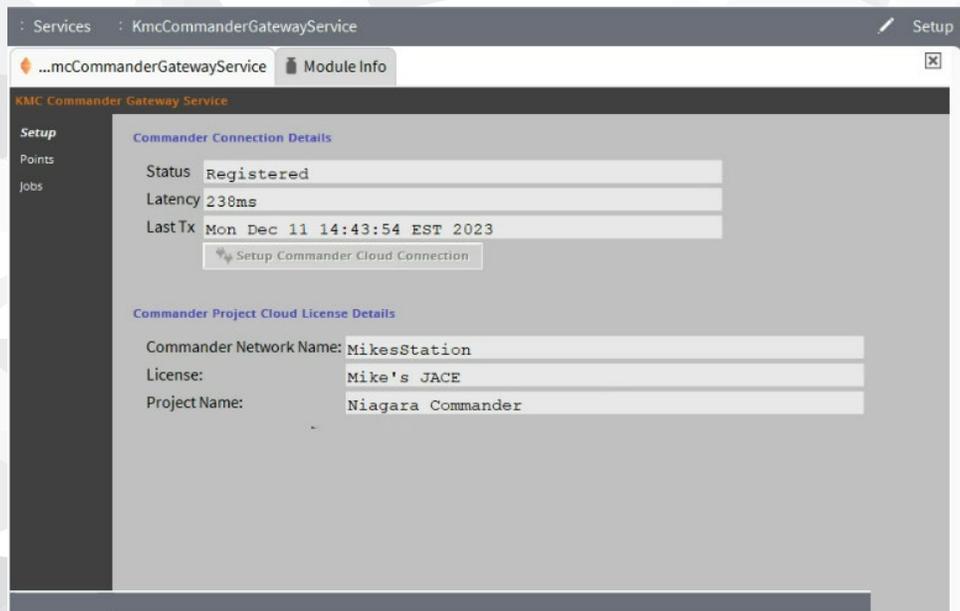




# Gateway Service for Niagara Installation Guide



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# Prerequisites

## Obtain Software and Licensing

Before installing a KMC Commander Gateway Service in Niagara, you must have:

- An open-license Niagara 4 Workbench (KMC N4 Workbench or third party).

**Note:** For KMC Workbench installation details, see the *KMC Workbench Software Manual* found on the [KMC Converge product page](#). (You must be logged in to find the manual under the **Documents** tab.)

- The following modules and files for the KMC Commander Gateway Service (Niagara part DR-kmcCommanderGateway / KMC Commander part CMDR-NIAGARA):
  - `kmcControls.license`
  - `kmcControls.certificate`
  - `kmcCommanderGateway-rt.jar`
  - `kmcCommanderGateway-wb.jar`
- KMC Commander project licensing.
- KMC Commander points licensing.

## Consult with the IT Department

If the IT department has outbound rules, a rule should be added to allow outbound traffic on TCP/IP port **443**.

Alternately, for additional security, outbound traffic on TCP/IP port 443 should be open (only) to the following FQDNs (Fully Qualified Domain Names):

- `app.kmccommander.com` (`app.kmccommander.com.herokudns.com`)
- `kmc-endeavor-stg.herokuapp.com` (needed for IFR only)

**Note:** If the firewall performs HTTPS Inspection, also make exclusions for the listed FQDNs.

**Note:** The listed FQDNs do not respond to ICMP pings.

**Note:** Services are dynamically distributed, and rules (if necessary) should use domain names rather than static IP addresses.

Also, obtain primary and secondary DNS addresses from the IT department, which will be used to set up DNS addresses in Niagara. Note whether they are DNSv4 or DNSv6.

# Set Up DNS Addresses in Niagara

To achieve communication from the Niagara station to the KMC Commander Cloud, a DNS will be leveraged to resolve the end-point location of app.kmccommander.com.

After consulting with the IT department, set up DNS in Niagara by doing the following:

1. Using Workbench, connect to the platform of the JACE.
2. In the navigation tree, expand **Platform**.
3. Select **TCP/IP Configuration**.
4. Click the **(+)** next to either **DNSv4 Servers** or **DNSv6 Servers**, depending on the configuration of your system.
5. Enter the primary DNS address into the text box.
6. Repeat steps 4 and 5 for the secondary DNS address(es). (A primary and at least one secondary address is recommended).
7. Click **Save**, which makes a Reboot confirmation appear.
8. Click **Yes**.

# Licensing the Service

At the time that Niagara part DR-kmcCommanderGateway or KMC Commander part CMDR-NIAGARA(-3P) is purchased from KMC Controls, the Niagara Host ID of the intended station is provided to KMC Controls Customer Service.

Customer Service binds the license to that Host ID. Once this is done, connecting the Host ID to the Niagara licensing server (by means of a license import in Workbench) adds or updates the following license and certificate files:

- `kmcControls.license`
- `kmcControls.certificate`

**Note:** KMC Controls Customer Service also sends an email with a `.zip` folder containing the license and certificate files. Import those files to the JACE from your computer if connection to the Niagara licensing server is not possible.

**Note:** For details on license import processes, refer to the Tridium documentation (`docPlatform.pdf`, License Manager).

# Know Before Installing

Before installing the KMC Commander Gateway Service, read the following sections to understand the potential impact of the service on the station.

## Impact of the Service on Station Operation

The KMC Commander Niagara Gateway Service is designed to provide data from the Niagara Station to the KMC Commander Cloud. Providing this data will mean that the service will have to poll the points in the station. The polling of these points can impact the station performance.

### CPU Usage

Prior to installing the service, review the JACE's resources by viewing the resource manager on the station. Note the CPU% and Memory Usage during normal operation.

After installing the service and setting up all the points that will be leveraged by the service, revisit the JACE's resource manager to confirm normal operation. For details on normal operation, see the Tridium documentation ([docIT.pdf](#), System Performance).

### Point Polling

The KMC Commander Niagara Gateway Service will poll points based on the project level point update time in KMC Commander Cloud (default: 5 minutes). As points are added to the cloud, the service will create a listing of these points in the service within the station.

Upon a point update cycle, the service will get an updated value from the object by subscribing to that point in Niagara. The default point subscription in Niagara is 1 minute. During this time the point being polled will be polled based on its Niagara tuning policy settings.

### Tuning Policies

Configuration of the Niagara object's tuning policies can severely impact the JACE's performance when exchanging data with the KMC Commander Cloud. Proper tuning policies should be implemented across all points of interest to be exchanged with the KMC Commander Gateway Service.

For example, the default Niagara tuning policy is set to 5 seconds. If that policy is used for the points of interest, then at every KMC Commander Cloud update request (default interval of 5 minutes) those points will be polled every 5 seconds for 1 minute.

**Note:** For details on tuning policy setup, refer to the Tridium documentation ([docDrivers.pdf](#), Tuning).

# Adding the Service

## Adding the Module (.jar) Files to Workbench

1. Copy the KMC Commander Gateway Service .jar files (`kmcCommanderGateway-rt.jar` and `kmcCommanderGateway-wb.jar`) to the Niagara 4 modules folder at the following location:

`C:\<VendorName>\<WorkbenchVersion>\modules`

2. Restart Workbench.

Continue with the topic [Transferring the Module \(.jar\) Files to a JACE on page 7](#).

## Transferring the Module (.jar) Files to a JACE

Perform these steps after adding the mule (.jar) files to Workbench:

1. In Workbench, locate the JACE controller in the **Nav** tree.
2. Connect to the JACE **Platform**.
3. In the JACE platform, double-click **Software Manager**.
4. In the **File** list, press and hold **CTRL** while clicking each of the following files:
  - `kmcCommanderGateway-rt.jar`
  - `kmcCommanderGateway-wb.jar`

5. Click **Install**.

**Note:** If upgrading, click **Upgrade**.

6. Click **Commit**.
7. Restart Workbench.

Continue with the topic [Verifying Module Presence on page 7](#).

## Verifying Module Presence

Perform the following steps after the modules have been transferred to the JACE to verify the module certificate validity.

**Note:** Refer to the Tridium document `docModuleSign.pdf` for details.

1. Connect to the JACE platform.
2. Expand the platform and locate the Software Manager.
3. Double-click **Software Manager**.

4. In the module list, locate the following modules:

- `kmcCommanderGateway-rt.jar`
- `kmcCommanderGateway-wb.jar`

5. Note which of the following icons are present in the **Installed** and **Avail.** columns:

- A green shield  indicates a valid certificate is present.
- A question mark  indicates that a JACE reboot is required. To reboot the JACE, click **Reboot** in the Application Director view of the JACE's platform.

**Note:** A JACE reboot is different than a JACE restart.

Continue with the topic [Adding the Service to a Station on page 8](#).

## Adding the Service to a Station

To add the KMC Commander Gateway Service to a JACE station, do the following:

1. In the Workbench **Nav** tree, locate and connect to the JACE **Platform** and **Station**.
2. Open a **Palette** side bar.

**Note:** Click **Side Bars** , then select **Palette** from the dropdown menu.

3. In the **Palette** side bar, click **Open Palette** .
4. From the **Open Palette** window, in the **Module** column, locate then select **kmcCommanderGateway**.

**Note:** To narrow the list, type `kmc` in the **filter**.

5. Click **OK**.  **KMC Commander Gateway Service** appears in the module's **Palette**.
6. Drag the  **KMC Commander Gateway Service** from the module's **Palette** and drop it on the **Services** node of the JACE station's database.
7. In the **Name** window that appears, leave the name as is, or edit the name as appropriate.
8. Click **OK**. The service appears in **Services**.

# Connecting the Service

To connect the KMC Commander Gateway Service in Niagara to the KMC Commander Project Cloud, do the following:

1. Double-click  **KMC Commander Gateway Service**, which opens its **Setup** view in a tab to the right.

**Note:** From the Workbench **Nav** side bar, locate  **KMC Commander Gateway Service** under the station's **Services** node.

2. Click **Setup Commander Cloud Connection**, which opens a **Commander Login** window.
3. Enter your KMC Commander Project Cloud account **Username** (email) and **Password**.
4. Change the automatically populated **Commander Network Name** as needed, or leave it as is.

**Note:** This is the name for the station as it will display in the KMC Commander web application. It can also be modified later within that application.

5. Click **Connect**.

**Note:** If connection succeeds, **Status** will show "Connected" and **License** will change from "Login to select" to the KMC Commander license and project, or a dropdown list of licenses and projects if more than one is assigned to this account.

6. Select the correct license and project from the **License** dropdown list (if more than one is assigned to this account).

**Note:** The displayed format is "License Name -- Project Name". The names are set in the KMC Commander (Cloud) System Administration. See the [Accessing System Administration](#) topic on KMC Commander Help or in the *KMC Commander Software Application Guide* PDF.

7. Click **OK**, which saves the selection and closes the window.

**Note:** In the KMC Commander Gateway Service **Setup** view, below **Commander Connection Details**, **Status** changes to "Registered", and live **Latency** and **Last Tx** (last transmission [by service to the cloud] time) information displays.

**Note:** To update the **License** and **Project Name** information (below **Commander Project Cloud License Details**), click the Workbench **Refresh**  button.

Once connected, the JACE is automatically added in KMC Commander's Networks Explorer. Proceed with setting up the JACE in KMC Commander by [Logging into the Project Cloud](#), then [Discovering Devices](#). Refer to those topics on KMC Commander Help or in the *KMC Commander Software Application Guide* PDF.

# Removing the Service

If tuning policies are set up properly (see [Tuning Policies on page 6](#)), the KMC Commander Gateway Service should not need to be removed. Should the service need removed for any reason, perform these steps.

## Removing the Service

1. Using Workbench, connect to the Station on the remote JACE.
2. Expand the Station in the navigation tree.
3. Within the Station, expand **Config**.
4. Within **Config**, expand **Services**.
5. Right-click  **KMC Commander Gateway Service**.
6. In the drop-down menu, click **Delete**.
7. Right-click the Station.
8. Click **Save Station**.

## Removing the Modules

1. Using Workbench, connect to the Platform of the remote JACE.
2. In the navigation tree, expand **Platform**.
3. Double-click **Software Manager**.
4. In the main view panel, select both of these modules:
  - `kmcCommanderGateway-rt`
  - `kmcCommanderGateway-wb`
5. Click **Uninstall**.
6. Click **Commit**.

**Note:** If the station is running, **Stop Applications?** will appear. Click **OK**.

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