Technical Document

Containerized Niagara Guide

January 4, 2025



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Tridium, Incorporated

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About this guide

This topic contains important information about the purpose, content, context, and intended audience for this document.

Product Documentation

This document is part of the Niagara technical documentation library. Released versions of Niagara software include a complete collection of technical information that is provided in both online help and PDF format. The information in this document is written primarily for Systems Integrators. To make the most of the information in this book, readers should have some training or previous experience with Niagara software, as well as experience working with JACE network controllers.

Document Content

This document describes how to set up and use Containerized Niagara. Sections in this guide include chapters about container license, system requirements, and limitations.

Document change log

Changes to this document are listed in this topic.

January 4, 2025

• Added "Deregistering a license from host ID" and "Replacing a host ID bound to license" topics to the "Licensing" chapter (as of Niagara 4.15).

October 21, 2024

- Added "Backing up and restoring registered container" chapter.
- Added " Upgrading a Niagara container" chapter.

November 30, 2023

• In "Creating subscription license order" chapter, removed "Email Licenses (Optional)" checkbox.

Initial release publication: September 5, 2023

Related documentation

Additional information is available in the following documents.

• Niagara Platform Guide

Chapter 1. Overview

Containerized Niagara is a packaging mechanism for deploying and updating Niagara core. It is a Niagara framework stack that is packaged into a Docker[®] container with all required dependencies for easy deployment.

A container bundles the code defining a specific software application with its related configuration files, system libraries, system tools and dependencies such that the package is fully functional regardless of the cloud or non-cloud computing environment.

Advantages of using containers:

- Faster delivery of software
- More agile software development processes
- Easier portability of code from one computing environment to another

There are two primary use cases for deploying Niagara via container:

- Embedded deployment as an alternative to the Niagara Portability Software Development Kit. By bundling Niagara core (JRE, Niagara Framework, and modules) into a single deployment unit, you simplify the start and upgrade of Niagara systems compared to using a traditional Niagara Portability Software Development Kit (NPSDK) or Windows/Linux server installation.
- Niagara Development partner deploys Containerized Niagara to a third-party device or server.

Figure 1. Example deployment of Containerized Niagara on a partner-built mobile hub



Features

The following features are available in Containerized Niagara.

- The Niagara Framework is supplied in a Docker[®] container.
- You can use the hosting platform of your choice (for example, Azure, AWS, Google)

Overview

- If you use Enterprise Scale, you can choose the orchestration tool.
- AMD_x86 and Arm64 architecture are supported.
- Custom support is available for different architectures.
- Authorization models: file domain authorization or native domain authorization
- Subscription-based licensing using OPex instead of CAPex for purchasing flexibility
- Models that are released with Niagara 4.13:

Туре	Part #	Туре	Par
	NCC-SUP-0		NCC-CPN-000
	NCC-SUP-1		NCC-CPN-000
upervisor	NCC-SUP-10		NCC-CPN-000
	NCC-SUP-100	Hardware Embedded	NCC-CPN-001
	NCC-SUP-500		NCC-CPN-002
	NCC-SUP-UP-1		NCC-CPN-010
Supervisor Upgrade	NCC-SUP-UP-10		NCC-CPN-020
10	NCC-SUP-UP-100		NCC-CPN-DEV
k	NCC-SUP-DEV-10		NCC-CPN-DEV
Supervisor Upgrade Supervisor Device Pack	NCC-SUP-DEV-50	Hardware Embedded	NCC-CPN-DEV
	NCC-SUP-DEV-100	Device Pack	NCC-CPN-DEV
	NCC-SUP-DEV-500		NCC-CPN-DEV
	NCC-SUP-DEV-1000		

Using a container instead of a virtual machine

Advantages using a container instead of a virtual machine are as follows:

- You do not need to maintain the host operating system.
- Containers require less storage and RAM overhead.
 - A container reuses the Linux Kernel of the host operating system.
 - Containers require less storage and RAM overhead.
 - A container reuses the Linux Kernel of the host OS.
 - Typically, a container is one hundredth of MB versus multiple GB for the virtual machine.
- Containers are more portable.

Where to use containers

There are two primary use cases for deploying Niagara as a container: embedded deployment as an alternative for NPSDK (Niagara Portability Software Development Kit) and Supervisor deployment in a cloud service or on a server device locally.

Next generation NPSDK deployment

Note that containers are not appropriate for devices targeted by Smart Edge SDK. If a device is capable of running a container, it can run full Niagara.

- OEM-specific engagement to support custom hardware
- Works out of box
- Differences from NPSDK
 - Faster onboarding time by OEM engineering team
 - Limited opportunities for customization. See also "Limitations".

Standard cloud service deployment

• N4Supervisor for AWS or Azure.

Host system requirements

Before you start to use Containerized Niagara, check the host system requirements in this section.

- Linux x86_64 (AMD64) or Linux ARM64 system with Docker Engine installed.
 - Docker runtime on Windows or Mac is not supported.
 - (Optional) install Docker Compose to use docker-compose.yml for configuring containers.
- Docker volume support
 - Niagara stores station, history, and alarm data as standard files on volumes.
- RAM/disk requirements
 - RAM requirements vary by application. You can adjust the Java heap size allocated to Niagara station using container environment variables.
 - Standard Niagara container size on disk is about 350MB, which includes JRE and requires OS libraries and all standard modules.
- Container management
 - You can use Kubernetes or other orchestration tools to start, stop, upgrade, and configure the Niagara container.

Limitations

The following limitations exist when using Niagara containers.

Scalability

- Niagara containers do not provide horizontal scalability. It is a single instance of Niagara. You can increase the capacity by allocating additional memory or using a faster CPU.
- Containerized Niagara uses IP-based drivers only.
- Serial drivers and custom drivers such as BACnet MS/TP, CCN, BPort are not supported. The container engine does not permit applications running in container direct access to serial ports.

No data recovery service

If the container is terminated or the hosting platform has a power loss, there is no support for data recovery. All data will be lost since the last station backup.

Station only

Containerized Niagara is not suitable for deploying Workbench. You need another laptop or PC to interact with the container and run Workbench.

Outbound internet connectivity required

A container deployment must be able to connect to the Entitlement Server to validate its license.

Overview

Chapter 2. Backing up and restoring a registered container

The following sections describe how to back up and restore an already registered Niagara container using Niagara Workbench.

Backing up the Docker container

The following section describes how to back up a Docker container in Niagara Workbench.

Prerequisites:

- You have a running Docker container.
 - Step 1. In Workbench, after connecting to the container's platform, open the **Platform Administration** and click **Backup**.

(Docker) : Platform			🖍 Platform Administrati
• Nav	Platform Administration		
B th O X O: 3(Docker)	Niew Details	Baja Version	Tridium 4.13.0.186
	• 11- day = + + + + + + + + + + + + + + + + + +	Daemon Version	4.13.0.186
▶ ar Platform	Opdate Authentication	System Home	/opt/niagara
Station (Docker)	System Passphrase	User Home	/home/niagara
	👾 Change HTTP Port	Daemon HTTP Port	3011 (disabled in TI Scettings)
	Change TLS Settings	Daemon HTTPS Port	5011
	(Change Date/Time	Host ID	Nre-(
	A thousand Ontions	Host ID Status	Registered
	de Advanced Options	Model	n4container (1.4.70)
	Change Output Settings	Product	n4container
	Syslog Configuration	Serial Number	08.Nov-23
	View Daemon Output	Local Time	12:21 Eastern Standard Time
	View System Log	Local Time Zone	America/New_York (-5/-4)
	Configure Duntime Droffler	Operating System	Niagara Container (1.4.70)
	Configure Runtime Profiles	Niagara Runtime	tridium-linux-amd64-nre-core-fda (4.13.0.186)
	Backup	Architecture	x64
	🗮 Commissioning	Enabled Runtime Profile	es rt, ux, wb
	C Reboot	Niagara Stations Enable	azur-re-imux-neadiess-amoo4 (Azur systems, inc. 1.6.0.572.24)
		Number of CPUs	2
		Current CPU Usage	10%
		Overall CPU Usage	1%
		Filesystem	Total Free Files Max Files
			/tmp 40,453,376 KB 18,191,424 KB 240241 2588672
			/opt/niagara 40,453,376KB 18,191,424KB 240241 2588672 /home/niagara 40,453,376KB 18,191,424KB 240241 2588672
		Physical RAM	Total Free
			3,964,456 KB 1,339,608 KB
		Other Parts	None
Template			

In the **Connect to Station**? window, you are prompted to allow Workbench to authenticate and connect the station in order to back it up.

Platform Administration			
Niew Details	Baja Version	Tridium 4.13.0.186	
, · · · · · · · · · · · · · · · · · · ·	Daemon Version	4.13.0.186	
Update Authentication	System Home	/opt/niagara	
System Passphrase	User Home	/home/niagara	
	Host	(Docker)	
- Change HTTP Port	Daemon HTTP Port	3011 (disabled in TLS settings)	
Change TLS Settings	Daemon HTTPS Port	5011	
Change Date/Time	Host ID	Nre-0E04-47DB-FD90-4D05-912F-86D1-74A4-7AE9	
*	Host ID Status	Registered	
of Advanced Options	Model	n4container (1.4.70)	
Change Output Settings	Product	n4container	
🕒 Syslog Confi	nect to Station?	×	
Uiew Daemor			
View Syste (?)	Station "Docker" is cur	rently running. Do you	
i view syste	want to connect to the	station to back it up?	
V Configure Runt	Vec	re-fda (4.13.0.186)	
🕲 Backu	Tes		
K Commissioning	Enabled Runtime Profile	es rt,ux,wb	
Commissioning.	Java Virtual Machine azul-jre-linux-headless-amd64 (Azul Systems, Inc. 1.8.0.372.24)		
C Reboot	Niagara Stations Enable	ed enabled	

Step 2. In the File Chooser window, which defaults to the backups folder, click Save to save the backup file.

🎊 File Chooser			×
File Spaces	Current Pa ~ backups	th	
	backup backup backup	_Docker_231106_0735.dist	
	backup backup	_Docker_231106_1255.dist	
Bookmarks	backup backup backup backup	_Docker_231108_1159.dist _J9000_20231015061614_a2211a: _J9000_230919_1034.dist	
	backup_Pro	_Provisioning_231005_1513.dist _Provisioning_231005_1530.dist	
	File name: Files of type:	backup_Docker_231108_1222.dist	Save Cancel

Restoring backup DIST file to Docker container

The following section describes how to restore the backup .dist file to the Docker Container in Niagara Workbench.

Step 1. In the Workbench platform, to select and install the backup, select the Distribution File Installer.

				🖍 🛛 Distribution File Instai	
Nav Nav (Docker)	/C:/Users/h249851/Niagara4.13/tridium/backups 12 distribution files were found in directory "/C:/Users/h249851/Niagara4.13/tridium/t	backups"			
 If C X (Docker) If C X (Docker) If C X (Docker) Application Director Certificate Management Distribution File Installer File Transfer Client Lesicon Installer Cliense Manager Platform Administri Software Manager Platation Copier CP/IP Configur Certificate Station (Docker) Station (Docker) 	File ① Locker_231101_0918.dist ① backup_Docker_231106_0755.dist ② backup_Docker_31106_0005.dist ③ backup_Docker_31106_0006.dist ③ backup_Docker_31108_1159.dist ④ backup_Docker_31108_1159.dist ④ backup_Docker_31108_1159.dist ④ backup_J0000_2023105061614_a2211a21-5d84-4e6e-8163-3083af9b9348.dist ④ backup_J0000_2023105051614_a2211a21-5d84-4e6e-8163-3083af9b9348.dist ④ backup_Provisioning_23105_1133.dist ④ backup_Provisioning_23105_1133.dist ④ backup_Provisioning_23105_1133.dist ● backup_test2_231106_1312.dist	Version Tridium 0 Tridium 0 Tridium 0 Tridium 0 Tridium 0 Tridium 0 Tridium 0 Tridium 0 Tridium 0	Status Modified Modified Modified Modified Modified Different target platform Different target platform Different target platform Modified	Description F Online backup of station "Docker" on "e0ddd88d5026" Online backup of station "Docker" on "e0ddd88d5026" Online backup of station "Docker" on "e0ddd88d5026" Online backup of station "Docker" on "e0dd68d5026" Online backup of station "Docker" on "e0dd68d5026" Online backup of station "Docker" on "e0dd68d5026" Online backup of station "Docker" on "e0dd68d5026" Online backup of station "Docker" on "e0dd68d5026" Online backup of station "Joocker" on "e0dd68d5026" Online backup of station "J9000" on "ubuntu" Online backup of station "J9000" on "ubuntu" Online backup of station "Provisioning" on "VASLIT396PVD3.gli Online backup of station "Provisioning" on "VASLIT396PVD3.gli Online backup of station "Provisioning" on "VASLIT396PVD3.gli Online backup of station "test2" on "6719d2b1d10b" Online backup of station "test2" on "6719d2b1d10b"	e lot lot
• Template	C Choose Directory	Cleaning	Conversion	🕒 Backups 🕨 Install	×

The Distribution File Installer window opens.

The selves Desline 221100 0	and disk		Teidium 0 M	a diffinad
🎊 Distribution File In:	staller			×
Distribution F Stopping applica	ile Installer tion(s)			
Running applications r	nust be stopped	before installat	ion can proceed. Ch	oose
'Finish' to stop the app	lications and per	form the softw	are installation.	
	Back	Next	🗸 Finish	X Cancel

- Step 2. To stop all running applications within Niagara and allow Workbench to install the backup to the container, click **Finish**.
- Step 3. Observe the installing status and after completion, click Close Window.

👫 Installing Distribution		×
Installing Distribution		
Installing:		
Stop running application(s)	Success	
Install software	Success	
Restart application(s)	Success	
Installation complete.		
FileStore::commitInstan Resetting subscription Starting "station Docke Installation complete.	ce commit complete parameters r"	•
•		
	Close Window	

Result

• In the Docker console, you can view the installation of the backup.

niagara-niagara-1	INFO [12:24:25 08-Nov-23 EST][stationRegistry] station Docker stopping
niagara-niagara-1	INFO [12:24:28 08-Nov-23 EST][stationRegistry] station Docker exited with status 0
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/console.txt deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/console_backup_231108_1218.txt deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/console_backup_231108_1202.txt deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/etc/platform.bog deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/etc/platform_backup_231108_1222.bog deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/alarm/alarm.adb deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteDirectory '/home/niagara/stations/Docker/alarm' deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/history/station/seg0/SecurityHistory.hdb deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteDirectory '/home/niagara/stations/Docker/history/station/seg0' deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/history/station/seg4/LogHistory.hdb deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/history/station/seg4/DeviceNetworkJobHistoryRecord.hdb de
leted	
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteDirectory '/home/niagara/stations/Docker/history/station/seg4' deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/history/station/seg7/AuditHistory.hdb deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteDirectory '/home/niagara/stations/Docker/history/station/seg7' deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/history/station/seg1/DeviceStepHistoryRecord.hdb deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteFile /home/niagara/stations/Docker/history/station/seg1/NetworkStepHistoryRecord.hdb deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteDirectory '/home/niagara/stations/Docker/history/station/seg1' deleted
(Trash)-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteDirectory '/home/niagara/stations/Docker/history/station' deleted
ntagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteDirectory '/home/niagara/stations/Docker/history' deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] DeleteFileStoreElement::deleteDirectory '/home/niagara/stations/Docker/niagaraDriver_nVirtual' deleted
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] FileCachedFileStoreElement::commit file written /home/niagara/stations/Docker/config.bog
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] FileCachedFileStoreElement::commit file written /home/niagara/etc/platform.bog
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] KeyRingImportFileStoreElement::commit imported data to keyring in /home/niagara/security/.kr
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] FileCachedFileStoreElement::commit file written /home/niagara/daemon/daemon.properties
niagara-niagara-1	INFO [12:24:30 08-Nov-23 EST][file] FileCachedFileStoreElement::commit file written /home/niagara/etc/license.properties

• The Docker console displays the following information after the restore has completed and the station has attempted to start.

niagara-niagara-1	INFO [12:24:31 08-Nov-23 EST][stationRegistry] station Docker watchdog thread started [tid = 51]
niagara-niagara-1	INFO [12:24:31 08-Nov-23 EST][stationRegistry] station Docker starting
niagara-niagara-1	INFO [12:24:35 08-Nov-23 EST][stationRegistry] station Docker exited with status -3
niagara-niagara-1	SEVERE [12:24:35 08-Nov-23 EST][stationRegistry] station Docker failed, rc = -3

• At this point, in Workbench re-register the subscription into the backup. In Workbench, the Application Director displays that the station startup may have failed. The console shows FeatureNotLicensedException.

(Docker) : Platform	/	
- Nav	Application Director	
11 C 🗶 🔿 (Docker) 🗸	Connected to	
- ar Platform	Name Type Status Details Auto-Start Restart on Failure	1
Application Director	Docker station Failed tox=n/a,toxs=4911,http=n/a,https=8443 true true	
Certificate Management Distribution File Installer File Transfer Client Lexicon Installer Lexicon Installer Platform Administration Software Manager Station Copier Toti/Pi Configuration Remote File System Station (Docker)	<pre>NHO [net_Lamching Miagara Burtime Environment NHO [12:44:32 00-80-23 EST] [neg_boxing NHO [12:44:32 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string security property [jdk.tls.disa MARNING [12:44:32 00-80-23 EST] [neg_boxingvastLe.jsse.provider.DisabledLiporithmConstraints] Ignoring unsupported entry INFO [12:24:32 00-80-23 EST] [neg_boxingvastLe.jsse.provider.DisabledLiporithmConstraints] Ignoring unsupported entry MARNING [12:24:33 00-80-23 EST] [neg_boxingvastLe.jsse.provider.DisabledLiporithmConstraints] Ignoring unsupported entry KARNING [12:24:33 00-80-23 EST] [neg_boxingvastLe.jsse.provider.DisabledLiporithmConstraints] Ignoring unsupported entry MARNING [12:24:33 00-80-23 EST] [neg_boxingvastLe.jsse.provider.DisabledLiporithmConstraints] Ignoring unsupported entry MARNING [12:24:32 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:32 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:32 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:32 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:32 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:35 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:35 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:35 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:35 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:35 00-80-23 EST] [neg_boxingvastLe.jsse.provider.PropertyUtils] Found string system property [jwx.home]: /o INFO [12:24:35 00-80-23 EST] [</pre>	 Auto-Start Restart on Failure Start Stop Restart Restart Reboot Kill Dump Threads Save Bog Verify Software Clear Output Pause Output Output Dialog Stream To File Output Settlings
• Template	App Failed	

Re-registering Docker image with licensing server

The following section describes how to re-register the Docker image with the licensing server in Workbench.

The platform **License Manager** allows you to re-register the backup and link it back to the subscription.

 In Workbench, open the platform, and select License Manager. In the lower right corner of the screen, a yellow popup window informs you that you must register the Host ID.

: Platform		 License Manager •
Nav Nav 192.168.206.129 (Docker) Platform Oraphication Director Certificate Management Otaribution File Installer File Transfer Clent Otaribution File Installer Iticons Manager Otaribution Station Copier TCP/IP Configuration Station Copier TCP/IP Configuration Station (Docker)	License Manager Host Address 192.168.206.129 Host D Nre-0E04-47D6-FD90-4D05-912F-8601-7444-7AE9 Erand 10 Licenses Certificates	
• Template	Import Export View Delete Import	D. Please register.

Step 2. In the License Manager, click Register.

Device Registratio	n	×		
Licensing Register the	device for subscription license			
Subscription Key				
Verification URL	https://www.niagara-community.com/setup/connect			
Code	24GPV5KA			
Follow these step:	s to complete subscription licensing:			
1) Enteryour Subs	cription Key above.			
2) Go to the Verific	ation URL with a browser.			
3) Enter the Code at the Website.				
5) Approve the dev	vice you are registering.			
	√ ок 🔰	C ancel		

The Device Registration window opens.

- Step 3. For Subscription Key, enter the original subscription key used for this container's NRE Host ID. The subscription key is delivered via email, or you can contact your System Integrator (SI) if you have questions.
- Step 4. For **Verification URL**, use the same procedure you used to activate the container for the first time.

Step 5. For Code, click the URL, enter the temporary code, and click OK.



The Licensing Complete popup window notifies you that the licenses and certificates for the remote host have been successfully updated. Your backup is re-registered with the Licensing server, the container is restored from the backup, and the subscription has been re-attached and will start up.

(Docker) : Platform		🖌 🛛 License Manager 🔸
Nav In the constant of the constant o	License Manager Host Addres 192.168.206.129 Host ID Nre-0E04-47D8-FD90-4D05-912F-86D1-74A4-7AE9 Reporter Reporter Brand ID NTEST Licenses INTEST.License (Tridium 4.13 - expires 2024-10-17)	cnerate Certificates Tridium.certificate (Tridium - never expires)
• Template	Import Export View Delete	Import View Delete

Step 6. Restart the station using the Application Director.

Result

The Docker console displays that the station and the subscriptions have successfully completed.

niagara-niagara-1	INFO [12:26:11 08	-Nov-23 EST][licensing.subscription] Polling for registration status (will poll for 5 minutes)
niagara-niagara-1	INFO [12:26:11 08	-Nov-23 EST][updatedaemon] access token poll started, poll interval 5 seconds
niagara-niagara-1	INFO [12:27:00 08	-Nov-23 EST][licensing.subscription] Access token retrieval successful.
niagara-niagara-1	INFO [12:27:17 08	-Nov-23 EST][licensing.subscription] This device is registered with the subscription licensing system.
niagara-niagara-1	INFO [12:27:18 08	-Nov-23 EST][licensing.subscription] Certificate request completed successfully.
niagara-niagara-1	INFO [12:27:18 08	-Nov-23 EST][updatedaemon] license request successful
niagara-niagara-1	INFO [12:27:18 08	-Nov-23 EST][file] FileCachedFileStoreElement::commit file written /home/niagara/security/subscription/licenses/NTEST.license
niagara-niagara-1	INFO [12:27:46 08	-Nov-23 EST][stationRegistry] station Docker watchdog thread started [tid = 63]
niagara-niagara-1	INFO [12:27:46 08	-Nov-23 EST][stationRegistry] station Docker starting
niagara-niagara-1	INFO [12:27:58 08	-Nov-23 EST][stationRegistry] station Docker startup complete

Chapter 3. Upgrading a Niagara container

The following procedure describes how to upgrade a Niagara container using Docker.

Upgrading a container using Docker

Prerequisites:

Docker is installed and running on your device.

Step 1. To view what Docker images are loaded, open a command prompt and run the command: docker image ls.

tridium@tridium-	virtual-machi	ne:~/niagara\$ d	ocker image ls	
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
vykon-fda-amd64	4.13.2.18	456e91cb8f27	10 months ago	410MB
vykon-fda-amd64	4.13.1.14	9736cce5525a	11 months ago	391MB
vykon-fda-amd64	4.13.0.186	2c2b7bfa6a15	12 months ago	405MB
hello-world	latest	9c7a54a9a43c	17 months ago	13.3kB

A list of all Docker images stored locally will be displayed including details such as repository name, tag, image ID and creation time.

Step 2. To view what Docker volumes are used, run the docker volume Is command.

A list of all Docker volumes that are currently available on your device are displayed.

NOTE: It uses niagara niagara-user-home which is mapped in the docker-compose.yml.

Step 3. To load a new Docker image from Tridium, run the docker load < command.

tridium@tridium-virtual	<pre>-machine:~/NiagaraContainerImages\$ docker load<vykon-fda-< pre=""></vykon-fda-<></pre>	amd64-4.14.0.162.tar
4a1518ebc26e: Loading l	ayer [] 75.19MB/75.19MB
Oda75023adea: Loading l	ayer [====================================] 67.86MB/67.86MB
f12d5ea90c4f: Loading l	ayer [====================================] 1.659MB/1.659MB
e27f25c4915f: Loading l	ayer [====================================] 4.096kB/4.096kB
06e94a0cabe4: Loading l	ayer [====================================] 3.072kB/3.072kB
Of7d796aee40: Loading l	ayer [====================================] 3.072kB/3.072kB
ef54f5a60d74: Loading l	ayer [====================================] 136.5MB/136.5MB
5f604a116c7f: Loading l	ayer [====================================] 123.8MB/123.8MB
86f184d8f1ef: Loading l	ayer [====================================] 2.56kB/2.56kB
39513d1309b7: Loading l	ayer [====================================] 46.59kB/46.59kB
77e3d6e8463e: Loading l	ayer [====================================] 15.87kB/15.87kB
03fc19d57226: Loading l	ayer [====================================] 21.5kB/21.5kB
a6de71766449: Loading l	ayer [====================================] 39.94kB/39.94kB
15a61fb92d87: Loading l	ayer [====================================] 34.3kB/34.3kB
21e61d50c794: Loading l	ayer [====================================] 34.3kB/34.3kB
d04d6f0fd5b3: Loading l	ayer [====================================] 1.226MB/1.226MB
Loaded image: vykon-fda	-amd64:4.14.0.162	

The system integrator loads the .tar file, which is, in this example, the <code>vykon-fda-amd64-4.14.0.162.tar</code> file.

Step 4. To confirm the Docker loaded image for use, run the docker image Is command.

tridium@tridium-virtual-machine:~/niagara\$ docker image ls						
REPOSITORY	TAG	IMAGE ID	CREATED	SIZE		
vykon-fda-amd64	4.14.0.162	bb51a5298092	3 months ago	402MB		
vykon-fda-amd64	4.13.2.18	456e91cb8f27	10 months ago	410MB		
vykon-fda-amd64	4.13.1.14	9736cce5525a	11 months ago	391MB		
vykon-fda-amd64	4.13.0.186	2c2b7bfa6a15	12 months ago	405MB		
hello-world	latest	9c7a54a9a43c	17 months ago	13.3kB		
tridium@tridium-virtual-machine:~/niagara\$						

In this example, you can use five Docker images.

Step 5. Edit the docker-compose.yml file.

26	# image: vykon-fda-amd64:4 13.0.186 # Specify the provided image name and version, for example: niagara/fda/amd64/base:4.13.0.182 1.4.67
27	#image: vvkop-fda-amd64:4_13_0_186 # use docker load<~/NiagaraContainerTmages/Niagara_NDA_Amd64_Base_4_13_0_186_tar
- ·	" imager fyten faa amaefffizee" ase aetter teda (/hiagaraeentainerimages/hiagara_non_nmaef_base_ffizeentai
29	# imago: wykon fda amd64:4 12 1 14 # ysg dockor loads./NiagaraContainorTmagos/Niagara NDA Amd64 Raso 4 12 1 14 tar
20	# image. vykon-rua-amuo4.4.15.1.14 # use uocker toau<-/wiagaracontainerimages/wiagara_wbA_Amuo4_base_4.15.1.14.ta
20	# image, wyken fda amd64,4 12 2 10 # yee decker leads (NiagaraCentainerTmages/Niagara NDA Amd64 Pace 4 12 2 10 tar
29	# imaye; vykun-lua-amuu4:4.15.2.10 # use uulket luau<~/wiayataluntainetimayes/wiayata NDA Amuu4 base 4.15.2.10.lat
20	increase without finds and CALA 14 CO 162 House dealers Jonate (Nicrease Contrained Transmiss NDA And CA David A 14 CO 162 House
30	image: vykon-toa-amoo4:4.14.0.102 # use docker load<~/NiagaraLontainerImages/Niagara NDA Amoo4 Base 4.14.0.102.tar

In this example, the active image line is copied and commented out with the #, then it is pasted back. The image file name and tag are changed as follows: image: Vykon-fdaamd64:4.14.0.162.

Step 6. To start the container, run the docker compose up command.

tridium@trid	tum-virtual-machine:-\$ cd niagara
tridium@trid	lum-virtual-machine:-/niagara\$ docker compose up
WARN[0000] /	nome/tridium/niagara/docker-compose.yml: the attribute version is obsolete, it will be ignored, please removid displaying for the second s
e it to avoi	d potential confusion
[+] Running	
Container	ntagara-ntagara-1 Created 0.05
Attaching to	Ntagara-1
niagara-1	INFO INITIALIZING NIAGARA CONTAINER
niagara-1	INFO INIT.Sh Container is starting with root-level commands
ntagara-1	INFO INIT.SN Setting timezone to America/New York
ntagara-1	INFO Copy_modules.sn Checking for removed modules
ntagara-1	INFO COPY_modules.sh Copying Core Niagara modules to /nome/niagara/modules
nlagara-1	INFO INITISH NIAGARAO.SH FUNNING AS FID ISOL
ntagara-1	INFO htagarad.sh Container version is 1.5.71
ntagara-1	INFO NIGGARAD.SN HARO OPEN TILE LIMIT IS 1048576
ntagara-1	INFO Ntagarad.sh Starting Ntagarad.
ntagara-1	INFO http://www.info.com/inf
niagara-1	INFO [12:04:01 10-0ct-24 EDI][crypto.registry] module signature registry up-to-date
ntagara-1	INFO [12:04:01 10-0ct-24 EDI][crypto.registry] module signature registry toad complete (85ms)
niagara-1	INFO [12:04:01 10-0CT-24 EDI][ntagarad] starting, ntagara_user_nome=/nome/ntagara
nlagara-1	WARNING [12:04:01 10-0CT-24 EDI][Webserver] Using default ILS server certificate "default" is not recommended
niagara-1	INFO [12:04:02 10-0CT-24 EDJ]Webserver] web server threads started [threadCount = 5]
niagara-1	INFO [12:04:02 10-0CT-24 EDI][stationRegistry] station registry starting
niagara-1	INFO [12:04:02 10-0ct-24 EDI][stationRegistry] station bocker watchdog thread started [ttd = 32]
ntagara-1	TNFO [12:04:02 10-000-24 EDT][[httggarad] startup complete (3314Ms]
ntagara-1	INFO [12:04:02 10-00C-24 EDI][stationRegistry] station Docker starting
niagara-1	INFO [12:04:19 10-OCT-24 EDI][stationRegistry] station Docker startup complete

Step 7. Confirm the upgrade via a platform connection in Workbench.

Platform Administration		
View Details	Baja Version	Tridium 4.14.0.162
, the second	Daemon Version	4.14.0.162
Update Authentication	System Home	/opt/niagara
System Passphrase	User Home	/home/niagara
Change HTTP Port	Host	192. (Docker)
	Daemon HTTP Port	3011 (disabled in TLS settings)
Change TLS Settings	Daemon HTTPS Port	5011
Change Date/Time	Host ID	Nre-
the lange low time.	Host ID Status	Registered
Advanced Options	Model	n4container (1.5.71)
Change Output Settings	Product	n4container
Syslog Configuration	Serial Number	None
	Local Date	10-Oct-24
View Daemon Output	Local Time	12:11 Eastern Daylight Time
View System Log	Local Time Zone	America/New_York (-5/-4)
Configure Duntime Drofiles	Operating System	Niagara Container (1.5.71)
P Comgure Runcime Promes	Niagara Runtime	tridium-linux-amd64-nre-core-fda (4.14.0.162)
🕲 Backup	Architecture	x64
K Commissioning	Enabled Runtime Profile	s rt,ux,wb
	Java Virtual Machine	azul-jre-linux-headless-amd64 (Azul Systems, Inc. 1.8.0.412.20)
C Reboot	Niagara Stations Enable	d enabled

In this example, an Ubunto virtual machine is used to run the Docker environment, which does not contain Workbench. A localhost is used as the IP address on the PC in Workbench. You will connect to the platform to verify the update and use the IP address of your environment.

Chapter 4. Licensing

Niagara container deployment is tightly coupled to the Niagara Entitlement Server (licensing service). The container has to reach out to the Entitlement Server at least once a day to re-authenticate and to receive the authentication token to continue running.

Traditional Niagara licensing uses a unique and permanent Host ID as a key to license. Containers are inherently portable and intended to operate in a variety of virtualized environments. Containers include a single hard-coded Host ID and node-locked license with an expiration date. A separate Host ID and thus container image is required for each license variant.

The Entitlement Server provides an online service to monitor and distribute licenses. While each container will be assigned a uniquely generated identity, the central Entitlement Server can detect abuses such as trying to reuse the same identity. Since a license must be periodically renewed, the opportunity for abuse is limited. In addition, the risk of abuse is mitigated by the following:

- Contractual auditing of units is deployed.
- Providing a unique container variant to customer.
- Each license has an expiration date.

Creating subscription license order

The following section describes how to create an order for a subscription license.

Prerequisites:

You have created a Niagara Central account (https://www.niagara-community.com) and you have access to Niagara Licensing.

Step 1. To create a subscription license order, select Products > Product Catalogue > Buy Model, and click Next.

Organization *	Production - Products -	Licenses - Orders - Softwa	are -	Admin, S
Category 👻	Search			Search
Home > Product Ca	italogue > Buy Model		<u>∫</u> ¹ (0)	(a) (1) (a) (a) (b) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b
1. Destination	2. Req'd Option 3. Add'l	Option 4. Dep't Option	5. Order summary	6. Check out
	Product Information			
	Product :	SUP-100-SUBSCRIPTION		
	Quantity :	lest Subscription Model		
	Who gets it?			
	Select Org *: Project Name *:	01_SUBSCRIPTION	Select	

Step 2. On the Add'l Option tab, add upgrades and add-ons, and click Next.

	Products * Licenses	· Orders · Soft	ware*		Admin,
Category Search					Search
iome > Product Catalogue > I	Buy Model) T)(\\v	o) 🚯 🖽	(0)
Destination 2. Re	q'd Option 3. Add'l Option	4. Dep't Option	5. Order summary	6. Check out	
Product Information					
Product	: SUP-100-SUBSCRIPTION				
Description	: Test Subscription Model				
Quantity	: 10				
Organization Name	1				
Project Name	: _01_SUBSCRIPTION				
Configure Options					
SWOptions (0) >>					
Maintenance (0) >>		No record	available.		
Lingrades (0) >>					

- Step 3. On the Order summary tab, select Additional Options and/or Dependent Options if applicable and click CHECK OUT NOW.
- Step 4. On the Check out tab, enter and confirm the PO number, and click Process Cart to finalize the license order.

Submitted To:: Tridium, Inc. Submitted By: DEMO_SUB_ORDERING PO Number *: DEMO_SUB_ORDERING Confirm PO Number *: DEMO_SUB_ORDERING Order Notes:	Add	itional Emails :			This is a Buy Cart
PO Number *: DEMO_SUB_ORDERING Confirm PO Number *: DEMO_SUB_ORDERING Order Notes:		Submitted To: Submitted By:	Tridium, Inc.		
Confirm PO Number ': DEMO_SUB_ORDERING Order Notes: 300 characters limit Verticals: BAS Energy HVAC Rotail Industrial Lighting DCIM Security Item List		PO Number *:	DEMO_SUB_ORDERING		
Order Notes: 	Confirm	PO Number 1:	DEMO_SUB_ORDERING		
300 characters limit Verticals: BAS Energy HVAC Retail Industrial Lighting DCIM Security Item List		Order Notes:			
Industrial Lighting DCIM Security		Verticals:	300 chara	cters limit Energy	
Item List				Lighting Security	
	Item List				
Line Number Quantity Product Destination	Line Number	Quantity	Product	Destination	

The license order is complete.

icensing	Asset Manager Mark	etplace Community Software	ware University	Tridium
Organization - Production - Produ	ucts - Licenses - Orders - Sof	ftware -		Admin, S
Category				Search
Home > > Placed Order		\ ¹ / ₂ (0)	(3)	(0)
PO : DEMO_SUB_ORDERING Change	Billing Report : - Total Qty : 10	POUpdatedBy :		
Order Lines Audit				
Order Lines Audit	Pdf Page 1 of 1 100	• •		View 1 - 1 of
Order Lines Audit	Pdf Page 1 of 1 += +/ 10 Order Type	o 🗸 Created By	Placed Or	View 1 - 1 o der

You can view the generated license keys, which are unbound, by clicking the appropriate license subscription in the **Product** column.

🕫 Search 🗄 F	Refresh 📑 Export to Excel	Export to Pdf	f1 ===== 100 🗸	View 1 - 10 of 10
	NRE ID 🖨	Subscription License Key	Status	Expiration Date
		B15E-	disabled	Feb 17,2024
		6536-	disabled	Feb 17,2024
		8399-	disabled	Feb 17,2024
		8F92-	disabled	Feb 17,2024
- -		50E2-(disabled	Feb 17.2024
		BBF9-	disabled	Feb 17,2024
D Search & F	Refresh Export to Excel	Export to Pdf In or Page 1 of	1 100 V	View 1 - 10 of 10

Step 5. To register the subscription instance, connect to the Workbench platform, navigate to the License Manager view, and click Register.

Ny Host: IE4LLTDTRVGR3.global.ds.honeywell.com (a) ? Platform		🖌 License knager
• Nav	हर License Manager हर License Manager	×
the second	License Manager Host Address Iscalhost Host ID Nie-8275 A27A-0100-4309-03AD-77A0 Bread ID Niagers Licensen	Cetifiates
Application Director Confliction Director Confliction Institute Usenes Hanger Usenes Hanger TC/P Configuration TC/P Configuration Director Pit System Director Pit System Director Pit System Director (a)	Hispanicense (fridum 4.12-exp vn 2028-06-28)	Tadium.ontificate (Tadum - auverappine)
- Palette		
K 2 horret Orending Ocantig	Import Experit View Delate	Import View Online: Online:

Step 6. From the newly created list of subscription license keys, paste the license key into the Subscription Key field, and follow the steps provided in the Device Registration window to complete the subscription licensing.

Device Registration	\$
Licensing Register the d	evice for subscription license
Subscription Key	
Verification URL	https://www.niagara-community.com/setup/connect
Code	LAG
Follow these step	es to complete subscription licensing:
Follow these step 1) Enter your Subscri	ption Key above.
Follow these step 1) Enter your Subscri 2) Go to the Verificati 3) Enter the Code at 1	es to complete subscription licensing: ption Key above. on URL with a browser. the website.
Follow these step 1) Enter your Subscri 2) Go to the Verificati 3) Enter the Code at 1 4) Login to your acco	es to complete subscription licensing: ption Key above. on URL with a browser. the website. unt.

Step 7. To allow license binding, authorize the device.

- B	n - Production	Products - Licenses - Ord	ers - Software -	Admin, S
ategory 🔻	Search			Search
me >	> Subscr	iption Project	Tridium, Inc. Slice	₩w) 🚯 🛄 🌲 w
earch 🏚 Refr	esh 👩 Export to Excel	Export to Pdf Page 1 of	f1 100	View 1 - 10 of
]	NRE ID 👙	Subscription License Key	Status	Expiration Date
Nre- 3385-001	6-55F1	BISE-	active	Feb 17,2024
- 1		6536-	disabled	Feb 17,2024
- 1		8399-	disabled	Feb 17,2024
-		8F92-	disabled	Feb 17,2024
-		2981-	disabled	Feb 17.2024
-		B596-	disabled	Feb 17,2024
-		1FF4-	disabled	Feb 17.2024
-		2795-	disabled	Feb 17,2024
		EOF3	disabled	Feb 17 2024
-		50E2-	Charles the ch	I ON IT MONT

Your subscription is activated and bound to Host ID (NRE-ID).

Setting up a container license

In the following section, you learn how to set up a container license.

Prerequisites:

You have created a Niagara Community account. Signing up is free and the account is free of charge. If you do not have an account, you can sign up here: https://www.niagara-community.com/Sign_Up.

- Step 1. Start the Docker container.
- Step 2. In Workbench, to open a platform connection, from the menu bar, select File > Open > Open Platform.
- Step 3. Change default system passphrase and default platform credentials.
- Step 4. Open the License Manager view.

(Floor_04) : Platform		🖍 License Manager
(Floor_04) : Platform Nav Nav Nav Nov Ny Host: global.ds.honeywell.com Ny Host: Global.ds.honeywell.com Platform Application Director Certificate Management Distribution File Installer File Transfer Client Lexicon Installer File Transfer Client Station Copier TCP/IP Configuration Bernote File System Configuration Bernote File System File Transfer Client Configuration Conf	License Manager Host Addres Host ID Register Regenerate Brand ID Likenses	Certificates
(test5000)	Import Export View Delete	Import View Unregistered Host ID. Please register.

You should see the Host ID in the top left corner and a yellow warning dialog in the bottom right corner.

Step 5. Click Register and paste the subscription license key into the empty field.

Device Registratio	n X			
Licensing Register the device for subscription license				
Subscription Key	-000E			
Verification URL	https://www.niagara-community.com/setup/connect			
Code	_J64			
Follow these step	s to complete subscription licensing:			
1) Enteryour Subs	cription Key above.			
2) Go to the verific 3) Enter the Code :	ation URL with a browser.			
4) Login to your ac	count.			
5) Approve the de	vice you are registering.			
	🗸 OK 🔀 Cancel			

- Step 6. To open the browser link, click in the Verification URL field.
- Step 7. Paste the 8-digit code from the **Device Registration** dialog box into the **Code** field in the browser and click **Connect**.

← -	→ C	仚	iii niagara-community.com/setup/connect	Ŀ	☆	*	٩	:
			community					
			marketplace					
			Enter Code					
			Enter the 8-digit code from the device or app you connecting.	u're				
			Code					
			24GRQJ64					
			Cancel Connect					

NOTE: If you were not previously logged into Niagara Central, provide your login credentials here.

Step 8. On the **Remote Access Authorization** page, click **Allow** to complete license binding in Niagara Central, and click **Continue**.



Step 9. Return to Workbench and click OK in the Device Registration dialog box. A dialog box indicates whether the licensing of the device was successful or failed.



Both the license and the certificate are displayed in the License Manager view.

(Floor_04) : Platform		🖍 🛛 License Manager 🚽
Nav My Host: global.ds.honeywell.com Grow (Floor_04) The Tanlard Clean Grow (Floor_04) Grow (Floor_04)	License Manager Host Address Host ID Nre- Brand ID NTEST License NTEST.License (Tridium 4.12 - expires 2024-03-22)	Cetificates Tridium.cetificate (Tridium - never expires)

Copying a station from a container version

This section describes how to copy a station from a previous container version.

Step 1. Before upgrading the container, open the station copier from the platform and copy the station to your local files to store it on your Workbench PC.



Step 2. Select the Copy every file in the station directory and its subdirectories option and click Finish.

🚰 Station Transfer Wizard	×
Transferring station "Floor_04" Which station files are to be copied?	
♦ Copy files from selected directories	
Copy every file in the station directory and its subdirectories	
◇ Copy only the "config.bog" station database file	
▲ Back ► Next ✓ Finish ★ Cance	el

- Step 3. Start a new container image and make a platform connection. Repeat the licensing steps above if necessary.
- Step 4. Expand the platform container in the Nav tree, double-click the System Copier, select the station that you want to copy to the container and click **Copy**.
- Step 5. Click Next, select the Copy every file in the station directory and its subdirectories option, and click Next again.
- Step 6. Select Start After Install: Start the station immediately after it is copied and Auto-Start: Start the station every time the platform daemon starts options, click Next, and click Finish to complete.



You can check the status of the transfer in the Transferring station window.

Step 7. Check the station status in the platform's Application Director.

Verifying license check-in parameters

This section describes how to verify the check-in parameters of a license.

- Step 1. Connect to the platform and open the License Manager.
- Step 2. In the Licenses window, select the appropriate license and click View.

(Floor_04) : Platform	🖌 License Manager •
(Floor_C4) : Platform Nav Bit th ○ ※ S My Network • • My Host: VA5LIT/L8V32.globalds.honeywell.com • Floor_C4) • #7 Flatform Å ² Station (Floor_C4)	License Manager Hest Addres Nost ID Nre- Register Registe
	Import Export View Delete Import View Delete

Towards the bottom of the file, look for the subscriptionMode license feature. It indicates your check-in interval and number of allowed failed check-ins prior to the station shutdown.

Example:

<feature name="subscriptionMode" expiration="2024-03-22" validCheckRetry.limit="3" validCheckFreq="6"/>

MIEST.license X
<pre><license expiration="2024-03-22" generated="2023-04-03" hostid="Nre-C401-80BA-D6A9-4BF4-8910-9EBD-A7F6-8EF0" maintenanceexpiration="never" td="" unre<="" vendor="Tridium" version="4.12"></license></pre>
<pre><reature inc.="" irlaium,="" name="adout" owner*="" project="//"> (feature name=adr expiration="2024-03-22" history.limit="none" point.limit="none" device.limit="1"/></reature></pre>
<feature console.limit="none" expiration="2024-03-22" name="alarm" type="basic"></feature>
<pre><feature aler<="" alert.limi="" alert.limit="10" algorithm.limit="none" aporthms="none" aprliat="none" device.limit="none" expiration="2024-03-22" facture="" name="analytics" point.limit="25" proxyext.limit="25" td=""></feature></pre>
<pre></pre> <pre><</pre>
<pre><feature device.limit="none" expiration="2024-03-22" export="true" history.limit="none" name="bacnet" point.limit="none" ports="6" schedule.limit="none"></feature> <feature expiration="2024-03-22" hubconnections.limit="none" name="bacnetSo" nodeswitch.canlccept="true" nodeswitch.canlitite="true" nodeswitchconnections.limit="none"></feature> <feature expiration="2024-03-22" name="bacnet" session.limit="none"></feature></pre>
<pre><reature 33="true" =="" expiration="202+03-22" name="crypto"></reature> <farture =="" expiration="2024-03-22" name="crypto">> </farture></pre>
<pre>{feature name="eibnetIp" expiration="2024-03-22" history.limit="none" point.limit="none" schedule.limit="none" device.limit="none"/></pre>
<feature expiration="2024-03-22" name="email"></feature>
<feature expiration="2024-03-22" name="eventService"></feature> <forum =="" expiration="2024-03-22" name="eventService"></forum> <forum =="" name="eventService" spiration="2024-03-22"></forum> <forum =="" name="eventService" spiration="2024-03-22"></forum>
<pre><frecure <br="" =="" actualed="" device.limit="26" devices="hrio," expiration="2024-03-22" integraphic="" into="" nagarabriver="" name="icee8021x" on="" point.limit="1250" rectaled="" the=""><frecure expiration="2024-03-22" herarchy.limit="none" local="true" name="icee8021x"></frecure> <frecure expiration="2024-03-22" name="icee8021x"></frecure></frecure></pre>
<feature expiration="2024-03-22" name="jre338000Azul"></feature>
<pre>Cfeature name="predum:/dluu" expiration="2024-03-22"/></pre>
<feature expiration="2024-03-22" kerberos="true" name="ldapv3"></feature>
<feature device.limit="none" expiration="2024-03-22" history.limit="none" name="lonlp" point.limit="none" schedule.limit="none"></feature>
<feature device.limit="none" expiration="2024-03-22" history.limit="none" name="lonworks" schedule.limit="none"></feature>
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Deregistering a license from host ID

As of Niagara 4.15, you can deregister a Niagara license from a host ID by connecting Workbench to the Niagara platform or by using the NRE command. You can perform the deregistration of a license directly from your station. Use the following steps to deregister a host ID.

Prerequisites:

- You have created a Niagara Central account (https://www.niagara-community.com) and you have access to Niagara Licensing.
- You are a Niagara Licensing portal user with Write/WriteX permissions on Subscription License.

Using Workbench

- Step 1. Open Workbench and make a platform connection to the Niagara instance.
- Step 2. In the Nav tree, double-click on the License Manager.

My Host : I Platform		🖌 License Manager -
Nav Nav My Network Application Director Gertificate Management Distribution File Installer File Transfer Client License Manager Platform Administration Software Manager Station Copier	License Manager HostAddress localhost HostID Nre- Brand ID NTEST Licenses NTEST.license (Tridium 4.14 - expires 2025-03-10)	ster Deregister Regenerate Certificates Tridium.certificate (Tridium - never expires)
• Palette	Import Export View Delete	Import View Delete

- Step 3. Verify that the Niagara instance is registered to a host ID and the **Register** button is disabled.
- Step 4. To deregister the license, click **Deregister**. The **Deregister Host ID** window opens to ask you if you want to proceed with the deregistration.

Seregister Host ID	×
Deregistering the Host ID will unlicense this instance, reset the subscription registration, and allow a new Host ID to be registered to the subscription. Press OK to	continue.
OK Cancel	

- Step 5. Click OK to continue.
- Step 6. Upon successful deregistration, a dialog window opens confirming that the host ID is deregistered, along with the unbound license key. You can use the unbound licensing key to register a new host ID.

NOTE: Retain a copy of the licensing key. To register a new device to the subscription, you can use the unbound license key. The license key has been exported to the remote host's <code>security/subscription/deregistration folder</code>.

Using NRE command

Step 7. Open the Niagara console command line for the Niagara instance to be deregistered. On a Linux Niagara instance, open the shell application.

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Apps	Con	sole
Workbench (Console)	> Ar	р
Control Panel	>	
Command Prompt	> 🗗 Open	
Privilege Management Console	> 🗘 Run as administrator	
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Step 8. Check if the host ID is currently bound by running the NRE command: nre -checksub and registered with the entitlement system.



Step 9. To deregister the license from the host ID, run the command nre -deregister.

Upon successful deregistration, the console will display a message confirming that the device is deregistered. The original subscription key will also be displayed and can be bound to another host ID.

Replacing a host ID bound to license

As of Niagara 4.15, you can replace an already registered Niagara license to a host ID with new host ID. You can handle the replacement of the license directly from your station using the NRE command. Use the following steps to replace a host ID.

- You have created a Niagara Central account (https://www.niagara-community.com) and you have access to Niagara Licensing.
- You are a Niagara Licensing portal user with Write/WriteX permissions on Subscription License.
- The subscription key is available and the host ID is already bound.

Using Workbench

- Step 1. Open Workbench and make a platform connection to the Niagara instance.
- Step 2. In the Nav tree, double-click the License Manager and click Register. The Device Registration window opens.

Device Registrati	on	×
Licensing Register th	e device for subscription license	
Subscription Key	5C24-	
	Replaces existing Host ID bound to this Subscription Key	
Host ID	D-B	
Verification URL	https://www.niagara-community.com/setup/connect	
Code	8J5P4Y4V	
Follow these ster	os to complete subscription licensing:	
1) Enter your Sub	scription Key above.	
2) Go to the Verifi	cation URL with a browser.	
3) Enter the Code	at the website.	
4) Login to your a	iccount.	
5) Approve the d	evice you are registering.	
	V OK X Cance	el

- Step 3. Enter the subscription key, select the **Replaces existing Host ID bound to this Subscription Key** check box, and enter the host ID that is already registered with the entered subscription key.
- Step 4. Click on the Verification URL to navigate to the web browser, paste the copied code from Workbench in the Code field, and click on Connect.



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Step 5. On the Allow Access screen, click Allow to permit the Niagara instance to connect to the Niagara license server and to continue.

The You're Connected screen opens to inform you that your device or app is now connected.



Step 6. Click Continue to replace the existing host ID bound to this subscription key.

Step 7. In Workbench > License Manager, the Licensing Complete dialog window informs you that the

Niagara instance has been successfully registered and the host ID has been replaced.

License M	lanager
Host Address	localhost
Host ID	Nre-
Brand ID	NTEST
Licenses	
Tridium 4	Licensing Complete X
The l	licenses and certificates for the remote host have n successfully updated.
Adde	ed
NT	EST.license (Tridium 4.14 - expires 2025-03-10)
	ОК

Step 8. Click Ok.

Using NRE command

Step 9. Open the console command line for the Niagara instance whose host Id needs to be replaced. On a Linux Niagara instance, open the shell application.

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Console App		
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🔀 Workbench (Console)	>	Арр
Control Panel	>	
Command Prompt	>	□ ⁻ Open
Privilege Management Console	>	🕫 Run as administrator
Search work and web		D Open file location
	>	-⇔ Pin to Start
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Step10. Run the command nre -replace <Existing Host ID> <Subscription Key> to initiate the replacement of the existing host ID.



- Step11. To navigate to the Enter Code screen in your web browser, locate and copy the Verification URL in the Niagara Command Line window and paste it into your web browser.
- Step12. Similarly, from the Niagara Command Line window, copy the User Code, paste it in the Code entry field, and click Connect.

niagara-community.com/setup/connect	☆ Ď
riagara-community.com/setup/connect niagara COmmunity niagara marketplace Enter Code Enter the 8-digit code from the device or app you're connecting. Code &JSUUG48	* 0

Step13. On the Allow Access screen, click Allow to permit the Niagara instance to connect to the Niagara license server.

(

NOTE: If you have successfully granted access to a specific application 5 times, which is the maximum allowed, the following applies: If you approve the 6. request, the oldest approval will automatically be revoked. To prevent this, you can either deny this request or manually revoke an approval in your personal settings.

niagara community niagara marketplace
Allow Access?
NiagaraEntServerDeviceAuth is asking to:
Access the identity URL service
Perform requests at any time
Do you want to allow access for
@honeywell.com? (Not you?)
Deny Allow
To revoke access at any time, go to your personal settings. Caution: You have granted access to this application 5 times, which is the limit. Approving this request automatically revokes your oldest approval. To avoid revoking your oldest approval, deny this request or manually revoke an approval in your personal settings.

The You're Connected screen opens to inform you that your device or app is now connected.

Step14. Click **Continue** to replace the existing host ID bound to this subscription key. Upon registration, the Niagara Command Line window confirms that the device is registered with the subscription licensing system and that the existing host ID was replaced successfully. Licensing

Chapter 5. Glossary

The following glossary entries relate specifically to the topics that are included as part of this document. To find more glossary terms and definitions refer to glossaries in other individual documents.

Alphabetical listing

Carrier Communication/Comfort Network (CCN)

The Carrier Communication/Comfort Network (CCN driver) integrates CCN devices and data into the Niagara Framework environment.

Java SE Runtime Environment (JRE)

Niagara Portability Software Development Kit (NPSDK)