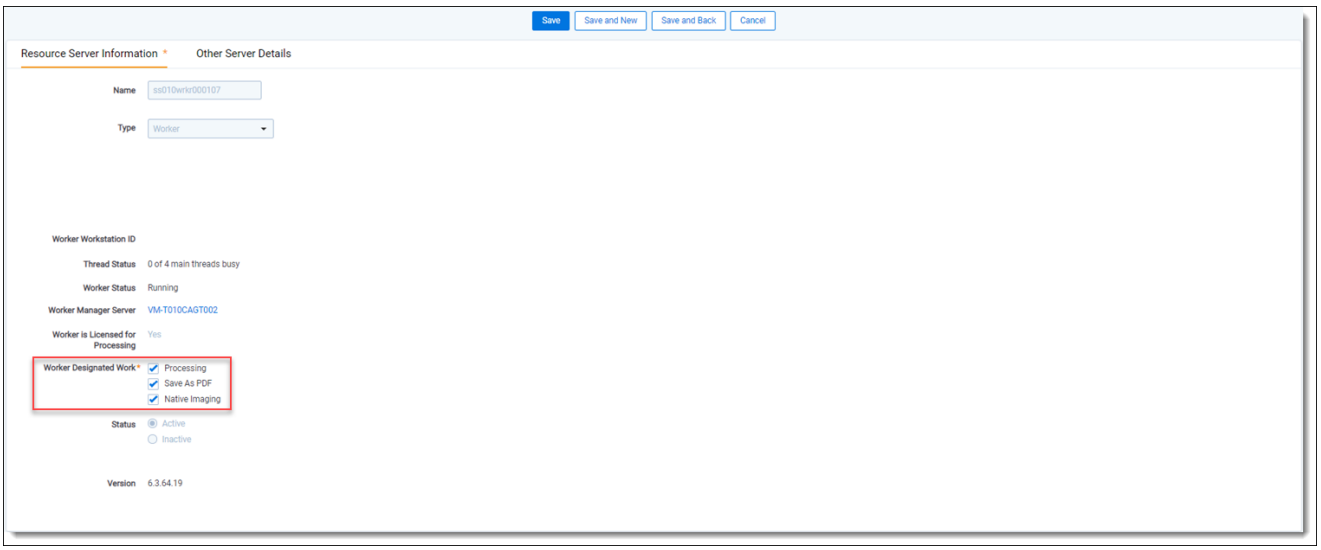
- **Name** - displays the worker's computer name. The worker manager server reads the computer name of the worker during the installation process.
- **Type** - displays the word "Worker" and populates the Type column on the Servers tab so that you can more easily sort servers and workers.
- **Worker Workstation ID** - displays the ID applied to the worker by the worker manager server on installation.
- **Thread Status** - displays the number of threads that are busy and available on the worker. If the thread status reads, "1 of 16 main threads busy", it means that only one of the 16 available threads on the worker is performing a task. The total number of threads a worker can have is determined by both the number of processing cores on the worker and the amount of RAM installed.
- **Worker Status** - displays whether or not the worker is running or stopped. Click the Change Worker Status button to start or stop the worker.
- **Worker Manager Server** - displays the name of the worker manager server managing the queue for this worker.
- **Worker is Licensed for Processing** - displays whether or not the worker is licensed to perform processing jobs.
- **Worker Designated Work** - displays all job types this worker is able to perform.
- **Status** - displays whether or not the worker is Active or Inactive.
- **Version** - displays the version of Invariant on the worker manager server managing the queue for this worker.
- **Resource Pools** - displays all resource pools the worker can perform tasks for. If this list is empty, the worker can perform tasks for any resource pool associated with the worker manager server.

41.8.3 Editing worker designated work

The worker manager server automatically detects all potential tasks any worker is able to perform and configures each worker's Worker Designated Work fields accordingly. To improve the performance of a worker, you can select only the job types you want sent to the worker. The worker's main threads are only used to perform designated work. You must select at least one task type for each worker.

Note: By default, when you install Relativity, each worker in your environment is designated to do all available work (processing and imaging).

You can designate a worker to perform one or more of the following job types:



- **Processing** - if checked, permits the worker to perform processing. If unchecked, the worker can't perform processing tasks. Processing is only available for workers licensed for processing. This option is uneditable if any of the following conditions exist:
  - The worker doesn't have the prerequisites installed to perform processing tasks.
  - Your instance of Relativity isn't licensed for processing.
  - The license status for this worker is set to Processing Disabled, see Workers on page 686.
- **Save As PDF** - if checked, permits the worker to save documents as PDF files through the Save As PDF mass operation. If this is unchecked, you won't have the option to Save as PDF through the mass operation drop-down menu. Specifically, the option will be available, but if you select it, the job will simply hang without showing progress and without displaying any errors. If this is unchecked, users won't have the option to Save as PDF through the mass operation drop-down menu. For more information, see Mass PDF on page 429.
- **Basic Imaging / Native Imaging** - permits the worker to perform imaging jobs if checked. If unchecked, the worker can't perform imaging tasks. Either Basic Imaging or Native Imaging appears as an option for the Worker Designated Work field. If you see Basic Imaging, it means that the worker doesn't have the necessary prerequisite software required to perform native imaging. If you see Native Imaging, it means that the worker has the prerequisite software installed to perform native imaging.

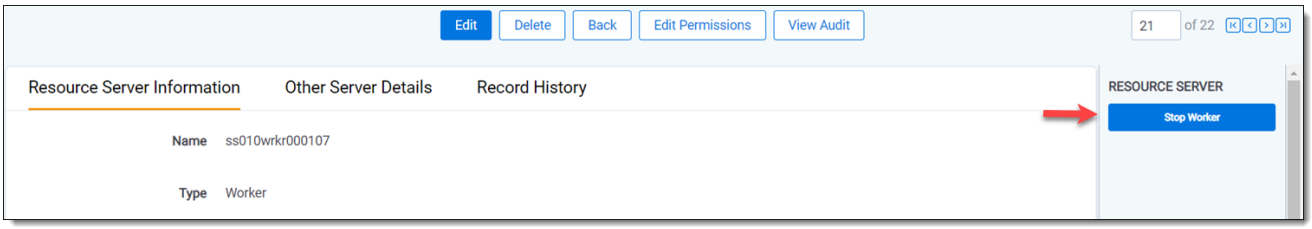
Use the following steps to edit the worker designated work field:

1. Navigate to the **Servers** sub-tab.
2. Click the worker you want to edit.
3. Click **Edit**.
4. Modify any field according to your preference.
5. Click **Save**.

Note: If you are unable to make any selections on the Worker designated work field, use the Change Worker Status button to switch the worker to Stopped, then switch the worker back to Started. See Starting and stopping workers below for more information.

41.8.4 Starting and stopping workers

The button on the Resource Server console lets you start or stop a worker. If the Stop Worker button is available and clicked, the imaging set using this server becomes suspended, and Relativity generates a notification email. In this case, the button changes to a Start Worker button that you must click in order to run imaging jobs through that imaging set. If the Start Worker button is available and clicked, the worker can run imaging jobs through that imaging set and the button changes to Stop Worker.



- **Start Worker** - worker can receive jobs sent from the worker manager server.
- **Stop Worker** - prevents the worker from receiving jobs sent from the worker manager server.

41.8.5 Limiting workers to particular resource pools

You can limit a worker to only perform jobs for particular resource pools. When you associate a worker with a resource pool, its resources are only available for jobs that originate from within that resource pool. You can limit a worker to multiple resource pools.

41.8.5.1 Limiting a worker to a resource pool

Use the following steps to limit a worker to a resource pool:

1. Navigate to the **Resource Pools** sub-tab.
2. Click the name of the resource pool you want to limit a worker to.
3. Click **Add** in the **Agent and Worker Servers** section.
4. Select the checkbox next to the name of the worker you want to limit to this resource pool and move the selection to the right column.
5. Click **Apply**.

Note: If you add a worker to one or more resource pools, it is unable to perform tasks for any other resource pool. If you don't add the worker to any resource pools, it can perform tasks that originate from any resource pool associated with the worker manager server.

41.8.5.2 Removing a worker from a resource pool

Use the following steps to remove a worker from a resource pool:

1. Navigate to the **Resource Pools** sub-tab.
2. Click the name of the resource pool you want to remove the worker from.
3. Select the checkbox next to the name of the worker you want to remove from this resource pool in the **Agent and Worker Servers** tab.
4. Click **Remove**.
5. Click **Remove** again in the confirmation modal.

Note: If a worker is not limited to any resource pools, it performs tasks that originate from any resource pool associated with the worker manager server.

41.9 Worker monitoring

The worker monitoring tab provides a comprehensive view into the status of all the workers and worker threads in an environment.

The information on this tab lets you monitor the health, performance, and state of your workers, thus allowing you to quickly identify what is occurring in your environment and more efficiently troubleshoot potential issues you're experiencing with any of the jobs that your workers perform, including processing and imaging.

Using worker monitoring

At the end of the day yesterday, you started to publish a processing set with the intention of allowing the publish job to run overnight. The set was large, but not significantly larger than ones you've published before.

This morning, you looked at the progress of the set, and you noticed that it was stuck at a very low completion percentage when it should have completed already. You suspect that issues with your workers are causing the job to hang, and you're inclined to call Relativity support to see if they can access your database to diagnose the problem.

Before you do that, you decide to refer to the Worker monitoring tab to see if there are any abnormalities that you can identify yourself, such as the levels of CPU or memory usage listed for the worker that is performing your processing job.

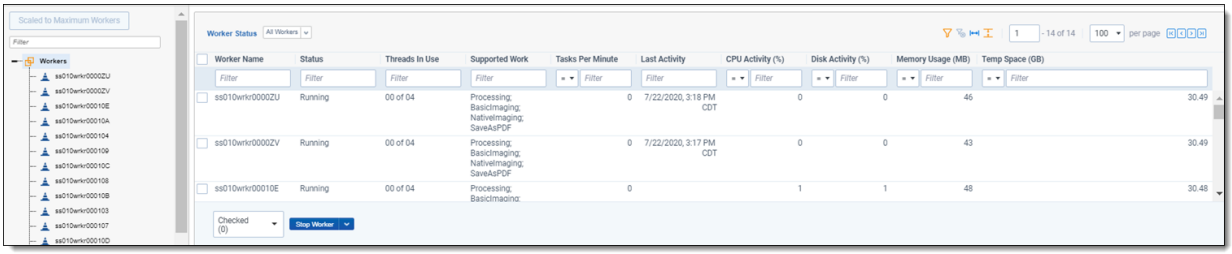
When you locate the worker performing the publish job in the Worker monitoring tab, you notice that it's showing that all threads are in use and that the memory reading is far higher than normal. Now you know that something might be wrong and that you may need to add more memory to your system in order to accommodate a job of this size.

Note: When you use the worker monitoring tab, any column you don't have access to in the All Workers view or any of the threads views displays a value of **Item secured**. This includes RDOs such as data sources, processing sets, imaging sets, etc. It also includes instances of admin objects such as servers and workspaces. If you don't have access to view a worker or a workspace, the Worker and Workspace columns display the Item secured value, and the rest of their rows are blank.

41.9.1 Monitoring workers

To monitor worker status:

1. Search for "worker monitoring" on the Relativity homepage or navigate to the **Processing Administration** tab. Note that your tab structure might be different, so your Worker monitoring tab might be located somewhere else in your tab bar.
2. Select the **Worker monitoring** sub-tab. Select the **All Workers** view from the drop-down list if you weren't taken there by default.
3. Refer to the following fields:



- **Worker Name** - the name you gave the worker. You can only see workers that are on resource pools to which you have access. For better visibility of a worker's current workload, you can hover over the worker's name to display a call-out containing its CPU activity, disk activity, tasks per minute, temp space (GB), and last activity. These values will reflect those contained in the fields to the right of the worker name.
- **Status** - reflects the current status of the worker.
  - If set to **Service not responding** or **Service call failed**, then the other fields on the view will be empty or display percentages of 0, as they'll have no current job information to report. An idle thread is simply one for which there is currently no active work.
  - If set to **Running**, it means that the worker thread is performing one of its designated jobs.
  - If the queue manager service goes down, the Servers page in Relativity may display a different status value for your workers than what appears on the Worker monitoring page. This is because the Servers page retrieves the worker's status from the Queue Manager and displays whatever status the worker had before the queue manager went down. When the queue manager is down, there's no way for the Servers page to get an updated status. Meanwhile, the Worker monitoring page displays a custom error such as Service not responding, and is actually more accurate than the Servers page in this case.
- **Threads in Use** - the number of threads that are busy performing processing or imaging out of the total number of threads available on the worker. This value depends on the configuration of the worker.
  - The maximum total number of threads is 16. The minimum number of threads in use is zero if the worker is idle and not working on anything.
  - The formula for the maximum threads on a worker is 1 thread per 750MB of RAM or 2 threads per CPU up to 16 threads total, whichever thread count is smaller. For more information on worker-thread configuration, see Workers on page 686.

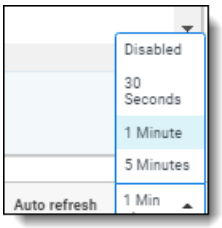
- **Supported Work -** the work for which the worker is designated. This value could be any combination of the following job types:
  - **Processing** - the worker is designated to perform processing jobs.
  - **Imaging** - the worker is designated to perform basic and native imaging jobs.
  - **Save As PDF** - the worker is designated to save files as PDF's.

    Note: Relativity performs conversion on designated conversion agents. For more information, see Configuring your conversion agents in the Upgrade guide.

- **Tasks Per Minute** - how many singular units of designated work the worker is performing per minute.
  - Examples of tasks are discovering a document and converting a native.
  - There is no normal range of values for this field, as it depends on what the worker has been designated to do. For slower processes, you'll see a lower number of tasks per minute being performed than for more efficient processes.
- **Last Activity** - the date and time at which a thread last communicated to the worker.
- **CPU Activity** - the amount of CPU resources the worker is using to perform its designated work across all CPU's on the Invariant worker machine. If the actual CPU reading is between 0 and 1, Relativity rounds this value up to 1.
  - In most cases, a high CPU Activity reading with a low Memory in Use is indicative of smoothly running worker that has no stuck jobs.
  - This value can't necessarily tell you whether or not a worker is stuck on a job, but it can tell you whether or not the worker is making a higher-than-normal effort to complete a job relative to other jobs in the environment.
  - If all 16 threads are in use and the CPU is reading at 100% for an extended period of time, you might consider adding additional CPU's to the worker.
- **Disk Activity** - the percentage of disk activity on the worker. If the actual disk activity reading is between 0 and 1, Relativity rounds this value up to 1.
  - If the disk drive is being hit excessively relative to other jobs, it can be an indicator that the worker is either low on memory and burdening the paging file, or it can mean that it is working on a large number of container files.
  - If the disk drive activity is very high relative to other jobs for a sustained period of time, it's probably a sign that you're having an issue with your worker.
  - Low CPU usage coupled with high disk activity can be indicative of low memory or a high container count. You should always address low memory by adding more memory. With a high container count, there's nothing to address, but note that performance can be impacted if the disks are slow.
- **Memory in Use (GB)** - how many GB of RAM the worker is currently using. If the actual memory reading is between 0 and 1, Relativity rounds this value up to 1.
- **Temp Space (GB)** - the amount of space in GB that is free on the disk drive assigned to the TEMP environment variable on the worker machine.

- The value will vary based on the disk's capacity.
- Only the disk associated with the TEMP environment variable is reflected here.
- Relativity uses the TEMP folder to temporarily write files while the worker is busy, especially during ingestion.

The workers and threads views receive worker information when loaded and update every time the page refreshes. To configure the rate at which your workers and threads views automatically refresh, select a value from the **Auto refresh** drop-down list at the bottom right of the view.



- **Disabled** - prevents the automatic refresh of the view and makes it so that worker/thread information only updates when you manually refresh the page. This option is useful at times of heavy worker usage, in that it offers you more control over the refresh rate and prevents the information from constantly changing often while you monitor the work being performed.
- **30 seconds** - arranges for the worker/thread view to automatically refresh every thirty seconds.
- **1 minute** - arranges for the worker/thread view to automatically refresh every one minute
- **5 minutes** - arranges for the worker/thread view to automatically refresh every five minutes.

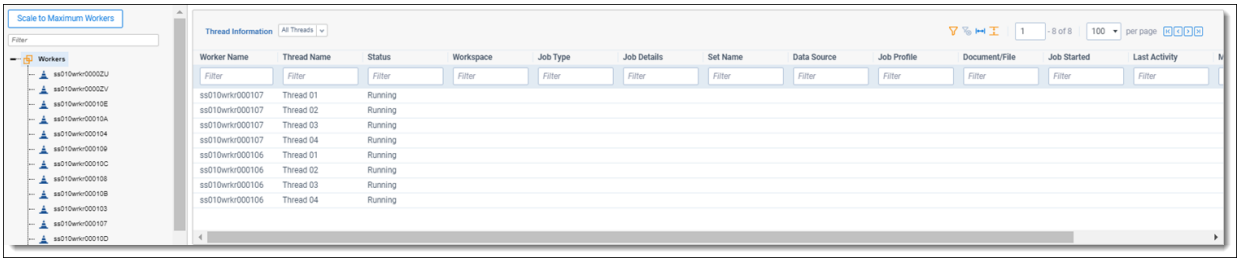
41.9.2 Monitoring threads

To monitor worker status:

1. Navigate to the **Worker monitoring** tab and select the **All Threads** view from the view drop-down list.

   Note: The worker monitoring page automatically generates thread views per worker in your environment. For example, if you have a worker named "Worker 1," you'll see a view named "Worker 1 - Threads" in the views drop-down list underneath the All Workers and All Threads views. These automatically created thread views are listed in alpha-numeric order.

2. Refer to the following fields:



- **Worker Name** - the name of the worker to which the thread belongs.
- **Thread Name** - the name of the thread, as assigned to the worker by the processing engine.
- **Status** - indicates whether the thread is **Idle** or **Running**.
  - If set to Idle, then most of the other fields in the view will be empty, as they'll have no current job information to report. An idle thread is simply one for which there is currently no active work.
  - If set to Running, it means that the worker thread is performing one of its designated jobs.
- **Workspace** - the workspace containing the job that the thread is currently performing.
- **Job Type** - the type of job the thread is performing.
  - This will be some variation of processing or imaging.
  - Depending on the job type, you may not see values populated for other fields in the threads view. For example, an image-on-the-fly job doesn't require an imaging set, so the Job Set field will be empty for this type of job. For more information, see Thread data visibility on the next page.
- **Job Details** - the phase or task of the job type that the thread is performing.
  - The value displayed here could be one of many root or sub jobs of the job type running in Invariant.
  - The value displayed here is useful to provide to Relativity support when troubleshooting the worker issue associated with it.
- **Set Name** - the processing or imaging set that the threads are working on. This field isn't populated for image-on-the-fly or mass imaging jobs.
- **Data Source** - the source location of the data being processed or imaged.
  - For processing, this is the data source attached to the processing set that the worker is running.
  - For imaging, this is the saved search selected on the imaging set.
- **Job Profile** - the name of the processing or imaging profile used by the set. This field is blank for image-on-the-fly jobs, as they don't require profiles to run.
- **Document/File** - the name of the native file that the thread is currently processing, imaging, or converting.
  - This is the name of the file as it exists in its source location.
  - Some imaging jobs may display a value of "Retrieving data" for this field while they gather the data required to display the document name.
  - This field is blank if the status of the thread is Idle.
- **Job Started** - the date and time at which the processing or imaging job started.
- **Last Activity** - the date and time at which a thread last communicated to the worker.

- **Memory Usage (MB)** - how much memory the thread is currently using to perform its work. This field will be blank if the Document/File value reads "Retrieving data" if the status of the thread is Idle or if the system is gathering the data required to display the document name.
- **File Size (KB)** - the size of the document that the thread is currently working on. If the actual file size is between 0 and 1, Relativity rounds this value up to 1. This field will be blank if the status of the thread is Idle.

41.9.2.1 Thread data visibility

When you access a threads view on the worker monitoring page, not all fields are applicable to all jobs. Therefore, you'll find that certain fields are not populated depending on the type of work taking place.

The following table breaks down which types of workers are populated for each thread field at a particular phase of their work.

Designated work - phase	Job Set	Data Source	Job Profile	Document/File	File Size (KB)
Processing - Inventory	✓	✓	✓	✓	✓
Processing - Discovery	✓	✓	✓	✓	✓
Processing - Publish	✓	✓	✓	✓	✓
Imaging - Imaging set	✓	✓	✓	✓	✓
Imaging - Image-on-the-fly				✓	✓
Imaging - Mass image			✓	✓	✓

41.9.3 Errors

Errors can occur when Relativity attempts to communicate worker information to you as it receives that information from Invariant.

- **Service not responding** - the queue manager service on the worker manager server is down or not accessible.
- **Service timed out** - the call to Invariant timed out.

  Note: The WorkerStatusServiceTimeout entry in the Instance setting table determines the number of seconds before calls from the worker status API service to Invariant are timed out. If you encounter an error related to the service timing out, it means that the value of this Instance setting table entry has been reached. By default, this is set to five seconds.

- **Service call failed** - an unspecified failure that is most likely due to an old version of Invariant that doesn't have worker status API call being installed on your machine. This gets logged in the Errors tab in Relativity.

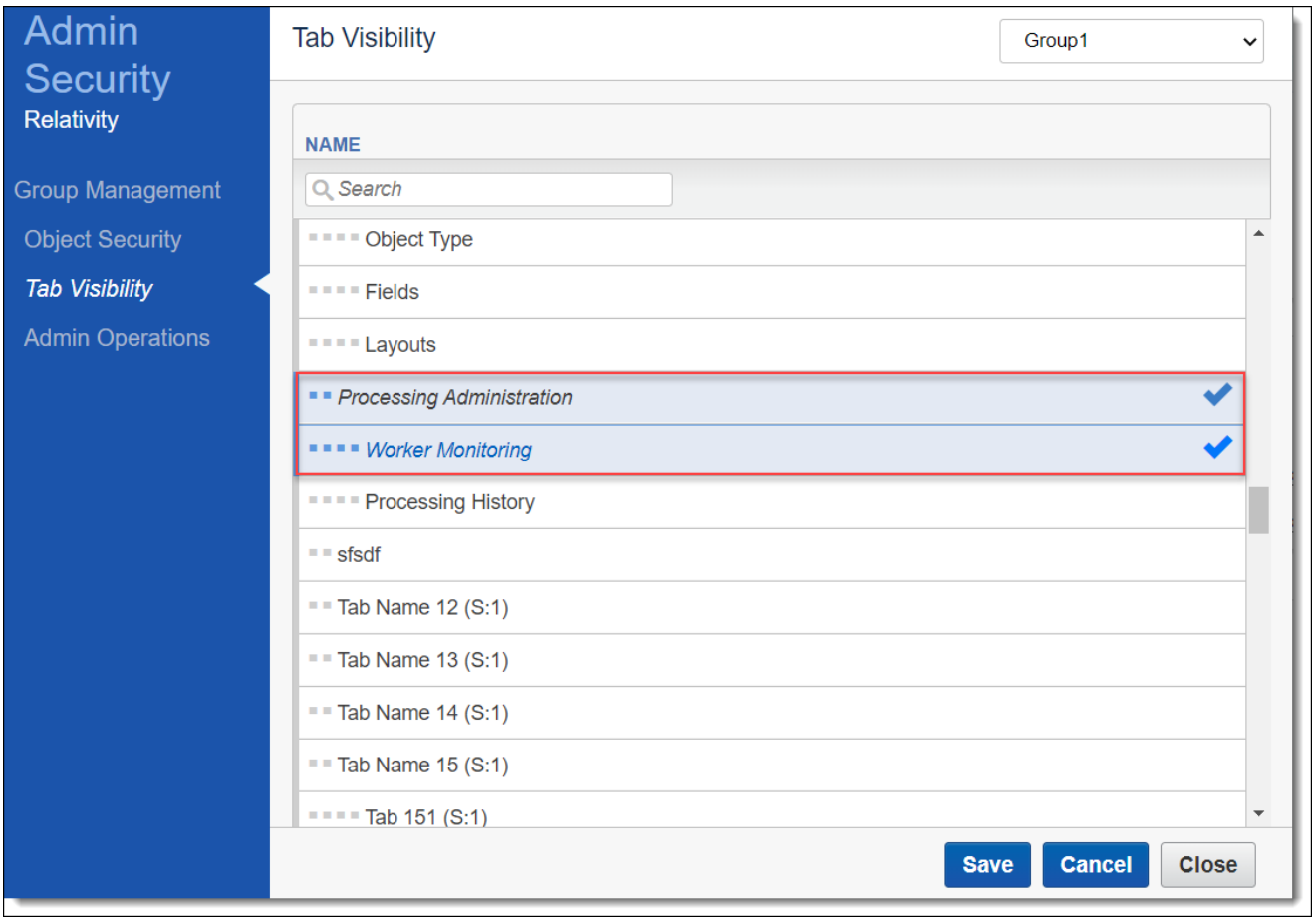
Note: For optimal performance, the processing engine caches worker and thread data for 30 seconds. If you refresh the page within the 30 second time period, the same cached data will display until the cache expires and new data is retrieved from Invariant upon refresh or when loading the page.

41.9.4 Security considerations

Consider the following items related to security and client domains (formerly multi-tenancy):

- If you're the system admin for a client domain environment, Relativity makes it so that your tenants can only see jobs in their client domain. This eliminates the possibility of information leaks for workers that don't actually operate within your client domain.
- In client domain environments, users from one client domain can't see any workers from other client domains.
- In client domain environments, users from one client domain can only see work from their workspace. All other threads show an Item secured value for the Workspace field, and the rest of the columns are blank.

Groups don't have access to the Worker monitoring tab by default. To grant them access, perform the following steps:



1. From Home, navigate to the **Instance Details** sub-tab under kCura Admin.
2. In the Security box, click **Manage Permissions**.
3. In the Admin Security window, select **Tab Visibility**.
4. From the drop-down list at the top right, select the group to whom you want to grant access.
5. Select **Processing Administration** and **Worker Monitoring**.

42 Summary reports

Summary reports provide aggregate tallies of field values. Field types available for reporting are limited to the following:

- Multiple-choice list
- Single-choice list
- User
- Yes/No

The reports are based on an optional grouping criterion (the vertical axis) and the fields to be tallied (the horizontal axis).

For example, you can create a summary report with the grouping criterion custodian, where the field to be tallied is responsiveness. The report shows the number of documents that have been tagged with each responsiveness value per custodian.

Using summary reports

Imagine you're a system admin, and the review manager for your firm requests metrics on the job performances of reviewers. You want to be able to track the effectiveness of each reviewer by retrieving information about how many documents he or she reviews per day along with how many they code as responsive, not responsive, or unsure.

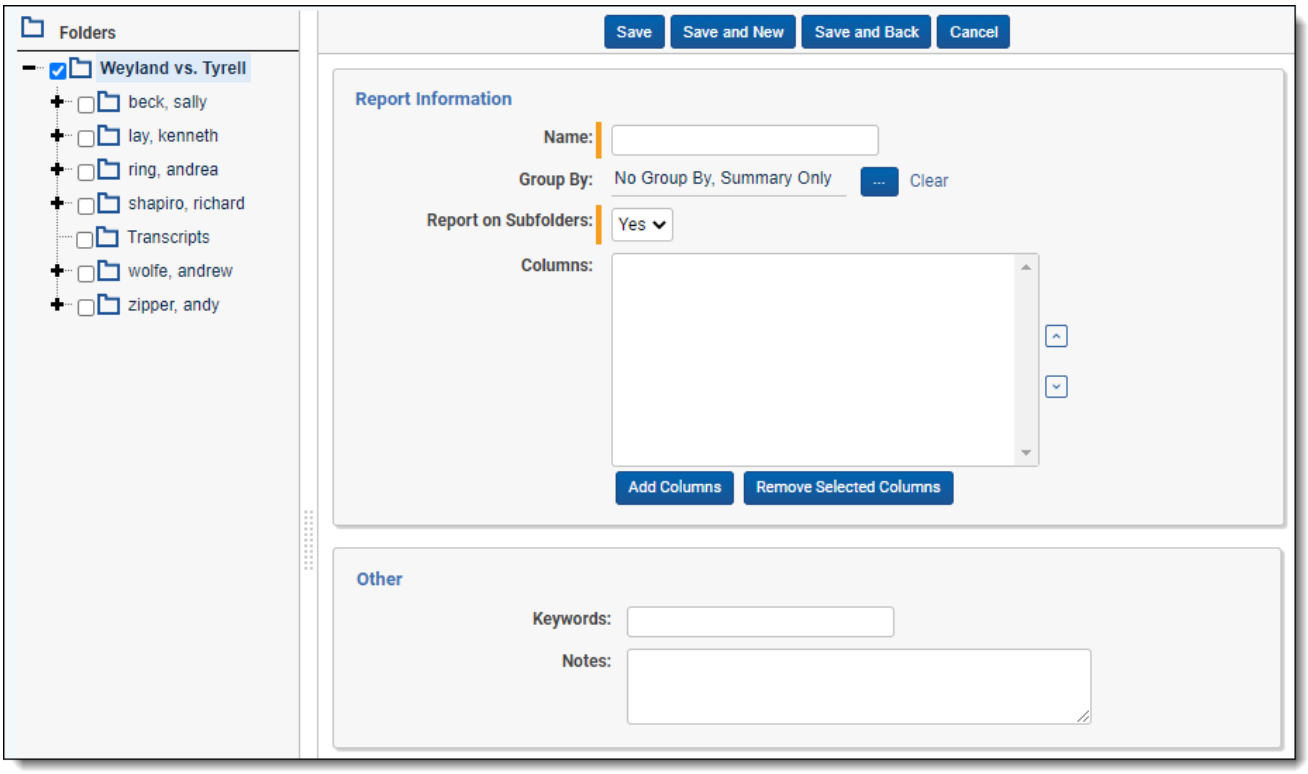
You create a summary report that lists the number of documents reviewed by the reviewers and export the report to excel to pass on to the manager.

42.1 Creating and editing a summary report

To create a summary report, follow these steps:

1. Click the **Summary Reports** tab.
2. Click **New Summary Report**, or if you're editing an existing summary report, click **Edit**.
3. Complete the fields on the form. See Fields on the next page.
4. Click **Save**.

42.2 Fields



- **Folders** - located in the browser to the left of the form. You can specify the scope of the report using folders. You can report on the entire case workspace or only on specific folders and subfolders.

  Note: We recommend selecting no more than 30 folders and/or subfolders. Selecting more than 30 folders can result in an error when trying to save the summary report.

- **Name** - the title of the summary report.
- **Group By** - an optional field where you can select a grouping criterion for the report. Grouping criteria appear as rows on the report.
  - Leave the group by field blank to display only a summary with no grouping.
  - Click ... to select your grouping condition.

    Note: You can use filters to quickly find your field.

- **Report on subfolders** - a yes/no field that reports on a single folder or a folder and its subfolders. Defaults to Yes, which reports on folders and their subfolders.
- **Columns** - select which fields are tallied. Selected fields display as columns on the report.
  - **Add Columns** - add columns to the report. Click **Add Columns** and select the checkbox for each field you want to tally. You can use filters to quickly find the desired fields. Only multi-

choice list, single-choice list, user, and yes/no fields can be reported on.

- **Remove selected columns -** remove fields from your columns section.

43 Tabs

A workspace contains tabs that provide you with easy access to different Relativity features, including documents, search terms reports, views, and other default functionality. Relativity is a highly customizable platform. Commonly used tabs can be added to the Sidebar so that they can conveniently be accessed at any time.

You can also apply any workspace template with a tabs arrangement that best serves your review needs. Some workspace templates also include custom tabs for specialized functionality.

You can add custom tabs in workspaces or at Home. Users with admin rights also have access to a Tabs tab from Home. The functionality of this Tabs tab is the same as the Tabs tab in a workspace.

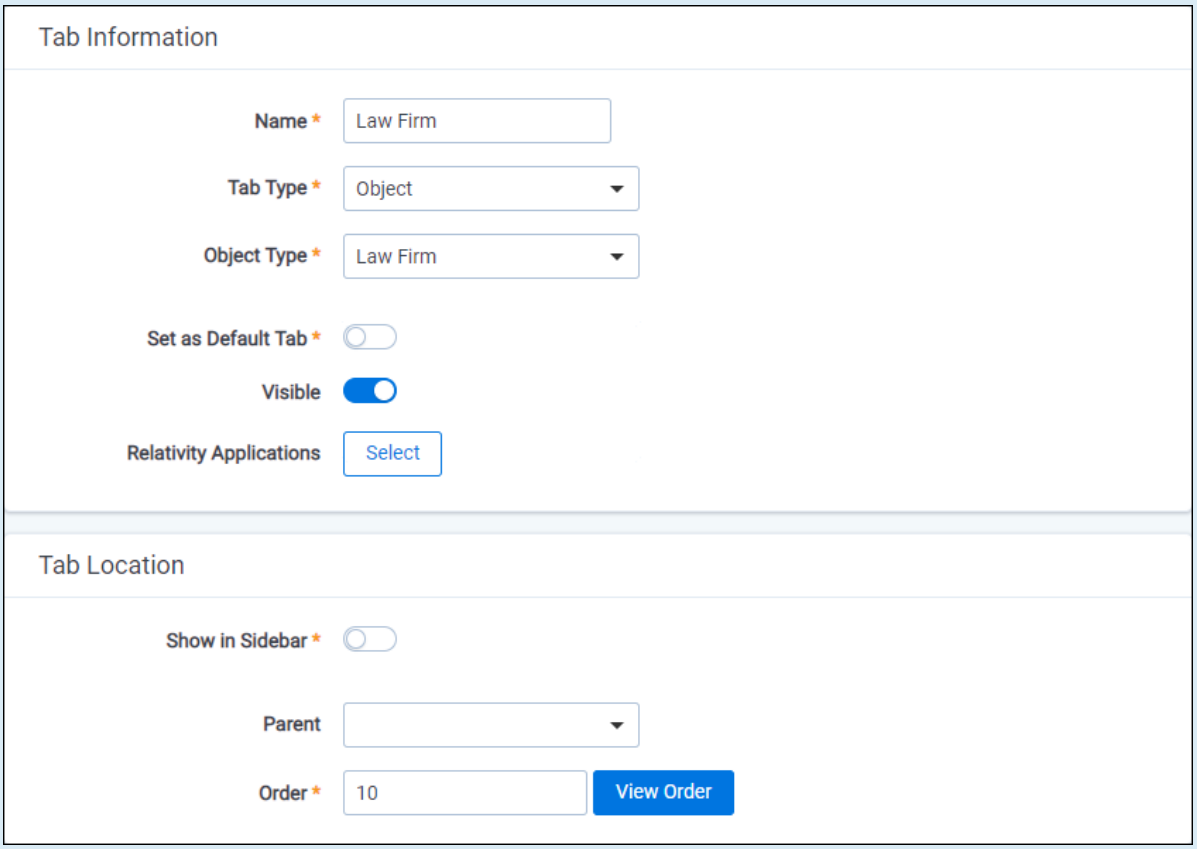
In addition, Relativity automatically creates a tab when you add a new object type. If you are developing a custom application, you may want to obtain the globally unique identifier (GUID) for a tab. For information about obtaining GUIDs, see Basic concepts for the application framework on the Relativity Server 2022 Developers site.For information about obtaining GUIDs, see Basic concepts for the application framework on the Relativity Server 2022 Developers site.

Using tabs

You're a system admin facilitating a document review project involving thousands of patients whose private personal health information was stolen during a security breach.

You're in the process of creating an application for tracking the many attorneys associated with this litigation. You want to add to this application a list of all the law firms where these attorneys work to go along with the master list of attorney names you've already created.

To do this, you want to create a new tab to hold the names of these law firms. You go to the Tabs tab and create a new tab with a name of Law Firms and an order of 10. You keep the Link Type field at its default value of Object. For the Object Type field, you select the Law Firm, which you just created as one of the several objects that will make up the application you're creating.



Once you save the Law Firms tab, you can now populate it with the names of firms that employ the many attorneys involved in your case.

43.1 Creating and editing tabs

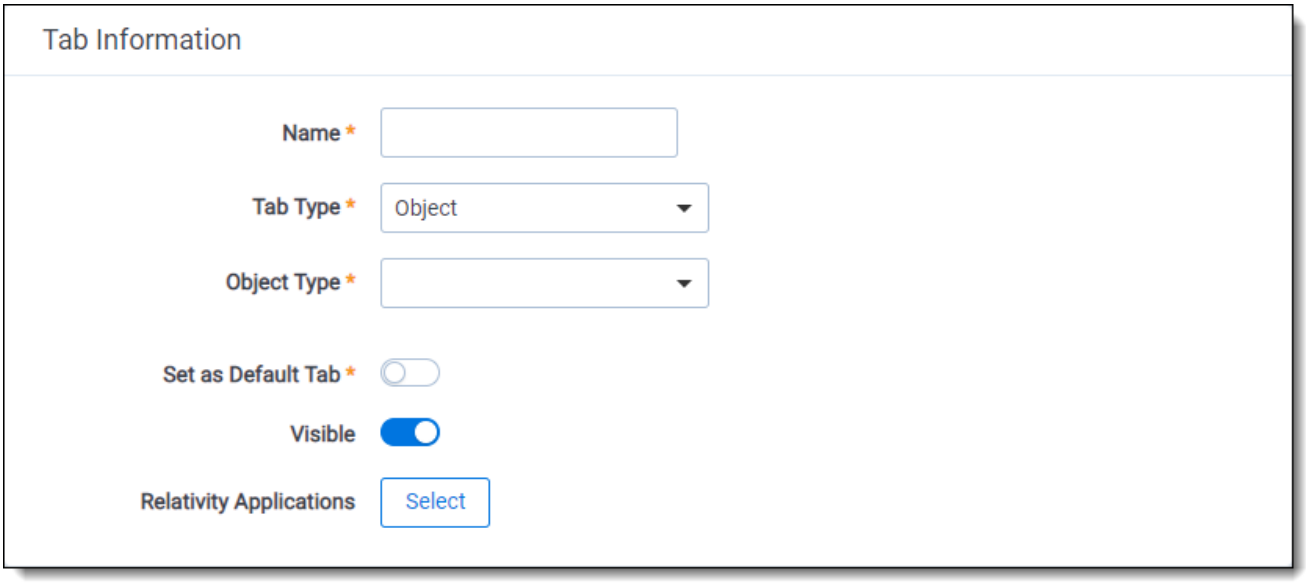
To create or edit a tab, follow these steps:

1. Click the **Tabs** tab.
2. Click **New Tab**. If you're editing an existing tab, click the icon in the row of the tab you would like to edit.
3. Complete the fields on the form. See Fields below.
4. Click **Save**.

43.2 Fields

Information on the fields in the Tab Information and Tab location are described below.

43.2.1 Tab Information



- **Name** - the tab's name. This field must be between 1 and 50 characters. Be as concise as possible when naming tabs.
- **Tab Type** - determines the type of tab you want to create:
  - **Object** - creates a tab for a non-document object in your workspace.
  - **Parent** - establishes the tab as a parent tab. Existing tabs can then be set as children of the parent tab, which causes them to display in the Sidebar's fly-out menu or in the Tab strip when the parent tab is currently selected. Selecting this option changes the layout by hiding the Object Type and Set as Default fields.
  - **External** - link to any URL or object type in Relativity.

    Note: Selecting **External** from the **Link Type** menu causes the **Link** field to appear below the **Parent** field. In the **Link** field, you can enter a web address to link to a URL. Allowed external domains can be whitelisted via the DomainNameWhiteListUrls instance setting.

    You can create a link from a tab to an Relativity Dynamic Object (RDO) or a script, using either an Artifact ID or GUID. To create links to other objects, you must use their GUIDs. For information about working with objects that don't have GUIDs, see Assigning a GUID to an object on page 704.

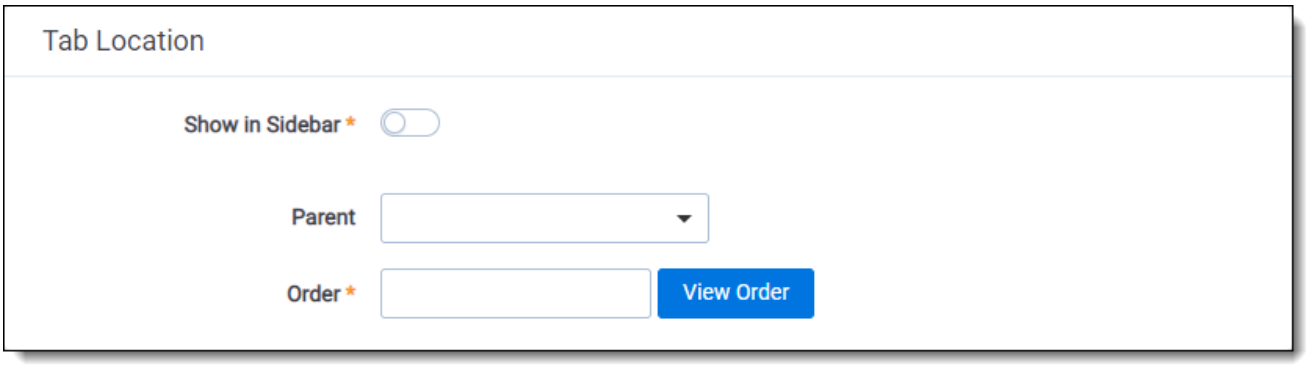
    Use the following token to link to an object: **ObjectArtifactIdentifier=[identifier]**, where [identifier] is the GUID of the object, or in the case of RDOs and scripts, the GUID or Artifact ID. For example, you would use the format **ObjectArtifactIdentifier=736b1c1f-d22f-43cf-9094-cc8acf94c60** to create a link from a tab to the object with this GUID.

Use the following case insensitive text replacement options to customize the URL, allowing you to display current details about your workspace:

Text Replacement Option	Replacement Text
%AppID%	AppID=<Current Workspace ID>
%ApplicationPath%	The actual application path
%ArtifactTypeID%	ArtifactTypeID=<Current ArtifactTypeID>
%AssociatedArtifactID%	AssociatedArtifactID=<Current Instance Artifact ID>
%AuthenticationToken%	AuthenticationToken=<New Authentication Token>
%ConnectorfieldArtifactID%	ConnectorFieldArtifactID=<Current Connector Field Artifact ID>
%ParentArtifactID%	ParentArtifactID=<Current Parent ArtifactID>
%SystemID%	SystemID=<Current System ID>
%SelectedSearchArtifactID%	SelectedSearchArtifactID =<Current Search Artifact ID>

- **Object Type** - determines which object's information is displayed in the tab for those specified as **Link Type = Object.**
- **Set as Default Tab** - toggle on to make this tab serve as the workspace's default tab. Reviewers logging in to the workspace are taken to the default tab. If a reviewer does not have access to the default tab, he or she is directed to the Documents tab instead.
- **Visible** - toggle on to display this tab from the Sidebar, Tab strip, and/or Quick nav.
- **Relativity Applications** - add this tab to a Relativity application. Clicking Select brings up a list of available applications.

43.2.2 Tab Location



- **Show in Sidebar** - toggle on to add this tab to the Sidebar. Depending on the number of tabs that have already been added to the Sidebar, the Order value assigned to this tab, and your browser's resolution, the tab may be displayed in the More menu if it does not fit into the current Sidebar.
- **Parent** - select a parent tab to assign the current tab as a child tab. The current tab will display in the fly-out menu for the parent tab.
- **Order** - represents the position of the tab by a numerical value. It can be any positive or negative integer. You cannot use decimals in this field. The lowest-numbered tab displays at the top of the Sidebar. The highest-numbered tab displays at the bottom of the Sidebar or in the More menu. Items that share the same value are sorted in alphanumeric order.

Note: It's always a good idea to set tab order by 10's, starting with 10, then 20, then 30, etc. By numbering in groups of 10 you can insert an item into any position later in the workspace, without the need to reorder (for example, you can use 10, 20, 25, 30, 40 to insert a new tab between 20 and 30).

- **View Order** - displays a list of active tabs and their current order when you click the View Order button.

43.3 Nesting children tabs

You may prefer to nest several tabs within a parent to reduce clutter in your Relativity interface and make tabs easier to locate. You must first specify a tab as a parent (step 1) and then specify children tabs (steps 2-4).

1. Create a new tab with a **Tab Type** of **Parent** or edit an existing tab.
2. Click the icon next to the tab you want to nest.
3. Choose the parent tab name under the **Parent** drop-down menu.
4. Click **Save**.

Repeat for each child tab you wish to nest. Hover your cursor over the parent tab to display the nested child tabs in a fly-out menu.

43.4 Assigning a GUID to an object

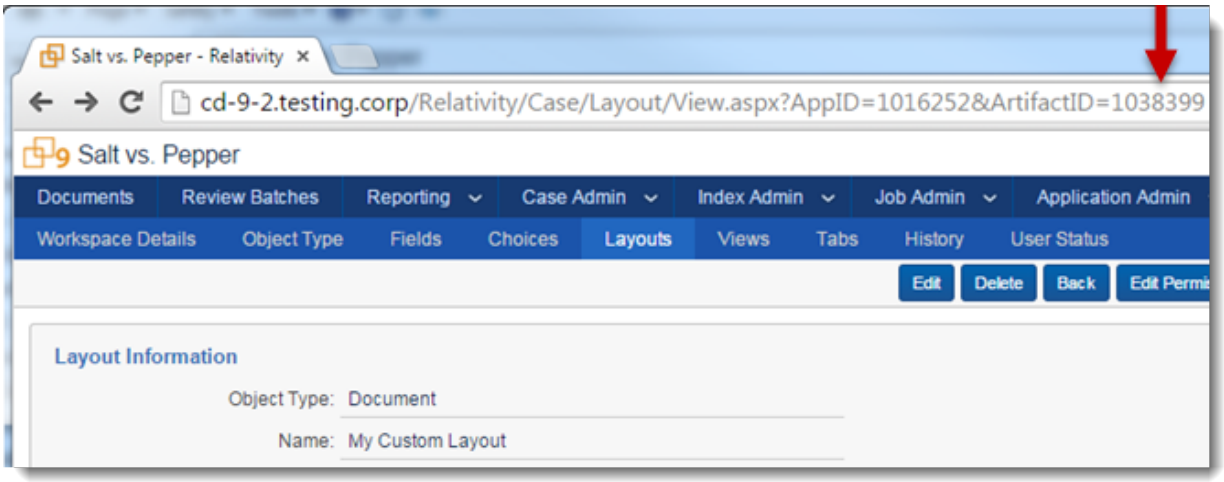
You need to assign a GUID to a Relativity object that only has an Artifact ID, before you can link a tab to it. To assign a GUID to an object, you run a SQL script on database for the workspace where the object resides. This script adds this identifier to the record for the object on the Artifact.Guid table in the database.

You need to complete this assignment process for all Relativity objects except for the following cases:

- **RDOs and scripts** - you can link these objects to tabs using their Artifact IDs or GUIDs, if available. See Creating and editing tabs on page 701.
- **Objects in applications** - Relativity automatically assigns GUIDs to objects added to applications. For information about obtaining their GUIDs, see Viewing component GUIDs on the Relativity Server 2022 Developers site.

Use the following procedure to assign a GUID to an object:

1. Obtain the Artifact ID for an object from the URL used to access it, or by adding the Artifact ID field to the list view for the object in Relativity.



2. Log in to your database server. You must be a database admin.
3. Locate the workspace database for the object that requires a GUID.
4. Execute the following SQL script on the workspace database for the object:

```
DECLARE @artifactID int = 0 -- Your artifact that is missing a GUID.
IF NOT EXISTS (SELECT 1 FROM EDDSDBO.[ArtifactGuid] WHERE ArtifactID =
@artifactID)
BEGIN
    INSERT INTO EDDSDBO.[ArtifactGuid] VALUES (@artifactID, NEWID())
END
SELECT [ArtifactGuid] FROM EDDSDBO.[ArtifactGuid] WHERE ArtifactID =
@artifactID
```

5. Assign the GUID added to the database to the ObjectArtifactIdentifier token to link a tab to the object. See Creating and editing tabs on page 701.

44 Transform sets

Transform sets are a feature of Relativity that uses custom code to extract data from a source Relativity field and output it to a destination field. The custom code is referred to as a handler, which is defined by specific rules about how to manipulate the data stored in the Relativity source field.

Relativity contains two types of transform sets: domain and conversation index parsing.

- See Domain parsing below
- See Conversation index parsing on page 711

Using transform sets

Imagine you are a system admin, and the lead attorney working on an insider trading case requests a list of all recipient email domains. He also wants those domains to link to all documents sent from each email domain, so he can track conversations to and from particular companies more easily in the workspace. You perform the following steps:

1. You called "Domain" to house the domain information and set the workspace as the parent object, so the data resides in its own tab.
2. You named "Recipient Domains" on the Document object, so each document can have multiple domains associated with it, and each domain can have multiple documents associated with it.
3. You with a condition that qualifies all search results to only return items with a populated Email To field, and run the search.
4. You create a new transform set with the Data Source set to the saved search you created in step three, and select the Domain Parsing handler.
5. You then add a new transform with the Source Field set to the Email To field and the Destination field set to the new field you created associated with document object from step two.
6. You run the transform.
7. You then edit the layout, click Add Associative Object List, and set the associative object to the Domain object you created in step one. You also set both the View and Link View fields to Documents.

Now the lead attorney has a tab in his workspace, named Domains, that lists all the domain names in the workspace with hyperlinks to any documents sent to the chosen domain. He can also run pivot analysis to determine spikes in communications between two companies in the days and hours leading up to the questionable trades.

44.1 Domain parsing

Domain parsing is a Relativity-defined handler that extracts email domains from email addresses in a document set. For example, "jsmith@example.com" yields "example.com." The domain parsing transform set places the domains in a destination field that you define.

Domain parsing now offers two handler options:

1. **Domain Parsing - SMTP Only**—the SMTP Only handler will only parse domains from properly formatted SMTP email addresses. Source fields must contain the @ symbol and a . extension.
2. **Domain Parsing - SMTP, X400, X500**—the SMTP, X400, X500 handler domain will parse domains from properly formatted SMTP, X400, and X500 email addresses.

44.1.1 Prerequisites

Before creating a new transform set, you need to create an object to hold the output, a field to hold the output, and a saved search that contains the documents to extract the domains from. Use the following sections to complete the prerequisites.

To create a new object, see the Creating Relativity Dynamic Objects PDF.

When you create your object, make sure to configure the following fields correctly:

- **Name**—the name of your object appears as a tab on your screen. Consider naming your domain parsing object **Domain** for ease of use.
- **Parent Object Type**—this should remain the default of **Workspace**.
- **Enable Snapshot Auditing On Delete**—this should remain the default of **Yes**.

To create a new field to hold the data connected to your object, see Creating and editing fields on page 185.

When you create the field, make sure to configure the following fields correctly:

- **Object Type**—Document.
- **Name**—consider naming this field **Recipient Domain** for ease of use. However, you can use whatever name you like.
- **Field Type - Multiple Object**.
  - **Associative Object Type**—select the Object you just created (Domain).

    Note: You also have the option to set the **Object Type** field to **Domain** and set the **Associative Object Type** to **Document**.

To create a saved search, see Creating a saved search in the Searching guide.

This saved search contains the documents you want to extract the data from. When you create the saved search, select documents for which the email from field is set.

44.1.2 Creating a domain parsing transform set

To create a domain parsing transform set:

1. Navigate to the **Transform Sets** tab.
2. Click **New Transform Set**.
3. Complete the fields on the form. See Fields below.
4. Click **Save**.

44.1.3 Fields

The domain parsing transform set contains the following fields:

- **Name**—the name of the Transform Set.
- **Data Source**—the saved search on which the transform will run. Select the newly created saved search.
- **Handler**—the handler on which the transform will run. Choose one of the following:
  - **Domain Parsing - SMTP Only**—use this handler if the fields you are parsing from only include SMTP email addresses.
  - **Domain Parsing - SMTP, X400, X500**—use this handler if the fields you are parsing from include X400 and/or X500 email addresses
- **Status**—the status of the job after it has been run. The possible choices for this field include:
  - Pending
  - Processing
  - Completed
  - Completed with Errors
  - Stopped by User
- **Last Run Error**—lists the last error encountered if the job was completed with errors.

44.1.4 Adding a transform

To add a transform to the email domain parsing transform set:

1. Click **New** on the transform you just created.
   The Add Transform window appears.
2. Fill out the fields on the form. See Fields below.
3. Click **Save**.

44.1.5 Fields

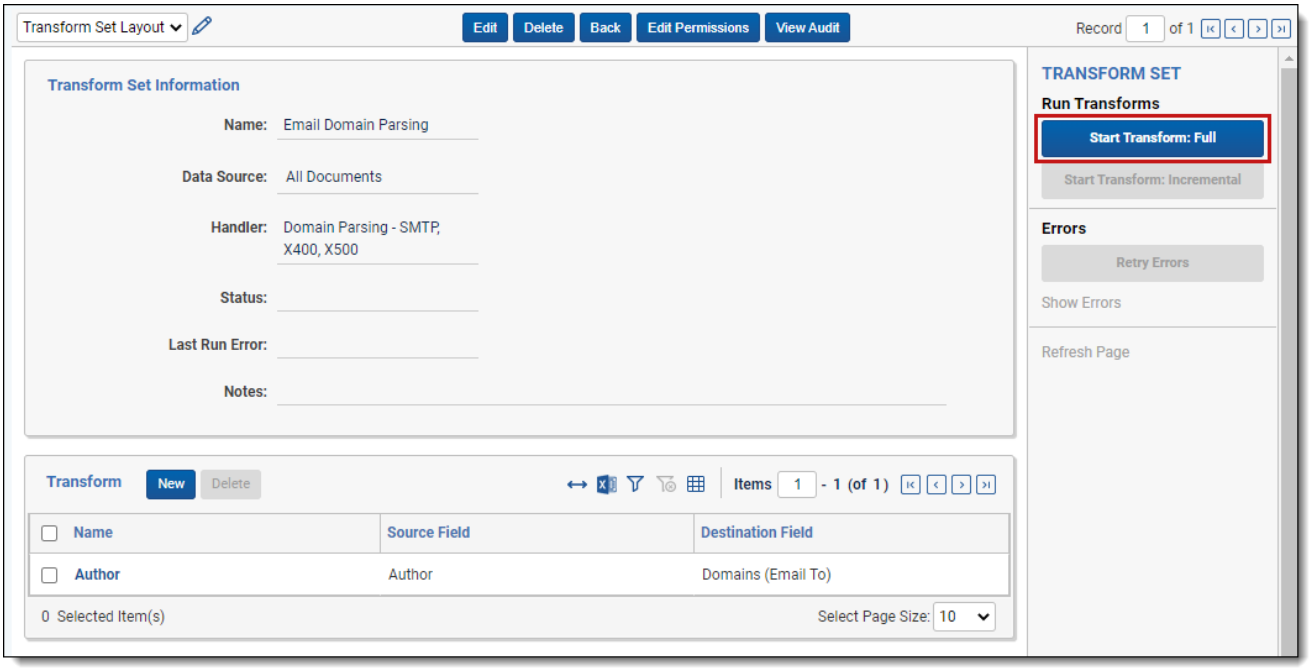
The Add Transform window contains the following fields:

- **Transform Set**—automatically populates with the transform set you created.
- **Name**—the name of the transform you are adding.
- **Source Field**—the field that holds the data to be processed. You can choose any email field. For example, To, From, CC, BCC.
  - A popup picker displays all fields that you have rights to see, as well as the object type, field name, and field type. The transform can only be saved if this field is a Document object of fixed length type or long text field type.
  - The source field must be a standard text field. No identifier, associative, relational, or system fields can be used.
- **Destination Field**—the field that holds the results of the process. Choose the field you created above, Recipient Domain.

Note: If you use a Destination Field that is tied to an existing object, you will overwrite the field. You will not be able to add the results of new records without overwriting the existing data.

44.1.6 Running the transform set

After you create the domain parsing transform set and add a transform to it, you can run the transform set. To run your transform, click **Start Transform: Full** from the console.

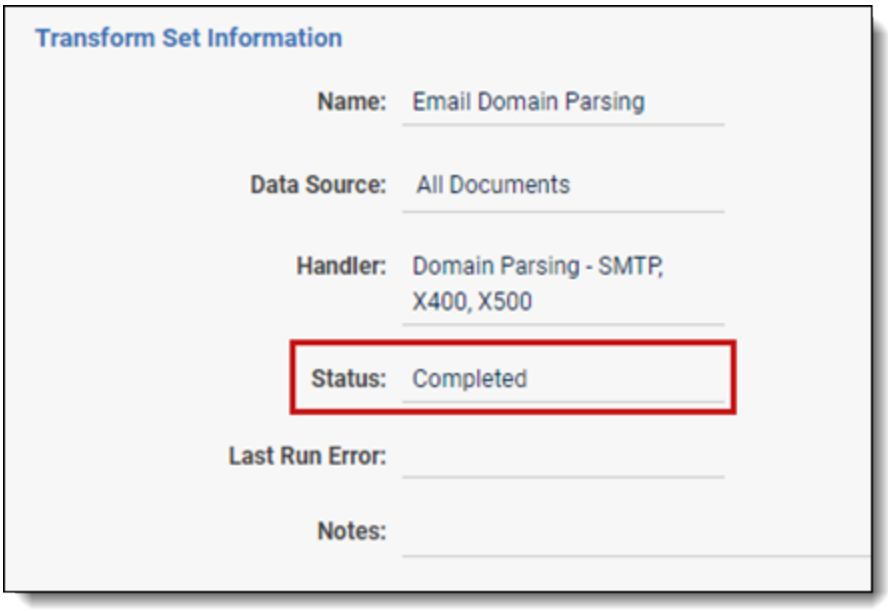


The console contains the following options:

- **Start Transform: Full**—wipes out all content in the Destination field and runs all transforms.
  - A confirmation message states, "Performing a full run will erase all content in the selected destination field(s). Are you sure?"
  - This is available when:
    - There is at least one transform.
    - There is no active job.
- **Start Transform: Incremental**—runs the transform set on all documents that have not yet been run. No values are deleted. This is available when:
  - There is at least one transform.
  - There is no active job.
  - At least one document has gone through the transform process. The new documents should be added to an existing Transform data source.
- **Stop Transform**—active when a run has been submitted and is still running. You can stop the transform process.

- **Retry Errors**—attempts to re-run documents containing errors. This is available when:
  - There is at least one document in error state.
  - There is no active job.
- **Show Errors**—shows the documents containing errors. This is available when at least one document is in error state.
- **Refresh Page**—refreshes the page to see the current processing status. When the transform set runs, it goes through source fields, finds email addresses, and extracts the domains.

When the transform set finishes running, the Status field in the Transform Set Information section updates to **Completed**, and the domain results appear on the page.



To more easily review the results of your domain parsing transform set, use the following steps to edit the layout to include the results:

1. Navigate to the layout you want to include the transform set results.
2. Click **Edit**.
3. Click **Add Associative Object List**, and then set the associative object to the **Domain** object you created when building the transform set.
4. Set both the **View** and **Link View** fields to **Documents**.

Consider the following when reviewing your returned domains:

- If no text exists in the source field, nothing will be written to the destination field.
- If the text is unidentifiable in the source field, nothing will be written to the destination field.
- If more than one domain is in a field, more than one domain will be connected to the document.

- If you use **Domain Parsing - SMTP, X400, X500**, and a domain is both in the X400 or X500 email format and contains an "@" symbol, domain parsing may return multiple domains from the same email address.
- If you use **Domain Parsing - SMTP, X400, X500**, the time to run and complete the domain parsing will be longer than **Domain Parsing - SMTP Only**.
- **Domain Parsing - SMTP, X400, X500** is a new feature that might not correctly parse domains from every variation of those email formats. Please review the formatting and delimiters of your email addresses as well as the output of your Domain Parsing in order to confirm domains were correctly parsed.

44.1.7 Domain Parsing - SMTP, X400, X500

Please see below for more information and examples of key-value pairs, delimiters, and parsing domains logic:

44.1.7.1 Email domains

- **SMTP**—jane@example.com
- **SMTP, X400, X500**
  - *Variation 1* - <o=Example/ou=Lawyer/cn=Recipients/cn=Jane Doe>
  - *Variation 2* - Doe, Jane <IMCEAEX-_O=EXAMPLE_ OU=EXCHANGE+20ADMINISTRATIVE+20GROUP+20+28SFJKDFDJK498NBU+29_ CN=RECIPIENTS_CN=JANE@EXAMPLE.COM>
  - *Variation 3* - Doe, Jane [/O=EXAMPLE/OU=FIRST ADMINISTRATIVE GROUP/CN-N=RECIPIENTS/CN=JDOE]

44.1.7.2 Delimiters

Email addresses must be delimited from one another using a semi-colon (;) or a comma (,). Email addresses formatted in X400 and X500 must be internally delimited using commas or forward slashes (/). This does not apply to IMCEAEX format, which is delimited internally using underscores.

44.1.7.3 Key-value pairs

Within email addresses, key-value pairs are identified using an equal sign within comma-delimited or forward-slash delimited groups.

Note: Domain Parsing – SMTP, X400, X500 is a new domain parsing option.

44.2 Conversation index parsing

Conversation index parsing is a Relativity-defined handler that parses the Microsoft Exchange field Conversation Index to group all replies and forwards in an email conversation.

44.2.1 Prerequisites

Prior to creating a new transform set for conversation index parsing, you need to create a new field to hold the data and a saved search from which to extract the data. Use the following sections to complete the prerequisites.

To create a new field, see Creating and editing fields on page 185.

44.2.1.1 Creating a field for conversation index parsing

When you create the field, make sure to configure the following fields correctly:

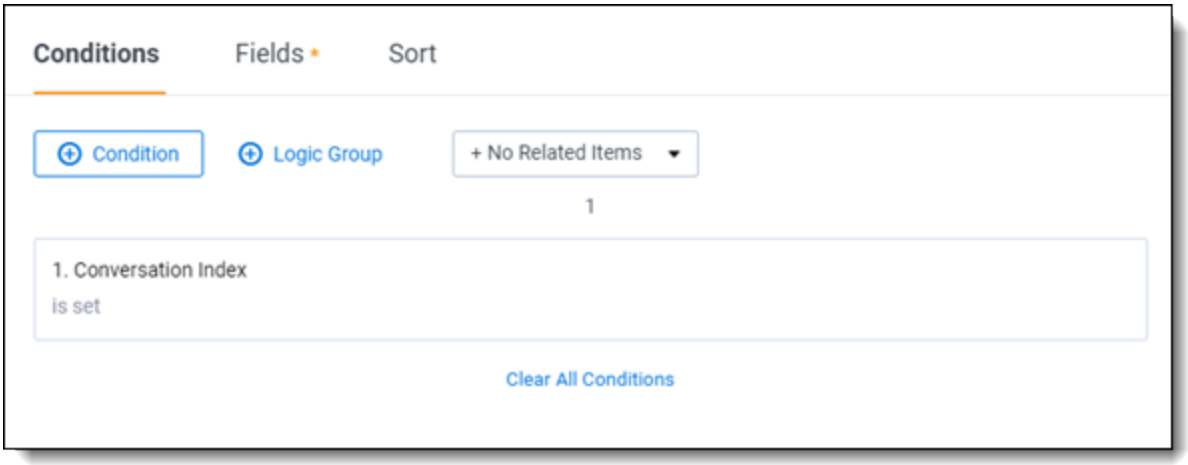
- **Object Type**—Document.
- **Name**—consider naming this field **Conversation Family** for ease of use; however, you can use whatever name you like.
- **Field Type**—Fixed-Length Text
- **Length**—50
- **Relational**—Yes
- **Friendly Name**—enter a recognizable friendly name like "Conversation Family" for the relational field.
- **Import Behavior**—leave blank values unchanged
- **Pane icon**—browse for and select an icon file for use in the Related Items pane of the Review Interface.
- **Order**—enter a display order value to specify the pane icon order at the bottom of the Related Items pane.
- **Relational View**—select the view you want to use in the Related Items pane, for example Family Documents.

See the Fields on page 183 section for more details on relational field settings, including a link to download relational field icons provided by kCura for the Pane icon field.

44.2.1.2 Creating a saved search for conversation index parsing

To create a saved search, see Creating a saved search in the Searching guide.

This saved search should contain all documents that have the **Conversation Index** field populated.



44.2.2 Creating a conversation index transform set

To create a conversation index transform set:

1. Navigate to the **Transform Sets** tab.
2. Click **New Transform Set**.
3. Complete the fields on the form. See Fields below.
4. Click **Save**.

44.2.3 Fields

The conversation index transform set contains the following fields:

- **Name**—the name of the Transform Set.
- **Data Source**—the saved search on which the transform will run. Select the newly created saved search.
- **Handler**—the handler on which the transform will run. Choose **Conversation Index Parsing**.
- **Status**—the status of the job after it has been run. The possible choices for this field include:
  - Pending
  - Processing
  - Completed
  - Completed with Errors
  - Stopped by User
- **Last Run Error**—lists the last error encountered if the job was completed with errors.

44.2.4 Adding a transform

To add a transform to the conversation index parsing transform set:

1. Click **New** on the transform you just created.
   The Add Transform window appears.
2. Fill out the fields on the form. See Fields on page 708.
3. Click **Save**.

44.2.5 Fields

The Add Transform window contains the following fields:

- **Transform Set**—automatically populates with the transform set you just created.
- **Name**—the name of the transform you're adding.
- **Source Field**—the field that holds the data to be processed. Choose **Conversation Index**.
- **Destination Field**—the field that holds the results of the process. Choose the field you created above, Relational.

Note: Non-email items in your database will not have a conversation ID. The transform process will not fill the destination field for these items.

44.2.6 Running the transform set

After you create the conversation index transform set and add a transform to it, you can run the transform set. You run the transform by clicking **Start Transform: Full** in the console.

When the run finishes, you can view the results in the destination field you specified while creating the transform set by adding the field to a view.

45 Users

Users are individuals who have access to the Relativity environment. You create users and add them to groups, which are then associated with workspaces. Users are also directly associated to clients. This diagram illustrates how clients, groups, and workspaces relate to users.

- Adding or removing users from a client domain on page 721
- Auto-disable users on page 722

Using users

Imagine you're a system admin, and a new employee, John, needs access to Relativity so he can join a review team and begin reviewing documents.

You create a new user account named John for him and add it to the appropriate reviewers group.

45.1 User status

You can view information about users currently logged in to Relativity from the User Status tab, which is available from within any workspace or from Home. Whether or not you're in a workspace determines the functionality and information available on the User Status tab as follows:

- **Home** - the tab lists users currently logged in to Relativity. You can send web page messages and email messages to users listed on the tab. You can also force the log out of these users from the system.
- **Within a workspace** - the tab lists the subset of users accessing the current workspace. You can send web page messages and email messages to users listed on the tab.

45.2 Creating and editing a user

To create a new user, follow this procedure:

1. Navigate to the **Users** tab.
2. Click the **New User** button in the upper-left. To edit an existing user, click the icon next to their name.
3. Complete the fields on the form. See Fields on the next page.
4. Click **Save**.
5. Add a login method or methods. See Adding a user login type on the next page.

Note: Once you've created users in Relativity, you have the option to add them to groups. In Relativity 9.6.50.31 and above, adding or removing users from a group triggers a job. If your Relativity environment is set up with an SMTP server, you'll receive an email notification once the job is completed. If there's an error, the email will include a link that allows you to retry the job. However, you must be logged into Relativity in order to use the retry link. Alternatively, you can find the retry link under the Errors tab.

User and group operations are typically disabled by default. If you'd like to enable these features in your Relativity environment, please contact Customer Support. For further details on adding users to groups and dealing with errors, please see ..

Note: You can preview the security settings of any workspace available for a user by clicking Preview Security.

45.3 Adding a user login type

Relativity supports several authentication and login methods. You must assign the user at least one of these types in order for them to login.

See the following pages:

- **Managing user authentication methods on page 113** - for procedures to add individual authentication methods to a users
- **Authentication on page 88** - for a general overview of the authentication system.

45.4 Fields

The User Information section fields are:

- **First Name** - the user's first name. This field must be between 1 and 50 characters.
- **Last Name** - the user's last name. This field must be between 1 and 50 characters. The system displays a user as <last name>, <first name>.
- **Email** - the user's email address. While the system won't validate this information, you must enter it in the following format: name@domain.extension.

  Note: Relativity users can have the same first and last name, but the email address must be unique.

- **Type** - the user type. The default values are internal or external, but you can add any type value. Type is for reference purposes only and has no impact on access or billing.
- **Client** - the client associated with the user. Click **Select** to choose from available clients.

  Note: Items on the selected client list are set by a system view. It's possible you'll see only a subset of items.

The Other User Details section fields are:

- **Keywords** - an optional field where extra user information may be recorded.
- **Notes** - an optional field where extra user information may be recorded.

The Access section fields are:

- **Relativity Access** - a toggle where you can control the user's access to Relativity.
  - **Enabled** - the default value. Enabled users can log in to Relativity and are considered for billing under your Relativity license.
  - **Disabled** - users cannot access Relativity and won't be counted or billed as named users on your Relativity license.
    When Relativity is first deployed, the system sets the Relativity Access field for existing users using the following criteria. A system admin can change a user's access at any time.
    - If a user is in a group with rights to a workspace, their Relativity Access is set to Enabled.
    - If a user is not in a group with rights to a workspace, their Relativity Access is set to Disabled.
- **Disable on Date (UTC)** - the date when the user's Relativity access is disabled. Use the field to auto-disable users on a specific date in the future, for example, when managing contact reviewers. When you specify the date, it can't be in the past. For more information, see Auto-disable users on page 722

  Note: The Disable on Date value is in UTC and does not represent local time.

- **Trusted IPs** - specifies a list of trusted IP addresses for a user. Authentication fails if a user attempts to log in to Relativity from an unauthorized IP address.

  Note: Relativity only supports the IPV4 format for Trusted IP addresses. It doesn't support the IPV6 format.

The Permissions sections fields are:

- **Change Settings** - users without admin rights can change their settings depending on whether the toggle is enabled or disabled.
  - First name
  - Last name
  - Email address
  - Item list page length
  - Default selected file type
  - Advanced search default
  - Enable or disable Native Viewer Cache Ahead
  - **Note:** While "My Settings" appears grayed out in the user preview, users will still be able to access and change their own settings based on their assigned permissions.

- **Change Document Viewer** - users can change document viewer modes depending on whether the toggle is enabled or disabled.
  - **Enabled** - users can select which viewer they want to use. You can still set a default viewer in the Document Viewer field, but users can switch between viewers.
  - **Disabled** - users can't select which viewer they want to use. Whatever viewer appears in the Document Viewer field in User Settings is the only viewer the user has access to.
- **Document Skip** - controls whether or not the user has the ability to skip documents during review that no longer meet the original conditions of a view due to propagation. This option only affects documents when the Document Viewer field is set to **HTML**. The available options are:
  - **Enabled** - enables the Skip function.
  - **Disabled** - disables the Skip function.
  - **Force Enabled** - always enables the Skip function so that the user can't turn it off. This option is only available for system admins.
- **Keyboard Shortcuts** - Choose a default setting for the keyboard shortcuts icon in the Review Interface. This property is set to Enabled by default.

The Defaults section fields are:

- **Item List Page Length** - a numeric field indicating the default list length for all views in Relativity except for views that are embedded into layouts as an Associative Object List. You can set it from 1 to 200.

  Note: Associative object lists in a layout do not inherit this value (the default number of items per page for these lists is 10 and cannot be customized).

- **Document Viewer** - determines which viewer the user can access when reviewing documents.
  - **Default** - uses the new Aero viewer to review documents.
  - **Review** - uses the new Aero viewer to review documents.
  - **HTML** - uses the HTML viewer to review documents.
- **Document Viewer Preference** - the default viewer mode:
  - Viewer
  - Image
  - Long Text
  - Production
- **Skip Default Preference**
  - **Skip** - advances a user to the next document in the queue that matches the defined view conditions when the user clicks Save and Next.
  - **Normal** - document review operates normally, displaying all documents in the queue.
- **Show Filters** - determines whether or not filters on all columns are visible by default for that user.

For Relativity 9.6.50.31 and above, the out of the box setting for this field is Visible, but you can modify it as necessary. Upgrading to this version sets the Default Filter Visibility field to Visible for existing users whose filters are hidden.

- **Enabled** - shows filters by default.
- **Disabled** - hides filters by default.

Note: If a user is currently logged in to Relativity when a system admin modifies a setting, the user must log out and log back in for the changes to take effect. This also applies to the system admin if they are altering the setting on their own account.

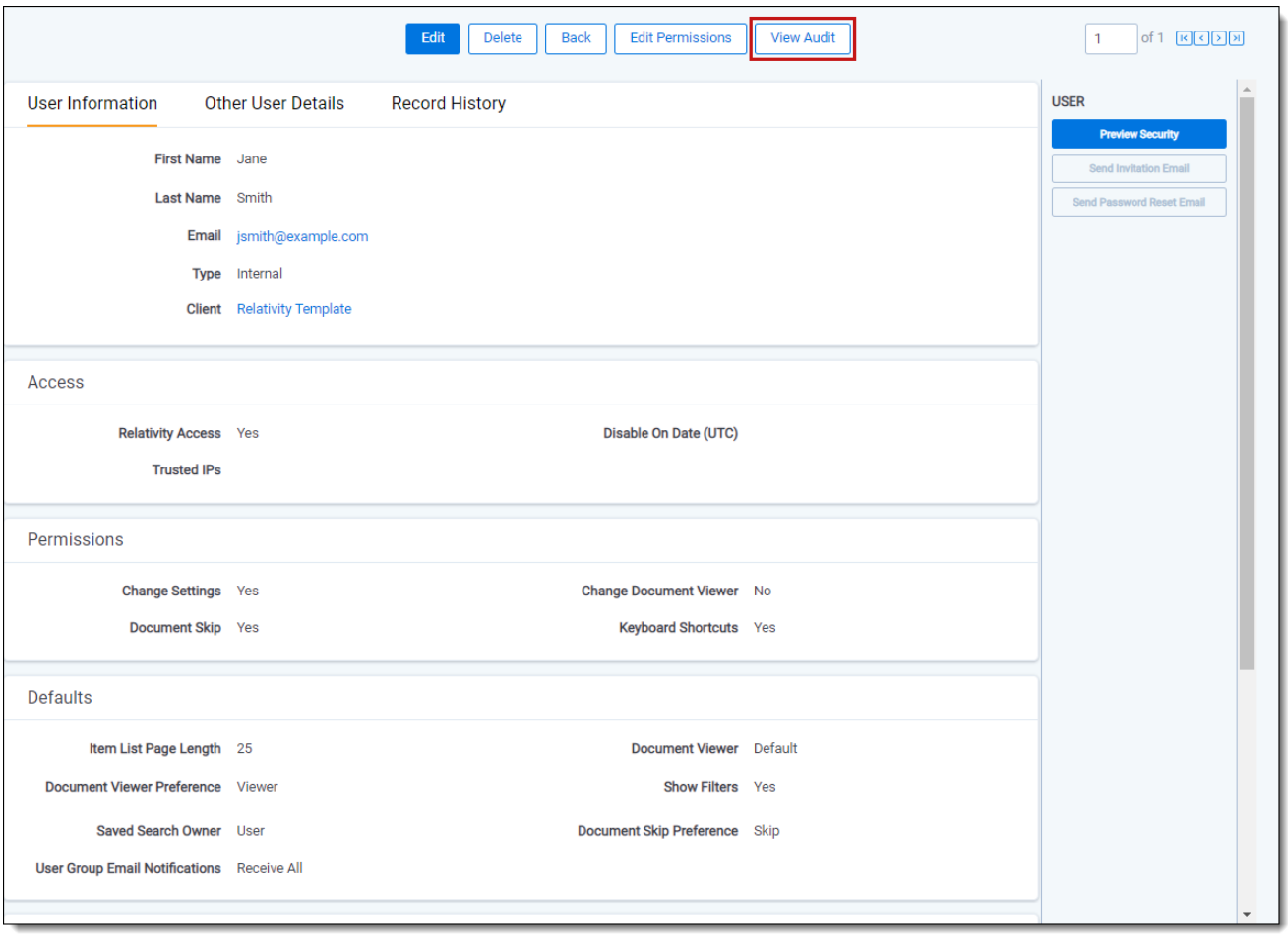
- **Saved Search Owner** - determines whether saved searches are public or private by default. If Public is selected, the search is public and all users with rights to it can see it. If User is selected, the search is private and only the logged in user is able to see it. The property's default value is configurable on a system level. See the Instance setting guide for details.
- **User-Group Email Notifications (if applicable)** - controls the type of email notifications Relativity will send to an admin that is adding or removing users from groups. The available options are:
  - **Receive All**- receive all email notifications regarding the addition or removal of a user or group.
  - **Receive Errors Only** - receive email notifications on failed operations only regarding the addition or removal of a user or group.
  - **Do Not Receive** - receive no email notifications regarding the addition or removal of a user or group.

Note: The following additional configuration is necessary to get **SMTP** notification working for **User-Group Email Notifications**:
Change the following **Instance Setting** to **True:**
• Name: **EnableUserGroupOptimization**
• Section: **Relativity.Core**
Add the **Group Membership Manager** and **Group Membership Worker** agents to the Instance.

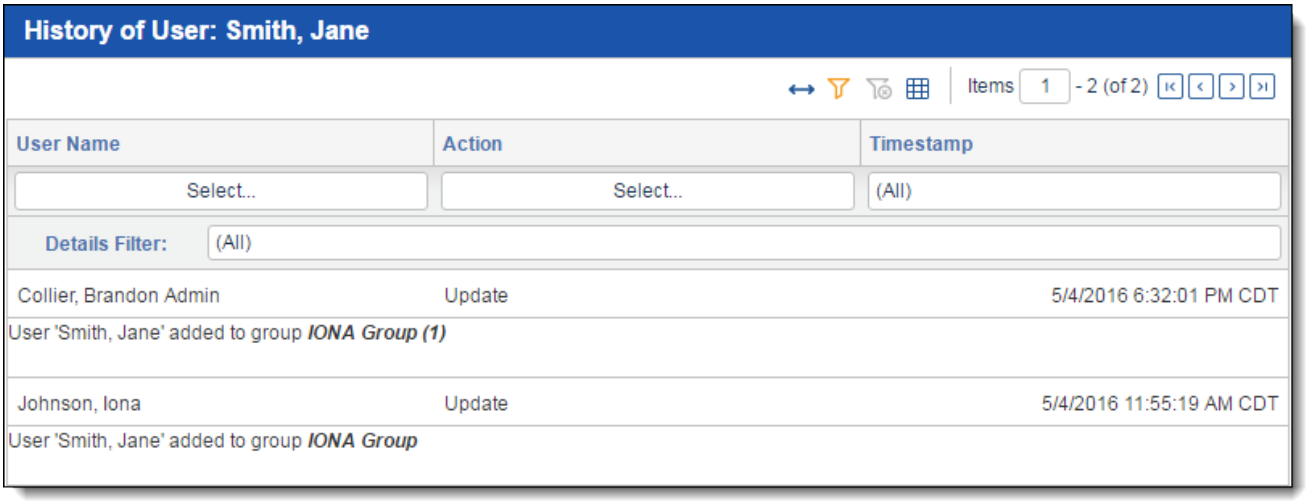
45.5 Viewing user audit records

Use the View Audit function to view a user's audited actions. To access the audit records, select the **Users** tab and click the name of a user. Then click **View Audit**.

Note: Audit records are not modified when a user is deleted or disabled. You will still be able to search for a user's audits based on their user name.



The user's history displays in a new window.



The following columns display:

- **User Name** - The name of the Relativity user who performed the action.
- **Action** - The action that was performed.

- **Timestamp** - The date and time that the action was performed.

45.6 Sending messages to users

From Home or within a workspace, you can send web page messages to one or more users with the mass send message feature. Use the following steps to send a message:

1. Open the **User Status** tab in from within a workspace or from Home.
2. Select the checkbox next to the names of the users you want to send a message to.
3. Select **Send Message** from the drop-down menu at the bottom of the page.
4. Click **Go**.

   The Webpage Dialog appears.

5. Enter your message in the **Message** field, and then click **Send Messsage**. The selected users receive a web page message immediately.

To send an email message to an individual recipient, you can click on their email address link. This will launch your native email application, allowing you to compose the message. Your login information will identify you as the sender of the email message.

45.7 Forcing users to log out

From Home, you can force users to log out of Relativity from the User Status tab.

Note: When you use the Force Log Out option to terminate a user's session, any changes the user made and did not save will be lost.

Use the following steps to log users out:

1. Click your name in the upper right corner of Relativity, and click **Home**.
2. Open the **User Status** tab.
3. Select the checkbox next to the names of users you want to log out.
4. Select **Force Log Out** from the drop-down menu at the bottom of the page, and then click **Go**.
5. Click **OK** on the confirmation message. Relativity immediately logs out the users you selected.

45.8 Adding or removing users from a client domain

You can add or remove objects from client domains if you have the client domains feature activated.

Use the following steps to add a user to a client domain:

1. Navigate to the **Users** tab.
2. Click the icon to edit the user.
3. Click **Select** next to the **Client** field in **User Information** section of the **Users** tab.

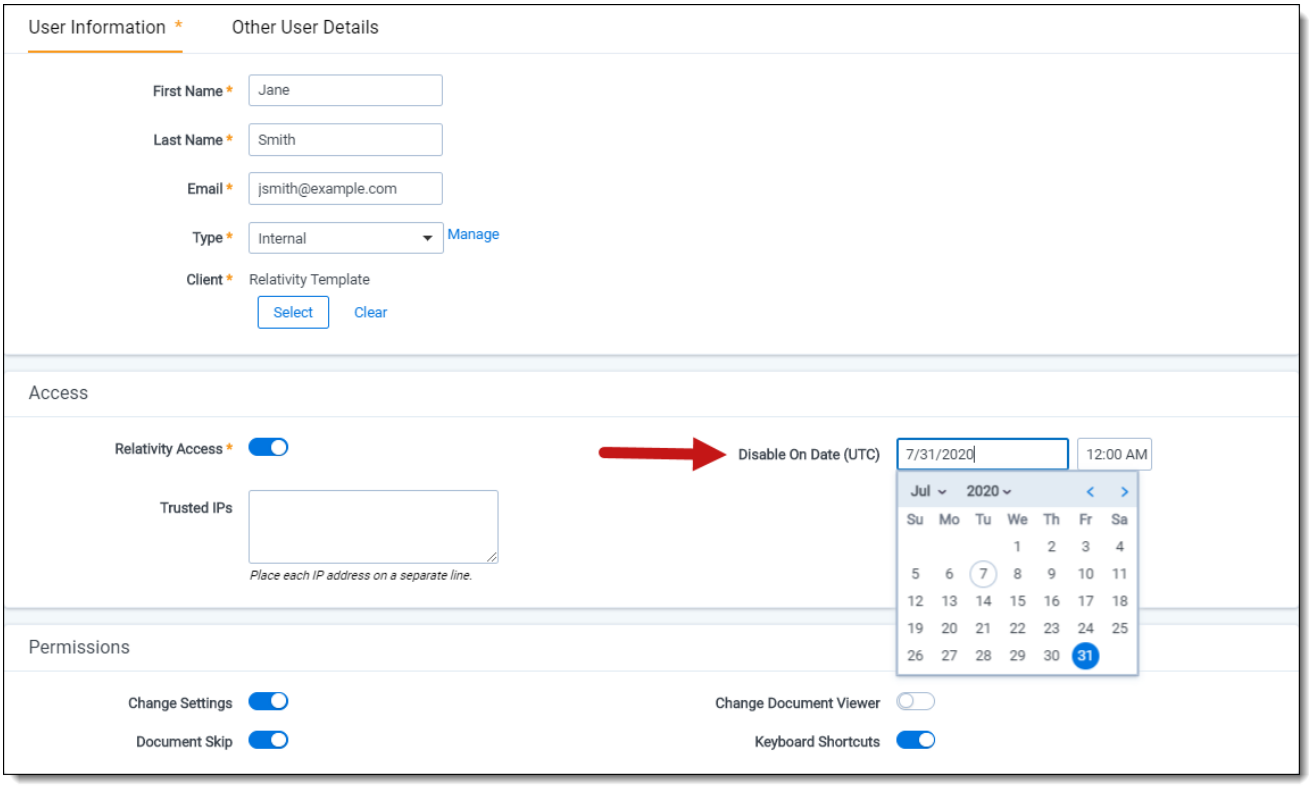
4. Select the client with client domains enabled from the list.
5. Click **Save**.

Use the following steps to remove a user from a client domain:

1. Navigate to the **Users** tab.
2. Click the icon to edit the user.
3. Click **Select** next to the **Client** field in **User Information** section.
4. Select a client not associated with a client domain from the list.
5. Click **Save**.

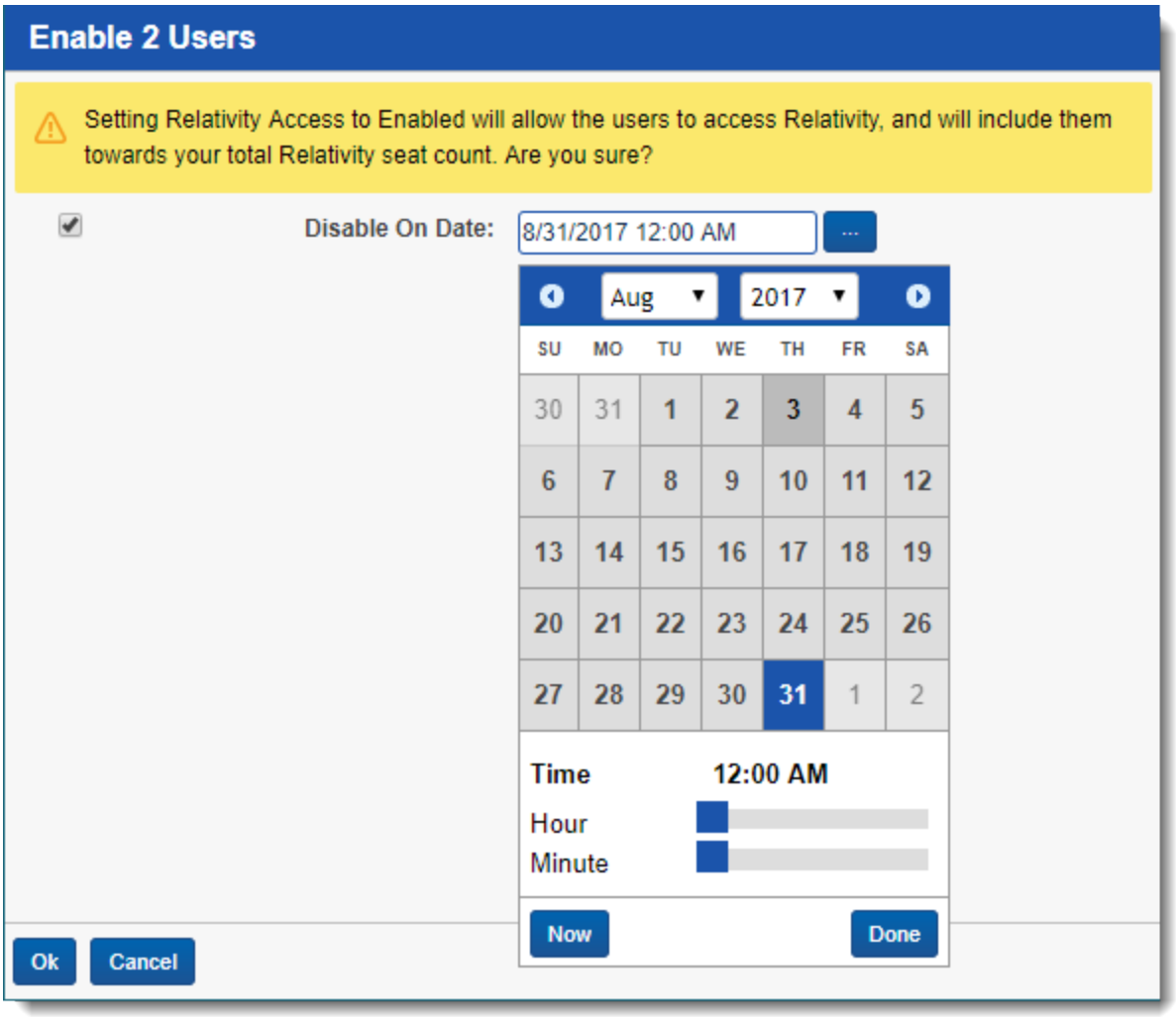
45.9 Auto-disable users

You can auto-disable users on a specific date in the future. You can set the Disable On Date (UTC) field when creating or editing an individual user:



You can also use a mass-operation to set the Disable On Date (UTC) field for multiple users:

1. Navigate to the **Users** tab.
2. Select the checkbox next to the names of users.
3. Select **Enable** from the mass operations drop-down menu at the bottom of the page. The Enable Users dialog opens.



4. Select the checkbox next to the Disable On Date (UTC) field.
5. Enter or select the value for the Disable On Date (UTC) field. The date-time value must be in the future.

   Note: If you select the checkbox and leave the date value blank, will clear the Disable On Date (UTC) for the users.

6. Click **Ok**. The Disable On Date (UTC) field is set for the selected users, and they will be automatically logged out on the specified date and time.

46 Views

Views are customizable lists of items in Relativity. This diagram illustrates the relationship between views and other Relativity objects.

Views are effectively special saved queries that control three things:

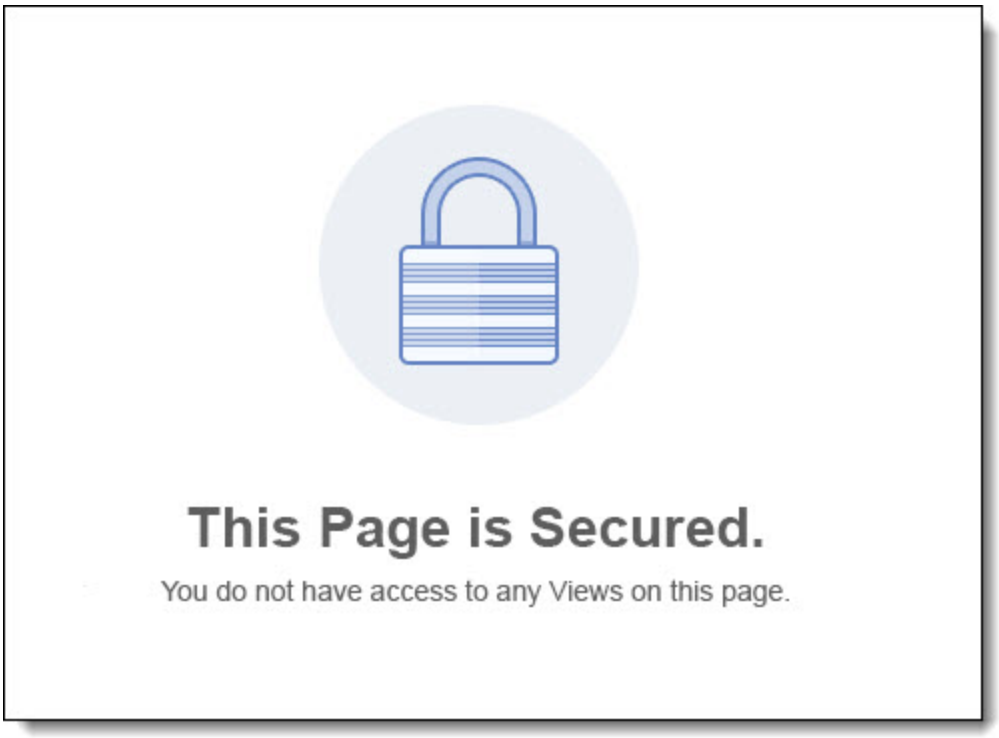
- The items displayed on the list, based on a set of criteria.
- The fields of information displayed for the returned items.
- The sort order of the returned items.

Each view corresponds to a Relativity object. For instance, to create a custom list of documents to display in the Documents tab, you must create a document view.

Note: If an Object Type List page does not have a view, it does not load and an error message appears that states no views have been created.

When you create a view, you can set conditions so that only objects that meet certain criteria appear in the view. However, you shouldn't rely on views to control security. If you need to prevent users from viewing an item, you must set the appropriate security permissions for that item.

If a user does not have access to any of the available views, an error message appears that states the page is secured.



46.1 Workspace system views

There are several workspace system views. These views display lists of items in special locations throughout the workspace. They include:

- **<Relational Field Friendly Name>** - controls which fields appear in the related items pane for relational field groups. Common examples include:
  - Family documents - controls which fields appear in the related items pane when viewing family groups.
  - Duplicate documents - controls which fields appear in the related items pane when viewing duplicate groups.

  Note: These relational views are automatically generated when you make a relational field. By default, they are not included on the Documents tab and are only used to determine the fields that appear in the related items pane for that relational group.

- **Search Results Pane view** - controls which fields are visible in the related items pane when you right-click in the viewer to run an Analytics search for similar documents.
- **History Pop up** - controls which fields appear when clicking details from the related items pane document history.
- **Production Documents** - controls which fields display for documents included on a production details page. Include the fields you use to qualify a document for production in the production documents view. You can then filter the list for disqualifying field values, providing a final QC step in the production process.
- **CaseMap Fields view** - controls which fields are included in mass-sends to CaseMap.
- **Markup History Details** - controls which fields appear when you launch a document's history details from the related items pane.
- **Default Search view** - controls which fields are returned, by default, on an advanced or saved search. You can always include additional fields from the advanced or saved search field selector. This view also controls the sort order of these fields as well. See Creating a saved search in the Searching guide.
- **Linked** - controls which fields are shown in the pop-up. You can then link to a document in the viewer.
- **Link Pane view** - controls which fields are shown in the related items pane showing the linked documents.
- **Batch Set Batches** - controls which fields are shown for the list of batches displayed at the bottom of the Batch Sets tab.
- **Document Batches (Default)** - controls the pop-up for searching batches on a view or an advanced or saved search.

  Note: For more information on searching with Batch fields as search conditions, see Batch field as search conditions in the Searching guide.

- **Advanced Search Browser view** - controls the fields displayed in the Advanced Search Browser.

  Note: This workspace system view is not editable in Relativity.

- **Event Handlers on Object Type** - controls the fields displayed in the pop-up for event handlers attached to an application.

  Note: This workspace system view is not editable in Relativity.

46.2 System views from Home

Any time you see a list of items in Relativity, it's a view. There are a number of system views available from Home, including page detail views and pickers.

- Page detail views:
  - **MattersOnClientPage** - controls which linked matters' fields appear on the client details page.
  - **UsersOnClientPage** - controls which linked users' fields appear on the client details page.
  - **UserViewRenderer** - controls which users fields appear on the group details page.
  - **GroupViewRenderer** - controls which group fields appear on the user details page.
- Pickers:
  - **ClientsOnPicker** - controls which client fields appear when selecting a client on the picker. The client picker is available from the new matter or new user form.
  - **UsersOnPicker** - controls which user fields appear when adding a user to a group. The user picker is available from the group details page.
  - **GroupsOnPicker** - controls which group fields appear when adding groups for a user. The group picker is available from the user details page.
  - **WorkspacesOnPicker** - controls which workspace fields appear when selecting a template workspace on the new workspace form.
  - **MattersOnPicker** - controls which matter fields appear when selecting a matter on the new workspace form.

Pickers have special restricting functionality within Relativity. You can use picker views criteria to control which items are available on the picker. For example, you can set up Relativity so that only clients with an active status are available for linking to users and matters. To accomplish this, edit the criteria for the "ClientsOnPicker" view to include status = active.

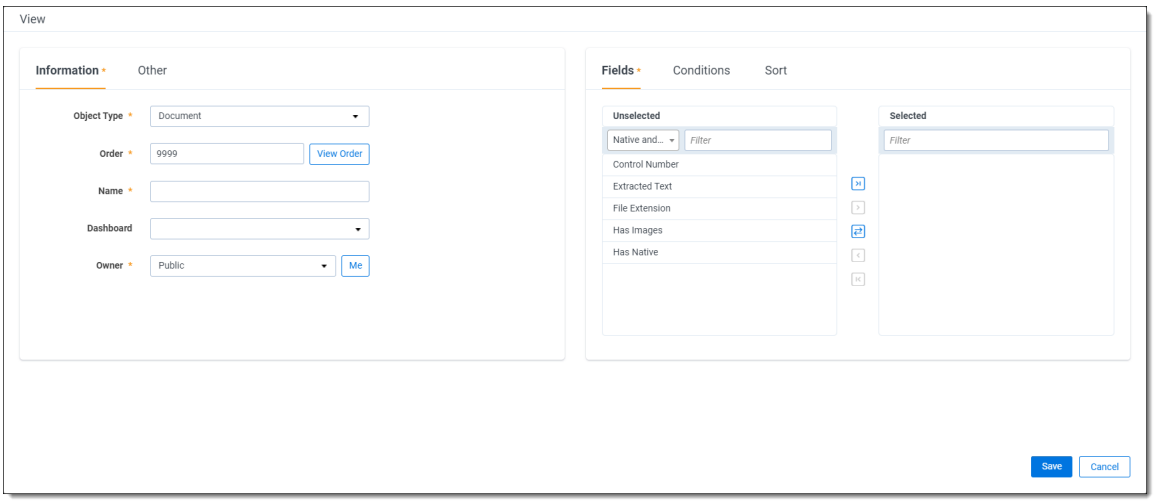
46.3 Creating a view

A view can be created utilizing field categories or without them depending on where you create the view. Field categories allow you to quickly and accurately apply field conditions to the document list.

46.3.1 Creating a view with field categories

To create a view that can utilize field categories, do the following:

1. Navigate to the **Documents** tab.
2. Click on the View drop-down to expand the menu.
3. Click **New View**.
4. The View pop-up displays. Complete the fields on the pop-up. The fields for creating a new view are separated into five tabs.
   - Information tab on the next page
   - Other tab on the next page
   - Fields tab on page 729
   - Conditions tab on page 730
   - Sort tab on page 732

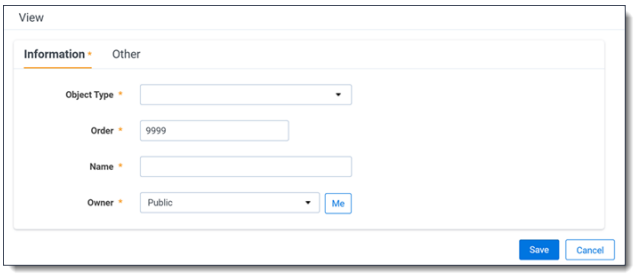


46.3.2 Creating a view without field categories

To create a view without utilizing field categories, do the following:

1. Navigate to the **Views** tab.
2. Click **New View**.
3. The View pop-up displays. Complete the fields on the pop-up. The fields for creating a new view are separated into five tabs. See the following sections to learn about each tab's fields.
   - Information tab on the next page
   - Other tab on the next page
   - Fields tab on page 729
   - Conditions tab on page 730

- Sort tab on page 732



4. Click **Save**.

46.4 Information tab

The Information tab fields are:

- **Object Type** - is the type of view you're creating.

  When choosing an Object Type, ask yourself "What do I want to make a list of?" The answer is your object type.

  A common example of a type of view is the document view, which can be used when creating a view with a criterion that only shows documents that have not yet been coded. Another example is a batch view, which can be used to display only batches assigned to a specific user.

- **Order**- sets where the view appears within the view drop-down list. Items that share the same value are sorted in alphanumeric order.
  - Order can be any integer (positive or negative). No decimals are allowed.
  - The default order is 9999.

  > **Note:** It's always a good idea to order by 10's, starting with 10, then 20, then 30, etc. By numbering in groups of 10 you can insert an item into any position later in the workspace, without the need to reorder all items.

- **Name** - the title of the view.
- **Owner**- sets the user(s) who can see the view. If the owner is set to Public, all users with rights to the view are able to see it. If the owner is set to a specific reviewer, the view is visible to only that reviewer. Clicking **Me** assigns the view to the logged in user.

46.5 Other tab

The Other tab fields are:

- **Group Definition** - includes propagated documents in the view and groups those documents together between blue lines within the document list.

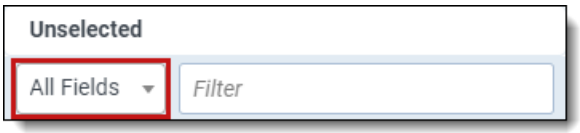
- **Query Hint** - used to optimize views. Only use the query hint if instructed by the Customer Support team. Currently, you can use Hashjoin:*(true/false)* or Maxdop:*(x)* to populate the field.

- **Relativity Applications**- associate this view with an application created in the Applications tab. Click **Add** to select an existing application. This is only available for those who have the Manage Relativity Applications permission under Admin Operations.
- **Visible in Dropdown**- makes the view available in the selected object type's tab.

46.6 Fields tab

In the Fields tab you select the fields that appear on your view.

All potentially available fields appear in the left box, Unselected items. If you created a view that utilizes field categories, you can select a field category from the drop-list above the Unselected items box to filter the list. This can make it easier to locate the desired fields.

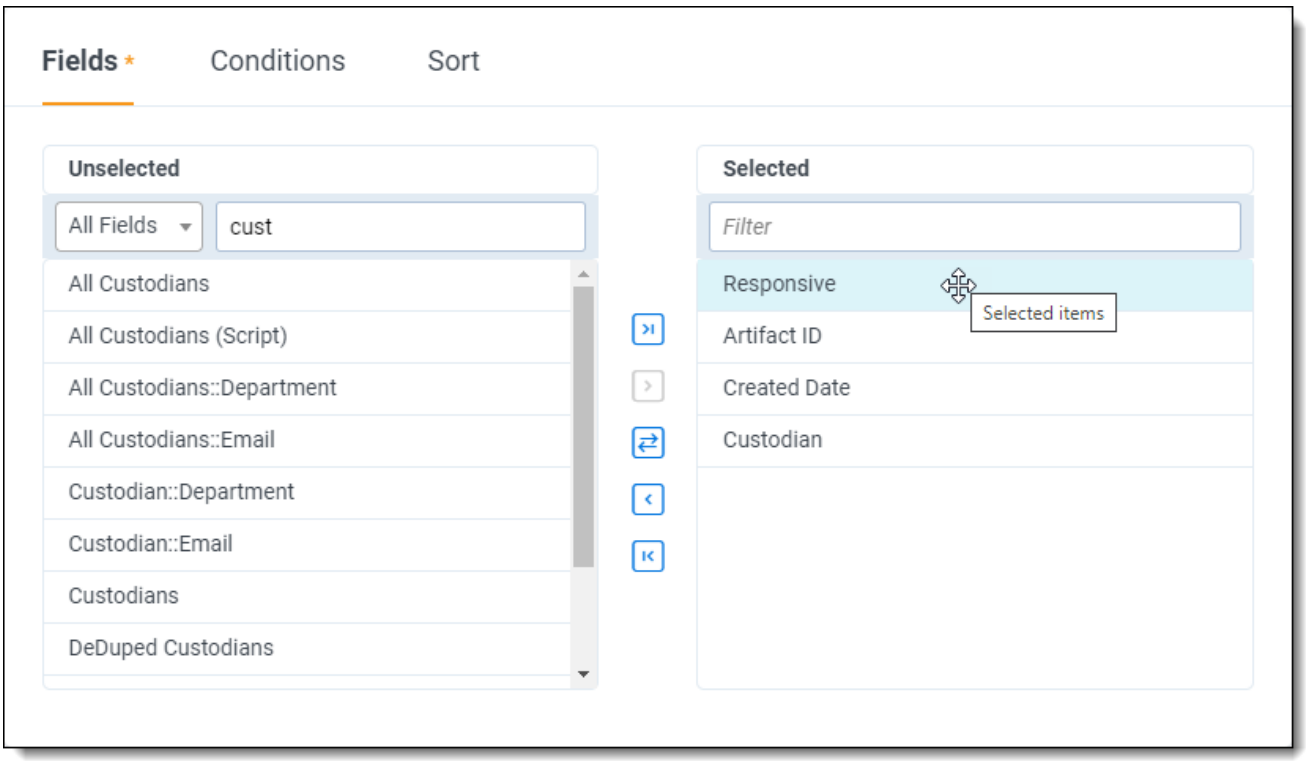


Move any fields you want in your view to the right box, Selected items. You can move fields between boxes by:

- Double-clicking the field name.
- Using the arrows between the boxes.
- Holding Shift and click or drag to select a range of items, which you can then move using the arrows.

In the Unselected items box, fields appear in alphanumeric order. Choose the fields for your view carefully, and avoid adding long text fields. Depending on the field type, you're able to get only a few fields visible on the screen. Select only those fields a user needs to see, filter on, or sort by.

In the Selected items box, fields are ordered according to their position. The topmost fields in the Selected items box are the leftmost fields on the view. The bottommost fields in the Selected items box are the rightmost fields on the view. Place your cursor in the Selected items box to order the fields using drag and drop.



There are several special system fields unique to views that you can add to a view:

- **Edit** - a hyperlinked field that opens the item in edit format.
- **Security** - a hyperlinked field that opens the item's security console.

There are filtering capabilities that you can use to help you locate fields. You can use the filter above each box to search for fields found in the corresponding box.

Note: The number of fields, or columns, you select can impact page load performance.

46.7 Conditions tab

In the Conditions tab you determine which items you want your view to return. A field condition can contain up to 4,000 characters.

When the item list for the view loads slowly due to a long running query, a message box displays with a **Cancel Request** link. This link is available when you perform other actions on item lists containing documents or Dynamic Objects that initiate a query in the background, as well as when you perform searches, filter, or sort on these objects.

Note: The Set Conditions section is similar to the Conditions section in saved searches. For more information on the available options, see Saved search in the Searching guide.

To define the criterion for your view, you can choose to add conditions, logic groups, or both.

To set a condition, complete the following steps:

1. Click the **+ Condition** button.
2. Select the field you want to apply a condition to by entering the name of the field or selecting the field from the drop-down list. The types of fields present differ based on the type of view you are creating.

   Note: If you are setting a condition on a view that can utilize field categories, you can conveniently filter the list of available fields by selecting a field category from the drop-down menu above the fields list.

3. A pop-up appears to select your search operator and enter the value to be searched. Available operators differ depending on the type of field being searched.
   With date-based fields, you can enter dates with the MM/DD/YYYY format or use the date range filter.

   Depending on the field type and operator, you can choose the value(s) from a popup picker. A popup picker is available for selecting choices and objects that provide the following operators:

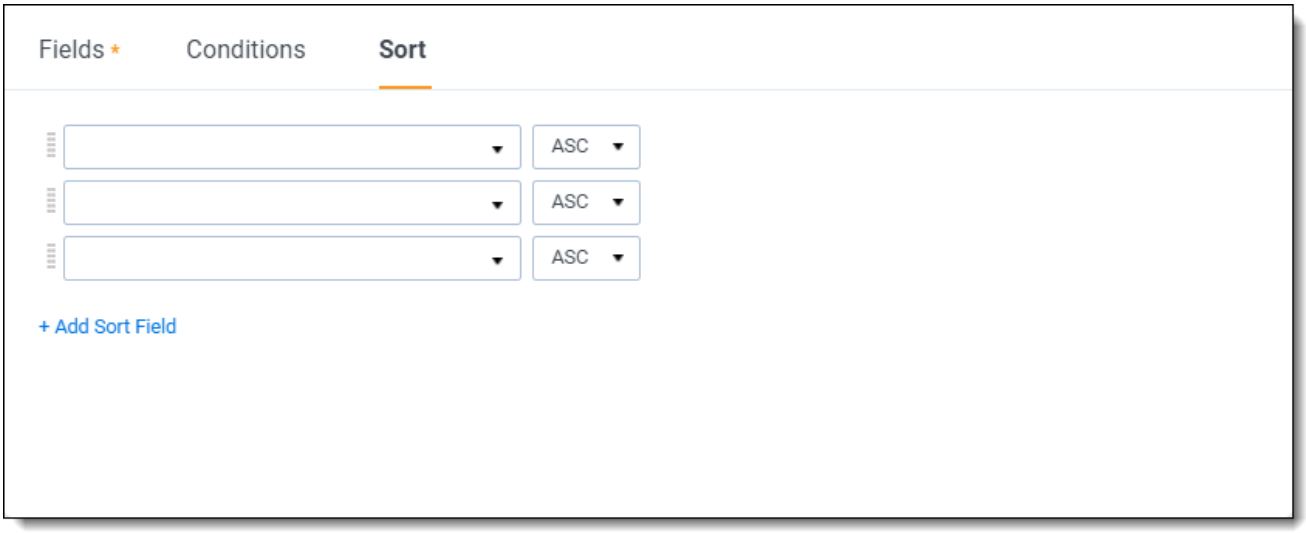
   - **Any of these**
   - **None of these**
   - **All of these** (only for multi-object fields)
   - **Not all of these** (only for multi-object fields)
4. (Optional) Connect each criterion with an "AND" or "OR" operator.
5. (Optional) You can click **Clear All Conditions** to start over. Or, you can click the × to remove a single condition.
6. Click **Save**.

To set a Logic Group, complete the following steps:

1. Click the down arrow to the right of the + Condition button and select **Logic Group**.
2. Select the conditions you would like to group together and drag and drop them into the logic group frames. Move your cursor to the left side of the condition to enable drag and drop.
3. Use the AND or OR operator to join logic groups.
4. Click **Save**.

46.8 Sort tab

In the Sort tab you define the default sort order of the view. If you don't select a sort criterion, the view sorts by artifact ID. Users are able to temporarily sort the view by any field that has Allow Sort/Tally enabled on the view.

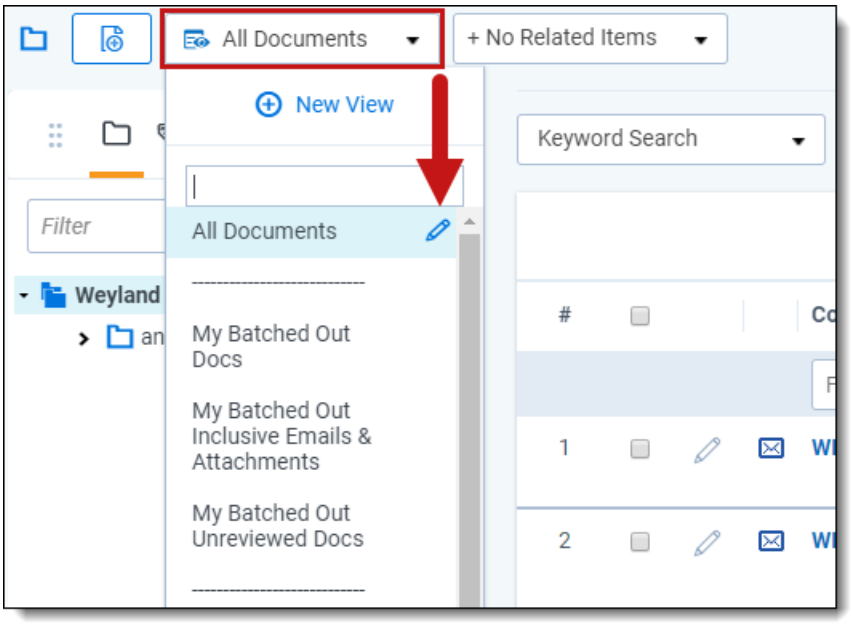


Each row represents a sort criterion. Select the desired sort field in the first column. The second column sets whether the sort should run ascending or descending. The sorts are applied in nested order.

46.9 Editing view information

You can edit views in three ways:

- In the Views tab in a workspace, click the **Edit** icon next to the desired view in the item list and move through the steps for creating a view.
- For all Relativity Dynamic Objects (RDO), and most system objects, you can click on the view drop-down to display the list of views. Next, click **Edit** icon next to the view you wish to edit, and then move through the steps for creating a view.



- Open the view that you want to change, click **Edit** in the view bar, and then move through the four-step wizard as demonstrated below.

46.9.1 Using the four-step wizard

When you edit a view from within the view itself, Relativity guides you through the four-step wizard. Complete the fields on the form and click Next after you complete each step. See the following sections to learn about each steps fields:

- Step 1: Basic Information below
- Step 2: Fields on the next page
- Step 3: Conditions on page 735
- Step 4: Sort on page 737

Make sure to click **Save** when you are finished making your changes.

46.10 Basic Information

The Basic Information (Step 1 of 4) fields are:

- **Owner** - sets the user(s) who can see the view. If the owner is set to Public, all users with rights to the view are able to see it. If the owner is set to a specific reviewer, the view is visible to only that reviewer. Clicking **Me** assigns the view to the logged in user.

View Information

- **Name** - the title of the view.
- **Order** - sets where the view appears within the view drop-down list. Items that share the same value are sorted in alphanumeric order.
  - Order can be any integer (positive or negative). No decimals are allowed.

- The default order is 9999.

> **Note:** It's always a good idea to order by 10's, starting with 10, then 20, then 30, etc. By numbering in groups of 10 you can insert an item into any position later in the workspace, without the need to reorder all items.

- **Visible in Dropdown** - makes the view available in the selected object type's tab.

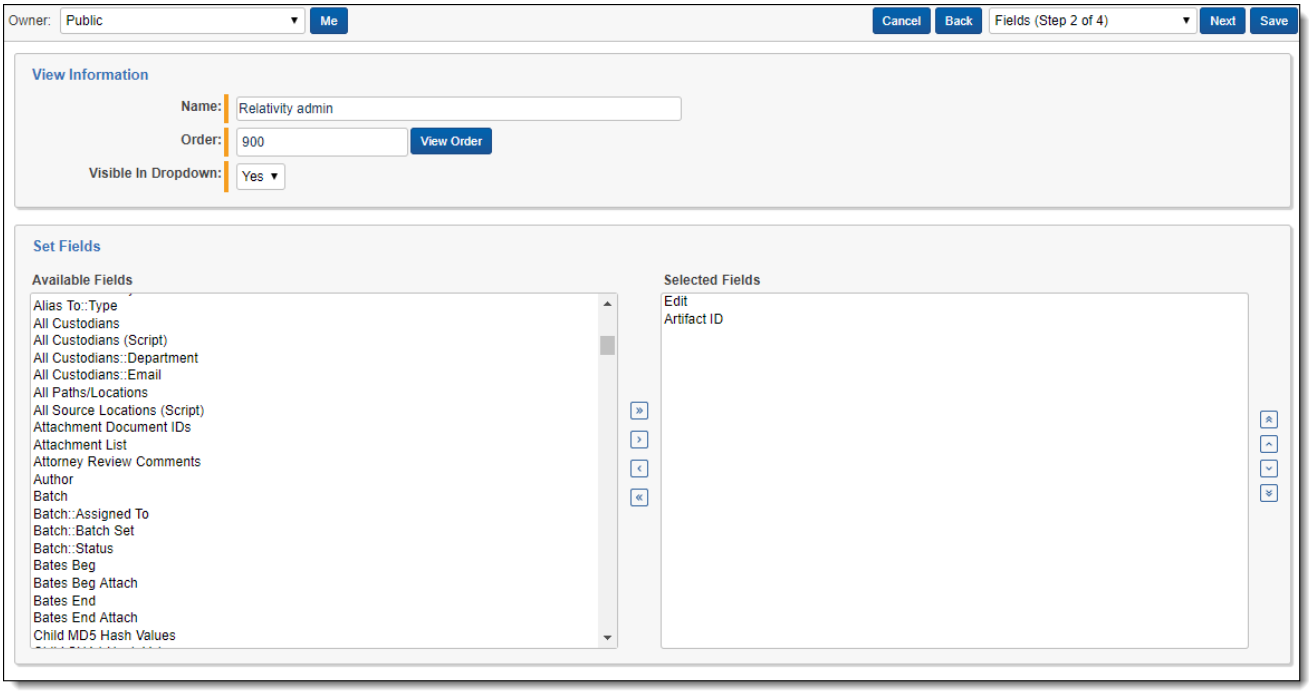
Advanced Settings

- **Object Type** - is the type of view you're creating.
- **Visualization Type** - displays items in the standard format for email conversation visualization. Note that while editing Document Views available in the Related Items pane, the Visualization Type property appears. This property is only editable on system-created views associated with Relational Fields. Otherwise this field is set to Standard List and is read-only.
- **Relativity Applications** - associate this view with an application created in the Applications tab.

  Click ... to select an existing application. This is only available for those who have the Manage Relativity Applications permission under Admin Operations.
- **Query Hint** - used to optimize views. Only use the query hint if instructed by the Customer Support team. Currently, you can use Hashjoin:*(true/false)* or Maxdop:*(x)* to populate the field.

46.11 Fields

In the second step of the wizard you select the fields that appear on your view.



All potentially available fields appear in the left box, **Available Fields**. Move any fields you want in your view to the right box, **Selected Fields**. You can move fields between boxes by:

- Double-clicking the field name.
- Using the arrows between the boxes.
- Holding Shift and click or drag to select a range of items, which you can then move using the arrows.

In the Available Fields box, fields appear in alphanumeric order. If you move a field back to available fields from selected fields, it moves to the bottom of the list. Choose the fields for your view carefully, and avoid adding long text fields. Depending on the field type, you're able to get only a few fields visible on the screen. Select only those fields a user needs to see, filter on, or sort by. Use the up and down arrows on the right of the Selected Fields box to order the fields. The button sends the selected field to the top of the Selected Fields list. The button sends the selected field to the bottom of the Selected Fields list.

There are several special system fields unique to views that you can add to a view:

- **Edit** - a hyperlinked field that opens the item in edit format.
- **File icon** - unique to document views and displays an icon representing the document's Relativity native file type.
- **Security** - a hyperlinked field that opens the item's security console.

In the Selected Fields box, fields are ordered according to their position in the selected fields box. The topmost fields in the box are the leftmost field on the view. The bottommost fields in the box are the rightmost field on the view. To reorder the fields, use the up and down arrows to the right of the selected fields box.

There are four buttons at the top of the wizard:

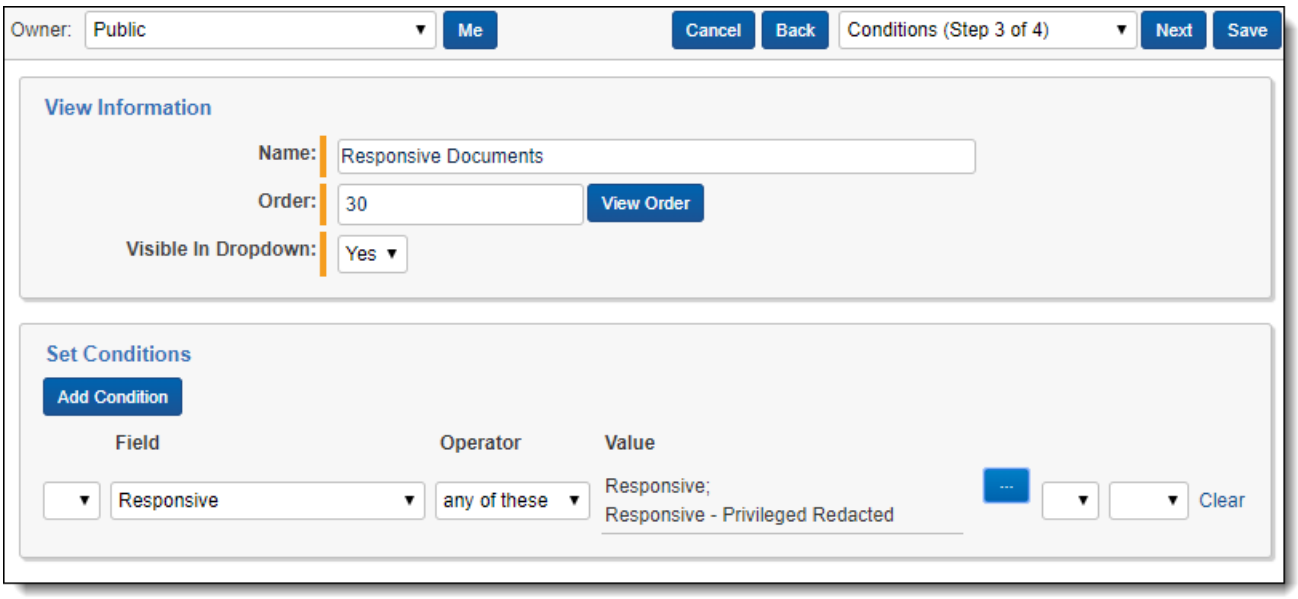
- **Cancel** - ends the creation of the view. No information entered in the wizard is saved.
- **Back** - takes you back to the previous step of the wizard.
- **Next** - saves the information on the form and takes you to the next step of the wizard.
- **Save** - records the information on the form and completes the creation of the view.

46.12 Conditions

In the third step of the wizard you determine which items you want your view to return. A field condition can contain up to 4,000 characters.

When the item list for the view loads slowly due to a long running query, a message box displays with a **Cancel Request** link. This link is available when you perform other actions on item lists containing documents or Dynamic Objects that initiate a query in the background, as well as when you perform searches, filter, or sort on these objects.

Note: The Set Conditions section is similar to the Conditions section in saved searches. For more information on the available options, see Saved search in the Searching guide.



Each row of the conditions builder represents a separate criterion. Each box of the row represents a different part of the criterion.

- **The first box, Criteria** - select a single, double or triple parentheses. With this option you can create complex levels of grouping between different criteria. This is only available when you have more than one row.
- **The second box, Field** - select any available field in your workspace. The types of fields present differ based on the type of view you are creating.
- **The third box, Operator** - select your search operator. Available operators differ depending on the type of field being searched.
- **The fourth box, Value** - select the value to be searched.

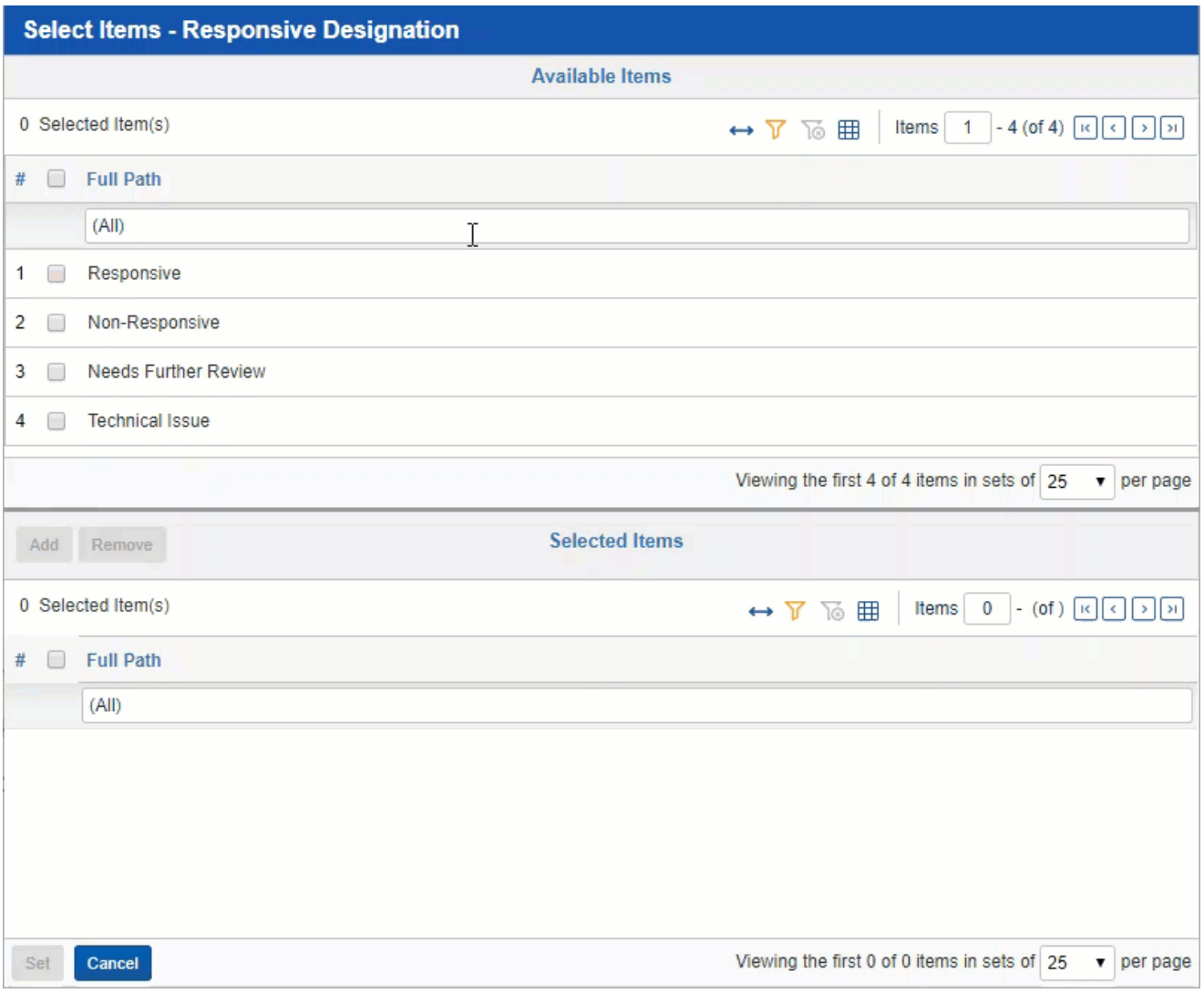
  Note: With date-based fields, you can enter @today as the value instead of choosing a date.

- **The fifth box** - close any parentheses opened in the first box.
- **The sixth box** - connect each criterion with an “AND” or “OR” operator.

Depending on the field type and operator, you can choose the value(s) from a pop-up picker. A pop-up picker is available for selecting choices and objects that provide the following operators:

- **Any of these**
- **None of these**
- **All of these** (only for multi-object fields)
- **Not all of these** (only for multi-object fields)

When you click ... next to any of these operators, the following window appears:



Check any item in the Available Items list at the top and click **Add** to put that item into the Selected Items list below. Click **Set** to add the Selected Item as a condition in the view.

Likewise, check any item in the Selected Items list and click **Remove** to place the item back into the Available Items list. Click **Set** to removes the item from the view condition.

The Available Items pop-up picker is also available when setting advanced search conditions and when performing a mass edit.

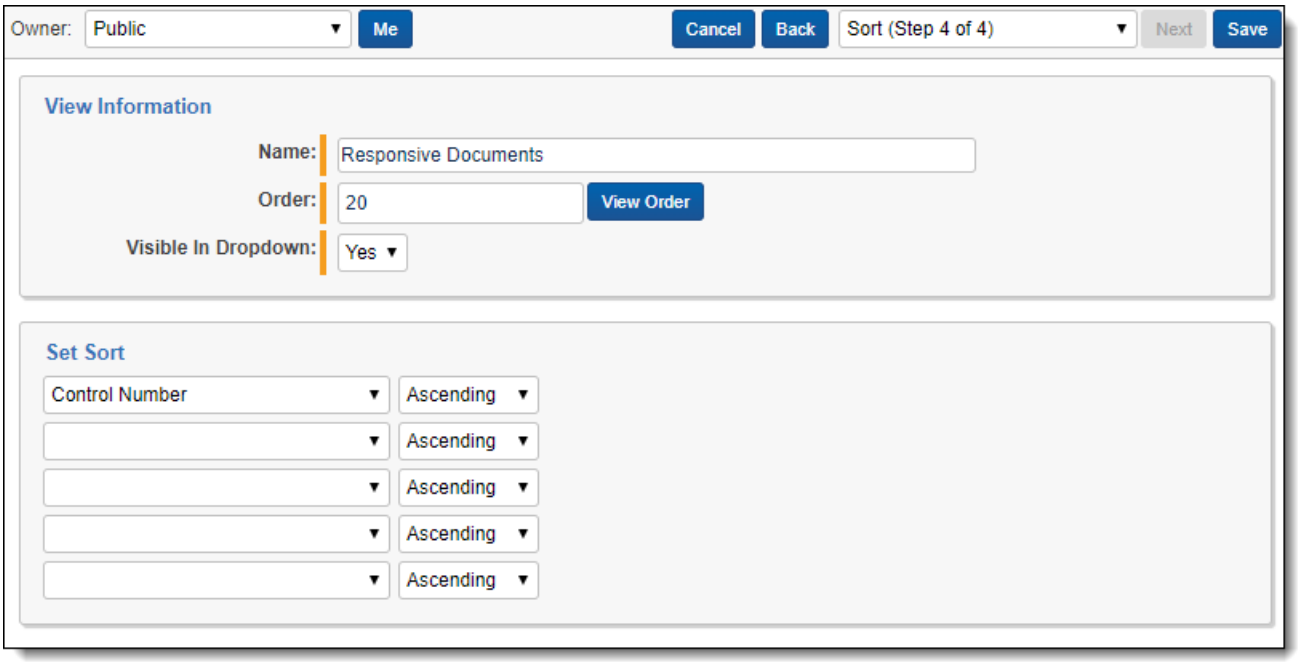
There are two additional buttons on the form:

- **View Order** - opens a pop-up that displays the order of existing items to determine where the new item should display.
- **Add Conditions** - displays a new conditions row where additional conditions can be set.

46.13 Sort

In the fourth and final step of the wizard you define the default sort order of the view. If you don't select a sort criterion, the view sorts by artifact ID. Users are able to temporarily sort the view by any field that has Allow

Sort/Tally set to Yes included on the view.

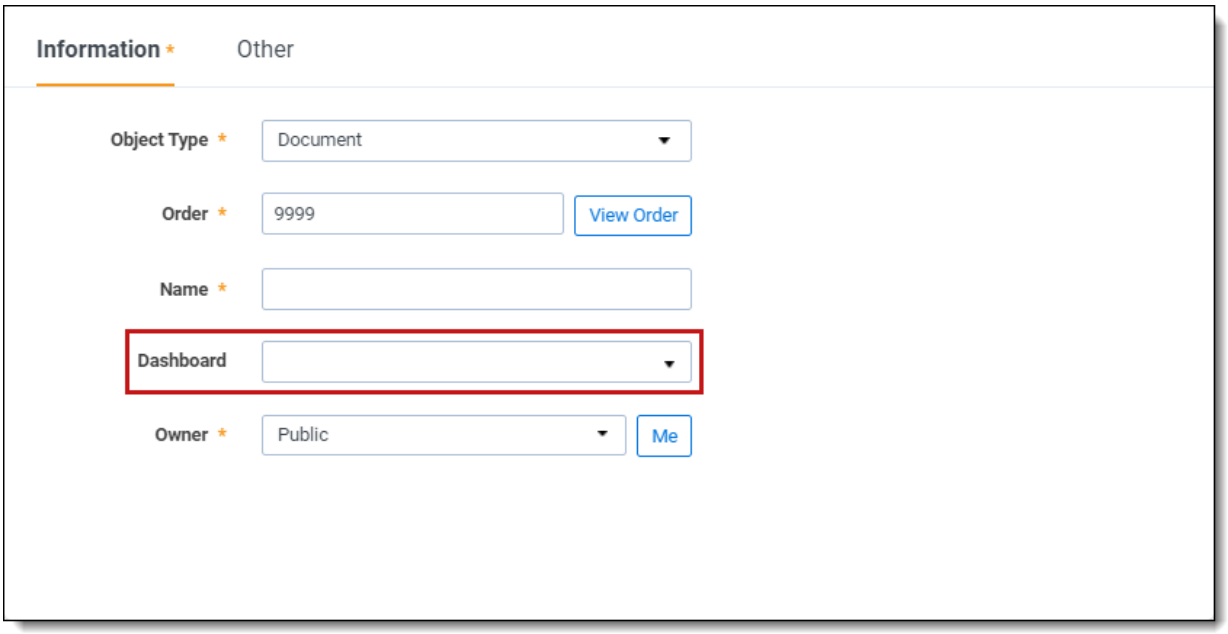


Each row represents a sort criterion. Select the desired sort field in the first column. The second column sets whether the sort should run ascending or descending. The sorts are applied in nested order.

46.14 Linking a dashboard to a view

To link a dashboard to a view:

1. Create or edit a view.
2. Choose an **Object Type** from the drop-down menu that is compatible with dashboards.
3. Select the desired dashboard from the **Dashboard** drop-down menu.



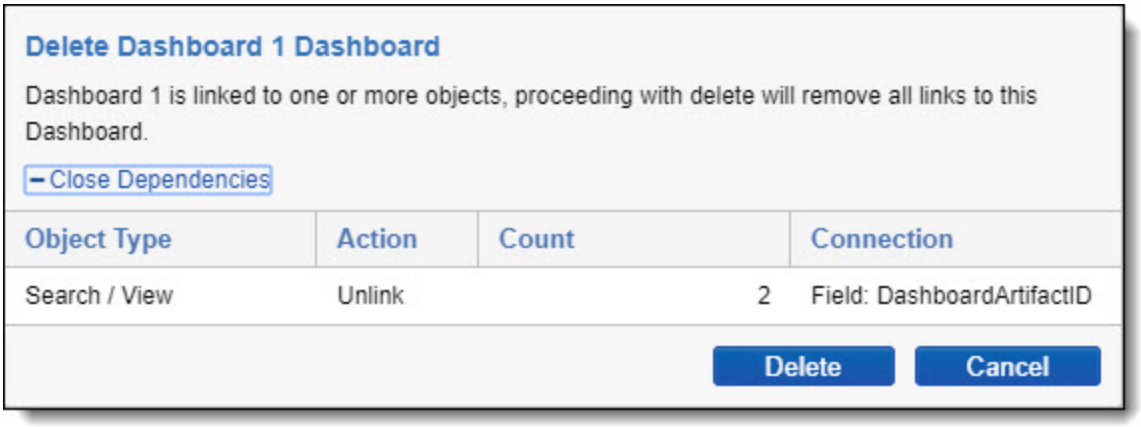
4. Click **Save**.

If you switch to a different dashboard while in the view, the link breaks. There are two ways to restore this link:

- Log out of your environment, then log back in.
- Edit the view and hit **Save** again.

If you delete a dashboard, Relativity removes the link in the view.

If you delete a dashboard with dependencies, a pop-up appears with a list of dependencies.



Dashboards are available for dynamic object type views. They are also supported by the following static objects:

- Document
- Install Event Handler
- Mass Operation

- Markup Set
- Production

46.15 Displaying family groups in a view

During review, it may be helpful to quickly see documents as they exist in their family groups. Building a view to organize documents by family can support this workflow.

This topic describes how to create a view to display documents organized by family.

46.15.1 Creating the family group view

To create the family group view, enter the following information:

- View information:
  - Object Type: **Document**
  - Name: **Documents**
  - Owner: **Public**
  - Order: **10**
- Other:
  - Group Definition: **Family Group (Family related items field)**
  - Relativity Applications: **none**
  - Query Hint: **leave blank**
  - Visible In Dropdown: **Yes**
- Suggested fields - include **Edit**, **File Icon**, **Control Number**, **Group Identifier**, **File Name** (or Name or Unified Title), **Record Type**, and any additional fields you want to place on the view
- Set conditions - none
- It is necessary to sort based on the related item field. It might be Group Identifier or Family Group.
- >Setting how the families are displayed is optional.
  - Control Number
  - Family Date - use the Propagate Sent Date to Family Documents script to set values for this field.

The following image is not intended to show as indented (with dots), but to illustrate the view you see when you use the indented list method to group the families together. Note that each family is now divided by bolded lines.

104651	REL0000000010.0001_00018		Fam-1
104652	REL0000000010.0001_00019		Fam-1
104653	REL0000000010.0001_00020		Fam-1
104654	REL0000000010.0001_00021		Fam-1
104655	REL0000000010.0001_00022		Fam-1
104656	REL0000001728		Adams-1248
104657	REL0000001729		Adams-1248
104658	REL0000001730		Adams-1248
104659	REL0000001731		Adams-1248
104660	REL0000000001--7777		45
104661	REL0000000002.0001		45
104662	10-attachments_slice009	11/09/2018, 09:56	10-attachments_slice009
104663	10-attachments_slice009_001		10-attachments_slice009
104664	10-attachments_slice008	11/09/2018, 09:56	10-attachments_slice008
104665	10-attachments_slice008_001		10-attachments_slice008

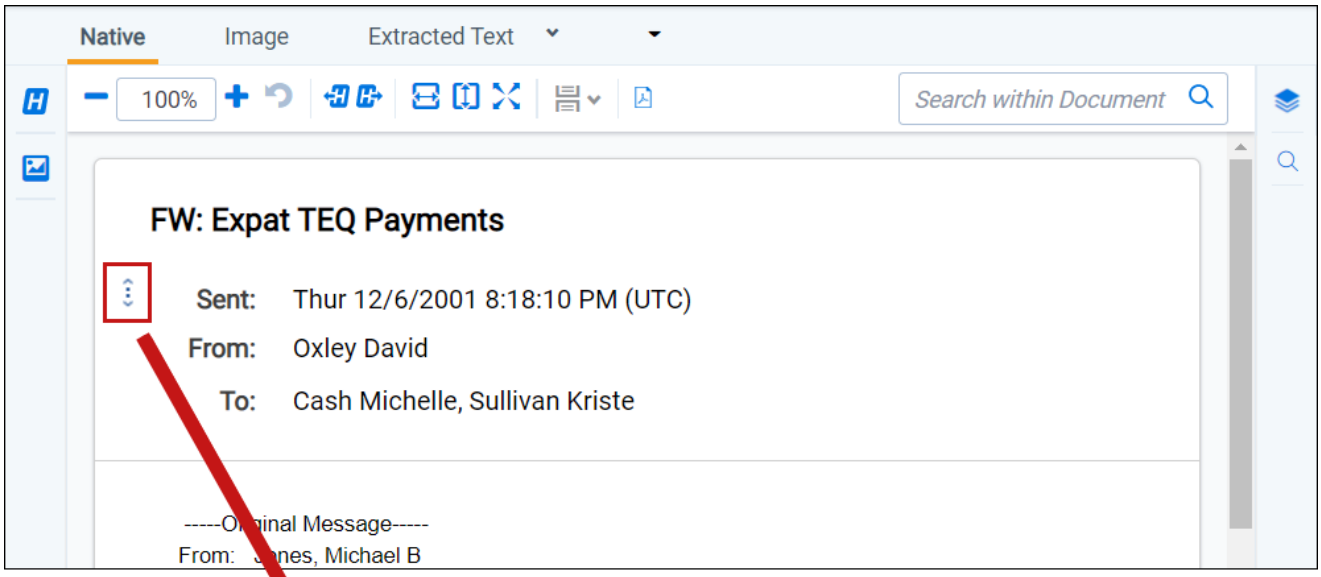
47 Viewer

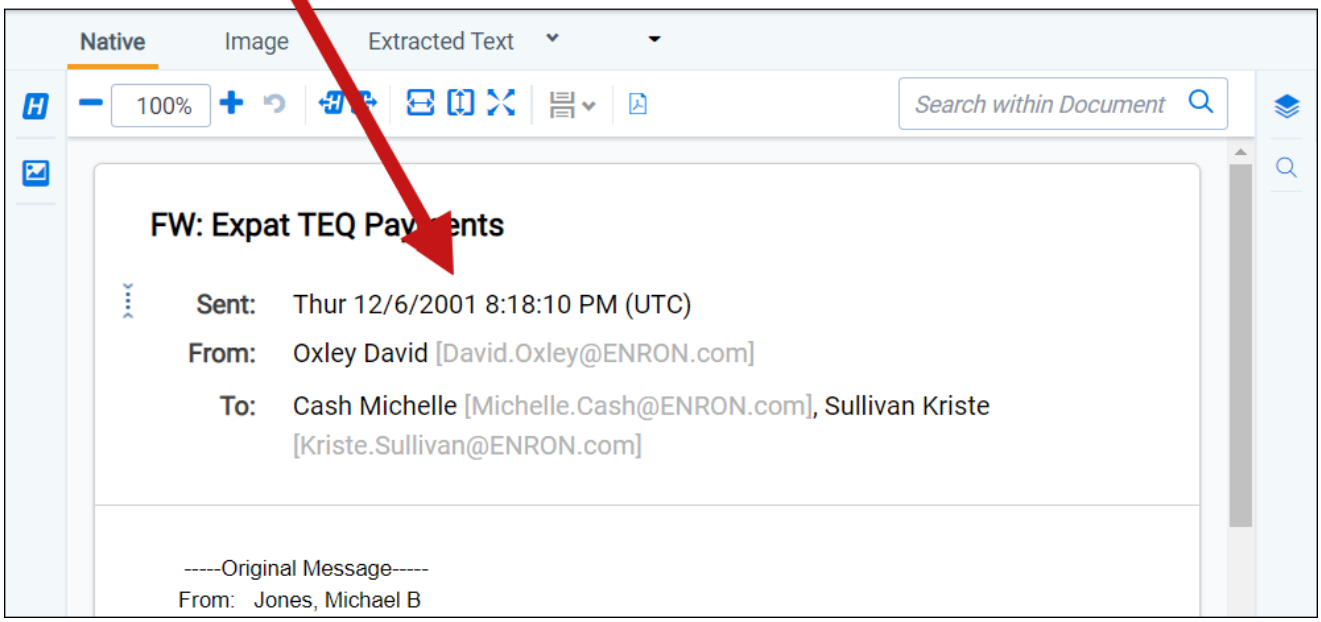
Relativity's Review Interface displays workspace documents. You can use the Viewer type tabs to toggle the loaded formats of documents, such as Native Viewer, Image Viewer, Extracted Text Viewer, or Productions Viewer. Using the Viewer, you can control the form of document that displays in the interface. If a document has not been imaged, you can image documents on-the-fly in the Viewer.

Note: Using your internet browser to zoom to any size other than 100% while using the Viewer is not supported and can cause unexpected behavior.

If you do not see the document in the Viewer, it either has not been loaded to the workspace, its conversion failed, or you do not have permission to see it.

Note: In the Native Viewer, you can expand the email header to display full email addresses. If you collapse or expand an email header, the Viewer maintains the expanded or collapsed state as you navigate through documents in the set.





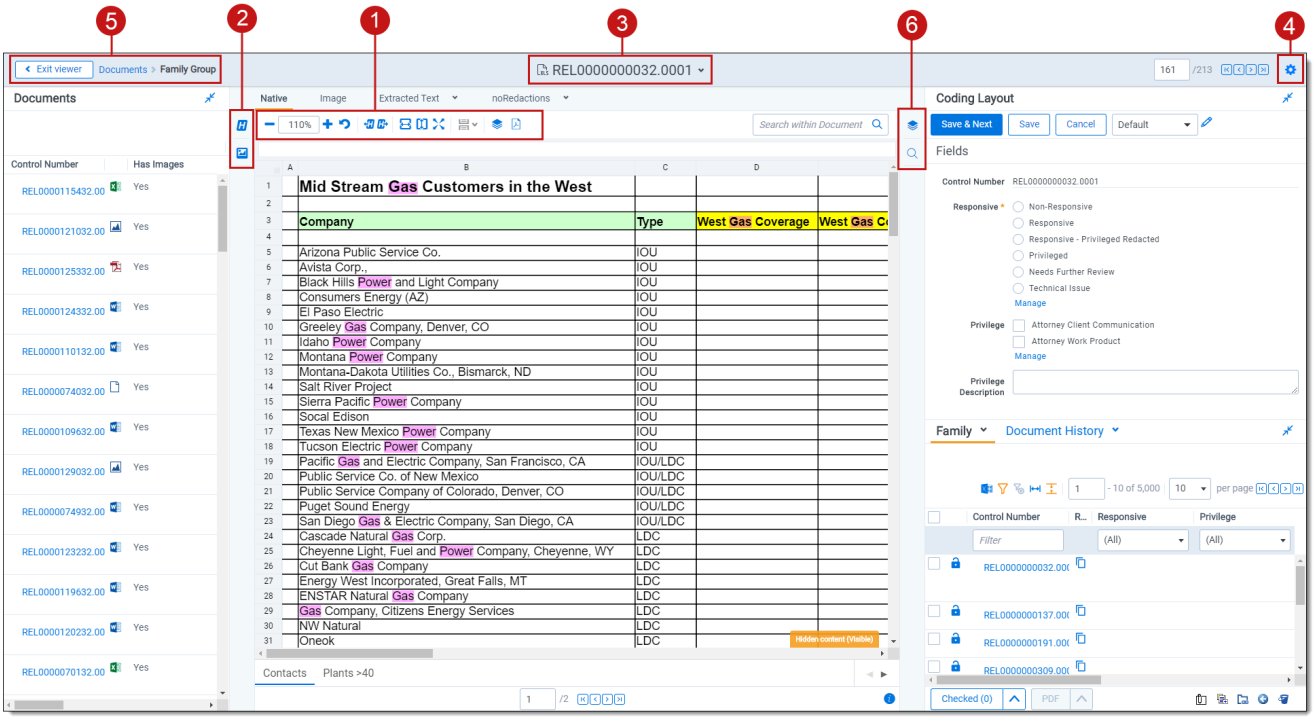
47.1 Native Viewer

The Native Viewer displays an HTML rendering of the document that is as close to the original version of the document as possible. It also provides options for navigating through a single document and between documents in a document set. You can also conduct text searching, highlighting text to copy and paste, zooming, arranging, and saving pages you review in the Native Viewer. You also have the option to print single documents from the Native Viewer by saving the document as a PDF. For more information, see Create PDF.

Note: The Viewer displays PDF text by mapping the character codes to Unicode in most cases. To check whether PDF text has been properly encoded and will display correctly in the Viewer, copy the text in the original PDF file and paste it into another application like Microsoft Word or Notepad. If the pasted text does not display correctly, the PDF is not properly encoded. If the pasted text displays correctly in another application but not in the Viewer, contact Support for assistance.

47.1.1 Navigating the Native Viewer

The Native Viewer offers several ways of viewing and working with documents. There are options available in the following sections of the Viewer:



1. Native Viewer toolbar options
2. Left drawer Viewer options
3. Document actions menu
4. Viewer settings menu
5. Viewer breadcrumbs
6. Right drawer Viewer options

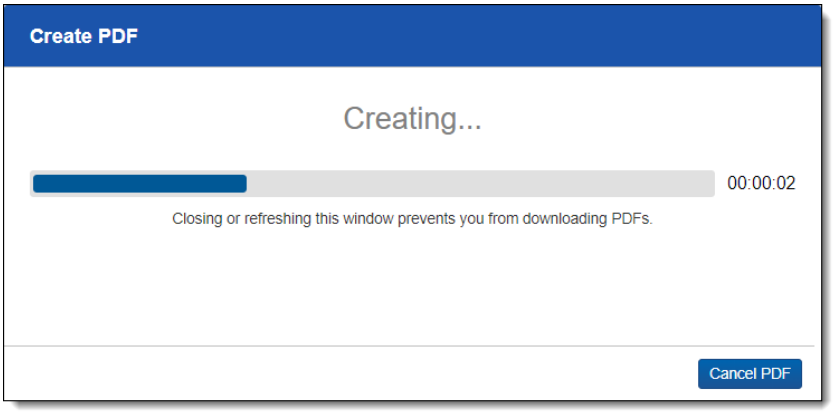
Each of these options and menus is described in more detail in the sections below.

47.1.1.1 Native Viewer toolbar options

The following toolbar options are available in the Native Viewer:

- **Zoom Out/In** 100% —zooms out and in on the current document in increments of 10% within a range of 10% to 4,000%. If you attempt to zoom out to a percentage lower than 10%, the Viewer automatically sets the display to 10%. If you attempt to zoom in to a percentage higher than 4,000%, the Viewer automatically sets the display to 4,000%. Your zoom setting persists as you navigate through a document set. This means that if you've set one document to 150% and you go to the next document, the next document defaults to 150% zoom.
  To specify a zoom percentage without using the zoom out/in toolbar buttons, type the number in the percentage field and press the **Enter** key.
- **Reset Zoom** —resets the zoom to 100%.
- **Fit Width** —increases the size of the document to fit the maximum width of the Viewer. This setting persists when you re-size the window.
- **Fit Page** — fits the entire document into the total size of the page. Clicking this zooms out the document and reduces the font size.
- **Fit Actual** —fits the document display to the actual size it was in its native application. By default, this resets the zoom percentage to 100%.
- **Layout Mode** —select one of the following options to determine how documents that are more than one page long display in the Viewer.
  - **Single** —one page of a document will display at a time. Use the page navigation options at the bottom of the Viewer to adjust which page you view.
  - **Single Continuous** —displays the pages in the document stacked vertically so you can scroll up and down to view them.
  - **Facing Continuous** —displays the pages in the document in a row horizontally so you can scroll left and right to view them.
- **Go To Next/Previous Highlight** —moves through previous and next highlighted terms in the document.
- **Redact Markup Visibility** —changes the visibility mode of the markups between full visibility, transparent and hidden. By default, this is set to Solid, which means all highlights and redactions appear as solid as you applied them. This icon only displays if you are viewing a PDF file in the Viewer and have Redact installed.
- **Selector** —select within a document. This icon only displays if you are viewing a PDF file in the Viewer and have Redact installed.

- **Text Selection Mode** —select text in a PDF file. This icon only displays if you are viewing a PDF file in the Viewer and have Redact installed.
- **Highlight Mode** —highlights the selected text with the color you specify from the drop-down menu. The default color is blue. This icon only displays if you are viewing a PDF file in the Viewer and have Redact installed. Select from the following: Blue, Green, Orange, Pink, Purple, Yellow
- **Redaction Mode** —click the drop-down menu to select a redaction tool. The black redaction tool is the default. This icon only displays if you are viewing a PDF file in the Viewer and have Redact installed. You can select from the following:
  - **Black** —creates a solid black box, like using a black marker. While you draw the box, a gray translucent fill appears.
  - **Text** —creates a white redaction box with black text. The text will fill the box by default. To change the font size, keep the redaction box selected and click Auto, and then select a new font size from the drop-down menu. You can right-click a text box redaction and select **Edit** to change the text redaction as desired. Alternatively, you can right-click a text box redaction and select either most recent word or phrase you entered while editing a redaction or if you have never edited or created a text redaction before, you can select **Redacted** instead. The system admin determines which text options are available.
  - **White** —creates a solid white box with a gray border. The gray border will not be printed or produced.
- **Create PDF** —click to save the current native document as a PDF file. When you click this option, the Create PDF pop-up displays. The document then opens in a new window in your browser as a PDF where you can then choose to save or print the document image.



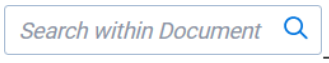
47.1.1.2 Searchable PDF improvements per configuration

When you Create PDF from the Native Viewer or using the Mass PDF Operations bar, most types of searchable PDFs will now have significantly smaller file sizes. More specifically, images without highlights, but configured to be searchable and stamped, will benefit from the most dramatic

decrease in file size. But overall, the Create PDF feature now generates reduced file saves for a wide range of configurations when creating searchable PDFs. In order to accomplish this for previously unknown file-types and mixed TIFF and JPEG Create PDF jobs, Relativity now treats each page individually, instead of treating the entire document as a whole, allowing for the best file-size-reduction technique possible for each page.

Image Format	Redactions	Highlights	File Size Reduction
TIFF	Yes	No	Up to 76%
TIFF	Yes	Yes	Up to 43%
JPEG	Yes	No	Up to 43%
JPEG	Yes	Yes	Up to 43%

After you click **Create PDF**, a copy of the document converts to a PDF file you can save from your web browser downloads. Relativity assigns a GUID for Create PDF file names.

- **Search Bar** 

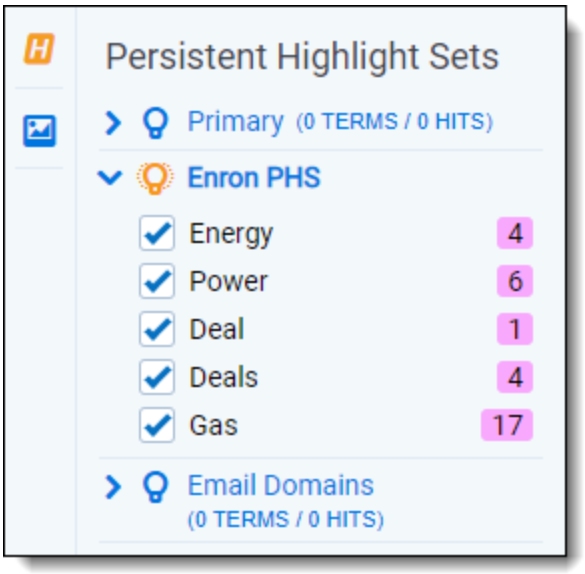
—searches for terms in the current document and navigates through the hits.
  - Entering a term and either clicking the left or right arrow button or pressing **Enter** in this text box scrolls to and highlights the text of the next instance of the term from the placement of the cursor.
  - Searching in this text box is not case sensitive.
  - The Search Bar supports dtSearch and so proximity, fuzziness, and stemming can be used.
  - You can remove a term you previously searched for or all of the terms you have recently searched for from the Persistent Highlight Pane. Removing a term or terms will also remove any highlights they generated in the document. To remove a term or terms, hover your cursor over the row of the term you wish to remove or hover your cursor over your recent searches and then click on on the right side of the row.
- **Show/Hide Hidden Cells** —displays or hides all hidden cells in a Microsoft Excel spreadsheet. This functionality is only available for Excel files and does not work on imaged documents because Relativity only images unhidden cells.

47.1.1.3 Left drawer Viewer options

The following options are available in the left drawer:

- **Show/Hide Persistent Highlight Pane** —displays or hides a panel containing all Recent Searches from the criteria entered in the Search Bar and any persistent highlight sets in the

workspace. Only terms in the sets and recent searches that are in the current document will display in the pane.
Additionally, you can control which highlights display in the current document by clicking on either the persistent set to only display highlights from that set or you can click on a specific term to only see that term highlighted in the document.



- **Thumbnail** —click to expand the left drawer and display the Thumbnail Viewer. Each page of the document you're reviewing has its own numbered thumbnail in the Thumbnail Viewer. To learn more, visit Thumbnail Viewer.

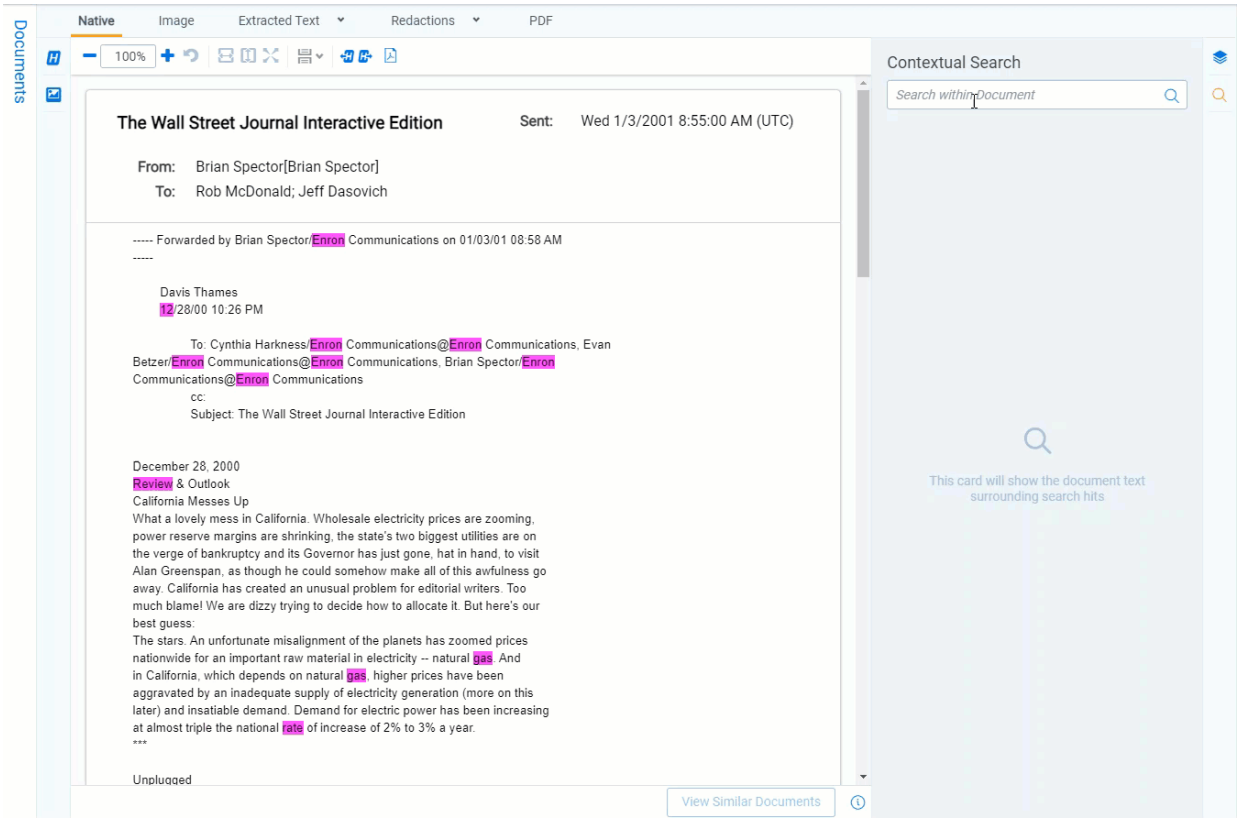
47.1.1.4 Right drawer Viewer options

The following options are available in the right drawer:

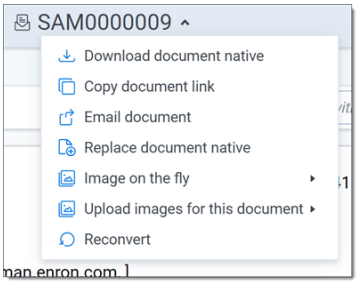
- **Show/Hide Hidden Cells** —displays or hides all hidden cells in a Microsoft Excel spreadsheet. This functionality is only available for Excel files and does not work on imaged documents because Relativity only images unhidden cells.

- **Show/Hide Contextual Search Pane** —click to expand the right drawer and display the Contextual search pane. This feature allows you to quickly navigate to matching search terms in a document which is useful in longer documents or ones that have many matching search terms. The Contextual search pane has the same functionality as the search bar. To learn more about the search bar's functionality, see Search Bar. Additionally, each search term match is displayed in a box that includes both words before and after the search term match to make it easy for you to view the

context of each one.
Enter a term or terms in the search box and press **Enter** on your keyboard to highlight in yellow any matches in the current document. You can click on a desired search term box in the pane to jump to that place in the document. The active search term box will display with a blue border and the matching search term in the document will be highlighted in blue to make it easy to find.

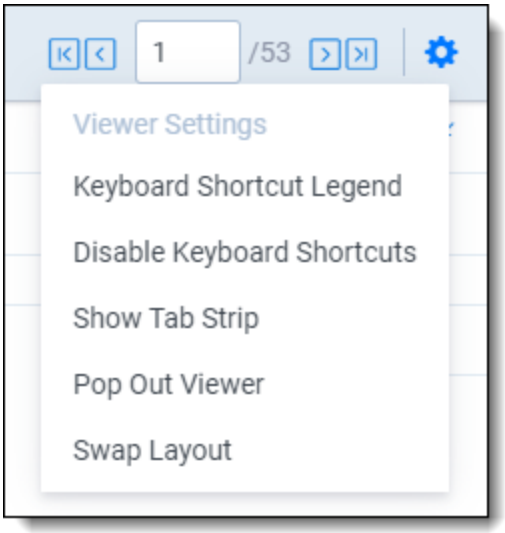


47.1.1.5 Document actions menu



To learn more about these options, see Document actions menu.

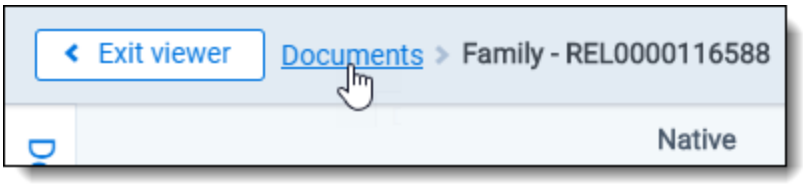
47.1.1.6 Viewer settings menu



To learn more about these options, see Viewer settings menu.

47.1.1.7 Viewer breadcrumbs

The Viewer breadcrumbs help you track your current location while browsing documents in the Related items card. The information on your current location updates as you navigate. If Documents is an active link, you can click it to return to the document you were viewing before browsing documents in the Related items card.



Additionally, to exit the Viewer and return to the page you were previously on, you can click the **Exit viewer** button at any time.

47.1.2 Copying text in the Viewer

While viewing a document in the Native Viewer, you have several right-click options, including the **Copy** option. Use this option to copy text from the document you are currently viewing and then paste it into another application.

To do this:

1. Highlight the text you want copied.
2. Right-click, and then select + Copy from the menu.

You cannot copy text if you:

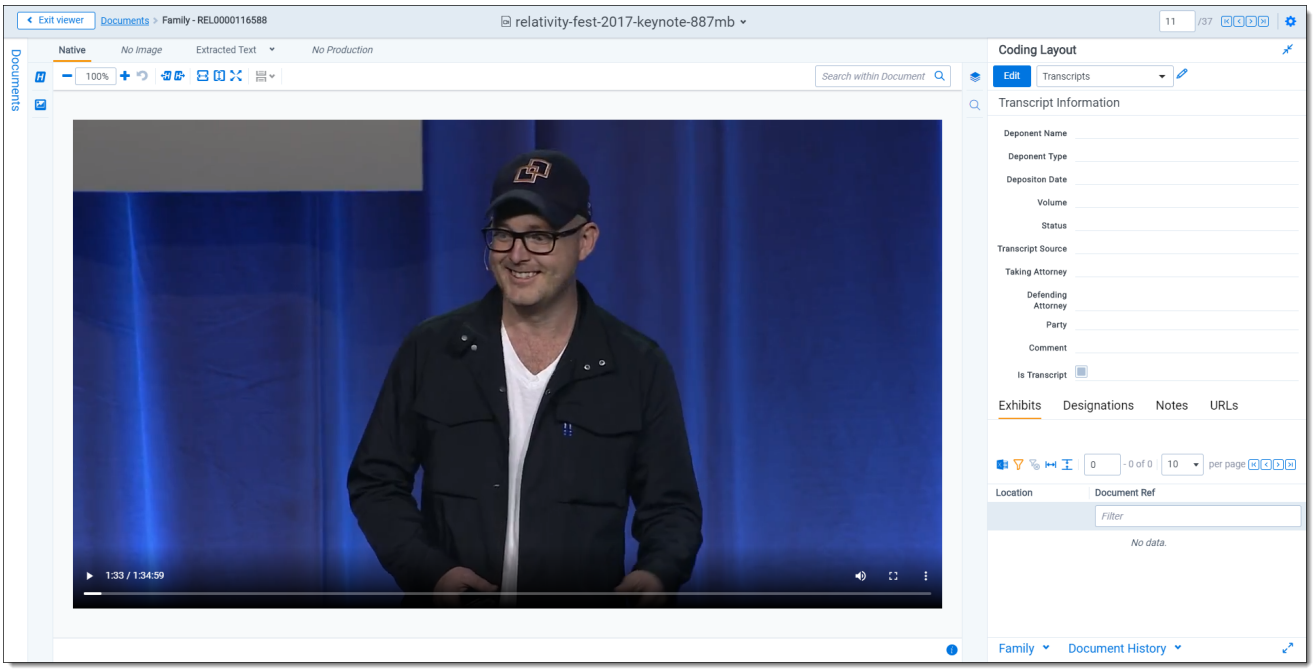
- Have not highlighted any text.
- Do not have permission to the Local Access option on the Document object. This is the same permission that permits you to open the file in its native application. For more information, see Object list in Relativity Admin guide.

Note: If you do not have permission to the Local Access option on the document object, you cannot use the *Ctrl+C* or *Ctrl+Ins* options in either the Native Viewer or the Extracted Text Viewer.

47.1.3 Streaming audio and video files

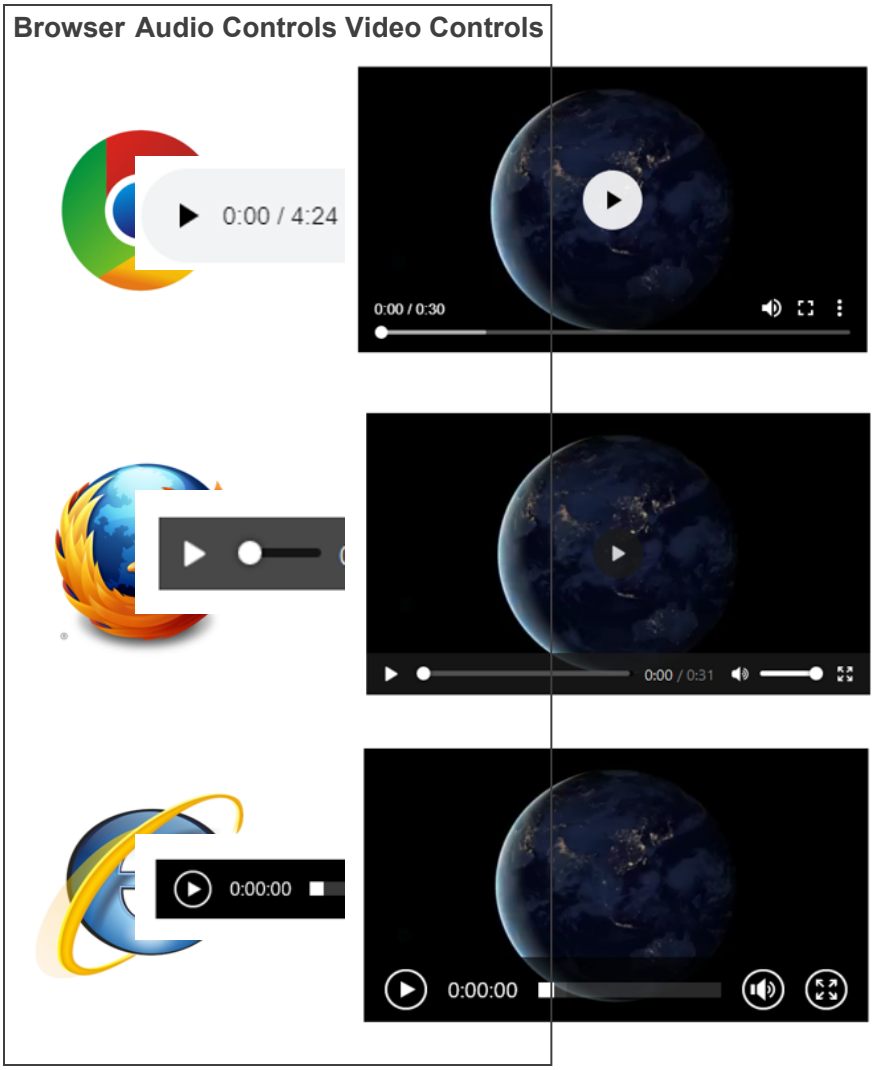
Audio and video files can be streamed in the Native Viewer. Audio and video file type compatibility varies depending on your internet browser.

Note: If an audio or video file has not been opened in the Native Viewer, it may display with a value of **No** for the Supported by Viewer field. Once a file has been successfully opened by the Viewer, the Supported By Viewer field displays **Yes**.



Note: To adjust how large of files can be streamed in the Viewer, edit the **MaximumNativeSizeForViewerForMediaFilesinMegaBytes** instance setting.

The audio and video controls that display in the Viewer depend on your internet browser.



47.1.4 Document Intelligence

Document Intelligence notifies you that there is hidden or annotated content present in the current document in the Native Viewer. This hidden content are the annotations and modifications tracked in certain document formats. For more information on the file types, see Tracking annotations. When hidden content is found in a document, a pop-up modal appears in the lower right corner. Highlighting and bordering is also visible in the Viewer where the changes were made and a annotation bar is available to sort and view each annotation. Once the notifications appear, you can then choose whether or not to view tracked changes, hidden text and comments in the Viewer.

47.1.4.1 Tracking annotations

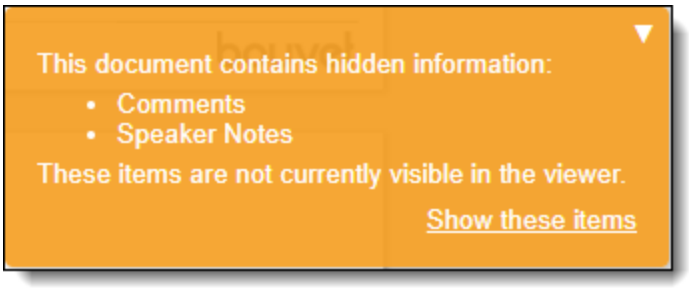
The various file types each have distinct annotations that are tracked. Below is each file type that is supported and the related tracked changes:

File type	File extensions	Annotation type	Tracked changes
Excel	.xls, .xlsx, .xlsb	Tracked Changes, formulas, hidden pages/columns/rows, Comments	Inserted cell, moved cell, modified cell, cleared cell

File type	File extensions	Annotation type	Tracked changes
			Inserted column, deleted column Inserted row, deleted row Inserted sheet, renamed sheet
Word	.doc, .docx	Tracked Changes, comments, hidden text	Insertions, deletions, moves
PowerPoint	.ppt, .pptx	Speaker notes, comments, hidden slides	
PDF	.pdf	Comments	

47.1.4.2 Using notifications and the annotation bar

When using Document Intelligence, an orange pop-up modal appears in the bottom right corner of the Viewer when hidden content exists. Click on the pop-up modal to see the hidden content on that document. If there is no hidden content found, the modal will say so. If there is hidden content found, it lists each piece of content. Click **Show these items** to open the annotation bar.



A hidden content icon is available when a supported file type is in the Native Viewer. Click to open or close the annotations bar. If you are viewing an unsupported file type, the icon is not available. For supported file types, see the Tracking annotations.

Annotation bar

The annotation bar is for sorting and viewing the hidden content found with Document Intelligence. Each annotation has a card that lists the tracked change, a description of the change, time and date, and author of the change.

If there are multiple annotation cards in the annotation bar, then you can sort them in a number of ways. Click the **Sort By** drop down menu for these options:

- Location
- Author A-Z
- Author Z-A
- Oldest first
- Newest first
- Annotation type

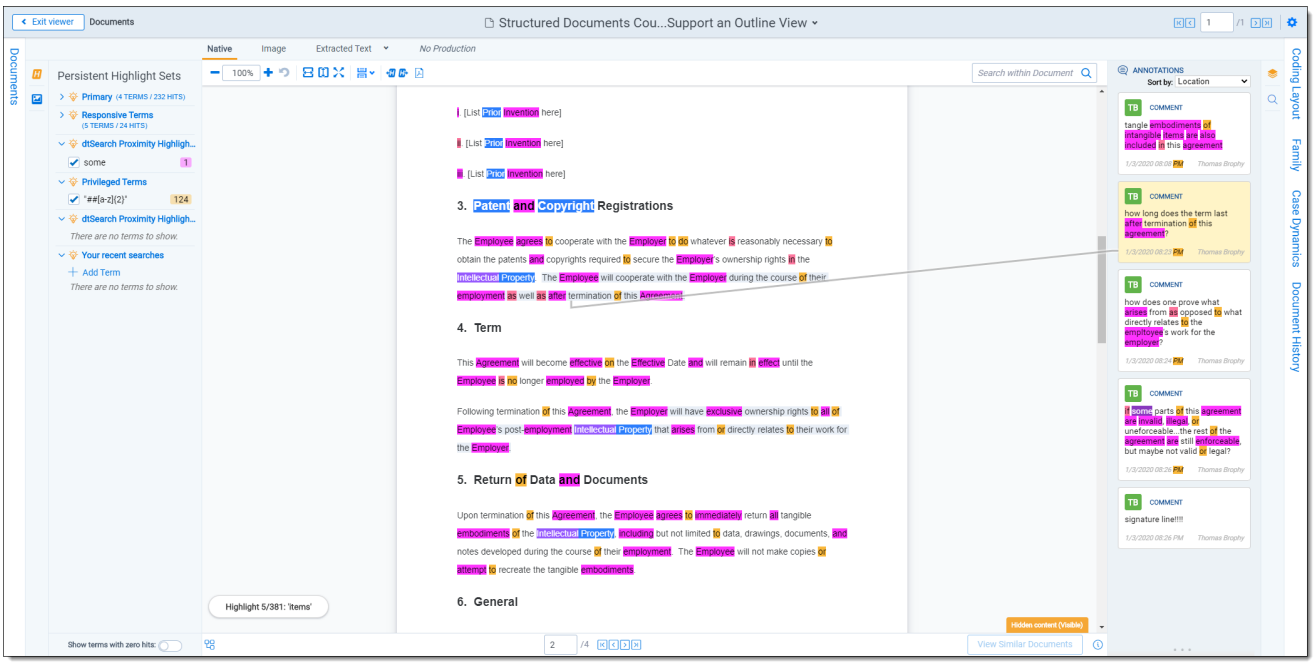
Annotation types and highlights

Each type of annotation comes with its distinct highlight in the Native Viewer. Below is a table that lists each annotation type with its highlight in the Viewer:

File type	Modification	Annotation
Excel	Inserted cell	Green dotted border around cell.
Excel	Deleted cell	Red dotted border around cell.
Excel	Modified cell	Purple dotted border around cell.
Excel	Moved cell	Red dotted border around original location; green dotted border around new location.
Excel	Inserted row	Green shading in the row header.
Excel	Deleted row	Red shading with "DEL" in the row header. If the row is added then deleted, the shading is purple.
Excel	Inserted column	Green shading in column header.
Excel	Deleted column	Red shading with "DEL" in the column header. If the row is added then deleted, the shading is purple.
Excel	Inserted sheet	Green shading in the sheet tab.
Excel	Hidden sheet	Grey text in the sheet tab.
Excel	Modified sheet	Purple shading on the sheet tab.
Word	Comments	Blue background on text and note bubble in document.
Word	Insertions	Green shading behind text.
Word	Deletions	Red shading behind text.
Word	Moves	Purple shading behind text.
Word	Hidden text	Red shading behind text.
PowerPoint	Speaker notes	Page under sheet.
PowerPoint	Comments	Note bubble in presentation.
PowerPoint	Hidden slide	Hidden icon in bottom left corner of slide.
PDF	Comments	Note bubble in document.

Leader lines

Clicking on an annotation in the Viewer connects the selected annotation to the related annotation tile in the annotation bar. Click on another annotation to view the leader line to that annotation card. One grey connector line is available at a time, unless you moved a cell. In this case, there is a leader line where the cell was originally located and a leader line in the cell's new location. Click the same annotation to remove the leader line.



Note: The *Has Hidden Data* field is populated during processing. The hidden content that the Viewer finds may not be perfectly in-sync with the hidden data that the processing engine finds.

47.1.5 Document Conversion

Beginning in 10.2.270.1, the Image Viewer and Productions Viewer support conversation streaming. This allows users to begin reviewing large documents without having to wait for the entire document to load.

The instance setting, MinimumSupportedVersionOfOutsideIn, determines the OutsideIn version to use when converting a document. The earliest OutsideIn version Relativity will support is 2017.1. Any document converted using a prior OutsideIn version will automatically re-convert with at least the minimum supported version input as the value in this instance setting. As a result, users will no longer have to mass-convert to benefit from the latest OutsideIn version.

Documents automatically re-convert in the following priority:

- Priority One—documents currently being viewed.
- Priority Two—the next three documents in the review set.
- Priority Three—related documents, checked-out batch documents, the first 10 documents in a list.

All other documents not subject to the requirements listed above must be manually re-converted.

47.2 Image Viewer

When you switch to the Image Viewer, a TIFF or JPEG version of the document displays. You can highlight and redact images in this mode. The Image Viewer is only available if you have loaded an imaged document in the Viewer or if you have manually imaged the file using the Image on the fly option in the Document actions menu. For more information, see Imaging on the fly.

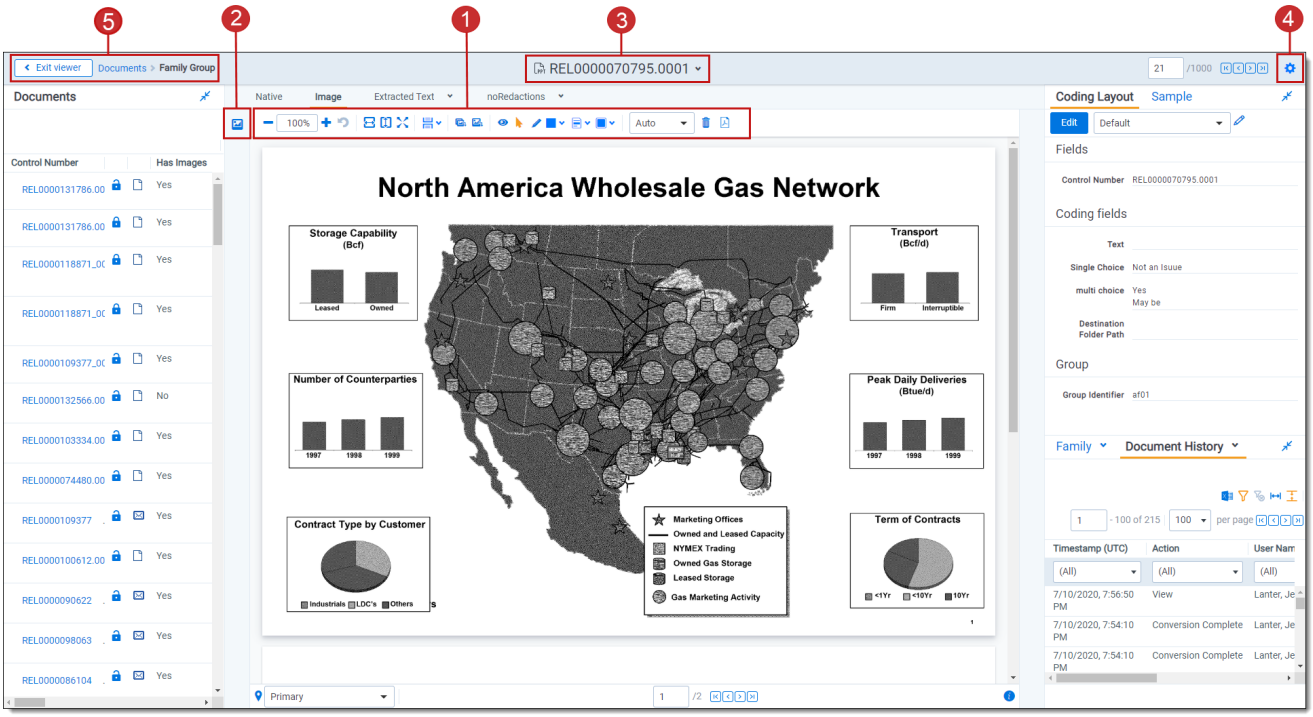
The redactions that are burned into a produced image are the redactions that were on the image at the time that you produced it. If you add or remove redactions from an image after you have produced it, then the image and the produced version of that image will be out of sync.

47.2.1 Navigating the Image Viewer

The Image Viewer offers several ways of viewing and working with documents.

Note: If you used the Basic Imaging profile to produce images of a .pdf file, please note that the Viewer displays .pdf text by mapping the character codes to Unicode in most cases. To check whether .pdf text has been properly encoded and will display correctly in the Viewer, copy the text in the original .pdf file and paste it into another application like Microsoft Word or Notepad. If the pasted text does not display correctly, the .pdf file is not properly encoded. If the pasted text displays correctly in another application but not in the Viewer, contact Support for assistance.

There are options available in the following sections of the Viewer:



1. Image Viewer toolbar options
2. Left drawer Viewer options
3. Document actions menu

4. Viewer settings menu
5. Viewer breadcrumbs

Each of these options and menus is described in more detail in the sections below.

47.2.1.1 Image Viewer toolbar options

The Image Viewer displays the following icons in the toolbar:

- **Zoom Out/In**

—zooms out and in on the current document in increments of 10% within a range of 10% to 4,000%. If you attempt to zoom out to a percentage lower than 10%, the Viewer automatically sets the display to 10%. If you attempt to zoom in to a percentage higher than 4,000%, the Viewer automatically sets the display to 4,000%. Your zoom setting persists as you navigate through a document set. This means that if you've set one document to 150% and you go to the next document, the next document defaults to 150% zoom.
To specify a zoom percentage without using the zoom out/in toolbar buttons, type the number in the percentage field and press the **Enter** key.
- **Reset Zoom** —resets the zoom to 100%.
- **Fit Width** —increases the size of the document to fit the maximum width of the Viewer. This setting persists when you re-size the window.
- **Fit Page** —fits the entire document into the total size of the page. Clicking this zooms out the document and reduces the font size.
- **Fit Actual** —fits the document display to the actual size it was in its native application. By default, this resets the zoom percentage to 100%.
- **Layout Mode** —select one of the following options to determine how documents that are more than one page long display in the Viewer.
  - **Single** —one page of a document will display at a time. Use the page navigation options at the bottom of the Viewer to adjust which page you view.
  - **Single Continuous** —displays the pages in the document stacked vertically so you can scroll up and down to view them.
  - **Facing Continuous** —displays the pages in the document in a row horizontally so you can scroll left and right to view them.
- **Rotate all pages** —rotates all pages in a document clockwise 90 degrees.
- **Rotate current page** —rotates only the current page clockwise 90 degrees.

Note: Image rotation is persistent. Any pages that you rotate will be rotated the next time you return to them in the Viewer and for other users who view them after you rotate them. Rotation is also applied when you run the production containing the images.

- **Selector** —select within a document.
- **Markup Visibility** —changes the visibility mode of the markups between full visibility, transparent and hidden. By default, this is set to Solid, which means all highlights and redactions appear as solid as you applied them.
- **Highlight - <Color>** —highlights the selected text with the color you specify from the drop-down menu. The default color is blue. Select from the following:
  - Blue
  - Green
  - Orange
  - Pink
  - Purple
  - Yellow
- **Redaction Mode - Basic Redact** —enables the basic redaction tool. For more information, see Creating inverse redactions on page 394.
- **Redaction Mode - Full page** —enables the full-page redaction tool. The drop-down menu for this redaction type offers the same options as the basic Redact icon, except that the redaction you choose is applied to the entire page. For example, if you select White, the entire page becomes white. For more information, see Creating full-page redactions on page 395.
- **Redaction Mode - Inverse** —enables the inverse redaction tool. For more information, see Creating inverse redactions on page 394.
- **Redaction Mode - Mass Redact** —apply a full-page redaction across all images or a range of images in the document. For more information, see Creating mass redactions on page 396.
- **Redaction Type - <Style>** —enables single redaction tool. For more information on redacting, see Creating basic redactions on page 394. Select from the following types of redactions:
  - **Black** —applies a solid black box to the selected text.
  - **Cross** —applies a white box with an X in the middle of it over the selected text.

- **Text** —applies a box over the selected text, in which you can add text such as *Privileged* or *Redacted*.
- **White** —applies a solid white box over the selected text.

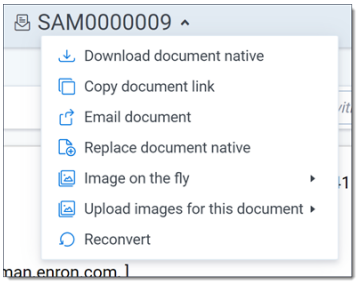
- **Font Size** Auto —change the font size of the text within a text box redaction.
- **Delete Highlights** —mass delete markups from any or all images in the document. For more information, see Mass deleting markups on page 400.
- **Create PDF** —gives you the option of saving the image as a PDF. For more information, see Saving an image as a PDF.

47.2.1.2 Left drawer Image Viewer options

The following options are available in the left drawer:

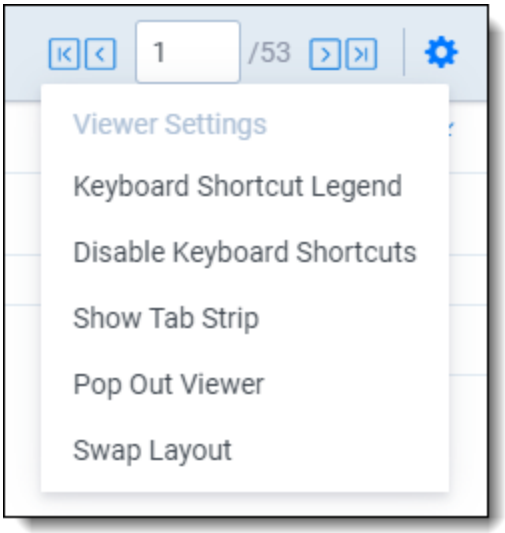
- **Thumbnail** —click to expand the left drawer and display the Thumbnail Viewer. Each page of the document you're reviewing has its own numbered thumbnail in the Thumbnail Viewer. To learn more, visit Thumbnail Viewer.

47.2.1.3 Document actions menu



To learn more about these options, see Document actions menu.

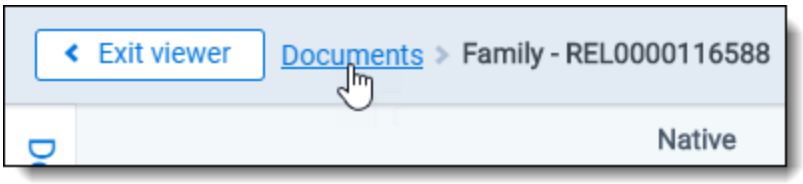
47.2.1.4 Viewer settings menu



To learn more about these options, see Viewer settings menu.

47.2.1.5 Viewer breadcrumbs

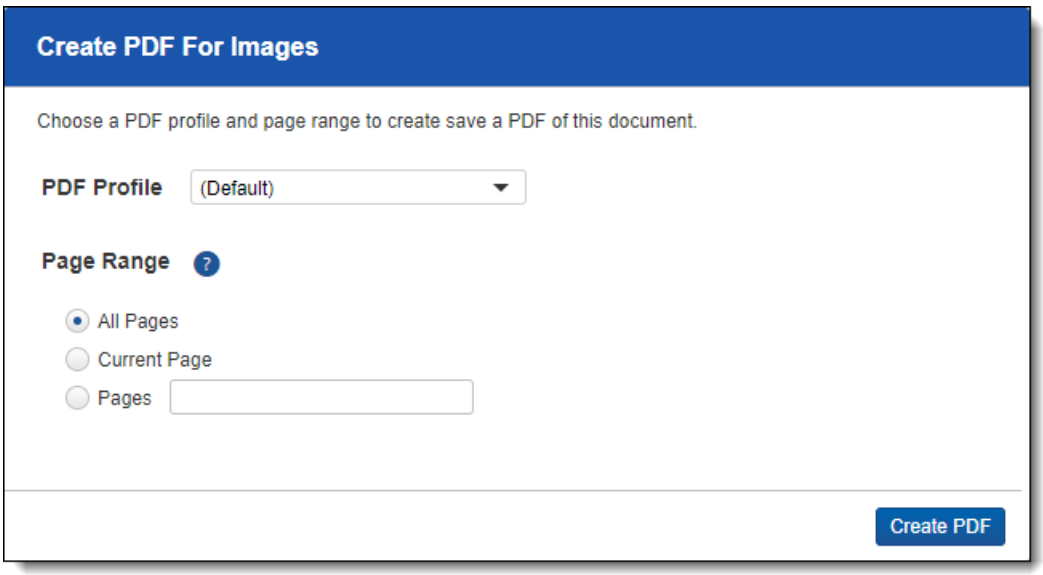
The Viewer breadcrumbs help you track your current location while browsing documents in the Related items card. The information on your current location updates as you navigate. If Documents is an active link, you can click it to return to the document you were viewing before browsing documents in the Related items card.



Additionally, to exit the Viewer and return to the page you were previously on, you can click the **Exit viewer** button at any time.

47.2.2 Saving an image as a PDF

Clicking the **Create PDF** icon brings up the following window, in which you can specify your PDF settings:



- **PDF Profile**—select the desired PDF profile to determine how the PDF will be customized.
- **Page Range**—select from the following standard print range options:
  - **All pages**—saves all pages in the document.
  - **Current Page**—saves only the page you are currently on.
  - **Pages**—saves a range of pages that you specify in the text box to the right.

47.3 Extracted Text Viewer

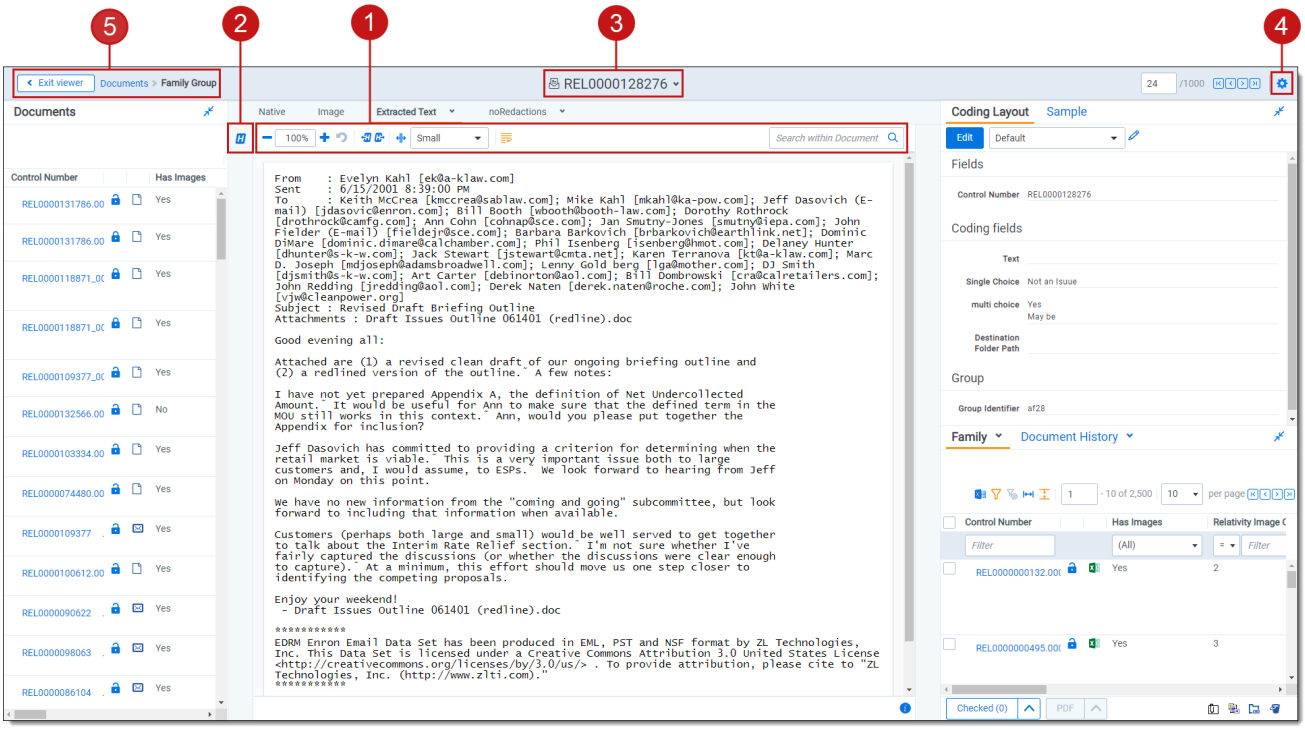
When you switch to Extracted Text Viewer in the Viewer type tabs, you can access a drop-down menu on the right side of the Extracted Text tab where all extracted text and all long text fields on the field edit/creation page are available. See Creating and editing fields. The drop-down menu lists long-text fields that contain text for the current document open in the Viewer and those you have permissions to.

Note: Relativity displays all long text fields made available in the Viewer in the drop-down menu, regardless of whether that field contains text for the current document. If you select a long text field from the drop-down list, and the current document doesn't have text for that field, the Viewer displays a message stating, "This page is empty."

Note: The Viewer displays .pdf text by mapping the character codes to Unicode in most cases. To check whether .pdf text has been properly encoded and will display correctly in the Viewer, copy the text in the original .pdf file and paste it into another application like Microsoft Word or Notepad. If the pasted text does not display correctly, the .pdf file is not properly encoded. If the pasted text displays correctly in another application but not in the Viewer, contact Support for assistance.

47.3.0.1 Navigating the Extracted Text Viewer

The Extracted Viewer offers several ways of viewing and working with documents. There are options available in the following sections of the Viewer:

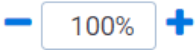


1. Extracted Text Viewer toolbar options
2. Left drawer Viewer options
3. Document actions menu
4. Viewer settings menu
5. Viewer breadcrumbs

Each of these options and menus is described in more detail in the sections below.

47.3.0.2 Extracted Text Viewer toolbar options

The Extracted Text Viewer provides the following options:

- **Zoom Out/In** 

—zooms out and in on the current document in increments of 10% within a range of 10% to 4,000%. If you attempt to zoom out to a percentage lower than 10%, the Viewer automatically sets the display to 10%. If you attempt to zoom in to a percentage higher than 4,000%, the Viewer automatically sets the display to 4,000%. Your zoom setting persists as you navigate through a document set. This means that if you've set one document to 150% and you go to the next document, the next document defaults to 150% zoom.
To specify a zoom percentage without using the zoom out/in toolbar buttons, type the number in the percentage field and press the **Enter** key.

- **Reset Zoom** —resets the zoom to 100%.

- **Go To Next/Previous Highlight** —moves through previous and next highlighted terms in the document.
- **Tab character size** Small —select an option from the drop-down menu to determine the amount of space that is taken when the Tab key was used in the current document. This option can help you ensure that the spacing in a spreadsheet document is aligned and works best when the Tab key is used after each column in the spreadsheet.
- **Toggle WordWrap** —determines whether the text in the current document will wrap so that it fits on the current page or not.
  - **Enabled**—text in the current document will be forced onto the next line if it cannot display in the current window size. You cannot scroll horizontally with Toggle WordWrap enabled.
  - **Disabled**—text in the current document will not be forced onto the next line will display in more horizontal fashion. You can scroll horizontally to control to view the desired text.
- **Search bar** *Search within Document* —searches for terms in the current document and navigates through the hits.
  - Entering a term and either clicking the left or right arrow button or pressing **Enter** in this text box scrolls to and highlights the text of the next instance of the term from the placement of the cursor.
  - Searching in this text box is not case sensitive.
  - The search bar supports dtSearch and so proximity, fuzziness, and stemming can be used.

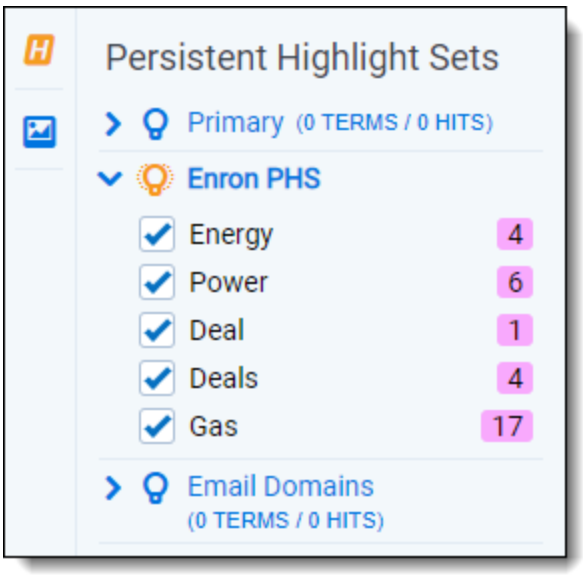
Note: If you do not have permission to the Local Access option on the document object, you cannot use the *Ctrl+C* or *Ctrl+Ins* options in either the Native Viewer or the Extracted Text Viewer.

47.3.0.3 Left drawer Viewer options

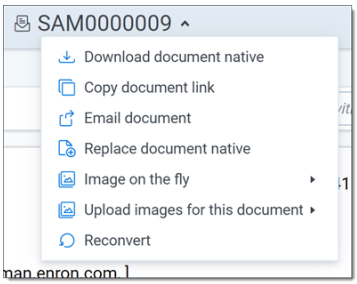
The following options are available in the left drawer:

- **Show/Hide Persistent Highlight Pane** —displays or hides a panel containing all recent searches from the criteria entered in the search bar and any persistent highlight sets in the work-space. Only terms in the sets and recent searches that are in the current document will display in the pane.
  Additionally, you can control which highlights display in the current document by clicking on either the persistent set to only display highlights from that set or you can click on a specific term to only see

that term highlighted in the document.

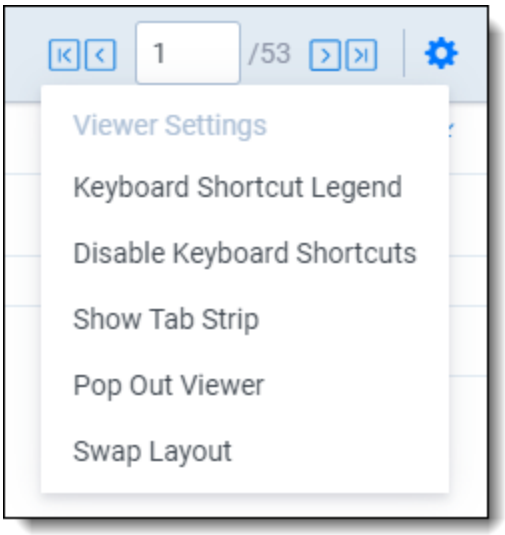


47.3.0.4 Document actions menu



To learn more about these options, see Document actions menu.

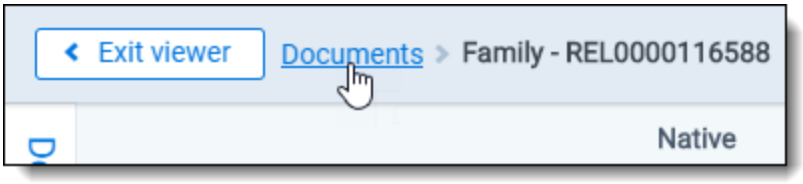
47.3.0.5 Viewer settings menu



To learn more about these options, see Viewer settings menu.

47.3.0.6 Viewer breadcrumbs

The Viewer breadcrumbs help you track your current location while browsing documents in the Related items card. The information on your current location updates as you navigate. If Documents is an active link, you can click it to return to the document you were viewing before browsing documents in the Related items card.



Additionally, to exit the Viewer and return to the page you were previously on, you can click the **Exit viewer** button at any time.

47.4 Productions Viewer

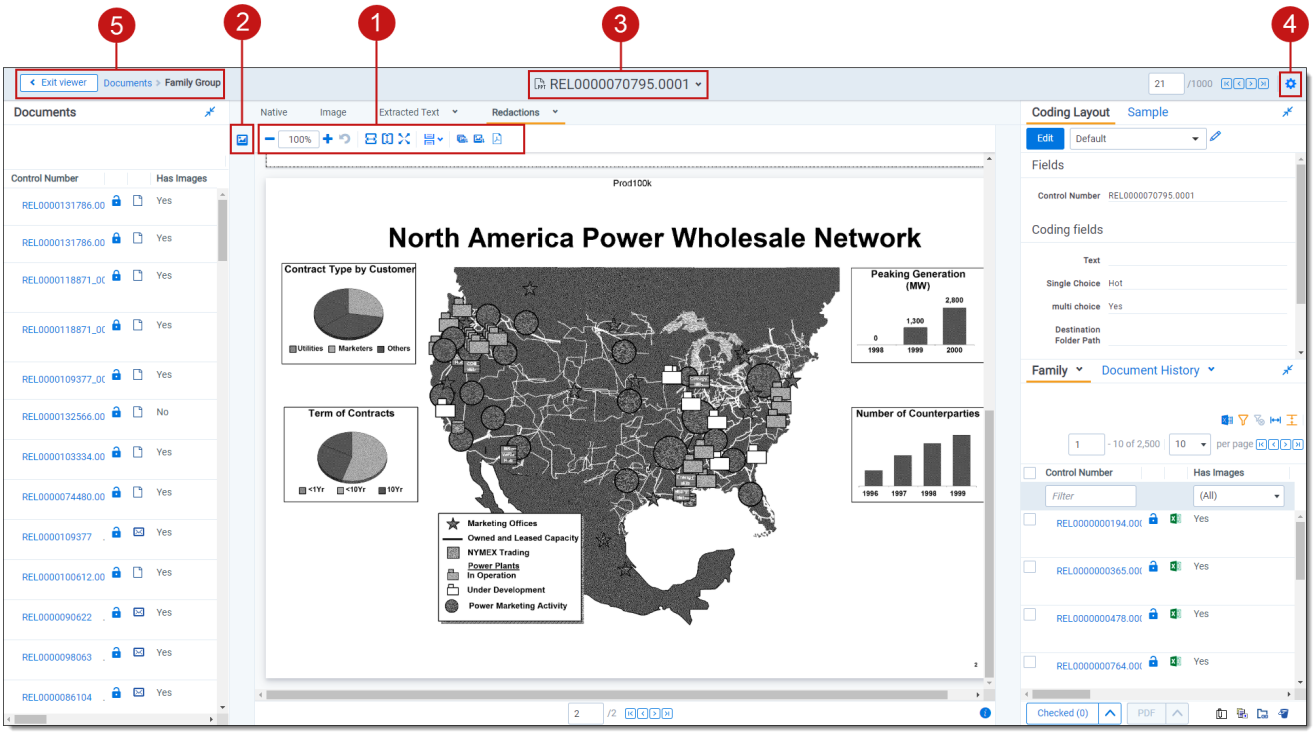
When you switch to the Productions Viewer in the Viewer type tabs, you can access a drop-down menu on the right side of the Productions Viewer tab that displays available production sets that contain the current document. For information about creating production sets, see Production sets in the Admin guide.

Note: The redactions that are burned into a produced image are the redactions that were on the image at the time that you produced it. If you add or remove redactions from an image after you have produced it, then the image and the produced version of that image will be out of sync.

Select a production set from the drop-down menu to see how a document was produced in the selected production. If a document is not included in a production, the productions mode option is unavailable.

47.4.1 Navigating the Productions Viewer

The Productions Viewer offers several ways of viewing and working with documents. There are options available in the following sections of the Viewer:



1. Productions Viewer toolbar options
2. Left drawer Viewer options
3. Document actions menu
4. Viewer settings menu
5. Viewer breadcrumbs

Each of these options and menus is described in more detail in the sections below.

47.4.1.1 Productions Viewer toolbar options

Productions Viewer provides the following options:

- **Create PDF** —gives you the option of saving the image as a PDF. For more information, see Saving an image as a PDF.
- **Zoom Out/In** 100% —zooms out and in on the current document in increments of 10% within a range of 10% to 4,000%. If you attempt to zoom out to a percentage lower than 10%, the Viewer automatically sets the display to 10%. If you attempt to zoom in to a percentage higher than 4,000%, the Viewer automatically sets the display to 4,000%. Your zoom setting persists as you navigate through a document set. This means that if you've set one document to 150% and you go to the next document, the next document defaults to 150% zoom.

To specify a zoom percentage without using the zoom out/in toolbar buttons, type the number in the percentage field and press the **Enter** key.

- **Reset Zoom** —resets the zoom to 100%.
- **Fit Width** —increases the size of the document to fit the maximum width of the Viewer. This setting persists when you re-size the window.
- **Fit Page** —fits the entire document into the total size of the page. Clicking this zooms out the document and reduces the font size.
- **Fit Actual** —fits the document display to the actual size it was in its native application. By default, this resets the zoom percentage to 100%.
- **Layout Mode** —select one of the following options to determine how documents that are more than one page long display in the Viewer.
  - **Single** —one page of a document will display at a time. Use the page navigation options at the bottom of the Viewer to adjust which page you view.
  - **Single Continuous** —displays the pages in the document stacked vertically so you can scroll up and down to view them.
  - **Facing Continuous** —displays the pages in the document in a row horizontally so you can scroll left and right to view them.
- **Rotate all pages** —rotates all pages in a document clockwise 90 degrees.
- **Rotate current page** —rotates only the current page clockwise 90 degrees.

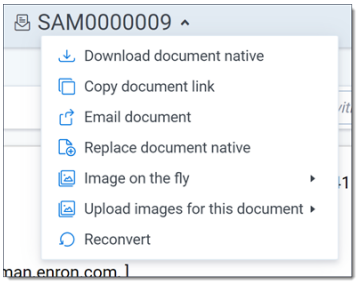
Note: Image rotation is persistent. Any pages that you rotate will be rotated the next time you return to them in the Viewer and for other users who view them after you rotate them. Rotation is also applied when you run the production containing the images.

47.4.1.2 Left drawer Productions Viewer options

The following options are available in the left drawer:

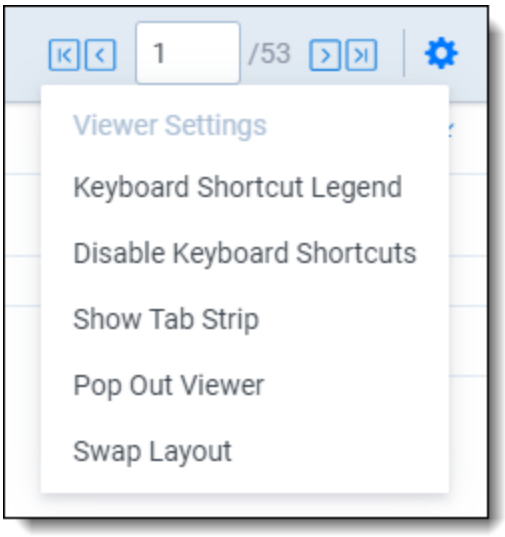
- **Thumbnail** —click to expand the left drawer and display the Thumbnail Viewer. Each page of the document you are reviewing has its own numbered thumbnail in the Thumbnail Viewer. To learn more, visit Thumbnail Viewer.

47.4.1.3 Document actions menu



To learn more about these options, see Document actions menu.

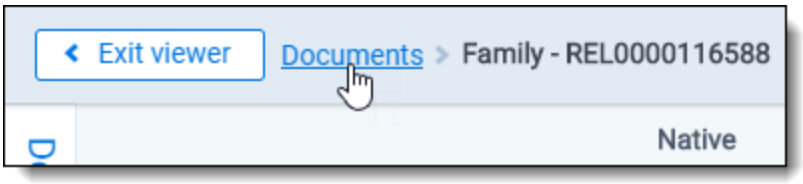
47.4.1.4 Viewer settings menu



To learn more about these options, see Viewer settings menu.

47.4.1.5 Viewer breadcrumbs

The Viewer breadcrumbs help you track your current location while browsing documents in the Related items card. The information on your current location updates as you navigate. If Documents is an active link, you can click it to return to the document you were viewing before browsing documents in the Related items card.



Additionally, to exit the Viewer and return to the page you were previously on, you can click the **Exit viewer** button at any time.

47.4.2 Imaging on the fly

You can image a single document in the Viewer by selecting the Image on the fly option from the Document actions menu at the top-center of the page.

Using this feature, you can select any imaging profile you have permissions to view and use it to image the document.

Note: If the source file of the document you are imaging is changed during the conversion process, for example through overlay, that document becomes undeliverable and you receive an error. To resolve this error, refresh the page or re-image the document.

After imaging a document on the fly, you can access thumbnail renderings of the imaged pages of the document.

Imaging some file formats can cause problems. Consider the following:

- Many .pdf files render and image very well. However, you may have problems rendering and imaging some .pdf files due to the variety of their content.
- While most Microsoft Office documents render and image well, you may experience issues when imaging documents with embedded files.
- You may have problems rendering and imaging vector-based documents like Visio and CAD.

For more information, see the Viewer-Supported File Types guide.

Note: The default priority for all image-on-the-fly jobs is determined by the current value of theImageOnTheFlyJobPriorityDefault entry in the Instance setting table.

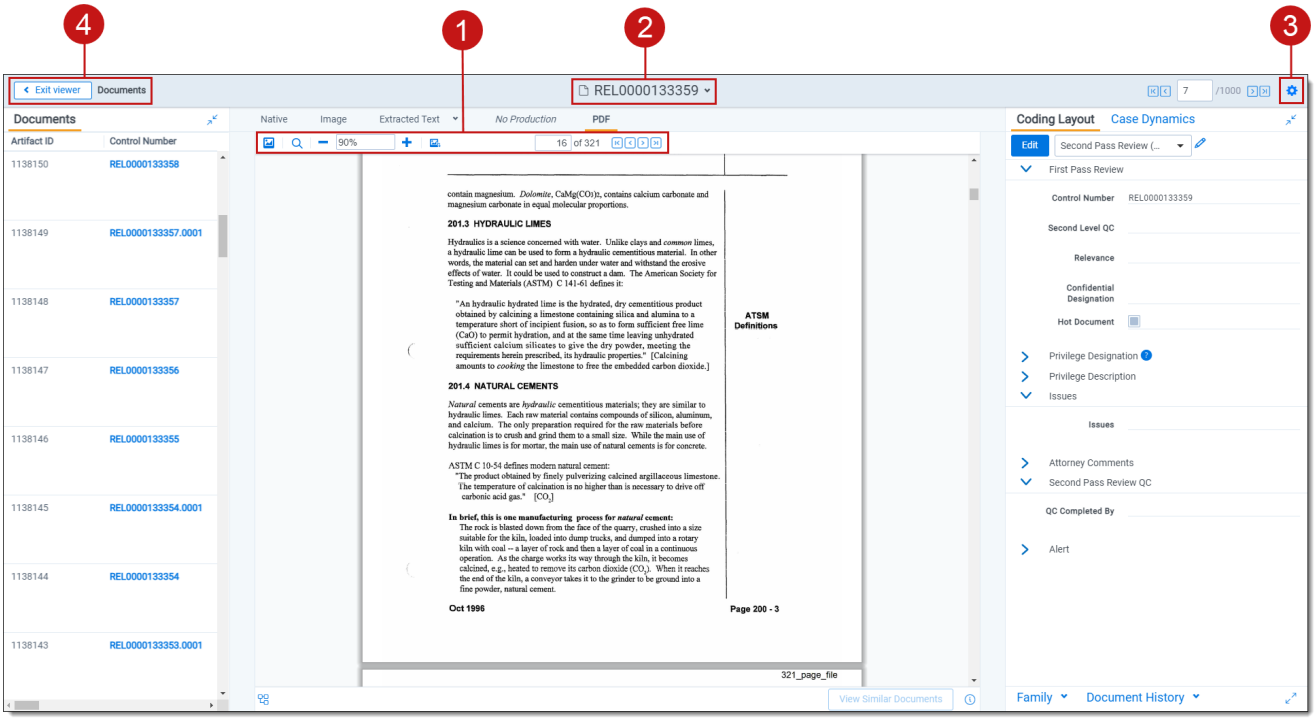
47.5 PDF Viewer

The PDF Viewer allows you to view .pdf files in the Review Interface.

Note: You may experience slowness if you try to open .pdf documents that are larger than 300 megabytes.

Note: The Viewer displays .pdf text by mapping the character codes to Unicode in most cases. To check whether .pdf text has been properly encoded and will display correctly in the Viewer, copy the text in the original .pdf file and paste it into another application like Microsoft Word or Notepad. If the pasted text does not display correctly, the .pdf is not properly encoded. If the pasted text displays correctly in another application but not in the Viewer, contact Support for assistance.

There are options available in the following sections of the Viewer:



1. PDF Viewer toolbar options
2. Document actions menu
3. Viewer settings menu
4. Viewer breadcrumbs

Each of these options and menus is described in more detail in the sections below.

47.5.0.1 PDF Viewer toolbar options

The PDF Viewer provides the following options:

- **Thumbnail** —click to display the Thumbnail Viewer. Each page of the document you're reviewing has its own thumbnail in the Thumbnail Viewer. To learn more, visit Thumbnail Viewer.
- **Find in document** —searches for terms in the current PDF, if enabled, and navigates through the hits. The ability to search a PDF is determined by the Make Text Searchable option.
  - Entering a term and either clicking the left or right arrow button or pressing **Enter** in this text box scrolls to and highlights the text of the next instance of the term from the placement of the cursor.
  - Searching in this text box is not case sensitive.

- **Zoom Out/In**

—zooms out and in on the current document in increments of 10% within a range of 10% to 4,000%. If you attempt to zoom out to a percentage lower than 10%, the Viewer automatically sets the display to 10%. If you attempt to zoom in to a percentage higher than 4,000%, the Viewer automatically sets the display to 4,000%. Your zoom setting persists as you navigate through a document set. This means that if you've set one document to 150% and you go to the next document, the next document defaults to 150% zoom.
To specify a zoom percentage without using the zoom out/in toolbar buttons, type the number in the percentage field and press the **Enter** key.
Alternatively, click the percentage field and select the desired display option from the drop-down menu.

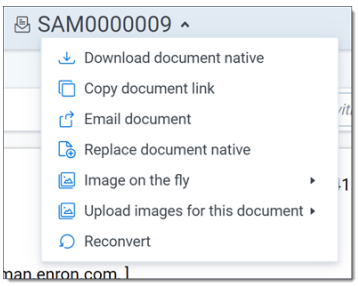
- **Rotate all pages** —rotates all pages in a document clockwise 90 degrees.

  Note: Image rotation is persistent. Any pages that you rotate will be rotated the next time you return to them in the Viewer and for other users who view them after you rotate them. Rotation is also applied when you run the production containing the images.

- **Page controls**

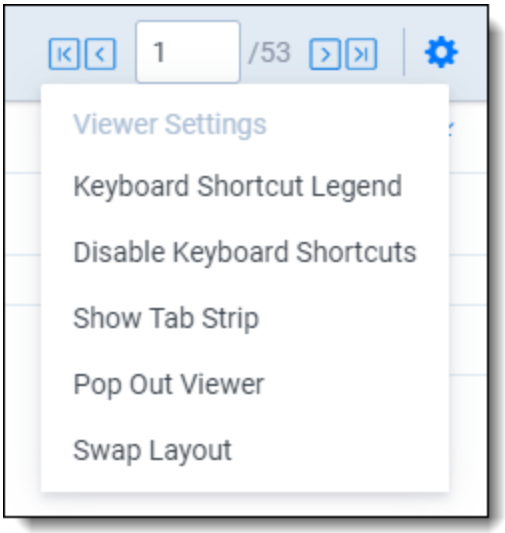
—allows you to navigate the pages in the .pdf file that is currently displayed in the PDF Viewer.

47.5.0.2 Document actions menu



To learn more about these options, see Document actions menu.

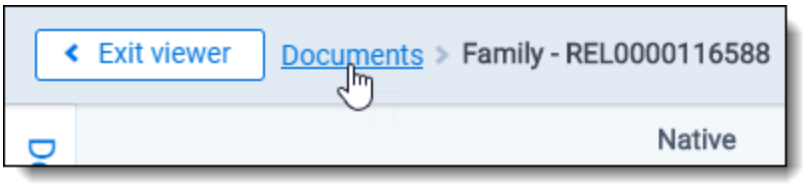
47.5.0.3 Viewer settings menu



To learn more about these options, see Viewer settings menu.

47.5.0.4 Viewer breadcrumbs

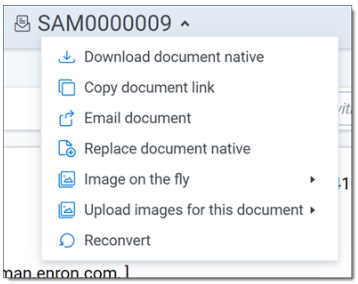
The Viewer breadcrumbs help you track your current location while browsing documents in the Related items card. The information on your current location updates as you navigate. If Documents is an active link, you can click it to return to the document you were viewing before browsing documents in the Related items card.



Additionally, to exit the Viewer and return to the page you were previously on, you can click the **Exit viewer** button at any time.

47.6 Document actions menu

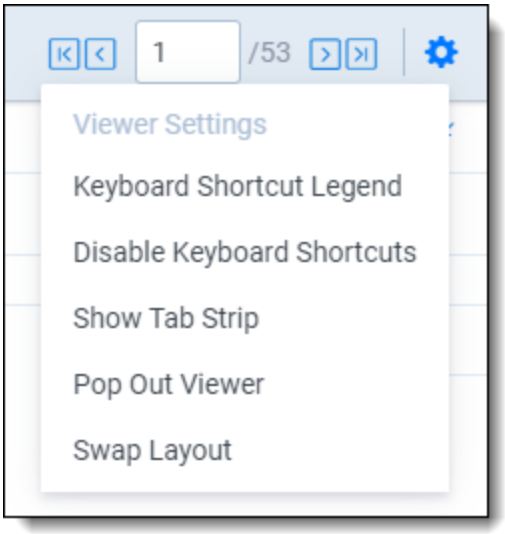
The following options are available in the Document actions menu:



- **Download document native**—select to download a copy of the current document.
- **Copy document link**—select to copy the URL to the current document to your clipboard.
- **Email document**—select to open an email in your default email application with the URL to the current document included in the body of the email. The subject of the email will include the name of the workspace and the current document.
- **Replace document native**—select to replace the native file of the current document with a new file.
- **Image on the fly/Delete all images for this document**—image on the fly will display if the current document has not been imaged. If the current document has been imaged, Delete all images for this document will display instead.
    - **Delete all images for this document**—select to delete all images associated with the current document.
    - **Image on the fly**—to image the current document from the Viewer, hover your cursor over this option and the image profile options will display. Select the desired profile option to begin the imaging process.
- **Replace images for this document**—to replace the images for the current document using an imaging profile, hover your cursor over this option and select the desired imaging profile option to begin the imaging process.
- **Reconvert**—select to clear your internet browser's cache and reload the current document for review.

47.7 Viewer settings menu

The following options are available in the Viewer settings menu:

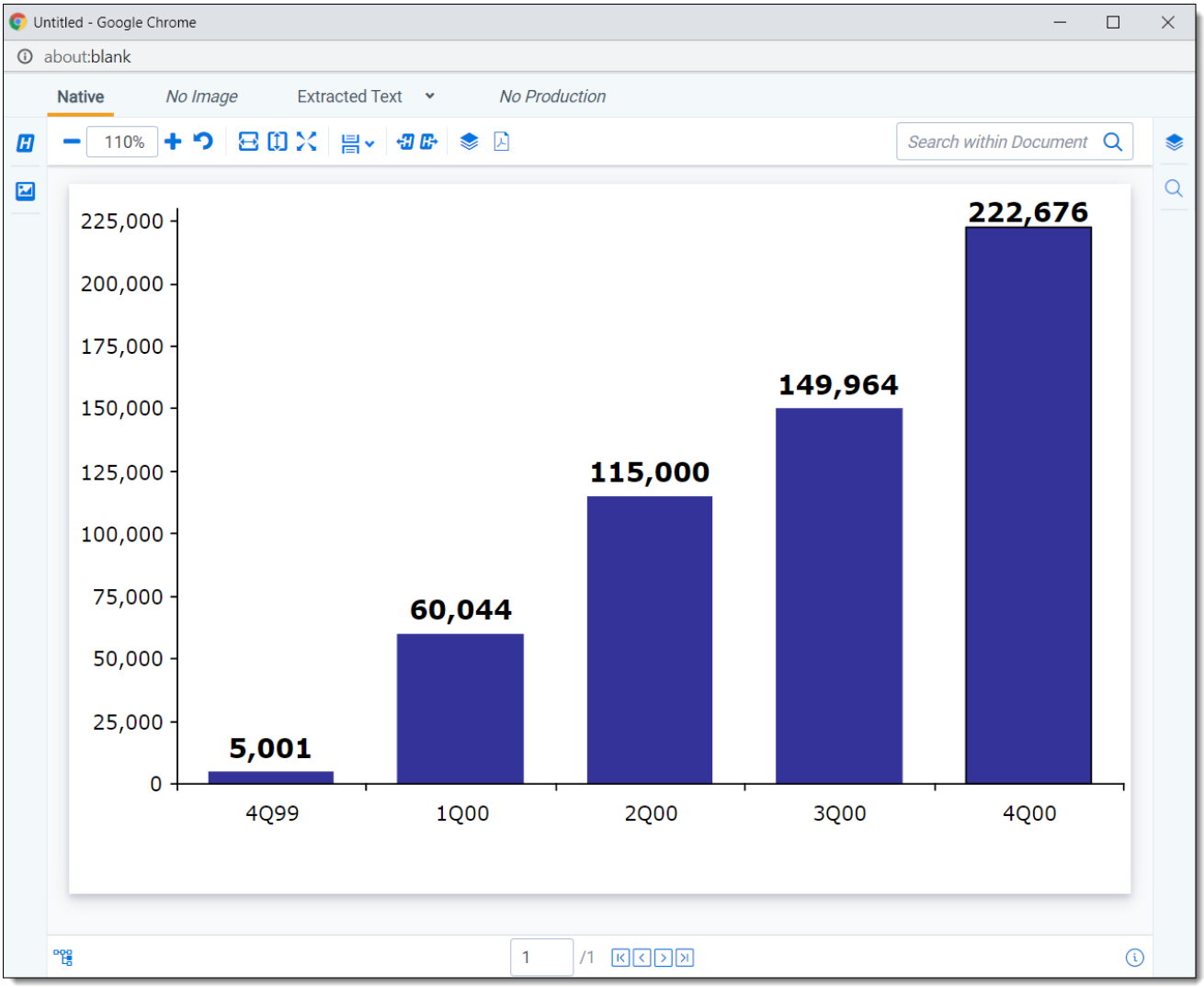


- **Keyboard Shortcut Legend**—select to open the Keyboard shortcut legend pop-up to view the current keyboard shortcuts available in the Viewer.

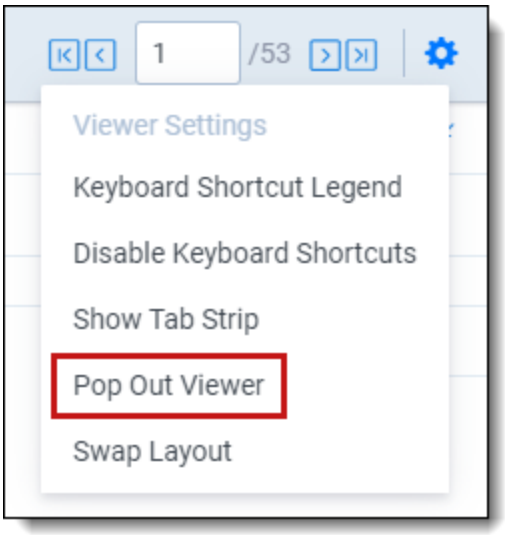
- **Enable/Disable Keyboard Shortcuts**—select to enable or disable the keyboard shortcuts feature while in the Viewer.
- **Show/Hide Tab Strip**—select to show or hide the sidebar and tab strip in the Native Viewer.
- **Pop Out Viewer**—select to open the Viewer in a new window in your browser. To learn more, visit Pop Out Viewer.
- **Swap Layout**—select to move the coding layout and the document card to the opposite side of the Viewer from where they are currently located.

47.7.1 Pop Out Viewer

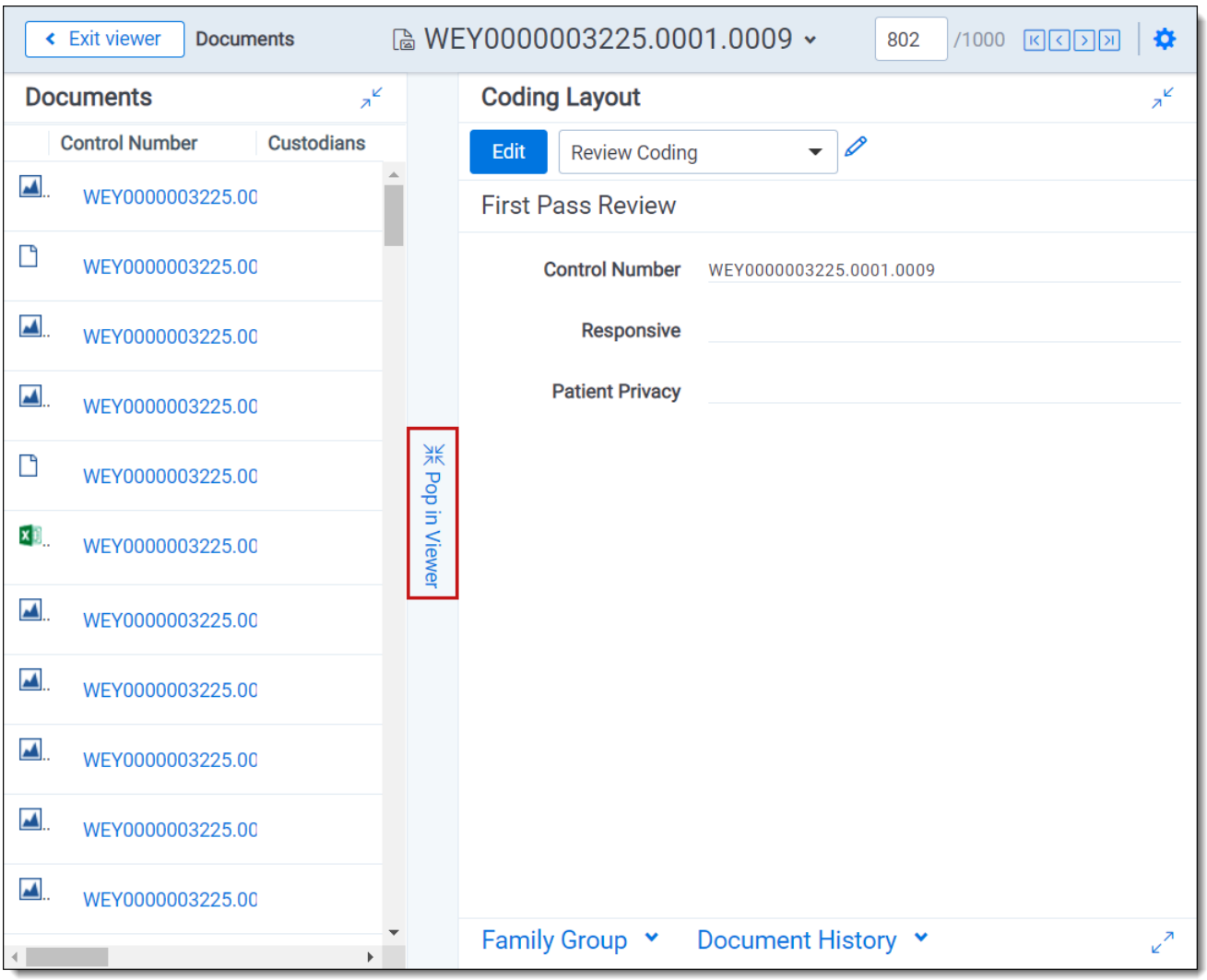
You can use the Pop Out Viewer to open the Viewer in a new window in your browser. The document card and the coding card remain in the previously opened browser window and can be expanded to a greater width to take advantage of the space freed up by the Pop Out Viewer. The Pop Out Viewer retains the same functionality as the Viewer. For example, you can switch Viewer types and view highlights or the Thumbnail Viewer as desired.



To open the Pop Out Viewer in a new browser window, select the **Pop Out Viewer** option from the Viewer settings menu in the upper-right corner.



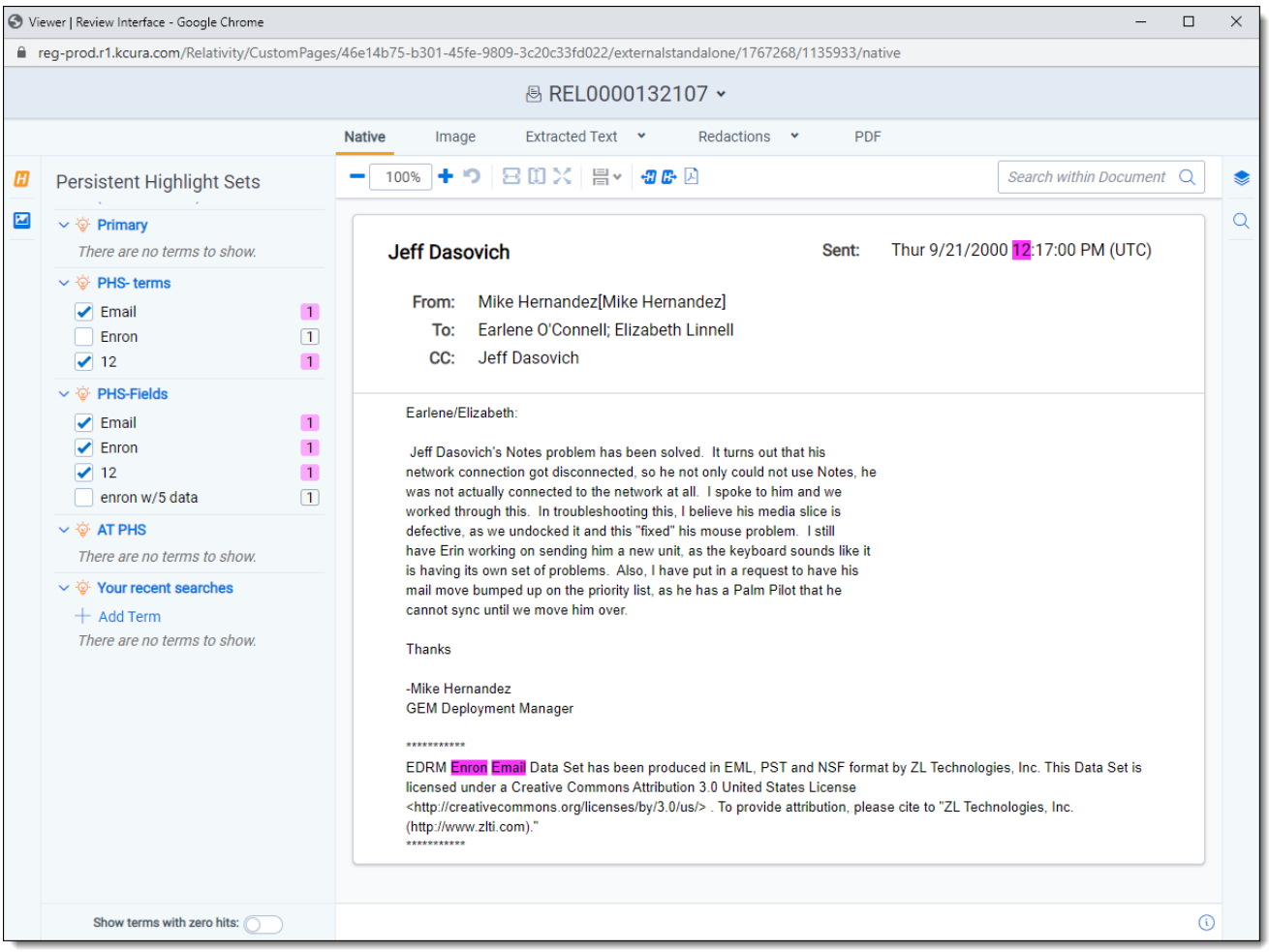
To return the Viewer to the previous browser window where the document card and coding card are located, you can click either the Pop In Viewer button on the previous browser window or you can select the Pop In Viewer option from the Viewer settings menu in the upper-right.



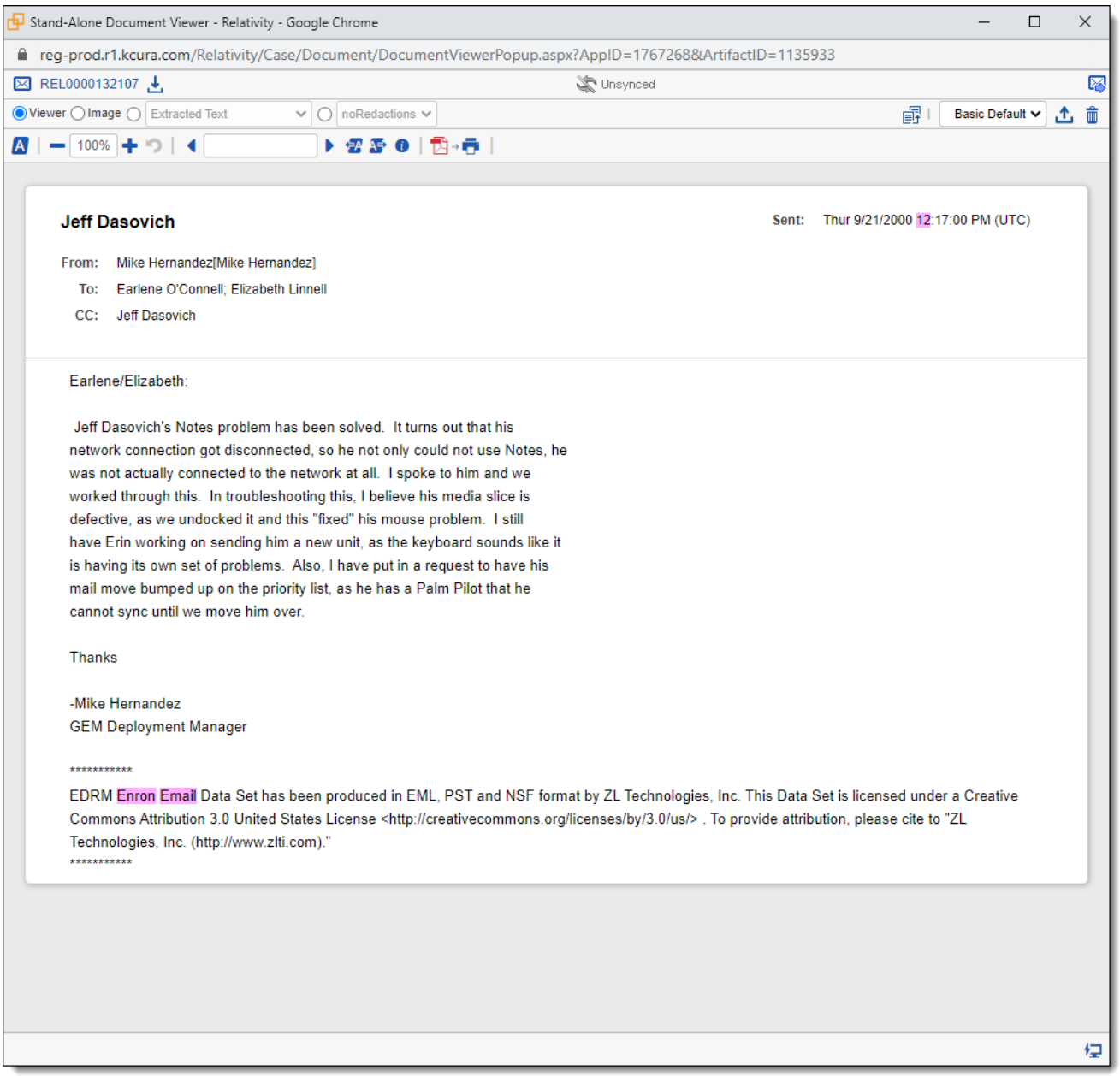
Alternatively, if you close the browser window that the popped out Viewer is in, the Viewer pops in to the review interface or in other words, returns to the original browser window.

47.7.2 Standalone Viewer

To view a document in a separate browser window, click the file icon in the document list or in the Viewer on the documents card or family card. Launching the Standalone Viewer from either the documents and family card launch the Review interface.



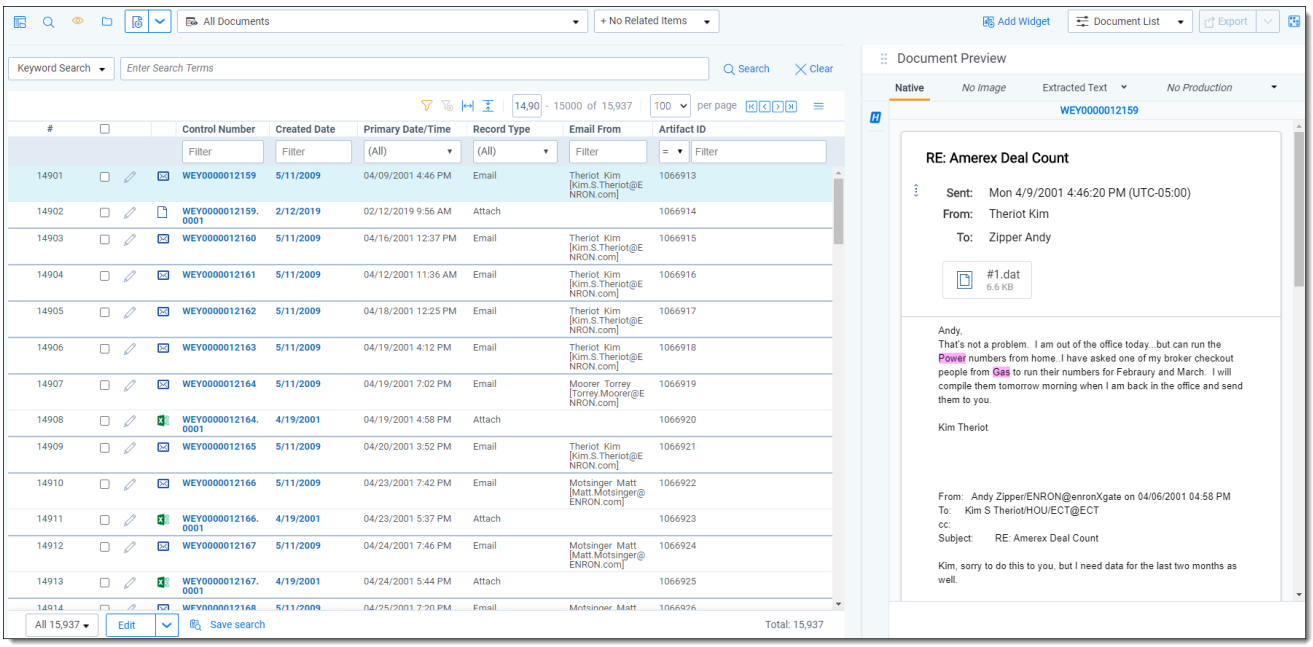
Clicking on the file icon in the document list will launch the Classic review interface which is unsynced. Changes such as turning highlights on and off in the Viewer or entering an on-the-fly search in the document list will not affect a document opened in the Standalone Viewer because it is unsynced.



Note: Keyboard shortcuts are available for use in the Standalone Viewer. For example, if you execute the shortcut for Save & Next in the Standalone Viewer, each window performs the operation and moves to the next document.

47.7.3 Document preview panel

The Document preview panel allows you to view documents in the document list before launching the Viewer. It also allows you to filter the list and quickly view documents in the results which makes the process of finding documents more efficient. To learn more, visit



47.7.4 Related items card

The related items card is located at the bottom-right corner of the Viewer. Related items are customizable groups of documents within a workspace. Common examples are family groups, duplicates, or similar documents.

The Edit field will be available in the Related items card if you add it to the Relational card view.

The related items toolbar includes the following:

- **Related items** —displays a group of documents related to the active document. Options vary within the workspace. Hover over each icon to display the name of the item. Examples include: family group, duplicates, and thread group.
- **Document history**—displays a history of actions taken on the current document. You may not have access to document history. If you store your audits in Data Grid, this displays the field name, old value, and new value.

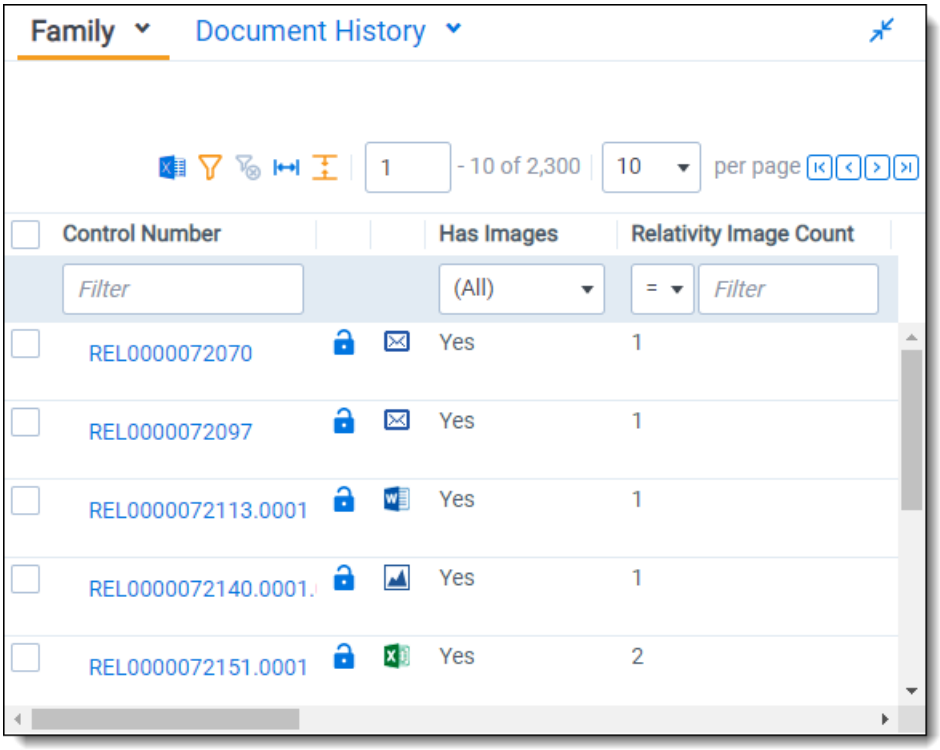
  Note: In the Document History card, you can click the **Details** link to display a pop-up with the audit history for the document. Click **Run Details** to display information about document imaging jobs, including the name of the imaging profile and the formatting options used during mass imaging or imaging on the fly.

- **Production**—displays all productions in which the document was included. You may not have permissions to view production information.
- **Linked**—displays all linked records on the active document.

- **Search results** —displays the results of an Analytics search.
- **Batch sets** —shows all the batch sets for the active record. SeeBatches on page 136. You may not have permissions to view this section.

When a coding decision is made, the information in the Related Items card automatically refreshes. If there are two or more reviewers on the same document, a user can refresh this card by clicking on the Menu icon and selecting **Refresh card**.

The Related items card can be opened in a separate browser window. Click the menu icon and select **Pop out card** to open the card in its own window. Click the menu icon and select **Pop in card** to close the browser window and return the card to the Viewer.



47.7.4.1 Securing Related items

Users are granted permissions or access to related items by default. If you would like to prevent a user from accessing these features, you can disable the following permissions or secure them using item-level security:

Related item	Permission or item-level security
Email Duplicates	Secure using Email Duplicate Spare Field
Thread Group	Secure using Email Thread Group Field
Near Dupe Group	Secure using Textual Near Duplicate Group Field
Conversational Family	Secure using the Conversation Family Field

Related item	Permission or item-level security
Duplicates	Secure using the MD5 Hash Field
Family	Secure using the Group Identifier Field
Batches	Disable the View Batch Pane permission in Admin Operations
RAR Overturn Analysis	Disable the Assisted Review Overturn permission in Object Types
Production History	Disable the Production permission in Security
Linked Documents	Secure using the Link Pane view. This icon cannot be hidden but you can restrict access to it.
Document History	Disable the View All Audits permission in Admin Operations
Search Results	This icon cannot be hidden or secured in Relativity.

47.7.5 Thumbnail Viewer

When in the Native Viewer, Image Viewer, or Productions Viewer, you can access and browse thumbnail renderings of a document's pages. Quickly scan, locate, and navigate to pages in an open document.

Beginning in 10.2.270.1, the Thumbnail Viewer displays highlights and redactions on the document. This requires that the ImageViewerHTMLConversionType instance setting is set to True.

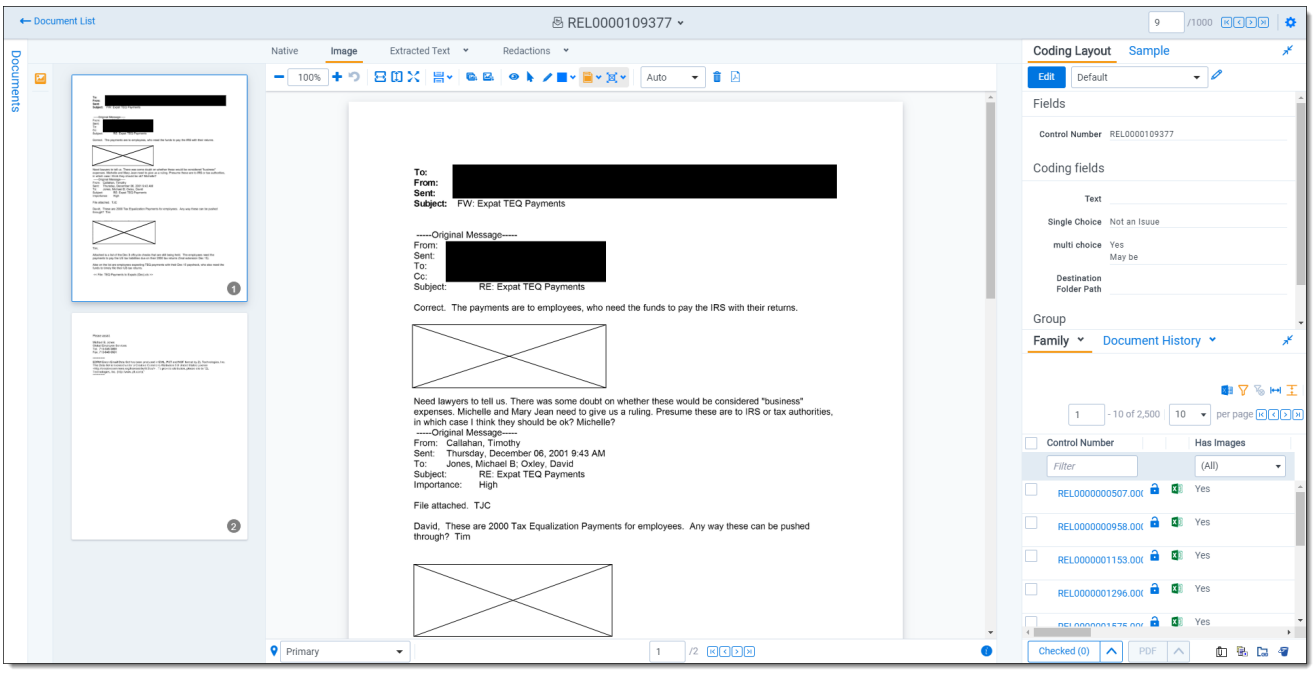
Note: Setting the ImageViewerHTMLConversionType instance setting to **True** may cause unexpected behavior with third-party Viewer integrations that interact with the Image Viewer or Productions Viewer. Please contact our Support team if you have any questions or would like more information.

To open the Thumbnail Viewer, click in the left drawer. The left drawer expands and displays the Thumbnail Viewer. Scroll up and down to navigate all pages in the open document and click a page to view it. As you scroll through the document, the thumbnail viewer scrolls simultaneously to keep the viewed pages in focus.

The Thumbnail Viewer is compatible with word processor, presentation, vector Image, and raster image file types.

Note: The Thumbnail Viewer may not be available in the Native Viewer for document types that do not paginate such as spreadsheets or plain text.

Note: To access to the Thumbnail Viewer, you must have the Admin Operation permission View Image Thumbnails. If you don't have this permission, contact your system admin.



47.7.6 Document conversion troubleshooting

You can use the following information to troubleshoot and resolve issues that occur when attempting to access a document in the viewer, or when mass converting documents. This troubleshooting information applies to issues that occur when using the Document Viewer service to facilitate conversion requests for the viewer.

Troubleshooting information is provided for each component of the viewer. If an error persists, you may want to review the discussion of performance considerations for larger Relativity environments. You may need to reset the environment, but you should only perform this task as a final troubleshooting measure for all components of document conversion. Since an environment reset requires you to disrupt Relativity access for users, perform it during off-peak hours.

47.7.6.1 Document errors

You can use the following information to troubleshoot errors that occur with a document or its native when running the Document Viewer service. Try to view different types of documents in the viewer. If the error appears on only one or a few specific documents, it may be due to scenarios that Relativity doesn't support. You may encounter document errors when using the Conversion agent and the Conversion Complete agent. For more information, see Conversion errors related to agents on page 788.

The following scenarios related to documents aren't supported by the viewer:

- The document doesn't have a native, an image, or a production image.
- The document is password protected and the password isn't in the password bank.
- The user doesn't have permissions to view the native, image, or production image.
- The document is corrupted.
- The document’s file type isn’t supported. Because natives are converted for the viewer technology using Oracle’s Outside In Technology, you can always check supported file types. For more information, see the following resources:

- Oracle Outside In Technology 8.5.3 Supported Formats
- Viewer supported file type in the Relativity Admin guide
- Upgrade considerations for Relativity 9.6 in the Relativity Upgrade guide

47.7.6.2 Viewer errors

Many of the errors you encounter while using the viewer appear in the viewer itself for easier troubleshooting. Other errors in the viewer get logged in the Errors tab for future reference.

You can use the following information to troubleshoot errors that occur when running the Document Viewer service.

Converted Cache File and downloading document errors

The Converted Cache File table collects information on previously converted files. The table contains the location of the converted file and possible error message. If you find that a document that was previously accessible on the viewer is no longer accessible, verify that the information in the table is accurate.

Error message	Solution
Example error messages related to cache entries. Cache Entry location path is empty or invalid. Cache entry location is unreachable or does not exist. An error occurred when validating the cache entry. Example error messages related to downloading documents. An error occurred when downloading the document part. Document does not exist or is unreachable.	■ Click the Retry link that appears when conversion fails while loading the viewer. ■ Verify that the document location in the converted cache file table contains the files listed in the table. ■ If retrying doesn't help, refer to the Errors tab for more information.

Timeout errors

You may experience timeout errors when attempting to display a document in the viewer. The following section includes the steps for resolving timeout errors for the Document Viewer service.

Steps for resolving timeout errors for the Document Viewer service

View steps for resolving timeout errors for the Document Viewer service
For the Document Viewer service, use the following steps to resolve timeout errors:

1. Verify that the Conversion agent and the Conversion Complete agent is enabled in the resource pool. If the agent is disabled:
   - Re-enable the agent, and then wait for the message column to show Idle. If the message column never changes to Idle, you should check the Errors tab. For more information, see the Relativity service bus system guide.
   - If changes to your instance settings are required, you must restart the Document Viewer application pool, delete, and then recreate your Conversion agents and your Conversion Complete agents. For more information, see Restarting an application pool on page 789.
2. Ensure the kCura EDDS Agent Manager Windows service is running on the agent server for the Conversion agents and the Conversion Complete agents.
3. Ensure the Service Host Manager Windows service is started and running.

4. Check the following topics and associated subscriptions exist using the Service Bus Explorer:
   - conversionresponses topic
     ConversionCompleteAgent_Priority<#> subscription
   - signalr_topic_dvs_<#> topic
     <Unique GUID> subscriptions – one for each SignalR hub connected.
   - conversions_rp<Resource Pool Artificat ID> topic.
     - ConversionAgent_Priority1 subscription
     - ConversionAgent_Priority2 subscription
     - ConversionAgent_Priority3 subscription

     Note: You should have one of these topics for each resource pool that has a Conversion agent in your environment.
   - resourcepoolstatus topic
     - resourcePoolStatusMonitor_<Conversion Agent Artifact ID> subscription.

     Note: You should have one of these subscriptions for each Conversion agent.

   Use these troubleshooting steps if any of the above topics or subscriptions are missing:

   - If you are missing any of the ConversionCompleteAgent _Priority subscriptions, delete and recreate the conversion complete agents in the affected resource pool.
   - If you are missing the signalr_topic_dvs topic, it's likely that all of your agent services failed. Restart the services and delete and recreate the Conversion agents and Conversion Complete agents to recreate the topic and its subscriptions.

   Note: If you perform the above troubleshooting and are still missing any of the above topics or subscriptions, check the Errors tab for any Service Bus connection errors. For more information, see the Relativity service bus system guide.

5. Use the Service Bus Explorer to check if messages are stuck on the Service Bus.
   If messages are stuck in a subscription on the conversionresponses topic, delete and recreate the Conversion agents and Conversion Complete agents in this resource pool.

For other timeout errors, refer to the following table for troubleshooting steps:

Error behavior	Solution
There are timeout errors on some or occasional documents in the Errors tab.	There may be a large number of requests. Wait and submit requests again. If the document is too large and repeatedly getting timeout errors, we recommend viewing it outside of Relativity. Increasing the web application timeout interval will not cause the document to load. If all conversion requests are timing out and you've recently upgraded to Relativity 9.4, there may be an issue with the certificates on the web server.

Retrying conversion

When the viewer encounters an error, you can retry conversion with the retry link. If you are in a state where an error page doesn't load, perform the following steps to manually trigger a fresh conversion job:

1. Determine the type of document you are trying to view in the viewer and note its type ID.

Conversion Types	Type ID
Natives	-1
Images	-2
Transcript	-3
Save as PDF	-4
Production Images	The artifact ID of the production set used to create the production images.

2. Locate the document in the ConvertedCacheFile table using the document's artifact ID and type ID.
3. Find the document's converted cache file located in the document location column and delete the parent folder. For example, if you see a location like this: …FileShare\cache\2719710\0\903\index.html, delete the folder 903 and all its contents.
4. Delete the row in the ConvertedCacheFile that references the document location.

Resolving other viewer errors

This section provides several errors you could receive in the Relativity HTML viewer and possible resolution steps.

Error message	Solution
Uncaught Type Error: Cannot read property 'index' of undefined	You only see this error if you load the viewer with the browser console open. This is a known issue with Oracle that has since been fixed but has not yet been integrated into the latest version of Relativity.
An error has occurred. A required service is not running.	This error usually means that the Relativity Services API is not running. To troubleshoot this issue: 1. Check that the IIS Application pool for Relativity.Services is running. If the application pool is not running, the Start is enabled under the Application Pool Tasks section. 2. Go to the Platform Status tab and verify that there are no errors on any of the web processing servers. If there are errors, the diagnostics functionality should help resolve the issue.
500: Internal Server Error	To solve internal server errors, perform one of the following: ■ Verify that the Document Viewer application installed without any errors. ■ Verify your KeplerServicesUri is correct.
503: Service Unavailable	A 503 Service unavailable error can indicate an error with either the deployment of the Imaging application, Conversion API, or Document Viewer service. To troubleshoot this issue, verify that the Conversion API and Document Viewer application pools are running for the web server or force redeployment of the custom pages associated with the Conversion API. How to verify that the conversion API application pool and Document Viewer application pool are running for a web server: 1. Locate the list of application pools for Relativity From the IIS Manager. 2. Select the c9e4322e-6bd8-4a37-ae9e-c3c9be31776b application pool.

Error message	Solution
	3. Click the enabled Start icon to start the application pool on the right-hand side. 4. Select the 5725CAB5-EE63-4155-B227-C74CC9E26A76 application pool. 5. Click the enabled Start icon to start the application pool on the right-hand side. How to force redeployment of the custom pages associated with the Conversion API: 1. Verify that the Relativity Web Processing service is running on all web servers. 2. Run the following query in the Relativity primary database: UPDATE [edds].[eddsdbo].[ApplicationServer] SET [State] = 0 WHERE AppGuid IN ('C9E4322E-6BD8-4A37-AE9E-C3C9BE31776B', '5725CAB5-EE63-4155-B227-C74CC9E26A76')
This file was converted with a newer version than what is available on your web server.	You may not have deployed a newer version of Oracle's Outside In Technology to all components of Relativity. Verify with Customer Support that the correct versions of Relativity, Document Viewer, and imaging are installed in your environment to ensure both versions are up-to-date.
Authorization Error	The specific error message in the viewer reads "An error occurred when checking for authorization". This message is a catch-all for unhandled errors that occurred when checking for permissions. Contact Customer Support to find a solution.
An error occurred when initializing the viewer.	This is a generic error thrown for unhandled errors while initializing the viewer. It is not tied to a specific document. When this error is thrown, a more detailed exception message should be logged in the Errors tab. If the error message is not helpful, try resetting the environment. If this does not resolve the error, continue on to gather error information and contact Relativity for troubleshooting help.
Could not download this document.	The viewer doesn't display some errors, but instead provides a link to a location to where you can read that error's details. You can view a more detailed error message by going to the following link: <Webserver>/Relativity/CustomPages/5725cab5-ee63-4155-b227-c74cc9e26a76/viewers/<worksapceartifactid>/<cacheid>/index
Cannot make conversion request for this viewer type.	A failed conversion request for a viewer type is usually the result of corrupted JavaScript of the Document Viewer custom application. Resolve this error by uninstalling and re-installing the document viewer application.
Conversions are not happening.	Log in to the Agent Server and check the Windows Task Manager. Ensure there are oilink.exe processes running. If the oilink.exe processes are not visible, delete your conversion agent and then recreate it.
The document failed to convert.	This error can appear when imaging documents. This is not an application error, but is a document-level rendering error. To troubleshoot this issue, retry document conversion.

47.7.6.3 Cache location server errors

The Cache Manager agent populates information about the cache location server and is located on the Servers tab. When a document is sent for conversion, the converted file is placed in the cache location server.

Errors related to this server usually involve permissions of the folder or space availability.

Note: We recommend creating separate drives or servers for cache location servers.

Verifying the Relativity Service Account can access the cache location server

If you find that no information about the cache location server is available on its page, verify that the Relativity Service Account can access the server for a resource pool and that the location hasn't been renamed.

Increasing free space in cache location server

If you're converting a large number of files, you can quickly fill the cache location server. Use the following steps to manage a large volume of conversions in your environment and increase free space for future conversion requests.

Clearing the cache from the cache location server page

An alert appears if the cache location server is low on disk space. Perform the following steps to free up more disk space.

1. Locate the server that is above the upper threshold from the Servers tab.
2. Click **Clear Cache**.
3. Wait for a background process to clean up the cache.

Note: The cache location server can be empty while the server itself is low on disk space. Creating a separate drive or server for the cache location will ensure that cache location threshold levels are more accurate.

Solving errors while clearing the cache

Error behavior	Solution
The Cache Manager Agent doesn't seem to be clearing the cache.	The Cache Manager Agent only runs once per day during off hours. If you need the agent to run during regular hours, delete the agent, and then re-add it.
Clear Cache button is not available.	If the cache location is above the upper threshold and a cleanup job is running, the clear cache button is not available. Cleanup jobs are tracked in the database by the ResourceServer table's CacheLocationCleanupStatus column. If this flag is set to 1 and you are confident that a cleanup job is not running, you may change it to 0. This fixes a false flag in the database stating that a job is already running.

Increasing the cache location upper threshold

By default, the CacheLocationUpperThreshold instance setting is 70. Increasing the number gives you more space. Depending on how quickly the cache location server fills up, increasing the upper threshold may only temporarily resolve file space issues in your environment.

Increasing the space on the cache location server

Talk to your system admin to increase the disk space of your server.

Deleting unused conversion files

You may find the cache locations contain more records than are found in the converted cache file tables. This may happen if:

- You manually update the ConvertedCacheFile table so that records are dirty without deleting the corresponding cache location folders. It's safe to delete files or folders that aren't referenced.
- The Cache Manager Agent was unable to delete the files. Errors are logged in the DeleteCacheFile table in the case databases.

If you find files that are no longer needed due to either of the reasons above, use the retrying conversion section to guide you through how to properly find and delete a file that is no longer being used.

47.7.6.4 Conversion errors related to agents

Relativity communicates about document conversion jobs to the conversion agents. It uses the Conversion agent and the Conversion Complete agent to execute these jobs. Conversion jobs convert a native file to an HTML file to render in the viewer. Images and production images convert to XODs. Many of the errors that occur appear in the Viewer. You can use Relativity Logging, or a third party application that analyzes web requests such as Fiddler, to isolate errors that originate with the Conversion API or the Document Viewer services.

The following table lists errors that may occur when the Conversion agent and the Conversion Complete agent run. Like other agents in Relativity, conversion agents log errors to the Errors tab.

Note: The terms "conversion agent" and "conversion agents" in this section refer to both the Conversion agent and the Conversion Complete agent.

Error message or Error behavior	Solution
Invalid request key.	This error means that a conversion agent sent a response to Relativity about a job that Relativity was no longer tracking. This occurs if IIS or the web application is reset.
No filter available for this file type.	This is an error from a conversion agent that is most likely due to the native file not being supported. When this occurs, verify the file type version. Try another similar document, and if the error occurs again, send a copy of the native to Customer Support for them to test.
Failed to perform file conversion, at least one source is required to perform conversion. Error occurred when attempting to convert file(s). Error occurred when attempting to find the requested job ID.	Attempt to convert the jobs again. If this doesn't resolve the issue, then open a ticket with Customer Support.
An error occurred when attempting to convert this document. There was a problem connecting to the Service Bus. Contact your system administrator.	This error displays when the Conversion API is unable to submit jobs to the conversion agent because it's failing to connect to the Service Bus. Check the details of the error in the Errors tab. For more information, see the Relativity service bus system guide. If changes to your instance settings are required, restart the Conversion API application pool and Document Viewer application pool, delete, and recreate your conversion Agents. For more information, see Restarting an application pool on the next page.

47.7.6.5 Resetting the environment

If the information in the previous sections haven't resolved the viewer issues and you were previously able to view documents in the environment, resetting the environment might resolve your issues. If you've never been able to render a document in the viewer, and you've recently migrated your Invariant conversion workers to conversion agents, you should check the Errors tab for Service Bus connection errors.

Resetting your environment requires resetting IIS, which logs off all users in Relativity. Because of this, reset your environment during off-hours. You can follow these steps in any order, but all must be completed to completely reset the environment.

1. Restart IIS on webservers.
2. Disable your conversion agents, and then remove an lingering messages from the ConversionAgent_Priority# and CAPI-####### subscriptions.For more information, see the Relativity service bus system guide.
3. Restart the kCura EDDS agent manager services on your conversion agent servers.
4. Delete the Converted Cache record for the document you are trying to convert.
5. Clear the cache location server (accessible from the Servers tab in Relativity).

If after resetting the environment there is no resolution, contact Support.

Restarting an application pool

You may need to restart the application pools in your environment. The following sections include the steps for this process based on whether you are running the Conversion API or the Document Viewer service.

Steps for restarting the Conversion API application pool

Use the following steps to restart the Conversion API application pool on a web server:

Note: These steps bring down the Conversion API and should not be performed with active reviewers in the environment.

1. Locate the list of application pools for Relativity from the IIS Manager.
2. Select the c9e4322e-6bd8-4a37-ae9e-c3c9be31776b application pool.
3. Click **Stop** to stop the application pool on the right-hand side of the screen.
4. Wait a few moments, and then click **Start** to restart the application pool.

These steps only restart the Conversion API application on a particular web server. If you have other web servers, you may need to restart the application pool on those servers as well.

Steps for restarting the Document Viewer service application pool

View steps for restarting the Document Viewer service application pool
Use the following steps to restart the Document Viewer application pool on a web server:

Note: These steps bring down the Document Viewer service and shouldn't be performed with active reviewers in the environment.

1. Locate the list of application pools for Relativity from the IIS Manager.
2. Select the 5725cab5-ee63-4155-b227-c74cc9e26a76 application pool.

3. Click Stop to stop the application pool on the right-hand side of the screen.
4. Wait a few minutes, and then click Start to restart the application pool.

These steps only restart the Document Viewer application on a particular web server. If you have other web servers, you may need to restart the application pool on those servers as well.

47.7.6.6 Performance considerations

There are certain error scenarios that are more prevalent in larger environments or larger conversion requests. The following sections guide you through some configuration changes that may help your environment process larger conversion requests.

Decreasing the IIS recycling interval

1. Open up IIS on each web server.
2. Select the application pool with the name: c9e4322e-6bd8-4a37-ae9e-c3c9be31776b on the list of application pools.
3. Select the application pool as follows depending on whether you are running the Conversion API or the Document Viewer service:
   - **Conversion API** - select the option with the name c9e4322e-6bd8-4a37-ae9e-c3c9be31776b on the list of application pools.
   - **Document Viewer service** - select the option with the name 5725cab5-ee63-4155-b227-c74c-c9e26a76 on the list of application pools.
4. Click **Advanced Settings** under the actions window.
5. Change the Regular Time Interval (minutes) to 0 under the Recycling heading.

Decreasing the number of images loaded in the Image Viewer

You can manually create the MaximumImageCountForViewer instance setting to create a maximum of images the Image Viewer can load which may increase conversion performance. It's recommended to use this instance setting if you have an environment where converting 1000 to 10,000 image documents is causing performance issues. For more information, seeMaximumImageCountForViewer in the Instance setting guide.

Resolving Internet browser crashes

If the Text Viewer loads documents slowly in the viewer or if the Internet browser crashes, reduce the following instance settings:

- TextViewerMaxPageSize
- TextViewerPageBufferSize

47.8 Save as PDF in mixed mode

Relativity generates PDFs for documents using Invariant. Part of the PDF generation process involves Relativity sending a request to Invariant, which includes a response URL, and Invariant sends a response back to the provided response URL once the PDF generation completes. When running Relativity on mixed authentication mode web servers, you must specify the host name that Relativity uses for the response URL sent to Invariant.

47.8.1 WinAuth and FormsAuth instance setting values

To set the host names that Relativity uses in the response URLs sent to Invariant, insert and configure the following two machine-specific instance setting values in the Instance setting table for each mixed mode web server:

- **WinAuth** - stores the host name to use with Windows Authentication.
- **FormsAuth** - stores the host name to use with Forms Authentication.

Note: Relativity supports the use of the WinAuth and FormsAuth instance setting values for mixed mode servers with a maximum of two instances of Relativity web: one instance with Windows Authentication, and one instance with Forms Authentication.

The column values required for each of these instance setting table values are as follows:

- **Section** - Relativity.Conversion
- **Name** - enter one of the following names depending on which site you're configuring:
  - WinAuth
  - FormsAuth
- **Value** - enter the host name to use in the response URL for the server specified in the MachineName column.
- **MachineName** - enter the exact name of the DNS entry for the server and site you're configuring.

  Note: To look up the exact name entry for a server in your DNS, run the nslookup command in a command prompt. For example, if you need to verify the DNS name entry of a server named RELATIVITY01, run the following command in a command prompt and copy the returned **Name** value: **nslookup RELATIVITY01**.

- **Description** - enter the following description:

  Specifies the request hostname for Conversion Response url

For more information regarding instance setting table values, see the Instance setting guide.

47.8.1.1 Example INSERT statement to add instance setting values

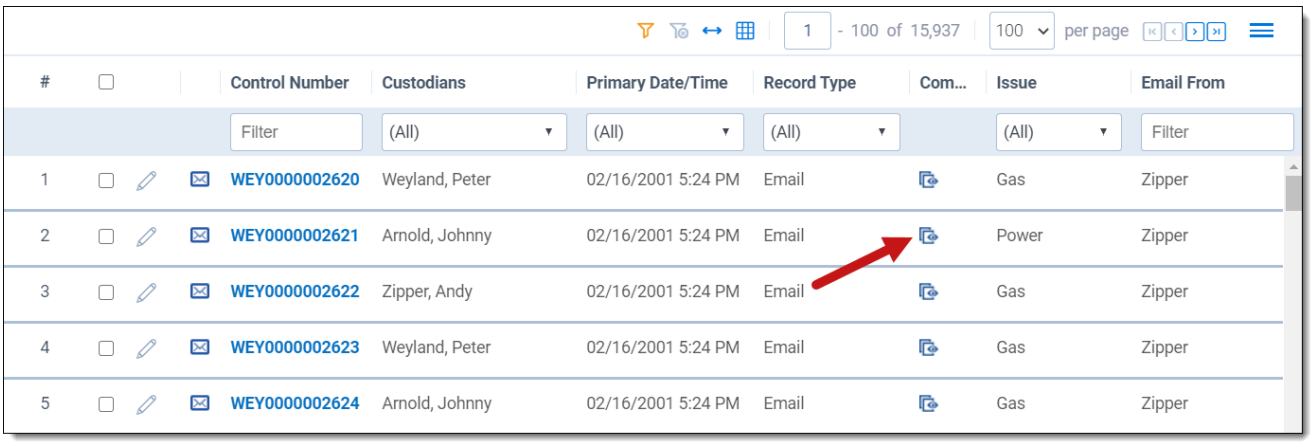
The following example SQL INSERT statement adds a WinAuth instance setting value for a server named RELATIVITY01 with a DNS name of RELATIVITY01.kcura.corp:

```
INSERT INTO eddsdbo.InstanceSetting (Section, Name, Value, MachineName, [Description])
VALUES ('Relativity.Conversion', 'WinAuth', 'HostNameToUse', 'MachineNameFromDNS.kcura.corp', 'Specifies
the request hostname for Conversion Response url')
```

47.9 Document compare

You can use Document Compare to view the key differences between the extracted text of two documents. To access Document Compare, you must first add the Relativity Compare system field to a view. See Views on page 724.

(Click to expand)



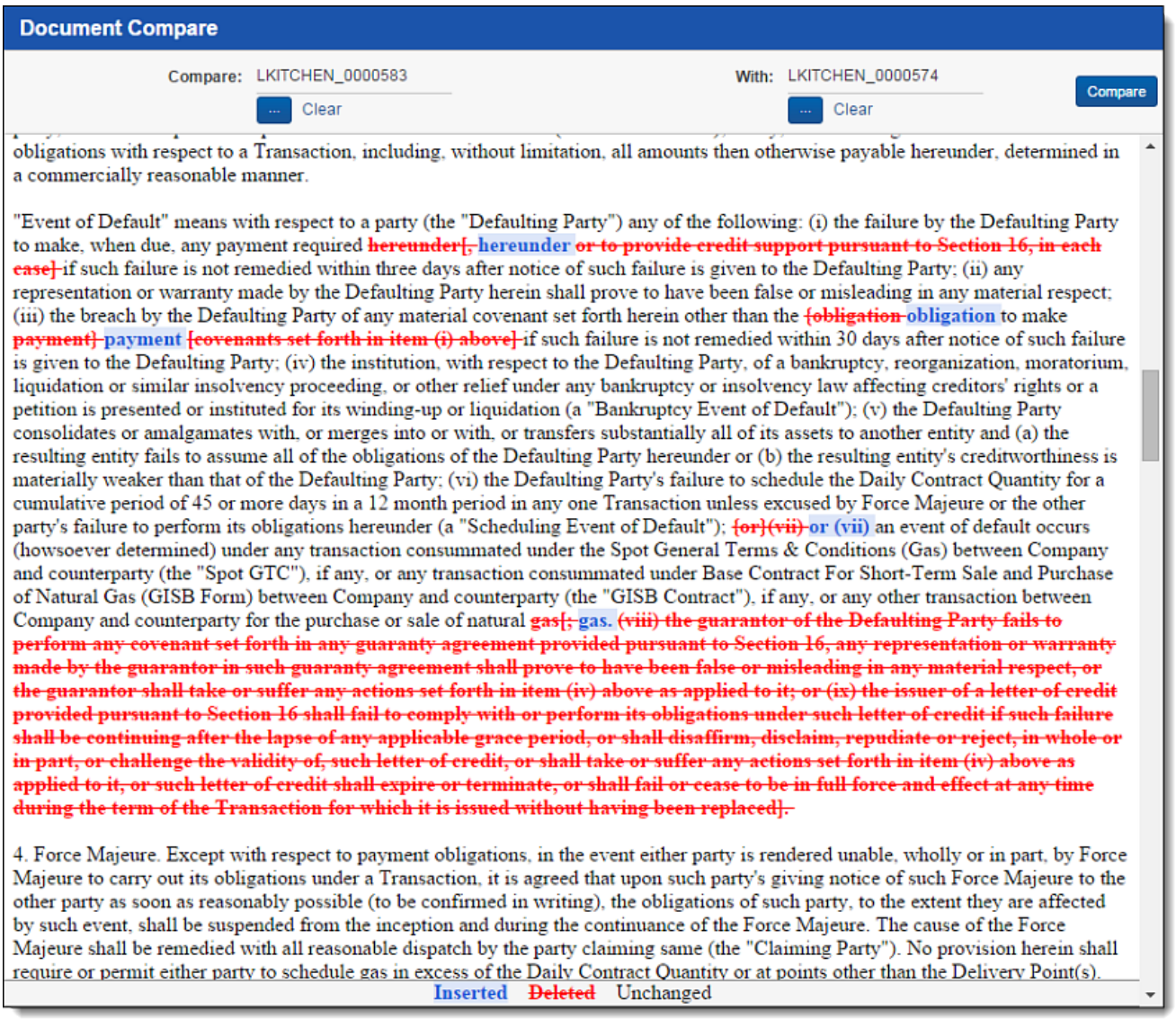
To compare two documents in Relativity from the document list:

1. Click to open the Document Compare selection window. By default the document identifier of the selected document populates the Document Compare window.

2. Click by the With field to select a document with which to compare it. A Select Item pop-up window displays.

   Note: You can change the value of either of the fields at any time while in the Document Compare window.

3. Select the desired document from the list and click **Set**. The Document Compare window displays the selected document in the With field.
4. Click **Compare**. The window displays the similarities and differences between the documents.
5. The similarities and differences between the documents are reflected in the legend at the bottom of the window:
   - **Inserted** - text appears in the "With" document but doesn't appear in the "Compare" document.
   - **Deleted** - text appears in the "Compare" document but doesn't appear in the "With" document.
   - **Unchanged** -text appears in both documents.



You can also compare related documents from within the viewer. To compare related documents in the viewer, open the Related Items pane and click next to the document you want to compare. The Document Compare selection window opens. The document you select from the Related Items pane automatically populates in the With field, while the document open in the viewer automatically populates the Compare field.

47.10 Viewer-supported file types

Relativity uses the Viewer to display rendered versions of native files. Reviewers can see how the file looked in its native application without opening the file in that native application.

When converting email file types such as EML, the Viewer will not download images from the internet. Any linked images will display as a gray box in the Viewer.

This document provides a comprehensive list of files types supported by the Viewer. Find out which Viewer version you have, by navigating to your Viewer and clicking .

See the Admin guide for more information on the Viewer.

Note: Relativity does not support any third-party applications after the user downloads a file. This includes specific browser and media-player combinations, such as Internet Explorer and Windows Media Player.

47.10.1 Text only designation

Some file types have a "text only" designation. When viewing these files in the Native Viewer, the document's text is the only data that renders. For Microsoft Project files and XML files, the view doesn't display items such as Gantt charts, icons, or other graphics. There is typically no formatting (bold, italics, fonts, etc.) of the text.

47.10.2 File ID only designation

Some file types have a "file ID only" designation. The Viewer is able to identify the file ID correctly, but it returns an error message indicating that the file format is not supported. Despite returning an error message, the Viewer identifies the file so that you can easily locate it and open it in an alternate application.

47.10.3 Supported File ID-only file types

The Viewer supports file ID-only functionality the following native file types. The supported file types are listed by category.

Program/File Type	Category	Type/Version	File Extension
Microsoft Access Report Snapshot	Database	2000-2003	
IBM Lotus Notes NSF	Email	7.x, 8.x	
DICOM	Multimedia		
Flash	Multimedia	9, 10	
Real Media	Multimedia		
MPEG-1 Video V 2	Multimedia		.mpg
MPEG-1 Video V 3	Multimedia		.mpg
MPEG-2 Audio	Multimedia		.mpg
Windows Media Playlist	Multimedia		
AOL Messenger	Other		
Microsoft InfoPath	Other	2007	
Microsoft Office Theme files	Other	2007-2013	
Microsoft Windows Compiled Help	Other		.chm
Microsoft Windows Explorer Command	Other		.scf
Microsoft Windows Help	Other		.hlp
Microsoft Windows Shortcut	Other		.ink
Trillian XML Log File	Other	4.2	
Adobe Photoshop PSD	Raster		
TrueType Font	Other		.ttf, .ttc
WebP	Raster		
XHTML	Text and	1.0	

Program/File Type	Category	Type/Version	File Extension
	Markup		
Visio XML VSX	Vector Image	2007	
Microsoft Publisher	Word Processing	2003-2007	
Samsung JungUm Global	Word Processing		
Strict Open XML - Presentation **Note:** Relativity does not support the password protected version for these three Strict Open XML file formats.	Presentation	2013, 2016	
Strict Open XML - Spreadsheet	Spreadsheet	2013, 2016	
Strict Open XML - Document	Word Processing	2013, 2016	

47.10.4 Supported Text-only file types

The Viewer supports text-only functionality the following native file types. The supported file types are listed by category.

Program/File Type	Category	Type/Version	File Extension
Microsoft Access	Database	1.0, 2.0, 95 - 2010	.accdb, .mdb
Flash	Multimedia	6.x, 7.x, Lite	.swf
Microsoft Excel for Windows	Spreadsheet	2003 XML	.xml
XML	Text and markup		.xml
Microsoft XPS	Vector Image		
Visio	Vector Image	2013	
Lotus WordPro	Word processing	9.7, 96 - Millennium 9.8	.lwp, .mwp
Microsoft Word for Windows	Word Processing	2003 XML	

47.10.5 Supported File types

The Viewer supports the following native file types. The supported file types are listed by category.

Program/File Type	Category	Type/Version	File Extension
7z **Note**: BZIP2 and split archives are not supported.	Archive		.7z
7z Self Extracting exe **Note**: BZIP2 and split archives are not supported.	Archive		.exe
LZA Self Extracting Compress	Archive		.lza
LZH Compress	Archive		.lzh
Microsoft Office Binder	Archive	95, 97	.obd

Program/File Type	Category	Type/Version	File Extension
Microsoft Cabinet (CAB)	Archive		.cab
PKZip	Archive		.zip
RAR	Archive	1.5, 2.0, 2.9	.rar
UNIX Compress	Archive		.z
UNIX GZip	Archive		.gz
UNIX tar	Archive		.tar
Uuencode	Archive		.uue
Zip	Archive	PKZip, WinZip	.zip
DataEase	Database	4.x	.dba
DBase	Database	III, IV, V	.dbf
First Choice DB	Database	Through 3.0	.fol
Framework DB	Database	3.0	
Microsoft Access	Database	2007/2010	.accdb
Microsoft Works DB for DOS	Database	2.0	.wdb
Microsoft Works DB for Macintosh	Database	2.0	.wdb
Microsoft Works DB for Windows	Database	3.0, 4.0	.wdb
Microsoft Works DB for DOS	Database	1.0	.wdb
Paradox for DOS	Database	2.0 - 4.0	.db
Paradox for Windows	Database	1.0	.db
Q&A Database	Database	Through 2.0	.db
R:Base	Database	R:Base 5000, R:Base System V	.rb1, .rb2, .rb3
Reflex	Database	2.0	.rdx
SmartWare II DB	Database	1.02	.db
Apple Mail Message (EMLX)	Email	2.0	.emlx
Encoded mail messages	Email	▪ MHT ▪ Multi Part Alternative ▪ Multi Part Digest ▪ Multi Part Mixed ▪ Multi Part News Group ▪ Multi Part Signed ▪ TNEF	

Program/File Type	Category	Type/Version	File Extension
EML with Digital Signature			
Note: .EML files that have a password or are encrypted are not supported in the Viewer. These documents will display the attachment but the body will appear blank.	Email	SMIME	.eml
IBM Lotus Notes Domino XML Language DXL	Email	8.5	.xml
IBM Lotus Notes NSF (Win32, Win64, Linux x86-32 and Oracle Solaris 32-bit only with Notes Client or Domino Server)	Email	8.x	.nsf. .ntf
MBOX Mailbox			
Note: Any MBOX file that is ingested into Relativity using the Relativity Desktop Client will display as an archive, regardless of how many messages it may have or what extension it might have. An MBOX file is characterized as a text file with the string "From<space>email address<space>date string". When a file of this nature is viewed in Relativity, it may appear to only show summaries of messages. Essentially, if that "from" line is at the top of the document, Relativity treats it as MBOX and displays it as an archive.	Email	RFC 822	.mbox
Microsoft Outlook (MSG)	Email	97 - 2013	.msg
Microsoft Outlook (OST)	Email	97 - 2010, 2013	.ost
Microsoft Outlook (PST)	Email	97 - 2013	.pst
Microsoft Outlook Express (EML)	Email		.eml
Microsoft Outlook Forms Template (OFT)	Email	97 - 2013	.oft
Microsoft Outlook OLM for Mac	Email	2011	
Microsoft Outlook PST (Mac)	Email	2001	.pst
MSG with Digital Signature			
Note: .MSG files that have a password or are encrypted are not supported in the Viewer. If you open an .MSG file that is encrypted in the Viewer, the body of the document will be blank and the contents of the encrypted data is placed into a single attachment with a .p7m file extension.	Email	SMIME	.msg
Microsoft Live Messenger (via XML filter)	Other	10.0	
Microsoft OneNote			
Note: The Viewer does not support OneNote files with the Relativity Native type: Microsoft OneNote SOAP/HTTP File.	Other	2007, 2010, 2013	.one
Microsoft Outlook, Google Calendar, and Apple Calendar	Other		.ics
Microsoft Project (sheet view only, Gantt Chart, Network Diagram, and graph not supported)	Other	98-2013	.mpp
Microsoft Project (sheet view only, Gantt Chart, Network Diagram, and graph not supported)	Other	2007, 2010, 2013	.mpp

Program/File Type	Category	Type/Version	File Extension
Microsoft Windows DLL	Other		.dll
Microsoft Windows Executable	Other		.dll
Trillian Text Log File (via text filter)	Other	4.2	.txt
vCalendar	Other	2.1	.vcs
vCard	Other	2.1	.vcf
Yahoo! Messenger	Other	6.x – 8	.yps
Apache Office Draw (ODF 1.2)	Presentation	3.x, 4.x	
Apache Office Impress (ODF 1.2)	Presentation	3.x, 4.x	
Apple iWork Keynote (MacOS, text and PDF preview)	Presentation	09	.key, .keynote
Harvard Graphics Presentation DOS	Presentation	3.0	.prs
IBM Lotus Symphony Presentations	Presentation	1.x	
Kingsoft WPS Presentation	Presentation	2010	
Libre Office Draw (ODF 1.2)	Presentation	3.x, 4.x	
Libre Office Impress (ODF 1.2)	Presentation	3.x, 4.x	
Lotus Freelance	Presentation	1.0 - Millennium 9.8	.prz
Lotus Freelance for OS/3	Presentation	2	
Lotus Freelance for Windows	Presentation	95, 97, SmartSuite 9.8	
Microsoft PowerPoint for Macintosh	Presentation	4.0 - 2011	.ppt
Microsoft PowerPoint for Windows	Presentation	3.0 – 2013	.ppt
Microsoft PowerPoint 2016	Presentation	2016	.pptx
Microsoft PowerPoint for Windows Slideshow	Presentation	2007-2013	.ppt
Microsoft PowerPoint for Windows Template	Presentation	2007-2013	.pot
Novell Presentations	Presentation	3.0, 7.0	.shw
OpenOffice Impress	Presentation	1.1, 3.0	.sdd
Oracle Open Office Impress	Presentation	3.x	.odp
StarOffice Impress	Presentation	5.2 - 9.0	.sda, .sdd
WordPerfect Presentations	Presentation	5.1 - X5	
Adobe Photoshop	Raster image	4.0	.psd
Adobe Photoshop XMP only	Raster image	8.0 - 10.0 (CS 1-5)	
CALS Raster (GP4)	Raster image	Type I-II	.cg4, .cal
Computer Graphics Metafile	Raster image	ANSI, CALS, NIST	.cgm
Encapsulated PostScript (EPS)	Raster image	TIFF Header only	.eps

Program/File Type	Category	Type/Version	File Extension
GEM Image (Bitmap)	Raster image		.bmp
Graphics Interchange Format (GIF)	Raster image		.gif
IBM Graphics Data Format (GDF)	Raster image	1.0	.gdf
IBM Picture Interchange Format	Raster image	1.0	.pif
HEIC Image file	Raster image		.heic
JBIG2	Raster image	Graphic Embeddings in PDF	
JFIF (JPEG not in TIFF format)	Raster image		.jfif
JPEG	Raster image		.jpg
JPEG 2000	Raster image	JP2	
Kodak Flash Pix	Raster image		.fpx
Kodak Photo CD	Raster image	1.0	.pcd
Lotus PIC	Raster image		.pic
Lotus Snapshot	Raster image		
Macintosh PICT	Raster image	BMP only	.bmp
Macintosh PICT2	Raster image	BMP only	.bmp
MacPaint	Raster image		.pntg
Microsoft Windows Bitmap	Raster image		.bmp
Microsoft Windows Cursor	Raster image		
Microsoft Windows Icon	Raster image		.ico
OS/2 Bitmap	Raster image		
OS/2 Warp Bitmap	Raster image		

Program/File Type	Category	Type/Version	File Extension
Paint Shop Pro (Win32 only)	Raster image	5.0, 6.0	.psp
PC Paintbrush (PCX)	Raster image		.pcx
PC Paintbrush DCX (multi-page PCX)	Raster image		.dcx
Portable Bitmap (PBM)	Raster image		.pbm
Portable Graymap PGM	Raster image		.pgm
Portable Network Graphics (PNG)	Raster image		.png
Portable Pixmap (PPM)	Raster image		.ppm
Progressive JPEG	Raster image		.jpg, .jpeg, .jpe
StarOffice Draw	Raster image	6.x - 9.0	
Sun Raster	Raster image		.srs
TIFF	Raster image	Group 5 & 6	.tif, .tiff
TIFF CCITT	Raster image	Group 3 & 4	
TruVision TGA (Targa)	Raster image	2.0	.tga
WBMP wireless graphics format	Raster image		
Word Perfect Graphics	Raster image	1.0	.wpg
WordPerfect Graphics	Raster image	2.0 – 10.0	.wpg, .wpg2
X-Windows Bitmap	Raster image	x10 compatible	.xbm
X-Windows Dump	Raster image	x10 compatible	.xdm
X-Windows Pixmap	Raster image	x10 compatible	.xpm
Apache Office Calc (ODF 1.2)	Spreadsheet	3.x, 4.x	
Apple iWork Numbers (MacOS, text, and PDF preview)	Spreadsheet	09	.numbers
Enable Spreadsheet	Spreadsheet	3.0 - 4.5	

Program/File Type	Category	Type/Version	File Extension
First Choice SS	Spreadsheet	Through 3.0	
Framework SS	Spreadsheet	3.0	
IBM Lotus Symphony Spreadsheets	Spreadsheet	1.x	
Kingsoft WPS Spreadsheets	Spreadsheet	2010	
Libre Office Calc (ODF 1.2)	Spreadsheet	3.x, 4.x	
Lotus 1-2-3	Spreadsheet	Through Millennium 9.8	.wk1, .wk3, .wk4, .wks
Lotus 1-2-3 Charts (DOS and Windows)	Spreadsheet	Through 5.0	.wk1, .wk3, .wk4, .wks
Lotus 1-2-3 for OS/2	Spreadsheet	2.0	
Microsoft Excel Charts	Spreadsheet	2.x - 2007	.xlsx, .xls
Microsoft Excel for Macintosh	Spreadsheet	98 – 2011	.xlsx, .xls
Microsoft Excel for Windows **Note:** Excel files with slicers will convert and display normally in the Viewer, but slicer elements in those files will not display.	Spreadsheet	3.0 - 2016	.xlsx, .xls
Microsoft Excel for Windows (.xlsb)	Spreadsheet	2007-2013 (Binary)	.xlsb
Microsoft Works SS for DOS	Spreadsheet	2.0	.wks
Microsoft Works SS for Macintosh	Spreadsheet	2.0	.wks
Microsoft Works SS for Windows	Spreadsheet	3.0, 4.0	.wks
Multiplan	Spreadsheet	4.0	.sylk
Novell PerfectWorks Spreadsheet	Spreadsheet	2.0	.wpw
OpenOffice Calc	Spreadsheet	1.1-3.0	.sdc
Oracle Open Office Calc	Spreasheet	3.x	.sdc
Office Calc (ODF 1.2)	Spreadsheet	4.x	
PFS: Plan	Spreadsheet	1.0	
QuattroPro for DOS	Spreadsheet	Through 5.0	.wb1
QuattroPro for Windows	Spreadsheet	Through X5	.qpw, .wb3, .wb2, .wb1
Quattro Pro Win	Spreadsheet	X7	.qpw
SmartWare II SS	Spreadsheet	1.02	.def
SmartWare Spreadsheet	Spreadsheet		.def
StarOffice Calc	Spreadsheet	5.2 – 9.0	.sdc
SuperCalc	Spreadsheet	5.0	.cal
Symphony	Spreadsheet	Through 2.0	.wrk
VP-Planner	Spreadsheet	1.0	
ANSI Text	Text and markup	7 & 8 bit	.ans

Program/File Type	Category	Type/Version	File Extension
ASCII Text	Text and markup	7 & 8 bit	.asc
DOS character set	Text and markup		
EBCDIC	Text and markup		
HTML (CSS rendering not supported)	Text and markup	1.0 – 4.0	.html
IBM DCA/RFT	Text and markup		
Macintosh character set	Text and markup		
Rich Text Format (RTF)	Text and markup		.rtf
Unicode Text	Text and markup	3.0, 4.0	.txt
UTF-8	Text and markup		
Wireless Markup Language	Text and markup		.wml
Adobe Illustrator	Vector image	4.0 – 7.0, 9.0	
Adobe Illustrator (PDF Preview only)	Vector image	9.0, CS1-6	.pdf
Adobe Illustrator XMP	Vector image	11 – 13 (CS 1 - 5)	
Adobe InDesign XMP	Vector image	3.0 – 5.0 (CS 1 - 5)	
Adobe InDesign Interchange XMP only	Vector image		
Adobe PDF	Vector image	1.0 – 1.7 (Acrobat 1 - 10)	.pdf
Adobe PDF Package	Vector image	1.7 (Acrobat 8 - 10)	.pdf
Adobe PDF Portfolio	Vector image	1.7 (Acrobat 8 - 10)	.pdf
Ami Draw	Vector image	SDW	.sdw
Apple iWork Keynote File Preview	Vector	09	.key, .keynote
Apple iWork Keynote Numbers File Preview	Vector	09	.numbers
Apple iWork Pages File Preview	Vector	09	.pages
AutoCAD Drawing	Vector image	2.5, 2.6, 9.0-14.0, 2000i -2012	.dwg
AutoCAD Drawing	Vector	2013	.dwg
AutoShade Rendering	Vector image	2	.rnd

Program/File Type	Category	Type/Version	File Extension
Corel Draw	Vector image	X4 - X7	.cdr
Corel Draw Clipart	Vector image	5.0, 7.0	.cmx
Enhanced Metafile (EMF)	Vector image		.emf
Escher Graphics	Vector image		.egr
FrameMaker Graphics (FMV)	Vector image	3.0 – 5.0	.fmv
Gem File (Vector)	Vector image		.img
Harvard Graphics	Vector	98	.cht
Harvard Graphics Chart DOS	Vector image	2.0 – 3.0	.ch3
Harvard Graphics for Windows	Vector image		.prs
HP Graphics Language	Vector image	2.0	.hp, .hpg
IGES Drawing	Vector image	5.1 – 5.3	.iges
Micrografx Designer	Vector image	Version 6	.dsf
Micrografx Designer	Vector image	Through 3.1	.drw
Micrografx Draw	Vector image	Through 4.0	.drw
Novell PerfectWorks Draw	Vector image	2.0	
OpenOffice Draw	Vector image	1.1 – 3.0	.sda
Oracle Open Office Draw	Vector image	3.x	.sda
SVG (processed as XML, not rendered)	Vector image		.xml
Microsoft Visio: ▪ Stencil ▪ Template ▪ Macro Enabled Drawing ▪ Macro Enabled Stencil ▪ Macro Enabled Template	Vector image	5.0 – 2007, 2013	.vsd
Visio (Page Preview mode WMF/EMF)	Vector image	4.0	.wmf, .emf
Windows Metafile	Vector image		.vmf
Adobe FrameMaker (MIF only)	Word processing	3.0 - 6.0	.mif
Adobe Illustrator Postscript	Word processing	Level 2	.eps
Ami	Word processing		
Ami Pro for OS2	Word processing		.sam
Ami Pro for Windows	Word processing	2.0, 3.0	.sam
Apache Office Writer (ODF 1.2)	Word processer	3.x, 4.x	

Program/File Type	Category	Type/Version	File Extension
Apple iWork Pages (MacOS, text and PDF preview)	Word processing	09	.pages
DEC DX	Word processing	Through 4.0	.dx
DEC DX Plus	Word processing	4.0, 4.1	.dx, .wpl
Enable Word Processor	Word processing	3.0 - 4.5	
First Choice WP	Word processing	1.0, 3.0	.pfx
Framework WP	Word processing	3.0	
Hangul	Word processing	97 - 2010	.hwp
IBM DCA/FFT	Word processing		.dca, .fft
IBM DisplayWrite	Word processing	2.0-5.0	.rft, .dca
IBM Writing Assistant	Word processing	1.01	.iwa
Ichitaro	Word processing	5.0, 6.0, 8.0 - 13.x, 2004 - 2014	.jtd
JustWrite	Word processing	Through 3.0	.jw
Kingsoft WPS Writer	Word processing	2010	.wps
Legacy	Word processing	1.1	.leg
Libre Office Writer (ODF 1.2)	Word processor	3.x, 4.x	
Lotus Manuscript	Word processing	Through 2.0	.manu
MacWrite II	Word processing	1.1	.mcw
Mail Rule DXL	Word processing		
Mass 11	Word processing	Through 8.0	.m11
Microsoft Word for DOS	Word processing	4.0 – 6.0	.doc
Microsoft Word for Macintosh	Word processing	4.0-6.0, 98 - 2016	.doc

Program/File Type	Category	Type/Version	File Extension
Microsoft Word for Windows	Word processing	1.0 – 2016	.doc, .docx
Microsoft WordPad	Word processing		.rtf
Microsoft Works WP for DOS	Word processing	2.0	.wps
Microsoft Works WP for Macintosh	Word processing	2.0	.wps
Microsoft Works WP for Windows	Word processing	3.0, 4.0	.wps
Microsoft Write for Windows	Word processing	1.0 – 3.0	.wri
MultiMate	Word processing	Through 4.0	.dox
MultiMate Advantage	Word processing	2.0	.dox
Navy DIF	Word processing		.dif
Nota Bene	Word processing	3.0	.nb
Novell PerfectWorks Word Processor	Word processing	2.0	.wpw
OfficeWriter	Word processing	4.0-6.0	
OpenOffice Writer	Word processing	1.1 - 3.0	.sdw
Oracle Open Office Writer	Word processing	3.x	.sdw
PC File Doc	Word processing	5.0	
PFS: Write	Word processing	A, B	.pfs
Professional Write for DOS	Word processing	1.0, 2.0	
Professional Write Plus for Windows	Word processing	1.0	
Q&A Write	Word processing	2.0, 3.0	.jw
Samna Word IV	Word processing	1.0 – 3.0	.sam
Samna Word IV+	Word processing		.sam

Program/File Type	Category	Type/Version	File Extension
Signature	Word processing	1.0	
SmartWare II WP	Word processing	1.02	.def
Sprint	Word processing	1.0	.spr
StarOffice Writer	Word processing	5.2 – 9.0	.sdw
Total Word	Word processing	1.2	
Wang IWP	Word processing	Through 2.6	.iwp
WordMarc Composer	Word processing		
WordMarc Composer+	Word processing		
WordMarc Word Processor	Word processing		
WordPerfect for DOS	Word processing	4.2	.wpd
WordPerfect for Macintosh	Word processing	1.02 - 3.1	.wpd
WordPerfect for Windows	Word processing	5.1 – X5	.wpd
Wordstar 2000 for DOS	Word processing	1.0 - 3.0	.wsd
Wordstar for DOS	Word processing	3.0 - 7.0	(none defined)
Wordstar for Windows	Word processing	1.0	.ws1
XyWrite	Word processing	Through III+	.xy

Note: Program/file types listed with text only or PDF preview only can be reviewed in the Viewer as listed. If PDF preview only, a PDF file saved as part of the native will be viewed. Text only will just display the text without any formatting.

47.10.6 Viewer audio and video-supported file types

Relativity can stream audio and video files within the Viewer.

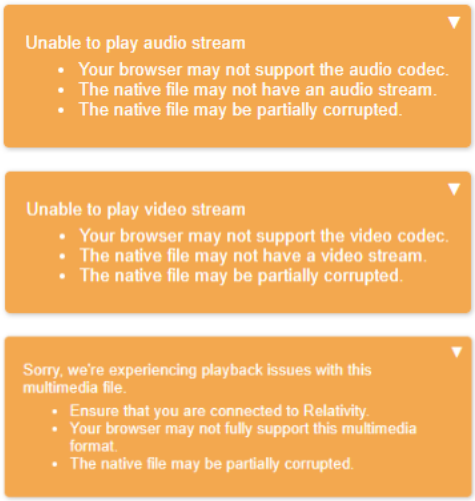
This document provides a comprehensive list of files types supported by the Viewer. Certain file types may not be compatible with your internet browser, refer to the sections below to learn more about browser compatibility. Find out which Viewer version you have, by navigating to your Viewer and clicking .

See the Admin guide for more information on the Viewer.

Note: Relativity does not support any third-party applications after the user downloads a file. This includes specific browser and media-player combinations, such as Internet Explorer and Windows Media Player.

47.10.7 Troubleshooting errors

If an audio or video file cannot be streamed in the Viewer, one of the following messages will display:



To resolve the error, ensure that your internet browser can play the selected file type. If that does not resolve the error, check the **MaximumNativeSizeForViewerForMediaFilesinMegaBytes** instance setting to ensure that the file type is not too big for the Viewer to stream.

47.10.8 Supported audio file types

Note: Safari works with Mac OSX only.

File Format	Container - Audio Codec	Chrome	Firefox	Internet Explorer	Safari
FI_RIFFWAVE	wave - pcm	√	√	√	
Quicktime Movie	mov - aac	√	√	√	√
Quicktime Movie	mov - vorbis	√			
MPEG Layer3 ID3 Ver 1.x	mp3 - mp3	√	√	√	
MPEG Layer3 ID3 Ver 2.x	mp3 - mp3	√	√	√	√
FI_MPGAV2L3	mp3 - mp3	√	√	√	
MPEG-4 file	mp4 - aac	√	√	√	√
MPEG-4 file	mp4 - opus	√			
MPEG-4 file	mp4 - vorbis	√			
MPEG-1 audio - Layer 3	mov - mp3	√	√		√
MPEG-1 audio - Layer 2	mp4 - mp2	√	√		
MPEG-1 audio - Layer 3	mp4 - mp3	√	√	√	

File Format	Container - Audio Codec	Chrome	Firefox	Internet Explorer	Safari
Ogg Opus	ogg - opus	√	√		
Ogg Vorbis	ogg - vorbis	√	√		

47.10.9 Supported video file types

Note: Safari works with Mac OSX only.

File Format	Container - Video Codec - Audio Codec	Chrome	Firefox	Internet Explorer	Safari
Quicktime Movie	mov - h264 - aac	√	√	√	
Quicktime Movie	mov - h264 - dolby_digital	√	√		
Quicktime Movie	mov - h264 - mp2	√	Video-only		
Quicktime Movie	mov - h264 - mp3	√	√		√
Quicktime Movie	mov - h264 - vorbis	√	√		
Quicktime Movie	mov - h264 - wma1	√	√		
Quicktime Movie	mov - h264 - wma2	√	√		
Quicktime Movie	mov - mpeg4 - aac	Audio-only	Audio-only		√
Quicktime Movie	mov - mpeg4 - mp3	Audio-only	Audio-only		
Quicktime Movie	mov - mpeg4 - vorbis	Audio-only			√
Quicktime Movie	mov - theora - aac	√	Audio-only		
Quicktime Movie	mov - theora - dolby_digital	√			
Quicktime Movie	mov - theora - mp2	√			
Quicktime Movie	mov - theora - mp3	√	Audio-only		
Quicktime Movie	mov - theora - vorbis	√			
Quicktime Movie	mov - theora - wma1	√			
Quicktime Movie	mov - theora - wma2	√			
MPEG-4 file	mp4 - h264 - aac	√	√	√	
MPEG-4 file	mp4 - h264 - dolby_digital	√	√		√
MPEG-4 file	mp4 - h264 - mp2	√	√		√
MPEG-4 file	mp4 - h264 - mp3	√	√	√	√
MPEG-4 file	mp4 - h264 - opus	√			√
MPEG-4 file	mp4 - h264 - vorbis	√	√		√
MPEG-4 file	mp4 - mpeg4 - aac	Audio-only			√
MPEG-4 file	mp4 - mpeg4 - mp2	Audio-only	Audio-only		√

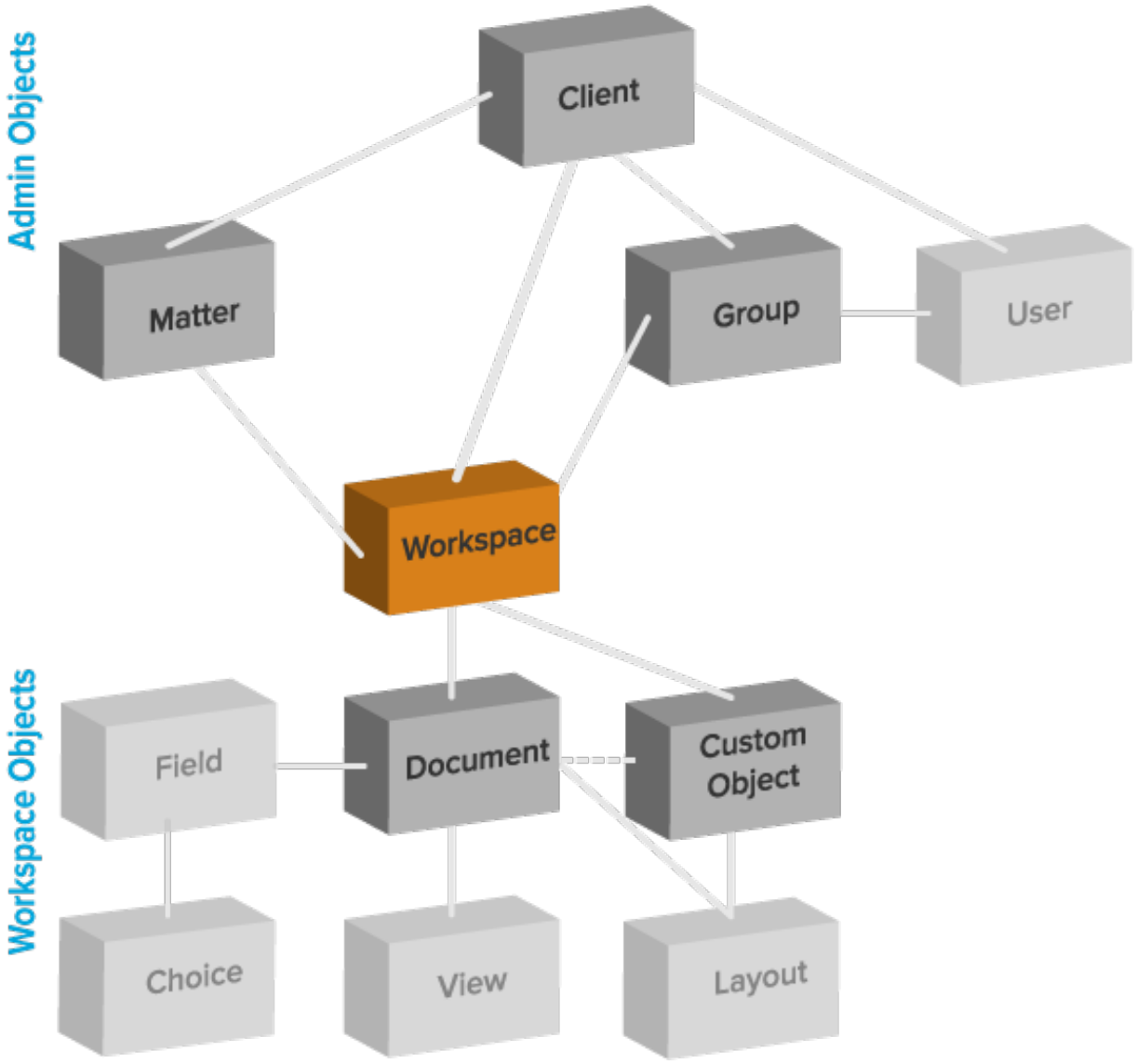
File Format	Container - Video Codec - Audio Codec	Chrome	Firefox	Internet Explorer	Safari
MPEG-4 file	mp4 - mpeg4 - mp3	Audio-only	Audio-only		√
MPEG-4 file	mp4 - mpeg4 - opus	Audio-only			√
MPEG-4 file	mp4 - mpeg4 - vorbis	Audio-only			√
MPEG-4 file	mp4 - vp9 - aac	√	√		
MPEG-4 file	mp4 - vp9 - dolby_digital	Audio-only	Audio-only		
MPEG-4 file	mp4 - vp9 - mp2	√	√		
MPEG-4 file	mp4 - vp9 - mp3	√	√		
MPEG-4 file	mp4 - vp9 - opus	√			
MPEG-4 file	mp4 - vp9 - vorbis	√	√		
Ogg Theora Opus	ogg – theora - opus	√	√		
Ogg Theora Vorbis	ogg – theora - vorbis	√	√		
Ogg VP8 Opus	ogg – vp8- opus	√	Audio-only		
Ogg VP8 Vorbis	ogg – vp8 - vorbis	√	Audio-only		

48 Workspaces

In Relativity, a workspace provides a secure data repository for documents used in cases or for applications developed with dynamic objects. You can store all types of documents, such as productions, witness testimony, and so on, in a workspace to facilitate searching, organizing, and categorizing content. In addition, you can use granular security settings to grant or deny permissions to specific content stored in the workspace.

At the workspace level, you can also define views, layouts, fields, and choices. These features streamline workflows, as well as simplify the processes for organizing and categorizing content. Views support filtering on item lists, while layouts, fields, and choices are used for categorizing documents.

Relativity Framework



Using workspaces

Imagine you're a system admin with security clearance, and your lead attorney comes to you with a new matter for one of your clients, a government contractor helping a government agency fulfill a FOIA request. Some of the documents in the load file include trade secrets and classified

information that must be redacted, so the attorney asks you to load the files into a workspace only accessible to users within the firm who have security clearance.

You set up a new workspace for the client and load the documents into the workspace. Then you create a group, add only users with security clearance, and add the security group to the workspace. The information in the workspace is only accessible by employees with security clearance, and the redaction process can begin.

48.1 Creating and editing a workspace

To create or edit a workspace, following these steps:

1. Click the **Workspaces** tab.
2. Click **New Workspace**. If you want to edit an existing workspace, click the **Edit** link next to the workspace name.
3. Complete the fields in the form. See Fields on the next page.
4. Click **Save**.

Note: Any groups that are part of a template workspace will also be a part of the client domain workspace. We recommend removing these non-client domain groups to prevent the client domain admin from seeing information on non-client domain users and groups.

Watch the Creating Clients, Matters and Workspaces video for more information.

Template Workspace—an existing workspace structure used to create the new workspace. Click **Select** to select a template. The Select Item - Template Workspace modal displays a list of templates based on the conditions set in the WorkspacesOnPicker view. For more information, see the Admin Guide.

Note: We recommend selecting an empty workspace without any documents as a template to prevent potential errors when trying to clean up all the references.

All of the following non-document objects in the template copy to the new workspace:

- Analytics indexes

  Note: The Analytics server selection is not copied over and will need to be manually selected once the new workspace is created since the resource pool is not necessarily the same for the new workspace.

- Analytics profiles
- Automated workflows

  Note: The Analytics server selection is not copied over and will need to be manually selected once the new workspace is created since the resource pool is not necessarily the same for the new workspace.

- Structured analytics sets

  Note: The Analytics server selection is not copied over and will need to be manually selected once the new workspace is created since the resource pool is not necessarily the same for the new workspace.

- Choices
- Custom tabs
- User objects
- Fields
- Filters for Repeated Content and Regular Expressions
- Groups, and permissions
- Imaging profiles
- Integration Point profiles

  Notes: Only export type Integration Point profiles with a source and destination of Relativity are copied.

- Layouts
- Markup sets
- Native types
- OCR profiles
- Persistent highlight sets
- Pivot profiles
- Placeholders
- Saved searches using Keyword, dtSearch, or Analytics indexes
- Scripts
- Summary reports
- Views

48.2 Fields

The workspace fields are:

- **Name** - the name used to identify the workspace. This must not exceed 50 characters.

  Note: You can change a workspace's name after it has been created without affecting any data. The root folder name for the workspace is updated along with the workspace name.

- **Client** - the name of this workspace's client object. Click ... to select a client. When you select a client you are making this workspace a child object of that client object. The Select Client pop-up displays a list of clients based on the conditions set in the ClientsOnPicker view.
- **Matter** - the case or legal action associated with the workspace. Click ... to select a matter. The Select Matter pop-up displays a list of matters based on the conditions set in the MattersOnPicker view.
- **Keywords**—any keywords you want to associate with the workspace.
- **Notes**—any notes you want to add to describe the purpose of the workspace.
- **SQL Full Text Language** - determines the correct word-break characters used in the full text index. Select the primary language for documents added to the workspace. The default setting is English. Note that for multiple language workspaces, Microsoft recommends setting the most complex prevalent language as the SQL Full Text language.

  Note: The SQL Server settings determine the languages available in this list. Contact your system admin if you require additional languages. For information on configuring and managing word breakers, go here.

- **Workspace Admin Group** - determines the group that has workspace admin permissions over this workspace. Click ... to select a workspace admin group. See Workspace admin group on page 822 for more information.
- **Resource Pool** - a set of servers and file repositories that you can associate with a workspace. Contact your system admin for information about available resource pools. Your selected resource pool determines the file repositories and SQL Servers available in the drop-down menus. See the AdminGuide for configuration information.
- **Default File Repository** - specifies the path for the physical location of the files (including document natives and images) associated with the workspace.
- **Data Grid File Repository** - specifies the path for the physical location of the text files used by Data Grid. If no file repository is specified for this field, and Data Grid is enabled, Data Grid stores text in the default file repository.

  Note: If you run out of space in this repository, you can specify a new repository. Data Grid will continue to read from the old repository as well as the new repository.

- **Default Cache Location** - specifies the UNC path for the network drive where the natives, images, productions, and other file types used by the viewer are temporarily stored. For more information, see the cache location server type on the Servers on page 670 page.
- **Aspera Credential** - if the resource pool has associated Aspera credentials, the credential of the Aspera transfer user for the workspace.
- **Aspera Node Credential** - if the resource pool has associated Aspera Node credentials, the credential of the Aspera Node API user.

- **Azure Credential** - if the resource pool has associated Azure credentials, the credential of the Azure Blob storage account.
- **Azure File System Credential** - if the resource pool has associated Azure File System credentials, the credential of the Azure File System storage account.
- **Database Location** - the SQL Server where the workspace database is stored.
- **Enable Data Grid** - determines whether or not the workspace can have fields that save to Data Grid. This field appears on the Workspace Details page after you create your workspace.

  Understanding the benefits and limitations of Data Grid

  Enabling Data Grid lets you store long text document fields (e.g. extracted text) outside of the SQL document table. Data Grid leverages the Relativity file share to store long text document fields, which is the same location where native and image file data is stored.

  The benefits of enabling Data Grid include:

  - Limiting the impact on your SQL document tables, especially for larger cases that include a large amount of long text document field data.
  - Reducing your SQL footprint or being able to re-allocate resources to other workflows in your Relativity instance.
  - Having the option to store your long text document field data in a separate file share location than your natives and image file data.
  - Easy to setup and include in your workspace templates before loading data into the workspace.
  - A front-end application, the Data Grid Text Migration application, to move long text document fields in existing workspaces without downtime

  Note: In order to store text in Data Grid, you must both enable Data Grid in the workspace and on the long text field. Once you enable access to Data Grid, you can't disable it.

  ### Special considerations

  - Text or information stored in Relativity Data Grid is inaccessible for some third-party applications. It's recommended that you contact any vendors of third-party applications to confirm their compatibility with Data Grid.
  - Data Grid supports Windows servers only.

  ### Supported and unsupported functionality

  The following describes supported and unsupported functionality for long text fields stored in Data Grid.

  Once you enable a long text field's access to Data Grid, you can't disable it, so it's important to understand the benefits and limitations of storing text in Data Grid.

Supported extracted text functionality	Currently unsupported functionality
◦ Import/export through the Relativity Desktop Client ◦ Viewer ◦ Preview ◦ OCR ◦ dtSearch indexing and searching ◦ Persistent highlight sets ◦ Processing ◦ Integration Points ◦ Analytics ◦ ARM	◦ Keyword search ◦ SQL queries to long text fields stored in Data Grid ◦ Adding extracted long fields stored in Data Grid to layouts (including the Document panel) ◦ RSAPI query ◦ Pivot and Sort in the UI ◦ Filtering in the Document list on extracted text ◦ Mass operations: • Edit • Replace • Tally/Sum/Average • Export to File

Migrating long text to Data Grid

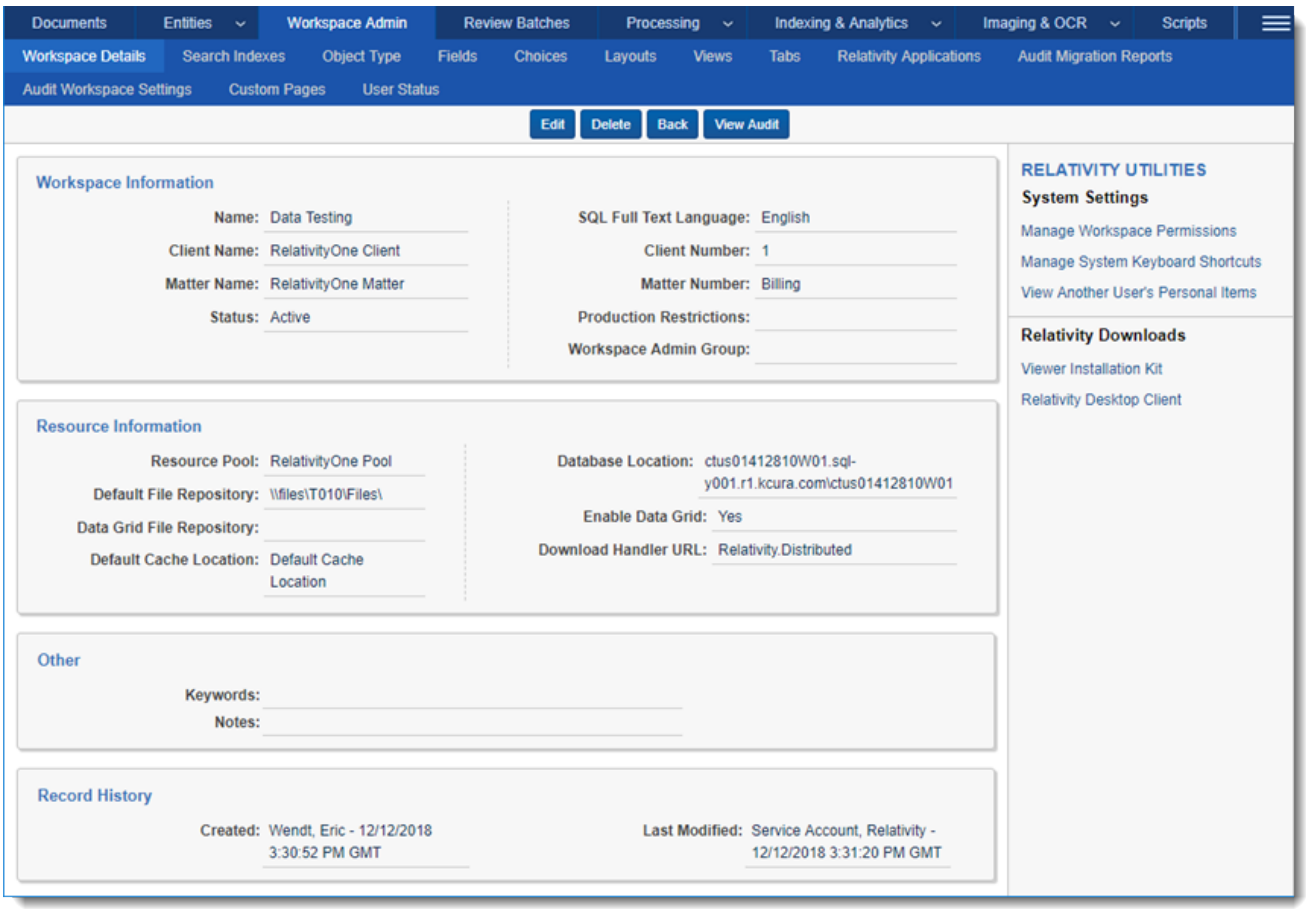
If you have existing long text fields stored in SQL, you can use the Data Grid Text Migration application to migrate those fields from SQL to Data Grid. For more information, see Data Grid Text Migration application.

Note: Once you enable a workspace for Data Grid, you're unable to revert it back to SQL through the Relativity front end. If you have to reverse Data Grid enabling, you must contact Relativity Support.

- **Download Handler URL** - lists the default URL referencing the code responsible for making downloaded files available to users. (This setting is independent of the selected resource pool.)

48.3 Viewing workspace details

On the Workspace Details page, Relativity displays read-only workspace settings, history information, Relativity Utilities console, Production Restrictions, and the Workspace Admin Group field. You can update the Production Restrictions field when you edit a workspace. See Adding and editing production restrictions on page 821.



Note: Once a workspace is created, only System Administrators and Client Domain Administrators can make updates to the Matter object. Even users with full permissions for Matters and Clients will not have the ability to modify this object unless they are System Administrators or Client Domain Administrators.

48.3.1 Deleting a workspace

From the Workspace Details page, you can delete the current workspace. Clicking **Delete** removes the workspace from Relativity. After you click **Delete**, a confirmation message appears with the Dependencies button. See the Relativity Documentation Site.

Note: You must have Delete permissions for the workspace object in order to delete a workspace.

When you delete a workspace, the following occurs in Relativity:

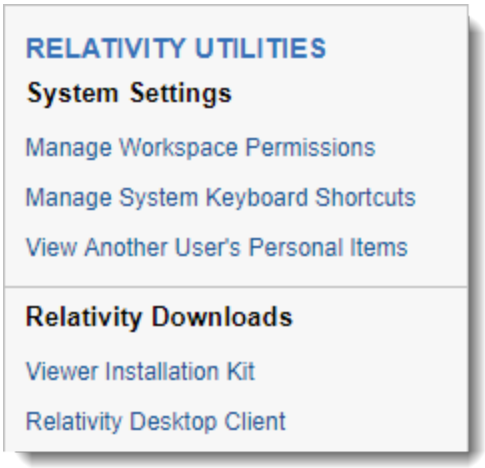
- Relativity removes the workspace from the Workspace lists and marks the workspace for deletion after hours.
- During off-hours, the Case Manager agent runs and deletes the following:
  - Any documents in the Relativity file repository, except those loaded in with pointers.
  - dtSearch indexes.
  - Analytics indexes and staging areas.

- The SQL database; however, Relativity does not delete database logs and backups.
- The data store with the artifact ID of the workspace. Specifically, the Case Manager agent sends a message to the worker manager server to delete the data stores.

48.4 Using the utilities console

Additional administrative features are available through the **Relativity Utilities** console on the Workspace Details page.

Additional administrative features are available through the **Relativity Utilities** console on the Workspace Details tab.



48.4.1 System Settings

The console includes the following buttons in the System Settings section:

- **Manage Workspace Permissions** - set permissions for the workspace.
- **Manage System Keyboard Shortcuts** - displays a pop-up for modifying the key combination used by system shortcuts. To use this button, you must have security permission for the Admin Operation called **Modify System Keyboard Shortcuts**. See Managing system keyboard shortcuts on the next page.
- **View Another User's Personal Items** - displays a pop-up for selecting workspace users where you can view a user's personal items. This button is only available to system admins. See Viewing the personal items of workspace users on page 821.
- **Migrate to Cold Storage** - displays a pop-up for migrating workspaces to Cold Storage. To use this button, you must be a system admin and have the security permission for the Admin Operation called **Manage Cold Storage**. See Migrating and retrieving workspaces to and from Cold Storage.

48.4.2 Relativity Downloads

In the Relativity Downloads section, click any link to download the corresponding component.

- **Viewer Installation Kit** - download a standalone utility containing executable files used to install the viewer software.
- **Relativity Desktop Client**—downloads an executable file called **Relativity.Desktop.Client.Setup.exe**, which is used to install the Relativity Desktop Client (RDC). You can use this executable file on both 32-bit and 64-bit operating systems.

48.4.3 Re-run event handlers

The console includes the following button for rerunning event handlers:

- **Re-run Event Handlers** - executes Post Workspace Create event handlers that failed to complete properly. The Workspace Details page displays this button and an error message at the top of the page only when Post Workspace Create event handlers have failed. If the Post Workspace Create event handlers continue to fail, contact Customer SupportCustomer Support.

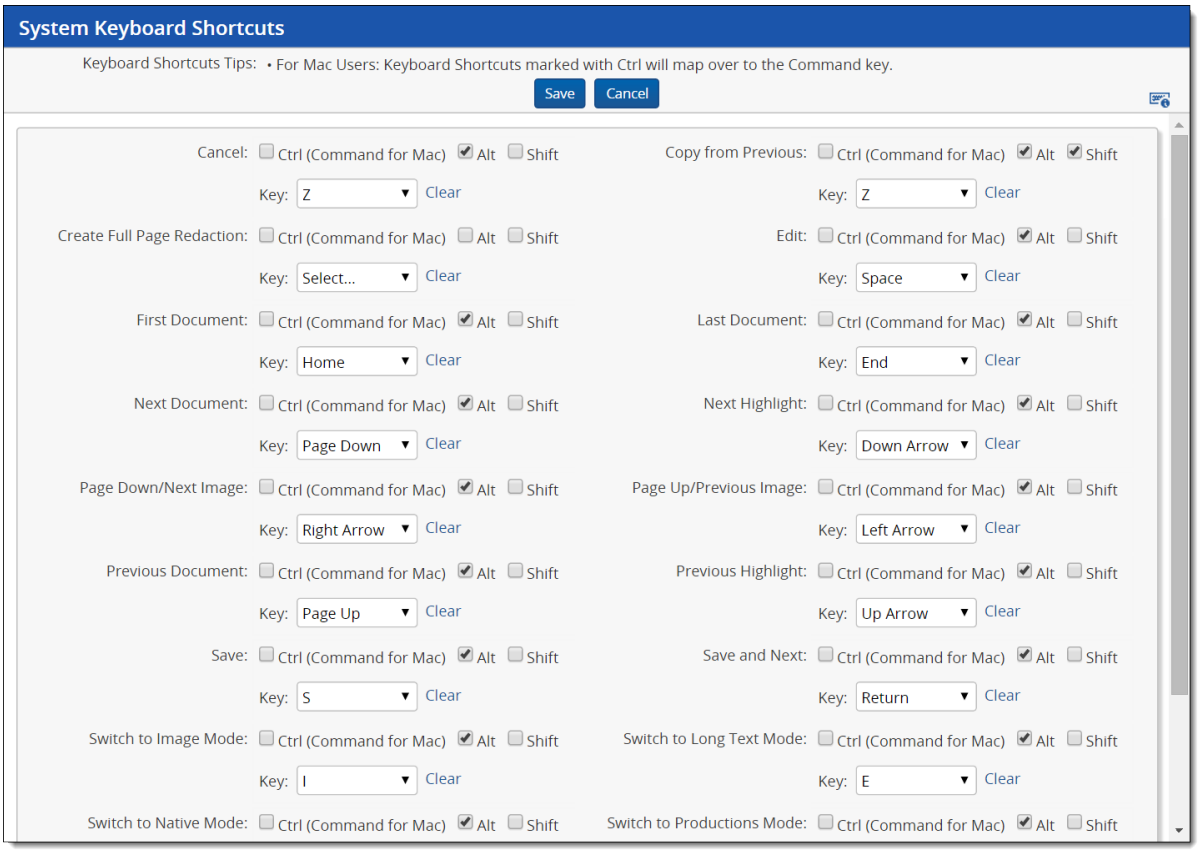
  Note: For additional information, see Post Workspace Create event handlers on the Relativity Server 2022 Developers site.

48.5 Managing system keyboard shortcuts

You can modify the system keyboard shortcuts for a workspace. These keyboard shortcuts are defined in Relativity for use in the Review Interface. You must have security permissions for the Admin Operation called **Modify System Keyboard Shortcuts**.

To manage system keyboard shortcuts, follow these steps:

1. Navigate to the **Workspace Details** tab.
2. Click **Manage System Keyboard Shortcuts** in the Relativity Utilities console.



Use the following instructions to modify a system keyboard shortcut key:

- Select or deselect one or more of the following checkboxes: **Ctrl**, **Alt**, or **Shift** for the Control, Alt, and Shift keys, respectively.

  Note: You must select either or both the **Ctrl** and **Alt** checkboxes. Relativity displays the error message <Invalid Keyboard Shortcut> when these checkboxes are not selected.

- In the **Key** drop-down menu, select a letter, number, or navigation key. The navigation keys include End, Home, Space, Return, Down Arrow, Up Arrow, Left Arrow, Right Arrow, Page Down, and Page Up.
- Click the **Keyboard Legend** icon to display a list of keyboard shortcuts currently in use by the System and browsers. See Keyboard shortcuts legend on page 317.
- Click **Clear** to reset the options for keyboard shortcuts.

After you have completed your updates, click **Save** to display the Workspace Details page.

Note: You can create user-defined shortcuts when you add a new field to Relativity. See Creating and editing fields on page 185, and Creating keyboard shortcuts on page 320.

48.6 Viewing the personal items of workspace users

Access to View User's Personal Items is granted to System Administrators by default. All other groups must have the proper permissions. To view personal items, follow these steps:

1. Navigate to the **Workspace Details** tab.
2. Click **View Another User's Personal Items** in the Relativity Utilities console.
3. Select one or more users whose personal items you want to view, and move them to the right box using the arrows.

   Note: To move multiple users between boxes, click the double arrows. You can also select and double-click on user names to move the between boxes.

4. Click **Save**.

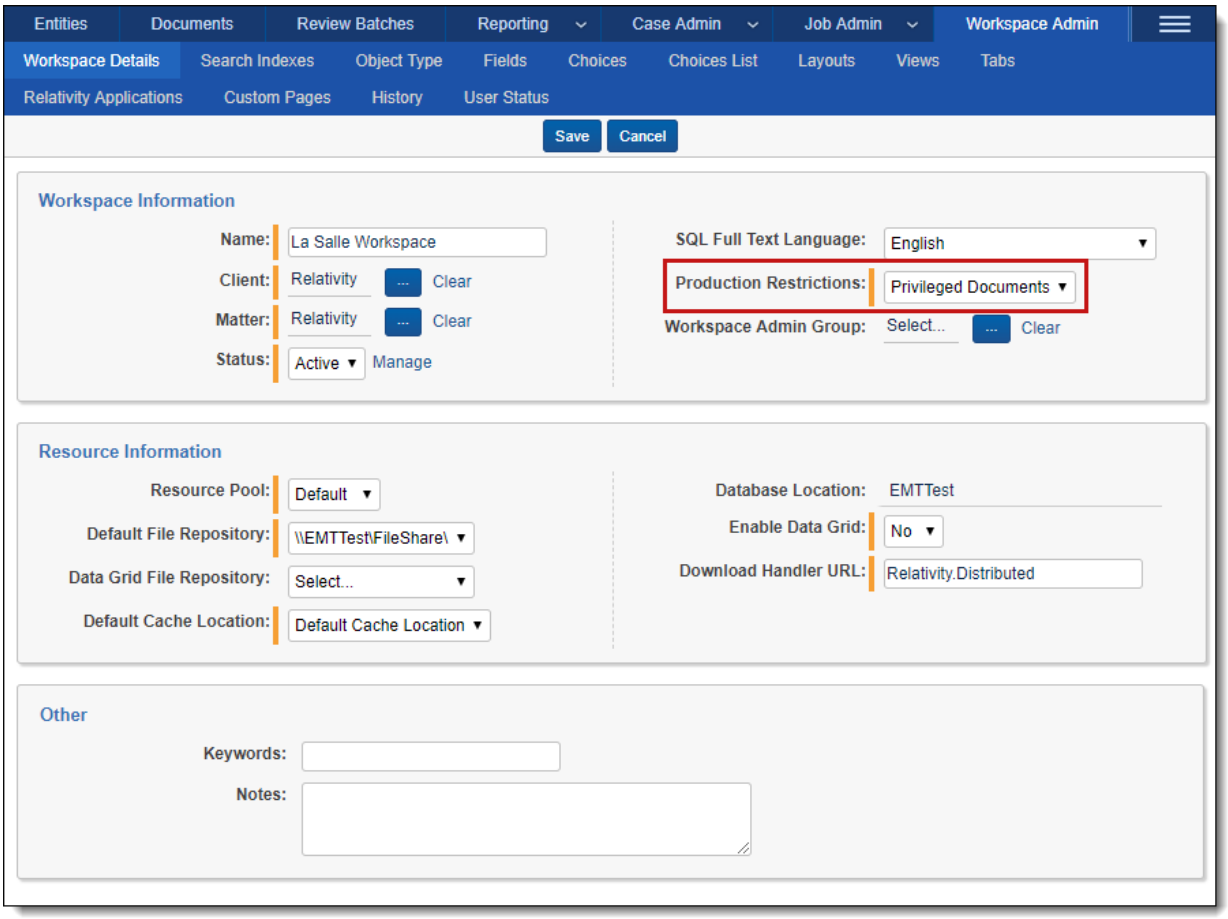
48.7 Adding and editing production restrictions

Using the Production Restrictions option, you can ensure that your production set doesn't include privileged or other confidential documents. You can select a saved search that returns documents that you want excluded from the production set. When you run a production, Relativity compares these documents against those in the production and alerts you to any conflicts.

Note: You must have permissions to the documents included in a production to remove production restrictions.

To add a production restriction:

1. Create a saved search with criteria that returns documents that you want excluded from the production set. Include family groups in your saved search so that all of the family items are kept together and can be removed if necessary.
2. Click to edit the workspace details page. You can only update the **Production Restrictions** option when editing a workspace. See Creating and editing a workspace on page 812.
3. Select your saved search in the **Production Restrictions** option. The default value is <no restriction>.



(click to expand)

4. Run your production set. If a conflict occurs, you can override the production restriction if you're a system admin with the Override Production Restrictions permission. See Workspace security on page 643.

48.7.1 Managing production restrictions in templates

If you use a workspace with production restrictions as a template, you'll see a warning message that requires you to select one of the following options:

- Select a New Production Restriction
- Continue With No Production Restriction

You cannot delete the saved search that the Production Restriction option uses. You must first edit the Production Restriction option so that it no longer references the search.

48.8 Workspace admin group

A system admin can assign any group in Relativity to have full admin rights over a particular workspace. A workspace admin has full control over all objects within the workspace, but members of the group do not have the script permissions available only to system admins.

Use the following steps to set a designate a workspace admin group:

1. Click **Edit** on the **Workspace Details** tab.
2. Click ... in the **Workspace Admin Group** field.
3. Click the radio button next to the group you want to set as the workspace admin group.
4. Click **Ok**.

Note: You can only designate one group per workspace as a workspace admin group.

48.9 Adding workspaces to a client domain

You can add or remove objects from client domains if you have the client domains feature activated.

Note: Once you add a workspace to a client domain, you can't remove it from the client domain.

Use the following steps to add a workspace to a client domain:

Navigate to the **Workspace Details** tab.

Click **Edit**.

Click ... next to the **Client Name** field in the **Workspace Information** section of the **Workspace Details** tab.

Select the client with client domains enabled from the list.

A warning message requires you to confirm your decision by clicking **Save**.

You must select a new **Matter**, **Resource Pool, Default File Repository**, and **Default Cache Location** for the workspace once you move it into a client domain.

Note: Migrating a workspace that contains published data to a resource pool associated with a different worker manager server results in the loss of all references to previously published data.

Click **Save**.

48.10 Workspace navigation

The workspace has several key areas that are important to understand as a Relativity user.

48.10.1 Browser panel

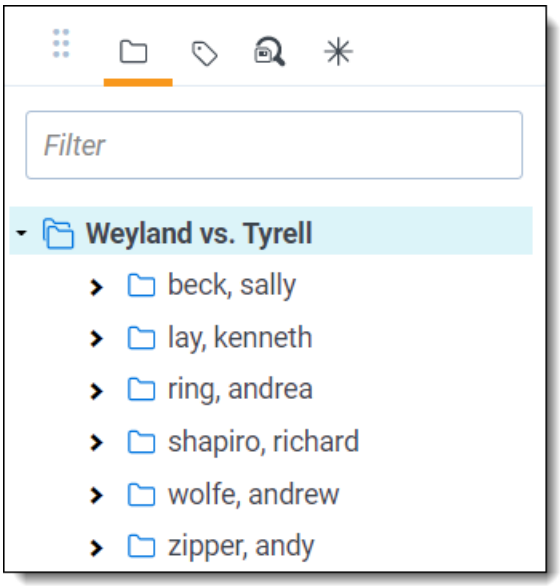
The browser is located on the left side of the workspace. Depending on your permissions, you may not see the browser. If you don't have a browser in your workspace, you can skip this section.

If you can see the browser, it may contain the following options for browsing through your documents:

- Folders
- Field Tree

- Saved Searches
- Clusters

No matter which of these options you use, there are several display options you can use to customize your workspace.



The browser opens by default. Hide or show the browser by using the arrow icon in the upper left of the browser. Clicking closes the browser. Reopen the browser by clicking . You can also resize the browser by hovering over the line separating the panel from the other panel or item list until the line is highlighted. You may then click and drag the line to the desired dimensions.

48.10.1.1 Browser options

The browser menu is located directly below the browser. Click on one of the menu's options to display that mode of the browser:

Icon	Name	Description
	Folder browser	Navigate the folder hierarchy for your workspace
	Field Tree browser	Browse your documents according to how they were coded or grouped
	Saved Searches browser	Create a new search, or browse previously saved searches.See Saved Search in the Searching Guide.
	Clusters browser	Browse your workspace clusters, which are groupings of conceptually correlated documents. See Clustering in the Analytics Guide. You must have Analytics to use the cluster browser and define clusters in your workspace. See the Analytics Guide.

Folder browser

Click on the folder icon to navigate the folder hierarchy for your workspace. The folder structure is set when documents are imported. It can be based on the document's source, or according to a folder structure set by

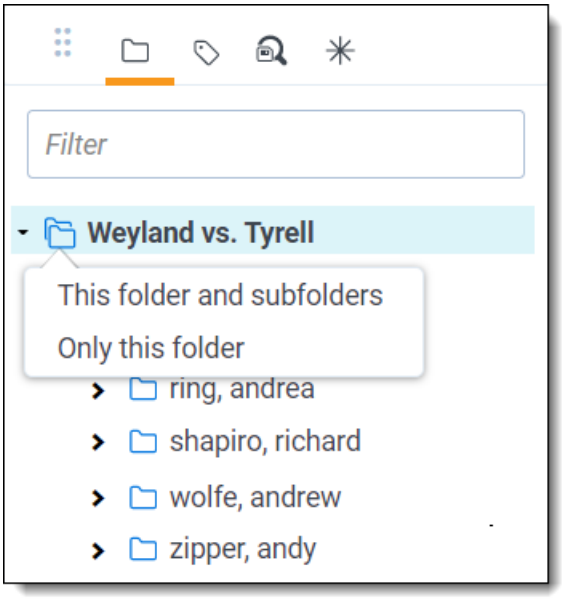
your Relativity administrator. Clicking on a folder displays that folder's documents in the item list.

Considerations

- Please be aware that folder names in Relativity workspaces are subject to a character limit. The maximum allowed length for folder names is 200 characters. While our system allows you to input names up to 255 characters, any name exceeding the 200-character limit will be automatically truncated. We recommend keeping folder names concise and under 200 characters to ensure they remain intact and fully visible in your workspace. If you anticipate the need for longer folder names, consider using abbreviations or adopting a naming convention to convey necessary information within the character limit.
- To ensure stable performance, we recommend creating no more than 250,000 folders in a workspace and having 15 sub-folders or less within each folder.

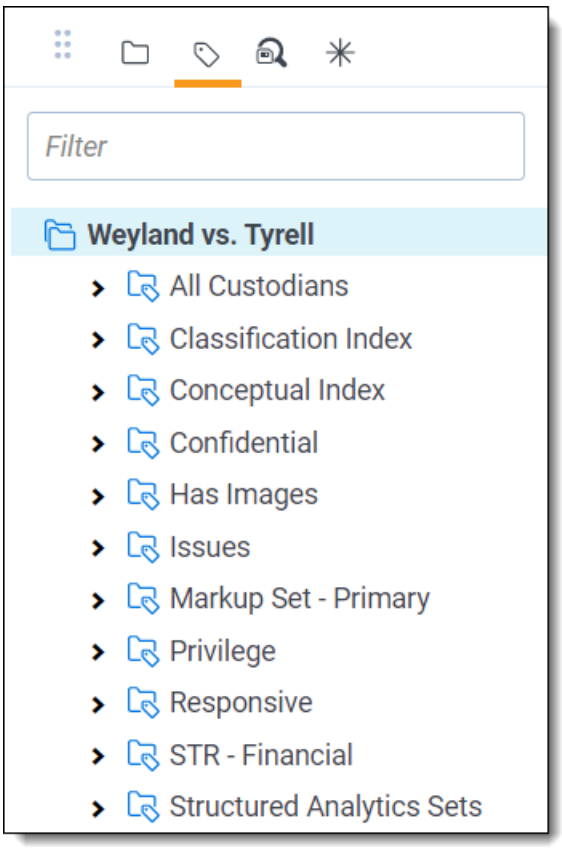
A folder often has multiple subfolders. You can view the subfolders with the expand button to the left of the desired folder. Once the subfolders expand, you can use the collapse button to collapse them back into their root folder.

To change the folder scope (Only this folder or This folder and subfolders), click the arrow icon to the left of the Folder browser, and then select either **This folder and subfolders** or **Only this folder** from the drop-down list.



Field tree browser

Clicking on the field tree icon displays the field tree in the browser. Selected single- and multiple-choice list fields and their choices appear in a tree structure.

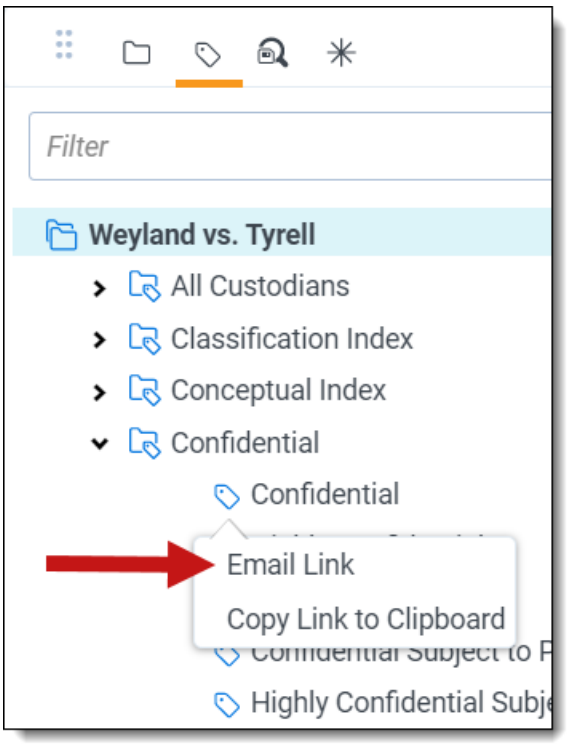


Each single and multiple-choice field has its own choice folder in the field tree. The field's choices appear as subfolders. Each field also has a [Not Set] choice, which displays null values for the field.

You can click on a choice in the field tree to display all the documents in the item list manager that have the selected choice value AND meet the criteria of the active view. In the item list, click this icon to send a link to the documents currently displayed in it.

Sending email links to choices

You can send an email message with a link to a choice, a choice folder, or the item list that appears when the field tree browser is open. In the field tree browser, right-click on a choice (or a choice folder) to display the **E-mail Link** option. Click this option on a choice to open an email message containing a link to it.



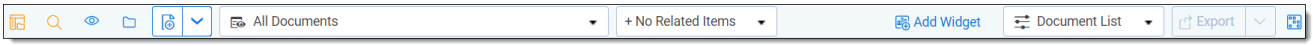
The subject line of the email message pre-populates with the following text: "Review - <Workspace Name> - <Choice Name: Value>." When the recipient clicks on the link, the documents associated with the choice appear in the item list manager. Relativity displays a permissions denied message if the recipient clicks the link but doesn't have access rights on the field associated with the choice.

Note: If you send an email link to a choice folder, the subject line displays the folder name instead of the choice name and the value. The item list manager displays all documents associated with the choices in the folder. Recipients must have access rights to fields associated with the choice folder.

48.10.2 View bar

The view bar consists of the following elements:

(Click to expand)



- **Show/Hide Browser Panel** - Click to show or hide the browser panel.
- **Show/Hide Search Panel** - Click to show or hide the search panel.
- **Show/Hide Document Preview Panel** - If the **EnableDocumentPreview** instance setting is set to True, click to display a panel which allows you to view documents before launching the Viewer. For more information, see Document Preview Panel.
- **Show current path** - view the current folder browser location for the displayed document list.

- **Views drop-down menu** - select a view.
  - **Edit view icon** - edit a view that displays within the view drop-down menu. This will only be present if you have permission to edit the view. If it's not present, contact your Relativity administrator to edit the current view.
  - **New view icon** New View - create a new view from within the view drop-down menu. This will only be present if you have permission to add a new view. If it is not present, contact your Relativity administrator to add a view.
- **Include Related Items drop-down menu** - returns documents related to the documents currently in the view. The options vary by workspace, but may include email family groups, duplicates, or similar documents. Learn more about related items in the Related items card on page 779 section of this document.
- **Add Widget** - add a custom widget to your document list dashboard (e.g., pivot chart, list, grid, or cluster visualization).
- **Dashboard drop-down** - select a custom dashboard to view in your document list. See Dashboards in the Navigation section of the Admin Guide for more information.
- **Export drop-down button** - you can select export your dashboard widgets to an editable Excel document. See Dashboards in the Admin Guide for more information.
- **Sampling button** - If you have proper permissions, clicking the Sampling button lets you create random sample sets from the document list using three different methodologies from the pop-up menu that appears.

For more information, see the Views chapter of the Admin guide.

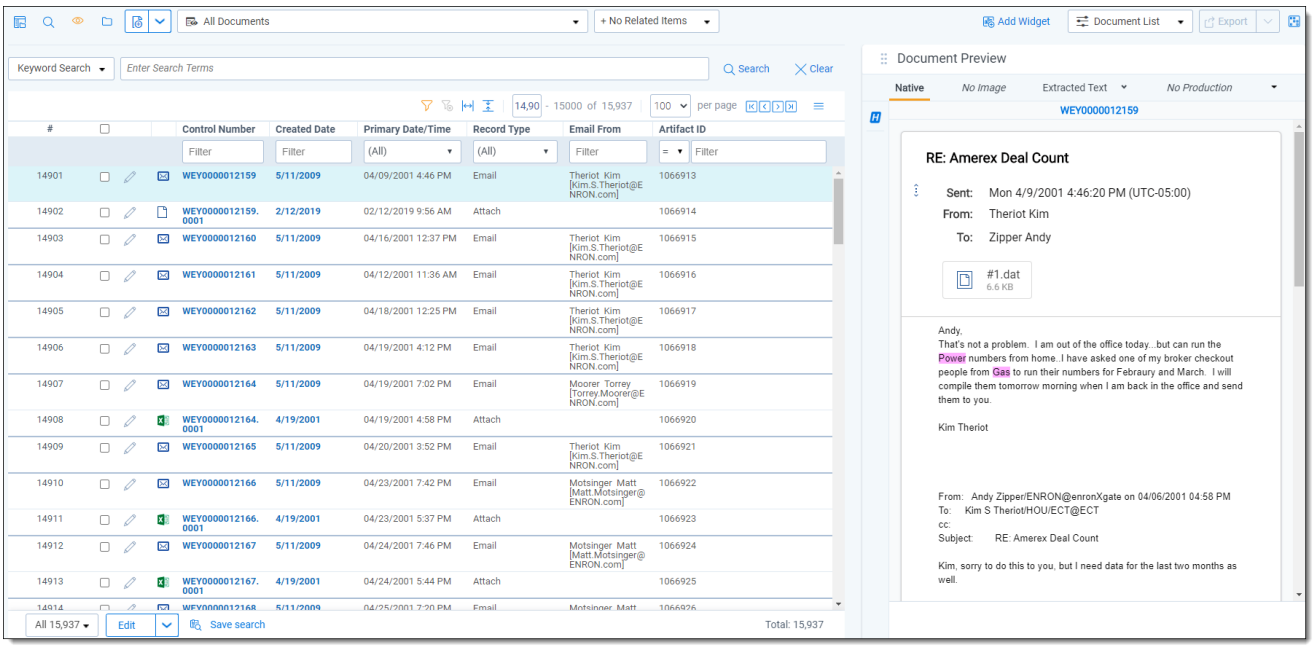
Note: The drop-down menu that determined the folder scope has been removed from the view bar and repositioned in the folder browser. To use this new control, see Changing folder scope.

48.10.3 Document preview panel

The Document preview panel allows you to view documents in the document list before launching the Viewer. It also allows you to filter the list and quickly view documents in the results which makes the process of finding documents more efficient. You can view the native, images, production images, and text of documents in the Document preview panel, as well as view and navigate through highlight hits for any previously created persistent highlight sets. Unlike the Viewer, you cannot search or create ad hoc search terms in the Document preview panel however. Additionally, searching for terms in the document list will not create highlights in a document you are viewing in the Document preview panel.

To access the Document preview panel, the **EnableDocumentPreview** instance setting should be set to True. The Show Document Preview Panel icon will then display in the View bar. Additionally, users will need to have the **Document Preview** permission in Other Settings provided to a group they are in.

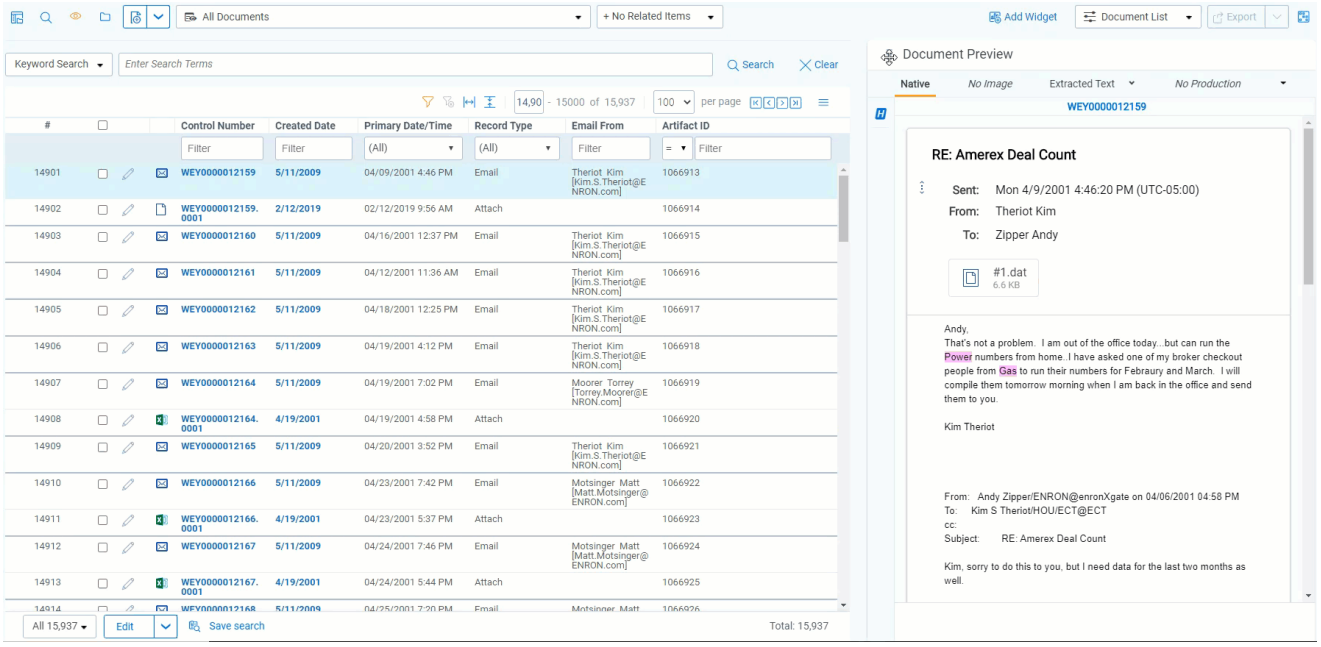
Note: The Document preview panel does not support viewing hidden content, creating or modifying markups, or editing coding decisions. Please open the document in the Viewer to perform these tasks.



48.10.3.1 Navigating the Document Preview Panel

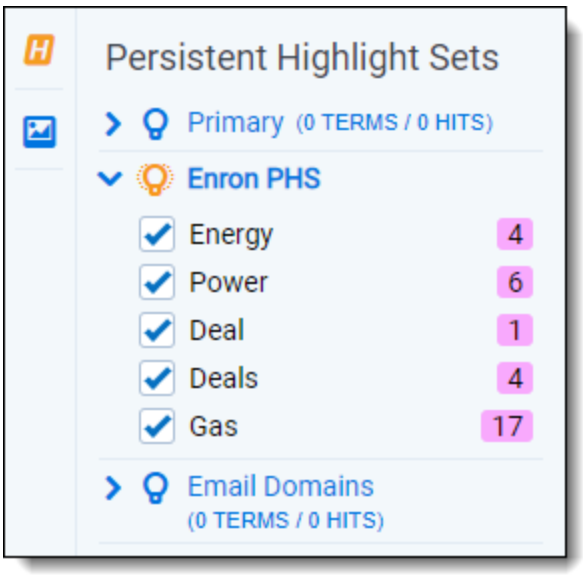
The Document preview panel can be re-sized at any time by clicking and on the edge of the panel and dragging your cursor to the desired sizing.

The Document preview panel can be moved from the right or left side of the document list to the other side as well. To move the preview panel, click in the upper-left corner and drag the window to the blue strip on the other side of the screen.

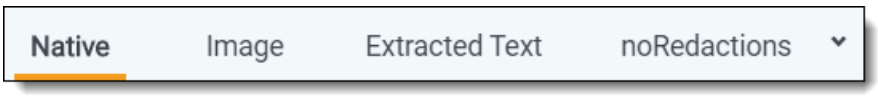


The following options are available in the Document preview panel:

- **Show/Hide Persistent Highlight Pane** - displays or hides a panel containing any persistent highlight sets in the workspace. See Persistent highlight sets on page 476 for more information. Only terms in the sets that are in the current document will display in the pane.
  Additionally, you can control which highlights display in the current document by clicking on either the persistent set to only display highlights from that set or you can click on a specific term to only see that term highlighted in the document.



- **Document Preview Panel Mode** - click the name of the mode in which you would like to view the document. Mode names that are displayed in light blue indicate that the document is available for viewing in that mode. If a name appears in a black font and italics, that mode is not available for viewing in the current document.



  The mode that is currently open will display in a darker blue with an underline underneath the name.

- **Markup set**

- displays the active markup set in a drop-down menu. Choose a markup set from the drop-down menu to make a different set active. This menu only appears when viewing a document in Image mode of the Document preview panel.

- **Page navigator**

- use any of the following options to help you navigate the pages in the document you are previewing:

Option	Description
	Click to move to the first page in the document.
	Click to move to the previous page in the document.

Option	Description
	Click to move to the next page in the document.
	Click to move the last page in the document.

48.10.4 Item list

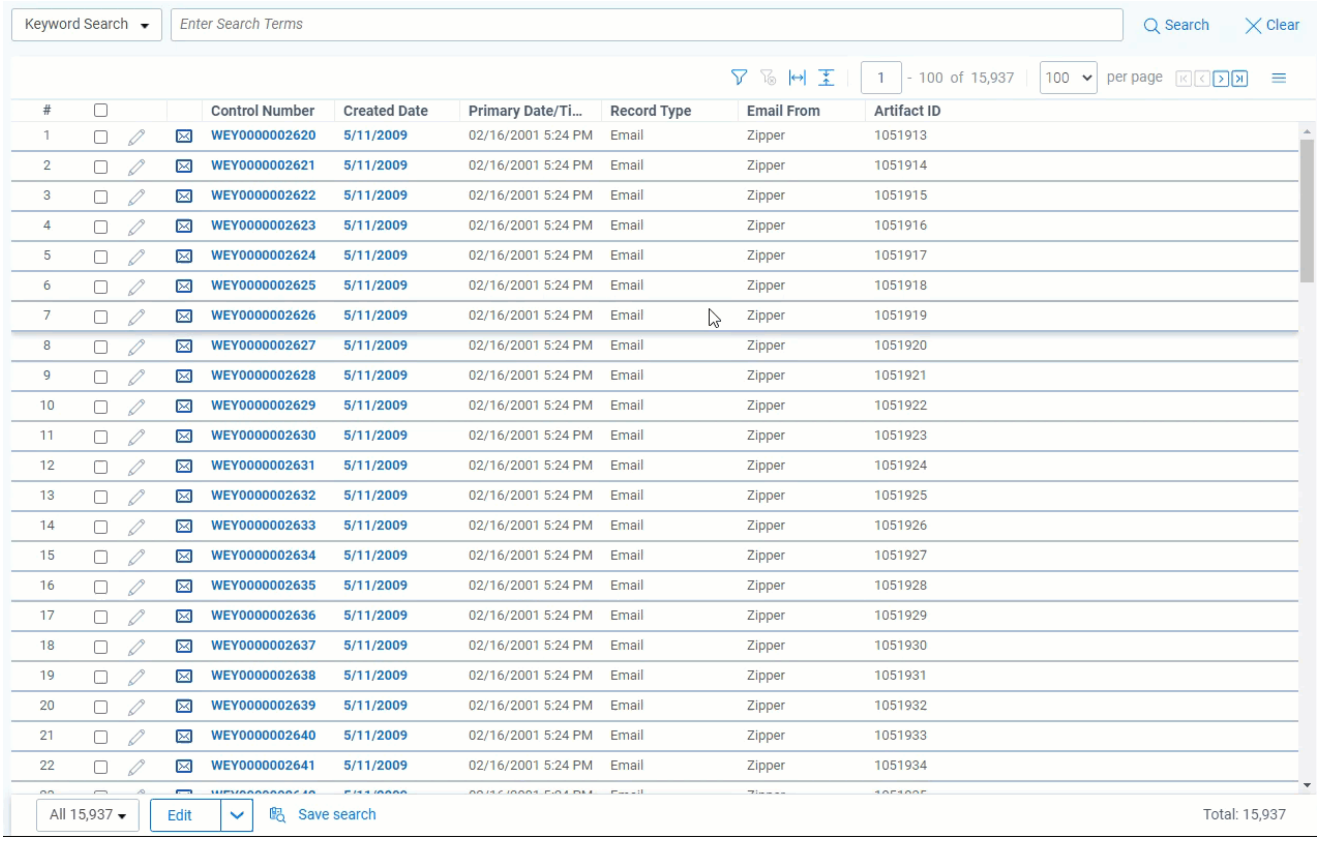
The item list manager consists of the item list as well as navigational and other controls for working with the list of items.

Icon	Description
Show / Hide Filters	Click the blue icon to show filters for columns in the item list. Click the orange icon to hide them.
Clear Filters	Click this icon to clear any filters that have been applied to the item list.
Reset column sizes	To return to the original settings for the columns, click the Reset Column Sizes icon.
Turn Grid Style On / Off	Click the blue icon to turn grid style on. This shrinks the row padding and alternates row shading to make your data more compact and easier to read. Click the orange icon to turn grid style off.
1 - 10	Use these navigational controls to navigate the pages in the item list.

The fields that appear in the item list are based on the selected view, which is editable. A view can also be edited to re-arrange the order that the columns display. Contact your Relativity administrator to change the fields in your view.

To change a column's size, hover over the white line at the edge of the column header. A double arrow appears, indicating that you can move the column. Drag it in either direction to adjust the column width. The other columns on the page automatically adjust to fill the rest of the window. Column data can be cut off. If you wish to return to the original settings click the Reset Column Sizes icon .

(Click to expand)



#	Control Number	Created Date	Primary Date/Ti...	Record Type	Email From	Artifact ID
1	WEY0000002620	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051913
2	WEY0000002621	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051914
3	WEY0000002622	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051915
4	WEY0000002623	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051916
5	WEY0000002624	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051917
6	WEY0000002625	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051918
7	WEY0000002626	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051919
8	WEY0000002627	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051920
9	WEY0000002628	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051921
10	WEY0000002629	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051922
11	WEY0000002630	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051923
12	WEY0000002631	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051924
13	WEY0000002632	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051925
14	WEY0000002633	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051926
15	WEY0000002634	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051927
16	WEY0000002635	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051928
17	WEY0000002636	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051929
18	WEY0000002637	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051930
19	WEY0000002638	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051931
20	WEY0000002639	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051932
21	WEY0000002640	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051933
22	WEY0000002641	5/11/2009	02/16/2001 5:24 PM	Email	Zipper	1051934

48.10.4.1 Saving a search from the Documents tab

You can save the conditions you've currently set up for the item list as a new search using the Save search icon located next to the mass operations bar at the bottom of the item list.

48.10.4.2 Previewing a document

Note that if you hover your mouse pointer over a record's file icon, you can click to open a pop-up viewer showing the record.

Note: If your item list doesn't contain the file icon, contact your Relativity administrator to add it.

48.10.4.3 Sorting

You can use any field in the view to sort the entire searching set – the number of documents indicated in the bottom right.

Click any field heading once to sort the documents in that field in ascending order, alphabetically. A down arrow appears next to the heading name, as in the Responsive field below. Click a second time to sort the documents in descending order, alphabetically. An up arrow appears. Clicking the field name a third time clears the sort and returns the field to its original order.

If you're not able to sort a particular field, contact your administrator to make sure the field has the Sort option set to Yes.

48.10.5 Document set information bar

If you are using the new UI, the document set information bar no longer displays the bottom of your screen. In the new user interface, you can now browse your entire returned document set using the item list or the Review Interface without having to incrementally add more documents. The maximum number of documents you can load in the Review Interface can be changed using the FluidReviewQueueSize instance setting.

49 Resources

In addition to this guide, we provide a host of resources to help you use Relativity and its applications.

49.1 Tutorials

Relativity provides video tutorials to teach you the basics of Relativity and its features. You can find the tutorials at https://help.relativity.com/topic.html?t=H6HK2.

49.2 Relativity Community

The Relativity Community is a collection of ideas, discussions, documentation, reports, articles and support tickets that Relativity clients can use to improve their knowledge of the application. Log in to the Relativity Community to search through the numerous resources available to you. Access the Relativity Community at http://rcp.relativity.com/home/home.jsp.

49.3 Extensibility tools

Relativity offers the following API extensions, which you learn more about on Relativity's Server 2022 Developers site Developers siteDevelopers site Developers site Developers site.

- **Import API** - developers can write a custom utility to import processed data into a case without the Desktop Client or a load file. Developers use this utility to import documents and metadata with a relational data source, which lets them expedite the document import process and potentially avoid those errors that occur when creating and facilitating a load file.
- **Services API** - enables developers to write custom code that directly manipulates Relativity objects. The Services API is a set of web services that developers can use to programmatically create, read, update, delete, and query some of the most commonly-used Relativity object/artifact types in the Relativity environment.

49.4 Relativity Support team

If you need technical assistance or help troubleshooting an issue you are having, please contact our Support team through our Support page.

49.5 Relativity User Experience Research

We want to learn more about your experience with our software and how you think it can be even better. Join Relativity's UX research participant pool to participate in research studies.

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