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  6.4 Editing the Agent table .................................................................................................................................. 28
1 Agents overview

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, to run a production in Relativity, you must have at least one Branding Manager agent and one Production Manager agent.

Relativity agents are installed to your agent server during the Relativity installation process.

If you have multiple agent servers, one functions as your primary agent server. In general, this server can hold one full set of single- and multiple-installation agents and one additional instance of each multiple-installation agent. Secondary agent servers can store additional instances of the multiple-installation agents.

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

**Note:** Relativity developers can also build custom agents to handle scheduled jobs. See the Relativity Developers site for more information.
2 Agents installation requirements

You should understand the following requirements when working with agents:

- **Installation drive** - by default, Relativity installs agents in the following directory: [Installation drive]\Program Files\kCura Corporation\Relativity\Agents\Processing.

- **Total agents per server** - a default Relativity installation includes a set of core feature agents. When installing additional agents on a Relativity server, the total number of additional agents should not exceed the number of processor cores available beyond the required minimum number of processor cores. See the System Requirements guide for minimum hardware requirements and the Agents guide for a list of core Relativity feature agents and additional application-specific agents.

- **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. See the List of agents below for a description of each agent and the recommended number of instances.

  Note: If you're working in a large environment and need agent use recommendations to manage a large database, contact support@relativity.com.

2.1 List of agents

Each of the following Relativity agents support a Relativity feature or application by providing backend functionality.

In general, we recommend one core plus one GB of RAM per each active agent running simultaneously in your Relativity environment. All agents except for the dtSearch Search agent are single-threaded. Use the minimum requirements specified in the following tables for Tier 1 environments.

  Note: For information about configuring agents in Tier 2 or 3 environments, contact support@relativity.com.

2.1.1 Relativity feature agents

This table includes information about agents that support the functionality of various Relativity features. The Minimum Requirements column lists the basic requirements for these agents in a Tier 1 environment. For information about Tier 1 environments, see System requirements on the Relativity 9.2 Documentation site.
<table>
<thead>
<tr>
<th>Agent name</th>
<th>Requirement information</th>
<th>Function</th>
<th>Agent type</th>
</tr>
</thead>
<tbody>
<tr>
<td>AppPool Warmup Agent</td>
<td>At least 1 per web server</td>
<td>The agent keeps the AppPool &quot;warm&quot; so that users don’t see large pauses in the application. The REST API can take a few seconds to start up after a reboot or Relativity upgrade, or after a period of inactivity. The agent checks the REST API once per minute so that the IIS App Pool stays alive. It is automatically installed with the Web Processing agent service.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>Application Installation Manager</td>
<td>At least 1 per resource pool</td>
<td>Looks for any application in the application library with a status of &quot;Pending.&quot; Once it detects a pending application, the Application Installation Manager installs that application to the designated workspaces.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>AutoBatchManager</td>
<td>Only 1 per environment</td>
<td>Runs existing batch jobs marked as auto-batch in pre-configured intervals.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Branding Manager</td>
<td>1 GB of RAM and 1 CPU per additional agent added</td>
<td>Reads a job from the BrandingJob table in the EDDS database. On the database server selected in the resource pool for the workspace, this agent then runs the job with metadata specified in the _BRANDINGQUEUE_WS(workspace ID)_P(production ID) table for that production job in the EDDSResource database.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>Agent name</td>
<td>Requirement information</td>
<td>Function</td>
<td>Agent type</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Cache Manager</td>
<td>Only 1 per environment</td>
<td>Marks files as Dirty and adds the entries to a deletion queue, regardless of the cache clean up logic used. Deleted files include outdated temporary native, image, and production files used by the viewer from the ConvertedCacheFile table. The Dirty flag indicates that a cache entry isn't valid.</td>
<td>Single-installation</td>
</tr>
</tbody>
</table>

**Note:** The Cache Manager agent logic looks at the document's last accessed date time rather than the creation date time.

The Cache Manager uses this workflow to clear the cache:

1. Starts running on all cache locations in your environment during off hours, and continues until complete.

   **Note:** Off hours refers to time not during the standard working day. We recommend setting certain agents to run during off hours due to performance considerations. See the AgentOffHourstartTime and AgentOffHourEndTime in the Agents guide.

2. Deletes the files with the oldest last used date from the cache if the disk space usage on the cache location exceeds the CacheLocationUpperThreshold configuration value. See Configuration table values in the Relativity 9.2 Documentation site.

3. Deletes as many files as required to reduce the disk space usage on cache location to less than or equal to the lower limit defined in the CacheLocationLowerThreshold configuration value. (Additional configuration values...
<table>
<thead>
<tr>
<th>Agent name</th>
<th>Requirement information</th>
<th>Function</th>
<th>Agent type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CaseManager</td>
<td>Only 1 per environment</td>
<td>Removes cases marked for deletion by dropping the database, dropping any orphaned or temporary tables, and populating DeleteFile queue table in the EDDS database.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>CaseStatisticsManager</td>
<td>Only 1 per environment</td>
<td>Collects usage metrics, as well as creates and sends reports. The CaseStatisticsManager requires that the Case Manager has successfully completed processing. See <a href="#">Case Statistics Manager on page 17</a> for details on this agent.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Custom Page Deployment Manager</td>
<td>At least 1 per web server</td>
<td>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 not installed on an agent server, but on the kCura Web Processing Windows Service, which</td>
<td>Multiple-installation</td>
</tr>
</tbody>
</table>

See Configuration table values in the Relativity 9.2 Documentation site.

4. When files can’t be deleted from the cache reducing the disk space usage to the lower threshold, the agent logs an error and triggers the display of an alert in the Relativity UI.

5. Sends an email notification to a specified recipient for each cache location that it failed to delete.
<table>
<thead>
<tr>
<th>Agent name</th>
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<th>Function</th>
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</tr>
</thead>
<tbody>
<tr>
<td>dtSearch Index Job Manager</td>
<td>Only 1 per resource pool</td>
<td>Creates population tables and manages the indexing queue (i.e., it checks to see if workers have 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. <em>Note:</em> On upgrade to Relativity 7.3, the dtSearch Index Job Manager automatically replaces the deprecated dtSearch Indexer agent. Two dtSearch Index Worker agents are also added automatically.</td>
<td>Multiple-installation</td>
</tr>
</tbody>
</table>
| dtSearch Index Worker       | ■ At least 1-2 agents per resource pool  
■ Up to 10 workers per dtSearch index job manager  
*Note:* Use 1 core and 2 GB of RAM for each additional agent. | 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. | Multiple-installation |
<table>
<thead>
<tr>
<th>Agent name</th>
<th>Requirement information</th>
<th>Function</th>
<th>Agent type</th>
</tr>
</thead>
</table>
| dtSearch Search        | At least 1 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 (i.e. Web, Analytics, etc.). 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:  
  - Monitor CPU, RAM, and disk I/O during normal usage and during Search Terms Report jobs.  
  - Disk I/O on the dtSearch Index Share may also become a bottleneck – monitor and configure as needed.  
  - If performance issues occur, add more server resources.  
  - You may also add another agent server with only the dtSearch Search agent. However, it is often preferred to scale up rather than out. | Multiple-installation |
<p>| File Deletion Manager | Only 1 per environment                   | Reads and removes records from the DeleteFile queue table in the EDDS database. This agent also removes physical files marked for deletion in the queue. When you delete a processing set, this agent deletes all files and empty sub-directories associated with that set. | Single-installation   |
| OCR Set Manager        | Only 1 per resource pool; 1:4 of OCR set managers to OCR workers | 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. | Multiple-installation |
| OCR Worker             | Up to 4-8 agents per resource pool       | Takes an OCR job created by the OCR Set Manager, and translates the images into text.                                                                                                                                 | Multiple-installation |</p>
<table>
<thead>
<tr>
<th>Agent name</th>
<th>Requirement information</th>
<th>Function</th>
<th>Agent type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform Status Agent</td>
<td>1 per web server</td>
<td>Enables the diagnostics of the Relativity Services API. The results of the diagnostic tests run by the agent are displayed on the Platform Status tab.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Production Manager</td>
<td>At least 1 per resource pool</td>
<td>Creates Bates numbers and applies them to productions. This is also responsible for creating branding jobs and populating the branding queue.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>Search Terms Report Manager</td>
<td>Only 1 per resource pool</td>
<td>Runs a search against an existing dtSearch index, and returns a count of matching terms found in this index.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Server Manager</td>
<td>Only 1 per environment</td>
<td>Updates Relativity with version and job status information from Analytics servers and data worker manager servers.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Text Extraction Manager</td>
<td>Only 1 per environment</td>
<td>Extracts the text from files associated with Dynamic Objects, and adds it to text fields on the text 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.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Transcript Manager</td>
<td>Only 1 per environment</td>
<td>Updates or adds headers and footers to a valid transcript.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Transform Set Manager</td>
<td>Only 1 per environment</td>
<td>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.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Workspace Upgrade Manager</td>
<td>Only 1 per environment</td>
<td>Tracks the status of workspace upgrades and adds jobs to the queue for worker agents to run.</td>
<td>Single-installation</td>
</tr>
</tbody>
</table>
### 2.1.2 Analytics agents

This table includes information about agents that support the functionality for Relativity Analytics. The Minimum Requirements column lists the basic requirements for these agents in a Tier 1 environment. For information about Tier 1 environments, see System requirements on the Relativity 9.2 Documentation site.

<table>
<thead>
<tr>
<th>Agent name</th>
<th>Requirement information</th>
<th>Function</th>
<th>Agent type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workspace Upgrade Worker</td>
<td>At least 2 per SQL server</td>
<td>Runs the SQL required to update the workspace databases. On an SQL server profile, you can edit the <strong>Workspace Upgrade Limit</strong> 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 <strong>Glob-alWorkspaceUpgradeLimit</strong> configuration value. If you enter a number that exceeds this instance setting value, an error occurs that cancels your update. For more information, see Configuration table values and Upgrading workspaces.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>Relativity Analytics Categorization Manager</td>
<td>No more than 2 instances per analytics server</td>
<td>Clears any previous job results from the population table, and then it categorizes the specific group of documents in the categorization set. There should be no more than two Analytics Categorization Manager agents per resource pool.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>Cluster Upgrade Worker</td>
<td>Only 1 per environment on the agent server running CaseManager or CaseStatisticsManager</td>
<td>Sends requests to CAAT to perform cluster upgrades based on entries in the EDDS.eddsdbo.Cluster-UpgradeJobs database table, monitors the status of all upgrade jobs, and updates the EDDS.eddsdbo.Cluster-UpgradeJobs table.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Content Analyst Cluster Manager</td>
<td>Only 1 per analytics server in the environment</td>
<td>Clusters documents based on the Analytics index settings.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Content Analyst Index Manager</td>
<td>Only 1 per analytics server in the environment <strong>Note</strong>: If your</td>
<td>Populates Analytics indexes and pushes them to the Analytics server.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Agent name</td>
<td>Requirement information</td>
<td>Function</td>
<td>Agent type</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Analytics Index Progress Manager</td>
<td>Only 1 per resource pool</td>
<td>Enables and facilitates automation of the Analytics index building process from population to activation.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>AssistedReviewManagerAgent</td>
<td>Only 1 per environment</td>
<td>Oversees the Assisted Review master job and project deletion.</td>
<td>Single-installation</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note</strong>: These agents are automatically included in a first-time installation of Relativity 9.2 and during an upgrade from 7.5 or 8 to 9.2. If you upgrade from Relativity 7.4 to 9.2, you need to manually install these agents.</td>
<td></td>
</tr>
<tr>
<td>AssistedReviewWorkerAgent</td>
<td>At least 2 agents</td>
<td>Facilitates Assisted Review project creation, sample set creation, document review, overturns, saving project results, report generation, and error recovery.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Note</strong>: These agents are automatically included in a first-time installation of Relativity 9.2 and in an upgrade from 7.5 or 8 to 9.2. If you upgrade from Relativity 7.4 to 9.2, you need to manually install these agents.</td>
<td></td>
</tr>
<tr>
<td>Structured Analytics Manager</td>
<td>Only 1 per environment</td>
<td>Oversees the Structured Analytics Worker agents by keeping the structured data analytics master job up-to-date and creating worker jobs.</td>
<td>Single-installation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured Analytics Manager</td>
<td>Relativity 8.1.202.3 and higher: 2-4 agents. (additional agents don’t affect export performance, but increase import speed.)</td>
<td>Performs all structured data analytics tasks, including setting up staging, exporting document information from Relativity, monitoring Content Analyst, importing document information into Relativity, and creating reports.</td>
<td>Multiple-installation</td>
</tr>
</tbody>
</table>

Note: These agents are automatically included in a first-time installation of Relativity 9.2 and during an upgrade from 7.5 or 8 to 9.2. If you upgrade from Relativity 7.4 to 9.2, you need to manually install these agents.
### 2.1.3 Application-specific agents

This table includes information about agents that support the functionality of various Relativity applications. The Minimum Requirements column lists the basic requirements for these agents in a Tier 1 environment. For information about Tier 1 environments, see System requirements on the Relativity 9.2 Documentation site.

<table>
<thead>
<tr>
<th>Agent name</th>
<th>Requirement information</th>
<th>Function</th>
<th>Agent type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binder Manager</td>
<td>Only 1 per resource pool</td>
<td>Handles the scheduling of the binder jobs that the worker agent processes.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>See the Relativity Admin guide.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Binder Worker</td>
<td>See Adding Binders agents in the Binders Admin documentation.</td>
<td>Calls into the Invariant server to process the binder jobs. For example, PDF-ing documents.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>See the Relativity Admin guide.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Grid Audit Migrator</td>
<td>Only 1 per core on the agent server</td>
<td>A Data Grid Audit Migrator agent migrates audit data from SQL to the Data Grid data store for any workspace that has Data Grid for Audit installed. You can set the agent to run at any interval of time. You can run multiple audit migration agents simultaneously, but we recommend no more than one agent per core on the agent server. 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.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Data Grid Audit Deleter</td>
<td>Only 1 per environment</td>
<td>The Data Grid Audit Deleter agent deletes all audits from SQL for any cases that have Data Grid for Audit installed, except for the last 90 days. Relativity retains the audits for the last 90 days for Case Statistics Manager and for billing purposes. You can't specify which workspaces to delete audits from, so use this agent with caution. This agent is an off-hours agent. Don't run more than two of these agents at a time. Don't run the Data Grid Audit Deleter agent at the same time as the Data Grid Audit Migrator agent as migration and deletion can conflict.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Agent name</td>
<td>Requirement information</td>
<td>Function</td>
<td>Agent type</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Performance Dashboard - QoS Manager</td>
<td>Only 1 per environment</td>
<td>Runs in the background, executing the LookingGlass procedure, coordinating the work performed by the QoS Worker agents. The QoS Manager also performs the score calculations and secures the data through the Fraud Counter Measures (FCM).</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Performance Dashboard - QoS Worker</td>
<td>Multiple agents per environment. We recommend starting with 4 QoS Workers and adding more agents as needed. A large environment with 500 or more databases benefits from having 6-12 QoS Worker agents.</td>
<td>Runs in the background, executing the QoS_WorkspaceAnalysis procedure within each workspace, collecting and analyzing search and audit data. It saves the collected data to the EDDSPerformance Database.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>Performance Dashboard - WMI Worker</td>
<td>Multiple agents per environment. We recommend starting with 2 WMI Workers and adding more agents as needed. A large environment with 20 or more Relativity servers benefits from having 4 or more WMI Worker agents. <strong>Note:</strong> If there are servers in the DMZ (perimeter network), you must place an additional Performance Dashboard agent on a server in the DMZ.</td>
<td>Runs in the background, collecting WMI counters and SQL server statistics for use in scoring. It saves the collected data to the EDDSPerformance Database.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>Performance Dashboard - Trust Worker</td>
<td>Only 1 per environment</td>
<td>Runs in the background during off hours. Only required for Best in Service partners. Requires a Trust ID from Relativity to be configured in the Performance Dashboard application. Will send Quality of Service scores to Relativity for automated quarterly audits. If the client is participating in the Trust website, it will send Quality of Service scores to be displayed on <a href="https://trust.relativity.com">https://trust.relativity.com</a>.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Agent name</td>
<td>Requirement information</td>
<td>Function</td>
<td>Agent type</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Processing Set Manager</td>
<td>Only 1 per environment</td>
<td>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.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Relativity Collection - Collector Agent</td>
<td>Only 1 per environment</td>
<td>Processes targeted collection results that have been uploaded to the server. For more information, see Installing Relativity Collection on the Collection site.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Relativity Collection - Email Agent</td>
<td>Only 1 per environment</td>
<td>Sends collection requests to custodians for scouting, collecting, and imaging by email, as well as sends collaboration requests. In addition, it sends notifications to the Relativity user when a request is completed. For more information, see Installing Relativity Collection on the Collection site.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Relativity Collection - Imager Agent</td>
<td>Only 1 per environment</td>
<td>Processes forensic image collection results that have been uploaded to the server. For more information, see Installing Relativity Collection on the Collection site.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Relativity Collection - Manager Agent</td>
<td>Only 1 per environment</td>
<td>Oversees all jobs added to the agent queue for Collection and assigns the corresponding agent type to accomplish the task. For more information, see Installing Relativity Collection on the Collection site.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Relativity Collection - Reporting Agent</td>
<td>Only 1 per environment</td>
<td>Emails a report used for billing purposes similar to the Case Statistics Manager. For more information, see Installing Relativity Collection on the Collection site.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Relativity Collection - Scout Agent</td>
<td>Only 1 per environment</td>
<td>Processes the scout results uploaded to the server so that the user can make an informed decision before collecting data. For more information, see Installing Relativity Collection on the Collection site.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Relativity Collection - RCC</td>
<td>Only 1 per environment</td>
<td>This agent handles files uploaded to the server.</td>
<td>Single-installation</td>
</tr>
</tbody>
</table>

**Note:** Off hours refers to time not during the standard working day. We recommend setting certain agents to run during off hours due to performance considerations. See the AgentOffHourStartTime and AgentOffHourEndTime in the Agents guide.
<table>
<thead>
<tr>
<th>Agent name</th>
<th>Requirement information</th>
<th>Function</th>
<th>Agent type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent</td>
<td></td>
<td>server by Relativity Collector and is responsible for validating and copying files, then sending a notification to a specified audience once the files are available.</td>
<td></td>
</tr>
<tr>
<td>Relativity Legal Hold Agent</td>
<td>At least 1 per environment. <strong>Note:</strong> You can add more agents to allow simultaneous jobs to run, and batch large email jobs (after exceeding the default 1,000 email threshold). You may also need more agents if you frequently multitask several Legal Hold actions at once (LDAP syncs, project/hold deletions, send emails).</td>
<td>Sends emails (including reminder and escalation), syncs with LDAP, pulls emails in from custodian responses, and purges custodians from a project/hold.</td>
<td>Multiple-installation</td>
</tr>
<tr>
<td>Relativity Integration Points Agent</td>
<td>Only 1 per resource pool</td>
<td>Responsible for batching up data from the source provider and pulling it into Relativity fields.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Telemetry Host Agent</td>
<td>Only 1 per environment.</td>
<td>Receives metric data from Relativity and Relativity applications. It logs the data to the EDDSMetrics.Metrics table.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Telemetry Metrics Transmission Agent</td>
<td>Only 1 per environment</td>
<td>Transmits metric data from the EDDSMetrics.Metrics table to Relativity. Maintains the Metrics table after transmitting the data.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Review Manager - AuditParserAgent</td>
<td>Only 1 per environment</td>
<td>Collects data for the Reviewers Overturn and Document Overturn reports.</td>
<td>Single-installation</td>
</tr>
<tr>
<td>Review Manager - RefreshDataAgent</td>
<td>Only 1 per environment</td>
<td>Pulls data for the Review Manager reports.</td>
<td>Single-installation</td>
</tr>
</tbody>
</table>

### 2.2 Case Statistics Manager

The Case Statistics Manager agent collects billing information to be sent to Relativity. This agent must be enabled to keep your Relativity access enabled.

### 2.2.1 Billing statistics report settings

This agent generates a zip file that includes a report of current billing statistics. This file must be sent to Relativity for billing information to be processed; you can send the file automatically through the SMTP server, or you can send the file manually. The AutoEmailWithCaseStatisticsManager configuration value determines the mode of file sending. If you want to send the report manually, you must designate a location where the zip file will be stored in the E DDSFileShare value.
You can set additional configuration values to determine how case names and user email addresses appear in the report that the Case Statistics Manager generates. The ReplaceCaseNameWithArtifactID value determines whether case names are replaced by case artifact IDs. The ReplaceUserNameWithHashValue value determines whether the user name portions of user email addresses are replaced by hash values.

### 2.2.2 Restricted Relativity access

If the Case Statistics Manager is disabled for seven concurrent days, Relativity access becomes restricted. Once access has been restricted, only system admins are able to access the system. Other users are locked out. This limited access allows administrators to log in to Relativity and re-enable the agent.

Once the agent has been re-enabled and billing data begins recording, access returns to normal.

If the Case Statistics Manager is disabled for more than 24 hours concurrently, you receive a persistent message at the bottom of your Relativity window stating the number of days until Relativity becomes inaccessible.

A warning email is sent to sales@relativity.com and billing contacts at your organization 48 hours before the system becomes unavailable and again 24 hours before the system becomes unavailable.

**Note:** To set or update your billing contact, contact support@relativity.com.
3 Installing to agent servers

Every agent server runs on the kCura.EDDS.AgentManager Windows Service. This service launches all Relativity agents and runs the agent framework.

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.

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

Using the Relativity user interface, you can add, modify, or delete Relativity agents from the server. See Managing agents in Relativity on page 23 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.

Note: This applies to all agents except the Case Manager, Case Statistics Manager, and File Deletion Manager. These three agents will run across the environment regardless of their assigned server and resource pool. See Case Statistics Manager on page 17 for more information.

3.1 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 5 for details.

3.2 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
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.

### 3.3 Installing agent servers in a workgroup

For a new agent server that is a part of a workgroup, perform the following steps to add a user to run the agents and make that server available in Relativity to add to a resource pool.

1. From **Home**, select the **Users** tab.
2. Create a new user in Relativity and populate the Authentication Data field with `NewAgentServerMachineName\Relativity Service Account`.
3. Give this user system admin rights by adding it to the System Administrators group.
4. Restart the kCura.EDDS Agent Server Manager service.

**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.

### 3.4 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**.
4 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.

4.1 Adding agents

Before adding agents, be sure to read the agent instances guidelines. See Agents overview 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).

4.2 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.

### 4.3 Editing or disabling agents

To improve performance, you can disable agents that aren't being used or restart them if you begin using a certain feature. For example, you can disable agents on a retired server or enable OCR worker agents for new OCR 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 the next page](#) 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.

### 4.4 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**.
5 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 support@relativity.com.

5.1 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.

5.1.1 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.
5.1.2 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.

5.1.3 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.

5.2 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](#).

5.2.1 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.

5.2.2 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
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.

### 5.2.3 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.

### 5.3 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 ![agent type icon] 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.

### 5.4 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.*
6 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.

![AgentType Table Example](image)

Each column allows 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.

6.1 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.

6.2 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** - Allows you to set a limit on a per server basis. By default, all 0s except for dtSearchSearch.

- **MaxInstancePerResourcePool** - Allows you to 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**.

### 6.3 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.

### 6.4 Editing the Agent table

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 [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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