



# Leveraging provisioning in an enterprise Niagara system

## Q&A

1. **Can you explain the usage of 'Connection Timeout' and 'Socket Timeout' slots that are located on the ProvisioningNwExt property sheet?**

These properties were added in 4.7 to allow provisioning to utilize different connection and socket timeout settings for platform connections than the settings in the system.properties file. If using VPN connections or networks with excessive latency it may be necessary to adjust these properties.

2. **Can an N4 station run provisioning jobs against an AX station?**

Yes, a N4 station can run jobs against AX 3.8 stations with the following steps: Enable Bootstrap Mode, Backup Stations, Copy Local File, Copy Supervisor File, Install Clean Distribution, Install Software, Reboot, Remove Station User, Rename Device Station, Set Property, Set Station Connection Credentials, Set Time and Upgrade Out-of-date Software. Note, installing software steps requires copying the AX files to the !sw folder under the N4 provisioning station.

3. **Does anything need to be configured on the JACE side to allow provisioning to work?**

There is no configuration required in the remote stations. Provisioning requires the Niagara station device to have properly configured station (client connection) and platform connection credentials.

To utilize the JACE as the provisioning platform, please refresh your license to ensure that it includes the provisioning feature and then setup provisioning jobs as you would on a PC based Supervisor.

4. **Can you update the system passphrase on all JACEs if they have different current passphrases?**

The 'Set System Passphrase' job step requires entering the current passphrase and double entering the new passphrase. The job step would require all stations being processed to have the same current passphrase.

This job step is typically used to bootstrap multiple Edge devices that come loaded with stations and a default passphrase out of the box reducing the amount of time it takes to bring these devices online.



**5. Is the '<hostname>' syntax only a feature of the provisioning generate certificate job step, or is that available when using the Workbench certificate management tools?**

The '<hostname>' syntax is specific to the generate certificate job step.

**6. Do you have to disable bootstrap mode when you are done?**

Bootstrap mode is only enabled for the duration of the provisioning job running and is automatically disabled when the job completes.

**7. Can provisioning be used to approve host exceptions for self-signed or untrusted certificates?**

No, host exceptions must be approved manually.

**8. Can bootstrap mode be used to create a new station user so that access can be granted to the station if credentials were forgotten?**

The provisioning station must be configured with valid station credentials to connect to the remote station to run provisioning tasks. Bootstrap mode creates temporary certificate exemptions for self-signed certificates which is intended to allow other job steps to run that change default credentials and configure certificates.

**9. Does the 'Set Station User Password' job step update the client connection credentials in the supervisor?**

If the 'Use connection username' checkbox is selected for the job step; the job does update the client connection credentials.

**10. Can a JACE function as a MQTT broker?**

No, Niagara does not function as an MQTT broker.

**11. What version was the 'Setup Reciprocal Connection' job step added?**

The step was added in Niagara 4.6 version.

**12. Is there a job step to remove a platform user?**

No, currently there is only a 'Set Platform Credentials' job step which allows creating a new username and double entering the password. If running the 'Set Platform Credentials' job step against a JACE with the default platform credentials, the job step does remove the default platform account.

**13. Does the 'Set Station Credentials' job step work for AX stations in the Niagara network of the N4 supervisor?**

Yes, the 'Set Station Credentials' job step is modifying the client connection credentials in the N4 supervisor station.

**14. Is there an undo option when running provisioning job steps?**

No, there is no undo function available when running provisioning job steps. It is always a best practice to back up the applicable stations prior to performing any significant engineering work so you can easily revert changes if necessary.

**15. If I have several JACEs I want to install a clean dist to using provisioning, do all the stations require the same platform credentials?**

Each Niagara station device in the Niagara network of the supervisor has its own unique platform credentials property. This allows each station to have a unique platform account and password if desired. Following installation of the clean dist each JACE will the applicable brand specific default platform credentials restored.

**16. Can a 'Remove Station User' job step be run to remove the current station connection user?**

Running a 'Remove Station User' job step to remove the current station connection user results in a step failure to prevent the provisioning station from losing connectivity. You would need to first run a 'Set Station Connection Credentials' job step or manually change the Niagara station's client connection credentials before running the job step to remove that user account.

**17. How can templates be managed with multiple technicians working on a large site?**

The templates must be located on the local Workbench client if deploying templates via the device manager or drag and drop. When templates are deployed in this method, the template is copied to the JACE's file space under the template subfolder. Technicians can copy the deployed template from the JACE's file space if they do not have that specific template or version.

If using provisioning to deploy templates, the templates must be in the templateCache folder under the supervisor's file space which can be accessed by all technicians.

The Template Manager view in the station lists all components deployed using templates, the template name and version.

#### **18. Can a provisioning job update point naming on both ends to remove spaces and replace with an underscore character?**

A provisioning robot could be used to rename the points in the remote station; however, the best approach might be to use the robot editor in the supervisor station to rename Niagara network proxy points, rename the remote station control points and update the Point Id of the Niagara network proxy point at the same time.

#### **19. Which Niagara 4 versions include new job steps?**

Niagara 4.3 version added the Install Certificate job step.

Niagara 4.6 version added the Deploy Template, Generate Certificate, Import Signed Certificate, Set Certificate Alias, Set Platform Credentials, Set System Passphrase, Set TLS Level, Setup Reciprocal Connection, Sign Certificate and Upgrade Template job steps.

Niagara 4.7 version added the Enable Bootstrap Mode, Update Connections Using Niagara Network Discovery, Update Connections Using Provisioning Station's DHCP Server, Export Certificate Signing Request, Install Application Template, Rename Device Station, Security Job Steps, Set Station User Password and Set Time (NTP) job steps.

Niagara 4.8 version added the Add Station User, Install Clean Distribution, Remove Station User, Set Property and Set Station Credentials job steps.

Niagara 4.9 version added the Configure Niagara IdP and SAML Scheme, Update Template or Application Configuration and Upgrade Application Template job steps. The Set Property job step was updated to allow configuring unique property values for each station.

#### **20. Does the Set Time job step require the remote host to be rebooted?**

If just setting the time there is no requirement to restart the station or reboot the host. If changing the NTP configuration the host must be rebooted to initialize the NTP daemon using a Reboot job step.

#### **21. Can provisioning jobs be deployed in a multi-tiered architecture?**

Provisioning jobs can only be run against stations which are mapped directly into the Niagara network of the provisioning station. In a multi-tiered architecture provisioning can be used in the intermediate stations to run jobs against the leaf node stations.

#### **22. Where can you view the expiry date of the license installed in a JACE?**

Licenses for production projects don't typically expire, whereas a demo JACE license expires annually. You can view the license expiration in the platform License Manager view on the JACE.

### **23. What happens when a JACE fails during provisioning?**

The job log will show a failed job step with a fault cause and the user needs to resolve the issue and potentially run the job again.

### **24. Where can you see the past run jobs and their results?**

The Jobs side bar in Workbench displays jobs which have been run organized by stations. Clicking the double chevron symbol icon opens the job log in a dialog. The Provisioning Network Job View is also available either under the station's Job Service or the Niagara Network Job Prototype.

### **25. What is garbage collection and how often is it required?**

Java garbage collection is the process by which Java programs perform automatic memory management. The garbage collection process is triggered automatically by the Java virtual machine.

### **26. Is there a limit on the number of stations which can be configured for provisioning tasks?**

There is no limit.

### **27. How does provisioning work across multiple brands?**

The provisioning station must be configured with valid station and platform credentials to connect to the remote hosts. The remote host's license 'accept.station.in' key must allow the brand of the provisioning station's license.

### **28. Can provisioning automatically restore a backup to a remote JACE?**

No, backup restoration is a manual process.

### **29. Are there any limitations or differences in the provisioning service for the Enterprise Security product?**

The Enterprise Security product uses the same core provisioning functionality.

### **30. Will provisioning work for any N4 controller?**

The provisioning feature is licensed on PC based hosts and JACE-8 controllers. Provisioning jobs may be run against PC based hosts and JACE-8 or Niagara Edge controllers.