



# ConnectPort<sup>®</sup> X4

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Getting Started Guide

## Revision history—90001248

Revision	Date	Description
B	January 2013	Updated the content about Smart Energy devices connected to the Veris Clamp.
C	April 2014	Updated the images.
D	June 2017	Updated branding and added statements for RED compliance.
E	December 2019	Added information about unique password for accessing the web interface.
F	February 2020	Updated the former default password.

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## Important information regarding your device

Your device is configured to automatically register with a Device Cloud Technical Support Account when you first power up your device<sup>1</sup>. Activation with Device Cloud Technical Support is free. Digi's Device Cloud Technical Support team will only access your device upon your approval. With your consent, the Device Cloud Technical Support team is afforded visibility and access to your device to diagnose and resolve issues, if you require assistance.

Contact the Digi Support site at [www.digi.com/support](http://www.digi.com/support).

If you wish to forego the enhanced service and benefits that automated registration with Device Cloud Technical Support provides, you can disable this feature via the gateway's web UI:

1. Open the web UI of the gateway using the method outlined in the Quick Start Guide.
2. Navigate to the **Configuration > Device Cloud** section.
3. From the "Short Messaging" menu, uncheck the box labeled **Opt-in**.
4. To completely disable SMS, uncheck the box labeled **Enable SMS**.
5. Uncheck the box labeled **Enable Device-Initiated Device Cloud Connection**.
6. Click **Apply**.
7. Reboot the gateway.

## Using this guide

This guide is meant to be used in conjunction with Digi's ConnectPort X4 Quick Start Guides. Depending on which ConnectPort X4 model you purchased, all of the information in this guide will not be relevant to the configuration of your ConnectPort X4. To determine which chapters of this guide are relevant to your ConnectPort X4 refer to the following chart:

If you have a	Refer to chapter
ConnectPort X4 with Ethernet ConnectPort X4 IA with Ethernet ConnectPort X4 for Smart Energy with Ethernet	<a href="#">ConnectPort X4 Ethernet models</a>
ConnectPort X4 with Cellular and Ethernet ConnectPort X4 IA with Cellular and Ethernet	<a href="#">ConnectPort X4 cellular models</a>
ConnectPort X4 with Wi-Fi and Ethernet ConnectPort X4 IA with Wi-Fi and Ethernet	<a href="#">ConnectPort X4 WiFi models</a>

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<sup>1</sup>The registration process involves sending a single SMS message containing the device's mobile phone number. Network costs associated with this single SMS transmission are the customer's responsibility. Any device information stored in the Device Cloud Technical Account is secured with adherence to Device Cloud security and privacy procedures, and will not be disclosed to, or accessible by third parties. If you currently configure your Digi device using a configuration file (defaults.rci), you must update that file to disable this feature.

## ConnectPort X4 Ethernet models

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ConnectPort X4 Ethernet models are configured to be DHCP clients. To configure your device, put it on an Ethernet network with a DHCP Server.

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## Connecting to the ConnectPort X4 home page

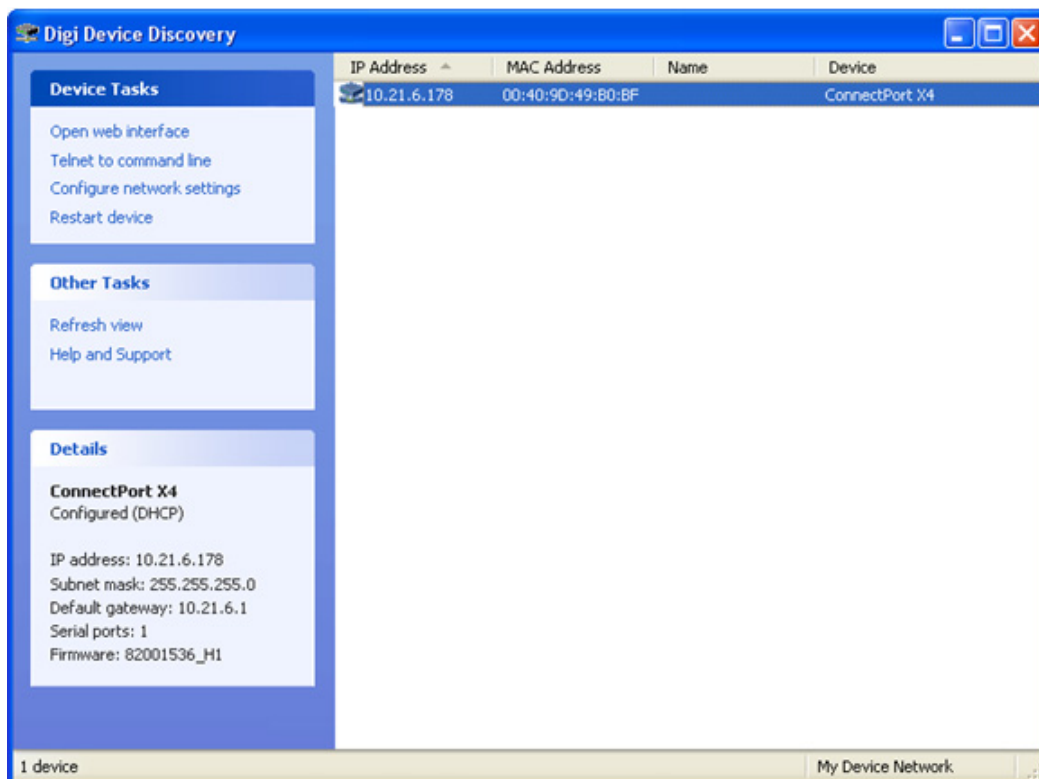
If you know the IP address of your ConnectPort X4, open a web browser and type in the IP address. You can also use the Digi Device Discovery Utility.

To download the Digi Device Discovery Utility:

1. Navigate to [www.digi.com/connectportx4](http://www.digi.com/connectportx4).
2. Click the **Download: Digi Device Discovery Utility** link.
3. Click the **Download your file** link and follow the prompts to install the application.
4. Run the Digi Device Discovery Utility from your PC's Start Menu (**Digi > Digi Device Discovery > Digi Device Discovery**), if it is not already open.
5. You will be prompted to enter the default user name and password.

**User name:** root

**Password:** Enter the unique password printed on the device label. If the label does not have a password, use the default password **dbps**. If neither password works, the password may have been changed. Check with your system administrator.



6. Once the application opens, select your device from the **Digi Device Discovery Application Devices** list. The IP address of your device should be displayed.
6. Open a web browser and type in the IP address of your ConnectPort X4 device. This will open the ConnectPort X4's Home page.



After you enter the IP address of the ConnectPort X4 into your web browser, you will see a screen similar to the following:

The screenshot shows the 'ConnectPort X4 Configuration and Management' web interface. On the left is a sidebar with a 'Digi' logo and navigation links: Home, Configuration (Network, Mobile, XBee Network, Serial Ports, Camera, Alarms, System, Device Cloud, Users, Position), Applications (Python, RealPort, Industrial Automation), Management (Serial Ports, Connections, Event Logging, Network Services), Administration (File Management, X.509 Certificate/Key Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot), and Logout. The main content area has a 'Home' header and a 'Getting Started' section with a 'Tutorial' link. Below that is a 'System Summary' section displaying device information:

Model:	ConnectPort X4
Ethernet MAC Address:	00:40:9D:6D:83:99
Ethernet IP Address:	10.8.16.86
Mobile IP Address:	Not Connected
Description:	None
Contact:	None
Location:	None
<u>Device</u> ID:	00000000-00000000-00409DFF-FF6D8399

## Configuring Ethernet settings for the ConnectPort X4

To configure your device's Ethernet settings, **Configuration > Network** in the left navigation pane to open the Ethernet Network Configuration page.

The screenshot shows the 'Network Configuration' page with the 'Ethernet IP Settings' section expanded. The settings are as follows:

- Obtain an IP address automatically using DHCP \*
- Use the following IP address:
  - \* IP Address:
  - \* Subnet Mask:
  - Default Gateway:
- Enable AutoIP address assignment

\* Changes to DHCP, IP address, and Subnet Mask may affect your browser connection.

Apply

Below the settings are several expandable sections:

- ▶ DHCP Server Settings
- ▶ Network Services Settings
- ▶ Dynamic DNS Update Settings
- ▶ IP Filtering Settings
- ▶ IP Forwarding Settings
- ▶ IP Network Failover Settings
- ▶ Socket Tunnel Settings
- ▶ Virtual Private Network (VPN) Settings
- ▶ IP Pass-through Settings
- ▶ Host List Settings
- ▶ Virtual Router Redundancy Protocol (VRRP) Settings
- ▶ Advanced Network Settings

Use the Network Configuration page to configure various Ethernet parameters, depending of installation type. Use the Ethernet IP settings page to configure basic settings.

### ConnectPort X4 Ethernet IP settings page

Use the Ethernet IP Settings page (shown in the previous image to set your device to obtain IP addresses automatically (using DHCP). You can also enter the IP address manually.

Configure your Ethernet IP settings as desired and click **Apply** when finished.

### Viewing ConnectPort X4 IP address information

The ConnectPort X4 Home page will display the IP address of the unit.

### Viewing ConnectPort X4 Ethernet statistics

Navigate to the **Administration > System Information > Network** page to view information about the Ethernet Link and Ethernet and IP statistics.

## **X4 Smart Energy**

For information regarding connecting your Smart Energy device with the Veris Clamp, see the ConnectPort X4 Smart Energy Quick Start Guide, part number 90001263, at [www.digi.com/support](http://www.digi.com/support).

## ConnectPort X4 cellular models

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The ConnectPort X4 cellular models have cellular and Ethernet interfaces. By default, the Ethernet interface is configured as a DHCP Server with a static IP Address of 192.168.1.1. This configuration simplifies the initial configuration of the unit.

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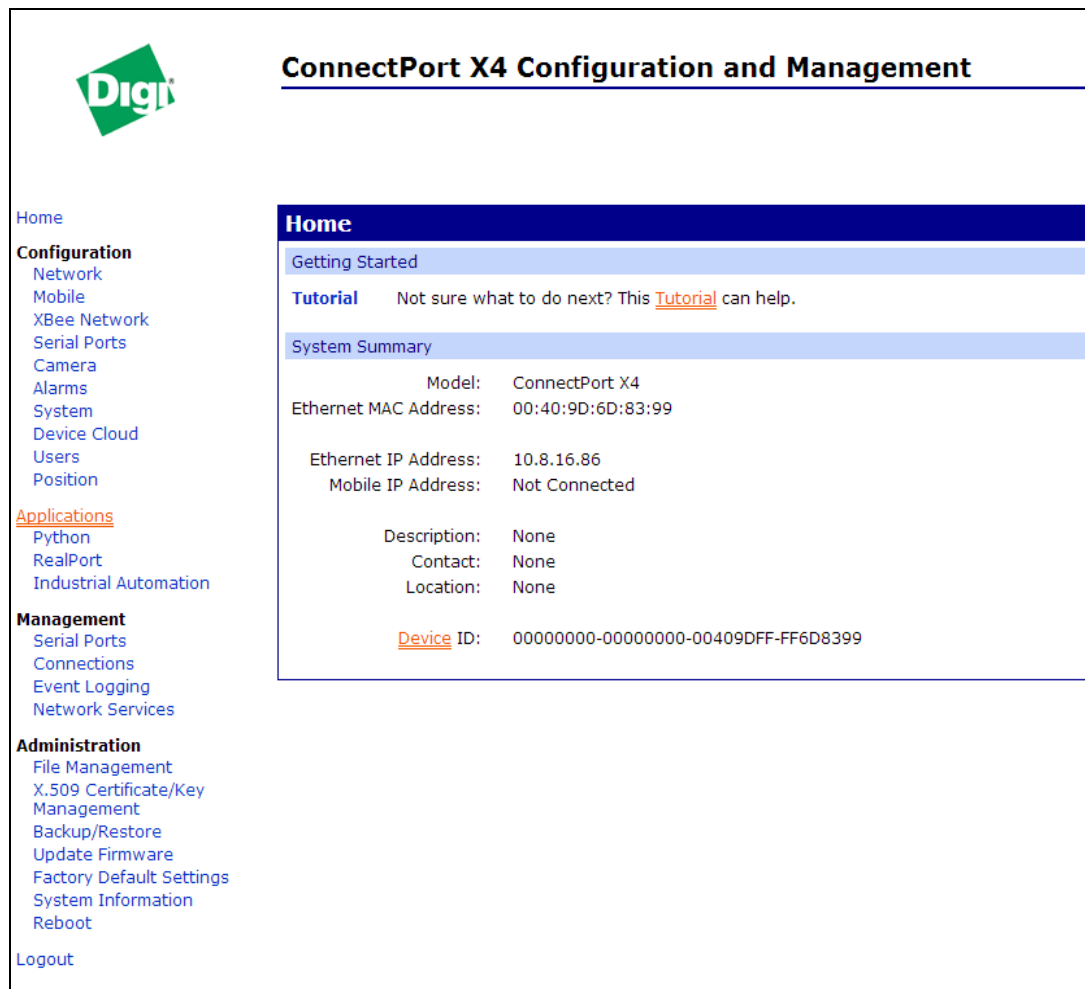
## Connecting to the ConnectPort X4 home page

1. Connect one end of the provided Ethernet cable to your PC, and the other end to the ConnectPort X4 Ethernet port.
2. Ensure that your PC is configured to obtain its IP address (via DHCP).
3. Open the web interface of the ConnectPort X4 by navigating to the 192.168.1.1 address in a web browser on the PC.
4. You will be prompted to enter the default user name and password.

**User name:** root

**Password:** Enter the unique password printed on the device label. If the label does not have a password, use the default password **dbps**. If neither password works, the password may have been changed. Check with your system administrator.

5. The device's Home page appears.



**ConnectPort X4 Configuration and Management**

**Home**

Getting Started

**Tutorial** Not sure what to do next? This [Tutorial](#) can help.

**System Summary**

Model:	ConnectPort X4
Ethernet MAC Address:	00:40:9D:6D:83:99
Ethernet IP Address:	10.8.16.86
Mobile IP Address:	Not Connected
Description:	None
Contact:	None
Location:	None
<b>Device ID:</b>	00000000-00000000-00409DFF-FF6D8399

**Navigation Menu:**

- Home
- Configuration**
  - Network
  - Mobile
  - XBee Network
  - Serial Ports
  - Camera
  - Alarms
  - System
  - Device Cloud
  - Users
  - Position
- Applications**
  - Python
  - RealPort
  - Industrial Automation
- Management**
  - Serial Ports
  - Connections
  - Event Logging
  - Network Services
- Administration**
  - File Management
  - X.509 Certificate/Key Management
  - Backup/Restore
  - Update Firmware
  - Factory Default Settings
  - System Information
  - Reboot
- Logout

## Configuring the ConnectPort X4 Cellular interface

Configuring the ConnectPort X4 cellular interfaces will vary depending on whether the ConnectPort X4 supports the GSM/Edge or CDMA cellular network.

This section provides examples of how to configure the ConnectPort X4 cellular interface for three of the popular cellular networks: AT&T, Verizon, and Sprint.

Follow the example for your specific cellular provider. For ATT see [GSM/Edge Cellular configuration example \(AT&T\)](#). For Verizon users see [CDMA cellular configuration example \(Verizon\)](#). For Sprint users see [CDMA cellular configuration example \(Sprint\)](#).

### GSM/Edge Cellular configuration example (AT&T)

To configure a GSM/Edge ConnectPort X4 cellular interface perform the following steps:

1. Click **Configuration > Mobile** in the left-navigation area.
2. The ConnectPort X4 has two SIM slots. Slot 1 is the primary SIM slot. If you wish to use SIM Slot 2, use the SIM drop-down box dropdown and select **Slot 2** and click **Set as Primary**.

**Mobile Configuration**

Select a SIM to configure from the list below.

Settings on this page apply to the selected SIM.

SIM:	Slot 1 <input type="button" value="v"/>	<input type="button" value="Set as Primary"/>	
IMSI:	310410265385546		
ICCID:	89014104232653855469		
Phone Number:	19522212376		
Status:	Primary		

Configure the **Mobile Service Provider Settings**:

1. Click the **Service Provider** dropdown and select the service provider.
2. Click the **Service Plan/APN** dropdown and select the service plan.
3. Enter a **Customer Plan Name** for your environment as shown.

**▼ Mobile Settings**

Select the service provider, service plan, and connection settings used in connecting to the mobile network.

These settings are provided by and can be retrieved from the service provider.

**Mobile Service Provider Settings**

Service Provider:

Service Plan / APN:

Custom Plan Name:

**Mobile Connection Settings**

Re-establish connection when no data is received for a period of time.

Inactivity timeout:  seconds

---

4. Click **Apply** when finished.

## CDMA cellular configuration example (Verizon)

**Note** This example assumes that the ESN/MEID# for the ConnectPort X4 has been activated with your cellular provider. You can find the ESN/MEID# on the bottom of your unit.

To configure a CDMA ConnectPort X4 cellular interface perform the following steps:

1. Click on **Configuration > Mobile** from the left-hand menu and select **Verizon Wireless** from the Service Provider drop-down menu. The Mobile Configuration page displays.

### Mobile Configuration

**Mobile Settings**

Select the service provider, service plan, and connection settings used in connecting to the mobile network.

These settings are provided by and can be retrieved from the service provider.

**Mobile Service Provider Settings**

Service Provider:

Mobile IP mode:

**Caution:** Modify the mobile IP mode only on the recommendation of your service provider.

This device needs to be provisioned:

**Mobile Connection Settings**

Re-establish connection when no data is received for a period of time.

Inactivity timeout:  seconds

**GPS Settings**

**Advanced Settings**

**SureLink Settings**

**Short Message Service (SMS) Settings**

2. Click the **Service Provider** dropdown and select a service provider. The unit goes through its provisioning process.



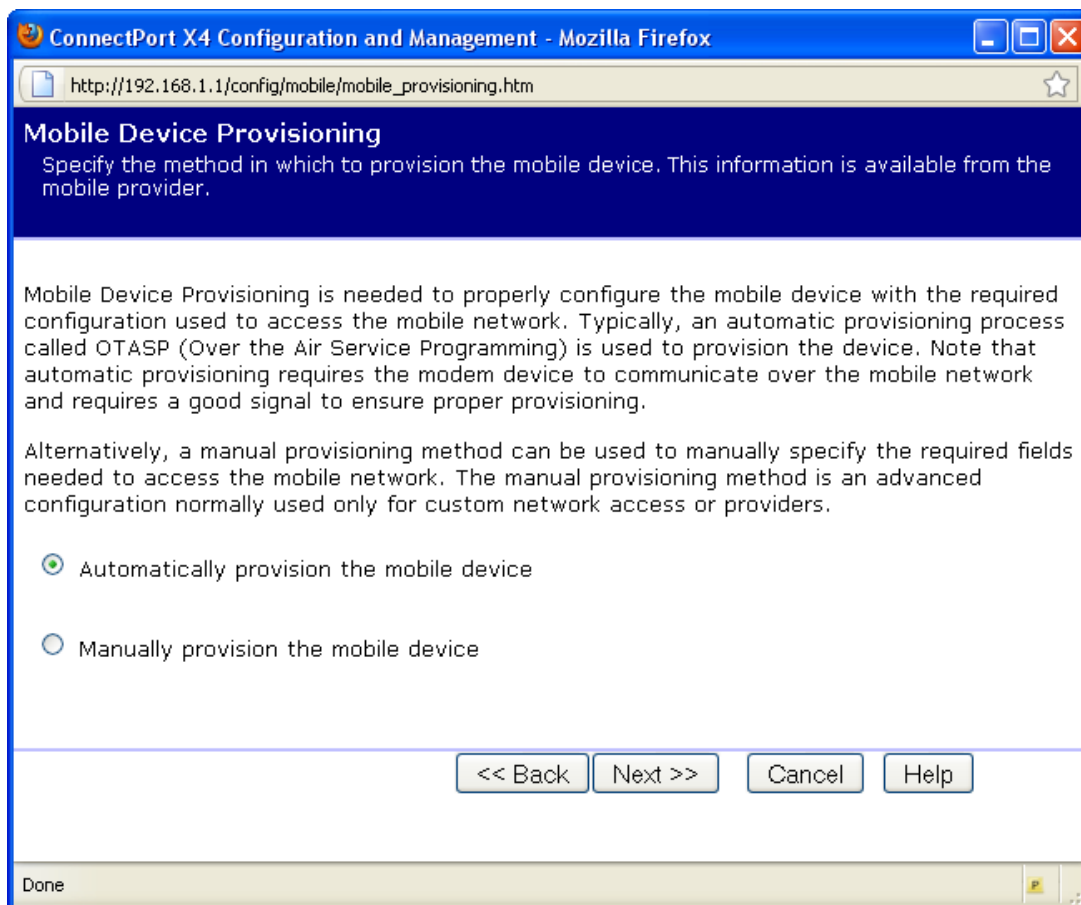
3. Click the **Provision Device** button and follow the steps displayed within the Mobile Device Provisioning dialog screens.

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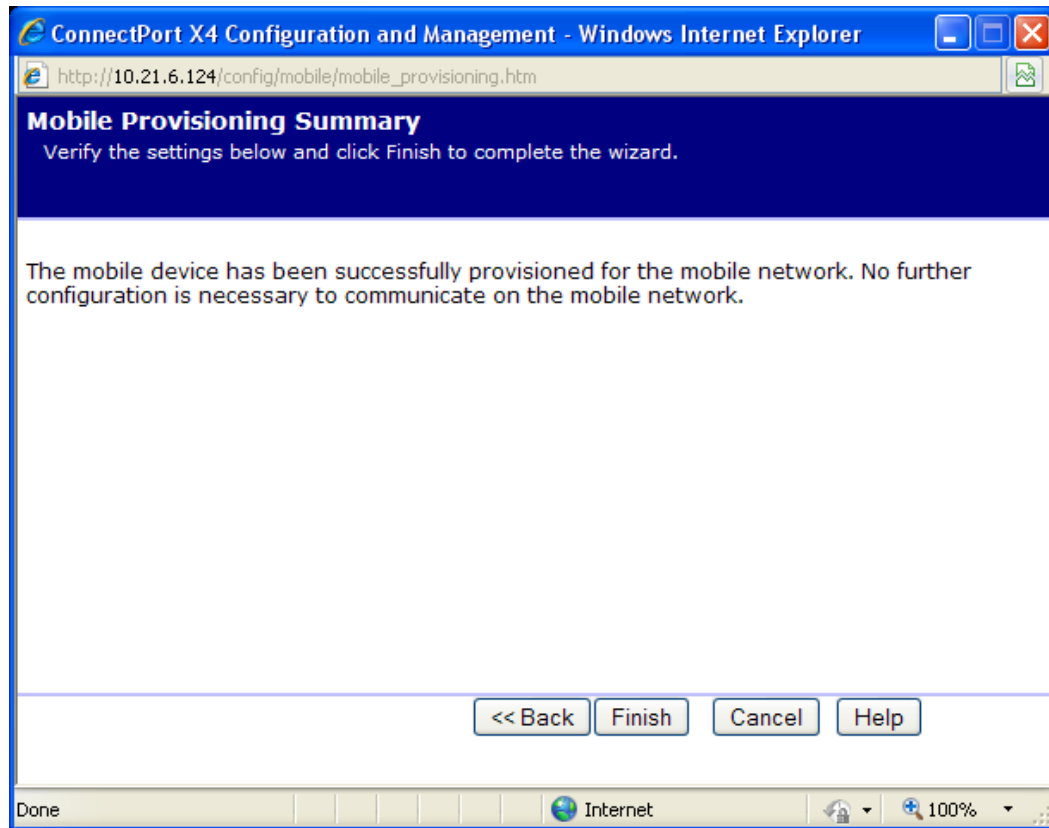
**Note** The default options within the Mobile Device Provisioning dialog screens will be correct for most installations.

---

4. When the following screen displays, select the **Automatically provision the mobile device** radio button.
5. Click **Next**.



6. Continue to go through the mobile provisioning process until you see the following screen. This screen will indicate that the mobile provisioning process completed successfully.



7. Click **Finish** to return to the Mobile Configuration page.
8. Click **Apply** on the Mobile Configuration page when finished.

## CDMA cellular configuration example (Sprint)

**Note** This example assumes that the ESN/MEID# for the ConnectPort X4 has been activated with your cellular provider. You can find the ESN/MEID# on the bottom of your unit.

To configure a CDMA ConnectPort X4 cellular interface perform the following steps:

1. Click **Configuration > Mobile** from the left navigation pane.
2. Click the **Service Provider** dropdown and select **Sprint PCS**.

The Mobile Configuration page displays.

### Mobile Configuration

▼ **Mobile Settings**

Select the service provider, service plan, and connection settings used in connecting to the mobile network. These settings are provided by and can be retrieved from the service provider.

**Mobile Service Provider Settings**

Service Provider: Sprint PCS ▼

This device needs to be provisioned:

Provision Device
Update

Update the preferred roaming list (PRL): Update

**Mobile Connection Settings**

Re-establish connection when no data is received for a period of time.

Inactivity timeout: 3600 seconds

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Apply
Set to Defaults

▶ **GPS Settings**

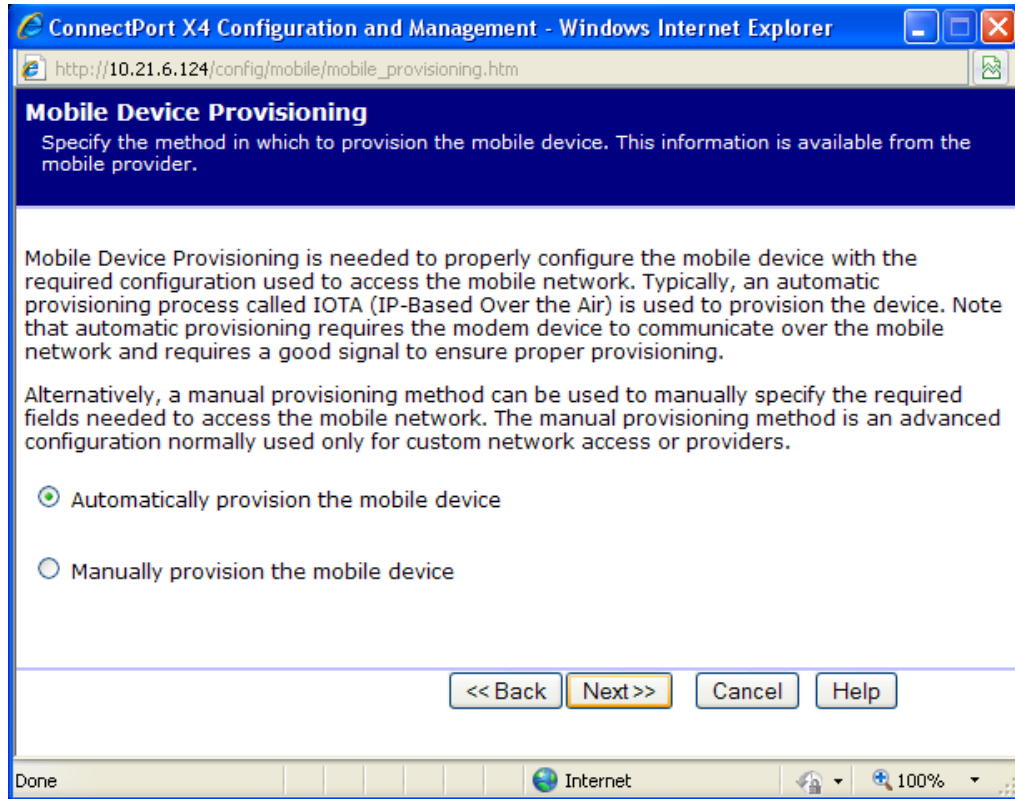
▶ **SureLink Settings**

▶ **Short Message Service (SMS) Settings**

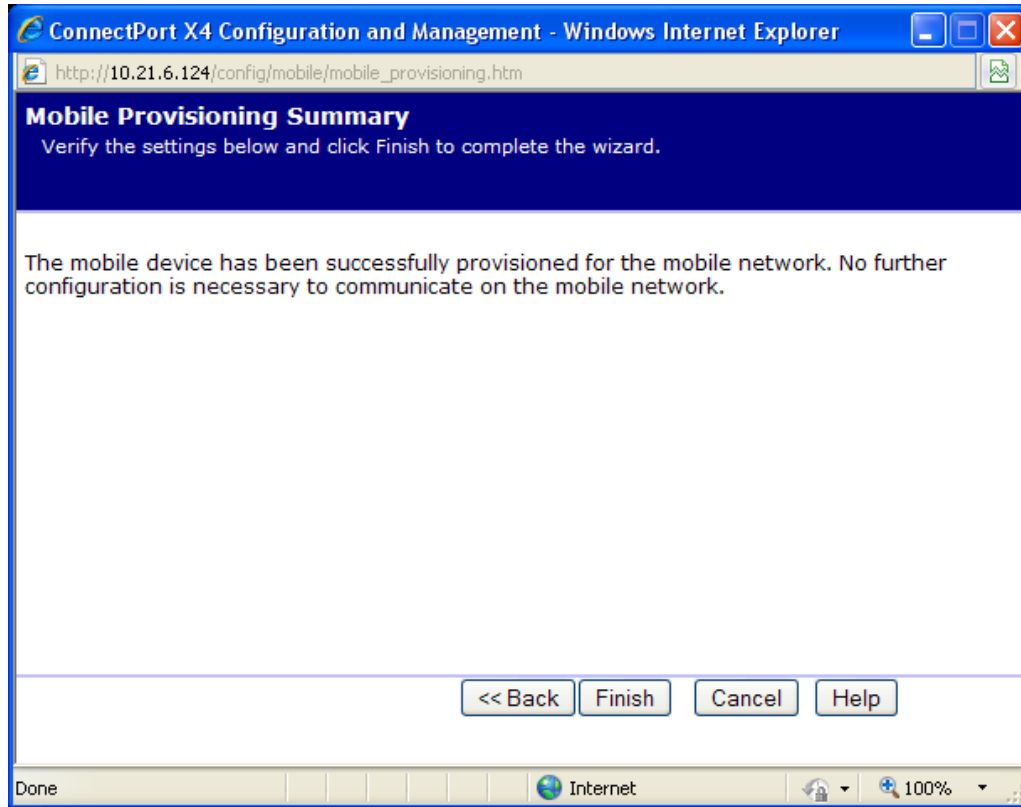
1. After selecting a Service Provider, the unit needs to go through its provisioning process. Click the **Provision Device** button then follow the steps within the Mobile Device Provisioning dialog screens.

**Note** The default options in the Mobile Device Provision dialog screens are correct for most installations.

2. When the following displays, click the **Automatically provision the mobile device** radio button.
3. Click **Next**.



4. Continue to go through the mobile provisioning process until you see the following page, which indicates that the mobile provisioning process completed successfully.



5. Click **Finish** to return to the Mobile Configuration page.
6. Click **Apply** on the Mobile Configuration page when finished.

## Verifying the ConnectPort X4 cellular connection status

Once the correct cellular configuration has been applied, the ConnectPort X4 will begin to establish the cellular connection. You can verify the connection status by navigating to the **Administration > System Information > Mobile** page.

**System Information**

- ▶ General
- ▶ Serial
- ▶ Network
- ▼ **Mobile**

The following information and statistics can be used to manage and monitor your mobile connection. This information may also be helpful in troubleshooting problems with the mobile network.

**SIM Information**

Slot	IMSI and ICCID	Phone Number	Status	PIN Status	Active
1	310410265385546 89014104232653855469	19522212376	Primary	Ready	<span style="color: green;">●</span>
2	IMSI: N/A ICCID: N/A	N/A	Not configured	N/A	<span style="color: gray;">●</span>

**Mobile Connection**

Registration Status: Registered (Home Network)  
 Location Area Code: 0xD6EF (55023)  
 Cell ID: 0x969E (38558)

Signal Strength: (-88 dBm)

**Mobile Statistics**

IP Address: 166.130.120.49  
 Primary DNS Address: 209.183.33.23  
 Secondary DNS Address: 209.183.33.23  
 Data Received: 30222 bytes  
 Data Sent: 42331 bytes

Idle Resets: 26  
 Inactivity Timer: 3600 seconds (receiving)  
 0 seconds (sending)

**Mobile Information**

**Note** In the above example, the ConnectPort X4 is connected to the cellular network and has obtained the 166.130.120.49 address for its cellular interface.

## Configuring the ConnectPort X4 IP gateway priority

Once the ConnectPort X4's cellular interface is connected, it can reach the Internet via either of its network interfaces (Mobile or Ethernet). Configuring the ConnectPort X4 Gateway priority list determines the priority for each of its network interfaces. By default the ConnectPort X4 gives the Mobile interface the highest priority.

Use the **Configuration > Network > Advanced Network Settings** page, to configure the ConnectPort X4 IP Gateway priority list and the DNS Priority List.

**Advanced Network Settings**




The following settings are advanced settings used to fine tune the network connection and network interfaces. The default settings will typically work in most situations.



**IP Settings**

Host Name:

Static Primary DNS:

Static Secondary DNS:

DNS Priority: Static   
Mobile   
Ethernet 

Gateway Priority: Mobile   
Ethernet 

See also [IP Network Failover Settings](#) for default gateway management.

**DNS Proxy Settings**

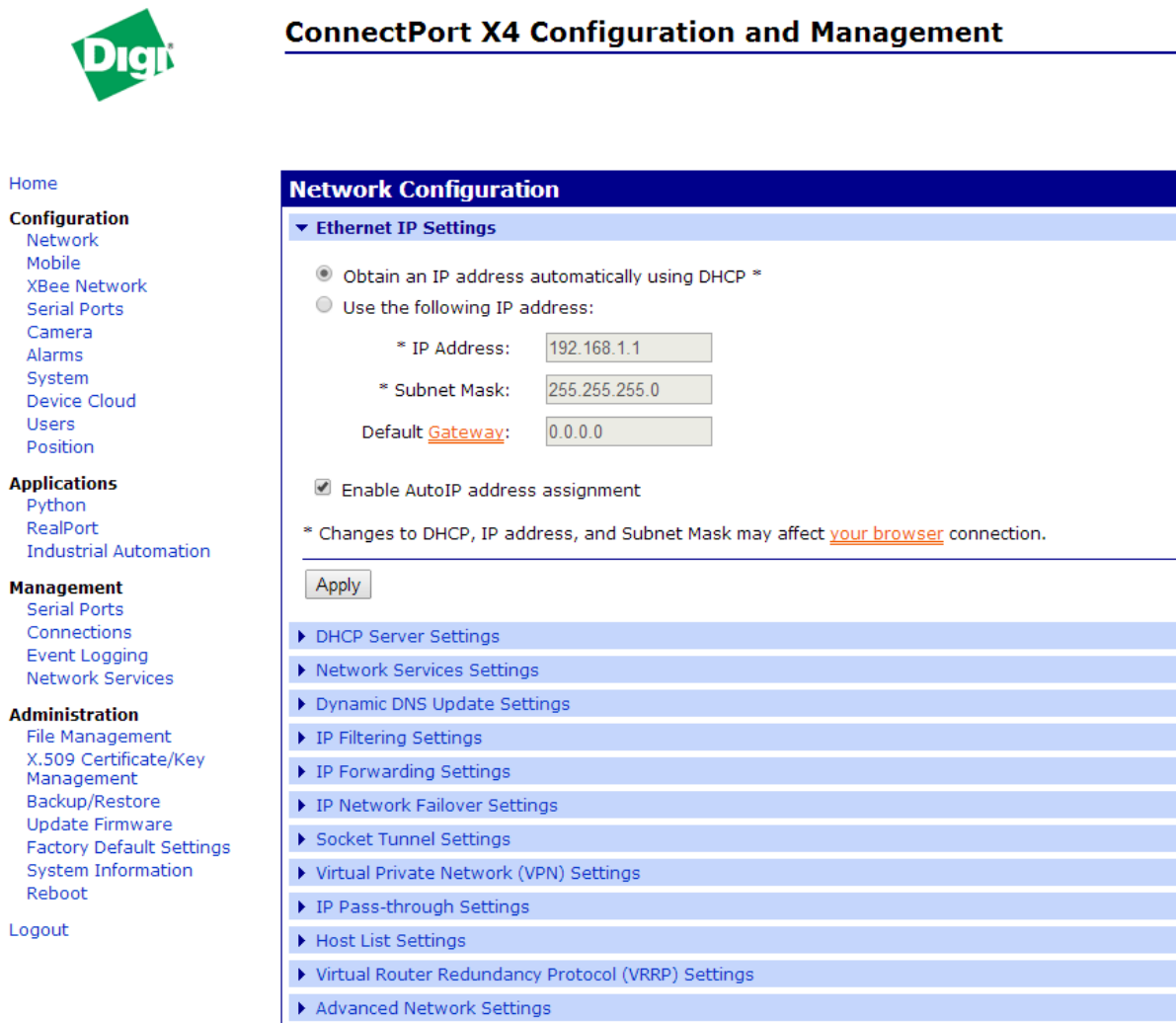
Enable DNS Proxy Service

Request Cache Size Maximum:  entries (16-1024)

## Configuring the ConnectPort X4 Ethernet interface

Now that the ConnectPort X4’s WiFi interface is configured, you must configure the Ethernet interface. The Ethernet configuration changes will involve disabling the DHCP Server and determining how the ConnectPort X4 will be given its IP address.

1. Click **Configuration > Network** in the left navigation pane. The Network Configuration screen with the Ethernet IP Settings page displays.



The screenshot shows the 'ConnectPort X4 Configuration and Management' web interface. On the left is a navigation menu with categories: Home, Configuration (Network, Mobile, XBee Network, Serial Ports, Camera, Alarms, System, Device Cloud, Users, Position), Applications (Python, RealPort, Industrial Automation), Management (Serial Ports, Connections, Event Logging, Network Services), and Administration (File Management, X.509 Certificate/Key Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot). A 'Logout' link is at the bottom of the menu.

The main content area is titled 'Network Configuration' and has a sub-section 'Ethernet IP Settings'. It contains two radio button options: 'Obtain an IP address automatically using DHCP \*' (selected) and 'Use the following IP address:'. Under the second option, there are three input fields: '\* IP Address:' with the value '192.168.1.1', '\* Subnet Mask:' with the value '255.255.255.0', and 'Default Gateway:' with the value '0.0.0.0'. There is a checked checkbox for 'Enable AutoIP address assignment'. A note below states: '\* Changes to DHCP, IP address, and Subnet Mask may affect [your browser](#) connection.' An 'Apply' button is located below the settings.

Below the 'Ethernet IP Settings' section is a list of expandable menu items: DHCP Server Settings, Network Services Settings, Dynamic DNS Update Settings, IP Filtering Settings, IP Forwarding Settings, IP Network Failover Settings, Socket Tunnel Settings, Virtual Private Network (VPN) Settings, IP Pass-through Settings, Host List Settings, Virtual Router Redundancy Protocol (VRRP) Settings, and Advanced Network Settings.

2. Click the DHCP Server Settings link to open the DHCP Server Settings page.
3. The ConnectPort X4 can act as a DHCP Server on either its network interfaces. If it was not configured to act as a DHCP on the WiFi network above, and you do not wish for it to act as a DHCP Server on the Ethernet network, uncheck the Enable Dynamic Host Configuration Protocol (DHCP) Server to disable the DHCP server.




- Click **Apply** when finished.

The ConnectPort X4 is now ready to be moved to your Ethernet network, and by default will use its Ethernet network as its primary network interface.

- Disconnect the ConnectPort X4 from your PC and then connect it to the Ethernet network.  
Reconfigure the PC with a static IP address prior to moving the PC to the Ethernet network.

## Viewing ConnectPort X4 IP address information

The ConnectPort X4 Home page will display the IP address for both the Ethernet and Cellular networks.



### ConnectPort X4 Configuration and Management

Home

**Configuration**

- Network
- Mobile
- XBee Network
- Serial Ports
- Camera
- Alarms
- System
- Device Cloud
- Users
- Position

Applications

- Python
- RealPort
- Industrial Automation

**Management**

- Serial Ports
- Connections
- Event Logging
- Network Services

**Administration**

- File Management
- X.509 Certificate/Key Management
- Backup/Restore
- Update Firmware
- Factory Default Settings
- System Information
- Reboot

Logout

**Home**

Getting Started

**Tutorial** Not sure what to do next? This [Tutorial](#) can help.

System Summary

Model:	ConnectPort X4
Ethernet MAC Address:	00:40:9D:6D:83:99
Ethernet IP Address:	10.8.16.86
Mobile IP Address:	Not Connected
Description:	None
Contact:	None
Location:	None
<b>Device ID:</b>	00000000-00000000-00409DFF-FF6D8399

## Viewing ConnectPort X4 Ethernet statistics

Navigate to the **Administration > System Information > Network** page to view information about the Ethernet Link and ,Ethernet and IP statistics.

You have completed basic configuration of your ConnectPort X4.

## ConnectPort X4 WiFi models

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The ConnectPort X4 WiFi models have WiFi and Ethernet interfaces. By default, the Ethernet interface is configured as a DHCP Server with a static IP Address of 192.168.1.1. This configuration simplifies the initial configuration of the unit.

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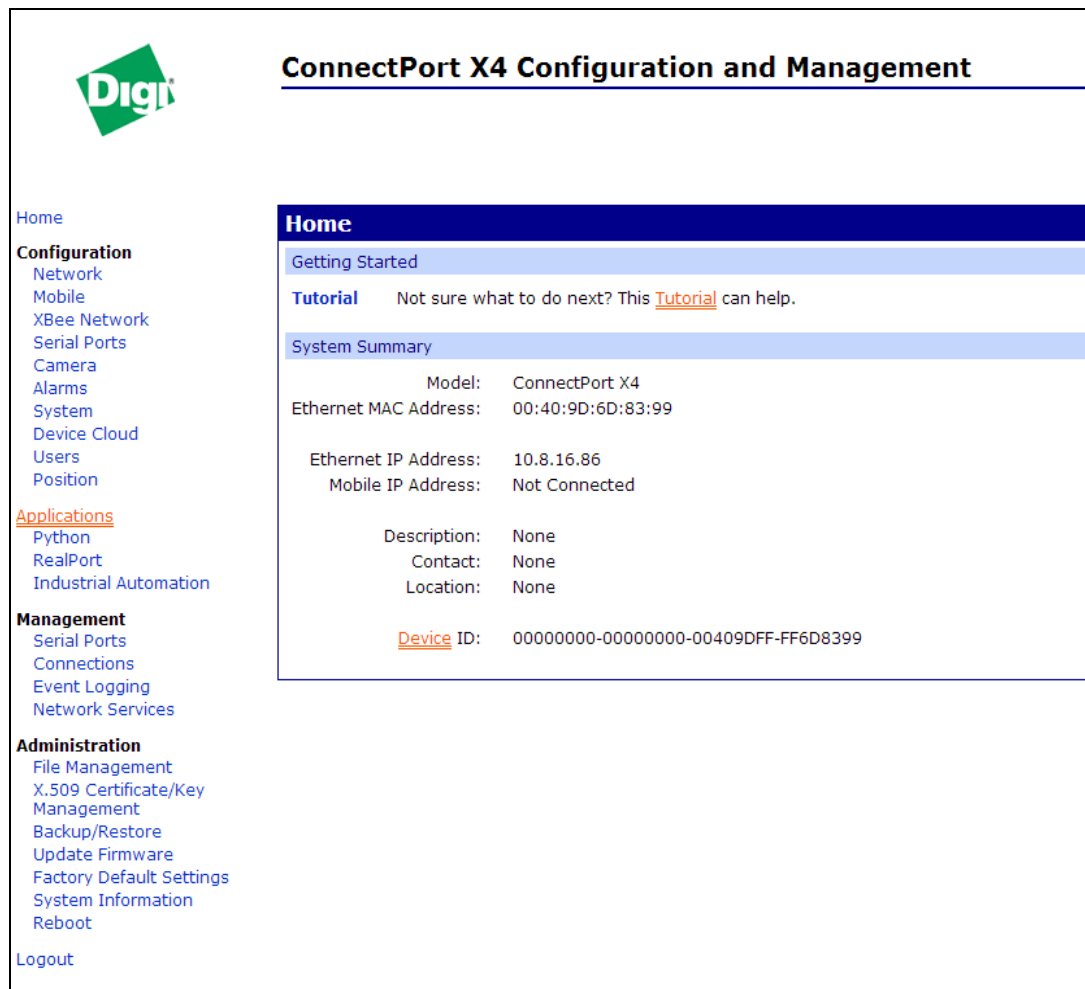
## Connecting to the ConnectPort X4 home page

1. Connect one end of the provided Ethernet cable to your PC, and the other end to the ConnectPort X4 Ethernet port.
2. Ensure that your PC is configured to obtain its IP address (via DHCP).
3. Open the web interface of the ConnectPort X4 by navigating to the 192.168.1.1 address in a web browser on the PC.
4. You will be prompted to enter the default user name and password.

**User name:** root

**Password:** Enter the unique password printed on the device label. If the label does not have a password, use the default password **dbps**. If neither password works, the password may have been changed. Check with your system administrator.

5. The device's Home page appears.



**ConnectPort X4 Configuration and Management**

**Home**

Getting Started

**Tutorial** Not sure what to do next? This [Tutorial](#) can help.

**System Summary**

Model:	ConnectPort X4
Ethernet MAC Address:	00:40:9D:6D:83:99
Ethernet IP Address:	10.8.16.86
Mobile IP Address:	Not Connected
Description:	None
Contact:	None
Location:	None
<b>Device ID:</b>	00000000-00000000-00409DFF-FF6D8399

**Navigation Menu:**

- Home
- Configuration**
  - Network
  - Mobile
  - XBee Network
  - Serial Ports
  - Camera
  - Alarms
  - System
  - Device Cloud
  - Users
  - Position
- Applications**
  - Python
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- Management**
  - Serial Ports
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  - Event Logging
  - Network Services
- Administration**
  - File Management
  - X.509 Certificate/Key Management
  - Backup/Restore
  - Update Firmware
  - Factory Default Settings
  - System Information
  - Reboot
- Logout

## Configuring the ConnectPort X4 WiFi interface

To configure the ConnectPort X4 WiFi interface perform the following steps:

1. Click **Configuration > Network** from the left navigation pane. The Network Configuration screen (with the Ethernet IP Settings) page displays.

The screenshot shows the 'Network Configuration' page with a dark blue header. Under the 'Ethernet IP Settings' section, there are two radio button options: 'Obtain an IP address automatically using DHCP \*' (unselected) and 'Use the following IP address:' (selected). Below these are three input fields: '\* IP Address:' with the value '10.21.6.123', '\* Subnet Mask:' with the value '255.255.255.0', and 'Default Gateway:' with the value '10.21.6.1'. There is a checked checkbox for 'Enable AutoIP address assignment'. A note below states '\* Changes to DHCP, IP address, and Subnet Mask may effect your browser connection.' An 'Apply' button is located below the settings. A list of other network settings is visible at the bottom, including WiFi IP Settings, WiFi LAN Settings, WiFi Security Settings, WiFi 802.1x Authentication Settings, DHCP Server Settings, Network Services Settings, IP Filtering Settings, IP Forwarding Settings, IP Network Failover Settings, Socket Tunnel Settings, Virtual Private Network (VPN) Settings, Host List Settings, and Advanced Network Settings.

You can use the Network Configuration page to configure WiFi IP, LAN, and Security settings ,depending on the installation type.

## ConnectPort X4 WiFi IP settings page

1. Click (**Configuration > Network > WiFi IP Settings**), and configure how the ConnectPort X4 determines its IP address on the WiFi network.

▼ **WiFi IP Settings**

Obtain an IP address automatically using DHCP \*

Use the following IP address:

\* IP Address:

\* Subnet Mask:

Default Gateway:

Enable AutoIP address assignment

\* Changes to DHCP, IP address, and Subnet Mask may effect your browser connection.

The WiFi IP Settings page allows you to set your ConnectPort X4 to obtain an IP address on the WiFi network automatically (using DHCP) or enter in your own IP address.

2. Configure your WiFi IP settings as desired.
3. Click **Apply** when finished.

## ConnectPort X4 WiFi LAN settings page

1. Click (**Configuration > Network > WiFi LAN Settings**) open the WiFi IP Settings page.

▼ WiFi LAN Settings

Network name:  (SSID)

Connect to any available WiFi network

Connect to access point (infrastructure) networks only

Connect to peer-to-peer (ad-hoc) networks only

Country:  ▼

Band:  ▼

Channel:  ▼

Transmit power:  dBm

Enable Short Preamble

Enable 802.11d multi domain capability

Enable Antenna Diversity

The WiFi LAN Settings page allows you to set your connection type and name your network. The above example configures the ConnectPort X4 to connect to the "TRENDnet" WiFi network, using Channel 1.

2. Configure your WiFi LAN settings as desired.
3. Click **Apply** when finished.

## ConnectPort X4 WiFi security settings page

1. Click (**Configuration > Network > WiFi Security Settings**) to open the WiFi IP Settings page.

**WiFi Security Settings**

Network Authentication

Use any available authentication method  
 Use the following selected method(s):

- Open System
- Shared Key
- WEP with 802.1x authentication
- WPA with pre-shared key (WPA-PSK)
- WPA with 802.1x authentication
- Cisco LEAP
- EAP-FAST

Data Encryption

Use any available encryption method  
 Use the following selected method(s):

- Open System (no encryption)
- WEP
- TKIP
- CCMP

WEP Keys

Transmit key:     1     2     3     4

Encryption Keys:

1:

2:

3:

4:

WPA PSK

Enter a passphrase when WPA-PSK authentication is enabled. *Note: the passphrase will need to be re-entered whenever the Network SSID is changed.*

Passphrase:

Use the WiFi Security Settings page to set Network Authentication, Data Encryption, WEP Key, WPA PSK, and Username/Password information for your network. The above example configures the ConnectPort X4 to use WPA-PSK authentication using TKIP encryption with a WPA PSK passphrase.

2. Configure your WiFi security settings as desired.
3. Click **Apply** when finished.

## ConnectPort X4 DHCP server settings page

1. If the ConnectPort X4 is to act as a DHCP Server on the WiFi network, click **Configuration > Network > DHCP Server Settings** to open the DHCP Server Settings page.
2. The ConnectPort X4 can act as a DHCP Server on its WiFi or Ethernet interface. Check the **Enable Dynamic Host Configuration Protocol (DHCP) Server** check box
3. Click the Scope Name dropdown.
4. Select **wln0** Scope name.
5. Configure the other parameters as appropriate.
6. Click **Apply** when finished.

**▼ DHCP Server Settings**

**Note:** For the DHCP server to operate, the ConnectPort X4 must be configured to use a static IP address. (See the [IP Settings](#) page in the Network Configuration area.) Please review additional notes below.

Enable Dynamic Host Configuration Protocol (DHCP) Server

Scope Name: wln0

\* IP Addresses: 192.168.1.100 to 192.168.1.131

Lease Duration: 1 days 0 hrs 0 mins

Wait specified delay before sending DHCP offer reply  
Delay: 500 ms

Check that an IP address is not in use before offering it

Send the DHCP Server IP address as a DNS Proxy Server

Send a default gateway in the client lease (DHCP Option 3: Routers on Subnet):

IP address of scope interface (default)

Configured IP address of default gateway for scope interface

This gateway IP address: 0.0.0.0

Do not send a default gateway

**Static Lease Reservations \*\***

Enable	IP Address	MAC Address	
No reservations currently configured			
<input checked="" type="checkbox"/>	<span style="border: 1px solid #ccc; padding: 2px;">0.0.0.0</span>	<span style="border: 1px solid #ccc; padding: 2px;">00:00:00:00:00:00</span>	<input type="button" value="Add"/>

[Remove All](#)

**Address Exclusions \*\*\***

Enable	Start Address	End Address	
No exclusions currently configured			
<input checked="" type="checkbox"/>	<span style="border: 1px solid #ccc; padding: 2px;">0.0.0.0</span>	to <span style="border: 1px solid #ccc; padding: 2px;">0.0.0.0</span>	<input type="button" value="Add"/>

[Remove All](#)

For DHCP server status and lease management, use the [DHCP Server Management](#) page in the Network Services Management area.

\* The IP address pool must specify addresses that are in the subnetwork of the ConnectPort X4. The DHCP server will not operate if this configuration does not meet this requirement



# Verifying the ConnectPort X4 WiFi connection status

Click **Administration > System Information > Mobile**. The System Information page displays. It shows the following displaying the settings and statistics for the WiFi network.



## ConnectPort X4 Configuration and Management

- Home
- Configuration**
  - Network
  - Mobile
  - XBee Network
  - Serial Ports
  - Camera
  - Alarms
  - System
  - Device Cloud
  - Users
  - Position
- Applications**
  - Python
  - RealPort
  - Industrial Automation
- Management**
  - Serial Ports
  - Connections
  - Event Logging
  - Network Services
- Administration**
  - File Management
  - X.509 Certificate/Key Management
  - Backup/Restore
  - Update Firmware
  - Factory Default Settings
  - System Information
  - Reboot
- Logout

**System Information**

**General**

Model:	ConnectPort X4	
Ethernet MAC Address:	00:40:9D:6D:83:99	
<a href="#">Firmware Version:</a>	2.17.0.5 (Version 82001536_N 08/30/2013)	
Boot Version:	1.1.3 (release_82001975_D)	
POST Version:	1.1.3 (release_82001753_H)	
Product VPD Version:	release_82003236_A	
Product ID:	0x0081	
Hardware Strapping:	0x0044	
CPU Utilization:	3%	
Up Time:	2 days 17 hours 6 minutes 26 seconds	
Date and Time:	Sat Jan 3 17:06:26 1970 (based on uptime)	
Total Memory:	32768 KB	
Used Memory:	16124 KB	
<a href="#">Free</a> Memory:	16644 KB	
Total Flash Filesystem:	7812 KB	
Used Flash Filesystem:	625 KB	
<a href="#">Free Flash</a> Filesystem:	7187 KB	

- ▶ Serial
- ▶ Network
- ▶ Mobile
- ▶ IP Network Failover
- ▶ Device Cloud
- ▶ Position
- ▶ XBee Network
- ▶ Diagnostics

## Configuring the ConnectPort X4 IP Gateway Priority

Once the WiFi interface is connected, the ConnectPort X4 can reach the Internet by the WiFi or Ethernet network interfaces. Configuring the ConnectPort X4 Gateway Priority list determines the priority for each of its network interfaces. By default the ConnectPort X4 gives the Ethernet interface the highest priority.

1. Click **Configuration > Network > Advanced Network Settings** to configure the ConnectPort X4 IP Gateway Priority list and the DNS Priority List.

**▼ Advanced Network Settings**

The following settings are advanced settings used to fine tune the network connection and network interfaces. The default settings will typically work in most situations.

**IP Settings**

Host Name:

Static Primary DNS:

Static Secondary DNS:

DNS Priority: Static ↑  
Ethernet ↓  
WiFi

Gateway Priority: Ethernet ↑  
WiFi ↓

See also [IP Network Failover Settings](#) for default gateway management.

**DNS Proxy Settings**

Enable DNS Proxy Service

Request Cache Size Maximum:  entries (16-1024)

Request Idle Time-To-Live:  seconds (10-120)

Request Retries Per DNS Server:  retries (0-4)

For new client requests received when the request cache is full:

Replace the Least Recently Used (LRU) client request with the new request

Discard (ignore) new requests until some existing requests have expired

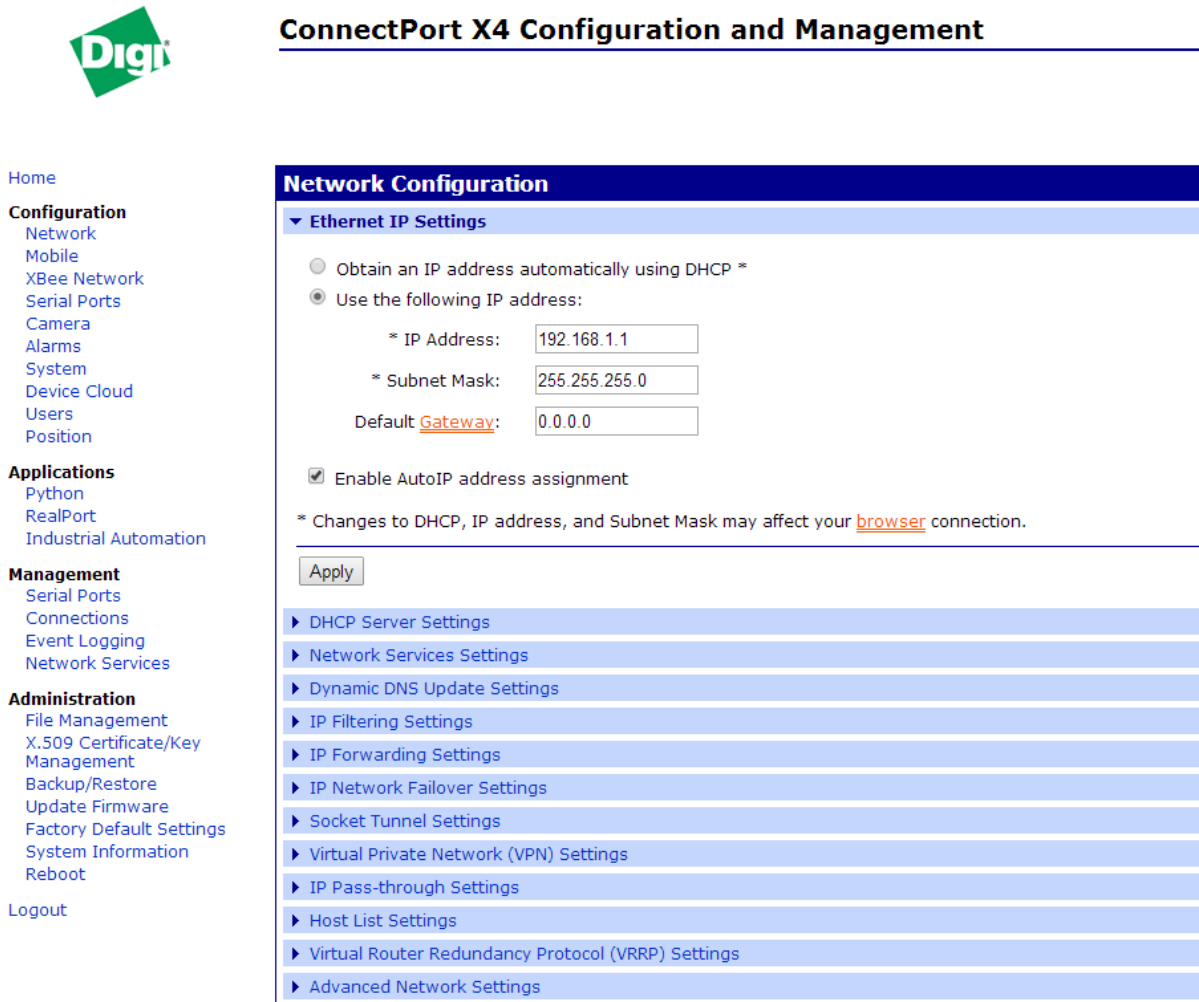
**Ethernet Interface**

2. Use the up or down arrows to raise or lower the a DNS Priority.
3. Use the up or down arrows to raise or lower the Gateway Priority.
4. Click **Apply** when finished.

## Configuring the ConnectPort X4 Ethernet interface

Now that the ConnectPort X4's cellular interface is configured, you must configure the Ethernet interface. The Ethernet configuration changes involve disabling the DHCP Server and determining how the ConnectPort X4 will acquire its IP address.

1. Click **Configuration > Network** in the left navigation pane. The Network Configuration screen (with the Ethernet IP Settings page) displays.



The screenshot shows the 'ConnectPort X4 Configuration and Management' interface. On the left is a navigation menu with categories: Home, Configuration (Network, Mobile, XBee Network, Serial Ports, Camera, Alarms, System, Device Cloud, Users, Position), Applications (Python, RealPort, Industrial Automation), Management (Serial Ports, Connections, Event Logging, Network Services), Administration (File Management, X.509 Certificate/Key Management, Backup/Restore, Update Firmware, Factory Default Settings, System Information, Reboot), and Logout. The main content area is titled 'Network Configuration' and has a sub-section 'Ethernet IP Settings'. Under 'Ethernet IP Settings', there are two radio button options: 'Obtain an IP address automatically using DHCP \*' (unselected) and 'Use the following IP address:' (selected). Below these are three input fields: '\* IP Address:' with the value '192.168.1.1', '\* Subnet Mask:' with the value '255.255.255.0', and 'Default Gateway:' with the value '0.0.0.0'. There is a checked checkbox for 'Enable AutoIP address assignment'. A note states: '\* Changes to DHCP, IP address, and Subnet Mask may affect your [browser](#) connection.' Below the settings is an 'Apply' button. At the bottom of the main content area, there is a list of expandable menu items: DHCP Server Settings, Network Services Settings, Dynamic DNS Update Settings, IP Filtering Settings, IP Forwarding Settings, IP Network Failover Settings, Socket Tunnel Settings, Virtual Private Network (VPN) Settings, IP Pass-through Settings, Host List Settings, Virtual Router Redundancy Protocol (VRRP) Settings, and Advanced Network Settings.

2. Click the **DHCP Server Settings** link to open the DHCP Server Settings page.
3. To disable the DHCP Server, uncheck the **Enable Dynamic Host Configuration Protocol (DHCP) Server** entry.
4. Click **Apply** when finished.
5. Return to the Ethernet IP Settings page by clicking the Ethernet IP Settings link.

6. Configure the ConnectPort X4 with either a static IP address, or have it get its IP address from a DHCP Server, whichever method is appropriate.
7. Click **Apply** when finished.

The ConnectPort X4 is now ready to be moved to your Ethernet network, and by default will use its cellular interface as its primary network interface.

8. Disconnect the ConnectPort X4 from your PC and then connect it to the Ethernet network (if the PC needs to be reconfigured with a static IP address, do this prior to moving the PC to the Ethernet network).

## Viewing ConnectPort X4 IP address information

The ConnectPort X4 Home page displays the IP address for the Ethernet and WiFi networks.

## Viewing ConnectPort X4 Ethernet statistics

Click **Administration > System Information > Network** to view information about the Ethernet Link and Ethernet and IP statistics.

You have completed basic configuration of your ConnectPort X4.

## Regulatory information

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Digi complies with all U.S. federal regulations for digital devices as well as the international regulations described below.

### For U.S. Government use:

Computer software is furnished with Restricted Rights in accordance with FAR 52.227-14. Technical Data is furnished with Limited Rights in accordance with DFAR 252.227-7013 (b) (3) of the clause entitled RIGHTS IN TECHNICAL DATA – NONCOMMERCIAL ITEMS.”

### For non-U.S. Government use:

These programs are supplied under a license. They may be used, disclosed, and/or copied only as supplied under such license agreement. Any copy must contain the above copyright notice and restricted rights notice. Use, copying, and/or disclosure of the programs is strictly prohibited unless otherwise provided for in the license agreement.

### Federal Communication (FCC) regulatory information (USA only)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet that is on a circuit different from the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

#### Labeling Requirements (FCC 15.19)

This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

If the FCC ID is not visible when installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module FCC ID.

#### Modifications (FCC 15.21)

Changes or modifications to this equipment not expressly approved by Digi may void the user's authority to operate this equipment.

## Declaration of Conformity (DoC)

Digi has issued Declarations of Conformity for the ConnectPort X4 concerning emissions, EMC, and safety. For more information, see [www.digi.com/resources/certifications](http://www.digi.com/resources/certifications).

### Important note

Digi customers assume full responsibility for learning and meeting the required guidelines for each country in their distribution market. Refer to the radio regulatory agency in the desired countries of operation for more information.

## CE mark (Europe)

The ConnectPort X4 is certified for use in several European countries. For information, visit [www.digi.com/resources/certifications](http://www.digi.com/resources/certifications).

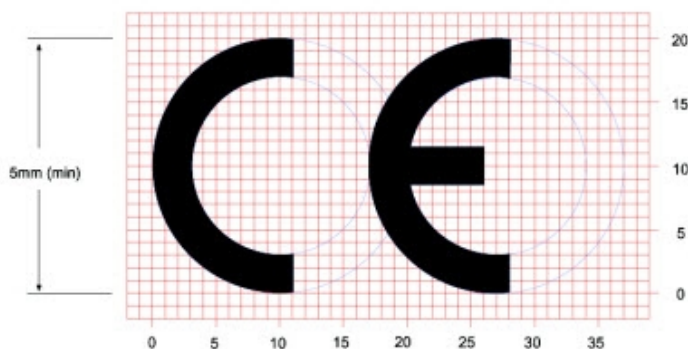
If the ConnectPort X4 is incorporated into a product, the manufacturer must ensure compliance of the final product with articles 3.1a and 3.1b of the RE Directive (Radio Equipment Directive). A Declaration of Conformity must be issued for each of these standards and kept on file as described in the RE Directive (Radio Equipment Directive).

Furthermore, the manufacturer must maintain a copy of the ConnectPort X4 user manual documentation and ensure the final product does not exceed the specified power ratings, antenna specifications, and/or installation requirements as specified in the user manual. If any of these specifications are exceeded in the final product, a submission must be made to a notified body for compliance testing to all required standards.

### OEM labeling requirements

The CE marking must be affixed to a visible location on the OEM product.

### CE labeling requirements



The CE mark shall consist of the initials "CE" taking the following form:

- If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
- The CE marking must have a height of at least 5mm except where this is not possible on account of the nature of the apparatus.
- The CE marking must be affixed visibly, legibly, and indelibly.

## Industry Canada

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class B prescrites dans le Règlement sur le brouillage radioélectrique édicte par le ministère des Communications du Canada.

## Maximum power and frequency specifications

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Maximum power	Associated frequencies
11.16 mW	5 MHz channel spacing, beginning at 2405 MHz and ending at 2480 MHz
2 W	Cellular 850 and 900 MHz Bands
1 W	Cellular 1800 and 1900M HZ Bands