

Ignition 8.3 User Manual — Enterprise Administration Module

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Enterprise Administration



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Introduction to Enterprise Administration Module

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What is Enterprise Administration?

The Enterprise Administration module (EAM) allows a user to control and monitor any number of Ignition Gateways from a central Gateway. The EAM takes advantage of the Gateway Network system to seamlessly deliver data between Gateways.

Benefits of EAM

EAM works great in systems with [multiple Gateways](#). Although EAM is not required for large Ignition systems, there are several benefits to incorporating the module:

- **Gateway Version Control:** Incorporating EAM eases the module upgrade process on each Gateway to ensure each installation is on the same version.
- **Project Synchronization:** In cases where the same project is used on multiple Gateways, making updates to the project on each Gateway can be a hassle. With EAM, projects can automatically be pushed to select agents, simplifying how updates are pushed out.
- **Monitor Agent Health:** Overseeing the health of large systems can be a full-time job. With EAM, a controller Gateway monitors agent Gateway health and triggers alarms when an issue arises, such as high CPU or memory usage. Alarm notifications can also be sent, so you will always know when an issue is detected.
- **Quick Recovery from System Failures:** Hardware failure can cause days of downtime. Agent Recovery allows for quick Gateway, license, and module restoration on new hardware to greatly reduce the amount of time the system is down.

What are Agents and Controllers?

EAM involves coordinating several different Gateways on the same network. Each Gateway is assigned a role:

- **Controller:** Manages or controls each connected agent Gateway. The controller is responsible for assigning tasks, as well as monitoring each agent. Only a single Gateway on each Gateway Network can be a controller.
- **Agent:** All other Gateways in the Gateway Network are agents. Agents perform all assigned tasks and report to the controller.

Task Management

EAM allows you to schedule common Gateway tasks to execute against remote agent Gateways. Tasks are requests sent to an agent by the controller. These requests cause the agent to perform an action. Tasks include:

- **Activate License**
- **Collect Backup**
- **Install Modules**
- **Remote Agent Upgrade**
- **Restart Agent**
- **Restore Backup**
- **Send Project**
- **Send Project Resources**
- **Send Tags**
- **Unactivate License**
- **Update License**

Create Gateway Task



Create Gateway Task

Task Type Selection

- ☐ **Activate License**
Activate a license key on selected agent Gateways.
- ☐ **Collect Backup**
Collect a Gateway backup from an agent machine.
- ☐ **Install Modules**
Install one or more modules on selected agent Gateways.
- ☐ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.
- ☐ **Restart Agent**
Restarts the Ignition service on the agent machine.
- ☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.
- ☐ **Send Project**

Cancel

Next

On-Demand or Scheduled

Gateway tasks can be executed immediately, scheduled to run once at a later time, or set up as part of a recurring schedule. The **Schedules** can be freely modified or paused. Scheduled tasks can also execute on-demand, allowing the tasks to be called at will.

! Network

Home

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Agent Tasks

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License Keys

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Agent Tasks

Available Running & Scheduled History

Available Tasks

View 20

Create Gateway Task +

☐	NAME	NEXT SCHEDULED	TARGETS	REPEATS?	CURRENT STATE	
☐	Restart Agent	08Nov2025 12:53:42	Agents [agent]	false	SCHEDULED	
☐	Collect Backup	08Nov2025 12:53:42	Agents [agent]	true	SCHEDULED	
☐	Send Project	06Nov2025 12:53:42	Agents [agent]	false	SCHEDULED	
☐	Send Project Resources	06Nov2025 12:53:42	Agents [agent]	false	SCHEDULED	

Showing 4 of 4 items

Disaster Recovery and Prevention

Every EAM agent sends information to the controller about its general health status. Whenever problems occur on an agent, the controller is notified of the agent's status in the form of Agent Events.

Problems can include:

- High CPU usage on the agent
- Large numbers of system errors in a short timeframe
- Unusually high usage of database connections
- Loss of connectivity to the agent

Agent Events are recorded in an external database for analysis and reporting later. Agent Events can also be directly configured on the controller to automatically trigger alarms or send **alarm notifications**.

NOTE

The **Collect Backup** Gateway task does more than simply collect a Gateway backup from agents. Whenever the task runs, the Gateway backup, all installed modules, and the current license are collected from the agent and stored in the archive system on the controller. This system allows for quick recovery later if an agent machine catastrophically fails and must be reinstalled.

Creating a Controller



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Creating a Controller

[Watch the video](#)

To set up the EAM, you must first designate one machine as the controller. Keep track of the IP address of this machine, as you must enter this address on each agent during agent installation.

Install the EAM module in the Gateway if it has not already been installed. After module installation, you must designate a database connection that will be used by the controller to store agent event history. Navigate to **Connections > Databases > Connections**, and set up a connection to the database that you intend to use.



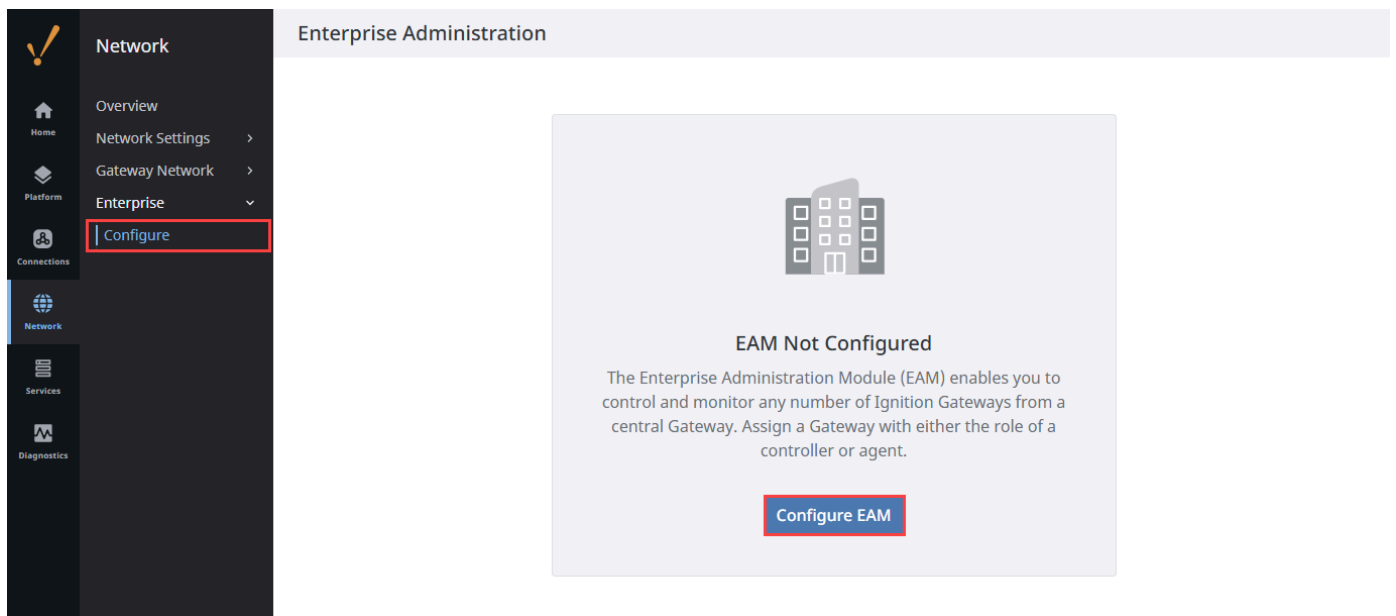
TIP

Tips for Configuring Controllers and Agents

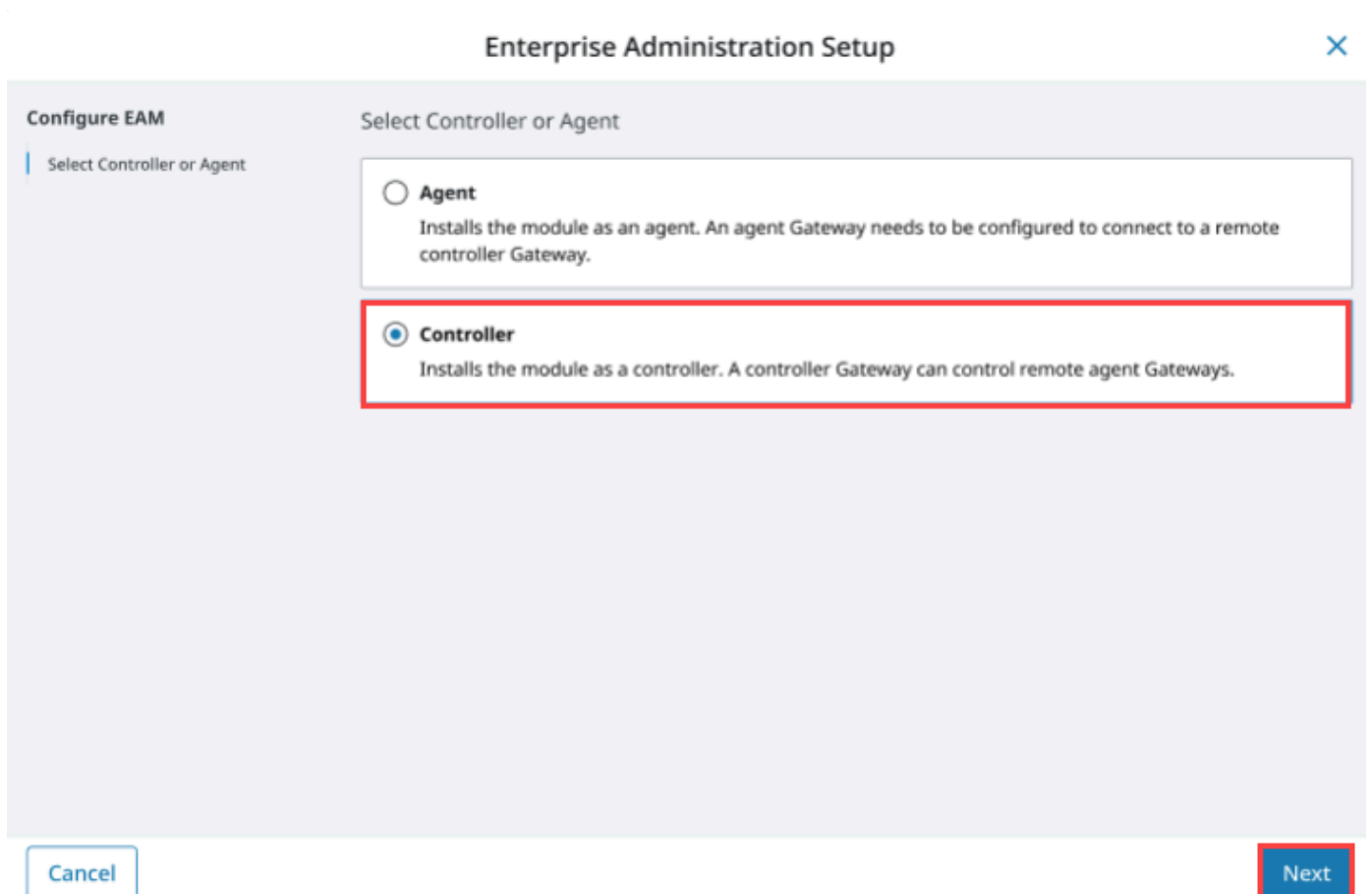
- If you have any existing installations of Ignition running, it's a good idea to perform a backup before you begin this process.
- If you have 2 or more Gateway Webpages open in your browser, you may want to have the controller and agents on separate monitors so you don't get confused which one you are working on.
- It's always a good idea to verify all your modules are loaded correctly. Go to **Platform > System > Modules** to check which modules you have installed.

Set Up a Controller

1. Navigate to **Network > Enterprise > Configure** and select **Configure EAM**. The EAM Setup Wizard will appear.



2. Since you are installing the controller, select **Controller** on this screen. Click **Next**.



3. Next you need to set up the controller.

- i. **Default Database** - For the default database, you must select the database connection that you created before entering the EAM Setup Wizard. If you forgot to create the database connection, you can do so now and return to the EAM Setup Wizard later.
- ii. **Archive Path** - This is a file path on the Gateway's local machine where all archived files will be stored. You can use a locally mounted network share for archiving. Use a value such as **C:\eam-archive**. It is strongly recommended that you put a system into place to externally

monitor the free size of the disk that contains the archive. Gateway backups can potentially be many megabytes in size, and can eat up large volumes of space when using many agents.

MAIN

Default Database

MSSQL

The database connection to use for recording agent history.

ARCHIVING

Archive Location

Manual

If "Automatic", the system will manage the location of the Agent archive. If "Manual", the path below will be used.

Archive Path

C:\eam-archive

The file path to save Gateway backups, archived modules, and other files.

Low Disk Space Threshold

1024

Value is in megabytes. Errors will be reported in this Gateway when the disk used for archiving drops below this value.

Maximum Retention Count

5

Maximum number of backups that will be retained for each agent. If the number of backups exceeds this number, the oldest backups will be deleted first until the number of backups equals this number. A value less than or equal to zero disables this feature, effectively allowing an unlimited number of backups.

Maximum Retention Age

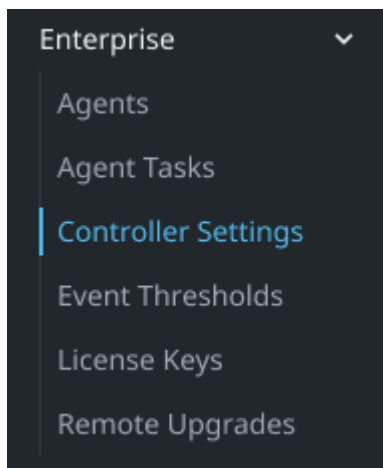
0

Maximum age of backups that will be retained for each agent. Any backup older than the age specified here will be deleted. A value less than or equal to zero disables this feature, effectively retaining backups no matter their age. Note: if the max retention count setting is enabled, and if the count of backups exceeds the max retention count, the oldest backups will be deleted until the count of backups is equal to the max retention count, even if the oldest backups are younger than the max retention age setting. Similarly, if the max retention count setting is enabled, and if the count of backups is less than or equal to the max retention count, any backup older than the max retention age will be deleted.

Maximum Retention Age Time Unit

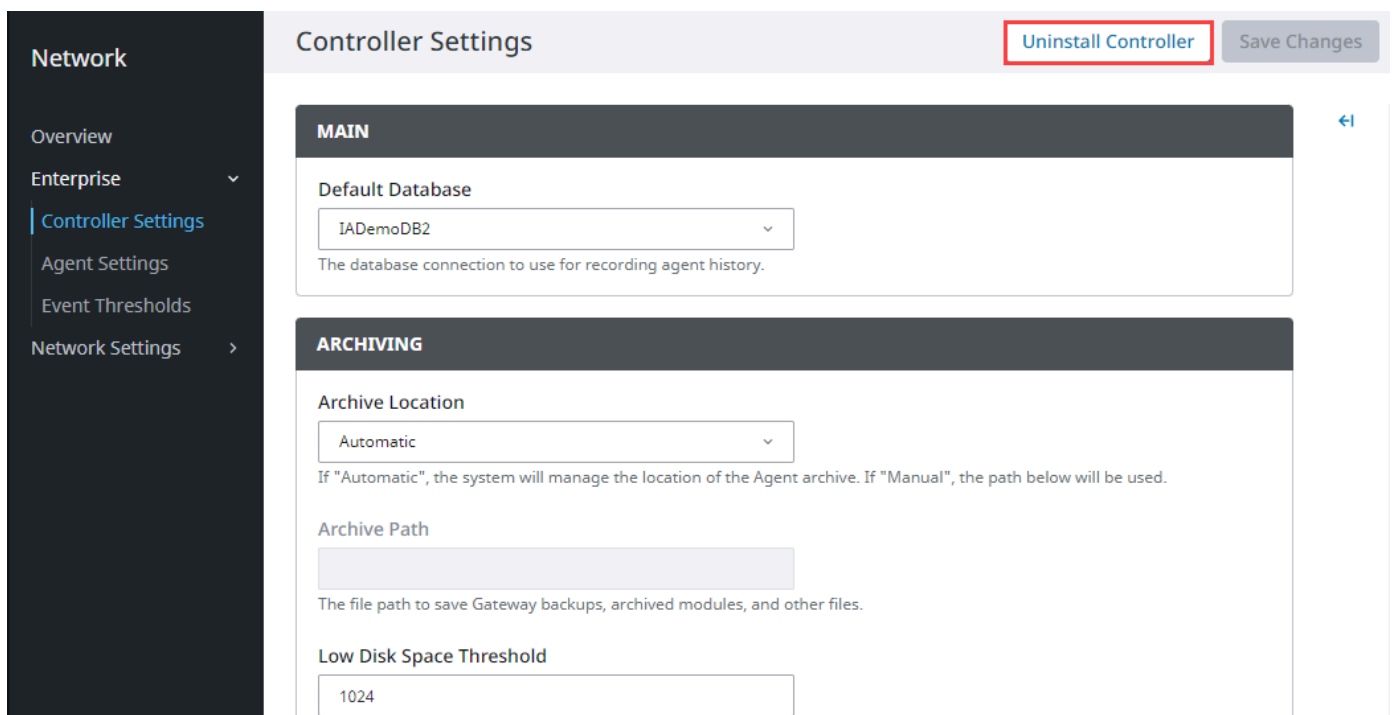
Days

- After you have determined your settings, click **Finish** to save the controller settings and close the Enterprise Administration Setup form. This machine is now ready to accept agents.
- Once you set up your controller, the configuration options disappear and the menu will now list more Enterprise options.



Remove a Controller

1. To remove a controller from the Gateway, go to the **Network** section.
2. Select **Enterprise > Controller Settings**.
3. Click **Uninstall Controller** in the upper right corner.



4. A confirmation window will appear. Click **Uninstall** to complete uninstalling the controller.

Uninstall Controller?



Are you sure you want to uninstall this controller?
You will lose all controller settings, and agents will no longer communicate with this Gateway.

Cancel

Uninstall

Controller Settings

The table below lists the main properties found in the **Controller Settings**:

Setting	Description
Default Database	The database connection to use for recording agent history.

The table below lists the archiving properties found in the **Controller Settings**:

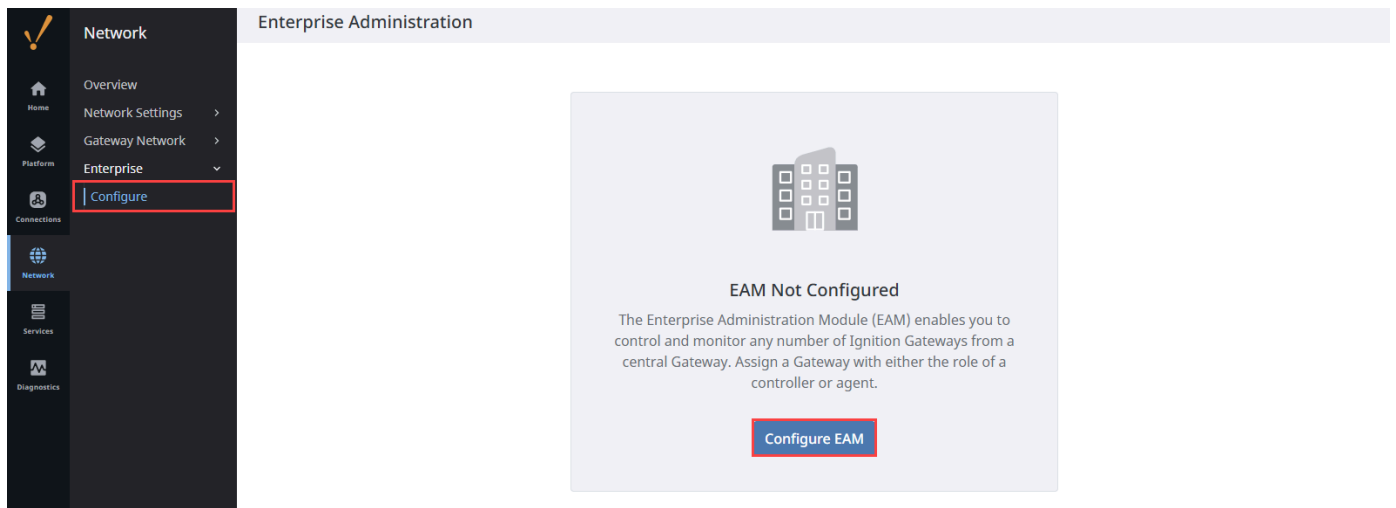
Setting	Description
Archive Location	Choose between Automatic and Manual . If Automatic, the system will manage the location of the agent archive. If Manual, the path from the <code>Archive Path</code> setting will be used.
Archive Path	The file path to save Gateway backups, archived modules, and other files. Disabled if the <code>Archive Location</code> setting is set to Automatic .
Low Disk Space Threshold	Value is in megabytes. Default value is 1024. Errors will be reported in this Gateway when the disk used for archiving drops below this value.
Maximum Retention Count	Maximum number of backups that will be retained. If the number of backups exceeds this number, the oldest backups will be deleted first until the number of backups equals this number. A value less than or equal to zero disables this feature, effective allowing an unlimited number of backups. Default is 5.
Maximum Retention Age	Maximum age of backups that will be retained. Any backup older than the age specified here will be deleted. A value less than or equal to zero disables this feature, effectively retaining backups no matter their age. Note: If the <code>Maximum Retention Count</code> setting is enabled, and if the count of backups exceeds the max retention count, the oldest backups will be deleted until the count of backups is equal to the max retention count, even if the oldest backups are younger than the <code>Max Retention Age</code> setting. Similarly, if <code>Max Retention Count</code> is enabled, and if the count of backups is less than or equal to the max retention count, any backup older than the max retention age will be deleted.
Maximum Retention Age Time Unit	The time unit to use when specifying the <code>Maximum Retention Age</code> setting. Choose between Days, Weeks, Months, or Years. Default is Days.

Adding an Agent

Agent Setup

To communicate with the controller, agents send data across a Gateway Network connection. If your Gateway Network setup requires that connections be manually approved in advance on the controller Gateway, you will need to **set up the Gateway Network connection** before starting the EAM Setup Wizard. You will be able to select the existing Gateway Network connection within the wizard.

1. Navigate to **Network > Enterprise > Configure** and select **Configure EAM** to open the EAM Setup Wizard.



2. Since you are installing an agent, select **Agent** on this screen. Click the **Next** button.

Configure Enterprise Administration



Configure EAM

Select Controller or Agent

Select Controller or Agent

☒ **Agent**

Installs the module as an agent. An agent Gateway needs to be configured to connect to a remote controller Gateway.

☐ **Controller**

Installs the module as a controller. A controller Gateway can control remote agent Gateways.

Cancel

Next

3. Select an existing connection from the dropdown list. If you don't see your EAM controller listed, you must go back and configure the Gateway Network connection to the controller.

Configure Enterprise Administration



Configure EAM

1. Select Controller or Agent

2. Agent Setup

 If you don't see your EAM controller in the list below, you must configure a Gateway Network connection to the controller before entering the Setup Wizard. Click here to visit the Gateway Network configuration page.

AGENT SETTINGS

Select

The Gateway Network server running the EAM controller



Back

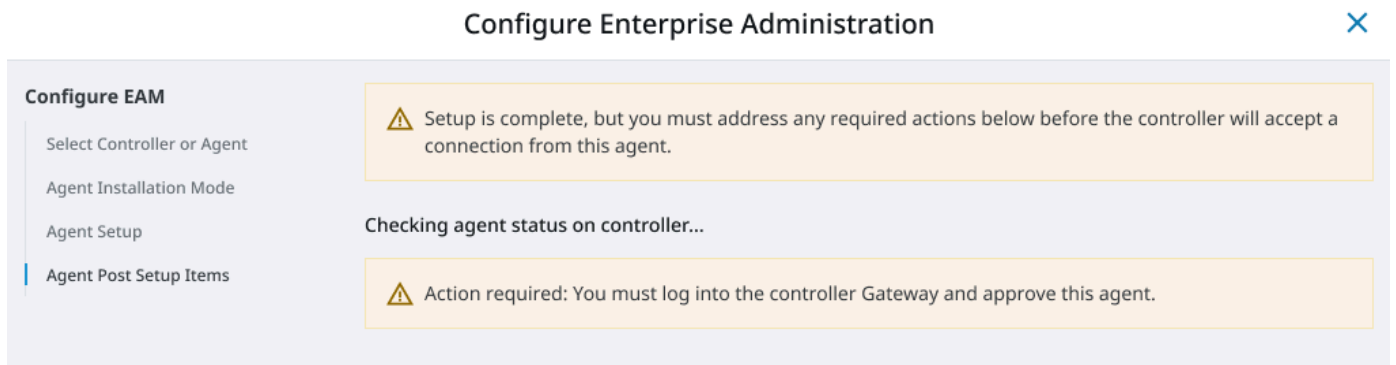
Finish

4. Click **Finish**.

Agent Post Setup

The EAM module will now attempt to register the local Gateway as an EAM agent on the controller, and download files if performing a system recovery.

- If you are installing a **New Agent**, you will see the agent status check on the screen. When the agent status check is complete, you will need to navigate to the controller Gateway and approve the agent on the Gateway Agents page, as discussed in the section below. Click the **Retry** button to recheck agent status on the controller if the first status check failed.



- If you are running in **Agent Recovery mode**, and you selected the **System Recovery** option, you will see the download status of the license file, installed modules, and the most recently collected Gateway backup file. Depending on the contents of your archive, some files may not be available. Click the **Apply Files** button to apply downloaded files. Note that this operation will require a Gateway restart if a Gateway backup file needs to be applied. Click the **Ignore Files** button to close this page and not apply downloaded files. Note that the agent settings have already been saved, so it is safe to not apply downloaded files if you choose. Click the **Retry** button to attempt to download the recovery files again.

CAUTION

Set up a Regularly Scheduled Collect Backup Task for Agents

After you set up your agents, it is very strongly recommended that you set up a regularly scheduled Collect Backup task for your agents. System recovery through the EAM Setup Wizard will not work if there are no archived backup files! To learn more about performing agent backups, refer to [Agent Task - Backup and Restore](#).

Agent Approval

When an unknown agent first contacts the controller, it is saved in pending status. No interaction with the controller is allowed until you approve the agent. Agent version and license information fields will remain empty until the agent is approved.

1. To approve the agent, go to your controller on the **Network** section of the Gateway Webpage.
2. Select **Enterprise > Agents**.
3. Expand the three dots menu next to the name of your agent and select **Approve**. After a few moments, the agent's status should change to **Connected**.

Agents

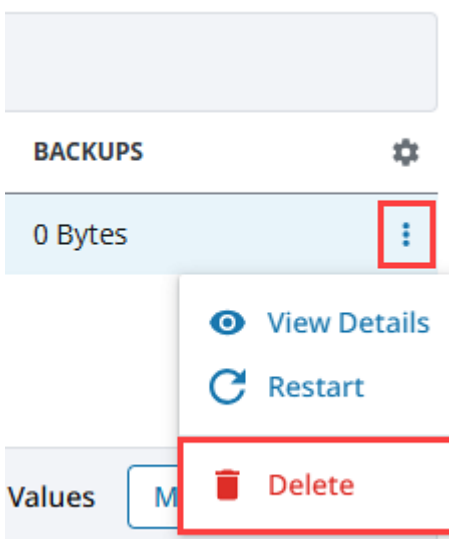
Filter agents... View 20

GATEWAY	STATUS	GROUP	LAST COMM	LAST EVENT	EVENT DATE	BACKUPS	
agent	PENDING	groupName					⋮ ✓ Approve

Delete an Agent

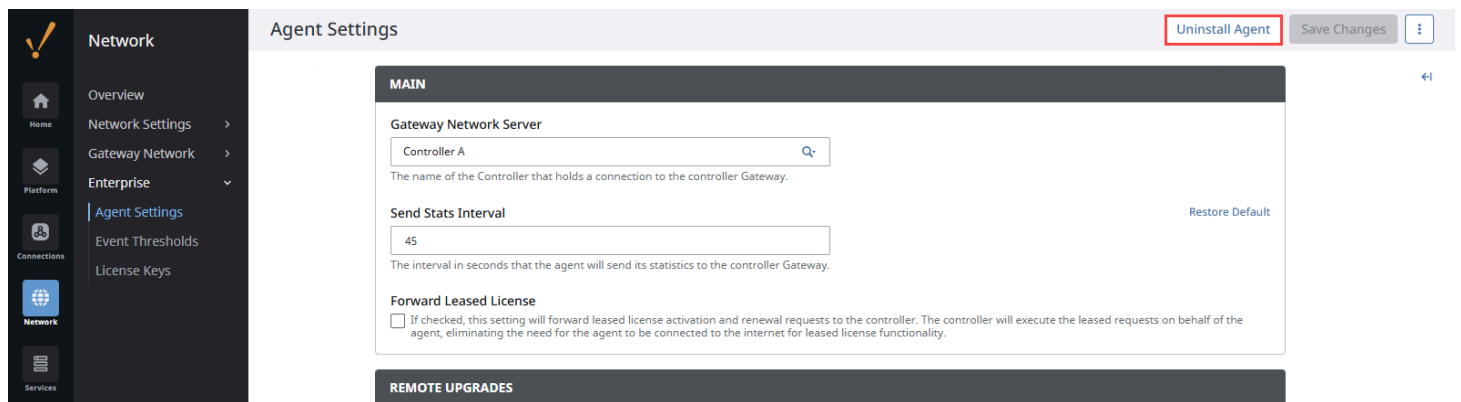
Deleting an agent from your controller will prevent it from being able to interact with the controller. When initially deleted, it will be removed from the list. If the agent machine is still active, the agent will reappear on the list with a pending status that keeps it from being able to interact with the controller until approved.

1. To remove an agent, go to your controller on the **Network** section of the Gateway.
2. Select **Enterprise > Agents**.
3. Expand the three dots menu next to the name of your agent and select **Delete**.



Uninstall an Agent

To remove the agent permanently, you must navigate to the agent Gateway and uninstall the agent via the Agent Settings page. The Agent Settings page is found on the agent Gateway under **Network > Enterprise > Agent Settings**.



Modifying Agent Settings

You can modify Agent Settings by going to the agent, and under the **Network** section on the Gateway, select **Enterprise > Agent Settings**. Here you can change the settings described below.

Main

Property	Description
Gateway Network Server	The name of the Gateway Network Server running the EAM controller. You can select your controller machine from this dropdown list.
Send Stats Interval	The interval in seconds the agent will send its statistics to the controller Gateway. Changed in 8.3.2 In version 8.3.2, the default value for the Send Stats Interval was updated from 30 seconds to 45 seconds.
Forward Leased License	If checked, this setting will forward leased license activation and renewal request to the controller. The controller will execute the leased request on behalf of the agent, eliminating the need for the agent to be connected to the internet for leased license functionality.

Remote Upgrades

Property	Description
HTTP Connect Timeout	Used when the remote upgrade task is configured to download an upgrade zip from an alternate URL. Sets the HTTP connect timeout when running the download. Value is in seconds.
HTTP Read Timeout	Used when the remote upgrade task is configured to download an upgrade zip from an alternate URL. Sets the HTTP read timeout when running the download. Value is in seconds.

PERFORM SYSTEM RECOVERY

A Perform System Recovery checkbox will be visible when running in Agent Recovery mode.

Agent Settings Uninstall Agent Save Changes ⋮

MAIN

Gateway Network Server

Controller A 

The name of the Controller that holds a connection to the controller Gateway.

Send Stats Interval

35 Restore Default

The interval in seconds that the agent will send its statistics to the controller Gateway.

Forward Leased License

☐ If checked, this setting will forward leased license activation and renewal requests to the controller. The controller will execute the leased requests on behalf of the agent, eliminating the need for the agent to be connected to the internet for leased license functionality.

REMOTE UPGRADES

Http Connect Timeout

10

Used when the remote upgrade task is configured to download an upgrade zip from an alternate URL. Sets the http connect timeout when running the download. Value is in seconds.

Http Read Timeout

60

Used when the remote upgrade task is configured to download an upgrade zip from an alternate URL. Sets the http read timeout when running the download. Value is in seconds.

After you make your changes, click **Save Changes**. The Gateway will then attempt to download the most recent Gateway backup, previously installed modules, and the license file.

Agent Status

The **Enterprise > Agents** page shows a list of all the currently configured agents, including information on the connection status. Agents can be organized into groups allowing you to group

agents by location or agent function. If no groups exist, all agents will be in the Default Group.

Network

Overview

Network Settings

Web Server

Email

Store & Forward

Gateway Network

Settings

Connections

Enterprise

Agents

Agent Tasks

Controller Settings

Event Thresholds

License Keys

Remote Upgrades

Manage Agent Groups

Status

CONNECTED AGENTS

0

AGENT BACKUPS

0

Agents

Filter agents...

View 20

GATEWAY	STATUS	GROUP	LAST COMM	LAST EVENT	EVENT DATE	BACKUPS
No Gateway Agents						

Log Activity

Min level Info

Live Values

Merge to Logs

LOGGER	TIME	MESSAGE
No Log Entries found		

Status

Attribute	Description
Connected Agents	Number of connected agents out of the number of configured agents.
Agent Backups	Number of backup agents out of the number of configured agents.

Agents

Attribute	Description
Gateway	Name of the agent.
Status	Current status of the agent connection.
Group	The name of the group for the agent.
Last Comm	Date and time recorded for the last communication with the agent.
Last Event	Name of the event last recorded with the agent.
Event Date	Date and time recorded for the last occurring event with the agent.
Backups	The size of the latest collected backup.

 NOTE

More information about an agent and these attributes can be found by expanding the three dots menu for a connected agent and selecting **View Details**.

The **Log Activity** section shows any EAM agent activity along with the time the log was created and a brief message. You can find more of these same type of messages in the Gateway Logger which is found under **Diagnostics > Logs**, and the Wrapper Logger file.

Agent Tasks

Using The Gateway Network

Once the Gateway Network is up, and there is at least one controller and one agent configured, there are a variety of actions that can be performed on your agents in the form of Agent Tasks.

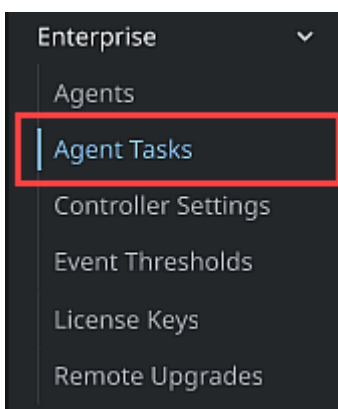
Agent Tasks involve performing a specific task to one or more specific agents. The Agent Tasks page contains three tabs:

- Available Tasks which contain tasks waiting to run.
- Running and Scheduled Tasks which include any tasks that are currently running or scheduled to be run.
- Task History, which provides a list of all previously run tasks.

Although there are many different types of tasks to choose from, they are mostly Gateway level actions like taking a Gateway backup or activating a license.

Create an Agent Task

1. To create an Agent Task, go to the controller Gateway, and select **Network** on the Gateway Webpage.
2. Select **Enterprise > Agent Tasks**. This opens the Agent Tasks page.



3. Click **Create Agent Task +**.

Agent Tasks

Available

Running & Scheduled

History

Available Tasks

Filter tasks...

View
20

Create Agent Task +

☐	NAME	NEXT SCHEDULED	TARGETS	REPEATS?	CURRENT STATE	
☐	Restart Agent	08Nov2022 12:53:42	Agents [agent]	false	SCHEDULED	

The options for Agent Tasks are listed in the following table.

Task	Description
Activate License	Activate a license key on selected agent Gateways.
Collect Backup	Collect a Gateway backup from an agent machine.
Install Modules	Install one or more modules on selected agent Gateways.
Remote Agent Upgrade	Prepare a full system upgrade on selected agent Gateways.
Restart Agent	Restarts the Ignition service on the agent machine.
Restore Backup	Restore a Gateway backup on selected agent Gateways.
Send Project	Distributes a project to remote servers. Replaces the project on the remote server as if an export/import was performed.
Send Project Resources	Distributes project resources, like windows and templates, to remote servers. Note: This is typically performed from a controller Gateway to an agent Gateway, but you can also send project resources from agent Gateway to agent Gateway.
Send Tags	Distributes controller tags to agents.
Unactivate License	Unactivate a license key on selected agent Gateways.
Update License	Update the license on selected agent Gateways.

4. Select task and then click **Next**. The Task Scheduling form is displayed. Tasks can be scheduled to run in a few different ways depending on your needs. In the example below, the task is set to execute immediately.

The screenshot shows the 'Create Agent Task' form with a sidebar on the left and a main content area. The sidebar has five items: 'Task Type Selection', 'Task Scheduling' (highlighted with a blue bar), 'Agent Selection', 'Settings', and 'Task Summary'. The main content area has a dark header 'TASK SCHEDULING'. Below the header, there is a 'Task Name' field with the text 'Collect Backup'. Underneath is the 'Scheduling Options' section, which contains five radio button options: 'Execute Immediately' (selected and highlighted with a red box), 'Execute On Demand', 'Execute Once, Scheduled', 'Execute Once, Delayed', and 'Execute On Schedule'. At the bottom of the form, there are two buttons: 'Back' on the left and 'Next' on the right (highlighted with a red box).

5. Click **Next** to finish creating your task with the Agent Selection and Settings forms.
6. Review your settings on the Task Summary form. If you're ready to go, click **Create Agent Task**. Your task will be submitted according to the schedule type you defined.

Create Agent Task



Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Settings

Task Summary

Task Summary

Task Name

Task Type

Schedule

Target Groups/Agents

Max Concurrent Backups

Collect Backup

Collect Backup

Execute Immediately

Agent

3

Back

Create Agent Task

Agent Task Status

You can utilize the **Running & Schedule** and **History** tabs to gain more insight to the Agent Task Status beyond what is shown on the Available tab. Any Agent Tasks that encountered an error will be listed on the History tab with a dropdown that displays the log message.

Agent Tasks

Available

Running & Scheduled

History

Recently Completed Tasks

Filter tasks...

View

20

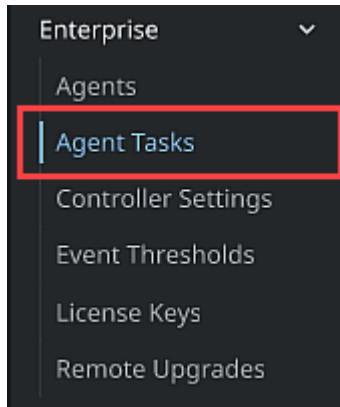
NAME	TYPE	AGENT	START	COMPLETE	RESULT	
Restart Agent	Restart	agent	08Nov2022 12:53:42	08Nov2022 12:53:42	✓ SUCCESS	
Restart Agent	Restart	agent	08Nov2022 12:53:42	08Nov2022 12:53:42	✓ SUCCESS	
> Restart Agent	Restart	agent	08Nov2022 12:53:42	08Nov2022 12:53:42	❌ FAILED	
> Update Agent License	Update License	agent	08Nov2022 12:53:42	08Nov2022 12:53:42	❌ FAILED	
▼ Update Agent License	Update License	agent	08Nov2022 12:53:42	08Nov2022 12:53:42	❌ FAILED	

Exception occurred on remote machine, message id='12223', error code=ACCESS_DENIED [112]

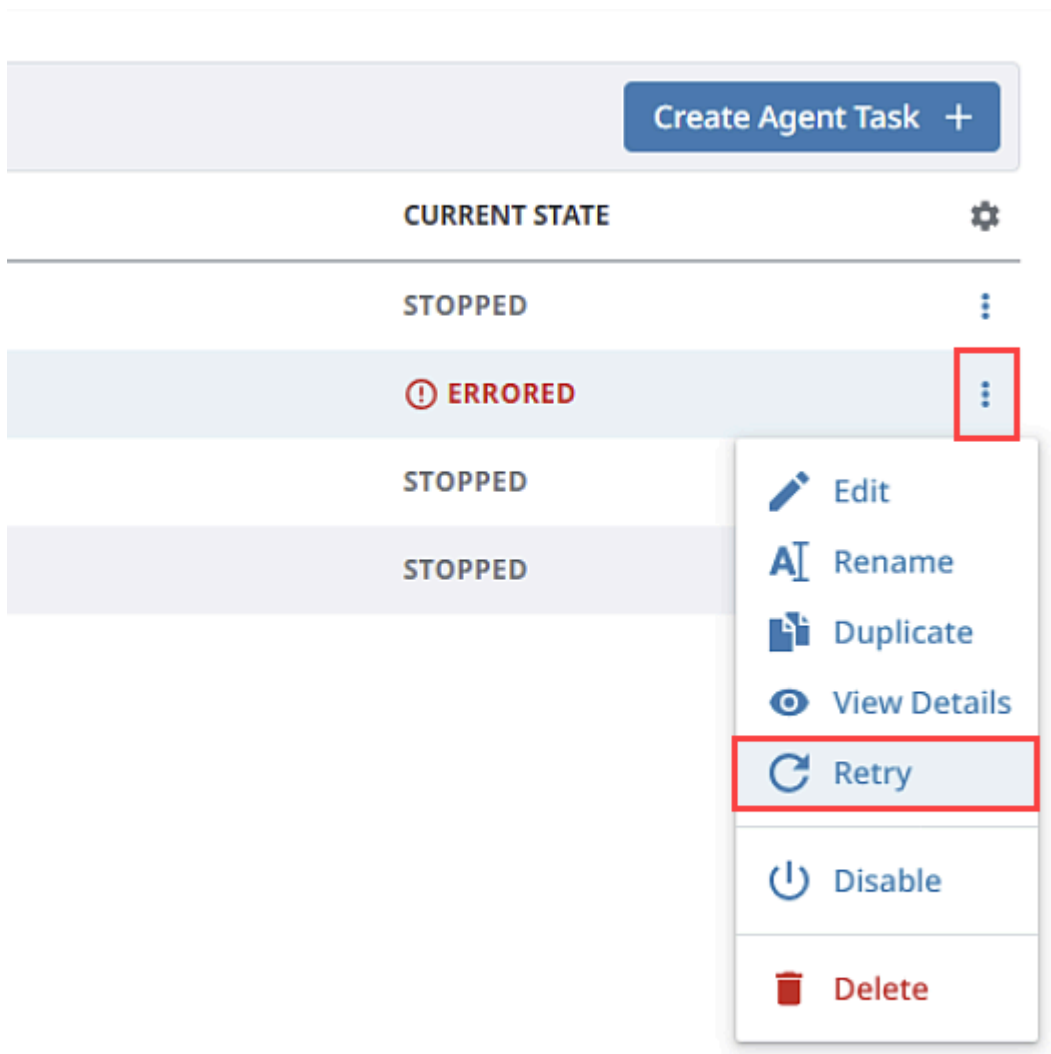
Retrying Agent Tasks

Should a task fail, you can directly execute the task again without needing to set the task back up by using the **Retry** option.

1. On the Gateway webpage, navigate to **Network > Enterprise > Agent Tasks**.



2. Expand the three dots menu for the task you want to retry, and select **Retry**.



3. The Gateway will ask for a confirmation. Click **Confirm**.

The controller will now attempt to run the task again.

Resuming Failed File Transfer Tasks

If a **Remote Upgrade** task that involves file transfers fails to complete, Ignition will resume the file transfer task when you choose the **Retry** option. In this situation, Ignition will resume transferring the specified file(s) from the point where the process was interrupted.

Agent Task - Backup and Restore



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Agent Task - Backup and Restore

[Watch the video](#)

The Backup and Restore tasks are an extremely important part of the Enterprise Administration module. Performing a Collect Backup is required if you want to do an Agent Recovery.

The Gateway Tasks discussed in this section are the [Collect Backup](#), [Restore Backup](#), [Install Modules](#) and [Restart Agent](#).

Collect Backup

Collect Backup is a Gateway Task that performs a Gateway backup on the selected agent Gateway. Additionally, this task will archive copies of the agent's modules.

Collect Backup times out by default after waiting 60 minutes for the agent to generate the backup, plus another 60 minutes for the agent to transfer the backup to the controller over the Gateway Network if the backup generation did not timeout.

Transfer timeout is configurable using the [system property](#)

```
ignition.eam.task.collectBackup.transferTimeout.
```

1. On the controller Gateway, navigate to **Network > Enterprise > Agent Tasks**
2. Click **Create Agent Task**.
3. Select **Collect Backup** and click **Next**. The Create Agent Task form will walk you through each step of the Collect Backup process.

Create Agent Task

Create Agent Task

Task Type Selection

☐ **Activate License**
Activate a license key on selected agent Gateways.

☒ **Collect Backup**
Collect a Gateway backup from an agent machine.

☐ **Install Modules**
Install one or more modules on selected agent Gateways.

☐ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.

☐ **Restart Agent**
Restarts the Ignition service on the agent machine.

☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.

☐ **Send Project**

Cancel

Next

4. There are several different task scheduling options available. For this collect backup example, choose to **Execute Immediately** and click **Next**. If you need more information on other scheduling options, refer to [Task Scheduling](#).

Create Agent Task

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Settings

Task Summary

TASK SCHEDULING

Task Name

Collect Backup

Scheduling Options

☒ **Execute Immediately**

☐ Execute On Demand

☐ Execute Once, Scheduled

☐ Execute Once, Delayed

☐ Execute On Schedule

Back

Next

5. Select the agent you want to perform the Collect Backup on, and click **Next**.
6. Set the number of **Max Concurrent Backups** you want. There is no limit by default, though setting a higher value may help if there is a large number of agents, or if network bandwidth is limited. Click **Next**.

Create Agent Task

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Settings

Task Summary

SETTINGS

*Required

Max Concurrent Backups *

Set to a value greater than 0 to limit the number of backups that will be concurrently requested while the task runs. Useful when the backup task is configured with a large number of agents, and the gateway network connection bandwidth is limited.

Back

Next

7. Review the **Task Summary** information and click **Create Agent Task**.

Create Agent Task

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Settings

Task Summary

Task Summary

Task Name	Collect Backup
Task Type	Collect Backup
Schedule	Execute Immediately
Target Groups/Agents	Agent
Max Concurrent Backups	3

Back

Create Agent Task

Once the Collect Backup task is complete, a success message will be displayed. You can even check the Task History which will provide a list of all previously executed tasks. Your new Gateway backup will be stored wherever your controller settings are pointing to when the controller was initially created.

To check, go to the controller Gateway, and navigate to **Network > Enterprise > Controller Settings**. You can have your Archive Path set to Automatic or Manual. If you have it set to Automatic, you can find your backups inside the directory for Ignition, otherwise, it will be the folder location that is specified in the Controller Settings. To learn more about controller settings, refer to [Creating a Controller](#).

ARCHIVING

Archive Location

Manual

If "Automatic", the system will manage the location of the Agent archive. If "Manual", the path below will be used.

Archive Path

C:\eam-archive

The file path to save Gateway backups, archived modules, and other files.

Low Disk Space Threshold

1024

Value is in megabytes. Errors will be reported in this Gateway when the disk used for archiving drops below this value.

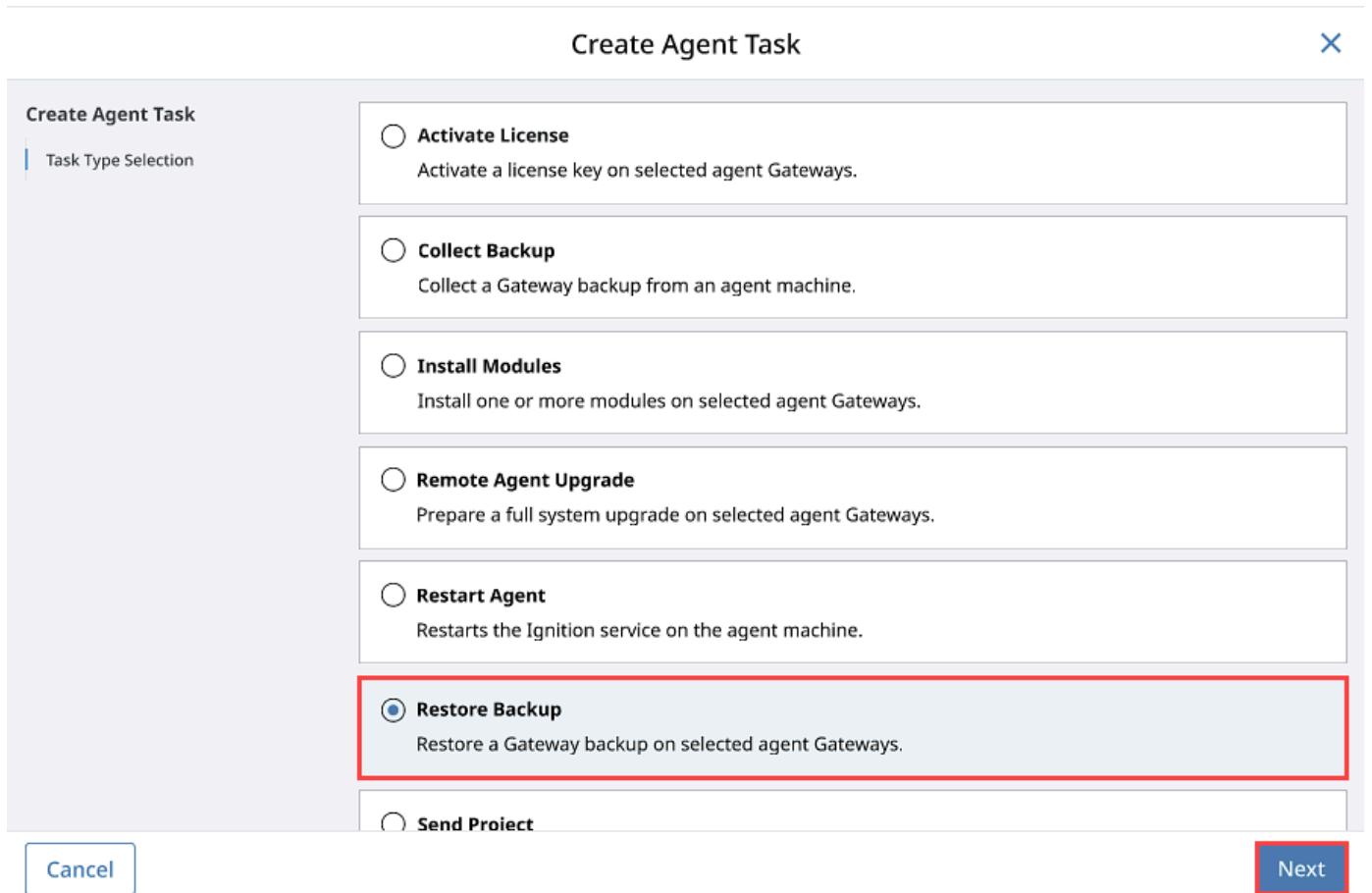
Restore Backup

Now, let's restore a Gateway backup on the selected agent.

AGENT NAME AND RESTORING

When restoring from a backup using this task, the newly restored agent will retain it's previous name.

1. On the controller Gateway, navigate to **Network > Enterprise > Tasks**.
2. Click **Create Agent Task**.
3. Select **Restore Backup** and click **Next**.



Create Agent Task

Task Type Selection

- ☐ **Activate License**
Activate a license key on selected agent Gateways.
- ☐ **Collect Backup**
Collect a Gateway backup from an agent machine.
- ☐ **Install Modules**
Install one or more modules on selected agent Gateways.
- ☐ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.
- ☐ **Restart Agent**
Restarts the Ignition service on the agent machine.
- ☒ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.
- ☐ **Send Project**

Cancel Next

4. Schedule the **Restore Backup** task from any of the listed scheduling options. This example uses **Execute Immediately**. Click **Next**.
5. Select the **Agent**. Click **Next**.
6. If your Archive Path was set to Manual when you created your controller, select **Choose File** and navigate to the folder on your computer to locate the Gateway Backup file. If you are unsure about your Archive Path, refer to your [Controller Settings](#).

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Settings

Task Summary

The selected Gateway backup (.gwbk) will be distributed to the selected agents. Each agent will then restart. Choose a file on your local system, or select one from the Controller Gateway's archive.

SETTINGS

Gateway Backup Path

☒ Select a local backup

Choose File...

No file selected.

☐ Select a backup from the Controller archive

Select

Restore Disabled

☐ If checked, all projects, database connections, OPC connections, etc will be disabled upon restart of each agent.

Back

Next

i NOTE

You can also restore a Gateway backup from the controller's archive by clicking the **Select a backup from the Controller archive** and selecting the .gwbk file you want to restore.

7. Once you choose the file, click **Open**. Click **Next** on the Restore Backup task.
8. Review the **Task Summary** and click **Create Agent Task**. Once the Restore Backup task completes, you will receive a successful message from the Gateway Task.
9. Go to your agent Gateway. It takes a few moments to bring up the Gateway. You will see a progress bar while the Gateway is starting up. Once it's complete, you will see all your projects uploaded and ready to go.

i RESTORING LEGACY GATEWAY BACKUPS

You will **not** be able to restore Gateway backups from **before** Ignition 8.1 onto an 8.3 Gateway. To restore an 8.3 Gateway using an older Gateway backup, you will first need to upgrade the Gateway that the backup originates from to version 8.1, then restore the 8.1 Gateway backup onto your 8.3 Gateway.

Install Modules

This task allows you to install one or more modules on an agent. You may pass in the modules to install while creating the task, or choose from the archived modules. Modules are archived in the Collect Backup task.

As an example, suppose you accidentally uninstalled the Alarm Notification and OPC UA modules from your agent. Let's go ahead and reinstall them using the Install Modules task.

1. Go to the controller Gateway, and navigate to **Network > Enterprise > Agent Tasks**.
2. Click **Create Agent Task**.
3. Select **Install Modules** and click **Next**.

Create Agent Task [Close]

Create Agent Task
Task Type Selection

- ☐ **Activate License**
Activate a license key on selected agent Gateways.
- ☐ **Collect Backup**
Collect a Gateway backup from an agent machine.
- ☒ **Install Modules**
Install one or more modules on selected agent Gateways.
- ☐ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.
- ☐ **Restart Agent**
Restarts the Ignition service on the agent machine.
- ☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.
- ☐ **Send Project**

Cancel **Next**

4. Schedule the **Install Modules** task using one of the listed scheduling options. This example uses **Execute Immediately**. Click **Next**.
5. Select the **Agent** and click **Next**.
6. On the Select Modules form, click **Add** for the Alarm Notification and OPC UA modules. You will notice, that once you select a module, it shows up in the **Selected Files** list. You can choose as many modules as you need, and when you're finished, click **Next**.

- Accept and Acknowledge the certificate and license terms by clicking **Next** as needed.
- Review the **Task Summary** and click **Create Agent Task**. Once the Install Module task completes, you will get a successful message from the Gateway.
- Go back to your **Agent**, and navigate to **Platform > System > Modules** to verify that both the Alarm Notification and OPC UA modules were installed and are running successfully.

Platform

Overview

System

Gateway Settings

Projects

Modules

Licensing

Redundancy

Modes

Store & Forward

Ignition Exchange

Backup & Restore

Security

Modules

Install or Upgrade Module +

STATUS

RUNNING MODULES

32 / 32

LICENSED MODULES

0 / 32

Modules

Filter modules...

View 20

	VENDOR NAME	NAME	VERSION	LICENSE	STATUS	
☐	Inductive Automation, LLC	UDP and TCP Drivers ⓘ	7.3.0-SNAPSHOT (b2025061009)	Trial	🟢 ACTIVE	⋮
☐	Inductive Automation, LLC	Omron Driver ⓘ	5.3.0-SNAPSHOT (b2025061009)	Trial	🟢 ACTIVE	⋮
☐	Inductive Automation, LLC	SFC ⓘ	6.3.0-SNAPSHOT (b2025061009)	Trial	🟢 ACTIVE	⋮
☐	Inductive Automation, LLC	SQL Bridge ⓘ	11.3.0-SNAPSHOT (b2025061009)	Trial	🟢 ACTIVE	⋮
☐	Inductive Automation, LLC	MariaDB JDBC Driver ⓘ	1.3.0-SNAPSHOT (b2025061009)	Free	🟢 ACTIVE	⋮
☐	Inductive Automation, LLC	BACnet Driver ⓘ	3.3.0-SNAPSHOT (b2025061009)	Trial	🟢 ACTIVE	⋮
☐	Inductive Automation, LLC	Event Streams ⓘ	1.3.0-SNAPSHOT (b2025061009)	Trial	🟢 ACTIVE	⋮
☐	Inductive Automation, LLC	PostgreSQL JDBC Driver ⓘ	1.3.0-SNAPSHOT (b2025061009)	Free	🟢 ACTIVE	⋮

Restart Agent

On the controller Gateway, let's create another Gateway Task to restart the agent. This task will stop the Ignition service on the agent and start it back up again.

- Go to the controller Gateway, and navigate to **Network > Enterprise > Agent Tasks**.
- Click **Create Agent Task**.
- Select the **Restart Agent** and click **Next**.

Create Agent Task

Create Agent Task

Task Type Selection

☐ **Activate License**
Activate a license key on selected agent Gateways.

☐ **Collect Backup**
Collect a Gateway backup from an agent machine.

☐ **Install Modules**
Install one or more modules on selected agent Gateways.

☐ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.

☒ **Restart Agent**
Restarts the Ignition service on the agent machine.

☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.

☐ **Send Project**

Cancel

Next

- Schedule the Restart Agent task to **Execute Immediately** and click **Next**.
- Select the agent and click **Next**.
- Review the **Task Summary** and click **Create Agent Task**. Once the Restart Agent task completes, you will receive a successful message from the Gateway Task.
- Go to your agent Gateway. You will see a progress bar while the Gateway is starting up. This will take a few moments, and once this task completes, your agent will be up and running.

Agent Task - Licensing



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Agent Task - Licensing

[Watch the video](#)

Three of the many tasks that the Enterprise Administration module (EAM) allows you to perform are License Activations, License Updates, and License Unactivations. This section demonstrates how to activate, update, and unactivate a license from the controller.

Before Activating a License

- This section assumes you already have your **controller** and **agent** Gateways created.
- Make sure you know your License Key serial number.

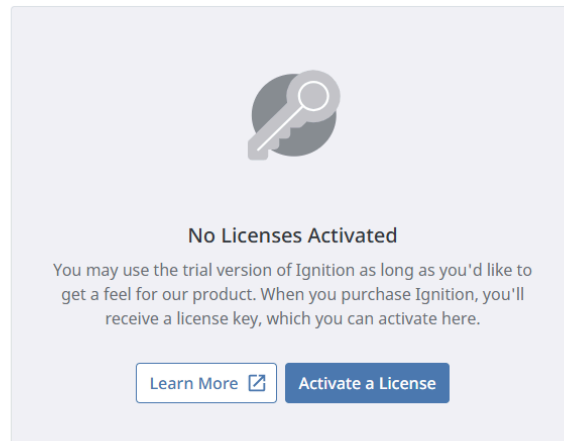
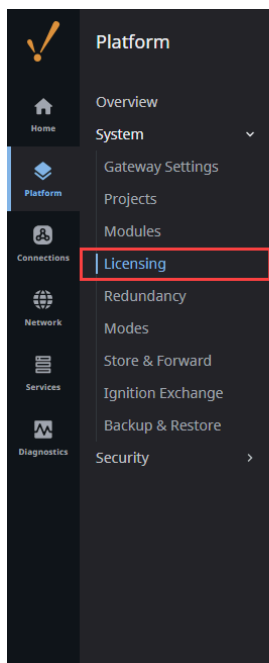
NOTE

If you are using an eight-character leased license, make sure you also have your Activation Token.

- Refer to **Agent Tasks** for some more useful tips with this section. For clarity, each Gateway Webpage is identified with either a Controller or Agent label in the header (top left) so it's clear which machine you are working on.

Activate License

1. On your agent Gateway, select **Platform > System > Licensing**. You can see that no license is currently installed.



2. Activating a license on an agent must be done from the controller. On your controller Gateway, select **Network > Enterprise > Agent Tasks**.
3. Click **Create Agent Task +**.
4. Select **Activate License** and click **Next**. The Create Agent Task form will walk you through each step of the license activation process.

Create Gateway Task

×

Create Gateway Task

Task Type Selection

☐ **Activate License**
Activate a license key on selected agent Gateways.

☐ **Collect Backup**
Collect a Gateway backup from an agent machine.

☐ **Install Modules**
Install one or more modules on selected agent Gateways.

☐ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.

☐ **Restart Agent**
Restarts the Ignition service on the agent machine.

☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.

☐ **Send Project**

Cancel

Next

5. The Activate License task has several **scheduling options**. For this example, select **Execute Immediately** and click **Next**.
6. Select the agent you want to activate the license on and click **Next**.

Create Gateway Task

Task Type Selection
Task Scheduling
Agent Selection

Agent Selection

- ☐ Default Group
 - ☒ agent
- ☐ groupName
 - ☐ agent 2

Back Next

7. Enter your license key in the **License Key** field. Click **Next**.
- If required, an **Add Activations Token** field will appear. After you have entered your Activation Token, click **Next**.
8. Review the **Task Summary** and click **Create Agent Task**. A message will be displayed stating that the license was activated successfully.
9. Go to the agent Gateway to validate that the agent license was activated. You may see an Access Denied message. This is because the page was automatically updated. Simply refresh the page.

i NOTE

If you are running Ignition in Trial Mode on your agent Gateway and the trial timer expired, the license activation will fail. If this happens, reset the trial timer and resume the activation for the agent.

10. Click on **Platform > System > Licensing** and verify your License Key on the agent. This page shows all the modules on your license as well as the versions they are licensed for.
11. It's a good idea to check to see if all your modules are activated. You can check the status of your modules by going to the Gateway webpage and selecting either **Platform > System > Modules**.

If any modules are still in Trial Mode, that means your license key didn't include those modules, or there is a newer version than your license allows.

Update a License

In the event you need to reload or update a license on your agent, go to the controller Gateway.

1. Navigate to **Network > Enterprise > Agent Tasks**.
2. Click **Create Agent Task +**.
3. Select **Update License** and click **Next**. The Create Agent Task form will guide you through the license update steps.

Create Agent Task [X]

Create Agent Task
Task Type Selection

- ☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.
- ☐ **Send Project**
Distributes a project to remote servers. Replaces the project on the remote server as if an export/import was performed.
- ☐ **Send Project Resources**
Distributes project resources, like windows and templates, to remote servers.
- ☐ **Send Tags**
Distributes tags to remote servers. For a better experience, use the Designer to select tags. The task can be saved during tag selection and later executed here.
- ☐ **Unactivate License**
Unactivate a license key on selected agent Gateways.
- ☒ **Update License**
Update the license on selected agent Gateways.

Cancel **Next**

Unactivate a License

If you need to unactivate a license, go to the controller's Gateway Webpage.

1. Navigate to **Network > Enterprise > Agent Tasks**.
2. Click **Create Agent Task +**.

3. Select **Unactivate License** and click **Next**. The Create Agent Task form will guide you through the unactivate license steps.

Create Agent Task

×

Create Agent Task

Task Type Selection

☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.

☐ **Send Project**
Distributes a project to remote servers. Replaces the project on the remote server as if an export/import was performed.

☐ **Send Project Resources**
Distributes project resources, like windows and templates, to remote servers.

☐ **Send Tags**
Distributes tags to remote servers. For a better experience, use the Designer to select tags. The task can be saved during tag selection and later executed here.

☒ **Unactivate License**
Unactivate a license key on selected agent Gateways.

☐ **Update License**
Update the license on selected agent Gateways.

Cancel

Next

Agent Task - Scheduling



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Agent Task Scheduling

[Watch the video](#)

Agent Gateway Tasks

Agent Gateway Tasks are useful for applying an action to many agent Gateways at once. To create a new task, or to view running tasks, navigate to **Network > Enterprise > Agent Tasks**. The Agent Tasks page will display available tasks, scheduled tasks, currently executing tasks, and task history.

1. To create a new task, click **Create Agent Task**. The Create Agent Task form will guide you through each step of a Gateway task.

Agent Tasks

[Available](#) [Running & Scheduled](#) [History](#)

Available Tasks

View 20 ▾ [Create Agent Task +](#)

2. Select the type of task you wish to execute. After you selected a type of task, click **Next**.

Create Agent Task

Create Agent Task

Task Type Selection

☐ **Activate License**
Activate a license key on selected agent Gateways.

☐ **Collect Backup**
Collect a Gateway backup from an agent machine.

☐ **Install Modules**
Install one or more modules on selected agent Gateways.

☐ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.

☐ **Restart Agent**
Restarts the Ignition service on the agent machine.

☒ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.

☐ **Send Project**

Cancel

Next

3. Set the task name to a descriptive name of your choice. The following scheduling options are available:

- **Execute Immediately:** The task will begin execution as soon as you complete the wizard.
- **Execute On Demand:** The task will not be scheduled, but is available for immediate execution at any time after you complete the wizard.
- **Execute Once, Scheduled:** The task will run once at the date and time that you specify.
- **Execute Once, Delayed:** The task will run once after the specified number of seconds, minutes, hours, or days.
- **Execute On Schedule:** This type of schedule uses UNIX cron type scheduling, where a pattern of 5 numbers determines the recurring schedule. For example, “30 3 * * *” means run a task every day at exactly 3:30 AM. Use the dropdowns next to the pattern text boxes to build out the pattern for the schedule.

After you determined your task schedule, click **Next**.

4. Select the agent groups or individual agents that will be included when the task executes. You can select agents that are not currently connected, but you cannot select pending agents. Depending on the type of task, you may need to complete another page to add some information required for that task. If not, you can click **Create Agent Task** to schedule the task.

Task Results

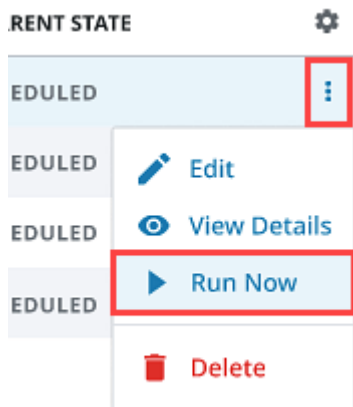
Task execution is reported in the `agent_events` table in the controller's configured database. The individual result of the task execution for each agent is report as a separate entry. For example, the following query will return the results of all task executions:

```
select * from agent_events where event_category = 'task' order by event_time desc;
```

A task that completed normally for an agent will contain the text `NORMAL` in the `event_level` field. If an error occurred for an agent, the `event_level` field is set to `ERROR`, and the error message is recorded in the `message` field.

Running a Task Outside its Schedule

You can run any task outside the task's normal schedule by expanding the three dots menu on the right of the task and selecting **Run Now**.



Keep in mind:

- Tasks that have been scheduled to run immediately are already running, and the **Run Now** option will not be visible.
- A task that has been scheduled to execute only once at a scheduled time or after a delay will be rescheduled to run immediately. The task will not run again after it has been rescheduled.
- A scheduled task will continue to run at its normally scheduled time, even if you run the task now.

Pausing and Canceling Tasks

Pause and Resume

After most tasks are created, they are put onto the task schedule. The exception to this is on demand tasks, which are not put on the schedule until you click **Run Now**. After a task has been added to the schedule, you can pause and resume the task using the three dots menu. The state of the task (scheduled, running, waiting) and the scheduling configuration affect how the task is paused and resumed.

Task Configuration	Pause Action	Resume Action
Task is currently running or waiting	System will attempt to cancel outstanding calls to remote servers.	System will run the task again against any servers that were outstanding when the task was paused.
Task is scheduled once at a specific date and time	The task will be temporarily taken off the schedule.	If the specified time has not yet arrived, the task will be put back onto the schedule at the original time. If the specified time has already passed, the task will execute immediately upon resume.
Task is scheduled once after a specified delay	The task will be temporarily taken off the schedule.	The task will be put back onto the schedule at the original calculated time. For example, if the delay is set to 2 hours, and the task is paused for 1 hour, the task will fire in 1 hour after resume. If the delay period has already passed, it will fire immediately after resume.
Task is on a recurring schedule	All future iterations of the task will be temporarily taken off the schedule.	The task will not fire if task iterations have been missed when the task was paused. The task will return to firing on its normal schedule.

Cancel

Scheduled one-shot tasks can be cancelled at any time before the task starts. Scheduled one-shot tasks include tasks that are scheduled to fire once after a delay or fire at a specific time. Running

tasks can also be cancelled, but there are no guarantees about how much of the task is processed at the time of cancel. Keep in mind that cancelling a task will cause also delete the task at the same time, and it cannot be retrieved after cancel.

Agent Task - Send Project



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Agent Task - Send Project

[Watch the video](#)

Agent Tasks have the ability to send projects and project resources from a controller to an agent. This includes sending projects and project resources across major Ignition platform versions, such as a controller on 8.1 sending a project to an agent on 8.3. It is also possible to send project resources from agent to agent if needed. However, some resources, such as Gateway and Perspective Event Scripts, cannot be sent from an 8.3 controller to an 8.1 agent.

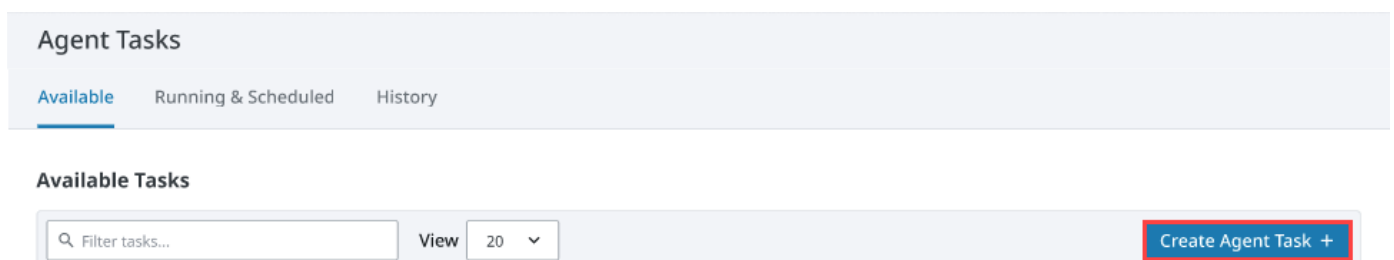
SENDING PROJECT RESOURCES TO EDGE GATEWAYS

If attempting to send project resources to one or more Edge Gateways, you must select only Edge Gateways for the agent location setting. Selecting a combination of Edge and Standard Edition Gateways will result in no resources being received.

Send Project Task

The Send Project task will not only send a project from the controller to the agent, but if the project already exists on the agent, it will replace it.

1. On the controller Gateway, under the **Network** section of the Gateway webpage, go to **Enterprise > Agent Tasks**.
2. Click **Create Agent Task**.



3. Scroll down and select **Send Project**. Click **Next**.

Create Agent Task

Create Agent Task

Task Type Selection

☐ **Collect Backup**
Collect a Gateway backup from an agent machine.

☐ **Install Modules**
Install one or more modules on selected agent Gateways.

☐ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.

☐ **Restart Agent**
Restarts the Ignition service on the agent machine.

☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.

☒ **Send Project**
Distributes a project to remote servers. Replaces the project on the remote server as if an export/import was performed.

☐ **Send Project Resources**

Cancel

Next

- Just like with any Agent Task, the Send Project task needs to be scheduled. There are several scheduling options available, but for this example, schedule the task to **Execute Immediately** and click **Next**.
- Select the agent where you want to send your project and click **Next**.
- The Create Agent Task form knows your controller and agent configuration. It's going to prompt you to choose the machine where your project is located. In this example, the project that you want to send is located on the controller or Gateway Source so select **Local System** and click **Next**.

Create Agent Task

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Source Gateway

Select Project

Settings

Task Summary

Source Gateway

Choosing the "Local system" option below will cause projects and resources to be sent directly from this machine. If an agent is chosen, the system will first retrieve projects and resources from that agent before being sent to target agents.

Local System

☐ Local System

Default Group

☐ EAM-Agent

Edge Agents

☐ Ignition-win1

☐ Ignition-win2

Back

Next

- The Create Agent Task form will display all your projects from your local system. Select the project you want to send to your agent, and click **Next**. Note that if you selected your agent in the previous step, the Create Agent Task form will display all your projects running on your agent that were sent over previously from the controller.
- Confirm the Max Concurrent Agents setting, which helps in situations where network connections are weak or bandwidth is limited. For this example, we will leave the value at the default of 0, which disables the setting.

Create Agent Task



Create Agent Task

- Task Type Selection
- Task Scheduling
- Agent Selection
- Source Gateway
- Select Project
- Settings**
- Task Summary

SETTINGS

Max Concurrent Agents

Set to a value greater than 0 to limit the number of agents that will concurrently contacted while the task runs. Useful when the task is configured with a large number of agents, and the gateway network connection bandwidth is limited.

[Back](#)[Next](#)

9. Review your task information and click **Create Agent Task**.

Create Agent Task



Create Agent Task

- Task Type Selection
- Task Scheduling
- Agent Selection
- Source Gateway
- Select Project
- Settings
- Task Summary**

Task Summary

Task Name	Send Project
Task Type	Send Project
Schedule	Execute immediately
Target Group/Agents	Default Group
Target the Controller	False
Source Gateway	Local system
Max Concurrent Agents	0

[Back](#)[Create Agent Task](#)

Your project will be sent from the controller Gateway to the agent Gateway, the screen will refresh, and a message will pop up stating that your Send Project task was successful. To verify that your

project was sent, go to your agent Gateway, click **Platform**, and select **System > Projects**.

Inherited Resources

An option for the Send Project task to include inherited resources is also available when sending a project from the controller to an agent. If checked, the selected project and any inherited resources will be combined into a single project on the target agents.

A checkbox was added to the Agent Tasks, as shown in the image below, to include inherited project resources. The default is false.

Create Agent Task

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Source Gateway

Select Project

Settings

Task Summary

SELECT PROJECT

☒ Project 1

☐ Project 2

☐ Project 3

☐ Other

Include the controller as a target

☐ If checked, the selected project and any inherited resources will be combined into a single project on the target agents.

Back

Next

Send Project Resources Task

You can also send project resources, such as project templates, windows, transaction groups, pipelines and even script modules from the controller to an agent.

Sending Global Resources

Global Resources may now be sent with the Send Project Resources Task. Resources such as Shared Scripts and Alarm Pipelines may be sent to any agent. When selecting a destination project, Global resources may only be sent to the "Global project" on the agent.

Sending Project Resources Example

On the controller Gateway, under the **Network** section of the Gateway Webpage, go to **Enterprise > Agent Tasks**. Let's create another Gateway Task to send project resources from the controller to the agent.

1. Click **Create Agent Task**.
2. Select **Send Project Resources** and click Next.

The screenshot shows the 'Create Agent Task' dialog box. The title bar at the top says 'Create Agent Task' with a close button (X) on the right. On the left side, there is a sidebar with 'Create Agent Task' and 'Task Type Selection'. The main area contains a list of tasks, each with a radio button and a description:

- ☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.
- ☐ **Send Project**
Distributes a project to remote servers. Replaces the project on the remote server as if an export/import was performed.
- ☒ **Send Project Resources**
Distributes project resources, like windows and templates, to remote servers.
- ☐ **Send Tags**
Distributes tags to remote servers. For a better experience, use the Designer to select tags. The task can be saved during tag selection and later executed here.
- ☐ **Unactivate License**
Unactivate a license key on selected agent Gateways.
- ☐ **Update License**
Update the license on selected agent Gateways.

At the bottom of the dialog, there are two buttons: 'Cancel' on the left and 'Next' on the right. The 'Next' button is highlighted with a red border.

3. Schedule the Send Project Resources task to **Execute Immediately** and click **Next**.
4. Select the agent on the Agent Selection window and click **Next**.
5. Select the Source Gateway as **Local System** where your project resources reside and click **Next**.
6. Select the project you want to send resources from and click **Next**.
7. You can see all the resources inside of the selected project. It may include templates, windows, transaction groups, pipelines, and script modules. Choose the resources you want to send to the agent and click **Next**.

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Source Gateway

Select Project

Select Resources

Select Target Project

Settings

Task Summary

Select Resources

Platform

☐ Global Props

Select AllDeselect All

Perspective

☐ General Properties

☐ Session Props

☐ Page Config

☐ Style Classes/Banner

Select AllDeselect All

Alarm Notification

☐ New Pipeline

Select AllDeselect All

Named Queries

☐ New Folder/Query

☐ Query

BackNext

- You have the option of either merging the project resources into an existing project or creating a new project on the agent. In this example, let's create a new project. Select **Other** and enter a new project name. Click **Next**.
- Enter a Max Concurrent Agents value to limit the number of agents that will be concurrently contacted as the task executes, which helps in situations where network connections are weak or bandwidth is limited. For this example, we will leave the value at the default of 0, which disables the setting, then click **Next**.

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Source Gateway

Select Project

Settings

Task Summary

SETTINGS

Max Concurrent Agents

0

Set to a value greater than 0 to limit the number of agents that will concurrently contacted while the task runs. Useful when the task is configured with a large number of agents, and the gateway network connection bandwidth is limited.

Back

Next

10. Review the task information summary. Click **Create Agent Task**. The screen will refresh and a message will appear stating that the task was successful.
11. To verify that the Training project resources were sent, go to your agent Gateway, click on the **Platform** tab and select **System > Projects**. You can see in this example that a new project was created by the EAM controller.

Once your project and project resources are sent to the agent, you need to complete the installation of your project. You need to set up your authentication profile, database, and Tag Providers. Once this is completed, you are ready to use the project and project resources on your agent.

Agent Task - Send Tags

The controller can send tags from one or more Tag Providers on the controller to agents.

Configuring the Task from the Gateway

This task allows you to send one or more tags within a provider on the controller, to one or more agents. It is also possible to configure remote Tag Providers on the controller to connect to a source Agent. This setup allows indirectly sending tags from agent to agent as the source Agent tags can now be sent from the remote Tag Provider on the controller to other specified agents.

The controller can be targeted by the Send Tags task, allowing the controller to create copies of tags in a separate Tag Provider. This is facilitated by selecting the **Include the controller as a target** option on the Agent Selection form.

Create Agent Task

Create Agent Task

Task Type Selection

Task Scheduling

Agent Selection

Settings

Task Summary

Agent Selection

▼ ☐ Default Group

☐ agent

▼ ☐ groupName

☐ agent 2

☐ Include the controller as a target

Back

Next

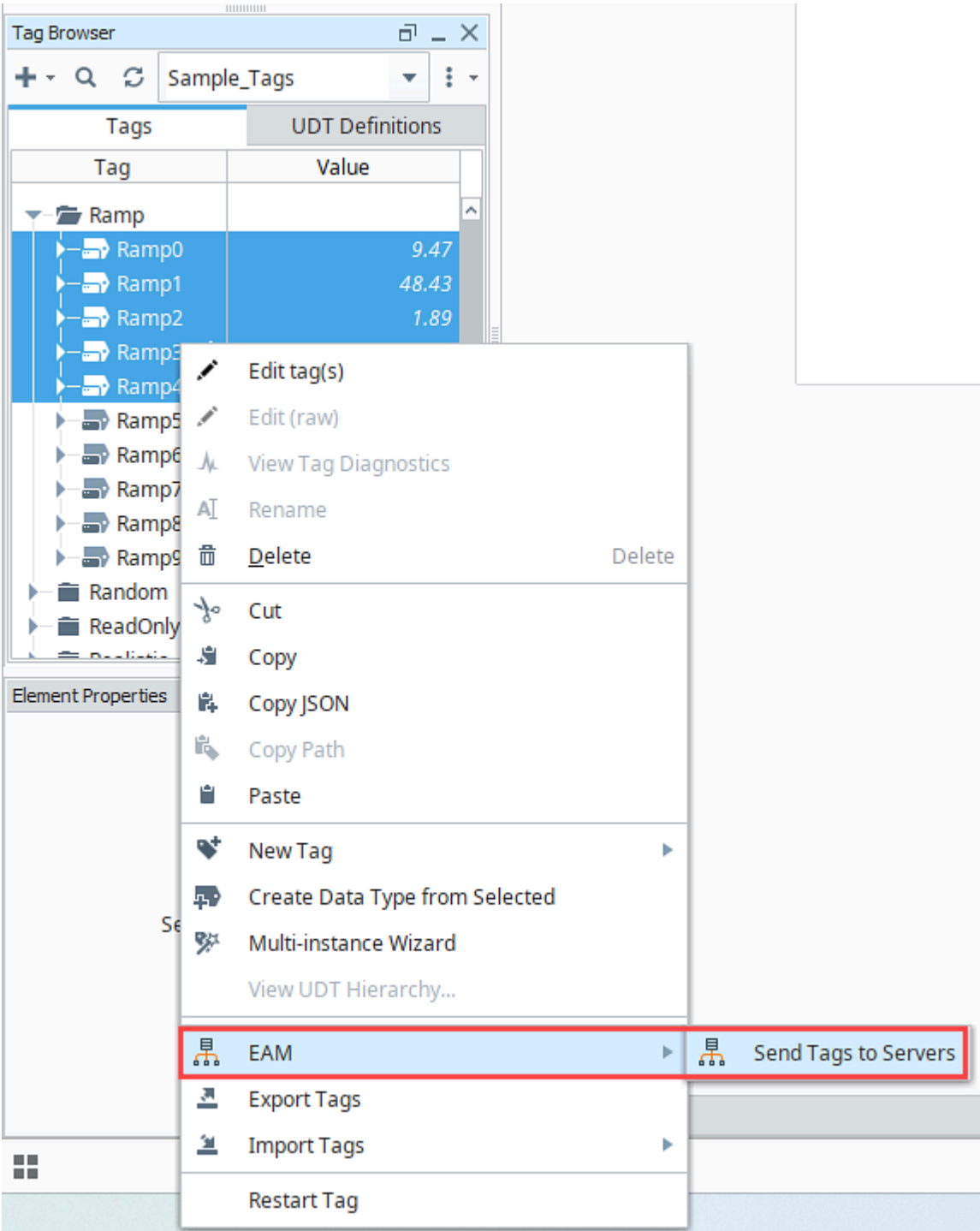
The Send Tags task will check the **Service Security** tag editing permissions instead of the local Tag Provider's permissions when executing the task.

You can use the Gateway Send Tags task to specify a Tag Collision Policy when importing tags on the agent side. The default policy value is Overwrite, which overwrites any tags that have the same name

as tags being imported. For full collision policy descriptions, see the [Collision Policy Options Table](#).

Running the Task in the Designer

Sending tags from a controller Gateway to an agent Gateway works a little differently than the other Agent Tasks, since the Send Tags task can be executed from the Designer. Within the controller's Designer, you can select any number of tags from the Tag Browser that you want to send to any number of agents. Right-clicking on the tags brings up the context menu, which has an **EAM > Send Tags to Agents** option.



Selecting the **Send Tags to Agents** option brings up a new window, allowing you to remove any accidentally selected tags, as well as select which agents will be receiving the tags and the Tag

Provider to insert them into.

You can specify a **Tag Collision Policy** using the added dropdown in the **Send Tags to Servers** window.

NOTE

If the Tag Collision Policy is set to MergeOverwrite, any tags under an existing UDT instance on a targeted agent will not have their values overwritten.

Clicking the **OK** button will begin the process of sending the tags to the agents. Once the tags have all been sent, you see a successful confirmation popup.

While you can't initiate this task from the Gateway Webpage, you will be able to see it as a running task, as well as find it listed in your task history after running.

Send Tags to Servers

Selected Tags

</

You may notice that if your one-shot Send Tags task fails, it will still appear on your Gateway under the **Available** tab of your Agent Tasks page, even if the **Save Task on Controller** checkbox in the Designer is disabled. This is intentional, and allows you to attempt to rerun the Send Tags task before it disappears from the list. Enabling **Save Task on Controller** will save the Send Tags task permanently.

In this case, a one-shot task refers to an agent task that is either run immediately, scheduled to run once later, or scheduled to run once after a delay.

Agent Management

Maintaining Your Agents

There are a variety of tools available that allow you to manage certain parts of your agent Gateways that are not scheduled tasks. If your agent goes down, agent recovery makes it easy to get your agent back up and running again as quickly as possible, from backups that were taken from the controller Gateway. In addition, you can create configuration files that can automatically set up an agent when starting the Gateway instead of having to go through the agent configuration wizard. This makes it easy to set up multiple agents.

Agent Management

Once an agent is set up and connected, the Agents page on the controller Gateway lists the connected Agents with action options.

1. On the controller, go to the **Network** section of the Gateway Webpage.
2. Scroll down to **Enterprise > Agents**. You'll notice that each agent row is expandable with a three dots menu on the right side where you can select **View Details**, **Restart**, and **Delete**.
 - **View Details**: Opens the agent Details panel, which displays the details shown on the main page as well as, the agent's edition, version, backups, installed modules, and project details.
 - **Restart**: Creates a Gateway task that immediately restarts the agent Gateway. You will be asked to confirm the task before it will run.
 - **Delete**: Removes the agent from the list, which prevents it from interacting with the controller. If the agent machine is still active, the agent will reappear on the list with a pending status.

Agents

Filter agents...

View20

GATEWAY	STATUS	GROUP	LAST COMM	LAST EVENT	EVENT DATE	BACKUPS	
DBS	CONNECTED	Default Group	12Nov2025 07:46:46	restart - completed [NORMAL]	12Nov2025 07:46:46	0 Bytes	View Details Restart Delete

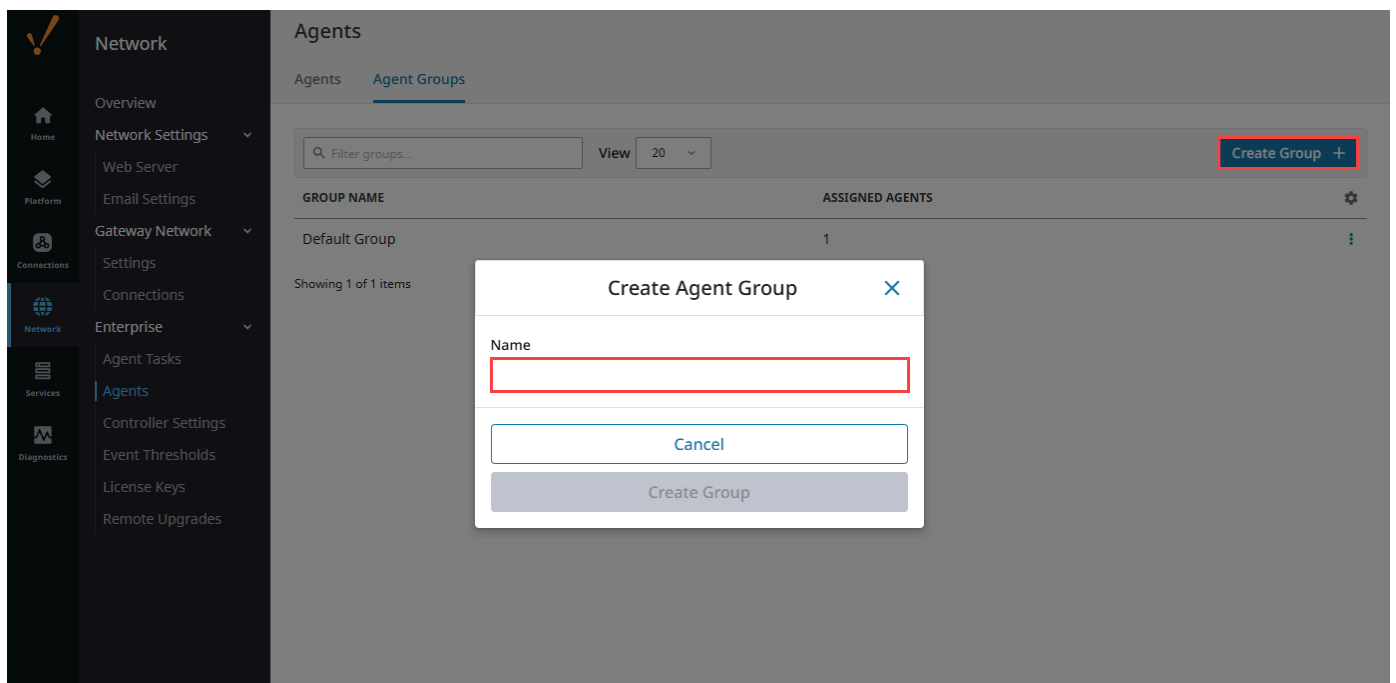
Showing 1 of 1 items

Agent Groups

Agents can be sorted into groups that you create. This allows you to organize agent lists by location or agent function. Agent groups can also be selected in Gateway tasks. For example, you can create an agent group for a location that collects backups every night at 3AM. Any new agent that is added to the group will automatically be included when the Gateway tasks executes.

To create a group:

1. Navigate to the **Network** section on the Gateway Webpage.
2. Select **Enterprise > Agents**, and click the **Agent Groups** tab at the top of the page.
3. To edit and create agent groups, select **Create Group +** and enter a new group name.



4. Click **Create Group**.

To assign an agent to a group:

1. Expand the three dots menu for the agent group you want to edit and select **Assign Agents**.

Agents

AgentsAgent Groups

Filter groups...

View20

Create Group +

GROUP NAME	ASSIGNED AGENTS	
Default Group	1	
Demo	0	

Showing 2 of 2 items

Rename

Assign Agents

Delete

2. Fill the checkbox next to the agent name, and select **Save Changes**.

To delete a group:

1. Expand the three dots menu for the agent group and select **Delete**.
2. Click **Delete** on the confirmation popup.

Network

Overview

Network Settings

Gateway Network

Enterprise

Agent Tasks

Agents

Controller Settings

Event Thresholds

License Keys

Remote Upgrades

Agents

Agent Groups

Filter groups...

View20

Create Group +

GROUP NAME	ASSIGNED AGENTS	
Default Group	0	
Demo		

Showing 2 of 2 items

Delete Agent Group?

Are you sure you want to delete the Agent Group "Demo"?

If the Group contains assigned agents, they will be re-assigned to the Default Group.

Cancel

Delete

Note that if you delete a group that contains agents, the agents will be automatically reassigned to the Default Group.

Agent Recovery



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Agent Recovery

[Watch the video](#)

Once the controller is up and running, you can use it to perform recoveries on agents. For example, if one of your computers crashed that is running Ignition, you can do a fresh install from a previous backup collection that was performed on your agent. When the recovery is complete, the agent will immediately pick up where it left off like nothing ever happened.

BACKUP REQUIRED TO PERFORM AGENT RECOVERY

Agent recovery requires that a [backup collection](#) on the agent was performed, otherwise, you will not be able to use this procedure to recover your agent's instance of Ignition.

Perform an Agent Recovery

Let's assume that the agent Gateway crashed. To check the status, go to your controller Gateway, navigate to **Network > Enterprise > Agents** and check the status of the agent Gateway. If you see a disconnected status, you can use the following procedure to recover the agent.

1. On the agent Gateway, install Ignition and make sure the EAM module is also installed. It is added by default if you select Typical during installation.
2. Go to the **Network** section and select the **Enterprise**. The EAM wizard will walk you through each step of the Agent Recovery process. Select **Agent** to configure and click **Next**.

Configure Enterprise Administration

Configure EAM

1. Select Controller or Agent

2. Agent Setup

Select Controller or Agent

☒ **Agent**
Installs the module as an agent. An agent Gateway needs to be configured to connect to a remote controller Gateway.

☐ **Controller**
Installs the module as a controller. A controller Gateway can control remote agent Gateways.

Cancel

Next

3. In order to continue with the Agent Recovery procedure, you must have a backup collection of the agent. When you initially set up your agent on the controller, you created an **Archive Path** where the backup files are stored. EAM will automatically know where to retrieve the backup files. Click on **Agent Recovery** and click **Next**.

Configure Enterprise Administration

Configure EAM

Select Controller or Agent

Agent Installation Mode

Agent Installation Mode

☐ **New Agent**
I am installing a new agent.

☒ **Agent Recovery**
I am reinstalling an existing agent. Backup files can also be automatically reinstalled during recovery if available.

Back

Next

4. For this example, we are recovering Agent A, and since Agent A existed previously, the EAM remembered the agent's prior settings. You can select the controller and agent from the list of names in the dropdown, or type the names in. Click **Set Up Agent**.

Configure Enterprise Administration

Configure EAM

- Select Controller or Agent
- Agent Installation Mode
- Agent Recovery Setup

AGENT SETTINGS

Controller

Controller A

The Gateway Network server running the EAM controller

System Name

Agent A

The system name of the agent you are trying to recover. After you have selected a controller, you can choose an agent name from the dropdown list, or you can type in an agent name.

Agent A

Back

Set Up Agent

5. The agent will go through a series of steps:

- Check the agent status on the controller.
- Retrieve the Ignition license file.
- Download Ignition modules.
- Copy the latest Gateway backup to the agent.

When you get a message that the setup is complete, click **Apply Files**. You will see a message stating the Gateway is starting. It will take about a minute to bring the Gateway up.

Configure EAM

- Select Controller or Agent
- Agent Installation Mode
- Agent Recovery Setup
- Agent Post Setup Items

✓ Setup is complete. This Gateway needs to restart to install downloaded files. Click the Apply Files button to continue.

Checking agent status on controller...

✓ Done.

Retrieving license file...

✓ Done. License '1RF-XIS' will be applied.

Downloading modules...

✓ Done. The following modules will be installed: DNP3 Driver: 2.9.2017041315, Logix Driver: 3.9.2.2017041315, Mobile: 4.9.2.20194134, Modbus Driver: 5.9.20193234, Reporting: 3.4.5.20103923, SFC: 3.9.2.219102322, Siemens Drivers: 4.9.2.2017041315

Downloading latest Gateway backup...

✓ Done. Backup from 'Thu July 12, 13:32:04 PDT' is ready to be applied.

Back

Retry

Ignore Files

Apply Files

Once the files have been applied, you will see a message stating the Gateway is starting.

6. The screen will refresh once the Gateway is up and running. Go to the **Platform** section of the the Gateway webpage, and click on **System > Projects**. You will see that all your projects were recovered.

7. It's also a good idea to verify that all your modules are installed and running by selecting **Modules**.

Home
 Platform
 Connections
 Network
 Services
 Diagnostics

Platform

- Overview
- System
 - Gateway Settings
 - Projects
 - Modules**
- Licensing
- Redundancy
- Modes
- Store & Forward
- Ignition Exchange
- Backup & Restore
- Security

Modules
Install or Upgrade Module +

Status

RUNNING MODULES
29 / 29

LICENSED MODULES
0 / 29

Modules

Filter modules...
 View 20

☐	VENDOR NAME	NAME	VERSION	LICENSE	STATUS	
☐	Inductive Automation, LLC	UDP and TCP Drivers ⓘ	7.3.0-beta1 (b2025063014)	Trial	✓ ACTIVE	⋮
☐	Inductive Automation, LLC	Omron Driver ⓘ	5.3.0-beta1 (b2025063014)	Trial	✓ ACTIVE	⋮
☐	Inductive Automation, LLC	SFC ⓘ	6.3.0-beta1 (b2025063014)	Trial	✓ ACTIVE	⋮
☐	Inductive Automation, LLC	SQL Bridge ⓘ	11.3.0-beta1 (b2025063014)	Trial	✓ ACTIVE	⋮
☐	Inductive Automation, LLC	MariaDB JDBC Driver ⓘ	1.3.0-beta1 (b2025063014)	Free	✓ ACTIVE	⋮

Automated Agent Installation

The EAM allows an agent Gateway to be automatically configured from text files when the Gateway is started. This capability is enormously useful when installing multiple agent Gateways in your network, as it saves time from manually making this configurations. To automatically configure an agent or controller, you must add two files to the Ignition /data folder before startup: `init.properties` and `eam-install.properties`. Example contents are below. After the files have been read, they are renamed to `.init.properties.bak` and `.eam-install.properties.bak`. A typical application for this capability would be a script that creates the init files and adds them to an ignition.zip that is distributed to many systems.

For both types of files, settings omitted from the file will use their default values.

NOTE

When using our [Docker image](#), variables defined in docker environment variables will take precedent over the settings listed on this page.

init.properties

Multiple outgoing Gateway Network connection settings are managed by numbering each setting. The first set of connection settings must contain “0” in the setting name after “gateway.network.” For example, you can create two outgoing connections with different IP addresses like so:

Gateway Network Addresses

```
gateway.network.0.Host=10.20.11.18
gateway.network.1.Host=10.20.15.23
```

Property Name	Description
<code>SystemName</code>	Sets the Gateway name in Gateway Settings.
<code>AutoDetectLocal</code>	Set to true to check the first found network interface to determine local IP address. Set to false to manually set the IP address of the Gateway. Expects <code>true</code> or <code>false</code> .
<code>LocalInterface</code>	Manually sets the IP address of the Gateway. If set, the <code>AutoDetectLocal</code> setting must be set to false.
<code>UseSSL</code>	Set to true to force all connecting web browsers to connect to the Gateway over SSL. Expects <code>true</code> or <code>false</code> .
<code>gateway.network.#.PingRate</code>	How often in milliseconds to ping the remote machine.
<code>gateway.network.#.Enabled</code>	Set to false to disable the gateway connection after it is created. Expects <code>true</code> or <code>false</code> .
<code>gateway.network.#.Host</code>	The address of the remote machine.
<code>gateway.network.#.Port</code>	The port of the remote machine.
<code>gateway.network.#.EnableSSL</code>	Set to true to use SSL to connect to the remote machine. You must change the Port setting to use the Gateway Network SSL port (which defaults to port 8060). Expects <code>true</code> or <code>false</code> .
<code>gateway.network.#.PingTimeout</code>	How long in milliseconds to wait for a ping request to be processed by the remote machine.
<code>gateway.network.#.PingMaxMissed</code>	The number of failed pings allowed before the connection state is set to Faulted.
<code>gateway.network.#.EnableWebSockets</code>	Set to true to allow faster asynchronous communications with the remote machine. Expects <code>true</code> or <code>false</code> .

Property Name	Description
<code>gateway.network.#.WebsocketTimeout</code>	How long to wait in milliseconds for a message to be processed over the web socket.
<code>gateway.network.#.HttpConnectTimeout</code>	How long to wait in milliseconds to initially connect the http data channel.
<code>gateway.network.#.HttpReadTimeout</code>	How long to wait in milliseconds to read data from the http data channel.

Configurable Gateway Network general configuration settings are listed below with their default values.

Property Name	Description
<code>gateway.network.enabled=true</code>	Set to false to disable using the Gateway Network.
<code>gateway.network.requiresssl=true</code>	Determines if only connections using SSL to encrypt traffic are allowed. This setting applies to incoming connections.
<code>gateway.network.requireTwoWayAuth=false</code>	Enforces two-way SSL authentication. If true, you will need to install the remote machine's certificate on this machine, in addition to manual approval of this machine's certificate on the remote machine.
<code>gateway.network.sendThreads=5</code>	The maximum number of threads that will be used to upload messages. Applies to outgoing connections.
<code>gateway.network.receiveThreads=5</code>	The maximum number of threads that will be used to download messages. Applies to outgoing connections.
<code>gateway.network.receiveMax=100</code>	Number of received messages that can be held until they are processed by the local system. When this capacity is exceeded, new messages are rejected and errors are reported to the remote gateway. Applies to incoming connections.
<code>gateway.network.allowIncoming=true</code>	If false, only outward connections defined on this Gateway will be allowed.

Property Name	Description
<code>gateway.network.securitypolicy=ApprovedOnly</code>	Dictates what connections are allowed. By default, incoming connections must be approved from the Incoming Connections page.
<code>gateway.network.whitelist=</code>	If connection policy is set to Specified List, this is the comma-separated list of Gateway names which will be allowed to connect.
<code>gateway.network.allowedproxyhops=0</code>	The maximum number of proxy hops which could be used to reach the destination Gateway. Any number less than or equal to zero is equivalent to no proxy hops allowed.
<code>gateway.network.websocketSessionIdleTimeout=30000</code>	The maximum number of milliseconds that a websocket is allowed to remain idle before it is closed. This value should always be set higher than outgoing connection ping rates to avoid premature connection termination.
<code>gateway.network.incomingPingRate=5000</code>	How often, in milliseconds, to send a ping to a remote machine. This will allow an incoming connection's health to be monitored. Set to 0 to disable pings sent from an incoming connection.
<code>gateway.network.incomingPingTimeout=300</code>	The maximum time, in milliseconds, allowed for a ping response. Pings that time out are counted as missed pings.

Property Name	Description
<code>gateway.network.incomingPingMaxMissed=12</code>	The amount of missed pings that will force an incoming connection to be considered faulted.
<code>gateway.network.allowJavaSerialization=true</code>	Allows Java serialization so that 8.1 Gateways can communicate with 8.3 Gateways. It is recommended to use this option only as a temporary solution while all 8.1 Gateways are upgraded.

Example init.properties

init.properties

```

SystemName=Agent1
AutoDetectLocal=false
LocalInterface=10.20.11.17
UseSSL=false
gateway.network.0.PingRate=1000
gateway.network.0.Enabled=true
gateway.network.0.Host=10.20.11.18
gateway.network.0.Port=8088
gateway.network.0.EnableSSL=false
gateway.network.0.PingTimeout=300
gateway.network.0.PingMaxMissed=30
gateway.network.0.EnableWebSockets=true
gateway.network.0.WebsocketTimeout=10000
gateway.network.0.HttpConnectTimeout=10000
gateway.network.0.HttpReadTimeout=60000

```

eam-install.properties

Before creating an eam-install.properties file, it's important to understand that each property is prepended by a key that determines the category for the property. The three categories are listed below.

- `agent.`: Indicates the property pertains to an agent.

- `controller.`: Indicates the property pertains to a controller.
- `setup.`: Generic key used for settings that don't uniquely apply to either agents or controller.

Property Name	Description
<code>setup.installSelection</code>	Determines what the gateway will be configured as. Expects either <code>Agent</code> or <code>Controller</code> .
<code>agent.controllerServerName</code>	Sets the name of the gateway in the Gateway Network that will be the controller for this gateway.
<code>agent.sendStatsInterval</code>	The amount in seconds that the agent will wait before sending new metrics and configuration data to the controller. If there are currently no interesting metrics or updated config data to send, the agent will not send any data.
<code>controller.archivePath</code>	When <code>controller.archivePath</code> is set to <code>Manual</code> , this property defines the path to use.
<code>controller.archiveLocation</code>	Determines if the archive location should be set manually, or if the system should automatically pick a location. Expects a value of either <code>Manual</code> or <code>Automatic</code> .
<code>controller.lowDiskThresholdMB</code>	Sets the low disk space threshold property. Expects an integer value.
<code>controller.dataSource</code>	Specifies which database connection the controller should use to record agent history. Note: The database specified by this property must first exist on the gateway for this property to do anything. If the specified database does not exist, then the setting will default to "none".

Example Agent Configuration

```
eam-install.properties
```

```
setup.installSelection=Agent  
agent.controllerServerName=Ubuntu-Controller  
agent.sendStatsInterval=5
```

Example Controller Configuration

eam-install.properties

```
setup.installSelection=Controller  
controller.archivePath=path/to my backups  
controller.archiveLocation=Manual  
controller.lowDiskThresholdMB=1234  
controller.dataSource=MyDB
```

License Management



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License Management

[Watch the video](#)

License Management

The License Management page acts as a central repository for managing Ignition licenses. You can preload a list of licenses, view details of a license as it appears on file at Inductive Automation, assign licenses to individual agents, and bulk assign free licenses in the Activate License Gateway task. To visit the License Management page, navigate to **Network** section of the Gateway Webpage, and go to **Enterprise > License Keys**.

Agent License Reporting

Whenever an approved agent contacts the controller, it sends its license information. The License Management page is automatically updated whenever new or updated license information is received from an agent. This means that even if you install a license directly in an agent Gateway, the license installation will still be known to the controller.

License Keys

Add License Key +

Hardware Keys

Leased Keys

Filter license keys...

View 20

LICENSE KEY	ASSIGNED AGENT	
	unassigned	
	agent	

Showing 2 of 2 items

License Details

You can click on three dots menu (on the right side of each license) and select **View Details** to view modules and versions currently assigned to the license. Note that the information displayed on the License Detail page reflects the license as it appears on file at Inductive Automation. This functionality allows you to confirm exactly which modules and versions are currently assigned to a license.

Leased Keys

You can also view any unassigned leased keys or leased keys that are currently being used by agent Gateways by clicking on the **Leased Keys** tab. Note that for leased licensing activations, the EAM controller will act as a proxy for EAM agents attempting to contact the Activation Server.

License Keys

Hardware Keys

Leased Keys

Add License Key +

Q Filter licenses...

View 20

☐	LICENSE KEY	ASSIGNED AGENT	LEASE STATE	LEASE ERROR	LAST RENEWAL	NEXT RENEWAL	EXPIRES AT	
☐		gateway	Active		23Sep2025 10:24:46	23Sep2025 11:24:46	11Oct2025 13:38:53	

Showing 1 of 1 items

On the Leased Keys page, you can view details about an agent's leased key, including:

- License Key
- Assigned Agent
- Lease State
- Lease Error
- Last Renewal
- Next Renewal
- Expiration

Activate and Unactivate a License

The controller acts as a license proxy on behalf of agents. This means that only the controller requires Internet access to the Inductive Automation licensing servers. Whenever you use the License Management page or a Gateway task to assign, update or unactivate a license, the controller will request system information from the agent and forward the information to the licensing servers. If performing an activation, the activation data is sent back to the agent after the data is received from the licensing servers.

Preloading Licenses

You can preload a list of license keys in the controller. After the license list is loaded, you can individually assign licenses to agents, or assign all free licenses to agents in one step via the **Activate Licenses** task.

1. To preload a license list, navigate to the **Network > Enterprise > License Keys** page on the Gateway Webpage.
2. Click the **Add Licenses Key +** button on the top right.
3. Enter the license keys. Use commas to separate the licenses. The formatting is shown below.

Add Licenses

Use commas to separate licenses. Letters do not need to be capitalized.

Enter License Key

AAA-AAA, TRN-RMM, ABC-123

Cancel

Add License Keys

4. Click the **Add License Key** button to save preloaded licenses.

i NOTE

You can also preload leased license keys by going to the **Leased Keys** tab, and clicking on **Add License Key +**.

Deleting Licenses

You can remove unused licenses from the License Management page, but only if the license is not currently assigned to any agent. If you want to delete an assigned license, click the **unactivate** link on the right side of the license. After the Assigned Agent field changes to “Unassigned”, you can **delete** the license.

License Keys

Add License Key +

Hardware Keys

Leased Keys

View 20 ▾

☐	LICENSE KEY	ASSIGNED AGENT	⚙
☐	AAA-AAA	unassigned	⋮
☐	ABC-123	unassigned	⋮
☐	LRN-IGN	unassigned	+ Assign  Delete
☐	TRN-RMM	unassigned	

Showing 4 of 4 items

Remote Upgrade

Agents can be upgraded remotely from the controller. This involves uploading the required binary files for the desired architecture as a task. Once the files have been saved, the remote upgrade procedure may be initiated.

CAUTION

If attempting to update an agent from Ignition 8.1 to Ignition 8.3, the controller should itself be upgraded to Ignition 8.3 first. Additionally, Historian modules should be installed on the 8.1 agent prior to upgrading to 8.3. See the [8.3 Upgrade Guide](#) for more information.

Upgrading Redundant Agents

When upgrading a redundant pair of agents, it is recommended that the backup be upgraded before the master.

Remote Agent Upgrade Task

This task will upgrade the agent(s) upon execution by taking zipped binary files for a version of Ignition, and saving them for upgrades later. Multiple files may be saved for different versions and architectures. Additional modules may be included, allowing for upgrades of **non-standard modules** to occur simultaneously.

NOTE

The zipped binary files differ from the installers. The binary files may be found on the Ignition [downloads](#) page, listed below the installers.

This task only needs to be executed once per version/architecture as multiple upgrades may be performed from the same files.

Creating the Remote Agent Upgrade Task

1. From the controller, navigate to **Network > Enterprise > Agent Tasks**.
2. Click **Create Agent Task**.

3. Select the **Remote Agent Upgrade** task from the list of tasks, and then click **Next**.

Create Agent Task

1. Task Type Selection

2. Task Scheduling

3. Agent Selection

4. Upgrade Zip Source

5. Selected Upgrade Files

6. Select Custom Modules

7. Task Summary

- ☐ **Activate Licenses**
Activate license keys on selected agent Gateways.
- ☐ **Collect Backup**
Collect a Gateway backup from an agent machine.
- ☐ **Install Modules**
Install one or more modules on selected agent Gateways.
- ☒ **Remote Agent Upgrade**
Prepare a full system upgrade on selected agent Gateways.
- ☐ **Restart Agent**
Restarts the Ignition service on the agent machine.
- ☐ **Restore Backup**
Restore a Gateway backup on selected agent Gateways.
- ☐ **Send Project**

Cancel Next

4. On the **Task Scheduling** page, give the task a name for easy identification. Then, for this example we will select **Execute Immediately** to have the task run immediately.

5. Click **Next**.

6. Select the agent you want to upgrade and click **Next**.

7. Select how you want to upgrade your controller. You can either choose to upload the Ignition upgrade zip files to dispatch to connected agents, or specify an alternate URL that the agent will use to download the required upgrade zip files. In this example, we will choose **Upload to controller**. Once you have made your choice, click **Next**.

Create Agent Task

1. Task Type Selection

2. Task Scheduling

3. Agent Selection

4. Upgrade Zip Source

5. Selected Upgrade Files

6. Select Custom Modules

7. Task Summary

Upgrade Zip Source

☒ **Upload to controller**
Upload Ignition upgrade zip files to the controller. The upgrade zip files will be dispatched to agents over the gateway network.

☐ **Use alternate URLs**
Specify alternate URLs for Ignition upgrade zips. Each agent will download the required Ignition zip file directly from this address, instead of downloading the zip file over the gateway network.

Back

Next

8. On the **Selected Upgrade Files** form, click **Choose File**. Navigate to the file you wish to upload, and click **OK**. Note that this page will state the architecture of the agents that were selected in the previous step. Once finished, click **Next**.
9. Select any additional modules that should be included with this Task. Modules that are not included in the typical installation, including third party modules, may be added. Click **Choose File**, navigate to the module, and click **OK**. This step is optional, so regardless of whether or not you add custom modules, click **Next** when you're ready to move on.
10. The **Task Summary** page will appear. Review the information, and click **Finish**. Because we selected **Execute Immediately** during the schedule portion, the new task will run and pass the files to the agent, and begin upgrading.

Upgrading the Agent

Once the files have been passed to the agent, a remote upgrade may be initiated from the controller's web interface.

COLLECT AN AGENT BACKUP

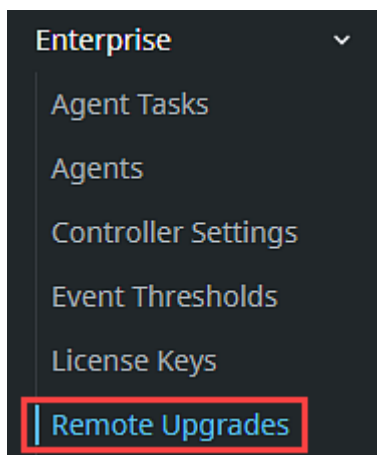
As with all upgrades, it is highly recommended to take a backup of the agent before starting the upgrade process. Information on taking a backup from an agent can be found on the [Agent Task](#)

NOTE

You will not be able to use the EAM Remote Upgrade Task for agents in a Docker container. In lieu of the Remote Upgrade Task, upgrade the image the container is using.

Remotely Upgrading an Agent

1. To begin a remote system upgrade, on the controller, navigate to the Gateway Webpage. Select **Network > Enterprise > Remote Upgrades**.



2. If you are upgrading a single agent, expand the three dots menu to select **Upgrade** for the agent you wish to upgrade. If you want to upgrade multiple agents/groups, use the check boxes to make your selections, and then click the Upgrade  icon at the top of the list to upgrade all selected agents.

Remote Upgrades

 Select one or more agents below to begin remote system upgrades. The selected agent Gateways will be shutdown and restarted to perform the upgrades. For redundant agent pairs, the backup agent must be completed before the master agent can be selected.

Agents

Filter agents...		View 20 ▾			
☐	AGENT	ROLE	UPGRADE STATUS	AS OF	STATUS MESSAGE
☐	TRA-IN8		Ready to upgrade		
Showing 1 of 1 items					
					  Upgrade  Delete

3. A confirmation popup will appear. Click **Upgrade** when ready to proceed.

The Remote Upgrades page will now report the status of the upgrade. Once complete, the Upgrade Status of the agent(s) will show that the upgrade was successful.

Redundant EAM Configuration

Redundant Controller Setup

To set up redundancy on an EAM controller, you first follow the [setup process for a redundant master and backup Gateway](#). The main difference with EAM is that each agent requires separate Gateway Network connections to both the master controller Gateway and the backup controller Gateway. The agent will automatically route messages to the active controller. Some other considerations to keep in mind:

- As with any redundant configuration, you cannot make any changes on the backup controller. However, new agents can be added without taking the Gateways out of redundancy.
- Agent metrics are only sent to the active controller. This means that EAM agent System Tags will not process data on a backup controller until the backup becomes active.
- Scheduled and running agent tasks on the master controller Gateway will be automatically suspended if control is transferred to the backup controller. The tasks will never run on the backup controller Gateway. The tasks will resume on the master after it resumes control.

Add an Agent to a Redundant EAM Controller

Adding Gateway Network connections from the agent to the master and backup controllers initially results in both controller Gateways waiting for the connection to be approved. Approve the connection on the master controller first. Then, since the backup still doesn't automatically accept the connection, you can either force a Gateway sync to the backup controller, which will auto-accept the Gateway Network connection, or you can log into the backup Gateway and manually approve the Gateway Network connection.

Redundant Agent Setup

Follow the same redundant master and backup setup process when setting up redundant agents. Then, complete the Configure Enterprise Administration Agent Setup form the same way as you would for a standard agent. Once finished and you've selected Set Up Agent, navigate to the controller Gateway and approve both the master and backup pending agents. Considerations to keep in mind include:

- Both the master agent and the backup agent will send agent metrics. The controller will create a master folder and a backup folder of System Tags, allowing you to create a project that monitors both sets of System Tags at the same time.

- Agent tasks list the master agent and the backup agent separately. Tasks that do not change any configuration on an agent can be run without errors on both the master agent and the backup agent (such as the License tasks). But tasks that do change configuration (such as the Send Project task) will fail on the backup agent, since Gateway configuration cannot be changed on a redundant backup.

Event Threshold Settings



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Agent Event Threshold Settings

[Watch the video](#)

Overview

One of the main functions of the controller is to keep track of connected agents and report when an agent starts to experience performance problems, logs many errors in a short time, or unexpectedly goes offline. Agent events are held in the controller's configured database in the **agent_events** table. Within this table, you can find three types of event categories: **agent**, **metric**, and **task**. The agent event category is used for major connectivity events, such as loss of connectivity from an agent. The metric event category is used for events that report abnormal agent health statistics, such as abnormally high CPU usage. The task event category does not affect metrics, and is detailed in the Gateway Task Results section.

General Settings

To view the event thresholds, go to the Network page on the Gateway and select **Enterprise > Event Thresholds**.

The screenshot shows the 'Event Thresholds' settings page. On the left is a dark sidebar with a navigation menu. The 'Network' section is expanded, and 'Event Thresholds' is highlighted with a red box. The main content area has a light gray header 'Event Thresholds'. Below it is a dark gray section titled 'ALARM EVALUATION'. This section contains three settings: 'Enable Activity Alarms' (checked), 'Enable Metrics Alarms' (unchecked), and 'Enable Task Alarms' (checked). Each has a descriptive text. At the bottom, there are two dropdown menus: 'Warning Priority' set to 'Low' and 'Error Priority' set to 'High'.

Network

Overview

Network Settings >

Gateway Network >

Enterprise ▾

Agent Tasks

Agents

Controller Settings

Event Thresholds

License Keys

Remote Upgrades

Event Thresholds

ALARM EVALUATION

Enable Activity Alarms

☒ If true, alarms will be generated for agent activity events, such as when an agent stops responding. (default: true)

Enable Metrics Alarms

☐ If true, alarms will be generated for agent metric events. (default: false)

Enable Task Alarms

☒ If true, alarms will be generated when a scheduled task fails. (default: true)

Warning Priority

Low ▾

(default: Low)

Error Priority

High ▾

(default: High)

Alarm Evaluation

This section is for activity and metric events, you can configure alarms to trigger when an event is reported at the warning or error level. You can also set the alarm pipeline that will process the generated alarms. These alarms are triggered by value changes, with the alarm being cleared as soon as it becomes active.

Setting	Description
Enable Activity Alarms	If true, alarms will be generated for agent activity events, such as when an agent stops responding.
Enable Metrics Alarms	If true, alarms will be generated for agent metric events.
Enable Task Alarms	If true, alarms will be generated when a scheduled task fails.
Warning Priority	The priority assigned to all of the warning thresholds. Options are Diagnostic, Low, Medium, High, Critical.
Error Priority	The priority assigned to all of the error thresholds. Options are Diagnostic, Low, Medium, High, Critical.
Active Pipeline	The Pipeline to use for active events. Note that this Pipeline must be created before the alarm event happens, and that the name is case-sensitive. The format should be: <pre>project:ProjectName:/pipeline:PipelinePath</pre> Where <code>ProjectName</code> is the name of the project the pipeline resides in, <code>PipelinePath</code> is the path to the pipeline in the project, including any folders. This syntax follows the same pattern as the Name column on the Gateway's Alarm Pipelines page.
Ack Pipeline	The Pipeline to use for acknowledgement events. Note that this Pipeline must be created before the alarm event happens, and that the name is case-sensitive. <pre>project:ProjectName:/pipeline:PipelinePath</pre> Where <code>ProjectName</code> is the name of the project the pipeline resides in, <code>PipelinePath</code> is the path to the pipeline in the project, including any folders. This syntax follows the same pattern as the Name column on the Gateway's Alarm Pipelines page.

Activity Monitor

The Activity Monitor configures how agent inactivity is reported. When contact is lost with an agent, an inactivity warning or error event is fired if the configured time in minutes has elapsed since last contact.

Setting	Description
Inactivity Warning (Minutes)	The number of minutes before a warning threshold alarm is activated. Default is 5.
Inactivity Error (Minutes)	The number of minutes before an error threshold alarm is activated. Default is 15.

System Metric Thresholds

In addition to inactivity alarms, alarms can be set on all agents when certain metrics like CPU usage, number of clients, error rates, and more are reached. Each one has both a **warning** and an **error** level.

Setting	Description
CPU Usage Warning (%)	The warning level of an agent's CPU usage.Default is 70.
CPU Usage Error (%)	The error level of an agent's CPU usage.Default is 90.
Memory Usage Warning (%)	The warning level of an agent's memory (RAM) usage. Default is 70.
Memory Usage Error (%)	The error level of an agent's memory (RAM) usage. Default is 90.
Errors Per Minute Warning	The warning level of an agent's error rate (minute). The contents of the agent's errors can be checked in the agent's console. Default is 2.
Errors Per Minute Error	The error level of an agent's error rate (minute). The contents of the agent's errors can be checked in the agent's console. Default is 5.
Errors Per Hour Warning	The warning level of an agent's hourly error rate. The contents of the agent's errors can be checked in the agent's console. Default is 20.
Errors Per Hour Error	The error level of an agent's hourly error rate. The contents of the agent's errors can be checked in the agent's console. Default is 60.
Connected Clients Warning	The number of clients connected to that agent required to raise a warning alarm. Default is 50.
Connected Clients Error	The number of clients connected to that agent required to raise an error alarm. Default is 100.
Perspective Sessions Warning	The number of active Perspective Sessions required to raise a warning alarm. Default is 50.
Perspective Sessions Error	The number of active Perspective Sessions required to raise an error alarm. Default is 100.
DB Utilization Warning (%)	Triggered when the utilization of the DB connection pool exceeds the specified percentage. Default is 80.

Setting	Description
DB Utilization Error (%)	Triggered when the utilization of the DB connection pool exceeds the specified percentage. Default is 100.

EAM in the Designer



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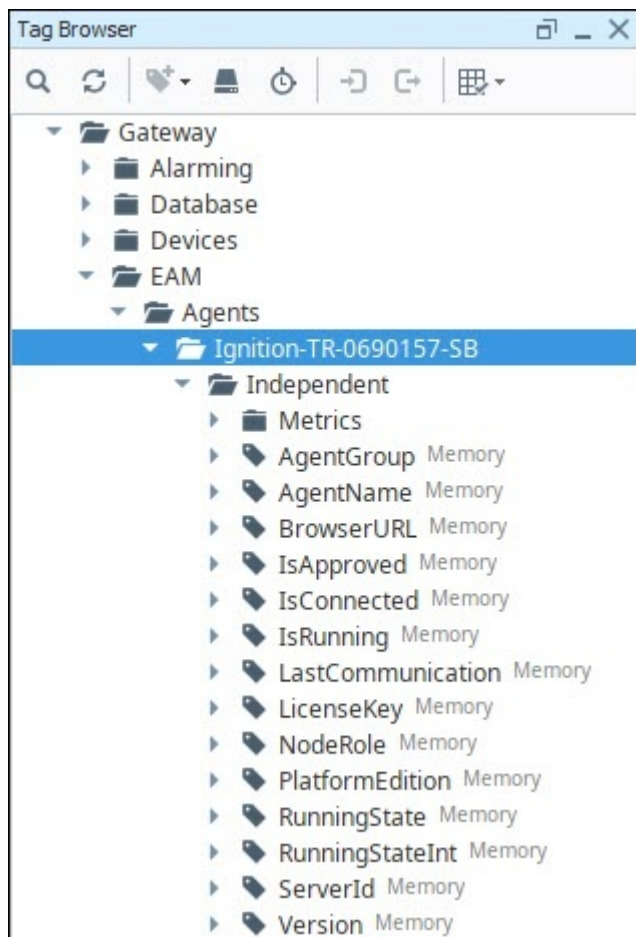
EAM in the Designer

[Watch the video](#)

The Enterprise Administration Module provides a lot of information about agents inside the Designer that allow you to search agent information to see the status of an agent and history of tasks using tags, binding functions, and scripting functions. Anything you want to know about an agent can be found using EAM in the Designer.

Agent System Tags

System Tags are created on the controller for each agent, allowing you to build EAM monitoring clients, set alarms on individual tags, and many other tag-related operations. To view EAM tags, launch a Designer on the controller Gateway. In the **Tag Browser**, navigate to **System > Gateway > EAM > Agents**. A tag folder is created for each agent. As with other system tag values, all EAM system tag values are read-only.

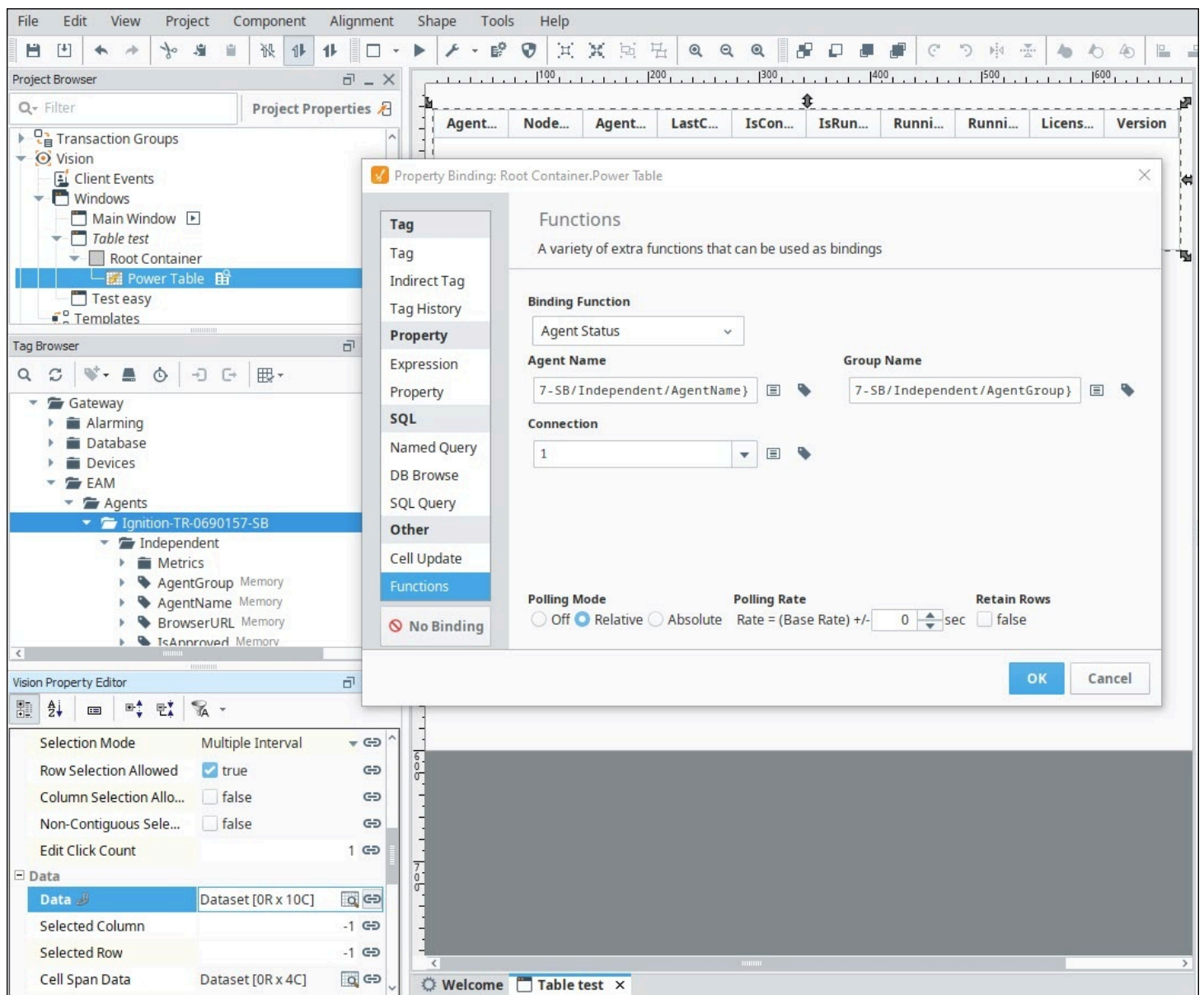


Property Binding Functions

The EAM adds its own binding functions to the standard property binding functions, allowing you to quickly add agent information to a component such as a table. The following binding functions are available:

- **Agent Status:** reports some basic information about each agent, such as platform version, connection status, and the last time a message was received from the agent.
- **Agent History:** reports agent events from the the **agent_events** table in the controller's configured database. Agent events include Gateway task results, abnormal health statistics, and agent communication status events.

EAM binding functions are only available in projects hosted on the Controller.

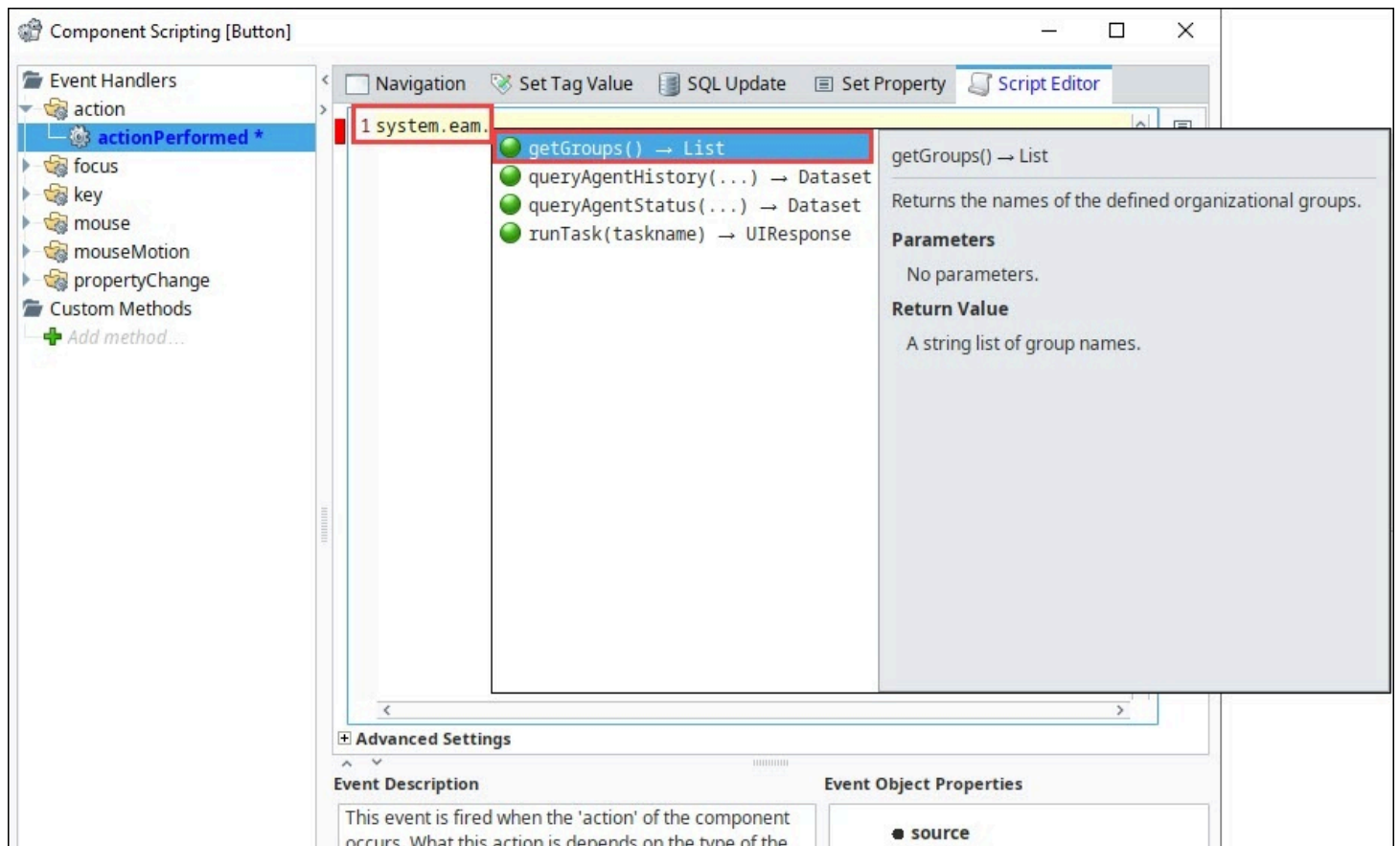


Scripting Functions

There are several scripting functions that are included in the `system.eam` package:

- **`system.eam.getGroups()`**: Returns a String list of all agent groups configured in the controller.
- **`system.eam.queryAgentHistory()`**: Returns a Dataset of agent events from the controller's configured database.
- **`system.eam.queryAgentStatus()`**: Returns a Dataset with some basic information about each agent, such as platform version, connection status, and the last time a message was received from the agent.
- **`system.eam.runTask()`**: Takes the name of a task as an argument as a string (must be configured on the Controller before hand), attempts to execute the task.

More details and examples can be found in the [system.eam](#) section of the Appendix.



Tag Distribution for Development Servers

With the EAM installed, you unlock more than just Agent tasks as a way to send data between gateways. When you are using a pair of servers for Development/Production, you can take advantage of the EAM to send tags between Gateways much like you can send projects by using an Agent Task.

From your Controller, you can right-click on any tag and send it to another Gateway in the Gateway Network. Since it is unlikely that you have identical PLC devices connected to multiple Ignition Gateways, this will only be useful for Development/Production server pairs or for Memory tags.

