



# Agents Guide

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# 1 Agents

Agents are process managers and workers that run in the background of Relativity to complete jobs that you or another user scheduled in your environment. Different agents exist for each type of job. To run a job, you must have the agent for that job type installed in the resource pool to which your workspace is assigned. For example, you must have at least one Branding Manager agent and one Production Manager agent to run a production in Relativity.

Relativity agents are installed to your agent server during the Relativity installation process. You can have multiple agent servers in your Relativity environment, but one server generally functions as your primary agent server, which stores a full set of agents, and possibly an additional agents that support multiple installation. Depending on the agent type, you may add multiple instances of it to a secondary agent server.

In the Agents tab, you can manually add an agent type to a server to enable or improve the performance of a number of Relativity features.

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**Note:** Relativity developers can also build custom agents to handle scheduled jobs. See the [Build agents](#) for more information. See the Relativity Developers site for more information.

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## 1.1 Agent installation requirements

The installation requirements for Relativity agents include:

- **Installation drive**—Relativity installs agents in the following directory by default: [Installation drive]:\Program Files\kCura Corporation\Relativity\Agents.
- **Total agents per server**—a default Relativity installation includes a set of core feature agents. You can install additional agents on a Relativity server. The total number of additional agents should not exceed the number of processor cores available on the server.

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**Note:** You need to ensure that each server has the required minimum number of processor cores. For minimum hardware requirements, see the System Requirements guide.

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- **Agent instances**—the recommended number of instances of each Relativity agent vary per feature and per environment setup. You should run at least one agent of each type in your environment. For a description of each agent and the recommended number of instances, see [List of agents below](#).

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**Note:** If you are working in a large environment and need agent use recommendations to manage a large database, contact [Relativity Support](#).

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## 1.2 List of agents

Relativity supports multiple agents to execute a variety of different processes. These agents can be divided into different categories based on the number of an agent type allowed per environment, the location where the agents run, and the number of type of resources that they require. The different categories of Relativity agents include:

- [Single agent per environment on the next page](#)
- [Definitive number of agents per resource pool on page 7](#)

- [Scalable agents on page 10](#)
- [Web agents on page 15](#)
- [Isolated scalable agents on page 15](#)

### 1.2.1 Single agent per environment

For specific Relativity agent types, you are required to add one agent per environment. These agents execute during the off-hours that you configure for them to run. In addition, they require minimal resources so you run these agents on a virtual server that has 4 CPUs and 4 GB of RAM. If you do not meet these minimal requirements, your Relativity environment may experience a performance impact. These agents are not specific to a resource pool and are available across your Relativity environment.

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**Note:** If you add more than one of the agents in the following list, your Relativity application may not work properly or key components may not function properly. If you delete any of these agents, Relativity displays warning messages.

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For the following agent types, Relativity requires a single agent per environment:

#### ARM Metric Agent

Description	Responsible for sending daily ARM Adoption / Job Usage metrics to NewRelic.
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#### Assisted Review Manager Agent

Description	Oversees the Assisted Review primary job and project deletion. For more information, see the Assisted Review guide.
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#### Audit Ingestion Worker

Description	This agent is deprecated and should not be added to any environment.
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#### Billing Agent

Description	Formerly known as the Case Statistics Manager, this agent collects usage metrics, as well as creates and send reports. The Billing Agent requires that the Workspace Housekeeping Agent has successfully completed processing.
	<b>Note:</b> If the Billing Agent is disabled for seven consecutive days, Relativity access becomes restricted.
	For more information, see the Billing Agent page in the Relativity Server 2022 Documentation Site.

#### Cache Manager

Description	This agent is deprecated and should not be added to any environment.
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#### Case Manager

Description	Responsible for cleaning up all files in the repository, as well as the actual workspace database, when you delete an entire workspace. Also deletes AuthenticationToken entries older than three (3) days. This agent runs during off-hours and doesn't use the DeleteFile queue.
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#### Choice Editor Rearrange Tabs Agent

Description	This agent is responsible for rearranging the tab hierarchy for the Choices tab.
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#### Conversion Cache Manager

Minimum number	Requires one agent per environment.
Maximum number	Do not install more than one agent.
Description	Generates jobs per active Cache Location Server during off hours, which kicks off the cleanup process. .

#### Data Grid Audit Manager

Description	Populates filters in the Data Grid for Audit application.
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#### Data Grid Audit Reporter

Maximum number	One agent per environment
Agent type	Reporter
Description	The Data Grid Audit Reporter agent reviews the audit queue for errors that occurred during migration from SQL to Data Grid. This agent triggers a Relativity error based on the agent's run interval. This agent is set to an hourly run interval by default.

#### Data Grid Kepler Host

Description	This agent is deprecated and should not be added to any environment.
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#### Data Grid Manager

Description	A Data Grid Manager agent is an off-hours agent responsible for Data Grid enabled workspace management, including delete outdated search results cache tables and monitoring Data Grid index conditions.
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#### Data Grid Migration Manager

Description	Identifies all documents with extracted text stored in SQL for any workspace with the Data Grid Text Migration application installed.
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#### Group Membership Manager

Description	Creates and coordinates tasks for jobs that act across multiple databases. This agent is currently used only for adding and removing users from groups.
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#### File Deletion Manager

Description	Deletes files from Relativity repositories once they are deleted from a workspace, using the DeleteFile queue on the EDDS database. This agent runs during off-hours.
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#### Imaging Manager Agent

Minimum number	Requires one per environment.
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Maximum number	Do not install more than one agent.
Description	The agent ensures that Imaging is functioning properly. This includes tasks such as cleaning up stuck imaging jobs and deleting Imaging Warnings that are no longer linked to Documents.  The default interval is 3600 seconds. Do not modify the interval.

#### PDF Manager Agent

Minimum number	Requires one per environment.
Maximum number	Do not install more than one agent.
Description	The agent responsible for configuring the necessary artifacts for a newly created PDF job and also batching larger PDF jobs into smaller units in the mass PDF operations. This agent runs every five seconds by default, and should not be modified. If the Australian workflow is enabled in the instance, the PDF manager can also delete PDFs stored in Relativity.

#### Relativity Forms Metrics Collector Agent

Minimum number	Requires one per environment.
Maximum number	Do not install more than one agent.
Description	Runs once a day during Off Hours and collects data about Object Types and their usage of Relativity Forms.

#### Secret Agent

Description	Reserved for future use.
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#### Server Manager

Description	Updates Relativity with version and job status information from Analytics servers and worker manager servers.
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#### Telemetry Metrics Transmission Agent

Description	Transmits metric data from the EDDSMetrics.Metrics table to Relativity. Maintains the Metrics table after transmitting the data.
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#### Workspace Upgrade Manager

Description	Looks for workspaces that are pending application upgrade and delegates work to the application installation manager agent, if necessary.
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### 1.2.2 Definitive number of agents per resource pool

For specific Relativity agent types, you are required to add one agent per resource pool. These agent types are grouped into the following categories:

- **Job coordinators**—these agent coordinate work that other processes perform. You can add multiple worker agents to a resource pool but usually only one job coordinator agent.
- **Worker-managers**—these agents manage the worker agents. You only add one manager agent to each resource pool on a server. Your server does not require any dedicated resources for them, since manager and worker agents do not run in performance-intensive operations at the same time.

**Note:** You must include one of agents in the following table per resource pool. If a resource pool does not include one of these agents, key Relativity components may not function properly. You may not receive an error message if the resource pool does not include each of these agents.

For the following agent types, Relativity requires one of these agents per resource pool:

#### Active Learning Manager

Maximum number	One per resource pool.
Agent type	Worker-manager
Description	Responsible for performing Active Learning tasks such as managing the Classification Index population and Index builds, Review Queues and updating the Review Statistics in the Active Learning Project.

#### Relativity Analytics Categorization Manager

Maximum number	Add up to four agents per resource pool.
Agent type	Job coordinator
Description	Clears any previous job results from the population table, and then it categorizes the specific group of documents in the categorization set.

#### Analytics Core ARM Manager

Maximum number	One agent per resource pool.
Agent type	Worker-manager
Description	Orchestrates the process of moving Analytics data using ARM. The corresponding worker is Analytics Core ARM Worker.

#### Relativity Analytics Index Progress Manager

Maximum number	One agent per Analytics server per resource pool.
Agent type	Job coordinator
Description	Enables and facilitates automation of the Analytics index building process from population to activation.

#### Auto Batch Manager

Maximum number	One agent per resource pool.
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Agent type	Job coordinator
Description	Runs existing batch jobs marked as auto-batch in pre-configured intervals.

#### Relativity Analytics Cluster Manager

Maximum number	One agent per resource pool.
Agent type	Job coordinator
Description	Clusters documents based on the Analytics index settings.

#### Relativity Analytics Index Manager

Maximum number	One agent per Analytics server per resource pool.  <b>Note:</b> If your environment includes more than one Analytics server, then you would need additional Relativity Analytics Index Manager agents.
Agent type	Job coordinator
Description	Populates Analytics indexes and pushes them to the Analytics server.

#### dtSearch Index Job Manager

Maximum number	Only one agent per resource pool.
Agent type	Worker-manager
Description	Creates population tables and manages the indexing queue. For example, it checks to see if workers completed their work. During incremental build, it also does the work to balance the population tables and manages the status updates on sub-index tables.

#### OCR Job Manager

Minimum number	At least one agent per resource pool. We recommend having one OCR Job Manager agent per agent server in the resource pool.
Agent type	Worker-manager
Description	Converts the options configured in an OCR set into individual jobs, by building tables, inserting records, and handling SQL queries, and then compiles output from the OCR Worker into a single result set for the user. It also recovers orphaned OCR jobs from dead agent servers.

#### Processing Migration Manager

Minimum number	One agent per resource pool.
Agent type	Job coordinator
Description	Manages the running of processing archive jobs in ARM.

#### Production Manager

Maximum number	We recommend at least one agent per resource pool.
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Agent type	Worker-manager
Description	Creates production numbers and applies them to productions. This is also responsible for creating branding jobs and populating the branding queue. The Branding Manager agent is the corresponding worker.

#### Search Terms Report Agent

Maximum number	One agent per resource pool.
Agent type	Job coordinator
Description	Runs a search against an existing dtSearch index, and returns a count of matching terms found in this index.

#### Structured Analytics Manager

Maximum number	One agent per resource pool.
Agent type	Job coordinator
Description	Oversees the Structured Analytics Worker agents by keeping the structured data analytics primary job up-to-date and creating worker jobs. For more information, see the Relativity Admin guide.

#### Text Extraction Manager

Maximum number	One agent per resource pool.
Description	Extracts the text from files associated with dynamic objects, and adds it to text fields on the file fields of the dynamic objects. When you create a File field for a custom object, an accompanying Long Text field is also created. When you upload a file to that file field, the Text Extraction Manager reads the text from that file's name and writes it into the long text field.

#### Transcript Manager

Maximum number	One agent per resource pool.
Description	Updates or adds headers and footers to a valid transcript.

#### Transform Set Manager

Maximum number	One agent per resource pool.
Description	Runs transform jobs for domain parsing and conversation indexes by parsing regular expressions, and outputs these results to a Dynamic Object that has a destination field with a relation on the document object type.

### 1.2.3 Scalable agents

Relativity includes agents that you can scale to the appropriate number for your environment needs. You can add any number of these agents, but you must include at least one per resource pool. Depending on

your environment, you may need more than one agent. For example, you may need several worker agents to handle very large documents or Branding jobs. You can run these agents on a server with one CPU core per agent, and 1 GB of RAM. You may want to double these memory requirements to accommodate heavy workloads in your Relativity environment.

For the following agent types, Relativity requires at least one agent per resource, but you also have the option of adding multiple agents depending on your current needs:

#### Active Learning Worker

Minimum number	At least one agent per resource pool. We recommend one agent for every 15-20 active reviewers in your resource pool.
Agent type	Job coordinator
Description	Responsible for managing the documents in the review queues in Active Learning projects.

#### Analytics Core ARM Worker

Minimum number	Requires at least one agent.
Maximum number	Add up to four agents per resource pool
Description	Responsible for moving Analytics conceptual and classification indexes using ARM.

#### Application Installation Manager

Minimum number	Requires at least one agent.
Description	Detects applications that need to be installed or upgraded in a workspace. For more information, see <a href="#">Upgrading workspaces in the Relativity Upgrade Guide</a> .

#### ARM agent

Minimum number	Requires at least one agent.
Description	Performs ARM backup, restore and move job functions.

#### Assisted Review Worker Agent

Minimum number	Requires at least one agent.
Description	Facilitates Assisted Review project creation, sample set creation, document review, over- turns, saving project results, report generation, and error recovery. For more information, see the <a href="#">Assisted Review guide</a> .

#### Branding Manager

Minimum number	May require more than one agent.
Description	Creates production images and applies endorsements.

#### Conversion Cache Delete File Discovery Agent

Minimum number	Requires at least one agent
Description	Executes the first phase of the cleanup process, Discovery, identifies and batches up old/ expired cache files for each workspace of Cache Location Server on a particular job.

### Conversion Cache Delete File Worker Agent

Minimum number	Requires at least one agent.
Description	Executes the second phase where all cached files that were batched up in Discovery phase are deleted.

### Conversion Complete Agent

Minimum number	Requires at least one agent.
Maximum number	Add up to two agents per instance.
Description	<p>Writes to cache documents converted by the Conversion Agent and notifies the Relativity front end when conversion jobs are ready. This agent is created after a new Relativity installation. Upon upgrade, you must create the agent manually. We do not recommend putting this agent on the Conversion Agent server, as that server should be dedicated to the Conversion Agent, not the Conversion Complete Agent.</p> <hr/> <p><b>Note:</b> This Agent is not resource pool aware.</p>

### Data Grid Audit Deleter

Maximum number	Any number of agents per resource pool.
Agent type	Worker-manager
Description	Off-hour agent that deletes all audits from SQL that have been successfully migrated to Data Grid. The agent will only delete audits in SQL older than the PostMigrationPersistencePeriod Instance setting value in days.

### Data Grid Audit Migrator

Maximum number	Any number of agents per resource pool. However, an excessive number of these agents may cause functionality issues with Data Grid.
Agent type	Worker-manager
Description	Migrates audit data from SQL to Data Grid for any workspace that has Data Grid for Audit installed. The frequency with which this agent checks for migrations and runs the migrations is controlled with the agent run interval value. Do not run the Data Grid Audit Deleter agent at the same time as the Data Grid Audit Migrator agent, as migration and deletion can conflict.

### Data Grid Migration Worker

Minimum number	Requires at least one agent. If you have a multi-workspace text migration, you can add a worker agent for each workspace being migrated. Adding multiple agents for a single-workspace text migration does not make the migration run any faster.
Description	Migrates extracted text from SQL to Data Grid for any workspace with the Data Grid Text Migration application installed.

## Group Membership Worker

Minimum number	Requires a minimum of one agent per environment.
Description	Execute tasks created for jobs that act across multiple databases. This agents is currently used only for adding and removing users from groups.

## dtSearch Index Worker

Minimum number	May require more than one agent. You can add multiple agents as necessary. The maximum is four agents per server. We recommend using one core and 2 GB of RAM for each additional agent.
Description	Performs the indexing operation for each sub-index. Additionally, workers are responsible for compression and copying steps at the end of the indexing. During incremental build, the workers are responsible for removing documents that are no longer in the saved search.

## Imaging Response Agent

Minimum number	One agent thread per eight Imaging Worker threads. You can add multiple agents as necessary.  By default, the thread count for the agent is two threads per Processor Count of the server on which the agent is running. You can change the default agent thread count on the MaxImagingResponseThreads instance setting in Relativity.Imaging section. Since we support adding multiple instances of this agent, modifying that instance setting is not required.
Description	Picks up imaging set, mass imaging and image-on-the-fly messages from Message Broker, as published by Workers, and directs them to the proper finalization logic in Relativity.

## Imaging Request Agent

Minimum number	At least one per environment. You can add multiple agents as necessary.
Description	Handles all submissions of Imaging Set, Mass Imaging, and Image on the Fly requests. It picks up a message from Message Broker, and based on the type of Imaging Job will execute the appropriate logic and submit the Documents to Invariant.

## Mass Operation Manager Agent

Minimum number	At least one per environment. You can add multiple agents as necessary.
Description	Works with Message Broker to complete mass operations within the environment. The number of parallel jobs the agent can work on is governed by the MassOperationManagerThreadCount instance setting.

## OCR Job Worker

Minimum number	May require more than one agent. The number of workers to one manager depends on how large the data set is, what any relevant batch sizes are, and whether a bottleneck occurs when you add more workers. We recommend managing any manager:worker relationship using these considerations.
Description	Takes an OCR job created by the OCR Job Manager, and translates the images into text.

## Processing Set Manager

Minimum number	Multiple agents per environment. We recommend starting with two and adding more agents as needed.
Agent type	Job coordinator
Description	Manages the running of processing sets by handling the SQL queries involved in the job; retrieves errors encountered while sets are running; picks up processing set deletion jobs and submits them to the worker manager server. For more information, see the Processing user guide.

## Relativity Integration Points Agent

Minimum number	Requires at least one agent. However, you can also scale this agent as necessary. The maximum number allowed per instance is four.  Relativity Integration Points agents operate on a single agent per job basis. If you have four agents enabled and only one job running in your workspace, only one agent will be performing work while the other three agents will be idle until additional jobs are started. Likewise, if you have four agents enabled and three jobs running, three agents will be doing work, one for each job, and one will be idle waiting for an additional job to start.
Description	Responsible for batching up data from the source provider and pulling it into Relativity fields. Also responsible for stopping an integration points job when the user clicks Stop on the console.

## Relativity Legal Hold Agent

Minimum number	Requires at least one agent. However, you can also scale this agent as necessary.
Description	Sends emails including reminders and escalations, pulls emails in from custodian responses, and purges custodians from a project.

## Script Manager Agent / Script Run Manager

Maximum number	No maximum, but minimum of one per resource pool.
Agent type	Script Run Manager
Description	Coordinates and runs Relativity Scripts.

## Structured Analytics Worker

Minimum number	May require more than one agent.
Description	Performs all structured data analytics tasks, including setting up staging, exporting document information from Relativity, monitoring the Analytics Engine, importing document information into Relativity, and creating reports. For more information, see the Relativity Admin guide.

## User Group Sync Agent

Minimum number	Requires at least one agent.
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Description	This agent is responsible for the synchronization from master instance to duplicate instance as part of the User Group Synchronization application.
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#### Workspace Upgrade Worker

Minimum number	Requires at least one agent.
Description	Runs the script required to update the workspace databases and Invariant stores. On an SQL Server profile, you can edit the <b>Workspace Upgrade Limit</b> 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 <b>GlobalWorkspaceUpgradeLimit</b> 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.

### 1.2.4 Web agents

For specific Relativity agent types, you are required to add one agent per web server. If you add more than one of the following agent, your Relativity application may not work properly.

If you experience the following issues, verify that the following agent is running in your installation:

- **Custom pages are not working properly**—verify that the Custom Page Deployment Manager is running.

For the following agent type, Relativity requires one agent per web server:

#### Custom Page Deployment Manager

Description	Polls the LibraryApplication and ApplicationServer tables in the EDDS database according to a configurable time interval to check for new versions of any application installed in the ApplicationLibrary table. If a new version is discovered, the Custom Page Deployment Manager runs and installs the updated version of the application's custom pages on that web server. The Application Server table in the EDDS database is then updated to reflect the new version number. This agent is installed on the kCura Web Processing Windows Service, which runs on each web server in your Relativity installation.
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### 1.2.5 Isolated scalable agents

Relativity includes isolated scalable agents which you can customize for your environment needs. This type of agent needs to be on its own agent server with no other Relativity agent types on the server. These agents are multi-threaded and will use all resources on the server when needed.

Depending on your environment, you may wish to scale the server up for better performance. Monitor both CPU and RAM during normal usage as well as during jobs. If needed, add more CPU and RAM to the server. You may also add another server with another agent by itself. You can add any number of these agents, but you must include at least one per resource pool.

#### Conversion Agent

Description	Works with the Message Broker to complete document conversion for the document viewer. Deploy each Conversion agent on its own server. Do not use the server for any other purpose but running this agent.
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#### Conversion Agent - Convert Ahead

Description	Works with the Message Broker to complete document conversion when the user is on the document viewer. Deploy each Conversion agent on its own server. Do not use the server for any other purpose but running this agent.
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#### Conversion Agent - Mass Convert

Description	Works with the Message Broker to complete document conversion when using the mass convert action. Deploy each Conversion agent on its own server. Do not use the server for any other purpose but running this agent.
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#### Conversion Agent - On the Fly

Description	Works with the Message Broker to complete document conversion for the current document opening. Deploy each Conversion agent – On the fly on its own server. Do not use the server for any other purpose but running this agent.
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#### dtSearch Search

Minimum number description	<p>Requires at least one agent per resource pool. The agent must be on its own server with no other Relativity agents. The server should not be used for any other role, such as Web, Analytics, or something else. Hosts the search service and executes search requests that users submit. This agent is multi-threaded and will use all resources on the server when needed. Follow these guidelines for this agent:</p> <ul style="list-style-type: none"> <li>▪ Monitor CPU, RAM, and disk I/O during normal usage and during Search Terms Report jobs.</li> <li>▪ Disk I/O on the dtSearch Index Share may also become a bottleneck – monitor and configure as needed.</li> <li>▪ If performance issues occur, add more server resources.</li> <li>▪ You may also add another agent server with only the dtSearch Search agent. However, it is often preferred to scale up rather than out.</li> <li>▪ For details on configuring the dtSearch service for HTTPS, see the Service Host Manager guide.</li> </ul>
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#### PDF Worker Agent

Minimum number	Requires two agents per environment. However, you may add more agents as needed.
Description	Responsible for the document/image to PDF conversion. It will also do the packaging of results into a ZIP/Portfolio/Single PDF if <b>Download</b> is selected for mass PDF operations. This agent runs every five seconds by default and should not be modified.

### 1.2.6 Removable agents

Certain agents may be visible in your Server environment that have either been deprecated in previous versions or are relevant only to RelativityOne. You can ignore or remove these agents without disrupting your environment. These include:



- Cache Manager
- Case Statistics Manager
- Conceptual Index Resource Manager Agent
- RelativityOne Analytics Index Population Manager
- Secret Rotation Agent
- Transcript Manager
- Manage Temporal Transcript Files

## 1.3 Agents change log

This change log summarizes changes made to agents.

Agent name	Change	Description of change	Version
Conversion Cache Delete File Worker	Added	Executes the second phase where all cached files that were batched up in Discovery phase are deleted.	Server 2022
Conversion Cache Delete File Discovery	Added	Executes the first phase of the cleanup process, Discovery, identifies and batches up old/expired cache files for each workspace of Cache Location Server on a particular job.	Server 2022
Conversion Cache Manager	Added	Generates jobs per active Cache Location Server during off hours, which kicks off the cleanup process.	Server 2022
Mass Operation Manager	Added	Works with Service Bus to complete mass operations within the environment.	Server 2022
Integration Points Manager	Removed	This agent has been removed. It will no longer be installed with our Server products.	Server 2022
Relativity Forms Metrics Collector	Added	Runs once a day during off hours and collects data about Object Types and their usage of Relativity Forms.	Server 2022
Analytics Core ARM Worker	Added	Responsible for moving Analytics conceptual and classification indexes using ARM.	Server 2021
ECA and Investigation Agent	Removed	This agent has been removed, per the deprecation of the ECA and Investigation application.	Server 2021
PDF Manager Agent	Added	Responsible for configuring the necessary artifacts for a newly created PDF job and also batching larger PDF jobs into smaller	Server 2021

Agent name	Change	Description of change	Version
		units in the mass PDF operations. This agent runs every five seconds by default, and should not be modified. If the Australian workflow is enabled in the instance, the PDF manager can also delete PDFs stored in Relativity.	
PDF Worker Agent	Added	Responsible for the document/image to PDF conversion. It will also do the packaging of results into a ZIP/Portfolio/Single PDF if <b>Download</b> is selected for mass PDF operations. This agent runs every 5 seconds by default and should not be modified.	Server 2021
Analytics Core ARM Manager	Added	Orchestrates the process of moving Analytics data using ARM. The corresponding worker is Analytics Core ARM Worker.	Server 2021

## 2 Installing to agent servers

Every agent server runs the kCura EDDS Agent Manager Windows Service. This service launches the EDDS -> kCura.EDDS.AgentManager.exe Windows process. That single process manages and executes the Relativity agents which are assigned to that specific agent server.

During Relativity installation, you can select whether to install the Agent Service on your server. The server running the Agent Service functions as the primary agent server because it runs all of the single-installation agents. See [Primary agent server below](#).

When you edit the RelativityResponse.txt file set the **DEFAULTAGENTS** setting in the Agent Properties section to 1 to install the full set of default Relativity agents to your server. See [Secondary agent server below](#) for more information.

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**Note:** The **DEFAULTAGENTS** setting only works during initial installation. This field is ignored on upgrade.

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Using the Relativity user interface, you can add, modify, or delete Relativity agents from the server. See [Managing agents in Relativity on page 24](#) for more information.

To run a job in a workspace, you must have that particular agent running on the agent server assigned to the resource pool where your workspace resides. For example, if the Transform Set Manager agent is not present on any of the agent servers in the resource pool that houses your workspace, you won't be able to run a Transform Set job.

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**Note:** This applies to all agents except the Case Manager, Billing Agent, Group Membership Manager, Group Membership Worker, and File Deletion Manager. These agents run across the environment regardless of their assigned server and resource pool. For more information, see [Agents on page 4](#) and [Billing Agent on page 5](#).

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### 2.1 Primary agent server

The primary agent server in a Relativity environment is intended to run one full set of agents, including both single-installation and multiple-installation agents. In addition to hosting a full set of agents, you can optionally configure your primary agent server to host secondary instances of the multiple-installation agents.

We recommend installing only one additional instance of each Branding Manager or Production Manager agent on your primary agent server. See [List of agents on page 4](#) for details.

### 2.2 Secondary agent server

If you select the **Include default agents** check box during installation, the Relativity installation package installs the full set of agents on a secondary agent server. You can then manually remove the single-installation agents and add additional multiple-installation agents. You can add the Workspace Upgrade Manager agent to a secondary server, but you should install only a single agent of this type per environment.

You can add several of the following multiple-installation agents to each secondary agent server:

- Application Installation Manager
- AssistedReviewWorkerAgent

- Branding Manager
- dtSearch Index Worker
- OCR Worker
- Production Manager
- Content Analyst Index Manager
- Workspace Upgrade Worker
- Group Membership Manager
- Group Membership Worker

Secondary agent servers are commonly configured to run 2x quad-core processors. This configuration supports any combination of eight agents, such as four Branding Manager agents and four Production Manager agents.

---

**Note:** In this example, the combined count of Branding and Production Managers can't exceed the total number of individual processor cores present on the server.

---

## 2.3 Installing agent servers in a workgroup

After installing the Relativity agent server on a machine that is a part of a workgroup, start the kCura EDDS Agent Manager service under a Windows account that is a member of the Administrators group.

---

**Note:** If your environment contains workspaces with Data Grid enabled fields, agent servers must have access to the endpoint URL on the Elasticsearch client node for dtSearch functionality.

---

## 2.4 Adding an agent server to a resource pool

You need to add your agent server to a resource pool after you configure it. This step ensures that the agents on the server are available to run jobs.

1. From **Home**, select the **Resource Pools** tab.
2. Select the resource pool to which you want to add the workgroup server.
3. In the Resource Pool information screen, go to the Agent Servers section and click **Add**.
4. Select the **NewAgentServerMachineName** workgroup server, and then click **OK**.

## 3 Adding and editing agents

You can add new agents to accommodate a large number of jobs in the workspace. For instance, if you need to complete multiple large OCR jobs, you may need to add additional OCR worker agents to your environment.

### 3.1 Adding agents

Before adding agents, be sure to read the agent instances guidelines. See [Agents on page 4](#).

To add an agent, perform the following steps:

1. From **Home**, select the **Agents** tab.
2. Click **New Agent**. The Agent Information screen displays.
3. Complete all of the fields in the Agent Information section. See [Fields below](#) for details.
4. From the **Enabled** field, select **Yes** to enable the agent or **No** to create the agent without enabling it on the server.
5. Click **Save**. If the agents were successfully added to the environment, you'll see a green check box and message at the top of the page.

Verify that the new agents appear on the Agents tab in Relativity. Each agent appears by agent type in the Name column, and the agent type is followed by the number of the agent type. For example, if you create two Analytics Categorization Manager agents, the first appears as Analytics Categorization Manager (1) and the second appears as Analytics Categorization Manager (2).

### 3.2 Fields

The agent object fields are as follows:

- **Agent Type** - displays the Select Agent Type dialog, allowing you to select the appropriate agent type. Once the agent type is saved, it can't be changed.
- **Number of Agents** - contains the number of instances of this agent type that will be created. If you enter a number that would cause the agent to exceed its maximum agents per server value, you receive an error message and the new agent(s) won't be created.

---

**Note:** When you create multiple instances of an agent type, each instance is named with a number following in parentheses. For example, the first instance of an OCR Manager agent is named OCR Manager (1). The second instance is named OCR Manager (2), and so on. Not all types of agents can have multiple instances.

---

- **Agent Server** - displays the Select Resource Server dialog, allowing you to select the server on which the agent will reside and click **OK** to return to the Agent Information screen.

---

**Note:** After you select the agent type, only servers with a processing type that is compatible with the agent type appear in the Resource Server dialog. If you select the server first and then select an agent type that is not compatible, you receive an error message.

---

- **Run Interval** - The interval, in seconds, at which the agent should check the database for available jobs. It populates with a default value based on the agent type.
- **Logging level of event details** - specifies the types of events logged for the agent. It populates with a default selection based on the agent type. You can modify this setting by choosing from the following options:
  - Log critical errors only - logs messages about critical system failures
  - Log warnings and errors - logs messages about critical and non-critical service errors and disruptions in activity
  - Log all messages - logs detailed messages about all errors and life cycle events

---

**Note:** When the Log all messages option is selected, the Event Log is rapidly filled to capacity with detailed messages, which causes previous messages to be purged from the log. This option could result in error messages being purged before you have a chance to view the errors.

---

- **Enabled** - designates the agent instance as disabled or enabled.

### 3.3 Editing or disabling agents

You can disable agents that aren't being used and later restart them. For example, you can disable agents on a retired server or enable OCR worker agents for new OCR jobs.

---

**Note:** Disabled agents still exist on the server. They continue to use disk and memory resources even though they don't execute jobs.

---

To edit or disable an existing agent, perform the following steps:

1. From the **Agents** tab at **Home**, click the name of the agent you want to modify.
2. From the Agent Information screen, click **Edit**. See [Managing agents in Relativity on page 24](#) for details on how agent actions are handled by the Agent Manager service.
3. To edit an agent, change the information under Agent Information as necessary. See [Fields on the previous page](#) for details.
4. To disable an agent, go to the Status section and change the Enabled value to **No**.
5. Click **Save**.

---

**Note:** If you edit or disable an agent while another job is being processed, the change won't apply until after the that job completes.

---

### 3.4 Restarting disabled agents

If an agent has been disabled for any reason, you can restart it in the Agents tab.

1. From **Home**, select the **Agents** tab.
2. Select the check box for each disabled agent that you want to restart.
3. Click the **Restart Disabled Agents** button at the top of the Agents view.

This re-enables the agent and changes its value in the **Enabled** field to **Yes**.

## 4 Managing agents in Relativity

You may need to monitor, edit, or disable agents for troubleshooting or to meet your environment's changing needs. Use the following best practices when working with agents:

- Perform agent modifications while agents are idle to minimize any potential issues.
- Only one person should be building, modifying, or interacting with any particular agent at a time.
- Understand how agent actions are handled by the Agent Manager Windows Service. See [Agent Manager service below](#).

---

**Note:** If you're working with agents in a very large Relativity workspace, contact [Customer Support](#).

---

### 4.1 Agent Manager service

When you add a new agent from the Relativity interface, the agent is immediately created on the server. Agent information is stored in the EDDS database, and the Agent Manager Windows Service manages the agents on your server.

When you modify agents from the Agents tab in the Relativity interface, values are updated in the database. The Agent Manager service reads this information from the database every five seconds. If agents have been created, updated, or deleted during the previous five seconds, the Agent Manager Windows Service retrieves this information from the database and makes the changes to the agents on your server.

The following sections describe how agent actions are handled by the Agent Manager Windows Service.

#### 4.1.1 Agent edits

Agent edits are as follows:

- **Agent Server** - if an agent is moved to another server in the database, the agent will finish the job that it's currently working on before the change takes effect.
  - For example, if you move the agent from Server A to Server B, the Agent Manager service running on Server A checks to see whether the agent is executing any jobs. If the agent is currently executing a job, then it's not moved from Server A. The Agent Manager service will continue to check the agent at five-second intervals, and if the agent is finished executing its job, then it's removed from Server A and placed on Server B.
- **Run interval**- when you modify an agent's interval, the interval is updated immediately on the server. Any time elapsed from the previous interval is applied toward the new interval. For example, if four minutes have elapsed on a five-minute interval, and you increase the interval to 10 minutes, then the agent will run again in six minutes.
- **Logging level**-when you change an agent's logging level, it's updated immediately on the server.
- **Enabled status** -if an agent's Enabled status is changed to No, the agent will finish the job that it's currently working on before it is disabled.



## 4.1.2 Agent deletes

When the Agent Manager Windows Service runs, any agents marked for deletion are checked to see if they're executing a job. If an agent marked for deletion is executing a job, then it's not deleted. The Agent Manager service will continue to check the agent at five-second intervals, and when the agent is finished executing its job, it is deleted.

## 4.1.3 Pending updates

The Pending Action field on the agent item list indicates whether an agent is pending a change. The available statuses for this column include the following:

- **Deleting** - the agent will be deleted once the current job completes.
- **Disabling** - the agent will be disabled once the current job completes.
- **Moving** - the agent will be moved to the new server once the current job completes.
- **Updating** - the agent has been modified, but the change won't be made until the Agent Manager Windows Service runs again.

## 4.2 Mass agent operations

Using the mass operations menu, you can copy, edit, or delete multiple agents at once. See also [Adding and editing agents on page 21](#).

### 4.2.1 Mass copy

To mass copy agents, complete the following steps:

1. From **Home**, select the **Agents** tab.
2. Select the agents you want to copy and select **Copy** from the drop-down menu.
3. Click **Go**. The new agent instances display in the Agents list, numbered incrementally. For example, if you copy the Branding Manager agent, **Branding Manager (1)** and **Branding Manager (2)** will display in your agents list.

---

**Note:** If completing the mass copy operation would cause one or more agents to exceed their maximum agents per server value, then none of the selected agents will be copied and you'll receive an error message.

---

### 4.2.2 Mass edit

Using the Edit mass operation, you can make the same change(s) to multiple agents at once. The following settings can be edited using this operation:

- Run interval
- Logging level of event details
- Status

---

**Note:** To change the agent server, you must edit the agent manually. See [Editing or disabling agents on page 22](#) for more information.

---

To edit multiple agents at once using the mass operation menu, complete the following steps.

1. From **Home**, select the **Agents** tab.
2. Select the agents to edit and choose **Edit** from the drop-down menu.
3. Click **Go**. The Edit Agents dialog displays.
4. Select the check box to the left of the component to be edited, and enter or select the corresponding new value. See [Fields on page 21](#) for details.
5. Click **Save** to apply the change and return to the Agents list.

### 4.2.3 Mass delete


To delete one or more agents using the mass operation menu, complete the following steps.

1. From **Home**, select the **Agents** tab.
2. Select the agents you want to delete and select **Delete** from the drop-down menu.
3. Click **Go** to flag the agents for delete from your environment.

## 4.3 Uploading an assembly containing agent types

You can upload an assembly that contains agent types to Relativity. See the Admin Guide for steps to upload an assembly to Relativity.

When you upload an assembly that contains agent types, those agent types become available for selection

when you create a new agent. When you click  from the Agent Type field, any agent types contained in an assembly uploaded to Relativity will be accessible from the Select Agent Type dialog.

Consider the following when working with assemblies that contains agent types:

- The details view for each assembly displays the agent types (if any) associated with that assembly.
- If an agent type is contained in an assembly, and you deploy agents using that agent type in your environment, you must delete all agents of that type before you can delete the assembly.
- If you remove an agent type from an assembly and then re-upload that assembly to Relativity, the agent type will be deleted from your environment.

## 4.4 Viewing logged agent events

You can view logging information about Relativity agents in the Event Viewer on your primary or secondary agent server.

1. To open the Event Viewer in Windows, click the **Start > Programs > Administrative Tools > Event Viewer**.
2. In the Event Viewer, open **Windows Logs > Application**.

## 5 Managing and setting Relativity agent quantity limitations

The purpose of the following information is to enable you to successfully make changes to the Agent table using SQL. This will allow you to enforce restrictions of many types of agents so that you don't find yourself in a situation where too many agents have been created.

In the EDDS database of Relativity, there is a table called AgentType. In each line listed in SQL, the table has a number of columns and a row for each agent. The following image shows only a few columns.

	ArtifactID	Name	Fullnamespace	DefaultInterval	DefaultLogging
1	1015240	Content Analyst Index Manager	kCura.EDDS.Agents.ContentAnalystIndexManager	5	1
2	1015241	Branding Manager	kCura.EDDS.Agents.BrandingManager	20	1
3	1015242	Case Manager	kCura.EDDS.Agents.CaseManager	3600	1
4	1015243	File Deletion Manager	kCura.EDDS.Agents.FileDeletionManager	3600	1
5	1015244	Case Statistics Manager	kCura.EDDS.Agents.CaseStatisticsManager	3600	1
6	1015245	Content Analyst Cluster Manager	kCura.EDDS.Agents.ContentAnalystClusterManager	5	1
7	1015246	dtSearch Index Worker	kCura.EDDS.Agents.dtSearchIndexWorker	5	1
8	1015247	Text Extraction Manager	kCura.EDDS.Agents.TextExtractionManager	5	1
9	1015248	Production Manager	kCura.EDDS.Agents.ProductionManager	20	1
10	1015249	Transcript Manager	kCura.EDDS.Agents.TranscriptManager	5	1

Each column gives you some additional control over the number of agents that can be deployed in an environment. Columns are described in [AgentType table column definitions below](#). For columns that describe a quantity limitation, a value of **0** means that the agent will be untracked/unenforced. Min x columns that are not mentioned in [AgentType table column definitions below](#) are not mentioned because they are not enforced.

---

**Note:** The only time that this check is made is when the agent is first deployed. Anything that happens afterward, such as a server moving to a different resource pool, or a change to these rules, will not affect existing agent counts. Changes are not applied retroactively.

---

### 5.1 Analytics considerations

Analytics server agents, while present in this table, follow some slightly different rules for scaling that you should consider when deploying them. The Relativity Analytics Cluster Manager and Content Analyst Index Manager agents are scalable at 1 agent each per Analytics server in the environment. The Relativity Analytics Categorization Manager is scalable at 2 agents per Analytics server in the environment.

### 5.2 AgentType table column definitions

- **ArtifactID** - The agent's unique ArtifactID
- **Name** - The name of the agent, which reflects its type
- **Full namespace** - The full name of the agent, such as kCura.EDDS.Agents.FileDeletionManager. This should never be changed.

- **MaxInstancePerServer** - Set a limit on a per server basis. By default, all 0s except for dtSearchSearch.
- **MaxInstancePerResourcePool** - Set the maximum number of agents per resource pool to prevent users from deploying multiple instances of agents when there should be only one. Be aware, however, that if a server is moved from one resource pool to another, there will be no correction or warning that you have violated the resource pool limit. Only the Server Manager agent has a default limit here.
- **MinInstanceEnvironment** - Every agent has a default MinInstanceEnvironment requirement of **1**. However, you're not required to have all of the agents, and this value is used only once during initial installation, so it can be changed. Relativity gives warnings when minimum recommendations are not met, but minimums are not enforced.
- **DefaultInterval** - How often the agent checks in, in seconds. The default interval on agents "checking in" to their queues for more work is **5** seconds. In an environment with many agents, this may be too often and may result in thousands of queries per minute when much longer intervals would suffice. For example, using a 30 second interval, it would take you at least that long to navigate to the Agents tab to see if the agent is running. If you apply this across the board, it would reduce agent queries to the database by a considerable amount.
- **Description** - The description of the agent
- **Guid** - The agent's unique identifier
- **LoggingLevel** - There are three levels of logging: 1 is for **Errors only**, 5 is for **Warnings and errors**, and 10 is for **Log all messages**.

## 5.3 Editing the AgentType table

Following these guidelines, you can set the default settings for each agent. You can only set the defaults by running SQL queries against the table itself.

For example, the following query changes the maximum number of OCR workers in an environment to 10.

```
UPDATE [EDDS].[eddsdbo].[AgentType] SET [MaxInstanceResourcePool]= 10
WHERE [Name] = 'OCR Worker'
```

---

**Note:** If you have 12 agents already in any resource pool, this will do nothing to remove them or even warn you. If you move a server to a different resource pool, there will be no check to prevent it from moving if the move causes it to exceed the predefined limit.

---

## 5.4 Editing the Agent table

---

**Note:** The EDDS.eddsdbo.Agent table needs the column [Updated] set to 1 whenever a change is manually made to it. Otherwise the Agent Managers that are currently running will revert the database record to the values they have cached.

---

The Agent table inherits several of the columns in the AgentType table when the agent is deployed. The logging level and interval are all written to this table. The Name column gets appended with some number

(n). If you want to change the values for existing agents for either of these values, you can change them through the UI. If you have many changes to make, it will be faster to change them in the Agent table.

The following sample SQL statement updates the run interval to 10, and sets the logging level to *Log warnings and errors* for all dtSearch Index Workers.

```
UPDATE [EDDS].[eddsdbo].[Agent] SET [Updated] = 1, [Interval] = 10, [LoggingLevel] = 5
WHERE [Name] LIKE 'dtSearch Index Worker%'
```

Executing this SQL in Sql Server Management Studio updates the dtSearch index worker default maximum of agents to 10.

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