Relativity one

Processing User Guide

November 15, 2024

For the most recent version of this document, visit our **documentation website**.

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1 Processing

Use 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.

Note: Your environment has been enabled to dynamically scale your Invariant worker servers dependent on load. Sustained activity is automatically detected by the system, and Relativity will add workers to handle this work. Once the work is done, they will automatically scale back down. This feature is continually being improved to be smarter about when we add workers and how many we add.

Some of the primary goals of processing are to:

- Discern, at an item level, exactly what data is found in a certain source.
- Record all item-level metadata as it existed prior to processing.
- Enable defensible reduction of data by selecting only items that are appropriate to move forward to review.

Note: There are no specific security requirements, but if a user needs to be restricted from running processing, then permissions need to be revoked to all processing objects.

For a list of changes made to processing per monthly product update, see the Relativity RelativityOne Release Notes.

Using processing

You are a litigation support specialist, and the lead attorney hands you a CD containing data on a key custodian. There are about 200,000 files on the disc, and he is only looking for files from an 18-month period.

You use Relativity's processing feature to bring in that custodian's data to Relativity and then to filter it based on what the lead attorney is looking for in this case. To do this, you first save the files into a folder and create a new custodian, Joe Smith.

Then you create a new processing set, to which you add a data source that has only Joe Smith associated with it. This data source includes a source path that is the folder in which you saved the custodian's files.

Once you save the processing set, you can inventory that custodian's data and eliminate all the files that fall outside of the 18-month period you are dealing with. Once you narrow down the data set to the most relevant files, you can discover them and give the lead attorney a reviewable set of documents.

1.1 Basic processing workflow

The following steps depict a typical processing workflow that uses all available processing objects and phases. Note that each user's workflow may vary. You may not be required to follow all of these steps for every processing job you run.

1. Create a Processing Set
    - Entities can be created on the fly, in advance, or automatically through imports or connections to HR systems.
    - Processing Profiles carry over from template workspaces.
    - If necessary, create new Password Bank Entries with passwords for any password-protected files to be processed.
2. (Optional) Inventory files
    - Inventoried files can be filtered down based on several metadata attributes prior to publish.
    - Reports can be run to understand and communicate the files culled from publish.
3. Discover files and Publish
    - Post publish – view, ignore, or retry any errors that occurred during any phase of the processing job. If needed, republish the files.

2 Processing to Data Grid

By processing directly into Data Grid™, you have the opportunity to improve your publishing speeds.

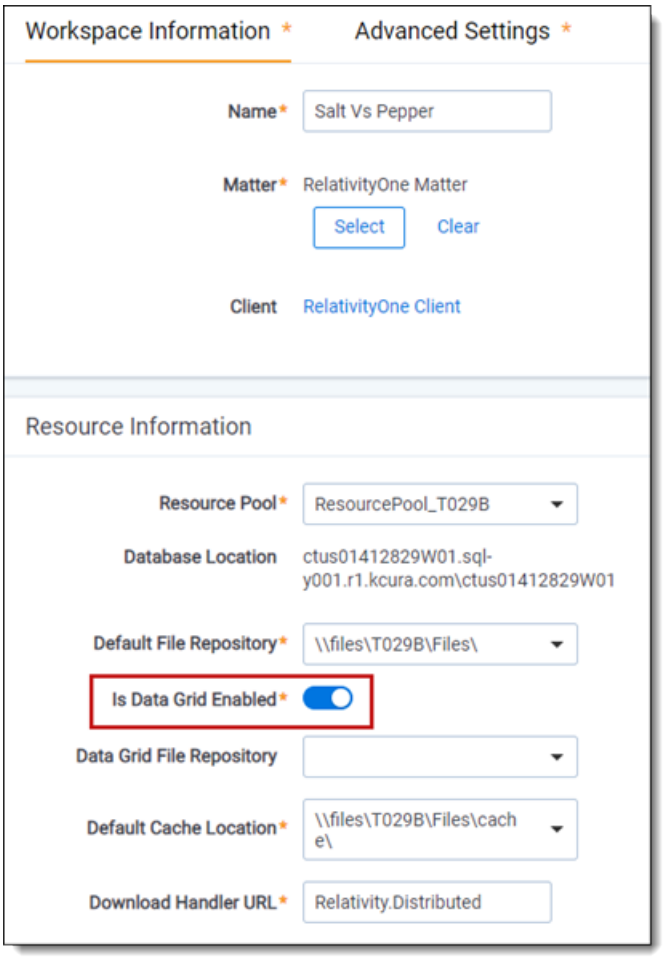
2.1 Enabling processing to Data Grid

After you install Data Grid, the only requirement for setting up your workspace to process to Data Grid is enabling both the workspace and the extracted text field in your environment.

To enable your workspace for Data Grid, perform the following steps:

Note: We recommend you only enable Data Grid for fields storing extracted text, OCR text, or translated text.

1. Navigate to the **Workspace Details** tab, and then click **Edit**.
2. Enable the **Is Data Grid Enabled** field.



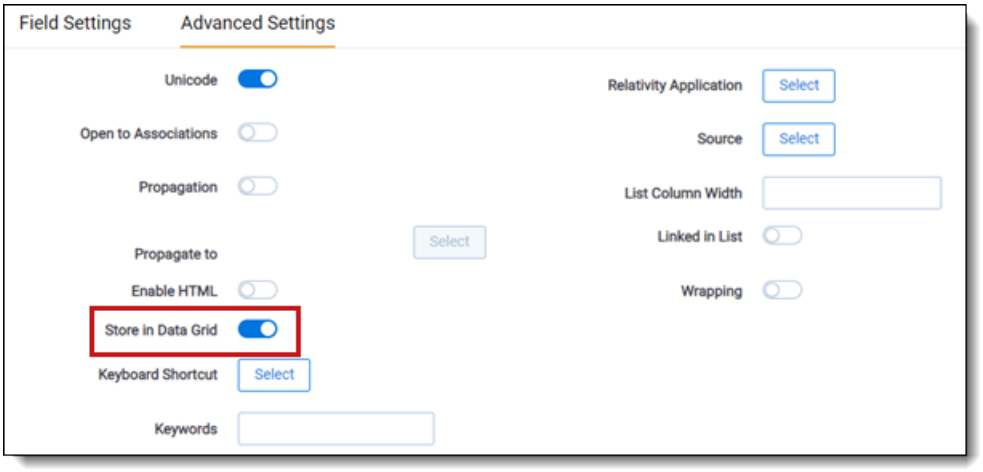
3. (Optional) Next to **Data Grid File Repository**, select the path for the physical location of the text files used by Data Grid. If no file repository is specified for this field, and Data Grid is enabled, Data Grid stores text in the default file repository.

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.

4. Click **Save**.

To enable the extracted text field for Data Grid, perform the following steps:

1. Navigate to the **Fields** tab.
2. Locate the extracted text field and click the **Edit** link next to it.
3. Enable the **Store in Data Grid** field under the Advanced Settings tab.



Note: If you are storing extracted text in Data Grid, the **Include in Text Index** field is set to No because there is no SQL text index. If you want to search using dtSearch, you must follow best practice of creating a saved search of fields you want to index.

4. Click **Save**.

Note: Enabling extracted text fields for Data Grid works for new workspaces only. You can't enable Data Grid for fields that already have text in SQL. If you want to migrate fields from SQL to Data Grid, you must use the Data Grid Text Migration application.

Now that you've enabled processing to Data Grid, you can proceed to running a processing set the way you normally would.

Note: The processing engine and Data Grid no longer communicate directly with each other when you process data to Data Grid. Because of this, the Write-to-Grid phase of processing has been deprecated. Instead of writing directly to the grid, the processing engine sends data to the Import API. The Import API receives the data and looks to see whether the workspace is enabled for Data Grid. If the workspace is not Data Grid-enabled, then the Import API sends all of the data to SQL. If the workspace is Data Grid-enabled, then the Import API looks at each field to see which fields are Data Grid-enabled. If the field is Data Grid-enabled, then the Import API sends that data to Data Grid. If the field is not Data Grid-enabled, then it sends that data to SQL.

3 Supported file types for processing

Relativity supports many file types for processing. There are also some file types that are incompatible with the processing engine. Before processing your data, note the supported and unsupported file types, as well as any caveats involved with processing those file types.

Note: Data pulled from supported versus unsupported file types: Relativity only pulls limited metadata from unsupported file types. Data pulled from supported file types includes metadata, text, and embedded items.

This page covers supported and unsupported file types. You can find additional supported file type details and considerations on the following pages:

- Google Workspace
- Microsoft
- Short message conversion for Slack
- Short message conversion for Microsoft Teams
- Other software support

3.1 Supported file types

Relativity supports the following file types and extensions for processing.

Note: Renaming a file extension has little effect on how Relativity identifies the file type. When processing a file type, Relativity looks at the actual file properties, such as digital signature, regardless of the named extension. Relativity only uses the named extension as a tie-breaker if the actual file properties indicate multiple extensions.

Note: Relativity may not support files created by unofficial third-party applications, such as a .pdf file created by an unknown third-party application.

File type	Extensions
Adobe files	.pdf, .fm, .ps, .eps ■ Processing support for .xfa pdf, .pdf web forms, includes extraction of text, metadata, and imaging. Some workflows may require specific work-arounds: ◦ Native redactions are not currently supported. Workaround: Image the file first, then apply redactions. ◦ The download PDF action, using the Natives file type, is not currently supported. Workaround: After selecting the PDF mass action, use either the Original Images or Produced Images file type or export the files as .pdfs using Import/Export. ■ Relativity performs Optical Character Recognition (OCR) on .pdf files during processing. Relativity handles a .pdf portfolio, which is an integ-

File type	Extensions
	rated .pdf unit containing multiple files, by extracting the metadata and associating it with the files contained in the portfolio.
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 ■ The OCR output for processed CAD files can vary significantly.
Compressed files	.7z, .zip, .tar, .gz, .bz2, .rar, .z, .cab, .alzip For information on compressed files, see the Supported container types table.
Database files	.dbf ■ Relativity only supports .dbf 3 and .dbf 4 files. ■ Relativity does not support the following database formats: ◦ VisualFoxPro ◦ VisualFoxPro autoincrement enabled ■ Relativity uses Microsoft Excel to extract text from .dbf file types. For details on .dbf file type handling, see Excel files.
Email	.pst, .ost, .nsf, .msg, .p7m, .p7s, .ics, .vcf, .mbox, .eml, .emlx, .tnef, . dbx, Bloomberg Mail .xml ■ Original electronic email data (.eml file types) are parsed and stored inside a personal storage table (.pst files.) If the email contains embedded electronic email data, the email data is also parsed and stored in the personal storage table. The processing engine reads tables, properties, and rows to construct an .msg (Outlook message item) file from a .pst file. The .msg file format supports all rich metadata inside an email in a personal storage table. The original electronic email data is not preserved. ■ S/MIME-encrypted and digitally-signed emails are supported. ■ Even though the .emlx file type is supported, the following partial .emlx file extensions are not supported: ◦ .emlxpart ◦ .partial.emlx **Note:** There is a known file size limit of 200MB for Outlook file attachments. Relativity cannot process Outlook attachments that exceed the file size limit.
EnCase	e01, .ex01, .l01, .lx01 ■ Processing supports .e01 and .ex01 files for the following operating and file systems: ◦ Windows—NTFS, FAT, ExFAT

File type	Extensions
	◦ Mac—HFS+ ◦ Linux (Ubuntu)—EXT2, EXT3, EXT4 ■ Deleted files that exist on an .e01 and .ex01 (disk) image file are skipped during processing, with the exception of recycle bin items, which are processed with limited metadata. ■ Encrypted EnCase files are not supported. You must decrypt EnCase files prior to processing them. For details on .e01 file type handling, see Multi-part forensic files.
Excel	.xlsx, .xlsm, .xlsb, .xlam, .xltx, .xltm, .xls, .xlt, .xla, .xlm, .xlw, .uxdc Excel version 2.0 through the current product version is supported. See Excel files. **Note:** If you save a Powerpoint or Excel document in pre-2007 format, .PPT or .XLS files for example. and the document is read-only, we use the default known password to decrypt the document, regardless of whether or not the password exists in the Password Bank.
Google Workspace	For details, see Supported file types - Google Workspace.
Hangul	.hwp Hangul word processing files 1997 up to 2010 are supported.
HTML	.html, .mht, .htm, .mhtml, .xhtm, .xhtml Relativity extracts metadata and attachments from multipurpose internet mail (MIME) file formats such as .mht and .eml during processing.
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, .webp, .wdp
JungUm Global	.gul
OneNote	.one ■ During ingestion, Relativity extracts embedded items from OneNote files. ■ All child objects are extracted as separate documents. ■ Text extraction takes place during discovery (and not OCR.) ■ The Password Bank supports OneNote files. ■ RelativityOne supports OneNote 2003+ and 2007+.
OpenOffice	.odc, .ods, .odt, .odp, .xps
PowerPoint	.pptx, .pptm, .ppsx, .ppsm, .potx, .potm, .ppt, .pps, .pot ■ PowerPoint 97 through the current product version is supported, including the dual-format 95/97 version.

File type	Extensions
	■ Modern Comments are supported with Relativity Text Extraction. **Note:** If you save a Powerpoint or Excel document in pre-2007 format, .PPT or .XLS files for example. and the document is read-only, we use the default known password to decrypt the document, regardless of whether or not the password exists in the Password Bank.
Publisher	.pub
Project	.mpp, .mpt, .mpd, .mpx **Note:** The text extracted from Project files is from the Gantt chart view and includes Task Notes.
Short message	.rsmf ■ For details about short message use, metadata, and mapping, see Relativity's short message format.
Slack workspace export	Exported .json files contained in a .zip container For more information, see Short message conversion for Slack.
Text files	Such as .txt or .csv. **Note:** Processing supports any text file whose bytes are ASCII or Unicode text. Files are assumed to be in UTF8 if a Unicode BOM is not found. Files not in a Unicode format with characters outside the ASCII range may experience issues with text extraction.
Vector files	.svg, .svgz, .wmf, .plt, .emf, .snp, .hpgl, .hpg, .plo, .prn, .emz, .wmz
Visio	.vsd, .vdx, .vss, .vsx, .vst, .vsw, .vsdx, .vsdm Visio is a separate installation per the Worker Manager server page.
Word	.docx, .docm, .dotx, .dotm, .doc, .dot, .rtf Word 2.0 through the current product version is supported, including templates.
WordPerfect	.wpd, .wps

Note: Relativity currently does not support the extraction of embedded images or objects from Visio, Project, or OpenOffice files. In addition, Relativity never extracts any embedded objects or images that were added to any files as links. For a detailed list of the Office file extensions from which Relativity does and does not extract embedded objects and images, see Microsoft Office child extraction support.

Note: If you use the Native text extraction method on the profile, Processing does not handle pre-2008 Microsoft Office files that have the Protected view enabled. You must use the Relativity text extraction method to process these files.

3.2 Notable unsupported file types

Processing does not support files created with the following programs and versions:

Product category	Product name and version
DOS Word Processors	■ DEC WPS Plus (.dx) Through 4.0 ■ DEC WPS Plus (.wpl) Through 4.1 ■ DisplayWrite 2 and 3 (.txt) All versions ■ DisplayWrite 4 and 5 Through Release 2.0 ■ Enable 3.0, 4.0, and 4.5 ■ First Choice Through 3.0 ■ Framework 3.0 ■ IBM Writing Assistant 1.01 ■ Lotus Manuscript Version 2.0 ■ MASS11 Versions through 8.0 ■ MultiMate Versions through 4.0 ■ Navy DIF All versions ■ Nota Bene Version 3.0 ■ Office Writer Versions 4.0 through 6.0 ■ PC-File Letter Versions through 5.0 ■ PC-File+ Letter Versions through 3.0 ■ PFS:Write Versions A, B, and C ■ Professional Write Versions through 2.1 ■ Q&A Version 2.0 ■ Samna Word IV+ Versions through Samna Word ■ SmartWare II Version 1.02 ■ Sprint Versions through 1.0 ■ Total Word Version 1.2 ■ Volkswriter 3 and 4 Versions through 1.0 ■ Wang PC (.iwp) Versions through 2.6 ■ WordMARC Plus Versions through Composer ■ WordStar Versions through 7.0 ■ WordStar 2000 Versions through 3.0

Product category	Product name and version
	■ XyWrite Versions through III Plus
Windows Word Processors	■ Adobe FrameMaker (.mif) Version 6.0 ■ JustSystems Ichitaro Versions 5.0, 6.0, 8.0, 13.0, 2004 ■ JustWrite Versions through 3.0 ■ Legacy Versions through 1.1 ■ Lotus AMI/AMI Professional Versions through 3.1 ■ Lotus Word Pro Millenium Versions 96 through Edition 9.6, text only ■ Novell Perfect Works Version 2.0 ■ Professional Write Plus Version 1.0 ■ Q&A Write Version 3.0 ■ WordStar Version 1.0
Mac Word Processors	MacWrite II Version 1.1
Disk Images	Symantec Ghost
Encryption	Pretty Good Privacy (PGP)
HEIC	High Efficiency Image Container
Spreadsheets	■ Enable Versions 3.0, 4.0, and 4.5 ■ First Choice Versions through 3.0 ■ Framework Version 3.0 ■ Lotus 1-2-3 (DOS and Windows) Versions through 5.0 ■ Lotus 1-2-3 (OS/2) Versions through 2.0 ■ Lotus 1-2-3 Charts (DOS and Windows) Versions through 5.0 ■ Lotus 1-2-3 for SmartSuite Versions 97 and Millennium 9.6 ■ Lotus Symphony Versions 1.0, 1.1, and 2.0 ■ Microsoft MultiPlan Version 4.0 ■ Mosaic Twin Version 2.5 ■ Novell Perfect Works Version 2.0 ■ PFS: Professional Plan Version 1.0

Product category	Product name and version
	■ Quattro Pro (DOS) Versions through 5.0 ■ Quattro Pro (Windows) Versions through 12.0, X3 ■ SmartWare II Version 1.02 ■ SuperCalc 5 Version 4.0 ■ VP Planner 3D Version 1.0

In addition, Processing does not support the following files:

- Self-extracting .rar files
- Private mail certificate (.pem) files
- Apple i-Works suite (Pages, Numbers, Keynote)
- Apple Mail:
  - .emlxpart
  - .partial.emlx

  Note: The .emlxpart and .partial.emlx are distinct from the .emlx file extension, which is supported by processing.
- Audio/Video files
  - .wav
- iCloud backup files
- Microsoft Access
- Microsoft Works
- Raw partition files:
  - ISO
  - NTFS
  - HFS

3.3 Supported container file types

The following file types can act as containers:

File type	Extensions
Bloomberg	.xml Relativity does not support Instant Bloomberg .xml files.
Cabinet	.cab Relativity does not support multi-part .cab files.

File type	Extensions
	Relativity does not support Password Protected .cab files.
Compressed files	.7z, .zip, .tar, .gz, .bz2, .rar, .z, .cab, .alzip For compressed container files, keep in mind the following: ■ Zip file containers do not store time zone information for the CreatedOn, LastModified, and LastAccessed fields. When extracting files, time stamps are only meaningful if you know the time zone in which the zip file container was created. Relativity extracts file metadata and updates the CreatedOn and LastModified fields if available. Otherwise, CreatedOn defaults to 1/1/1900, and LastModified reflects the worker's local time zone. The LastModified and LastAccessed fields will usually match. ■ When working with archives, there is no limit to the number of layers deep Processing goes to extract data. It extracts until there is no more data to be extracted. Inventory, however, only extracts data from first-level documents. For example, if you have a .zip file within a .zip file that contains an email with an attached Word document, Inventory only extracts up to the email. Additionally, .zip files within .zip files may impact performance. **Note:** Relativity does not support multi-part .zip, .tar, or .7z files. **Note:** Very large container files may impact processing speed. One workaround is to extract the files from the container and process them from a new processing set.
EnCase	.e01, .l01, .lx01, .ex01
AccessData Logical Image	.ad1 Relativity supports processing both single and multi-part non-encrypted .ad1 files. For encrypted .ad1 files, only single part files are supported. For multi-part .ad1 files, you must decrypt the files prior to processing. See Multi-part container for more information.
iCalendar	.ics For Outlook meeting invites, the email that is sent with the meeting invite (the .msg file) will have a sent date that reflects when the sender sent out the meeting request. The resulting calendar file that is then added to the user's Outlook calendar (the .ics file) will not include a sent date, as the date doe not apply to the calendar file itself.
Lotus Notes Database	.nsf Relativity supports Lotus Notes version 10 and earlier. See Lotus Notes for more information.
MBOX Email Store	.mbox .mbox is a standard format, in which case it does not matter whether you're using a Mac folder format or a Unix file format.

File type	Extensions
Outlook Offline Storage	.ost
Outlook Mail Folder	.pst ■ Relativity assigns duplicate hash values to calendar invites, as it does with email messages and other documents. ■ Relativity supports Teams data conversion to RSMF out of PST. See Short message conversion for Microsoft Teams for more information.
Outlook Express Mail Folder	.dbx
PDF Portfolio	.pdf
RAR	.rar You do not need to combine multi-part .rar files before processing them. See Password-protected .rar files for more information.
ZIP	See Compressed files.

Note: Zip files do not store encoding information. Because of this, you may see garbled characters in the file names of children files (processed from a .zip file) if the originating locale differs from the processed locale. For example, if the originating .zip file's locale is set to Russian and then processed on an instance set to US, the .zip's children files may have garbled characters.

3.3.1 Container file types supported for the password bank

The following container file types are supported by Relativity for Password Bank in Inventory.

File type	Extensions
Compressed files	.7z, .alzip, .zip, .z, .bz2, .gz
Lotus Notes Database	.nsf
PDF Portfolio	.pdf
PST	.pst
RAR	.rar

3.3.2 Non-container file types supported for the password bank

The Password Bank also supports the following non-container formats:

- .pdf
- Excel*
- Word*
- PowerPoint*

- S/MIME
- .p7m

* Except .drm files or custom encryption

4 Short message conversion for Slack

This page covers information for Slack conversion. To view the Relativity supported and unsupported file type tables, see Supported file types for processing.

Slack exports are available across all Slack license plans. For information on Slack plans and their affect on documentation exports, see Export your workspace data on the Slack website.

You can choose whether or not to download short message attachments. If you do not download attachments, Relativity retains links to output RSMF files instead of downloading the actual files. See Short message conversion settings for information on enabling short message attachment downloads.

Note: If you do not download attachments, Relativity retains links to output RSMF files instead. You may see errors if Relativity cannot link to the source file. For example, an outage with Slack or network connectivity issues. See Processing error resolution for information on resolving processing errors.

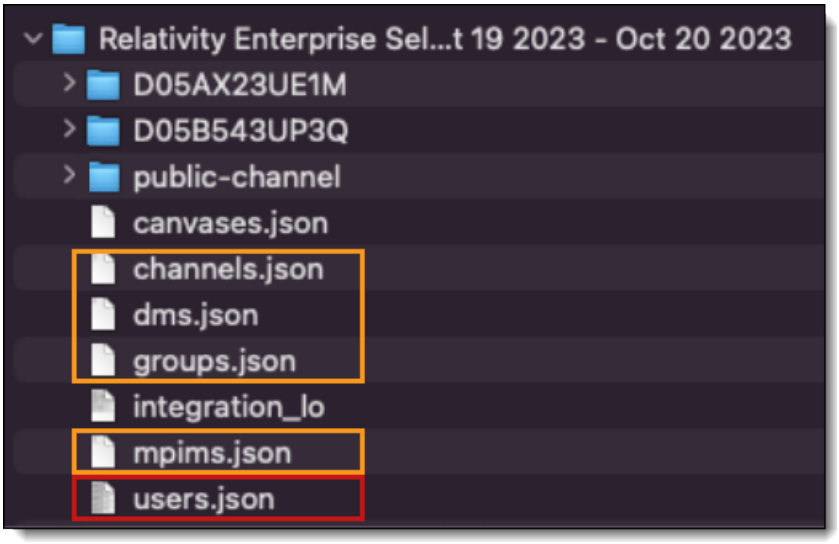
4.1 Required file structure

Processing supports original structure of zip containers coming from Slack. Do not change the contents of the zip file or you may see corrupt or incomplete results.

Note: Slack exports greater than 10 GB are not supported and may be unable to process. You must repackage the contents into smaller packages if you have a Slack export over 10 GB. For example, you might split different conversation types across different zips.

You must have at least two of the following files at the root level of your zip container:

- users.json (required) or org_users.json
- Plus, one of the following:
  - channels.json
  - dms.json
  - groups.json
  - mpims.json



4.2 Generated RSMF fields

The following table lists the metadata fields found in RSMF files after Slack conversion.

Relativity source field name	Field type	Description
Subject	Long Text	The name of the conversation. ■ For public/private channels: CHANNEL_NAME ■ For group chats/dms: LIST OF PARTICIPANTS
EmailFrom	Long Text	The display name and email of sender of first event in the conversation.
EmailTo	Multiple Choice	A list of display names and emails of all participants in conversation,
Date	Date	The date of first event in conversation.
Rsmf/Version	Long Text	2.0.0
Rsmf/Participants	Multiple Choice **Caution:** Use the Long Text field type when mapping the Rsmf/Participants field. Selecting Multiple Choice can lead to hundreds of unique choices that may impact performance.	A list of display names of all participants in conversation.
Rsmf/Generator	Long Text	Relativity Processing
Rsmf/Application	Long Text	Slack
Rsmf/MessageCount	Whole Number	The number of events in the conversation.
Rsmf/AttachmentCount	Whole Number	The number of attachments in conversation.
Rsmf/EventCollectionId	Long Text	The conversation ID that is persisted between file slices.
Rsmf/BeginDate	Date	The date and time of first event in conversation.
Rsmf/EndDate	Date	The date and time of last event in conversation.

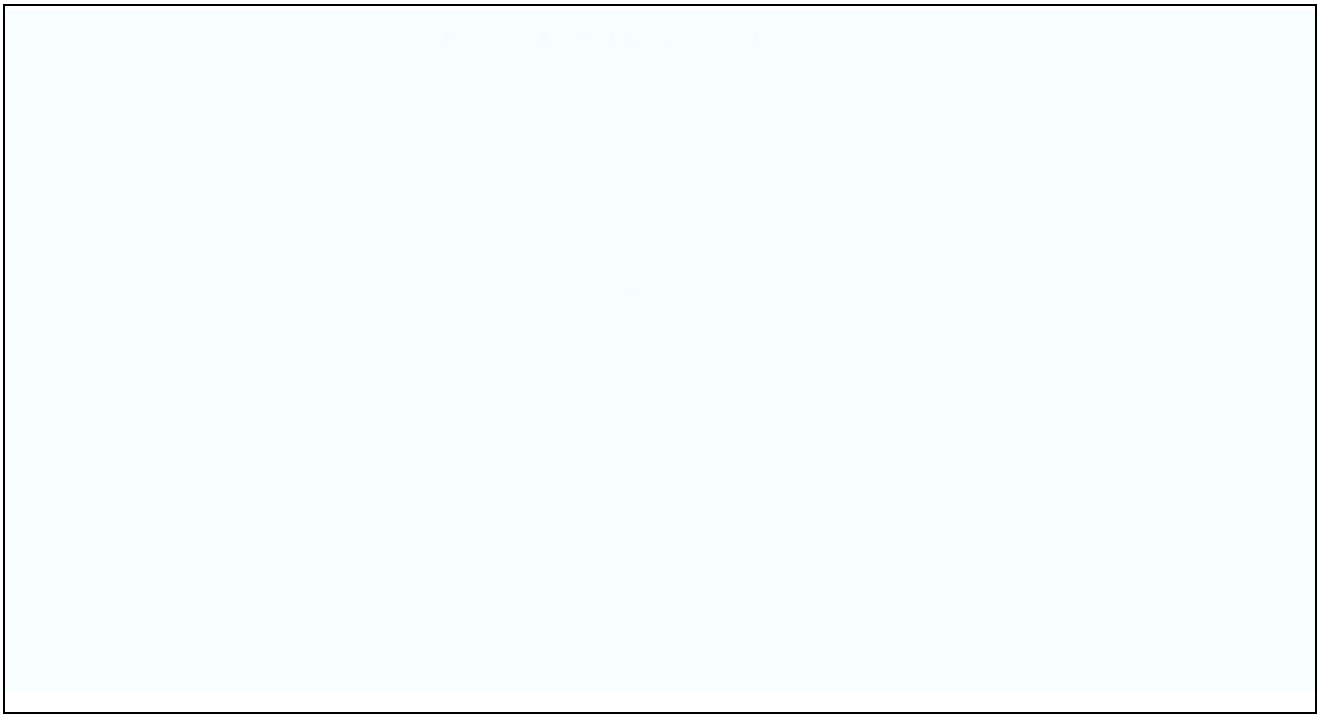
4.3 Troubleshooting

Relativity tries to extract all available data it finds. In some cases, errors may occur due to the data in the Slack export package or availability of attachments. Errors reported include:

Discover error message	Details
An error occurred during downloading some attachments in Slack-to-RSMF conversion. The error is likely due to attachments no longer being available to download from Slack servers. Relativity downloaded all available attachments. You can ignore this warning as the missing attachments will appear as links in the generated RSMF files.	During downloading attachments Relativity takes the URL present in JSON. While attempting to download attachment the provided response was "404 not found". For most scenarios this means the file is no longer kept on Slack servers and won't be possible to obtain. This error serves informational purpose.
An error occurred during downloading attachment as part of Slack-to-RSMF conversion. The error is likely due to a transient problem connecting to the Slack servers. You can ignore this or rediscover the data to proceed with attachments.	During downloading attachments Relativity takes the URL present in JSON. While attempting to download attachment the provided response was "500 server error". This means Slack had some transient problems and it's advised to retry this error to retry downloading attachments.
Relativity does not support organization-level exports for Slack-to-RSMF conversion. For instructions on how to proceed, see the Troubleshooting documentation for Slack conversion.	Provided Slack data was an organization-level export – it contains some additional file structure that is currently not supported. To process this data with Relativity Processing it needs to be repackaged into supported format. See "Processing org-level exports" section for more details.
An error occurred during the conversion of the Slack-to-RSMF conversion. The error may be due to an unsupported package structure. Repair the file and reprocess the data.	Relativity could not extract any RSMF data due to a corrupt Slack export file. Contact support for help in troubleshooting the file.
An unexpected internal error occurred during Slack-to-RSMF conversion. Rediscover the data to proceed.	Relativity encountered a transient issue. It's advised to retry the processing job. If the issue persist contact support for help.

4.4 Processing organization-level exports

Relativity only supports workspace-level exports coming from Slack. Depending on the export configuration, the data may be obtained as an organization-level export. Organizational-level exports may contain multiple workspace-level exports. To process these exports with Relativity, you must repackage the data into multiple packages for each workspace inside the /teams directory. See the graphic below for a visual explanation.



4.5 Known issues and limitations

- To optimize processing speed, use a single Slack zip container within a single processing data source.
- Relativity does not support Inventory for Slack export containers.
- When using Web Import/Export, you must put your Slack zip container (let's call it the child container) inside another zip container (let's call it the parent container) and then import the parent container using the Import/Export tool. Relativity cannot convert Slack files to RSMF if you import a child container directly instead of placing it in a parent container. The data is processed as JSON.

4.6 Resources

For additional information, see:

- For information on enabling short message conversion, see Short message conversion settings.
- For information on short message use, metadata, and mapping, see Relativity's short message format.

5 Short message conversion for Microsoft Teams

This page covers information for Microsoft Teams (Teams) conversion. To view the Relativity supported and unsupported file type tables, see Supported file types for processing.

Processing can automatically convert discovered Teams conversations within Microsoft eDiscovery (Standard) export data files (PST). For information on enabling short message conversion, including how files should be converted (via slicing), see Short message conversion settings.

5.1 Microsoft eDiscovery (Standard) PST exports

- To learn more about exporting Teams data with the Microsoft eDiscovery (Standard) solution, see Feature reference for Content search on the Microsoft website.
- Processing expects data to be provided as a PST container where a single PST might contain both email and Teams data.
- Teams messages are automatically identified based on the message class of emails inside the export. IPM.SkypeTeams.Message or IPM.SkypeTeams.SystemMessage is considered Teams messages.
- If you have enabled Teams conversion in the processing profile, the original MSG files that contain Teams information are not discovered. If you want to retain the original files, disable RSMF conversion.
- The email processing and Teams conversion jobs are independent within a single container processing. If the conversion fails with a document-level error, email files are still discovered.
- Any attachments embedded inside the PST are extracted and processed; any attachments not inside the PST are kept as links within RSMF files (for example, attachments shared via OneDrive or SharePoint.)
- You can use Inventory to filter PST files to a specific path. Note that the number of files returned at Inventory represents the number of messages, not the number of generated RSMF files.

5.2 Microsoft eDiscovery (Premium) HTML exports

Microsoft eDiscovery (Premium) HTML exports are currently not supported for RSMF conversion in processing. See Relativity Collect documentation for collection capabilities for Microsoft 365.

5.3 Generated RSMF fields

The following table lists the metadata fields found in RSMF files after Teams conversion.

Relativity source field name	Field type	Description
Subject	Long Text	The name of the conversation. ■ For channels: Team: TEAM_NAME Channel: CHANNEL_NAME

Relativity source field name	Field type	Description
		■ For group chats/dms: Chat: list of participants/CHAT_NAME
EmailFrom	Long Text	The display name and email of sender of first event in the conversation.
EmailTo	Multiple Choice	A list of display names and emails of all participants in conversation that generated events.
Date	Date	The date of first event in conversation.
Rsmf/Version	Long Text	2.0.0
Rsmf/Participants	Multiple Choice **Caution:** Use the Long Text field type when mapping the Rsmf/Participants field. Selecting Multiple Choice can lead to hundreds of unique choices that may impact performance.	A list of display names of all participants in conversation that generated events.
Rsmf/Generator	Long Text	Relativity Processing
Rsmf/Application	Long Text	Teams
Rsmf/MessageCount	Whole Number	The number of events in the conversation.
Rsmf/AttachmentCount	Whole Number	The number of attachments in conversation.
Rsmf/EventCollectionId	Long Text	The conversation ID that is persisted between file slices.
Rsmf/BeginDate	Date	The date and time of first event in conversation.
Rsmf/EndDate	Date	The date and time of last event in conversation.
Rsmf/HasPlaceholders	Yes/No	Set if the generated RSMF contains any placeholders. See Troubleshooting for more information.

5.4 Troubleshooting

Relativity tries to extract all available data it finds. In some cases, errors may occur due to the data in the Microsoft eDiscovery (Standard) PST export files. Errors reported include:

Discover error message	Details
An error occurred while extracting some events during the Teams-to-RSMF conversion. The error is likely due to missing metadata in the PST file. Instead, Relativity extracted such events as standalone MSG files. You can ignore this warning or consider disabling Teams conversion and then rediscover the data.	Some messages are missing JSON metadata that Relativity uses to build RSMF conversations, even though they had the expected IPM.SkypeTeams.* message class. The missing data may be due to errors during the Microsoft eDiscovery export process or schema differences (such as an old export). Relativity provides these events as emails.
An error occurred extracting {0} type events found in PST during the Teams-to-RSMF conversion. Relativity currently does not support extracting events of that type. Instead, Relativity created placeholders for the events in the generated RSMF files. You can ignore this warning or consider disabling Teams conversion and then rediscover the data.	Relativity encountered unsupported events while converting Teams messages. Relativity created placeholders for these events in the RSMF files. {0} is the detected type, for example, *Media_CallRecording*. The event placeholder in the RSMF file will appear as follows:Unsupported type: Media_CallRecording. Placeholders contain all attachments provided in original event. RSMF metadata field Rsmf/HasPlaceholders can be used to identify files with placeholders. If this data is critical to the investigation, you can reprocess it as an email to retrieve the full body content. See Known issues and limitations for more information.
An error occurred extracting some events during the Teams-to-RSMF conversion. The error is likely due to missing metadata in the PST file. Instead, Relativity extracted the raw metadata for the events and included them in the RSMF files. You can ignore this warning or consider disabling Teams conversion and then rediscover the data.	Relativity encountered an unexpected error while extracting the metadata for a specific event. To avoid data loss, Relativity generates the raw metadata (JSON) for the event, which you can view and search. Where possible, contact support with examples of these errors, which will help improve future versions of Teams extraction.
An error occurred during Teams-to-RSMF conversion. The error may be due to an unsupported or corrupt PST file. Repair the file and reprocess the data.	Relativity could not extract any RSMF data due to a corrupt PST file. Contact support for help in troubleshooting the file.
An unexpected internal error occurred during Teams-to-RSMF conversion. Rediscover the data to proceed.	Relativity encountered a transient issue. You should retry the processing job. If the issue persists, contact support for help.

5.5 Known issues and limitations

The Teams metadata available within the PST depends heavily on the Microsoft eDiscovery (Standard) search configuration. The following is a list of known issues and limitations:

- Teams metadata limitations in RSMF conversion capability:
  - Giphy app and stickers. GIFs are provided as links in the RSMF files. Only custom text from stickers is available within RSMF files. For more information, see Send an emoji, GIF, or sticker in Microsoft Teams.
  - Loop components are downloaded as HTML attachments linked in the RSMF files. For more information, see Send a loop component in a channel.
  - Media cards are provided by connectors and apps like Praise or Approvals. They are provided as placeholders in RSMF files with HTML attached to the event.
  - Meetings, Call Recordings, and Call Transcripts are provided as placeholders in RSMF files.
- Known issues with Microsoft eDiscovery (Standard) PST metadata:
  - Migrated Teams Chats do not contain the JSON metadata used by Relativity to build RSMF and are processed as MSG files.
  - Join/leave events are available only for chats exported with specific Microsoft eDiscovery content search. These are system events, so they are not retrieved if the export is filtered only to instant messages (itemclass:IPM.SkypeTeams.Message) or Teams (kind:microsofteams).
  - Announcements do not include edit information. For more information, see Send an announcement to a channel in Microsoft Teams.
  - Full participant information (full display name and email) becomes unavailable once the participant has left the chat.

5.6 Resources

- For information on enabling short message conversion, see Short message conversion settings.
- For information on short message use, metadata, and mapping, see Relativity's short message format topic.

6 Google Workspace

This page covers additional supported file type (for processing) information for Google Workspace. To view the Relativity supported and unsupported file type tables, see Supported file types for processing.

When you gather Google Workspace data, Google provides a supplemental metadata file. For Google Mail (Gmail), the metadata file is a .csv file. For Google Drive, the metadata file is an .xml file.

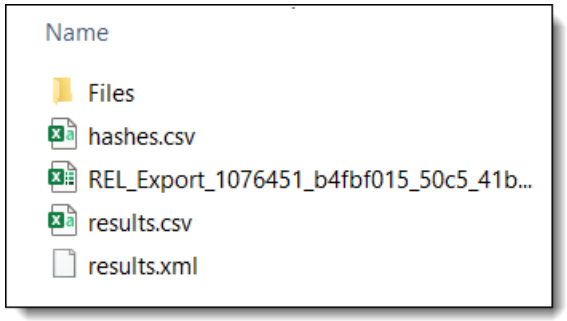
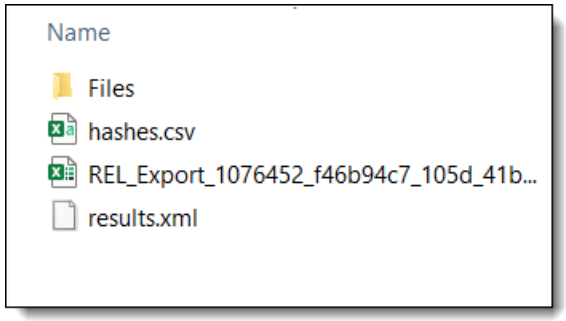
Processing automatically identifies when the supplemental metadata file is present in your file share, links the metadata fields to the processed files, and makes them available as mappable fields.

There are two methods for collecting Google Workspace data:

- Collect in Relativity. For more information, see the Google Workspacedocumentation.
- Manual download via Google Vault.

6.1 Collect

When using Collect to gather Gmail data, the metadata file is provided as a .csv file, an .xml file is also provided but not used. When using Collect to gather Google Drive data, the metadata file is provided as an .xml file.

Relativity Collect: Gmail	Relativity Collect: Google Drive
	

Note: Collect places additional files in the root of the data source. They are processed as loose individual files if they are not removed prior to processing.

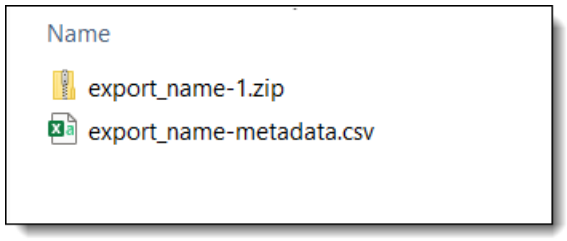
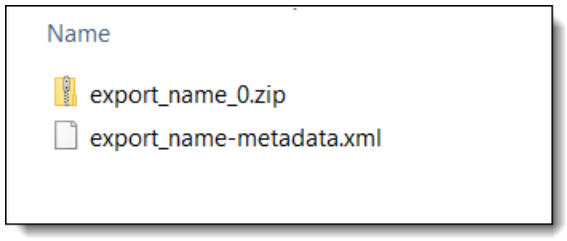
6.1.1 Other notes

- Google Chat data is converted to Relativity's short message format (RSMF) for processing when using Collect to gather data.
- Do not edit the supplemental metadata files or Processing will not recognize them.

6.2 Google Vault

When using Google Vault to gather Gmail data, download the [EXPORT_NAME].zip, ;and [EXPORT_NAME]-metadata.csv files. For Google Drive data, download the [EXPORT_NAME].zip and [EXPORT_

NAME]-metadata.xml files. When collecting data manually from Google Vault, you must export Gmail data in MBOX format. Relativity does not sync additional metadata if exported as a .pst file.

Google Vault: Gmail	Google Vault: Google Drive
	

Note: If you have files saved in your root folder other than the supplemental metadata files, they are processed as loose individual files.

6.2.1 Other notes

- Google chat data must be converted to Relativity's short message format (RSMF) prior to processing when using Google Vault. Google chat data does not need to be converted to RSMF when using Collect.
- Do not edit the supplemental metadata files or Processing will not recognize them.

6.3 Google Workspace metadata field lists

The Google supplemental metadata files contain the fields listed below, all of which are available for mapping to Document object fields.

Note: Google may add, remove, or edit fields at any time. You can find the most current lists on their Vault export contents web page.

6.3.1 Mapping Google Drive fields

The following sections describe Relativity's behavior when processing Google Drive files with deduplication enabled or disabled. Whether or not to enable deduplication is up to you; Relativity processes and publishes the files regardless of the deduplication status. However, field mapping has some differences depending on the deduplication status.

6.3.1.1 Mapping Google Drive fields with deduplication turned off

Relativity uses a combination of hashes for deduplication when processing. With deduplication turned off, two files with differing cloud-based metadata (sidecar metadata) can have the same physical file hash (of a native parent file). Since Relativity associates sets of metadata with a physical (parent) file hash, parent files with identical hashes can be populated with identical sidecar metadata. Relativity has developed a set of source fields specific to Google Drive to resolve this issue. When processing Google Drive files with deduplication turned off, Relativity forces unique hashes for each set of sidecar metadata. See the table below this section for a description of Google Drive-specific fields.

6.3.1.2 Mapping Google Drive fields with deduplication turned on

With deduplication on, Relativity processes files like other data types, meaning it publishes all the metadata it finds. When deduplication takes place, Relativity adds additional metadata fields to prevent different native (parent) files with the same hash from receiving identical sidecar metadata. If two native (parent) files with identical hashes have associated sidecar metadata (each having different hashes), Relativity deduplicates one of the files, and you will only see one file.

6.3.2 Google Workspace fields

The following table lists the metadata fields found in the Google Drive .xml file. Use these fields when processing Google Drive files with deduplication turned off.

Google drive .xml field	Relativity source field name	Field type	Description
DocID	GoogleDrive/DocID	Long Text	A unique identifier for the file. For site exports, the value is the page ID.
#Author	GoogleDrive/Author	Long text	The email address of the person who owns the file in Drive. For a shared drive file, it shows the shared drive name.
Collaborators	GoogleDrive/Collaborators	Multiple Choice	The accounts and groups that have direct permission to edit the file or add comments. Also includes users with indirect access to the file if you chose this option during export.
Viewers	GoogleDrive/Viewers	Multiple Choice	The accounts and groups that have direct permission to view the file. Also includes users with indirect access to the file if you chose this option during export.
#DateCreated	GoogleDrive/DateCreated	Date	The date a Google file was created in Drive. For non-Google files, the date the file was uploaded to Drive.
#DateModified	GoogleDrive/DateModified	Date	The date the file was last modified.
#Title	Google/Title	Long Text	The file name as assigned by the user. Because some operating systems cannot expand zip files with extremely long file names, Vault truncates the file name at 128 characters during export. The value shown by the #Title tag isn't truncated.
DocumentType	GoogleDrive/DocumentType	Long Text	The file type for Google files. Possible values are: ■ DOCUMENT—a document created in Google Docs. ■ SPREADSHEET—a spreadsheet

Google drive .xml field	Relativity source field name	Field type	Description
			created in Google Sheets. ■ PRESENTATION—a presentation created in Google Slides. ■ FORM—a form created in Google Forms. ■ DRAWING—a drawing created in Google Drawings. ■ SITES_PAGE—a page from a site created in new Google Sites.
Others	GoogleDrive/Others	Multiple Choice	The accounts from your query that have indirect access to the file if you opted to exclude access level information during export. May also include users for whom Vault could not determine permission levels at the time of export.
DocParentID	Google/DocParentID	Long Text	For sites, the site ID.
SharedDriveID	Google/SharedDriveID	Long Text	The identifier of the shared drive that contains the file, if applicable.
SourceHash	Google/SourceHash	Long Text	A unique hash value for each version of a file. Can be used to deduplicate file exports and verify the exported file is an exact copy of the source file. Supported by Google Docs, Sheets, and Slides files only.
FileName	GoogleDrive/FileName	Long Text	The file name. Use this value to correlate the metadata with the file in the export ZIP file.
FileSize	GoogleDrive/FileSize	Whole Number	The size of the file in bytes.
Hash	GoogleDrive/FileHash	Long Text	The MD5 hash of the file.
UserQuery	Google/UserQuery	Long Text	The query submitted by the Vault user that retrieved the files included in this export.
TimeZone	Google/TimeZone	Long Text	The time zone used for date-based searches
Custodians	Google/Custodians	Long Text	The email addresses of the users whose accounts were searched. If you searched for content rather than individual user

Google drive .xml field	Relativity source field name	Field type	Description
			accounts, there are no custodians listed here.
Labels	GoogleDrive/Labels	Multiple Choice	Labels applied to the message by Google Drive or the user.

The following table lists the metadata fields found in the Gmail .csv file. Use these fields for mapping Gmail data.

Google mail .csv field	Relativity source field name	Field type	Description	Notes
Rfc822MessageId	Google/Rfc822MessageId	Long Text	A message ID that is the same for the receiver's and sender's messages. Use this value to correlate metadata with the message in an MBOX export. For classic Hangouts, the value is for the first message in the thread.	
GmailMessageId	Google/GmailMessageId	Long Text	A unique message ID. Use this value to manage specific messages with the Gmail API. For classic Hangouts, the value is for the first message in the thread.	
Account	Google/Account	Long Text	The account that had the message in their inbox. For example, user1@company.com received a message sent to groupA@company.com because they are a member of the group. If a search returns that message because it was in user1's Inbox, then the value of To is	

Google mail .csv field	Relativity source field name	Field type	Description	Notes
			groupA@-company.com while the value of Account is user-1@company.com.	
From	Google/From	Long Text	The sender account.	
To	Google/To	Long Text	The recipient account. Multiple recipients are comma-separated and the list is in double quotes.	Gmail only
CC	Google/CC	Multiple Choice	Accounts in the cc: field.	Gmail only
BCC	Google/BCC	Multiple Choice	Accounts in the bcc: field.	Gmail only
Subject	Google/Subject	Long Text	The message subject.	Gmail only
Labels	Google/Labels	Multiple Choice	Labels applied to the message by Gmail or the user.	Gmail only
DateSent	Google/DateSent	Date	The message send date in UTC, yyyy-MM-dd'T'HH:mm:ssZZZZ.	Gmail only
DateRecieved	Google/DateRecieved	Date	The message received date, yyyy-MM-dd'T'HH:mm:ssZZZZ.	Gmail only
SubjectAtStart	Google/SubjectAtStart	Long Text	The subject of the conversation when the first message was sent.	Classic Hangouts only
SubjectAtEnd	Google/SubjectAtEnd	Long Text	The subject of the conversation when the last message was sent.	Classic Hangouts only
DateFirstMessageSent	Google/DateFirstMessageSent	Date	The time stamp for when the first message in a con-	Classic Hangouts only

Google mail .csv field	Relativity source field name	Field type	Description	Notes
			versation was sent.	
DateLastMessageSent	Google/DateLastMessageSent	Date	The time stamp for when the last message in a conversation was sent.	Classic Hangouts only
DateFirstMessageReceived	Google/DateFirstMessageReceived	Date	The time stamp for when the first message in a conversation was received.	Classic Hangouts only
DateLastMessageReceived	Google/DateLastMessageReceived	Date	The time stamp for when the last message in a conversation was received.	Classic Hangouts only
ThreadedMessageCount	Google/ThreadedMessageCount	Decimal	The number of messages in the conversation.	Classic Hangouts only

7 Microsoft

This page covers additional supported file type (for processing) information for Microsoft. To view information on Excel, PowerPoint, and Word, see Supported file types for processing.

7.1 Outlook message item (.msg) to MIME encapsulation (.mht) conversion

The following table provides details on the differences between how Relativity handles .msg and .mht file types. This information may be especially useful if you plan on setting the Email Output field on the processing profile to MIME encapsulation.

Category	Field/attribute	Outlook message item (.msg)	MIME encapsultation (.mht)
Metadata fields	Show Time As	This field sometimes appears in the extracted text from MSG files when not explicitly stated in the message file itself. The default for a calendar invite is to show time as busy; the default for a cancellation is to show time as free.	Show Time As does not appear in the extracted text if the default value is populated.
Metadata fields	On behalf of	This field is sometimes present in text from a message item. In some cases, this field is populated with the same value as the From field.	On behalf of does not appear in the extracted text.
Interline spacing	N/A	The expected number of blank lines appears in the extracted text. Line wrapping for long paragraphs will also be present.	In some cases, the text in the .mht file format has fewer blank lines than the text from a message item. In addition, there is no built-in line wrapping for long paragraphs.
Intraline spacing	N/A	White-space characters are converted to standard space characters.	White-space characters may remain as non-breaking spaces.
Email addresses	Email	When a message file is converted to .mht, the text is extracted from the .mht file using OutsideIn. This can lead to a loss of data.	If joe.smith@acme.com renders as Joe Smith in the .mht file, the email address is not captured in the extracted text.

7.1.1 Email image extraction support

It is helpful to understand when Relativity treats an image that is attached to an email as an inline, or embedded, image and not as an actual attachment. The following table breaks down when this occurs based on email format and image characteristics:

Email format	Attachments that are inline, embedded, images
Plain text	None
Rich text	IPicture-based OLE embedded images
HTML	■ Images with content ID referenced in the HTML body ■ Local, non-internet image references in the HTML that Relativity can match to an attachment ■ .pst/.ost/.msg files containing metadata hints as to whether or not the image is marked hidden or is referenced in the HTML body

You can arrange for the discovery of inline images when creating Processing profiles, specifically through the field called **When extracting children, do not extract**.

7.1.1.1 Inline image identification

Processing defines inline images within emails through the **HiddenAttachment** field. This field is not mapped by default. See Mapping processing fields for more information.

7.1.2 Microsoft Office child extraction support

See a breakdown of Relativity's support of Microsoft Office child extraction
The following table displays which Office file extensions will have their embedded objects and images extracted by Relativity and which will not.

- √—Relativity fully extracts the embedded object and image.
- √*—Relativity partially extracts the embedded object or image.
- Empty—Relativity does not extract the embedded object or image.

Office program	File extension	Embedded object extraction	Embedded image extraction
Excel	.xlsx	√	√
Excel	.xlsm	√	√
Excel	.xlsb	√	√
Excel	.xlam	√	√
Excel	.xltx	√	√
Excel	.xltm	√	√
Excel	.xls	√	√*
Excel	.xlt	√	√*
Excel	.xla	√	√*
Excel	.xlm	√	√*

Office program	File extension	Embedded object extraction	Embedded image extraction
Excel	.xlw	✓	✓*
Excel	.uxdc		
Outlook	.msg	✓	✓
Word	.docx	✓	✓
Word	.docm	✓	✓
Word	.dotx	✓	✓
Word	.dotm	✓	✓
Word	.doc	✓	✓*
Word	.dot	✓	✓*
Word	.rtf	✓	✓
Visio	.vsd		
Visio	.vdx		
Visio	.vss		
Visio	.vsx		
Visio	.vst		
Visio	.vsw		
Visio	.vsdx	✓	✓
Visio	.vsdm	✓	✓
Project	.mpp		
Publisher	.pub	✓	
PowerPoint	.pptx	✓	✓
PowerPoint	.pptm	✓	✓
PowerPoint	.ppsx	✓	✓
PowerPoint	.ppsm	✓	✓
PowerPoint	.potx	✓	✓
PowerPoint	.ppt	✓	✓
PowerPoint	.pps	✓	✓

Office program	File extension	Embedded object extraction	Embedded image extraction
PowerPoint	.pot	✓	✓
OneNote	.one	✓	

7.2 Excel files

Due to Excel specifications and limits, when processing a database file with the native text extraction method, the database file may miss data in extracted text. For example, if a database file contains more than 1,048,576 rows and 16,384 columns, the extracted text of these files will not contain text on row 1,048,577 and onward and on column 16,385 and onward. For more information, see Excel specifications and limits on the Microsoft website.

8 Other software support

This page covers additional supported file type (for processing) information for other software considerations. To view the Relativity supported and unsupported file type tables, see Supported file types for processing.

8.1 Multi-part forensic file considerations

When processing a multi-part forensic image, make sure the source location points to the root folder that contains all of the files that make up the image. If you select only the first file of the image, such as .e01, .l01, .ex01, .lx01, inventory and discovery fail with an unrecoverable error.

This is because inventory looks at where files reside in the processing source folder and does not copy them to the repository. If you only select the first file, that file only is copied to the repository during discovery. The workers attempt to extract from it and fail since the rest of the archive is not available.

When processing .e01 files, the following NTFS file system files are skipped:

- Unallocated space files
- Index $I30 files
- $TXF_DATE files

For details on EnCase file type support, see the EnCase entry on the supported files types table.

8.2 Native text extraction and OCR

Processing distinguishes between text and line art in the documents you process. For these documents, processing will only OCR the line art. This means that Relativity does not skip OCR if a page has electronic text.

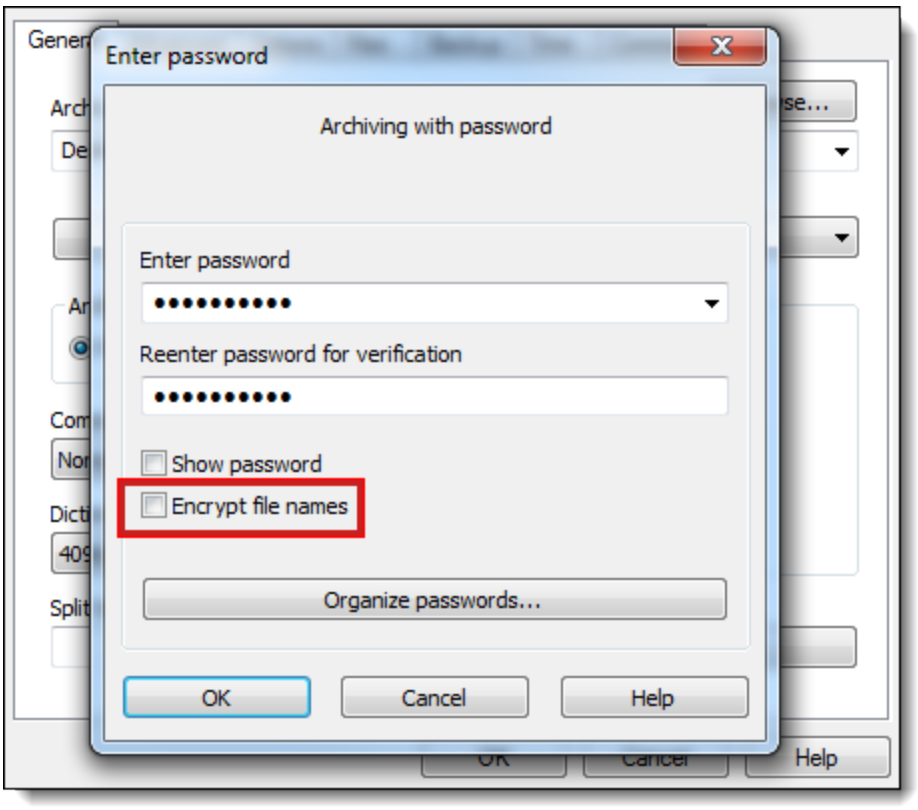
Accordingly, Relativity performs both native text extraction and OCR on the following file formats:

- All vector formats—.svg, CAD files, Metafiles [.wmf, .emf], Postscript, Encapsulated postscript
- .pdf, Visio, Publisher, MS Project, Hancom and JungUm files

All image formats, such as .tiff, .jpeg, .gif, .bmp, and .png, do not have native text, so only OCR is performed. If the file has electronic text and images, native text extraction and OCR is performed.

8.3 Password-protected .rar files

Processing does not decrypt a file that gets its encryption directly from the .rar file that contains it. This means that if you attempt to process a password-protected .rar file where the **Encrypt file names** property is checked, Processing is unable to extract the files inside that archive.



In addition, Processing can extract a single password-protected file from a .rar file, but not multiple password-protected files in the same archive.

The following table breaks down Processing's support of password-protected .rar files.

- √—Processing will decrypt the file.
- Empty—Processing will not decrypt the file.

Archive type	Single password-protected file	Multiple password-protected files	Encrypt file names property
.rar	√		
Multi-part .rar	√		

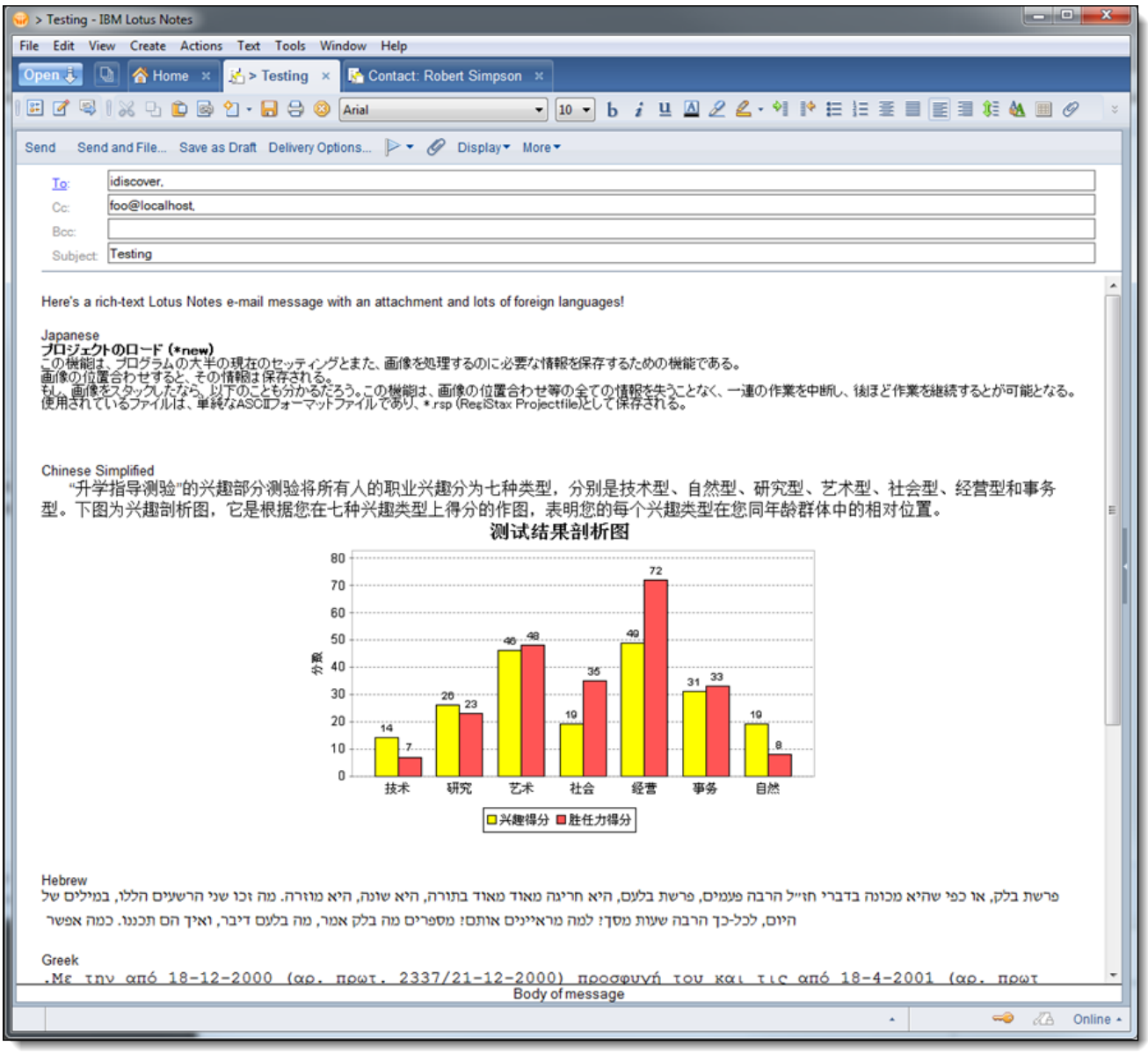
8.3.1 Lotus Notes

Note the following about how Processing handles note storage facility files:

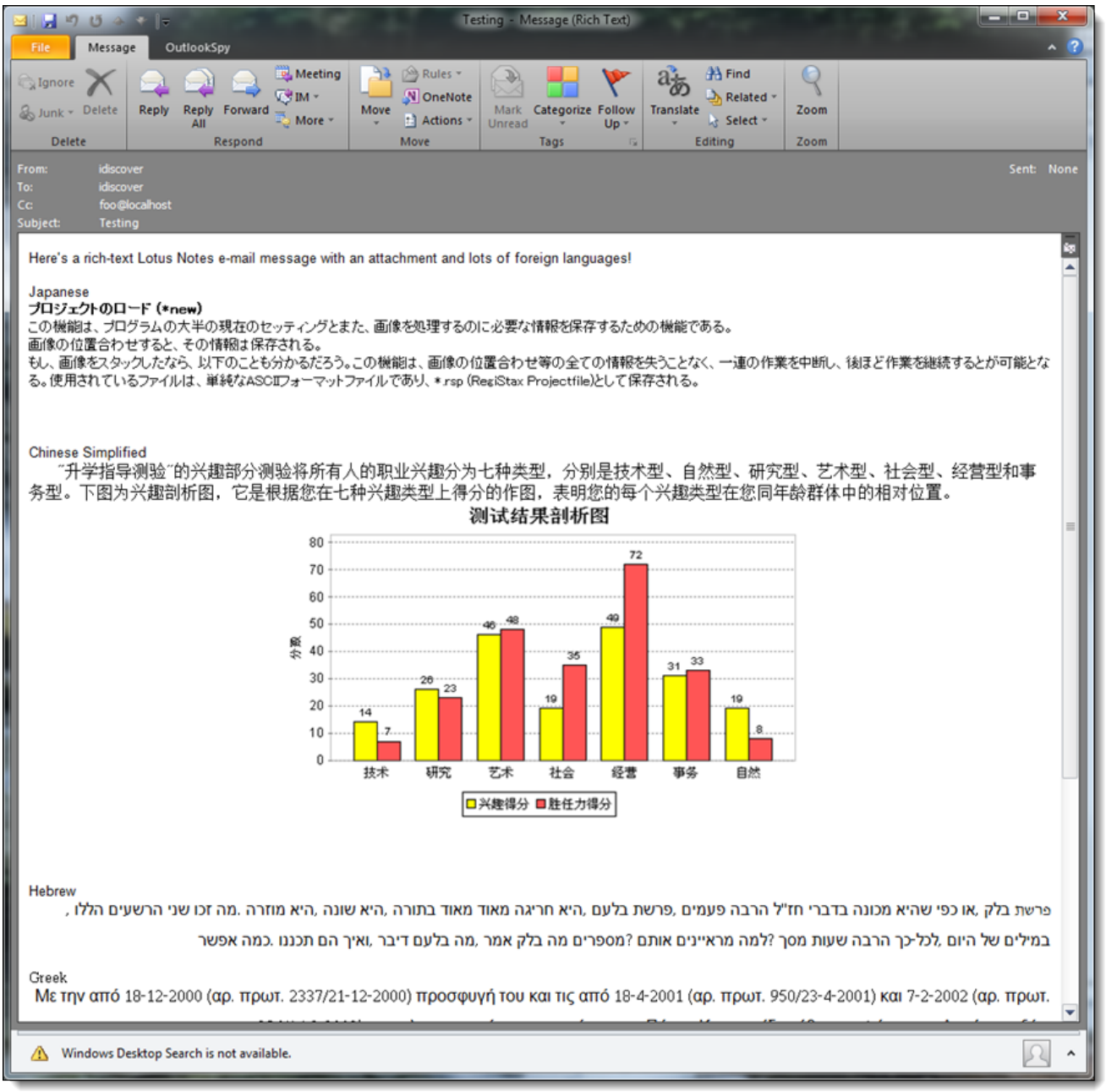
- Processing does not perform intermediate conversion on .nsf files, meaning that they are not converted to .pst or .dxl files before discovering them. This ensures that document metadata is not missed during processing.
- Processing preserves the original formatting and attachments of the .nsf file. In addition, forms are not applied, since they are designed to hide information.

- Processing extracts the contents of .nsf files and puts them into individual message files using the Lotus Notes C/C++ API directly. This is because .nsf files do not have their own individual document entry file format. All of the original Lotus Notes metadata is embedded in the message, meaning if you look at the document metadata in an .nsf file within Lotus, all of the metadata listed is embedded in the message. In addition, the original Rich Text Format/HTML/Plaintext document body is written to the message. Relativity handles the conversion from .nsf to .msg files itself, and any errors regarding metadata or the inability to translate content are logged to the processing Errors tab. Relativity can process the following .nsf items as messages:
  - Contacts
  - Distribution lists
  - Calendar items
  - Emails and non-emails

This is an example of an original .nsf file before being submitted to the processing engine:



This is an example of an .nsf file that has been converted to a message:



8.3.1.1 Lotus Notes supported versions

Lotus Notes are supported through Version 10.

8.4 Multi-part container considerations

When processing a multi-part container, the first part of the container must be included. If the first part of the container is not included, the Processing engine ignores the file.

8.5 Calendar file, vCard file considerations

Calendar files (.ics) and vCard files (.vcf) are de-duplicated not as emails but as loose files based on the SHA256 hash. Since the system now considers these loose files, Relativity is no longer capturing the email-specific metadata that it used to get as a result of .ics or .vcf files going through the system's email handler.

The following table breaks down which metadata values the system populates for .ics files:

Processing engine property name	Relativity property name
Author	Author
DocTitle	Title
Email/AllDayEvent	[other metadata]
Email/AllowNewTimeProposal	[other metadata]
Email/BusyStatus	[other metadata]
Email/CommonEnd	[other metadata]
Email/CommonStart	[other metadata]
Email/ConversationTopic	[other metadata]
Email/CreatedOn	Email Created Date/Time
Email/DisplayTo	[other metadata]
Email/DomainParsedBCC	Recipient Domains (BCC)
Email/DomainParsedCC	Recipient Domains (CC)
Email/DomainParsedFrom	Sender Domain
Email/DomainParsedTo	Recipient Domains (To)
Email/Duration	[other metadata]
Email/EndDate	Meeting End Date/Time
Email/IntendedBusyStatus	[other metadata]
Email/IsRecurring	[other metadata]
Email/LastModified	Email Last Modified Date/Time
Email/Location	[other metadata]
Email/MessageClass	Message Class
Email/MessageType	Message Type
Email/NetMeetingAutoStart	[other metadata]
Email/ReminderMinutesBeforeStart	[other metadata]
Email/SentRepresentingEmail	[other metadata]
Email/SentRepresentingName	[other metadata]

Processing engine property name	Relativity property name
Email/StartDate	Meeting Start Date/Time
EmailBCC	[other metadata]
EmailBCCName	[other metadata]
EmailBCCSmtp	BCC (SMTP Address)
EmailCC	[other metadata]
EmailCCName	[other metadata]
EmailCCSmtp	CC (SMTP Address)
EmailConversation	Conversation
EmailFrom	[other metadata]
EmailImportance	Importance
EmailSenderName	Sender Name
EmailSenderSmtp	From (SMTP Address)
EmailSensitivity	Email Sensitivity
EmailSubject	Subject
EmailTo	[other metadata]
EmailToName	Recipient Name (To)
EmailToSmtp	To (SMTP Address)
SortDate	Sort Date/Time
Subject	[other metadata]

The following table breaks down which metadata values the system populates for .vcf files:

Processing engine property name	Relativity property name
DocTitle	Title
Email/BusinessAddress	[other metadata]
Email/BusinessAddressCity	[other metadata]
Email/BusinessAddressCountry	[other metadata]
Email/BusinessAddressPostalCode	[other metadata]
Email/BusinessAddressState	[other metadata]
Email/BusinessAddressStreet	[other metadata]
Email/BusinessPostOfficeBox	[other metadata]
Email/BusinessTitle	[other metadata]
Email/CellNumber	[other metadata]

Processing engine property name	Relativity property name
Email/CompanyName	[other metadata]
Email/ConversationTopic	[other metadata]
Email/Country	[other metadata]
Email/Department	[other metadata]
Email/DisplayName	[other metadata]
Email/DisplayNamePrefix	[other metadata]
Email/Email2AddrType	[other metadata]
Email/Email2EmailAddress	[other metadata]
Email/Email2OriginalDisplayName	[other metadata]
Email/Email3AddrType	[other metadata]
Email/Email3EmailAddress	[other metadata]
Email/Email3OriginalDisplayName	[other metadata]
Email/EmailAddrType	[other metadata]
Email/EmailEmailAddress	[other metadata]
Email/EmailOriginalDisplayName	[other metadata]
Email/FileUnder	[other metadata]
Email/Generation	[other metadata]
Email/GivenName	[other metadata]
Email/HomeAddress	[other metadata]
Email/HomeAddressCity	[other metadata]
Email/HomeAddressCountry	[other metadata]
Email/HomeAddressPostalCode	[other metadata]
Email/HomeAddressState	[other metadata]
Email/HomeAddressStreet	[other metadata]
Email/HomeNumber	[other metadata]
Email/HomePostOfficeBox	[other metadata]
Email/Locality	[other metadata]
Email/MessageClass	Message Class
Email/MessageType	Message Type
Email/MiddleName	[other metadata]
Email/OfficeNumber	[other metadata]

Processing engine property name	Relativity property name
Email/OtherAddress	[other metadata]
Email/OtherAddressCity	[other metadata]
Email/OtherAddressCountry	[other metadata]
Email/OtherAddressPostalCode	[other metadata]
Email/OtherAddressState	[other metadata]
Email/OtherAddressStreet	[other metadata]
Email/OtherPostOfficeBox	[other metadata]
Email/PostOfficeBox	[other metadata]
Email/PostalAddress	[other metadata]
Email/PostalCode	[other metadata]
Email/PrimaryFaxNumber	[other metadata]
Email/PrimaryNumber	[other metadata]
Email/State	[other metadata]
Email/StreetAddress	[other metadata]
Email/Surname	[other metadata]
EmailConversation	Conversation
EmailSubject	Subject
Subject	[other metadata]

9 Password bank

The Password Bank is a password repository used to decrypt certain password-protected files during inventory, discovery and basic and native imaging. By creating a password bank, you can have Relativity run passwords against each encrypted document until it finds a match. Likewise, when you run an imaging job, mass image, or use image-on-the-fly, the list of passwords specified in the bank accompanies that job so that encrypted files are imaged in that job.

The password bank potentially reduces the number of errors in each job and eliminates the need to address password errors outside of Relativity.

Note: You can locate the Password Bank tab under both the Imaging and the Processing applications, if both are installed.

Using the password bank

Imagine you are a project manager, and you have been experiencing a high volume of files not making it into Relativity when you run a processing set because these files were unexpectedly password protected. As a result, the processing errors tab in your workspace is overrun and the data set you are able to inventory, discover, and publish is smaller than anticipated.

To deal with this, set up a password bank that includes the passwords for as many of the files you intend to process as you can locate. Then Relativity can decrypt these files and you can be sure that you are bringing the most relevant material into your workspace.

9.1 Password bank in processing workflow

The following steps illustrate how the password bank typically fits into the processing cycle.

1. Create a password bank that includes a list of passwords that correspond with the files you intend to process.
2. Create a processing set and add data sources that contain the encrypted documents to the set.
3. Start inventory and/or discovery on the files in the data sources attached to the processing set.
4. All passwords supplied to the password bank become synced via an agent and accompany the job as it goes to the processing engine.
5. The processing engine discovers the files in the processing set. If the file is encrypted, Relativity checks the Password Bank to see if a password exists for the file. If a password exists, Relativity uses the password to open the file and extract the text, metadata, and native/basic imaging. The native file remains unmodified in its encrypted state, as the password is only used to open and extract content. The extracted text, metadata, and native/basic imaging are not encrypted.
6. Publish the discovered files in the processing set.
7. The published documents are now available for review in the workspace. To view or image any encrypted native files, the password must remain in the Password Bank, otherwise you will see an error.

The following scenario depicts the basic procedure by which you would address errors due to password-protected files in a processing set. In this scenario, you would:

1. Run publish on your discovered files.
2. Navigate to the Files tab after publish is complete and locate all errors resulting from password protection.
3. Outside of Relativity, locate the passwords designated to unlock those files.
4. Return to Relativity, go to the Password Bank, and create entries for every password that corresponds with the errored files.
5. Run retry on the files that previously resulted in password-protection errors.
6. From the Files tab, use the Republish mass action to retry to job.

Note: The PDF mass action does not work with the Password Bank. Specifically, the PDF mass action cannot connect with the password bank to grab passwords for encrypted documents. That connection is only available for native imaging and processing.

9.2 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.

Note: The Password Bank works with both Native and Basic imaging.

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.

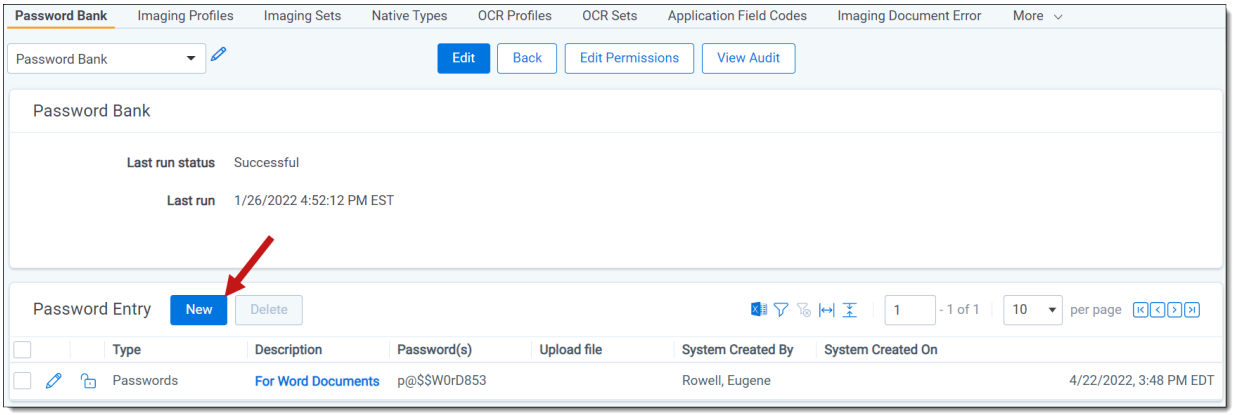
4. Click Retry Errors in the Imaging Set console to retry imaging the files that previously resulted in password-protection errors.

9.3 Creating or deleting a Password Bank entry

Note: There is no limit on the number of passwords you can add to the password bank. However, having more than 100 passwords could degrade the performance of your processing and imaging jobs.

To create a new entry in the bank:

1. Navigate to **Processing**, and click the **Password Bank** tab.
2. Click **New** on the **Password Entry** category.



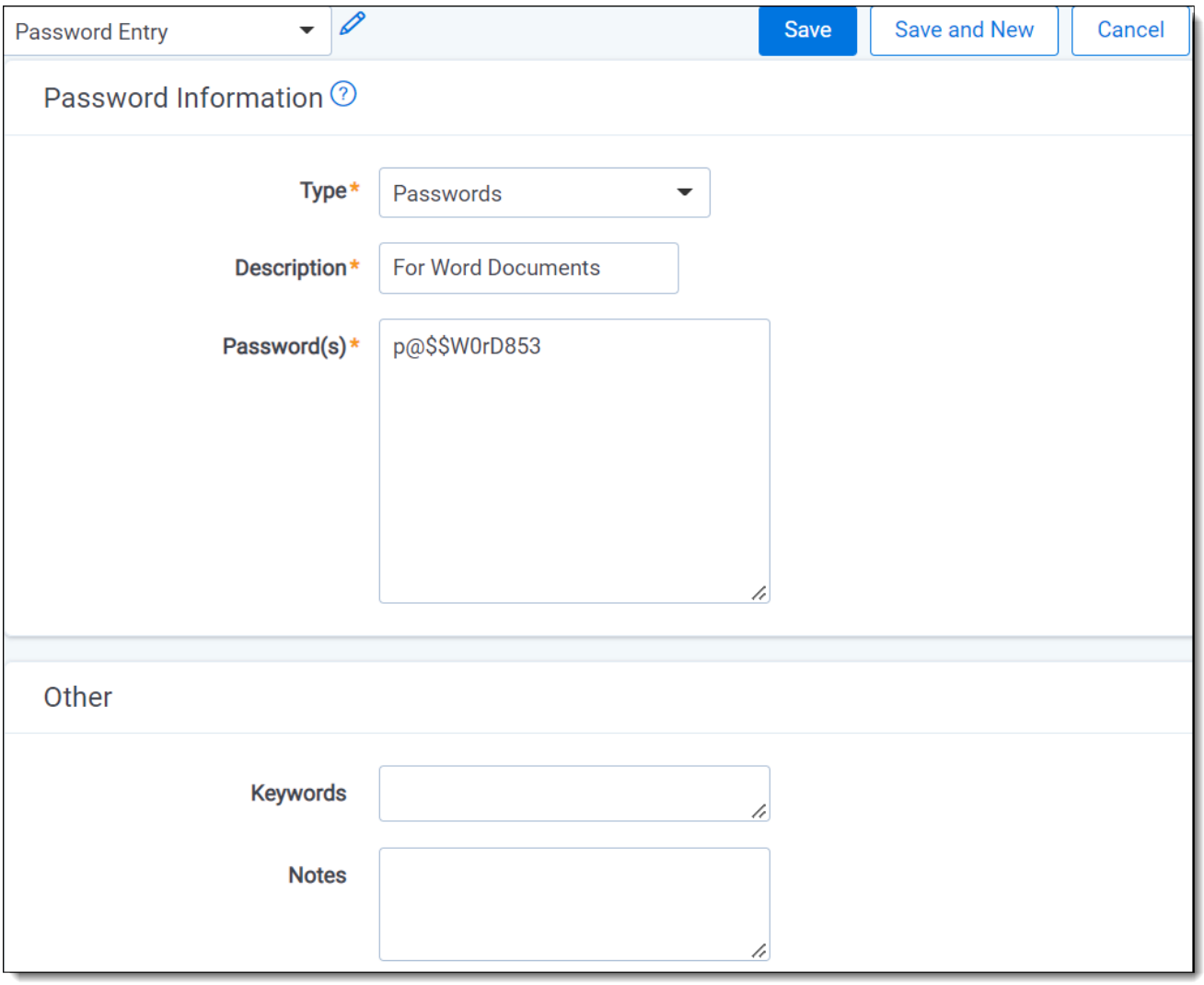
3. Complete the fields on the Password Entry Layout. See Fields for more information.
4. Click **Save**. The entry appears among the others under the Password Entry object.

To delete a password, select the check box next to its name and click **Delete** on the Password Entry object.

Note: When you create a password entry and submit any job that syncs with the processing engine (imaging or processing), an entry is created in the engine for that password and that workspace. Even if you delete that password entry from the password bank, any future jobs continue to try that password.

9.3.1 Fields

The Password Bank layout contains the following fields:



- **Type**—the type of password entry you are creating. The options are:
  - **Passwords**—any file that you want to decrypt that is not grouped with the three other types of Lotus Notes, Email encryption certificates, or AD1 encryption certificates.
    - Although you are able to process EnCase Logical Evidence files, the password bank does not support password-protected Encase files.
    - When you select this type, you must enter at least one password in the Passwords field to save.
    - The password bank does not support Microsoft OneNote files.
    - For imaging jobs, this is the only relevant option for a password entry.
    - For imaging and processing jobs, a slipsheet is not created automatically for documents that are password-protected. However, you can create an image outside of Relativity and use the password-protected document's control number as the image key to then load the image into Relativity through the Import/Export tool and have it display as the image for that encrypted document.

- **Lotus Notes**—any file generated by Lotus Notes software.
  - Even though the Password(s) field does not display as required, you must enter passwords for all encrypted Lotus Notes files if you want to decrypt them during the processing job. This is because Lotus Notes files require a matching password and file.
  - When you select this type, you must upload a file with an extension of *User.ID* in the Upload file field.
  - If you have Processing installed, you can associate a custodian with the Lotus files you upload. To do this, select a custodian from the **Custodians** field, which appears on the layout only when you select Lotus Notes as the type. Doing this syncs the password bank/custodian with the processing engine, which can then access partially encrypted Lotus Notes files. Passwords associated with a custodian have a higher priority.
  - For encrypted Lotus documents, Relativity only supports user.id files whose public key size is 630 bits.
- **Email encryption certificate**—files protected by various encryption software certificates.
  - Even though the Password(s) field does not display as required, you must enter passwords for all email encryption certificates if you want to decrypt them during the processing job.
  - When you select this type, you must upload one .pfx or .p12 file in the Upload file field.
  - You can only upload one file per email encryption entry.
- **AD1 Encryption Certificate**—AD1 files protected by an encryption software certificate.
  - Even though the Password(s) field does not display as required, you must enter passwords for all AD1 encryption certificates if you want to decrypt them during the processing job.
  - When you select this type, you must upload one .pfx, .p12, .pem, or .key file in the Upload file field. You receive an error if you try to upload any other file type.
  - You can only upload one file per AD1 encryption entry.

- **Description**—a description of the entry you are adding to the bank. This helps you differentiate between other entry types.
- **Password(s)**—the one or more passwords you are specifying for the type you selected. Only enter one password per line, and separate passwords with a carriage return. If you enter two passwords on the same line, the password bank interprets the value as a single password.
  - If you select Passwords as the file type, you must add at least one password here to save.
  - You can also add values here if you are uploading certificates that do not have passwords. See Example password.
  - Unicode passwords for zip files are not supported.
  - Relativity bypasses passwords on .pst and .ost files automatically during file discovery. Thus, passwords are not required for these files to get discovered.
- **Upload file**—the accompanying file you are required to upload for Lotus Notes, Email encryption certificate, and AD1 encryption certificate types. If uploading for Lotus Notes, the file extension must be

User.ID with no exceptions. The file types eligible for upload for the Email encryption certificate type are .pfx and .p12. The file types eligible for upload for the AD1 encryption certificate type are .pfx, .p12, .pem, and .key.

Note: If you save a Powerpoint or Excel document in pre-2007 format, .PPT or .XLS files for example. and the document is read-only, we use the default known password to decrypt the document, regardless of whether or not the password exists in the Password Bank.

9.3.2 Example password

When supplying passwords to the password bank, if you enter:

password@1

bookmark@56

123456

the password bank recognizes three passwords.

If you enter:

password@1

bookmark@56, 123456

the password bank only recognizes two passwords.

9.4 Validations, errors, and exceptions

Note the following:

- Including a password that does not belong to a document in your data set does not throw an exception or affect the process.
- A password can unlock multiple files. If you provide the password for a Lotus Notes file that also happens to correspond to a Word file, the password unlocks both files.
- If you delete a password bank entry after submitting a processing or imaging job, you can still complete those jobs.

You may encounter an exception called **Word template files** while using the password bank. In this case, the password bank cannot unlock an encrypted Word file that was created based on an encrypted Word template where the Word file password is different than the template password, regardless of whether both passwords are in the password bank.

You can resolve password bank exceptions by supplying the correct password to the bank and then retrying those errors in their respective processing or imaging jobs.

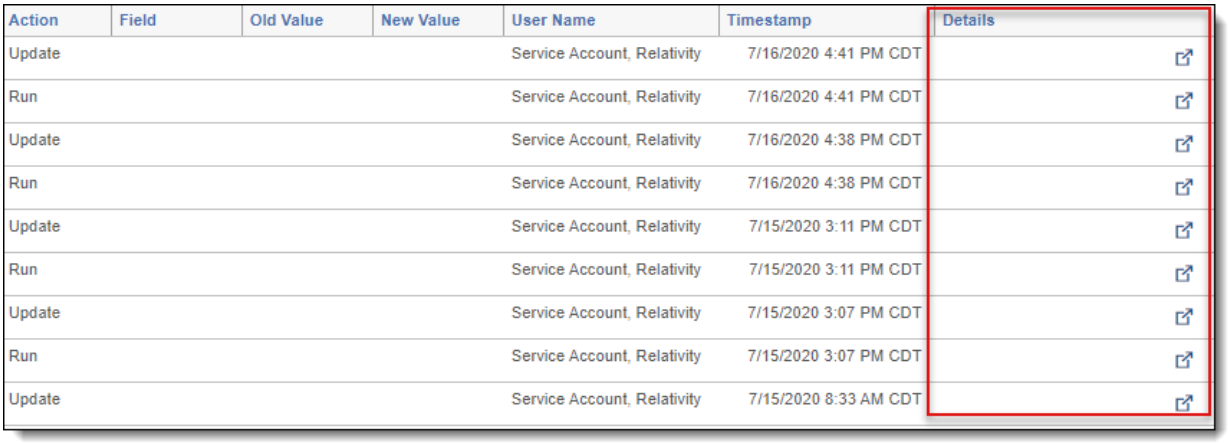
Note: When you supply a valid password to the password bank, the processing engine extracts metadata and extracted text from the document that the password unlocks. However, when you publish that document, its password security is not removed, in which case it technically remains in an encrypted state even after it is published to the workspace. However, you can view the still-encrypted document in the viewer, because the viewer recognizes that a valid password has been supplied. If the Password Protected field indicates that a document was decrypted, that designation only refers to the fact that you provided a valid password for it to the password bank for the purposes of processing.

9.5 Viewing audits

Every time you send a Password Bank to the processing engine, Relativity adds an audit. The Password Bank object's audit history includes the standard Relativity audit actions of update and run, ands a list of all passwords associated with a discovery job at run time.

To view the passwords sent to the processing engine during a job:

1. Navigate to **Processing**, and then click **Password Bank**.
2. Click **View Audit** on the Password Bank layout.
3. Click **Details** on the Password Bank history layout.



Action	Field	Old Value	New Value	User Name	Timestamp	Details
Update				Service Account, Relativity	7/16/2020 4:41 PM CDT	
Run				Service Account, Relativity	7/16/2020 4:41 PM CDT	
Update				Service Account, Relativity	7/16/2020 4:38 PM CDT	
Run				Service Account, Relativity	7/16/2020 4:38 PM CDT	
Update				Service Account, Relativity	7/15/2020 3:11 PM CDT	
Run				Service Account, Relativity	7/15/2020 3:11 PM CDT	
Update				Service Account, Relativity	7/15/2020 3:07 PM CDT	
Run				Service Account, Relativity	7/15/2020 3:07 PM CDT	
Update				Service Account, Relativity	7/15/2020 8:33 AM CDT	

4. Refer to the **Value** field on the audit details window. Any properties not set on the password bank entry are not listed in the audit.

10 Mapping processing fields

To pull in all of your desired processing data, use the Field Catalog to map your document fields to Relativity's processing data.

System fields versus optional fields

When mapping processing fields, you will encounter Relativity system fields and optional fields. The following describes the differences between the two field types and how you might work with them.

- Relativity **system** fields refer to Relativity-specific fields that are automatically mapped and published by Relativity. Some examples include the Container ID, Custodian, and Extracted Text. You cannot modify Relativity system fields, and you will not see them in the Field Catalog.
- **Optional** file fields include fields not considered a Relativity system field and vary from file to file. There are two types of optional file fields:
  - **File** system metadata that comprises a file's properties, such as the file name, file size, date created, and file type.
  - **Application** metadata stored inside the file itself, such as the author, message heading, and comments. You can only access this data if you have the ability to open the file and extract the content.

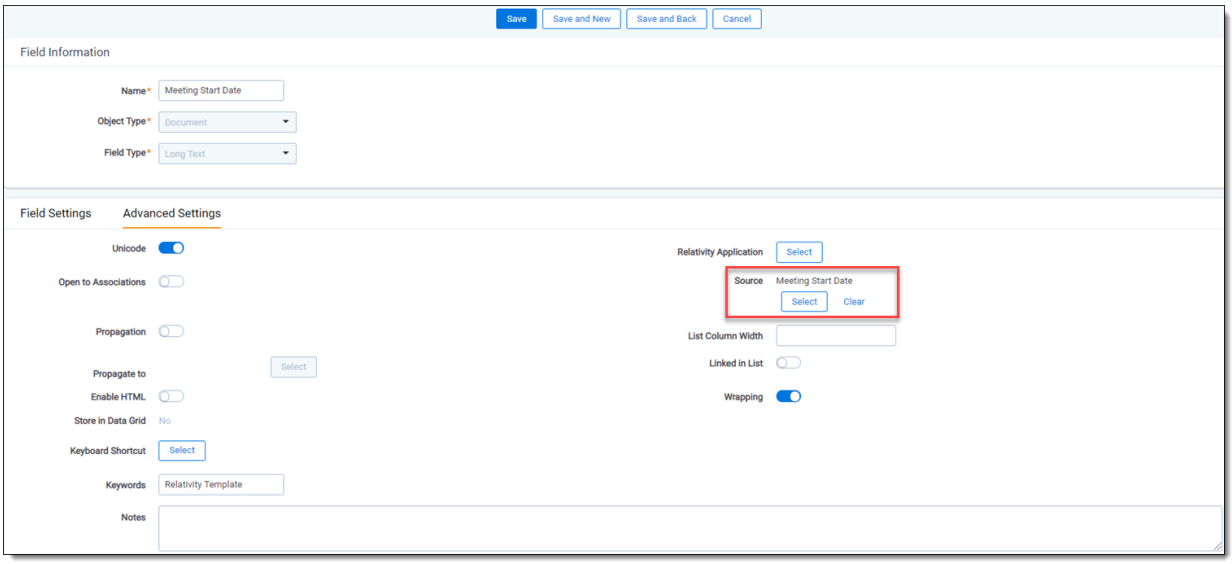
Sometimes, you will see a field stored in both Relativity system fields and optional fields, such as Date Created. In this case, Relativity determines which field to keep and which to ignore.

10.1 Mapping fields

To map processing fields, perform the following steps:

1. Open the **Fields** tab.
2. Click **New Field** or **Edit** on an existing field.
3. Provide a name in the **Name** field. We recommend that you give the field an identical name to the one you are mapping to.
4. In the Object Type field, select **Document**. Only Relativity document fields are eligible to map to a value in the Source field. Selecting any other object type disables the Source field.
5. In the Field Type field, select the type of field to set what type of data can be entered into the field.
6. When the Field Type is selected, you will see the menu for Field Settings and Advanced Settings appear. Click the **Advanced Settings** tab.

7. Click **Select** on the **Source** field to display the processing fields to which the Relativity field can be mapped.



8. From the available processing fields, select the one to which you want to map, and click **Set**.
9. Confirm that the field you just mapped appears in the Source field, complete the remaining required fields and click **Save**.

Note: If the Processing application is not installed, you can still map fields as long as you have added the worker manager server to the resource pool.

10.1.1 Relativity system field considerations

Note the following regarding Relativity system fields:

- Relativity system fields are mapped by default and cannot be modified.
- Relativity system fields are not listed in the Field Catalog.

A word on Field Catalog source fields
While processing data in an instance, Relativity discovers metadata fields and records them as source fields in the Field Catalog. You can map source fields in the Document object, where the field is then populated when a document is published.

Note: This occurs instance-wide. If one workspace processes a field with a unique metadata name, all other workspaces will see the source field as available for mapping, even if the workspace has never, and possibly will never, process a file with the same field name.

Example

Workspace 1 - processes a file with a unique metadata name, *UniqueData*. The field becomes part of the Field Catalog and is available to all other workspaces in the instance.

Workspace 2 - sees *UniqueData* in the Field Catalog, even though Workspace 2 has never processed a file with the metadata name.

10.1.2 Field mapping validations

When mapping fields, you will receive an error if:

- You attempt to map fields of mismatching types. For example, if you map a whole number field in Processing to a Relativity date field, you will receive an error upon saving the field.
- You attempt to map a fixed-length text field to a catalog field of a longer length.
- You do not have Edit permissions for the Field object. This is because mapping through the Source field is considered an edit to a field. If you only have Add permissions for the Field object and not Edit, and you attempt to map a field, you will receive an error stating, “Error saving field mapping."

10.2 System-mapped fields

The following system-created metadata fields are always populated when data is processed. These fields are automatically mapped and are not available for manual mapping through the Source field on the Field layout:

Processing Field Name	Source view	Field Type	Description
Container Extension	Other Fields	Fixed-Length Text	Document extension of the container file in which the document originated.
Container ID	Other Fields	Fixed-Length Text	Unique identifier of the container file in which the document originated. This is used to identify or group files that came from the same container.
Container Name	Other Fields	Fixed-Length Text	Name of the container file in which the document originated.
Control Number		Fixed-Length Text	The identifier of the document.
Custodian		Single Object	Custodian associated with, or assigned to, the processing set during processing.
Extracted Text	Other Fields	Long Text	Complete text extracted from content of electronic files or OCR data field. This field holds the hidden comments of Microsoft Office files. Extracted Text Size in KB is also an available mappable field outside of the standard fields. This field indicates the size of the extracted text field in kilobytes. To map this field, edit the corresponding Relativity field, open the **Other Fields** view via the **Source** control, and select **Extracted Text Size in KB**.
Last Published On		Date	Date on which the document was last updated via re-publish.
Level	Other Fields	Whole Number	Numeric value indicating how deeply nested the document is within the family. The higher the number, the deeper the document is nested.

Processing Field Name	Source view	Field Type	Description
Originating Processing Set		Single Object	The processing set in which the document was processed.
Originating Processing Data Source		Single Object	A single object field that refers to the processing data source.
Processing File ID	Other Fields	Fixed-Length Text	Unique identifier of the document in the processing engine database.
Processing Folder Path	Other Fields	Long Text	The folder structure and path to the file from the original location, which is used to generate the Relativity folder browser for your documents. This field is populated every time you process documents. See Processing folder path on page 93 for more information.
Relativity Attachment ID	Other Fields	Fixed-Length Text	A system field that the Short Message Viewer uses to provide enhanced support for attachments and avatars. See the Relativity Short Message Format guide for more information.
Relativity Native Time Zone Offset	Other Fields	Decimal	A numeric field that offsets how header dates and times appear in the viewer for processed emails. This field will be populated with the UTC offset value of the time zone chosen in the processing profile. For example, documents processed to Central Standard Time (CST), would be populated with a value of "-6" because CST is UTC-6. For more details on this field, see the Admin Guide.
Time Zone Field		Single Object	Indicates which time zone is used to display dates and times on a document image.
Virtual Path	Other Fields	Long Text	Folder structure and path to file from the original location identified during processing. See Virtual path on page 92 for more information.

10.3 Optional fields

The following, optional, metadata fields can be mapped through the Field Catalog. The Field Catalog contains a list of all available fields to map regardless of discovered data.

If you are setting up Processing prior to Discovery and Publish, you have the following options available in the Source field modal:

- Standard Fields—contains a collection of fields from both the Metadata Fields and Other Fields options.
- Metadata Fields—contains fields extracted from the actual file or file system.

- Other Fields—contains static, or Relativity system fields such as control number, processing set name, custodian, and so forth.

Please note:

- You can map one processing field to multiple Document object fields.
- Fixed length and long text fields must be Unicode-enabled before you can map to them.
- The following metadata fields can be mapped to similar field types in the Field Catalog. To map different field types outside of the 135 metadata fields to one another, select **All Fields** from the drop-down menu in the Source field modal.
- Consider the following data compatible field types with valid mapping:
  - You can map long text document fields to fixed-length text processing fields. However, Relativity does not support mapping fixed-length text document fields to long text processing fields.
  - You can map single choice Catalog fields to destination fields of fixed-length text, long text, choice, or single object fields.
  - You can map a DateTime field to a Date field if the source field is DateTime and the type of destination field is Date.

Caution: Use caution when mapping to multiple-choice fields. Mapping multiple-choice fields creates a unique value for each choice option. Depending on the multiple-choice fields mapped, you could have hundreds of unique choices, impacting performance.

Processing field/ source name	Source view	Field type	Description	Example value
All Custodians	Standard Fields	Multiple Object	All custodians, deduped and primary, associated with a file. The All Custodians field is mapped to a document and is updated only when Global or Custodial deduplication is enabled on the set and the field has been mapped, even if no duplicates exist for the document that was published in the workspace.	Lay, Kenneth; Doe, John
All Paths/Locations	Standard Fields	Long Text	This is the same as DeDuped Paths except that the virtual path of the current document is appended to the end of the list. The All Paths/Locations field is	Lay, Kenneth|\Lay, Kenneth\kenneth_lay_000_1_2_1.pst \lay-k\Kenneth_Lay_Dec2000\Notes Folders\Notes inbox; Doe, John|\Doe, John\John_Doe_000_1_2_1.pst \Doe-J\John_Doe_Dec2000\Notes

Processing field/ source name	Source view	Field type	Description	Example value
			populated only when Global or Custodial de-duplication is enabled on the set and the field has been mapped, even if no duplicates exist for the document that was published in the workspace.	Folders\Discussion threads
Attachment Document IDs	Standard Fields	Long Text	Attachment document IDs of all child items in family group, delimited by semicolon, only present on parent items.	KL0000000031.0001;KL000000 ↪0031.0002
Attachment List	Standard Fields	Long Text	Attachment file names of all child items in a family group, delimited by semicolon, only present on parent items.	EC PRC Meeting Agenda.doc;Map to The St.Regis.doc
Author	Standard Fields	Fixed-Length Text (50)	Original composer of document or sender of email message. This field has a maximum length of 50 alpha-numeric characters.	Jane Doe
BCC	Standard Fields	Long Text	The names, when available, and email addresses of the Blind Carbon Copy recipients of an email message.	Capellas Michael D. [Michael.Capellas@COMPAQ.com]
BCC (SMTP Address)	Standard Fields	Long Text	The full SMTP value for the email address entered as a recipient of the Blind Carbon Copy of an email message.	Michael.Capellas@COMPAQ.com
CC		Long Text	The names, when available, and email addresses of the Carbon Copy recipients of an email message.	Capellas Michael D. [Michael.Capellas@COMPAQ.com]
CC (SMTP Address)	Standard	Long Text	The full SMTP value for the email address	Michael.Capellas@COMPAQ.com

Processing field/ source name	Source view	Field type	Description	Example value
	Fields		entered as a recipient of the Carbon Copy of an email message.	
Child MD5 Hash Values	Standard Fields	Long Text	Attachment MD5 hash value of all child items in a family group, only present on parent items. Relativity cannot calculate this value if you have FIPS (Federal Information Processing Standards cryptography) enabled for the worker manager server.	BA8F37866F59F269AE1D6 ↪2D962B887B65DE7474D1 ↪3679D9388B75C95EE7780FE
Child SHA1 Hash Values	Standard Fields	Long Text	Attachment SHA1 hash value of all child items in a family group, only present on parent items.	1989C1E539B5AE9818 ↪20648623954872BEE3E483; 58D9E4B4A3068DA6E9 ↪BCDD969523288CF38F9FB3
Child SHA256 Hash Values	Standard Fields	Long Text	Attachment SHA256 hash value of all child items in a family group, only present on parent items.	7848EEFC40C40F86892960 ↪0BF033617642E0D37C2F5 ↪FA444C7EF83350AE19883;628B623-3DD6E ↪0C89F32D6EFF2885F26917F14 ↪4B19F3678265BEBAC7E9ACAAF5B
Comments	Standard Fields	Long Text	Comments extracted from the metadata of the native file. For more information, see Comments considerations.	Oracle 8i ODBC QueryFix Applied
Company	Standard Fields	Fixed-Length Text (255)	The internal value entered for the company associated with a Microsoft Office document. This field has a maximum length of 255 alpha-numeric characters.	Oracle Corporation
Contains Embedded Files	Standard Fields	Yes/No	The yes/no indicator of whether a file such as a Microsoft Word document has additional	Yes

Processing field/ source name	Source view	Field type	Description	Example value
			files embedded in it.	
Control Number Beg Attach	Standard Fields	Fixed-Length Text (50)	The identifier of the first document in a family group. This field is also populated for documents with no family members. This field has a maximum length of 50 alpha-numeric characters.	KL0000000001
Control Number End Attach	Standard Fields	Fixed-Length Text (50)	The identifier of the last document in a family group. This field is also populated for documents with no family members. This field has a maximum length of 50 alpha-numeric characters.	KL0000000001.0002
Conversation	Standard Fields	Long Text	Normalized subject of email messages. This is the subject line of the email after removing the RE and FW that are added by the system when emails are forwarded or replied to.	Sigaba Secure Internet Communication
Conversation Family	Standard Fields	Fixed-Length Text (44)	Relational field for conversation threads. This is a maximum 44-character string of numbers and letters that is created in the initial email.	01C9D1FD002240FB633CEC8 ↪94C1985845049B1886B67
Conversation Index	Standard Fields	Long Text	Email thread created by the email system. This is a maximum 44-character string of numbers and letters that is created in the initial email and has 10 characters added for each reply or forward of an email.	01C9D1FD002240FB633CEC8 ↪94C1985845049B1886B67

Processing field/ source name	Source view	Field type	Description	Example value
Created Date	Standard Fields	Long Text	The date on which a file was created.	12/24/2015
Created Date/Time	Standard Fields	Date	The date and time from the Date Created property extracted from the original file or email message. This field will display the filesystem date created for the document if that is the only date created value available. If a document has both a filesystem date created value and a document metadata date created value, this field will display the document metadata date created value.	"12/24/2015 11:59 PM"
Created Time	Standard Fields	Long Text	The time at which a file was created.	11:59 PM
DeDuped Count	Standard Fields	Whole Number	The number of duplicate files related to a primary file. This is present only when Global or Custodial Deduplication is enabled and duplicates are present. If you discovered and published your set before Relativity Foxglove, you cannot map this field and republish the set. This is populated on the primary document. You are not able to retroactively populate this field with custodian information.	2
DeDuped Cus-	Stand-	Multiple	The custodians	Lay, Kenneth;Doe, John

Processing field/ source name	Source view	Field type	Description	Example value
todians	ard Fields	Object	associated with the de-duped records of a file. The DeDuped Custodians file is mapped to a document and is present only when Global or Custodial Deduplication is enabled and duplicates are present. This is populated on the primary document. You are not able to retroactively populate this field with custodian information. The All Custodians field is mapped to a document and is updated only.	
DeDuped Paths	Stand-ard Fields	Long Text	The virtual paths of duplicates of a file. This is present only when Global or Custodial Deduplication is enabled and duplicates are present. Each path contains the associated custodian. This is populated on the primary document. You are not able to retroactively populate this field with path information.	Lay, Kenneth|\Lay, Kenneth\kenneth_lay_000_1_2_1.pst \lay-k\Kenneth_Lay_Dec2000\Notes Folders\Notes inbox| Doe, John|\Doe, John\John_Doe_000_1_2_1.pst\Doe-J \John_Doe_Dec2000\Notes Folders\Discussion threads
Delivery Receipt Requested	Stand-ard Fields	Yes/No	Indicates whether a delivery receipt was requested for an email.	No
Document Sub-ject		Long Text	Subject of the document extracted from the prop-erties of the native file.	RE: Our trip to Washington
Discover Errors on Child Con-tainers	Stand-ard Fields	Long Text	Contains the Pro-cessing File IDs and cat-egory of child containers in parent doc-	1 - Password Protected Container; 2 - Corrupt Container; 3 - Configuration Error

Processing field/ source name	Source view	Field type	Description	Example value
			uments that have errors associated with them.	
Document Title	Standard Fields	Long Text	The title of a non-email document. This is blank if there is no value available.	Manual of Standard Procedures
Email Categories	Standard Fields	Long Text	Categories assigned to an email message.	Personal
Email Created Date/Time	Standard Fields	Date	The date and time at which an email was created.	"12/24/2015 11:59 PM"
Email Entry ID	Standard Fields	Long Text	The unique Identifier of an email in an mail store.	000000005B77B2A7467F564 ↪68D820375BC3DC58244002000
Email Folder Path	Standard Fields	Long Text	The folder path in which a custodian stored an email. See Email folder path on page 93 for more information.	Inbox\New Business
Email Format	Standard Fields	Single Choice	The indicator of whether an email is HTML, Rich Text, or Plain Text.	HTML
Email Has Attachments	Standard Fields	Yes/No	The yes/no indicator of whether an email has children, attachments.	Yes
Email In Reply To ID	Standard Fields	Long Text	The internal metadata value within an email for the reply-to ID.	<F9B1A278195DF640A4CC6E ↪C973DFF0C85FBBEDEB ↪@Prod-EX-MB-01.company.corp>
Email Last Modified Date/Time	Standard Fields	Date	The date and time at which an email was last modified.	"12/24/2015 11:59 PM"
Email Modified Flag		Yes/No	The yes/no indicator of whether an email was modified.	Yes
Email Sensitivity	Standard Fields	Single Choice	The indicator of the privacy level of an email.	Company Confidential
Email Sent Flag	Stand-	Yes/No	The yes/no indicator of	Yes

Processing field/ source name	Source view	Field type	Description	Example value
	ard Fields		whether an email was sent, versus saved as a draft.	
Email Store Name	Stand-ard Fields	Fixed-Length Text (255)	Any email, contact, appointment, or other data that is extracted from an email container, .pst, .ost, .nsf, .mbox, and other files, will have this field populated with the name of that email container. Any children of those extracted emails, contacts, and appointments will not have anything populated in this field. For more information on this field, see Email Store Name field on page 91. This field has a maximum length of 255 alpha-numeric characters.	kenneth_lay_000_1_1_1_1.pst
Email Unread	Stand-ard Fields	Yes/No	The yes/no indicator of whether an email was not read.	Yes
Error Category	Stand-ard Fields	Single Choice	The category assigned by the system to a pro-cessing error.	Password Protected Container
Error Message	Stand-ard Fields	Long Text	The message that details the error, cause, and suggested res-olution of the error pri-oritized by processing phase—discovery, text extraction, publish, file deletion.	There was an error during extraction of an email from this Notes container. It may be password protected. Consider adding the User.ID file and password(s) to Password Bank and retrying.
Error Phase	Stand-ard Fields	Single Choice	The phase of pro-cessing in which the error occurred—dis-covery, text extraction, publish, file deletion.	Discovery

Processing field/ source name	Source view	Field type	Description	Example value
Error Status	Standard Fields	Single Choice	The status of the error—undetermined, ready to retry, retried, submitted, unresolvable.	Ready to retry.
Excel Hidden Columns	Standard Fields	Yes/No	The yes/no indicator of whether an Excel file contains one or more hidden columns.	No
Excel Hidden Rows	Standard Fields	Yes/No	The yes/no indicator of whether an Excel file contains one or more hidden rows.	Yes
Excel Hidden Worksheets	Standard Fields	Yes/No	The yes/no indicator of whether an Excel file contains one or more hidden worksheets.	No
Excel Pivot Tables	Standard Fields	Yes/No	The yes/no indicator of whether an Excel file contains pivot tables.	Yes
Extracted Text Size in KB	Other Fields	Decimal	This field indicates the size of the extracted text field in kilobytes.	6.7
Family Group (formerly "Group Identifier")	Standard Fields	Fixed-Length Text (40)	Group the file belongs to, used to identify the group if attachment fields are not used. This field has a maximum length of 40 alpha-numeric characters.	KL0000000002
File Extension	Standard Fields	Fixed-Length Text (25)	The extension of the file, as assigned by the processing engine after it reads the header information from the original file. This may differ from the value for the Original File Extension field. If you publish processing sets without mapping the File Extension processing	MSG

Processing field/ source name	Source view	Field type	Description	Example value
			field, the Text Extraction report does not accurately report document counts by file type. This field has a maximum length of 25 alpha-numeric characters.	
File Name	Standard Fields	Fixed-Length Text (255)	The original name of the file. This field has a maximum length of 255 alpha-numeric characters.	enron corp budget.xls
File Size	Standard Fields	Decimal	Generally a decimal number indicating the size in bytes of a file.	15896
File Type	Standard Fields	Fixed-Length Text (255)	Description that represents the file type to the Windows Operating System. Examples are Adobe Portable Document Format, Microsoft Word 97 - 2003 Document, or Microsoft Office Word Open XML Format. This field has a maximum length of 255 alpha-numeric characters.	Microsoft Excel 97-2003 Worksheet
From	Standard Fields	Fixed-Length Text (255)	The name, when available, and email address of the sender of an email message. This field has a maximum length of 255 alpha-numeric characters.	Capellas Michael D. [Michael.Capellas@COMPAQ.com]
From (SMTP Address)	Standard Fields	Fixed-Length Text (255)	The full SMTP value for the sender of an email message. This field has a maximum length of 255 alpha-numeric characters.	Michael.Capellas@COMPAQ.com

Processing field/ source name	Source view	Field type	Description	Example value
Has Hidden Data	Stand-ard Fields	Yes/No	Indication of the existence of hidden document data such as hidden text in a Word document, hidden columns, rows, or worksheets in Excel, or slide notes in PowerPoint. If a document contains hidden data that was found during processing, this field displays a value of Yes. If no hidden data was found, this field is blank. Note that this field does not display a value of No if no hidden data was found. This is because Relativity cannot definitively state that a document contained no hidden data just because the system could not detect it.	Yes
Has OCR Text	Stand-ard Fields	Yes/No	The yes/no indicator of whether the extracted text field contains OCR text.	Yes
Hid-denAttachment		Yes/No	The yes/no indicator of whether or not the record is an Email inline image.	Yes
Image Taken Date/Time	Stand-ard Fields	Date	The date and time at which an original image, for example a document scan or .jpg, was taken.	"12/24/2015 11:59 PM"
Importance	Stand-ard Fields	Single Choice	Notation created for email messages to note a higher level of import-ance than other email messages added by the	Low

Processing field/ source name	Source view	Field type	Description	Example value
			email originator.	
Is Embedded	Standard Fields	Yes/No	The yes/no indicator of whether a file is embedded in a Microsoft Office document.	No
Is Parent	Standard Fields	Yes/No	The yes/no indicator of whether a file is a parent with children or a child/loose record with no children. If this reads Yes, it is a top-level parent with children. If this reads No, it is an attachment or a loose record such as a standalone email or an Edoc.	No
Keywords	Standard Fields	Long Text	The internal value entered for keywords associated with a Microsoft Office document.	Enron, Security Agreement
Last Accessed Date	Standard Fields	Long Text	The date on which a loose file was last accessed.	12/24/2015
Last Accessed Date/Time	Standard Fields	Date	The date and time at which the loose file was last accessed.	"12/24/2015 11:59 PM"
Last Accessed Time	Standard Fields	Long Text	The time at which the loose file was last accessed.	11:59 PM
Last Modified Date	Standard Fields	Long Text	The date on which changes to a file were last saved.	12/24/2015
Last Modified Date/Time	Standard Fields	Date	The date and time at which changes to a file were last saved.	"12/24/2015 11:59 PM"
Last Modified Time	Standard Fields	Long Text	The time at which changes to a file were last saved.	11:59 PM
Last Printed	Stand-	Long Te-	The date on which a file	12/24/2015

Processing field/ source name	Source view	Field type	Description	Example value
Date	ard Fields	xt	was last printed.	
Last Printed Date/Time	Stand-ard Fields	Date	The date and time at which a file was last print-ed.	"12/24/2015 11:59 PM"
Last Printed Time	Stand-ard Fields	Long Text	The time at which a file was last printed.	11:59 PM
Last Saved By	Stand-ard Fields	Fixed-Length Text (255)	The internal value indic-ating the last user to save a document. This field has a maximum length of 255 alpha-numeric characters.	ymendez
Last Saved Date	Stand-ard Fields	Long Text	The date on which a file was last saved.	12/24/2015
Last Saved Date/Tim-e	Stand-ard Fields	Date	The internal value entered for the date and time at which a doc-ument was last saved.	"12/24/2015 11:59 PM"
Last Saved Time	Stand-ard Fields	Long Text	The time at which a file was last saved.	11:59 PM
Lotus Notes Other Folders	Stand-ard Fields	Long Text	A semi-colon-delimited listing of all folders that a Lotus Notes message or document appeared in, except for the one indicated in the Email Folder Path. For example: (Mail Threads);($All); ($Drafts)	(Mail Threads);($All);($Drafts)
MD5 Hash	Stand-ard Fields	Fixed-Length Text (40)	Identifying value of an electronic record that can be used for de-duplication and authentication generated using the MD5 hash algorithm.	21A74B494A1BFC2FE217 ↪CC274980E915

Processing field/ source name	Source view	Field type	Description	Example value
			Relativity cannot calculate this value if you have FIPS (Federal Information Processing Standards cryptography) enabled for the worker manager server. This field has a maximum length of 40 alpha-numeric characters.	
MS Office Document Manager	Standard Fields	Fixed-Length Text (255)	The internal value entered for the manager of a document. This field has a maximum length of 255 alpha-numeric characters.	Fabienne Chanavat
MS Office Revision Number	Standard Fields	Fixed-Length Text (255)	The internal value for the revision number within a Microsoft Office file. This field has a maximum length of 255 alpha-numeric characters.	72
Media Type	Standard Fields	Single Choice	A standard identifier used on the Internet to indicate the type of data that a file contains.	application/msword
Meeting End Date	Standard Fields	Long Text	The date on which a meeting item in Outlook or Lotus Notes ended.	12/24/2015
Meeting End Date/Time	Standard Fields	Date	The date and time at which a meeting item in Outlook or Lotus Notes ended.	"12/24/2015 11:59 PM"
Meeting End Time	Standard Fields	Long Text	The time at which a meeting item in Outlook or Lotus Notes ended.	11:59 PM
Meeting Start Date	Standard Fields	Long Text	The date on which a meeting item in Outlook or Lotus Notes started.	12/24/2015
Meeting Start	Stand-	Date	The date and time at	"12/24/2015 11:59 PM"

Processing field/ source name	Source view	Field type	Description	Example value
Date/Time	ard Fields		which a meeting item in Outlook or Lotus Notes began.	
Meeting Start Time	Stand-ard Fields	Long Text	The time at which a meeting item in Outlook or Lotus Notes started.	11:59 PM
Message Class	Stand-ard Fields	Single Choice	The type of item from an email client. For example, email, con-tact, calendar, and oth-ers.	IPM.Note
Message Header	Stand-ard Fields	Long Text	The full string of values contained in an email message header.	date: Wed, 4 Oct 2000 18:45:00 -0700 (PDT) Wed, 4 Oct 2000 18:45:00 -0700 (PDT) Mes-sage-ID: MIME-Version: 1.0 Content-Type: text/plain; char-set="us-ascii" Content-Transfer-Encoding: 7bit from: "Rosalee Fleming" to: "Telle Michael S." subject: Re: Ref-erendum Campaign filename: klay.nsf folder: \Kenneth_Lay_Dec2000\Notes Folders\'sent
Message ID	Stand-ard Fields	Fixed-Length Text (255)	The message number created by an email application and extrac-ted from the email's metadata. For more information, see Mes-sage ID considerations on page 94. This field has a maximum length of 255 alpha-numeric characters.	<PLSRGLMRNQWEDFYPJL5 ↪ZJFF41USDEIQHB@zlsvr22>
Message Type	Stand-ard Fields	Single Choice	Indicates the email sys-tem message type. Possible values include Appointment, Contact, Distribution List, Deliv-ery Report, Message, or Task. The value may be	Message

Processing field/ source name	Source view	Field type	Description	Example value
			appended with '(Encrypted)' or 'Digitally Signed' where appropriate.	
Native File	Standard Fields	Long Text	The path to a copy of a file for loading into Relativity.	\\files2.T026.ctus014128.r1.company.com\ ↪T026\Files\EDDS2544753\Processing\ ↪1218799\INV2544753\SOURCE\0\98-2.MSG
Number of Attachments	Standard Fields	Whole Number	Number of files attached to a parent document.	2
Original Author Name	Standard Fields	Fixed-Length Text (50)	The display name of the original author of an email. This field has a maximum length of 50 alpha-numeric characters.	Jane Doe
Original Email Author	Standard Fields	Fixed-Length Text (255)	The email address of the original author of an email. This field has a maximum length of 255 alpha-numeric characters.	Jane.Doe@COMPAQ.com
Original File Extension	Standard Fields	Fixed-Length Text (25)	The original extension of the file. This may differ from the value for the File Extension field, since that value is assigned based on the processing engine's reading of the file's header information. This field has a maximum length of 25 alpha-numeric characters.	DOC
Other Metadata	Standard Fields	Long Text	Metadata extracted during processing for additional fields beyond the list of processing fields available for	Excel/HasHiddenColumns=True;Office ↪/Application=Microsoft Excel; ↪InternalCreatedOn=7/25/1997 ↪9:14:12 PM;Office/Security=2;

Processing field/ source name	Source view	Field type	Description	Example value
			mapping. This includes TrackChanges, HiddenText, HasOCR, and dates of calendar items. Field names and their corresponding values are delimited by a semicolon.	↪Office/PROPID_23=528490;Office/↪Scale=0;Office/LinksDirty=0;Office/↪PROPID_19=0;Office/PROPID_22=0;↪Office/Parts=sum,ENRON;Office/↪Headings=Worksheets,2;Office/↪_PID_GUID-D=UnknownPROPVARIANT↪type 65;Excel/HasHiddenRows=True;↪LiteralFileExtension=XLS
Outlook Flag Status	Standard Fields	Single Choice	Indicates if an Outlook item is flagged. The field is blank if the item is not flagged.	Flagged
Parent Document ID	Standard Fields	Fixed-Length Text	Document ID of the parent document. This field is only available on child items.	EN11, 12345
Password Protected	Standard Fields	Single Choice	The Password Protected field shows the decryption status of password-protected documents. The field displays **Decrypted** if a password is known, **Encrypted** if a password is not known, or no value if the file does not have a password. To track decrypted documents, map the Password field. To map this field, add or edit the corresponding Relativity field, then open the **Source** control. From the drop-down menu, select **Other Fields**. In the results list, select **Password**.	Encrypted
PowerPoint Hidden Slides	Standard Fields	Yes/No	The yes/no indicator of whether a PowerPoint file contains hidden slides.	Yes

Processing field/ source name	Source view	Field type	Description	Example value
Primary Date/Time	Standard Fields	Date	Date taken from Sent Date, Received Date, or Last Modified Date in that order of precedence.	"12/24/2015 11:59 PM"
Read Receipt Requested	Standard Fields	Yes/No	Indicates whether a read receipt was requested for an email.	Yes
Received Date	Standard Fields	Long Text	The date on which an email message was received.	12/24/2015
Received Date/Time	Standard Fields	Date	The date and time at which an email message was received.	"12/24/2015 11:59 PM"
Received Time	Standard Fields	Long Text	The time at which an email message was received.	11:59 PM
Recipient Count	Standard Fields	Whole Number	The total count of recipients in an email which includes the To, CC, and BCC fields.	1
Recipient Domains (BCC)	Standard Fields	Multiple Object	The domains of the 'Blind Carbon Copy' recipients of an email. For information on domains and steps to create the Domains object and associative multiple object fields, see Relativity Objects.	enron.com;bellatlantic.com
Recipient Domains (CC)	Standard Fields	Multiple Object	The domains of the 'Carbon Copy' recipients of an email. For information on domains and steps to create the Domains object and associative multiple object fields, see Relativity Objects.	enron.com;bellatlantic.com
Recipient Domains (To)	Standard Fields	Multiple Object	The domains of the 'To' recipients of an email. For information on domains and steps to create the Domains	enron.com;bellatlantic.com

Processing field/ source name	Source view	Field type	Description	Example value
			object and associative multiple object fields, see Relativity Objects.	
Recipient Name (To)	Standard Fields	Long Text	The names of the (To) field recipients of an email message.	Jane Doe
Record Type		Single Choice	The single choice field that indicates that the file is an Email, Edoc, or Attach.	Edoc
Replaced Extracted Text	Standard Fields	Yes/No	This Yes/No field indicates if the document had its extracted text replaced with a placeholder due to its size exceeding 2GB. To locate this field, navigate to the All Fields view.	Yes
Rolled up image text	Standard Fields	Fixed-Length Text (255)	The comma (,) delimited list of child FileIDs that have had their text rolled into the parent document. This field is only set for parent files.	Rolll Up Image Text
Note: *You will not see RSMF fields in the catalog until you discover them. Any discovered RSMF fields are then available for mapping. **Caution:** Use caution when mapping to multiple-choice fields. Mapping multiple-choice fields creates a unique value for each choice option. Depending on the multiple-choice fields mapped, you could have hundreds of unique choices, impacting performance.				
*RSMF Application	Metadata Fields	Long Text	This is used to identify source of the data, which is intended to be ambiguous. For example, it could be the application of the data contained in the RSMF file.	Slack
*RSMF Attachment Count	Metadata Fields	Whole Number	This field should be a number that is a sum of all of the attachments	10

Processing field/ source name	Source view	Field type	Description	Example value
			present in the RSMF.	
*RSMF Begin Date	Metadata Fields	Date	The time stamp (ISO8601) of the earliest short message event within the file.	11:59 PM
*RSMF Custodian	Metadata Fields	Long Text	This field is used to identify from whom the data was collected from.	John Doe
*RSMF End Date	Metadata Fields	Date	The time stamp (ISO8601) of the latest short message event within the file.	11:59 PM
*RSMF Event Collection Id	Metadata Fields	Long Text	This field should be a unique ID that is to be used to help keep many RSMFs from a single conversation together.	D4C4EB398980E82B4B3064
*RSMF Event Count	Metadata Fields	Whole Number	The number of short message events captured within the file.	5
*RSMF Generator	Metadata Fields	Long Text	Identifies the author of the RSMF file.	Relativity v2.4
*RSMF Participants	Metadata Fields	Long Text	This field can be used to choose from a string of names (comma delimited) that are present in the conversation in the RSMF file. **Note:** Relativity discovers the RSMF Participants field type as Multiple Choice. To maximize performance, map this field as Long Text.	John Doe <john.doe@relativity.com>, Jane Doe <jane.doe@relativity.com>
*RSMF Version	Metadata Fields	Long Text	The version of the RSMF specification that the file adheres to.	2.0.0

Processing field/ source name	Source view	Field type	Description	Example value
SHA1 Hash	Standard Fields	Fixed-Length Text (50)	Identifying value of an electronic record that can be used for de-duplication and authentication generated using the SHA1 hash algorithm. This field has a maximum length of 50 alpha-numeric characters.	D4C4EB398980E82B4B3064 ↪CC2005F04D04BBAAE6
SHA256 Hash	Standard Fields	Fixed-Length Text (70)	Identifying value of an electronic record that can be used for de-duplication and authentication generated using the SHA256 hash algorithm. This field has a maximum length of 70 alpha-numeric characters.	4F8CA841731A4A6F78B919 ↪806335C963EE039F33214A04 ↪1F0B403F3D156938BC
Sender Domain	Standard Fields	Multiple Object	The domain of the sender of an email.	enron.com
Sender Name	Standard Fields	Fixed-Length Text (255)	The name of the sender of an email message. This field has a maximum length of 255 alpha-numeric characters.	Kenneth Lay
Sent Date	Standard Fields	Long Text	The date on which an email message was sent.	12/24/2015
Sent Date/Time	Standard Fields	Date	The date and time at which an email message was sent.	"12/24/2015 11:59 PM"
Sent Time	Standard Fields	Long Text	The time at which an email message was sent.	11:59 PM
Sort Date/Time	Standard Fields	Date	For parent documents, the field is populated with the Primary	"12/24/2015 11:59 PM"

Processing field/ source name	Source view	Field type	Description	Example value
			Date/Time value. For child documents, the field is populated with the Sort Date/Time of the parent document. All documents in a family will therefore have the same Sort Date/Time value, keeping family members together when sorting on this field. **Note:** When you filter for dates, you are filtering specifically on the Sort Date/Time field, which is taken from the file's Sent Date, Received Date, and Last Modified Date fields in that order of precedence. This happens on email messages repeated for the parent document and all child items to allow for date sorting. You have the following options for applying a date range filter:	

Processing field/ source name	Source view	Field type	Description	Example value
			Note: When processing documents without an actual date, Relativity provides a null value for the following fields: Created Date, Created Date/Time, Created Time, Last Accessed Date, Last Accessed Date/Time, Last Accessed Time, Last Modified Date, Last Modified Date/Time, Last Modified Time, and Primary Date/Time. The null value is excluded and not represented in the filtered list.	
Source Path	Standard Fields	Long Text	The folder structure and path to the file from the original location identified during processing. For emails, this displays the subject rather than the email's entry ID. This provides you with better context of the origin of the email. Previously, the Virtual Path field displayed the entry ID with the email file name, and if you followed this virtual path, it was difficult to tell by that entry ID where the email came from. See Source path on page 94 for more information.	Reports\User**Sample.pst\Inbox\Requested February report**
Speaker Notes	Standard Fields	Yes/No	The yes/no indicator of whether a PowerPoint file has speaker notes associated with its	Yes

Processing field/ source name	Source view	Field type	Description	Example value
			slides.	
Subject	Standard Fields	Long Text	The subject of the email message.	Blackmore Report - August
Suspect File Extension	Standard Fields	Yes/No	The yes/no indicator if whether the extension of a file does not correspond to the actual type of the file. For example. XLS for a Word document.	Yes
Text Extraction Method	Standard Fields	Single Choice	The method used to run text extraction.	Excel
Title	Standard Fields	Long Text	The title of the file. For emails, this is the subject line. For non-emails, this is any available title.	June Scrum Notes
To	Standard Fields	Long Text	The names, when available, and email addresses of the recipients of an email message.	Capellas Michael D. [Michael.Capellas@COMPAQ.com]
To (SMTP Address)	Standard Fields	Long Text	The full SMTP value for the recipient of an email message, for example, “bob@example.com.”	Michael.Capellas@COMPAQ.com
TrackChanges	Standard Fields	Yes/No	The yes/no indicator of whether the track changes metadata on an Office document is set to True. This does not necessarily indicate if tracked changes were made to the document or not. ■ On Word documents, the track changes toggle	Yes

Processing field/ source name	Source view	Field type	Description	Example value
			may have been set to True, changes made to the document, then set back to False. In this situation, this field will still indicate 'No' because it is looking only at the setting and not for the actual existence of changes even though tracked changes still exist in the document. ■ If the same situation is applied to Excel documents, the result is slightly different. Microsoft deletes tracked changes on Excel documents when the toggle is set back to False. The returned value will also indicate 'No' but there is no concern about missed tracked changes as none exist. ■ For file types that cannot contain tracked changes, such as PDFs, email, and images, this field is blank.	

Processing field/ source name	Source view	Field type	Description	Example value
Track Changes	Standard Fields	Yes/No	The yes/no indicator of whether the track changes toggle is set to True and/or there are tracked changes in the document. This field maps to the TrackedChangesCombined Invariant field. This will be Yes if either of the following are true: ■ The Track Changes button is enabled in the document. ■ There is actual Tracked Change content in the document.	
Unified Title	Standard Fields	Long Text	The subject of the file. For emails, this is the subject line. For non-emails, this is the file name. Note that in short message (RSMF) conversion, Relativity may use the conversation name as the subject, and therefore the Unified Title.	Company Memo
Unprocessable	Standard Fields	Yes/No	The yes/no value indicating if a file was able to be processed. If the file could not be processed, this field is set to Yes. ■ Even if a file is flagged as Unprocessable, it may still be visible in the native file	No

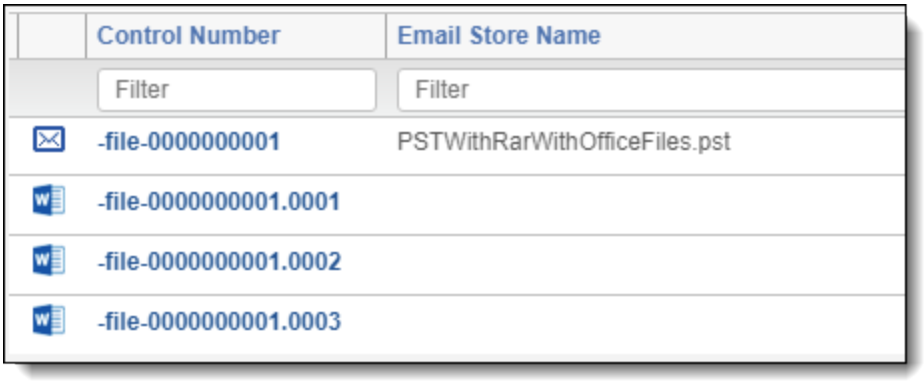
Processing field/ source name	Source view	Field type	Description	Example value
			viewer if Oracle is able to render the file. ■ The Unprocessable field is set to Yes on any file for which Relativity does not have an Invariant plugin that is capable of extracting text or imaging/OCRing that document type. For example, it is not set for a corrupt file for which we cannot extract text, such as a corrupt Word document that logs an error during data extraction. ■ Unprocessable documents do not have errors associated with them because they never reach a point at which they can register a processing error.	

Note: You can track which passwords successfully decrypted published documents by mapping the Password field found in the All Fields view. Specifically, you can find this Password field by clicking Source on the field layout, selecting the All Fields view, and locating the source field name of Password with a field type of Long Text.

10.4 Email Store Name field

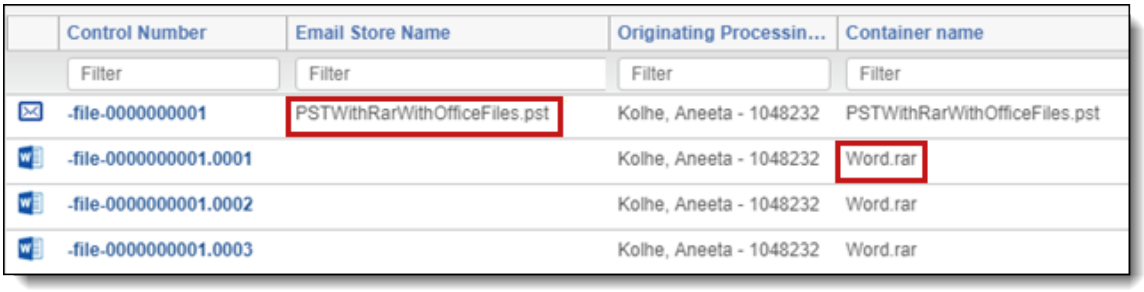
To better understanding how the Email Store Name field works, consider the following examples:

- When an email comes from .pst file, the .pst is listed in the Email Store Name field. When a child Word document comes from a .rar archive and is attached to the email, the Email Store Name field is blank for the Word document.



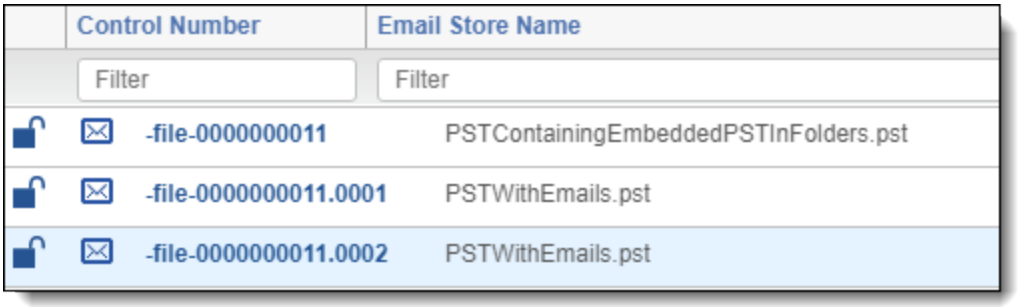
	Control Number	Email Store Name
	Filter	Filter
	-file-0000000001	PSTWithRarWithOfficeFiles.pst
	-file-0000000001.0001	
	-file-0000000001.0002	
	-file-0000000001.0003	

  - The RAR/ZIP information for the Word documents mentioned above is found in the Container Name field.

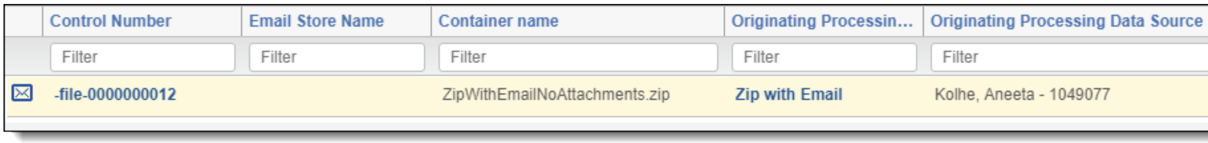


	Control Number	Email Store Name	Originating Processin...	Container name
	Filter	Filter	Filter	Filter
	-file-0000000001	PSTWithRarWithOfficeFiles.pst	Kolhe, Aneeta - 1048232	PSTWithRarWithOfficeFiles.pst
	-file-0000000001.0001		Kolhe, Aneeta - 1048232	Word.rar
	-file-0000000001.0002		Kolhe, Aneeta - 1048232	Word.rar
	-file-0000000001.0003		Kolhe, Aneeta - 1048232	Word.rar

- In the following example, email 00011 comes from a .pst file named *PSTContainingEmbeddedPSTInFolders.pst*, which is the value for the Email Store Name field for that email. The other emails, 00011.001 and 00011.002, come from a .pst file attached to the 00011 email. This .PST file is named *PSTWithEmails.pst*. In this case, the Email Store Name field for those child messages is *PSTWithEmails.pst*, not the top-level .pst file named *PSTContainingEmbeddedPSTInFolders.pst*.



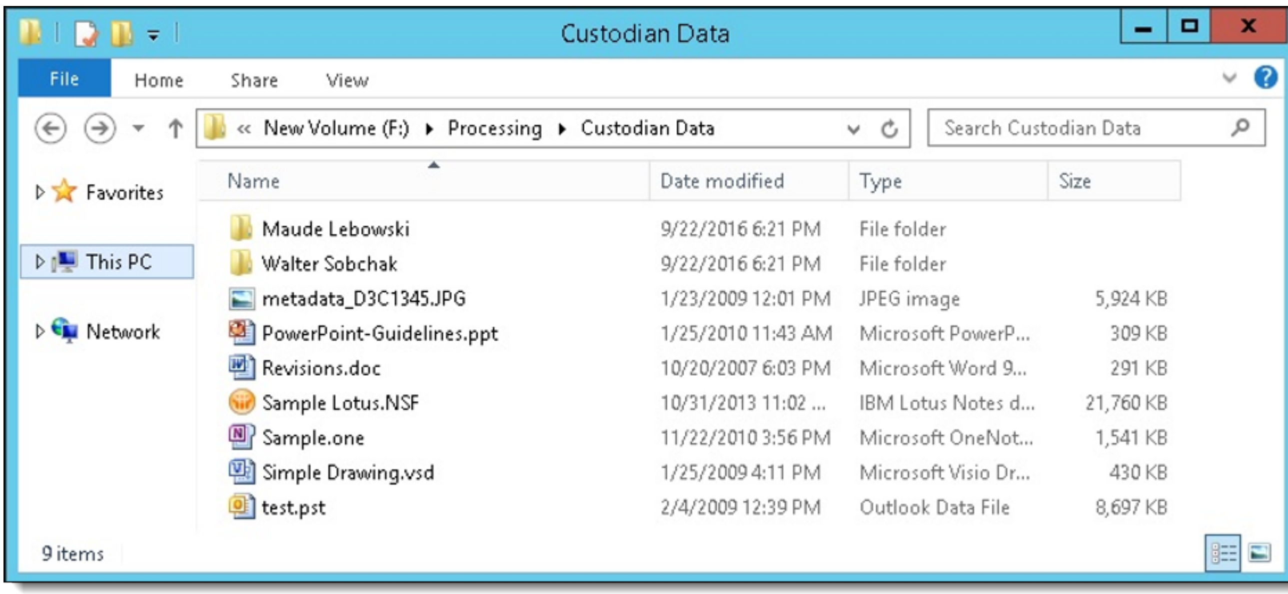
	Control Number	Email Store Name
	Filter	Filter
	-file-0000000011	PSTContainingEmbeddedPSTInFolders.pst
	-file-0000000011.0001	PSTWithEmails.pst
	-file-0000000011.0002	PSTWithEmails.pst



10.5 Virtual path

The virtual path is the complete folder structure and path from the original folder or file chosen for processing to the file. This path includes any containers that the file may be in and, in the case of attached or embedded items, includes the file name of the parent document.

This path does not include the name of the file itself. If a file is selected for import instead of a folder, the virtual path for that file is blank.



The following are examples of virtual paths created from the folders, per the above images:

- \Maude Lebowski\Loose Docs
- \Walter Sobchak\Walter.pst\Inbox\Unimportant\Fest Junk\Walter
- test.pst\My Test Box
  - In the case of a container or loose file being directly selected for processing, the virtual path does not have a leading backslash.
- test.pst\My Test Box\000000009B90A00DCC4229468A243C71810F71BC24002000.MSG
- Revisions.doc
  - This is the virtual path of a file embedded in the Revisions.doc file.

10.6 Processing folder path

The processing folder path is the folder structure created in the folder browser of the Documents tab. Relativity creates this path by keeping any folders or container names in the virtual path and discarding any file names that a file may be attached to or embedded in.

Files without a virtual path and items embedded within them do not have a processing folder path. If a container is embedded in a loose file, the items in that container have a processing folder path that matches the name of the container.

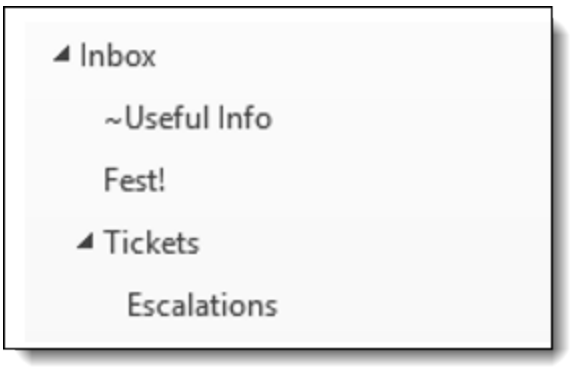
The following are examples of virtual paths and corresponding processing folder paths.

Virtual Path	Processing Folder Path
`test.pst\Inbox`	`test.pst\Inbox`
`test.pst\Inbox\000000009B90A00DCC4229468A243C71810F71BC24002000.MSG`	`test.pst\Inbox`
test.pst\Inbox\000000009B90A00DCC4229468A243C71810F71BC24002000.MSG\Pics.zip	test.pst\Inbox\Pics.zip

10.7 Email folder path

The email folder path is the folder path within the email container file in which an email was stored. All attachments to emails have no value for this field.

For example, an email stored in the *Escalations* folder in the following image below would have a value of “Inbox\Tickets\Escalations."



10.8 Source path

The source path is a modified display of the virtual path. In the case of attachments to emails, any entry IDs of emails appearing in the virtual path are replaced by the subject of that email instead. In all other cases the source path value is identical to the virtual path.

For example, an attachment to an email could have the following virtual path and source path values:

Virtual Path	Source Path
`Sample.pst\Inbox\000000009B90A00DCC4229468A243C71810F71BC24002000.MSG`	Sample.pst\Inbox\Requested February reports

Note: This source path field is not to be confused with the Source Path field found on the Processing Data Source layout on the saved processing set.

10.9 Message ID considerations

Note the following details regarding the Message ID field:

- Message ID is an identifier applied to an email by the program that created the email, such as Outlook, Eudora, or another.
- Email programs can use whatever they want for a message ID, or they can leave it off entirely. The mail server is free to assign an identifier even if an email client did not.
- There is no guarantee that every message ID is unique because every email client and mail server uses a different algorithm to create one.
- Message ID is unique only in the fact Relativity does not know what tool generated the identifier or what algorithm generated it. In addition, Relativity cannot assume that the identifier will even exist in an email.
- Relativity cannot validate the message ID because it is made up of opaque data associated with an email.
- It is possible that two entirely different emails might share the same message ID.

- Using the Message ID is not a reliable alternative to SHA256 de-duplication. For the purposes of de-duplication, we recommend that you use the Processing Duplicate Hash. If you processed the information in another tool, it is recommended that you use the Hash Algorithm you selected in that tool.

10.10 Comments considerations

There are two kinds of comments that are possible in all Office documents: metadata and inline. The following table breaks down which optional processing fields are populated by each type of comment.

Comment type	Location in file	Hidden Data value	Comments value
Metadata	Details tab of the Properties window (when you right-click on file name)	Null (blank)	Contents of comments property on the file
Inline	In the body of the document	"Yes"	Null (blank)
Both	Details tab of file and body of document	"Yes"	Contents of comments property on the file

Note: There are a number of reasons why a document could contain hidden text. A returned value of Yes for the Hidden Data field doesn't automatically mean that the document has inline comments.

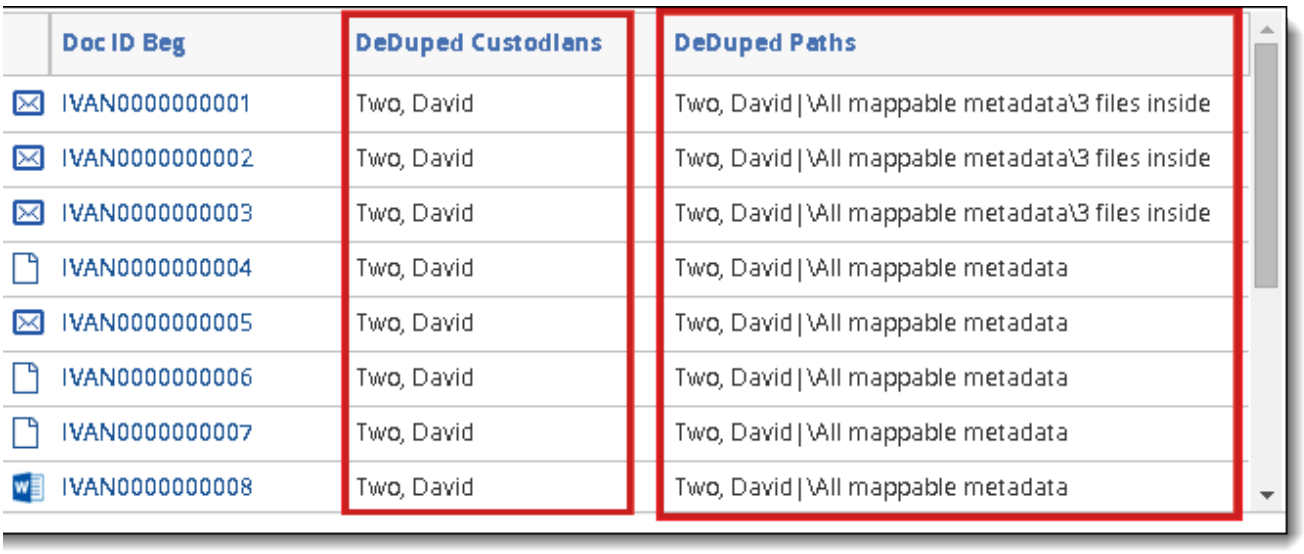
10.11 De-duped custodian and path considerations

If you run de-duplication as part of your processing job, you may want to know where the documents that eventually get de-duplicated came from, the path, as well as which custodian those documents were associated with.

The DeDuped Custodians and DeDuped Paths optional fields allow you to track this information. When a document is de-duplicated, these fields are populated upon publish, or republish.

- **DeDuped Custodians**—a multiple object field with object type Document and associated object type Entity. You should only associate this field with the Entity object. If this field is associated with any other object type, you will not be able to publish documents to your workspace.
- **DeDuped Paths**—a long text document field that provides the location of the de-duplicated document.

To use these fields, simply add them to a document view and refer to that view after your publish job has completed. You can then export the results to an Excel file, if necessary.



Doc ID Beg	DeDuped Custodians	DeDuped Paths
IVAN0000000001	Two, David	Two, David|\All mappable metadata\3 files inside
IVAN0000000002	Two, David	Two, David|\All mappable metadata\3 files inside
IVAN0000000003	Two, David	Two, David|\All mappable metadata\3 files inside
IVAN0000000004	Two, David	Two, David|\All mappable metadata
IVAN0000000005	Two, David	Two, David|\All mappable metadata
IVAN0000000006	Two, David	Two, David|\All mappable metadata
IVAN0000000007	Two, David	Two, David|\All mappable metadata
IVAN0000000008	Two, David	Two, David|\All mappable metadata

Note: When Relativity populates the Deduped Custodians and Deduped Paths fields during republish, it performs an overlay. Because of this, if you modify a document's identifier field in Relativity, your information could become out of sync. For this reason, we recommend that you do not modify the identifier field.

11 Processing profiles

A processing profile is an object that stores the numbering, deNIST, extraction, and deduplication settings that the processing engine refers to when publishing the documents in each data source that you attach to your processing set. You can create a profile specifically for one set or you can reuse the same profile for multiple sets.

Relativity provides a Default profile upon installation of processing.

Using Processing profiles

You're a litigation support specialist, and your firm has requested you to bring a custodian's data into Relativity without bringing in any embedded Microsoft office objects or images. You have to create a new processing profile for this because none of the profiles in the workspace have specified to exclude embedded images or objects when extracting children from a data set.

To do this, you simply create a new profile with those specifications and select that profile when creating the processing set that you want to use to bring the data into Relativity.

11.1 Creating or editing a processing profile

To create or edit a processing profile:

1. Use the search bar to navigate to the **Processing Profile** tab.
2. Click **New Processing Profile** or select any profile in the list.
3. Complete or modify the fields on the Processing Profile layout. See Fields.
4. Click **Save**. Once you save the processing profile, you can associate it with a processing set. For more information, see Processing sets.

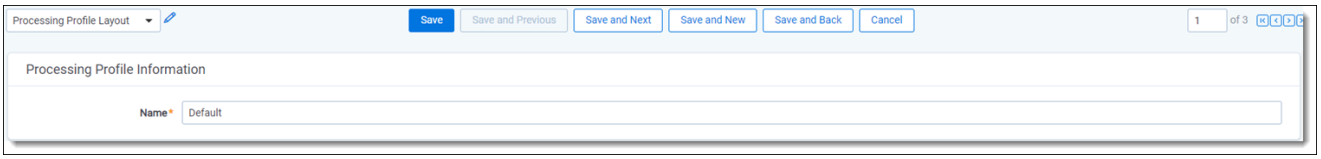
Note: You can't delete the Default processing profile. If you delete a profile that is associated with a processing set you've already started, the in-progress processing phase will continue with the original profile settings you applied when you submitted the job, but you won't be able to proceed to the next phase. For example, if you delete a profile during discovery, you won't be able to publish those discovered files until you add a new profile to the set. If you have an existing processing set that you haven't started that refers to a profile that you deleted after associating it to the set, you must associate a new profile with the set before you can start that processing job.

11.1.1 Fields

Note: Relativity doesn't re-extract text for a re-discovered file unless an extraction error occurred. This means that if you discover the same file twice and you change any settings on the profile, or select a different profile, between the two discovery jobs, Relativity will not re-extract the text from that file unless there was an extraction error. This is because processing always refers to the original/primary document and the original text stored in the database.

11.1.1.1 Processing profile information

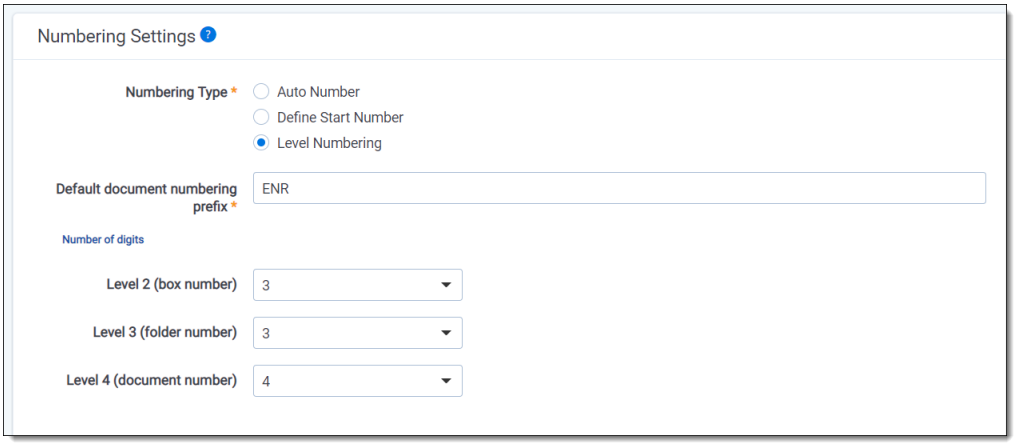
The **Processing Profile Information** category of the profile layout provides the following fields:



- **Name**—the name you want to give the profile.

11.1.1.2 Numbering settings

The **Numbering Settings** category of the profile layout provides the following fields.



- **Default document numbering prefix**—the prefix applied to each file in a processing set once it is published to a workspace. The default value for this field is REL.
  - When applied to documents, this appears as the prefix, followed by the number of digits you specify. For example, *<Prefix>xxxxxxxxxx*.
  - If you use a different prefix for the Custodian field on the processing data source(s) that you add to your processing set, the custodian's prefix takes precedence over the profile's.
  - The character limit for this prefix is 75.

  Note: When Level numbering is selected, the prefix corresponds to the PPP section in the PPP.BBBB.FFFF.NNNN format and it can be used to identify the source or owner of the documents also known as 'party code' or 'source'.

- **Numbering Type**—determines how the documents in each data source are numbered when published to the workspace. This field gives you the option of defining your document numbering schema. It is useful in keeping your document numbering consistent when importing documents from alternate sources. The choices for this field are:
  - **Auto Numbering**—determines that the next published document will be identified by the next available number of that prefix.

- **Define Start Number**—sets the starting number of the documents you intend to publish to the workspace.
  - Relativity uses the next available number for that prefix if the number is already published to the workspace.
  - To ensure continuity, Relativity will never assign a control number below the defined starting number in future processing sets. For example, if you define a starting number of 100, the numbers 0-99 become unavailable for future use for that prefix.
  - This option is useful when you process from a third-party tool that does not provide a suffix for your documents and you want to define a new start number for the next set of documents to keep the numbering continuous.
  - Selecting this choice makes the Default Start Number field available below and the Start Number field on the data source layout.
    - **Default Start Number**—the starting number for documents that are published from the processing set(s) that use this profile.
      - This field is only visible if you selected the Define Start Number choice for the Numbering Type field above.
      - If you use a different start number for the Start Number field on the data source that you attach the processing set, that number takes precedence over the value you enter here.
      - The maximum value you can enter here is 2,147,483,647. If you enter a higher value, you'll receive an Invalid Integer warning next to field value and you won't be able to save the profile.
- **Number of Digits**—determines how many digits the document's control number contains. The range of available values is 1 to 10 when Define Start Number is selected. By default, this field is set to 10 characters.
- **Parent/Child Numbering**—determines how parent and child documents are numbered relative to each other when published to the workspace. The choices for this field are as follows. For examples of each type, see Parent/child numbering type examples.
  - **Suffix Always**—arranges for child documents to be appended to their parent with a delimiter.
  - **Continuous Always**—arranges for child documents to receive a sequential control number after their parent.
  - **Continuous, Suffix on Retry**—arranges for child documents to receive a sequential control number after their parent except for child documents that weren't published to the workspace. When these unpublished child documents are retried and published, they will receive the parent's number with a suffix. If you resolve the error post-publish, the control number doesn't change.

    Note: It's possible for your workspace to contain a document family that has both suffixed and non-suffixed child documents. See Suffix special considerations for details.

- **Delimiter**—the delimiter you want to appear between the different fragments of the control number of your published child documents. The choices for this field are:
  - **- (hyphen)**—adds a hyphen as the delimiter to the control number of child documents. For example, REL0000000001-0001-0001.
  - **. (period)**—adds a period as the delimiter to the control number of child documents. For example, REL0000000001.0001.0001.
  - **_(underscore)**—adds an underscore as the delimiter to the control number of child documents. For example, REL0000000001_0001_0001.

- **Level numbering**—option to number documents with a control number that follows the format PPP.BBBB.FFFF.NNNN at a **document level**. For details on level numbering, see Level numbering special considerations.
  - **Number of Digits**—determines how many digits each level of the document's control number contains.
    - **Level 2 (box number)**—corresponds to the BBBB level . Selecting 4 in the drop-down list will allow for the following range in this level: 0001-9999. By default, this field is set to 3.
    - **Level 3 (folder number)**—corresponds to the FFFF level . Selecting 4 in the drop-down list will allow for the following range in this level: 0001 - 9999. By default, this field is set to 3.
    - **Level 4 (document number)**—corresponds to the NNNN level at the document level . Selecting 4 in the drop-down list will allow for the following range in this level: 0001 - 9999. By default, this field is set to 4.

Note: Level numbering cannot be used with Quick-Create Set(s).

Note: Level numbering and data source cannot be changed upon publish, retry, or republish. Non-level numbering cannot be changed to level numbering on a published processing set and then republished. Once published, Numbering Type cannot be changed.

Level numbering special considerations

When Level numbering is selected as the Numbering Type in the Processing Profile, the prefix corresponds to the PPP section in the PPP.BBB.FFF.NNNN format. It can be used to identify the source or owner of the documents also known as ‘party code’ or ‘source’.

In the Number of digits section, you can determine the number of digits to use in each level. For example, selecting 4 in the drop-down list will allow for the following range in that level: 0001 - 9999.

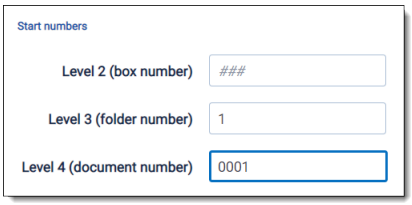
Level 2 (box number)—corresponds to the BBB level in the PPP.BBB.FFF.NNNN format. Default value is 3 digits.

Level 3 (folder number)—corresponds to the FFF level in the PPP.BBB.FFF.NNNN format. Default value is 3 digits.

Level 4 (document number)—corresponds to the NNNN level in the PPP.BBB.FFF.NNNN format. Default value is 4 digits.

Once published, Numbering Type cannot be changed. Thus, Level numbering and data source cannot be changed upon publish, retry, or republish. Non-level numbering cannot be changed to level numbering on a published processing set and then republished.

Create a new Processing Set and add the data sources that you need. If the profile used by the Processing Set is Level Numbering, you can define the start number for each Data Source when adding or modifying data sources to the Processing Set.



When you create a new data source, the system will use # to indicate how many digits were configured for that level in the Processing Profile used on the current Processing Set. If a level was configured to take up to 3 digits, you can enter a start number with no padding, (e.g., 1), or with padding, (e.g., 0001).

Level numbering and control numbers

By using Level Numbering, you can define a prefix text and three numbering levels as the control number to be used on documents that are published. For example:

- Prefix: REL.
- Level one numbering: 001
- Level two numbering: 001
- Level three numbering: 0001

When creating the control number, each level will be separated by a dot symbol, e.g., REL.001.001.0001.

Each level has a range of numbers that it can support. For example, 01 supports from 01 to 99. On the other hand, 001 supports from 001 to 999.

Fields like Family/Group Identifier, Attachments, and Parent ID are created based on the new control number.

Document level numbering vs page level numbering

The Level Numbering applies only at the document level. For example, if a data source is processing data using 01 for Level 1 numbering, 001 for Level 2 numbering, and 0001 for level 3 numbering, then the corresponding control numbers will be as follows:

Example List of Documents to Process	Resulting Control Number
Doc 1: document with 3 pages	PREFIX.001.001.0001
Doc 2: a one-page document	PREFIX.001.001.0002
Doc 3: a one-page document	PREFIX.001.001.0003
Doc 4: a 5 pages document	PREFIX.001.001.0004
Doc 5: a 2 pages document	PREFIX.001.001.0005
Doc 6: an email with no attachments	PREFIX.001.001.0006

11.1.1.3 Keeping families together

Families roll over to new level

When a family does not fit on the current level, the whole family rolls over to next level to keep the family together. See the example below:

When a family does not fit on the current level, the whole family rolls over to next level to keep the family together. See example below:

Number	Document
REL.001.0001.9999	Excel document
REL.001.0002.0001	Word document
REL.001.0002.0002	Word document

9,997 documents later

Number	Document
REL.001.0002.9997	email with no attachments
REL.001.0003.0001	email with 4 attachments
REL.001.0003.0002	attachment 1
REL.001.0003.0003	attachment 2
REL.001.0003.0004	attachment 3
REL.001.0003.0005	attachment 4

The email with 4 attachments couldn't use 9998 because the current level only had 2 values left (9998 - 9999), but families are required to stay together in the same level, so it roll overs to the next level.

Multi-level families must roll over

A family is every document that can be traced to the same parent. Grandchildren are in same family as children, thus, grandchildren stay in the same level as the rest of the family.

Publish scenario:

Number - Document
REL.001.0001.9999 – excel document
REL.001.0002.0001 – word document
REL.001.0002.0002 – word document

9,995 documents later

Number - Document
REL.001.0002.9995 – email with no attachments
REL.001.0003.0001 – email with 4 attachments
REL.001.0003.0002 – attachment 1 from REL.001.0003.0001
REL.001.0003.0003 – attachment 2 from REL.001.0003.0002

Number - Document
REL.001.0003.0004 – attachment 3 from REL.001.0003.0001
REL.001.0003.0005 – attachment 4 from REL.001.0003.0001

Family does not fit in one level
If there are more children documents than it can fit in a single level, then Relativity will suffix the children that overflow.

Publish scenario:

Number - Document
REL.001.0003.0001 – email with 10,000 attachments
REL.001.0003.0002 – attachment 1
REL.001.0003.0003 – attachment 2
REL.001.0003.0004 – attachment 3
REL.001.0003.0005 – attachment 4
[...]
REL.001.0003.9999 – attachment 9998
REL.001.0003.0001_0001 – attachment 9999
REL.001.0003.0001_0002 – attachment 10,000

11.1.1.4 Republish scenarios

New child found during republish
If during Retry-Discover, Relativity finds new children from a password-protected file, then Relativity will publish these children using the parent control number and a suffix appended to it. See the example below:

Initial Publish:

Number	Document
REL.001.001.0001	
REL.001.001.0002	
REL.001.001.0003	(Password-protected file)
REL.001.001.0004	

Republish:

Number	Document
REL.001.001.0001	
REL.001.001.0002	
REL.001.001.0003	(Password-protected file)
REL.001.001.0003_0001	new child found in REL.001.001.0003
REL.001.001.0003_0002	new child found in REL.001.001.0003

New child found during republish in a document with the highest possible control number at a specific level

If during Retry-Discover, Relativity finds new children in a document that holds the highest control number in the last level, then Relativity will publish these children with their parent's control number and a suffix appended to it. The family will not be moved to a new folder. See example below:

Initial Publish:

Number	Document
REL.001.001.9997	
REL.001.001.9998	
REL.001.001.9999	(Password-protected file)
REL.001.002.0001	
REL.001.002.0002	

Republish:

Number	Document
REL.001.001.9997	
REL.001.001.9998	
REL.001.001.9999	(Password-protected file)
REL.001.001.9999_0001	new child found in password-protected file
REL.001.002.0001	
REL.001.002.0002	

A child with multiple children is found during republish

If during Retry-Discover, Relativity finds new children in a document that holds the highest control number in a level, and those children also have children, then Relativity will publish these children with the ORIGINAL parent control number + a suffix appended to it. Family will not be moved to a new folder. See example below:

Initial publish:

Number	Document
REL.001.001.9997	
REL.001.001.9998	
REL.001.001.9999	(Password-protected file)
REL.001.002.0001	
REL.001.002.0002	

Republish:

Number	Document
REL.001.001.9997	
REL.001.001.9998	
REL.001.001.9999	(Password-protected file)
REL.001.001.9999_0001	new child found in REL.001.001.9999
REL.001.001.9999_0002	new child found in REL.001.001.9999_0001
REL.001.001.9999_0003	new child found in REL.001.001.9999_0001
REL.001.001.9999_0004	new child found in REL.001.001.9999
REL.001.002.0001	
REL.001.002.0002	

New documents from a container

When Relativity finds new root level documents, Relativity will not suffix them. Instead, Relativity will assign them to the next control number available.

Initial publish received error on ZIP container and can publish only two documents:

Number	Document
REL.001.001.9997	
REL.001.001.9998	
REL.001.001.9999	SourceFolder/containerFile.Zip
REL.001.002.0001	SourceFolder/containerFile.Zip/1.txt
REL.001.002.0002	SourceFolder/containerFile.Zip/2.txt
REL.001.002.0003	SourceFolder/flatDocument

When retry-discover yields two more documents from the ZIP container:

Number	Document
REL.001.001.9997	
REL.001.001.9998	
REL.001.001.9999	SourceFolder/containerFile.Zip
REL.001.002.0001	SourceFolder/containerFile.Zip/1.txt
REL.001.002.0002	SourceFolder/containerFile.Zip/2.txt
REL.001.002.0003	SourceFolder/flatDocument
REL.001.002.0004	SourceFolder/containerFile.Zip/3.txt (new doc)
REL.001.002.0005	SourceFolder/containerFile.Zip/3.txt (new doc)

Republish new root documents, each family is a single document

If new documents are published with a start number that is within a range that have unused numbers, new documents will be published in those gaps. See example below:

Initial Publish started at REL.001.001.001. First 998 documents are single documents with no families or attachment. Document 999 is family with 30 documents, so it is published on the next level:

Number	Document
REL.001.001.001	
REL.001.001.998	Next document is a family with 30 documents that rollovers.
REL. 001.002.001	Family with 30 attachments.
REL.001.002.030	Last document published.

Republish finds 3 new root documents, each family is a single document. Thus, new documents are published using any numbering gaps.

Number	Document
REL.001.001.999	First document is published using 999.
REL.001.002.031	Second document is published in the next available number.
REL.001.002.032	Third document uses next available number and so on.

11.1.1.5 Collisions

Collisions with a new data source

Let's assume that documents were already published using numbers REL.001.001.001 to REL.001.001.010. If a new data source is created with a start number that was already used (e.g., REL.001.001.008), then the new data source start number is the next available number: REL.001.001.011.

Collisions among multiple data sources

If a user adds 3 data sources and each data source has 10 documents and the same start number, when published, each data source start number will be the next available number. For example:

Data source 1: REL.001.001.0001- REL.001.001.0010

Data souce 2: REL.001.001.0011- REL.001.001.0020

Data souce 2: REL.001.001.0021 - REL.001.001.0030

11.1.1.6 Overflow scenarios

Children overflow during republish

If the number of new children found during republish is higher than the maximum allowed by the suffix padding digits, then Relativity would use the next consecutive number without increasing the padding of the previous published children.

Initial Publish:

Number	Document
REL.001.001.9998	

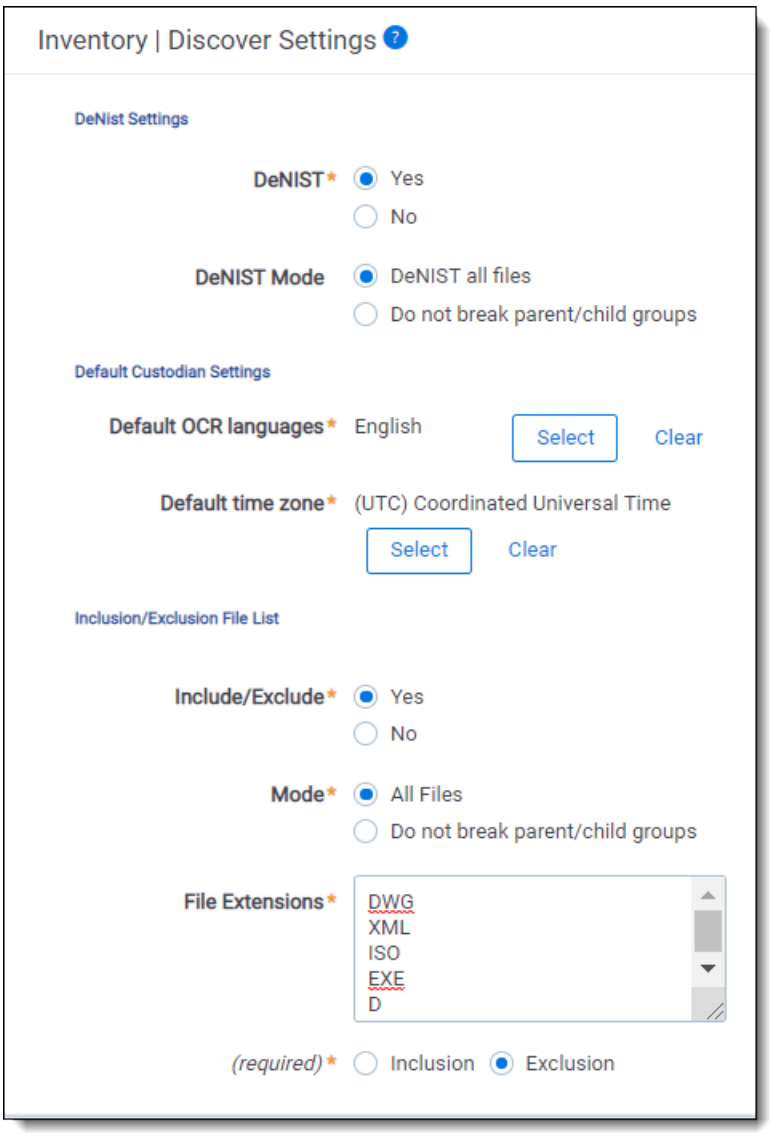
Number	Document
REL.001.001.9999	(Password-protected file)
REL.001.002.0001	
REL.001.002.0002	

Republish:

Number	Document
REL.001.001.9998	
REL.001.001.9999	(Password-protected file)
REL.001.001.9999_0001	new child found in REL.001.001.9999
REL.001.001.9999_0002	new child found in REL.001.001.9999_0001
REL.001.001.9999_0003	new child found in REL.001.001.9999_0001
...	
REL.001.001.9999_9999	new child found in REL.001.001.9999 (uses 4 digits padding)
REL.001.001.9999_10000	new child found in REL.001.001.9999(uses 5 digits padding)
REL.001.002.0001	

11.1.2 Inventory / discovery settings

The **Inventory | Discovery Settings** category of the profile layout provides the following fields.



- **DeNIST**—if set to Yes, processing separates and removes files found on the National Institute of Standards and Technology (NIST) list from the data you plan to process so that they don't make it into Relativity when you publish a processing set. The NIST list contains file signatures—or hash values—for millions of files that hold little evidentiary value for litigation purposes because they are not user-generated. This list may not contain every known junk or system file, so deNISTing may not remove 100% of undesirable material. If you know that the data you intend to process contains no system files, you can select No. If the DeNIST field is set to Yes on the profile but the Invariant database table is empty for the DeNIST field, you can't publish files. If the DeNIST field is set to No on the processing profile, the DeNIST filter doesn't appear by default in Inventory, and you don't have the option to add it. Likewise, if the DeNIST field is set to Yes on the profile, the corresponding filter is enabled in Inventory, and you can't disable it for that processing set. The choices for this field are:
  - **Yes**—removes all files found on the NIST list. You can further define DeNIST options by specifying a value for the DeNIST Mode field.

Note: When DeNISTing, the processing engine takes into consideration everything about the file, including extension, header information and the content of the file itself. Even if header information is removed and the extension is changed, the engine is still able to identify and remove a NIST file. This is because it references the hashes of the system files that are found in the NIST database and matches up the hash of, for example, a Windows DLL to the hash of known DLL's in the database table.

- **No**—doesn't remove any files found on the NIST list. Files found on the NIST list are then published with the processing set.

Note: The same NIST list is used for all workspaces in the environment because it is stored on the worker manager server. You should not edit the NIST list. Relativitymakes new versions of the NIST list available shortly after the National Software Reference Library (NSRL) releases them quarterly. Login to the NIST Package Download webpage on the Relativity Community website to download the latest package and installer files.

- **DeNIST Mode**—specify DeNIST options in your documents if DeNIST is set to Yes.
  - **DeNIST all files**—breaks any parent/child groups and removes any attached files found on the NIST list from your document set.
  - **Do not break parent/child groups**—doesn't break any parent/child groups, regardless if the files are on the NIST list. Any loose NIST files are removed.
- **Default OCR languages**—the language used to OCR files where text extraction isn't possible, such as for image files containing text. This selection determines the default language on the processing data sources that you create and then associate with a processing set. For more information, see Adding a processing data source.
- **Default time zone**—the time zone used to display date and time on a processed document. This selection determines the default time zone on the processing data sources that you create and then associate with a processing set. The default time zone is applied from the processing profile during the discovery stage. For more information, see Adding a processing data source.

Note: The processing engine discovers all natives in UTC and then converts metadata dates and times into the value you enter for the Default Time Zone field. The engine needs the time zone at the time of text extraction to write the date/time into the extracted text and automatically applies the daylight saving time for each file based on its metadata during the publishing stage.

- **Include/Exclude**—enables the toggle for the inclusion/exclusion fields. The Inclusion/Exclusion File List allows you to upload custom lists of file extensions to either include or exclude. This gives greater flexibility to cull down data sets during Processing, resulting in faster Discovery, increased relevancy for review, and storage reduction. If DeNist and Include/Exclude are both selected, DeNist will run first.
  - **Yes**—reveals the additional associated inclusion/exclusion fields as required.
  - **No**—hides the additional associated inclusion/exclusion fields.

- **Mode**—specifies Include/Exclude options in your documents if Include/Exclude is set to Yes.
  - **All files**—breaks any parent/child groups and removes any attached files found on the inclusion/exclusion list from your document set.
  - **Do not break parent/child groups**—doesn't break any parent/child groups, regardless if the files are on the inclusion/exclusion list. Any loose inclusion/exclusion files are removed.
- **File Extensions**—cross references the identified File Extension of the file, not its original extension. This long text field is used to enter the list of file extensions. The file extensions will be determined based on groupings of case insensitive alphanumeric characters. Hard returns are determined as delimiters and file a new extension. For example, the following list:

```
DWG
XML
ISO
EXE
D
```

will create a list of DWG, XML, ISO, EXE, D to exclude from Discovery.

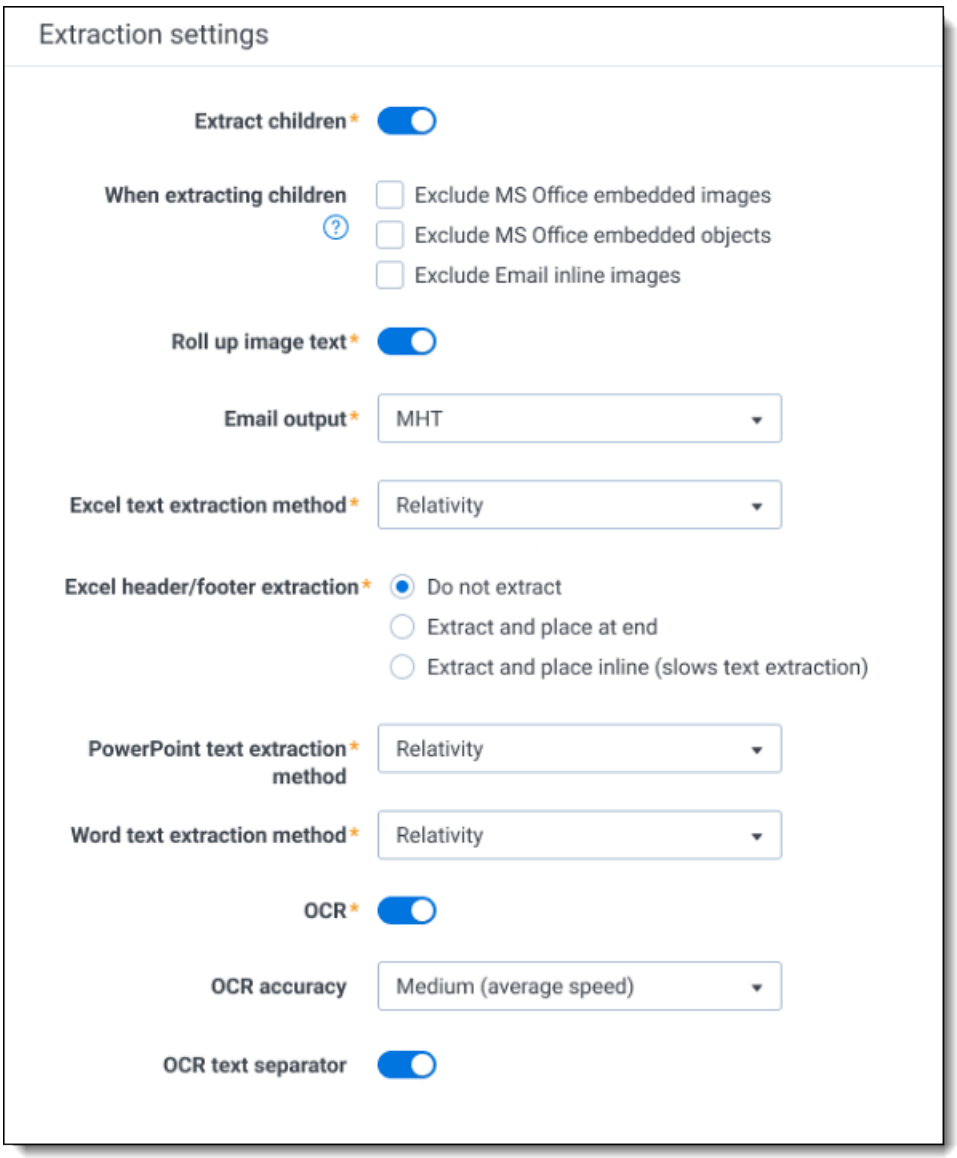
Note: File extensions must be separated with a hard return in order to be filed as a new extension. Extensions are case insensitive and should be entered as just the name of the extension (i.e., EXE versus .EXE).

- **Inclusion/Exclusion Selection**
  - **Inclusion**—causes any File Extension within the list to be Discovered while all other to be filtered out.
  - **Exclusion**—causes any File Extension within the list to be filtered out while all other File Extensions get included.

11.1.3 Extraction settings

The **Extraction Settings** category of the profile layout provides the following fields.

Note: For all text extraction methods described below, **Relativity** is recommended over both Native settings and dtSearch for performance and accuracy.



- **Extract children**—Choose whether or not to extract child items during discovery, including attachments, embedded objects and images, and other non-parent files. Select either:
  - **Yes**—to extract all child files during discovery so that both child and parent items are included in the processing job.
  - **No**—to exclude child items, so that only parent items are included in the processing job. Selecting no removes the options for embedded images and objects, and rolled up image text.

  Note: You do not need to set the Extract children field to Yes to have the files within PST and other container files extracted and processed. This is because Relativity breaks down container files by default without the need to specify to extract children.

- **When extracting children, do not extract**—choose to include or exclude MS Office embedded images, MS Office embedded objects, and Email inline images. Options are:

- **MS Office embedded images**—selecting this option excludes images of various file types found inside Microsoft Office files (such as .jpg, .bmp, or .png in a Word file) from discovery. Embedded images are not published separately in Relativity.
- **MS Office embedded objects**—selecting this option excludes objects of various file types found inside Microsoft Office files (such as an Excel spreadsheet inside a Word file, or a PDF file inside in a Word file) from discovery. Embedded objects are not published separately in Relativity. MS Office embedded objects do not have text extracted and are not searchable.
- **Email inline images**—selecting this option excludes images of various files types found inside emails (such as .jpg, .bmp, or .png in an email) from discovery. Inline images are not published separately in Relativity.

- **Roll up image text**—selecting this option appends the image's text to the end of the parent document without the image being published. The benefit of this feature is cost savings due to reduced file count and size in the hosted workspace.

  Note: Relativity rolls up all images to their parent documents, whether or not the image has text. The rolled up image text option allows you to select whether or not to append the image's extracted text (if there is text) to the parent document.

  Note: An image can be attached to the parent document as an MS Office embedded image, an Email inline image, or an MS Office embedded object if the image is stored as an object.

  Note: When enabled, child files that have their text rolled up are marked as deleted. You can view a list of deleted documents on the Files tab > Deleted files view.

  - If the **Extract children** field is set to no, the **Roll up image text** field is not displayed.
  - You must include at least one of the three options to use the roll up text feature: **MS Office embedded images**, **MS Office embedded objects**, or **Email inline images**.
  - If the **Roll up image text** field is set to yes, Relativity appends the text from images to the end of their respective parent documents. Rollup also occurs for images that are either non-inline hidden attachments of MSG files or embedded in OneNote files.
  - Rolled up text is visible at the end of the parent's extracted text, with a text separator.

Note: See Microsoft Office child extraction support for information on what MS Office documents can have embedded images extracted.

Note: See Email image extraction support for information on what type of emails can have inline images extracted.

11.1.3.1 Other extraction settings

- **Email Output**—determines the file format in which emails will be published to the workspace. The options are:

- **MSG**—publishes emails which are handled as MSGs during processing as **MSG**
- **MHT**—converts and publishes emails which are handled as MSGs during processing as **MHT**

Note: This option affects the following file types: Outlook files, Lotus Notes files, Bloomberg files

Note: Hashing for deduplication is performed on emails before conversion to MHT. The Processing Duplicate Hash value contains the Body, Header, Recipient, and Attachment hashes instead of the SHA256 hash used on native MHTs. After conversion, unique information from MSGs may render the same in the resulting MHT due to the files format. An example is two MSG's that contain "[www.test.com [http//:www.test.com]" and "www.test.com<http://www.test.com/>" in their respective text. During hash generation, these MSG's result in unique body hashes. When converted to an MHT, this text renders as "www.test.com<http://www.test.com/>". You can view or map individual Body, Header, Recipient, and Attachment hashes from the Files tab.

- This conversion happens during discovery.
- MSG files take up unnecessary space because attachments to an MSG are stored twice, once with the MSG itself and again when they're extracted and saved as their own records. As a result, when you convert an MSG to an MHT, you significantly reduce your file storage because MHT files do not require duplicative storage of attachments.
- If you need to produce a native email file while excluding all privileged or irrelevant files, convert the email native from MSG to MHT by using the Email Output field. After an email is converted from MSG to MHT, the MHT email is published to the workspace separately from any attachments, reducing the chance of accidentally producing privileged attachments.
- Once you convert an MSG file to MHT, you cannot revert this conversion after the files have been published. For a list of differences between how Relativity handles MSG and MHT files, see MSG to MHT conversion considerations.

Note: There is also a Yes/No Processing field called Converted Email Format that tracks whether an email was converted to MHT.

- **Excel Text Extraction Method**—determines whether the processing engine uses Excel, Relativity, or dtSearch to extract text from Excel files during publish.
  - **Relativity (Recommended)**—Relativity uses its built-in engine to extract text from Excel files.

    Note: Using Relativity's built-in engine is the recommended method for performance and accuracy.

  - **Native (Legacy)**—Relativity uses Excel to extract text from Excel files.
  - **Native - failover to dtSearch (Legacy)—**Relativity uses Excel to extract text from Excel files with dtSearch as a backup text extraction method if extraction fails.

- **dtSearch- failover to Native (Legacy)**—Relativity uses dtSearch to extract text from Excel files with Native as a backup text extraction method if extraction fails. This typically results in faster extraction speeds; however, we recommend considering some differences between dtSearch and Native extraction. For example, dtSearch doesn't support extracting the Track Changes text from Excel files. For more considerations like this, see dtSearch special considerations.

- **Excel Header/Footer Extraction**—extract header and footer information from Excel files when you publish them. This is useful for instances in which the header and footer information in your Excel files is relevant to the case. This field isn't available if you selected dtSearch for the Excel Text Extraction Method field above because dtSearch automatically extracts header and footer information and places it at the end of the text; if you selected a value for this field and then select dtSearch above, your selection here is nullified. The options are:
  - **Do not extract**—doesn't extract any of the header or footer information from the Excel files and publishes the files with the header and footer in their normal positions. This option is selected by default; however, if you change the value for the Excel Text Extraction Method field above from dtSearch, back to Native, this option will be de-selected and you'll have to select one of these options in order to save the profile.
  - **Extract and place at end**—extracts the header and footer information and stacks the header on top of the footer at the end of the text of each sheet of the Excel file. Note that the native file will still have its header and footer.
  - **Extract and place inline (slows text extraction)**—extracts the header and footer information and puts it inline into the file. The header appears inline directly above the text in each sheet of the file, while the footer appear directly below the text. Note that this could impact text extraction performance if your data set includes many Excel files with headers and footers. Note that the native file will still have its header and footer.
- **PowerPoint Text Extraction Method**—determines whether the processing engine uses PowerPoint, Relativity, or dtSearch to extract text from PowerPoint files during publish.
  - **Relativity (Recommended)**—Relativity uses its built-in engine to extract text from PowerPoint files.

    Note: Using Relativity's built-in engine is the recommended method for performance and accuracy.
  - **Native (Legacy)**—Relativity uses PowerPoint to extract text from PowerPoint files.
  - **Native - failover to dtSearch (Legacy)**—Relativity uses PowerPoint to extract text from PowerPoint files with dtSearch as a backup text extraction method if extraction fails.
  - **dtSearch - failover to Native (Legacy)**—Relativity uses dtSearch to extract text from PowerPoint files with Native as a backup text extraction method if extraction fails. This typically results in faster extraction speeds; however, we recommend considering some differences between dtSearch and Native extraction. For example, dtSearch doesn't support extracting watermarks from pre-2007 PowerPoint files, and also certain metadata fields aren't populated when using dtSearch. For more considerations like this, see dtSearch special considerations.
- **Word Text Extraction Method**—determines whether the processing engine uses Word, Relativity, or dtSearch to extract text from Word files during publish.

- **Relativity (Recommended)**—Relativity uses its built-in engine to extract text from Word files.

  Note: Using Relativity's built-in engine is the recommended method for performance and accuracy.

- **Native (Legacy)**—Relativity uses Word to extract text from Word files.
- **Native - failover to dtSearch (Legacy)**—Relativity uses Word to extract text from Word files with dtSearch as a backup text extraction method if extraction fails.
- **dtSearch - failover to Native (Legacy)**—Relativity uses dtSearch to extract text from Word files with Native as a backup text extraction method if extraction fails. This typically results in faster extraction speeds; however, we recommend considering some differences between dtSearch and Native extraction. For example, dtSearch doesn't support extracting watermarks from pre-2007 Word files, and also certain metadata fields aren't populated when using dtSearch. For more considerations like this, see dtSearch special considerations.

- **OCR**—select Enable to run OCR during processing. If you select Disable, Relativity won't provide any OCR text in the Extracted Text view.

  Note: If OCR isn't essential to your processing job, it's recommended to disable the OCR field on your processing profile, as doing so can significantly reduce processing time and prevent irrelevant documents from having OCR performed on them. You can then perform OCR on only relevant documents outside of the processing job.

- **OCR 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.
- **OCR Text Separator**—select Enable to display a separator between extracted text at the top of a page and text derived from OCR at the bottom of the page in the Extracted Text view. The separator reads as, "--- OCR From Images ---". With the separator disabled, the OCR text will still be on the page beneath the extracted text, but there will be nothing to indicate where one begins and the other ends. By default, this option is enabled.

  Note: When you process files with both the OCR and the OCR Text Separator fields enabled, any section of a document that required OCR will include text that says **OCR from Image**. This can then pollute a dtSearch index because that index is typically built off of the extracted text field, and OCR from Image is text that was not originally in the document.

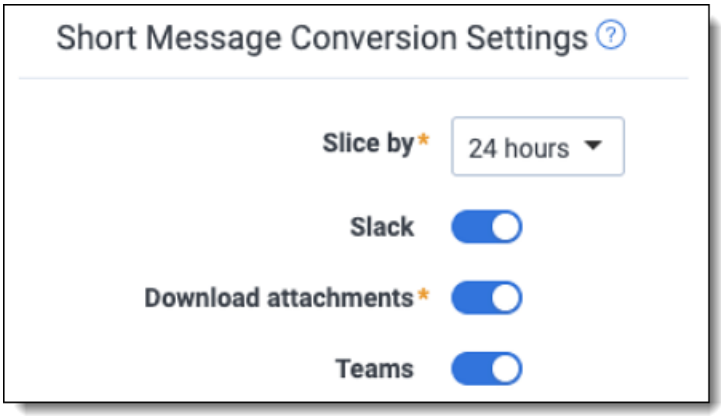
11.1.4 Short message conversion settings

Import short message files in their native format directly into Relativity for processing. This feature eliminates having to convert short message files to RSMF (Relativity Short Message Format) before processing. You can define conversion settings in the processing profile's **Short Message Conversion Settings** section. The short message conversion settings you define only apply to processing jobs where

RSMF conversion occurs during processing. The settings do not impact data already in RSMF format before processing takes place.

Note: To view information on supported file types for short messages, see Short message conversion for Slack and Short message conversion for Microsoft Teams. For short message mapping considerations, see Relativitity's short message format.

Use the following settings to define short message conversion extraction parameters.



- **Slice by**—determines how Relativity splits conversations into RSMF files in terms of time.

  Note: There are a few limitations when creating RSMF files. The first, a Viewer condition, limits the number of events to 10,000. The second, a Processing condition, limits the RSMF file size to 2 GB. Relativity splits the RSMF output into multiple smaller files if it encounters either condition for a select time frame.

  Note: Relativity uses the time zone selected in the processing profile to calculate blocks of time.

  - **4 hours**—conversations are grouped in 4-hour blocks starting from 00:00 on any day where the message in the conversation exists.
  - **8 hours**—conversations are grouped in 8-hour blocks starting from 00:00 on any day where the message in the conversation exists.
  - **12 hours**—conversations are grouped in 12-hour blocks starting from 00:00 on any day where the message in the conversation exists.
  - **24 hours**—conversations are grouped in 24-hour blocks starting from 00:00 on any day where the message in the conversation exists.
  - **1 week**—conversations are grouped in 7-day blocks starting from Monday where the message in the conversation exists.
- **Slack**—use this toggle to turn on or off the conversion of Slack export containers to RSMF.
  - **On**—select this option to convert Slack export containers to RSMF during processing. When toggled on, you will see additional fields for downloading attachments and for setting slicing time blocks.

- **Off**—select this option to turn off conversion of Slack export containers to RSMF. When toggled off, you will not see the additional fields for downloading attachments or setting slicing time blocks.

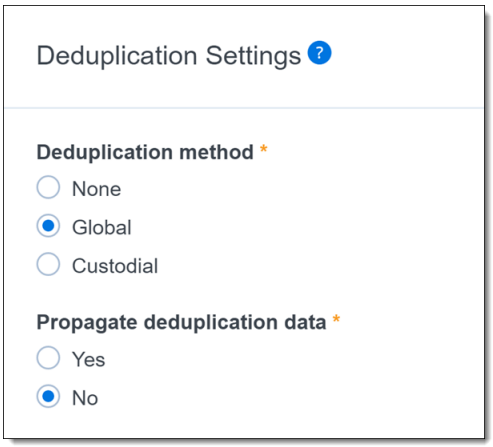
- **Download Attachments**—use this toggle to download attachments from Slack servers (files.slack-.com/) while converting conversations to RSMF.
  - **On**—select this option to download attachments and include them as standalone files during RSMF conversion.
  - **Off**—select this option to exclude attachments. Relativity retains links to output RSMF files instead of downloading the actual files.

  Note: Downloading attachments can lead to a significant increase in the size of your import container. Make sure you have the necessary storage resources to accommodate the additional file volume.

- **Teams**—use this toggle to turn on or off the conversion of Teams data to RSMF during the processing of PST files.
  - **On**—select this option to convert Teams data to RSMF during the processing of PST files.
  - **Off**—select this option to turn off conversion of Teams data to RSMF during the processing of PST files. This will process all Teams data found in PST as MSG files.

11.1.5 Deduplication settings

The **Deduplication Settings** category of the profile layout provides the following fields:



- **Deduplication method**—the method for separating duplicate files during discovery. During deduplication, the system compares documents based on certain characteristics and keeps just one instance of an item when two or more copies exist. The system performs deduplication against published files only. Deduplication doesn't occur during inventory or discovery. Deduplication only applies to parent files; it doesn't apply to children. If a parent is published, all of its children are also published. Select from the following options. For details on how these settings work, see Deduplication considerations:

Note: Don't change the deduplication method in the middle of running a processing set, as doing so could result in blank DeDuped Custodians or DeDuped paths fields after publish, when those fields would otherwise display deduplication information.

- **None**—no deduplication occurs.
  - Even when you select None as the deduplication method, Relativity identifies duplicates by storing one copy of the native document on the file repository and using metadata markers for all duplicates of that document.
  - Relativity doesn't repopulate duplicate documents if you change the deduplication method from None after processing is complete. Changing the deduplication method only affects subsequent processing sets. This means that if you select global deduplication for your processing settings, you can't then tell Relativity to include all duplicates when you go to run a production.
- **Global**—arranges for documents from each processing data source to be de-duplicated against all documents in all other data sources in your workspace. Selecting this makes the Propagate deduplication data field below visible and required.

  Note: If you select Global, there should be no exact e-mail duplicates in the workspace after you publish. The only exception is a scenario in which two different e-mail systems are involved, and the e-mails are different enough that the processing engine can't exactly match them. In the rare case that this happens, you may see email duplicates in the workspace.

- **Custodial**—arranges for documents from each processing data source to be de-duplicated against only documents in data sources owned by that custodian. Selecting this makes the Propagate deduplication data field below visible and required.

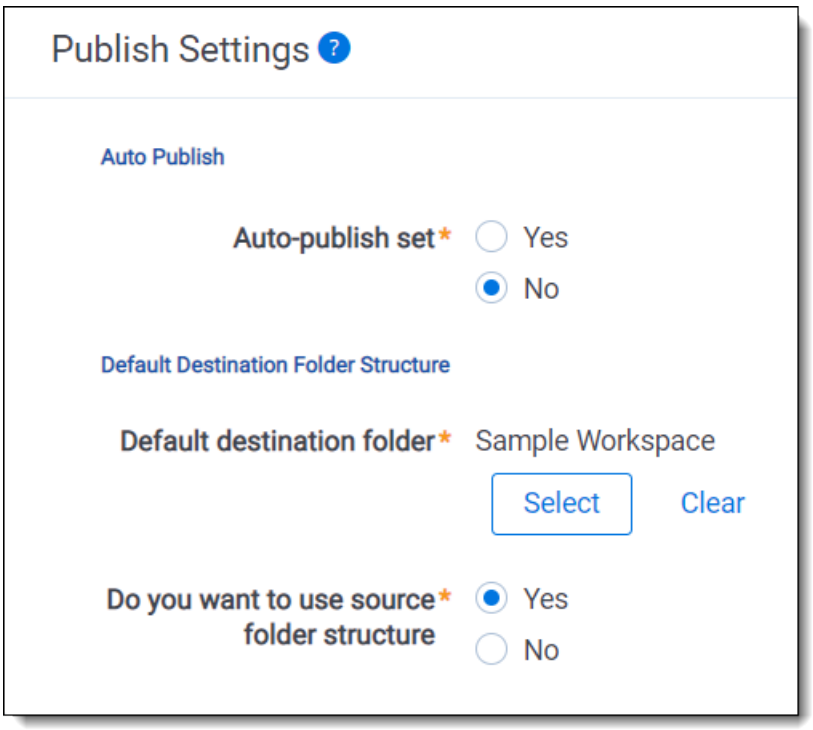
  Note: Deduplication is run on custodian ID's; there's no consequence to changing a custodian's name after their files have already been published.

- **Propagate deduplication data**—applies the deduplication fields you mapped out of deduped custodians, deduped paths, all custodians, and all paths field data to children documents, which allows you to meet production specifications and perform searches on those fields without having to include family or overlay those fields manually. This field is only available if you selected Global or Custodial for the deduplication method above. You have the following options:
  - Select **Yes** to have the metadata fields you mapped populated for parent and children documents out of the following: All Custodians, Deduped Custodians, All Paths/Locations, Deduped Paths, and Dedupe Count.
  - Select **No** to have the following metadata fields populated for parent documents only: All Custodians, Deduped Custodians, All Paths/Locations, and Deduped Paths.
  - If you republish a processing set that originally contained a password-protected error without first resolving that error, then the deduplication data won't be propagated correctly to the children of the document that received the error.

- In certain cases, the Propagate deduplication data setting can override the extract children setting on your profile. For example, you have two processing sets that both contain an email message with an attachment of a Word document, Processing Set 1 and 2. You publish Processing Set 1 with the Extract children field set to Yes, which means that the Word attachment is published. You then publish Processing Set 2 with the Extract children field set to No but with the Deduplication method field set to Global and the Propagate deduplication date field set to Yes. When you do this, given that the emails are duplicates, the deduplication data is propagated to the Word attachment published in Processing Set 1, even though you didn't extract it in Processing Set 2.

11.1.6 Publish settings

The **Publish Settings** category of the profile layout provides the following fields.



- **Auto-publish set**—arranges for the processing engine to automatically kick off publish after the completion of discovery, with or without errors. By default, this is set to No. Leaving this at No means that you must manually start publish.
- **Default destination folder**—the folder in Relativity into which documents are placed once they're published to the workspace. This value determines the default value of the destination folder field on the processing data source. You have the option of overriding this value when you add or edit a data source on the processing set. Publish jobs read the destination folder field on the data source, not on the profile. You can select an existing folder or create a new one by right-clicking the base folder and selecting **Create**.
  - If the source path you selected is an individual file or a container, such as a zip, then the folder tree does not include the folder name that contains the individual file or container.

- If the source path you selected is a folder, then the folder tree includes the name of the folder you selected.

- **Do you want to use source folder structure**—maintain the folder structure of the source of the files you process when you bring these files into Relativity.

  Note: If you select **Yes** for **Use source folder structure**, subfolders matching the source folder structure are created under this folder. See the following examples:

  Example 1 (recommended)
  - **Select Source for files to process:** \\server.ourcompany.com\Fileshare\Processing Data\Jones, Bob\
  - **Select Destination folder for published files:** Processing Workspace \ Custodians \

  Results: A subfolder named Jones, Bob is created under the *Processing Workspace* \ *Custodians* \ destination folder, resulting in the following folder structure in Relativity: *Processing Workspace* \ *Custodians* \ *Jones, Bob* \

  Example 2 (not recommended)
  - **Select Source for files to process:** \\server.ourcompany.com\Fileshare\Processing Data\Jones, Bob\
  - **Select Destination folder for published files:** Processing Workspace \ Custodians \ Jones, Bob \

  Results: A sub-folder named Jones, Bob is created under the *Processing Workspace* \ *Custodians* \ *Jones, Bob* \ destination folder, resulting in the following folder structure in Relativity: *Processing Workspace* \ *Custodians* \ *Jones, Bob* \ *Jones, Bob* \. Any folder structure in the original source data is retained underneath.

  If you select **No** for **Do you want to use source folder structure**, no sub-folders are created under the destination folder in Relativity. Any folder structure that may have existed in the original source data is lost.

11.1.7 Other considerations

The follow sections describe other considerations for numbering, prioritizing publishing speed, and dtSearch,

11.1.7.1 Parent/child numbering type examples

To better understand how each parent/child numbering option appears for published documents, consider the following scenario.

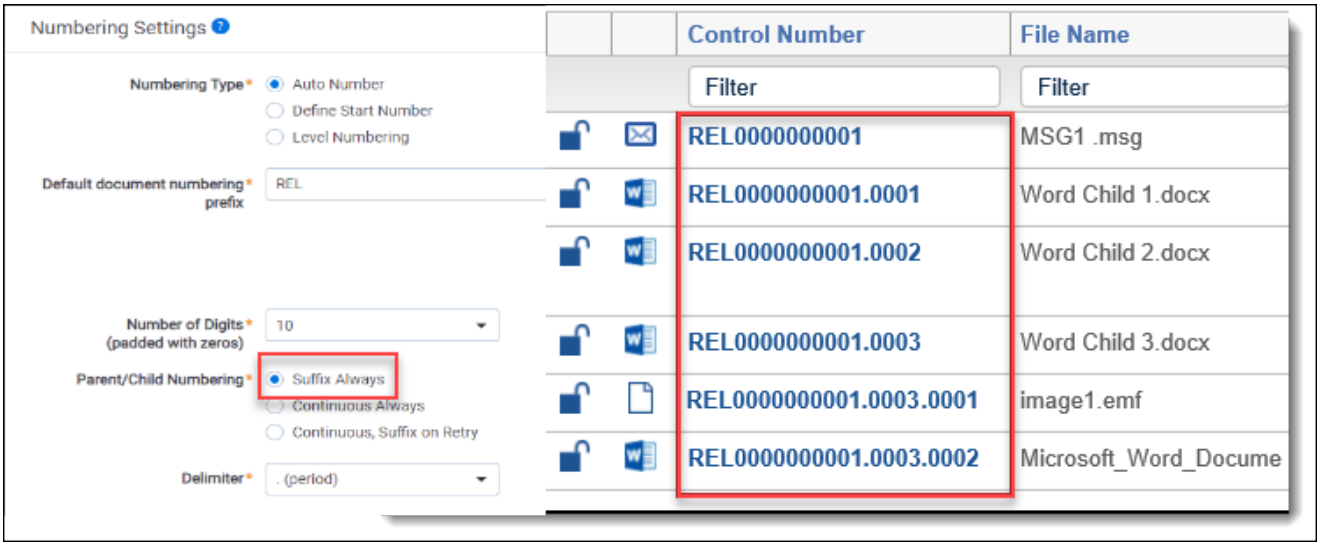
Your data source includes an MSG file containing three Word documents, one of which is password protected:

- MSG
  - Word Child 1
  - Word Child 2

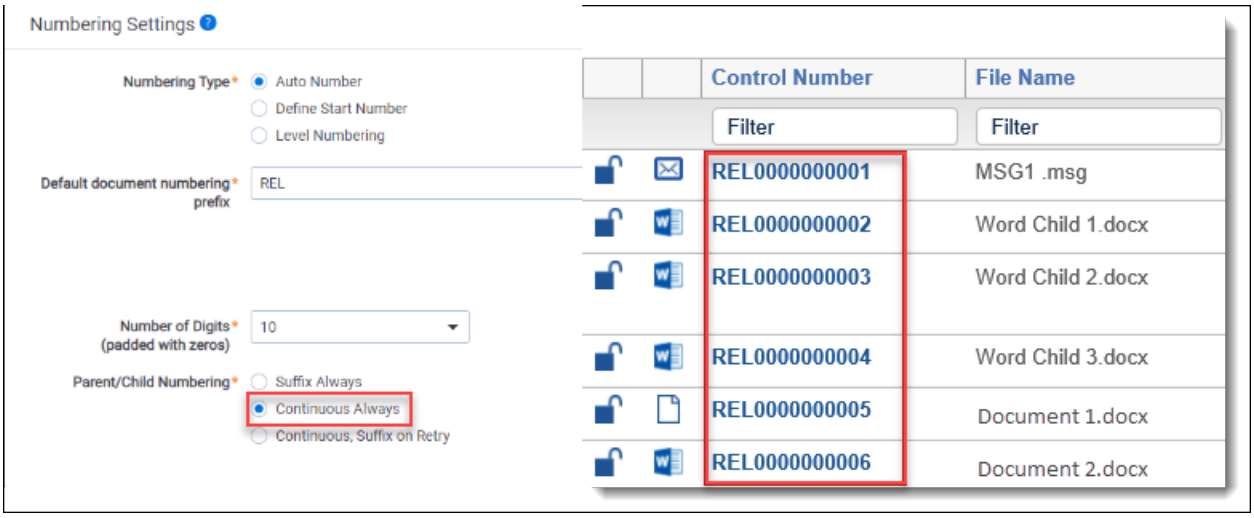
- Word Child 3 (password protected)
  - sub child 1
  - sub child 2

When you process the .msg file, three documents are discovered and published, and there's an error on the one password-protected child document. You then retry discovery, and an additional two sub-child documents are discovered. You then republish the processing set, and the new two documents are published to the workspace.

If you'd chosen Suffix Always for the Parent/Child Numbering field on the profile, the identifiers of the published documents would appear as the following:



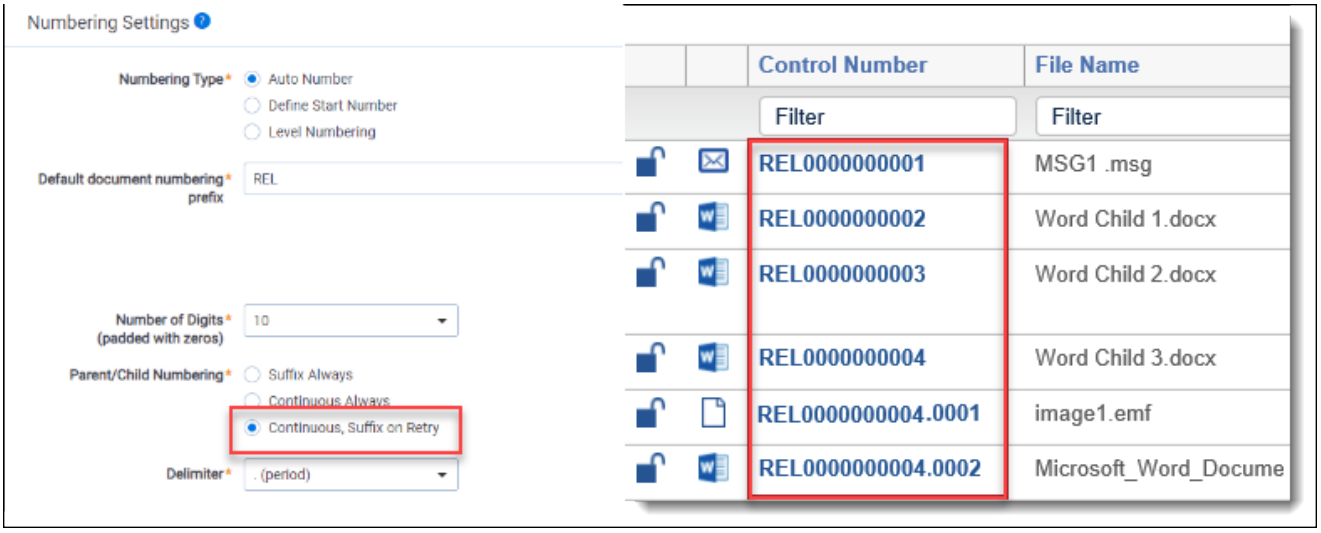
If you'd chosen Continuous Always for the Parent/Child Numbering field on the profile, the identifiers of the published documents would appear as the following:



- In this case, the .msg file was the last document processed, and Word Child 3.docx was the first error reprocessed in a larger workspace. Thus, the sub child documents of Word Child 3.docx do not

appear in the screen shot because they received sequence numbers after the last document in the set.

If you'd chosen Continuous, Suffix on Retry for the Parent/Child Numbering field on the profile, the identifiers of the published documents would appear as the following:



- Suffix on retry only applies to errors that haven't been published to the workspace. If a document has an error and has been published, it will have a continuous number. If you resolve the error post-publish, the control number doesn't change.

11.1.7.2 Prioritizing publishing speed special considerations

Publishing speed can be prioritized by performing one of the following actions:

- setting the **Deduplication method** to None
- setting the **Create Source Folder Structure** to No

11.1.7.3 Suffix special considerations

Note the following details regarding how Relativity uses suffixes:

- For suffix child document numbering, Relativity indicates secondary levels of documents with a delimiter and another four digits appended for additional sub-levels. For example, a grandchild document with the assigned prefix REL would be numbered *REL0000000001.0001.0001*.
- Note the following differences between unpublished documents and published documents with errors:
  - If a file is unpublished, and Continuous Always is the numbering option on the profile, Relativity will not add a suffix
  - If a file is unpublished, and Suffix Always is the numbering option on the profile, Relativity will add a suffix to it.
  - If a file has an error and is published, and Continuous, Suffix on Retry is the numbering option on the profile, Relativity will add a suffix to it.

- It's possible for your workspace to contain a document family that contains both suffixed and non-suffixed child documents. This can happen in the following example scenario:
  - You discover a primary (level 1) MSG file that contains child (level 2) documents and grandchild (level 3) documents, none of which contain suffixes.
  - One of the child documents yields an error.
  - You retry the error child document, and in the process you discover two grandchildren.
  - The newly discovered grandchildren are suffixed because they came from an error retry job, while the primary and non-error child documents remain without suffixes, based on the original discovery.

11.1.7.4 dtSearch special considerations

When you publish Word, Excel, and PowerPoint files with the text extraction method set to **dtSearch** on the profile, you'll typically see faster extractions speeds, but note that those file properties may or may not be populated in their corresponding metadata fields or included in the Extracted Text value.

The dtSearch text extraction method does not populate the following properties:

- In Excel, Track Changes in the extracted text.
- In Word, Has Hidden Data in the corresponding metadata field.
- In Word, Track Changes in the corresponding metadata field.
- In Powerpoint, Has Hidden Data in the corresponding metadata field.
- In Powerpoint, Speaker Notes in the corresponding metadata field.

Note: The dtSearch text extraction method will display track changes extracted text in-line, but changes may be poorly formatted. The type of change made is not indicated. The Native text extraction method will append track changes extracted text in a Tracked Change section.

The following table breaks down which file properties are populated in corresponding metadata fields and/or Extracted Text for the dtSearch text extraction method:

File type	Property	Included in dtSearch Corresponding metadata field	Included in dtSearch Extracted text
Excel (.xls, .xlsx)	Has Hidden Data	✓	✓
Excel (xls, .xlsx)	Track Changes (Inserted cell, moved cell, modified cell, clear cell, inserted column, deleted column, inserted row, deleted row, inserted sheet, renamed sheet)	✓	
Word (.doc, .docx)	Has Hidden Data		✓
Word (.doc, .docx)	Track Changes (Insertions, deletions, moves)		✓

File type	Property	Included in dtSearch Corresponding metadata field	Included in dtSearch Extracted text
Powerpoint (.ppt, .pptx)	Has Hidden Data		✓
Powerpoint (.ppt, .pptx)	Speaker Notes		✓

Note: Check marks do not apply to .xlsb files.

Note: Relativity does not possess a comprehensive list of all differences between the Native application and dtSearch text extraction methods. For additional information, see support.dtsearch.com.

11.1.7.5 Text extraction method considerations

As text extraction directly impacts search results, the following table lists which features are supported by the Relativity, Native, and dtSearch methods:

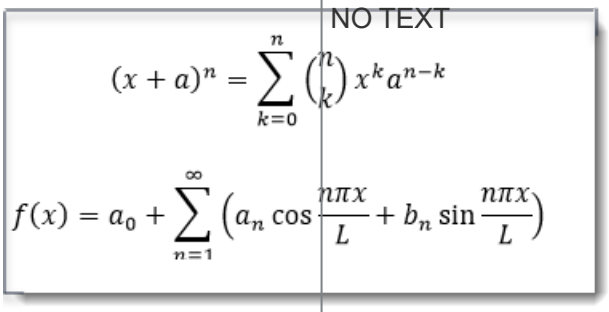
Features	Relativity			Native			dtSearch		
FEATURE DIFFERENCES	Excel Features Supported	Word Features Supported	Power Point Features Supported	Excel Features Supported	Word Features Supported	Power Point Features Supported	Excel Features Supported	Word Features Supported	Power Point Features Supported
Math equations. For more information, see Math equations.	Not Supported	Not Supported	Not Supported	✓	✓	✓	✓	✓	✓
Math formulas (sum, avg, etc.)	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported	✓	✓	✓
SmartArt	✓ *	✓ *	✓ *	✓ *	✓ *	✓ *	✓ *	✓ *	✓ *
Speaker notes	N/A	N/A	✓ **	N/A	N/A	✓	N/A	N/A	✓ ***
Track changes	✓	✓	N/A	✓	✓	N/A	✓ ***	✓ ***	N/A
Hidden data	✓	✓	✓	✓	✓	✓	✓ ***	✓ ***	✓ ***
2016+ new chart styles	Not Supported	✓	✓	Not Supported	✓	✓	Not Supported	✓	✓

* Pre-2007 Office SmartArt are considered attachments and will be extracted and OCRd. ** When a header or footer is in the Speaker Notes section, field codes are not extracted. *** For more information, see dtSearch special Considerations.									
FULLY COMPATIBLE AND SUPPORTED FEATURES									
Bullet lists	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chart box	✓	✓	✓	✓	✓	✓	✓	✓	✓
CJK and other foreign language characters	✓	✓	✓	✓	✓	✓	✓	✓	✓
Clip art	✓	✓	✓	✓	✓	✓	✓	✓	✓
Comments and replies	✓	✓	✓	✓	✓	✓	✓	✓	✓
Currency format	✓	✓	N/A	✓	✓	N/A	✓	✓	N/A
Date / Time format	✓	✓	✓	✓	✓	✓	✓	✓	✓
Field codes	✓	✓	✓	✓	✓	✓	✓	✓	✓
Footer	✓	✓	✓	✓	✓	✓	✓	✓	✓
Header	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hidden slide	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A	✓
Macros	N/A	✓	N/A	N/A	✓	N/A	N/A	✓	N/A
Margins / Alignment Format	N/A	✓	N/A	N/A	✓	N/A	N/A	✓	N/A
Merged cell (horizontal)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Merged cell (vertical)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Number format (positive / negative)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Number format (fraction)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Number format (with comma)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A

Number format (with decimal point)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Password protected (cell level)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Password protected (column level)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Password protected (file level)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Password protected (row level)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Password protected (sheet / page level)	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Phone number format	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Pivot table	✓	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A
Right to left test format	N/A	✓	N/A	N/A	✓	N/A	N/A	✓	N/A
Slide numbers	N/A	N/A	✓	N/A	N/A	N/A	N/A	N/A	✓
Table	✓	✓	✓	✓	✓	✓	✓	✓	✓
Text box	✓	✓	✓	✓	✓	✓	✓	✓	✓
Transitions	N/A	N/A	✓	N/A	N/A	✓	N/A	N/A	✓
WordArt	✓	✓	✓	✓	✓	✓	✓	✓	✓
Word wrapping format	N/A	✓	N/A	N/A	✓	N/A	N/A	✓	N/A

11.1.7.6 Math equations

The following table includes examples of what the extracted text would look like if Native or dtSearch are used rather than Relativity:

Original Document	Text Extraction Method		
	Relativity	Native	dtSearch
	NO TEXT	(x+a)^n=∑_(k=0)^n▒ 〖(n ¦ f(x)=a_0+∑_(n=1)^∞▒(a_	x+an=k=0nnkxkan-k fx=a0+n=1∞ancosnπxL+

12 Deduplication considerations

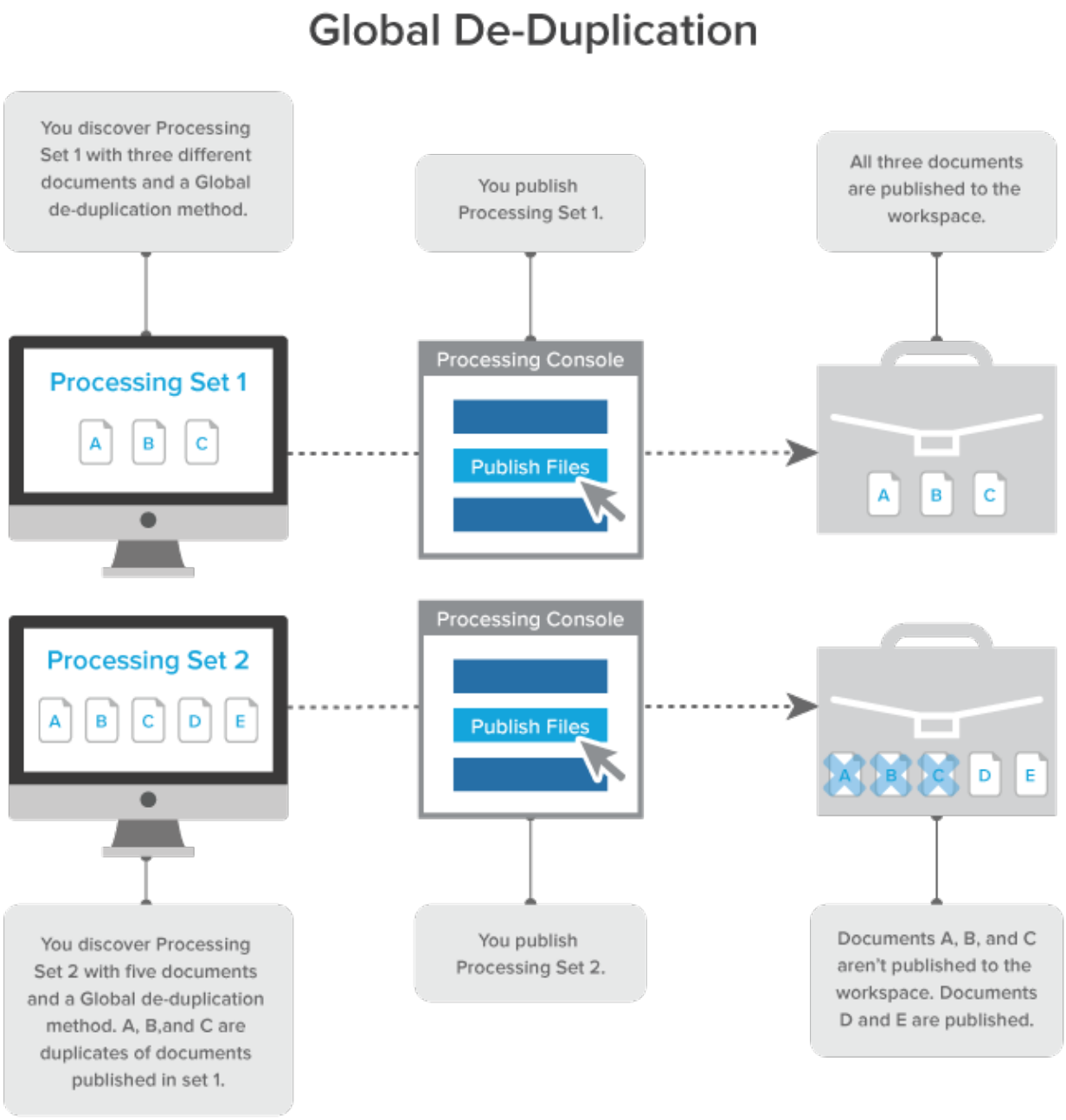
The following scenarios depict what happens when you publish a processing set using each of the deduplication methods available on the processing profile.

Note the following special considerations regarding deduplication:

- Deduplication is applied only on Level 1 non-container parent files. If a child file (Level 2+) has the same processing duplicate hash as a parent file or another child file, then they will not be deduplicated, and they will be published to Relativity, regardless of whether the hash field has the same value. This is done to preserve family integrity. You can find out the level value for a file by mapping the Level metadata from the Field Catalog.
- In rare cases, it's possible for child documents to have different hashes when the same files are processed into different workspaces. For example, if the children are pre-Office 2007 files, then the hashes could differ based on the way the children are stored inside the parent file. In such cases, the child documents aren't identical (unlike in a ZIP container) inside the parent document. Instead, they're embedded as part of the document's structure and have to be created as separate files, and the act of separating the files generates a new file entirely. While the content of the new file and the separated file are the same, the hashes don't match exactly because the OLE-structured file contains variations in the structure. This is not an issue during deduplication, since deduplication is applied only to the level-1 parent files, across which hashes are consistent throughout the workspace.
- When deduplication runs as part of publish, it doesn't occur inside the Relativity database or the Relativity SQL Server and thus has no effect on review. As a result, there is no database lockout tool available, and reviewers are able to access a workspace and perform document review inside it while publish and deduplication are in progress.
- At the time of publish, if two data sources have the same order, or if you don't specify an order, deduplication order is determined by Artifact ID.
- If you change the deduplication method between publications of the same data, even if you're using different processing sets, you may encounter unintended behavior. For example, if you publish a processing set with None selected for the deduplication method on the profile and then make a new set with the same data and publish it with Global selected, Relativity won't publish any new documents because they will all be considered duplicates. In addition, the All Custodians field will display unexpected data. This is because the second publish operation assumed that all previous publications were completed with the same deduplication settings.

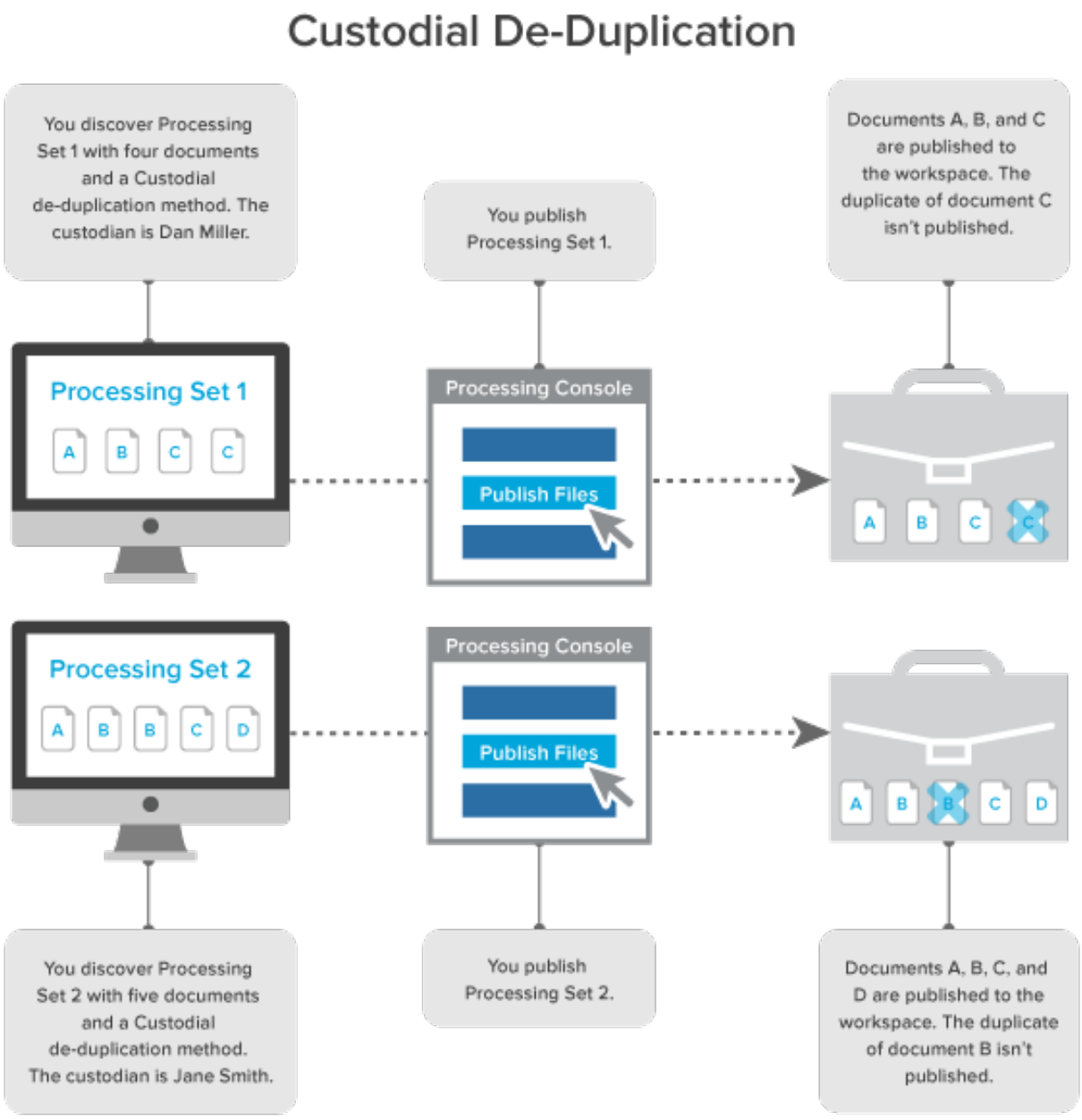
12.1 Global deduplication

When you select Global as the deduplication method on the profile, documents that are duplicates of documents that were already published to the workspace in a previous processing set aren't published again.



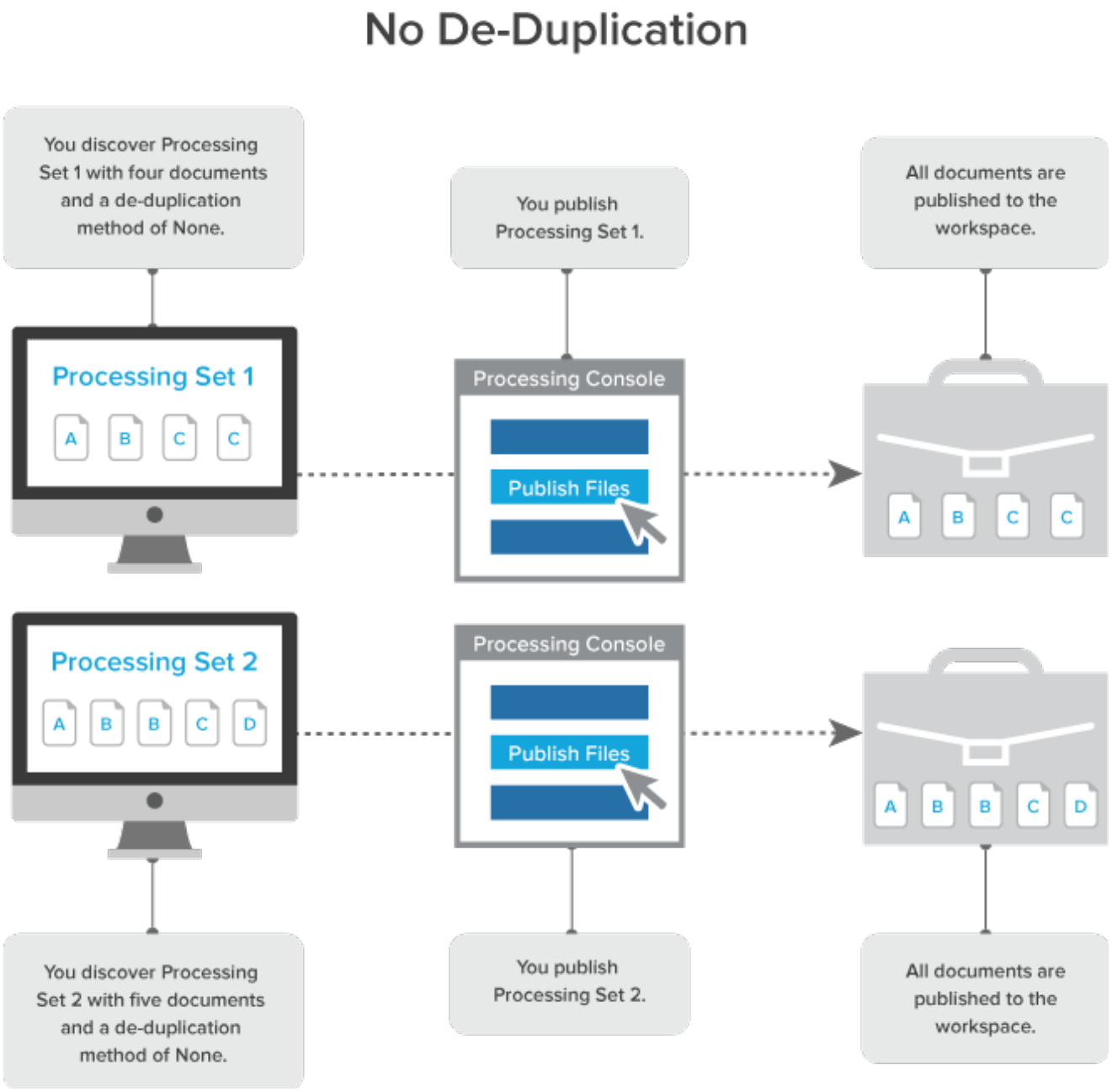
12.2 Custodial deduplication

When you select Custodial as the deduplication method on the profile, documents that are duplicates of documents owned by the custodian specified on the data source aren't published to the workspace.



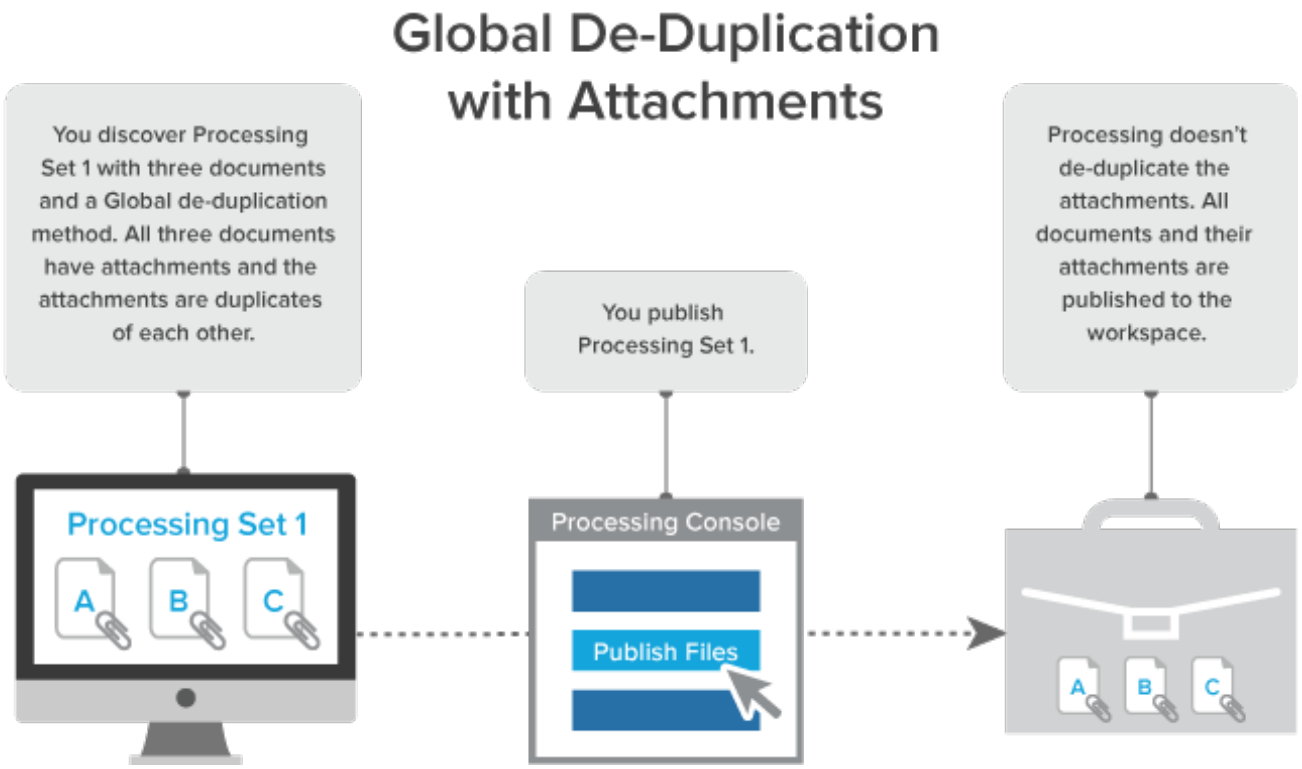
12.3 No deduplication

When you select None as the deduplication method on the profile, all documents and their duplicates are published to the workspace.



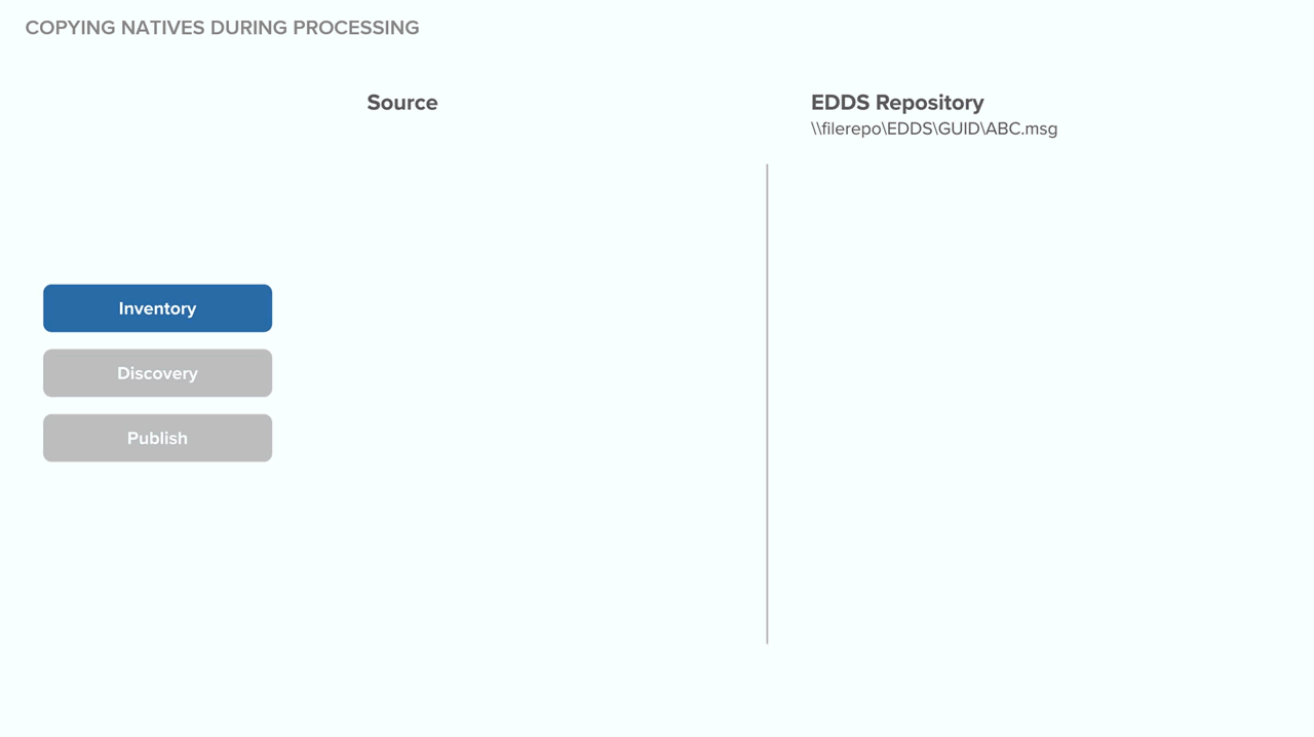
12.4 Global deduplication with attachments

When you select Global as the deduplication method on the profile and you publish a processing set that includes documents with attachments, and those attachments are duplicates of each other, all documents and their attachments are published to the workspace.



12.5 Global deduplication with document-level errors

When you select Global as the deduplication method on the profile, and you publish a processing set that contains a password-protected document inside a zip file, you receive an error. When you unlock that document and republish the processing set, the document is published to the workspace. If you follow the same steps with a subsequent processing set, the unlocked document is de-duplicated and not published to the workspace.



12.6 Technical notes for deduplication

The system uses the algorithms described below to calculate hashes when performing deduplication on both loose files (standalone files not attached to emails) and emails for processing jobs that include either a global or custodial deduplication.

The system calculates hashes in a standard way, specifically by calculating all the bits and bytes that make the content of the file, creating a hash, and comparing that hash to other files in order to identify duplicates.

The following hashes are involved in deduplication:

- **MD5/SHA1/SHA256 hashes**—provide a checksum of the physical native file.
- **Deduplication hashes** – the four email component hashes (body, header, recipient, and attachment) processing generates to de-duplicate emails.
- **Processing duplicate hash**—the hash used by processing in Relativity to de-duplicate files, which references a Unicode string of the header, body, attachment, and recipient hashes generated by processing. For loose files, the Processing Duplicate Hash is a hash of the file's SHA256 hash.

12.6.1 Calculating MD5/SHA1/SHA256 hashes

To calculate a file hash for native files, the system:

1. Opens the file.
2. Reads 8k blocks from the file.

3. Passes each block into an MD5/SHA1/SHA256 collator, which uses the corresponding standard algorithm to accumulate the values until the final block of the file is read. Envelope metadata (such as filename, create date, last modified date) is excluded from the hash value.
4. Derives the final checksum and delivers it.

Note: Relativity can't calculate the MD5 hash value if you have FIPS (Federal Information Processing Standards cryptography) enabled for the worker manager server.

12.6.2 Calculating deduplication hashes for emails

12.6.2.1 MessageBodyHash

To calculate an email's MessageBodyHash, the system:

1. Captures the PR_BODY tag from the MSG (if it's present) and converts it into a Unicode string.
2. Gets the native body from the PR_RTF_COMPRESSED tag (if the PR_BODY tag isn't present) and either converts the HTML or the RTF to a Unicode string.
3. Removes all carriage returns, line feeds, spaces, and tabs from the body of the email to account for formatting variations. An example of this is when Outlook changes the formatting of an email and displays a message stating, "Extra Line breaks in this message were removed."

   Note: The removal of all the components mentioned above is necessary because if the system didn't do so, one email containing a carriage return and a line feed and another email only containing a line feed would not be deduplicated against each other since the first would have two spaces and the second would have only one space.
4. Constructs a SHA256 hash from the Unicode string derived in step 2 or 3 above.

12.6.2.2 HeaderHash

To calculate an email's HeaderHash, the system:

1. Constructs a Unicode string containing Subject<crlf>SenderName<crlf>SenderEMail<crlf>ClientSubmitTime.
2. Derives the SHA256 hash from the header string. The ClientSubmitTime is formatted with the following: m/d/yyyy hh:mm:ss AM/PM. The following is an example of a constructed string:
   - RE: Your last email
   - Robert Simpson
   - robert@relativity.com
   - 10/4/2010 05:42:01 PM

12.6.2.3 RecipientHash

The system calculates an email's RecipientHash through the following steps:

1. Constructs a Unicode string by looping through each recipient in the email and inserting each recipient into the string. Note that BCC is included in the Recipients element of the hash.

2. Derives the SHA256 hash from the recipient string RecipientName<crlf>RecipientEMail<crlf>. The following is an example of a constructed recipient string of two recipients:
    - Russell Scarcella
    - rscarcella@relativity.com
    - Kristen Vercellino
    - kvercellino@relativity.com

12.6.2.4 AttachmentHash

To calculate an email's AttachmentHash, the system:

1. Derives a SHA256 hash for each attachment.
    - If the attachment is a not an email, the normal standard SHA256 file hash is computed for the attachment.
    - If the attachment is an e-mail, we use the e-mail hashing algorithm described to Calculating deduplication hashes for emails to generate all four de-dupe hashes. Then, these hashes are combined, as described in Calculating the Relativity deduplication hash, to generate a single SHA256 attachment hash.
2. Encodes the hash in a Unicode string as a string of hexadecimal numbers without <crlf> separators.
3. Constructs a SHA256 hash from the bytes of the composed string in Unicode format. The following is an example of constructed string of two attachments:
    - 80D03318867DB05E40E20CE10B7C8F511B1D0B9F336
↳EF2C787CC3D51B9E26BC9974C9D2C0EEC0F515C770B8
↳282C87C1E8F957FAF34654504520A7ADC2E0E23EA

ICS/VCF files are deduplicated not as emails but as loose files based on the SHA256 hash. Since the system now considers these loose files, Relativity is no longer capturing the email-specific metadata that it used to get as a result of ICS/VCF files going through the system's email handler.

12.6.3 Calculating the Relativity deduplication hash

To derive the Relativity deduplication hash, the system:

1. Constructs a string that includes the SHA256 hashes of all four email components described above, as seen in the following example. For more information, see Calculating deduplication hashes for emails.
    - 6283cfb34e4831c97e363a9247f1f01beaaed01d
↳b3a65a47be310c27e3729a3ee05dce5acaec3696
↳c681cd7eb646a221a8fc376478b655c81214dca7
↳419aabee6283cfb34e4831c97e363a9247f1f01b
↳eaaed01db3a65a47be310c27e3729a3ee3843222
↳f1805623930029bad6f32a7604e2a7acc10db9126e3
↳4d7be289cf86e
2. We convert the above string to a UTF-8 byte array.
3. We then take that byte array and generate a SHA256 hash of it.

Note: If two emails have an identical body, attachment, recipient, and header hash, they are duplicates.

Note: For loose files, the Processing Duplicate Hash is a hash of the file's SHA256 hash.

13 Processing sets

A processing set is 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. When you run a processing job, the processing engine refers to the settings specified on the data sources attached to the processing set when bringing data into Relativity.

Note: Your environment has been enabled to dynamically scale your Invariant worker servers dependent on load. Sustained activity is automatically detected by the system, and Relativity will add workers to handle this work. Once the work is done, they will automatically scale back down. This feature is continually being improved to be smarter about when we add workers and how many we add.

Consider the following about processing sets:

- A single processing set can contain multiple data sources.
- Only one processing profile can be added to a processing set.
- You can't delete a workspace in which there is an in-progress inventory, discovery, or publish job in the Processing Queue.
- Don't add documents to a workspace and link those documents to an in-progress processing set. Doing this distorts the processing set's report data.
- When processing data, Relativity works within the bounds of the operating system and the programs installed on it. Therefore, it can't tell the difference between a file that's missing because it was quarantined by anti-virus protection and a file that was deleted after the user initiated discovery.
- Never stop Relativity services through Windows Services or use the IIS to stop a processing job.

Using a Processing set

Imagine that you're a litigation support specialist. The firm you work for has put you in charge of setting the groundwork to bring data owned by two specific custodians into a Relativity workspace because those custodians have just been identified as maintaining material that is potentially relevant to the case.

To do this, you need to create a new processing set using the Default profile. Once you save the set, you need to attach those two specific custodians to the set via two separate processing data sources.

You can now bring only these two custodians' files through the processing phases of inventory, discovery, and publish.

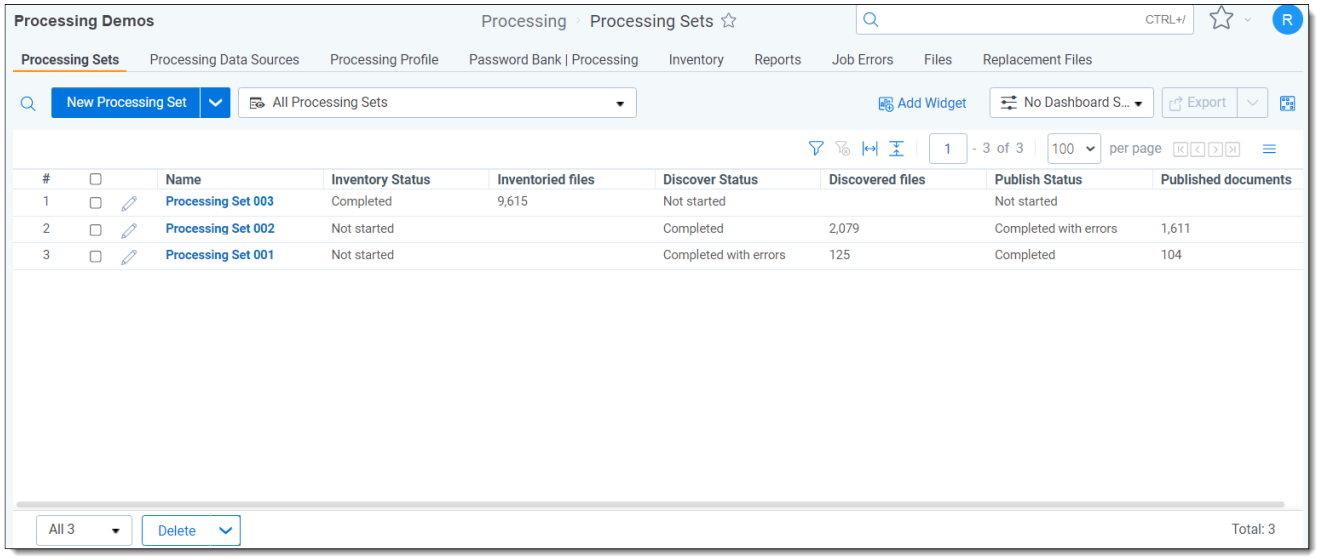
For the details of creating a processing set, see Creating a processing set on page 139.

13.1 Processing sets default view

Use the Processing Sets sub-tab to see a list of all the processing sets in your environment.

Note: You can manually search for any processing set in the workspace by entering its name in the text box at the top of the list and clicking **Enter**. Relativity treats the search terms you enter here as a literal contains search, meaning that it takes exactly what you enter and looks for any processing set that contains those terms.

This view provides the following information:



- **Name** - the name of the processing set.
- **Inventory Status** - the current status of the inventory phase of the set. This field could display any of the following status values:
  - Not started
  - In progress
  - Completed
  - Completed with errors
  - Re-inventory required - Upgrade
  - Re-inventory required - Data sources modified
  - Canceled
  - Finalized failed
- **Inventoried files** - the number of files across all data sources on the set that have been inventoried.

  Note: Inventory populates only job level errors.
- **Discover Status** - the current status of the discovery phase of the set. This field could display any of the following status values:
  - Not started
  - In progress

- Completed
- Completed with errors
- Canceled

- **Discovered files** - the number of files across all data sources on the set that have been discovered.

  Note: Discovery populates job and document level errors.

- **Publish Status** - the current status of the publish phase of the set. This field could display any of the following status values:
  - Not started
  - In progress
  - Completed
  - Completed with errors
  - Canceled
- **Published documents** - the number of files across all data sources on the set that have been published to the workspace.

Note: By adding the **Originating Processing Set** document field to any view, you can indicate which processing set a document came from.

From the Processing Sets sub-tab you can:

- Open and edit an existing processing set.
- Perform the following mass operations on selected processing sets:
  - Delete
  - Export to File
  - Tally/Sum/Average

  Note: The Copy, Edit, and Replace mass operations are not available for use with processing sets.

13.2 Creating a processing set

When you create a processing set, you are specifying the settings that the processing engine uses to process data.

To create a processing set:

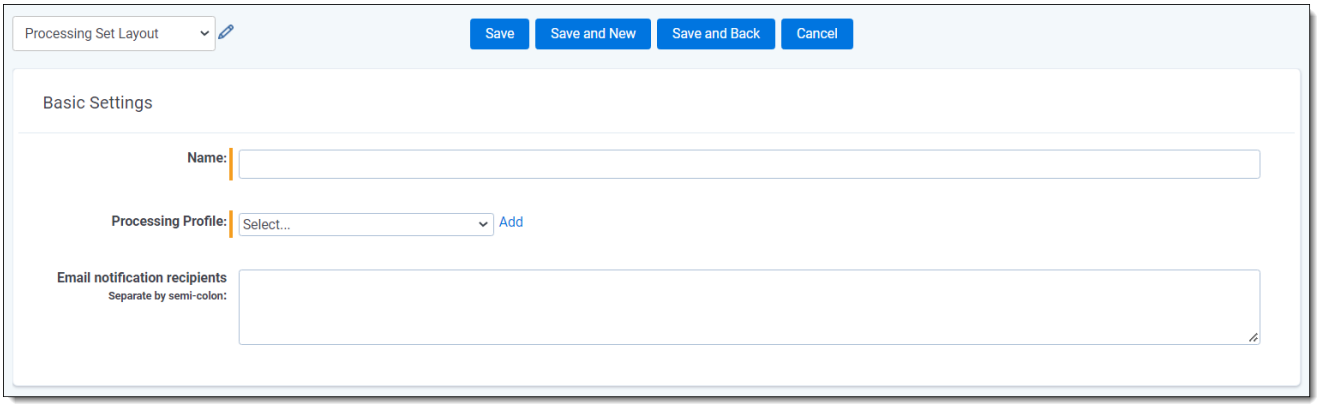
1. Navigate to the **Processing** tab and then click the **Processing Sets** sub-tab.
2. Click the **New Processing Set** button to display the Processing Set layout.
3. Complete the fields on the Processing Set layout. See Processing set fields on the next page.
4. Click **Save**.

5. Add as many Processing Data Sources to the set as you need. See Adding a data source on page 142.

Note: The frequency with which the processing set console refreshes is determined by the ProcessingSetStatusUpdateInterval entry in the Instance setting table. The default value for this is 5 seconds. 5 seconds is also the minimum value. See the Instance setting guide for more information.

13.3 Processing set fields

To create a processing set, complete the following fields:

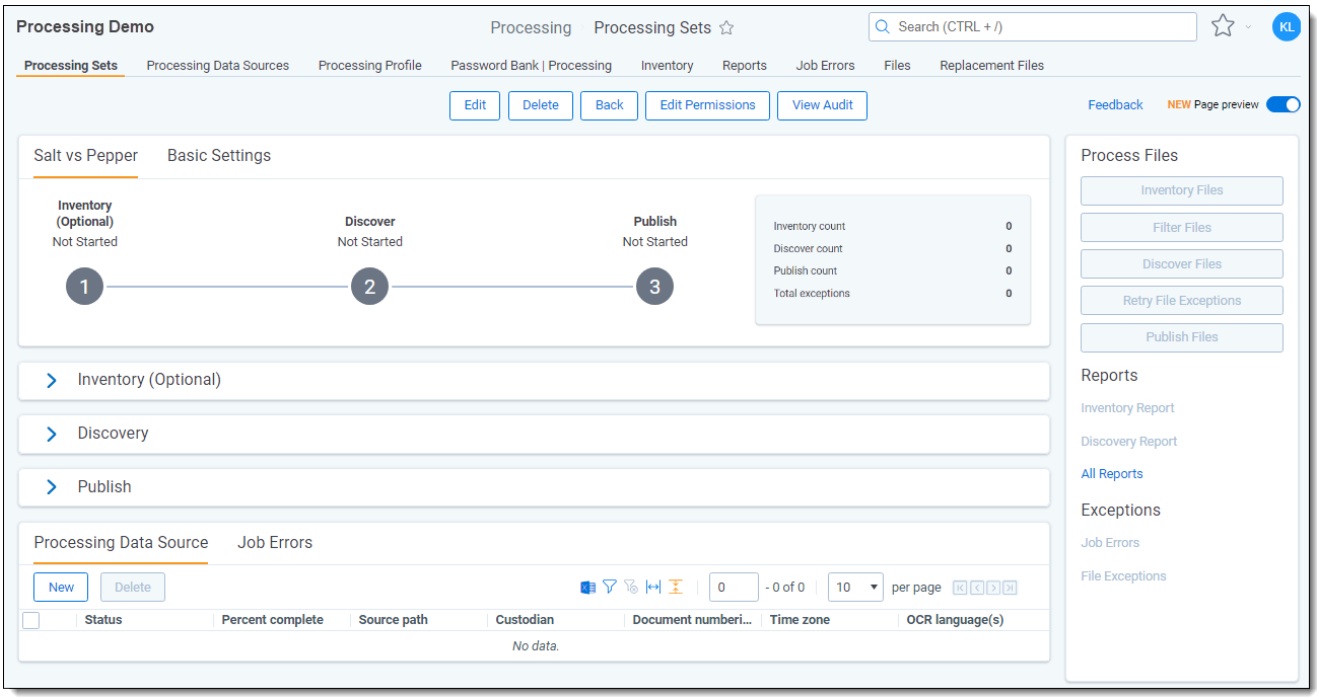


- **Name** - the name of the set.
- **Processing profile** - select any of the profiles you created in the Processing Profiles tab. If you haven't created a profile, you can select the Default profile or click **Add** to create a new one. If there is only one profile in the workspace, that profile is automatically populated here. See Processing profiles on page 97.
- **Email notification recipients** - the email addresses of those whom you want to receive notifications while the processing set is in progress. Relativity sends an email to notify the recipient of the following:
  - Inventory
    - Successful inventory completed
    - Inventory completed with errors
    - First discovery job-level error
    - Inventory error during job submission
  - Discovery
    - Successful discovery completed
    - Discovery completed with errors
    - First discovery job-level error
    - File discovery error during job submission

- Retry - discovery
  - First discovery retry job-level error
  - Discovery retry error during job submission
- Publish
  - Successful publish completed
  - Publish complete with errors
  - First publish job-level error
  - Publish error during job submission
- Retry - publish
  - First publish retry job-level error
  - Publish retry error during job submission

Note: Email notifications are sent per the completion of processing sets, not data sources. This ensures that a recipient doesn't receive excessive emails. The exception to this is job-level errors. If all data sources encounter a job-level error, then Relativity sends an email per data source.

After you save the processing set, the layout is updated to include the process set status display. The display remains blank until you start either inventory or file discovery from the console. The console remains disabled until you add at least one data source to the set.



The Processing Set Status section of the set layout provides data and visual cues that you can use to measure progress throughout the life of the processing set. This display and the information in the status section refresh automatically every five seconds to reflect changes in the job.

Note: To create a Quick-create set, see the Quick-create set(s) documentation for more information.

13.4 Adding a data source

A Processing Data Source is an object you associate with a processing set in order to specify the source path of the files you intend to inventory, discover, and publish, as well as the custodian who facilitates that data and other settings.

Note:
Be sure your data sources have unique names. Data sources are not case sensitive. If you have data sources with duplicate names, you may see processing errors.
Example of duplicate data source names:

- \\[file.share]\Processing Source[SOURCE.NAME]
- \\[file.share]\Processing Source[Source.Name]

Example of unique data source names:

- \\[file.share]\Processing Source[SOURCE.NAME1]
- \\[file.share]\Processing Source[Source.Name2]

Note: You have the option of using Integration Points to import a list of custodians from Active Directory into the Data Sources object. Doing this would give you an evergreen catalog of custodians to pick from when preparing to run a processing job.

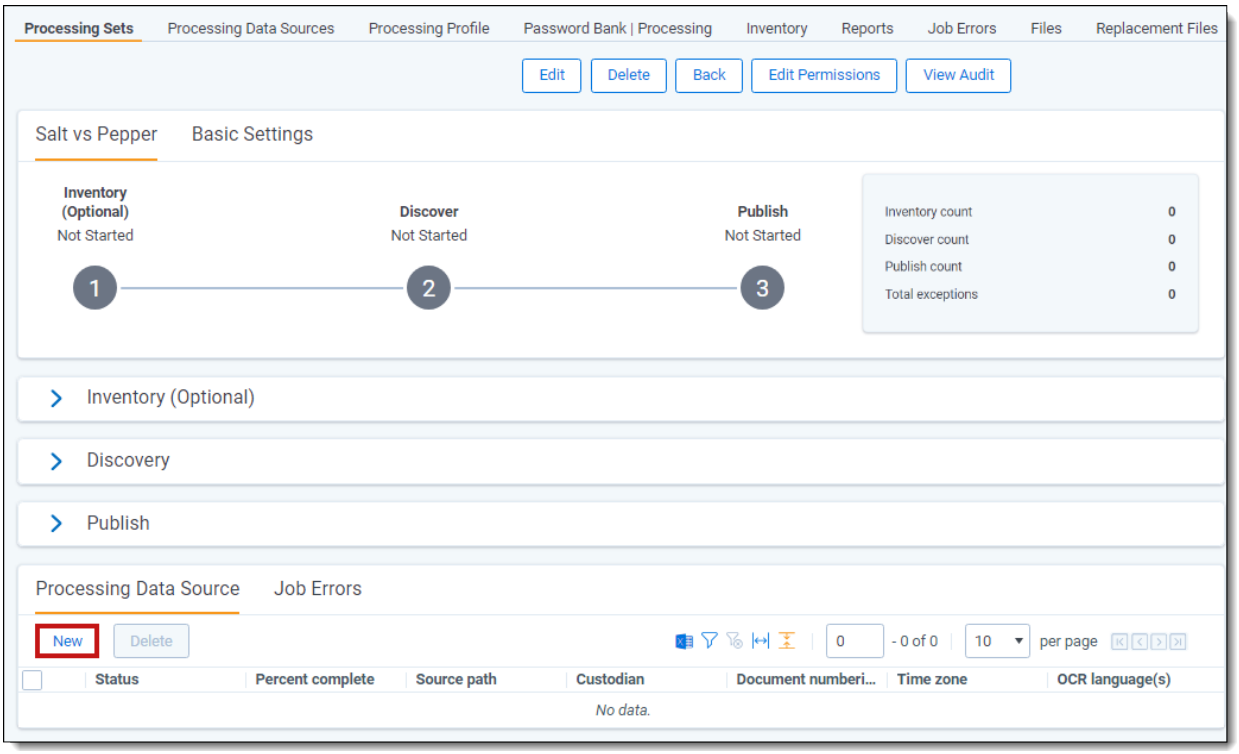
You can add multiple data sources to a single processing set, which means that you can process data for multiple custodians through a single set. There is no limit to the number of data sources you can add to a set; however, most sets contain ten or fewer.

Note: During publish, if you have multiple data sources attached to a single processing set, Relativity starts the second source as soon as the first source reaches the DeDuplication and Document ID generation stage. Previously, Relativity waited until the entire source was published before starting the next one.

To add a data source:

1. Create and save a new processing set, or navigate into an existing set. See Creating a processing set on page 139.

2. On the **Processing Data Source** object of the processing set click **New**.



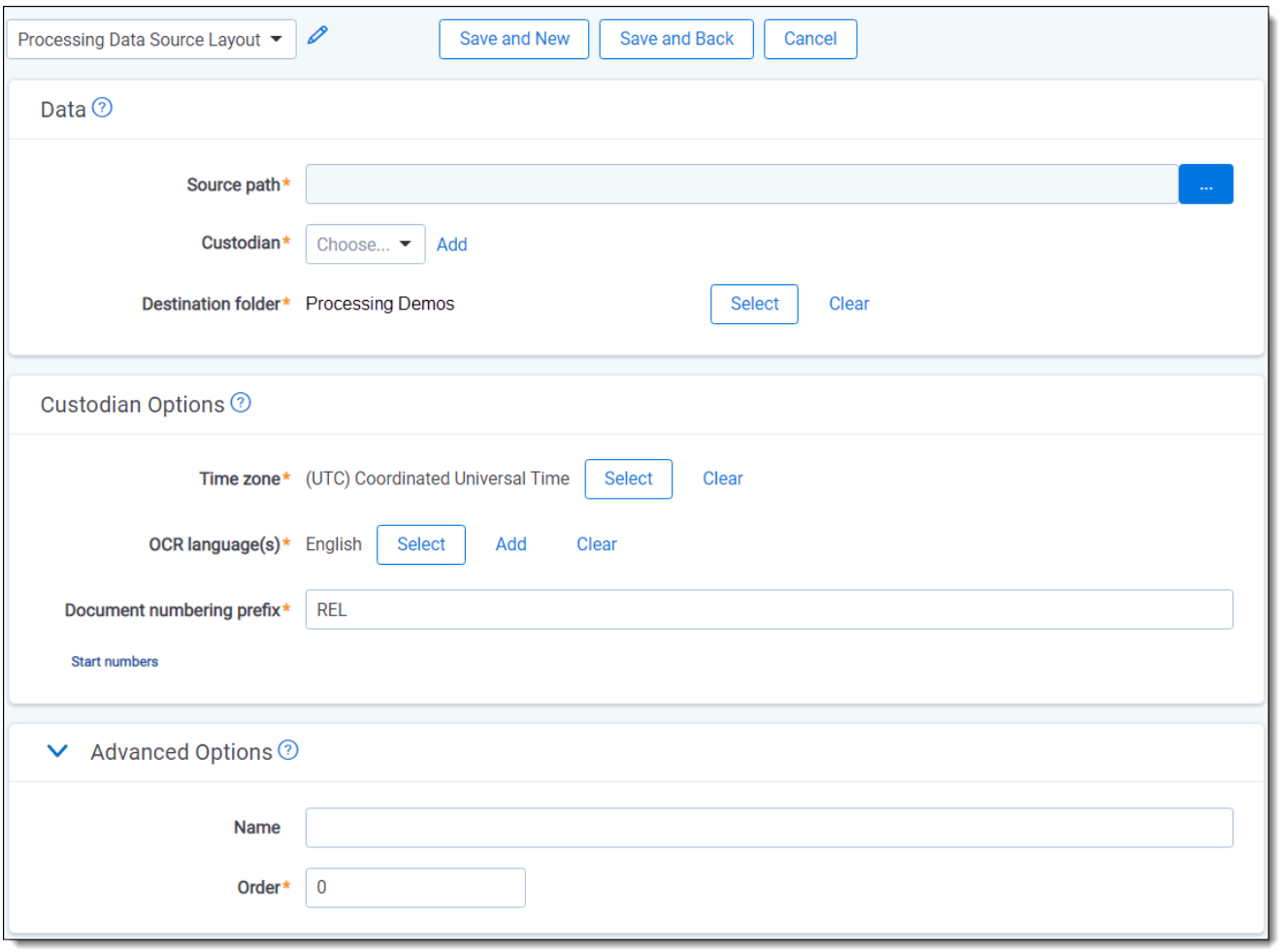
3. Complete the fields on the **Add Processing Data Source** layout. See Data source fields below.
4. Click **Save**. When you save the data source, it becomes associated with the processing set and the console on the right side is enabled for inventory and file discovery.

For details on what information is displayed in the data source view while the processing set is running, see Processing Data Source.

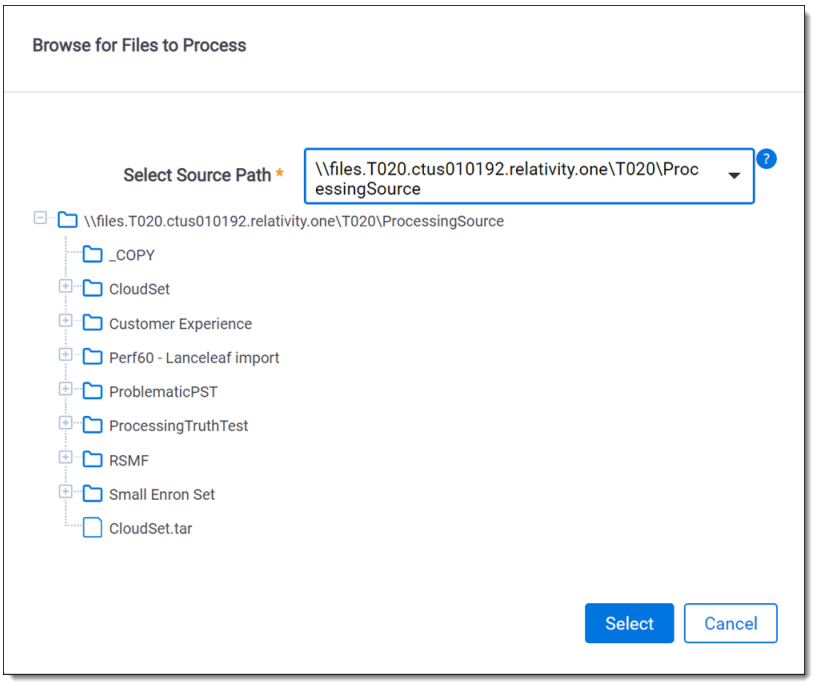
Note: If you add, edit, or delete a data source associated with a processing set that has already been inventoried but not yet discovered, you must run inventory again on that processing set. You can't add or delete a data source to or from a processing set that has already been discovered or if there's already a job in the processing queue for the processing set.

13.5 Data source fields

To add a data source, complete the following fields:



- **Source path** - the location of the data you want to process. Click **Browse** to select the path. The source path you select controls the folder tree below. The folder tree displays an icon for each file or folder within the source path. You can specify source paths in the resource pool under the Processing Source Location object. Click **Save** after you select a folder or file in this field.

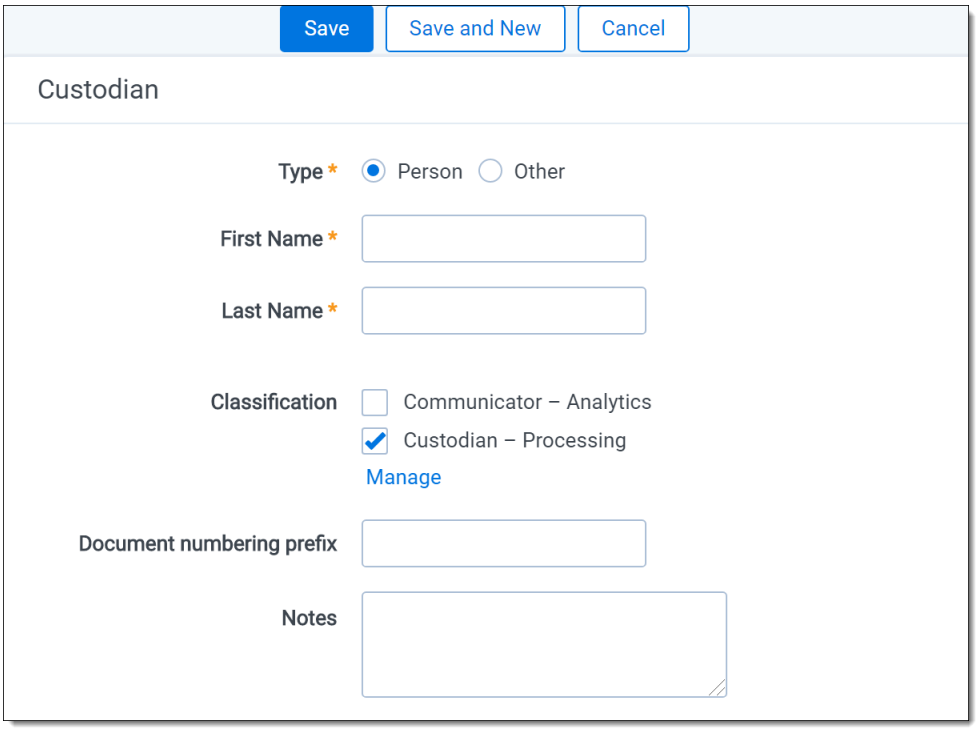


- The processing engine processes all the files located in the folder you select as your source as one job. This includes, for example, a case in which you place five different .PSTs from one custodian in a single folder.
- You can specify source paths in the resource pool under the Processing Source Location object. The Relativity Service Account must have read access to the processing source locations on the resource pool.
- Depending on the case sensitivity of your network file system, the source location that 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."
- If you process files from source locations contained in a drive that you have attached to your computer, you can detach those original source locations without issue after the processing set finishes. This is because Relativity copies the files from the source locations to the Relativity file repository. For a graphical representation of how this works, see Copying natives during processing.

Note: Processing supports long file paths, but in the case of other Windows parsing issues outside of long path issues, Relativity won't be able to read that path. It is recommended that you pull documents out of subfolders that are nested in deep layers so that they are not hidden.

- **Custodian** - the owner of the processed data. When you select a custodian with a specified prefix, the default document numbering prefix field changes to reflect the custodian's prefix. Thus, the prefix from the custodian takes precedence over the prefix on the profile.

- When you open the Add Entity window, the last accessed entity layout is selected by default in the layout drop-down list. For example, if you last created an entity with a Collections layout, that layout is selected here, even though you've accessed this window through the processing data source. To create a new custodian with processing-relevant fields, select the Processing Entity layout from the drop-down list.



- **Type**
  - **Person** - the individual acting as entity of the data you wish to process.
  - **Other** - the entity of the data you wish to process that isn't an individual but is, for example, just a company name. You can also select this if you wish to enter an individual's full name without having that name include a comma once you export the data associated with it. Selecting this changes the Entity layout to remove the required First Name and Last Name fields and instead presents a required Full Name field.
- **First Name** - the first name of the entity. This field is only available if you've set the Type above to Person.
- **Last Name** - the last name of the entity. This field is only available if you've set the Type above to Person.
- **Full Name** - the full name of the entity of the data you wish to process. This field is only available if you've set the Type above to Other. When you enter the full name of an entity, that name doesn't contain a comma when you export the data associated with it.
- **Classification** - differentiates among entity records created for Processing or Name Normalization.
  - Custodian – Processing - the indicator that this custodian was created for Processing.

Note: When new custodians are created using the Quick-Create Set(s) layout, the classification is set to Custodian – Processing.

- **Communicator** - the indicator that the record was created by Name Normalization. For more information see the Analytics Guide.

- **Document numbering prefix** - the prefix used to identify each file of a processing set once the set is published. The prefix entered on the entity appears as the default value for the required Document numbering prefix field on the processing data source that uses that entity. The identifier of the published file reads: **<Prefix> # # # # # # # # # #**.
- **Notes** - any additional descriptors of the entity.

- If you add processing to an environment that already has custodian information in its database, Relativity doesn't sync the imported custodian data with the existing custodian data. Instead, it creates separate custodian entries.
- If a single custodian has two identical copies of a document in different folders, only the primary document makes it into Relativity. Relativity stores a complete record internally of the duplicate, and, if mapped, the duplicate paths, all paths, duplicate custodian, all custodian fields in the primary record are published. Additionally, there may be other mapped fields available that can describe additional fields of the duplicates.

Note: One of the options you have for bringing custodians into Relativity is Integration Points (RIP). You can use RIP to import any number of custodians into your environment from Active Directory and then associate those custodians with the data sources that you add to your processing set.

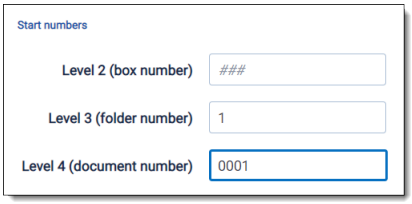
- **Destination folder** - the folder in Relativity where the processed data is published. This default value of this field is pulled from the processing profile. If you edit this field to a different destination folder location, the processing engine reads this value and not the folder specified on the profile. You can select an existing folder or create a new one by right-clicking the base folder and selecting **Create**.
  - If the source path you selected is an individual file or a container, such as a zip, then the folder tree does not include the folder name that contains the individual file or container.
  - If the source path you selected is a folder, then the folder tree includes the name of the folder you selected.
  - After you create a destination folder and it is published, you cannot delete it.
- **Time Zone** - determines what time zone is used to display date and time on a processed document. The default value is the time zone entered on the profile associated with this set. The default value for all new profiles is Coordinated Universal Time (UTC). If you wish to change this, click **Select** to choose from a picker list of available time zone values.
- **OCR language(s)** - determines what language is used to OCR files where text extraction isn't possible, such as for image files containing text.
  - The OCR settings used during processing are the same as those used during standard OCR.

- Selecting multiple languages will increase the amount of time required to complete the OCR process, as the engine will need to go through each language selected.
- The default value is the language entered on the profile associated with this set.

- **Document numbering prefix** - the prefix applied to the files once they are published. On published files, this appears as <Prefix>xxxxxxxxxx - the prefix followed by the number of digits specified. The numbering prefix from the custodian takes precedence over the prefix on the processing profile. This means that if you select a custodian with a different document numbering prefix than that found on the profile referenced by the processing set, this field changes to reflect the prefix of the custodian.
- **Start Number** - the starting number for the documents published from this data source.
  - This field is only visible is your processing set is using a profile with a Numbering Type field value of Define Start Number.
  - If the value you enter here differs from the value you entered for the Default Start Number field on the profile, then this value takes precedence over the value on the profile.
  - The maximum value you can enter here is 2,147,483,647. If you enter a higher value, you'll receive an Invalid Integer warning next to field value and you won't be able to save the profile.
  - If you leave this field blank or if there are conflicts, then Relativity will auto-number the documents in this data source. This means it will use the next available control number for the document numbering prefix entered. For example, if you've already published 100 documents to the workspace and you mistakenly enter 0000000099 as a start number, Relativity will automatically adjust this value to be 0000000101, as the value you entered was already included sequentially in the previously published documents.
  - You can use the **Check for Conflicts** option next to this field. When you click this, you'll be notified that the start number you entered is acceptable or that it's already taken and that the documents in that data source will be auto-numbered with the next available control number. Note that this conflict check could take a long time to complete, depending on the number of documents already published to the workspace.

Note: When Level Numbering is selected, you can define the start number for each Processing Data Source.

- **Start Numbers** - allows you to define the first number to use on each level for this specific data source.



When you create a new profile or when there are no values on a field, the system will use # to indicate how many digits were configured for that level in the Processing Profile used on the Processing Set.

If a level was configured to take up to 3 digits, enter a start number with no padding, (e.g., 1) or with padding, (e.g., 0001).

- **Name** - the name you want the data source to appear under when you include this field on a view or associate this data source with another object or if this data source encounters an error. Leaving this blank means that the data source is listed by custodian name and artifact ID. Populating this field is useful in helping you identify errors later in your processing workflow.

  Note: The processing data source is saved with <Custodian Last Name>, <Custodian First Name> - < Artifact ID> populated for the Name field, if you leave this field blank when creating the data source. Previously, this field only displayed the artifact ID if it was left blank. This is useful when you need to identify errors per data source on an error dashboard, as those data sources otherwise wouldn't display a custodian name.

- **Order** - the priority of the data source when you load the processing set in the Inventory tab and submit the processing set to the queue. This also determines the order in which files in those sources are de-duplicated. This field is automatically populated. For more information, see Order considerations.

Note: When you delete a document that has been published into Review, Processing will re-calculate deduplication to identify and publish the duplicate if there is one, and will not include the deleted document in subsequent deduplication logic.

13.5.1 Order considerations

The Order field determines:

- The job priority of the data source within a given processing set when the set is submitted to the queue (e.g., for discovery or publication). For example, a data source with a lower order number assigned is discovered and/or published before a data source with a higher order number assigned in a given set.
- Changing the order of a data source has no effect on the priority of the processing set. This means that if you set the order of a data source in one processing set to a higher priority than all of the data sources in another processing set, the priorities of the processing sets won't be modified.
- The priority of deduplication if you select a deduplication method other than None. For example, if Global deduplication is specified for a processing set, the data source with the lowest order number assigned would be designated as the primary data source within that processing set. This means that all duplicate files in higher-ordered data sources within that processing set would be deduplicated out against the files in the “primary” source. Any files in the source with the lowest order number assigned would not be removed via deduplication.

Note the following about the Order field:

- It isn't editable after you publish the files in this data source.
- If two data sources have the same order, or if you don't specify an order, Relativity sorts them by their system-assigned artifact ID number. At the time of publish, if two data sources have the same order, or if you don't specify an order, deduplication order is also determined by Artifact ID.
- You can change the priority of data sources in the Processing and Imaging Queue. If you change the priority of a publish or republish job, you also update the priorities of all other jobs associated with the same data source. When you change the priority of a publish or republish job, Relativity respects the deduplication method used by the processing set containing the modified data sources.

- This value should always be lower than the maximum allowable integer of 2,147,483,647. If this is at or higher, subsequent data sources will have a negative order value.

13.5.2 Edit considerations for data sources

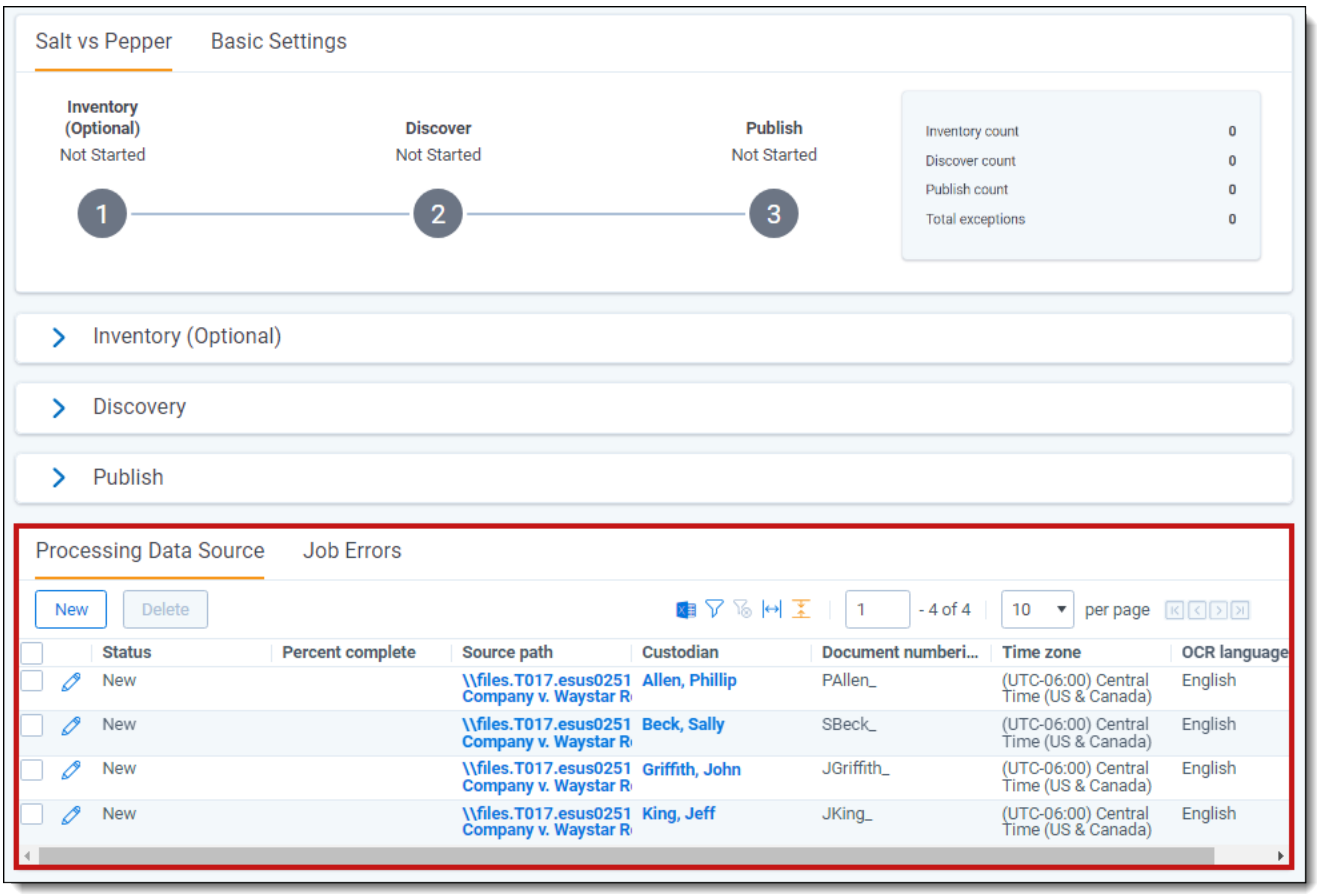
Note the following guidelines for modifying data sources:

- You can't add or delete a data source to or from a processing set if there's already a job in the queue for that set or if discovery of that set has already completed.
- If you add a data source to a processing set that has already been inventoried but not yet discovered, you must run inventory again on that processing set.
- If you edit a data source that is associated with a processing set that has already been inventoried but not yet discovered, you must run inventory again on that processing set.
- If you delete a data source from a processing set that has already been inventoried but not yet discovered, you must run inventory again on that processing set.
- If the processing set to which you've added a data source has already been inventoried, with or without errors, but not yet discovered, you're able to edit all fields on that data source; however, you must run inventory again on that processing set after you edit the source.
- If the processing set to which you've added a data source has already been discovered, with or without errors, you can only edit the Name and Document numbering prefix fields on that data source.
- If the processing set to which you've added a data source has already been published, with or without errors, you can only edit the Name field on that data source.

Note: When you make a change that merits a re-inventory job, Relativity applies a "Force reinventory" flag to the processing set's table in the workspace database.

13.5.3 Processing data source view

At the bottom of the processing set layout is the Processing Data Source view, which will display information related to the data sources you add.



This view provides the following fields:

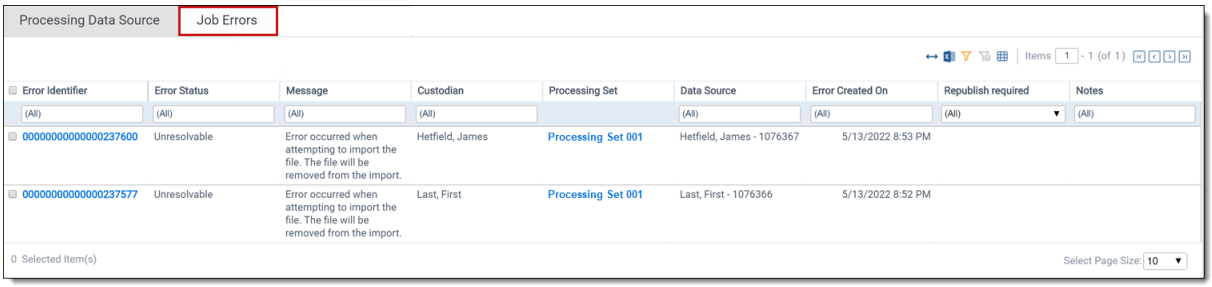
- **Status** - the current state of the data source as inventory, discovery, publish, or republish runs on the processing set. This and the Percent Complete value refresh automatically every five seconds. The status values are:
  - **New** - the data source is new and no action has been taken on the processing console.
  - **Waiting** - you've clicked Inventory, Discover, or Publish Files on the console and an agent is waiting to pick up the job.
  - **Initializing** - an agent has picked up the job and is preparing to work on it.
  - **Document ID Generation** - document ID numbers are being generated for every document. You'll see this status if the profile attached to the set has a deduplication method of None.
  - **DeDuplication and Document ID Generation** - the primary and duplicate documents are being identified, and the document ID number is being generated for every document. You'll see this status if the profile attached to the set has deduplication set to Global or Custodial. If you have multiple data sources attached to a single processing set, the second source is started as soon as the first set reaches the DeDuplication and Document ID generation stage. Previously, Relativity waited until the entire source was published before starting the next one.
  - **Deduped Metadata Overlay** - deduped metadata is being overlaid onto the primary documents in Relativity. This status was added in July 2017 as part of the distributed publish enhancement.

- **Inventorying/Discovering/Publishing** - an agent is working on the job. Refer to the Percent Complete value to see how close the job is to being done.
- **Inventory/Discovery/Publish files complete** - the job is complete, and the Percent Complete value is at 100%.
- **Unavailable** - the data source is not accessible and no action can be taken on the processing console.

- **Percent Complete** - the percentage of documents in the data source that have been inventoried, discovered, or published. This and the Status value refresh automatically every five seconds.
- **Source path** - the path you selected for the source path field on the data source layout.
- **Custodian** - the custodian you selected for the data source.
- **Document numbering prefix** - the value you entered to correspond with the custodian on the data source layout. If you didn't specify a prefix for the data source, then this is the default prefix that appears on the processing profile.
- **Time zone** - the time zone you selected for the data source.
- **OCR language(s)** - the OCR language(s) you selected on the data source.

13.5.4 Job Errors view

At the bottom of the processing set layout is the Job Errors view, which displays information related to all job-level errors that occurred on all data sources associated with the set.



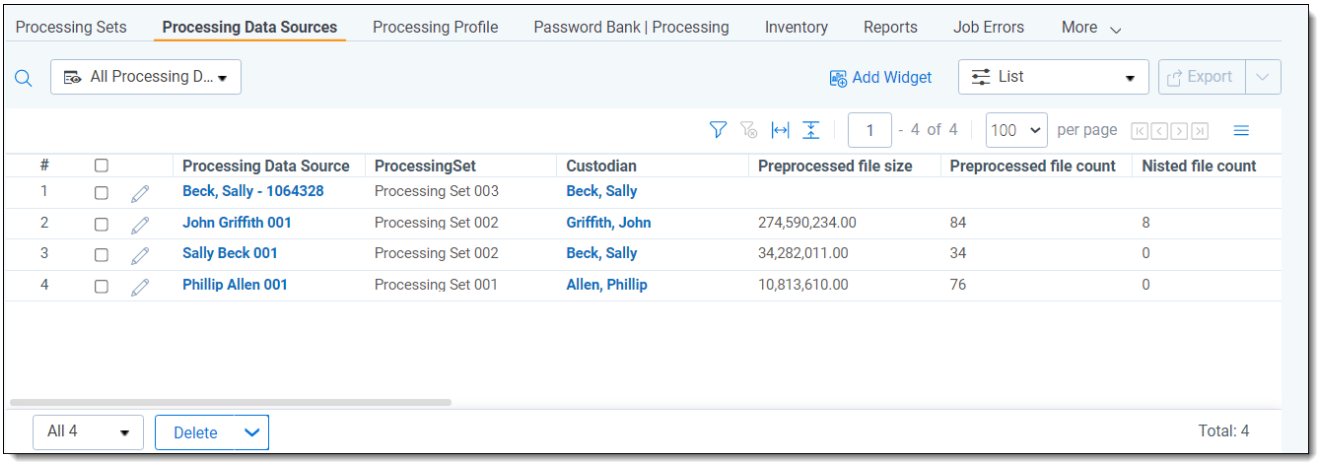
- **Error Identifier**—the unique identifier of the error as it occurs in the database. When you click this message, you are taken to the error details layout, where you can view the stack trace and other information. Note that for Unresolvable errors, the console is disabled because you cannot take any actions on that error from inside Relativity. For more information, see Processing error resolution.
- **Error Status**—the status of the error. This is most likely Unresolvable.
- **Message**—the cause and nature of the error. For example, "Error occurred while trying to overlay deduplication details. Please resolve publish error or republish documents from data source below. DataSource Artifact Id: 1695700".
- **Custodian**—the custodian associated with the data source containing the file on which the error occurred.
- **Processing Set**—the name of the processing set in which the error occurred.
- **Data Source**—the data source containing the file on which the error occurred.

- **Error Created On**—the date and time at which the error occurred during the processing job.
- **Republish Required**—the error must be retried in order to be successfully published.
- **Notes**—any manually added notes associated with the error.

For more information on handling document errors, see Processing error resolution.

13.6 Processing Data Sources tab

To see all data sources associated with all processing sets in the workspace, navigate to the Processing Data Sources sub-tab.



The default view on the Processing Data Sources tab includes the following fields:

- **Processing Data Source**- the name of the data source. If you originally left this blank, then this value will consist of the name of the custodian and artifact ID.
- **Processing Set** - the name of the processing set the data source is attached to.
- **Custodian** - the custodian attached to the data source.
- **Preprocessed file size** - the total size, in bytes, of all the files in the data source before you started the processing set.
- **Preexpansion file count** - the number of files in the data source for all non-container files at the first level after initial expansion.
- **Nisted file count** - the number of files from the data source that were then removed, per the de-NIST setting.
- **Inventoried files** - the number of files from the data source that were inventoried.
- **Preexpansion file size** - the total size, in bytes, of all the files in the data source for all non-container files at the first level after initial expansion.
- **Preprocessed file count** - the number of files in the data source before you started the processing set.
- **Nisted file size** - the total size, in bytes, of the files from the data sources that were then removed, per the de-NIST setting.

- **Filtered file count** - the number of files from the data source that were filtered out before discovery.
- **Filtered file size** - the total size, in bytes, of the files from the data source that were filtered out before discovery.
- **Discover time submitted** - the date and time at which the files in the data source were last submitted for discovery.
- **Discovered document size** - the total size, in bytes, of all the documents from the data source that were successfully discovered.
- **Discovered document count** - the number of files from the data source that were successfully discovered.
- **Last publish time submitted** - the date and time at which the files in the data source were last submitted for publish.
- **Deduplication method** - the deduplication method set on the processing profile associated with the processing set.
- **Duplicate file count** - the number of files that were deduplicated based on the method set on the processing profile.
- **Published documents** - the number of documents from the data source that were successfully published.
- **Published document size** - the total size, in bytes, of all the documents from the data source that were successfully published.
- **Status** - the current status of the data source.

Additional fields to customize your Processing Data Sources view

- **Artifact ID** - the artifact ID of the workspace.
- **Auto-publish set** - arranges for the processing engine to automatically kick off publish after the completion of discovery, with or without errors. By default, this is set to No.
- **Container count** - the count of all native files classified as containers before extraction/decompression, as they exist in storage. This also includes nested containers that haven't been extracted yet.
- **Container size** - the sum of all native file sizes, in GB, classified as containers before extraction/decompression, as they exist in storage. this value may be larger than the preprocessed file size because it also includes nested containers.
- **Custodian::Department** - the department of a Custodian-type entity
- **Custodian::Email** - the email address of a Custodian-type entity
- **Delimiter** - the delimiter you want to appear between the different fragments of the control number of your published child documents.
- **DeNIST Mode** -
- **Destination folder** - the folder in Relativity into which documents are placed once they're published to the workspace.
- **Discover time complete** -

- **Discovered files** - the count of all the native files discovered that aren't classified as containers as they exist in storage.
- **Discovery group ID** - the unique identifier of the discovery group.
- **Document numbering prefix** - the prefix applied to each file in a processing set once it is published to a workspace. The default value for this field is REL.
- **Duplicate file size** - the sum of duplicate native file sizes, in GB, associated to the user, processing set and workspace.
- **Excel Header/Footer Extraction** - header and footer information extracted from Excel files when you publish them.
- **Excel Text Extraction Method** - determines whether the processing engine uses Excel or dtSearch to extract text from Excel files during publish.
- **Extract children** - arranges for the removal of child items during discovery, including attachments, embedded objects and images and other non-parent files.
- **Filtered file size** - The sum of all the file sizes, in GB, excluded from discovery by way of an exclusion filter after inventory.
- **Inventoried files** - the count of all files found during an inventory run.
- **Is Start Number Visible** - true/false value for the starting number field toggle.
- **Last activity** - the date and time at which a job last communicated to the worker.
- **Last document error ID** - the unique identifier of an error attached to a document.
- **Last inventory group ID** - the unique identifier of a group of inventoried files.
- **Last inventory time submitted** - the date and time at which the files in the data source were last submitted for inventory.
- **Last run error** - the last job error that occurred in the running of the OCR set.
- **Nisted file size** -the total size, in bytes, of the files from the data sources that were then removed, per the de-NIST setting.
- **Number of Digits** - determines how many digits the document's control number contains. The range of available values is 1 and 10. By default, this field is set to 10 characters.
- **OCR** - enabled or disabled to run OCR during processing.
- **OCR Accuracy** - the desired accuracy of your OCR results and the speed with which you want the job completed.
- **OCR language(s)** - the language used to OCR files where text extraction isn't possible, such as for image files containing text.
- **OCR Text Separator** - a separator between extracted text at the top of a page and text derived from OCR at the bottom of the page in the Extracted Text view.
- **Order** - the priority of the data source when you load the processing set in the Inventory tab and submit the processing set to the queue. This also determines the order in which files in those sources are de-duplicated.

- **Parent/Child Numbering** - determines how parent and child documents are numbered relative to each other when published to the workspace.
- **Percent Complete** - the percentage of documents from the data source that have been discovered or published.
- **PowerPoint Text Extraction Method** - determines whether the processing engine uses PowerPoint or dtSearch to extract text from PowerPoint files during publish.
- **Preexpansion file count** - the number of files in the data source for all non-container files at the first level after initial expansion.
- **Preexpansion file size** - the total size, in bytes, of all the files in the data source for all non-container files at the first level after initial expansion.
- **ProcessingSet::Republish required** - errors attached to a processing set that need republishing.
- **Propagate deduplication data** - applies the deduped custodians, deduped paths, all custodians, and all paths field data to children documents, which allows you to meet production specifications and perform searches on those fields without having to include family or overlay those fields manually.
- **Publish group ID** - the unique identifier of a published group of documents.
- **Publish time complete** - time it took for a file to finish publishing.
- **Retry jobs remaining** - number of errors attached to a file that needs trying.
- **Security** - level of accessibility of files to users.
- **Source folder structure retained** - the folder structure of the source of the files you process when you bring these files into Relativity is maintained.
- **Source path** - the location of the data you want to process.
- **Start Number** - the starting number for documents that are published from the processing set(s) that use this profile.
- **Storage file size** - the sum of all file sizes, in GB, as they exist in storage.
- **System Created By** - identifies the user who created the document.
- **System Created On** - the date and time when the document was created.
- **System Last Modified By** - identifies the user who last modified the document.
- **System Last Modified On** - the date and time at which the document was last modified.
- **Time zone** - determines what time zone is used to display date and time on a processed document.
- **Total file count** - the count of all native files (including duplicates and containers) as they exist after decompression and extraction.
- **Total file size** - the sum of all native file sizes (including duplicates and containers), in bytes, as they exist after decompression and extraction.
- **When extracting children, do not extract** - excludes MS Office embedded images, MS Office embedded objects, and/or Email inline images when extracting children.

- **Word Text Extraction Method** - determines whether the processing engine uses Word or dtSearch to extract text from Word files during publish.

13.7 Deleting a processing set

If your Relativity environment contains any outdated processing sets that haven't yet been published and are taking up valuable space, or sets that simply contain mistakes, you can delete them, depending on what phase they're currently in.

The following table breaks down when you're able to delete a processing set.

Point in processing	Can delete?
Pre-processing - before Inventory and Discovery have been started	Yes
While Inventory is in progress	No
After Inventory has been canceled	Yes
After Inventory has completed	Yes
While Discovery is in progress	No
After Discovery has been canceled	Yes
After Discovery has completed	Yes
While Publish is in progress	No
After Publish has been canceled	No
After Publish has completed	No

If you need to delete a processing set that is currently being inventoried or discovered, you must first cancel inventory or discovery and then delete the set.

Note: Deletion jobs will always take the lowest priority in the queue. If another job becomes active while the delete job is running, the delete job will be put into a “paused” state and will resume once all other jobs are complete.

The following security permissions are required to delete a processing set:

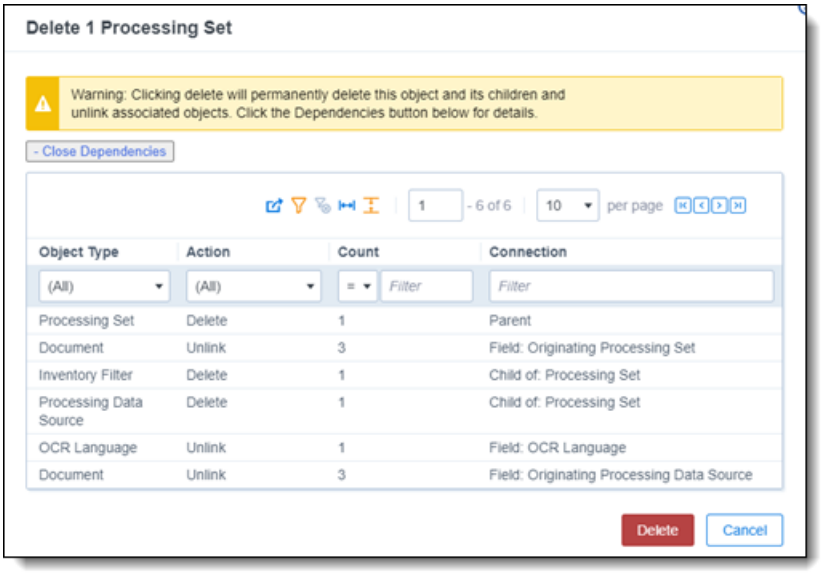
- Tab Visibility - Processing Application. (Processing and Processing Sets at minimum.)
- Other Settings - Delete Object Dependencies. This is required to delete the processing set's child objects and linked associated objects.
- Object Security
  - Edit permissions for Field, with the Add Field Choice By Link setting checked
  - (Optional) Delete permissions for OCR Language
  - Delete permissions for Processing Data Source, Processing Error, Processing Field, and Processing Set

To delete a processing set, perform the following steps:

1. In the processing set list, select the checkbox next to the set(s) you want to delete. If you're on the processing set's layout, click **Delete** at the top of the layout.

   Note: If you use the Delete mass operation to delete a processing set, but then you cancel that deletion while it is in progress, Relativity puts the set into a canceled state to prevent you from accidentally continuing to use a partially deleted set. You can't process a set for which you canceled deletion or in which a deletion error occurred.

2. (Optional) Click **View Dependencies** on the confirmation window to view all of the processing set's child objects that will also be deleted and the associated objects that will unlink from the set when you proceed with the deletion.



3. Click **Delete** on the confirmation window. When you proceed, you permanently delete the processing set object, its children, and its processing errors, and you unlink all associated objects.

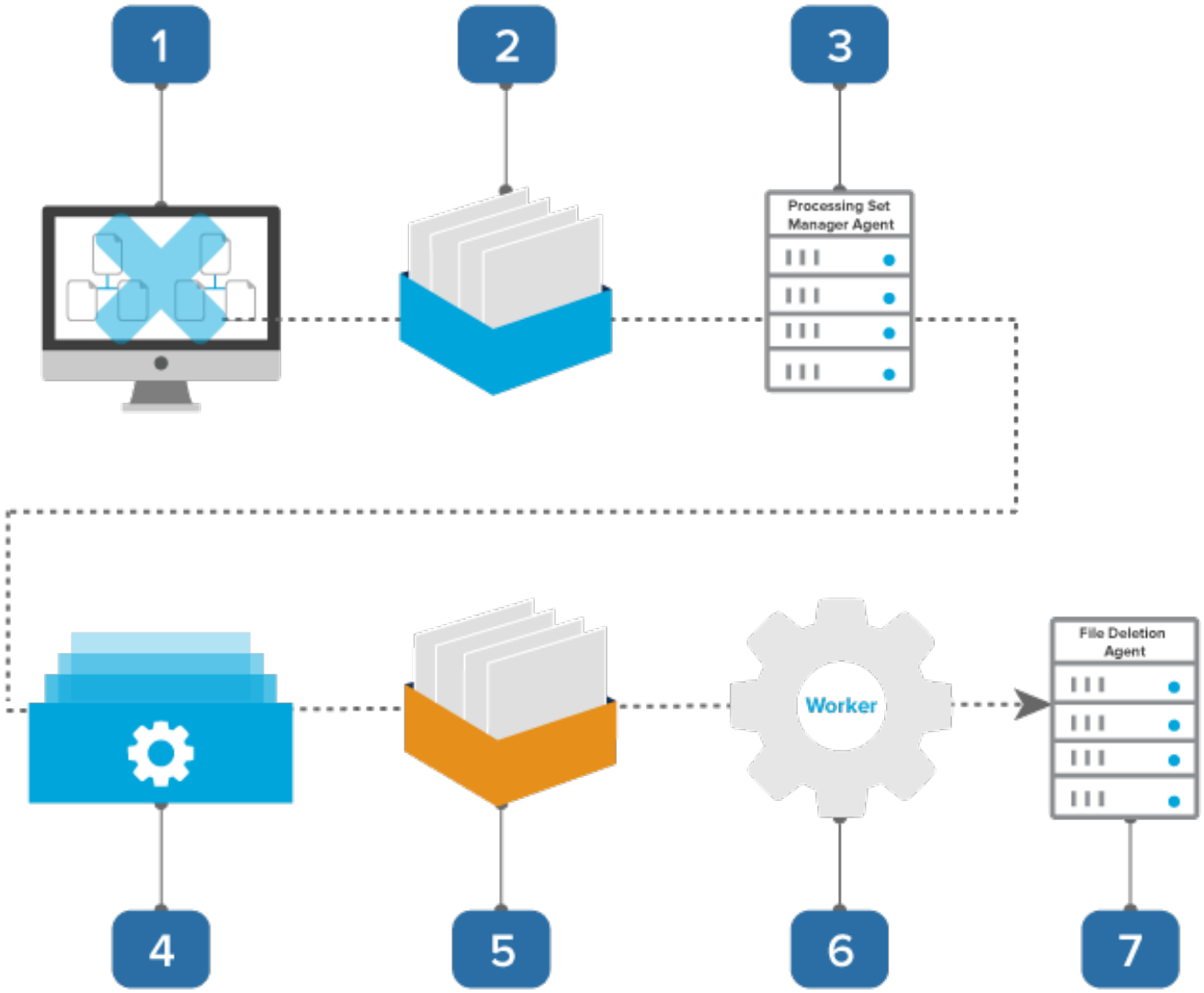
The following table breaks down what kinds of data is deleted from Relativity and Invariant when you delete a processing set in certain phases.

Phase deleted	From Relativity	From Invariant
Pre-processed (Inventory and Discovery not yet started)	Processing set object - data sources	N/A
Inventoried processing set	Processing set object - errors, data sources, inventory filters	Inventory filter data; inventoried metadata
Discovered processing set	Processing set object - errors, data sources	Discovered metadata

When you delete a processing set, the file deletion manager deletes all physical files and all empty subdirectories. Files that the system previously flagged for future deletion are also deleted.

The following graphic and accompanying steps depict what happens on the back end when you delete a processing set:

Processing Set Deletion Process



1. You click Delete on the processing set.
2. A pre-delete event handler inserts the delete job into the queue while Relativity deletes all objects associated with the processing set.
3. A processing set agent picks up the job from the queue and verifies that the set is deleted.
4. The processing set agent sends the delete job to Invariant.
5. The delete job goes into the Invariant queue, where it waits to be picked up by a worker.
6. A worker deletes the SQL data associated with the processing set and queues up any corresponding files to be deleted by the File Deletion agent.
7. The File Deletion starts up during off hours, accesses the queued files and deletes them from disk.

Note: If an error occurs during deletion, you can retry the error in the Discovered Files tab. see Retry Delete for more information.

13.8 Avoiding data loss across sets

Due to the way that processing was designed to deal with overwrites during error retry, there is the chance that you can inadvertently erase data while attempting to load documents into Relativity across different modes of import.

To avoid an inadvertent loss of data, do NOT perform the following workflow:

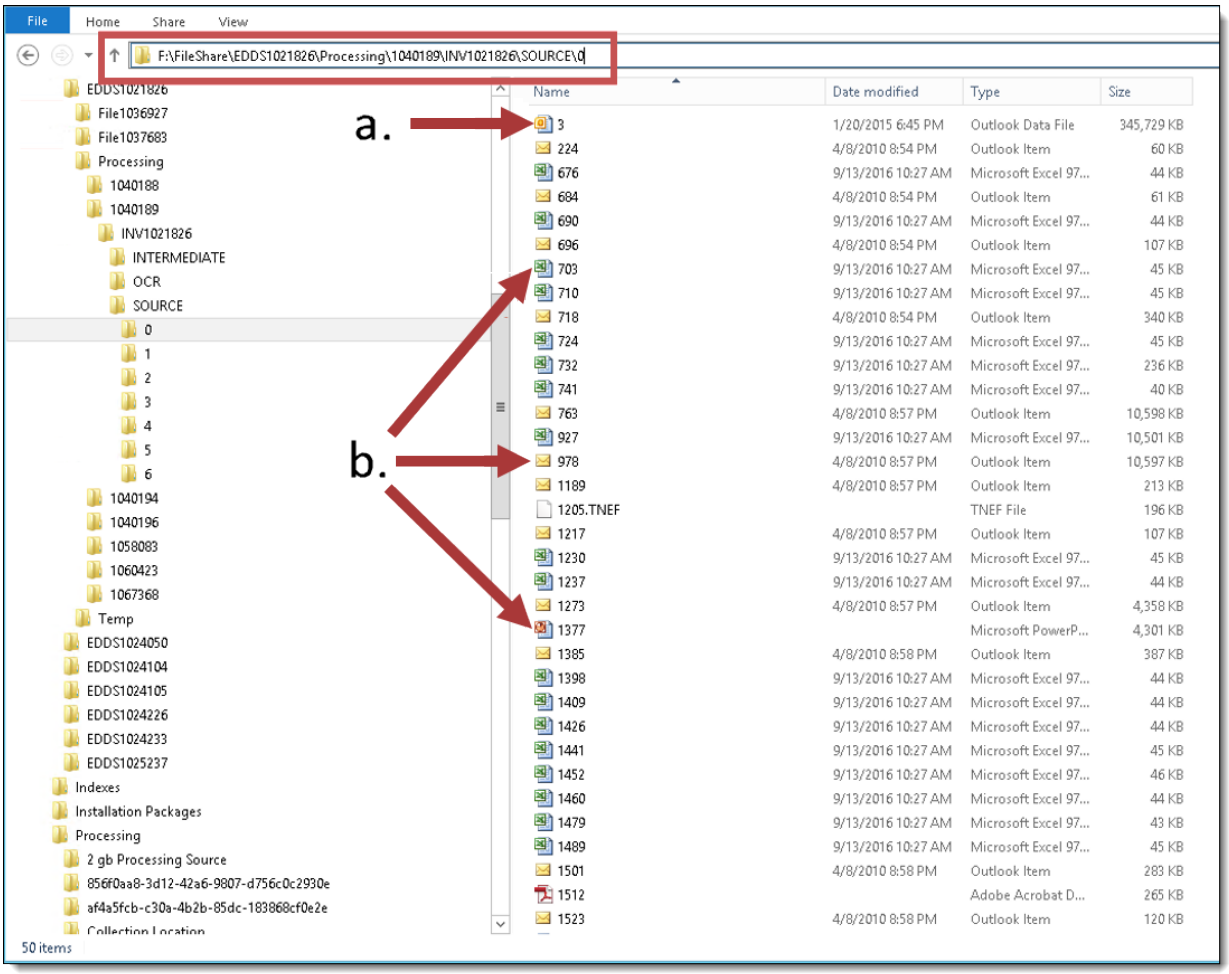
1. Run a processing set.
2. After the processing set is complete, import a small amount of data using Import/Export so that you can keep one steady stream of control numbers and pick up manually where the previous processing set left off.
3. After importing data through Import/Export, run another processing set, during which Relativity tries to start the numbering where the original processing job left off. During this processing set, some of the documents cause errors because some of the control numbers already exist and Relativity knows not to overwrite documents while running a processing set.
4. Go to the processing errors tab and retry the errors. In this case, Relativity overwrites the documents, as this is the expected behavior during error retry. During this overwrite, you lose some data.

13.9 Copying natives during processing

To gain a better understanding of the storage implications of copying natives during processing, note the behavior in the following example.

When you process a PST file containing 20,000 unique total documents while copying natives:

1. You copy the PST from the original source to your Processing Source Location, as this is the identified location where Relativity can see the PST. Note that you can make the original source a processing source by opening the original source to Relativity.



Note: If you run Inventory on this set, Relativity will identify all parents and attachments, but it will only extract metadata on the parent email.

1. The **EDDS12345\Processing\ProcessingSetArtifactID\INV12345\Source\0** folder displays as the original PST.
2. Relativity begins to harvest individual MSG files in batches and processes them. If an MSG has attachments, Relativity harvests files during discovery and places them in the queue to be discovered individually. Throughout this process, the family relationship is maintained.

2. Relativity discovers the files, during which the metadata and text are stored in Relativity Processing SQL.
3. Relativity publishes the metadata from the Relativity Processing SQL Datastore to the Review SQL Datastore and imports text into the text field stored in SQL or Relativity Data Grid. This metadata includes links to the files that were harvested and used for discovery. No additional copy is made for review.

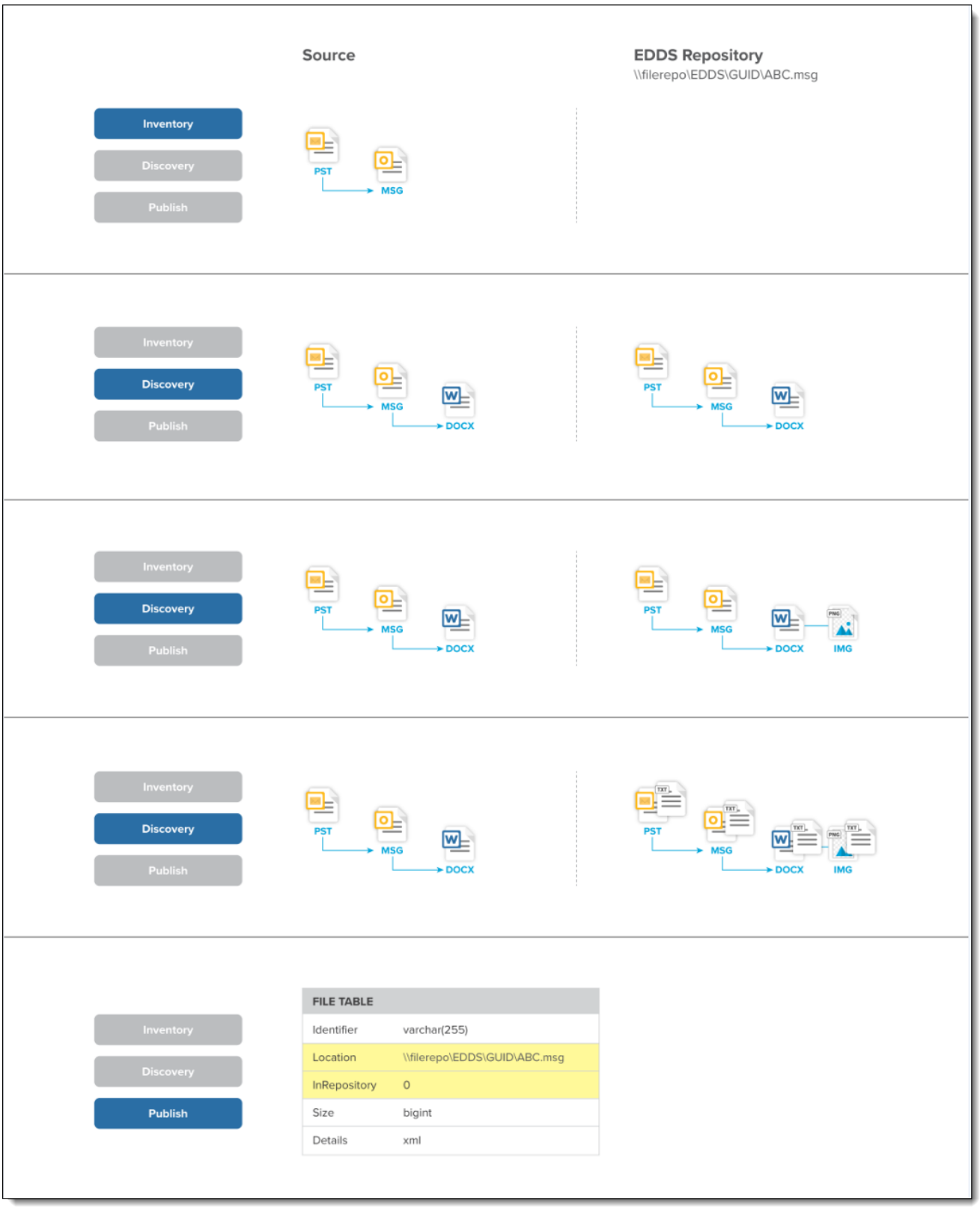
4. Once processing is complete:
    - You can delete the processing source PST.
    - You can delete the PST file in the EDDS folder, assuming there are no errors.

      Note: You can't automate the deletion of files no longer needed upon completion of processing. You need to delete this manually.

    - You should retain files harvested during processing, as they are required for review.

The following graphic depicts what happens behind the scenes when the system copies native files to the repository during processing. Specifically, this shows you how the system handles the data source and EDDS repository across all phases of processing when that data source isn't considered permanent.

This graphic is designed for reference purposes only.


Source
EDDS Repository
\\filerepo\EDDS\GUID\ABC.msg
Inventory
Discovery
Publish
PST
MSG
DOCX
IMG
FILE TABLE
Identifier varchar(255)
Location \\filerepo\EDDS\GUID\ABC.msg
InRepository 0
Size bigint
Details xml

14 Inventory overview

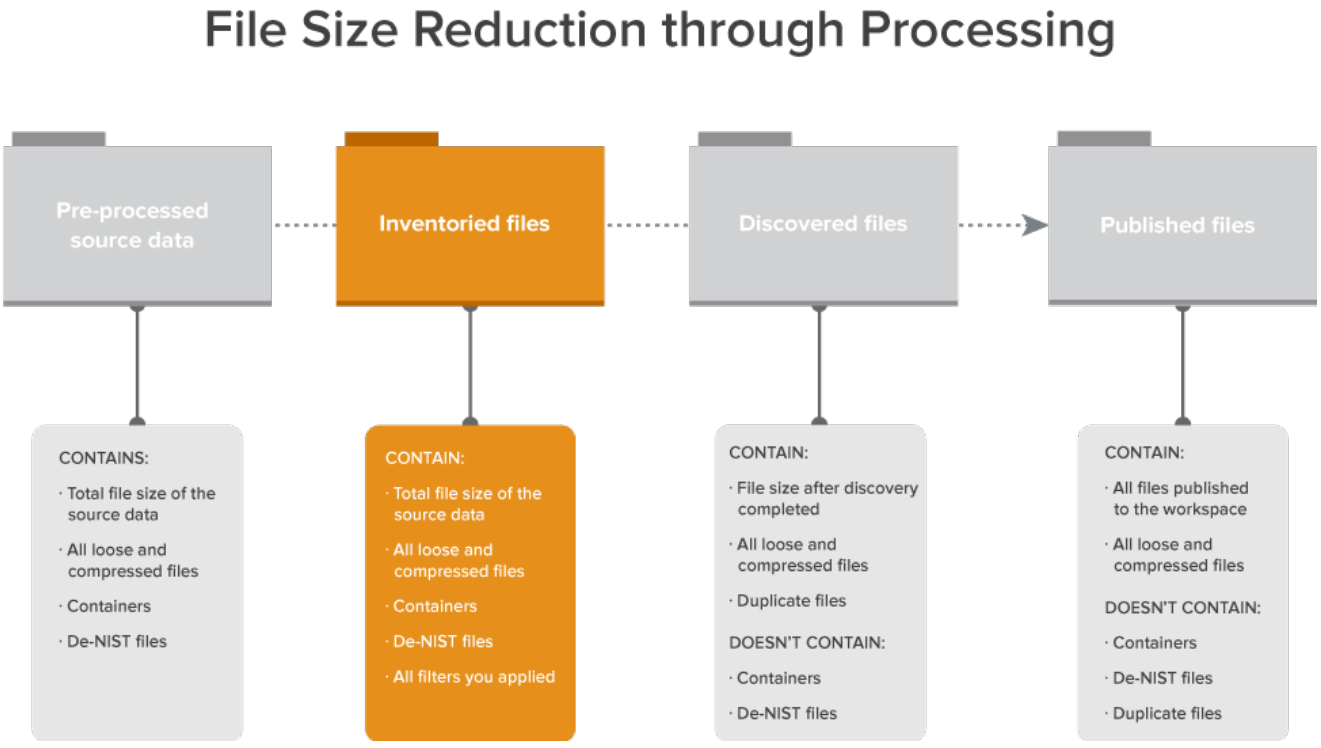
Use Inventory to narrow down your files before discovering them by eliminating irrelevant raw data from the discovery process through a variety of preliminary filters. With inventory you can exclude certain file types, file locations, file sizes, NIST files, date ranges, and sender domains. Doing this gives you a less-cluttered data set when you begin to discover your files.

Note: Your environment has been enabled to dynamically scale your Invariant worker servers dependent on load. Sustained activity is automatically detected by the system, and Relativity will add workers to handle this work. Once the work is done, they will automatically scale back down. This feature is continually being improved to be smarter about when we add workers and how many we add.

This page provides an overview of the inventory process. For information on running an inventory job, applying filters, and managing inventory errors, see Inventory processing.

Note: Your environment has been enabled to dynamically scale your Invariant worker servers dependent on load. Sustained activity is automatically detected by the system, and Relativity will add workers to handle this work. Once the work is done, they will automatically scale back down. This feature is continually being improved to be smarter about when we add workers and how many we add.

The following graphic depicts how inventory fits into the basic workflow you would use to reduce the file size of a data set through processing. This workflow assumes that you're applying some method of de-NIST and deduplication.



Inventory reads all levels of the data source, including any container files, to the lowest level. Inventory then only extracts data from first-level documents. For example, you have a .ZIP within a .ZIP that contains an email with an attached Word document, inventory only extracts data up to the email. Deeper level files are only extracted after you start Discovery. This includes the contents of a .ZIP file attached to an email and the complete set of document metadata.

You are not required to inventory files before you start file discovery. Note, however, that once you start file discovery, you can't run inventory on that processing set, nor can you modify the settings of an inventory job that has already run on that set.

The following is a typical workflow that incorporates inventory:

1. Create a processing set or select an existing set.
2. Add data sources to the processing set.
3. Inventory the files in that processing set to extract top-level metadata.
4. Apply filters to the inventoried data.
5. Run discovery on the refined data.
6. Publish the discovered files to the workspace.

Read an inventory scenario

Using Inventory and file filters

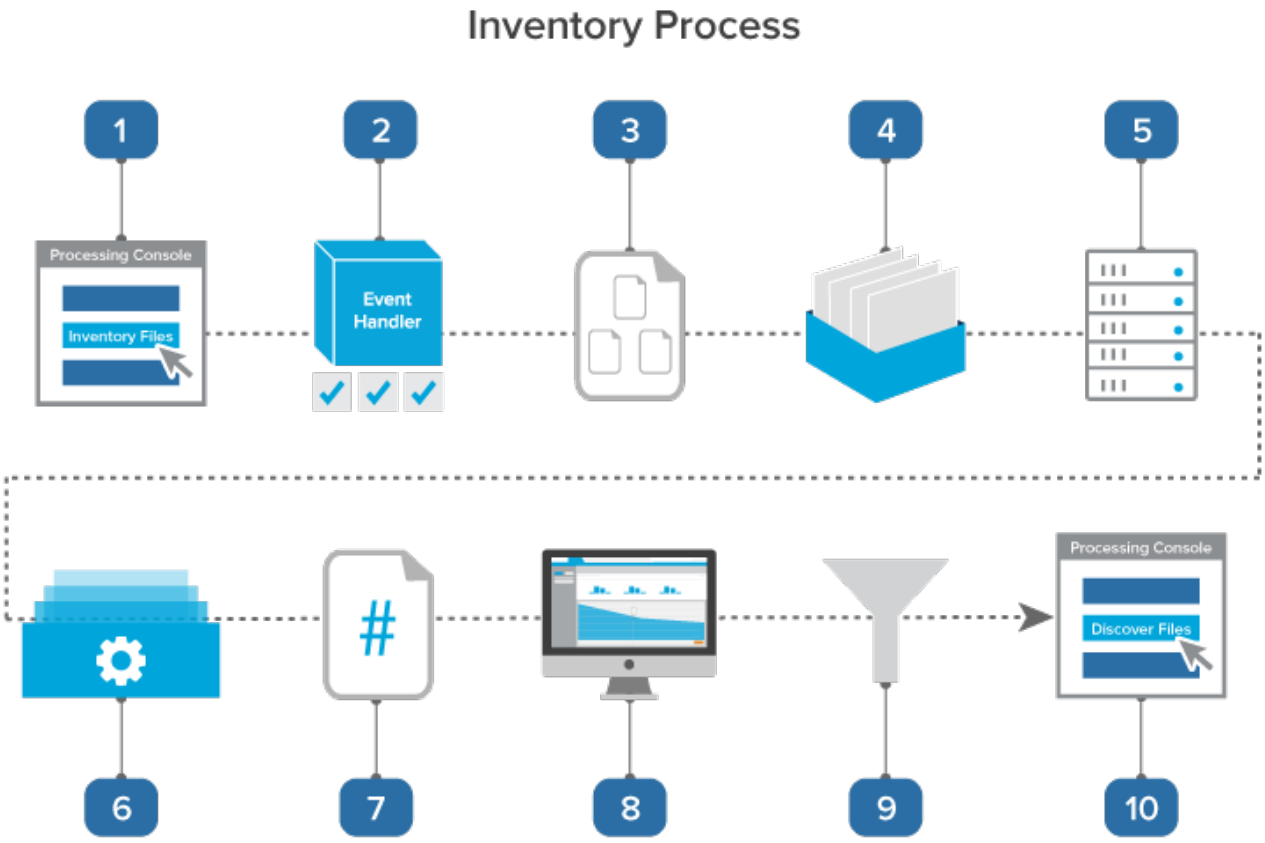
You are a project manager, and your firm requests that you create a processing set that includes a purposefully large data set from a custodian, with loose files and multiple email PST files. They then want you to eliminate all emails from a repository created in 2012, because those pre-date the case and are not admissible.

To do this, you inventory your data sources, click Filter Files on the processing set console, load the inventoried set in the filtering files, and apply a Location filter to exclude the location of the 2012 Backup.PST container.

You can then move on to discover the remaining files in the set.

14.1 Inventory process

The following graphic and corresponding steps depict what happens behind the scenes when you start inventory. This information is meant for reference purposes only.



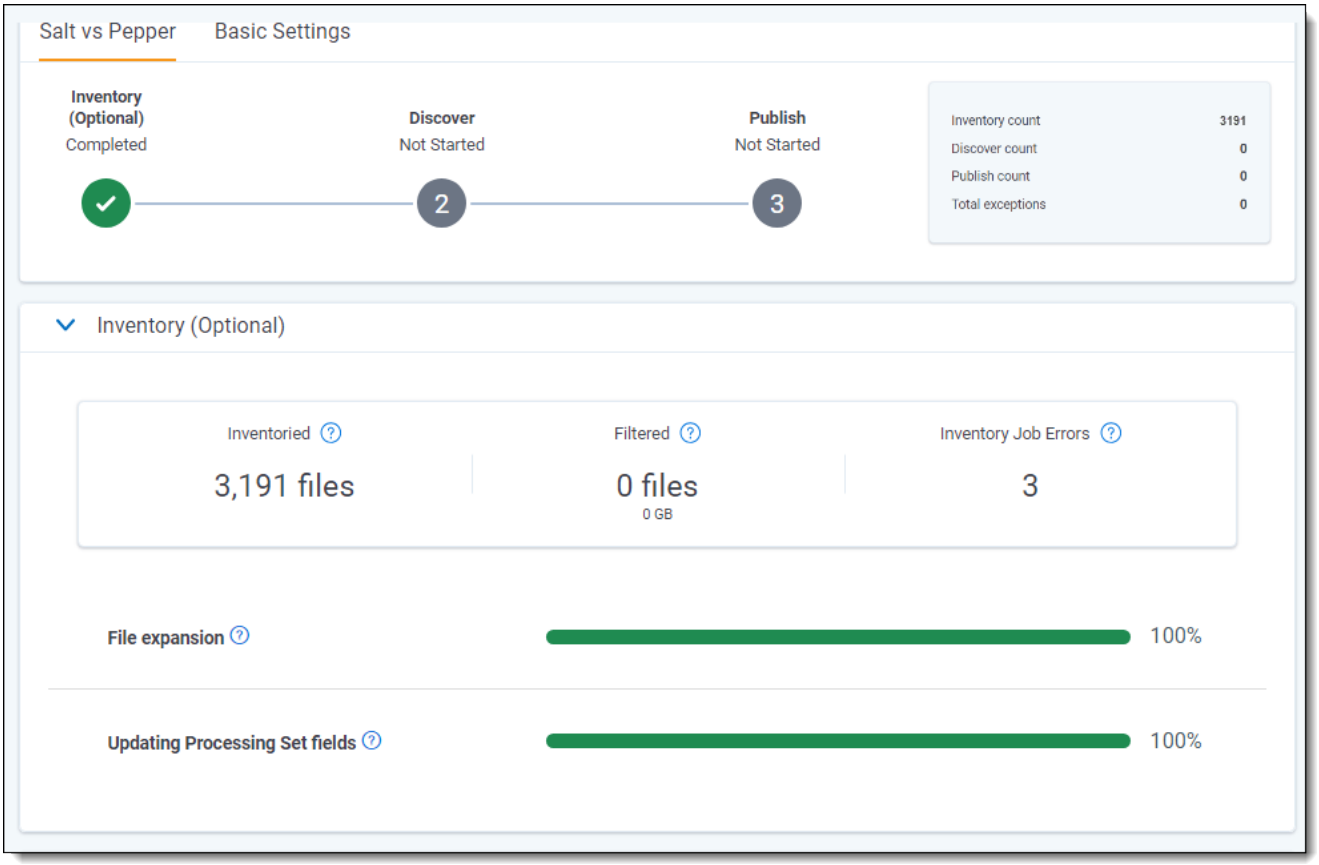
1. You click Inventory Files on the processing console.
2. A console event handler checks to make sure the processing set is valid and ready to proceed.
3. The event handler inserts the data sources to the processing queue.
4. The data sources wait in the queue to be picked up by an agent, during which time you can change their priority.
5. The processing set manager agent picks up each data source based on its order, all password bank entries in the workspace are synced, and the agent inserts each data source as an individual job into the processing engine. The agent provides updates on the status of each job to Relativity, which then displays this information on the processing set layout.
6. The processing engine inventories each data source by identifying top-level files and their metadata and merges the results of all inventory jobs. Relativity updates the reports to include all applicable inventory data. You can generate these reports to see how much inventory has narrowed down your data set.
7. The processing engine sends a count of all inventoried files to Relativity.
8. You load the processing set containing the inventoried files in the Inventory tab, which includes a list of available filters that you can apply to the files.

9. You apply the desired filters to your inventoried files to further narrow down the data set.
10. Once you've applied all desired filters, you move on to discovery.

14.2 Monitoring inventory status

You can monitor the job's progress on the Processing Set Details page. This page breaks down each of the processing phases (Inventory, Discover, Publish) into their own sections that include dashboard summaries, sub-job details, and counts.

14.2.1 Inventory job details



- **File expansion**—Relativity expands all source files to the first non-container level and extracts select data for pre-discovery filtering.
- **Updating Processing Set fields**—Relativity updates associated fields in the processing set with the job results.

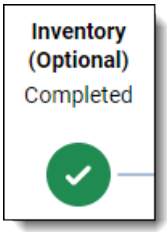
Dashboard numbers

- **Inventoried**—the number of non-container, top level files identified.
- **Filtered**—the number of file filtered from Inventory filters.
- **Inventory Job Errors**—the number of errors that occurred during Inventory. You cannot retry these errors. You should re-run Inventory to resolve the issues.

See Exception and error resolution for details.

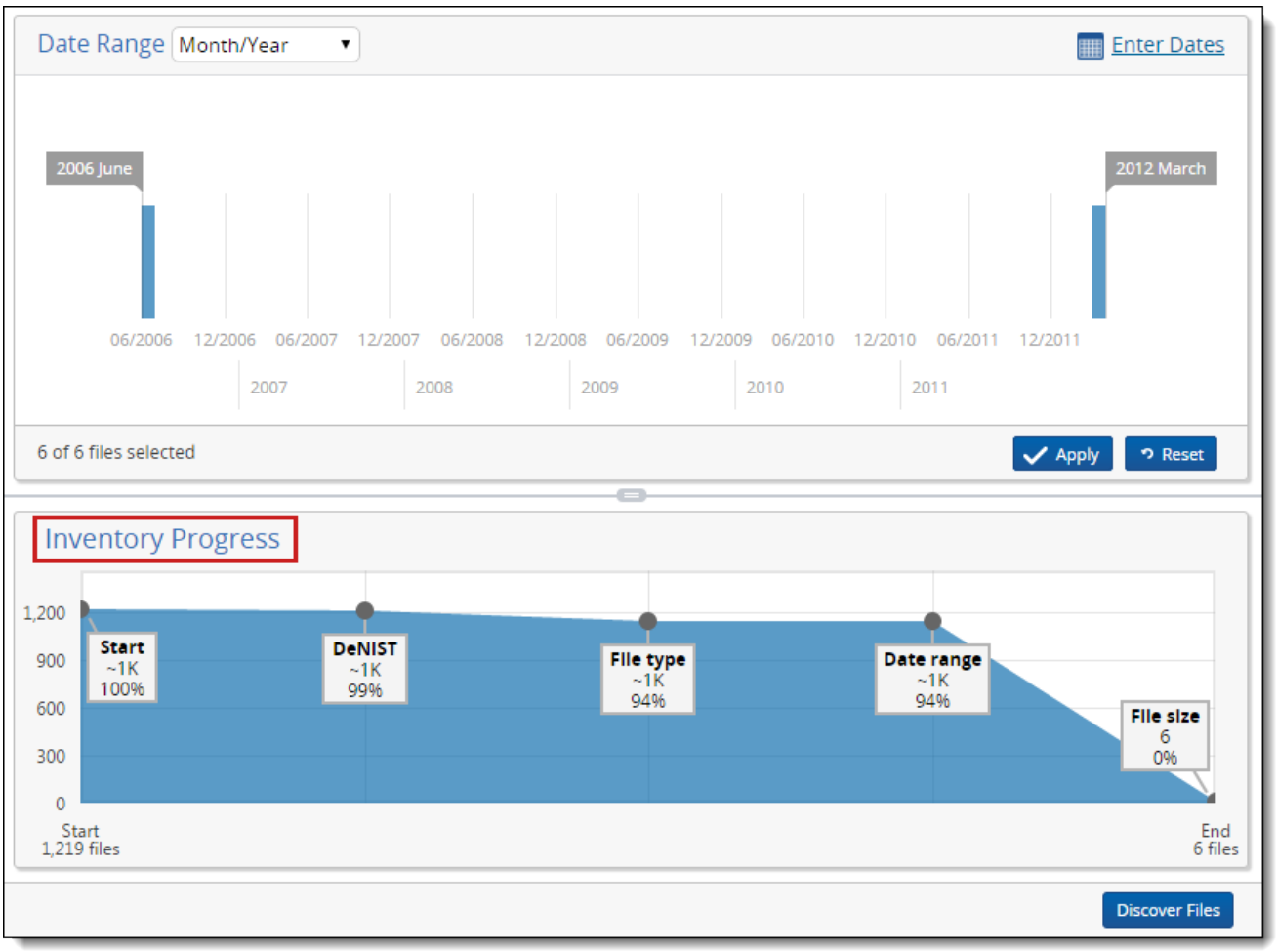
If you skip inventory, the status section displays a Skipped status throughout the life of the processing set.

Once inventory is complete, the status section displays a Complete status, indicating that you can move on to either filtering or discovering your files. For more information, see Filtering files and Discovering files.



14.3 Inventory progress

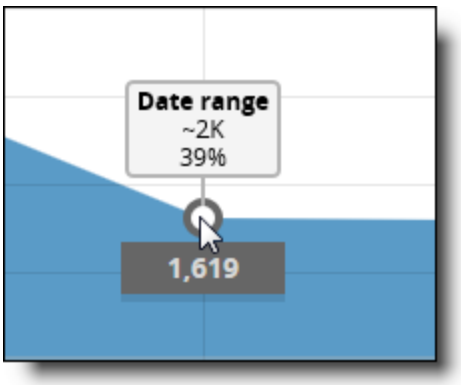
The graph in the Inventory Progress pane reflects all the filters you have applied to the processing set. This graph updates automatically as the inventory job progresses, and provides information on up to six different filters. The vertical axis contains the number of files. The horizontal axis contains the filters.



This graph provides the following information to help you gauge the progress of your filtering:

- **Start # files**—lists the number of files in the data set before you applied any filters to it. This value sits in the bottom left corner of the pane.
- **End # files**—lists the current number of files in the data set now that you have excluded documents by applying filters. This value sits in the bottom right corner of the pane.
- **~#K**—lists the approximate number of files that remain in the data set under the filter type applied.
- **#%**—lists the percentage of files that remain from the data set under the filter type applied. If a filter excludes only a small number of files from the previous file count, this value may not change from the value of the preceding filter type.

You can view the exact number of files that remain in the data set by hovering over the gray dot above or below the file type box.



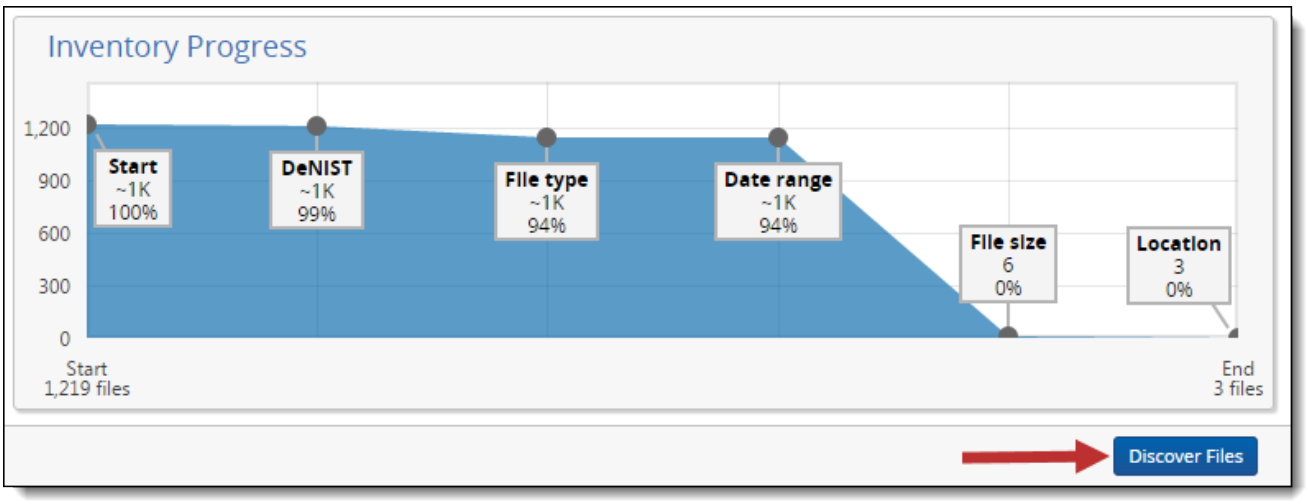
At any time before you discover the files reflected in the Inventory Progress pane, you can reset or delete any filters you already applied.

Once you determine that the filters you have applied have reduced the data set appropriately, you can discover the remaining files.

14.4 Discovering files from Inventory

You can discover files from the Inventory tab using the Discover Files button in the bottom right corner of the layout.

For more information on discovery, see Discovery process.



Clicking Discover Files puts the discovery job in the queue and directs you back to the processing set layout, where you can monitor the job's progress.

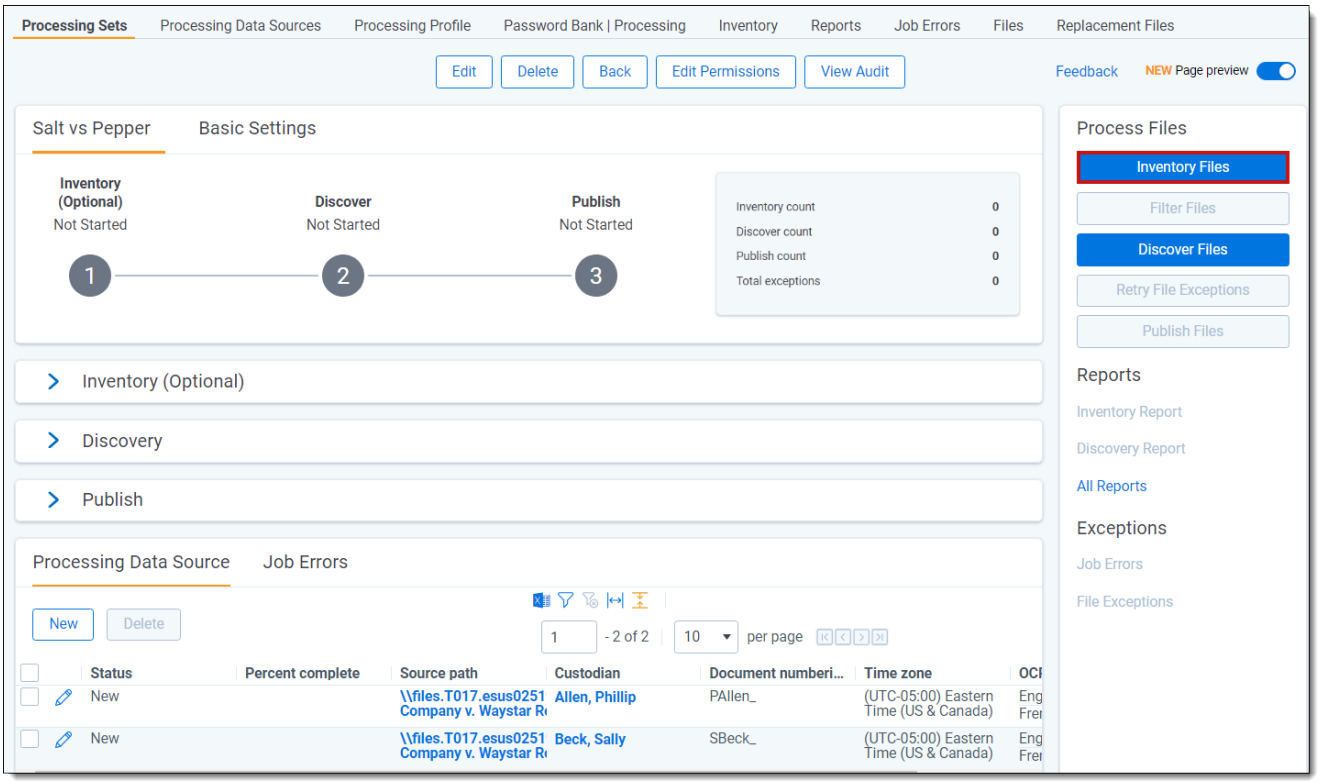
The same validations that apply when you start discovery from the processing set layout apply when discovering from the Inventory tab.

15 Inventory processing

This page provides details on inventory processing, applying filters, and managing inventory errors. For an overview of the inventory process, see Inventory overview.

15.1 Running inventory

To inventory the files found in a processing set's data source(s), click **Inventory Files** on the processing set console. This option is only available if you have added at least one data source to the processing set.



The Inventory Files button on the console is disabled in the following situations:

- There are no data sources associated with the processing set.
- The processing set is canceled.
- The processing set has already been discovered or published.
- A discovery, retry discovery, publish, republish, or retry publish job is in the queue for the processing set.

When you start inventory, the Inventory Files button changes to Cancel. You can use this to cancel the processing set. For more information, see Canceling inventory.

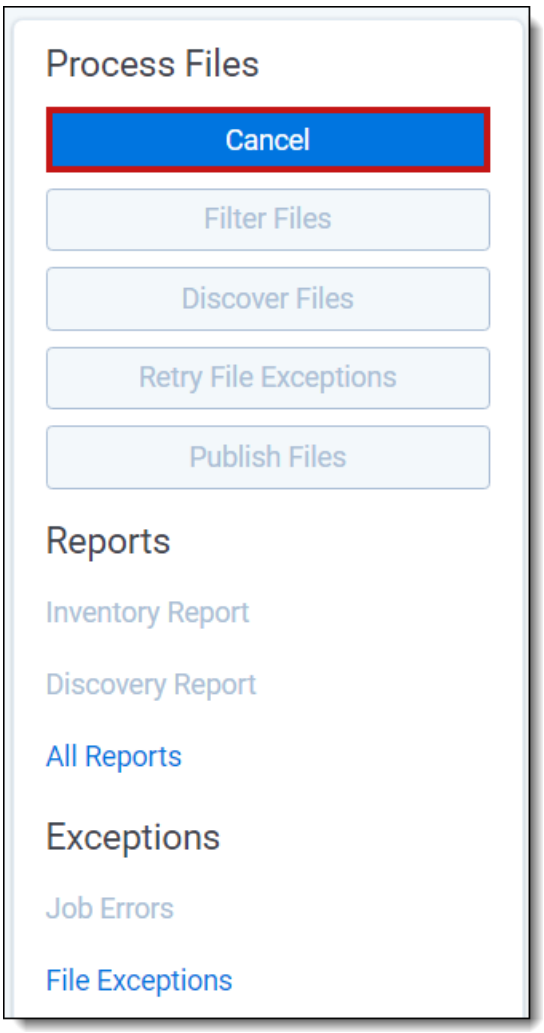
Note: The processing set manager agent sends the password bank to the processing engine when you start inventory. If a custodian is associated with a Lotus Notes password bank, that custodian's information is sent with the inventory job.

You can re-inventory files any time after the previous inventory job is complete. For more information, see Re-inventory.

15.1.1 Canceling inventory

If the need arises, you can cancel inventory before the job encounters its first error or before it is complete.

To cancel discovery, click **Cancel**.



Consider the following regarding canceling inventory:

- If you click Cancel while the status is still Waiting, you can re-submit the inventory job.
- If you click Cancel after the job has already been sent to the processing engine, the entire processing set is canceled, meaning all options are disabled and it is unusable. Deduplication is not run against documents in canceled processing sets.
- Once the agent picks up the cancel inventory job, no more errors are created for the processing set.
- Errors that result from a job that is canceled are given a canceled status and cannot be retried.

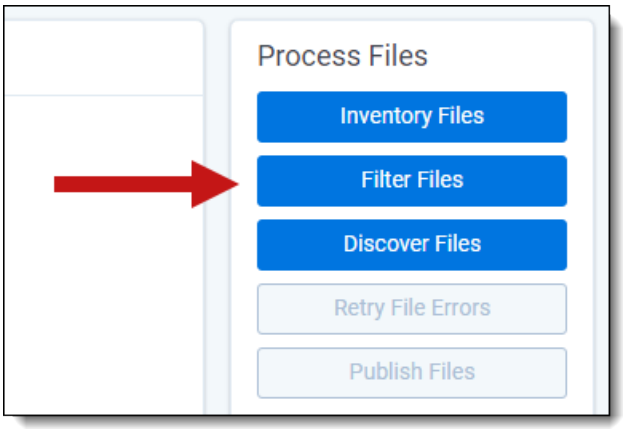
15.2 Filtering files

When inventory is complete you have the option of filtering your files in the Inventory tab before moving to discovery.

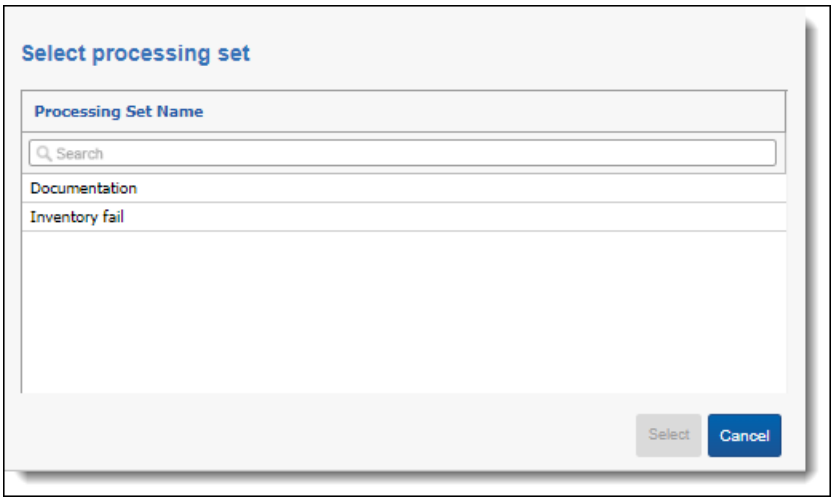
Note that Relativity only filters on the files that you have inventoried. Everything else that cascades down from the files that were discovered is not subject to the inventory filters that you set.

Note: Filtering is not supported for Relativity Short Message Format (RSMF) metadata.

To do this, click **Filter Files** on the console.



After clicking the Filter Files button, you are redirected to the Inventory tab. You see the current Processing set name, along with an option to change the set. If you navigated to the Inventory tab from another location in Relativity, you see a list of Processing sets that are eligible for filtering. Click a set and click **Select** to load the set on the Inventory layout.



A processing set is not eligible for use in the Inventory tab if:

- You canceled the set.
- You already discovered or published the set.

- You have not yet run inventory on the set.
- A discovery, retry discovery, publish, republish, or retry publish job is in the queue for the set.

If no processing sets are eligible for use in the Inventory tab, you are directed to the Processing Sets tab to create a new set or check on the progress of an existing set.

The following considerations apply to all processing sets in Inventory:

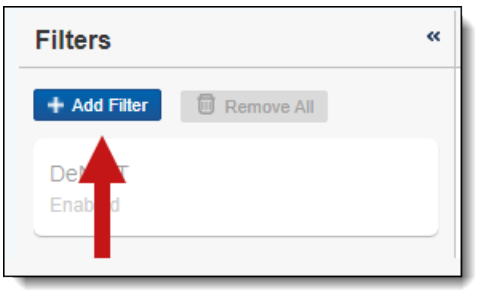
- If you need to load a different processing set, click **Change Set** to display a list of other available sets.
- You can click the processing set name link in the top right to return to that set's layout.

Note: If you leave the Inventory tab after having loaded a processing set, that set and any filters applied to it are preserved for you when you return to the Inventory tab.

You can add filters to the inventoried data and see how those filters affect the data in your processing set. You cannot add filters if inventory is not complete or if the processing set has already been discovered.

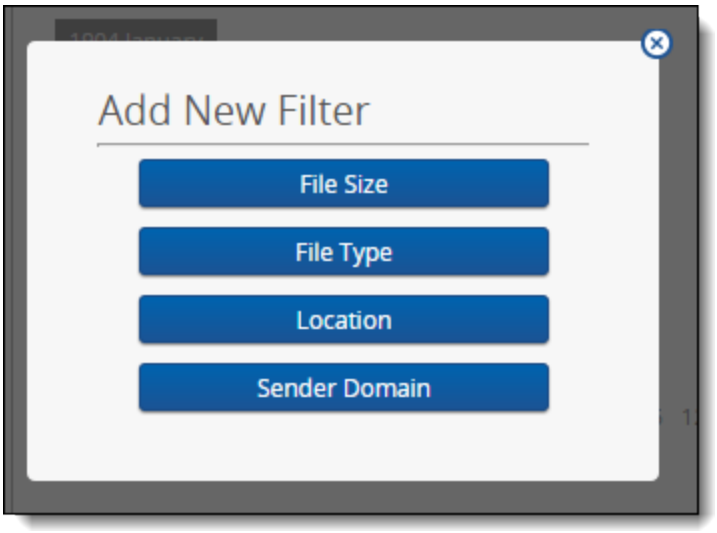
There are six different filters you can apply to a processing set. You can apply these filters in any order; however, you can only apply one filter of each type. This section describes how to apply file location, file size, file type, and sender domain filters. See Applying a Date range filter or Applying a DeNIST filter for instructions on filtering inventoried files by those properties.

To add a new filter, click **Add Filter**.



Note: Filters affect the data set only at the time at which you apply them. This means that if you apply a filter to exclude a certain file type from your data but someone from your organization adds more files to the set, including instances of the excluded type, then the recently added files are not actually removed when you start discovery. In order to exclude the added file types, you must first re-inventory the files in the updated data set. You can then run discovery and expect to see all instances of that file type excluded.

Clicking Add Filter displays a list of the following available filters:



- File Size—exclude files that are smaller and/or larger than the size range you specify. This filter uses a range graph, in which you click and drag range selectors to exclude files.
- File Type—include or exclude certain files based on their type. For example, you may want to remove all .exe or .dll files since they typically have no relevance in the review process. This filter uses a two list display, in which you choose which files to exclude by moving them from the Included list to the Excluded.

  Note: Renaming a file extension has little effect on how Relativity identifies the file type. When processing a file type, Relativity looks at the actual file properties, such as digital signature, regardless of the named extension. Relativity only uses the named extension as a tie-breaker if the actual file properties indicate multiple extensions.

- Location- include or exclude files based on their folder location. This filter uses a two list display, in which you choose which files to exclude by moving them from the Included list to the Excluded.
- Sender Domain- include or exclude email files sent from certain domains. For example, you may want to rid your data set of all obvious spam or commercial email before those files get into your workspace. This filter uses a two list display, in which you choose which files to exclude by moving them from the Included list to the Excluded.

The following considerations apply to all filter types:

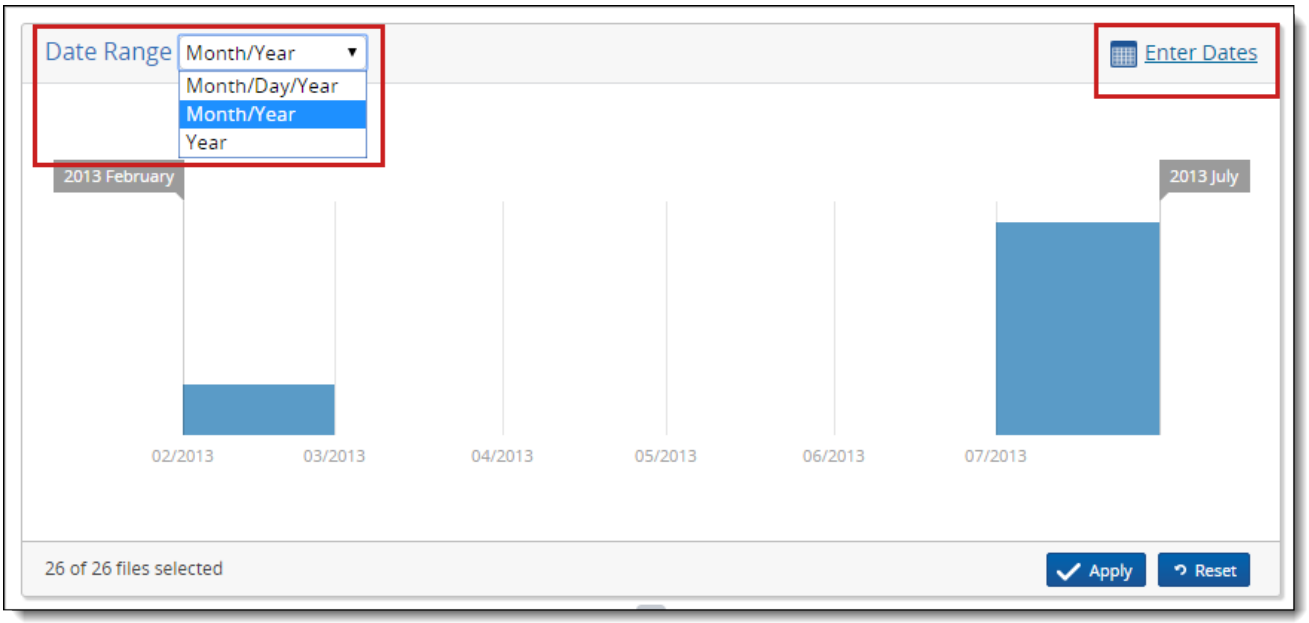
- If the applied filter conditions have excluded all files from the set, then there are no results for you to interact with and you cannot add or apply more filters.

- If a filter is already applied to the data, the corresponding button is disabled.
- The Inventory Progress graph displays the effect each filter has on your overall file count. The points on the graph indicate which filters you applied and the number of remaining files in your processing set.
- When you change the parameters of the filter, the number of documents automatically updates to reflect the change.
- Filters operate progressively, with each additional filter further narrowing down the total data set. For example, if you choose to include a certain file type and later filter out all file locations that contain those types of files, the discoverable data set does not ultimately include files of that type.
- To cancel a filter before you apply it, click **Cancel**. If you cancel, you lose all unsaved changes.
- You cannot save and reuse filters from one inventory set to another.

15.2.1 Applying a Date range filter

When the selected processing set loads, no filters are applied to the files by default; however, a graph displays the date range for all files in the processing set.

Note: The deNIST filter is applied by default if your processing profile has deNIST field set to Yes.



Note: When you filter for dates, you are filtering specifically on the Sort Date/Time field, which is taken from the file's Sent Date, Received Date, and Last Modified Date fields in that order of precedence. This happens on email messages repeated for the parent document and all child items to allow for date sorting.

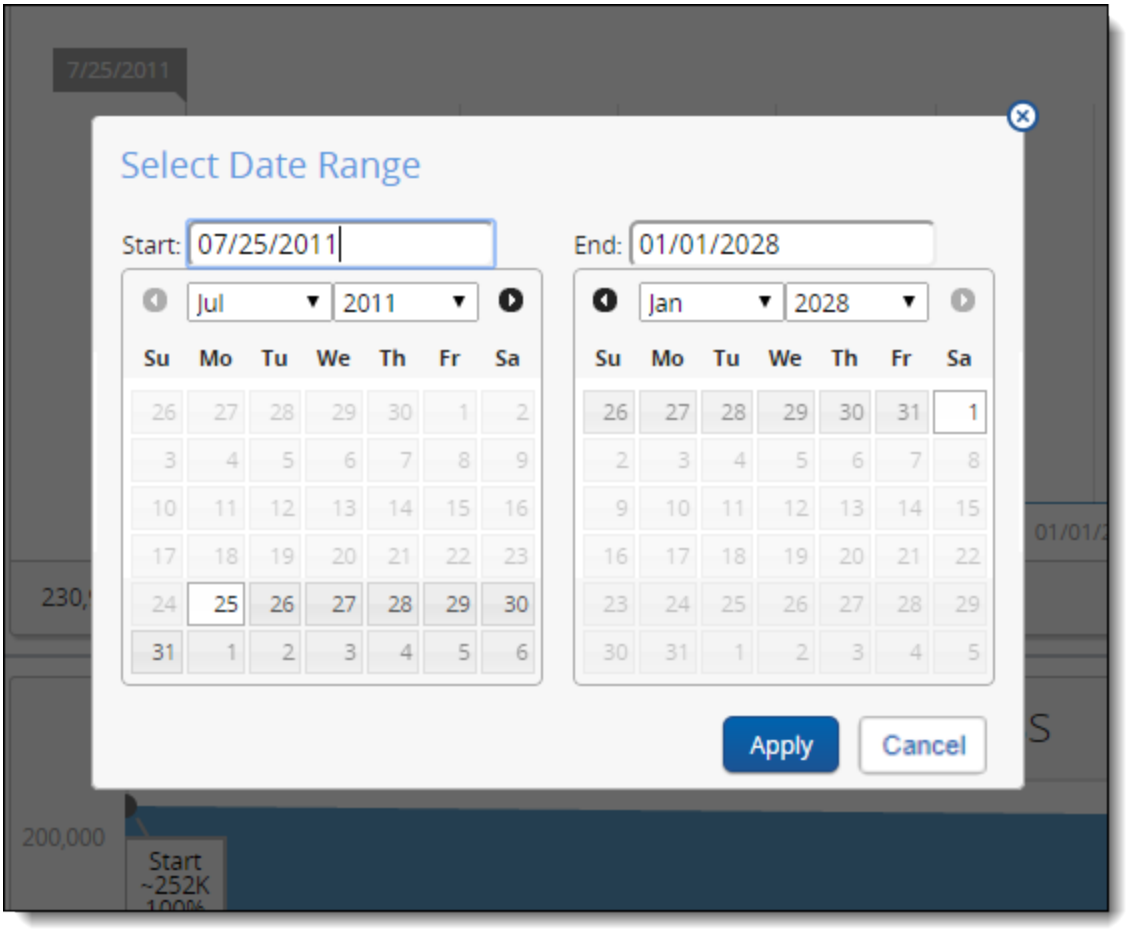
You have the following options for applying a date range filter:

- Use the **Date Range** menu in the top left to select from **Month/Day/Year**, **Month/Year**, and **Year**. When you move the range selectors to a particular point on the graph, they will snap to the nearest

whole number. Change the units of measurement to smaller denominations for more precise filter settings.

Note: When processing documents without an actual date, Relativity provides a null value for the following fields: Created Date, Created Date/Time, Created Time, Last Accessed Date, Last Accessed Date/Time, Last Accessed Time, Last Modified Date, Last Modified Date/Time, Last Modified Time, and Primary Date/Time. The null value is excluded and not represented in the filtered list.

- The **Enter Dates** link in the top right, when clicked, displays a window in which you can select a **Start** and **End** date from the two calendars. Click **Apply** after specifying the new dates.



- Drag the right and left limits of the graph until you have a visualization of the desired range. When you do this, the areas that you have designated to exclude are light blue. Click **Apply** after dragging these

limits to their appropriate spots.

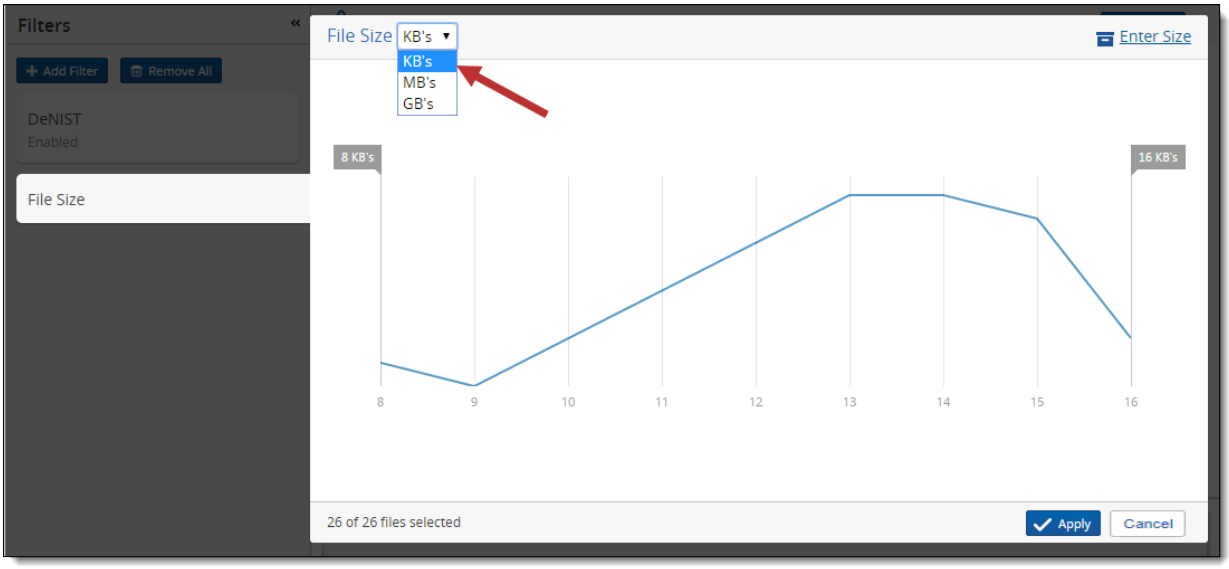
- To reset the parameters of a filter after you apply it, click **Reset**.

Note: If you run a re-inventory job on a processing set to which you have already added the date range filter, the date range display does not update automatically when you return to the Inventory tab from the processing set layout. You have to re-click the date range filter to update the range.

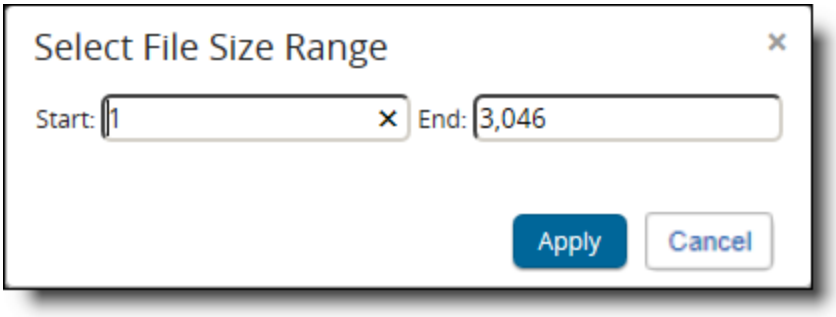
15.2.2 Applying a File Size filter

To filter your processing set files by size:

1. Click **Add Filter**.
2. Select **File Size** from the filter list.
3. Use the available options on the **File Size** range graph filter to specify how you want to apply the file size filter to your files.



- Use the **File Size** menu in the top left of the graph to select from **KB's**, **MB's**, and **GB's**. If all files in the current data set are from the same file size, for example 0 GB's, you cannot get a visualization for that size. When you move the range selectors to a particular point on the graph, they will snap to the nearest unit of measurement selected. Change the units of measurement to smaller denominations for more precise filter settings.
- Use the **Enter Size** link in top right of the graph to select **Start** and **End** values for the size range. By default, the lowest value in the data set appears in the Start field and the highest value appears in the End field.



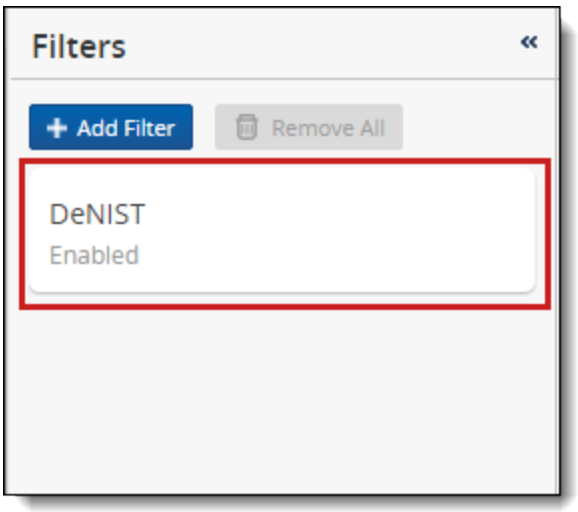
4. Click **Apply** once you have designated all the file sizes you want to exclude. The Inventory Progress pane reflects the addition of the file size filter, as well as the percentage and number of files that remain from the original data set. For more information, see Inventory progress.

Inventory reduces your processing set by the date parameters you defined. You can now apply additional filters to further reduce the data set, or you can discover the files.

15.2.3 Applying a deNIST filter

You can toggle the deNIST Filter on or off to exclude commonly known computer system files that are typically useless in e-discovery. You will do this on the processing profile, and the selection you make there is reflected in the Inventory interface.

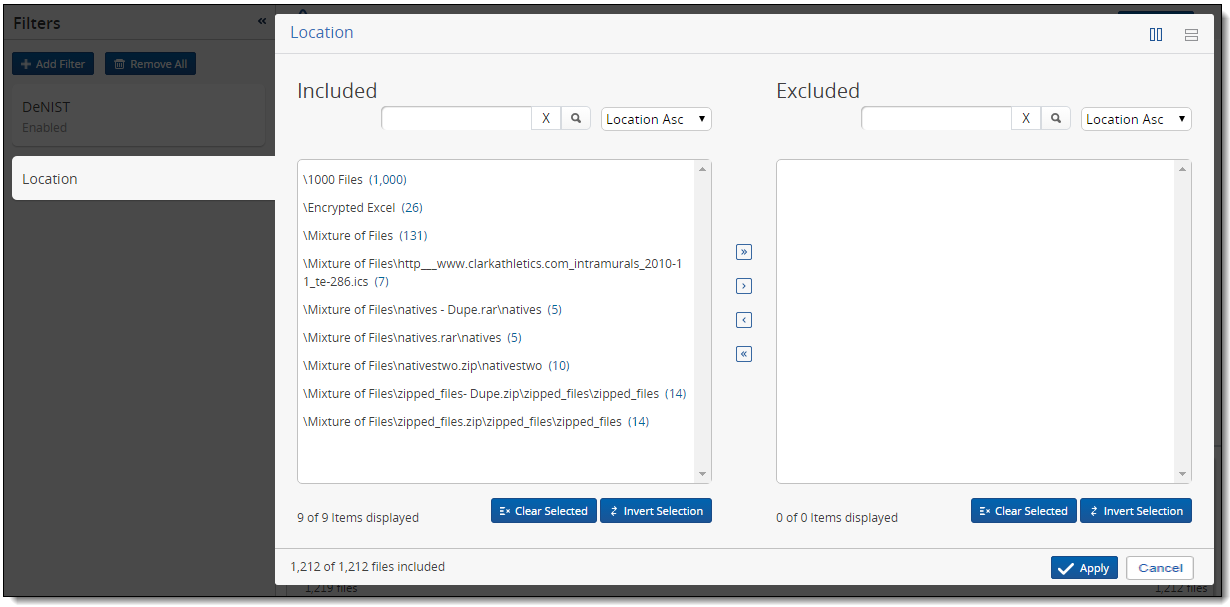
If the DeNIST field is set to No on the processing profile, the DeNIST filter does not appear by default in Inventory, and you do not have the option to add it. Likewise, if the DeNIST field is set to Yes on the profile, the corresponding filter is enabled in Inventory, and you cannot disable it for that processing set.



15.2.4 Applying a Location filter

To filter your processing set files by location:

1. Click **Add Filter**.
2. Select **Location** from the filter list.
3. Use the available options on the **Location** two-list filter to specify how you want to apply the location filter to your files. For more information, see Applying two-list filters.



4. Click **Apply** once you have designated all the file locations you want to exclude. The Inventory Progress pane reflects the addition of the location filter, as well as the percentage and number of files that remain from the original data set. For more information, see Inventory progress.

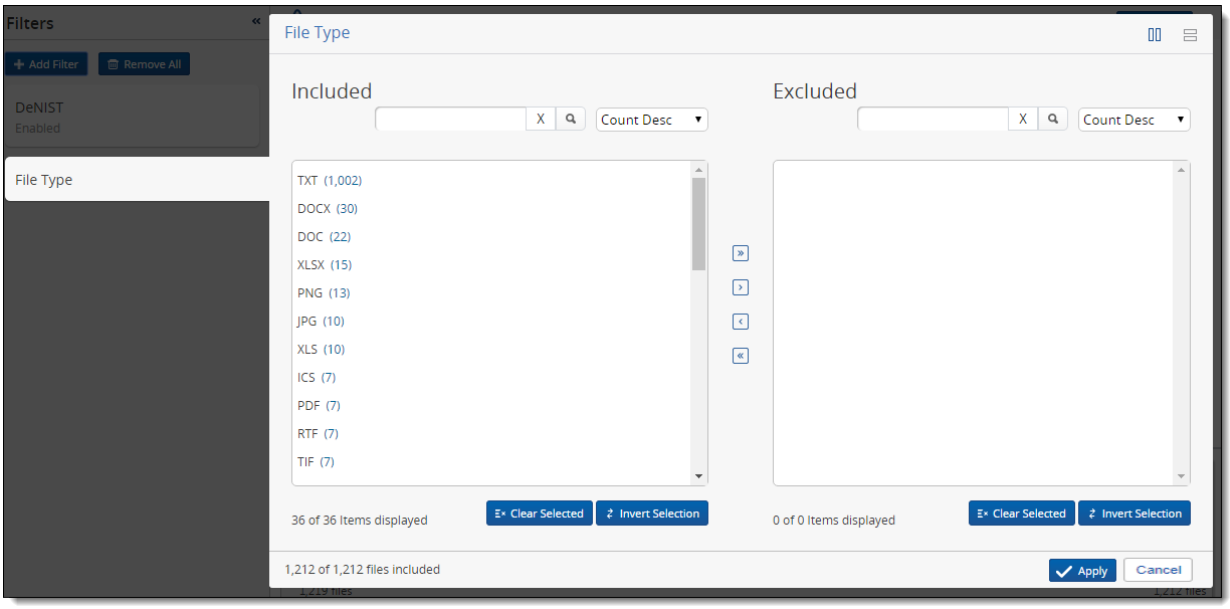
You can now apply an additional filter to further reduce the data set, or you can discover the files.

15.2.5 Applying a File Type filter

To filter your processing set files by type:

1. Click **Add Filter**.
2. Select **File Type** from the filter list.

3. Use the available options on the **File Type** two-list filter to specify how you want to apply the file type filter to your files. For more information, see Applying two-list filters.



4. Click **Apply** once you have designated all the file types you want to exclude. The Inventory Progress pane reflects the addition of the file type filter, as well as the percentage and number of files that remain from the original data set. For more information, see Inventory progress.

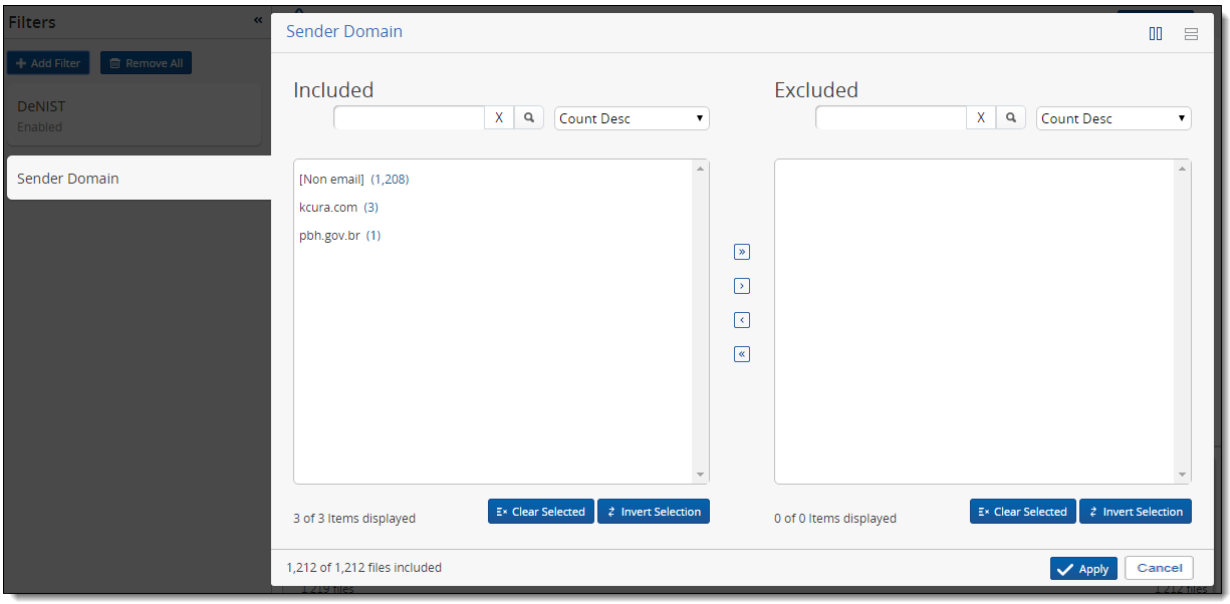
You can now apply an additional filter to further reduce the data set, or you can discover the files.

15.2.6 Applying a Sender Domain filter

To filter your processing set files by email sender domain:

1. Click **Add Filter**.
2. Select **Sender Domain** from the filter list.

3. Use the available options on the **Sender Domain** two-list filter to specify how you want to apply the sender domain filter to your files. For more information, see Applying two-list filters.



4. Click **Apply** once you have designated all the email domains you want to exclude. The Inventory Progress pane reflects the addition of the sender domain filter, as well as the percentage and number of files that remain from the original data set. For more information, see Inventory progress.

You can now apply an additional filter to further reduce the data set, or you can discover the files.

15.2.6.1 Unspecified domains

Some of the domain entries in your filter window might not be displayed in a traditional domain format. For example, if there are files from an unspecified domain in your processing set, these files appear as a number in parentheses without a domain name next to it. Note the other instances in which Relativity returns unspecified domains and how it handles those items:

- **[Non email]**—the item was not handled by the Outlook handler.
- **Blank**—the Outlook handler processed the file, but could not find a sender domain.
- **[Internal]**—Relativity parsed an LDAP-formatted email address because there was no other valid domain available. When the system cannot identify the domain, it attempts to extract the organization or company name from the address.

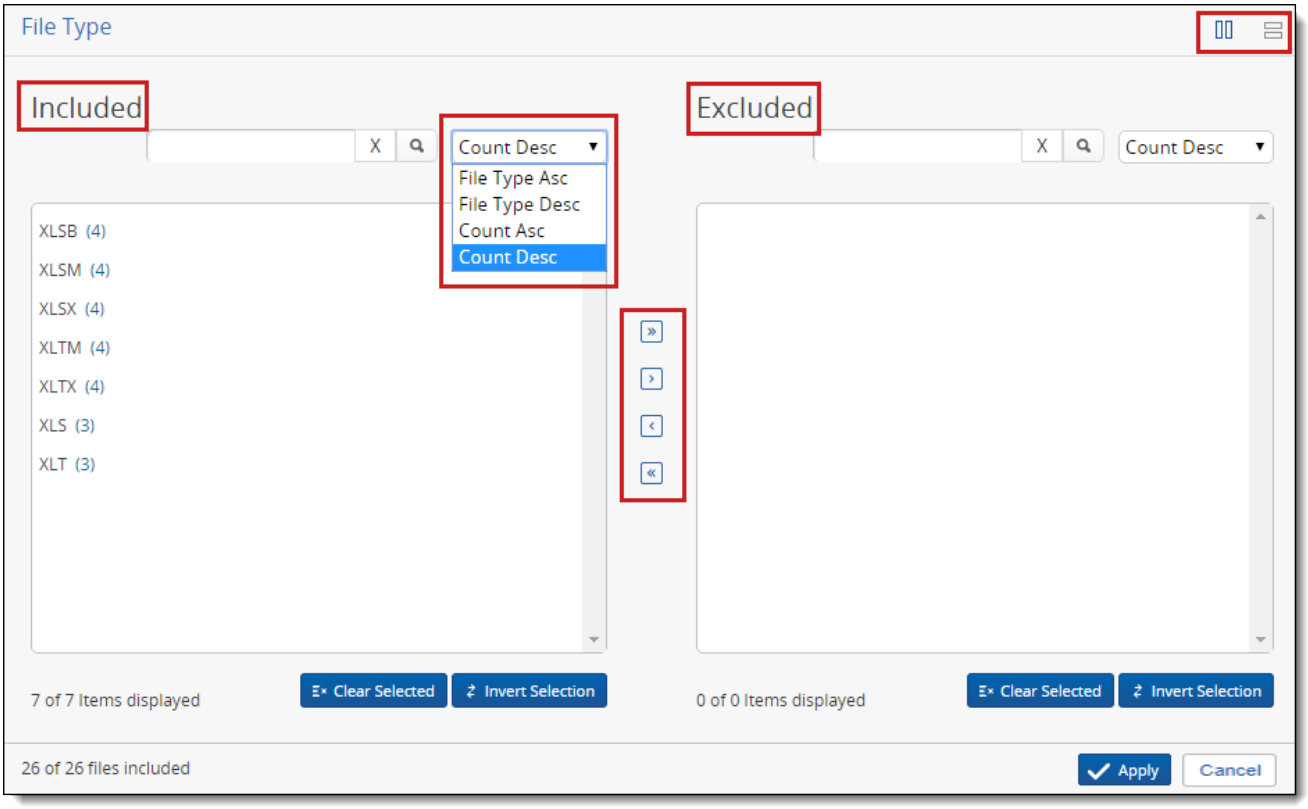
15.2.6.2 Applying a two-list filter

The two-list filter lets you filter processing set files by the following filter types:

- File Location
- File Type
- Sender Domain

When you add any of these filters, all instances of the variable being filtered for appear in the **Included** list to the left (or top). To exclude any instance, highlight it and click the single right arrow button to add it to the **Excluded** list on the right (or bottom).

Note: If you add items from the Included list to the Excluded or vice versa, and these additions affect the sort and search criteria of the modified list, you can refresh the list to re-apply the sort and search.



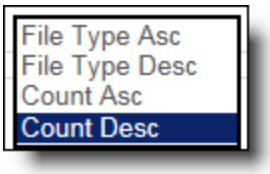
Note: Items removed from the data by edits to a previously applied filter are displayed in later filters with a value of (0) next to them. For example, if you apply the file type filter and then later narrow the date range to the extent that it filters out all files of the PDF type, then the next time you view the file type filter, PDFs are listed as having a count of (0).

You can use any of the following options in the two-list filter:

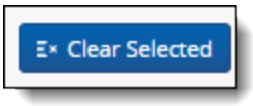
- Move over all items with double left and right arrows. Move over only the item(s) selected with the single left and right arrows.

- Toggle the two-list filter to display vertically or horizontally with the parallel line icons in the top right.

  - The vertical lines display all files in the left column, and those designated for exclusion in the right column.
  - The horizontal lines display all files in the top window, and those to be excluded in the bottom window.
- Double-click on any item to move it to the other list.
- Select multiple items in either list by clicking on the items, or select all items between two values in a list with the Shift key.
- Sort the Included and Excluded lists based on the following settings, depending on the filter type:



  - **Location Asc**—sorts a list of file locations in alphabetical order.
  - **Location Desc**—sorts a list of file locations in reverse alphabetical order.
  - **Sender Domain Asc**—sorts a list of sender domains in alphabetical order.
  - **Sender Domain Desc**—sorts a list of sender domains in reverse alphabetical order.
  - **File Type Asc**—sorts a list of file types in alphabetical order.
  - **File Type Desc**—sorts a list of file types in reverse alphabetical order.
  - **Count Asc**—sorts a list of variables from the smallest count to the largest.
  - **Count Desc**—sorts a list of variables from the largest count to the smallest.
- **Clear Selected**—marks the previously selected items in the Included or Excluded list as unselected.



- **Invert Selection**—marks the previously selected items in the Included or Excluded list as unselected while selecting the items that were not selected before.

15.3 Removing filters

Clicking **Remove All** under Filter Controls removes all the filters from the menu on the left side of the menu.

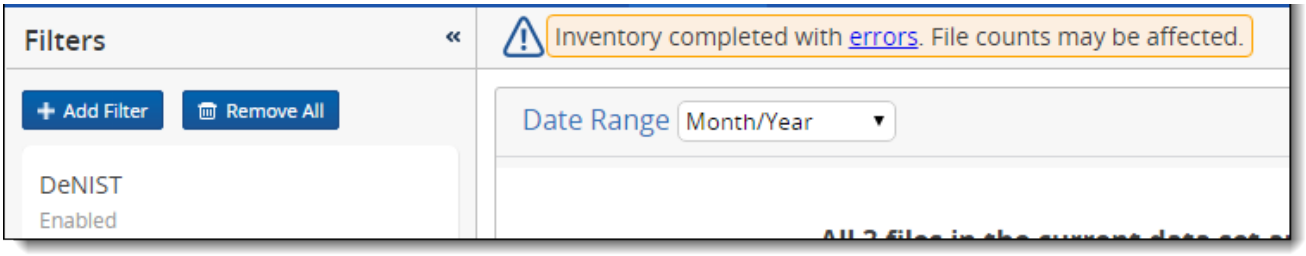
You can also remove filters individually by clicking the **X** on a single filter in the menu. You cannot delete a filter if you are currently working with it.

You are redirected to the processing set page if any of the following occur:

- Inventory or re-inventory is in process for the set
- The set has been canceled
- Discovery has been run for the set
- A job is in the queue for the set
- The set is secured or no longer exists

15.4 Inventory errors

If the processing set you select for inventory encountered any errors, the triangle icon appears in the upper left corner of the set. Hover over this icon to access a link to all applicable errors.



Clicking the link to view errors takes you to the Job Errors tab, which contains all errors for all processing sets in the workspace. By default, Relativity applies search conditions to this view to direct you to errors specific to your inventory data. Click any error message in the view to go to that error's details page, where you can view the stack trace and cause of the error.

All inventory errors are unresolvable. If you need to address an error that occurred during inventory, you must do so outside of Relativity and then re-run inventory on the processing set.

See Processing error resolution for details.

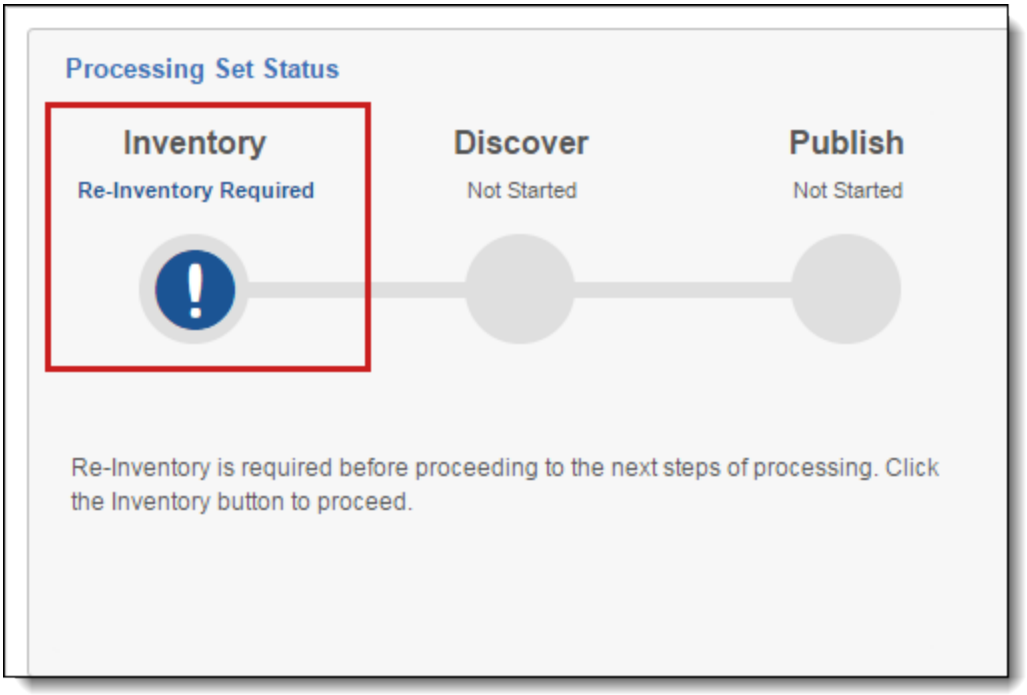
15.4.1 Inventory error scenarios

You receive an error when starting file inventory if any of the following scenarios occur:

- The processing license expires.
- You have an invalid processing license.
- The DeNIST table is empty and the DeNIST field on the profile is set to Yes.
- No processing webAPI path is specified in the Instance setting table.
- There is no worker manager server associated with the workspace in which you are performing file inventory.
- The queue manager service is disabled.

15.5 Re-inventory

You may be prompted to run inventory again in the status display on the processing set layout.



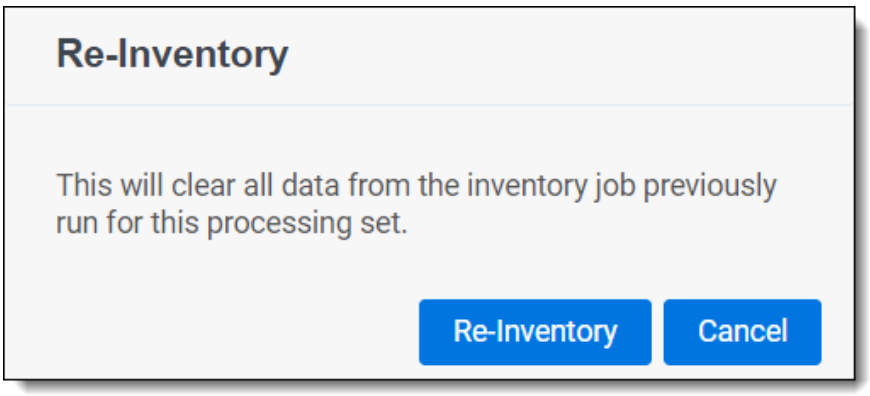
You must run inventory again on a processing set if:

- You have added a data source to processing set that has already been inventoried but not yet discovered.
- You have edited a data source that is associated with a processing set that already been inventoried but not yet discovered.
- You have deleted a data source from a processing set that has already been inventoried but not yet discovered.

You can also voluntarily re-inventory a processing set any time after the Inventory Files option is enabled after the previous inventory job is complete.

To re-inventory at any time, click **Inventory Files**.

When you click Inventory again, you are presented with a confirmation message containing information about the inventory job you are about to submit. Click **Re-Inventory** to proceed with inventory or **Cancel** to return to the processing set layout.



When you re-inventory files:

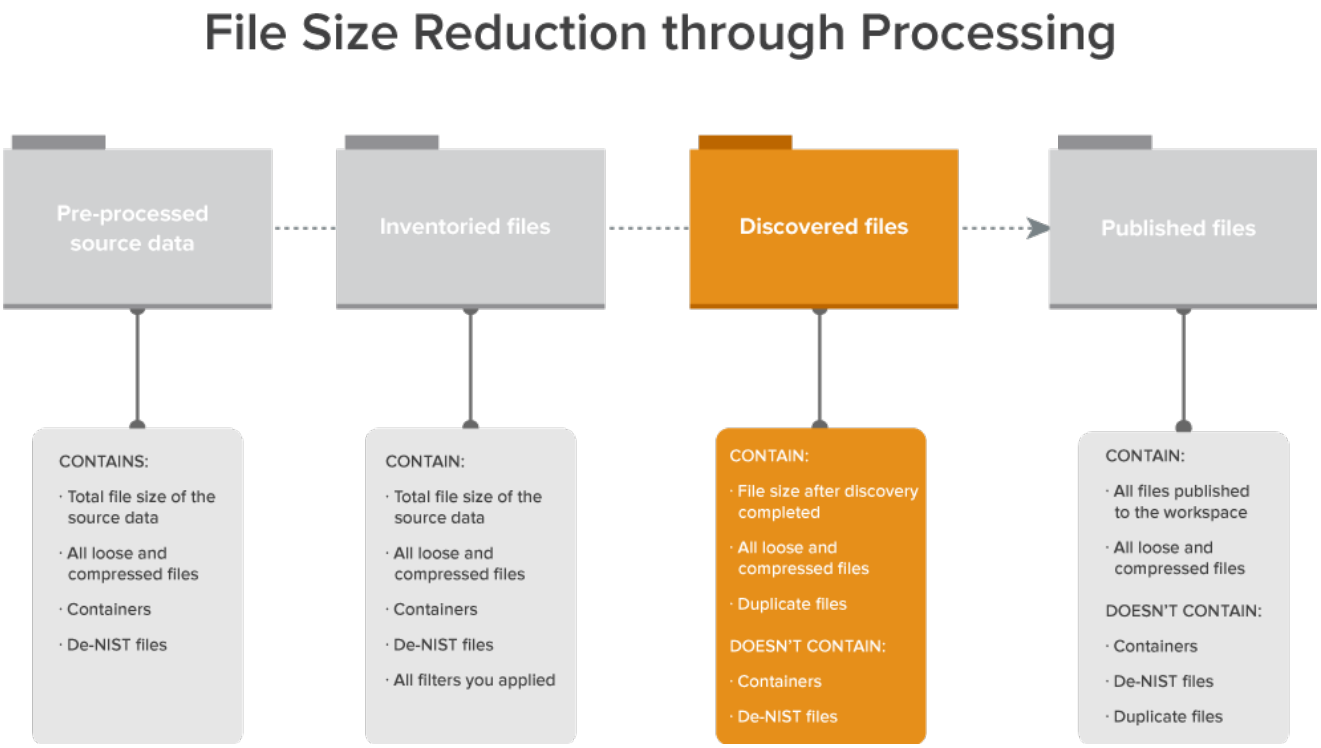
- Filters that you previously applied in the Inventory tab do not get cleared.
- Errors that you encountered in a previous Inventory job are cleared.

16 Discovering files

Discovery is the phase of processing in which the processing engine retrieves deeper levels of metadata not accessible during Inventory and prepares files for publishing to a workspace.

Note: Your environment has been enabled to dynamically scale your Invariant worker servers dependent on load. Sustained activity is automatically detected by the system, and Relativity will add workers to handle this work. Once the work is done, they will automatically scale back down. This feature is continually being improved to be smarter about when we add workers and how many we add.

The following graphic depicts how discovery fits into the basic workflow used to reduce the file size of a data set through processing. This workflow assumes that you are applying some method of deNIST and deduplication.



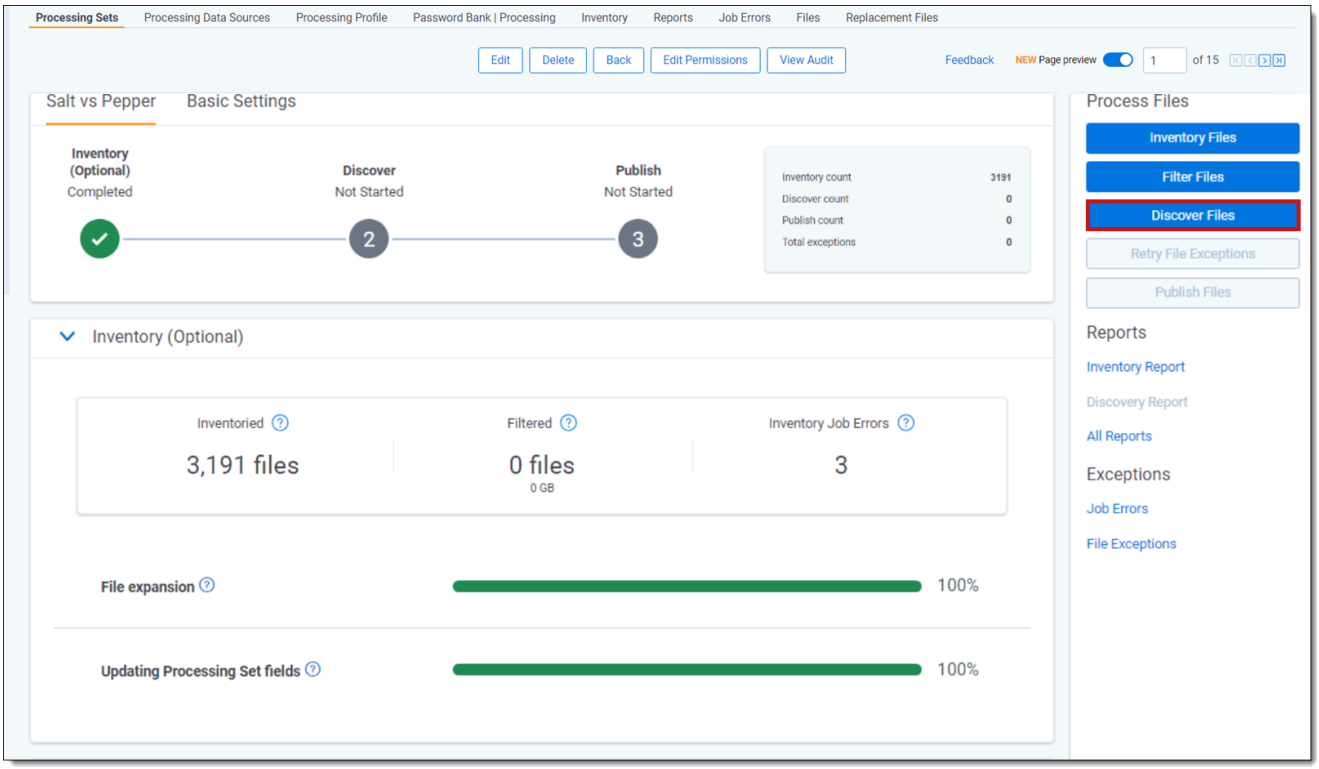
The following is a typical workflow that incorporates discovery:

1. Create a processing set or select an existing set.
2. Add data sources to the processing set.
3. Inventory the files in that processing set to extract top-level metadata.
4. Apply filters to the inventoried data.
5. Run discovery on the refined data.
6. Publish the discovered files to the workspace.

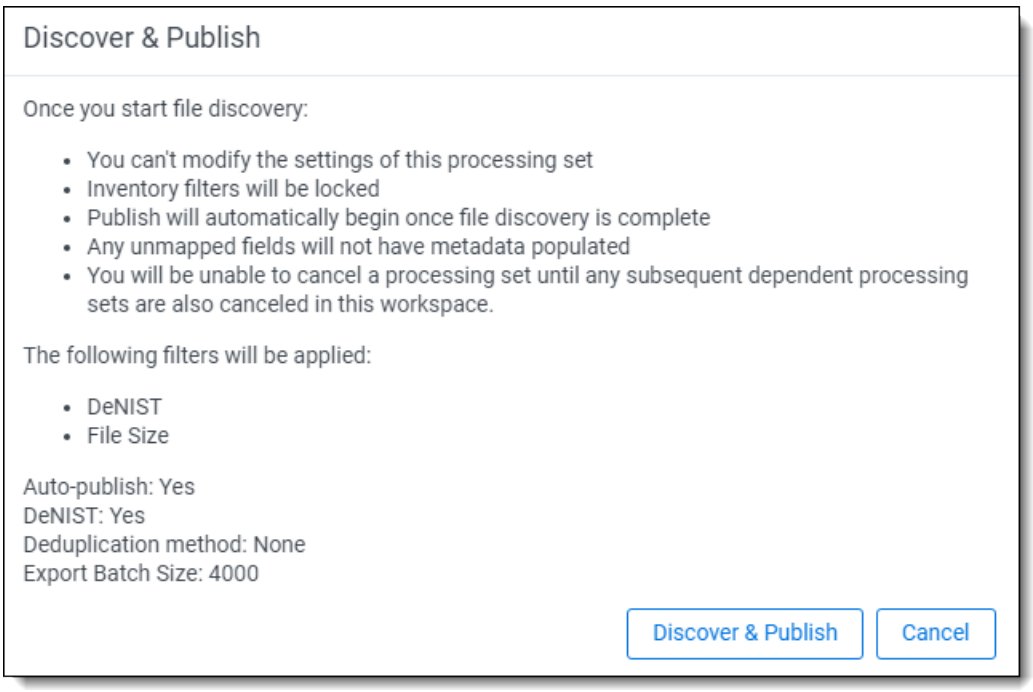
16.1 Running file discovery

To start discovery click **Discover Files** on the processing set console. You can click this whether or not you have inventoried or filtered your files.

Note: When processing documents without an actual date, Relativity provides a null value for the following fields: Created Date, Created Date/Time, Created Time, Last Accessed Date, Last Accessed Date/Time, Last Accessed Time, Last Modified Date, Last Modified Date/Time, Last Modified Time, and Primary Date/Time. The null value is excluded and not represented in the filtered list.



A confirmation message appears with the discovery settings and filters applied. Click **Discover** to proceed with discovery or **Cancel** to return to the processing set layout. If you enabled auto-publish, the confirmation message provides the option to **Discover & Publish**.



Consider the following when discovering files:

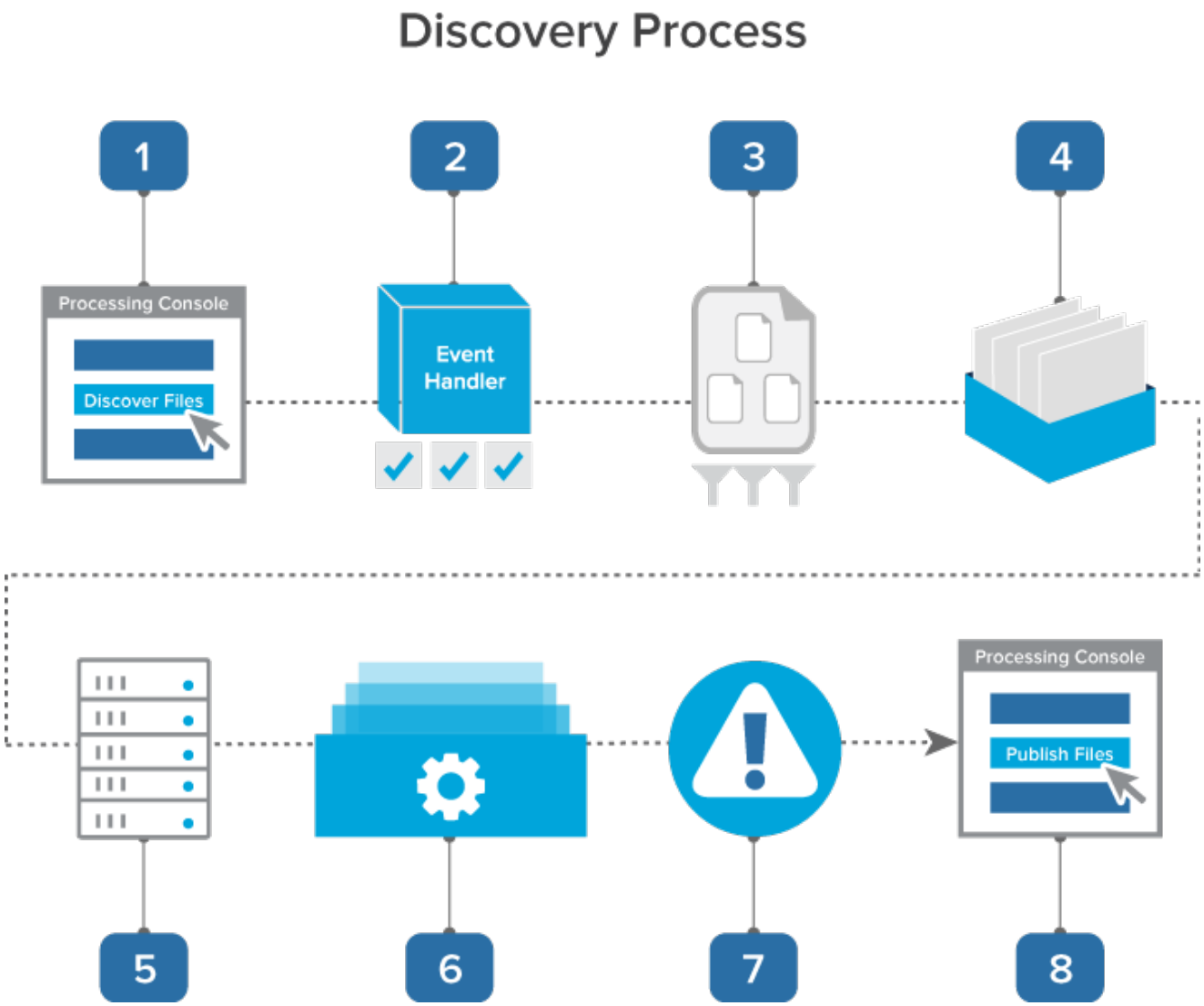
- Relativity does not re-extract text for a re-discovered file unless an extraction error occurred. This means that if you discover the same file twice and you change any settings on the profile, or select a different profile, between the two discovery jobs, Relativity will not re-extract the text from that file unless there was an extraction error. This is because processing always refers to the original/primary document and the original text stored in the database.
- If you have arranged for auto-publish on the processing set's profile, the publish process begins when discovery finishes, even if errors occur during discovery. This means that the Publish button is not enabled for the set until after the job is finished. You also see a status display for both discover and publish on the set layout.
- If your discovery job becomes stuck for an inordinate length of time, do not disable the worker associated with that processing job, as that worker may also be performing other processing jobs in the environment.
- When discovering file types, Relativity refers to the file header information to detect the file type.
- You can't change the settings on any processing job at any point after file discovery begins. This means that once you click **Discover**, you can't go back and edit the settings of the processing set and re-click Discover Files. You would need to create a new processing set with the desired settings.
- You cannot start discovery while inventory is running for that processing set.
- When you start discovery or retry discovery for a processing job, the list of passwords specified in the password bank accompanies the processing job so that password-protected files are processed in that job. For more information, see Password bank on page 53.

Note: Relativity prioritizes application metadata over operating system file properties where possible. For example, if a file type stores application metadata, such as Date Created and Date Modified, Relativity retains those values for the file. If the application metadata fields are empty or the file type does not store application metadata, Relativity uses the operating system's file properties instead. Application metadata is more reliable since it is stored in the file itself. Operating system file properties can often change. For example, moving a file from one folder to another may change property values. Examples of file types that store application metadata include Microsoft Office files such as Word or Excel.

When you start discovery, the Discover button changes to **Cancel**. Click this to stop discovery. See Canceling discovery on page 195 for details.

16.1.1 Discovery process

The following graphic and corresponding steps depict what happens behind the scenes when you start discovery. This information is meant for reference purposes only.

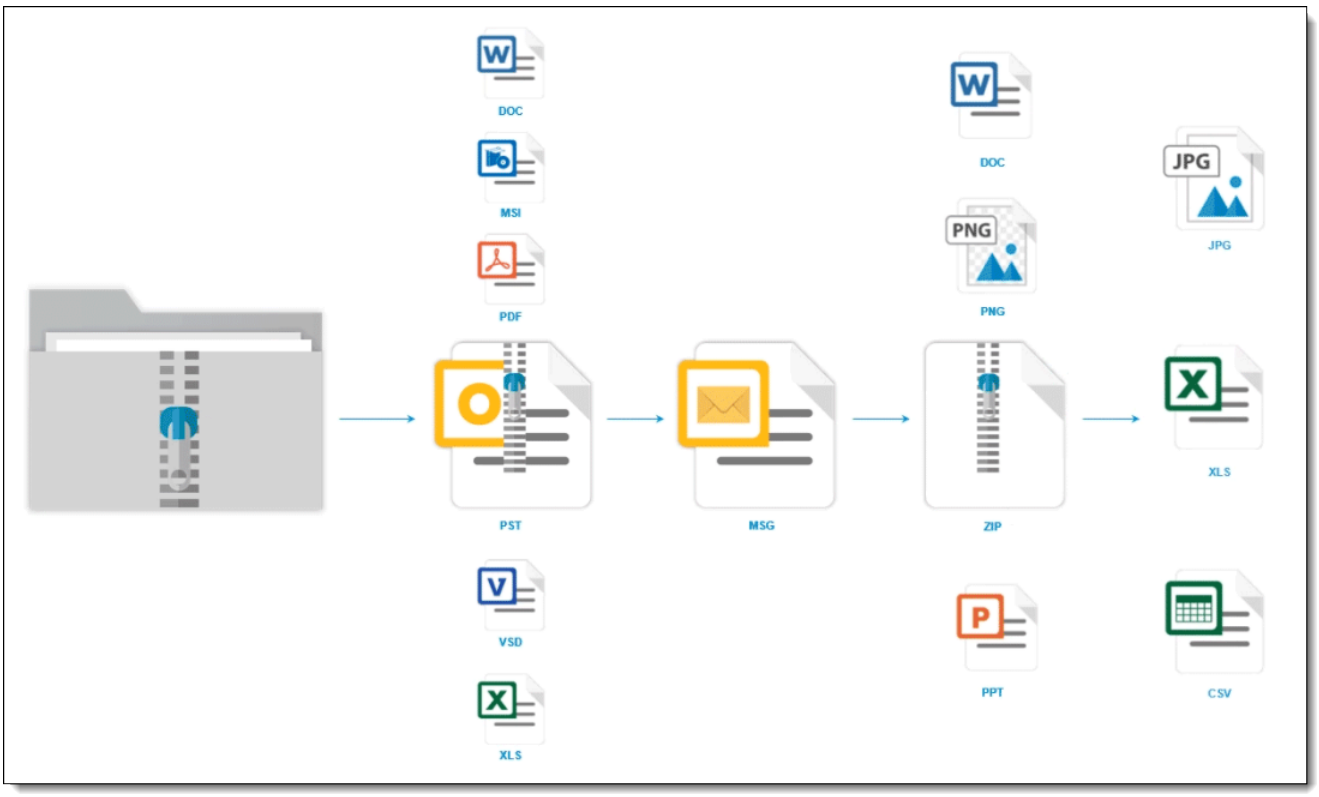


1. You click Discover Files on the processing set console.
2. A console event handler copies all settings from the processing profile to the data sources on the processing set and then checks to make sure that the set is valid and ready to proceed.
3. The event handler inserts all data sources into the processing set queue.
4. The data sources wait in the queue to be picked up by an agent, during which time you can change their priority.
5. The processing set manager agent picks up each data source based on its order, all password bank entries are synced, and the agent submits each data source as an individual discovery job to the processing engine. The agent then provides updates on the status of each job to Relativity, which then displays this information on the processing set layout.
6. The processing engine discovers the files and applies the filters you specified in the Inventory tab. It then sends the finalized discovery results back to Relativity, which then updates the reports to include all applicable discovery data.
7. Any errors that occurred during discovery are logged in the errors tabs. You can view these errors and attempt to retry them. See Processing error resolution for details.
8. You can now publish the discovered files to your workspace. If you've arranged for auto-publish after discovery, publish will begin automatically and you will not invoke it manually.

16.1.2 Container extraction

It may be useful to understand how the processing engine handles container files during discovery. Specifically, the following graphic depicts how the engine continues to open multiple levels of container files until there are no more containers left in the data source.

This graphic is meant for reference purposes only.



16.2 Special considerations - OCR and text extraction

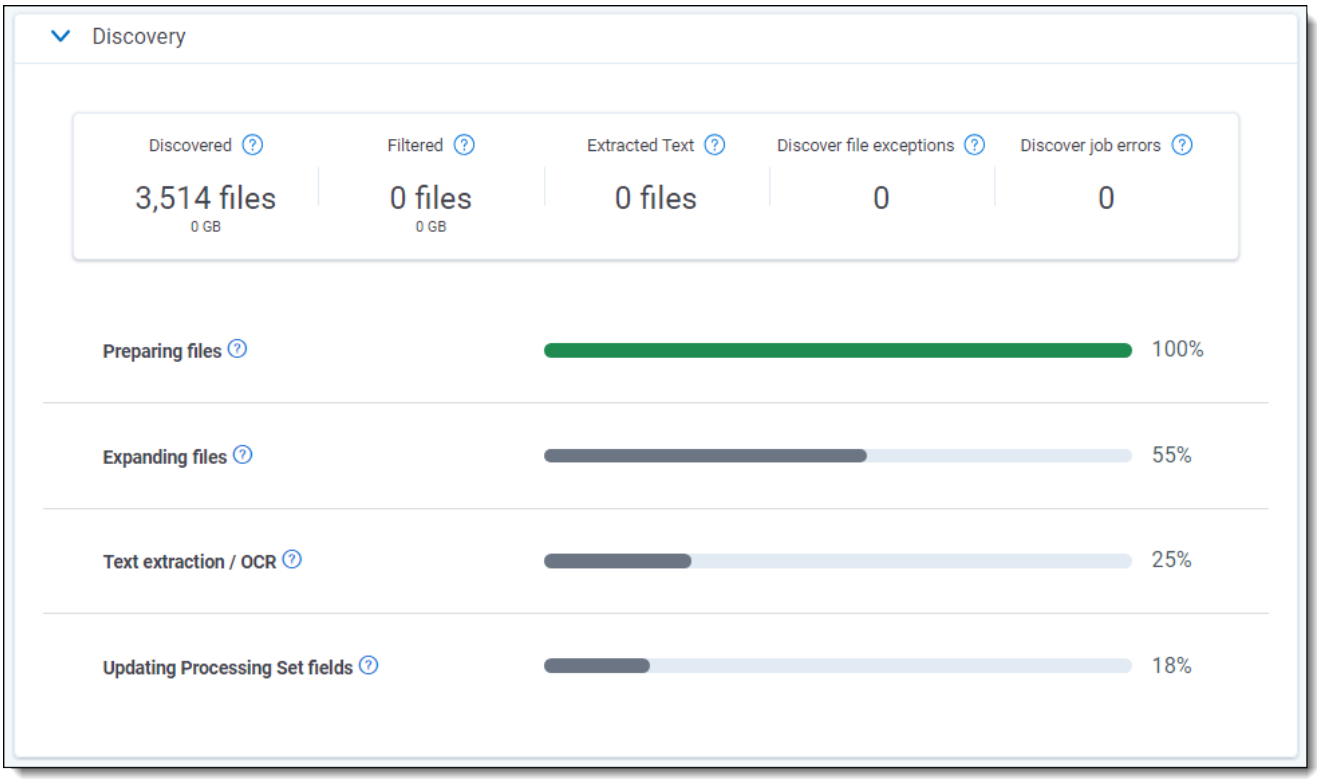
Consider the following regarding OCR and text extraction during discovery:

- During discovery, the processing engine copies native files and OCR results to the document repository. Whether or not you publish these files, they remain in the repository, and they are not automatically deleted or removed.
- Relativity populates the Extracted Text field when performing OCR during discovery. Relativity doesn't overwrite metadata fields during OCR.
- For multi-page records with a mix of native text and images, Relativity segments out OCR and extracted text at the page level, not the document level. For each page of a document containing both native text and images, Relativity stores extracted text and OCR text separately.
- In the case where a file contains both native text and OCR within the extracted text of the record, there is a header in the Extracted Text field indicating the text that was extracted through OCR.
- Relativity extracts OCR to Unicode.
- Relativity displays a missing extracted text error if it cannot OCR one or more pages in a document. The error reads: An error occurred on X (number of) page(s) when attempting to OCR. Consider retrying. Page numbers missing OCR text : (page numbers)

16.3 Monitoring discovery status

You can monitor the job's progress on the Processing Set Details page. This page breaks down each of the processing phases (Inventory, Discover, Publish) into their own sections that include dashboard summaries, sub-job details, and counts.

16.3.1 Discover job details



- **Preparing files**—Relativity identifies and preps data from the data source(s) for expansion and extraction.
- **Expanding files**—Relativity expands all source records to locate files and extract metadata.
- **Text extraction/OCR**—Relativity extracts text from discovered files. If enabled, it performs OCR on applicable records to extract additional text. Be aware that OCR can affect performance and accounts for the majority of the overall job time.
- **Updating Processing Set fields**—Relativity updates associated fields in the processing set with the job results.

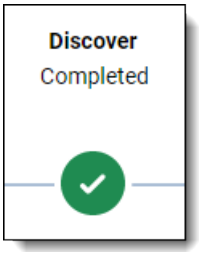
Dashboard numbers

- **Discovered**—the number of files discovered, excluding deleted files and containers.
- **Filtered**—the total number of non-container files filtered from the Discover job. This includes files filtered from Inventory, Inclusion/Exclusion, and DeNIST. This number includes both parent and child documents. To view specific filter counts, view the Discovery Exclusion Results report.

- **Extracted Text**—the number of files where Relativity obtained text either directly from the file or through OCR. Not all files discovered have text extracted, for example, image files that do not have text. Previously discovered files with extracted text are included in this count.
- **Discover file exceptions**—the number of files with Discover exceptions. Some Discover file exceptions are expected in cases of corruption or encryption.
- **Discover job errors**—the number of job errors that occurred during Discovery. Job errors are critical issues that must be remediated. If a job error occurs during the initial expanding files stage, it will be unresolvable by default. You should create a new processing set.

  Note: In some rare cases, you may see an additional field called **Files removed after Retry**. If you retry discovery errors, this field appears when the total file count after retrying is less than the original discovery file count. For example, you see the **Files removed after Retry** field is 10. This number tells you the total number of files discovered after retrying errors is ten less than the original number of discovered files.

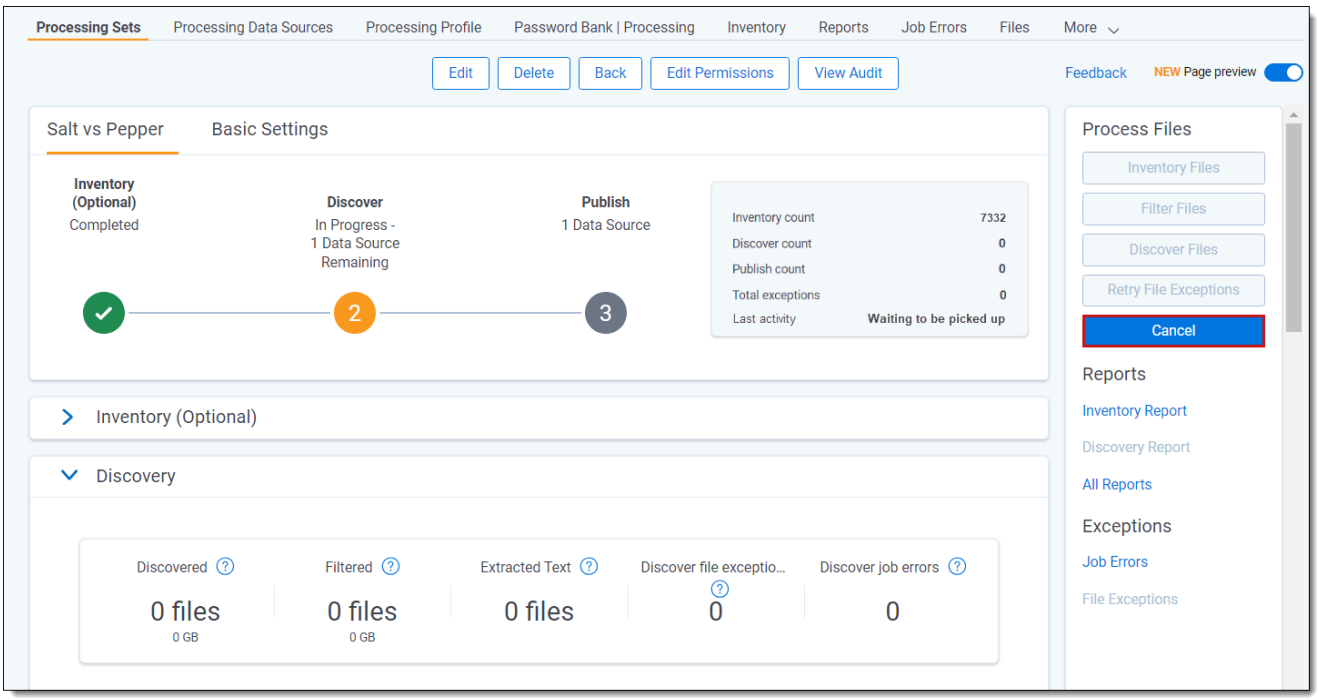
Once discovery is complete, the status section displays a check mark, indicating that you can move on to publishing your files or viewing your files in the Discovered files view. and Discovered files view.



16.4 Canceling discovery

Once you start discovery, you can cancel it before the job reaches a status of Discovered with errors or Discover files complete.

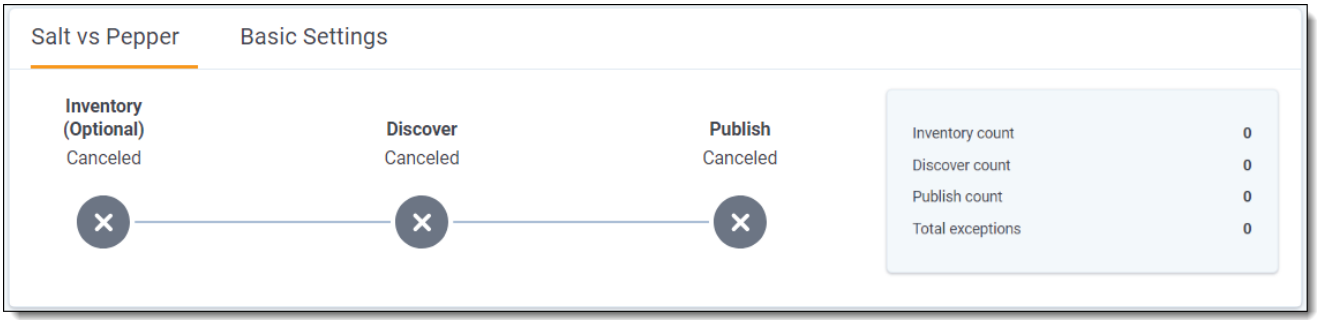
To cancel discovery, click **Cancel**.



Consider the following regarding canceling discovery:

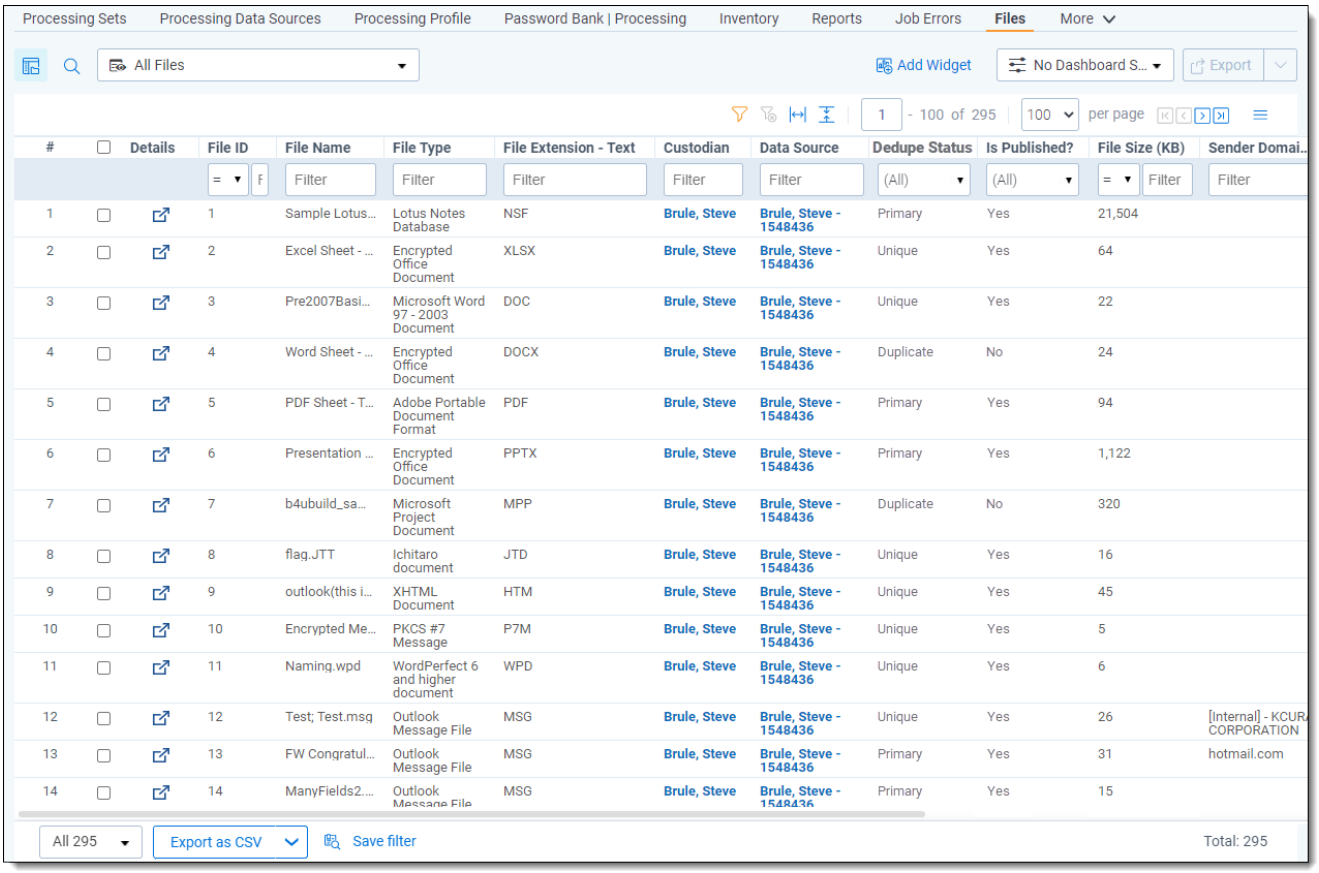
- If you click Cancel while the status is still Waiting, you can re-submit the discovery job.
- If you click Cancel after the job has already been sent to the processing engine, the set is canceled, meaning all options are disabled and it is unusable. Deduplication isn't run against documents in canceled processing sets.
- If you have auto-publish enabled and you cancel discovery, file publishing does not start.
- Once the agent picks up the cancel discovery job, no more errors are created for the processing set.
- Errors resulting from a canceled job are given a canceled status and cannot be retried.
- Once you cancel discovery, you cannot resume discovery on those data sources. You must create new data sources to fully discover those files.

Once you cancel discovery, the status section is updated to display the canceled state.



17 Files tab

The Files tab in Relativity Processing allows you to view and analyze a list of all discovered documents and their metadata before deduplication and publishing.



#	Details	File ID	File Name	File Type	File Extension - Text	Custodian	Data Source	Dedupe Status	Is Published?	File Size (KB)	Sender Domai...
1		1	Sample Lotus...	Lotus Notes Database	NSF	Brule, Steve	Brule, Steve - 1548436	Primary	Yes	21,504	
2		2	Excel Sheet - ...	Encrypted Office Document	XLSX	Brule, Steve	Brule, Steve - 1548436	Unique	Yes	64	
3		3	Pre2007Basi...	Microsoft Word 97 - 2003 Document	DOC	Brule, Steve	Brule, Steve - 1548436	Unique	Yes	22	
4		4	Word Sheet - ...	Encrypted Office Document	DOCX	Brule, Steve	Brule, Steve - 1548436	Duplicate	No	24	
5		5	PDF Sheet - T...	Adobe Portable Document Format	PDF	Brule, Steve	Brule, Steve - 1548436	Primary	Yes	94	
6		6	Presentation ...	Encrypted Office Document	PPTX	Brule, Steve	Brule, Steve - 1548436	Primary	Yes	1,122	
7		7	b4ubuild_sa...	Microsoft Project Document	MPP	Brule, Steve	Brule, Steve - 1548436	Duplicate	No	320	
8		8	flag.JTT	Ichitaro document	JTD	Brule, Steve	Brule, Steve - 1548436	Unique	Yes	16	
9		9	outlook(this i...	XHTML Document	HTM	Brule, Steve	Brule, Steve - 1548436	Unique	Yes	45	
10		10	Encrypted Me...	PKCS #7 Message	P7M	Brule, Steve	Brule, Steve - 1548436	Unique	Yes	5	
11		11	Naming.wpd	WordPerfect 6 and higher document	WPD	Brule, Steve	Brule, Steve - 1548436	Unique	Yes	6	
12		12	Test; Test.msg	Outlook Message File	MSG	Brule, Steve	Brule, Steve - 1548436	Unique	Yes	26	[Internal] - KCUR CORPORATION
13		13	FW Congratul...	Outlook Message File	MSG	Brule, Steve	Brule, Steve - 1548436	Primary	Yes	31	hotmail.com
14		14	ManyFields2....	Outlook Message File	MSG	Brule, Steve	Brule, Steve - 1548436	Primary	Yes	15	

17.1 Views on the Files tab

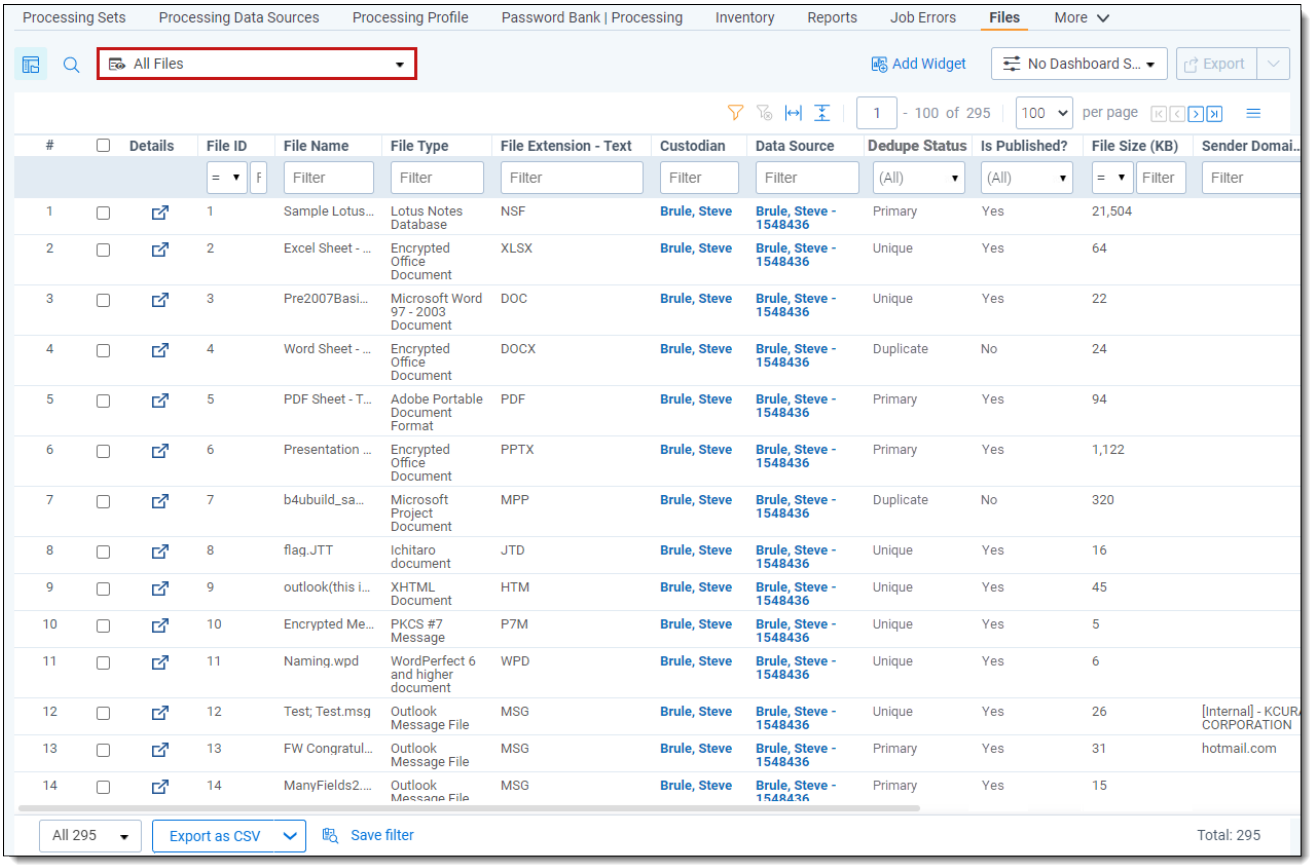
The Files tab contains the following views:

- **All Files**—lists all the files in your workspace.
- **Current Files with Exceptions**—lists the documents that yielded exceptions in your workspace that currently have an Exception Status value of Not Resolved.
- **All Files with Exceptions**—lists the documents that yielded exceptions in your workspace, including those with a current Exception Status value of Resolved and Unresolved.
- **Deleted Documents**—lists the documents you deleted from your workspace.
- Container files—lists the container files in your workspace.

Note: You can export any file list as a CSV file, which includes the total set of filtered results.

17.1.1 All Files view

The All Files view contains all the discovered files in your workspace. This view does not contain documents that have been deleted and have a Yes value for the Processing Deletion? field. Those documents can only be found in the Deleted Documents view described in the next section.



This view contains the following fields:

- **Details**—the details view of all fields, including compressed metadata, of the discovered file selected.
- **File ID**—the number value associated with the discovered file in the database.
- **File Name**—the original name of the discovered file.
- **File Type**—the file type of the discovered file.
- **File Extension - Text**—allows file extensions to be filtered by text.
- **Custodian**—the custodian associated with the discovered file.
- **Data Source**—the data source containing the discovered file.
- **Dedupe Status**—the deduplication status of a file. The Dedupe Status field is active after publishing completes and is useful for determining which files are duplicates and, therefore, not published. The Dedupe Status field is empty for container files, discovered files, and any other files previously processed (such as files published prior to the field being available.) If you republish files, the Dedupe Status field updates with the status of the republished files. Child documents inherit their dedupe

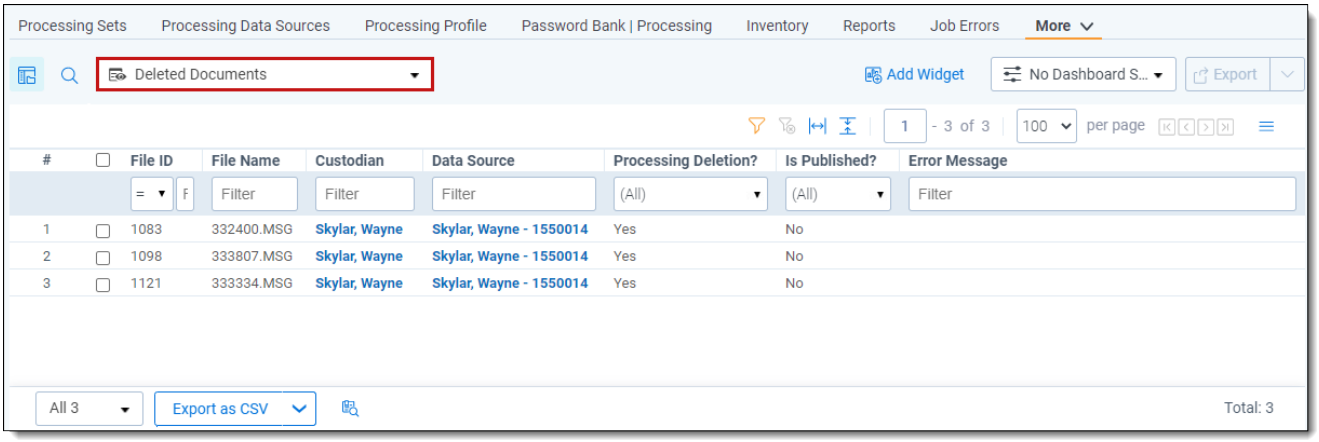
status from their parent.
Dedupe Status field values include:

- **Primary**—a file that has one or more duplicates after publication.
- **Duplicate**—a duplicate of a primary file.
- **Unique**—a primary file that does not have any duplicates.

- **File Size (KB)**—the size of the discovered file. To specify KB or MB, this field needs to be recreated as a fixed-length text field.
- **Is Published**—the yes/no value indicates if a discovered file is published.
- **Sender Domain**—the domain of the sender of an email.
- **Sort Date**—the date taken from the file's Sent Date, Received Date, and Last Modified Date fields in that order of precedence.
- **Virtual Path - Text**—the complete folder structure and path from the original folder or file chosen for processing to the discovered file.

17.1.2 Deleted Documents view

The Deleted Documents view contains the files you deleted from the Documents tab after the files were published.



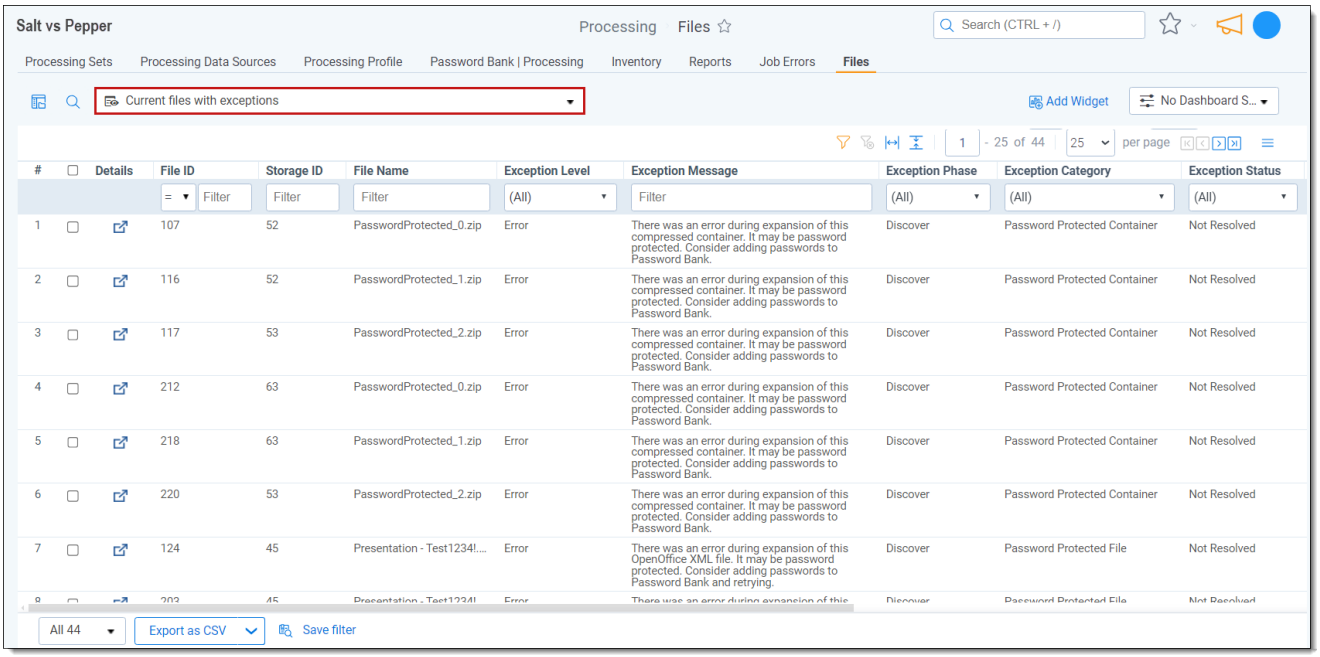
This view contains the following fields:

- **File ID**—the number value associated with the discovered file in the database.
- **File Name**—the original name of the discovered file.
- **Custodian**—the custodian associated with the discovered file.
- **Data Source**—the data source containing the discovered file.
- **Processing Deletion?**—the yes/no value indicating if a discovered file or partial family file is deleted.
- **Is Published?**—the yes/no value indicating if a discovered file is published.
- **Error Message**—the message that details the error, cause, and suggested resolution of the error prioritized by the following processing phases:

- Delete
- Publish
- Discover
- Text Extraction

17.1.3 Current Files with Exceptions

The Current Files with Exceptions view contains all the documents that yielded exceptions in your workspace that currently have an Exception Status value of Not Resolved. By default, this view does not contain files with an Exception Status of Resolved, as those can be found in the All Files with Exceptions view.



- **Details**—the details view of all fields, including compressed metadata, of the discovered file selected.
- **File ID**—the unique identifier assigned to an instance of a file.
- **Storage ID**—the unique identifier assigned to a file.

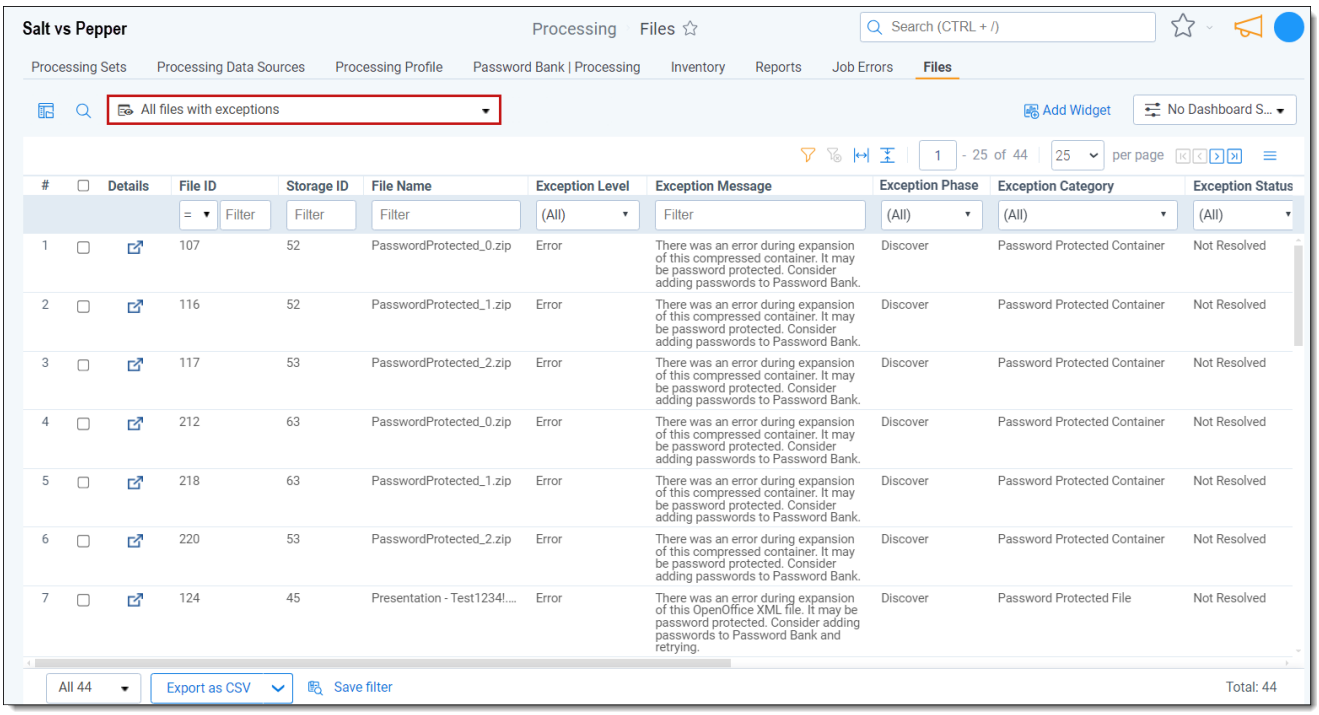
  Note: Differentiating between the File ID and the Storage ID. Every file is assigned a unique Storage ID. Every instance of a file is assigned a unique File ID. For example, you may have a Word document with a unique Storage ID. If that document is attached to two different emails, then each instance of the document attachments is assigned a unique File ID. Therefore, a single file with a Storage ID, may have multiple instances, each with their own unique File ID.

- **File Name**—the original name of the discovered file.
- **Exception Level**—this field displays the type of exception Relativity encountered. There are two levels:

    - Warning—the job continues; however, metadata may be incomplete.
    - Error—the job is blocked from completing. You must address the error and retry the job.
- **Exception Message**—the message that details the exception, cause, and suggested resolution of the exception. This field will display any of the following values, as dictated by the phases' precedence. For example, if a file has both Text Extraction and Publish exceptions associated with it, this field will display a value of the Publish exception.
    - Delete
    - Publish
    - Discover
    - Text Extraction
- **Exception Phase**—the phase of processing in which the exception occurred. This field will display any of the following values, as dictated by the phases' precedence. For example, if a file has both Text Extraction and Publish exceptions associated with it, this field will display a value of Publish.
    - Delete
    - Publish
    - Discover
    - Text Extraction
- **Exception Category**—provides insight into the nature of the exceptions that have occurred on your processed files. For details, see Exception categories and their probability of retry success.
- **Exception Status**—the current status of the exception. The Current Files with Exceptions view only displays files with an Exception Status of Not Resolved.
- **File Type**—the file type of the discovered file.
- **File Extension - Text**—allows file extensions to be filtered by text.
- **File Size (KB)**—the size of the discovered file. To specify KB or MB, this field needs to be recreated as a fixed-length text field.
- **Custodian**—the custodian associated with the discovered file.
- **Data Source**—the data source containing the discovered file.
- **Is Published**—the yes/no value indicating if a discovered file is published.

17.1.4 All Files with Exceptions

The All Files with Exceptions view contains all the documents that yielded exceptions in your workspace, including those with a current Exception Status value of Resolved and Unresolved. These files are sorted by descending file size starting with the largest containers and ending with the smallest loose files.



This view contains the following fields:

- **Details**—the details view of all fields, including compressed metadata, of the discovered file selected.
- **File ID**—the unique identifier assigned to an instance of a file.
- **Storage ID**—the unique identifier assigned to a file.

  Note: Differentiating between the File ID and the Storage ID. Every file is assigned a unique Storage ID. Every instance of a file is assigned a unique File ID. For example, you may have a Word document with a unique Storage ID. If that document is attached to two different emails, then each instance of the document attachments is assigned a unique File ID. Therefore, a single file with a Storage ID, may have multiple instances, each with their own unique File ID.

- **File Name**—the original name of the discovered file.
- **Exception Level**—this field displays the type of exception Relativity encountered. There are two levels:
  - Warning—the job continues; however, metadata may be incomplete.
  - Error—the job is blocked from completing. You must address the error and retry the job.
- **Exception Message**—the message that details the exception, cause, and suggested resolution of the exception. This field will display any of the following values, as dictated by the phases' precedence. For example, if a file has both Text Extraction and exceptions associated with it, this field will display a value of the Publish exception.
  - Delete
  - Publish

    - Discover
    - Text Extraction

- **Exception Phase**—the phase of processing in which the exception occurred. This field will display any of the following values, as dictated by the phases' precedence. For example, if a file has both Text Extraction and Publish exceptions associated with it, this field will display a value of Publish.
    - Delete
    - Publish
    - Discover
    - Text Extraction
- **Exception Category**—provides insight into the nature of the exceptions that have occurred on your processed files. For details, see Exception categories and their probability of retry success.
- **Exception Status**—the current status of the exception. The Current Files with Exceptions view only displays files with an Exception Status of Not Resolved.
- **File Type**—the file type of the discovered file.
- **File Extension - Text**—allows file extensions to be filtered by text.
- **File Size (KB)**—the size of the discovered file. To specify KB or MB, this field needs to be recreated as a fixed-length text field.
- **Custodian**—the custodian associated with the discovered file.
- **Data Source**—the data source containing the discovered file.
- **Is Published**—the yes/no value indicating if a discovered file is published.

17.2 Details modal

You can view file details by clicking the **Show details for this file** icon (.) Details include file data, file metadata, and content metadata.

Details | Processing Exceptions

File Data

File Name	PALLEN_0008257.doc
File ID	5
Custodian	Allen, Phillip
Data Source	Phillip Allen 001
Container Extension	
Container ID	0
Container Name	
Contains Embedded Items?	No
Error Message	
File Extension - Text	DOC
File Size (KB)	21
Sort Date	Microsoft W[illegible]2000 16:37:0[illegible] Document
Dedupe Status	

File Metadata

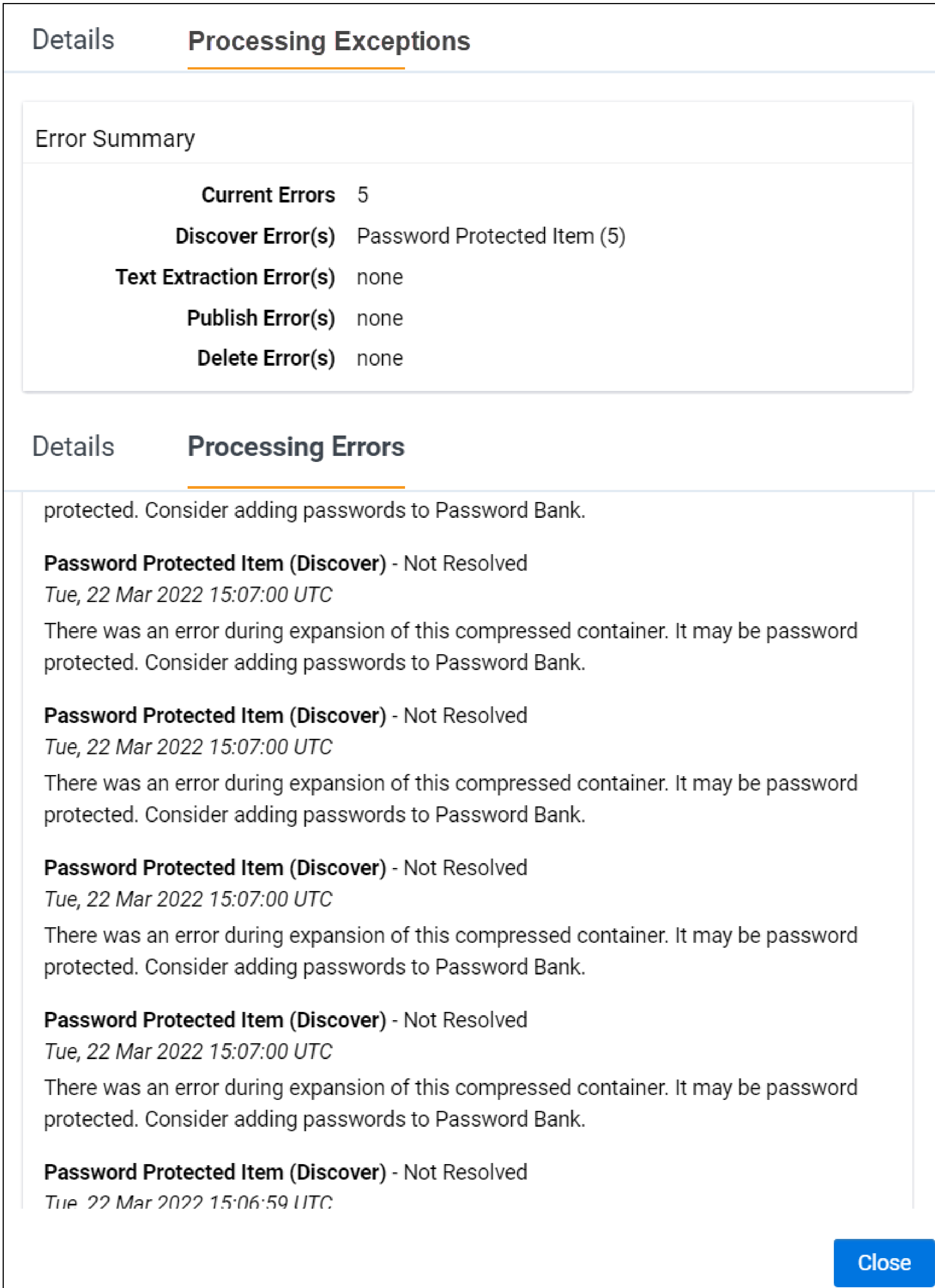
LastModified	Thu, 13 Apr 2000 16:37:00 UTC
CreatedOn	Thu, 16 Dec 1999 11:35:00 UTC
LastAccessed	Mon, 14 Feb 2022 22:24:42 UTC
LiteralFileExtension	DOC

Content Metadata

OracleFileID	1126
OracleFileType	Microsoft Word 97/98
MediaType	application/msword
DocTitle	Please return the following to Enron Network Security
Author	mscott2
Office/_PID_GUID	Unknown PROPVARIANT type 65
TrackedChangesExist	false

Close

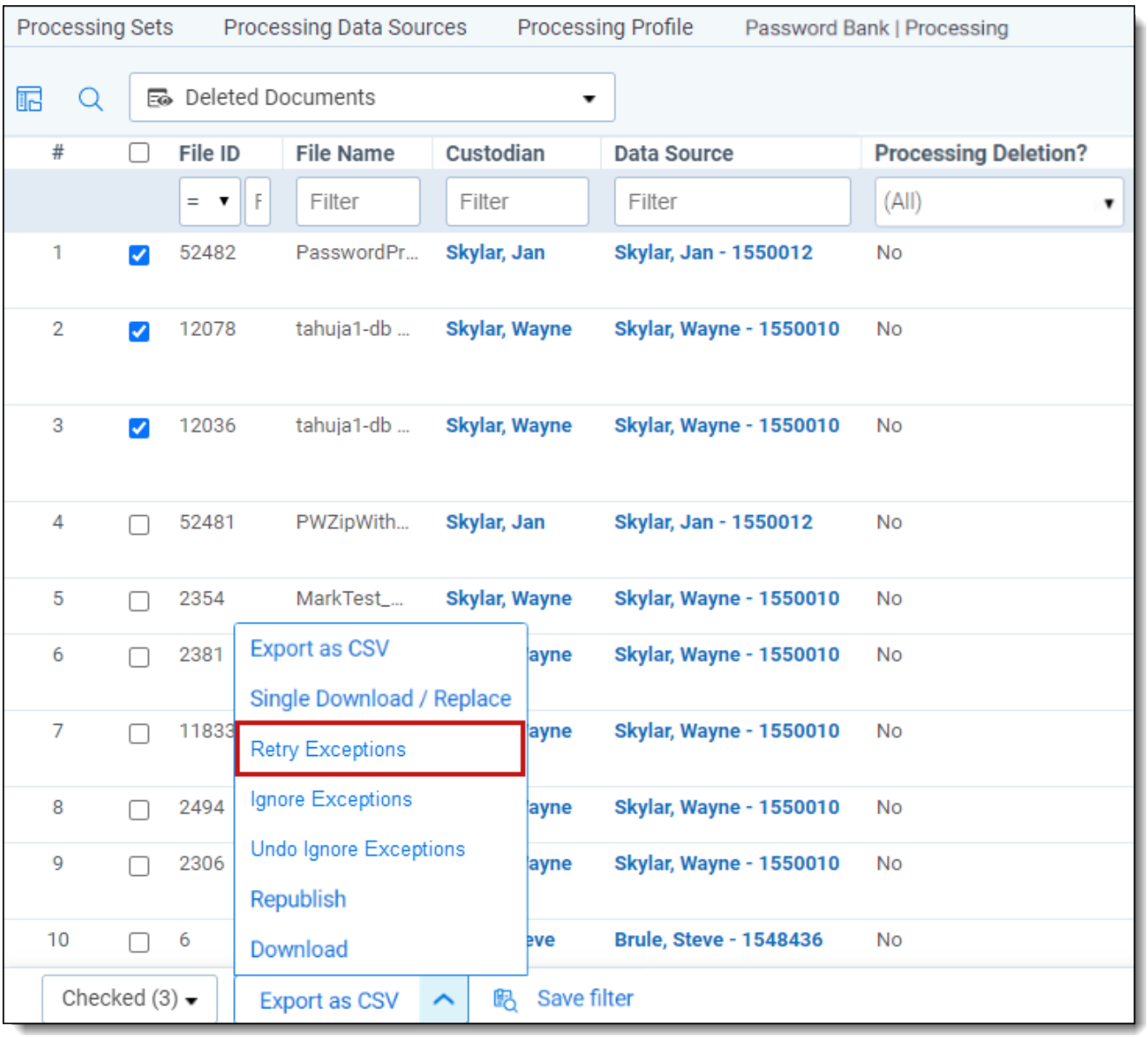
Click the **Processing Exceptions** tab to view a summary of errors, and the error history.


Details
Processing Exceptions
Error Summary
Current Errors 5
Discover Error(s) Password Protected Item (5)
Text Extraction Error(s) none
Publish Error(s) none
Delete Error(s) none
Details
Processing Errors
protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Tue, 22 Mar 2022 15:07:00 UTC
There was an error during expansion of this compressed container. It may be password protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Tue, 22 Mar 2022 15:07:00 UTC
There was an error during expansion of this compressed container. It may be password protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Tue, 22 Mar 2022 15:07:00 UTC
There was an error during expansion of this compressed container. It may be password protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Tue, 22 Mar 2022 15:07:00 UTC
There was an error during expansion of this compressed container. It may be password protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Close

- The Exception History section represents all exceptions> that have ever occurred on a file. This acts as a timeline of the record's exceptions, showing when they occurred, what they were about, and if any are still active. This includes exceptions resulting from retries of previous exceptions and contains category, phase, date/time, and message information. All times are kept in UTC format.
- The Exception Summary section displays a count of all active exceptions along with their associated category and phase. This is especially important when investigating exceptions> relating to container files, as there can be many associated to the parent container during file extraction. This helps determine the level of impact the issue has as it may affect many files originating from it.

17.3 Retrying delete exceptions

Navigate to the Deleted Documents view to see a record of all deleted documents. The **Processing Deletion?** field is the yes/no indicator for deleted documents. You can filter by Exception Message to see the exceptions that occurred during deletion. Exceptions can be retried using the **>Retry Exceptions** mass operations option. Once deleted, documents are excluded from further processing operations (for example, deduplication, retry, and republish) and the next duplicate is published as the new primary document, if available. To see a summary of primary documents that have been replaced, see the Master Document Replacement Summary report in Processing Reports. See Mass Delete for more information on deleting documents.



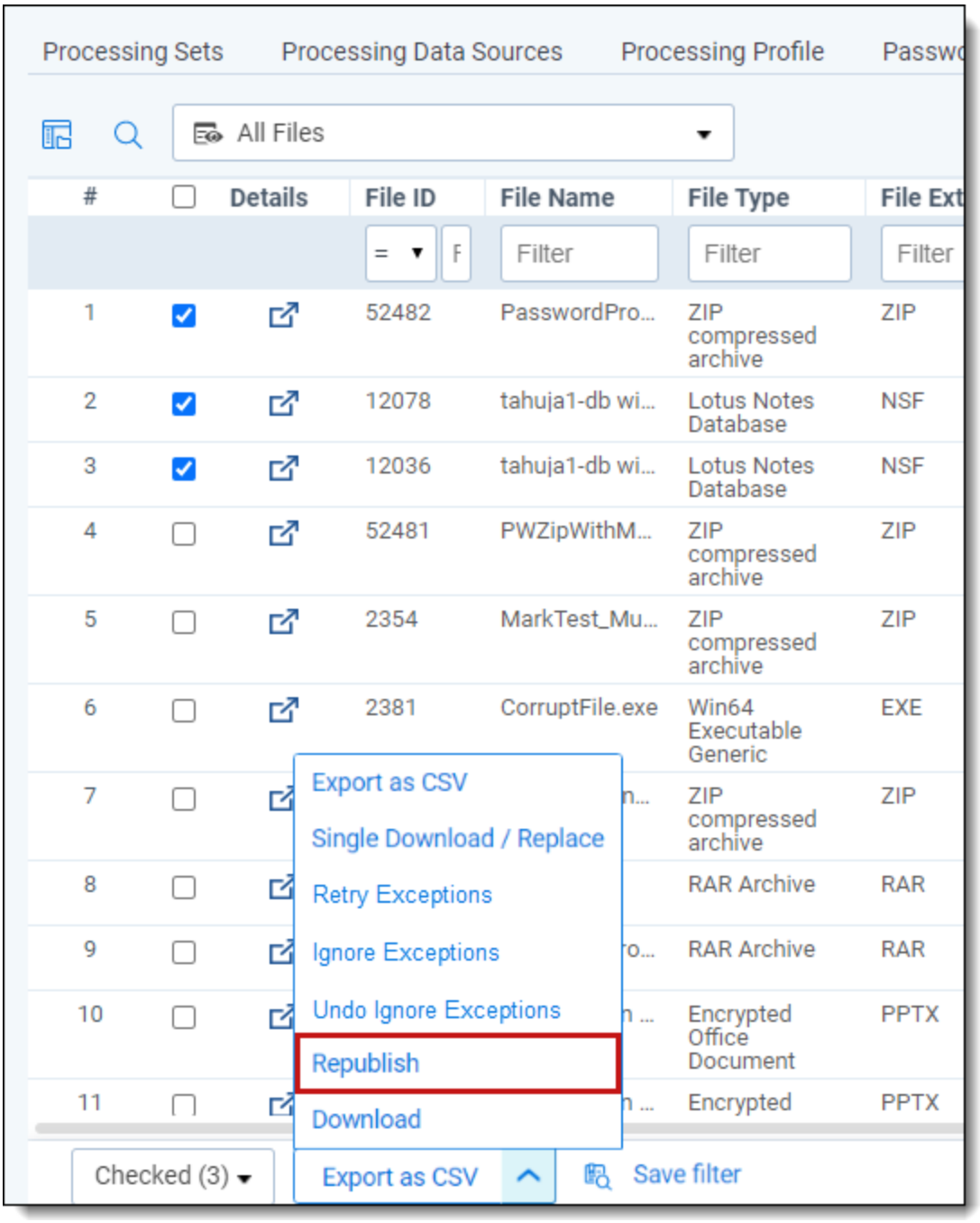
17.4 Republishing files from the Files tab

Note: The following information is specific to republishing files at the file level via the Files tab and is distinct from republishing files via the processing set console. For details on republishing via the processing set console, see Republishing a processing set on page 238 on the Publishing files topic.

The Republish mass operation provides the ability to publish specific documents on a more granular level compared to the processing set page. For example, you can select specific files and re-publish only that subset. In case only a few members of a family are selected, then this mass operation will automatically republish the whole family of documents.

Republish will overlay all metadata fields mapped at the time you started the operation. If fields are unmapped, Relativity will not remove the data from the field that was already published. The Extracted Text and Native file fields will be overwritten if they are different than the initially published document.

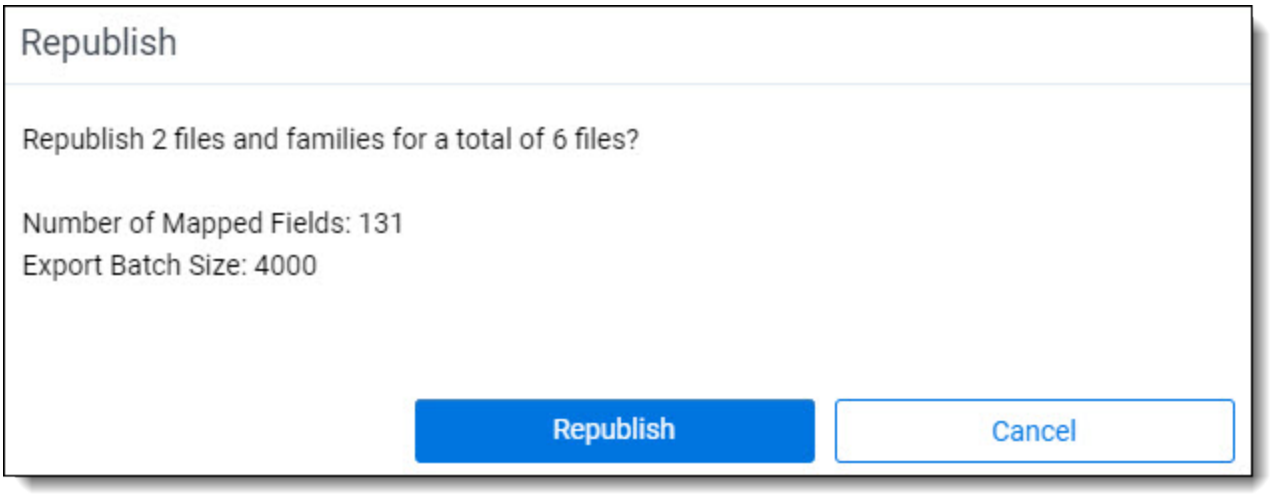
Navigate to the All Files view to see a record of all discovered files and filter to published files via the Is Published? field published. You can republish files at the file level using the **Republish** mass operation.



When you click **Republish**, a confirmation modal appears containing the following information about the job you are about to submit:

- Selected republish count of eligible files
- Total number of files to be republished, including families
- Total number of mapped fields
- Number of documents per batch when importing documents during processing

Note: If you have selected files ineligible for republish, the confirmation message reflects this by stating that there are 0 files to be republished. Ineligible files include files from unpublished processing sets or data sources, containers (for example, PST, ZIP), duplicate files, and files where the Processing Deletion? field status is Yes.



If you have selected eligible files, click **Republish** to proceed or **Cancel** to return to the All Files view.

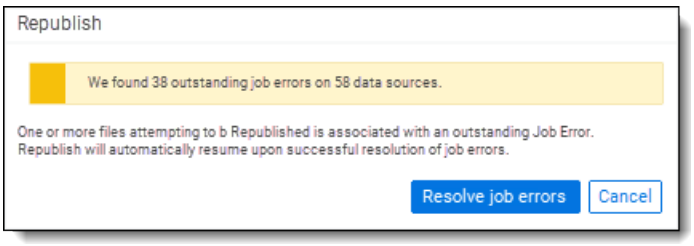
Note: Once you republish, you cannot cancel this job.

17.4.1 Republishing files where job errors are present

If you attempt to republish files with job errors, you will see a confirmation message indicating you must first resolve the errors before republishing.

To resolve job errors before republishing:

1. Click **Resolve job errors**.
   Relativity attempts to fix the job errors and republish the files. For more information on unresolved job errors, see Processing error resolution.



17.4.2 Common use cases for using the Republish mass operation

The following are common situations in which you would opt to use the Republish mass operation:

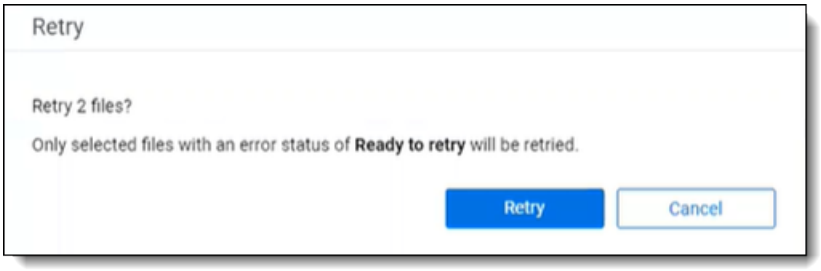
- Additional metadata fields were mapped after the initial publish of the processing set/data source completed. For example, you did not map the File Name field during the initial publish, which resulted in no metadata being populated for the documents. Now, you can map the File Name fields, go to the

Files tab, filter for that data source, select the returned files and republish them, which will result the File name field getting populated.

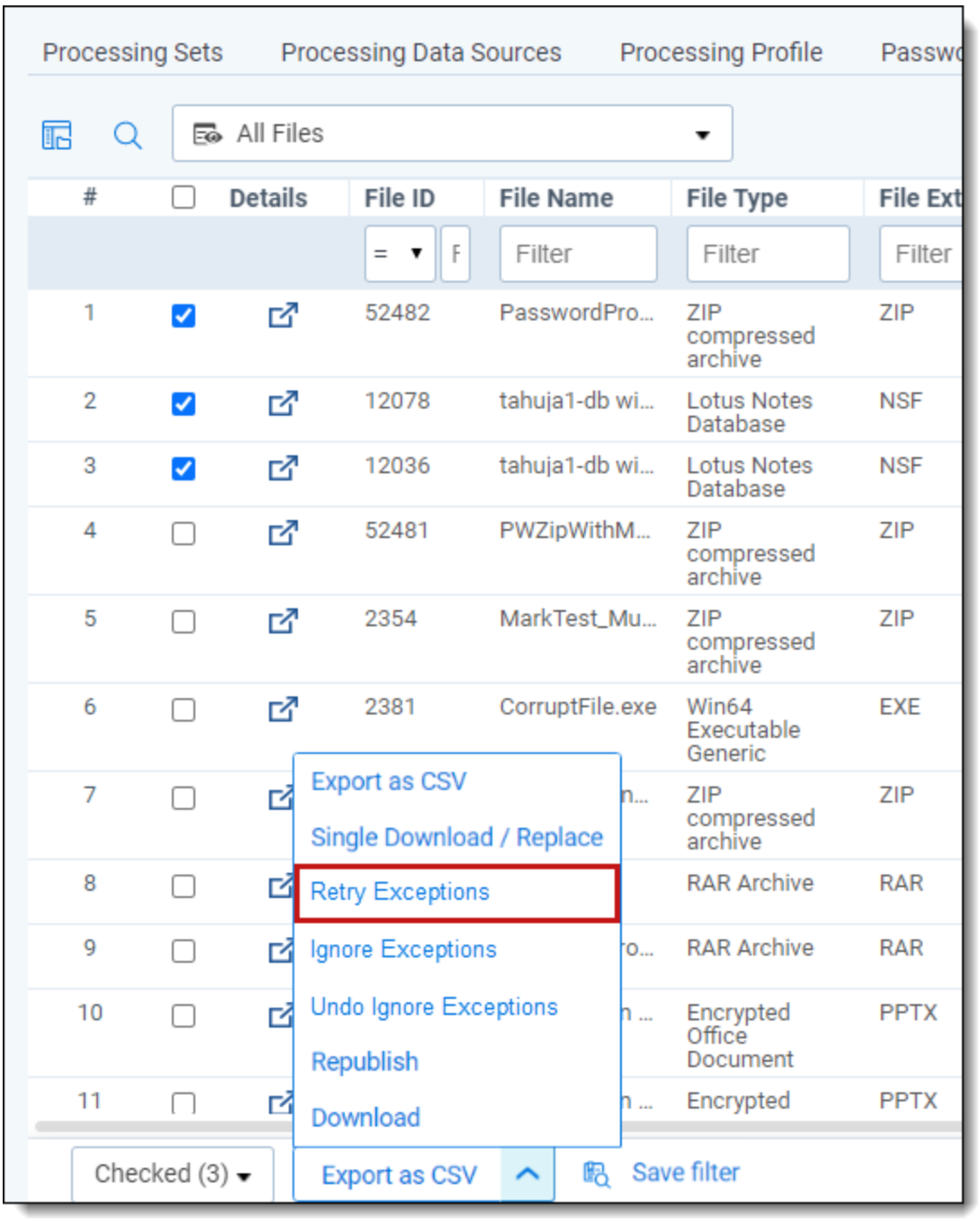
- Files that did not get published because of document or job level publish errors.
- Newly discovered files came from a retry discovery operation after the initial publish on the set. After the initial publish completes, you can still retry discovery errors, which could result in more files to be discovered. You can select unpublished files and republish only that subset.

17.5 Retrying exceptions

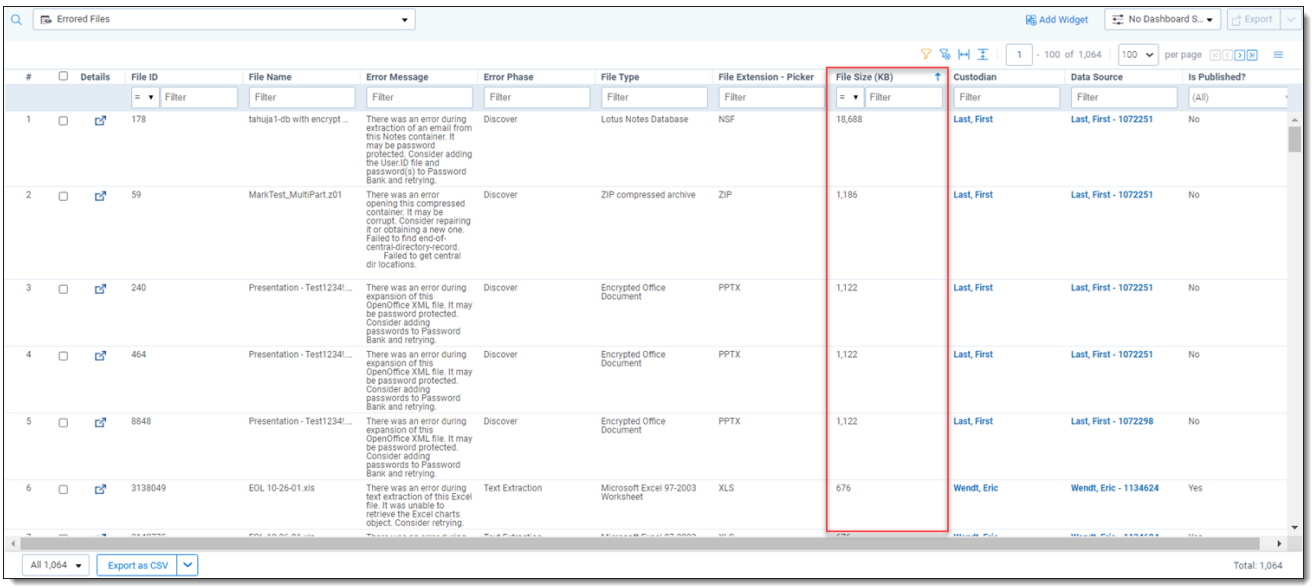
Navigate to the All Files view to see a record of all discovered files, including files with exceptions found during Discovery via the **Discover Error** field. The files that have ready to retry exceptions can be retried at file level using the **Retry Exceptions** mass operations option. When you click **Retry Exceptions**, you see a confirmation modal confirming the number of files you are about to submit for retry.



Click **Retry** on the confirmation modal.



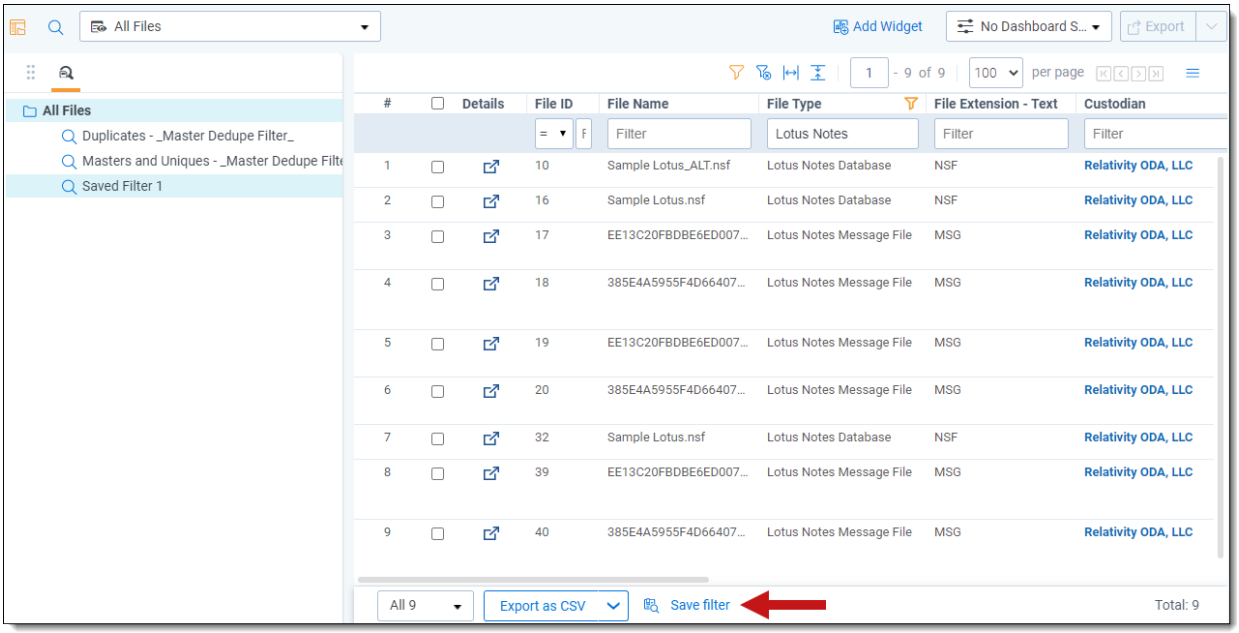
Navigate to the **All Files with Exceptions** view to see a record of all files with exceptions.



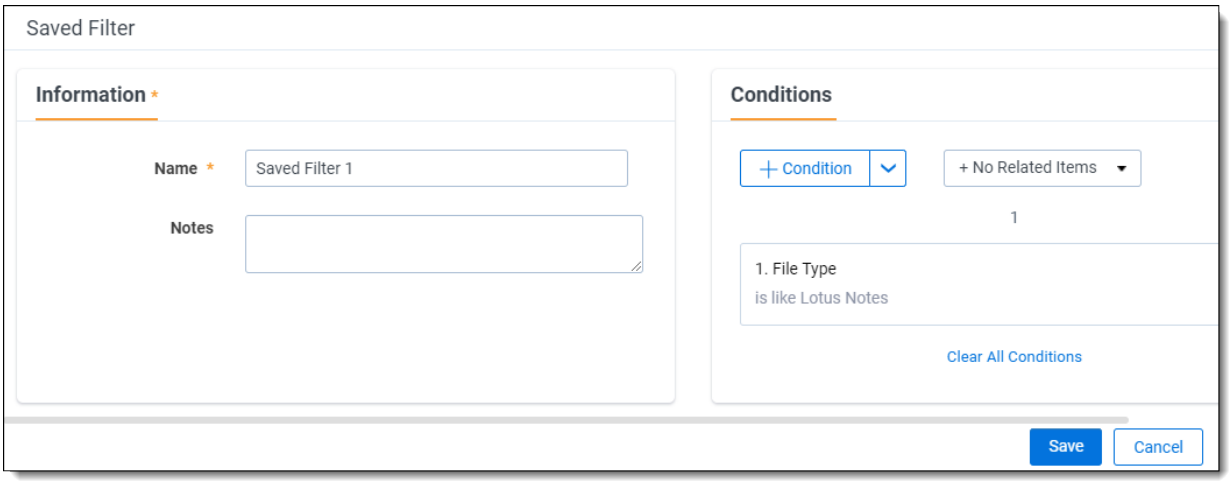
17.6 Saved filters

You can save any filters you set on any of the views in the Files tab and reuse them in future workflows. To do this:

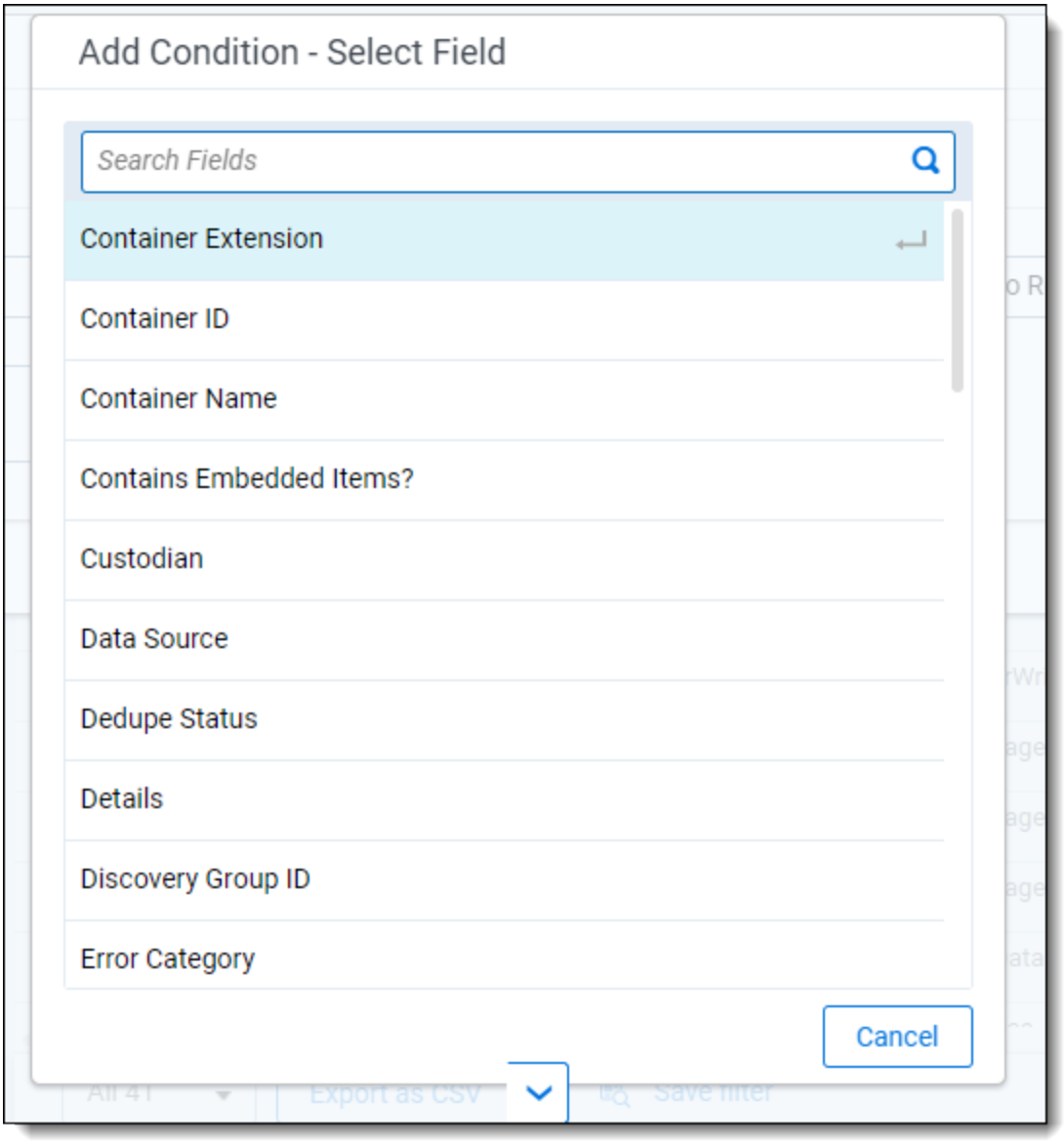
1. Filter on any of the fields in the view and click **Save Filters** at the bottom of the view.



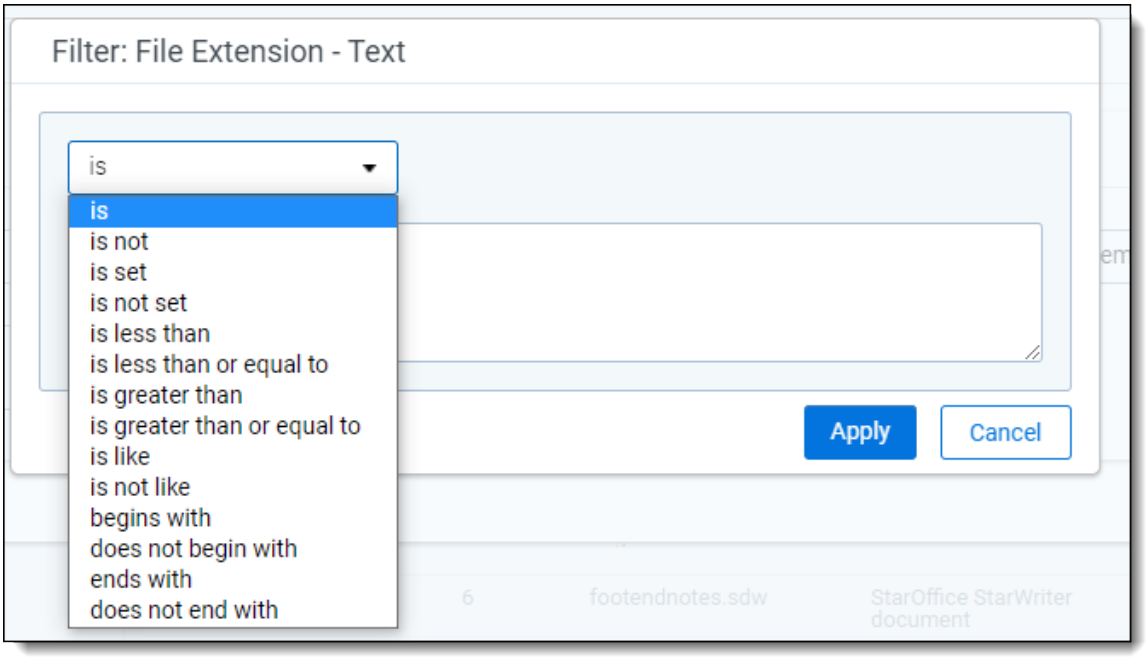
2. In the Saved Filter modal, complete the Name, Notes (optional), and Conditions fields, and click **Save**.



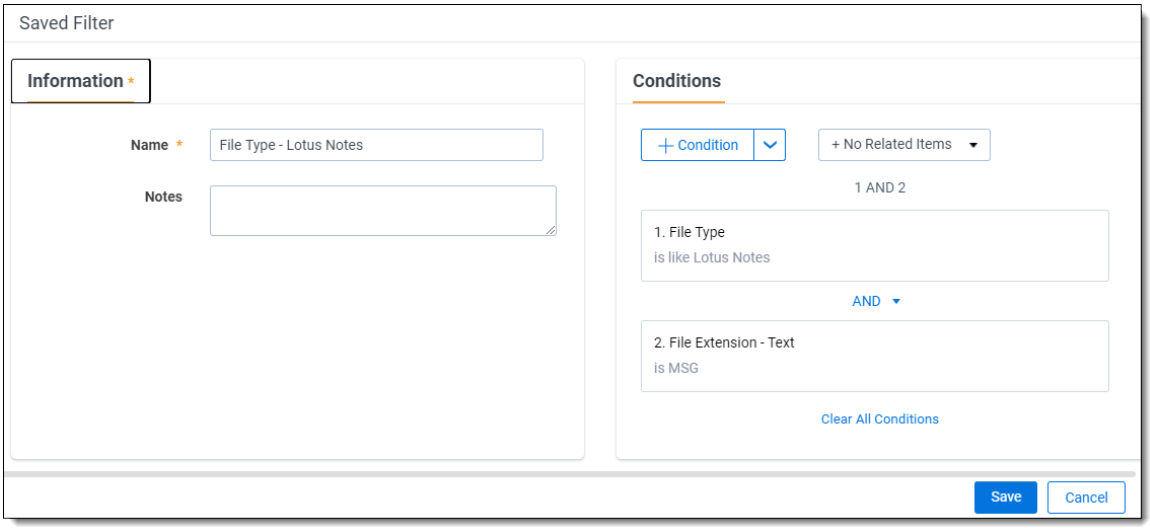
- **Name**—the name you want these saved filters to appear under in the saved filters browser.
- **Notes**—any notes you want to enter to clarify the purpose of these saved filters.
- **Conditions**—displays the filters applied to the list. To add additional condition, click **+ Condition**. The Add Condition - Select Field modal appears, where you can select addition fields and apply conditions.



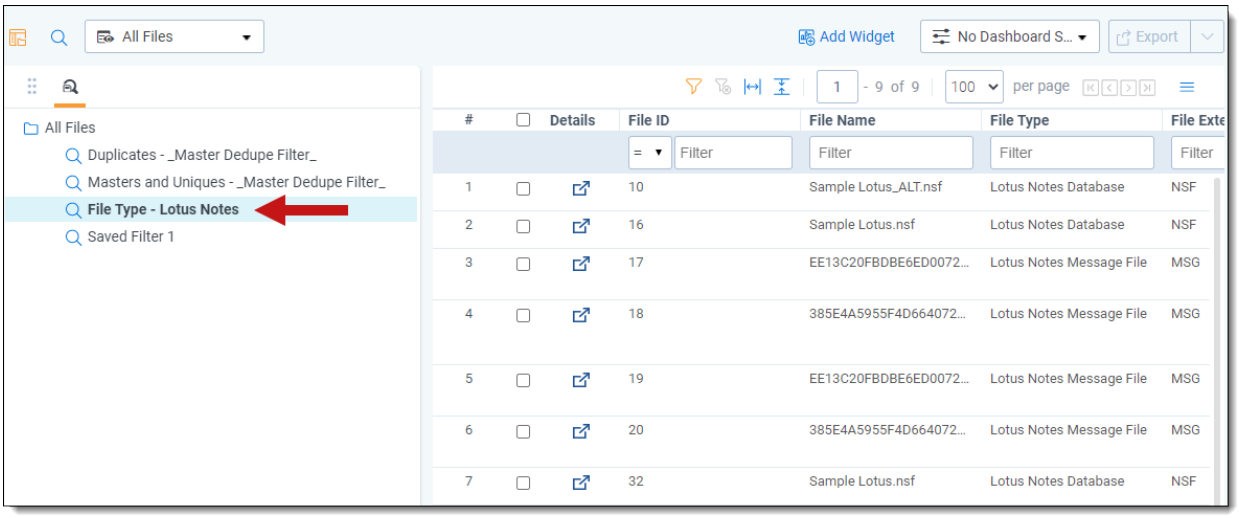
Once you select the additional fields you want to add to the saved filters set, specify the conditions you want to apply to those fields and click **Apply**.



The new field(s) and condition(s) are visible in the Saved Filter modal. Click **Save** to save the filter set.

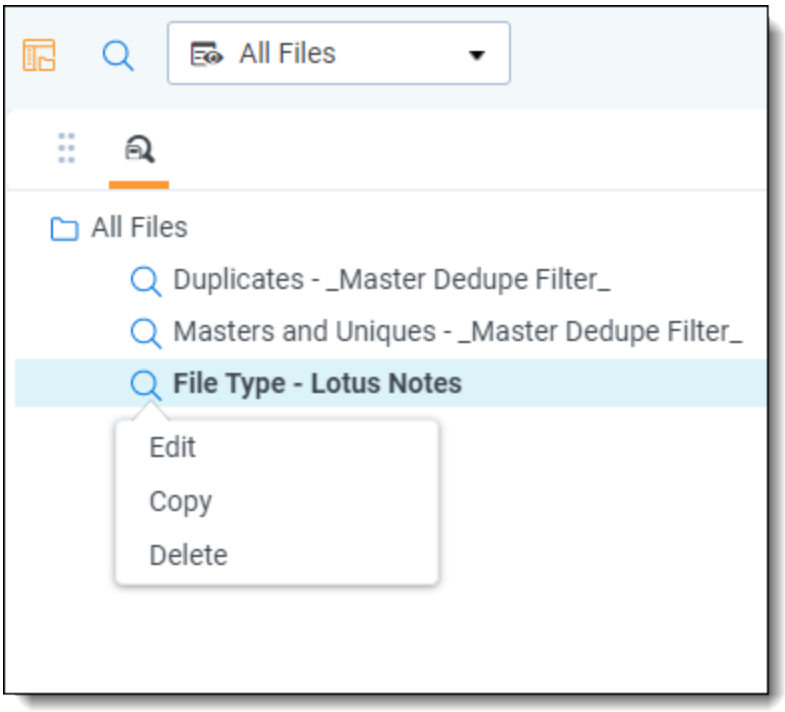


3. The saved filter is added to the list of Saved Searches.



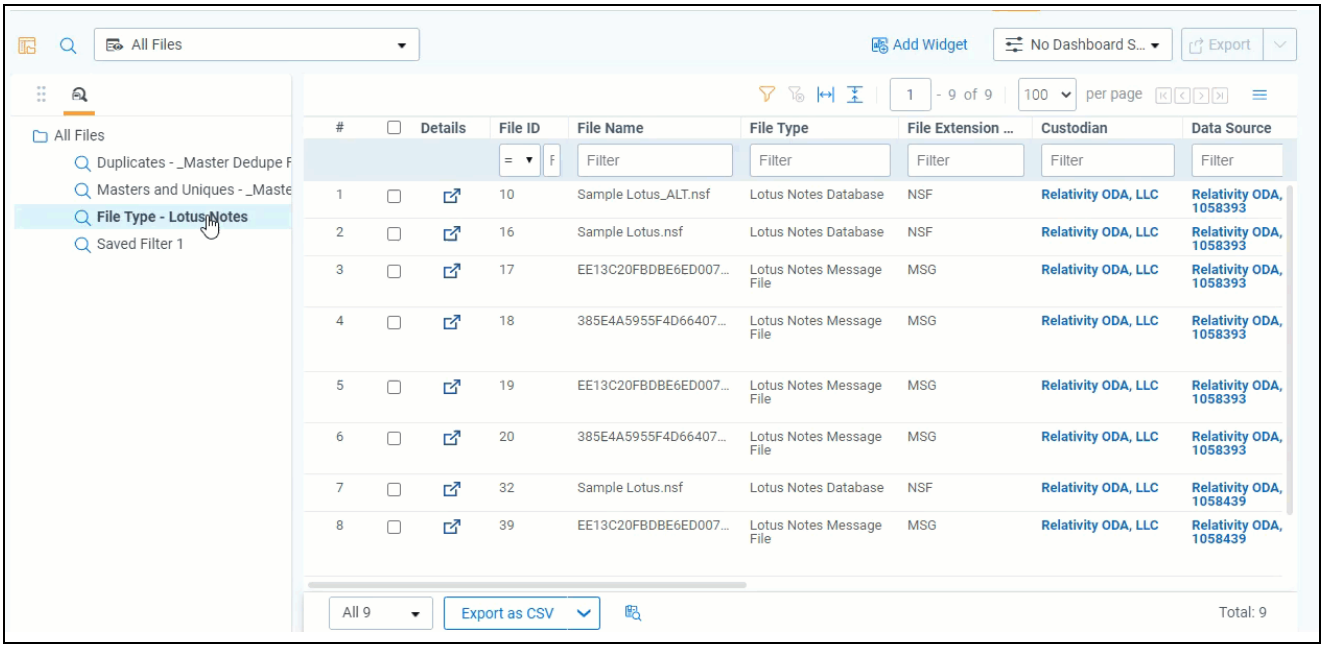
17.6.1 Right-click options

You can right-click any saved filter and choose to Edit, Copy, or Delete it.



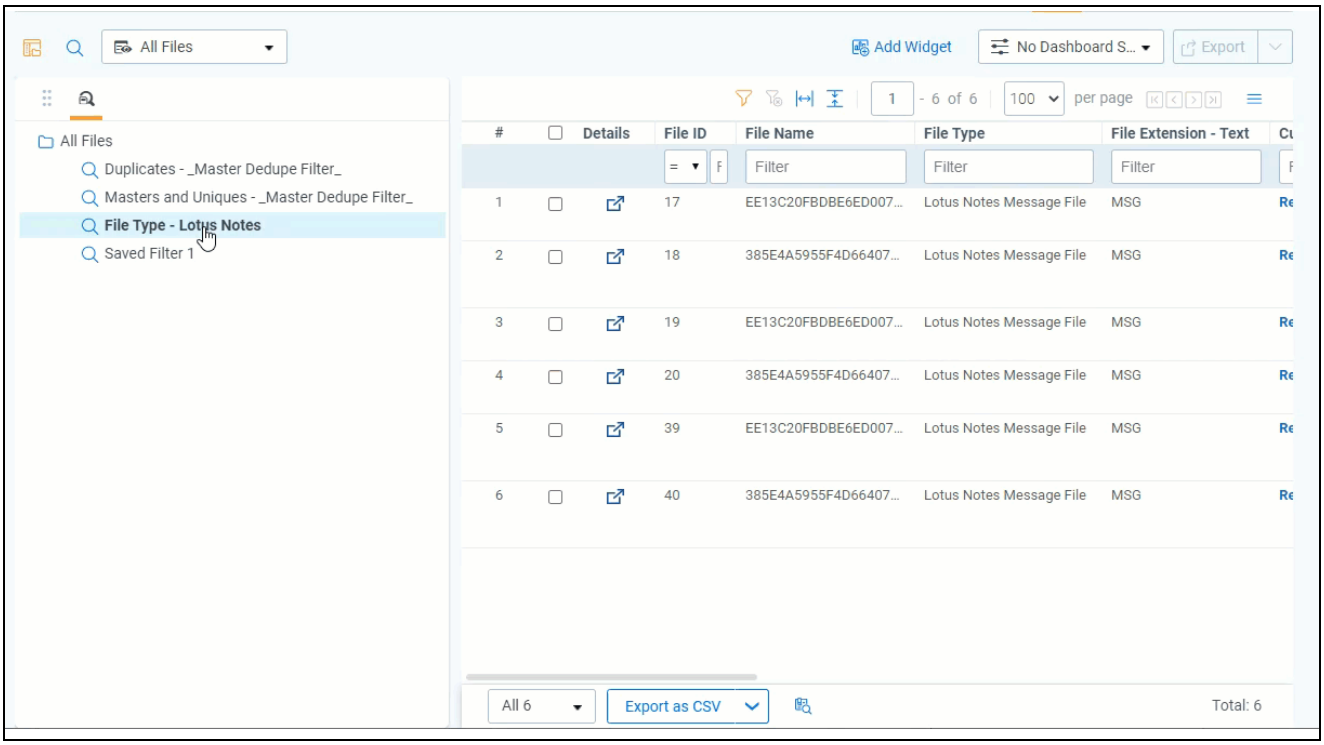
17.6.1.1 Edit

Clicking **Edit** opens the Saved Filter modal. You can add, remove, or modify fields and conditions, then click Save.



17.6.1.2 Copy

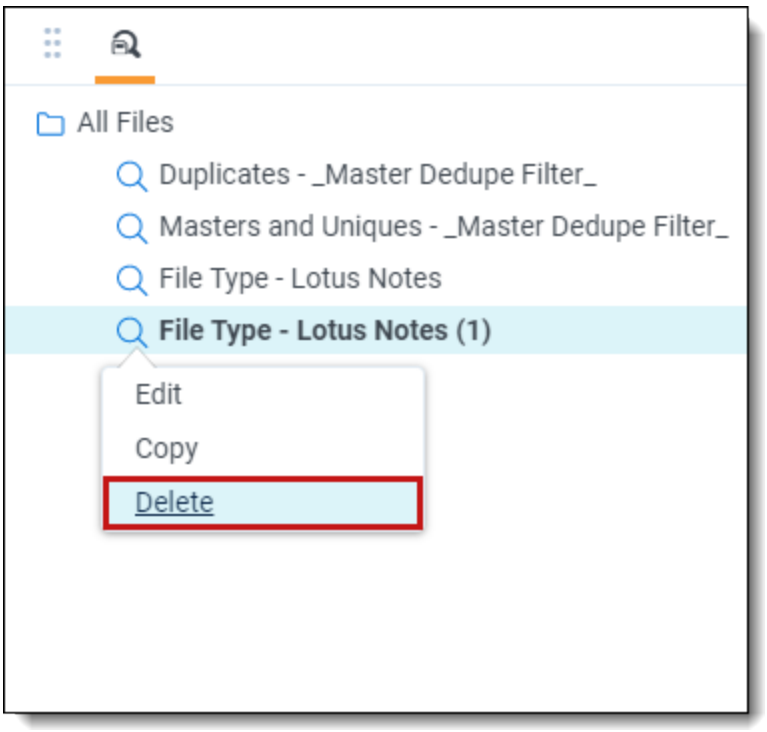
To make a copy of an existing filter set, right-click and select **Copy**.



Use the Copy option when you need a new filter with similar fields and conditions. When you copy a filter set and save it, the new set name has a (1) appended to the file name. To rename the filter set, edit the filter, then change the name on the Saved Filter modal.

17.6.1.3 Delete

To remove a filter set from the saved filter browser entirely, right-click and select **Delete** .



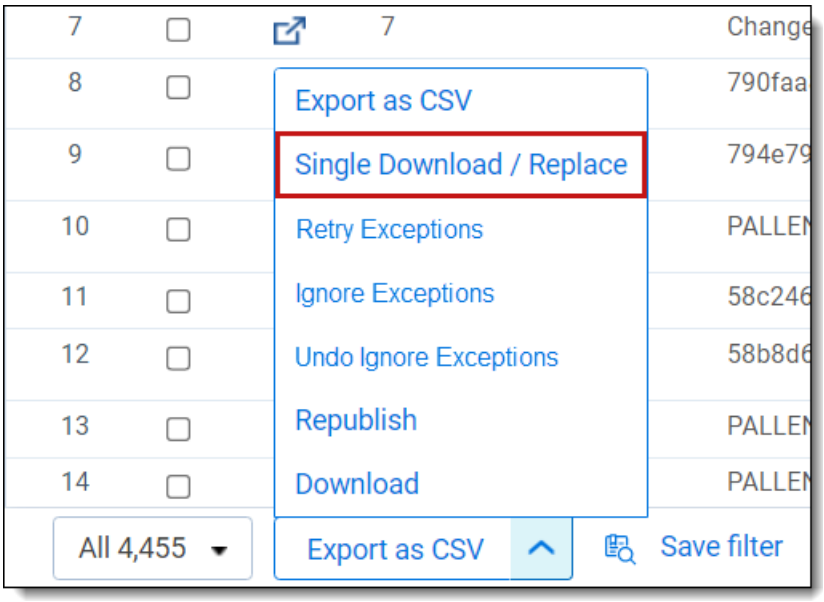
17.7 Single Download / Replace

Single Download / Replace provides the ability to download a file to your local machine for investigation. It will also provide the ability to replace and retry an original file with a new version that has been fixed during error remediation. You can only replace and retry files with errors of a status of Not Resolved.

To perform the Single Download / Replace mass action, perform the following steps:

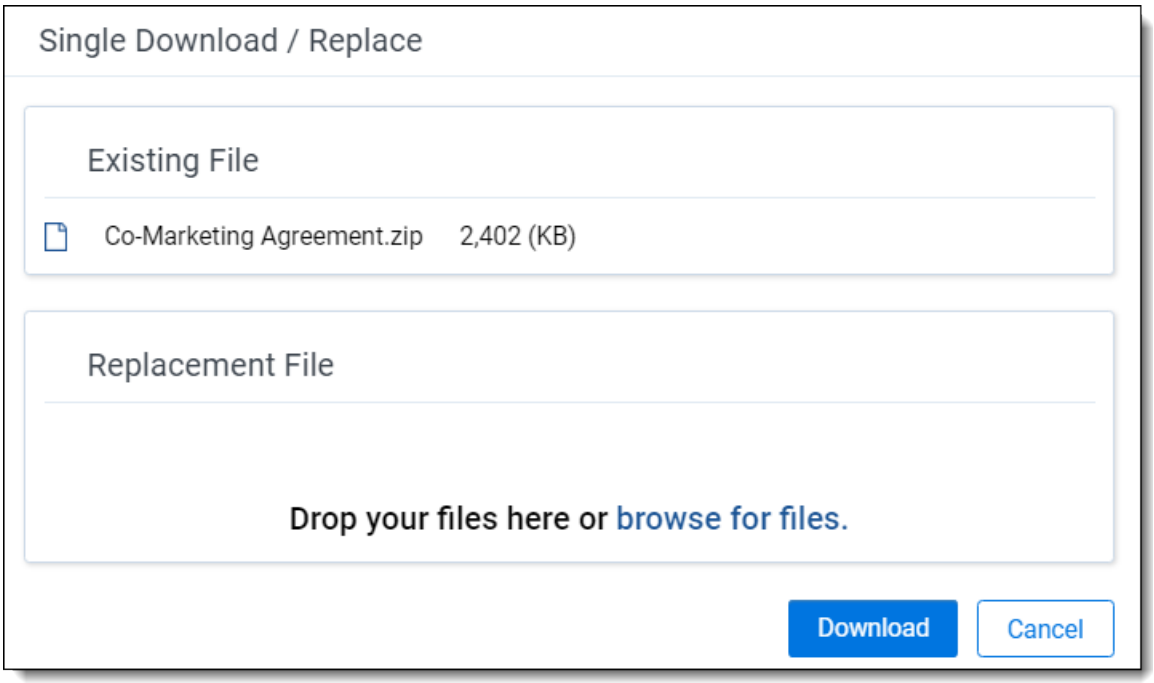
1. To take action on a specific file, select it, and then select the **Single Download / Replace** mass action.

   Note: If you select multiple files, you will see an error as this action is meant for one file at a time. Similarly, you will see an error message if you do not select a file.



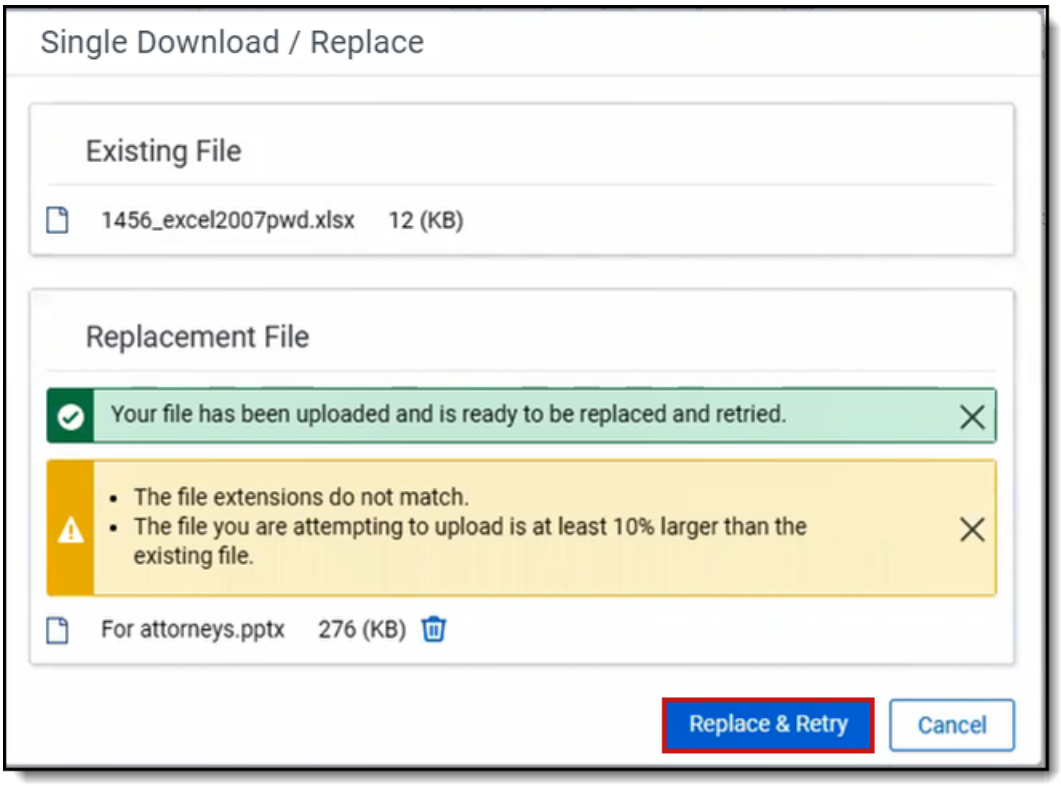
The Single Download / Replace dialog box opens allowing you to browse for or drop a replacement file.

2. Once you select or browse and drop the replacement file, click **Download.**



3. Once the file downloads, resolve the error, and drag the resolved file back into the Single Download / Replace modal. A message displays that the file is ready for replace and retry. If the file extensions do not match and/or if the new file is larger than the original, you can still proceed with the replace and retry action.

4. Click **Replace & Retry**.



To see if the action was successful, you can check the Error History by going into the Details modal. If the retry was successful, the error displays a Resolved status.

17.8 Mass download and replacement of errored files

The Download mass action works in conjunction with the Upload Replacement(s) control to move errored files from Relativity to your local drive and then back again after error remediation. After selecting files with an exception status of Not Resolved, the Download mass action bundles the files in a .zip container and then saves the container to your local drive.

Relativity renames each file using the Storage ID metadata from the original file. The file extension remains intact. The Storage ID ensures that the downloaded file names are unique.

The Upload Replacement(s) control moves the remediated files from your local drive and replaces the original errored files. Relativity automatically retries the errors as part of the upload process.

During the upload process, Relativity matches the remediated file's name (now the Storage ID) with the Storage ID metadata from the original file. After replacement, the original file name and extension remain intact.

Note: Differentiating between the File ID and the Storage ID. Every file is assigned a unique Storage ID. Every instance of a file is assigned a unique File ID. For example, you may have a Word document with a unique Storage ID. If that document is attached to two different emails, then each instance of the document attachments is assigned a unique File ID. Therefore, a single file with a Storage ID, may have multiple instances, each with their own unique File ID.

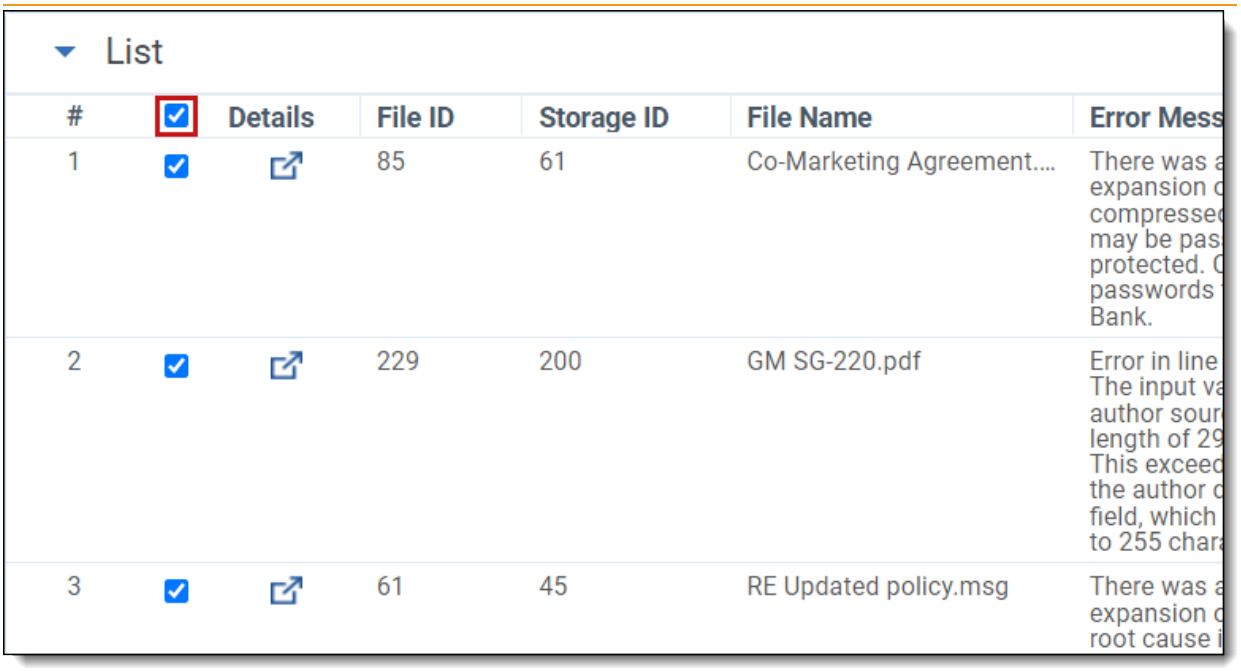
17.8.1 Mass download of errored files

Use the steps below to download errored files to your local drive. You can only use the Download mass action on files that have an exception status of Not Resolved.

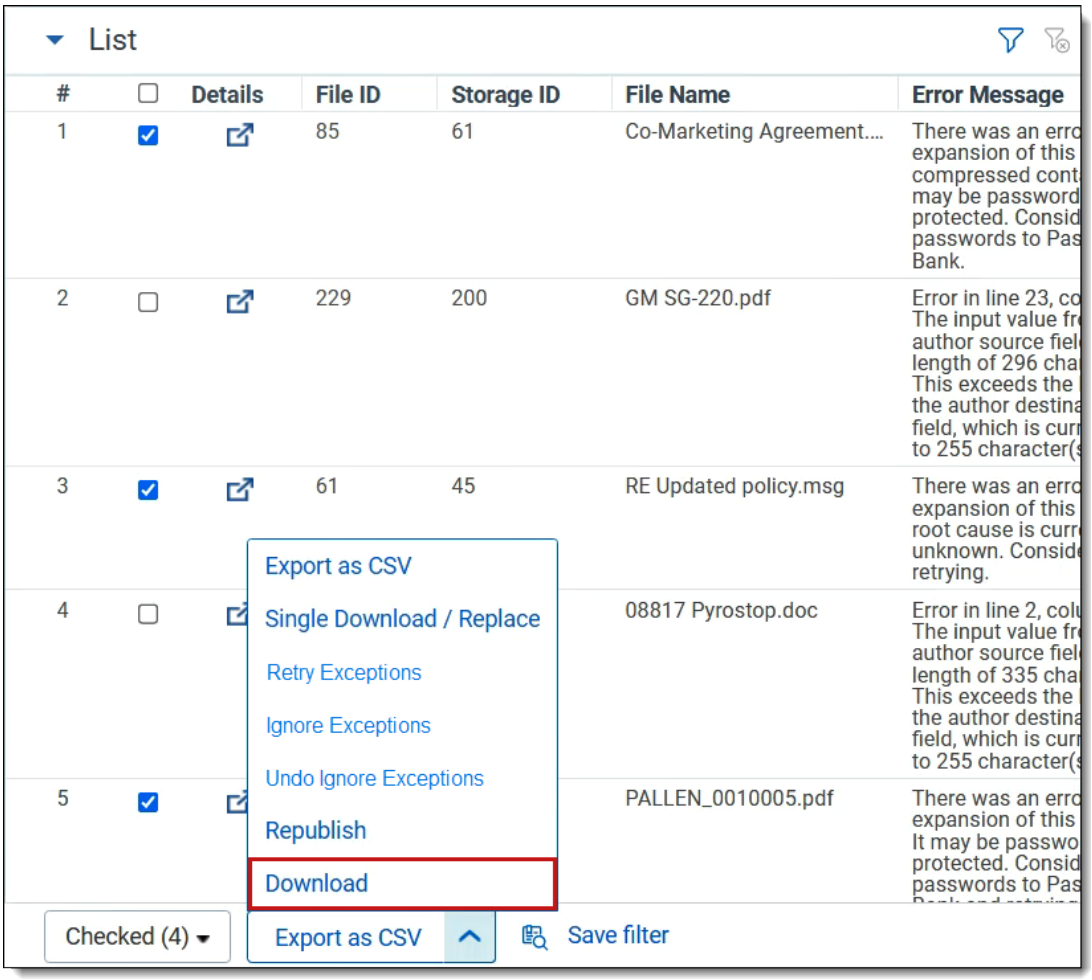
To mass download files:

1. Use the search bar to navigate to the **Files** tab.
2. Select **Current Files with Exceptions** from the Views drop-down menu.
3. Select individual files to include in the download package or use the **Select All** option to mark all files for downloading.

Note: Files must be in the Discover phase for mass download. You will see an error message if you attempt to download files in other phases, such as Publish or Text Extraction.

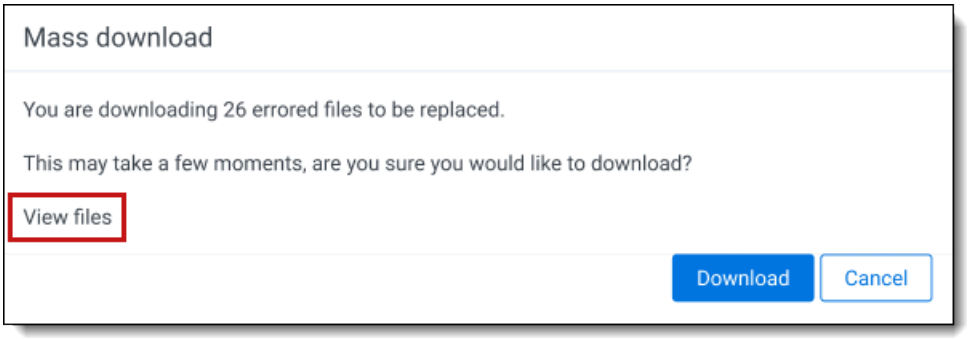


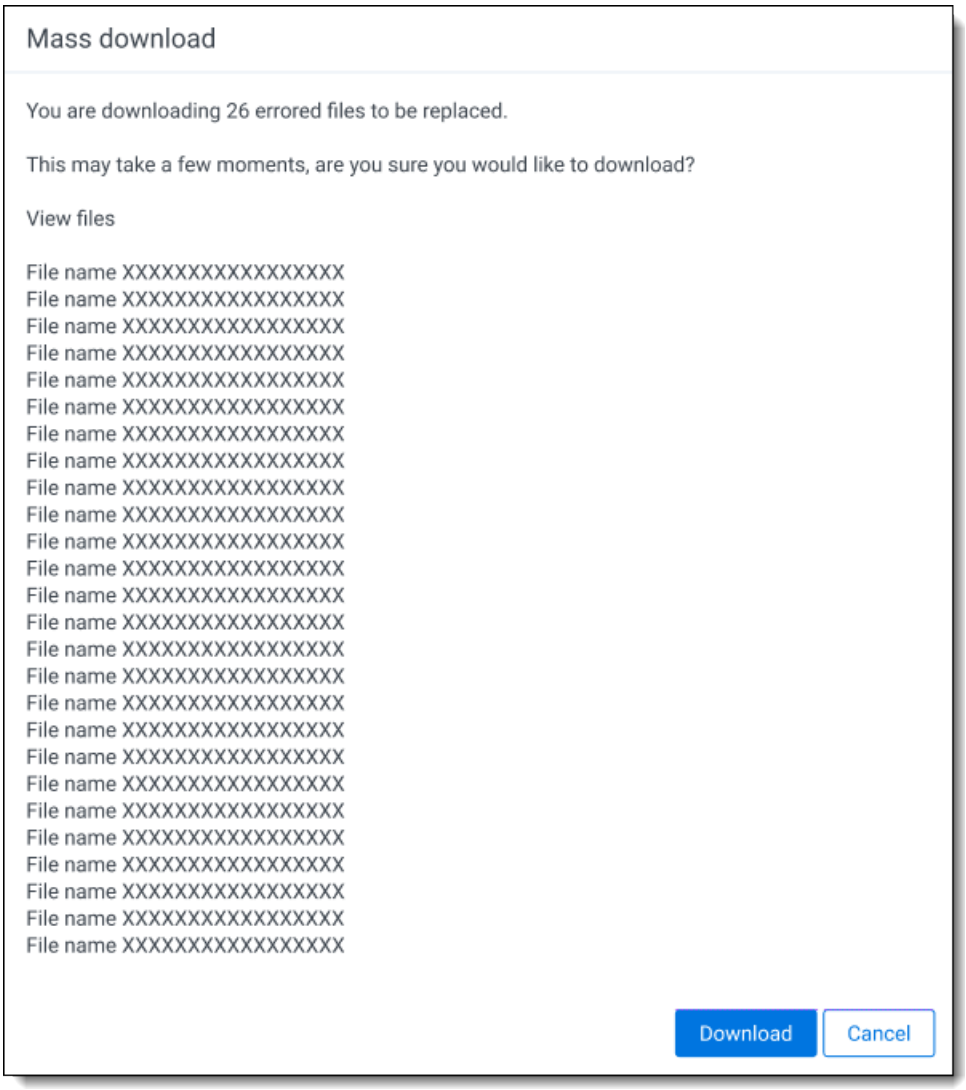
4. Select **Download** from the mass action drop-down menu.



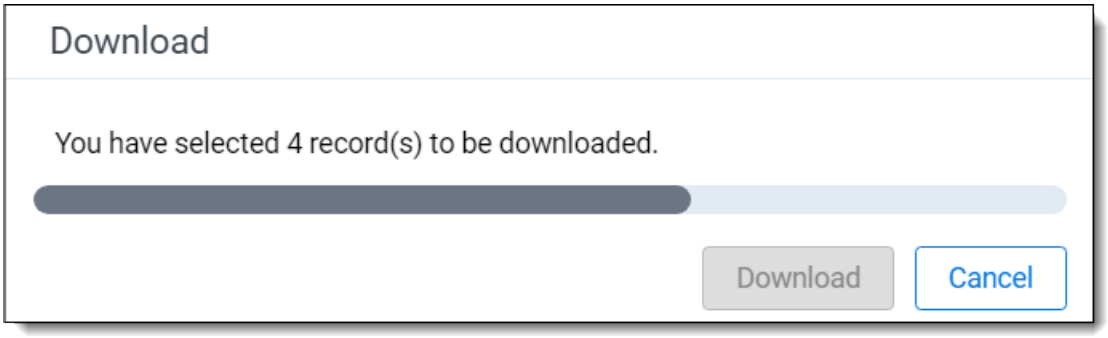
A confirmation message displays the number of files you are downloading. Click **View files** to see a list of the files.

Note: Relativity downloads unique files from each selection. The number of files selected may differ from the number of files downloaded if duplicates exist.





5. Click **Download**.
6. A status message displays the overall progress.



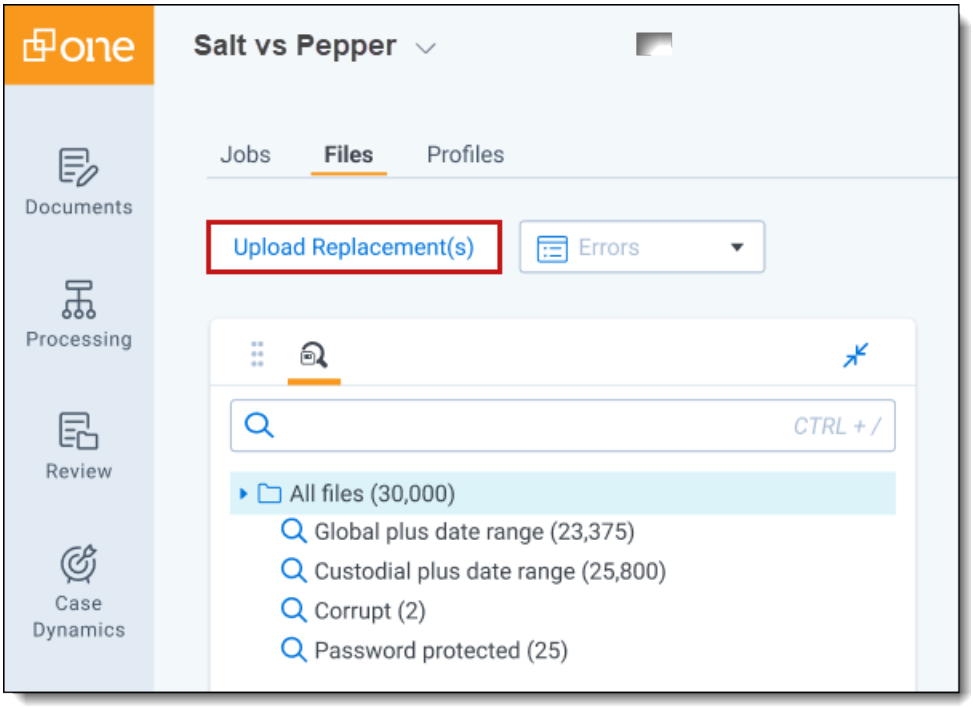
When complete, files are packaged in a. zip container and saved to your local drive.

Note: During the download process, Relativity changes the file name of downloaded files to the Storage ID. The file extension remains the same as the original. This results in each file having a unique file name, which is used later when replacing the original files on Relativity.

17.8.2 Mass replacement of errored files

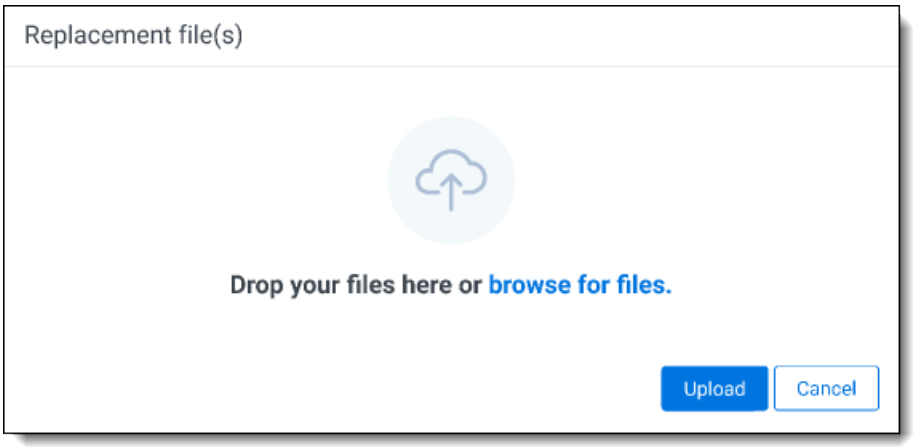
Use the steps below to upload remediated files from your local drive back into Relativity. You must place the files in a .zip container before uploading. There is a 1 GB file size limit for each .zip container.

1. Use the search bar to navigate to the **Files** tab.
2. Click the **Upload Replacement(s)** control on the **Files** tab.

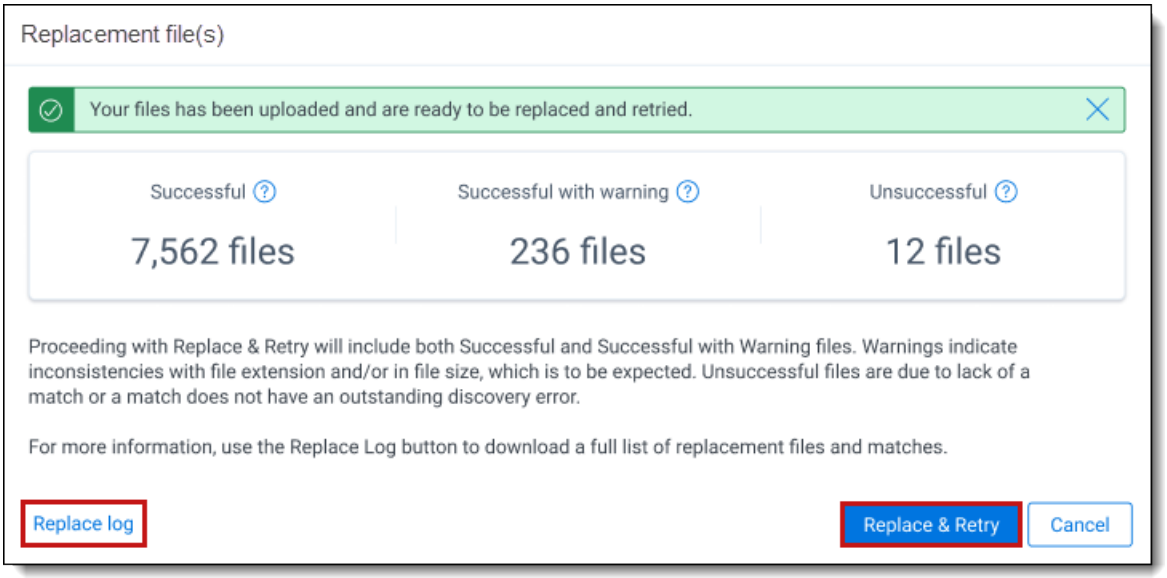


Note: While the Upload Replacement(s) action is a mass action, meaning multiple files are affected, it is not a part of the mass actions menu (at the bottom of the screen). Action items in the mass actions menu require selecting target files from the Files list. Since you are moving files from your local drive back into Relativity, there are no files from the list to preselect.

3. You see the Replacement file(s) modal. Either drag and drop or browse for the .zip container holding your replacement files.

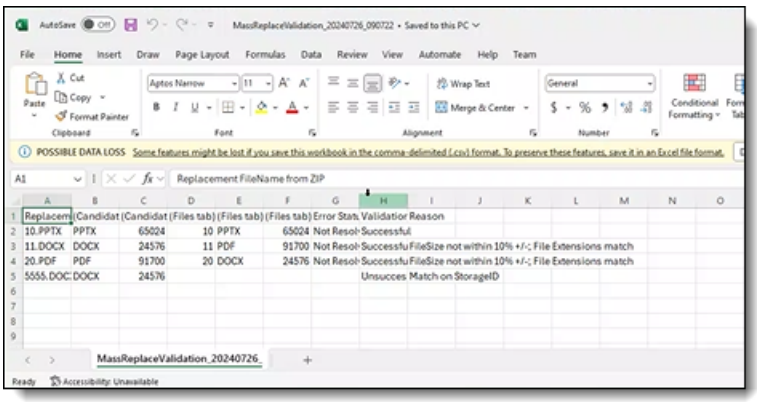


4. Click **Upload**.
   When you upload the replacement file, Relativity performs the following checks:
   - The replacement files are contained in a .zip file, which has a file size limit of 1 GB. If you exceed the file size limit, you will see an error. To resolve this error, redistribute the replacement files so the .zip container is within the file size limit.
   - The replacement file's Storage ID matches the original file's Storage ID.
   - The replacement file size is within 10% of the original (larger or smaller) file size.
   - The replacement file extension matches the original file extension.
   - The original file has an exception status of Not Resolved.
5. The Replacement files(s) modal updates with the number of successful files, successful files with warnings, and unsuccessful files.



- **Successful**—the number of files successfully replaced.
- **Successful with warning**—files where the candidate file name minus extension has a Storage ID match in the Files tab and has an Exception Status of Not Resolved. In addition, these files may have a different extension or exceed the 10% deviation in file size.
- **Unsuccessful**—files where the candidate has a Files tab match but no outstanding exception, the candidate does not have a Files tab match, or Relativity could not extract the file from the .zip container.

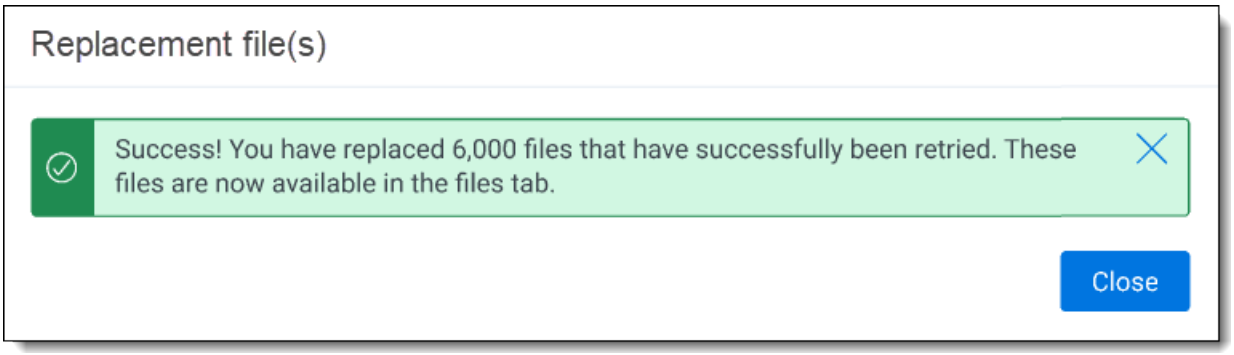
You can view a log of the files, along with their status, by clicking the **Replace log** link on the Replacement file(s) modal.



The log displays the following information:

- Replacement file name
- Candidate file extension
- Candidate file size
- Files tab Storage ID
- File tab file extension
- File tab file size
- Exception (error) status
- Validation status
- Reason for warning or failure.

6. A final confirmation message indicates the completion of the replacement process. Click **Close**.



18 Publishing files

Publishing files to a workspace is the step that loads processed data into the environment so reviewers can access the files. At any point after file discovery is complete, you can publish the discovered files to a workspace. During publish, Relativity:

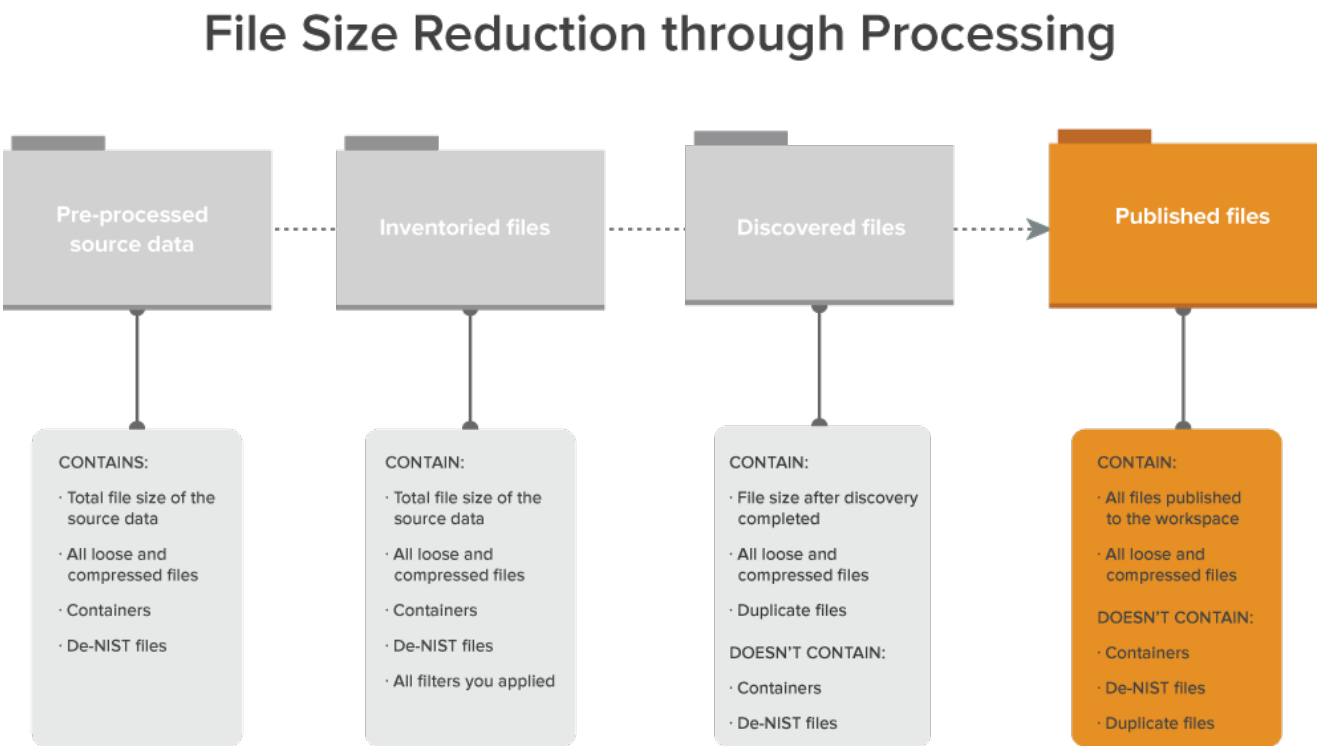
- Applies all the settings you specified on the profile to the documents you bring into the workspace.
- Determines which is the primary document and primary custodian and which are the duplicates.
- Populates the All Custodians, Other Sources, and other fields with data.

Note: For details on deleting files after publishing, see Post-publish delete.

Use the following guidelines when publishing files to a workspace:

- Publish includes the three distinct steps of deduplication document ID creation, primary document publish, and overlaying deduplication metadata. Because of this, it's possible for multiple processing sets to be publishing at the same time in the same workspace.

The following graphic depicts how publish fits into the basic workflow you use to reduce the file size of a data set through processing. This workflow assumes that you are applying some method of de-NIST and deduplication.



Note: Your environment has been enabled to dynamically scale your Invariant worker servers dependent on load. Sustained activity is automatically detected by the system, and Relativity will add workers to handle this work. Once the work is done, they will automatically scale back down. This feature is continually being improved to be smarter about when we add workers and how many we add.

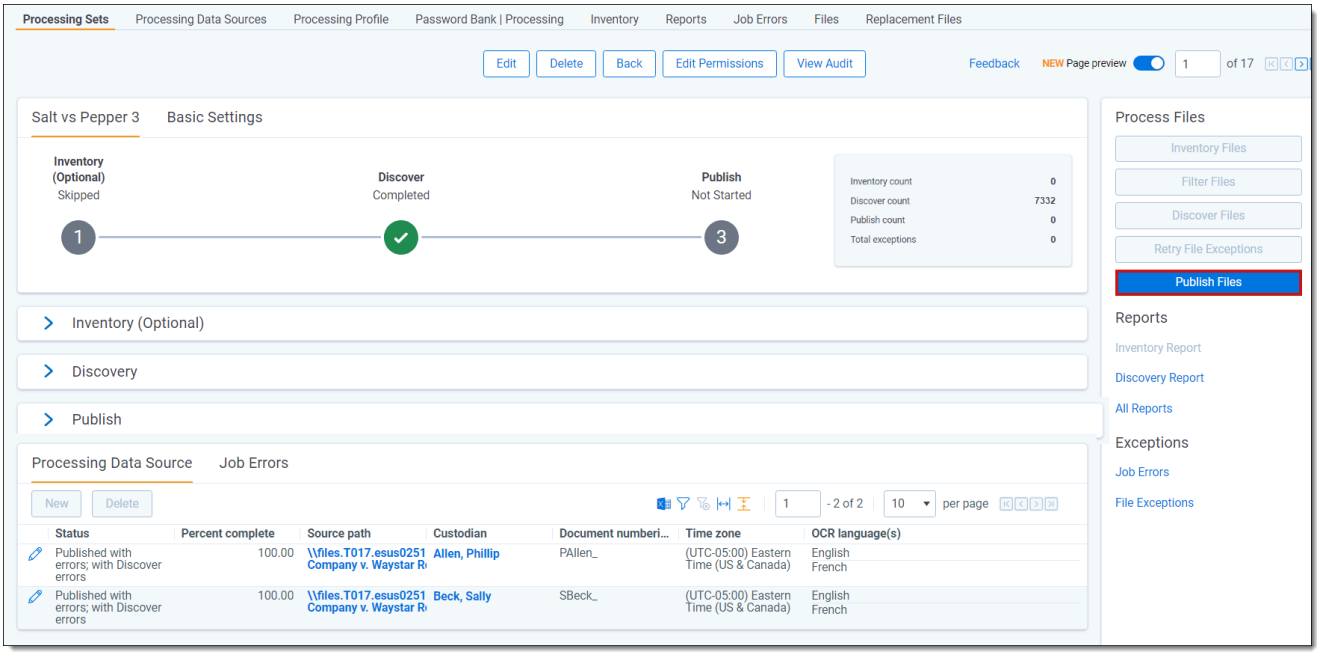
The following is a typical workflow that incorporates publish:

1. Create a processing set or select an existing set.
2. Add data sources to the processing set.
3. Inventory the files in that processing set to extract top-level metadata.
4. Apply filters to the inventoried data.
5. Run discovery on the refined data.
6. Publish the discovered files to the workspace.

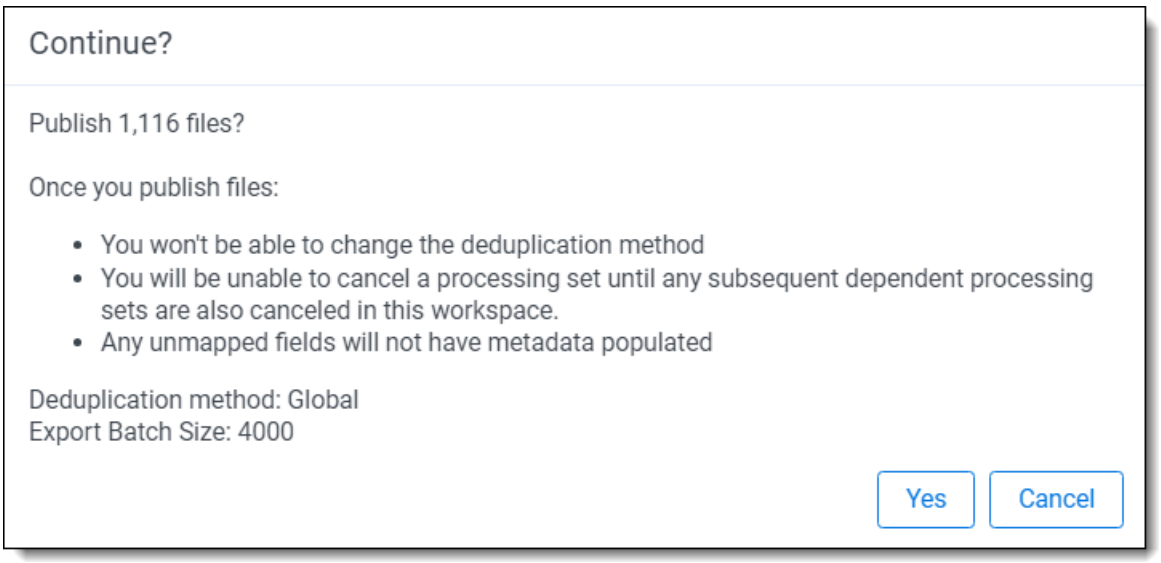
18.1 Running file publish

To publish files, click **Publish Files**. You only need to manually start publish if you disabled the Auto-publish set field on the profile used by this processing set.

Note: When processing documents without an actual date, Relativity provides a null value for the following fields: Created Date, Created Date/Time, Created Time, Last Accessed Date, Last Accessed Date/Time, Last Accessed Time, Last Modified Date, Last Modified Date/Time, Last Modified Time, and Primary Date/Time. The null value is excluded and not represented in the filtered list.



When you click Publish Files, you are presented with a confirmation message containing information about the job you are about to submit. If you have not mapped any fields in the workspace, the message reflects this. Click **Publish** to proceed or **Cancel** to return to the processing set layout.



Consider the following when publishing files:

- During publish, Relativity assigns control numbers to documents. Duplicates do not receive unique control numbers.

  Note: You cannot control the order in which Relativity assigns control numbers to files. The sorted order of files in the originating file system (generally, alphabetically) does not influence the order in which files are published, folders created, and control numbers assigned. Therefore, you may see sequential gaps in control numbers within folders.

- The publish process includes the three distinct steps of deduplication document ID creation, primary document publish, and overlaying deduplication metadata; as a result, it's possible for multiple processing sets to be publishing at the same time in the same workspace.
- After data is published, we recommend that you not change the Control Number (Document Identifier) value, as issues can arise in future publish jobs if a data overlay occurs on the modified files.
- If you have multiple data sources attached to a single processing set, Relativity starts the second source as soon as the first set reaches the DeDuplication and Document ID generation stage. Previously, Relativity waited until the entire source was published before starting the next one.
- Never disable a worker while it is completing a publish job.
- The Publish option is available even after publish is complete. This means you can republish data sources that have been previously published with or without errors.
- If you have configured auto-publishing on the processing profile, then when you start discovery, you are also starting publish once discovery is complete, even if errors occur during discovery. This means that the Publish button is never enabled.
- Once you publish files, you are unable to delete or edit the data sources containing those files. You are also unable to change the deduplication method you originally applied to the set.
- When you delete a document, Relativity automatically recalculates deduplication and publishes a new document to replace the deleted one, if applicable.

- If you arrange to copy source files to the Relativity file share, Relativity no longer needs to access them once you publish them. In this case, you are not required to keep your source files in the location from which they were processed after you published them.
- Publish is a distributed process that is broken up into separate jobs, which leads to more stability by removing this single point of failure and allowing the distribution of work across multiple workers. These changes enable publish to operate more consistently like the other processing job types in the worker manager server, where batches of data are processed for a specific amount of time before completing each transactional job and moving on. Note the upgrade-relevant details regarding distributed publish:
  - UpdateMastersWithDedupeInformation- the third phase of publish that finishes before metadata updates if no deduplication fields are mapped.
    - The deduplication fields are All Custodians, Deduped Custodians, All Paths/Locations, Deduped Count, and Deduped Paths.
    - If no deduplication fields are mapped for a publish job where the deduplication method is either Global or Custodial, then the UpdateMastersWithDedupeInformation job should finish before overlaying or updating any metadata.
    - The tracking log reads "Overlaying dedupe information will not be performed on the primary documents. The deduplication fields are not mapped."
  - The following instance settings have been added to facilitate the work of distributed publish. Due to the change in publish behavior caused by these new instance settings, we recommend contacting Relativity support for guidance on what values to specify for these settings before performing an upgrade.
    - ProcessingMaxPublishJobCountPerRelativitySQLServerProcessingMaxPublishJobCountPerRelativitySQLServer - the maximum number of publish jobs per Relativity SQL server that may be worked on in parallel.
      - The default value is 21. Leaving this setting at its default value results in increased throughput.
      - This updates on a 30-second interval.
      - If you change the default value, note that setting it too high could result in web server, SQL server, or BCP/file server issues. In addition, other jobs in Relativity that use worker threads may see a performance decrease, such discovery or imaging. If you set it too low, publish speeds may be lower than expected.
      - You cannot allocate more jobs per workspace than what is allowed per SQL server.
    - ProcessingMaxPublishSubJobCountPerWorkspaceProcessingMaxPublishSubJobCountPerWorkspace - the maximum number of publish jobs per workspace that may be worked on in parallel.
      - The default value is 7. Leaving this setting at its default value results in increased throughput.

- This updates on a 30-second interval.
- If you change the default value, note that setting it too high could result in web server, SQL server, or BCP/file server issues. In addition, other jobs in Relativity that use worker threads may see a performance decrease, such discovery or imaging. If you set it too low, publish speeds may be lower than expected.
- You cannot allocate more jobs per workspace than what is allowed per SQL server.

The following table provides the recommended values for each instance setting per environment setup:

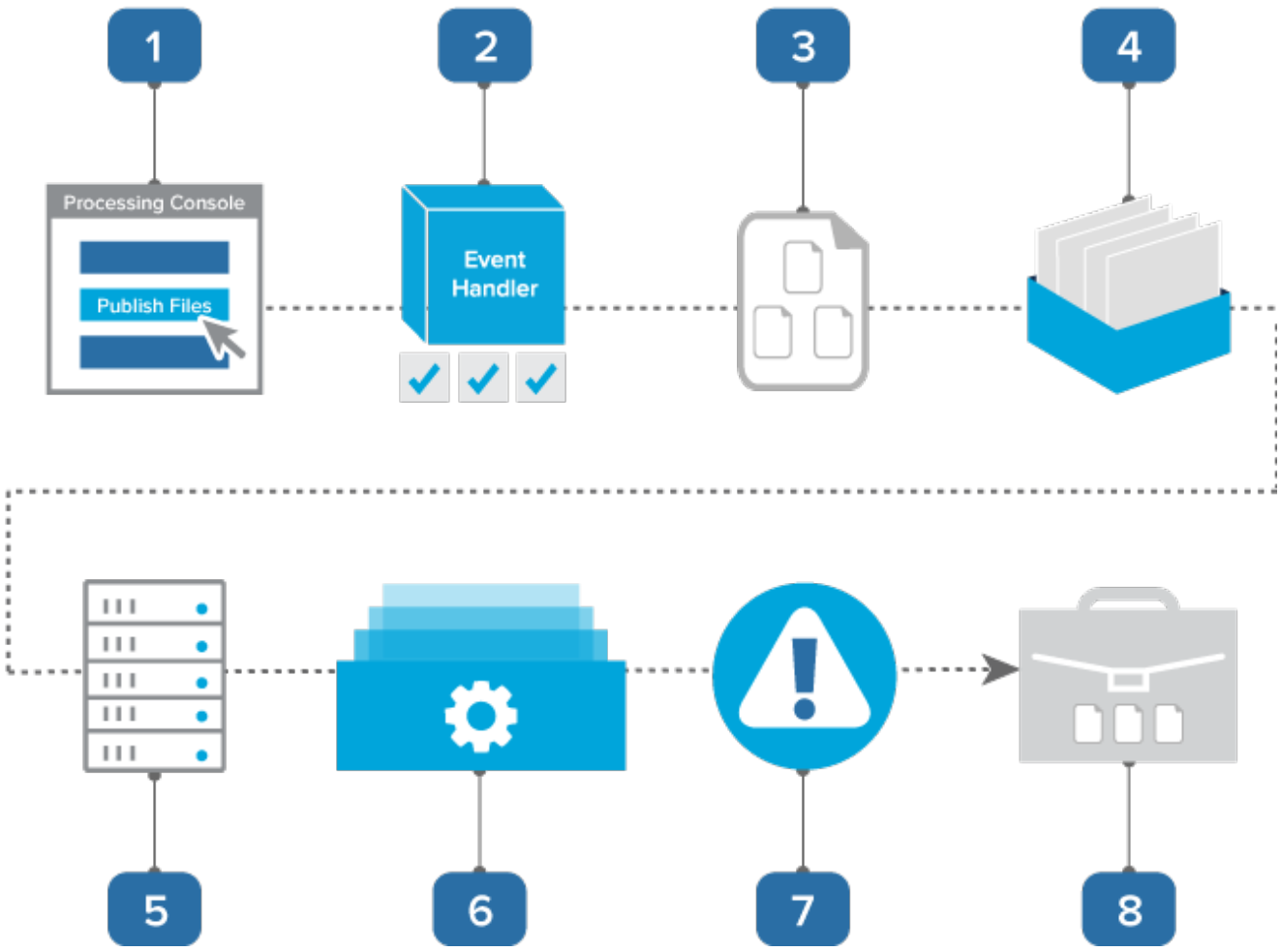
Environment setup	ProcessingMaxPublishSubJobCountPerWorkspace	ProcessingMaxPublishJobCountPerRelativitySQLServer
Tier 1Tier 1 (see the System Requirements Guide for details)	3	7
Tier 2Tier 2 (see the System Requirements Guide for details)	6	12
RelativityOne baseline	3	7

Note: Once you publish data into Relativity, you have the option of exporting it with Import/Export.

When you start publish, the Publish Files button changes to Cancel. You can use this to cancel the processing set. For more information, see Canceling publish.

18.1.1 Publish process

The following graphic and corresponding steps depict what happens behind the scenes when you start publish. This information is meant for reference purposes only.



1. You click Publish Files on the processing set console. If you have set auto-publish after discovery, publish begins automatically and you are not required to start it manually.
2. A console event handler checks to make sure that the set is valid and ready to proceed.
3. The event handler inserts all data sources on the processing set into the processing set queue.
4. The data sources wait in the queue to be picked up by an agent, during which time you can change their priority.
5. The processing set manager picks up each data source based on its order, all password bank entries are synced, and the agent submits each data source as an individual publish job to the processing engine. The agent then provides updates on the status of each job to Relativity, which then displays this information on the processing set layout.
6. The processing engine publishes the files to the workspace. Relativity updates the reports to include all applicable publish data. You can generate these reports to see how many and what kind of files you published to your workspace.

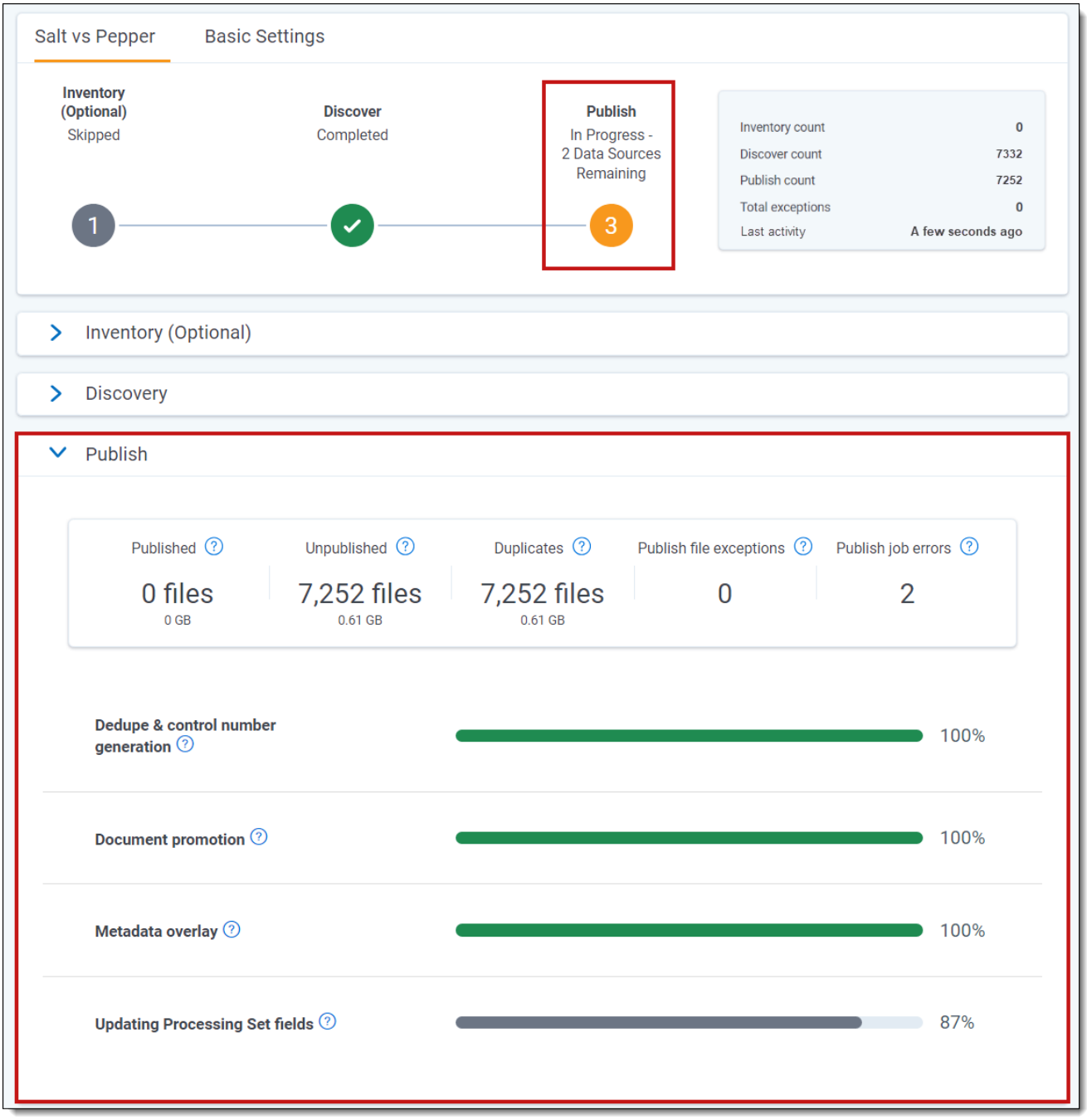
Note: Publish is a distributed process that is broken up into separate jobs, which leads to more stability by removing this single point of failure and improves performance by allowing the distribution of work across multiple workers. Thus, publish is consistent with the other types of processing jobs performed by the worker manager server, in that it operates on batches of data for a specific amount of time before completing each transactional job and moving on.

7. Any errors that occurred during publish are logged in the errors tabs. You can view these errors and attempt to retry them. See Processing error resolution for details.
8. You set up a review project on the documents you published to your workspace, during which you can search across them and eventually produce them.

18.2 Monitoring publish status

You can monitor the job's progress on the Processing Set Details page. This page breaks down each of the processing phases (Inventory, Discover, Publish) into their own sections that include dashboard summaries, sub-job details, and counts.

18.2.1 Publish job details



- **Dedupe & control number generations**—Relativity identifies primary and duplicate records by comparing hash values against all published documents in the workspace. The resulting primary records receive a generated control number.
- **Document promotion**—Relativity imports primary documents and their families to the Documents tab.

- **Metadata overlay**—Relativity updates previously published records with information from duplicate documents.
- **Updating Processing Set fields**—Relativity updates associated fields in the processing set with results from the job.

Dashboard numbers

- **Published**—the number of files promoted to the Documents tab.
- **Unpublished**—the number of files that have either errored or not gone through the Publish phase yet. Some files may be unpublished if they had discover errors which were later resolved, with the files now waiting to be published.
- **Duplicates**—the number of files identified as duplicates. These include duplicate parent and child loose documents.
- **Publish file exceptions**—the number of files with publish exceptions. These issues result in unpublished files and should be remediated.
- **Publish job errors**—the number of publish job errors. These issues can results in large groups of unpublished files and should be remediated.

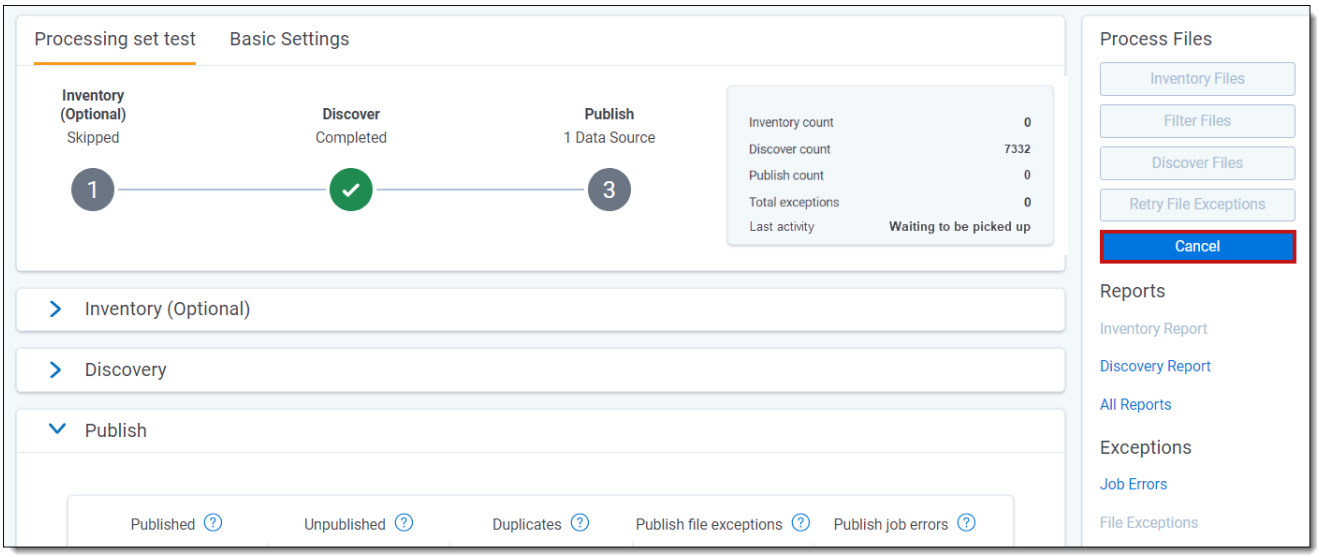
See Processing error overview for details.

Once publish is complete, the status section displays a blue check mark and you have the option of republishing your files, if need be. For details, see Republishing files.

18.3 Canceling publishing

If the need arises, you can cancel your publish job before it completes.

To cancel publish, click **Cancel**.



Consider the following about canceling publish:

- You cannot cancel a republish job. The cancel option is disabled during republish.
- Once the agent picks up the cancel publish job, no more errors are created for the data sources.
- If you click Cancel Publishing while the status is still Waiting, you can re-submit the publish job.
- If you click Cancel Publishing after the job has already been sent to the processing engine, then the set is canceled, meaning all options are disabled and it is unusable. Deduplication isn't run against documents in canceled processing sets.
- Errors that result from a job that is canceled are given a canceled status and cannot be retried.
- Once the agent picks up the cancel publish job, you cannot delete or edit those data sources.

Once you cancel publish, the status section is updated to display the canceled set.

- When you publish multiple sets with global deduplication, dependencies are put in place across the sets to ensure correct deduplication results. Because of this, cancel behavior for publish has been adjusted in the following ways.
- If you need to cancel three different processing sets that are all set to global or custodial deduplication, you must do so in the reverse order in which you started those publish jobs; in other words, if you started them 1-2-3 order, you must cancel them in 3-2-1 order.
- When Global deduplication is set, cancel is available on all processing sets in which the DeDuplication and Document ID generation phase has not yet completed. Once the DeDuplication and Document ID generation phase is complete for all data sources on the set and there are other processing sets in the workspace that are also set to be deduped, the cancel button is disabled on the processing set.

18.4 Republishing a processing set

Note: The following information is specific to republishing files via the processing set console and is distinct from republishing files at the file level via the Files tab. For details on republishing at the file level, see Republishing files from the Files tab on page 208 on the Files tab topic.

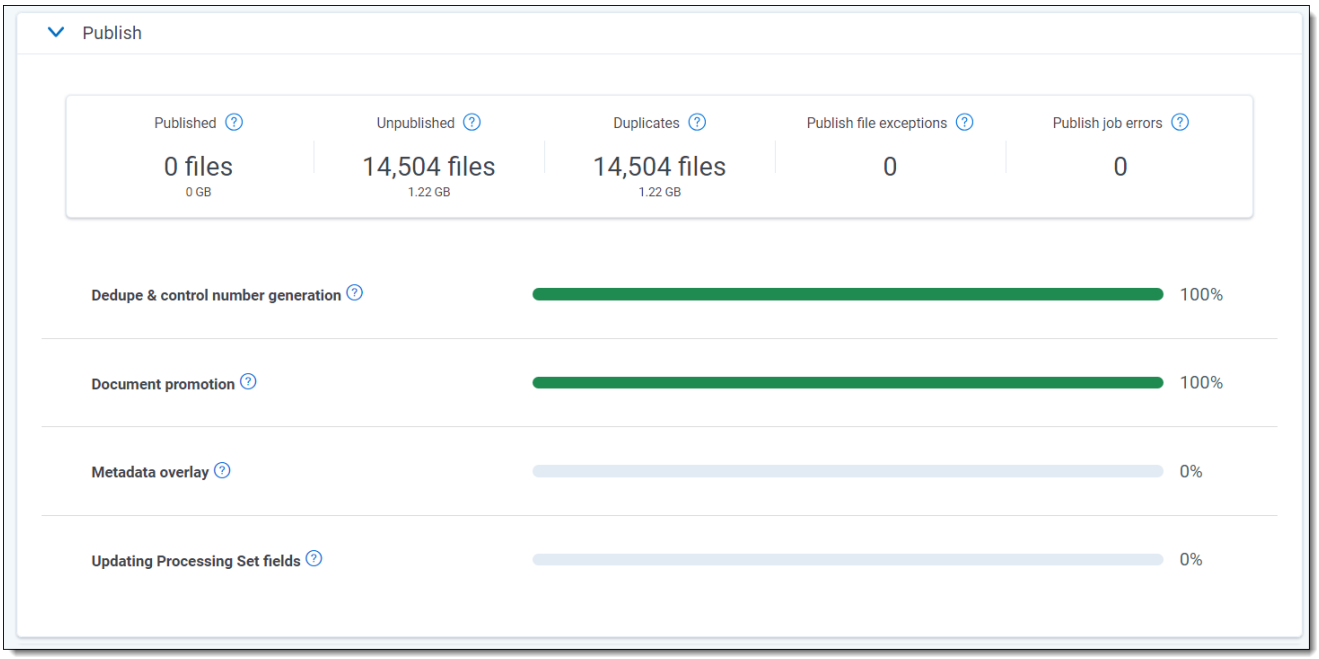
You can republish a processing set any time after the Publish Files option is enabled after the previous publish job is complete. Republishing is required after retrying errors if you want to see the previously errored documents in your workspace.

To republish, click **Publish Files**. The same workflow for publishing files applies to republish with the exception that Relativity does not re-copy the settings from the profile to the data sources that you are publishing.

When you click Publish Files again, you are presented with a confirmation message containing information about the job you are about to submit. If you haven not mapped any fields in the workspace, the message reflects this. Click **Publish** to proceed or **Cancel** to return to the processing set layout.

The status section is updated to display the in-progress republish job.

The Publish dashboard and status bars reflect the new job's progress.



Consider the following when republishing files:

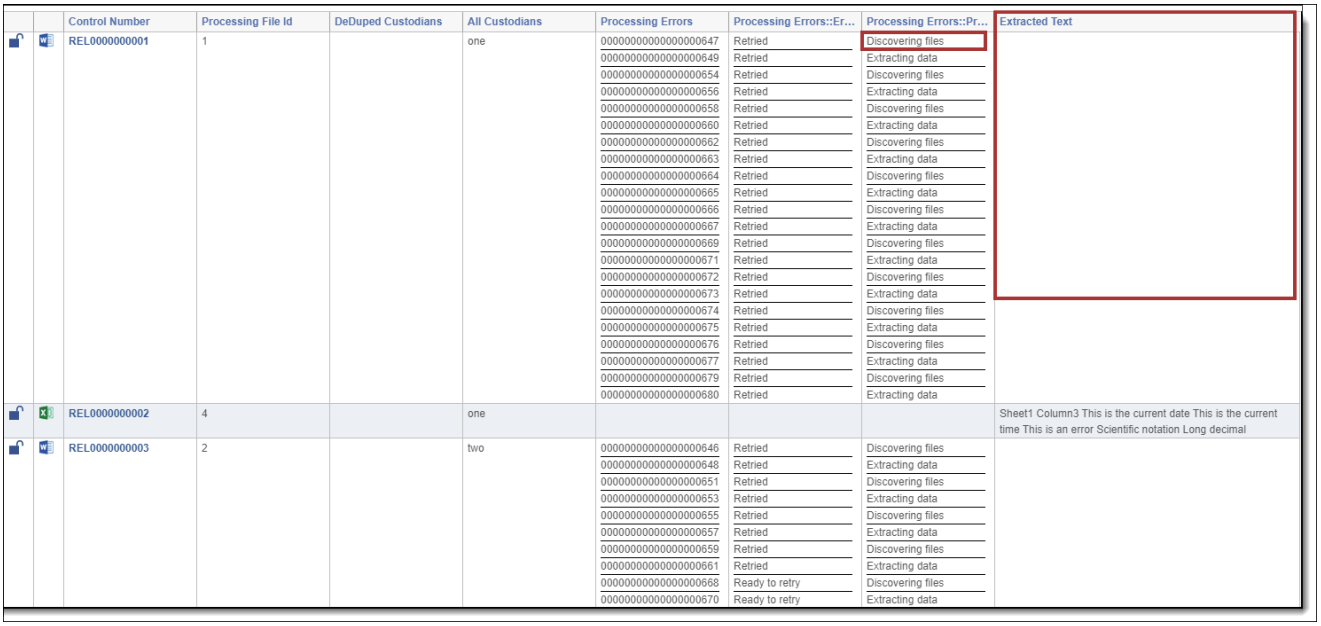
- All ready-to-retry errors resulting from this publish job are retried when you republish.
- Deduplication is respected on republish.
- When you resolve errors and republish the documents that contained those errors, Relativity performs an overlay, meaning that there is only one file for the republished document in the Documents tab.
- When you republish data, Relativity only updates field mappings for files that previously returned errors.
- Once published, a processing set may not be republished if the numbering type (default or level) on the set's profile has been changed.

- Once published, the start number(s) on a processing set may not be changed. Attempting to do so is disallowed.
- Changes made to numbering type in a processing profile are not respected after initial publishing. Data Source information cannot be changed after initial publishing.

18.5 Retrying exceptions after publish

You have the option of retrying exceptions generated during file discovery. When you discover corrupt or password-protected documents, these files are still published into a Relativity workspace with their file metadata. This is important to remember if you have Auto-publish enabled. However, for documents with these types of exceptions, neither the document metadata nor the extracted text is available in the workspace.

Note: File metadata is derived from the file's operating system (for example, File Extension) whereas document metadata is contained in the document itself (for example, Is Embedded).



Control Number	Processing File Id	DeDuped Custodians	All Custodians	Processing Errors	Processing Errors::Er...	Processing Errors::Pr...	Extracted Text
REL0000000001	1		one	00000000000000000647	Retried	Discovering files	
				00000000000000000649	Retried	Extracting data	
				00000000000000000654	Retried	Discovering files	
				00000000000000000656	Retried	Extracting data	
				00000000000000000658	Retried	Discovering files	
				00000000000000000660	Retried	Extracting data	
				00000000000000000662	Retried	Discovering files	
				00000000000000000663	Retried	Extracting data	
				00000000000000000664	Retried	Discovering files	
				00000000000000000665	Retried	Extracting data	
				00000000000000000666	Retried	Discovering files	
				00000000000000000667	Retried	Extracting data	
				00000000000000000669	Retried	Discovering files	
				00000000000000000671	Retried	Extracting data	
				00000000000000000672	Retried	Discovering files	
				00000000000000000673	Retried	Extracting data	
				00000000000000000674	Retried	Discovering files	
				00000000000000000675	Retried	Extracting data	
				00000000000000000676	Retried	Discovering files	
				00000000000000000677	Retried	Extracting data	
				00000000000000000679	Retried	Discovering files	
				00000000000000000680	Retried	Extracting data	
REL0000000002	4		one				Sheet1 Column3 This is the current date This is the current time This is an error Scientific notation Long decimal
REL0000000003	2		two	00000000000000000646	Retried	Discovering files	
				00000000000000000648	Retried	Extracting data	
				00000000000000000651	Retried	Discovering files	
				00000000000000000653	Retried	Extracting data	
				00000000000000000655	Retried	Discovering files	
				00000000000000000657	Retried	Extracting data	
				00000000000000000659	Retried	Discovering files	
				00000000000000000661	Retried	Extracting data	
				00000000000000000668	Ready to retry	Discovering files	
				00000000000000000670	Ready to retry	Extracting data	

For resolvable issues such as password-protected files, you can retry these exceptions even after you publish the files into a workspace. If you provide a password via the password bank and successfully retry the file, then its document metadata and extracted text are made available in the workspace after the documents are republished.

19 Post-publish delete

There are a number of reasons you may want to delete documents after they are published. For example, you may find your profile settings are not what you intended or they are incorrect. Maybe it's an incorrect custodian assignment, or you ran processing in the wrong workspace. It may just be a cost consideration where you need to reduce the amount of data for review.

19.1 Overview

Use the Delete mass action on the Documents view to delete multiple files (after they have been discovered and published.) To view a list of previously deleted files, navigate to the Files tab and open the Deleted Documents view.

You can configure which documents to delete, including the option to remove all duplicates and associated files from the same data source. Relativity automatically includes any duplicate records of a primary document deleted from the same processing data source.

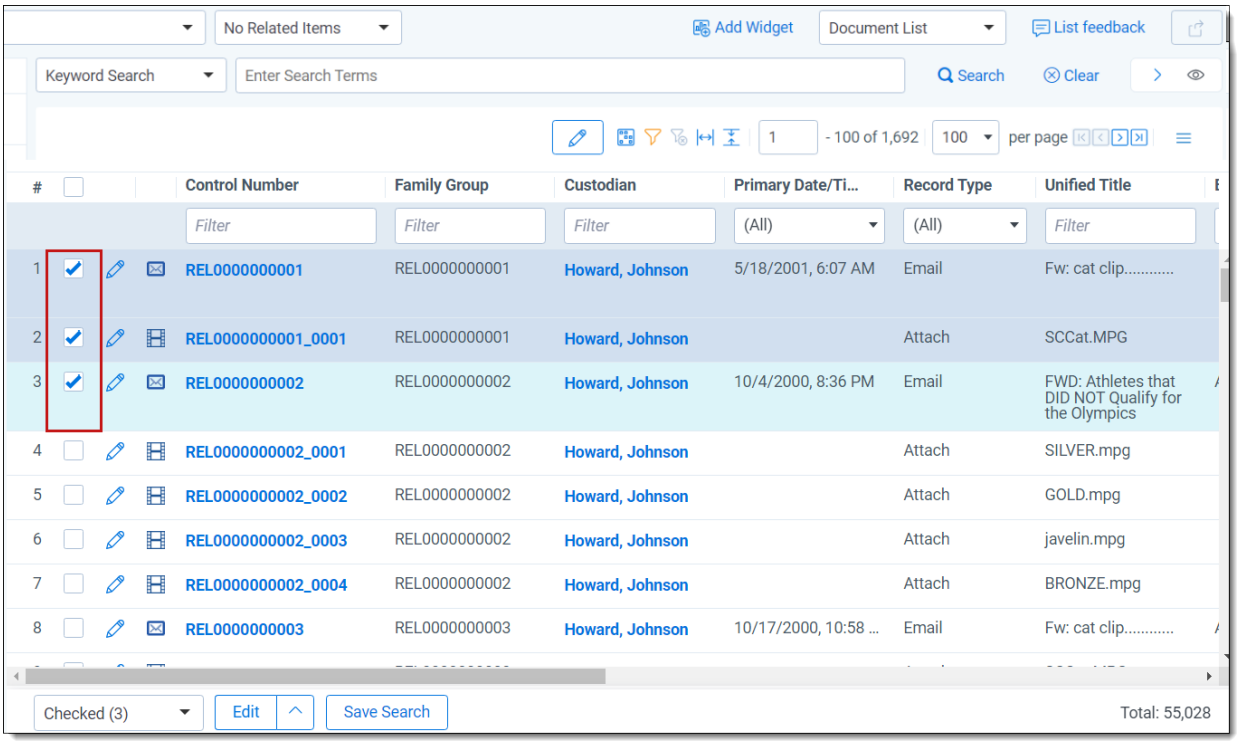
Since Relativity removes all duplicates within the same data source, you do not need to work with any automatically promoted files.

For information on reporting what was deleted, see Master Document Replacement Summary.

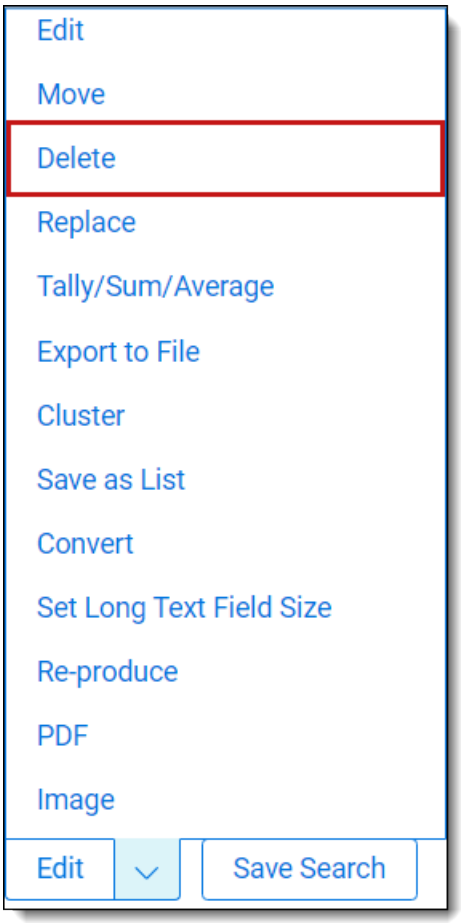
19.2 Running post-publish delete

To mass delete documents after discovery and publish, perform the following:

1. Navigate to the Documents tab and select the documents you want to delete.

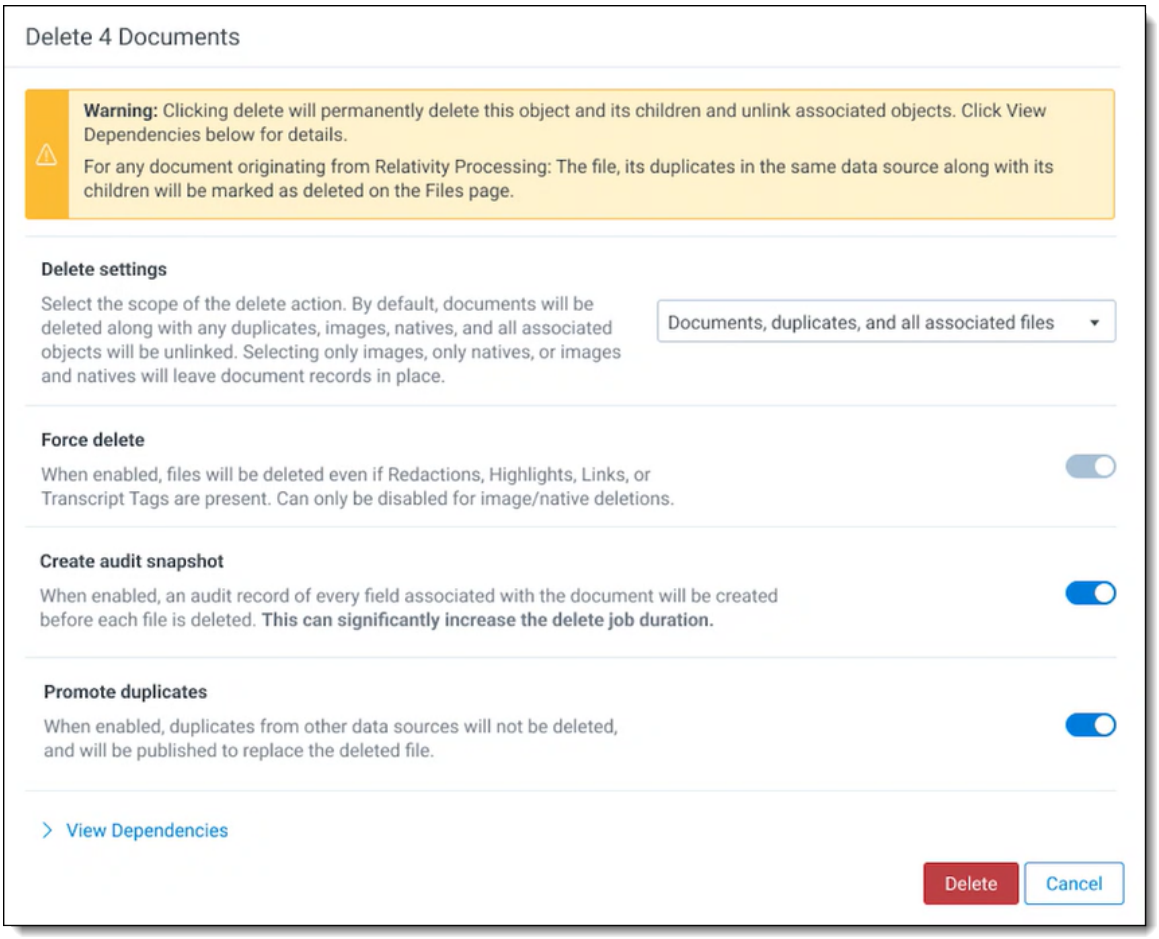


2. Select the **Delete** mass operation.



3. You see a confirmation modal with the following settings options:
   - **Delete settings**—selects the scope of the delete action for deleting files in the same data source. The following options are available:
     - **Documents, duplicates, and all associated files**—deletes all documents, duplicates, images, and natives from within the same data source. Associated objects are unlinked. This option is the default.
     - **Only images**—deletes only images and leaves parent documents in place.
     - **Only natives**—deletes only natives and leaves parent documents in place.
     - **Image(s) and native(s)**—deletes only images and natives and leave parent documents in place.
   - **Force delete**—files are deleted even if there are redactions, highlights, or transcript tags. You can only disable this option when deleting images or natives.
   - **Create audit snapshot**—when enabled, this option creates an additional audit record of every field value associated with the document before it is deleted. Use caution when enabling this option as it can increase on the size of the audit table and will slow down the mass delete process.

- **Promote duplicates**—when enabled, duplicates from other data sources are retained and published, replacing deleted files. This option only applies to data sources outside of the original data source.



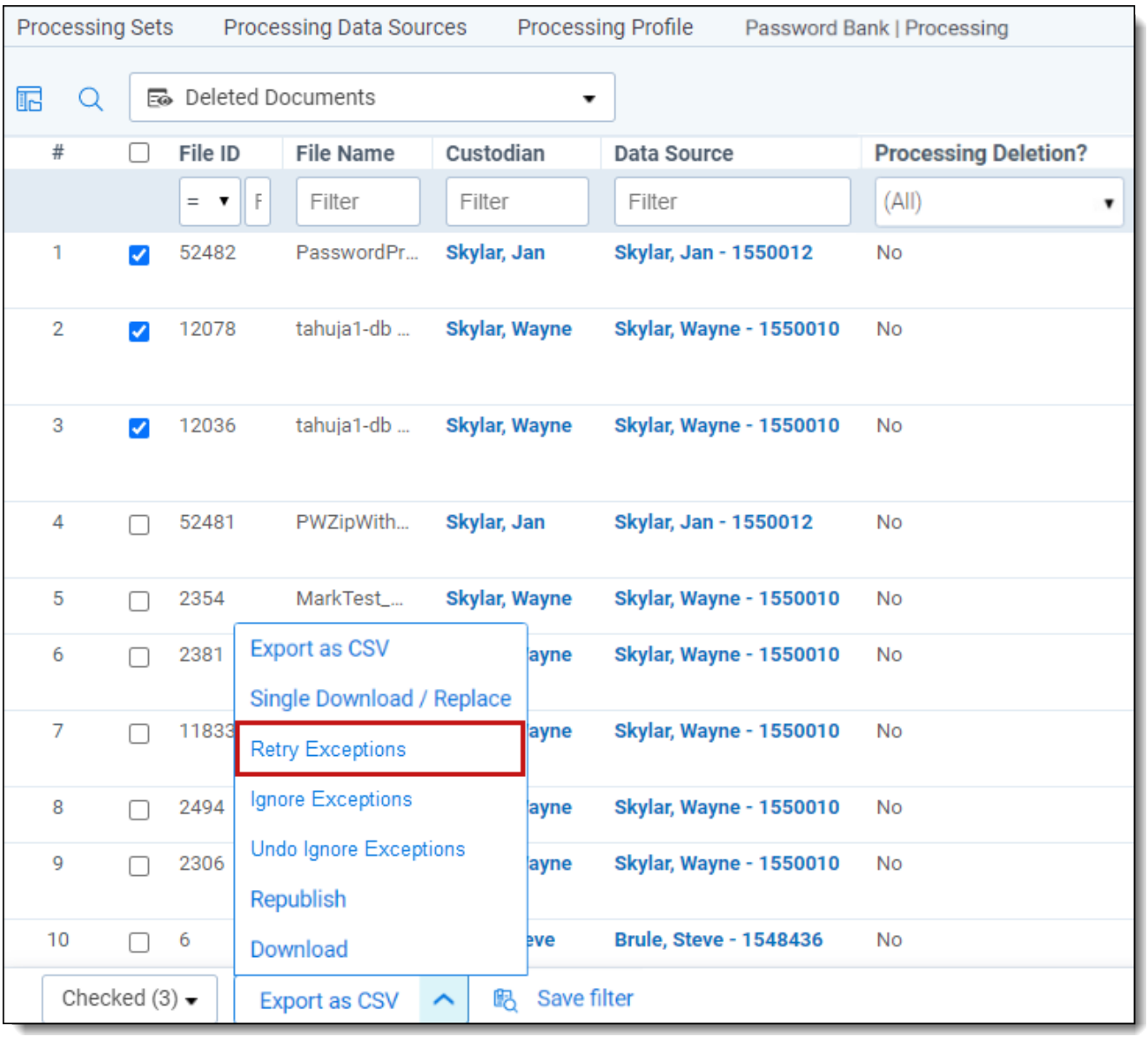
19.3 Interacting with deleted documents

To view deleted documents, navigate to the **Files** tab and select the **Deleted Files** view.

To view files with exceptions, navigate to the **Files** tab and select either the **Current Files with Exceptions** or **All Files with Exceptions** view. See Exception and error overview for more details on processing exceptions.

19.4 Retrying delete errors

Navigate to the Deleted Files view to see a record of all deleted documents. The **Processing Deletion?** field is the yes/no indicator for deleted documents. You can filter by Exception Message to see the exceptions that occurred during deletion. Some exceptions can be retried using the **Retry Exceptions** mass actions option. Once deleted, documents are excluded from further processing operations (such as deduplication, retry, and republish.)


Processing Sets
Processing Data Sources
Processing Profile
Password Bank | Processing
Deleted Documents
| File ID | File Name | Custodian | Data Source | Processing Deletion?
Filter
Filter
Filter
(All)
1 52482 PasswordPr... Skylar, Jan Skylar, Jan - 1550012 No
2 12078 tahuja1-db ... Skylar, Wayne Skylar, Wayne - 1550010 No
3 12036 tahuja1-db ... Skylar, Wayne Skylar, Wayne - 1550010 No
4 52481 PWZipWith... Skylar, Jan Skylar, Jan - 1550012 No
5 2354 MarkTest_... Skylar, Wayne Skylar, Wayne - 1550010 No
6 2381 Skylar, Wayne - 1550010 No
7 11833 Skylar, Wayne - 1550010 No
8 2494 Skylar, Wayne - 1550010 No
9 2306 Skylar, Wayne - 1550010 No
10 6 Brule, Steve - 1548436 No
Export as CSV
Single Download / Replace
Retry Exceptions
Ignore Exceptions
Undo Ignore Exceptions
Republish
Download
Checked (3)
Export as CSV
Save filter

20 Exception and error overview

You may encounter exceptions and errors from time to time while running processing jobs. exceptions and errors can occur during any processing phase, affecting single files or the entire job. This topic provides a high-level overview of the types of exceptions and errors you may encounter and where to find exception and error details in RelativityOne.

For information on resolving processing exceptions, see Processing exception resolution.

This page details the following:

20.1 Types of processing exceptions and errors

There are two types of processing issues that may affect the outcome of you processing job: file exceptions and job errors.

- **File exceptions**—affect a single file. Overall, the processing job continues, even if file exceptions exist. File exceptions are resolvable and have a status of **Not Resolved** in the Files tab. An example of a file exception might is a password-protected file where Relativity cannot find the password. By supplying the password you can retry the exception.
- **Job errors**—affect the entire processing job and block publishing. You must resolve job errors before you can continue processing.

20.2 Exception levels

Discover and publish exceptions are further defined by the exception level, which indicates severity of the issue. Each phase has two exception levels:

- Discover
  - Warning—the job continues; however, metadata may be missing.
  - Error—the job is blocked from completing.

- Publish
  - Warning—the job continues; however, metadata may be missing.
  - Error—the job is blocked from completing.

20.3 Processing phases where exceptions and errors may occur

Exceptions and errors can occur during any processing phase, such as Inventory, Discover, and Publish.

- **Inventory**—all Inventory errors are unresolvable, and you cannot retry them. To address inventory errors, rerun Inventory from the same processing set.
- **Discover**—the Discover phase covers file discovery and text extraction.
  - **Discover**—job errors that occur during discovery are unresolvable, and you cannot retry them. You should always address unresolvable discover job errors. Not addressing unresolvable errors may result in missing documents or incomplete metadata in published documents. Address these errors by creating a new processing set (or sets) and rediscovering the data.
  - **Text-extraction**—job exceptions that are resolvable have an error status of **Ready to retry**. Retry the error from the same processing set.
- **Publish**—job exceptions during the publishing phase that are resolvable have an error status of **Ready to retry**. Retry the error from the same processing set.

20.4 Processing exception tabs

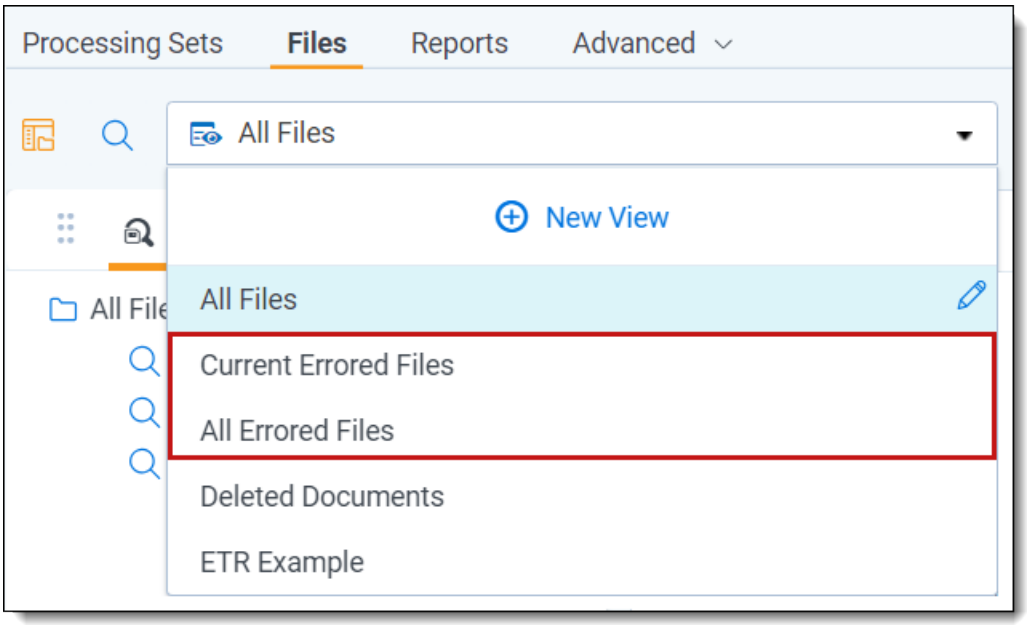
Use the Files tab and Job Exceptions tab to view exceptions and errors that occurred during processing. Relativity notifies you of exceptions and errors on the processing set page when the job completes.

20.4.1 Files tab

The **Files** tab displays a list of all documents within your workspace. The Files tab has two views related specifically to file exceptions and errors:

- **Current Files with Exceptions**—displays all outstanding exceptions from processing jobs. This is the primary location for workflows like exception retry, ignore, and file replacement.

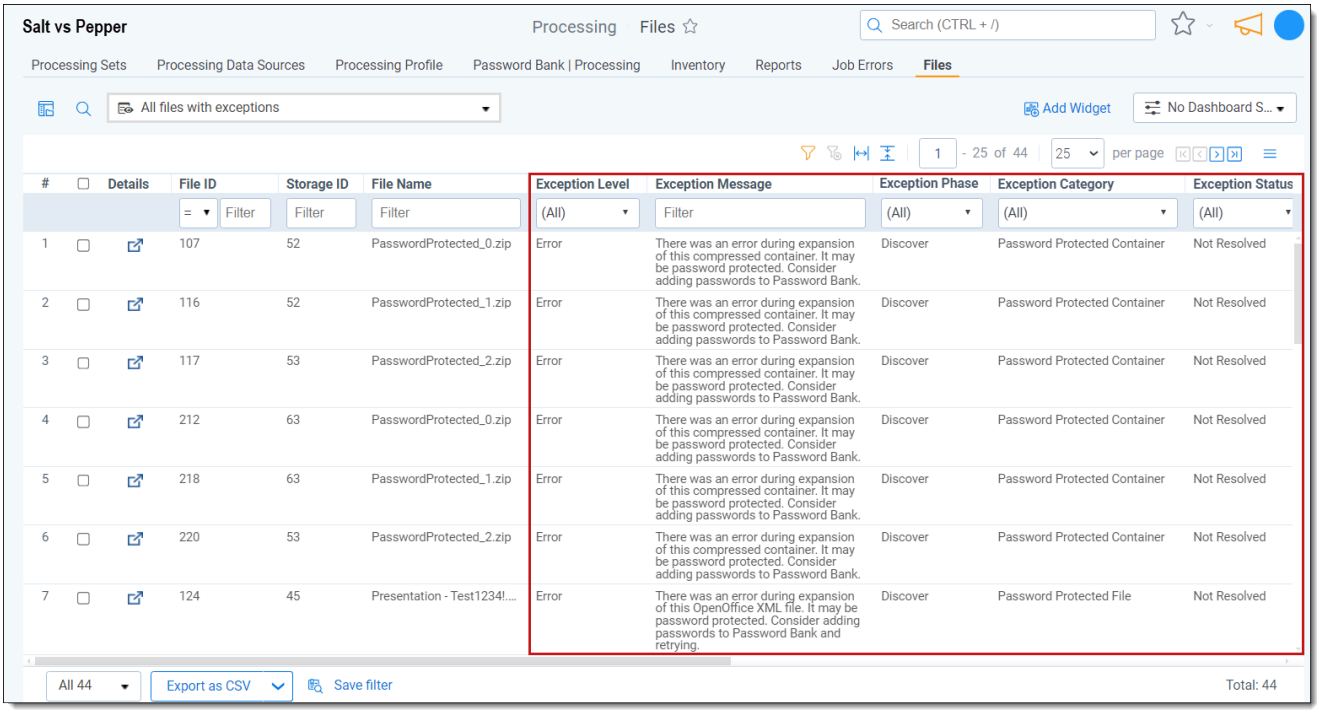
- **All Files with Exceptions**—displays a historical report of exceptions from all processing sets, regardless of exception resolution.



For more information on the Files tab, see the Files topic.

20.4.1.1 File exception fields

The **Current Files with Exceptions** and **All Files with Exceptions** views display the following fields:



- **Details**—click this icon to open a dialog containing information on the file properties and exceptions. See Viewing file exception details for more detailed information.

- **File ID**—the unique identifier assigned to an instance of a file.
- **Storage ID**—the unique identifier assigned to a file.

  Note: Differentiating between the File ID and the Storage ID. Every file is assigned a unique Storage ID. Every instance of a file is assigned a unique File ID. For example, you may have a Word document with a unique Storage ID. If that document is attached to two different emails, then each instance of the document attachments is assigned a unique File ID. Therefore, a single file with a Storage ID, may have multiple instances, each with their own unique File ID.

- **File Name**—the original name of the file.
- **Exception Level**—this field displays the type of exception Relativity encountered. There are two levels:
  - Warning—the job continues; however, metadata may be incomplete.
  - Error—the job is blocked from completing. You must address the error and retry the job.
- **Exception Message**—displays a message about the exception, along with possible resolution.
- **Exception Phase**—displays the processing phase in which the exception occurred. Processing phases include Inventory, Discover, and Publish.
- **Exception Category**—displays the exception category such as a password protected file where Relativity cannot find the password. See the table below the image for a complete list of exception categories.

The following table provides a listing of values for the **Exception Category** field, along with a description of the issues associated with the exception.

Category name	Description
Corrupt Container	These exceptions are exclusive to container files that have encountered corruption when attempting to open and locate files within the container itself. When containers have these exceptions associated to them, you will not see any extracted loose files. The exceptions are either ignored or downloaded offline for you to investigate whether the corruption is fixable, then subsequently replaced and retried.
Corrupt File	These exceptions are exclusive to non-container files that have found elements of corruption during Processing. The exceptions are either ignored or downloaded offline for you to investigate whether the corruption is fixable, then subsequently replaced and retried.
Could Not Identify	Relativity Processing could not identify the file during discovery. The file may be corrupt, but an exact cause was not known at the time of discovery.
Environmental	Environmental exceptions are a result of issues in the Relativity Processing environment. Retry and resolve these exceptions when encountered.
File Read / Write Error	These exceptions are a subset of Environmental issues specifically caused by file system issues. Retry and resolve these exceptions when encountered.

Category name	Description
Missing Attachment	Relativity could not extract an attachment from a document or email from its file.
Missing File Metadata	A file is missing a piece of metadata.
Missing Extracted Text	These exceptions represent issues that occurred during Text Extraction jobs that have caused a file to be missing some or all associated text. Relativity could not identify a root cause. Retry and resolve the exceptions where possible.
Partially Corrupted Container	These exceptions are exclusive to container files that have encountered corruption during extraction of specific records. When containers have these exceptions associated to them, you may see some files extracted, but not all. The exceptions are either ignored or downloaded offline for you to investigate whether the corruption is fixable, then subsequently replaced and retried.
Password Protected Container	These exceptions are exclusive to container files that have encountered some form of password protection or encryption security measures. You must add the password or encryption key to the Password Bank to resolve the exception. For more information, see Password Bank. **Note:** When investigating publish exceptions, if you see five password protected exceptions associated with an .msg file, but the email and all its contents opens and displays correctly in the viewer, the email had a password-protected container attached.
Password Protected File	These exceptions are exclusive to non-container files that have encountered some form of password protection or encryption security measures. You must add the password or encryption key to the Password Bank to resolve the exception. For more information, see Password Bank.
Relativity Field Configuration	These exceptions represent issues with Field Mapping during publish jobs. They are usually associated to a specific setting like length or an Associative Object Type. Resolve the field settings exceptions according to the exception message.
Unsupported	Relativity Processing cannot obtain metadata or text from unsupported files. You can publish the files to your workspace, but they may not be accessible from the viewer.

- **Exception Status**—provides information on where the file is in exception remediation. The exception status value helps in determining if you need to take action on a file, or to see if the file had previous exceptions. When a file has all its exceptions resolved, the **Exception Message**, **Exception Category**, and **Exception Phase** fields no longer display any content. However, the **Exception Status** field displays Resolved to indicate that the file had issues that are now resolved. Exception status values include:

- **Not Resolved**—the exception is still outstanding.
- **Resolving**—the exception is in the process of being retried.
- **Resolved**—exception resolved.
- **Ignored**—exception ignored.

Note: In some cases, the **Exception Status** field on the **Files** tab may not be in sync with the **Exception Status** field on the **Documents** tab. The mismatch occurs when you resolve an exception but do not republish the file. For example, after discovery, you notice a file exception due to a missing password. The Exception Status fields on the Files and Documents tabs show the same Exception Status. At some point, you fix the password and retry the exception. The exception status on the Files tab now shows resolved, while the Documents tab still shows an exception. Republishing syncs the fields once again.

20.4.1.2 Viewing file exception details

You can view file details by clicking the **Show details for this file** icon ( .) Details include file data, file metadata, and content metadata.

Details Processing Exceptions

File Data

File Name	PALLEN_0008257.doc
File ID	5
Custodian	Allen, Phillip
Data Source	Phillip Allen 001
Container Extension	
Container ID	0
Container Name	
Contains Embedded Items?	No
Error Message	
File Extension - Text	DOC
File Size (KB)	21
Sort Date	Microsoft W[illegible]2000 16:37:0[illegible] Document
Dedupe Status	

File Metadata

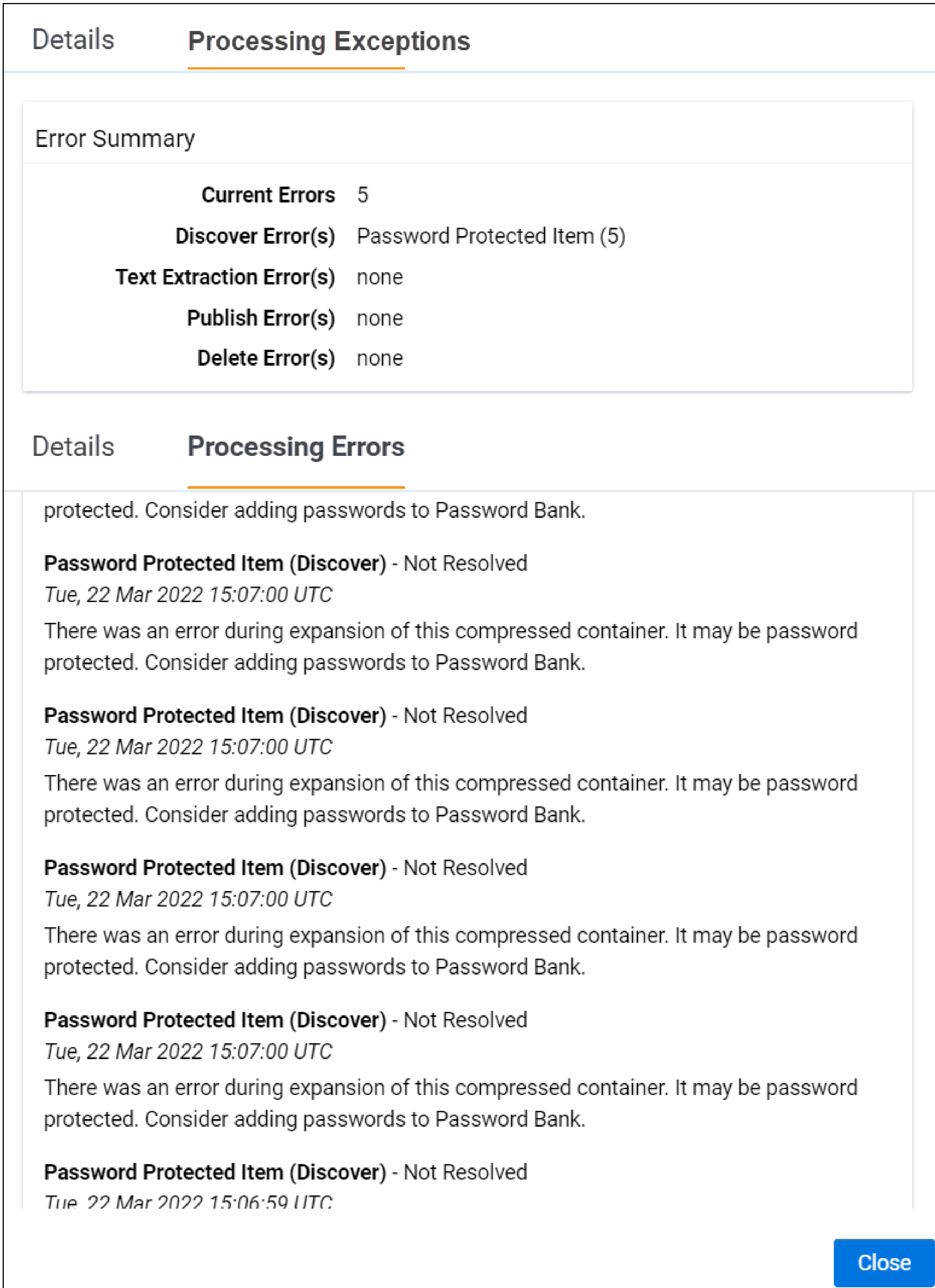
LastModified	Thu, 13 Apr 2000 16:37:00 UTC
CreatedOn	Thu, 16 Dec 1999 11:35:00 UTC
LastAccessed	Mon, 14 Feb 2022 22:24:42 UTC
LiteralFileExtension	DOC

Content Metadata

OracleFileID	1126
OracleFileType	Microsoft Word 97/98
MediaType	application/msword
DocTitle	Please return the following to Enron Network Security
Author	mscott2
Office/[illegible]	[illegible]rmal
Office/_PID_GUID	Unknown PROPVARIANT type 65
TrackedChangesExist	false

Close

Click the **Processing Exceptions** tab to view a summary of errors, and the error history.

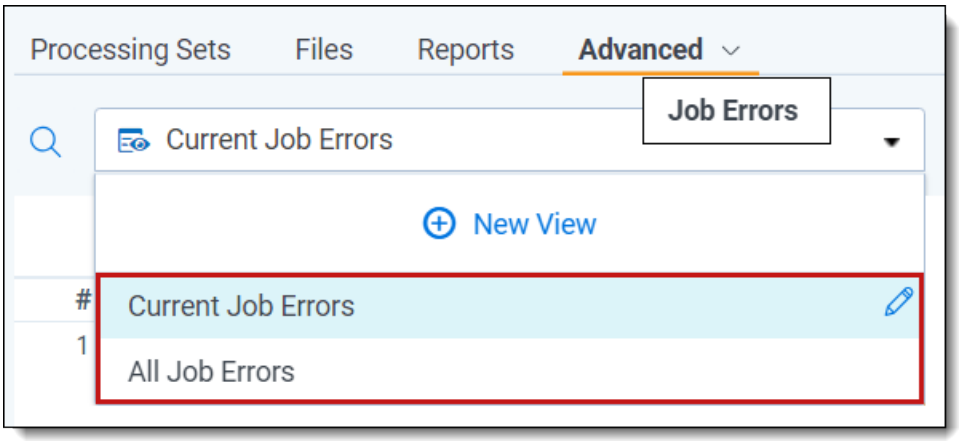

Details
Processing Exceptions
Error Summary
Current Errors 5
Discover Error(s) Password Protected Item (5)
Text Extraction Error(s) none
Publish Error(s) none
Delete Error(s) none
Details
Processing Errors
protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Tue, 22 Mar 2022 15:07:00 UTC
There was an error during expansion of this compressed container. It may be password protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Tue, 22 Mar 2022 15:07:00 UTC
There was an error during expansion of this compressed container. It may be password protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Tue, 22 Mar 2022 15:07:00 UTC
There was an error during expansion of this compressed container. It may be password protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Tue, 22 Mar 2022 15:07:00 UTC
There was an error during expansion of this compressed container. It may be password protected. Consider adding passwords to Password Bank.
Password Protected Item (Discover) - Not Resolved
Close

- The Exception History section represents all exceptions> that have ever occurred on a file. This acts as a timeline of the record's exceptions, showing when they occurred, what they were about, and if any are still active. This includes exceptions resulting from retries of previous exceptions and contains category, phase, date/time, and message information. All times are kept in UTC format.
- The Exception Summary section displays a count of all active exceptions along with their associated category and phase. This is especially important when investigating exceptions> relating to container files, as there can be many associated to the parent container during file extraction. This helps determine the level of impact the issue has as it may affect many files originating from it.

20.4.2 Job Errors tab

The Job Errors tab displays a list of job errors that occurred on processing sets run in your workspace. These errors are usually not associated with any specific files within a processing set, but rather the entire set itself. The Job Errors tab has two views:

- **Current Job Errors**—displays all unresolved job errors.
- **All Job Errors**—displays job errors that occurred throughout the lifecycle of the matter.

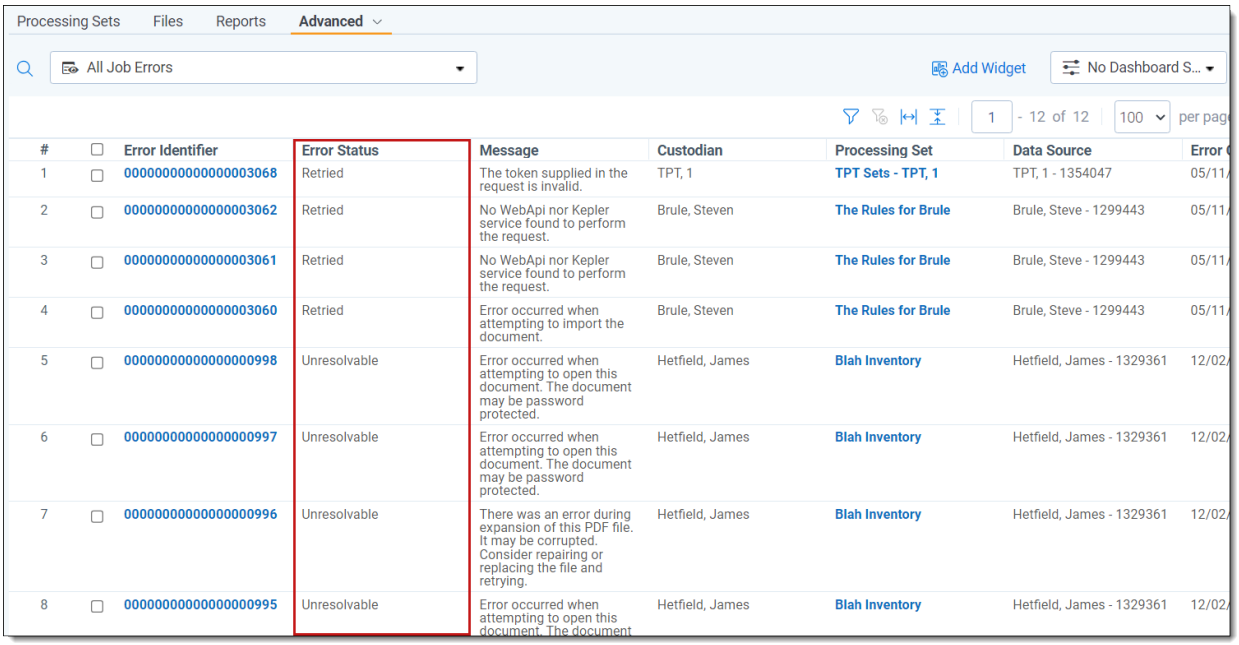


20.4.2.1 Job error fields

The Current Job Errors and All Job Errors views display the following fields:

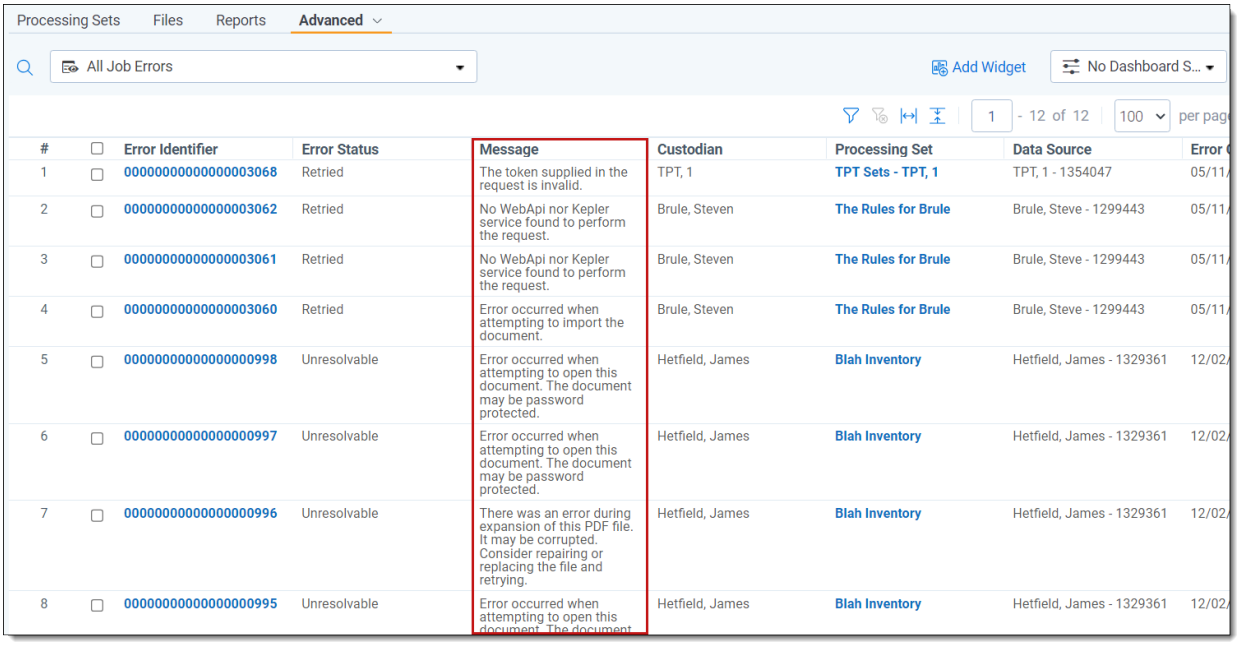
- **Error Identifier**—the unique identifier of the error as it occurs in the database. When you click this message, you are taken to the error details layout, where you can view the stack trace for detailed error information. Note that for Unresolvable , the console is disabled because you cannot take any actions on that error from inside Relativity.

- **Error Status**—provides the status of the error.



- The most common error status values include:
  - **Unresolvable**—errors that you cannot retry.
  - **Ready to Retry**—resolvable errors that you can retry.
  - **Retried**—errors that have been retried and are unresolvable.
  - **In Progress**—the error is currently being retried.

- **Message**—displays an overview of the error.

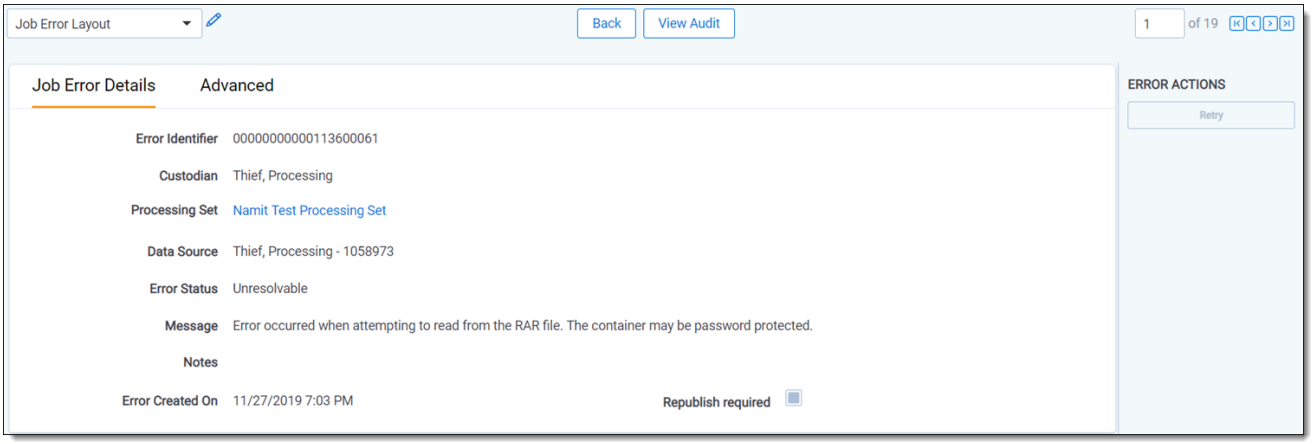


- **Custodian**—the custodian associated with the data source containing the file on which the error occurred.
- **Processing Set**—the name of the processing set in which the error occurred.
- **Data Source**—the data source containing the file on which the error occurred.
- **Error Created On**—the date and time at which the error occurred during the processing job.
- **Republish Required**—the error must be retried in order to be successfully published.
- **Notes**—any manually added notes associated with the error.

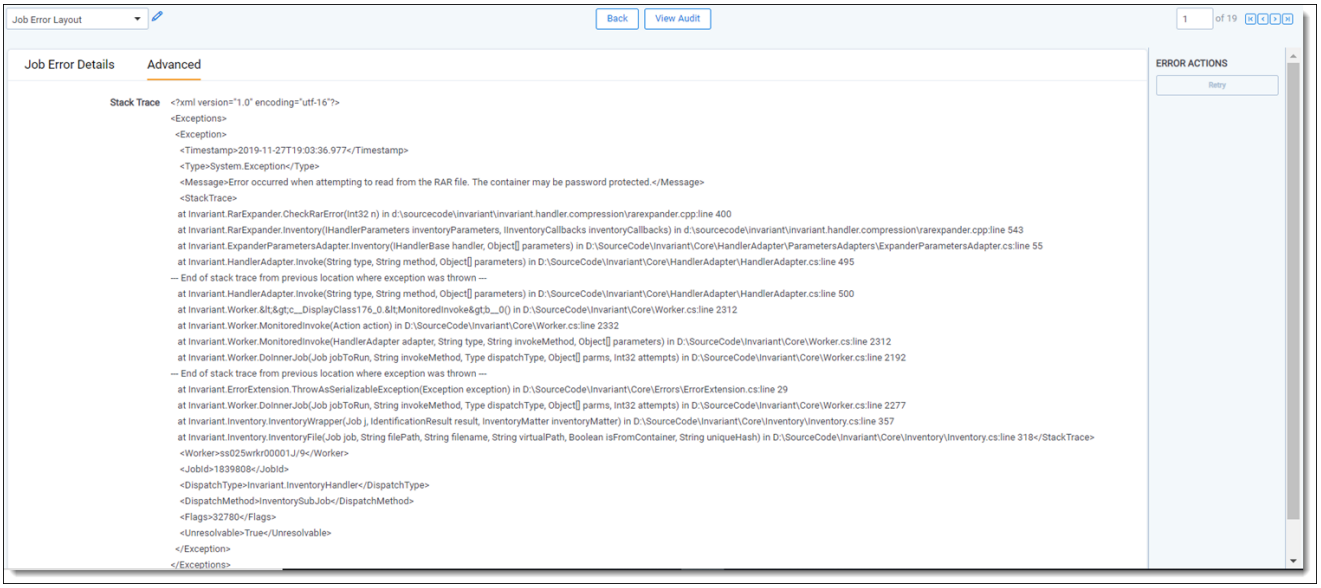
20.4.2.2 Viewing job error details

Click the **Error Identifier** to open the **Job Error Details** dialog.

Note that the **Error Actions** console is not available for unresolvable job , since you cannot retry or ignore job as you can with document .

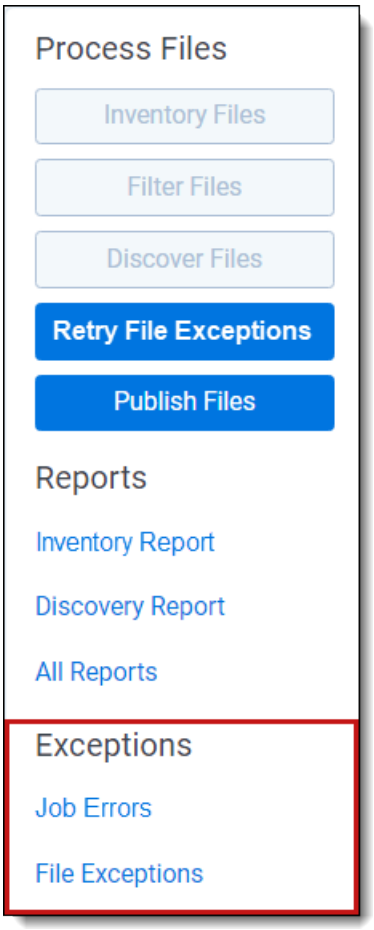


To see the job error stack trace, click the **Advanced** tab. Here, you can parse through even more detailed information about the error, including timestamps, messages, and error phase.



20.5 Viewing exceptions from a processing set

From within your processing set, use the links in the **Process Files** console to view job exceptions and file exceptions. Click the **Job Errors** link to open the **Job Errors** tab > **Current Job Errors** view. Click the **File Exceptions** link to open the **Files** tab > **Current Files with Exceptions** view.



20.6 Retrying exceptions after making changes to the processing profile

When you retry exceptions, Relativity attempts to reprocess exceptioned files using the processing profile settings associated with the processing set. If you change a field setting in the processing profile and then retry exceptions, some changes will be respected (or recognized,) and some will not. In other words, after changing the processing profile, Relativity uses the new settings for some fields during retry and ignores new settings for others. In the table below, fields marked Yes are fields where changes override the original setting. Fields marked No are fields where the original setting precedes any changes.

Front-End Setting	Respected on retry?
Inventory | Discover Settings	

Front-End Setting	Respected on retry?
DeNIST and DeNIST Mode	Yes
Default OCR languages	No
Default time zone	No
Include/Exclude and Inclusion/Exclusion	Yes
Mode	Yes
File Extensions	Yes
Extraction Settings	
Extract children	No
When extracting children, do not extract	No
Roll up image text	No
Email Output	Yes
Excel Text Extraction Method	Yes
Excel Header/Footer Extraction	Yes
PowerPoint Text Extraction Method	Yes
Word Text Extraction Method	Yes
OCR	Yes
OCR Accuracy	Yes
OCR Text Separator	Yes
Short Message Conversion Settings	
Slice by	Yes
Slack	Yes
Download attachments	Yes
Teams	Yes

20.7 Required security permissions

The following security permissions are required to perform actions on file errors:

Object Security	Tab Visibility
■ Discovered File - View, Edit ■ Download and Replace files with processing	■ Processing ■ Files

Object Security	Tab Visibility
errors	

21 Exception and error resolution

Two distinct types of exceptions occur during processing: exceptions and errors. Exceptions are resolvable errors that occur when Relativity cannot process a job or file. For example, a password-protected file where Relativity cannot find the password. In this case, you can resolve the issue by providing the password and rerunning the process. Errors occur when the processing engine cannot complete the job. For example, an error may occur when there is a break in network connectivity where Relativity cannot access file storage. In this case, the resolution is to rerun the processing job after you restore network connectivity. Other errors may be more complex and require support intervention.

For information on where to find processing exception and error information in RelativityOne, see Processing exception overview.

This page details the following:

21.1 Types of processing exceptions and errors

There are two types of processing issues that may affect the outcome of you processing job: file exceptions and job errors.

- **File exceptions**—affect a single file. Overall, the processing job continues, even if file exceptions exist. File exceptions are resolvable and have a status of **Not Resolved** in the Files tab. An example of a file exception might is a password-protected file where Relativity cannot find the password. By supplying the password you can retry the exception.
- **Job errors**—affect the entire processing job and block publishing. You must resolve job errors before you can continue processing.

21.2 Exception levels

Discover and publish exceptions are further defined by the exception level, which indicates severity of the issue. Each phase has two exception levels:

- Discover
  - Warning—the job continues; however, metadata may be missing.
  - Error—the job is blocked from completing.
- Publish
  - Warning—the job continues; however, metadata may be missing.
  - Error—the job is blocked from completing.

21.3 Processing phases where exceptions and errors may occur

Exceptions and errors can occur during any processing phase, such as Inventory, Discover, and Publish.

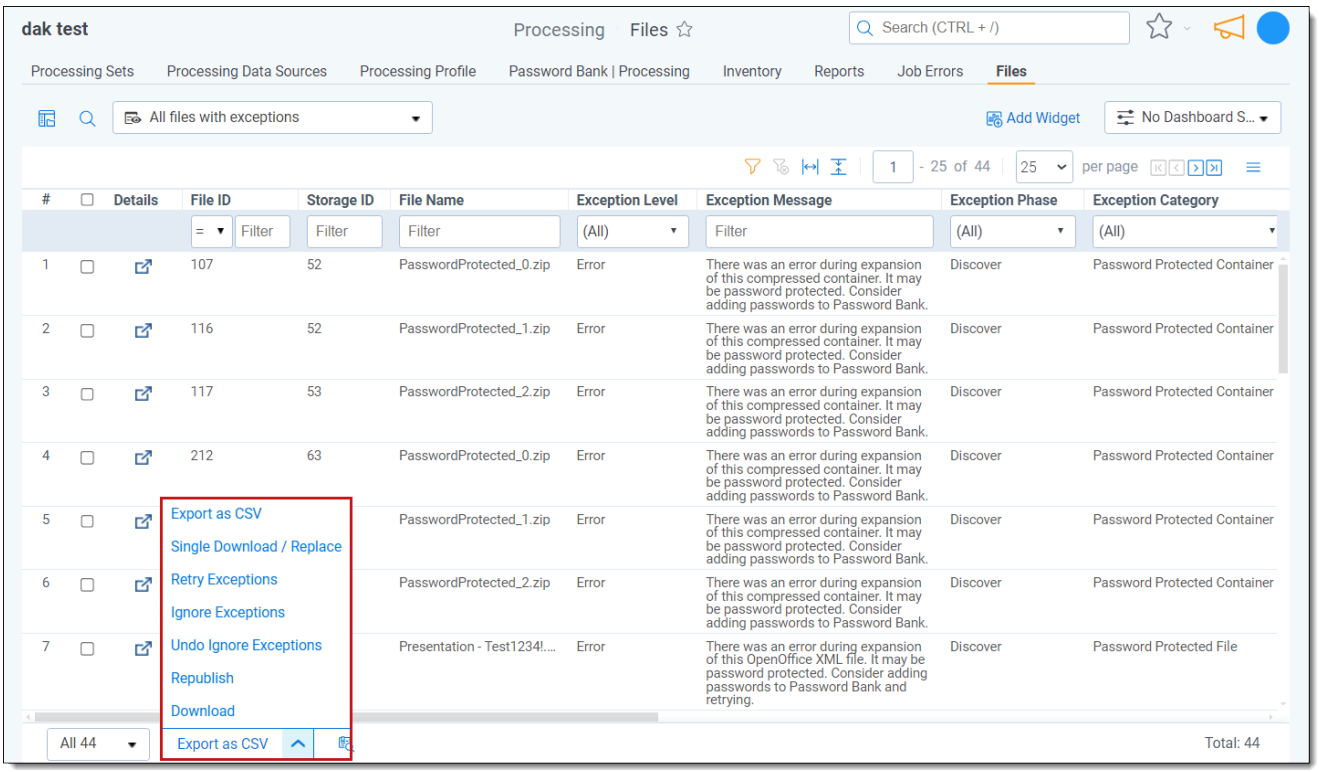
- **Inventory**—all Inventory errors are unresolvable, and you cannot retry them. To address inventory errors, rerun Inventory from the same processing set.
- **Discover**—the Discover phase covers file discovery and text extraction.
  - **Discover**—job errors that occur during discovery are unresolvable, and you cannot retry them. You should always address unresolvable discover job errors. Not addressing unresolvable errors may result in missing documents or incomplete metadata in published documents. Address these errors by creating a new processing set (or sets) and rediscovering the data.
  - **Text-extraction**—job exceptions that are resolvable have an error status of **Ready to retry**. Retry the error from the same processing set.
- **Publish**—job exceptions during the publishing phase that are resolvable have an error status of **Ready to retry**. Retry the error from the same processing set.

21.4 File exceptions

After completing the discovery or publish phases, you notice the processing job encountered file exceptions. You want to investigate and resolve the exceptions to maximize the data published to your workspace.

21.4.1 File exception actions

You can take action on file exceptions from the mass actions drop-down menu located at the bottom of the **Files** tab page.



The following mass actions are available:

Mass operation	Description
Export as CSV	This exports the list of processing errors as a CSV file.
Republish	Gives you the option of republishing errored files after you resolve the erorrs. If the republish is successful, the files are available in the Documents list and removed from the Current Errored Files view. For details on how to republish files from the **Files** tab, see Republishing files.
Retry exceptions	This action provides the ability to resolve issues occurring during discover and publish. You can see these issues on the Current Files with Exceptions and All Files with Exceptions views within the **Files** tab. For details on how to retry exceptions from the Deleted Documents view in the **Files** tab, see Retrying delete exceptions. ■ You must have edit permissions on the Discovered Files object to be able to retry file exceptions. ■ Note the following regarding retrying exceptions: ○ Auto-publish is not enabled when you retry exceptions. If you resolve any discover or text extraction exceptions, you must manually publish them into your workspace by navigating back to the processing set and clicking the **Retry** button.

Mass operation	Description
	◦ The discovery retry of exceptions process has a longer timeout period than the initial discovery process. It is not uncommon for the retry process to run longer than the initial discovery process. ◦ You should always resolve all publish exceptions as these exceptions represent data not in review. ◦ If an exception occurs on a loose file during discovery, Relativity still attempts to publish it. For example, if a Password Protected exception occurs on a PDF file during discovery, you can still publish the file in its current state. The resulting record may have metadata or extracted text missing depending on the issue, but still referenced during review. ◦ Relativity automatically retries all publish exceptions for a set when you retry any exception within that set. ◦ Do not work on multiple retry attempts simultaneously. If you submit a secondary retry while the initial retry is still in progress, the second retry waits in a queue until the first retry completes. ◦ You can only submit exceptions with an exception Status of **Not Resolved** for retry.
Ignore exceptions	This provides the ability to set a file's exception Status to Ignored, which removes it from the Current Files with Exceptions view. The record is visible in the All Files and All Files with Exceptions views.
Undo Ignore exceptions	Sets a file's **exception Status** field back to its original value after you previously ignored it.
Single Download/Replace	Use the Single Download/Replace mass operation to download a file to your local machine for investigation. After fixing the exception, you can use the same mass operation to replace the original file with a newer version. Note the following regarding downloading and replacing files: ■ You can only download or replace a single file at a time. ■ You can only perform these actions on files with an exception status of Not Resolved. ■ There is no file size limitation when downloading files. ■ There is a one-gigabyte file size limitation when uploading replacement files. ■ Performing a file replacement retries associated exceptions once

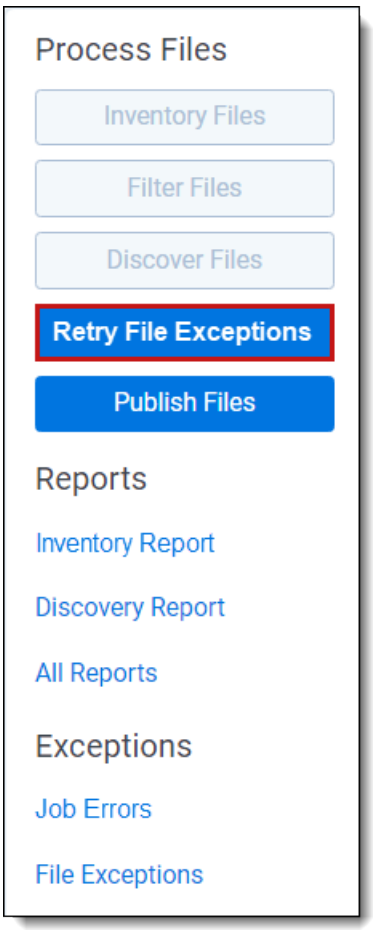
Mass operation	Description
	completed. ■ After uploading a new document, and you select Replace & Retry, the native file updates before you republish. ■ The retry action for job exceptions only retries exceptions in a Ready to Retry state. For more information on the Single Download/Replace mass operation, see Single Download/Replace on the **Files tab** page.
Download	Use the Download mass operation to download multiple exceptioned files to your local drive. Note the following regarding the downloading mass operation: ■ You can only use the Download mass operation on files with an exception status of Not Resolved. ■ When complete, files are packaged in a zip container and saved to your local drive. ■ You must use the Single File/Replace mass operation to replace a file. ■ There is a 2.14 GB limitation on the zip container file size. For more information on the Download mass operation, see Mass download exceptioned files on the **Files tab** page.

21.5 Resolving file exceptions

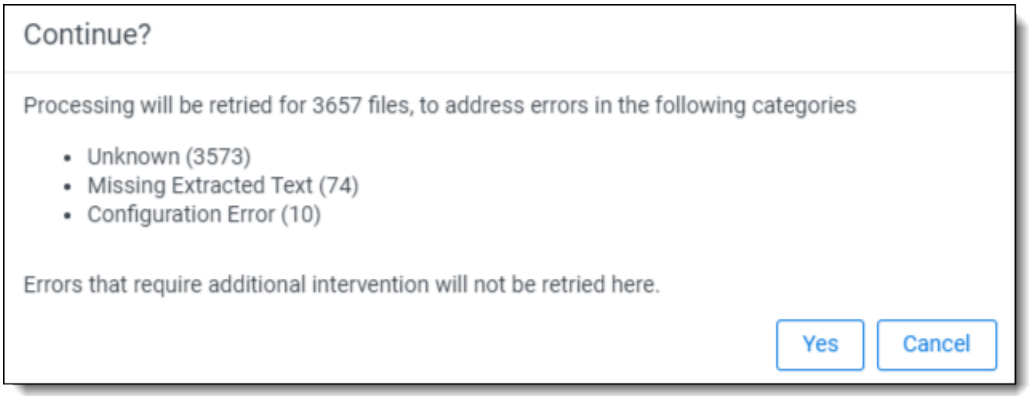
The following sections describe actions you may take to resolve file exceptions.

21.5.1 Retrying an exception from the processing set

You can retry file exceptions from the processing set by clicking the **Retry File exceptions** button located in the **Process Files** console.



A confirmation message appears with information about the number of exceptions you are about to retry, along with the associated exception categories. Click **Yes** to proceed or **Cancel** to return to the processing set page.



21.5.1.1 Container file exceptions

File exceptions on container files, such as a .zip file, may result in missing data from one or more files within the container. In some cases, you may have many files in exception, even though you see a single file exception on the container. For container file exceptions, extract the files and then create a new processing set with the extracted files.

21.5.1.2 Exception categories and their probability of retry success

Relativity retries file exceptions that have a high chance of success. The exception category associated with the file determines the probability of success. exception categories such as Corruption or Password Protection are not retried as they are not likely to be successful without manual intervention. For example, adding passwords to the Password Bank or replacing corrupt files. The table below lists the types of exceptions that Relativity retries.

Exception Category	Included in Retry Button
Corrupt Container	No
Corrupt File	No
Could Not Identify	No
Environmental	Yes
File Read/Write Issue	Yes
Missing Attachment	Yes
Missing child items due to password protection	No
Missing Extracted Text	Yes
Missing File Metadata	Yes
Partially Corrupted Container	No
Password Protected Container	No
Password Protected File	No
Relativity Field Configuration	No
Unsupported	No

21.5.2 Retry file exceptions mass action

Starting from your processing set, perform the following steps:

1. From the **Process Files** console, click **File exceptions** to open the **Current Files with Exceptions** view. The list is automatically filters for your processing set.
2. You can filter the exceptioned files that are the most important to resolve. Some common filters are:
   - **Exception Category**—group issues of a similar type.
   - **Exception Phase**—groups issues occurring during a particular part of processing.
   - **Custodian**—when you have a priority Custodian you want investigated first.
   - **Sort Date**—to retry files within the matter's relevant date range.
3. Once you identify a group of records to resolve, select the **Retry Exceptions** mass action to begin the process. Alternatively, you can retry all exceptioned files without filtering.

You can now track the progress of the exception retry through the processing set's progress bar or by navigating to the Processing and Imaging Queue and viewing active jobs.

21.5.3 Replacing a corrupted file

Sometimes, files reach processing in a corrupted state. Here is a workflow to replace corrupted files with non-corrupted versions so you can get the most out of your data. This works on encrypted documents as well.

Starting from your processing set, perform the following steps:

1. From the **Process Files** console, click **File Errors** to open the **Current Files with Exceptions** view. The list is automatically filters for your processing set.
2. Locate the file you need to replace. Common techniques are:
   - Filter the exception Category field for either Corrupted File or Corrupted Container.
   - Filter by specific file names.
   - Filter for specific exception messages.
3. Select the appropriate checkbox for the file you want to replace.
4. Select the **Single Download/Replace** option in the mass action drop-down menu.
5. From here, two options are available:
   - To download a corrupted file: confirm the modal displays the correct container and click the **Download** button.
   - To replace a corrupted file: drag the replacement file into the modal or select **browse for files** to locate the container.
6. Once you add the replacement file to the modal, it automatically uploads to Relativity. A quick verification process lets you know if there are any issues or if there are any significant differences between the original and replaced files.
7. Select the **Replace & Retry** button to complete the replacement and retry any Discovery related errors.

Note: When replacing a file, the metadata associated with the new file overwrites any metadata associated with the original file. For example, if the original file's author is Steve Bruhle and the replacement file's author is Dave Crews, the metadata in Relativity displays Dave Crews.

For more information on replacement considerations, see Single Download/Replace.

21.5.4 Resolving a password-protected file exception

Some files are password-protected. If Relativity cannot find the password during the Discover phase, you will see an exception with the category, Password Protected Container. The resolution for this exception is to add the password to the Password Bank.

To add a password to the bank, perform the following steps:

1. Navigate to the **Password Bank | Processing** tab.
2. Click **New**.
3. Select **Passwords** for the **Type** value.
4. Add a meaningful description to help you differentiate between other password entries.

5. Add one or more passwords. You must enter each password on a separate line.
6. Click **Save**.
7. **Retry** the file exception from either the processing set Process Files console, or from the Files tab mass actions drop-down menu.

For completed details on storing passwords, see Password Bank.

21.5.5 Publish documents with field length exceptions

When metadata exceeds the field length limit for optional fields, Relativity publishes the file, excluding the offending metadata, not as an error but as an exception warning. The published content is available for review or other downstream functions such as indexing and search terms reports. Files with metadata exceeding the field length limit for required fields have an exception error status where the entire file is held back and not published.

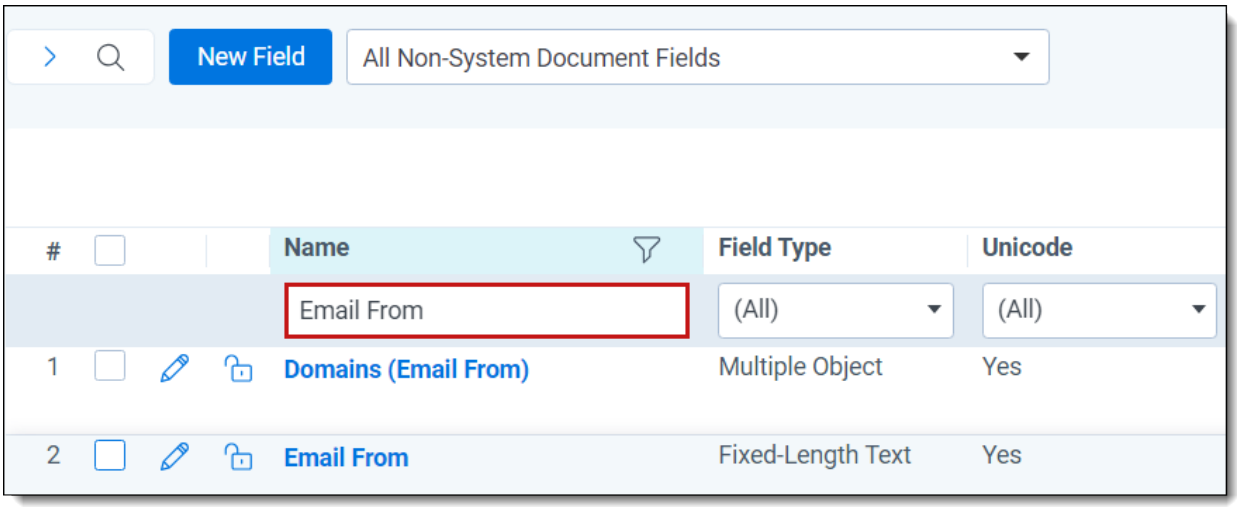
21.5.5.1 Resolving field length exception warnings

You cannot successfully retry field length exception warnings without some intervention. For example, suppose you have an optional email field with a field length of 250 characters and try to publish a file with an email containing 300 characters. You see the field length exception warning. You can change the email field length to 350 characters and retry the warning, resulting in the email metadata being published with its parent file.

You cannot change required (system-mapped) fields with a fixed-length text field type. In this case, Relativity displays an exception error, and you cannot publish the file in its current state. For example, Container Name is a system-mapped field with a maximum limit of 255 characters. If you exceed that limit, you will see an exception error. Since you cannot change the field properties, you must change the container name length to meet the field requirements. After that, you can retry the error.

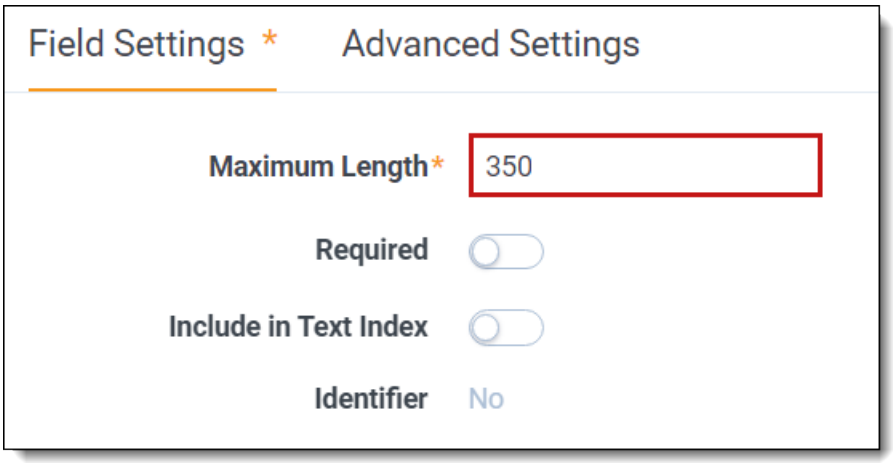
Steps

1. Use the search bar to navigate to the **Fields** tab.
2. Use the **Name** filter to locate the field you want to change. You can also scroll through the field names if you are not sure of the field name. In the image below, we want to change the **Email From** field.



3. Click the field **Name** (in this example, Email From) to open the fields details.
4. Click **Edit**.

5. Change the Maximum Length field so that it exceeds the field characters that threw the exception.



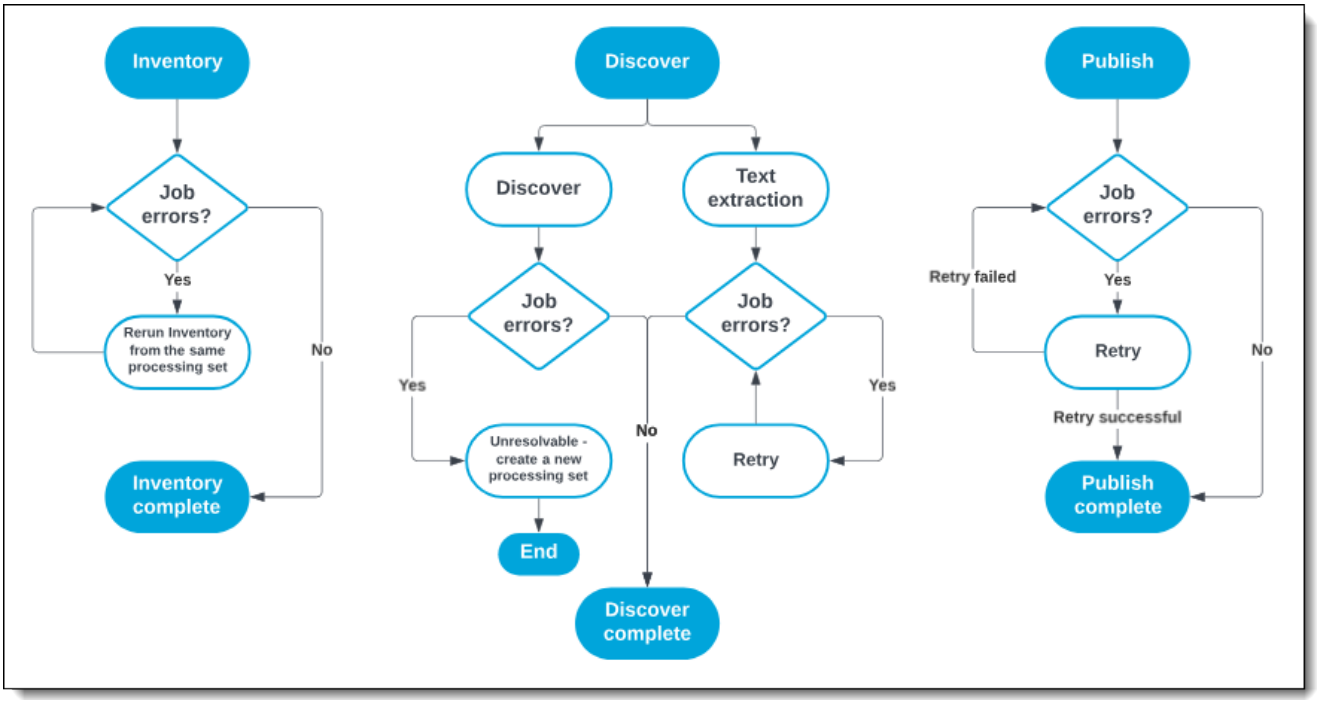
6. Click **Save**.

21.6 Job errors

Navigate to the **Job Exceptions** tab to view a list of job errors. The **Current Files with Exceptions** view displays all outstanding job errors. The **All Files with Exceptions** view displays all job errors across time, regardless of their resolution. Review the **exception Status** and **Message** fields for an overview of the error and the potential for remediation. Is this correct? Do you view job errors from the Job Exceptions tab?

21.6.1 Job error workflow

The following diagram shows the job error workflows for Inventory, Discover, and Publish jobs.

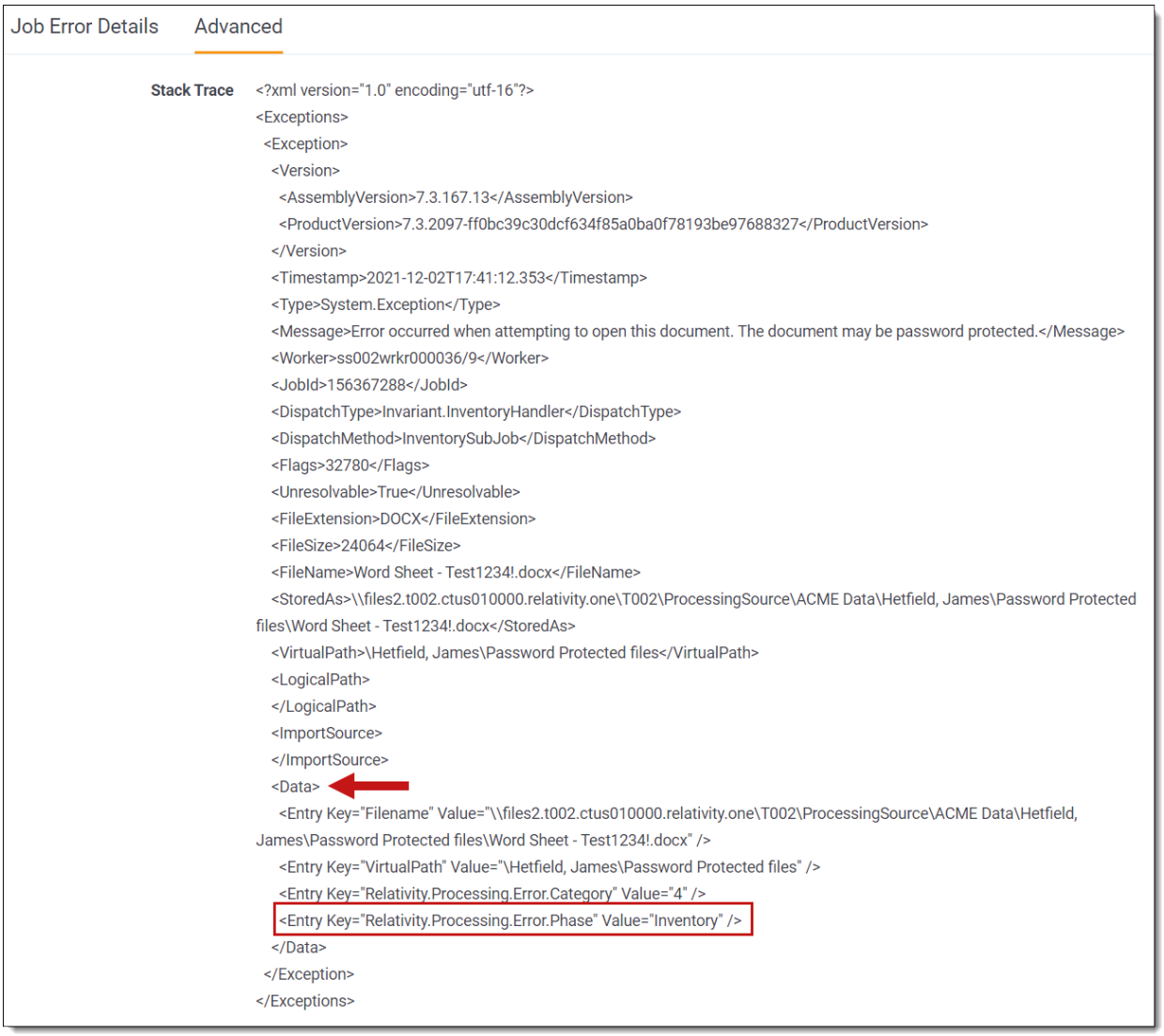


21.6.2 Resolving job errors

The steps for resolving job errors depend on the phase running when the error occurred. For some phases, errors are unresolvable; others require creating and running a new processing set. You can resolve some errors using mass actions or by retrying the errors from the processing set. The first step in resolving job errors is determining the phase in which the error occurred.

To identify the phase where the error occurred, perform the following steps:

1. Navigate to the **Job exceptions** tab.
2. Click the **Error Identifier** for the error you are researching. The Job Error Details pane opens.
3. Click the **Advanced** tab.
4. Locate the **Data** section, then locate the **Relativity.Processing.Error.Phase** entry key. The key value is the phase where the error occurred. In the image below, the phase is Inventory.



21.6.2.1 Inventory

All inventory errors are unresolvable. You must address the error outside of Relativity, then rerun Inventory from the processing set.

To re-inventory files, perform the following steps:

1. From the processing set, click the **Inventory Files** button in the **Process Files** console.
2. A confirmation message appears. Click **Yes**.

When you rerun the Inventory phase, Relativity clears any errors from the previous job.

For detailed information on the Inventory phase and errors, see Inventory processing.

Note: When working with questionable data sets, run Inventory to get a pre-assessment of corrupt files. This way, you can review the error messages returned for possible remediation before continuing to other processing phases.

21.6.2.2 Discover

The Discover phase includes file discovery and text extraction. You should treat errors that occur during the Discover phase with high priority, as they are generally unexpected. Resolving these errors depends on where they occurred during the discovery process. Not resolving Discover errors may result in incomplete metadata when the files are published.

To address errors that occur during file discovery, perform the following steps:

1. If possible, retry the errors from within the processing set.
2. If the errors are unresolvable, create a new processing set using the same data source as the errored set.
3. Rerun Discover.

To address job errors that occur during text extraction, perform the following steps:

1. From the processing set, click the **Job Errors** link in the **Process Files** console.
2. You can retry errors with a status of **Ready to retry**. From the mass actions drop-down menu, select **Retry Errors**.
3. On the Retry error(s) confirmation dialog, click **Retry**.

   The status changes to Resolving. You can refresh the page until the status updates with either Resolved or Not Resolved. If the error is not resolved, you must rediscover the files from a new processing set.

For detailed information on discovering files, see Discovering files.

21.6.2.3 Publish

Job exceptions during the publishing phase that are resolvable have an exception status of **Ready to retry**. Retry the exception from the same processing set.

For detailed information on the Publish phase and exceptions, see Publishing files.

22 Reports

In the Reports tab, you can generate reports in Relativity to understand the progress and results of processing jobs. You can't run reports on processing sets that have been canceled. When you generate a processing report, this information is recorded in the History tab.

Note: This topic contains several references to progressive filtration. For context, consider the following explanation: A count based on absolute filtration counts the total number of files each filter eliminates as if it were the only filter applied to the entire data set. A count based on progressive filtration counts the total number of files each filter actually eliminates by accounting for all previously applied filters. For example, a file type filter eliminates 3000 PDF files from a data set, but a previously applied date range filter also eliminated 5000 PDF files. A count based on absolute filtration would report the file type filter as eliminating 8000 PDF files because the count is based on the total number of files each filter eliminates as if it were the only filter applied to the entire data set. However, a count based on progressive filtration counts the total number of files each filter actually eliminates by accounting for all previously applied filters. In the previous example, a progressive filtration count only reports 3000 PDF files eliminated by the file type filter, because the other 5000 PDF documents were progressively eliminated by the date range filter.

Using processing reports

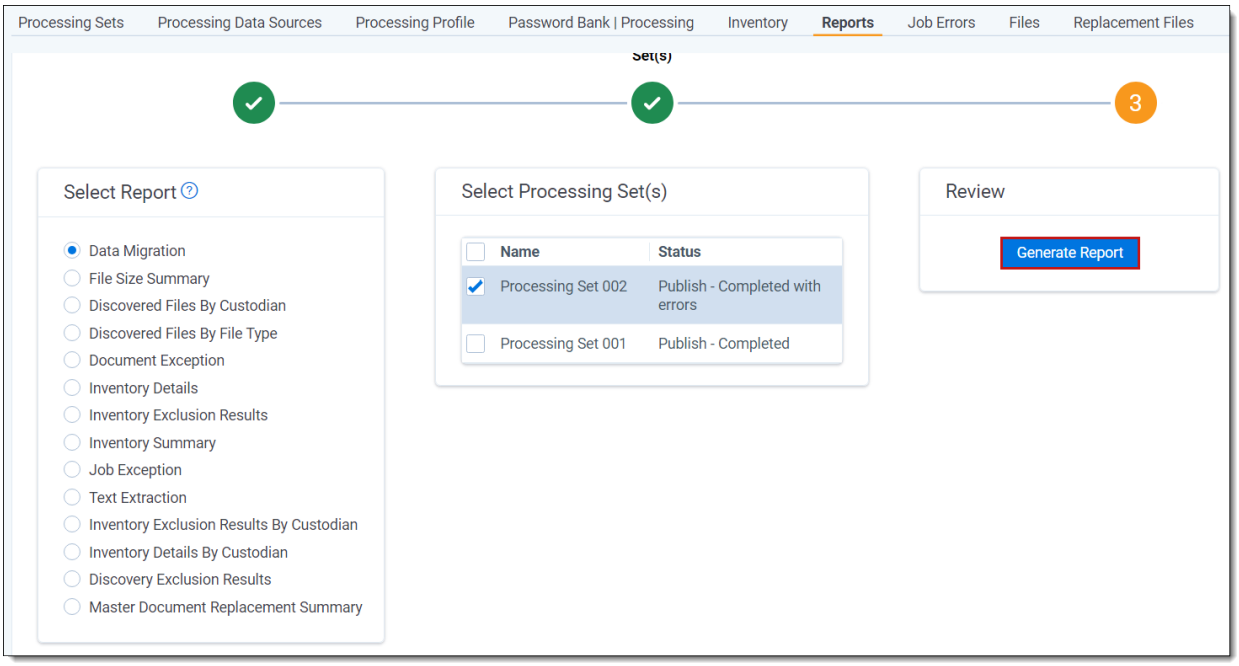
Imagine you're a litigation support specialist, and someone in your firm needs to see a hard copy of a report that shows them how many files have been discovered in their processing workspace per custodian. They need this report quickly because they're afraid that certain custodians were accidentally associated with the wrong data sources and processing sets.

To produce this, go to the Reports tab under Processing and run the Discovered Files by Custodian report for the processing set(s) that your firm suspects are wrong.

22.1 Generating a processing report

1. Navigate to the **Processing** tab.
2. Click the **Reports** sub-tab. You can also access the Reports tab by clicking the View All Reports link on your processing set console.
3. From the **Select Report** section, select the report type you want to generate. When you select a report type, the processing set list to the right is updated to reflect only those sets that are applicable to that report type. For example, if you haven't yet discovered the files in your set, that set won't show up when you select either of the Discovered Files reports. Canceled processing sets aren't available when you're running reports.
4. From the **Select Processing Set** section, select the set on which you want to report.

5. Click **Generate Report**.



6. At the top of the report display, there are several icons that control your interaction with the report. For example, you can toggle on and off single or multiple page display, print the page, print the report, export the report, and view the report in full screen mode.

Note: If you export a report that contains Unicode characters as a PDF, and the web server you're logged in to does not have the font *Arial Unicode MS Regular* installed (regardless of whether the server the workspace resides on has this font installed), you see blocks in the generated PDF file. To resolve this issue, you can purchase and install the font separately, or you can install Microsoft Office to the web server, which installs the font automatically.

You can generate a new report at any time by clicking **New Report** at top right of the collapsed report generation window.

Note: If you choose to print a processing report through your browser, that report won't be displayed correctly, in that it will be incomplete. Therefore, it's recommended that you always use Relativity's print button to print reports and not print through the browser.

22.2 Data Migration

This report provides information on how data was migrated into Relativity, including details about excluded files and a summary of the number of starting files, published documents, and documents included in the workspace for each custodian associated with the selected processing sets. You can run this report on published processing sets.

22.2.1 Summary Statistics: Data Migration

This table provides a summary of the files excluded during data migration by custodian and contains the following information:

- **Custodian**—the name of each custodian associated with the migrated files.
- **Starting Files**—each custodian's initial number of discovered files in the processing set. This includes files that may have been denisted.
- **Excluded Files**—each custodian's total number of excluded files.
- **Published Documents**—each custodian's total number of published documents.
- **Documents in Workspace**—each custodian's total number of documents in the workspace.

Note: Differences between Published Documents and Documents in Workspace counts could indicate that documents were deleted after publishing.

22.2.2 Excluded Files

This table lists all files excluded during data migration by custodian and provides the following information:

- **Custodian**—the name of the custodian associated with excluded files.
- **DeNIST**—the number of NIST files excluded.
- **Containers**—the number of container files excluded.
- **Duplicates**—the number of duplicate files excluded.
- **Embedded Images**—the number of embedded images excluded.
- **Publishing Errors**—the number of files excluded due to errors during publication.
- **Total Excluded Files**—each custodian's total number of excluded files.

22.2.3 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.3 Master Document Replacement Summary

This report provides a summary of documents deleted and resulting replacements during deduplication recalculation during the Post-Publish Delete process. You can run this report on processing sets.

22.3.1 Deleted Master Documents

This table lists all files deleted during the discovery process by control number and provides the following information:

- **Control Number**—the identifier of the deleted document.
- **File ID**—the number value associated with the deleted file in the database.
- **Custodian**—the name of each custodian associated with the deleted file.

- **Published Control Number**—the identifier of the document published as a result of deduplication recalculation.
- **Published Custodian**—the custodian associated with the replacement document published as a result of deduplication recalculation.

22.3.2 Replacements Master Documents

This table lists all files deleted during discovery by control number and provides the following information:

- **Control Number**—the identifier of the replacement document published as a result of deduplication recalculation.
- **File ID**—the number value associated with the replacement file in the database.
- **Custodian**—the name of each custodian associated with the replacement document published as a result of deduplication recalculation.
- **Deleted Control Number**—the identifier of the deleted document.
- **Deleted Custodian**—the custodian associated with the deleted document.

22.3.3 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.4 Discovery Exclusion Results

This report provides filtering summaries for exclusion or inclusion filter types applied during Discovery including file extensions, file types, file size, excluded file count, and processing sets filtered. You can run this report on discovered processing sets. See Processing profiles for more information on Inclusion/Exclusion Discovery filters.

22.4.1 Discover Filter Settings

This table provides a summary of the filter settings specified in Inventory | Discover settings within the Processing Profile and contains the following information:

- **Filter Type**—the filter type applied.
- **File Extensions**—all file extensions entered into the Inclusion/Exclusion File List.

22.4.2 File Type | File Size | Excluded File Count

This table lists the file types filtered out of the document list and the number and size (GB) of files per type that were excluded.

22.4.3 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.5 Discovered Files by Custodian

This report provides information on the file types discovered during processing for the custodians associated with the selected processing sets. This report identifies the total processable and unprocessable file types discovered and categorizes the totals by custodian. You can run this report on discovered or published processing sets.

22.5.1 Discovered Files by Custodian

This table provides a summary of all files discovered per custodian and contains the following information:

- **Custodian**—the name of the custodian whose files were discovered.
- **Discovered Files**—the number of each custodian's discovered files.

22.5.2 File Types Discovered - Processable

This table provides a summary of the processable discovered files per file extension and contains the following information:

- **File Extension**—all file extensions discovered.
- **Discovered Files**—the number of files discovered with that file extension.

22.5.3 File Types Discovered - Processable (By Custodian)

This table provides a summary of the processable discovered file counts per file extension by custodian and contains the following information:

- **Custodian**—the name of the custodian whose processable files were discovered.
- **File Extension**—all file extensions of each custodian's processable discovered files.
- **Discovered Files**—the number of each custodian's processable discovered files by file extension.

22.5.4 File Types Discovered - Unprocessable

This table provides a summary of the discovered file counts per file extension and contains the following information:

- **File Extension**—all unprocessable discovered file extensions.
- **Discovered Files**—the number of unprocessable files discovered with that file extension.

22.5.5 File Types Discovered - Unprocessable (by Custodian)

This table provides a summary of the processable discovered file counts per file extension by custodian and contains the following information:

- **Custodian**—the name of the custodian whose unprocessable files were discovered.
- **File Extension**—all file extensions of each custodian's unprocessable files.
- **Discovered Files**—the number of each custodian's unprocessable discovered files by file extension.

22.5.6 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.6 Discovered Files by File Type

This report provides information on the file types discovered during processing for the custodians associated with the selected processing sets. This report identifies the total processable and unprocessable file types discovered and categorizes the totals by file type. You can run this report on discovered or published processing sets. See Supported file types for a list of file types and extensions supported by Relativity for processing.

22.6.1 Discovered Files by Custodian

This table provides a summary of all files discovered per custodian and contains the following information:

- **Custodian**—the name of the custodian whose files were discovered.
- **Discovered Files**—the number of each custodian's discovered files.

22.6.2 File Types Discovered - Processable

This table provides a summary of the files discovered per file extension and contains the following information:

- **File Extension**—all file extensions discovered.
- **Discovered Files**—each file extension's number of files discovered.

22.6.3 File Types Discovered - Processable (By File Type)

This table provides a summary of the discovered file counts per file type and contains the following information:

- **File Extension**—the file extension of all discovered files.
- **Custodian**—the custodians of each file extension's discovered files.
- **Discovered Files**—the number of each file extension's discovered files by custodian.

22.6.4 File Types Discovered - Unprocessable

This table provides a summary of the files discovered per file extension and contains the following information:

- **File Extension**—all file extensions discovered.
- **Discovered Files**—each file extension's number of files discovered.

22.6.5 File Types Discovered - Unprocessable (By File Type)

This table provides a summary of unprocessable discovered file counts per file type and contains the following information:

- **File Extension**—the file extension of all unprocessable discovered files.
- **Custodian**—the custodians of each file extension's unprocessable discovered files.
- **Discovered Files**—the number of each file extension's unprocessable discovered files by custodian.

22.6.6 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.7 Document Exception

This report provides details on the document level errors encountered during processing, broken down by those that occurred during the discovery process and those that occurred during the publishing process. You can run this report on discovered or published processing sets.

22.7.1 Document Level Errors - Discovery

This table lists all document level errors that occurred during discovery and contains the following information:

- **Error Message**—all error messages encountered during discovery.
  - **Total**—the total number of errors encountered during discovery.
  - **Total Distinct Documents with Discovery Errors**—the total number of documents that encountered errors during discovery. Because any single document can have multiple errors, this count might be lower than the total number of errors.
- **Count**—the number of instances the corresponding error occurred during discovery.

22.7.2 Document Level Errors - Publishing

This table lists all document level errors that occurred during publish and contains the following information:

- **Error Message**—all error messages encountered during publishing.
  - **Total**—the total number of errors encountered during publishing.
  - **Total Distinct Documents with Publishing Errors**—the total number of documents that encountered errors during publishing. Because any single document can have multiple errors, this count might be lower than the total number of errors.
- **Count**—the number of instances the corresponding error occurred during publishing.

22.7.3 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.8 File Size Summary

This report provides information on file sizes for pre-processed, processed, and published data sets. Run this report after publishing a processing set.

22.8.1 Pre-Processed File Size

This table lists the pre-processed file size for all loose and compressed file sizes in the source location.

22.8.2 Processed File Size

This table lists the processed file size once Discovery is complete.

It includes:

- all loose and uncompressed files
- duplicate files

It excludes:

- container files
- DeNISTed files

22.8.3 Published File Size

This table lists the published file size for review.

It includes:

- all loose and uncompressed files

It excludes:

- container files
- DeNISTed files
- duplicate files

22.9 Inventory Details

This report provides detailed information on date range included, file size limitations, and deNIST settings. The report lists the number of files excluded by each filter applied. All excluded file counts reflect

progressive filtration. See Reports on page 272 for more information. You can run this report on inventoried processing sets.

22.9.1 Inventory Filter Settings

This table provides a summary of the filter settings specified in the Inventory tab and contains the following information:

- **DeNIST Files Excluded**—whether or not NIST files were excluded from the processing set after inventory.
- **Date Range Excluded**—the span of time set by the date range filter after inventory.
- **File Size Range Excluded**—the file size limitations set by the file size filter.
- **Inventory Errors**—the number of errors encountered during the inventory process.
- **Files With Unknown Dates**—the number of files with invalid dates.

22.9.2 Excluded by File Type Filter | Excluded File Count

This table lists all file types filtered out of the document list and the number of files per type that were excluded.

22.9.3 Excluded by Location Filter | Excluded File Count

This table lists all file locations filtered out of the document list and the number of files per location that were excluded.

22.9.4 Excluded by Sender Domain Filter | Excluded File Count

This table lists all sender domains filtered out of the document list and the number of files per domain that were excluded.

22.9.5 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.10 Inventory Details by Custodian

This report provides detailed information on date range included, file size selection, and deNIST settings. The report lists the files and counts for each filter applied and also breaks down these counts by custodian. All excluded file counts reflect progressive filtration. You can run this report on inventoried processing sets.

22.10.1 Inventory Filter Settings

This table provides a summary of the filter settings specified in the Inventory tab and contains the following information:

- **DeNIST Files Excluded**—whether or not NIST files were excluded from the processing set after inventory.
- **Date Range Selected**—the span of time set by the date range filter after inventory.
- **File Size Range Selected**—the file size limitations set by the file size filter.
- **Inventory Errors**—the number of errors encountered during the inventory process.
- **Files With Unknown Dates**—the number of files with invalid dates.

This report contains the same tables as the Inventory Details Report, but it also includes the following:

22.10.2 Custodian | Excluded by File Type Filter | Excluded File Count

This table lists the file types filtered out of the document list per custodian and the number of files per type that were excluded.

22.10.3 Custodian | Excluded by File Location Filter | Excluded File Count

This table lists all file locations filtered out of the document list per custodian and the number of files per location that were excluded.

22.10.4 Custodian | Excluded by Sender Domain | Excluded File Count

This table lists all sender domains filtered out of the document list per custodian and the number of files per domain that were excluded.

22.10.5 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.11 Inventory Exclusion Results

This report provides detailed information on date range excluded, file size limitations, and deNIST inventory settings. This report also provides counts of files excluded by applied filters and categorizes the results by file type, sender domain, and file location. All excluded file counts are absolute. See Reports on page 272 for more information. You can run this report on inventoried processing sets.

22.11.1 Inventory Filter Settings

This table provides a summary of the filter settings specified in the Inventory tab and contains the following information:

- **DeNIST Files Excluded**—whether or not NIST files were excluded from the processing set after inventory.
- **Date Range(s) Selected**—the span of time set by the date range filter after inventory.

- **File Size Range(s) Selected**—the file size limitations set by the file size filter.
- **Total Files Excluded**—the number of files excluded by all applied filters.

22.11.2 File Type | Excluded File Count

This table lists all file types that were filtered out and the number of files per type that were excluded.

22.11.3 Location | Excluded File Count

This table lists all file locations that were filtered out and the number of files per location that were excluded.

22.11.4 Sender Domain | Excluded File Count

This table lists all sender domains that were filtered out and the number of files per domain that were excluded.

22.11.5 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.12 Inventory Exclusion Results by Custodian

Provides detailed information on date range excluded, file size limitations, and deNIST inventory settings. This report also provides counts of files excluded by applied filters and categorizes the results by file type, sender domain, file location, and custodian. All excluded file counts are absolute. You can run this report on inventoried processing sets.

This report contains the same tables as the Inventory Exclusion Results report, but it also includes the following:

22.12.1 Custodian | Excluded by File Type Filter | Excluded File Count

This table lists the file types filtered out of the document list per custodian and the number of files per type that were excluded.

22.12.2 Custodian | Excluded by File Location Filter | Excluded File Count

This table lists all file locations filtered out of the document list per custodian and the number of files per location that were excluded.

22.12.3 Custodian | Excluded by Sender Domain | Excluded File Count

This table lists all sender domains filtered out of the document list per custodian and the number of files per domain that were excluded.

22.12.4 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.13 Inventory Summary

This report provides filtering summaries for each filter type including applied order, file count excluded, percentage of files excluded, total documents remaining, and total percentage of files remaining. All excluded file counts reflect progressive filtration. See Reports on page 272 for more information.

Final inventory results include file count after filtering, file size after filtering, total number of excluded files, and total percentage of files excluded. You can run this report on inventoried processing sets. Note that, because inventory affects only parent files, this report accounts for parent files only and therefore not necessarily all files in a processing set.

22.13.1 Initial Inventory Results

This table provides a general summary of the inventoried processing set before filtration and contains the following information:

- **Processing Set**—the name of the inventoried processing set.
- **Status**—whether or not errors occurred during inventory.
- **File Count**—the number of files in the unfiltered processing set.
- **File Size** (unit of measurement)—the size of the unfiltered processing set.

22.13.2 Filtering Summary

This table provides a general summary of all filters applied to the inventoried processing set and contains the following information:

- **Applied Order**—the order that the filters were applied.
- **Filter Type**—the filter type applied.
- **File Count Excluded by Filter**—the number of files excluded by the filter.
- **% of Files Excluded by Filter**—the percentage of the initial processing set excluded after filter is applied.
- **Total Remaining File Count**—the number of files remaining after filter is applied.
- **Total % of Files Remaining**—the percentage of the initial processing set remaining after filter is applied.

22.13.3 Final Inventory Results

This table provides summary totals on inventory filtration and contains the following information:

- **File Count After Filtering**—the number of files left after all filters are applied to the processing set.
- **File Size After Filtering** (unit of measurement)—reports the size of the filtered processing set.
- **Total Excluded Files**—the number of files excluded after all filters are applied.
- **Total % of Files Excluded**—the percentage of the initial inventoried processing set excluded after all filters are applied.

22.13.4 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.14 Job Exception

This report provides details on the job level errors encountered during processing. You can run this report on discovered or published processing sets.

22.14.1 Job Level Errors

This table provides a summary of all errors encountered during processing and contains the following information:

- **Error Message**—the error message.
- **Phase of Processing**—the phase of processing in which the error occurred (inventory, discovery, or publish).
- **Count**—the number of instances each error occurred.

22.14.2 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

22.15 Text Extraction

This report provides information, broken down by custodian and file type, on the number and percentage of published files that contain and don't contain extracted text and the total number of files published into Relativity. This also provides details on error messages encountered during processing. You can run this report on published processing sets. This report includes both OCR and extracted text.

Note: The Text Extraction report reads information from Data Grid if the Extracted Text field is enabled for Data Grid.

22.15.1 Text Extraction by Custodian

This table provides a summary of text extraction by custodian and contains the following information:

- **Custodian**—the name of the custodian.
- **With Text**—the number of files for that custodian with extracted text.
- **Without Text**—the number of files for that custodian without extracted text.
- **Percentage without Text**—the percentage of documents for that custodian with no extracted text.
- **Total Published Files**—the number of published files of that custodian.

22.15.2 Text Extraction by File Type

This table provides a summary of text extraction by file type and contains the following information:

- **File Extension**—the file type extension.
- **With Text**—the number of files of that file type with extracted text.
- **Without Text**—the number of files of that file type with no extracted text.
- **Percentage without Text**—the percentage of files of that file type without extracted text.
- **Total Published Files**—the number of published files of that file type.

22.15.3 Breakdown by Error Message

This table provides a summary of the number of files that received each error and contains the following information:

- **Error Message**—the error message.
- **File Count**—the number of files that encountered that error.

  Note: The File Count value will never decrease, even if you resolve errors and retry documents. This is because Relativity gets this value directly from the Errors table in the database, which doesn't communicate error status, only that errors that are present. In other words, even an error that is resolved is still present in the Errors table in the database and therefore will display as being present in the Text Extraction report.

- **Percentage**—the percentage of documents that encountered that error.

Note: If you publish processing sets without mapping the File Extension processing field, the Text Extraction report won't accurately report document counts by file type.

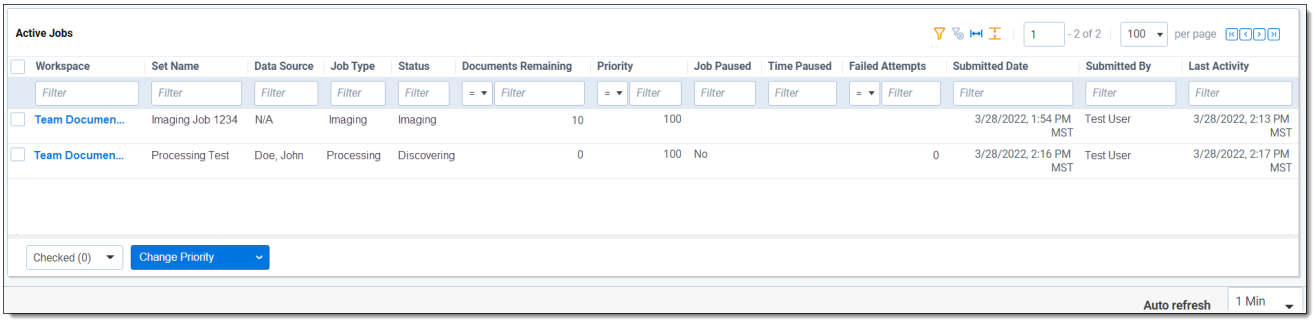
22.15.4 Processing Sets

This section lists all processing sets included in this report. Each processing set listed is accompanied by the following information:

- **Custodian**—the custodians attached to the data sources used by the processing set.
- **Source path**—the location specified in the Source path field on the data sources used by the processing set.

23 Processing administration

Processing administration consists of managing active jobs and viewing processing history. You can manage active jobs via the Queue Management > Processing and Imaging Queue tabs. You will find the Queue Management tab on the Relativity home page. Access Processing History from your workspace menu options. You can also use the search bar to jump directly to either page.



23.1 Security considerations for processing administration

Consider the following items related to security and client domains (formerly multi-tenancy):

- If you are the system admin for a client domain environment, your tenants can only see jobs in their client domain. This eliminates the possibility of information leaks for workers that do not actually operate within your client domain.
- In client domain environments, users from one client domain cannot see 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.

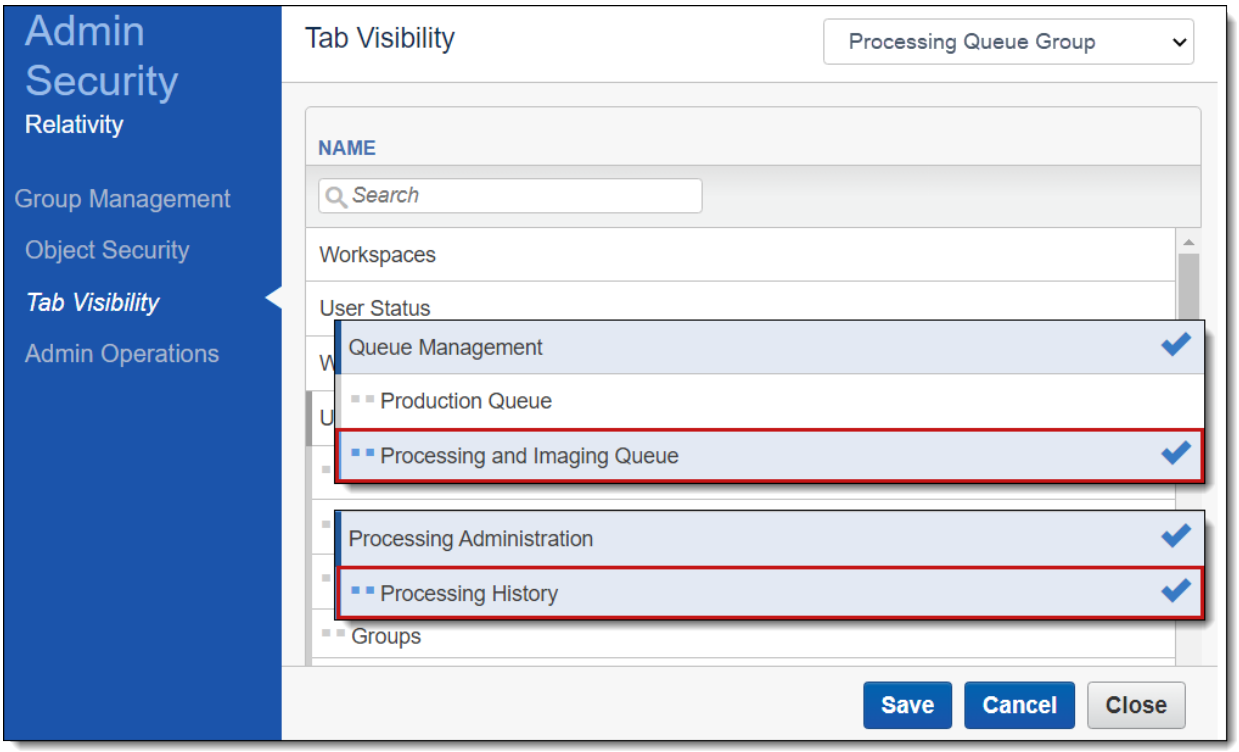
Note: To change the priority of a job where **Customer lockbox** is enabled, you must be in a permission group having access to the workspace where the job originated, along with the System Administrator's group.

Note: Only System Administrators can modify processing jobs on the Processing and Imaging Queue tab. Other users can see the Processing and Imaging Queue tab with instance level permissions, but see an error when attempting to modify processing jobs.

Groups do not have access to the Queue Management or Processing Administration tab or sub-tabs by default. To grant them access, perform the following steps:

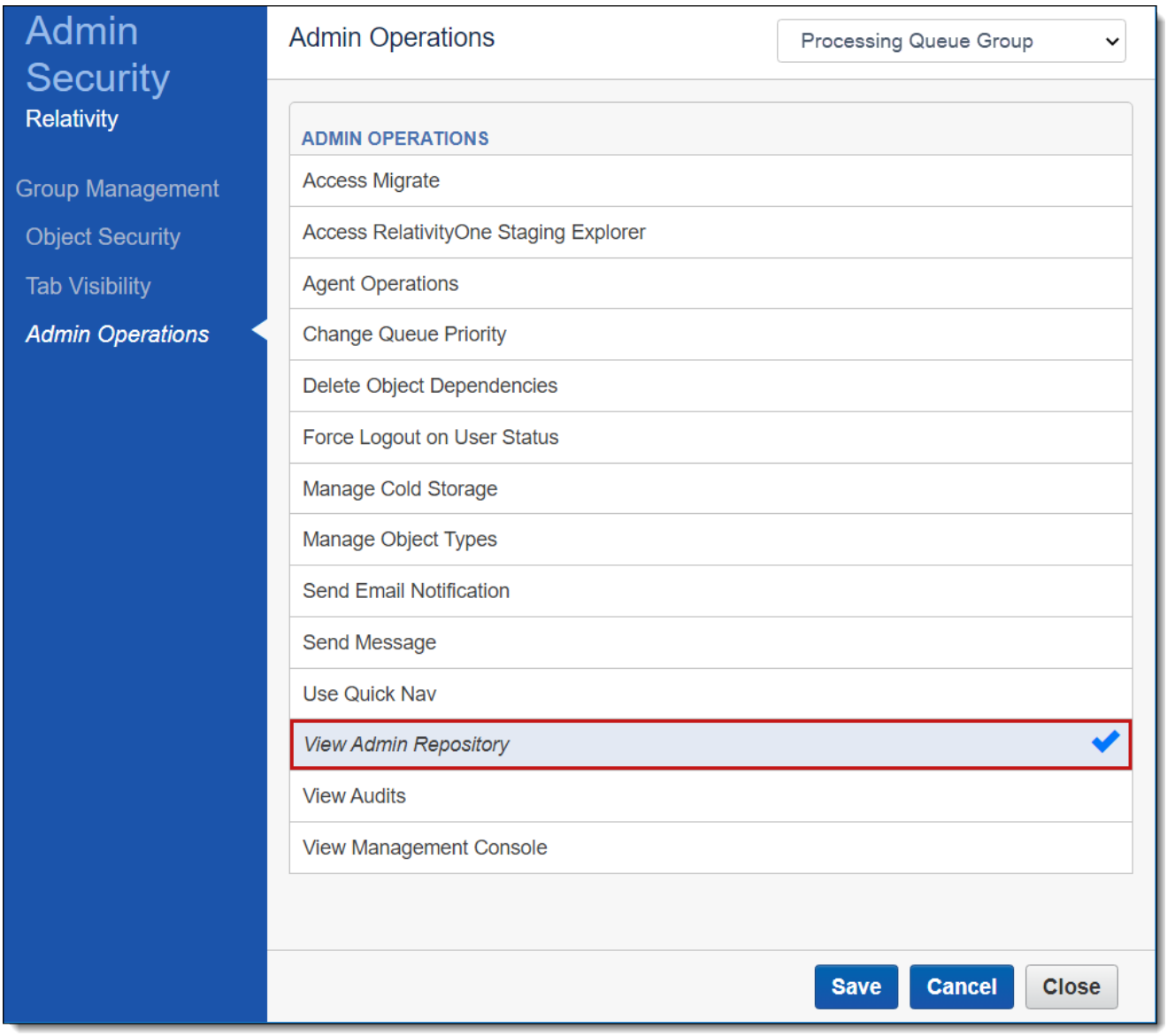
1. From the Relativity home page, navigate to the **Instance Details** tab. (Use the search bar to jump directly to the page.)
2. In the Security section, click **Manage Permissions**.
3. In the Admin Security window, select **Tab Visibility**.
4. From the drop-down list at the top right, select the group to whom you want to grant access.

5. Select **Processing and Imaging Queue** (under the **Queue Management** heading), and **Processing History** (under the Processing Administration heading.)



6. Click **Save**.

You must also have the **View Admin Repository** permission set in the **Admin Operations** console.

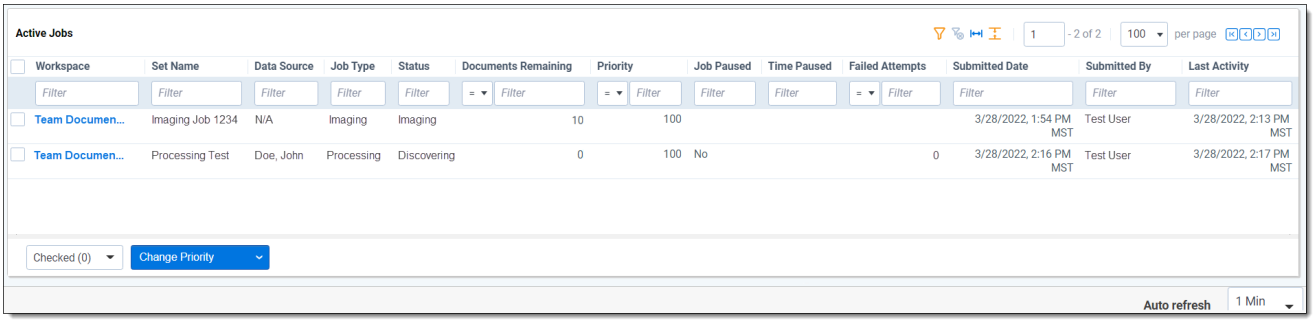


23.2 Monitoring active jobs

To see all active processing and imaging jobs in the environment, view the Active Jobs view in the Processing and Imaging Queue tab. If no jobs are visible in this view, it means there are no jobs currently running in the environment.

- Jobs that are running in workspaces to which you don't have permissions display the placeholder text "Item Secured" in the Active Jobs view. Actual job details are not visible. To permit visibility, see Workspace Security.
- The Workspaces tree on the left only contains workspaces in which an active job is currently running.

The following columns appear on Active Jobs view:



- **Workspace** – the workspace in which the job was created. Click the name of a workspace to navigate to the main tab in that workspace.
- **Set Name** – the name of the processing set. Click a set name to navigate to the Processing Set Layout on the Processing Sets tab. From here you can cancel publishing or edit the processing set.
- **Data Source** - the data source containing the files you're processing. This appears as either the name you gave the source when you created it or an artifact ID if you didn't provide a name.
- **Job Type** – the type of job running. The worker manager server handles processing and imaging jobs.

  Note: Filtering jobs aren't represented in the queue.

- **Status** – the status of the set. If you're unable to view the status of any processing jobs in your environment, check to make sure the Server Manager agent is running. This field could display any of the following status values:
  - Waiting
  - Canceling
  - Finalizing
  - Unavailable
  - Inventorying
  - Discover
  - Publish
  - Imaging
  - Initializing
  - Retrieving/Retrying Errors
  - Submitting Job
- **Documents Remaining** – the number of documents that have yet to be inventoried, discovered, or published. The value in this field goes down incrementally as data extraction progresses on the processing set.

Note: This column displays a value of **-1** if you have clicked **Inventory Files**, **Discover Files**, or **Publish Files** and the job has not yet started.

- **Priority** – the order in which jobs in the queue are processed. Lower priority numbers result in higher priority. This is determined by the value of the Order field on the data source. You can change the priority of a data source with the **Change Priority** button at the bottom of the view. Changing the priority only changes the priority for that immediate job.
  - Resources are split equally between processing sets of the same priority.

    Note: Resource distribution is also considered at the Workspace level to make sure that all jobs are making progress.

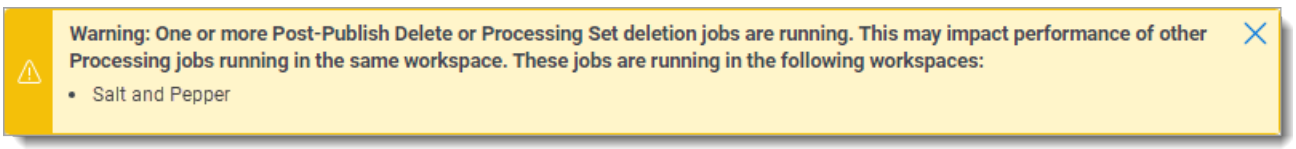
  - Discovery, publishing, and imaging jobs are multi-threaded and can run in parallel, depending on the number of agents available.
  - Job types have the following priorities set by default:
    - Imaging/TIFF-on-the-fly jobs have a priority of 1 by default and will always run first.
    - Publishing jobs have a priority of 90 and will always run after any imaging on the fly jobs and before all other jobs.
    - Inventory, Discovery, Mass Imaging/Imaging Set jobs all have a priority of 100 in the queue. These jobs have resources shared equally as long as they are the same priority.

    If you have reason for globally setting certain types of jobs to always run at a lower priority, please contact Relativity support.
- **Job Paused** - the Yes/No value indicates whether or not the job was paused. A paused job typically occurs if there is an issue with the processing agent. You cannot manually pause a processing job.
- **Paused Time** - the time at which the job was paused, based on local time.
- **Failed Attempts** - the number of times an automatic retry was attempted and failed.
- **Submitted Date** – the date and time the job was submitted, based on local time.
- **Submitted By** – the name of the user who submitted the job.
- **Last Activity** - the date and time at which a job last communicated to the worker.

At the bottom of the screen, the active jobs mass operations buttons appear.

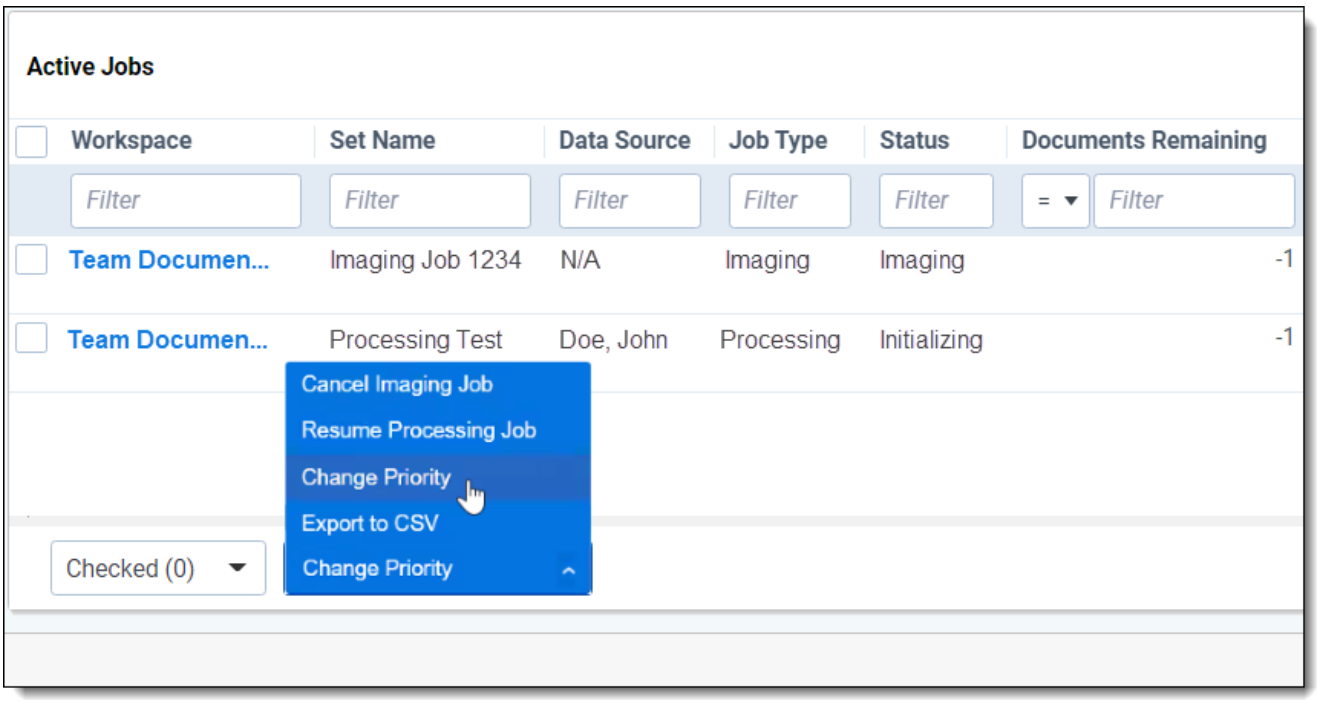
23.2.1 Post-publish delete job performance

Post-publish and processing set deletion jobs can impact system performance. If delete processes are running, you will see a warning banner indicating the possibility of performance impact and the workspaces affected.

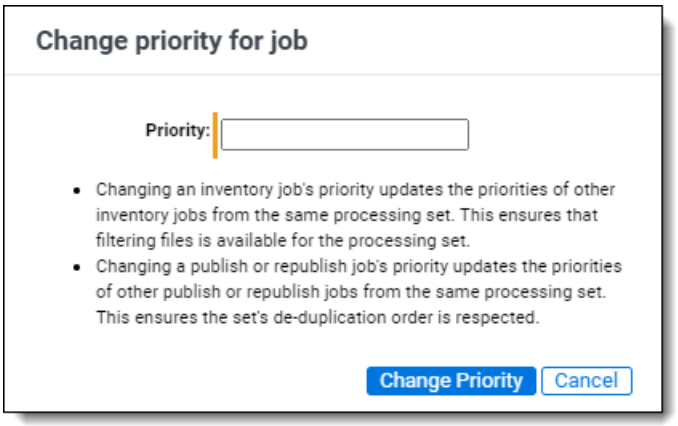


23.2.2 Active jobs mass operations

A number of mass operations are available on the Active Jobs view.



- **Cancel Imaging Job** - cancel an imaging job. If you have processing jobs selected when you click **Cancel Imaging Job**, the processing jobs are skipped over and are allowed to proceed. When you cancel an imaging job, it signals to the workers to finish their current batch of work, which may take a few minutes.
- **Resume Processing Job** - resumes any paused processing jobs that have exceeded the failed retry attempt count. You can resume multiple jobs at the same time. When you select this option, non-processing jobs are skipped, as are jobs that aren't currently paused.
- **Change Priority** - change the priority of processing jobs in the queue.
  - When you click **Change Priority**, you must enter a new priority value in the **Priority** field. Then click **Change Priority** to proceed with change.



- If you change the priority of a publish or republish job, you update the priorities of other publish and republish jobs from the same processing set. This ensures that deduplication is performed in the order designated on the set.
- When you change the priority of an inventory job, you update the priorities of other inventory jobs from the same processing set. This ensures that filtering files is available as expected for the processing set.
- While there is no option to pause discovery, changing the priority of a discovery job is a viable alternative.

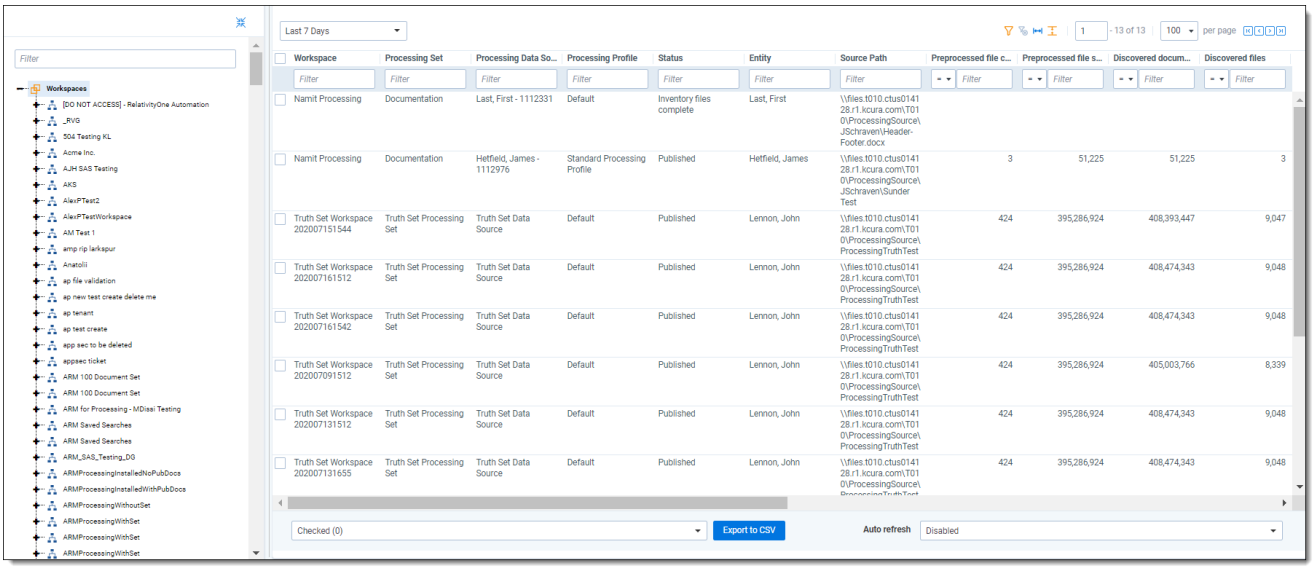
23.3 Using the Processing History sub-tab

To view the details of all processing actions taken on all data sources in the environment, navigate to the **Processing History** sub-tab.

In the Workspaces tree on the left, you'll see all workspaces in the environment that have at least one published document in them. You can expand the tree and click on processing sets and data sources to filter on them.

If you don't have permissions to a workspace, you'll see an "Item Restricted" message for that workspace.

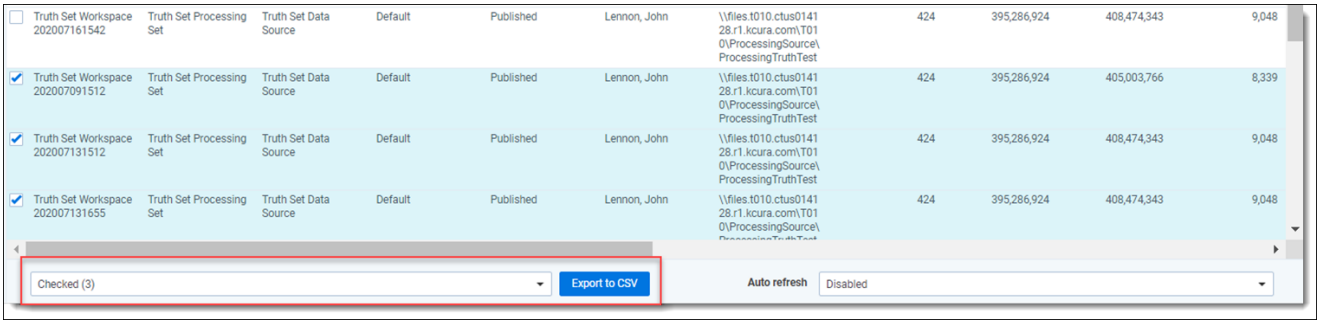
The Processing History view provides the following fields:



- **Workspace** - the name of the workspace in which the processing job was run.
- **Processing Set** - the name of the processing set that was run.
- **Processing Data Source** - the name and artifact ID of the data source attached to the processing set.
- **Processing Profile** - the profile associated with the processing set.
- **Status** - the current status of the processing job.
- **Entity** - the entity associated with the data source.

- **Source Path** - the location of the data that was processed, as specified on the data source.
- **Preprocessed file count** - the count of all native files before extraction/decompression, as they exist in storage.
- **Preprocessed file size** - the sum of all the native file sizes, in bytes, before extraction/decompression, as they exist in storage.
- **Discovered document size** - the sum of all native file sizes discovered, in bytes, that aren't classified as containers as they exist in storage.
- **Discovered files** - the number of files from the data source that were discovered.
- **Nisted file count** - the count of all files denisted out during discovery, if deNIST was enabled on the processing profile.
- **Nisted file size** - the sum of all the file sizes, in bytes, denisted out during discovery, if deNIST was enabled on the processing profile.
- **Published documents size** - the sum of published native file sizes, in bytes, associated to the user, processing set and workspace.
- **Published documents** - the count of published native files associated to the user, processing set and workspace.
- **Total file count** - the count of all native files (including duplicates and containers) as they exist after decompression and extraction.
- **Total file size** - the sum of all native file sizes (including duplicates and containers), in bytes, as they exist after decompression and extraction.
- **Last publish time submitted** - the date and time at which publish was last started on the processing set.
- **Discover time submitted** - the date and time at which discovery was last started on the processing set.
- **Last activity** - the date and time at which any action was taken on the processing set.

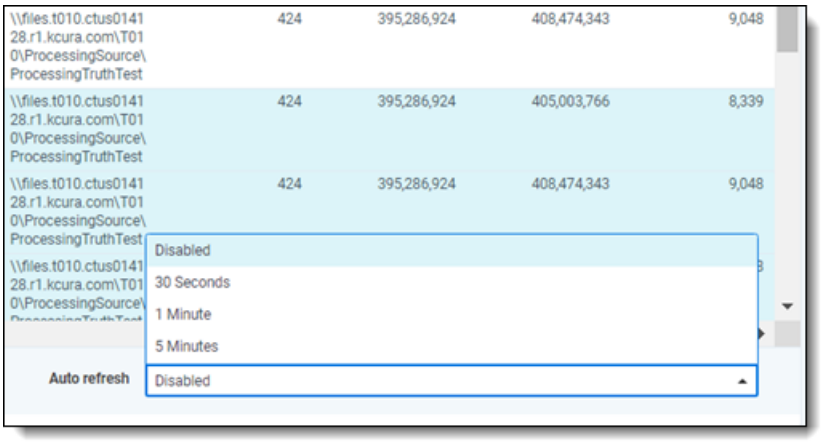
You have the option of exporting any available processing history data to a CSV file through the Export to CSV mass operation at the bottom of the view.



23.3.1 Auto refresh options for processing history

The processing history tab receives processing information when loaded and update every time the page refreshes.

To configure the rate at which the view automatically refresh, select a value from the **Auto refresh** drop-down at the bottom right of the view.



- **Disabled** - prevents the automatic refresh of the view and makes it so that processing history information only updates when you manually refresh the page. This option is useful at times of heavy processing 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. We've set this as the default because if your environment contains many workspaces and data sources, it could take a long time to load all of the data, which you may not want to update on an auto-refresh interval.
- **30 seconds** - arranges for the processing history view to automatically refresh every thirty seconds.
- **1 minute** - arranges for the processing history view to automatically refresh every one minute.
- **5 minutes** - arranges for the processing history view to automatically refresh every five minutes.

24 Frequently asked questions

If you have a question about processing, consult the following FAQs:

Can file names be appended after discovery?
There's currently not a way to append a file name after discovery but prior to publishing.

Can images be reprocessed if they have errors?
As long as the set hasn't been published, if the image reports an error, you can retry the image and/or make corrections to the native and then retry the error.

Does Relativity allow the use of a custom NIST?
There's no official support for a custom NIST list.

Does Relativity process password protected PST or OST files?
Passwords on PST and OST files are bypassed automatically by Relativity.

How does processing work with errors?
If you publish a processing set, even documents that have an error associated with them will get a record entered in the Document object/tab, with the Control Number field populated at the very least, even if Relativity was unable to determine anything else about the document. In other words, just because a document has an error during processing doesn't mean that it won't be displayed in the Document list with a control number when you publish the processing set. The only way this doesn't happen is if the error occurs during ingestion and either Relativity is unable to extract the document from a container or the source media is corrupt.

How does Relativity handle calendar metadata?
The processing engine captures all the dates of calendar items. If there is not a field for it in Relativity, this data will end up in the "OtherProps" field.

How does Relativity process audio and video?
Audio and video files are identified, but no metadata (other than basic metadata) or text is extracted from them. They will be marked as unprocessable.

How does processing handle regional setting changes?
When a user submits a ticket to change the worker regional setting (worker time zone/culture), it is best to have no processing jobs running. If a job is running and the regional setting changes, it may affect how imaging and text extraction interpret things such as dates, currency formats, and deduplication on the jobs that are in progress.

How does processing handle time zones?
Discovery is performed on all natives in UTC. Processing uses the timezone as defined in the processing set settings to convert metadata dates and times into the selected timezone. For Daylight Savings, there is a table called dbo.TimeZone in the Invariant database that is used to account for Daylight Savings Time on a year-by-year basis. This way, we always use the accurate DST rule for the given year.

For example, a change to how we observe DST went into effect in 1996, and we have this stored. The TimeZone table also keeps track of all of the half-hour time zones, i.e. parts of India.

Can the date and time format be modified?
Yes. The date and time format reflect the region where Relativity is deployed and will change depending on the location. Contact your Customer Success Manager for questions regarding this and other instance settings.

Once files are published, are they deleted from the processing source location?
No, there is no alteration to the processing source location. Relativity reads from this intermediate location and copies the files to the Relativity workspace file repository.

What files display in the DeNIST report?

The DeNIST report displays only attachments. You can look at the INVXXXXX database in the DeNIST table to see the individual files.

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