Relativity®

Upgrade Guide

December 5, 2025 | Version 25.xxx.x

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1 System requirements

These system requirements contain detailed information about the software and hardware you use to host Relativity in your environment and in the cloud. These requirements also provide various recommendations for configuring a new deployment of Relativity, as well as scaling your environment as the number of users and the amount of data continue to grow.

Note: This documentation contains references to third-party software, or technologies. While efforts are made to keep third-party references updated, the images, documentation, or guidance in this topic may not accurately represent the current behavior or user interfaces of the third-party software. For more considerations regarding third-party software, such as copyright and ownership, see Terms of Use.

2 Infrastructure overview

Relativity is designed with a scalable infrastructure that you can tailor to the requirements of your environment. It is developed on the .NET framework with a Microsoft SQL Server back-end. As illustrated in the following diagram, all areas of the platform are scalable providing support for any hardware vendor, hypervisor, and storage protocol.
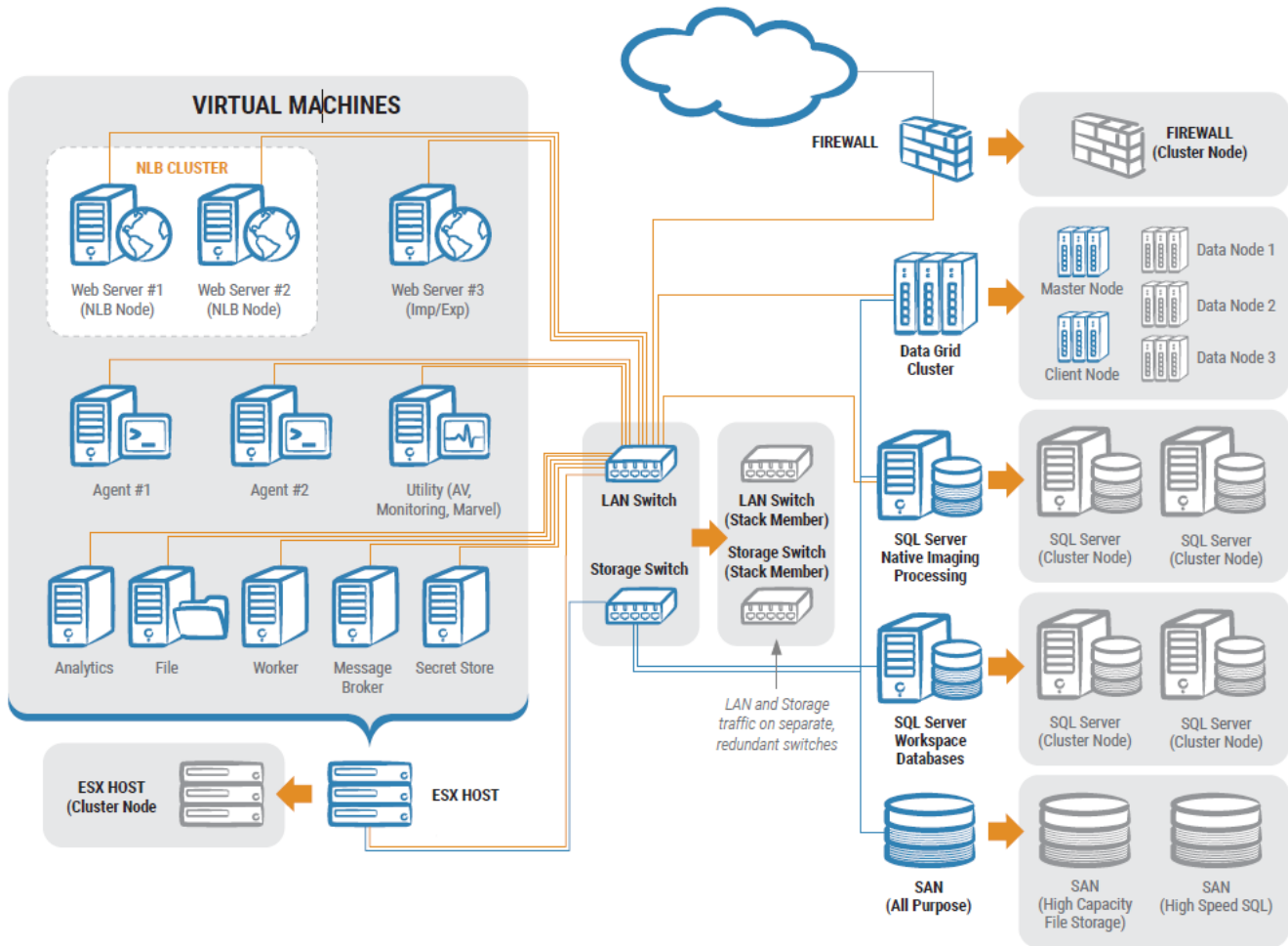
2.0.1 Web server

The Web Server is the gateway for all users to access Relativity. It authenticates the user with the system, contains APIs for searching and third-party applications, transfers documents to the Viewer, and is responsible for communications during imports and exports in workspaces.

There are different mechanisms for authentication into the system including forms, active directory, two-factor, SAML 2.0, and OpenID Connect. User sessions can be load balanced with the included Relativity User Load Balancer or with available hardware load balancing solutions.

2.0.2 Agent server - core

Agents in Relativity are responsible for running all background processing tasks. When a user submits a job, such as a production or OCR job, the associated agents will pick up the job and complete the work.

The agents run under a Windows Service and often require various levels of CPU, RAM and I/O, depending on the job type. The agents can be scaled vertically and horizontally to accommodate organizational needs.

2.0.3 Agent server - conversion

Viewer conversion jobs are handled by the Conversion agents. Any Relativity agent server designated as a conversion agent server should only have one conversion agent deployed. Conversion jobs are multi-threaded and one conversion agent may utilize all available processor cores on a server.

For more information, see System requirements on page 6.

2.0.4 Agent server - dtSearch

dtSearch queries are multi-threaded and spawn as many threads as there are sub-indexes or cores—whichever number is lowest will be the constraint. One dtSearch search agent may be able to utilize all available processor cores on a server. Therefore, each Relativity agent server that is designated to be a dtSearch search agent server should only have one dtSearch search agent, and nothing else.

2.0.5 SQL Server - workspaces

This SQL Server is where the structured text and metadata resides for the documents. Each Relativity workspace is represented by its own SQL Server database. Environments may have one or more SQL Servers. In addition to workspace databases there are Relativity system databases present on each server that contain tables for system configurations, agent job queues, users or groups, and more.

2.0.6 SQL Server - Invariant/Worker Manager server

Relativity processing has individual store databases that correspond to each Relativity workspace database with processing enabled. Total memory and processor requirements for this role are not as demanding as the SQL Servers that house workspace databases. This server is also used for native imaging and save as PDF request management.

2.0.7 Worker

The Worker role is responsible for handling enhanced native imaging and processing jobs. Relativity has placed a hard cap on the amount of threads that each Worker server is allowed to spawn. The hard cap is 16 threads. Each processor core and 2 GB RAM will create two threads. Therefore, it is suggested that 8 logical cores and 16 GB RAM be allocated to each worker server to get the most throughput.

2.0.8 Secret Store

Secret Store is a required component that provides secure, auditable storage for Relativity secrets. A secret could be user credentials, a database connect string, an instance setting that contains confidential information such as your SMTP credentials, or a TLS certificate.

All confidential information is stored securely in the Secret Store database that can be accessed only from authenticated servers. For more information, see The Relativity Secret Store Guide.

2.0.9 Message broker

The Relativity Service Bus is a message delivery service that communicates information about agent jobs to different application components. This infrastructure feature supports this communication by routing messages between application components. For example, Relativity uses the service bus for submitting conversion jobs to agents and returning converted documents.

2.0.10 Analytics

The analytics server is responsible for building and storing the conceptual indexes in the environment. Once an index is built, the server is also used to run the conceptual features such as categorization and clustering. In addition to conceptual indexing, structured analytics sets are run on this server for textual analysis features such as email threading or language identification. The indexes and structured analytics sets are stored on disk in a configurable location.

2.0.11 File server

This server may not be required depending on the available storage. Relativity does not install any software on a file server for Relativity. Relativity just needs to know where the files, Natives/Images, live and the web servers need to be able to access those locations. The same applies to dtSearch, Analytics index, and viewer cache locations.

2.0.12 Data Grid master node

This is the server within a cluster that manages changes across the entire cluster.

2.0.13 Data Grid client node

This is the server that serves as the gateway through which data enters a cluster. When there is more than one in an environment, these can be thought of as load balancers which service requests for data.

2.0.14 Data Grid data node

This is the server that stores data within a cluster.

3 Scalability

You can scale Relativity installations to handle the performance, storage, and other environmental factors necessary to support the addition of new users, continual growth of data, and increased demands for searching capabilities.

3.1 Tier level definitions

We have identified tier levels that support varying numbers of users and sizes of active data. You can use these tier level definitions to determine the cores, RAM, and other equipment required to support the rapid growth of your Relativity installation. Key terms used in the following table include:

- **Enabled User Accounts**—amount of enabled Relativity User accounts.
- **Simultaneous Users**—average amount of simultaneous users logged into Relativity.
- **Active SQL Data (TB)**—total amount of disk space consumed by SQL databases (mdf) and full text (ndf) indexes.
- **Active Record Count (MM)**—total amount of records, or documents, included across all active Relativity work-spaces.
- **Active File Size (TB)**—total amount of disk space consumed by native and image files.

This table identifies the combination of users, data, and file sizes associated with each tier.

	Tier 1 - Entry Level Environment	Tier 2 - Mid Level Environment	Tier 3 - Large Scale Environment
Enabled User Accounts	< 300	300 - 1000	1000+
Simultaneous Users	< 100	100 - 500	500+
Active SQL Data (TB)	< 1	1 - 10	10+
Active Record Count (MM)	< 20	20 - 100	100+
Active File Size (TB)	< 5	5 - 30	30+

The equipment used to support environments at each tier is described in the following table.

	Tier 1 - Entry Level Environment	Tier 2 - Mid Level Environment	Tier 3 - Large Scale Environment
Total Cores for Non-SQL	< 48	48 - 192	192+
Total Memory (GB) for Non-SQL	< 96	96 - 384	384+
Total Cores for SQL Server	< 16	16 - 96	96+
Total Memory (GB) for SQL Server	< 128	128 - 1024	1024+
Total SQL Storage I/O (Gbps)	4 - 8	8+	16+
SQL Tempdb Storage	Separate spindles	SSD or flash	SSD or flash

4 Required configurations for new deployments

Contact Customer Support for assistance with designing your Relativity infrastructure.

> **Notes:**
> - The following Tier 1 example environments provide information for different user and data counts. Most new deployments adhere to one of these Tier 1 examples.

4.1 Tier 1 - Hardware requirements (45-50 named users)

We support the installation of all Relativity components on a single device for 45-50 named user agreements. We also require that you install a hypervisor to this device so each Relativity role has its own virtual machine.

We support the installation of all Relativity components on a single device for 25-50 named user agreements. We also require that a hypervisor is installed to this device so each Relativity role has its own virtual machine.

The following table provides virtual machine specifications for the single server setup.

Tier 1 (45-50 named users) - Single Server Deployment	Quantity	Memory (GB)	CPU
Web*	2	32	8-16
Agent (core)	2	4	4
Agent (dtSearch)	1	4	4
Agent (conversion)	1	8	4
Agent (PDF)**	1	16	8
Analytics	1	32	4
Worker	1	16	8
Secret Store	1	4	4
SQL (workspace databases)	1	64	8
SQL (Invariant/Worker Manager server)	1	16	4
Data Grid master/data/client node	1	16	4
Message broker server	1	4	4

* Relativity has only been tested with optimal performance for up to 50 users. Anything above the recommended optimal user count per web server is considered unsupported since there are additional considerations that you would need to address beyond increasing the CPU and RAM resources.

** If users have a dedicated Invariant worker for Save As PDF jobs they can either decommission it or convert it to an agent server following the recommendation of two PDF Worker agents per VM.

This table lists the recommendations for environments at Tier 1.

Tier 1 (100+ named users) - Entry Level Environment	Quantity	Memory (GB)	CPU
Web*	2	32	8-16
Agent (core)	2	4	4
Agent (dtSearch)	1	4	4
Agent (conversion)	1	16	8

Tier 1 (100+ named users) - Entry Level Environment	Quantity	Memory (GB)	CPU
Agent (PDF)**	1	16	8
Analytics	1	32	8
Worker	2	16	8
Secret Store	1	4	4
Message broker server	1	8	8
SQL (workspace databases)	1	64	8
SQL (Invariant/Worker Manager server)	1	16	4
Data Grid Mast Node/Data Node/Client Node	3	16	4

* Relativity has only been tested with optimal performance for up to 50 users. Anything above the recommended optimal user count per web server is considered unsupported since there are additional considerations that you would need to address beyond increasing the CPU and RAM resources.

** If users have a dedicated Invariant worker for Save As PDF jobs they can either decommission it, or convert it to an agent server following the recommendation of two PDF Worker agents per VM.

For Tier 2 environments, additional virtual machines are required as well as increased RAM and CPUs as illustrated in the following table. Additionally, it is suggested that SQL, Workspace Databases, instances are not virtualized when supporting larger data sets.

Tier 2 (300+ named users) - Mid Level Environment	Quantity	Memory (GB)	CPU
Web*	5-6	64-96	16-32
Agent (core)	3	16	8
Agent (dtSearch)	2	16	8
Agent (conversion)	2	16	8
Agent (PDF)**	2	16	8
Analytics (structured analytics)	1	32	8
Analytics (Analytics indexing)	1	32	4
Worker (processing, imaging)	2	16	8
Secret Store	1	4	4
Message broker server	1	16	16
SQL (workspace databases)	2	256	16
SQL (Invariant/Worker Manager server)	1	32	4
Data Grid master node	3	32	8

* Relativity has only been tested with optimal performance for up to 50 users. Anything above the recommended optimal user count per web server is considered unsupported since there are additional considerations that you would need to address beyond increasing the CPU and RAM resources.

** If users have a dedicated Invariant worker for Save As PDF jobs they can either decommission it, or convert it to an agent server following the recommendation of two PDF Worker agents per VM.

Please take the following into consideration for any sized environment:

Note: For the File, Document, role, the type of storage system used will determine if you need to install the Windows operating system.

File (Document)	• Processor: 4 cores (2GHz) • Memory: 4GB RAM • Network: Gigabit Ethernet • Storage: See Storage.
SMTP (Notification)	Relativity requires an active SMTP server on your network. It interfaces with this server to send notifications and monthly billing statistics. The hardware requirements for this role are minimal. You can leverage an existing SMTP server in the network or merge this server with the agent server role.

4.2 Storage

For each type of data, the amount of recommended space depends on the number of records imported, as well as the type and length of the expected reviews. Each server or VM needs space for the OS, page file, and Relativity installation files. For the Relativity Processing SQL Server, all the same SQL data is required with the exception of SQL Full Text Indexes. Throughput, especially when multiple SQL Servers or Data Grid Data Nodes are virtualized on a single host, should be put through a regiment of rigorous random and sequential read/write IO testing before installation of Relativity is completed.

Recommended space by data type:

Data Type	25-50 Named Users	100+ Named Users	Disk I/O
SQL databases	500 GB	750 GB	High
	The databases can live across multiple storage volumes and SQL instances.		
SQL full text indexes	150 GB	250 GB	Moderate
	Index size depends on the number of fields and records indexed.		
SQL database logs	150 GB	250 GB	High
	Regular transaction log backups keep these values small and provide point in time recovery.		
SQL Tempdb	80 GB	80 GB	High
	We recommend eight 10GB Tempdb data files for new deployments. SSDs recommended.		
SQL backups	500 GB	1000 GB	Low-High
	We recommend having a backup strategy. This volume is not required. Larger data sizes may require higher I/O throughput.		
dtSearch indexes	150 GB	250 GB	Moderate
	The dtSearch index share is typically stored in the same location as the files.		
Analytics indexes	150 GB	250 GB	High
	The Analytics index volume is mounted to the Analytics virtual machine with speed and connectivity similar to that of SQL Server.		

Data Type	25-50 Named Users	100+ Named Users	Disk I/O
Files (natives/images)	1500 GB	3000 GB	Low-High
	The files may not require a Windows installation depending on the storage. Multiple Processing Workers online will require more file storage I/O.		
Viewer cache	500 GB	1000 GB	High
	Temporarily store natives, images, productions, and other file types the viewer uses. It is recommended that the cache be stored on tier-one storage, SSDs, in environments with hundreds of concurrent users. Recommended 1TB viewer cache space available for every 100 concurrent users.		
Agent (conversion)	250 GB	250 GB	High
	This is the Windows temp directory used during document conversion.		
Worker (native imaging/processing)	250 GB	250 GB	High
	This is the Windows temp directory used by native applications during imaging and processing. This temp location never exceeds 250 GB for each Worker server.		
Data Grid data node	1 TB	1-10 TB	High

5 Infrastructure configuration

Relativity supports the following technologies as part of its infrastructure configuration:

- **Virtualization**—all aspects of Relativity can be virtualized. Some roles are more RAM and CPU intensive as others. You have to make sure when virtualizing Relativity that you do not over commit the RAM and CPU on a virtual machine to host ratio.

- **High Availability (HA)**—Relativity supports SQL Server Failover and File Server Clustering along with available hypervisor solutions.

- **Disaster Recovery (DR)**—Relativity supports Microsoft SQL Server mirroring, log shipping, and SAN replication technologies. These approaches typically require manual failover and increased downtime.

- **Web Server Load Balancing**—Relativity supports third-party load balancers, for example Windows Network Load Balancing (NLB). All load balancers require single affinity/sticky sessions/persistence. The Relativity User Load Balancer (RULB) provides the ability to distribute the user load evenly.

- **Perimeter Networking (DMZ)**—Relativity requires certain ports to remain open for proper server communication. For more details, download the Relativity Infrastructure Ports Diagram from the Relativity Community. Note that you must have a valid username and password to download this content.

5.1 Guides for infrastructure management

Review the following guides to become familiar with best practices for managing the Relativity infrastructure:

- Pre-Installation Guide

- Environment Optimization Guide

- Infrastructure Planning Recommendations

6 Software requirements

Relativity has specific software requirements for servers or virtual machines, user workstations, and the Relativity Desktop Client. The requirements for servers differ by the role assigned to them in your system configuration.

Note: Make sure that you install the latest service packs and updates for your Windows Operating system and the latest service packs and cumulative updates for your SQL Server. However, compatibility for higher .NET versions is not guaranteed and we do not recommend installing higher .NET versions than what is listed as required by your Relativity version.

6.1 System - servers or virtual machines

Note: Relativity is compatible with local settings Only for webservice servers.

The general software requirements for servers and virtual machines include Microsoft Windows Server and .NET technologies. Microsoft Office and other applications are required for worker servers.

The following table provides software requirements by server role.

Server Role	Software Requirements
Web	- Windows Server 2025, 2022, 2019, and 2016 .NET 4.7.2, 4.8, or 4.8.1 .NET 3.5 **Notes:** - When adding a new server to your resource pool, ensure that you apply the same hotfix to the new server that you may have applied to any existing Web or Agent Servers. - You must enable Long Path Support on all web and agent servers to support long file paths.
Agent	- Windows Server 2025, 2022, 2019, and 2016 .NET 4.7.2, 4.8, or 4.8.1 .NET 3.5 **Notes:** - When adding a new server to your resource pool, ensure that you apply the same hotfix to the new server that you may have applied to any existing Web or Agent Servers. - You may need to enable Long Path Support on Windows Server to support long file paths.
Analytics	- Windows Server 2025, 2022, 2019, and 2016 .NET 4.7.2, 4.8, or 4.8.1 **Notes:** - Java is already packaged with the Analytics installer, so it is not considered a separate requirement.
Secret	Windows Server 2025, 2022, 2019, and 2016

Server Role	Software Requirements
Store	• .NET 4.7.2, 4.8, or 4.8.1 • .NET 3.5
Message broker	• Windows Server 2025, 2022, 2019, and 2016 • .NET 4.7.2, 4.8, or 4.8.1 • .NET 3.5 • RabbitMQ
SQL	• Windows Server 2025, 2022, 2019, and 2016 • Windows Server 2025 is supported for Relativity Server 2025. • SQL Server 2022, SQL Server 2019, or SQL Server 2017 **Caution:** Due to issues found within email aliasing and name normalization, if you're running SQL Server 2019 on any SQL Server in your instance, you need to get Cumulative Update package 28 from Microsoft. To do so, see Cumulative Update 28. Relativity supports in-place upgrades from SQL 2016 to any higher supported version. For details on SQL Server upgrade, follow the EDDS migration Guide. To determine if you should upgrade your current SQL Server version to SQL Server 2019, contact Relativity Support. • .NET 4.7.2, 4.8, or 4.8.1 • .NET 3.5 Additional considerations: • Each environment is different, research settings that your specific environment may utilize before performing any upgrades. • Ensure that you have tested backups before performing any upgrades. • Although an in-place SQL upgrade is supported by Relativity. Performing an EDDS migration is the cleanest way to perform a SQL upgrade.
Worker	_(see sub-table below)_

Software	Description	Required for system installation?	Required for Native Imaging/Processing
Windows Server 2022	Required server software. The Windows Print Spooler service must also be enabled on all Worker Server machines in the environment. Windows Server Core is not supported.	Yes	
.NET 4.7.2, 4.8, or 4.8.1 .NET 3.5	Required server software.	Yes	

Server Role	Software Requirements			
	Software	**Description**	**Required for system installation?**	**Required for Native Imaging/Processing**
	Microsoft Office 2024 Professional Plus (32-bit) Note the following: • If you are using Office 2024, Click-to-Run installations are supported, and it is the only option to install Office. • There is no backwards compatibility for Microsoft Office versions. The versions listed here are the only ones supported.	This includes: • Excel—used for Processing and Native Imaging of most spreadsheet based documents .xlsx, .xlsm, .xlsb, .odc, .ods, and others. • Word—used for Processing and Native Imaging of .docx, .docm, .dotx, .dotm, .doc, and others. • Powerpoint—used for Processing and Native imaging of .pptx, .pptm, .ppsm, .potx, .potm, and others. • Outlook - used for Processing and Native imaging of .msg, .pst, .ost, and others. • OneNote—used for Processing and Native Imaging of .one and .tmp files, and others. • Publisher—used for Processing and Native Imaging of .pub files and others. This is no longer supported in Office 2024.	No	Yes You are able to install the worker manager server without first installing Office. **Note:** Some features found in files created in different versions of Office may not be available or render correctly when processed or imaged using a different version than the file was originally created in. For more information about features differences between Office versions, please consult the appropriate Microsoft documentation.

Server Role	Software Requirements			
	Software	**Description**	**Required for system installation?**	**Required for Native Imaging/Processing**
		Notes: The Courier New font must be installed on your machine. This font is installed by default when you install Microsoft Office, in which case you must ensure that you do not remove it. Relativity does not support add-ins for Microsoft Office.		
	Microsoft Works 6–9 File Converter	The Microsoft Works Converter is also required. You can download it from the Relativity Community here.	No	Yes
	Microsoft Visio 2016 Professional or Standard SP2 (32-bit) or Microsoft Visio 2024 Professional	Used for processing and imaging .vsd, .vdx, .vss, .vsx, .vst, .vsw files.	No	No Only required for processing and imaging .vsd, .vdx, .vss, .vsx, .vst, .vsw files. You can still install processing without this component, but you will not be able to process or image those files without it.
	Microsoft Project Professional 2016 (32-bit), Microsoft Project Professional 2024 (32-bit)	Used for processing and native imaging of .mpp files.	No	No Only required for processing and imaging .mpp files. You can still install processing without this component, but you will not be able to process or image .mpp files without it.
	(Optional) Lotus Notes v8.5 and higher • Lotus Notes v8.5.3 with Fix Pack 6 • Lotus Notes	It is recommended that you install Lotus Notes 9 or higher on your workers, because Lotus Notes version 8.5.x cannot read certain Lotus 9 databases.	No	No When you install Lotus Notes, you need to restart the worker machine. There is no need to restart the queue manager service.

Server Role	Software Requirements			
	Software	**Description**	**Required for system installation?**	**Required for Native Imaging/Processing**
	v8.5.2 with Fix Pack 4 • Lotus Notes v9.0 • Lotus Notes v9.0.1 • Lotus Notes v10.0.1	Please note that some Lotus 9 databases cannot be opened in 8.5.x and will generate an error during processing.		
	• Solidworks eDrawings Viewer 2017 (64-bit) version only with SP5 or above. • Solidworks eDrawings Viewer 2018 (64-bit) • Solidworks eDrawings Viewer 2019 • Solidworks eDrawings Viewer 2020	Used for processing, text extraction, and imaging for CAD files. • To download the viewer, go here. • Solidworks eDrawings Viewer 2017 SP5 and above is supported.	No	No Only required for performing native imaging and text extraction on any supported CAD files in your data sources. You should install it only on the worker designated to perform these types of jobs. If you attempt to process a CAD file without the Solidworks viewer installed, you receive a simple document-level error prompting you to install it. Once you install the Solidworks viewer, you can retry that error and proceed with your processing job
	JungUm Global Viewer v9.1 or higher	This is required for processing and imaging GUL files, for Korean documents.	No	No After you install the JungUm Global Viewer on the worker, you should restart the worker machine, but there is no need to restart the queue

6.2 Workstations - end-user PCs

In Relativity, end users perform their reviews on workstations. Each workstation should be configured with a browser in which to use the Relativity web application, an operating system on which to run the Relativity Desktop Client, and the currently supported version of .NET.

6.2.0.1 Supported browsers for Relativity Web application

Software	Latest Version Tested by Relativity
Chrome (Windows, Mac OSX)	130.0.6723.59

Software	Latest Version Tested by Relativity
Edge (Windows, Mac OSX)	130.0.2849.52
Firefox (Windows, Mac OSX)	131.0.3
Safari (Mac OSX)	18.1

Note: Relativity does not currently support the Linux operating system for any browser.

6.2.0.2 Supported .NET version

- .NET 4.7.2, 4.8, or 4.8.1
- .NET 3.5

6.3 Relativity Desktop Client

The Relativity Desktop Client (RDC) is a utility used for importing and exporting documents, images, natives, and productions. This utility requires the following software:

The RDC requires Microsoft .NET 4.7.2 and Visual C++ 2015 Redistributable Update 3 RC.

Your operating system determines whether you need to download the 64-bit or 32-bit version of these applications:

- If you're running a 32-bit machine, you must install the RDC 32-bit and the Visual C++ 2015 Redistributable Update 3 RC. For more information, see Microsoft Visual C++ 2015 Redistributable Update 3 RC.

- If you're running a 64-bit machine, you want to install the RDC 64-bit and the Visual C++ 2015 Redistributable Update 3 RC You may notice a significant improvement in the speed of the RDC with the 64-bit version. However, a 64-bit machine can have both the x86 and x64 redistributables installed at the same time, and it can run the 32-bit or 64-bit version of the RDC.

6.4 Licensing Microsoft products

Relativity requires Microsoft Windows and Microsoft SQL Server, both of which you need to license through Microsoft or one of their resellers. If using Relativity Processing or Native Imaging, you also need to license Microsoft Office, Visio, and Project through Microsoft or one of their resellers.

If Relativity is hosted for external customers, you may need to license Microsoft products through Microsoft's SPLA (Service Provider License Agreement). You can find more information about Microsoft's SPLA program on Microsoft's Hosting site.

Note: We recommend contacting Microsoft, or one of their resellers, for guidance on the licensing options available.

This section outlines requirements and recommendations for a workstation used to access Relativity.

6.5 Resolution Support

Relativity is supported in the following resolutions:

- Standard resolution: 1920x1080
- Smallest resolution: 1366x768
- Largest resolution: 2560x1440

6.6 Minimum workstation configuration

- 512MB SDR memory

- Intel Pentium 3 or equivalent

6.7 Recommended workstation configuration

- Minimum of 5 GB DDR memory

- Recommended 8GB DDR memory

- Intel Pentium 4/AMD Athlon XP

Note: In some cases, browser hardware acceleration can cause font rendering issues with the PDF.js library used to display PDF files. In these cases, disabling hardware acceleration in the browser settings (e.g. Chrome->settings->system->use hardware acceleration when available) will resolve the issue.

7 Relativity compatibility matrix

Note: This documentation contains references to third-party software, or technologies. While efforts are made to keep third-party references updated, the images, documentation, or guidance in this topic may not accurately represent the current behavior or user interfaces of the third-party software. For more considerations regarding third-party software, such as copyright and ownership, see Terms of Use.

7.1 Relativity system requirements matrix

The following table breaks down the supported operating systems, framework, IIS versions, browsers, versions of SQL Server, and TLS (when applicable) for each of the still-supported versions of Relativity Server. For additional Chrome, Firefox, and Safari supported version details, see End user browser and operating system requirements on the next page

Software	Server 2023	Server 2024	Server 2025	TLS 1.2	TLS 1.3
Operating systems - Relativity Desktop Client					
Windows 10	√	√		√	
Windows 11	√	√		√	√
Operating systems - servers					
Windows Server 2016	√	√		√	
Windows Server 2019	√	√		√	
Windows Server 2022	√	√		√	√
Windows Server 2025			√	√	√
Framework					
Microsoft .NET Version 3.5	√	√			
Microsoft .NET Version 4.6.2					
Microsoft .NET Version 4.7					
Microsoft .NET Version 4.7.2	√	√			
Microsoft .NET Version 4.8	√	√			
Microsoft .NET Version 4.8.1	√	√			
SQL versions					
SQL Server 2017	√	√		√	
SQL Server 2019	√	√		√	
SQL Server 2022	√	√		√	√
RabbitMQ					

Software	Server 2023	Server 2024	Server 2025	TLS 1.2	TLS 1.3
4.14.x			√	√	√
3.13.x	√	√		√	√
3.12.x	√	√		√	√
Secret Server				√	√

Note: Relativity Server 2025 supports Windows Server 2025 (x64). For older Relativity Server versions, see their respective compatibility matrices. Please confirm OS hardening and TLS configuration, per your organization's policies.

Notes:
- You can use RabbitMQ version 4.14.x, 3.12.x, or 3.13.x and a compatible version of Erlang.
    - RabbitMQ 4.14.x is compatible with Erlang 26.2 – 27.x.
    - Erlang 28 is not compatible with RabbitMQ 4.14.x.
    - There are compatibility issues between RabbitMQ 3.12.x and Erlang 26.0 and 26.1.
    - There are no issues with Erlang 26.2 and above and RabbitMQ 3.12.x.
    - RabbitMQ 3.13.x is certified compatible with Server 2024 when TLS 1.3 is enabled. Relativity only supports TLS 1.2 and 1.3. If you have prior versions of TLS, we recommend manually disabling them.
    - Ensure that you're using the 64-bit version of Erlang, or else the system will be constrained to 2GB of memory. For details on RabbitMQ's version policies, see RabbitMQ versions. Review the RabbitMQ upgrade overview beforehand to avoid issues during the upgrade process.
    - For compatibility details, see Erlang Version Requirements.

7.2 End user browser and operating system requirements

Note: Support for Internet Explorer (IE) ended with Server 2022. Support for Microsoft Edge began in Server 2022

Software	Latest Version Tested by Relativity
Chrome (Windows, Mac OSX)	130.0.6723.59
Edge (Windows, Mac OSX)	130.0.2849.52
Firefox (Windows, Mac OSX)	131.0.3
Safari (Mac OSX)	18.1

Note: Relativity does not currently support the Linux operating system for any browser.

7.3 Relativity release matrix

The following table lists the Invariant, worker manager server, and Outside In versions released with each Relativity release. Along with the Relativity Analytics engine and Secret Store versions compatible with each release of Relativity.

Relativity version	Relativity release date	Outside In version	Invariant version	Analytics engine version	Secret Store version
24.0.375.2	November 15, 2024	2024.11.0	24.0.260.18	4.7.9	1.6.1.2

8 Elasticsearch system requirements

Depending on your infrastructure tier, you have different server specifications and recommendations for the Elasticsearch cluster available to you.

Elasticsearch is built on a distributed architecture made up of many servers or nodes. A node is a running instance of Elasticsearch, a single instance of Elasticsearch running in the JVM. Every node in an Elasticsearch cluster can serve one of three roles.

- **Master nodes**—are responsible for managing the cluster.

- **Data nodes**—responsible for indexing and searching of the stored data.

- **Client nodes**—are load balancers that redirect operations to the node that holds the relevant data, while off-loading other tasks.

Set up an entirely separate cluster to monitor Elasticsearch with one node that serves all three roles: master, data, and client. While this setup does not take advantage of the distributed architecture, it acts as an isolated logging system that will not affect the main cluster.

8.1 Infrastructure considerations

Consider the following factors when determining the infrastructure requirements for creating an Elasticsearch environment:

- **Infrastructure tier**—when you build out your initial Relativity environment, we use these measures to determine a tier level of 1, 2, or 3. This tier level takes into consideration the number of users, SQL sizes, and the amount of data and activity in your system.

- **Virtual versus physical servers**—although Elastic recommends physical servers, our implementation does not require physical servers. Virtual servers can be implemented for all nodes.

- **Storage type**—Elasticsearch is a distributed system and you should run it on storage local to each server. SSDs are not required.

- **Network connectivity**—because of the distributed architecture, network connectivity can impact performance, especially during peak activity. Consider 10 GB as you move up to the higher tiers.

- **Client nodes**—larger clusters that do not perform heavy aggregations, search against your data, may perform better without client nodes. Simply use a master and data node configuration with a load balancer to handle data in your cluster.

Note: Elasticsearch will not t allocate new shards to nodes once they have more than 85% disk used.

Some other considerations:

- Shield is one of the many plugins that comes with Elasticsearch. Shield provides a username and password for REST interaction and JWKS authentication to Relativity. JWKS is already running on your Relativity web server.

- The Elasticsearch cluster uses the certificate from a Relativity web server or a load balanced site for authentication to Relativity.

- You can set up the nodes for TLS communication node to node. TLS communication requires a wild card for the nodes that contains a valid chain and SAN names. This is highly recommended for clusters that are in anyway exposed to the internet. You can request a script which can be used against an installation of OpenSSL to create the full chain that is not readily available. All of the certificates are contained within a Java keystore which is setup during installation by the script. To request this script, contact Relativity Support.

If you have a chain of certificates with a wild card certificate and private key that contains SAN names of the servers, you can use those certificates to build the Java keystore for TLS.

8.2 Elasticsearch cluster system requirements

The number of nodes required and the specifications for the nodes change depending on both your infrastructure tier and the amount of data that you plan to store in Elasticsearch.

Notes:
- These recommendations are for audit only.
- Disk specs for data nodes reflect the maximum size allowed per node. Smaller disk can be used for the initial setup with plans to expand on demand.

8.2.0.1 Test (500 GB)

Node type	# of nodes needed	CPU	RAM	DISK (GB)
Primary/Data	1	4	32	500

8.2.0.2 Tier 1 (1 TB)

Node type	# of nodes needed	CPU	RAM	DISK (GB)
Primary/Data	1	4	32	1000
Data	1	4	32	1000

8.2.1 Tier 2 (3TB)

Node type	# of nodes needed	CPU	RAM	DISK (GB)
Primary/Data	3	4	32	2000

8.2.2 Tier 3 (4-15 TB)

Node type	# of nodes needed	CPU	RAM	DISK (GB)
Data	1-15 (scale on demand)	4	32	2000
Primary/Data	3	4	8	2000

To assess the sizes of a workspace's activity data and extracted text, contact Relativity Support and request the **AuditRecord and ExtractedText Size Gatherer** script.

If you have further questions after running the script, our team can review the amount of activity and monitoring data you want to store in Elasticsearch and provide a personalized recommendation of monitoring nodes required.

9 Processing system requirements

The following information displays the system requirements for the Processing infrastructure.

> **Note:** This documentation contains references to third-party software, or technologies. While efforts are made to keep third-party references updated, the images, documentation, or guidance in this topic may not accurately represent the current behavior or user interfaces of the third-party software. For more considerations regarding third-party software, such as copyright and ownership, see Terms of Use.

9.1 Processing worker hardware specifications

The following table displays the hardware specifications for Processing workers. These requirements are determined by the number of workers needed to achieve a specified range of throughput (# of GB/day).

Worker Specifications	
CPU	8 core
RAM	16 GB
Network	1 Gbps
Storage	Windows Temp SSD recommended
Server	Physical recommended *
Expected throughput	100-150 GB/day **

* The primary reason for using physical workers is for performance. The overhead from virtualization can cause degradation in performance, particularly during text extraction and other CPU-intensive operations. If you do choose to virtualize your workers, beware of over-committing resources on the host. If you have hyper-threading enabled on the host, you may need to allocate 16 vCPUs to each worker to achieve results similar to those in the See the Processing performance section in the Performance Baselines guide.

** Processing source data and system load may impact performance.

9.1.1 Worker manager server software requirements

In addition to meeting the processing system requirements, we recommend referring to the Worker Manager Server Installation Guide for information about other required and optional software on the processing worker.

9.2 Tier hardware requirements

The following table displays the supporting infrastructure per number of workers you want to deploy. Refer to an applicable tier to locate the necessary hardware components to complete your processing infrastructure.

	Tier 1 *Entry Level Environment*	Tier 2 *Mid Level Environment*	Tier 3 *Large Scale Environment*
# of Workers	1–2	3–7	8+
GB/day (source data)	100–300	300–800	800+
Invariant (worker manager server) SQL Server	• Processor: 4 cores • Memory: 16	• Processor: 4 - 8 cores • Memory: 32 GB • Storage I/O (Gbps): 4–	• Processor: 4 - 8 cores • Memory: 64 GB

	Tier 1 *Entry Level Environment*	Tier 2 *Mid Level Environment*	Tier 3 *Large Scale Environment*
	GB • Storage I/O (Gbps): 4	8	• Storage I/O (Gbps): 4–8+
File Server	• Commodity NAS • 1+ Gbps network	• Dedicated NAS (write-back cache available) • 4+ Gbps network	• Enterprise class NAS (SSD tier available) • 10+ Gbps network

Note: By default, when you install Relativity, each worker in your environment is designated to do all available work, processing and imaging.

9.3 Required Microsoft Visual C++ redistributables

The following table breaks down which versions of Microsoft Visual C++ are required for which versions of Relativity/Invariant. Note that you are required to install each version of Microsoft Visual C++ only if you are upgrading to the Relativity/Invariant version listed and not if you are installing it for the first time.

	Required Microsoft Visual C++ version (Redistributable x86 and x64)			
Relativity/Invariant version	**2010**	**2012**	**2013**	**2015**
Server 2022/7.1.431.1	√	√	√	√
Server 2023/7.3.841.24	√	√	√	√
Server 2024/	√	√	√	√

10 Relativity upgrade

Use the following workflows to upgrade your current Relativity installation to Server 2025.

To begin your upgrade process, address custom solutions and scripts before downloading the Relativity installer. Once you complete the workflow specific to your upgrade path, we recommend completing the post-installation verification tests post-upgrade to confirm that your environment has been upgraded properly.

We recommend preparing for your upgrade process by using the Pre-Upgrade Checklist. You can use this document to discuss an upgrade strategy for your current installation of Relativity with the Customer Support team .

If you are installing Relativity for the first time, contact the Customer Support team for additional information. You may also want to review the information on the Relativity installation page on the Server 2025 Documentation site.

10.1 Addressing custom scripts that trigger imaging jobs

Please note that if you use custom scripts that trigger imaging jobs, they may no longer work after upgrading.

This is because the components that those custom scripts rely upon no longer exist due to the changes made to the imaging framework, which are listed below. The imaging operations performed by these custom scripts are not accounted for in the KCD Snapshot Solution script.

- The Imaging Set Manager and Worker agents have been deprecated.

- The Imaging Set Queue table has been deprecated.

- The Imaging API now submits an imaging job directly to Invariant, worker manager server.

10.2 Required pre-upgrade steps for all Relativity versions

Before you begin your upgrade, you must complete the following pre-upgrade steps.

Click to expand required pre-upgrade steps for all Relativity versions
Complete the following steps and verify you have the necessary information required for all upgrades of Relativity. Depending on your upgrade path, you may have additional configuration or other tasks to perform specific to the version of Relativity you're installing.

Make sure you have the appropriate system admin permissions in Relativity before beginning the upgrade. . For more information, see Managing security on the Documentation site.

Confirm that jobs are not running in any of the queues. If the agents are running, they may attempt to run a job against a database that does not have an upgraded schema and cause serious errors in your Relativity environment.

10.2.1 Back up your Relativity environment

Back up your SQL databases and your Relativity IIS websites before you begin the upgrade process. You should also back up both the structured analytics sets and analytics indexes before your upgrade to ensure that there is no data loss. This may take a while so it's recommended to run analytics backups either during the week of or the week prior to your upgrade. Usually this data does not change daily, so this helps to mitigate any data loss.

10.2.2 Reboot machines with Windows updates

After installing Windows updates, reboot your machines before attempting to install Relativity. Complete this step to ensure that all Relativity components are properly installed. Incomplete Windows updates lock system files, which may cause silent failures and prevent the proper installation of Relativity components.

10.3 Server upgrade workflow

Use the following workflow to upgrade your Relativity instance to Server 2024.

Note: Never upgrade your Relativity version while there are jobs of any type currently in progress in your environment. Doing this leads to inaccurate results when you attempt to finish those jobs after your upgrade is complete. This is especially important for imaging and processing jobs.

Relativity Upgrade Workflow
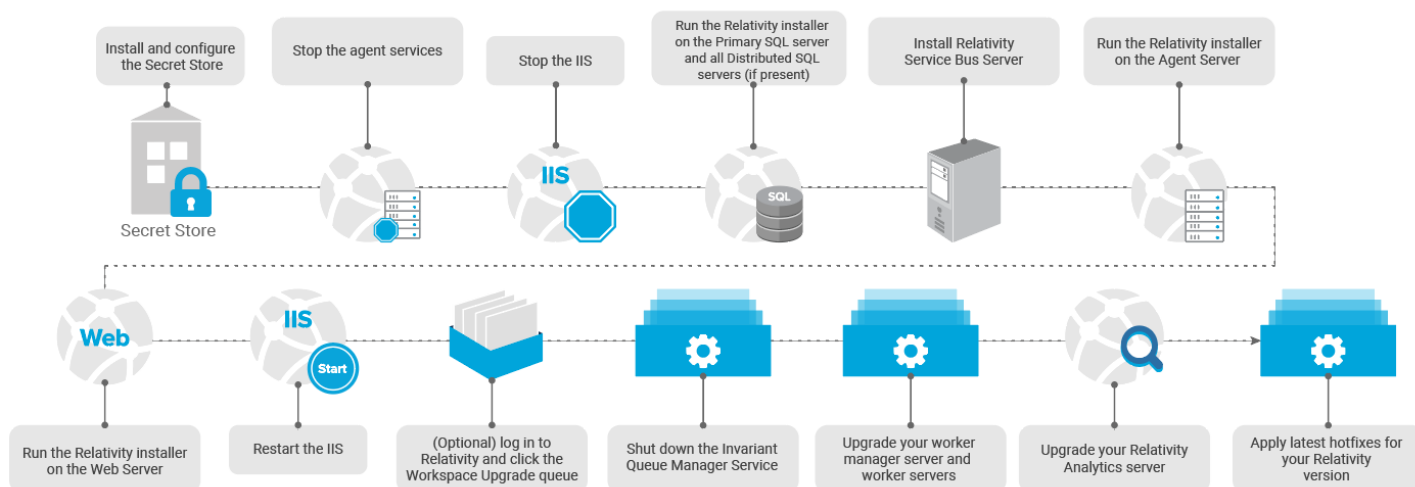
Notes:
- Before you upgrade, verify that you meet all requirements outlined in the Pre-installation guide.

- The Worker Manager cannot be upgraded until the web server used for the ProcessingWebAPI instance setting/IdentityServerURL in the Invariant.dbo.app Settings table is upgraded. If those links are pointed to a load balancer, then all web servers must be upgraded first.

- Once you've completed upgrading core servers—Secret Store andPrimary SQL—all remaining servers can be upgraded in any order or in parallel.

1. Install Secret Store and configure all machines in your environment to access it. This step must be completed before the Relativity upgrade. For more information, see The Secret Store Guide.

   Note: Upgrading Secret Store and having to run the configure-service command will lock Secret Store and impact users.

2. Stop RabbitMQ and the following Agent Services: kCura Service Host and kCura EDDS Agent Manager.

3. Stop the following Web Services: kCura Service Host, kCura Web Processing, and IIS.

4. Stop the Invariant Queue Manager Service, Analytics Service, and Data Grid Elastic Services.

5. Run the Relativity installer on your Primary SQL Server to upgrade the EDDS database and install the required library applications. You cannot access your Relativity environment until you complete this step. Depending on what version you're upgrading from, this process may start automatically after the installer is finished running. See Upgrading your SQL Server on page 35.

6. Run the Relativity Messaging Broker installation on the messaging broker server.

7. Run the Relativity installer on all distributed SQL servers if present. See Distributed SQL Server upgrade on page 38.

8. Run the Relativity installer on the Agent server. See Upgrading your agent server on page 41.

9. Run the Relativity installer on the Web server. See Upgrading your web server on page 44.

10. Confirm that the IIS services are now running. If not, start the IIS service.

11. (Optional) Log in to Relativity and click the **Workspace Upgrade queue**. Set the priority or order on the workspaces as necessary. You can monitor your workspaces in the Workspace Upgrade queue. See Upgrading workspaces on page 52.

> **Note:** After you run the installer on at least one agent server, the system begins upgrading individual workspaces. You can now log in to Relativity to monitor workspace upgrades through the Workspace Upgrade queue.

12. Upgrade your worker manager server. For more information, see the Worker Manager Server Installation guide.

> **Note:** If this is your first upgrade to Server 2025 and above, you must upgrade any worker servers after upgrading your worker manager server.

13. Upgrade Relativity Analytics. See Upgrading or installing your Analytics server on page 60.

14. Apply the latest hotfixes for your Relativity version.

11 Configuring your conversion agents

When you convert a document in Relativity, that conversion job is performed by a dedicated conversion agent.

Server 2025 uses a message broker to submit conversion jobs and communicate with your designated conversion agents. You must install the message broker before you run your upgrade to Server 2025. For more information, see RabbitMQ in the Pre-Installation guide.

If you have dedicated conversion workers, it's recommended that you re-purpose the dedicated workers as agent servers with a single conversion agent. For more information, see Re-purposing a conversion worker as a conversion agent.

If you have a Tier 1 or similar environment that does not have any Invariant workers dedicated solely to conversion, you can add a conversion agent to an existing agent server. Or you can allocate new hardware dedicated to conversion. For more information, see Adding conversion agents to an environment with no dedicated conversion workers.

11.1 Conversion agent considerations

Consider the following about conversion agents when installing or upgrading to Server 2025: On a new installation of Server 2025, Relativity automatically creates one conversion agent and adds it to the default secondary agent server. You should then add the agent server to the appropriate resource pool. For more information, see Resource pools in the Admin guide.

11.2 Re-purposing a conversion worker as a conversion agent

If you have existing Invariant workers that Relativity uses solely for conversion, you can re-purpose your hardware to support conversion agents.

Note: Do not follow these steps if your worker server handles more than just conversion jobs. You still need Invariant workers for other jobs such as Processing, Imaging, and Save as PDF.

To re-purpose a conversion worker as a conversion agent, perform the following steps:

Note: These steps are only required if you're upgrading from Relativity 9.3 or lower, since conversion was performed by a worker in those versions, and only if your worker was designated for conversion.

1. Ensure the message broker is installed in the environment.

2. Uninstall Invariant on the server in the Windows Control Panel Add/Remove Programs. Doing this uninstalls existing Invariant applications.
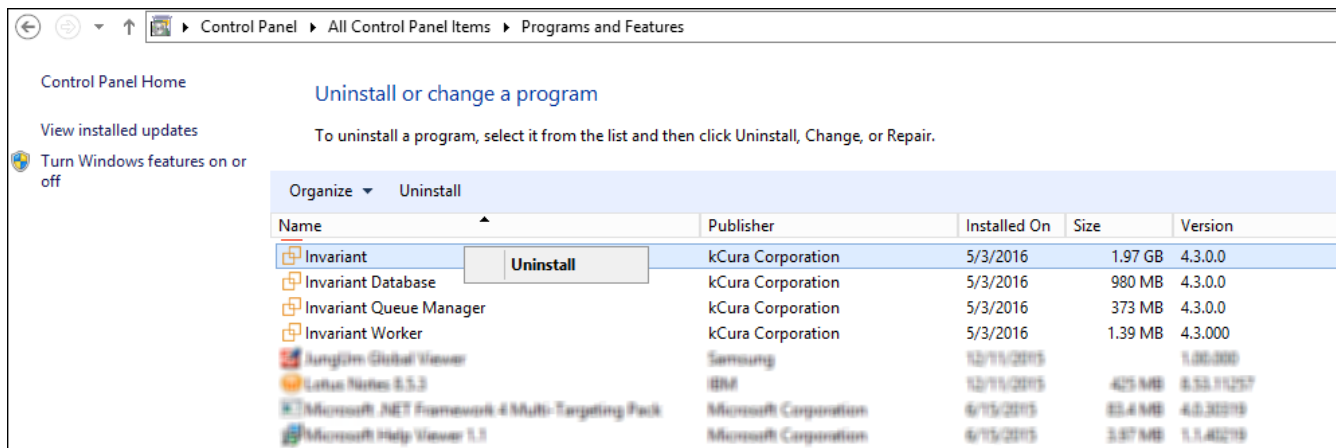
3. If it's still visible in the Server Management tab in Relativity, delete the old worker from that location.

4. Set up a new agent server for conversion agents. For more information, see Infrastructure configuration in the Upgrade guide. This process requires a manual copy of a valid SSL certificate to the agent server.

To set up the second agent server, perform the following steps:

1. Edit the RelativityResponse.txt file to include only the lines enabled (=1).

   INSTALLAGENTS = 1 in the feature section.

2. Run the Relativity installer on the machine. For more information, see Agent installation in the Relativity installation guide.

11.3 Adding conversion agents to an environment with no dedicated conversion workers

If your environment does not have any Invariant workers dedicated to conversion, you have two options when setting up conversion for Server 2025.

11.3.1 Adding a conversion agent to an existing server

You can add a conversion agent to one of your existing servers.

If you use this option, add the conversion agent to one of your lesser-used agent servers. You could also rearrange some of your existing agents between your agent servers, which dedicates more resources to conversion.

For greater control over the resources you allocate to conversion, you can also install a new agent server in a virtual machine and host a single conversion agent on that machine. For more information, see Agent installation in the Relativity installation guide.

11.3.2 Allocate additional hardware to host a new agent server

You also have the option of allocating additional hardware to host a new conversion agent server. To allocate additional hardware, follow these steps:

1. Ensure that the message broker is installed in the environment.

2. Set up a new, secondary agent server for conversion agents. For more information, see Infrastructure configuration in the Upgrade guide.

To set up a secondary agent server, perform the following steps:

1. Ensure that the message broker is installed in the environment.

2. Edit the RelativityResponse.txt file to include only the lines enabled (=1).

   INSTALLAGENTS = 1 in the feature section.

3. Run the Relativity installer on the machine. For more information, see Agent installation in the Relativity installation guide.

12 Upgrading your SQL Server

Follow these steps to upgrade your primary SQL Server. Before doing so, ensure you have completed the required pre-upgrade steps. For more information, see Pre-installation Guide.

Note: This page also contains steps for upgrading a distributed SQL Server. You must upgrade your primary SQL Server before proceeding with these upgrades.

12.1 Primary SQL Server upgrade

The master database, called the EDDS database, resides on the primary SQL Server. You must upgrade Secret Store before updating the primary database. For more information, see Upgrading the Secret Store.

You can then run the web and agent server installations in parallel.

Save the following files to the root directory of any server contributing to the Relativity environment:

- **Relativity.exe**—the executable file that installs Relativity components determined by the values entered in the RelativityResponse.txt file.
  - You must save Relativity.exe on a drive local to the server. Running Relativity.exe from a shared location results in upgrade or installation failure.
  - Use Install.bat to proceed with installation. The Relativity.exe file does not open a user interface.

- **Install.bat**—the code that prompts Relativity.exe to proceed with the installation process. You must edit line 11 of the Install.bat file with the exact name of the Relativity installation file.

  ```
  start /wait "" "INSERT EXACT NAME OF RELATIVITY INSTALLATION FILE" /log InstallLog.txt /re-
  sponsefilepath=RelativityResponse.txt
  ```

  - Run this file from an elevated command line prompt to avoid permission issues.
  - You must surround the name of the Relativity installation file with quotation marks.

- **RelativityResponse.txt**—the text file that determines which components Relativity.exe installs, uninstalls, or upgrades on the server.

  Note: Every line in the RelativityResponse.txt file that starts with ### is a comment and meant to provide instruction.

Open the **RelativityResponse.txt** file in a text editor and edit the parameters as follows to upgrade Relativity on the machine that serves the role of the primary SQL Server:

12.1.0.1 Common properties

Note: If you are upgrading to Server 2025, some values in your response file may now be stored in the Secret Store. These values are identified by the following message: "Value exported to Secret Store." You don't need to edit these values unless you want to update the Secret Store. For more information, see Secret Store.

- **INSTALLPRIMARYDATABASE**—set this value to one.

  ```
  INSTALLPRIMARYDATABASE=1
  ```

- **INSTALLDISTRIBUTEDDATABASE**—verify that this value is set to zero. You cannot store the distributed database on the same machine as the primary database.

  ```
  INSTALLDISTRIBUTEDDATABASE=0
  ```

- **INSTALLDIR**—enter the installation directory. This is the target directory for all files related to the local installation. This path must be local to the machine and accessible by the server. You must use ASCII characters for this path.

```
INSTALLDIR=C:\Program Files\kCura Corporation\Relativity
```

- **PRIMARYSQLINSTANCE**—enter the primary SQL instance. If you are installing to a cluster, specify the cluster and instance name. If you are installing to a named instance, specify the server and instance name. All features require this input.

```
PRIMARYSQLINSTANCE=ML12
```

- **EDDSDBOPASSWORD**—enter the EDDSDBO password.

```
EDDSDBOPASSWORD=MySecretPassword
```

- **SERVICEUSERNAME**—enter the service username. The Windows login must already exist.

```
SERVICEUSERNAME=example\exampleusername
```

- **SERVICEPASSWORD**—enter the Service password.

```
SERVICEPASSWORD=MySecretPassword
```

- **USEWINAUTH**—set the value to one to use Windows authentication for the SQL Server.

```
USEWINAUTH=1
```

   Note: If the **USEWINAUTH** value is set to one, then the user running the installer must be a SQL sysadmin, and any values entered for **SQLUSERNAME** and **SQLPASSWORD** are ignored.

- **SQLUSERNAME**—enter the SQL username if you want to use SQL Server login authentication.

```
SQLUSERNAME=mySqlUserName
```

   Note: This value is ignored if **USEWINAUTH** is set to one.

- **SQLPASSWORD**—enter the SQL password if you want to use SQL Server login authentication.

```
SQLPASSWORD=myPassword
```

   Note: This value is ignored if **USEWINAUTH** is set to one.

12.1.0.2 Primary database properties

- **DEFAULTFILEREPOSITORY**—enter the default file repository. This path must be a shared folder to which both the user running the installer and the Relativity Service Account have read and write permissions.

```
DEFAULTFILEREPOSITORY=\\yourmachine\FileShare
```

- **EDDSFILESHARE**—enter the EDDS fileshare path. This path must be a shared folder to which both the user running the installer and the Relativity Service Account have read and write permissions.

```
EDDSFILESHARE=\\yourmachine\Fileshare
```

- **CACHELOCATION**—a valid UNC path for the viewer cache location. The installer ignores this value during an upgrade. It only uses this value on a new installation of Relativity. This parameter is available in Relativity 9.5.292.12 and above. For more information, see the Relativity Installation guide.

```
CACHELOCATION=\\yourmachine\ViewerCache
```

- **DTSEARCHINDEXPATH**—enter the dtSearch index. This path must be a shared folder to which both the user running the installer and the Relativity Service Account have read and write permissions.

```
DTSEARCHINDEXPATH=\\yourmachine\dtSearch
```

- **RELATIVITYINSTANCENAME**—enter the Relativity instance name. Only set this value during a first-time installation. The installer ignores this value on upgrade.

```
RELATIVITYINSTANCENAME=My Relativity Instance
```

- **ADMIN_EMAIL**—enter the email address that you want to use for the default Relativity admin account. If you do not specify an email address, the installer uses the default value of relativity.admin@relativity.com. This parameter is available for 9.5.342.116 and above.

```
ADMIN_EMAIL=relativity.admin@relativity.com
```

- **SERVICEACCOUNT_EMAIL**—enter the email address that you want to use for the default Relativity service account. If you do not specify an email address, the installer uses the default value of serviceaccount@relativity.com. This parameter is available for 9.5.342.116 and above.

> **Notes:**
> - If you want to use a specific email address for the default Relativity admin or service account, you must enter it for each Relativity upgrade that you perform. If you entered a custom email address during a previous installation, it is overwritten by current email address that you entered or by the default email address when this parameter is blank.
>
> - Use different email addresses for the ADMIN_EMAIL and SERVICEACCOUNT_EMAIL parameters. If you use the same email address for both parameters, the installation fails.
>
> - The ADMIN_EMAIL parameter functions as the username for the default admin account. If you leave the ADMIN_EMAIL value blank, this username defaults to relativity.admin@relativity.com.

```
SERVICEACCOUNT_EMAIL=serviceaccount@relativity.com
```

- **ADMIN_PASSWORD**—enter the password that you want to use for the default Relativity admin account. This parameter is available for 9.5.342.116 and above.

```
ADMIN_PASSWORD=myPassword
```

- **SERVICEACCOUNT_PASSWORD**—enter the password that you want to use for the default Relativity service account. This parameter is available for 9.5.342.116 and above.

```
SERVICEACCOUNT_PASSWORD=myPassword
```

> **Note:** To change the ADMIN_PASSWORD or SERVICEACCOUNT_PASSWORD password, you must also update the associated email address. If you enter a new password but do not update the email address, then new password is ignored. For example, if you use an existing or default email address, then the password remains unchanged. However, you can change the email addresses for the admin and service accounts without updating the password.

12.1.0.3 Common database properties

We recommend that the following database paths are local to the SQL Server and accessible. However, we also support UNC paths on SQL Server 2017 and above.

- **DATABASEBACKUPDIR**—enter the database backup directory.

```
DATABASEBACKUPDIR=C:\Backup
```

- **LDFDIR**—enter the LDF directory.

  ```
  LDFDIR=C:\Logs
  ```

- **MDFDIR**—enter the MDF directory.

  ```
  MDFDIR=C:\Data
  ```

- **FULLTEXTDIR**—enter the full text directory.

  ```
  FULLTEXTDIR=C:\FullText
  ```

Save your edits to the **RelativityResponse.txt** file, and launch the **Install.bat** file to proceed with the upgrade.

A sample RelativityResponse.txt file for a primary SQL database upgrade using Windows authentication looks like this:

```
INSTALLPRIMARYDATABASE=1
INSTALLDIR=C:\Program Files\kCura Corporation\Relativity
PRIMARYSQLINSTANCE=ML12
EDDSDBOPASSWORD=MySecretPassword
SERVICEUSERNAME=example\exampleusername
SERVICEPASSWORD=MySecretPassword
DEFAULTFILEREPOSITORY=\\yourmachine\FileShare
EDDSFILESHARE=\\yourmachine\Fileshare
CACHELOCATION=\\yourmachine\ViewerCache
DTSEARCHINDEXPATH=\\yourmachine\dtSearch
RELATIVITYINSTANCENAME=My Relativity Instance
ADMIN_EMAIL=relativity.admin@relativity.com
SERVICEACCOUNT_EMAIL=serviceaccount@relativity.com
ADMIN_PASSWORD=myPassword
SERVICEACCOUNT_PASSWORD=myPassword
DATABASEBACKUPDIR=C:\Backup
LDFDIR=C:\Logs
MDFDIR=C:\Data
FULLTEXTDIR=C:\FullText
USEWINAUTH=1
```

Note: Every line in the RelativityResponse.txt file that starts with ### is a comment and meant to provide instruction.

12.2 Distributed SQL Server upgrade

If your Relativity environment uses a distributed SQL Server, then you need to run the installer on a machine other than the one that hosts the primary SQL database. After you have upgraded the primary SQL Server, you can upgrade the distributed database server and the web and agent server upgrades in parallel. Make sure that you review the steps for the database server setup in the Pre-installation Guide, including those in the Optionally configure an authentication token-signing certificate section.

Open the **RelativityResponse.txt** file in a text editor and edit the parameters as follows to upgrade Relativity on the machine that serves the role of the distributed SQL Server:

12.2.0.1 Common properties

- **INSTALLPRIMARYDATABASE**—set this value to zero. You cannot store the distributed database on the same machine as the primary database.

  ```
  INSTALLPRIMARYDATABASE=0
  ```

- **INSTALLDISTRIBUTEDDATABASE**—set this value to one.

  ```
  INSTALLDISTRIBUTEDDATABASE=1
  ```

- **INSTALLDIR** - Enter the installation directory. This is the target directory for all files related to the local install-ation. This path must be local to the machine and accessible by the server. You must use ASCII characters for this path.

  ```
  INSTALLDIR=C:\Program Files\kCura Corporation\Relativity
  ```

- **PRIMARYSQLINSTANCE**—enter the primary SQL instance. If you are installing to a cluster, specify the cluster and instance name. If you are installing to a named instance, specify the server and instance name. All features require this input.

  ```
  PRIMARYSQLINSTANCE=ML12
  ```

- **EDDSDBOPASSWORD**—enter the EDDSDBO password.

  ```
  EDDSDBOPASSWORD=MySecretPassword
  ```

- **SERVICEUSERNAME**—enter the service username. The Windows login must already exist.

  ```
  SERVICEUSERNAME=example\exampleusername
  ```

- **SERVICEPASSWORD**—enter the Service password.

  ```
  SERVICEPASSWORD=MySecretPassword
  ```

- **USEWINAUTH**—set this to one to use Windows authentication for the SQL Server.

  ```
  USEWINAUTH=1
  ```

  Note: If the **USEWINAUTH** value is set to one, then the user running the installer must be a SQL sysadmin, and any values entered for **SQLUSERNAME** and **SQLPASSWORD** are ignored.

- **SQLUSERNAME**—enter the SQL username to use SQL Server login authentication.

  ```
  SQLUSERNAME=mySqlUserName
  ```

  Note: This value is ignored if **USEWINAUTH** is set to one.

- **SQLPASSWORD**—enter the SQL password to use SQL Server login authentication.

  ```
  SQLPASSWORD=myPassword
  ```

  Note: This value is ignored if **USEWINAUTH** is set to one.

12.2.0.2 Distributed database properties

- **DISTRIBUTEDSQLINSTANCE**—enter the Distributed SQL instance. You cannot store the distributed data-base on the same machine as the primary SQL Server.

  ```
  DISTRIBUTEDSQLINSTANCE=ML14
  ```

12.2.0.3 Common database properties

We recommend that the following database paths are local to the SQL Server and accessible. However, we also support UNC paths on SQL Server 2017 and above.

- **DATABASEBACKUPDIR**—enter the database backup directory.

  ```
  DATABASEBACKUPDIR=C:\Backup
  ```

- **LDFDIR**—enter the LDF directory.

```
LDFDIR=C:\Logs
```

- **MDFDIR**—enter the MDF directory.

```
MDFDIR=C:\Data
```

- **FULLTEXTDIR**—enter the full text directory.

```
FULLTEXTDIR=C:\FullText
```

Save your edits to the **RelativityResponse.txt** file, and launch the **Install.bat** file to proceed with the upgrade.

A sample response file for a distributed SQL database upgrade using Windows authentication looks like this:

```
INSTALLDISTRIBUTEDDATABASE=1
INSTALLDIR=C:\Program Files\kCura Corporation\Relativity
PRIMARYSQLINSTANCE=ML12
EDDSDBOPASSWORD=MySecretPassword
SERVICEUSERNAME=example\exampleusername
SERVICEPASSWORD=MySecretPassword
DISTRIBUTEDSQLINSTANCE=ML14
DATABASEBACKUPDIR=C:\Backup
LDFDIR=C:\Logs
MDFDIR=C:\Data
FULLTEXTDIR=C:\FullText
USEWINAUTH=1
```

Note: Every line in the RelativityResponse.txt file that starts with ### is a comment and meant to provide instruction.

13 Upgrading your agent server

This section provides the prerequisites and the steps required to upgrade your agent server to a new version of Relativity. For more information, see Pre-installation Guide.

Before you begin upgrading your agent server, confirm that you have upgraded the SQL Server and have started the SQL service.

13.1 Agent server upgrade

Contact Customer Support to get a copy of the Relativity installer.

Save the following files to the root directory of any server contributing to the Relativity environment:

- **Relativity.exe**—the executable file that installs Relativity components determined by the values entered in the RelativityResponse.txt file.
  - You must save Relativity.exe on a drive local to the server. Running Relativity.exe from a shared location results in upgrade or installation failure.
  - Use Install.bat to proceed with installation. The Relativity.exe file does not open a user interface.
- **Install.bat**—the code that prompts Relativity.exe to proceed with the installation process. You must edit line 11 of the Install.bat file with the exact name of the Relativity installation file.

  ```
  start /wait "" "INSERT EXACT NAME OF RELATIVITY INSTALLATION FILE" /log InstallLog.txt /re-
  sponsefilepath=RelativityResponse.txt
  ```

  - Run this file from an elevated command line prompt to avoid permission issues.
  - You must surround the name of the Relativity installation file with quotation marks.
- **RelativityResponse.txt**—the text file that determines which components Relativity.exe installs, uninstalls, or upgrades on the server.

  Note: Every line in the RelativityResponse.txt file that starts with ### is a comment and meant to provide instruction.

To upgrade the agent server:

Open the **RelativityResponse.txt** file in a text editor and edit the parameters as follows to upgrade Relativity on the machine that serves the role of the agent server:

Note: The following settings assume that the same machine does not host the agent server that hosts the primary or distributed SQL database servers.

13.1.0.1 Common properties

- **INSTALLDIR**—enter the installation directory. This is the target directory for all files related to the local installation. This path must be local to the machine and accessible by the server. You can't use unicode special characters for this path.

  ```
  INSTALLDIR=C:\Program Files\kCura Corporation\Relativity
  ```

- **PRIMARYSQLINSTANCE**—enter the primary SQL instance. If you are installing to a cluster, specify the cluster and instance name. If you are installing to a named instance, specify the server and instance name. All features require this input.

  ```
  PRIMARYSQLINSTANCE=ML12
  ```

- **EDDSDBOPASSWORD**—enter the EDDS database object password.

```
EDDSDBOPASSWORD=MySecretPassword
```

- **SERVICEUSERNAME**—enter the service username. The Windows login must already exist.

```
SERVICEUSERNAME=example\exampleusername
```

- **SERVICEPASSWORD**—enter the service password.

```
SERVICEPASSWORD=MySecretPassword
```

- **USEWINAUTH**—set this to one to use Windows authentication for the SQL Server.

```
USEWINAUTH=1
```

> **Note:** If the **USEWINAUTH** value is set to one, then the user running the installer must be a SQL sysadmin, and any values entered for **SQLUSERNAME** and **SQLPASSWORD** are ignored.

- **SQLUSERNAME**—enter the SQL username to use SQL Server login authentication.

```
SQLUSERNAME=mySqlUserName
```

> **Note:** This value is ignored if **USEWINAUTH** is set to one.

- **SQLPASSWORD**—enter the SQL password to use SQL Server login authentication.

```
SQLPASSWORD=myPassword
```

> **Note:** This value is ignored if **USEWINAUTH** is set to one.

- **USEWINAUTH**—set this to one to use Windows authentication for the SQL Server.

```
USEWINAUTH=1
```

> **Note:** If the **USEWINAUTH** value is set to one, then the user running the installer must be a SQL sysadmin, and any values entered for **SQLUSERNAME** and **SQLPASSWORD** are ignored.

Save your edits to the **RelativityResponse.txt** file, and launch the **Install.bat** file to proceed with the upgrade.

A sample RelativityResponse.txt file for a agents only upgrade looks like this:

```
INSTALLAGENTS=1
INSTALLDIR=C:\Program Files\kCura Corporation\Relativity
PRIMARYSQLINSTANCE=ML12
EDDSDBOPASSWORD=MySecretPassword
SERVICEUSERNAME=example\exampleusername
SERVICEPASSWORD=MySecretPassword
USEWINAUTH=1
```

> **Note:** Every line in the RelativityResponse.txt file that starts with ### is a comment and meant to provide instruction.

13.2 Service Host Manager HTTPS configuration

Service Host Manager runs Relativity services on all web and agent servers in your environment. The services are used by applications like Production and Processing on. If your web and agent servers must be set up for HTTPS access, special setup is required for Service Host Manager.

For more information, see Service Host Manager on the Server 2025 Documentation site.

14 Upgrading your web server

This section provides the prerequisites and the steps required to upgrade your web server to a new version of Relativity. For more information, see Pre-installation Guide.

Before you begin upgrading your web server, confirm that you have upgraded the SQL Server, started the SQL service, and that IIS is stopped.

> **Note:** When you install Relativity, it is configured to use HTTPS by default. If you decided not to use HTTPS in your environment, you must set the CookieSecure instance setting to **False** before logging in to Relativity, or you receive an error message. For more information, see Instance setting on the Server 2025 Documentation site. If you later decide to use HTTPS in your environment, you can find information about how to set up this functionality in the section called *Configuring SSL on a web server* on the Pre-installation page.

> **Note:** This documentation contains references to third-party software, or technologies. While efforts are made to keep third-party references updated, the images, documentation, or guidance in this topic may not accurately represent the current behavior or user interfaces of the third-party software. For more considerations regarding third-party software, such as copyright and ownership, see Terms of Use.

14.1 Web server upgrade

The web server hosts Relativity and its services, such as the Services and Web APIs. After you have installed the primary SQL Server, you can run the web and agent server, as well as the distributed database server installations in parallel.

Contact Customer Support to get a copy of the Relativity installer.

Save the following files to the root directory of any server contributing to the Relativity environment:

- **Relativity.exe**—the executable file that installs Relativity components determined by the values entered in the RelativityResponse.txt file.
    - You must save Relativity.exe on a drive local to the server. Running Relativity.exe from a shared location results in upgrade or installation failure.
    - Use Install.bat to proceed with installation. The Relativity.exe file does not open a user interface.
- **Install.bat**—the code that prompts Relativity.exe to proceed with the installation process. You must edit line 11 of the Install.bat file with the exact name of the Relativity installation file.

```
start /wait "" "INSERT EXACT NAME OF RELATIVITY INSTALLATION FILE" /log InstallLog.txt /re-
sponsefilepath=RelativityResponse.txt
```

    - Run this file from an elevated command line prompt to avoid permission issues.
    - You must surround the name of the Relativity installation file with quotation marks.
- **RelativityResponse.txt**—the text file that determines which components Relativity.exe installs, uninstalls, or upgrades on the server.

> **Note:** Every line in the RelativityResponse.txt file that starts with ### is a comment and meant to provide instruction.

The following settings assume that the same machine does not host the web server that hosts the primary or distributed SQL database servers.

Open the **RelativityResponse.txt** file in a text editor and edit the parameters as follows to install Relativity on the machine that serves the role of the web server:

14.1.0.1 Common properties

- **INSTALLWEB**—set this value to one.

  ```
  INSTALLWEB=1
  ```

  Note: If the web server is already installed on this machine and the above value is set to zero, the installer removes the previously existing web server.

- **INSTALLDIR**—enter the installation directory. This is the target directory for all files related to the local installation. This path must be local to the machine and accessible by the server. You can't use unicode special characters for this path.

  ```
  INSTALLDIR=C:\Program Files\kCura Corporation\Relativity
  ```

- **PRIMARYSQLINSTANCE**—enter the primary SQL instance. If you are installing to a cluster, specify the cluster and instance name. If you are installing to a named instance, specify the server and instance name. All features require this input.

  ```
  PRIMARYSQLINSTANCE=ML12
  ```

- **EDDSDBOPASSWORD**—enter the EDDS database object password.

  ```
  EDDSDBOPASSWORD=MySecretPassword
  ```

- **SERVICEUSERNAME**—enter the service username. The Windows login must already exist.

  ```
  SERVICEUSERNAME=example\exampleusername
  ```

- **SERVICEPASSWORD**—enter the service password.

  ```
  SERVICEPASSWORD=MySecretPassword
  ```

- **USEWINAUTH**—set this to one to use Windows authentication for the SQL Server.

  ```
  USEWINAUTH=1
  ```

  Note: If the **USEWINAUTH** value is set to one, then the user running the installer must be a SQL sysadmin, and any values entered for **SQLUSERNAME** and **SQLPASSWORD** are ignored.

- **SQLUSERNAME**—enter the SQL username to use SQL Server login authentication.

  ```
  SQLUSERNAME=mySqlUserName
  ```

  Note: This value is ignored if **USEWINAUTH** is set to one.

- **SQLPASSWORD**—enter the SQL password to use SQL Server login authentication.

  ```
  SQLPASSWORD=myPassword
  ```

  Note: This value is ignored if **USEWINAUTH** is set to one.

Save your edits to the **RelativityResponse.txt** file, and then launch the **Install.bat** file to proceed with the upgrade.

A sample RelativityResponse.txt file for a web only upgrade looks like this:

```
INSTALLWEB=1
INSTALLDIR=C:\Program Files\kCura Corporation\Relativity
PRIMARYSQLINSTANCE=ML12
EDDSDBOPASSWORD=MySecretPassword
SERVICEUSERNAME=example\exampleusername
```

```
SERVICEPASSWORD=MySecretPassword
USEWINAUTH=1
```

> **Note:** Every line in the RelativityResponse.txt file that starts with ### is a comment and meant to provide instruction.

14.2 Verifying the machine key settings on the IIS

When setting up the IIS for a Relativity installation, you need to verify that the machine keys are configured to use the appropriate methods for the encryption and decryption of forms authentication data.

Use these steps to set the machine key for the IIS:

1. Open the IIS Manager.

2. Highlight your Relativity website to display configuration options in the Feature View on the IIS dashboard.

3. Double-click the **Machine Key** icon.

4. Update the following fields for your version of Windows server:
    - **Validation method**—SHA1
    - **Encryption method**—AES
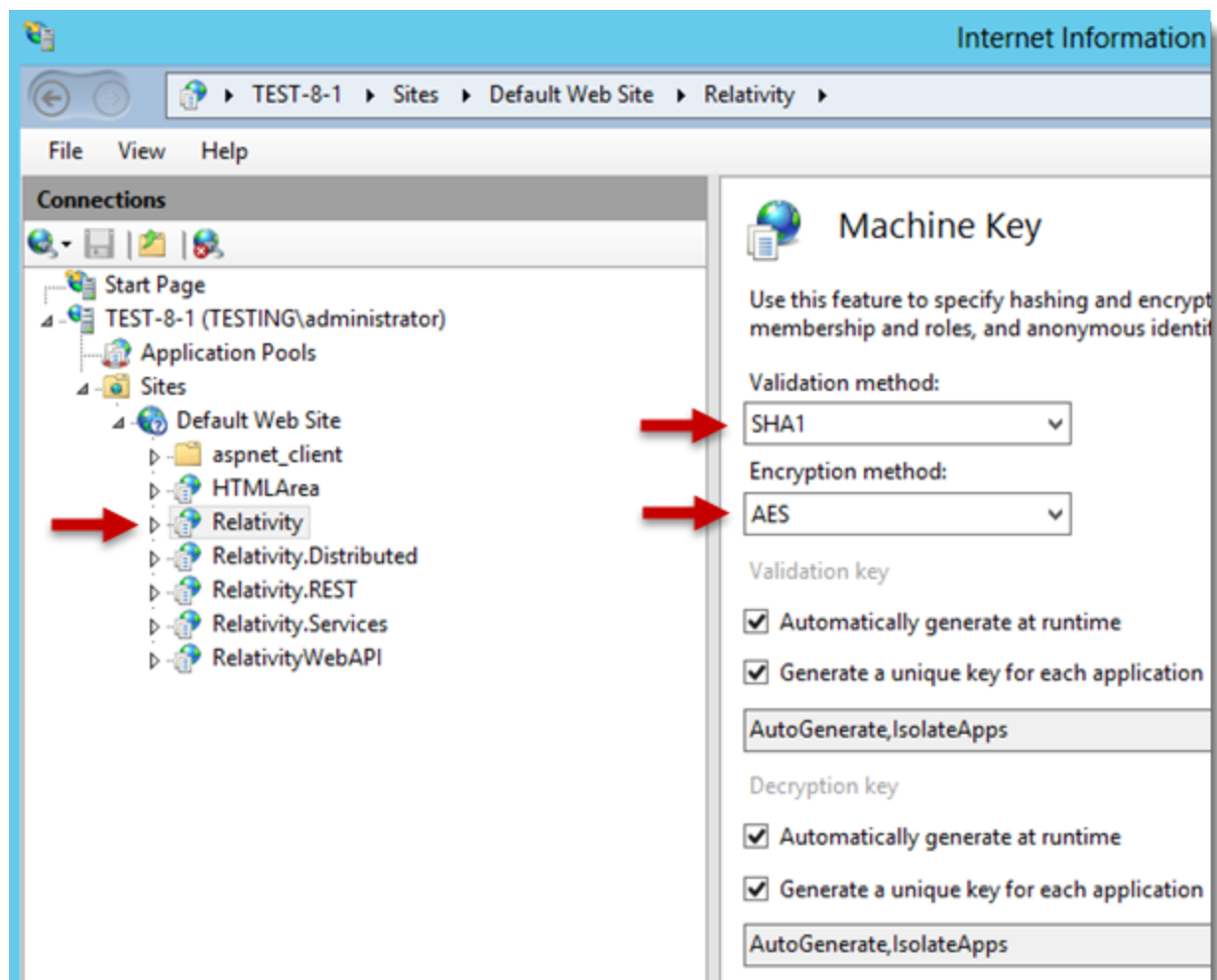
5. Save your changes.

14.3 Upgrading a web server configured for mixed authentication with AD

Use the following steps to upgrade a web server configured for mixed mode authentication with Active Directory (AD). For information about setting up a web server configured for mixed authentication with AD, see Authentication on the Server 2025 Documentation site.

To update the UseWindowsAuthentication instance setting:

1. Open SQL Server Management Studio on your Relativity database server.

2. Connect to the EDDS database.

3. Execute one of the following SQL statement to set the WindowsAuthentication instance setting to True:

   - Update all servers to use Windows Authentication.

     ```
     UPDATE EDDS.eddsdbo.InstanceSetting SET
     value = 'True' WHERE
     Name = 'UseWindowsAuthentication'
     ```

   - Update a specific server to use Windows Authentication. Replace **YourServerName** in the WHERE clause to the name of your machine, which you want to configure for Windows Authentication. You only need the machine name if you want to set this setting per server.

     ```
     UPDATE EDDS.eddsdbo.InstanceSetting SET
     value = 'True' WHERE
     Name = 'UseWindowsAuthentication' and MachineName = 'YourServerName'
     ```

   - Add a new row to the instance setting table for each additional machine that you need to enable AD authentication. Use this option when you want AD enabled on multiple web servers in your Relativity environment, but not on all of them. You need to execute the following SQL statement with the name of the additional machine, which you want to configure for Windows Authentication. Replace **YourSecondServerName** with the name of that machine.

     ```
     INSERT INTO EDDS.eddsdbo.InstanceSetting
     VALUES ('Relativ-
     ity.Authentic-
     ation','UseWindowsAuthentication','True','YourSecondServerName','Determines
     whether Relativity uses Windows Authentication. Set this value False if you
     want to disable WinAuth. Set it to True if you want to enable WinAuth and
     require the user to log in to Relativity from the current machine.')
     ```

14.4 Service Host Manager HTTPS configuration

Service Host Manager runs Relativity services on all web and agent servers in your environment. The services are used by applications like Production and Processing on. If your web and agent servers must be set up for HTTPS access, special setup is required for Service Host Manager.

For more information, see Service Host Manager on the Server 2025 Documentation site.

14.5 SignalR

When running Relativity on IIS 7.5 and older, the SignalR protocol may exhibit performance issues, including slow responses and connection failures as it falls back to other supported connection protocols. To resolve this issue, disable dynamic content compression for the Relativity.REST application in the Compression section in IIS:
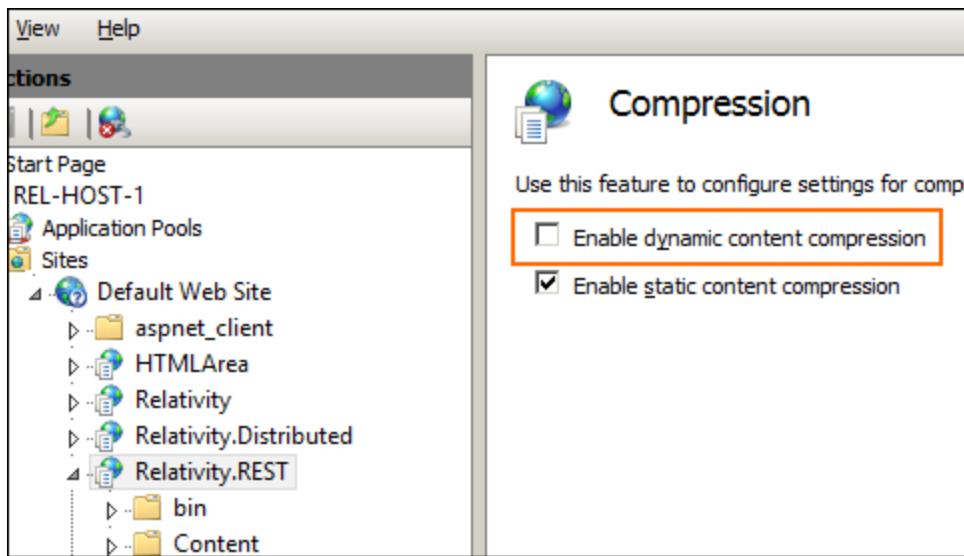
You can also add the following property to the **system.webServer** section of the Relativity.REST **web.config** file:

```
<urlCompression doDynamicCompression="false" />
```

This change will improve SignalR performance on older versions of IIS.

15 Upgrading a worker manager server installation

For all the information you need to upgrade your Worker Manager Server, see the Worker Manager Server Installation Guide.

16 Upgrading Relativity to .NET 4.8

This topic provides information related to upgrading your Relativity environment to .NET 4.8 or 4.8.1.

We recommend using .NET 4.8 or 4.8.1, even though .NET 4.7.2 is still supported and is the required minimum version.

Regardless of the version you use, updates must be applied to Relativity servers and client machines.

Note: Existing custom applications are compatible with Server 2025 and do not need to be recompiled, but you must upgrade your development environment to use the latest versions of Relativity SDKs.

16.1 All servers

Perform these steps on all servers in your Relativity environment:

1. Download the .NET 4.8 or 4.8.1 installer from:
   - https://dotnet.microsoft.com/en-us/download/dotnet-framework/net48 for 4.8. The downloaded file name is *ndp48-web.exe*.
   - https://dotnet.microsoft.com/en-us/download/dotnet-framework/net481 for 4.8.1. The downloaded file name is *ndp481-web.exe*.
2. Run the *ndp48-web.exe* or *ndp481-web.exe* executable and follow the instructions in the installation wizard.
3. Turn off applications when prompted by the installation wizard.
4. Restart the server on completion.

16.2 Client machines

Perform these steps on all systems running Relativity and Invariant client applications, Relativity Desktop Client and Relativity Processing Console:

1. If you do not have the Microsoft Visual C++ 2015 Redistributable already installed, download it from https://www.microsoft.com/en-us/download/details.aspx?id=53840.The download provides both 32- and 64-bit options. Select an executable depending on your system word size.
2. Run the Microsoft Visual C++ 2015 Redistributable executable and follow the instructions in the installation wizard.
3. Download the .NET 4.8 or 4.8.1 installer from https://dotnet.microsoft.com/en-us/download/dotnet-framework/net48 or https://dotnet.microsoft.com/en-us/download/dotnet-framework/net481.The downloaded file name is *ndp48-web.exe* or *ndp481-web.exe*.
4. Run the *ndp48-web.exe* or *ndp481-web.exe* executable and follow the instructions in the installation wizard.
5. Turn off applications when prompted by the installation wizard.
6. Restart the machine on completion.
7. Download and install the latest versions of ActiveX viewer, RDC, and RPC.

16.3 Relativity applications

16.3.1 Backward-compatible applications

Going forward, regardless of current Relativity version, if you install new .NET 4.8 or 4.8.1-based versions of backward-compatible Relativity applications, you must upgrade your environment to .NET 4.8 or 4.8.1 as described above.

Backward-compatible applications include Data Grid, ARM, Relativity User Import, etc.

16.3.2 Custom applications built with the Relativity SDK

Custom applications that Relativity does not own or maintain can continue to target their current .NET version and will work in the new .NET 4.8 or 4.8.1-based Relativity. You can continue developing with older versions of the Relativity SDKs if you don't need the new features in latest version.

To develop using the latest Relativity SDK, you must update the applications' projects to target .NET 4.8 or 4.8.1. The developers must also update their environment to the .NET 4.8 or 4.8.1 Developer Pack as described below.

16.4 Development environment

If you develop custom Relativity application, you must update your development environment to use the latest version of the SDK:

1. Download the Microsoft .NET Framework Developer Pack from:
    *   https://dotnet.microsoft.com/en-us/download/dotnet-framework/thank-you/net48-developer-pack-offline-installer for 4.8. The file name is *ndp48-devpack-enu.exe*.
    *   https://dotnet.microsoft.com/en-us/download/dotnet-framework/thank-you/net481-developer-pack-offline-installer for 4.8.1. The file name is *ndp481-devpack-enu*.

2. Run the *ndp48-devpack-enu.exe* or *ndp481-devpack-enu* executable and follow the instructions in the installation wizard.

3. Turn off applications when prompted by the installation wizard.

4. Restart the machine on completion.

17 Upgrading workspaces

You can use the Workspace Upgrade queue to monitor the progress of scripts as they update workspace database schemas. In addition, you can also monitor upgrades to applications currently installed in workspaces. It also provides you with the ability to view detailed error messages when a script or application upgrade fails. You can use the advanced mass operations on the queue to edit the priority and order of workspace upgrades, as well as retry failed upgrades, and cancel upgrades.

17.1 Monitoring upgrades with the Workspace Upgrade queue

You can view the Workspace Upgrade queue from Home. Select the **Queue Management** tab, and click **Workspace Upgrade Queue**. The Workspace Upgrade queue displays the current status and the progress of the upgrade for each workspaces.

The Workspace Upgrade Queue also displays the current status and version of the processing store upgrade process, which the Workspace Upgrade Worker agent completes in addition to upgrading the workspace.

For descriptions of the columns, see .

#		Artifact ID	Workspace Name	Priority	Order	Workspace St...	Workspace Upgra...	Current Relativity V...	Store Upgrade S...	Current Store Vers...	DataBase Upgrade Progress	Application Upgrade Progress
		(All)	(All)	(All)	(All)	(All)	Select...	(All)	(All)	(All)		
1		1021759	Processing	Medium		Active	Completed	9.5.189.109	Completed	4.5.182.11		
2		1021775	Publish with Doc level error	Medium		Active	Failed Script Upgrade	9.5.189.109	Completed	4.5.182.11		
3		1014823	New Case Template	Medium		Active	Completed	9.5.189.109	Completed	4.5.182.11		
4		1015024	kCura Starter Template	Medium		Active	Completed	9.5.189.109	Completed	4.5.182.11		
5		1016621	Workspace Creation Primary Test	Medium		Active	Failed Upgrade	9.5.189.109				
6		1019633	Distributed Test	Medium		Active	Completed	9.5.189.109	Completed	4.5.182.11		

Procuro is a utility used to upgrade the schema for all Relativity databases using scripts. As part of the database upgrade process, the Procuro utility automatically runs on your database server. It is also known as the Database Upgrade tool. Procuro makes updates to database schemas by adding, and removing columns in tables, creating new tables, re-naming table /columns, changing the types of data; adding or removing indexes and statistics to ensure functionality with Relativity. It is also required so Relativity can perform upgrades for future iterations created.

Procuro automatically sets the Upgrade Status of the workspaces to Pending in the Workspace Upgrade queue. This status indicates to the upgrade agents running in your environment that they can begin upgrading the workspaces immediately. You can use the advanced mass operation options to change the upgrade priority and order of workspaces or to prevent workspaces from upgrading. For more information, see .

The workspace upgrader uses agents that run jobs for upgrading the workspace database schemas and installing applications. You must configure these agents through the Agents tab in Relativity. See .

If you do not see any activity in the Workspace Upgrade queue, these agents have not been configured. An alert message lists the agents that you need to configure.

For configuration information, see Relativity upgrade and Agents on the Server 2025 Documentation site.

17.1.1 Populating the Workspace Upgrade queue

The Workspace Upgrade queue continually populates with status information by the upgrade agents as they run scripts to update workspace databases and installed applications. The following agents run the scripts and the

application upgrades:

- **Workspace Upgrade Worker**—picks up pending jobs in the queue for script updates.

  > **Note:** On an SQL Server profile, you can edit the **Workspace Upgrade Limit** field, which controls the number of agents accessing the server during an upgrade. The setting entered in this field can't exceed the setting in the **GlobalWorkspaceUpgradeLimit** instance setting value. If you enter a number that exceeds this instance setting value, an error occurs that cancels your update. For more information, see Instance setting values and Upgrading workspaces.

- **Workspace Upgrade Manager**—queues applications required for installation in workspaces.

- **Application Installation Manager**—installs required applications to workspaces. In Relativity 10.0.318.5 and above, you can use the WorkspaceUpgradeCountForGCFullCollect instance setting to specify the number of workspace upgrades performed by all Application Installer Manager agents on an agent server before a full garbage collection is initiated. For more information, see Instance Settings guide.

For more information about agents, see Agents on the Relativity2025 Documentation site.

During a Relativity upgrade, the agents complete the following tasks and then update the statuses displayed on the Workspace Upgrade queue:

1. Set upgrade status to Pending.
   Procuro runs and sets the status on workspaces in the Workspace Upgrade queue to Pending.

2. Pick up pending jobs.
   The Workspace Upgrade Worker sees a pending job in the queue, picks it up, and begins upgrading the workspace.

3. Run upgrade scripts.
   The Workspace Upgrade Worker sets the status of the workspace to Upgrading scripts and runs the SQL scripts to update the workspace database schema. When the scripts complete, the upgrade status on the workspace is set to Pending Application Upgrade.

4. Set upgrade status to Upgrading Applications.
   The Workspace Upgrade Manager queues applications required for installation in workspaces in the Application Install table, and it sets the upgrade status to Upgrading Applications.

5. Install applications.
   The Application Installation Manager installs the required applications.

6. Complete installation.
   When the application upgrades have installed successfully, the Workspace Upgrade Manager checks the application status, and then sets the status of the workspace to Completed.

During an Invariant upgrade, the agents complete the following tasks and then update the statuses displayed on the Workspace Upgrade queue:

1. Set store upgrade status to Pending.
   The Invariant.DBUpdater runs and sets the store status on workspaces in the Workspace Upgrade queue to Pending.

2. Pick up pending store upgrade jobs.
   The Workspace Upgrade Worker sees a pending store upgrade job in the queue, picks it up, and begins upgrading the store.

3. Run upgrade scripts.
   The Workspace Upgrade Worker sets the status of the workspace to Upgrading scripts and runs the SQL scripts to update the store database schema.

17.1.2 Workspace Upgrade queue columns

The Workspace Upgrade queue displays the following columns:

- **Artifact ID**—the Artifact ID of a workspace undergoing an upgrade.

- **Workspace Name**—the name of a workspace undergoing an upgrade. Click the name to display the document list in the workspace.

- **Priority**—the upgrade order assigned to the workspace. Priorities include Low, Medium, and High. See Editing upgrade priority and order for a workspace on the next page.

- **Upgrade Status**—the status of the workspace upgrade as determined by the current Procuro stage. See Upgrade statuses descriptions below.

- **Workspace UpgradeStatus**—the value assigned to the Status field on the workspace details page. See Upgrade statuses descriptions below.

- **Current Relativity Version**—the workspace is currently updated to this version of Relativity.

- **Store Upgrade Status**—the status of the upgrade of the Invariant store, as completed by the Workspace Upgrade Worker agent. The possible values in this column are the same as for the workspace upgrade. This field is empty if you do not have processing installed. You could see any of the following status values:

  - **Pending** —the Invariant store have been added to the Workspace Upgrade queue, but the Workspace Upgrade Worker has not picked it up yet.

  - **Upgrading Scripts**—the Workspace Upgrade Worker agent is running scripts against the Invariant store.

  - **Completed**—the store is fully upgraded and ready for use.

  - **Failed Script Upgrade**—an error occurred while upgrading SQL scripts for the Invariant store, the upgrade failed, and Processing is disabled in the workspace.

  - **Canceled**—the user canceled the upgrade when it had the status of Pending, Pending Application Upgrade, Upgrading Scripts, or Upgrading Applications. See Canceling or retrying workspace upgrades on page 58.

  - **NULL**—a Store has not been created on this workspace

- **Current Store Version**—the version of Invariant you are upgrading to. This field always displays the most current version of Invariant available. This is because if the upgrade fails, it displays the version of Invariant you were attempting to upgrade to, and if the upgrade was successful, it displays the version you just upgraded to, which is the most current.

- **Database Upgrade Progress**—the percentage of the upgrade process completed for the workspace database and the Invariant database if the Processing application is installed. It uses the following colors to indicate the upgrade status:

  - **Blue**—indicates the upgrade is in progress.

  - **Green**—indicates a completed upgrade.

  - **Red**—indicates an error or failure occurred.

- **Application Upgrade Progress**—the percentage of the upgrade process completed for the application. It uses the same colors to indicate the upgrade status as the Database Upgrade Progress bar.

17.1.3 Upgrade statuses descriptions

The following table contains descriptions for the statuses displayed in the Upgrade Status column on the Workspace Upgrade queue:

- **Canceled**—the user canceled the upgrade when it had the status of Pending, Pending Application Upgrade, Upgrading Scripts, or Upgrading Applications. See Canceling or retrying workspace upgrades on page 58.

- **Completed**—the upgrade of the workspace completed successfully.

- **Failed Application Upgrade**—an error occurred while upgrading applications in the workspace. See Troubleshooting upgrades on the next page.

- **Failed Script Upgrade**—an error occurred while upgrading SQL scripts for the workspace. See Troubleshooting upgrades on the next page.

- **Pending**—the workspace has been added to the Workspace Upgrade queue, but the Workspace Upgrade Worker has not picked it up yet.

- **Pending Application Upgrade**—the Workspace Upgrade Manager populates the application installation queue with any required applications.

- **Upgrading Applications**—the Application Installation Manager upgrades the applications in the workspace.

- **Upgrading Scripts**—the Workspace Upgrade Worker runs Procuro scripts against the workspace database.

17.2 Editing upgrade priority and order for a workspace

You can set order and priority on workspaces for upgrades. Relativity always upgrades ordered workspaces before unordered workspaces regardless of their priority. Relativity uses priority to determine which of the workspaces to upgrade first when you do not assign an order.

In addition, if you assign the same order to a group of workspaces, Relativity uses their Artifact ID to determine the upgrade order. It follows a similar process if you assign the same priority to a group of workspaces.
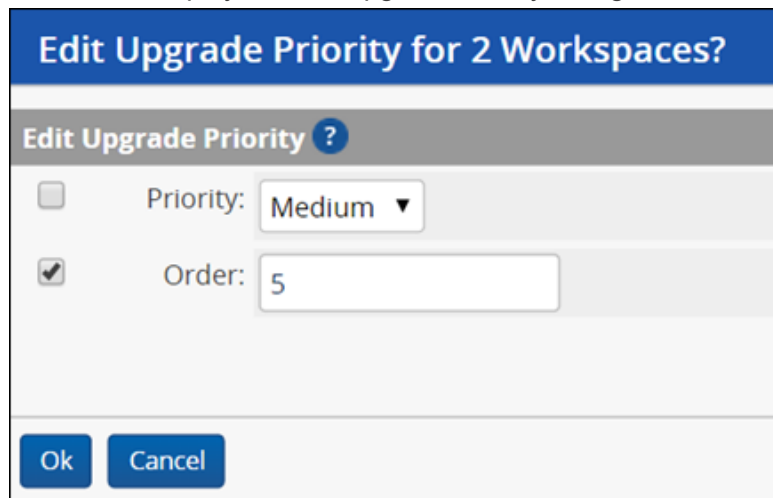
The priority and order options provide you with the flexibility needed to control the workspaces that Relativity upgrades first and those that are upgraded later. For example, you might upgrade workspaces in high demand, so that they are available to users sooner than those less frequently accessed workspaces. The default priority for workspaces is Medium and the default order is blank.

Note: Your users may notice decreased Relativity performance if they are using a workspace on the same SQL Server where you are upgrading other workspaces. However, if you are upgrading workspaces on another server in a distributed environment, users should not notice any change in performance.

Use this procedure to change the priority and order:

1. Perform one of these tasks to select the workspaces:
   - To set the priority for only a specific group of workspaces, select their checkboxes. In the mass operations bar, choose **Checked**.
   - To set the priority for all workspaces, choose **All Items** in the mass operations bar.
2. Select **Edit Priority** in the mass operations bar.

3. Click **Go** to display the Edit Upgrade Priority dialog.

4. Perform one or both of the following tasks:

   - Select the **Priority** checkbox. Choose **Low**, **Medium**, or **High** from the drop-down menu.

   - Select the **Order** checkbox. Enter a value in the text box. You use this value to specify the order that you want used for workspace upgrades. Relativity upgrades workspaces with a smaller order values before those with a larger values. The default value for Order is blank.

5. Click **Ok** to save your changes.

If you want to revert from and ordered priority to an unordered priority, use this procedure:

1. Select the **Priority** checkbox. Choose **Low**, **Medium**, or **High** from the drop-down menu.

2. Select the **Order** checkbox. Leave the value blank.

3. Click **Ok** to save your changes.

17.3 Troubleshooting upgrades

From the Workspace Upgrade queue, you can view script and application errors, which may have occurred during an upgrade. You can also use the mass operations for retrying a workspace upgrade from the queue or canceling an upgrade. For more information, see the following sections:

- Viewing upgrade errors

- Canceling or retrying workspace upgrades

- Retrying upgrade failures for system secured applications on page 58

17.3.1 Viewing upgrade errors

When an application or script fails to upgrade properly, the Upgrade Status column displays a link that you can use to view additional information about the error that occurred.

Note: You can also view errors, upgrade status, script details, and other information on the History of Workspace dialog. To display this information, click the **Workspace Details** tab, and then click the **View Audit** button.

17.3.1.1 Script or other non-application upgrade fails

When a script upgrade fails, click the **Failed Script Upgrade** link to display the Error Information dialog, which includes a detailed error message, server, source, and other information.

You cannot access a workspace when a script or other upgrade non-application error occurs. If you attempt to open a workspace with these upgrade errors, you receive a message indicating that the workspace is inaccessible. Click the **Return to Home** link to display the default Home tab.

> **Note:** If you only want to display workspaces that are fully upgraded and accessible, add a condition on the workspace view where the **Workspace Accessibility** field is set to **Enabled**. This setting filters only upgrade accessible workspaces, and hides any workspaces that users cannot interact with.

When a script error occurs during an upgrade, review the details of the failure in the error message available from the **Failed Script Upgrade** link. You may also want to rerun the upgrade using the Retry Upgrade option. See Canceling or retrying workspace upgrades on the next page.

17.3.1.2 Application upgrade fails in a workspace

When an application upgrade fails, click the **Failed Application Upgrade** link to display the Application Errors dialog. If multiple applications failed to upgrade, click this link to display a pop-up with links to the error pages for these applications.

When an application error occurs, review the details of the failure in the error message available from the **Failed Application Upgrade** link. You can resolve locking conflicts that occur when a locked application prevents an upgrade, and naming conflicts that occur when an object type in an application shares the same name as another object type in the workspace. To resolve these errors, perform one of the following tasks:

- **Locking conflicts**—click the **Failed Application Upgrade** link to display the detailed error message. Select the **Unlock <Application Name>** checkbox, and click **Retry Import** on the error message.

- **Naming conflicts**—click the **Failed Application Upgrade** link to display the detailed error message. Select **Rename** from the drop-down box, enter a new name for the object in the text box, and click **Retry Import** on the error message.

In addition, you can perform these tasks for resolving locking and naming conflicts through the Application Library tab.

You can continue accessing a workspace when an application that it contains fails to upgrade successfully for additional troubleshooting. From the Relativity Applications tab, you can view the application details to resolve application errors. When a workspace contains an application in this failed upgrade state, Relativity displays an orange message bar across most of its pages, which contains with a warning indicating that workspace upgrade isn't complete.

For more information, see Troubleshooting application errors in the Server 2025 Developers site.For more information, see Troubleshooting application errors in the Developers site.

17.3.2 Canceling or retrying workspace upgrades

You can cancel an upgrade job on a workspace or retry an upgrade job as necessary. After you cancel a job, the workspace remains in a partially upgraded state so it is no longer accessible. You must attempt to complete a successful upgrade in order to access the workspace.

Use this procedure to cancel or retry an upgrade job:

1. Perform one of these tasks to select the workspaces:
   - To retry or cancel the upgrade jobs for only a specific group of workspaces, select their checkboxes. In the mass operations bar, choose **Checked**.
   - To retry or cancel the upgrade jobs for all workspaces, choose **All Items** in the mass operations bar.
2. Select **Retry Upgrade** or **Cancel Upgrade** in the mass operations bar.
3. Click **Go** to display a confirmation dialog.
4. Click **OK** if you want to continue with your selected action.

17.3.3 Retrying upgrade failures for system secured applications

System secured applications are installed in the Application Library and hosted at the instance level. You can resolve upgrade failures for system secured applications by manually retrying them through the Application library tab. Alternatively, for Relativity 10.0.318.5 and above, you can retry them through the Workspace upgrade queue by clicking the **Retry Admin App Upgrades** link displayed when a failure occurs.

17.3.3.1 Retrying system secured application upgrade failures in the Application Library
You can manually retry upgrading system secured applications through the Application Library tab.

1. Navigate to the **Application Library** tab.

2. Click the name of the failed application to display its detail view.

3. Click **Install** in the Workspace Installed section.

4. Click [---] and select the **Admin Case workspace** in the pop-up picker.

5. Click **Save**. If the application fails to install, contact the [Customer Support](#)Customer Support team team for additional help.
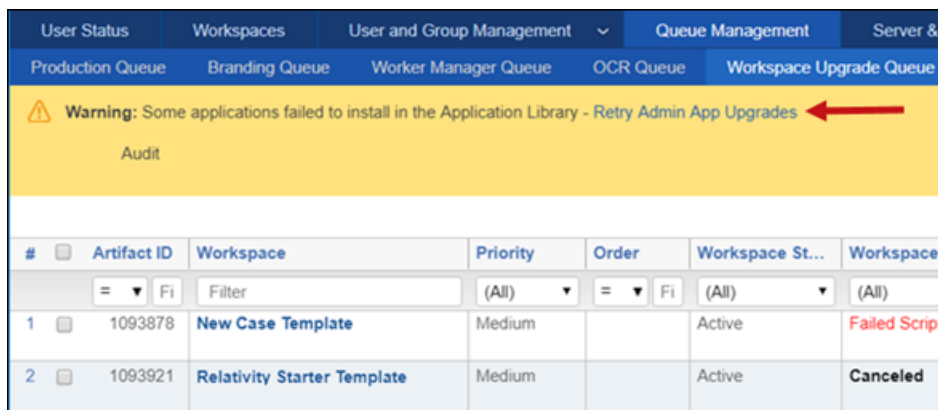
17.3.3.2 Retrying system secured application upgrade failures in Workspace upgrade queue

The upgrade installer updates system secured applications through the Application Library tab.

When a required application upgrade fails in the Application Library, Relativity handles the failure as follows:

- The Application Installation Manager agent will not attempt to install a failed application in any workspaces until the application is upgraded without errors in the Application Library. Instead, it skips the failed application, and continues installing other applications and scripts in the workspaces. After the application is successfully upgraded in the Application Library, the agent automatically completes the workspace upgrade.

- In the Workspace Upgrade queue, a warning message displays a list of any applications that failed to install in the Application Library, and the **Retry Admin App Upgrades** link. A separate warning message may appear with a list of any agents that have not been configured properly.

- In the Workspace Upgrade queue, the grid displays the Workspace Upgrade Status column with a status of Upgrading Applications, and the Application Upgrade Progress column with an incomplete progress bar for each failed application.

To resolve a failed application upgrade, click the **Retry Admin App Upgrades** link. You can click this link at any time to retry the upgrade. The next available agent then runs the job for upgrading the failed application in the Application Library. After successfully upgrading, the application is installed in workspaces, and the status columns in the Workspace Upgrade queue are updated.

Note: If you click the **Retry Admin App Upgrades** link, and the application installation fails again, don't retry installing all of the applications. Review the Errors tab, check for database errors, and perform other troubleshooting. Application installation failures may be caused by an improperly configured service bus, an unavailable SQL server, and other issues. Contact the [Customer Support](#) Customer Support team team if you need additional help.

18 Upgrading or installing your Analytics server

An upgrade of your Analytics server is required for Server 2025. Follow these steps to upgrade your analytics servers.

18.1 Pre-installation considerations

Before upgrading the Analytics servers, make sure you have completed the following steps:

1. Review the Analytics upgrade considerations for the current version. For more information, see Upgrade considerations.

2. Install or upgrade your Relativity instance by performing the required steps.

3. Perform a See Analytics server setup in the Pre-installation guide.

4. If you are upgrading your Analytics server, confirm whether your existing Analytics instance uses Single Data Directory (SDD) mode and migrate your data to an SDD install if necessary.
   - For instructions on how to check your directory mode, see Step 1 - Identifying the directory mode in the Admin guide.

18.1.1 TLS version considerations

The Analytics engine has TLS 1.1 disabled by default. This may cause issues if you're not using TLS 1.2 everywhere throughout your environment.

For this reason, we recommend enabling TLS 1.2 comprehensively throughout your environment. If it is already, no further action is recommended.

If you're not sure whether it is or not, check the registry key on all web and agent servers and then enable TLS 1.2, per the description in Managing TLS protocols and specifying cipher suites on page 74.

For assistance with enabling TLS 1.2, contact Support.

18.2 Installing or upgrading Analytics

You need the following items in order to successfully run the upgrade or installation:

- The Relativity Service Account user name and password.

- A self-signed or a trusted SSL certificate with the certificate's private key is required by Analytics. We recommend using the certificate that Relativity Secret Store generates. For more information, see Relativity Secret Store on the Relativity Documentation site.

- If your SQL Server uses SSL encryption, see Installing Analytics server when SQL Server uses SSL encryption on page 76 before beginning the Analytics server installation.

18.2.1 Special considerations

Consider the following when upgrading or installing:

- Before attempting an upgrade, stop all Analytics engine processes, such as ensuring that all Java and PostgreSQL processes are stopped. After you do this, back up the CAAT install directory and the CAAT data directory. If something goes wrong with the upgrade, this will greatly reduce any downtime spent to fix the problem.

- The Analytics Index Share houses all of your Analytics data for a particular Analytics server, and it can grow to be very large. We have found that NTFS file systems work for small environments, but if you anticipate running

sets of 10 million or more documents through your Analytics Engine, you should use a file system that supports larger files such as exFAT or ReFS. We do not have a recommendation for either file system, so you must determine which is the better fit for you.

- The Analytics upgrade includes an updated version of PostgreSQL, which is installed in the background. For more information, see Upgrading from previous versions on page 66.

18.2.2 Installing Analytics for the first time

Use the following sections to install Analytics for the first time. If you have previously installed Analytics and want to upgrade, see Upgrading from previous versions on page 66.

18.2.2.1 Setting properties in the response-file.properties file

Before new installations, unzip the Analytics package and open the **response-file.properties** file in a text editor. Complete the below **Common Properties** settings in the input file.

Note: For first time installs, all settings are considered and you must specify all response file values. Check to make sure the provided default works with your environment.

The following are available properties in the response-file.properties file:

caat.install-dir

In former versions of the installer, this was called "Analytics Server folder." This is the path to the folder containing the Analytics installation files. This value is required for upgrades.

- We recommend using the default folder of C:\CAAT, or C:\ContentAnalyst for a legacy installation.
- This path must be absolute, and it can't contain spaces or invalid characters.
- If the installer cannot find or access the location you specify, it installs the application to the default C:\CAAT folder.

A forward slash (/) or a double back slash (\\ ) should be used as a path separator, rather than a single back slash, as shown in the examples below.

```
caat.install-dir=C:/CAAT
caat.install-dir=C:\\CAAT
```

Note: Spaces cannot be present within the file path.

caat.http-port

In former versions of the installer, this was called "Analytics Server Port Number." This is the HTTP port to be used for requests to the Analytics engine. The HTTP port will default to 8080 for new installations, but you can configure a different port number. For upgrades, the value entered will only be used to ensure that the CAAT server is not running on that port.

```
caat.http-port=8080
```

caat.as-windows-service

This option should be set to true. Please note that this option is ignored upon upgrade.

```
caat.as-windows-service=true
```

caat.windows-service-name

This is the Windows service name. The service name will default to Relativity Analytics Engine if a service name is not provided. Please note that the service name will not change upon an upgrade, and this value is ignored upon upgrade.

```
caat.windows-service-name=Relativity Analytics Engine
```

caat.single-data-dir

In former versions of the installer, this was called "Analytics Index Directory." The Analytics data directory must also be created before installing Relativity Analytics. A forward slash (/) or a double back slash (\\ ) should be used as a path separator, rather than a single back slash, as shown in the examples below. This value is required for initial installs.

This is the directory where indexes and structured analytics sets are stored on disk.

- We recommend that you not keep the index directory on the C: drive due to the size requirements.

- We recommend you use locally-attached storage referenced by a drive letter, i.e. E:\CAATindexes, rather than a UNC path. For more information, see Index directory requirements in the Environment optimization guide.

- Do not create a local drive map to a UNC. For example, do not open \\servername\CAAT1 and map it to drive Z:. This is because drive mappings are specific to each Windows user and may not be available to the Relativity Service Account.

- This path must be absolute, and it can't contain spaces, invalid characters, or any Unicode.

- This value is ignored upon upgrade.

```
caat.single-data-dir= E:/AnalyticsData
caat.single-data-dir= E:\\AnalyticsData
caat.single-data-dir= //servername/AnalyticsData

caat.single-data-dir= \\\\servername\\AnalyticsData
```

caat.min-heap-size

This is the minimum Java Heap size in megabytes. If this is left blank, the default will be used. The default is 1/8 of total physical memory installed on the machine. It is recommended to leave this blank. This value is ignored upon upgrade.

```
caat.min-heap-size=
```

caat.max-heap-size

This is the maximum Java Heap size (-xmx) in megabytes. For example, 4096. If this is left blank the default will be used. The default is half of total physical memory installed on the machine.

```
caat.max-heap=
```

caat.http.authentication-status

This value must be set to **true**.

```
caat.http.authentication-status=true
```

caat.http-password

In former versions of the installer, this was called "REST Password." This is the password you create for the REST API user. This can be any password that you choose, but for ease of use, you may want to enter your Relativity Service account password. Whatever you enter here corresponds only with the REST API password field on the Analytics server that you will add in Relativity after you install the Analytics server here. This value is not related to any pre-existing part of the system, meaning that it is not the password for a SQL login, Windows Domain user, or Relativity user. This value is required for upgrades.

Note: The caat.http-password value entered here must be 20 characters or less.

```
caat.http-password=SuperSecretPassword
```

Note: It is not possible to change an existing password with this entry. In order to change the password, see .

caat.http-user

In former versions of the installer, this was called "REST Username." This is the username that a system admin or Relativity uses to authenticate with the REST API. This can be any user name that you choose, but for ease of use, you may want to enter your Relativity Service account user name. Whatever you enter here corresponds only with the REST API user name field on the Analytics server that you will add in Relativity after you install the Analytics server here. This value is not related to any pre-existing part of the system, meaning that it is not a SQL login, Windows Domain user, or Relativity user. This value is required for upgrades.

Note: It is not possible to change an existing username with this entry.

```
caat.http-user=AnalyticsUser
```

caat.ssl-status

This value needs to be set to **true**. This value is ignored upon upgrade.

```
caat.ssl-status=true
```

caat.ssl-certificate-key-path

This is the file path to the existing valid PKCS12 certificate-key file. This value is ignored upon upgrade. A forward slash (/) or a double back slash (\\ ) should be used as a path separator, rather than a single back slash, as shown in the examples below.

```
caat.ssl-certificate-key-path=C:/CertPath/AnalyticsCert.pfx
caat.ssl-certificate-key-path=C:\\CertPath\\AnalyticsCert.pfx
```

Note: This value is required. The Relativity Analytics engine accepts both self-signed and trusted certificates. To create a self-signed certificate, see .

caat.ssl-password

This is the SSL certificate password. This value is ignored upon upgrade.

```
caat.ssl-password=CertificatePasswordHere
```

Note: This value is required before performing a first time install.

caat.pg.upgrade-in-place (only for upgrading)

This property enables or disables in place upgrades for PostgreSQL data. It defaults to **false**, indicating that data is copied during upgrade.

```
caat.pg.upgrade-in-place=false
```

Review the behavior based on the following settings for this property:

- **true**—when this property is set to true, the upgrade uses hard links instead of copying data files to a new cluster. This process reduces the required free disk space and speeds up the upgrade. It also modifies the existing cluster and data loss is possible in error scenarios. When setting this property to true, take a full backup of CAAT and associated data before attempting this upgrade.

- **false**—when this property is set to false, the upgrade copies all data and upgrades the copied data. This avoids the possibility of data loss in the event of error. It requires free disk space equal to or greater than the current

PostgreSQL cluster size, and it increases the disk I/O time. We recommend setting this property to false for most scenarios.

If you use the bin/upgrade command directly, set this property as follows:

```
.\upgrade.cmd -Dcaat.upgradePgInPlace="true"
```

Notes:
- Take a full backup of CAAT and associated data before upgrading with this property set to true.
- This property only applies when CAAT is performing a major version PostgreSQL upgrade.
- After a successful upgrade, you can delete the old PostgreSQL data directory regardless of whether the caat.pg.upgrade-in-place setting was true or false.

caat.overrideDiskSpaceCheck (only for upgrading)

This property enables or disables a disk space check override when CAAT is performing a major version PostgreSQL upgrade. It defaults to **false**, indicating that a disk space check is run.

```
caat.overrideDiskSpaceCheck=false
```

To disable the disk space check, set this property to **true**.

If you use the bin/upgrade command directly, set this property as follows:

```
.\upgrade.cmd -Dcaat.overrideDiskSpaceCheck="true"
```

18.2.3 Running the Analytics installer

Before running the Analytics Server Installer:

- You must have system admin rights to both the Analytics server and the index share path in order to run the installer without interruption.
- Run the server setup as the Relativity Service Account.

18.2.3.1 Running the Install.cmd file

1. Stop the Content Analyst CAAT Windows Service.

   Note: This service may be named *Relativity Analytics Engine* depending on your version of Relativity.

2. Open Task Manager and ensure all analytics processes have stopped. This includes java.exe, lsiapp.exe, postgres.exe, and booleng.exe. If the processes do not disappear after a few minutes, right click them and kill the processes.

3. After configuring the **response-file.properties** file, right-click on the **Install.cmd** file. Select the **Run as administrator** option to start the Analytics Installation.
   This can take several minutes to complete. The installation specifications will be displayed in the command line window. Do not close the command prompt until the installation is complete. For more information, see Setting properties in the response-file.properties file.

4. (Optional) Monitor the status of the installation. The installation is finished after "The installation is complete"

message is displayed in the command prompt:

```
The following configuration files from the previous installation have
changed.  If you made any custom configuration changes you may want to
verify that the new files were properly merged to include your changes.
Copies of the previous versions were saved as NAME-old for your reference.
      bin/env
      bin/env.cmd
      etc/caat-realm.xml
      etc/itemstore.properties
      etc/login.conf
      etc/realm.properties
      webapps/nexus/WEB-INF/web.xml
The installation is complete.
```

5. Once the installation is complete, change the Content Analyst CAAT, or Analytics Engine, Windows service to run under the Relativity Service Account.

6. Relativity requires a certificate signed by a trusted certificate authority (CA). If you did not specify a valid PKCS12 certificate-key file during installation or the certificate expired, you will need to update the certificate. By default, the Analytics service runs over an untrusted SSL/TLS certificate. For steps to modify, see Updating the default SSL/TLS certificate on page 70.

7. Start the Content Analyst CAAT, or Analytics Engine, Windows Service.

8. (Optional) Confirm that all components of the Analytics service are running by visiting: **http://<Analytics Server Hostname>:<REST Port>/nexus/r1**
    Check the Available Services list. Make sure to specify your Analytics server host name and REST port in the URL.

9. If this is a new Analytics server, add it to the Servers list. For these steps, see Adding an Analytics server in the Admin guide. If the server has already been added, navigate to the Servers tab and activate it. Make sure to enter the information on the server layout the same as you did in the Analytics installer.

    - If you enter the information correctly, you can successfully save the server.

    - If you receive a not found error on the server, make sure the Analytics service is running and that you used the correct port.

    - If you get an unauthorized error, make sure that you entered the credentials correctly.

10. Verify that you have a valid URL value entered for the **RestUriForCAAT** instance setting. This is the fully qualified domain name (FQDN) URL to the web server hosting your Kepler services. For example, https://client.domain.name/Relativity.REST/API.

18.2.3.2 Logging

During the installation or upgrade of the Analytics Engine, the process will log to a file, such as installer.log, in the logs directory. For example, CAAT-win64-kcura-[Version].GA\logs.

The pattern for the log message is:

[log-level] [date] [thread-name] message

Example: [INFO] [2017-01-18 19:05:54 [main]: Loading installation options

> **Note:** Log messages will be appended to the same log file on subsequent runs.

18.2.4 Upgrading from previous versions

The Analytics upgrade includes an updated version of PostgreSQL, which is installed in the background. Review the following guidelines for applying this upgrade:

- Ensure that the Users group has Full Control permissions on the install and data directories.

- Ensure that you have Microsoft Visual C++ Redistributables 2010/2012/2013/2015, x64 and x86, installed. For download links, see Microsoft's Support site.

- Ensure that you have adequate disk space for the upgrade. A new pgsql folder is created as part of the upgrade, which temporarily doubles the disk usage while both versions of PostgreSQL are installed on the server. The **caat.pg.upgrade-in-place** and **caat.overrideDiskSpaceCheck** properties provide additional configuration options for upgrading. See Setting properties in the response-file.properties file below.

- The upgrade may take longer than normal as the existing PostgreSQL data needs to be converted.

- After applying the upgrade, we recommend running the Structured Analytics portion of the Post-installation verification test document.

After you apply the upgrade and verify all Analytics components are functioning correctly, delete the old PostgreSQL install directory from the following locations to complete the uninstall:

```
${install_dir}/CAAT/pgsql_9.3
```

```
${install_dir}/CAAT/pgsql_9.6
```

Also check the corresponding folders in the indexshare location (.ufx/rdbms_9.3 and rdbms_9.6).

18.2.4.1 Setting properties in the response-file.properties file

Before upgrades or new installations, unzip the Analytics package and open the **response-file.properties** file in a text editor.

For upgrades, only the following settings are considered:

- caat.install-dir

- caat.http-user

- caat.http-password

- caat.allow-postgres-data-upgrade

- caat.pg.upgrade-in-place

- caat.overrideDiskSpaceCheck

For a complete list of settings and descriptions, see Installing Analytics for the first time on page 61.

> **Note:** The **caat.upgrade-now** response file property is no longer used.

Complete the following **Common Properties** settings in the input file:

caat.install-dir

In former versions of the installer, this was called Analytics Server folder.

This is the path to the folder containing the Analytics installation files. This value is required for upgrades.

- We recommend using the default folder of C:\CAAT (or C:\ContentAnalyst for a legacy installation).

- This path must be absolute, and it can't contain spaces or invalid characters.

- If the installer cannot find or access the location you specify, it installs the application to the default C:\CAAT folder.

A forward slash (/) or a double back slash (\\ ) should be used as a path separator, rather than a single back slash, as shown in the examples below.

```
caat.install-dir=C:/CAAT
caat.install-dir=C:\\CAAT
```

Note: Spaces cannot be present within the file path.

caat.http-user

In former versions of the installer, this was called REST Username.

This is the username that a system admin or Relativity uses to authenticate with the REST API. This can be any username that you choose, but for ease of use, you may want to enter your Relativity Service account username. Whatever you enter here corresponds only with the REST API username field on the Analytics server that you will add in Relativity after you install the Analytics server here. This value is not related to any pre-existing part of the system, meaning that it is not a SQL login, Windows Domain user, or Relativity user. This value is required for upgrades.

Note: It is not possible to change an existing username with this entry.

```
caat.http-user=AnalyticsUser
```

caat.http-password

In former versions of the installer, this was called REST Password.

This is the password you create for the REST API user. This can be any password that you choose, but for ease of use, you may want to enter your Relativity Service account password. Whatever you enter here corresponds only with the REST API password field on the Analytics server that you will add in Relativity after you install the Analytics server here. This value isn't related to any pre-existing part of the system, meaning that it isn't the password for a SQL login, Windows Domain user, or Relativity user. This value is required for upgrades.

Note: The caat.http-password value entered here must be 20 characters or less.

```
caat.http-password=SuperSecretPassword
```

Note: It is not possible to change an existing password with this entry. In order to change the password, see Changing the REST password on page 77.

caat.allow-postgres-data-upgrade (upgrading only)

This option defaults to **false**. When false, this checks whether the Analytics server needs a major version PostgreSQL upgrade in order to succeed. If a PostgreSQL upgrade is needed, the Analytics server upgrade will fail, and you will see a message to check the installation prerequisites. Once you have satisfied all the prerequisites, set this value to **true** and re-run.

```
caat.allow-postgres-data-upgrade=false
```

caat.pg.upgrade-in-place (upgrading only)

This property enables or disables in place upgrades for PostgreSQL data. It defaults to **false**, indicating that data is copied during upgrade.

```
caat.pg.upgrade-in-place=false
```

Review the behavior based on the following settings for this property:

- **true**—when this property is set to true, the upgrade uses hard links instead of copying data files to a new cluster. This process reduces the required free disk space and speeds up the upgrade. It also modifies the existing cluster and data loss is possible in error scenarios. When setting this property to true, take a full backup of CAAT and associated data before attempting this upgrade.

- **false**—when this property is set to false, the upgrade copies all data and upgrades the copied data. This avoids the possibility of data loss in the event of error. It requires free disk space equal to or greater than the current PostgreSQL cluster size, and it increases the disk I/O time. We recommend setting this property to false for most scenarios.

If you use the bin/upgrade command directly, set this property as follows:

```
.\upgrade.cmd -Dcaat.upgradePgInPlace="true"
```

Notes:
- Take a full backup of CAAT and associated data before upgrading with this property set to true.
- This property only applies when CAAT is performing a major version PostgreSQL upgrade.
- After a successful upgrade, you can delete the old PostgreSQL data directory regardless of whether the caat.pg.upgrade-in-place setting was true or false.

caat.overrideDiskSpaceCheck (upgrading only)

This property enables or disables a disk space check override when CAAT is performing a major version PostgreSQL upgrade. It defaults to **false**, indicating that a disk space check is run.

```
caat.overrideDiskSpaceCheck=false
```

To disable the disk space check, set this property to **true**.

If you use the bin/upgrade command directly, set this property as follows:

```
.\upgrade.cmd -Dcaat.overrideDiskSpaceCheck="true"
```

18.2.5 Running the Analytics installer for an upgrade

18.2.5.1 Analytics installer considerations

Consider the following before running the Analytics Server Installer:

- Run the server setup as the Relativity Service Account.
- You must have system admin rights to both the Analytics server and the index share path in order to run the installer without interruption.

18.2.5.2 Running the Install.cmd file

1. Stop the Content Analyst CAAT Windows Service.

   Note: This service may be named "Relativity Analytics Engine" depending on your version of Relativity.

2. Open Task Manager and ensure all analytics processes have stopped. This includes java.exe, lsiapp.exe, postgres.exe, and booleng.exe. If the processes do not disappear after a few minutes, right click them and kill the processes.

3. After configuring the **response-file.properties** file, right-click on the **Install.cmd** file. Select the **Run as administrator** option to start the Analytics Installation. This can take several minutes to complete. The installation specifications will be displayed in the command line window. Do not close the command prompt until the installation is complete. For more information, see Setting properties in the response-file.properties file.

4. (Optional) Monitor the status of the installation. The installation is finished after *The installation is complete* message is displayed in the command prompt:

```
The following configuration files from the previous installation have
changed.  If you made any custom configuration changes you may want to
verify that the new files were properly merged to include your changes.
Copies of the previous versions were saved as NAME-old for your reference.
        bin/env
        bin/env.cmd
        etc/caat-realm.xml
        etc/itemstore.properties
        etc/login.conf
        etc/realm.properties
        webapps/nexus/WEB-INF/web.xml
The installation is complete.
```

5. Once the installation is complete, change the Content Analyst CAAT, or Analytics Engine, Windows service to run under the Relativity Service Account.

6. Relativity requires a certificate signed by a trusted certificate authority (CA). If you did not specify a valid PKCS12 certificate-key file during installation or the certificate expired, you will need to update the certificate. By default, the Analytics service runs over an untrusted SSL/TLS certificate. For steps to modify, see Updating the default SSL/TLS certificate on the next page.

7. Start the Content Analyst CAAT, or Analytics Engine, Windows Service.

8. (Optional) Confirm that all components of the Analytics service are running by visiting: **http://<Analytics Server Hostname>:<REST Port>/nexus/r1**
Check the Available Services list. Make sure to specify your Analytics server host name and REST port in the URL.

9. If this is a new Analytics server, add it to the Servers list. For these steps, see Adding an Analytics server in the Admin guide. If the server has already been added, navigate to the Servers tab and activate it. Make sure to enter the information on the server layout the same as you did in the Analytics installer.
   - If you enter the information correctly, you can successfully save the server.
   - If you receive a not found error on the server, make sure the Analytics service is running and that you used the correct port.
   - If you get an unauthorized error, make sure that you entered the credentials correctly.

10. Verify that you have a valid URL value entered for the **RestUriForCAAT** instance setting. This is the fully qualified domain name (FQDN) URL to the web server hosting your Kepler services. For example, https://client.domain.name/Relativity.REST/API.

18.2.5.3 Logging

During the installation or upgrade of the Analytics Engine, the process will log to a file, such as installer.log, n the logs directory. For example, CAAT-win64-kcura-[Version].GA\logs.

The pattern for the log message is:

[log-level] [date] [thread-name] message

Example: [INFO] [2017-01-18 19:05:54 [main]: Loading installation options

Note: Log messages will be appended to the same log file on subsequent runs.

18.3 Updating the default SSL/TLS certificate

18.3.1 Generating a security certificate

Use the certificate generated by Relativity Secret Store when the Analytics server is registered. For more information, see Relativity Secret Store on the Relativity Documentation site.

18.3.2 Keystores used by Analytics

Your certificate uses one of the following keystores. To determine which one is in use, see Updating a certificate below.

- **%CAATDirectory%\etc\keystore**—the keystore that the Analytics Installer updates when you initially install Analytics. The password for this keystore is set during installation. The password is removed from the response file when the installation completes. To obtain the password, you must locate it in your records.
  If you do not have the password, you must install a duplicate copy of Analytics with a new certificate. You need to replace the keystore file in the original installation with the duplicate generated as part of the new installation. Next, you need to change the password that the keystore is using to the password from the new installation. See Analytics - How to change the keystore password for Analytics on the Relativity Community site.

- **%CAATDirectory%\etc\ssl\server.keystore**—the legacy keystore. The default password for this keystore is **caat4me**. To update the password, see Analytics - How to change the keystore password for Analytics on the Relativity Community site.

18.3.3 Updating a certificate

Use the following steps to update a certificate.

1. Delete an expired certificate from the keystore:

   a. Locate the **start.ini** file in the root of the CAAT directory. The file path is commonly in *C:\caat\start.ini*.

   b. Open the **start.ini** file and locate the SSL section near the bottom of it. Review the following information in the file:

      - **Keystore in current use**—see section A in the following screenshot.

      - **Password**—see section B in the following screenshot. The passwords in this section should match.
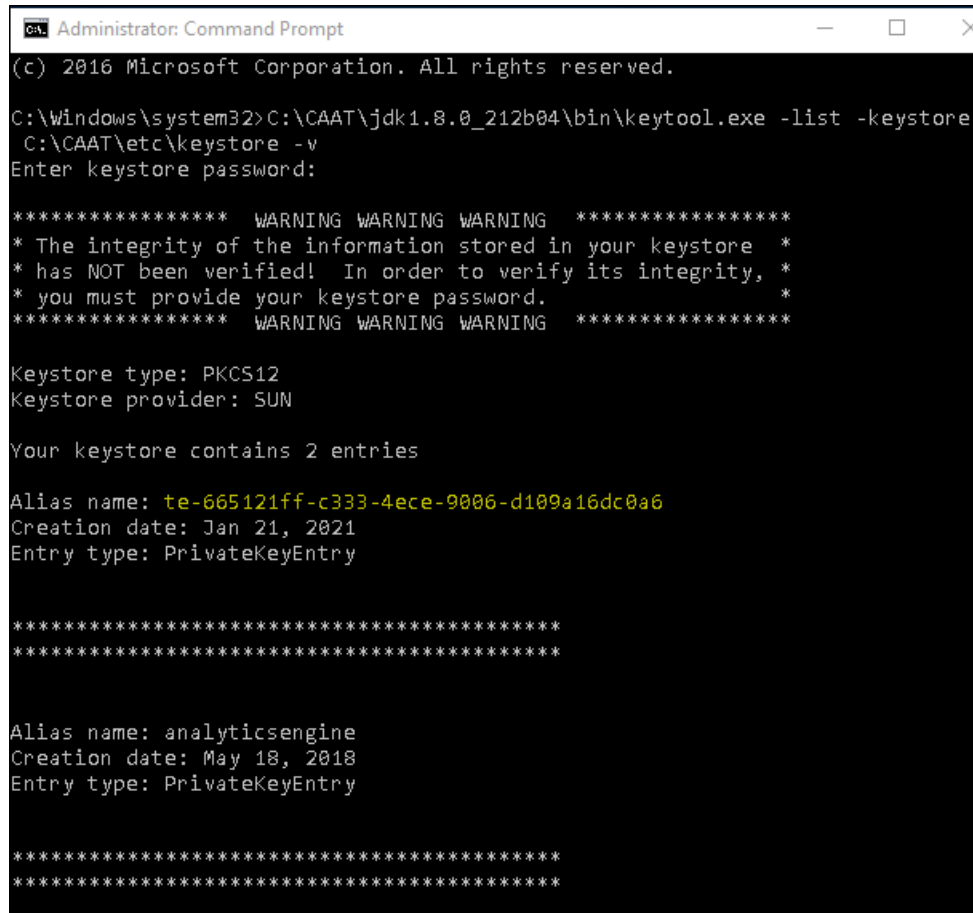
c. Use the following command to list all certificates in the keystore:

```
C:\CAAT\jdk1.8.0_212b04\bin\keytool.exe -keystore <<PathToKeystore>> -list -
v
```

Replace the **<<PathToKeystore>>** placeholder in this command with the keystore path from step 1b.

d. In the results from the list command, note the **Alias name** for the keystore as illustrated in the following example screenshot:

e. Run the following command to delete the certificate from the keystore. It deletes only the specified alias. Repeat this command for each alias that is returned by the list command in step 1f.

```
C:\CAAT\jdk1.8.0_212b04\bin\keytool.exe -delete -keystore <<PathToKeystore>>
-alias <<ALIAS_NAME>>
```


f. Run the list command from step 1c to confirm that the keystore does not have any entries. If the keystore contains any aliases, repeat the delete command in step 1e until your keystore contains 0 entries. See the following screenshot for the final results:

```
*****************   WARNING WARNING WARNING   *****************
* The integrity of the information stored in your keystore   *
* has NOT been verified!  In order to verify its integrity,  *
* you must provide your keystore password.                   *
*****************   WARNING WARNING WARNING   *****************

Keystore type: jks
Keystore provider: SUN

Your keystore contains 0 entries
```

2. Locate the certificate issued to the FQDN for the Analytics server in Certificate Manager in the Microsoft Management Console (MMC). For more information, see How to: View certificates with the MMC snap-in on the Microsoft website.

3. To export the certificate, complete these steps:

   a. Open the **Certificate Export Wizard**.

   b. On the Export File Format dialog, select the **Personal Information Exchange** field, and the following subfields:

      - Include all certificates in the certification path if possible

      - Export all extended properties
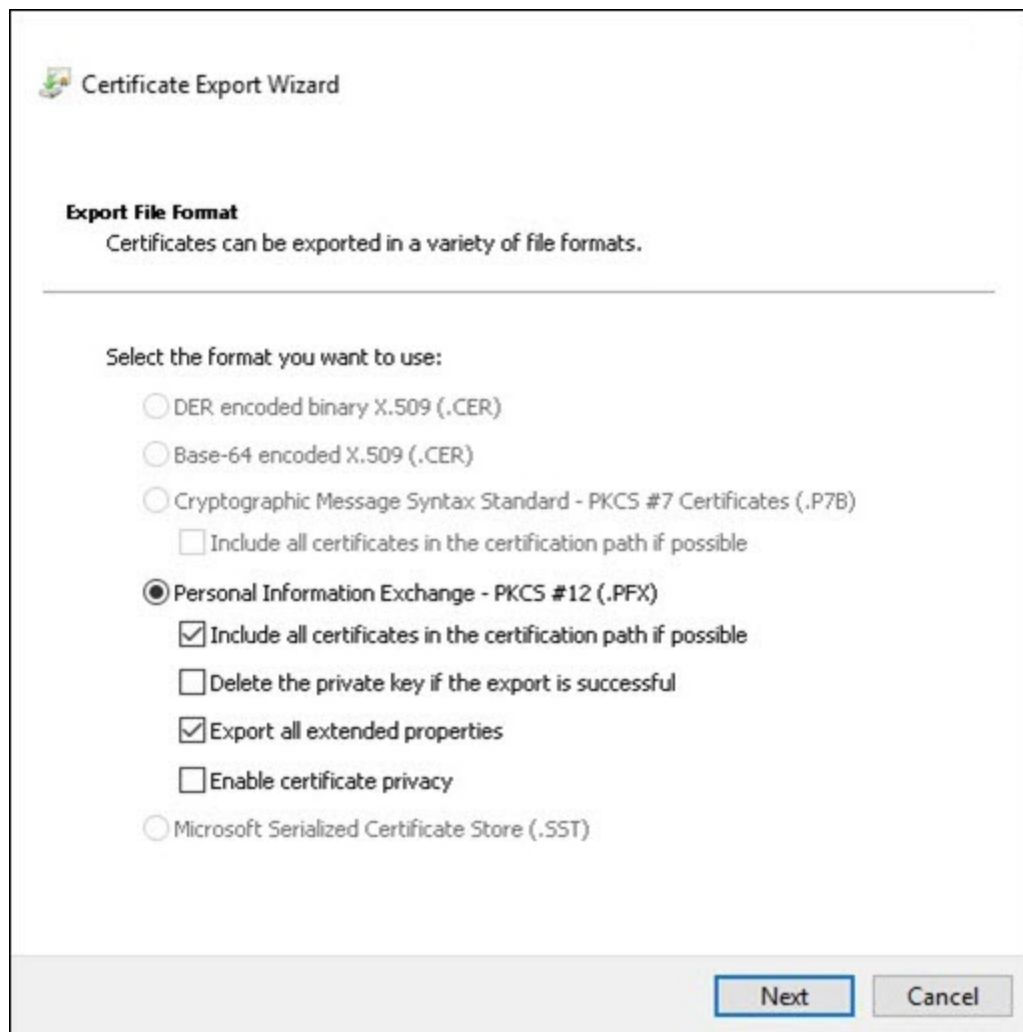
4. Choose a password for the certificate. The password should match the current keystore password. This password is typically set during the initial installation of the Analytics server, but it may also have been updated as part of step 1.

5. To import the certificate into the Analytics keystore, run the following command:

```
C:\CAAT\jdk1.8.0_212b04\bin\keytool.exe -importkeystore -srckeystore <<Cer-
tificate>> -srcstorepass <<CertPassword>> -srcstoretype pkcs12 -destkeystore
<<PathToKeystore>> -deststorepass <<DestinationsPassword>> -deststoretype JKS
```
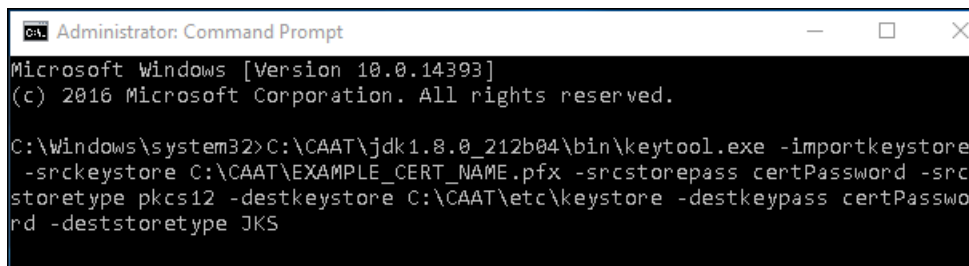

6. Restart the Analytics service.

7. To confirm the service is using the new certificate, navigate to the REST UI. Verify that no certificate errors occur.

```
https://<servername.FQDN>:8443/nexus/r1
```

8. Confirm the server is now active through the Relativity UI. If this server is new, complete the steps in Verifying the Analytics server in Relativity below.

Note: If you use Secret Store, you do not need to push the certificate to the agent, web, and message broker, including the Relativity Service Bus, servers because they already trust certificates from it. However, if you use self-signed certificates, you must update certificates on these servers.

18.4 Verifying the Analytics server in Relativity

Verify in Relativity that the Analytics server URL uses the fully qualified domain name (FQDN) and not the server name or IP address. Navigate to the Servers tab, and check the URL of the Analytics server. If it does not contain the FQDN, then follow these steps:

1. Verify that you have a valid URL value entered for the RestUriForCAAT instance setting. This is the fully qualified domain name (FQDN) URL to the web server hosting your Kepler services. For example, **https://client.domain.name/Relativity.REST/API**.

2. Add a new Analytics server from the Servers tab in Relativity. See Adding an Analytics server in the Admin Guide for more information.
   When entering the URL:
   a. Use this format: **https://<servername.FQDN>:8443/**.

   b. Duplicate all other settings from the original Analytics server.

3. Add the new Analytics server to all of the same Resource Pools as the original server.

4. Add the Analytics Move script to the Relativity Script Library and run the script.
   a. Navigate to the **Relativity Script Library** tab.

   b. Click **New Relativity Script**.

   c. Select and copy the contents of the **Analytics Move** script file. Paste the script text into the **Script Body** field, overwriting the default script body text.

   d. Click **Save**.

5. Test functionality by creating a small structured analytics set or index.

6. Run the Analytics Move script to swap all references from the original server to the new server just created.

7. Delete the old Analytics server from the Servers tab in Relativity.

18.5 Managing TLS protocols and specifying cipher suites

When setting up Analytics, you have the option of disabling TLS 1.0 and 1.1 to enforce stricter security protocols. Additionally, you can specify which cipher suites you want to use or block.

To do this, complete the following steps:

1. Search for C:\CAAT\etc\ssl\tweak-ssl.xml. Create or update it as follows.
   a. If the file already exists, append the following lines:

      Click to expand text

```
<!-- Eliminate Insecure Protocols -->
    <Call name="addExcludeProtocols">
        <Arg>
            <Array type="java.lang.String">
                <Item>SSL</Item>
                <Item>SSLv2</Item>
                <Item>SSLv3</Item>
                <Item>TLSv1</Item>
                <Item>TLSv1.1</Item>
            </Array>
        </Arg>
    </Call>
```

b. If the file does not exist yet, create a new XML file with that name and file path. Enter the following full text:

Click to expand text

```
<!DOCTYPE Configure PUBLIC "-//Jetty//Configure//EN"
        "http://www.eclipse.org/jetty/configure_9_3.dtd">
<!-- Tweak SslContextFactory Includes / Excludes -->
<Configure id="sslContextFactory" class-
s="org.eclipse.jetty.util.ssl.SslContextFactory$Server">
    <!-- Eliminate Insecure Protocols -->
    <Call name="addExcludeProtocols">
        <Arg>
            <Array type="java.lang.String">
                <Item>SSL</Item>
                <Item>SSLv2</Item>
                <Item>SSLv3</Item>
                <Item>TLSv1</Item>
                <Item>TLSv1.1</Item>
            </Array>
        </Arg>
    </Call>
</Configure>
```

2. (Optional) To specify allowed or excluded cipher suites, append the following to C:\CAAT\etc\ssl\tweak-ssl.xml.

> **Note:** The cipher suites used in this sample text are examples only. We do not currently endorse specific cipher suites, and we recommend discussing preferred suites with your security team.

Click to expand text

```
<!-- Include allowed cipher suites -->
<Call name="setIncludeCipherSuites">
    <Arg>
        <Array type="String">
            <Item>TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384</Item>
            <Item>TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256</Item>
            <Item>TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA</Item>
            <Item>TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA</Item>
            <Item>TLS_RSA_WITH_AES_256_GCM_SHA384</Item>
            <Item>TLS_RSA_WITH_AES_128_GCM_SHA256</Item>
            <Item>TLS_RSA_WITH_AES_256_CBC_SHA256</Item>
            <Item>TLS_RSA_WITH_AES_128_CBC_SHA256</Item>
```

```
            </Array>
        </Arg>
    </Call>
    <!-- Exclude weak ciphers -->
    <Call name="addExcludeCipherSuites">
        <Arg>
            <Array type="String">
                <Item>SSL_RSA_EXPORT_WITH_DES40_CBC_SHA</Item>
                <Item>SSL_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA</Item>
                <Item>SSL_DHE_DSS_EXPORT_WITH_DES40_CBC_SHA</Item>
                <Item>TLS_RSA_WITH_DES_CBC_SHA</Item>
                <Item>TLS_DHE_RSA_WITH_DES_CBC_SHA</Item>
                <Item>TLS_RSA_EXPORT_WITH_DES40_CBC_SHA</Item>
                <Item>TLS_DHE_RSA_EXPORT_WITH_DES40_CBC_SHA</Item>
                <Item>TLS_DHE_DSS_EXPORT_WITH_DES40_CBC_SHA</Item>
            </Array>
        </Arg>
    </Call>
```

3. Open C:\CAAT\start.ini. Look for the tweak-ssl.xml file path. If it's not listed yet, append it to the bottom as follows:

```
## Override SSL configuration file
etc/ssl/tweak-ssl.xml
```

Note: If you do not have a file called start.ini, do not create a new one. Instead, contact our Support team at support@relativity.com.

4. Restart the Content Analyst (CAAT) Windows service.

5. Update the registry key on all web and agent servers as follows. If you previously disabled TLS 1.0 and 1.1 for other parts of Relativity, you can skip this step.

   a. Create or update the following registry keys on each server as shown below. You should be able to create a *.reg file out of the snippet below.

   ```
   Windows Registry Editor Version 5.00
   [HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\.NETFramework\v4.0.30319]
   "SchUseStrongCrypto"=dword:00000001
   [HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\.NETFramework\v4.0.30319]
   "SchUseStrongCrypto"=dword:00000001
   ```

   b. Restart IIS or the agent service on each applicable server.

6. Verify that the connection works by clicking **Save** in the Analytics Server layout.

18.6 Installing Analytics server when SQL Server uses SSL encryption

When your primary SQL Server uses SSL encryption, you must satisfy the following additional environment requirements in order for the Analytics server to communicate with SQL Server:

- The SQL Server's certificate must be installed in the Analytics server KeyStore. See Install a SQL Server certificate in the Analytics server KeyStore on the next page

- The Common Name (CN) property of the SQL Server's certificate must match the server name value recorded for the SQL Server in Relativity. See Use the CN property of a SQL Server certificate in Relativity on the next page.

18.6.1 Install a SQL Server certificate in the Analytics server KeyStore

Complete the following steps to install a SQL Server's certificate in your Analytics server KeyStore:

1. Export the SQL Server's certificate in X.509 DER format and place a copy of the certificate on the Analytics server.

2. Note the **CN** property value recorded in the certificate.

3. Open the following directory in a command prompt on your Analytics server :

   <CAAT install drive>\jdk1.x\jre\lib\security

   The <CAAT install drive> reference represents the Analytics server installation folder, and x represents the version of the JDK installed on your Analytics server. Browse to the **security** directory using Windows Explorer first to ensure you use the correct Analytics server installation path.

4. Run the following command from the command prompt:

   ..\..\bin\keytool.exe -import -alias <CN> -keystore cacerts -file <path to cert file from Step 1>

   Replace <CN> with the **CN** property recorded in the SQL Server's certificate and replace <path to cert file from Step 1> with the path location of the certificate file you copied to the Analytics server.

5. Enter your Java KeyStore password followed by **yes** when prompted to install the certificate.

   Note: This step is only required if your Java KeyStore is password protected. Please refer to Oracle for default Java password information.

18.6.2 Use the CN property of a SQL Server certificate in Relativity

When running an Analytics server with a SQL Server that uses SSL encryption, the name of the SQL Server recorded on the **Servers** tab in Relativity and the name entered during Analytics server installation must match the **CN** value recorded in the SQL Server's security certificate. When running the Analytics Server installation, enter the **CN** property value from your SQL Server's certificate in the **Primary Database Server Instance** field on the Primary Database Server Configuration dialog.

Note: If your SQL Server's **Name** value recorded on the **Servers** tab in Relativity does not match the **CN** property in the SQL Server's security certificate, contact Relativity Support for assistance with updating the SQL Server name in Relativity. Change the SQL Server's **Name** value in Relativity after you complete the Analytics installation.

18.7 Changing the REST password

If you need to change the REST password, perform the following steps:

Note: You'll need an encryption tool to encrypt a new BCrypt Hash Password. We recommend using BCrypt Calculator.

1. Navigate to the **C:\CAAT\etc** folder on the Analytics server. Open the **realm.properties** file in a text editor.

2. The REST Username displays on the left and a BCrypt Hash Password displays on the right side:

3. Once you have encrypted a new BCrypt Hash Password, copy and paste your newly encrypted password in the **C:\CAAT\etc\realm.properties** file, replacing the old password.

   - When updating the hash value, ensure that it starts with $2a$ as in the example above. The 2y tag is not supported by CAAT at this time. The hash value will likely come from the generator with the 2y tag like the following:

     ```
     $2y$12$hoLehyRmWV3Kjs6ORLtFUOSiCbQeFVt9xt9v8TrtnomVf3Z0oXo/6
     ```

     When you add it to the realm.properties file, ensure it has $2a$ at the beginning like the following:

     ```
     $2a$12$hoLehyRmWV3Kjs6ORLtFUOSiCbQeFVt9xt9v8TrtnomVf3Z0oXo/6
     ```

     The number after the 2a tag indicates the number of rounds. The default value of 12 is typically fine.

4. Save the **realm.properties** file.

5. Restart the Analytics Engine / Content Analyst Windows service.

Once the password is updated on the Analytics server, you must update it in Relativity.

1. Navigate to **Relativity**.

2. Navigate to the **Servers tab**, and then select **Edit** next to the Analytics server.

3. Update the REST API password, and then click **Save**.

18.8 Uninstalling the Analytics server

We do not recommend uninstalling the Analytics Server application for any reason as it causes data loss. If you uninstall the Analytics Server application from the analytics server, all structured analytics sets created in Relativity cannot be used with another installation. There is no way to merge a previous Analytics Server installation with a new installation. As a result, structured analytics sets become unusable.

You should not uninstall the application from the server unless you're certain you will not use the server for Analytics functionality in the future, and you understand that uninstalling Analytics renders structured analytics sets unusable.

If you still need to uninstall the Analytics components from the server, complete the following steps:

1. Open Windows Services and stop the Content Analyst CAAT or Analytics Engine Windows service if it is running.

2. Open Task Manager, and check to see if Java is running. If it is, right click it, and then select **End process tree**.

3. Navigate to the Analytics directory. For example, C:\CAAT.

4. Run the **C:\CAAT\bin\unregisterWinService.cmd** file as an Administrator to unregister the Windows service.

5. If desired, delete the Analytics installation directory, like C:\CAAT, and the index directory associated with Analytics.

19 Upgrading Elasticsearch

If you are upgrading to Relativity 2025 and your environment uses a version of Elasticsearch below 6.6.0 to store audits, you have the option to upgrade to Elasticsearch 6.6.0 or above. We recommend first upgrading Relativity and then upgrading elastic using one of the below workflows on this page.

Relativity version	Elastic version
Server 2023	2.3.3 and 6.x and 7.x
Server 2024	Any version of 7.17 and above within the v7 series is supported for the Server 2024 GA release. Relativity intends to certify compatibility with the v8 series for Server 2024 in early 2025. Additional information on requirements for v8 compatibility will be shared at that time.
Server 2025	Server 2025 is compatible with Elasticsearch 8.x and 9.x. The following versions are officially certified for both Data Grid Audit and Environment Watch: • Elasticsearch 8.17.3 • Elasticsearch 9.1.3

19.1 Pre-upgrade steps

1. Download the **IncrementalUpgrade.zip** from the Relativity Community. This package has all the scripts required for the upgrade. We recommend starting off with a new cluster with a number of nodes equal to the number of primary and replica shards in your cluster. For example, if your current cluster has 1 primary and 1 replica shard, your cluster requires 2 nodes. These nodes should be the same size as the nodes on the existing cluster, ensuring the indexes from the node have enough room to be allocated onto the new destination cluster.

   Note: You can find the **number_of_shards** and **number_of_replicas** count using the Elastic API. Send a GET request to the following URL: (https://<host>:<port>/_template/audit).

2. Whitelist the source cluster so that it can be re-indexed into the destination cluster:

   a. Open the **elasticsearch.yml** (<elastic_install_directory_path>\RelativityDataGrid\elasticsearch-main\-config) file from a node where you are running the re-index script.

   b. Update the **reindex.remote.whitelist** parameter to whitelist the endpoint of the source cluster. For example:

   ```
   reindex.remote.whitelist: emttest:9200
   ```

   You can set this to a comma delimited list of allowed remote host and port combinations (e.g. otherhost:9200, another:9200, 127.0.10.*:9200, localhost:*). You must configure the whitelist on all nodes.

   c. Re-start the cluster. You only need to restart the cluster the first time you complete this step.

3. If you do not already have it installed and configured, install the latest version of Python - 3.7.4 and select **Add Python 3.7 to PATH** during the installation.

   a. Run Powershell as administrator, and then navigate to the **<python_install_directory_path>\Python37\Scripts** folder where Python is installed.

b. Run the following to install the package

```
.\pip3 install elasticsearch
```

4. Ensure you have SQL access at the EDDS level to run SQL scripts.

19.2 Re-indexing into the new cluster

In order to upgrade from Elasticsearch 2.3.3 to 6.6.0, you must incrementally move all the workspace indexes on the existing 2.3.3 cluster to the newly provisioned 6.6.0 cluster. You can do this in one of three ways.

To move workspace indexes off of a specific node identified from the source cluster, complete the following:
From the destination cluster, run the **identify_shards_to_move_off_node.py** script to move workspace indexes off the node you identified from the source 2.3.3 cluster. You can find the name of the node using the Elastic API. Send a GET request to the following URL: https://<host>:<port>/_cat/nodes?v

This script identifies indexes to re-index, taking into account the space available on the destination 6.6.0 cluster.

To run the script, complete the following:

1. Run Powershell as an administrator.

2. Navigate to the directory of the script:

```
IncrementalUpgrade\python
```

3. Execute the following to run the script:

> **Note:** Enter the username and password for the source cluster in **--source_user** and **--source_password**. Enter the username and password for the destination cluster in **--destination_user** and **--destination_password**.

```
py identify_shards_to_move_off_node.py --source_endpoint "https://2x-
endpoint:9200" --source_user "test" --source_password "test123" --destination_
endpoint "https://6xendpoint:9202" --destination_user "test" --destination_pass-
word "test123" --node_name "P-DV-VM-CUB8DAL"
```

The script outputs a list of workspaces identified to be re-indexed. This list is located in **IncrementalUpgrade\python\workspaces_to_reindex.txt.**

Before running the **reindex.py** script, you must disable audit migration for the workspace(s) you are re-indexing so that audits don't write to the 2.3.3 cluster during the re-index process. To disable audits, complete the following:

1. Open the **DisableDeletionAndMigration.sql** script (IncrementalUpgrade\sql) in a text editor.

2. Edit the **@workspaceIds** SQL variable with the Artifact IDs of the workspaces you want to re-index.

3. Execute the script.

Once you complete the above steps, you can run the **re-index.py** script from the destination cluster to re-index the workspace indexes. To run the script:

Notes:
- Enter the username and password for the source cluster in **--source_user** and **--source_password**. Enter the username and password for the destination cluster in **--destination_user** and **--destination_password**.

- The parameter **--thread_count** is set to 10 by default. You can increase or decrease this value.

- If you set **--delete_source_indices** to **"True"**, set **--exclude_node_name** to the node from which you moved the indexes. That node will then be excluded from the cluster.

```
py reindex.py --source_endpoint "https://localhost:9200" --source_user "test" --source_password "test123" --destination_endpoint "https://localhost:9202" --destination_user "test" --destination_password "test123" --delete_source_indices "True" --thread_count "10" --exclude_node_name "P-DV-VM-CUB8DAL"
```

To re-index all workspaces in the cluster, complete the following:
If you want to re-index all workspaces in the cluster, complete the following:

1. Disable all of the **Data Grid Audit Migrator** and **Data Grid Audit Deleter** at the instance level.

2. Run the **re-index.py** script from the destination cluster to re-index the workspace indexes. To run the script:

Notes:
- Enter the username and password for the source cluster in **--source_user** and **--source_password**. Enter the username and password for the destination cluster in **--destination_user** and **--destination_password**.

- Set the **--delete_source_indices "True"** parameter if you want to automatically delete the indexes on the source cluster after the re-indexing to free up space. If you don't set this parameter, you must manually delete the indexes on the source cluster using the Elastic API. For more information, see Deleting the source index on the next page.

- The parameter **--thread_count** is set to 10 by default. You can increase or decrease this value.

```
 py reindex.py --workspaces "all" --source_endpoint "https://2xendpoint:9200" --source_user "test" --source_password "test123" --destination_endpoint "https://6x-endpoint:9202" --destination_user "test" --destination_password "test123" --delete_source_indices "True" --thread_count "10"
```

To move specific workspace indexes, complete the following:
Before running the **reindex.py** script, you must disable audit migration for the workspace(s) you are re-indexing so that audits don't write to the 2.3.3 cluster during the re-index process. To disable audits, complete the following:

1. Open the **DisableDeletionAndMigration.sql** script (IncrementalUpgrade\sql) in a text editor.

2. Edit the **@workspaceIds** SQL variable with the Artifact IDs of the workspaces you want to re-index.

3. Execute the script.

Once you complete the above steps, you can run the **re-index.py** script from the destination cluster to re-index the workspace indexes. To run the script:

Notes:

- Enter the username and password for the source cluster in **--source_user** and **--source_password**. Enter the username and password for the destination cluster in **--destination_user** and **--destination_password**.

- Set the **--delete_source_indices "True"** parameter if you want to automatically delete the indexes on the source cluster after the re-indexing to free up space. If you don't set this parameter, you must manually delete the indexes on the source cluster using the Elastic API. For more information, see Deleting the source index below.

- The parameter **--thread_count** is set to 10 by default. You can increase or decrease this value.

```
reindex.py --workspaces
"1015024,1021384,1062116,1021304,1014823,1062116,1018427,1021385,-1" --source_end-
point "https://2xendpoint:9200" --source_user "test" --source_password "test123" --
destination_endpoint "https://6xendpoint:9200" --destination_user "test" --des-
tination_password "test123" --delete_source_indices "True" --thread_count "10"
```

19.2.0.1 Deleting the source index

If you didn't set the **--delete_source_indices "True"** parameter to automatically delete the indexes on the source cluster, you must manually delete the indexes using the Elastic API.

Click to expand
To delete an index, send a DELETE request to the following URL:

```
https://<host>:<port>/audit_<ESIndexPrefix_InstanceSettingValue>_edds<workspace_arti-
fact_id>_1000003
```

Example:

```
https://2xendpoint:9200/audit_p-dv-vm-cub8dal_edds1067481_1000003
```

In order to get the name of the workspace that was re-indexed, you can send a GET request to the following URL:

```
https://<host>:<port>/_cat/indices?v
```

19.2.1 Running the incremental upgrade script

To complete the upgrade, run the **incremental_upgrade_setup.sql** script (\IncrementalUpgrade\sql) from a SQL editor at the EDDS level. This script sets up the Audit application to write and read from two endpoints during the upgrade.

Edit the following variables in the script:

- **@primaryShards** - enter the number of primary shards. The default value is 1.

- **@replicaShards** - enter the number of primary shards. The default value is 1.

- **@previousAuditDataGridEndpoint** - enter the previous Audit endpoint. For example, **https://2x-endpoint:9200.**.

- **@previousElasticSearchMajorVersion** - enter the previous Elasticsearch major version. For example, if you are on Elasticsearch 2.3.3, enter **2**.

- **@currentAuditDataGridEndpoint** - enter the current Audit endpoint. For example, **https://6xendpoint:9200**.

- **@currentElasticSearchMajorVersion** - enter the current Elasticsearch major version. In this case, enter **6**.

- **@workspaceIds** - enter a comma separated list of the Artifact IDs of the workspaces identified for upgrade.

19.2.2 Rolling upgrades

These instructions are for upgrading Elasticsearch from any 6.x or 7.x version to 7.17.9. Version 7.17.9 is the highest version compatible with Relativity Server 2023 and Relativity Server 2024.

Note: Do not use these instructions if you are using Elasticsearch 2.3.3.

1. Download the Rolling Upgrade Package from the community: Rolling Upgrade Package.
2. Unblock the zip file if applicable and extract it on each node running Elasticsearch.
3. Open PowerShell as an administrator.
4. Navigate to the location of the extracted folder.
5. Run **UpgradeToElastic7.17.9.ps1**.
6. Repeat steps 3-5 on each node of the cluster.

19.2.2.1 Additional Steps for Upgrading from Version 6.x:

Note: These steps can be skipped if you are upgrading from a lower version of **Elasticsearch 7.x to 7.17.9**.

1. The package contains a file called **Elastic7xTemplate**.
2. Open this file with Notepad.
3. In Relativity, navigate to the instance settings page.
4. Find the setting called **ESIndexCreationSettings**.
5. Overwrite the value of the instance setting with the contents of the **Elastic7xTemplate**.

19.2.3 Updating the instance setting

After completing the upgrade, change the **ElasticsearchMajorVersion** instance setting from **6** to **7**.

Note: This change is only necessary when the major version of Elasticsearch changes.

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