

# FX80 Software Installation and Quick Start Technical Bulletin

FX Supervisory Controllers

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Refer to the [QuickLIT Web site](#) for the most up-to-date version of this document.

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## Document Introduction

New FX80 Supervisory Controllers are shipped from the factory licensed and fully commissioned with Facility Explorer features and an N2 driver.

After you boot the controller, first connect to the FX80 using a web browser, navigating to **https://192.168.1.149**, to change all default credentials and passphrase. Then establish a connection to:

- set IP network address and related IP networking parameters
- set time, date, and timezone (or simply sync with your computer's time)

## Concepts

### ***SSL/TLS Commissioning***

SSL/TSL is used to both authenticate the FX80 Supervisory Controller and the client and encrypt messages being shared between the FX80 and client. In the FX80 Supervisory Controller, Secure Sockets Layer (SSL) is always implemented using the Transport Layer Security (TLS) protocol, supporting TLS versions 1.0, 1.1, and 1.2.

### **Limitations to NiagaraAX PlatformOperations**

FX Workbench 14.1 does not support commissioning of FX Supervisory Controllers with FX Release 6.x and earlier (for example, you cannot use the Commissioning Wizard to configure FX Supervisory Controller 6.x and earlier platforms). Instead, you must use the appropriate FX Supervisory Software 6.x and earlier FX Workbench and run the Commissioning Wizard on such platforms.

We recommend FX Workbench 6.x and earlier for all platform operations with FX Supervisory Software 6.x and earlier controllers. If needed, however, you can use FX Workbench 14.1 to perform some platform operations on FX Supervisory Software 6.x and earlier controllers. Examples include modifying TCP/IP configuration or installing FX Workbench 6.x and earlier software modules. Note the latter requires you to import the software database from a recent 6.x FX Server or engineering workstation into your FX Supervisory Software 14 software database.

Other platform views and operations unavailable using FX Workbench 14.1 for a platform connection to an FX Supervisory Software 6.x and earlier controller are:

- DDNS Configuration
- General Packet Radio Services (GPRS) Modem Configuration
- Wi-Fi Configuration (for FX70 with installed Wi-Fi option)
- Also unavailable are following operations from the Platform Administration view:
  - Update Authentication
  - FTP/Telnet
  - Set Module Filter

## Factory-shipped State

The factory-shipped state of an FX80 controller has the following default settings.

### Facility Explorer Software and Licensing

The FX80 Supervisory Controller comes fully commissioned and licensed from the factory, giving you more time to focus on integrating building systems. The following software features are included:

- **JCI Station** - The JCI Station provides additional features (outside of the standard Niagara station features) including:
  - Graphic home pages for admin, non-admin, and mobile users. These pages are fully customizable and easily updated to include integrated systems with the Update Home Page Graphic tool.
  - Custom Navigation Files for admin, maintenance, operator, and tenant users.
  - Spaces and Equipment Managers used to provide end users navigation methods more consistent with the way they associate data to their facility and equipment.
- **JciN2Networkdriver** - provides the only Johnson Controls supported N2 driver in the industry. Additional features include:
  - N2 Device Discovery
  - JCI N2 Import Manager - automates graphics, point database, tuning policies, trends, alarms, etc. for most N2 devices using only their configuration files.
- **Point and Point Extension Managers** - for easily adding items like trends, alarms, and totalizations with only a few mouse clicks.
- **BACnet and WT-4000 Import Managers** - automates graphics, point database, tuning policies, trends, alarms, etc. for most Johnson Controls BACnet (including FX-PC field controllers) and WT-4000 devices using only their configuration files.
- **Meter and TEC3000 palettes** – provides drag and drop configuration of Johnson Controls electrical meters and TEC3000 thermostats. Provides similar information to that of the Import Managers.
- **Standard Graphics** - fully developed and customizable graphic library (including mobile version) used with import managers.
- **Point Groups, All Point Summary, Alarm Summary, Override Summary, and Offline Summary** - End user interfaces which organize common information required for daily building system management.

All licensing related to the FX80 Supervisory Controller is also applied at the factory. This includes licenses for core devices, additional devices, integration licenses, software maintenance license, and the JCI N2 license. Additional licenses can be ordered and manually applied in the field at any time.

### IP Address

When shipped, a new FX80 controller is preconfigured with the following IPv4 address:

**192.168.1.149** (primary LAN1 port; the LAN2 port is disabled)

The default subnet mask is: **255.255.255.0**

You change these IPv4 network settings during your startup of the controller.

### HTTPS Port for Platform Access

When shipped, the FX Supervisory Controller's platform daemon is configured to listen on HTTPS port 5011. Often, this setting is left at default. However, if you need a different port for a platform connection (perhaps for firewall reasons), you can change this setting at any time using the Platform Administration tools of the controller.

## Security Credentials

We strongly recommend the following IT security best practices be followed with your new FX80 Supervisory Controller:

- At initial log-in of the FX80 Supervisory Controller, change **all** default credentials (Station, Platform, and Passphrase) to a custom password or passphrase.
- Routinely change passwords and use complex passwords or passphrases not easily guessed.
- Keep data and system files backed up in a secure location and available in the event the controller needs to be restored.

**Important:** You cannot update your security credentials unless you are using a secure HTTPS connection.

### **Station Credentials**

The platform credentials are the following.

**Username: admin**

**Password: FacilityExpl0rer**

The admin user account has been factory configured with the **Password Config > Force Reset at Next Login** set to True. This forces you to reset your password with the initial login. You are required to change your password whether logging in through FX Workbench or a web browser interface.

**Important:** We **recommend** that you use a web browser connection to connect to the station on the initial setup of the FX80. Upon web browser station login, the platform and passphrase credentials are checked against defaults and if found provide a simplified method to change them.

### **Platform Credentials**

The platform credentials are the following.

**Username: jci**

**Password: explorer**

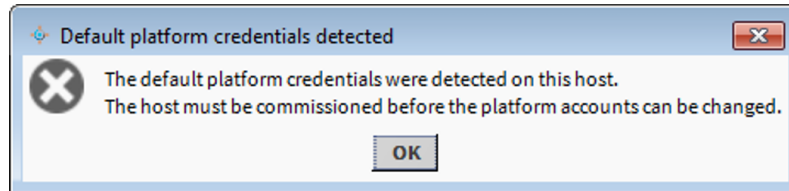
You can connect to the FX80 Supervisory Controller platform in three different ways:

- web browser through a station connection with limited functionality (**recommended**)
- FX Workbench
- serial shell

You can only change the default platform credentials using a web browser connection (as detected by the station login) or using FX Workbench to recommission the FX80. Since the FX80 has already been commissioned for you, we highly recommend using the web browser connection to change the default platform credentials.

- Note:**
- A serial shell connection only allows the change of platform password. The serial shell does not allow you to remove the platform user **jci**, which is necessary to meet the requirements of changing the default credentials. Use a web browser connection to remove all default credentials.
  - If you connect to an FX80 with FX Workbench and a platform connection (before you change the default platform credentials), you may see a message indicating that the default platform credentials were detected and the host must be commissioned (when you go to **Platform Administration** from an FX Workbench connection). Commissioning is **not** required with the FX80 Supervisory Controller. Instead, you can use the web browser connection to change all default credentials provided from the factory.

**Figure 1: Default Platform Credentials Detected**



### ***System Passphrase***

This system passphrase is the following.

#### **Passphrase: explorer**

The FX80 Supervisory Controller platform has a system passphrase this is used to encrypt sensitive information such as client passwords.

You can change the default system passphrase in one of three ways:

- web browser connection to the station (**recommended**)
- FX Workbench platform connection using Platform Administration > System Passphrase
- serial shell connection (option 6: Change System Passphrase)

## ***Secure Storage and the SD Card***

On an FX80 controller, the SD card is the primary storage media for all data and configuration related to the FX Supervisory Software installation. Since the SD card can be easily removed and the data duplicated, the sensitive data is encrypted when stored on the card. Files are stored in encrypted format, but decoded as they are accessed.

Sensitive data includes the following:

- credentials for accessing a Wi-Fi network
- FX Supervisory Software key material
- private key files
- operating system account credentials

The system is designed in a way that protects this data, while at the same time allowing you to move an SD card from a unit that suffered a hardware failure to a new unit with minimal effort.

For example, the SD card is inserted into the replacement unit and contains the system passphrase for the original unit, which does not match the one in the replacement unit. As a result, the boot sequence fails due to the passphrase mismatch (indicated by Stat LED flashing with a 50% duty cycle with a 1 second period).

You are then prompted to enter the system passphrase (for the original unit, which is stored on the SD card) using serial connection. You must first authenticate with platform credentials before you can update the system password.

**Note:** If you preconfigure (using a serial connection) the replacement FX80 unit with a system passphrase matching the one stored on the SD card (swapped out of the other unit), the commissioning process does not prompt for a passphrase since it detects a passphrase match.

## Inserting or Removing a MicroSD Card (If Needed)

FX80 Supervisory Controllers come from the factory shipped with a MicroSD card licensed, commissioned, and installed. However, you can move an SD card from one unit to another. For example, you might want to remove the SD card from a unit that suffered a hardware failure and use it in a replacement unit.

**Important:** Remove **all power** to the controller before inserting or removing the microSD card; otherwise, equipment damage may occur.

**Important:** Discharge any static electricity that you may have accumulated by touching a known, securely grounded object.

### Notes:

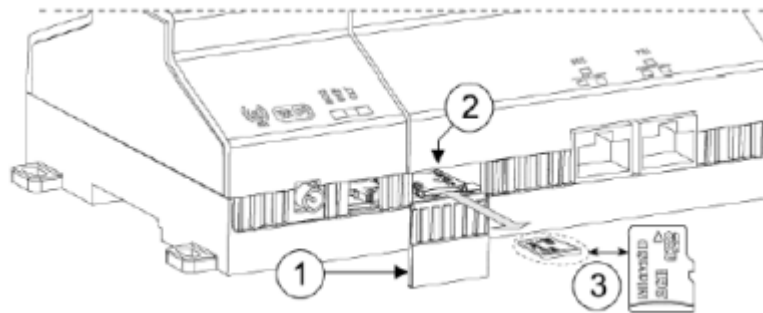
- The space behind the mounting base must be clear to access the card.
- Data on the microSD card is encrypted by a **passphrase** stored in the controller base. The passphrase on the card must match the passphrase stored in the controller. If you swap a card from a previously configured unit, you must provide the passphrase (of the previously configured unit which is stored on this SD card) using a serial connection to the unit's Debug port.

To insert or remove a microSD card:

1. Carefully slide the plastic microSD card shutter open. The shutter should remain captive in the base, revealing the microSD card socket.

**Note:** You may need to remove the FX80 from the din rail mount prior to removing the microSD card.

**Figure 2: Micro SD Card**



**Table 1: MicroSD Card Location in Controller**

Callout	Description
1	Access Shutter for the microSD card
2	Card Socket
3	MicroSD card

2. Make either of the following changes, as needed:
  - **Insert the microSD card** by sliding the card into the card socket, label side up, until the spring catch engages. If properly inserted, the card is behind the shutter track.
  - **Remove the microDS card** by pushing the card in, until the spring release pushes the card partially out of the card socket. Grasp the card and pull it completely out of the unit. Store the microSD card in a static free protective case.
3. Carefully slide the card shutter back over the card socket opening until it clicks into place. When properly closed, the shutter should not protrude behind the mounting base.

## Detailed Procedures

### ***Provide Power and Connectivity***

In most cases, you start up the FX80 Supervisory Controller in your office before physically mounting it in place at a job site.

**Important:** The FX80 is not compatible with a Power-Over-Ethernet (POE) network. Connecting the FX80 on a network segment that carries power causes the unit to fail (lockup). In that event, you must disconnect it from the POE network segment and cycle power to the unit.

The remainder of this document assumes that you have the FX Supervisory Controller nearby, and that you can power it on and off as needed.

### ***Requirements***

These instructions assume that you have a computer running a licensed copy of FX Workbench 14.1.

**Note:** Your computer must meet the minimum hardware and operating system requirements for the FX Workbench workstation release you are working with. These requirements include a working Ethernet adapter with TCP/IP support (browser capable). An Ethernet TCP/IP connection to the FX80 Supervisory Controller is required to install any additional modules.

For this Ethernet connection, you can use either:

- an Ethernet patch cable connected directly between your computer and the FX Supervisory Controller. If your computer Ethernet port is not **auto-sensing**, then you need an Ethernet crossover cable.
- a normal LAN connection, meaning that both your computer and the FX Supervisory Controller are physically connected to the same Ethernet hub or switch

### ***Changing Default Credentials***

We recommend that you follow IT security best practices the FX80 Supervisory Controller. The most basic best practice is to change the default credentials provided by the factory. Use the following procedure for the easiest way to change the default credentials in the FX80 Supervisory Controller.

1. Connect an Ethernet cable to the LAN1 (labeled PRI) Ethernet port of the FX80.

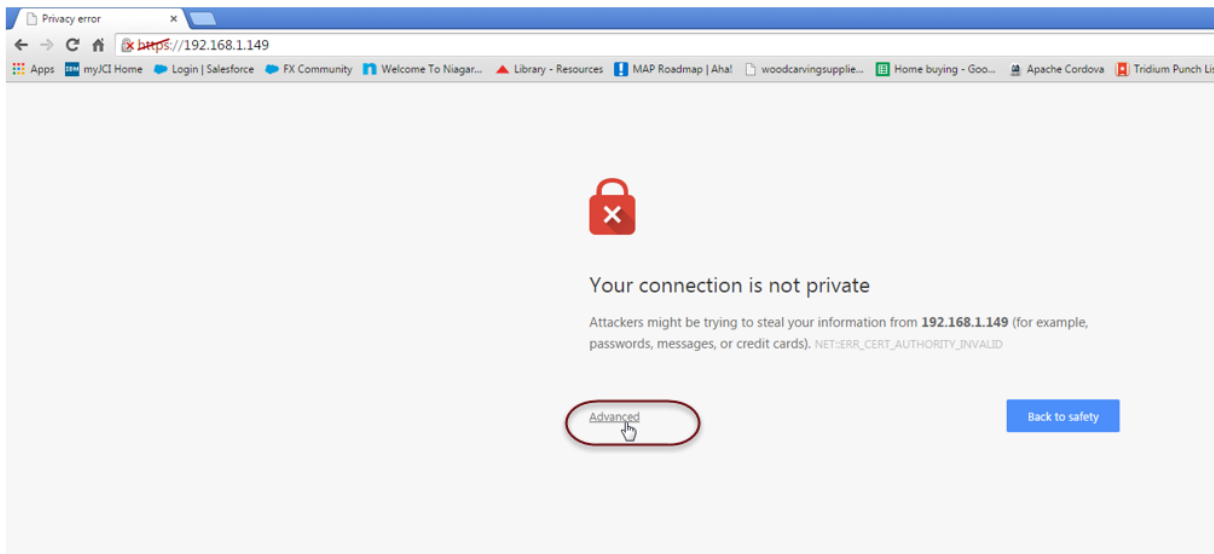
The default IP address of the FX80 is **192.168.1.149**. Ideally, connect the FX80 to a network (or direct connection) which resides on the same subnet as the default IP of the FX80.

**Note:** You can also change the default FX80 Network settings to match your network prior to proceeding (which requires a reboot).

2. Apply power to the FX80. Wait for a solid STAT LED to proceed (approximately 1 minute).
3. Use a web browser and an **HTTPS connection** to connect to the FX80. Using the default IP address of the FX80, type **https://192.168.1.149** in your web browser's navigation bar. A warning indicates that your connection is not private.

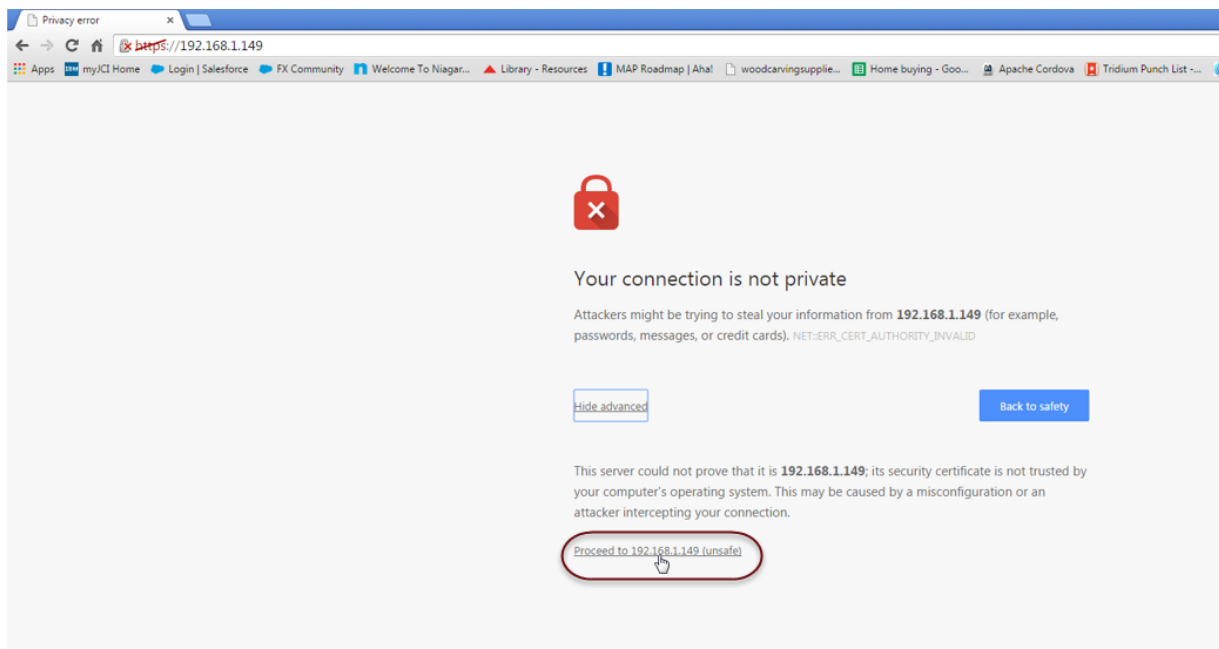


**Figure 3: Connection Not Private**



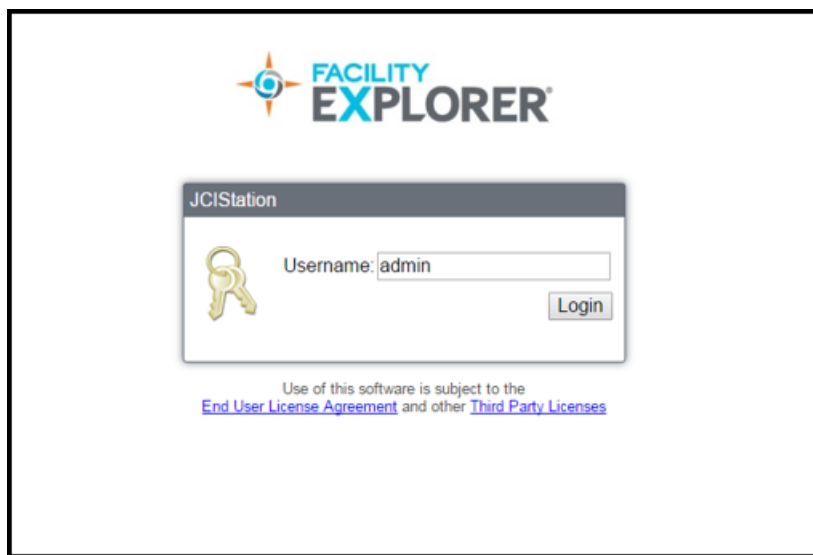
4. Click **Advanced**.

**Figure 4: Proceed to IP Address**



5. Click **Proceed to 192.168.1.149 (unsafe)**. If modified earlier, the IP address displays the modified IP address. The Facility Explorer Station login screen appears

Figure 5: Username



6. Type the default username **admin** and click **Login**. The password field appears.

Figure 6: Password



7. Type the default password **FacilityExpl0rer** and click **Login**.  
The Facility Explorer JCI Station Login screen requires you to change the default password for the admin user.

Figure 7: Password Reset

**FACILITY EXPLORER**

JCISStation

**Password Reset**  
You are required to reset your password before continuing. Please enter your new password and confirm.

Your password must contain:

- at least 10 character(s)
- at least 1 digit(s)
- at least 1 lower case character(s)
- at least 1 upper case character(s)
- at least 0 special character(s)

New Password:

Retype Password:

Login

Use of this software is subject to the [End User License Agreement](#) and other [Third Party Licenses](#)

8. Follow the password rules to create a new password. Retype the password to ensure it is correct and click Login.

**Note:** The default password **FacilityExpl0rer** is not allowed.

The Facility Explorer Station Login checks the FX80 Platform and Passphrase credentials for use of defaults.

**Figure 8: Platform Credentials Update**

JCISStation

**WARNING!!**  
Default Platform User Detected.  
Default Passphrase Detected.  
You must reset defaults before continuing.

Platform Username:

Platform Password:

Platform Passphrase:

---

New Platform Username:

New Platform Password:

Confirm Platform Password:

---

New Platform Passphrase:

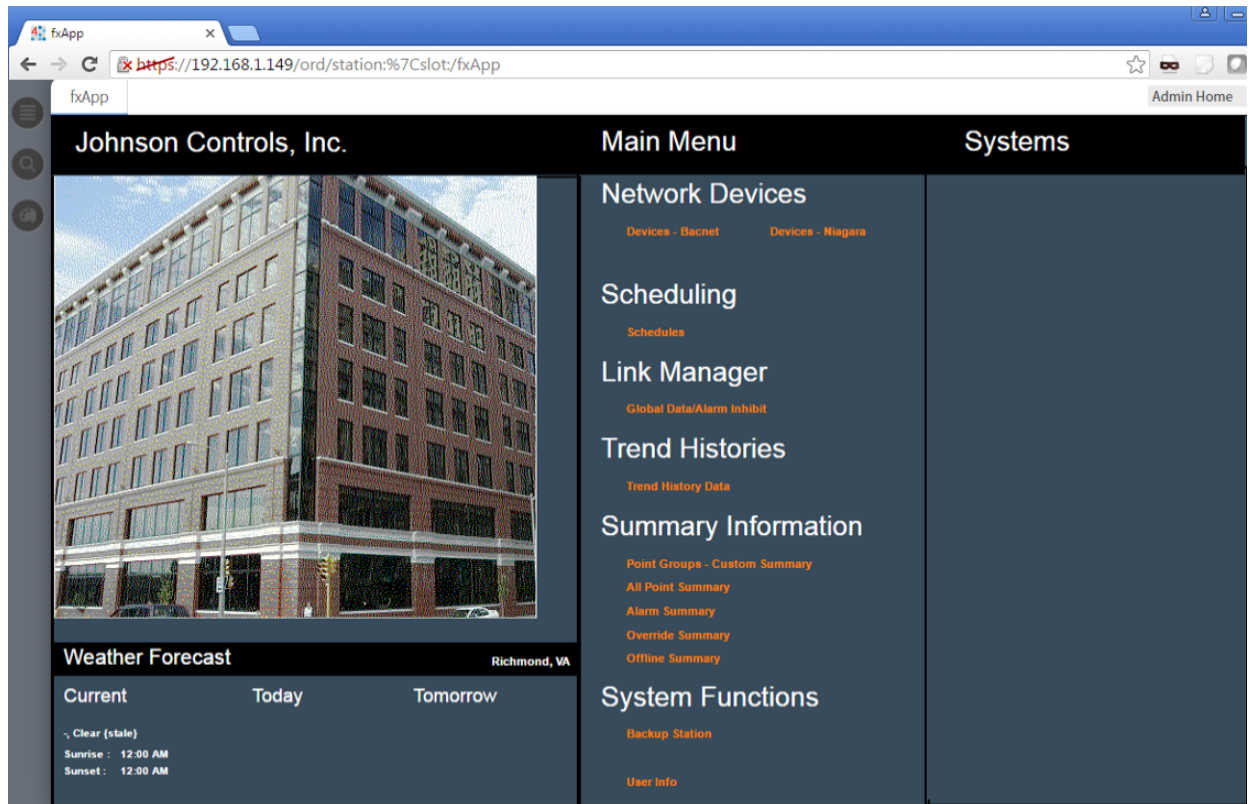
Confirm Platform Passphrase:

9. Upon recognizing default credentials, you are forced to change the defaults passwords. Enter the following:
- **Platform Username** - Enter the default platform user **jci**.
  - **Platform Password** - Enter the default platform password **explorer**.
  - **Platform Passphrase** - Enter the default system passphrase **explorer**.
  - **New Platform Username** - Enter a new platform user name. The default password, **jci**, is not allowed.
  - **New Platform Password** – Enter a new strong password.
  - **Confirm Platform Password** - Reenter the New Platform Password.
  - **New Platform Passphrase** – Enter a new platform strong passphrase.
  - **Confirm Platform Passphrase** – Reenter the New Platform Passphrase.

**Important:** Take note of the new credentials. Both the platform password and the passphrase are required for certain operations. Failure to remember these credentials will required a factory reset of the controller.

10. Click Update. Once all the passwords have been validated, the station appears and is ready for use.

Figure 9: JCI Station in Web Browser



## **Preparing for FX Supervisory Controller Re-Commissioning**

The FX80 Supervisory Controller comes **fully commissioned and licensed**. It is not necessary to run through the commissioning process, but this process is available as an option. You can also use the commissioning process as an alternative way to change the default platform and passphrase credentials.

1. Install FX Workbench 14.1 on your computer, including its permanent license.

**Notes:** Typically, the license files for the FX80 Supervisory Controller already resides on the device.

2. Attach one end of a standard category-5 Ethernet unshielded twisted pair (UTP) patch cable to the RJ-45 Ethernet connector for LAN1 (labeled PRI) on the FX Supervisory Controller.
3. Attach the other end of the patch cable to a network port or directly to an Ethernet hub.
4. Power up the FX Supervisory Controller.
5. Record your computer's current IP settings and then reassign your computer IP address for its Ethernet network interface card (NIC).

As an alternative to reassigning your computer's IP address, you can do one of the following:

- Obtain a USB-to-Ethernet network adapter (second network interface card, or NIC), and use it with an Ethernet crossover cable to commission FX Supervisory Controllers. In this case, configure the second NIC to use the settings in the remainder of this step.
- Use a serial shell mode connection to the FX Supervisory Controller to reassign its factory IP address settings. After making this change and restarting the FX Supervisory Controller, you can continue commissioning using FX Workbench. This action requires a USB-to-MicroUSB adapter cable, Virtual COM Port (VCP) driver, and a special power-up mode for the FX Supervisory Controllers. VCP drivers cause a USB device to appear as an additional COM port available to the computer. Using terminal emulation software, such as PuTTY or ClearTerminal, the computer can access the USB device in the same way as it would access a standard COM port. For more information, see [System Shell](#).

For this initial connection to a factory-shipped FX Supervisory Controller, configure your computer's NIC to use an IP address in the same subnet as the FX Supervisory Controller, as well as a matching subnet mask.

Set the IP address in the range: **192.168.1.1** to **192.168.1.254** (with the exception of **192.168.1.149**, which is the default IP address for the FX80).

with a subnet mask of: **255.255.255.0**

6. On your computer, start FX Workbench. The Nav tree should appear on the left side of the screen. If not, from the menu bar, select **Window > Side Bars > Nav**.

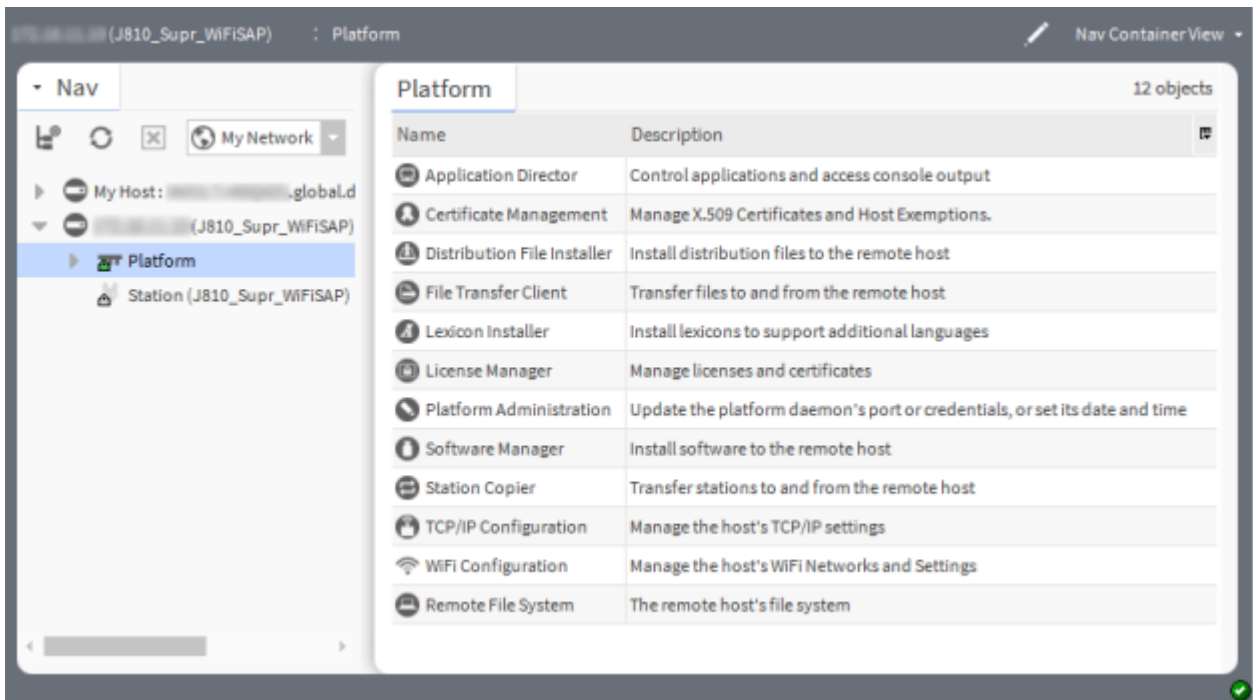
## Connecting to an FX80 Supervisory Controller

Once the FX Supervisory Controller powers up, connect to the controller with FX Workbench using **Open Platform**. A platform connection to any FX Supervisory Controller is required for most host-level operations, which includes installing FX Workbench core software and modules and performing various other platform tasks.

After you open a platform connection, you can run the Commissioning Wizard.

1. Click **File > Open > Open Platform**. The Open Platform dialog box appears.
2. Enter the following:
  - **Type**: Select **Platform Connection**, if not already selected. By default, FX Workbench prompts for a secure **Platform TLS Connection**.
  - **Host**: Leave at default IP and enter the IP address of the new FX Supervisory Controller.
  - **Port**: Leave at default **5011**.
  - Credentials, which may be:
    - **Username**: Type in default username, for example: **jci**
    - **Password**: Type in default password, for example: **explorer**
3. Click **OK**.

**Figure 10: Connected FX Supervisory Controller Platform**

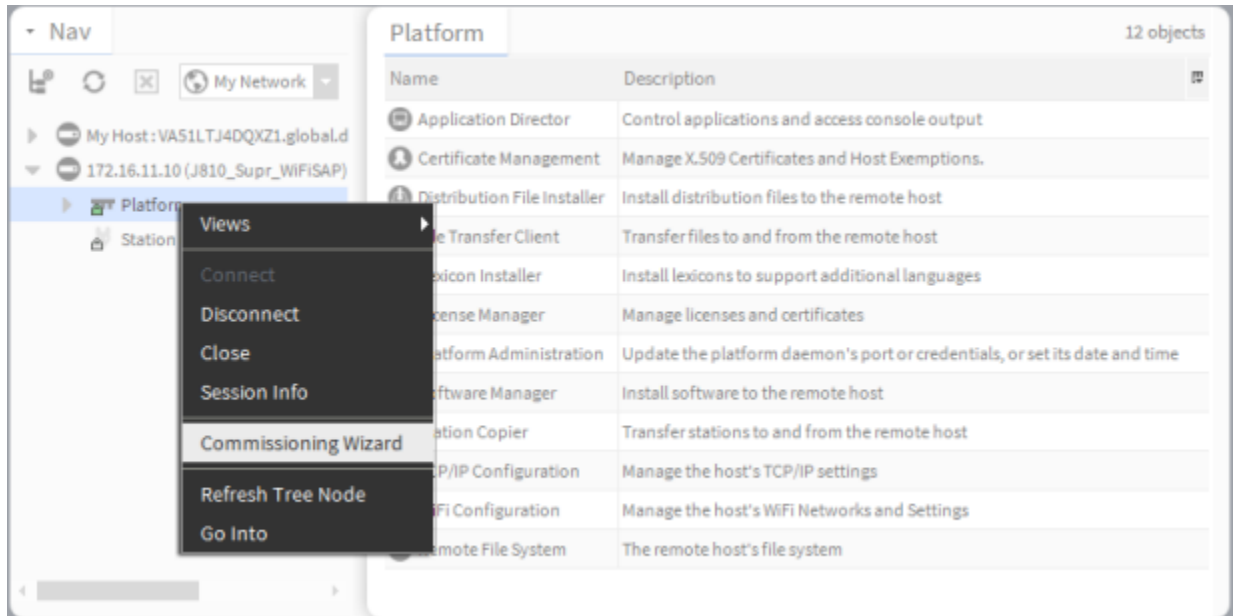


## Running the Commissioning Wizard

The FX80 Supervisory Controller comes **fully commissioned and licensed**. It is not necessary to run through the commissioning process, but this process is available as an option. You can also use the commissioning process as an alternative way to change the default platform and passphrase credentials.

The Commissioning Wizard is a right-click option on any connected FX Supervisory Controller platform in the Nav tree. You can also launch the wizard from the Platform Administration view.

**Figure 11: Commissioning Wizard as Right-click Platform Option**



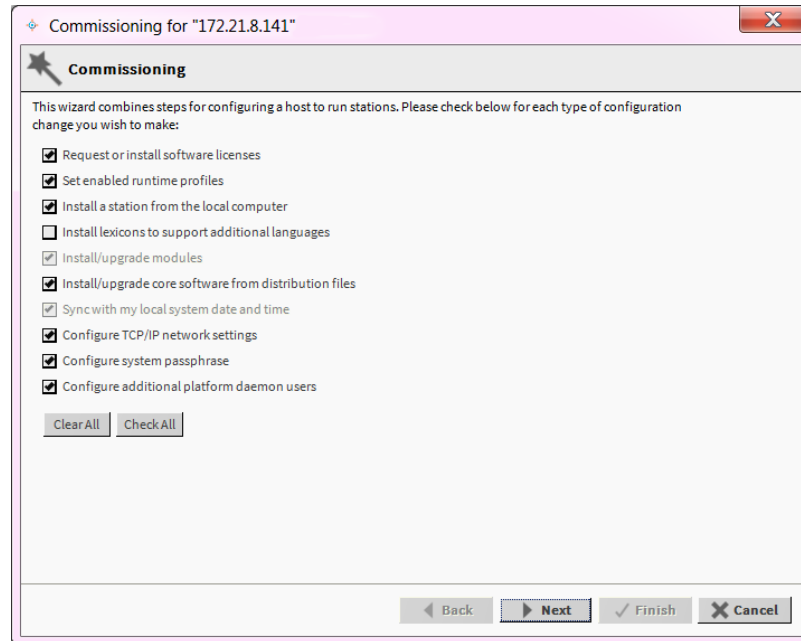
Use the Commissioning Wizard when you want to recommission the new FX80 per customer requirements.. The wizard provides a checklist method to perform essential platform tasks. You can also use the Commissioning Wizard when you upgrade the core FX Supervisory Software in an FX Supervisory Controller.



## Starting the Commissioning Wizard

1. Using FX Workbench, open a platform connection to an FX80 controller.
2. In the Nav tree, right-click **Platform** and select **Commissioning Wizard**.

**Figure 12: Commissioning Wizard**



3. Select the check boxes based on the following table. Make sure the **Configure additional platform daemon users** is checked.

**Table 2: Commissioning**

Check Box	Description
<b>Request or install software licenses</b>	Preselected and disabled for any new FX Supervisory controller
<b>Set enabled runtime profiles</b>	Preselected and disabled for any new FX Supervisory controller
<b>Install a station from the local computer</b>	Select this check box. You install the new or migrated station from a local computer.
<b>Install lexicons to support additional languages</b>	Option to install file-based lexicon sets (alternative to lexicon modules). Typically you leave this check box unselected. Lexicon modules are recommended in FX Release 14 and above.
<b>Install/upgrade modules</b>	Always preselected when the wizard is run. Selects the software modules and optionally any lexicon modules.
<b>Install/upgrade core software from distribution files</b>	Preselected and disabled for any new FX Supervisory controller
<b>Sync with my local system date and time</b>	Preselected in most cases. For new controllers (for example) where the controller time may greatly differ from actual time. <b>Note:</b> Ensure that this check box is selected to update the date and time from the defaults placed in the controller at the factory.
<b>Configure TCP/IP network settings</b>	Recommended

**Table 2: Commissioning**

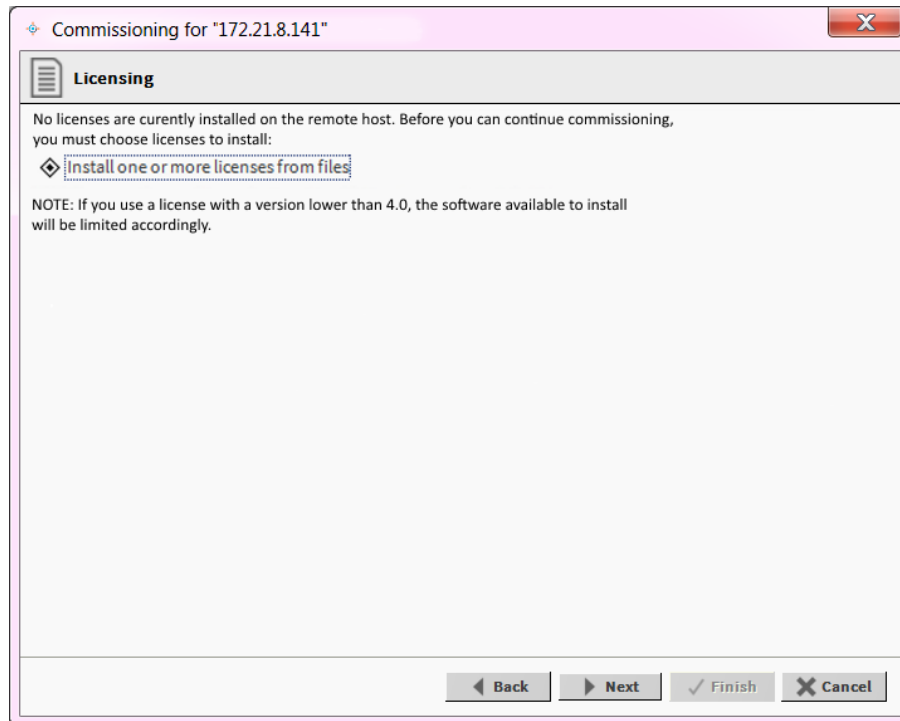
Check Box	Description
Configure system passphrase	Preselected and disabled for any new FX Supervisory controller
Remove platform default user account	Preselected and disabled for any new FX Supervisory controller. You cannot commission a unit with the factory-default platform admin user.
Configure additional platform daemon users	Recommended option if you require additional platform admin user accounts with unique user names and passwords (all additional accounts have full and equal privileges).

4. Click **Next**.

## Installing or Updating Licences

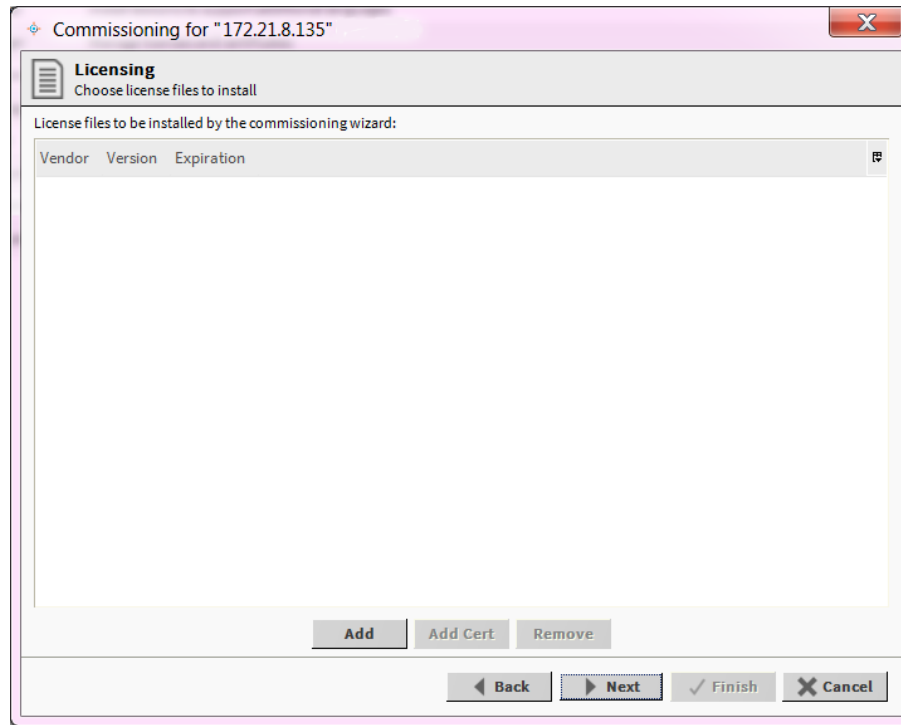
1. Select **Install one or more licenses from files** if you have the license files.

**Figure 13: Licensing Screen**



2. Click **Next**.

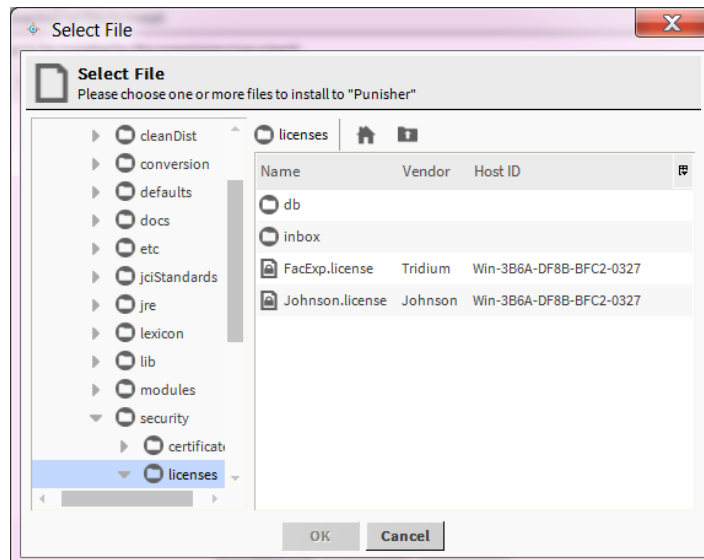
**Figure 14: Choose File to Install**



3. Click **Add** and select the required licenses. The licenses appear on the right side of the screen.

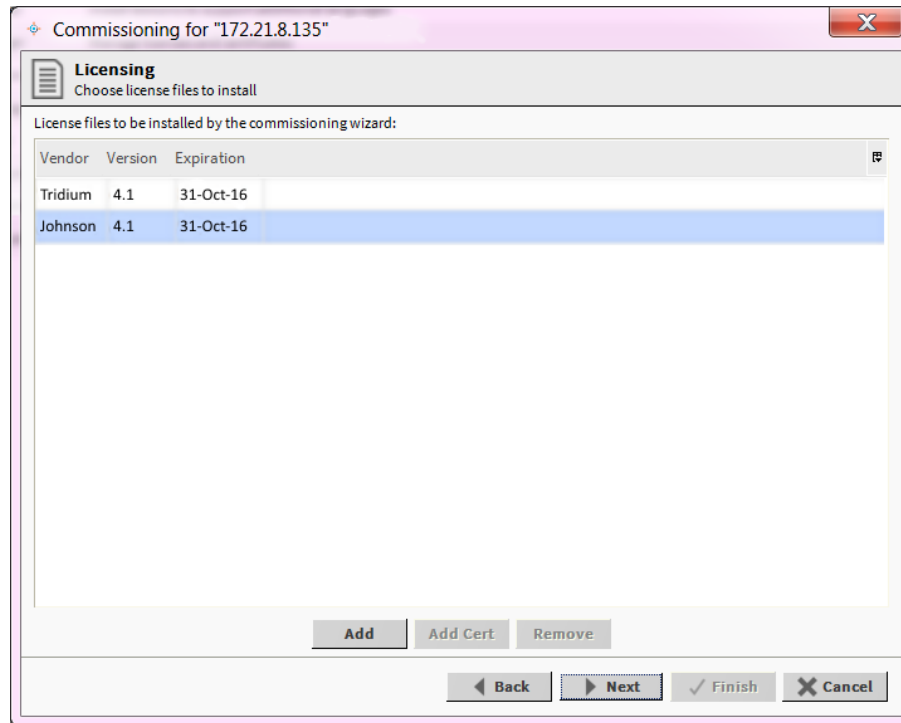
**Note:** The Johnson.license is for N2 drivers. You do not have to install this license if you are not using it.

**Figure 15: Select License**



4. Click **OK**.

**Figure 16: Licence Files to be Installed**

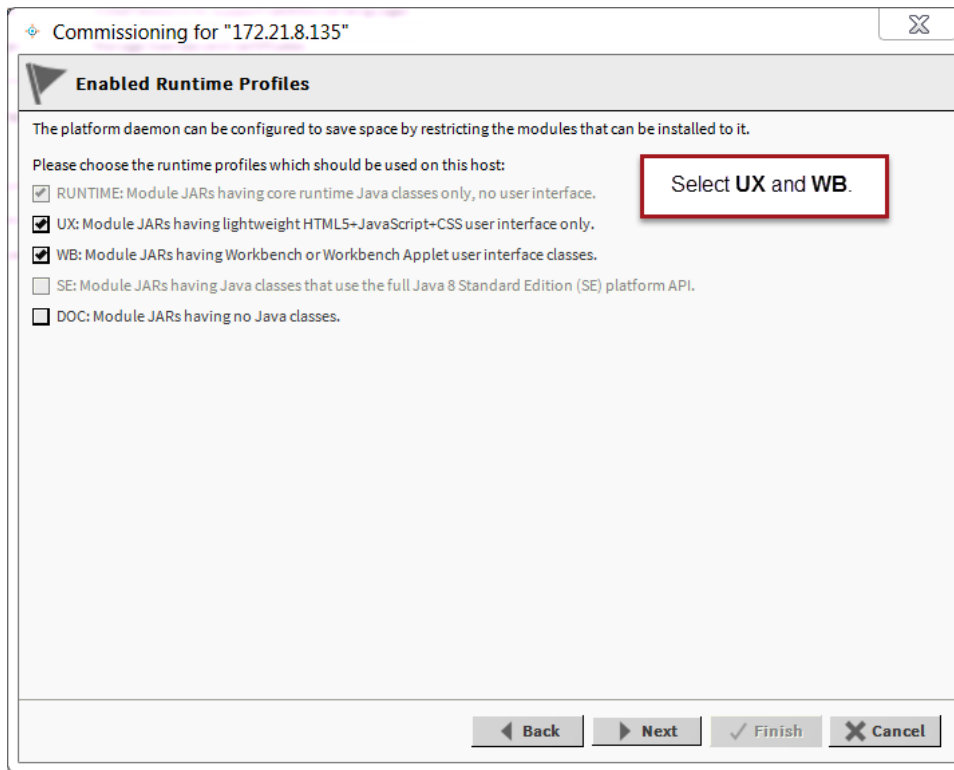


5. Click **Next**.

## Setting the Enabled Runtime Profiles

Enabled runtime profiles specify what types of FX Supervisory Software 14 software module .jar files to install.

**Figure 17: Enabled Runtime Profiles**



All FX Supervisory Software 14.x platforms require the base RUNTIME (-rt) module .jar files, so the check box is preselected (read-only).

1. Use the following table as a reference. Make sure to select both the **UX** and **WB** check boxes.

**Table 3: Enable Runtime Profiles**

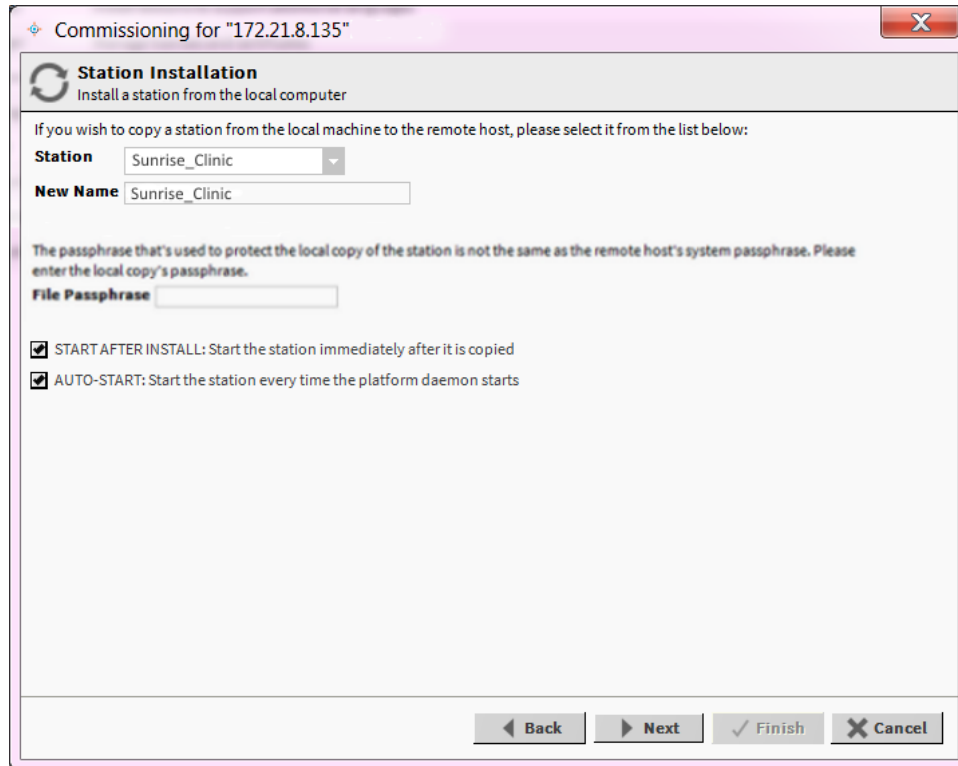
Field	Description
<b>RUNTIME: Module JARS having core runtime Java classes only, no user interface.</b>	Read-only. Always selected.
<b>UX: Modules JARs having lightweight HTML5+Javascript+CSS user interface only.</b>	Select to support web client browser access, using HTML5, Javascript®, and CSS technologies. The client does not need to run Java® and download WbApplet from the controller. When you select this check box, the <b>WB</b> check box is also selected.  <b>Note:</b> Certain views at FX Release 14 have not been converted to HTML5. These views include the Device Manager, Wire Sheet, and Px Editor views. They are scheduled to be converted at a future release.
<b>WB: Modules JARs having Workbench or Workbench Applet user interface classes.</b>	Select (in addition to UX) if the supervisory controller must also support browser <b>Web Workbench</b> access from Java-enabled clients, using the WbApplet. When you select this check box, the <b>UX</b> check box is also selected.
<b>SE: Modules JARs having Java classes that use the full Java 8 Standard Edition (SE) platform API.</b>	Not available for QNX-based FX Supervisory Controllers.
<b>DOC: Modules JARs having no module classes.</b>	Selectable, but not recommended for file space reasons on an FX Supervisory Controller.

2. Click **Next**.

## Specifying a Station Database to Install

If you have a specific station database ready to install in the FX Supervisory Controller, you can specify it at this step in the wizard.

Figure 18: Station Installation



1. In the Station box, select the name of the station database on your computer.
2. If desired, enter a new station name. Otherwise, do not change it.
3. If necessary, enter a passphrase. If the passphrase for the local copy of the station is different from the remote host's system passphrase, you are prompted to enter the local copy's passphrase. If the passwords match, you are not prompted to enter one.
4. If desired, select one or both of the following check boxes. When commissioning FX Supervisory Controllers, it is recommended that you select both check boxes):
  - **START AFTER INSTALL:** Start the station immediately after it is copied. When you select this check box, the station is restarted at the end of commissioning, even if you do not restart the FX Supervisory Controller.
  - **AUTO-START:** Start the station every time the platform daemon starts. When you select this check box, the station starts every time the FX Supervisory Controller is restarted.

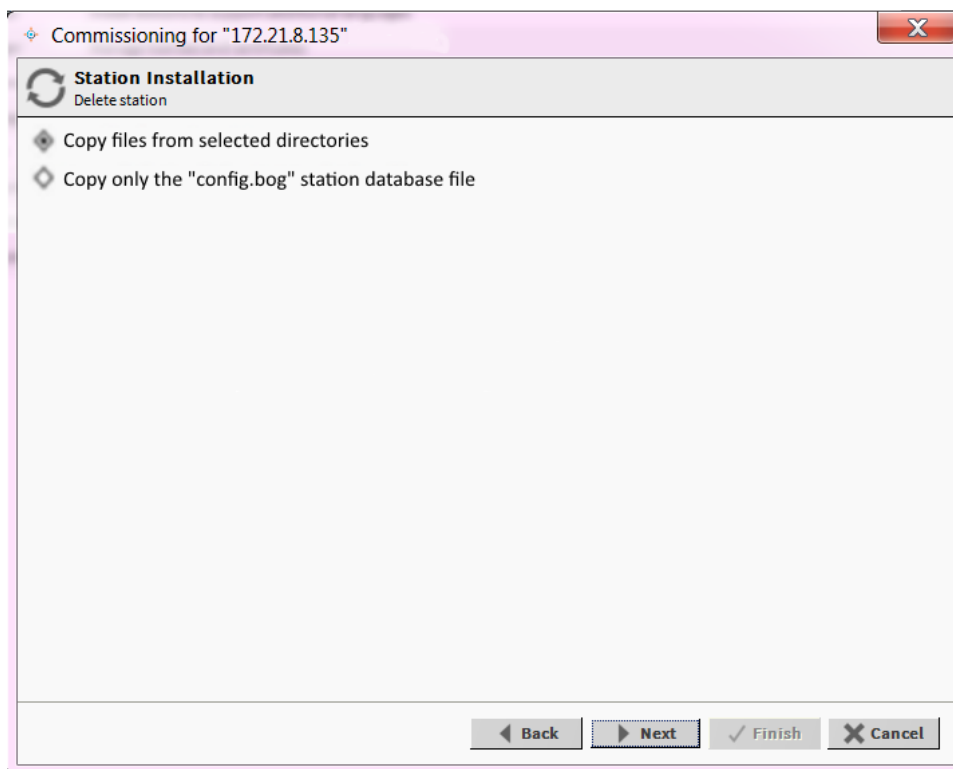
**Note:** In some commissioning scenarios, you may wish to clear both Start options when installing a station, especially if commissioning ends in a restart. Then the software modules needed by the station are installed (along with all station files), but the station stays **idle**.

In this case, to start the station, you must reopen a platform connection to the FX Supervisory Controller following the restart, starting the now idle station from the Application Director view. This process allows you to see all standard output messages from the station, as it transitions from **idle** to **starting** to **started**.

In the Application Director, be sure to enable AUTO-START on the selected station. Otherwise, the status remains **idle** after the next controller restart.

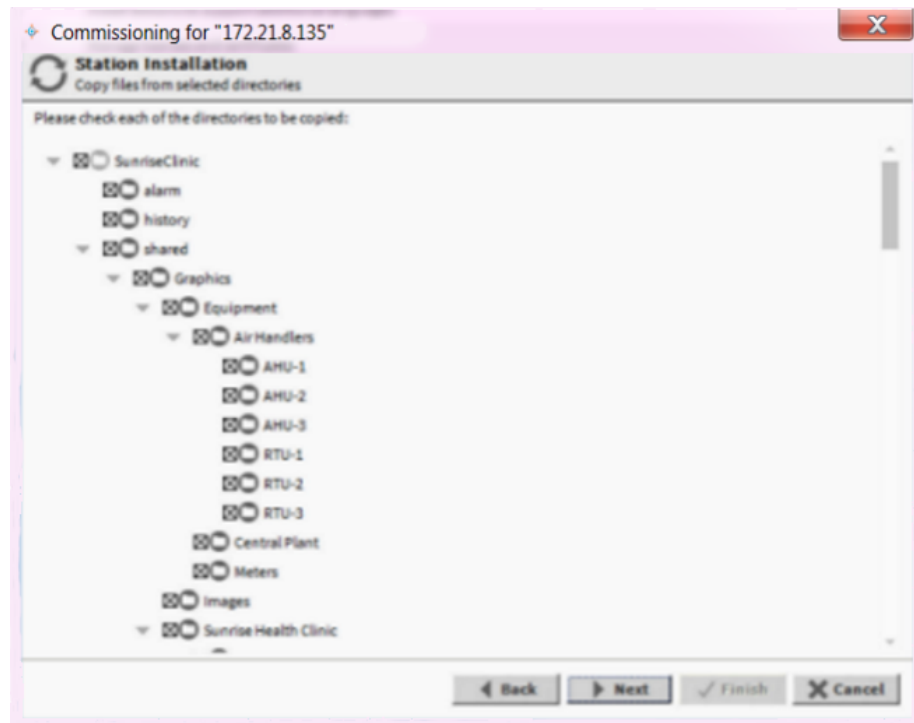
5. Click **Next**. A dialog box appears asking which station files to copy.

**Figure 19: Station Files to Copy**



6. Select one of the following:
  - Copy files from selected directories (recommended)  
Allows you to specify which subfolders under that local station that are copied. This action produces a **tree** selection after you click Next.
  - Copy only the **config.bog** station database file  
Copies only the station configuration (components), and not any supporting folders and files (for example, PX files and HTML files).
7. Click **Next**. A screen appears asking you to select subfolders.

Figure 20: Copy Files from Selected Directories



8. Select the subfolder under the local station to copy. Expand the folders as needed. By default, the directories are selected to be copied to the station. Directories that are not selected are no longer required. Typically, you leave all of directories selected.
9. Click **Next**.



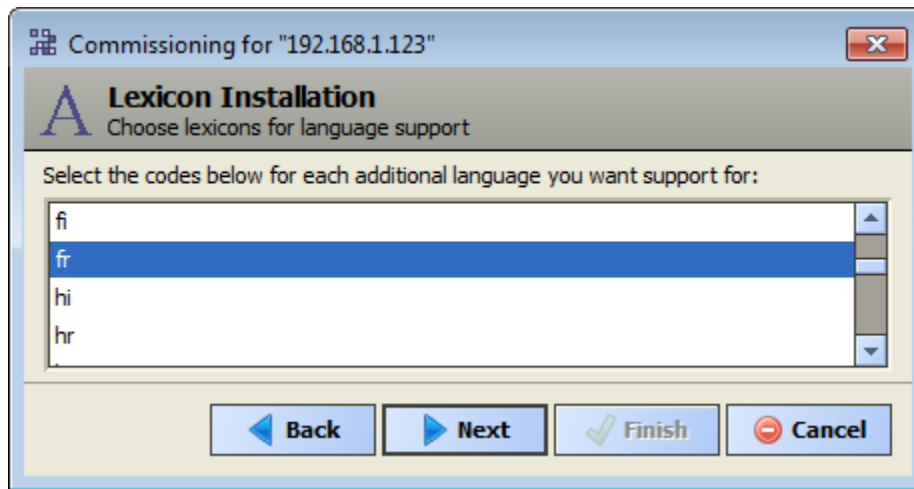
## Installing Lexicons

At the Lexicon Installation step, you can install one or more text-based lexicon file sets in the FX Supervisory Controller, providing you have any in a **!lexicons** subdirectory under your Sys Home in FX Workbench. Lexicons provide support for non-English languages in the FX Supervisory Controller. Lexicons are identified by Java locale codes, such as **fr** (French) or **de** (German). In some domestic (United States) installations, an English lexicon (**en**) is added and configured to globally customize items such as property descriptions in FX Workbench.

Lexicon file sets **must** be under a lexicons subdirectory under your FX Workbench Sys Home.

**Note:** For FX Supervisory Software 14.x and above, we recommend you skip this step. Instead, make one or more modules of customized lexicons and install them in the next (Select modules) step. Otherwise, issues may occur in browser access of the hosted station.

**Figure 21: Lexicon Installation**

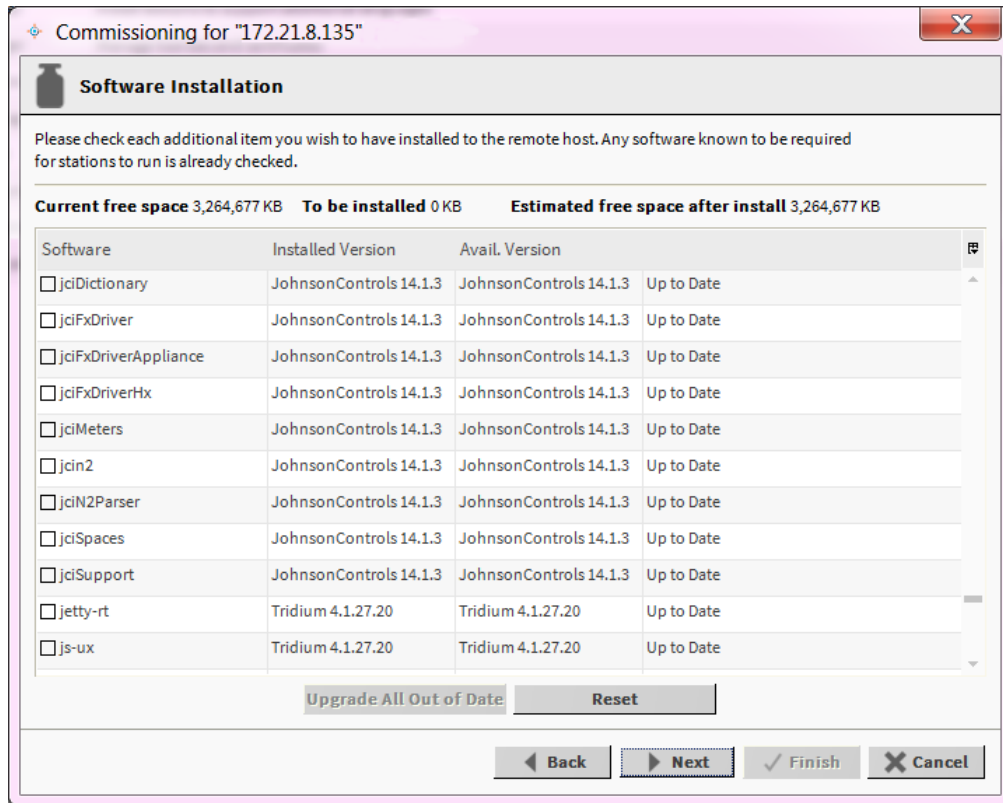


1. Click the language codes you want.
2. Click **Next**.

## Selecting Modules for Installation

1. Review the list of available modules. Select the software to install. Use [FX Workbench 14.x Modules](#) as a reference when selecting modules.

Figure 22: Software Modules



Note the following:

- Modules preselected from **core** need or station database reasons each have a red text descriptor, which may read as:
  - Install required platform module (FX Workbench build number)
  - Install required for runtime profile (FX Workbench build number)
  - Install module required by station (FX Workbench build number)
- You can select additional modules to install by selecting check boxes. The description for each is in blue text, and displays as either:
  - Not Installed (if not selected)
  - Install (if selected)
- To sort the list alphabetically, click the Software header in the table. To return to the default sort order, click the table's (blank) description header.
- To reset the selection of modules to the original collection, click **Reset**.

2. Click **Next**.

### **FX Workbench 14.x Modules**

Use this table as a reference when selecting modules during FX Workbench commissioning. This modules listed below are the modules that the FX80 Supervisory Controller are preloaded with at the factory.

**Table 4: FX Workbench 14.x Modules**

<b>Module Name</b>	<b>Size</b>
alarm-rt.jar	323.9
alarm-ux.jar	71.5
alarm-wb.jar	470.7
app-rt.jar	19.8
app-wb.jar	12.3
axvelocity-rt.jar	1374.8
axvelocity-wb.jar	27.9
backup-rt.jar	56.9
backup-wb.jar	19.8
bacnet-rt.jar	1792.0
bacnet-wb.jar	307.8
baja.jar	1913.5
bajaScript-ux.jar	371.1
bajai-wb.jar	1236.1
bajaux-rt.jar	24.8
bajaux-ux.jar	80.7
basicDriver-rt.jar	58.5
box-rt.jar	167.7
bql-rt.jar	267.0
bql-ux.jar	52.8
chart-rt.jar	13.3
chart-wb.jar	197.8
control-rt.jar	78.7
control-wb.jar	21.6
converters-rt.jar	126.3
driver-rt.jar	166.8
driver-wb.jar	100.1
email-rt.jar	84.8
email-wb.jar	27.4
entitylo-rt.jar	19.0
file-rt.jar	83.5
fonts-rt.jar	34.4
fox-rt.jar	339.3
gx-rt.jar	125.7
gx-wb.jar	745.8
haystack-rt.jar	63.6
hierarchy-rt.jar	73.6

**Table 4: FX Workbench 14.x Modules**

<b>Module Name</b>	<b>Size</b>
hierarchy-ux.jar	14.4
hierarchy-wb.jar	15.9
history-rt.jar	468.9
history-ux.jar	40.6
history-wb.jar	315.8
html-wb.jar	32.3
hx-wb.jar	441.0
icons-ux.jar	677.2
jciBacnetParser.jar	67.3
jciCoreParser.jar	119.6
jciDictionary.jar	1.2
jciFxDriver.jar	416.2
jciFxDriverAppliance.jar	516.3
jciFxDriverHx.jar	383.3
jciMeters.jar	23.8
jcin2.jar	745.0
jciN2Parser.jar	156.9
jciSpaces.jar	161.0
jciSupport.jar	133.0
jciTools.jar	74.9
jetty-rt.jar	47.4
js-ux.jar	1558.7
jxBrowser-wb.jar	42.5
kitControl-rt.jar	295.8
kitControl-wb.jar	11.1
kitPxHvacSmall.jar	405.4
kitPxHvac-wb.jar	633.9
kitPx-wb.jar	116.9
mobileThemeZebra-ux.jar	29.5
mobile-ux.jar	728.3
mobile-wb.jar	183.5
modbusAsync-rt.jar	21.7
modbusAsync-wb.jar	8.9
modbusCore-rt.jar	216.4
modbusCore-wb.jar	45.3
modbusTcp-rt.jar	30.1
modbusTcp-wb.jar	10.5
neql-rt.jar	62.7
net-rt.jar	61.2
niagaraDriver-rt.jar	308.3

**Table 4: FX Workbench 14.x Modules**

<b>Module Name</b>	<b>Size</b>
niagaraDriver-wb.jar	153.7
niagaraVirtual-rt.jar	117.6
niagaraVirtual-wb.jar	17.0
nsh-wb.jar	19.9
obixDriver-rt.jar	308.9
obixDriver-wb.jar	62.0
obix-rt.jar	243.7
pdf-wb.jar	95.2
platBacnet-rt.jar	20.9
platCrypto-rt.jar	119.3
platCrypto-wb.jar	142.0
platDataRecovery-rt.jar	118.1
platDataRecovery-wb.jar	35.7
platform-rt.jar	825.8
platform-wb.jar	484.7
platMstp-rt.jar	26.3
platPower-rt.jar	44.8
platPower-wb.jar	27.4
platSerialQnx-rt.jar	19.6
platSerial-rt.jar	14.9
program-rt.jar	69.0
program-wb.jar	185.8
pxEditor-wb.jar	599.5
query-rt.jar	50.1
queryTable-wb.jar	141.0
report-rt.jar	42.8
report-wb.jar	103.7
schedule-rt.jar	114.6
schedule-wb.jar	221.9
search-rt.jar	43.1
search-ux.jar	58.0
search-wb.jar	15.4
serial-rt.jar	22.4
serial-wb.jarserial-wb.jar	9.0
silk-rt.jar	31.2
smartTableHx-wb.jar	274.1
tagdictionary-rt.jar	92.9
tagdictionary-wb.jar	23.7
template-rt.jar	58.8
template-wb.jar	313.7

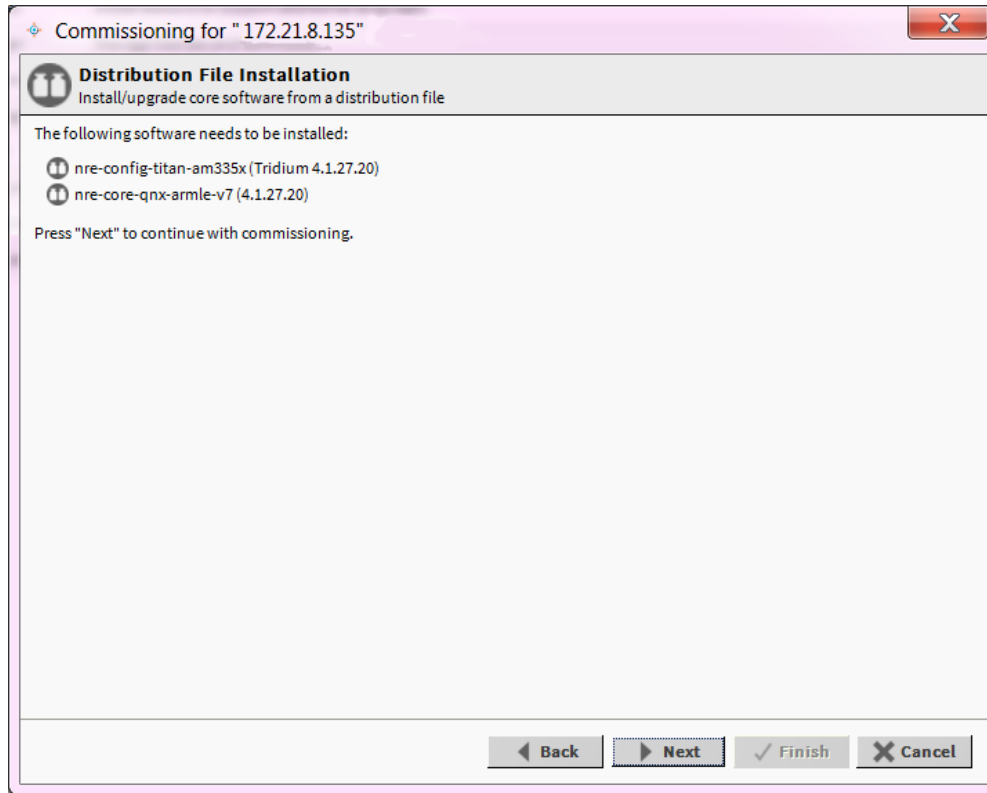
**Table 4: FX Workbench 14.x Modules**

<b>Module Name</b>	<b>Size</b>
themeLucid-ux.jar	936.7
themeZebra-ux.jar	801.9
tunnel-rt.jar	51.2
wbutil-wb.jar	442.7
weather-rt.jar	167.2
weather-wb.jar	314.2
webChart-rt.jar	27.0
webChart-ux.jar	187.1
webEditors-ux.jar	537.2
web-rt.jar	382.9
wiresheet-wb.jar	200.5
workbench-wb.jar	2367.8

## Installing Core Distribution Files

During commissioning, the dependencies of the FX Supervisory Controller platform are compared against the distribution (.dist) files available in your FX Workbench computer's software database. The wizard determines what .dist files need to be selected for installation, and then informs you in the following screen.

**Figure 23: Distribution File Installation**



## Configuring TCP/IP Settings

To commission the station, you may need to update the station's TCP/IP settings.

Figure 24: TCP/IP Configuration

Commissioning for "Super : 172.21.8.132 (FX30Meter1)"

### TCP/IP configuration

Platform TCP/IP settings

Change the TCP/IP settings of the platform by modifying the values below:

**Host Name** Super

**Hosts File** ▾

**Use IPv6**  Yes

**DNS Domain** cg.na.jci.com

**IPv4 Gateway** 172.21.8.1

10.10.46.53

**DNSv4 Servers** 10.10.43.87

+

×

▲

▼

**IPv6 Gateway**

**DNSv6 Servers** + × ▲ ▼

**Interface 1** ▲

**ID** en0

**Description** Onboard Ethernet Adapter en0

**Physical Address** 00:01:F0:90:6C:C4

**Adapter Enabled**  Enabled

▾ IPv4 Settings ▸ IPv6 Settings

**Interfaces**

**DHCPv4**  Enabled

**IPv4 Address** 172.21.8.132

**IPv4 Subnet Mask** 255.255.255.0

**DHCPv4 Server** 10.10.46.53

**DHCPv4 Lease Granted** Sun May 01 15:16:45 2016

**DHCPv4 Lease Expires** Mon May 09 15:16:35 2016

Interface 2 ▾

Undo Changes

◀ Back ▶ Next ✓ Finish ✕ Cancel

1. Review the settings on the IPv4 Settings tab, which include the temporary factory-shipped IP address.
2. Assign the controller a unique IPv4 address for the network you are installing it on. No other device on this network should use this same IP address. Include the appropriate subnet mask used by the network.

Alternatively, if the network supports Dynamic Host Configuration Protocol (DHCP), you can enable it by selecting the **DHCPv4 Enabled** check box. In this case, the IP Address and Subnet Mask fields become read-only.

**Note:** In general (for stability), we recommend static IP addressing over DHCP. **Do not** enable DHCP unless you are certain that the network has DHCP servers. Otherwise, the FX Supervisory Controller may become unreachable over the network.

3. If needed, adjust other TCP/IP settings, which include:
  - **Hostname**—Use the default localhost name or enter another name you want to use for this host.
  - **Hosts File**—Click the arrows to expand the edit field. The format is a standard TCP/IP hosts file, where each line associates a particular IP address with a known host name. Use a separate line for each entry. Place



the IP address in the first column, followed by the corresponding host name. The IP address and the host name are separated by at least one space.

- **DNS Domain Name**—Enter the name of network domain, or if not applicable, leave the field blank.
- **IPv4 Gateway**—Enter the IP address for the device (such as a switch or a router) that forwards packets to other networks or subnets.
- **DNSv4 Servers**—Click the plus sign for a field to enter the IPv4 address of one or more DNS servers.

4. Click **Next**.

**Note:** FX80 controllers have two Ethernet ports, where **Interface 2** is available for configuring the secondary (LAN2) Ethernet port. By default, this port is disabled (does not have a **default** address). Intended usage of this port is for:

- Isolating a driver's Ethernet traffic from the primary (LAN1) interface
- In some cases, LAN2 may be set up with a standard, fixed IP address that is used only by a company's service technician, when on site. This action allows access to the FX Supervisory Controller without disconnecting it from the customer's network, or without connecting the technician's service computer to the customer's network (which might go against local IT security policies).  
In any case, note that only one LAN port can be set as DHCP. If enabling LAN 2, you typically specify another (network) static IP address and the appropriate subnet mask.

Also note the following:

- If enabling both LAN ports, note that the LAN1 IP address and LAN2 IP address must be on different subnets, otherwise the ports do not function correctly.  
For example, with a typical **Class C** subnet mask of 255.255.255.0, setting **Interface 1**= 192.168.1.99 and **Interface 2**=192.168.1.188 is an invalid configuration, as both addresses are on the same subnet.
- An FX Supervisory Controller does not provide IP routing or bridging operation between different Interfaces (LAN ports or WiFi).  
Click **Undo Changes** to reset all setting (all Interfaces) back to the original pre-step values.

## Updating the System Passphrase

We recommend that you use a web browser to update the system passphrase. See [Changing Default Credentials](#). However, if necessary, you can use the following section as an alternative.

All Niagara 4 platforms have a system passphrase (password), which encrypts sensitive information. This information includes client passwords stored in .bog files and station databases (config.bog files) or station backup distribution (.dist) files. The passphrase increases security for the files that contain critical information. In various FX Workbench operations, you are prompted to enter the passphrase, such as when copying stations or restoring station backups in remote platforms. The following areas in the framework are affected by passphrase implementation:

- Provisioning
- File Transfer Client
- Station Copier
- Backup
- Commissioning
- Export Tags
- Hardware Replacement

The sensitive information in files is protected with encryption, either by encrypting the information within the files or by encrypting the whole file. How the encryption is applied depends on the portability of the file. Files located under the daemon User Home (files that **belong to the system**) are encrypted using a strong, randomly generated key that exists only on that system. Files located under an FX Workbench 14.x User Home (**portable** files that can be sent to many systems) are encrypted using a key derived from the user-defined system passphrase entered during software installation or when the system passphrase changes.

Due to the different types of encryption used for the **system** or **portable** location, when transferring files between the daemon User Home and another FX Workbench User Home, you must use the FX Workbench platform tools (Station Copier, File Transfer, or Backup). Using the platform tools converts files to use the correct encryption key for the target location.

**Important:** Do not use Windows Explorer to copy files between the daemon User Home and other User Homes because without the proper encryption, the files may not be readable.

### For System-to-portable Transfers

You can get portable copies of files located under the daemon User Home by any of these methods:

- Make a backup from the Platform Administration view.
- Make a backup from a running station.
- Use either Station Copier or File Transfer Client from the Platform Administrator view.

The resulting local, portable copies and backup files are protected with a passphrase.

### For Portable-to-system Transfers

When you use the Distribution File Installer to restore a backup .dist file, or if you use the Station Copier to transfer a station from your FX Workbench directory to a controller, the file's passphrase is validated and used to translate the data back into the proper **system** encryption format for use under the daemon User Home.

**Important:** Remember the system passphrase and keep it safe. If you lose the system passphrase, you lose access to encrypted data and need to revert to the default system setup using the Serial Shell.

**Figure 25: System Passphrase**

Commissioning for "Super : 172.21.8.132 (FX30Meter1)"

**System Passphrase**  
Set system passphrase

Set the passphrase used to encrypt sensitive information on the platform's filesystem:

**Current Passphrase**

**New Passphrase**

**Confirm New Passphrase**

Typically, for the first time commissioning, the **Current Passphrase** is the default platform password.

The new passphrase must be at least 10 characters long, one uppercase character, one lowercase character, and one digit (numeral).

◀ Back   ▶ Next   ✓ Finish   ✕ Cancel

1. In the **Current Passphrase** field, enter the default platform password.  
**Note:** If the default platform password has changed in the field, use the changed password. If you have forgotten the default platform password, you can use the Serial Shell method to reset to the default password.
2. In the **New Passphrase** field, enter a new passphrase. The passphrase must be at least 10 characters long with one uppercase character, one lowercase character, and one digit (numeral).
3. In the **Confirm New Passphrase** field, enter the new passphrase again.
4. Click **Next**.

## Specifying a Platform User to Replace the Factory-default Platform User

To commission a station, you need to create a new platform account.

The Commissioning Wizard in FX Supervisory Software 14.x prevents you from commissioning an FX Supervisory Controller using the factory-default platform user account. To proceed, you **must** enter a different user name, along with a **strong** password. You need a minimum of 10 characters, including at least one uppercase character, at least one lowercase character, and at least one digit.

Following your entry in this dialog box, another step (if preselected) lets you create additional platform admin users, if needed. Each platform user must have a unique user name and use a **strong** password. Up to 20 total users are supported.

**Note:** Each platform user account has the same (full) platform admin access. Users can change their password and even create additional platform admin accounts.

**Note:** User name and password entries are case sensitive.

If you are not changing the controller's IP address during commissioning, the credentials for your replacement platform user are remembered in the current FX Workbench session. This action can simplify platform connection to the controller after it restarts from commissioning.

However, if you change the IP address during commissioning, you need to remember and re-enter the new credentials for a platform user to reconnect. Always make note of any changed platform credentials and guard them closely. These credentials provide the highest security level access to any Niagara 4 platform.

**Figure 26: Create New Platform Account**

The screenshot shows a dialog box titled "Commissioning for 'Super : 172.21.8.132 (FX30Meter1)'" with a close button (X) in the top right corner. The main heading is "Platform Daemon Authentication" with the subtitle "Platform user account information". Below this, there is a message: "Please create a new platform user account. The platform session's credentials will automatically update to this account when the commissioning wizard completes." The form contains four input fields: "User Name" (containing "jci"), "Password" (masked with asterisks), "Confirm Password" (masked with asterisks), and "Comment (optional)" (containing "New Platform User"). A red-bordered box highlights the password fields with the text: "The password must be at least 8 characters long and one digit (numeral)." At the bottom of the dialog, there are three buttons: "New User", "Delete User", and "Change Password". At the very bottom, there are four navigation buttons: "Back", "Next", "Finish", and "Cancel".

1. In the **User Name** field, enter a user name for platform login.

**Note:** The default platform user name **jci** may not be used.

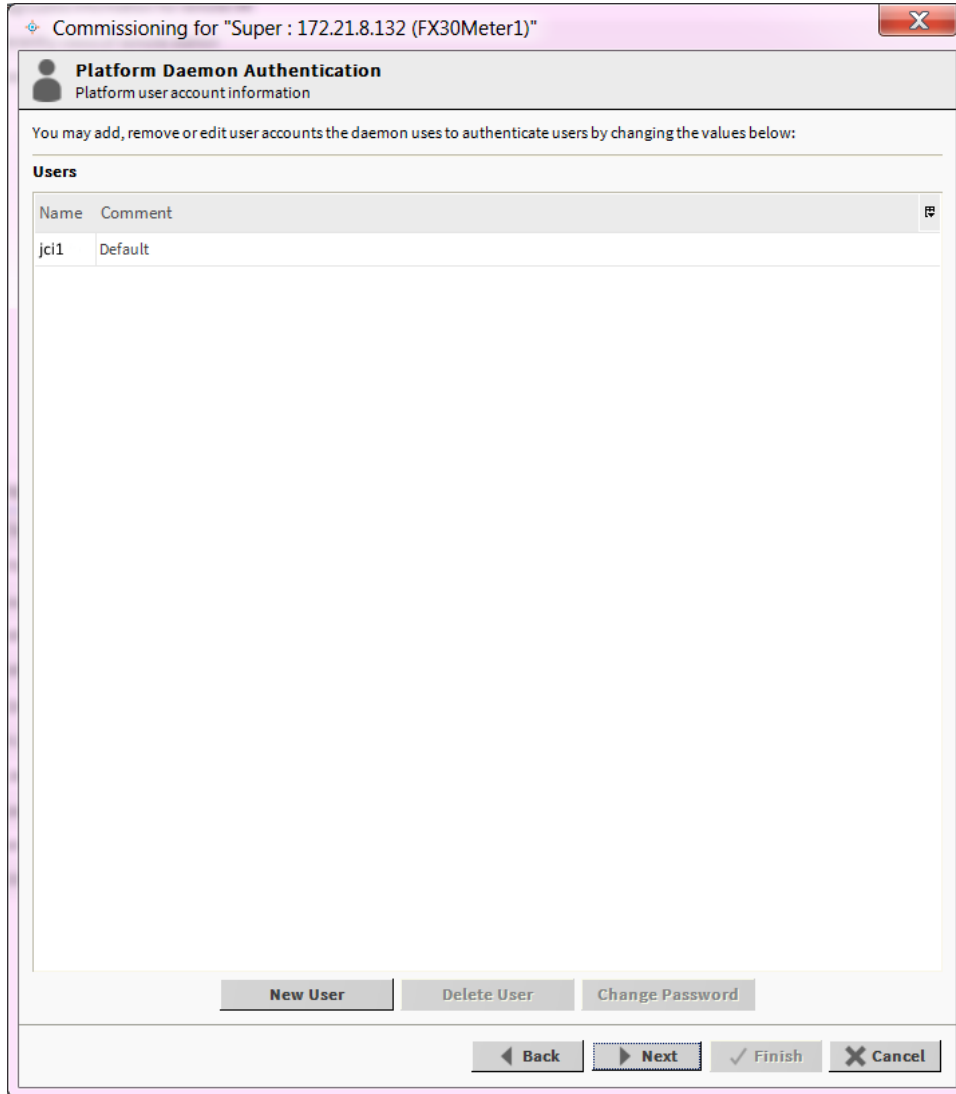
2. In the **Password** fields, type in a strong password (it must match in both password fields). The password must use a minimum of **10 characters, one digit, one uppercase letter, and one lowercase letter**.

3. Optionally, enter an alphanumeric descriptor for this platform admin user in the **Comment** field. The comment is seen in the Users table if there are more than one platform user.

4. Click **Next**.

**Note:** The new platform user account is retained in the controller. For example, if you need to migrate an FX80, take the station back to FX Workbench 6.x, then forward again to FX Workbench 14, you need to use the new platform credential defined in this procedure.

**Figure 27: Platform Users**



5. Do the following:

- To add new users, click **New User** and enter the user information.
- To delete users, select the user and click **Delete User**.
- To change a password, click the user and click **Change Password**. Enter the new password.

6. Click **Next**.

### ***Platform User Rules and Guidelines***

When you add any FX Supervisory controller platform admin user, note the following rules:

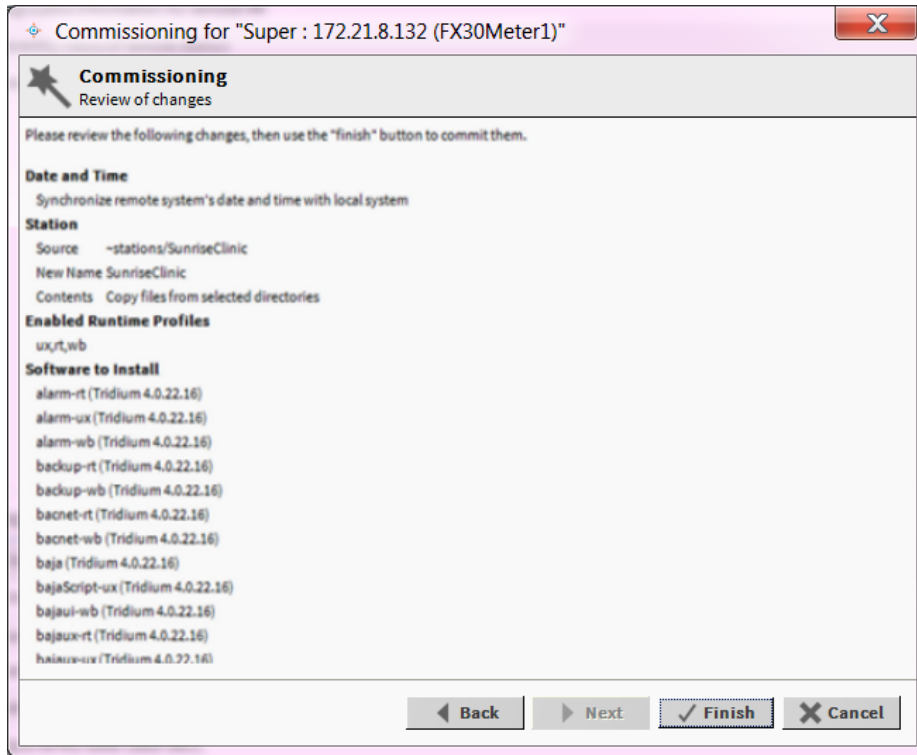
- **User Name**  
User Name can be a maximum of 14 alphanumeric characters (a - z, A - Z, 0 - 9). The first character must be alphabetic and following characters either alphanumeric or underscore ( \_ ).
- **Password**  
A strong password is required (it must match in both password fields). Entry characters appear only in asterisks (\*). Password must be a minimum of 10 characters, including at least one uppercase character, at least one lowercase character, and at least one digit. If you attempt to enter a password that does not meet minimum rules, an error message appears. Some basic guidelines on strong passwords include the following:
  - Use both upper and lower case.
  - Include numeric digits (a minimum of one).
  - Include special characters.
  - Do not use dictionary words.
  - Do not use company name.
  - Do not make the password the same as the user name.
  - Do not use common numbers like telephone, address, birthday, and so on.
- **Comment**  
This is an optional alphanumeric field you can use when adding a new platform admin user, for description purposes only (note you cannot edit it after adding a user, unlike with a user's password).

If you lose or forget these credentials, you may be unable to complete the commissioning and startup of the FX Supervisory Controller. In this case, you can restore the factory-default platform user, providing you can serially connect to the controller (make serial shell connection), and press a key at the prompted time during the FX Supervisory Controller boot up following a power cycle.

## Reviewing the Changes

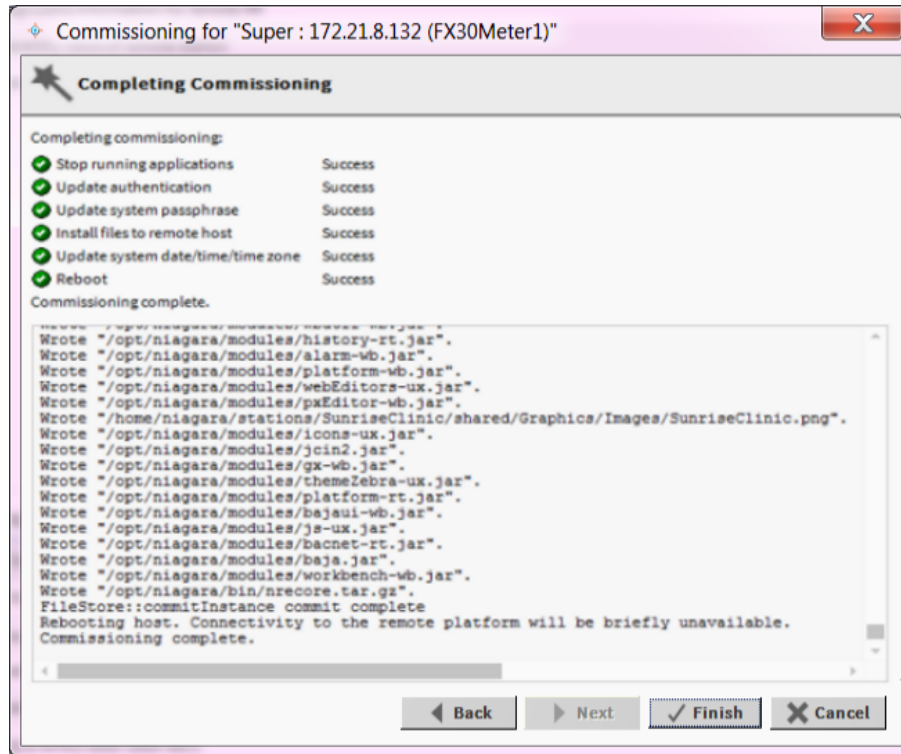
Before you finish commissioning, review the changes and make sure the commissioning selections have been reflected. Click **Back** to correct any configuration errors when commissioning the controller.

**Figure 28: Review of Changes**



1. Click **Finish**. The Completing Commissioning screen appears. This process takes several minutes.

**Figure 29: Completing Commissioning**



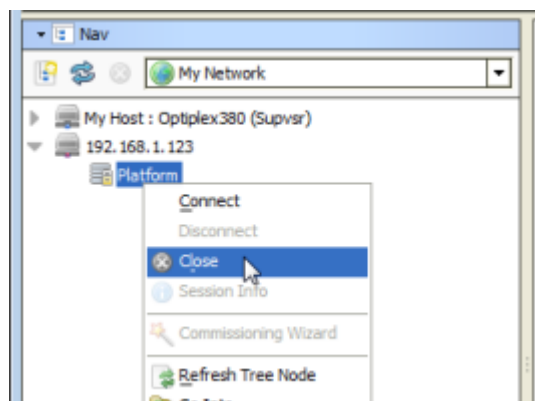
Do not remove power from the controller during this restart, which may take several minutes to complete. Removing power could make the unit unrecoverable. If desired, you can use a serial shell connection to the controller to monitor progress as files are installed and the unit is prepared.

2. After commissioning is complete, click **Close**. The Facility Explorer station is now copied to the controller. The controller is restarted and may take several minutes to complete.

When the FX Supervisory Controller restarts, your platform connection to it closes. Notice that in the Nav tree, the platform instance for that FX Supervisory Controller is now dimmed.

3. Assuming that you changed the FX Supervisory Controller's IP address in commissioning, right-click and close that platform instance because this would make that connection instance invalid.

**Figure 30: Close Platform**





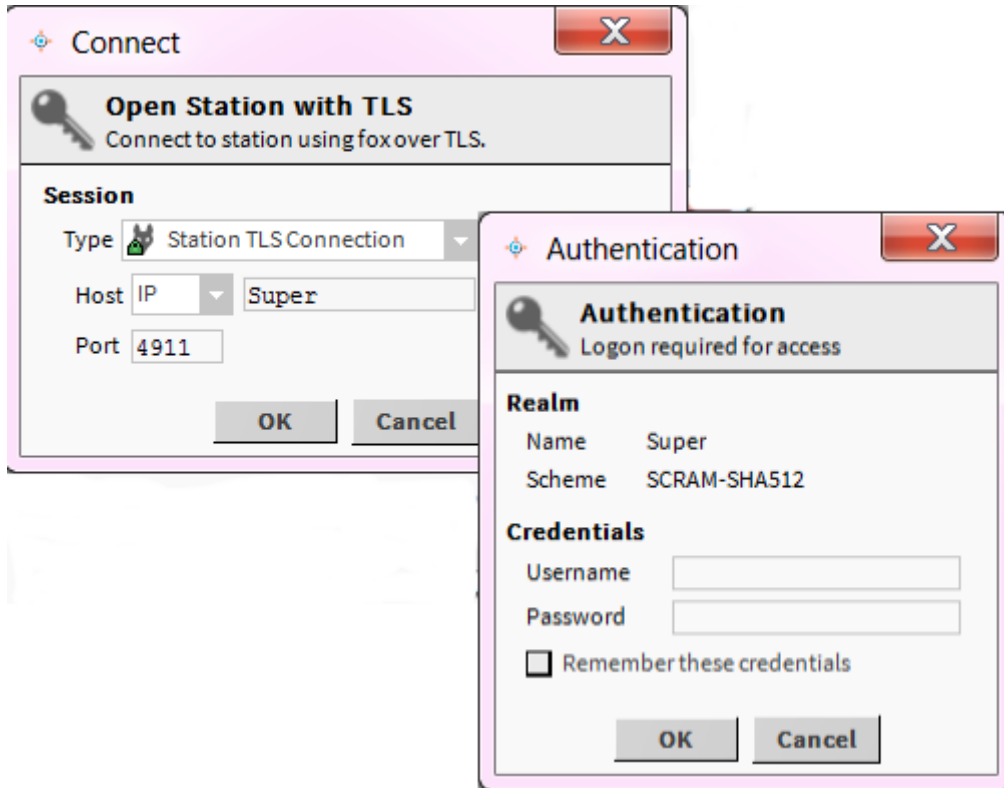
**Notes:**

- If you did not change the IP address, after several minutes you should be able to double-click platform instance again to reconnect.
- Going forward, you must access the FX Supervisory Controller by its new (assigned) IP address. Note that FX Workbench keeps a history of TCP/IP changes.

**Reopening a Platform Connection Using the New (Changed) IP Address**

You must use the credentials for the new platform user you created (to replace the factory-default platform user), or if you created additional platform users, you must use credentials for one of them.

**Figure 31: Platform Authentication**



If you changed your computer's IP address to commission the FX Supervisory Controller, you usually need to reconfigure your computer's TCP/IP settings back to appropriate settings to communicate with the controller. Otherwise, you are unable to connect to the controller for other commissioning.

## Platform Services and Administration

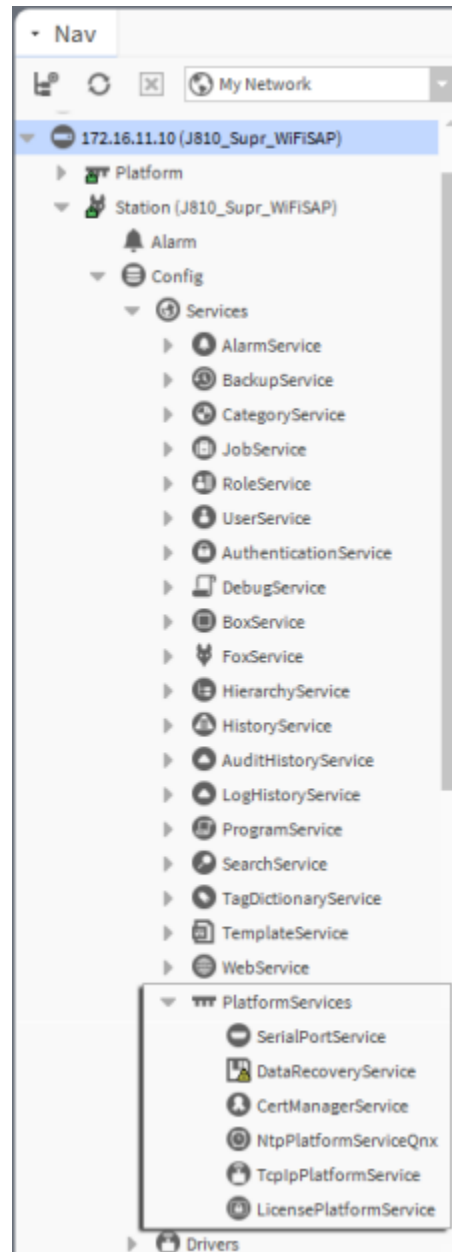
A few platform configuration items in an FX Supervisory Controller are not directly accessible in an FX Workbench platform connection to that controller (that is, using the Commissioning Wizard or any of the platform views). Instead, you must have a station installed on the FX Supervisory Controller, and that station running.

Use FX Workbench, open a station connection to that station, and configure these platform-related items by accessing services under the station's **PlatformServices** container.

### Platform Services

Under the Services container, every station has a **PlatformServices** container.

Figure 32: Platform Services Example



PlatformServices is different from all other components in a station in the following ways:

- PlatformServices acts as the station interface to details about the host platform (whether FX Supervisory Controller or a computer).
- It is built dynamically at station runtime. You do not see PlatformServices in an offline station.
- Any changes you make to PlatformServices are not stored in the station database. Instead, changes are stored in other files on the host platform, such as its platform.bog file.

**Note:** Do not attempt to edit platform.bog directly; always use PlatformServices.

Included services are a **TcpIpService** and **LicenseService**, providing station access to dialog boxes used in platform views (for example, the **TCP/IP Configuration**). These services support installations where all configuration must be possible using only a browser connection (and not FX Workbench connected to the FX Supervisory Controller's platform daemon).

### PlatformServices Items for Commissioning

For FX80 Controllers, the following platform services in the station's PlatformServices are of chief importance when commissioning a new controller.

- **CertManagerService**—For the management of PKI certificate **stores** and allowed host exceptions. This service is used in certificate-based SSL (TLS) connections between the station/platform and other hosts.
- **DataRecoveryService**—For the operation and monitoring of the ongoing SRAM backups. This service includes a **Service Enabled** configuration property that you can disable, if needed. This service is viable only if a backup battery is installed, or the unit is powered by an external UPS.

Also, you may wish to review and adjust the parent container's PlatformServices properties, if needed.

## Reviewing and Adjusting PlatformServices Properties

The default view of the PlatformServices provides access to numerous properties.

1. In the Nav tree, expand **Config**.
2. Double-click **Services** and then **PlatformServices**. The PlatformService property sheet appears.

**Figure 33: PlatformServices Property Sheet**

Platform Service Container Plugin																					
<b>Name</b>	FX30Meter1																				
<b>Host</b>	Super : 172.21.8.132 (FX30Meter1)																				
<b>Model</b>	NPM3																				
<b>Product</b>	NPM3																				
<b>Host ID</b>	Qnx-NPM3-0000-16D5-56CC																				
<b>Niagara Version</b>	4.1.27.20																				
<b>Java VM Name</b>	Java HotSpot(TM) Embedded Client VM																				
<b>Java VM Vendor</b>	Oracle Corporation																				
<b>Java VM Version</b>	25.33-b02																				
<b>OS Name</b>	QNX																				
<b>OS Arch</b>	ppc																				
<b>OS Version</b>	6.5.0																				
<b>Platform Daemon Port</b>	3011																				
<b>Platform Daemon TLS Port</b>	5011																				
<b>Locale</b>	en																				
<b>System Time</b>	14:57																				
<b>Date</b>	05-May-2016																				
<b>Time Zone</b>	America/Chicago (-6/-5)																				
<b>Engine Watchdog Policy</b>	Terminate																				
<b>Engine Watchdog Timeout</b>	00000h 03m [0ms - +inf]																				
<b>Enable Station Auto-Save</b>	<input checked="" type="checkbox"/> Enable																				
<b>Station Auto-Save Frequency</b>	00024h 00m [1min - +inf]																				
<b>Station Auto-Save Versions to Keep</b>	0																				
<b>Number of CPUs</b>	1																				
<b>Current CPU Usage</b>	3%																				
<b>Overall CPU Usage</b>	2%																				
<b>Filesystem</b>	<table border="1"> <thead> <tr> <th></th> <th>Total</th> <th>Free</th> <th>Files</th> <th>Max Files</th> </tr> </thead> <tbody> <tr> <td>/</td> <td>124,928 KB</td> <td>20,866 KB</td> <td>1196</td> <td>4096</td> </tr> <tr> <td>/mnt/aram0</td> <td>23,999 KB</td> <td>23,718 KB</td> <td>0</td> <td>0</td> </tr> <tr> <td>/mnt/ram0</td> <td>999 KB</td> <td>969 KB</td> <td>0</td> <td>0</td> </tr> </tbody> </table>		Total	Free	Files	Max Files	/	124,928 KB	20,866 KB	1196	4096	/mnt/aram0	23,999 KB	23,718 KB	0	0	/mnt/ram0	999 KB	969 KB	0	0
	Total	Free	Files	Max Files																	
/	124,928 KB	20,866 KB	1196	4096																	
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/mnt/ram0	999 KB	969 KB	0	0																	
<b>Physical RAM</b>	<table border="1"> <thead> <tr> <th>Total</th> <th>Free</th> </tr> </thead> <tbody> <tr> <td>262,144 KB</td> <td>21,392 KB</td> </tr> </tbody> </table>	Total	Free	262,144 KB	21,392 KB																
Total	Free																				
262,144 KB	21,392 KB																				
<b>Serial Number</b>	538210																				
<b>Hardware Revision</b>	4.0.1																				
<b>Hardware Jumper Present</b>	<input checked="" type="checkbox"/> true																				
<b>Battery Present</b>	<input checked="" type="checkbox"/> true																				
<b>Failure Reboot Limit</b>	3 [1 - max]																				
<b>Failure Reboot Limit Period</b>	00000h 10m [0ms - +inf]																				
<b>RAM Disk</b>	<table border="1"> <thead> <tr> <th>Min Free</th> <th>Size</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>5 % [0 - 100]</td> <td>24 MB</td> <td>Ok</td> </tr> </tbody> </table>	Min Free	Size	Status	5 % [0 - 100]	24 MB	Ok														
Min Free	Size	Status																			
5 % [0 - 100]	24 MB	Ok																			
<b>Java Heap</b>	<table border="1"> <thead> <tr> <th>Min Free</th> <th>Max</th> <th>Free</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>5 MB</td> <td>83 MB</td> <td>53 MB</td> <td>Ok</td> </tr> </tbody> </table>	Min Free	Max	Free	Status	5 MB	83 MB	53 MB	Ok												
Min Free	Max	Free	Status																		
5 MB	83 MB	53 MB	Ok																		

Some properties are read-only status types. Other properties can be edited. You can adjust three properties for the host FX Supervisory Controller (alternately accessible using a platform connection to the FX Supervisory Controller). Use these properties if the installation requires all setup access using a browser only.

- System Time
- Date
- Time Zone

3. As needed, review other platform service configuration properties in the following table.

**Table 5: PlatformService Properties**

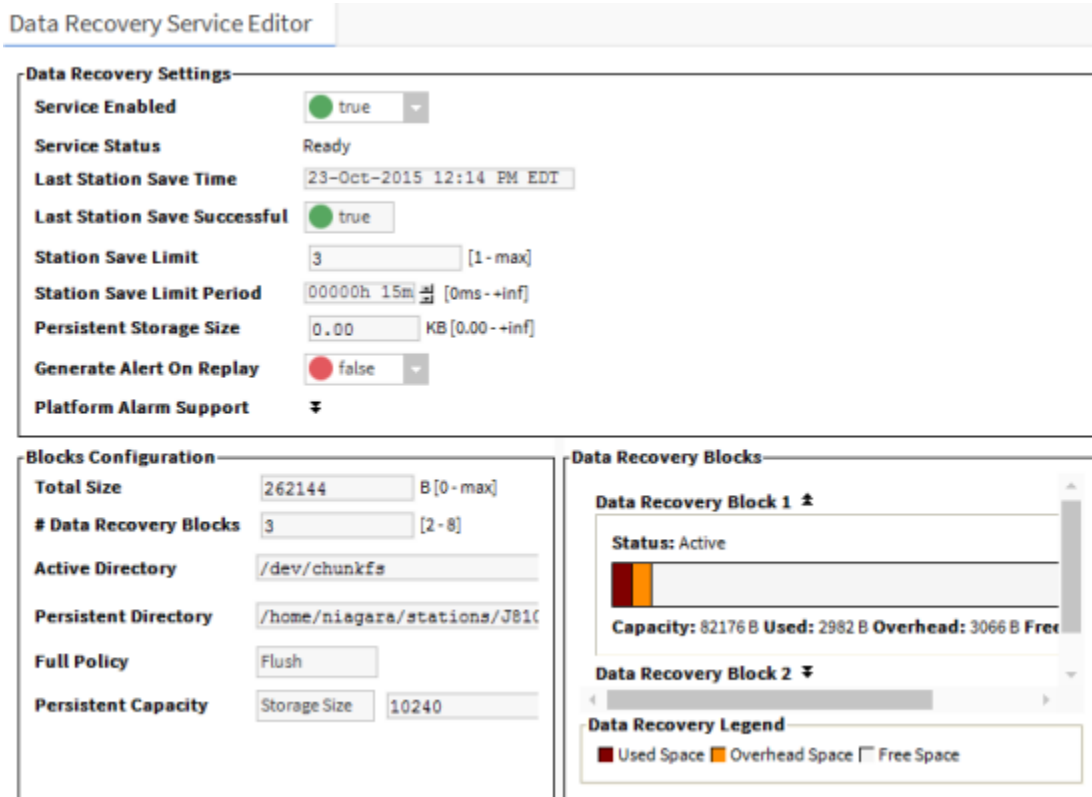
Field	Description
<b>Locale</b>	Determines locale-specific behavior such as date and time formatting, and also which lexicons are used. A string entered must use the form: language ["_"] country ["_"] variant]] For example U.S. English is <b>en_US</b> and traditional Spanish would be <b>es_ES_Traditional</b> .
<b>Engine Watchdog Policy</b>	Defines response taken by the platform daemon if it detects a station engine watchdog timeout. With the watchdog, the station periodically reports to the platform daemon its updated engine cycle count. The watchdog purpose is to detect and deal with a <b>hung</b> or <b>stalled</b> station, and is automatically enabled when the station starts.  Watchdog policy selections include: <ul style="list-style-type: none"> <li>• <b>Log Only</b>—Generates stack dump and logs an error message in the system log. (The station should ultimately be restarted if a watchdog timeout occurs with the Log Only setting).</li> <li>• <b>Terminate</b>—(Default) Kills the Virtual Machine (VM) process. If <b>restart on failure</b> is enabled for the station, the station is restarted.</li> <li>• <b>Reboot</b>—Automatically restarts the host FX Supervisory Controller platform. If <b>auto-start</b> is enabled for the station, the station restarts after the system restarts.</li> </ul>
<b>Engine Watchdog Timeout</b>	Default is 3 minutes, and range is from 1 minute to many hours.  If the station’s engine cycle count stops changing or the station does not report a cycle count to the platform daemon within this defined period, the platform daemon causes the VM to generate a stack dump for diagnostic purposes, then takes the action defined by the Engine Watchdog Policy.
<b>Enable Station Auto-Save</b>	Either <b>Enable</b> (default) or <b>Disable</b> .  Allows for <b>auto save</b> of running station to <b>config_backup_&lt;YMMDD&gt;_&lt;HHMM&gt;.bog</b> file at the frequency defined in next property. Auto-saved backup files are kept under the station’s folder.
<b>Station Auto-Save Frequency</b>	Default is every 24 hours for any embedded FX Supervisory Controller. The range is from 1 to many hours.
<b>Station Auto-Save Versions to Keep</b>	Default is 0. Oldest of kept backups is replaced upon next manual save or auto-save backup (once the specified limit is reached). Significant flash space is saved by setting this option to 0 or 1.
<b>RAM Disk</b>	In MB (default is 1 GB). Indicates the size of RAM disk used to store history and alarm files.  <b>Min Free</b> sets the level at which Platform Services and Platform Admin show a warning.

4. Click **Save**.

## Enabling or Disabling SRAM support in the DataRecoveryService

SRAM support is provided by the DataRecoveryService, a platform service that applies to SRAM-equipped FX80 controllers.

Figure 34: Data Recovery Service Editor



**Data Recovery Settings**

- Service Enabled:  true
- Service Status: Ready
- Last Station Save Time: 23-Oct-2015 12:14 PM EDT
- Last Station Save Successful:  true
- Station Save Limit: 3 [1-max]
- Station Save Limit Period: 00000h 15m [0ms-+inf]
- Persistent Storage Size: 0.00 KB [0.00-+inf]
- Generate Alert On Replay:  false
- Platform Alarm Support:

**Blocks Configuration**

- Total Size: 262144 B [0-max]
- # Data Recovery Blocks: 3 [2-8]
- Active Directory: /dev/chunkfs
- Persistent Directory: /home/niagara/stations/J81
- Full Policy: Flush
- Persistent Capacity: Storage Size 10240

**Data Recovery Blocks**

- Data Recovery Block 1**
- Status: Active
- Capacity: 82176 B Used: 2982 B Overhead: 3066 B Free: 76128 B
- Data Recovery Block 2**

**Data Recovery Legend**

- Used Space (dark red)
- Overhead Space (orange)
- Free Space (light gray)

1. In the Nav tree, click to expand **Services**, then **PlatformServices**.
2. Double-click **DataRecoveryService**. The Data Recovery Service Editor appears.
3. In the Service Enabled field, select **true** or **false**.

By default, the Service Enabled property is **true**. The FX80 controller has no backup battery.

If the FX80 is powered from a battery-backed UPS, you could also choose to set Service Enabled field to **false**.

**Note:** If you set Service Enable field to **false**, the DataRecoveryService no longer records runtime database changes to SRAM. The controller depends entirely on its backup battery to preserve station data upon a power loss.

4. Click **Save**. The system prompts you to restart now to apply the changes.
5. Click **Yes**.

## Making Platform Administration Adjustments

You use the Commissioning Wizard to perform the most needed configuration for a new FX Supervisory Controller platform. However, you may want to review (and optionally change) items in a platform connection to each FX Supervisory Controller, using the Platform Administration view.

As shown in the following figure, the Platform Administration view is one of several views for any platform. This view provides a text summary of the FX Supervisory Controller's current software configuration, including its model number, operating system level, Java Virtual Machine (JVM) version, installed modules, lexicons, licenses, certificates, and so on.

Figure 35: Platform Administration Views

The screenshot displays the Platform Administration interface. On the left, a navigation pane shows a tree view of the system, with 'Platform' selected. The main area is divided into two sections:

**Platform Services List:**

Name	Description
Application Director	Control applications and access console output
Certificate Management	Manage X.509 Certificates and Host Exemptions.
Distribution File Installer	Install distribution files to the remote host
File Transfer Client	Transfer files to and from the remote host
Lexicon Installer	Install lexicons to support additional languages
License Manager	Manage licenses and certificates
<b>Platform Administration</b>	<b>Update the platform daemon's port or credentials, or set its date and time</b>
Software Manager	Install software to the remote host
Station Copier	Transfer stations to and from the remote host
TCP/IP Configuration	Manage the host's TCP/IP settings
Remote File System	The remote host's file system

**Platform Administration Details:**

<b>Baja Version</b>	Tridium 4.1.27.20
<b>Daemon Version</b>	4.1.27.16
<b>System Home</b>	/opt/niagara
<b>User Home</b>	/home/niagara
<b>Host</b>	Super: 172.21.8.132 (FX30Meter1)
<b>Daemon HTTP Port</b>	3011
<b>Daemon HTTPS Port</b>	5011
<b>Host ID</b>	Qnx-NPM3-0000-16D5-56CC
<b>Model</b>	NPM3
<b>Product</b>	NPM3
<b>Local Date</b>	05-May-16
<b>Local Time</b>	15:10 Central Daylight Time
<b>Local Time Zone</b>	America/Chicago (-6/-5)
<b>Operating System</b>	qnx-jace-n4-npm3xx-etfs2048 (4.1.27.14)
<b>Niagara Runtime</b>	nre-core-qnx-ppc (4.1.27.16)
<b>Architecture</b>	ppc
<b>Enabled Runtime Profiles</b>	rt,ux,wb
<b>Java Virtual Machine</b>	oracle-jre-compact3-qnx-ppc (Oracle Corporation 1.8.0.332)
<b>Niagara Stations Enabled</b>	enabled
<b>Number of CPUs</b>	1
<b>Current CPU Usage</b>	6%
<b>Overall CPU Usage</b>	2%
<b>Filesystem</b>	
	<b>Total Free Files Max Files</b>
/	124,928 KB 20,764 KB 1197 4096
/mnt/aram0	23,999 KB 23,718 KB 0 0
/mnt/ram0	999 KB 969 KB 0 0
<b>Physical RAM</b>	<b>Total Free</b>
	262,144 KB 21,412 KB
<b>Other Parts</b>	n4-npm3xx-etfs2048 (4.0.1)

Included in this view are commands and related dialog boxes in which you can:

- Set the date and time in the FX Supervisory Controller.
  - Change or disable the HTTP port used by the FX Supervisory Controller for the platform daemon (platform server). The default port is 3011.
  - Change Transport Layer Security (TLS) settings used by the FX Supervisory Controller for secure **platformssl** access, including configured state, platformssl port (HTTPS Port), Public Key Infrastructure (PKI) certificate, and TLS protocol. The default port is 5011.  
**Note:** In FX Supervisory Software 14.x, SSL is always implemented using the Transport Layer Security (TLS) protocol.
  - Enable or disable Secure File Transfer Protocol (SFTP) and Secure Shell (SSH) access to the FX Supervisory Controller. By default, such access is disabled, where both protocols use TCP port 22.  
**Note:** Although SFTP and SSH are more secure than FTP and Telnet access, enabling still poses security risks. We strongly recommend you keep this access disabled. Upon completion of any use, such access should be disabled.
  - View daemon output and change logging levels.
  - Enable debug access for temporary browser access to platform daemon diagnostic tools.
  - Perform other platform tasks initially performed with the Commissioning Wizard, such modifying platform admin users (User Accounts), configuring runtime profiles, and so on.
1. Using FX Workbench, open a platform connection to the FX Supervisory Controller. Use the platform credentials you specified when creating a platform user while commissioning the FX Supervisory Controller.
  2. In the FX Supervisory Controller platform view in the Nav tree, double-click **Platform Administration**.
  3. In the Platform Administration view, click any of the following to review or make changes:

**Table 6: Platform Administration Properties**

Field	Description
<b>View Details</b>	Provides a platform summary that you can copy to the Windows clipboard.
<b>User Accounts</b>	Allows you to add, delete, or manage platform users (initially performed as a step in the Commissioning Wizard).
<b>System Passphrase</b>	Allows you to change the system passphrase used to encrypt sensitive information on the platform's filesystem.
<b>Change HTTP Port</b>	Allows you to change the HTTP port for the FX Supervisory Controller's platform daemon from port 3011 to another port.
<b>Change TLS Settings</b>	Allows you to specify platform SSL settings, including enabling and disabling, port, PKI certificate to authenticate by, and secure protocol to use.
<b>Change Date/Time</b>	Allows you to change the FX Supervisory Controller's current date, time, and time zone (initially performed as a step in Commissioning Wizard).
<b>Advanced Options</b>	Allows you to enable or disable the following advanced platform options: <ul style="list-style-type: none"> <li>• <b>SFTP/SSH Enabled</b>—Allows you to enable or disable SFTP and SSH access to the FX Supervisory Controller. You can also change the default port number that these protocols use and share.</li> <li>• <b>Daemon Debug Enabled</b>—Allows you to temporarily enable the browser based daemon debugging tools. This is automatically turned off the next time the system boots.</li> </ul>
<b>Change Output Settings</b>	Allows you to change the log level of different processes that can appear in the platform daemon output.
<b>View Daemon Debug</b>	Allows you to observe debug messages from platform daemon processes in real time. Also includes ability to pause or load.
<b>View System Log</b>	Allows you to view system logs for the platform.
<b>Configure Runtime Profiles</b>	Allows you to change the types of runtime profiles for software modules installed on the FX Supervisory Controller (initially performed in Commissioning Wizard).



**Table 6: Platform Administration Properties**

<b>Field</b>	<b>Description</b>
<b>Configure NRE Memory</b>	Allows you to configure the memory allocation sizes of this platform's Niagara Runtime Environment.
<b>Backup</b>	Allows you to make a complete backup of all configurations on the connected host platform. This backup includes all station files, plus other configurations (typically unnecessary for any FX Supervisory Controller just started up).
<b>Commissioning</b>	Allows you to re-launch the Commissioning Wizard (previously used in the initial commissioning of the FX Supervisory Controller).
<b>Reboot</b>	<p>Allows you to restart the FX Supervisory Controller platform, which restarts all software including the operating system and Java Virtual Machine (JVM), then the platform daemon, then (if so configured in the Application Director [Station Director]), the installed station. If you click this button, a confirmation dialog appears.</p> <p>If you restart, your platform connection is lost and it typically takes a few minutes until you can reconnect to the FX Supervisory Controller.</p>

## Recovery Tips

### Reviewing TCP/IP Changes made from FX Workbench

Your FX Workbench computer records **before and after** TCP/IP settings made from your platform connections in an **ipchanges.bog** file. If necessary, you can review changes made from FX Workbench using the following procedure.

1. (On your computer) In the Nav tree, expand **My Host** and then **My File System**.
2. Expand **User Home**, then expand **ipchanges.bog**. The folders in the list are date-named using the following conventions.

**<dyyyymmddhhmmss>**

For example, **d20150113153640** for 2015 Jan 13 3:36pm

3. Expand the folder you want (or right-click and select **Views > Property Sheet**).

Note the included decoded **modTime** value; for example, **13-Jan-2015 03:36 PM EST** (rather than **d20150113153640**).

Underneath each folder are two objects:

- **priorValue** — TCP/IP settings that existed before this change.
- **newValue** — TCP/IP settings that existed after this change.

4. In the property sheet, expand a **priorValue** or **newValue** to see the settings.

**Note:** If you have a platform connection open (to any host), you can also review the history of IP changes made from FX Workbench to remote platforms. At the bottom of the TCP/IP Configuration view, click **Audit**. This shows this same **ipChanges.bog** folder and all folders in a property sheet view. Expand a change folder to see a decoded **mod-Time** value, for example, **13-Jan-2015 03:36 PM EST** (rather than **d20150113153640**). Expand a **priorValue** or **newValue** in the view to see the settings.

## Restoring Factory Defaults

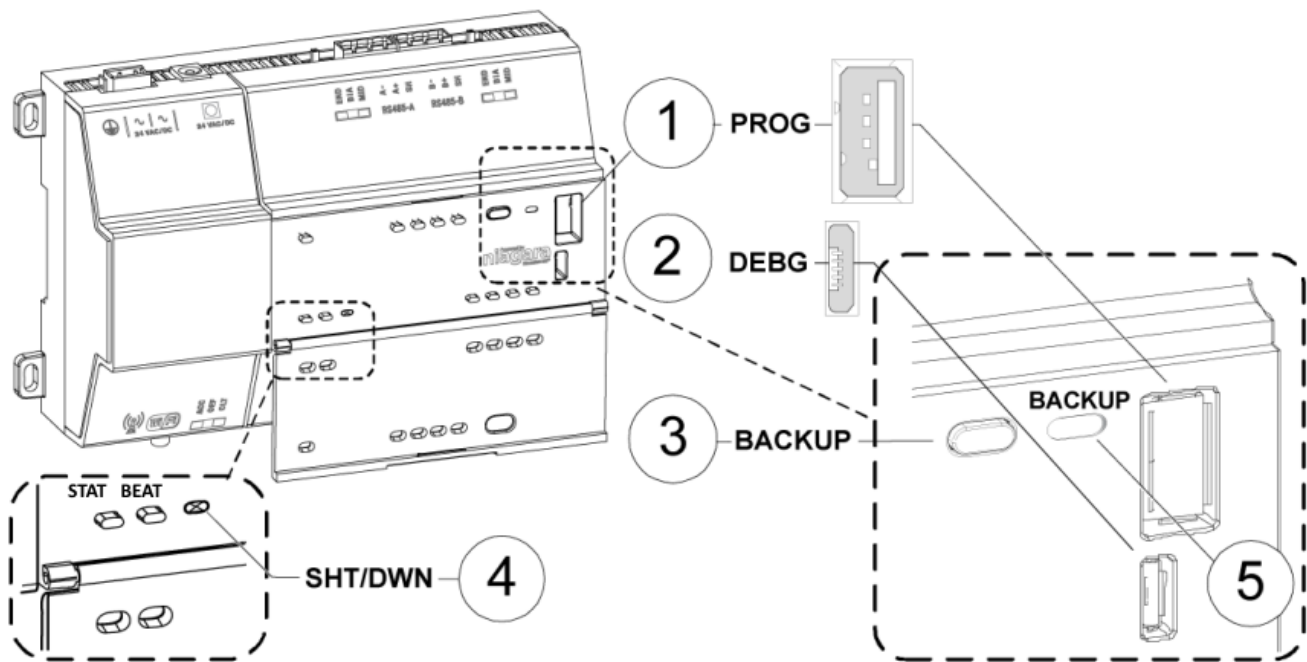
Restoring factory defaults returns the controller to the state it was in when it shipped from the factory

**Note:** Recovering factory defaults removes all platform and station data in the controller.

A couple of scenarios that may cause you to restore factory defaults are:

- While commissioning a new FX Supervisory Controller, you make an error entering the default platform daemon credentials or passphrase. The result is that you cannot commission the controller. In this scenario, your only recovery option is to restore the factory defaults.
- When decommissioning an FX Supervisory Controller, a best practice to follow is recovering the factory defaults to wipe all of the platform and station data in the controller.

**Figure 36: Recovering Factory Defaults**



**Table 7: Recovering Factory Defaults**

Callout	Description	
1	PROG	USB 2.0 for use with USB flash drive
2	BEBUG	Micro-A USB for serial debug communications
3	BACKUP	Pushbutton switch to start a USB backup, or if held in during power up, initiates a factory recovery image
4	SHT/DWN	Recessed pushbutton switch for initiating a controlled shutdown
5	BACKUP	LED to indicate USB media present, or a backup, restore, or factory recovery image in process

The **DEBUG** port is a standard Micro-A type USB port for serial debug communications to the controller.

The **SHT/DWN** pushbutton initiates a **controlled shutdown** of the controller, ensuring that all station data is preserved.

To restore factory defaults:

1. Ensure that the controller's power is off.
2. Hold the **Backup** button for at least five seconds as you power up the controller.

The Backup LED flashes at medium speed (100 mS on, 100 mS off).

3. Release the **Backup** button.

If you held the button for at least five seconds with no USB flash drive in the USB port, after 10 seconds, the boot process defaults to recovery mode. Upon entering recovery mode, the boot process overwrites the controller with a default factory image. During this process, the Backup LED flashes at slow speed (one second on, then one second off).

**Important:** Once in recovery mode (Backup LED is flashing in **working mode** pattern, 1s On/1s Off, or slow blink), do not interrupt the process. Allow the recovery to complete or the controller could be left in an inoperable state.

4. When the Backup LED stops flashing, turn the controller's power off and back on again.

## System Shell

An FX Supervisory Controller has a **system shell**, providing low-level access to a few basic platform settings. Using a special power-up mode and a serial connection through a USB-to-MicroUSB cable connected to the FX Supervisory Controller's Debug port, you can access this system shell. The system shell is also available using SSH (providing that SSH is enabled in the FX Supervisory Controller).

The typical use of the system shell is for troubleshooting. However, in the case of IP address misconfiguration, you can use the serial system shell in order to regain access to the unit.

**Note:** Also, depending on your preference, you may wish to use the system shell to set an FX Supervisory Controller's IP address, as an alternative to reconfiguring your computer's IP address in Windows (to initially connect to a new FX Supervisory Controller). If you do this as the first step, you can connect normally (Ethernet/IP) and perform all other Niagara software installation and platform configuration using FX Workbench and the Commissioning Wizard.

### FX Supervisory Controller System Shell Mode

To put the FX Supervisory Controller into the debug system shell mode, plug in the USB-to-MicroUSB cable. This action makes the system shell available at the FX Supervisory Controller's Debug port, at a predefined serial rate: 115200, 8, N, 1.

Using a terminal emulation program such as PuTTY, you can then login with platform credentials and access the system shell menu. After changing platform IP address parameters, you need to restart the controller and remove the USB cable. The FX Supervisory Controller restarts using the changed IP address parameters.

Apart from physical access to the FX Supervisory Controller, you need the following items:

- a working USB port on your computer
- VCOM or similar computer software (such as PuTTY) enabling the USB port to emulate a serial port
- a cable to connect your computer/s USB port to the FX Supervisory Controller's Debug port

### **Connecting to the System Shell**

The following procedure provides steps to use the system shell. Examples provided use the PuTTY terminal emulation program.

The prerequisites are:

- physical access to the FX Supervisory Controller
  - universal USB-to-MicroUSB connector cable
1. Connect the USB cable between the controller's Debug port and the USB port you are using on your computer.
  2. On your computer, start your terminal emulation software. For example, to start PuTTY from the Windows Start menu, go to **Programs > PuTTY > PuTTY**.
  3. In the tree in the **PuTTY Configuration** dialog box, expand **Connection** and click **Serial**.
  4. Set the **Serial line to connect to** for your computer's (USB) COM port to use. For example, **COM3**.  
**Note:** You can examine Ports in Windows Device Manager to determine which serial port is in use on the computer.
  5. Set the **Configure the serial line** fields as follows:
    - **Speed (baud):** 115200
    - **Data bits:** 8
    - **Stop bits:** 1
    - **Parity:** None
    - **Flow control:** None
  6. In the PuTTY Configuration dialog box, click **Session** from the tree and then select **Serial** for the **Connection type**.  
**Note:** You can save this configuration to reuse in future PuTTY to FX Supervisory Controller serial sessions. To do this, enter a connection name in the **Saved Sessions** field (for example, FX80-Connect), and click **Save**. When you start PuTTY again to serially connect to an FX Supervisory Controller, select this name and click **Load**.
  7. At the bottom of the PuTTY Configuration dialog box, click **Enter**.
  8. At the login prompt, enter a platform user name. At the password prompt, enter the platform password.  
If prompted for system passphrase, enter the platform's system passphrase.  
If login is successful, the System Shell menu appears
  9. When finished making platform changes from the system shell, do the following:
    - If you made no changes, or a restart is not necessary, simply type **L** to Logout.
    - If the changes you made require restarting (such as Network settings), select the Reboot option. Type **y** at the **Are you sure you want to reboot [y/n]** prompt, and press **Enter**. Shutdown-related text appears in the terminal (PuTTY) window.
  10. Close PuTTY.
  11. Unplug the USB connector from the FX Supervisor Controller's Debug port.

## System Shell Menu

The system shell of an FX Supervisory Controller provides simple, menu-driven, text-prompt access to basic platform settings, including IP network settings, platform credentials, system time, and enabling or disabling SFTP/SSH and Telnet. Also, you can use the system shell to perform TCP/IP functions from the FX Supervisory Controller to another host.

Changes issued in the system shell become immediately effective, except for IP address settings (Update Network Settings). You must restart the FX Supervisory Controller for any changed network settings to become effective.

**Note:** If SSH is enabled in an FX Supervisory Controller, you can also access the controller's system shell using a remote terminal session using SSH. Platform login is still required (just as with an FX Supervisory Controller powered up in system shell mode).

**Important:** Be careful when changing items from the system shell, in particular platform account (login credentials, system passphrase) and network settings. If you change platform login credentials and then lose or forget them, you can restore the **factory default** platform login credentials. However, you need to make a debug system shell connection, restart the FX Supervisory Controller, and then be careful to press a key at the appropriate time during FX Supervisory Controller boot up.

The following figure is an example of the system shell menu.

**Figure 37: System Shell Menu**

```
System Shell
-----
hostid: 4CC7-803D-DB48-EBAD
serial number: -1
build version: 4.1.25.1.3
build date: built on 2015-10-13 21:20:07
system time: Fri Oct 23 19:52:14 UTC 2015
niagara daemon port: 3011

dm0: inet 172.16.11.12 netmask 0xfffffe00 broadcast 172.16.11.255
      inet6 fe80::5272:24ff:fe9c:8938%dm0 prefixlen 64 scopeid 0x2
dml: <disabled>
-----

1. Update System Time
2. Update Network Settings
3. Ping Host
4. Enable/Disable SSH/SFTP
5. Change Current User Password
6. Change System Passphrase
7. Enable Front Panel USB
8. Configure WIFI
9. Reboot

L. Logout

Enter choice: |
```

To select a menu option, type the associated number (1 to 9) or **L** for logout, then press **Enter**.

For example:

- Type **2** (Update Network Settings) to recover IP access, or to set the IP settings of a new FX Supervisory Controller.
- Type **6** (Change System Passphrase) to change the system passphrase of the unit. You might do this if you want to swap in a microSD card from a previously configured unit, to change the passphrase of the unit to match the passphrase already stored on the SD card.
- Type **7** (Enable Front Panel USB) to enable or disable the FX80 USP port for doing backups and restores.
- Type **8** (Configure WiFi) to edit the built-in Wifi settings.

### **Update Network Settings**

Use the Update Network Settings menu option to access most of the same IP networking options as available in the Commissioning Wizard step **TCP/IP Configuration**. When you select Update Network Settings, you are prompted for each setting sequentially, starting with hostname.

**Figure 38: Update Network Settings**

```
Network Configuration Utility

Enter new value, '.' to clear the field or '<cr>' to keep existing value.
Hostname <localhost> : J8_East
Domain <> : myDomain.net
Primary DNS Server <> : 8.8.8.8
Secondary DNS Server <> : 8.8.4.4
Route <192.168.1.1> :
Primary IPv6 DNS Server <> :
Secondary IPv6 DNS Server <> :
IPv6 Route <> :

NET1 Ethernet interface (en0)
  IP address (clear to use DHCP) <> : 192.168.1.36
  Subnet mask <255.255.255.0> :
  Enable IPv6 addressing on this adapter? (Y/n) :
  IPv6 address (clear to use stateless autoconfiguration) <> :

Enable NET2 (en1) interface? (y/N) : Y
NET2 Ethernet interface
  IP address (clear to use DHCP) <> : 172.15.16.36
  Subnet mask <255.255.255.0> :
  Enable IPv6 addressing on this adapter? (Y/n) :
  IPv6 address (only 1 adapter may use IPv6 Autoconfiguration) <> :

**** IPv6 Autoconfiguration NOT supported on NET2 interface.
IPv6 on NET2 will be disabled.
```



```
Confirm new configuration
Hostname      : J8_East
Domain       : myDomain.net
Default Gateway : 192.168.1.1
Primary DNS   : 8.8.8.8
Secondary DNS : 8.8.4.4
Default IPv6 Gateway :
Primary IPv6 DNS :
Secondary IPv6 DNS :
```

NET1 settings:

```
IP Address      : 192.168.1.36
Subnet Mask     : 255.255.255.0
```

IPv6 Addressing assigned via Autoconfiguration

NET2 settings:

```
IP Address      : 172.15.16.36
Subnet Mask     : 255.255.255.0
```

IPv6 Addressing assigned via Autoconfiguration

Save these settings? (Y/n) :

**Note:** After you save the network settings, they do not become active until you restart the FX Supervisory Controller. Return to the main system shell menu and select Reboot, menu option **6**.

### Update System Time

If the commissioning process has not been completed yet, you may need to set the current date and time (YYYYMMDDHHMM.ss). For example: 201510231536 for 23-Oct-2015 at 3:36pm UTC or 11:36 EDT.



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