MXview One 1.4.1 User Manual

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www.moxa.com/products

MXview One 1.4.1 User Manual

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1. Introduction

The Moxa MXview One network management software consists of three parts: The Main Module, Power Add-on Module, and the Wireless Add-on Module. The Moxa MXview One network management software gives you a convenient graphical representation of your Ethernet network, and allows you to configure, monitor, and diagnose Moxa networking devices. MXview One provides an integrated management platform that can manage Moxa networking devices, such as Ethernet switches, wireless APs, SNMP-enabled, and ICMP-enabled devices installed on subnets. The MXview Power Add-on Module provides additional advanced functions for power substation applications and the MXview One Wireless Add-on Module provides additional advanced functions for wireless applications to monitor and troubleshoot your network, and help you minimize downtime.

Key Features

Web-based Operation

You will need to install the MXview One on a Windows computer connected to the network(s) that are to be managed. After installing MXview One, the network can be managed using Chrome, Firefox, or Microsoft Edge (version 79+), without installing additional software.

Auto Discovery and Topology Visualization

Within the Device Discovery, MXview One locates networking devices with SNMP or ICMP services enabled. MXview One can collect topology information from devices with LLDP capability and draw the topology of the network, which shows wired and wireless connections. For ICMP devices without LLDP, MXview One can verify the connection relationship through ARP algorithms, and help you create an accurate drawing of the network topology. If any managed PoE switches are in your network, the PoE power output information will also be visualized automatically.

Event Management

For troubleshooting purposes, MXview One logs events that match predefined conditions, such as link up/down, device unreachable, or traffic overloading. The most recent events will be displayed to inform users of the networking status. Devices and links that generate events will be highlighted with different colors. When an event occurs, users can be notified by email.

Configuration and Firmware Management

MXview One provides an interface for managing Moxa networking devices from a central location. Users can remotely backup or update configuration files, and upgrade firmware via MXview One.

Traffic Monitoring

MXview One can log the network traffic of network devices that have been discovered.

System Requirements

The computer that MXview One is installed on must satisfy the following system requirements:

	System Requirements
CPU	Quad-core CPU or better
RAM	16 GB or higher
Hard Disk Space	SSD 1 TB or higher
OS	• Windows 10, Windows 11 (64-bit) Windows Server 2016, Window Server 2019, Windows Server 2022 (64- bit) • Linux - Ubuntu 18.04, Ubuntu 20.04, Ubuntu 22.04 For the latest supported OS versions, please visit the MXview One website: https://www.moxa.com/en/products/industrial-network-infrastructure/network-management-software/mxview-one-series#resources
Client Browser Requirements	Browser: Chrome: Version 76 or later Firefox: Version 69 or later Microsoft Edge: Version 79 or later

Supported Devices

MXview One supports a full range of functions, such as network status, traffic log, and configuration/firmware file management.

- For other SNMP-enabled devices, MXview One supports standard management functions, such as link up, link down, and SNMP MIBII information.
- MXview One can only monitor the connectivity of devices that support ICMP.

Please check the MXview One datasheet on moxa.com for a list of Moxa devices that are supported.

2. Installation and Uninstallation

Installation Procedure

For Windows

1. Execute the installation program.
2. During the installation, you can check the EULA (End-User License Agreement) and choose the directory in which MXview One will be installed and the default language, or leave the settings as the default values.
3. After the installation is complete, shortcuts for launching the MXview One server will be created on the desktop and in the start menu.

NOTE

If your computer already has MXview installed, please uninstall it and then start the MXview One program installation process.

For Ubuntu

For Ubuntu installation instructions, please refer to the **MXview One Linux Installation Guide**, which can be downloaded from the Moxa website.

There are two ways to install MXview One on Linux Ubuntu: offline and online installation. We recommend installing MXview One using the **offline method first** to avoid any compatibility issues.

If you are unable to activate MXview One using the online installation method, install the software using the offline method.

Uninstallation

For Windows

1. Locate the **Control Panel** in Windows.
2. Under **Programs**, click **Uninstall a program.**
   The **Uninstall or change a program** screen appears.
3. Select **MXview One**
4. Click **Uninstall** or **Uninstall/Change** at the top of the program list.

For Ubuntu

Execute the command line:

#sudo apt remove mxview

MXview One Control Panel

Server Control

For Ubuntu users:

Execute the following command to activate MXview One Control Panel:
#sudo /usr/mxview/mxview-control-panel/MXControlPanel

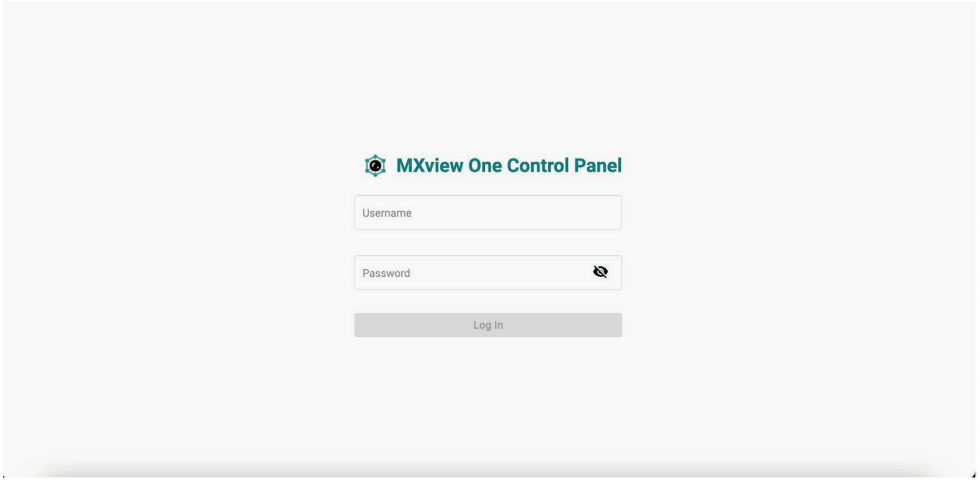
Open a web browser and navigate to https://[host IP address]:7100. The host IP address is the IP of the computer running MXview One. The default IP address is: 127.0.0.1

To stop MXview One in Linux, press CTRL + C.

For Windows users:

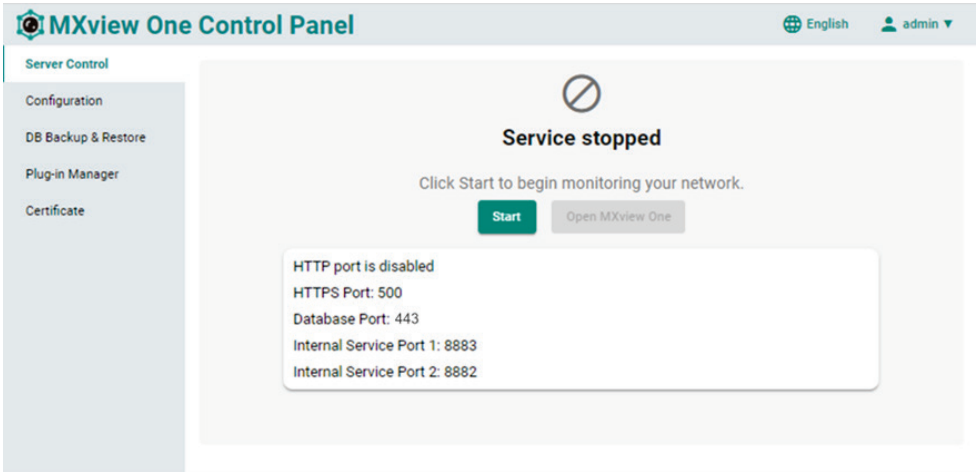
Start the MXview One server on the computer before launching the MXview One web console. On the server computer, double-click the MXview One desktop shortcut in the Windows operating system.

The MXview One Control Panel log in screen appears first and after logging in will direct to the Control Panel.

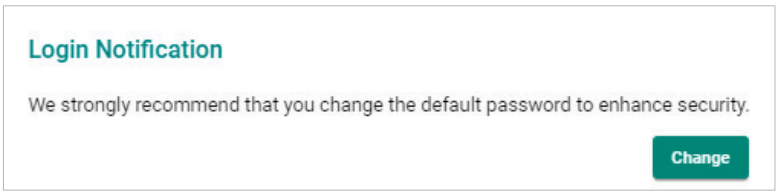


Provide the following login credentials

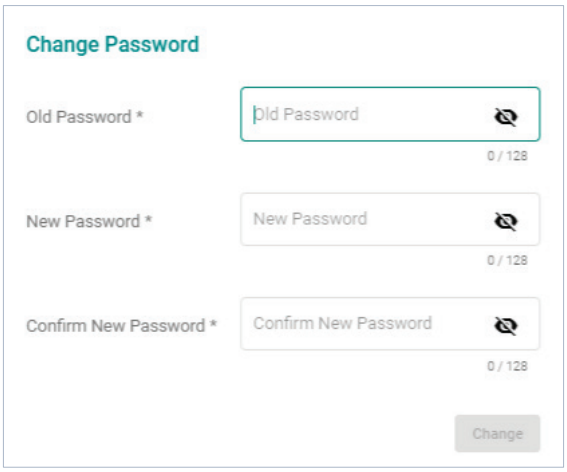
- **Username:** The default username is **admin**.
- **Password:** The default password is **moxa**.



After logging in with the default credentials, the system will display a message asking you to change the default password to enhance security.

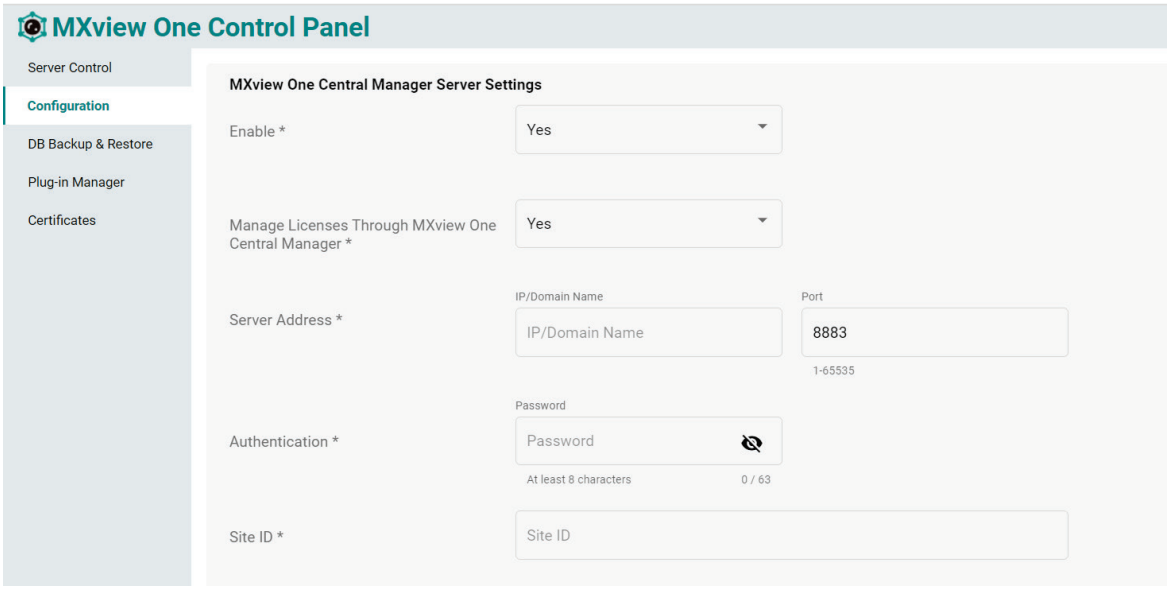


After clicking the **Change** button, the **Change Password** window will appear.



Configuration

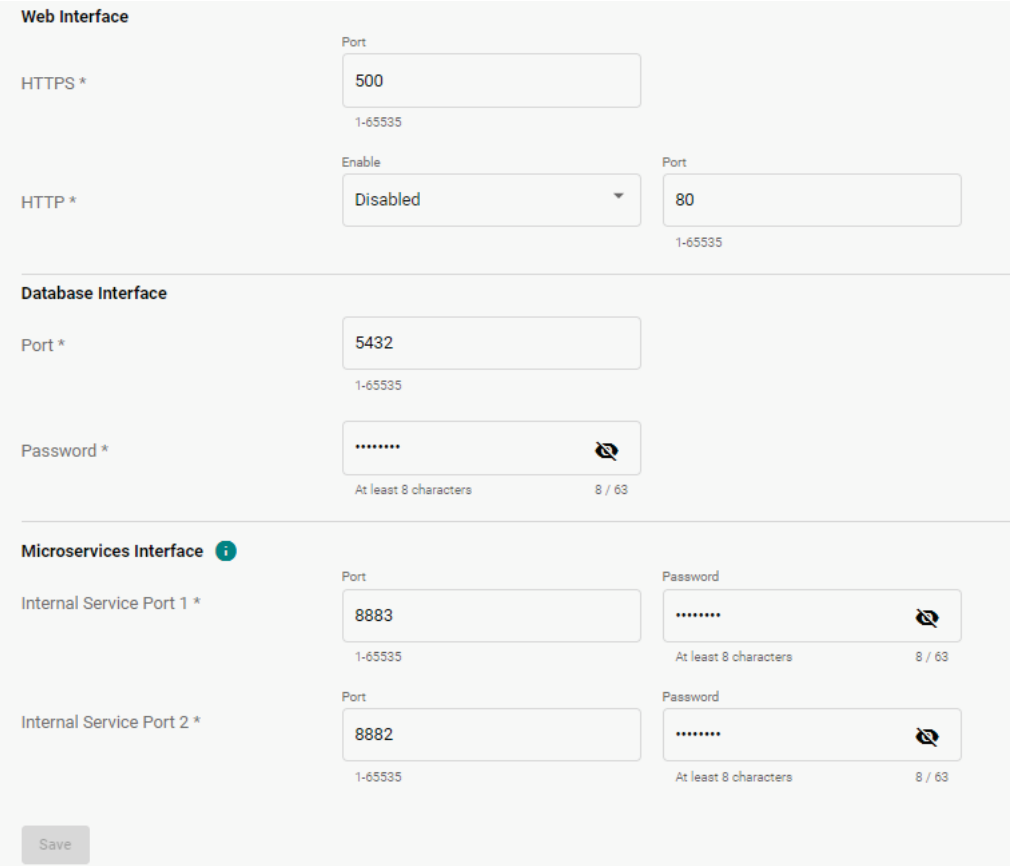
Configure the following port numbers in the **Configuration** Page:



MXview One Central Manager Server Settings

- **Enable**
  - **Yes:** This MXview One site will be managed through MXview One Central Manager. This requires the below MXview One Central Manager settings to be configured.
  - **No:** The MXview One site operates independently and cannot be managed through MXview One Central Manager.
- **Manage Licenses through MXview One Central Manager**
  - **Yes:** All the licenses of this MXview One site will be managed through MXview One Central Manager.
  - **No:** The licenses for this site are managed locally at the MXview One site.
- **Server Address**
  - **IP/Domain Name:** The IP address of MXview One Central Manager.
  - **Port:** The service port used to connect to MXview One Central Manager. The default port number is 8883.
- **Authentication**
  - **Password:** The password used to connect to MXview One Central Manager.
- **Site ID**
  - **Site ID:** This value represents the site ID as shown on the Site Management page in MXview One Central Manager.

Interface Settings

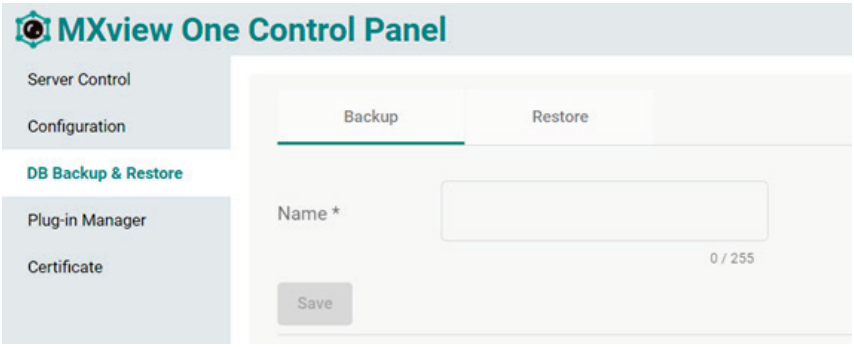


- **Web Interface**
  - **HTTPS:** Specify the HTTPS port of the MXview One Central Manager server. The default port is 443.
  - **HTTP:** Enable or disable HTTP. If enabled, specify the listening port of the server. The default port is 80.
- **Database Interface**
  - **Port:** Specify the service port of the MXview One Central Manager database server. The default port is 5432.
  - **Password:** The password used to connect to MXview One Central Manager. While the default password is randomized, we strongly recommend you to change the password to enhance security.
- **Microservices Interface**
  - **Internal Service Port 1/2:**
    i. **Port:** Specify the communication ports between MXview One and its internal system. The default ports are 8883 and 8882.
    ii. **Password:** The password used for the microservices interface. While the default password is randomized, we strongly recommend you to change the password to enhance security.

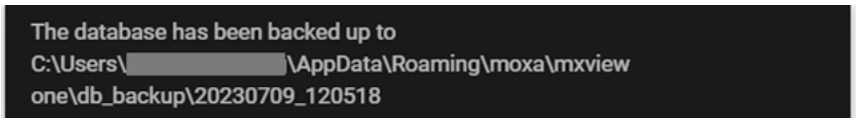
When finished, click **Save**.

DB Backup & Restore

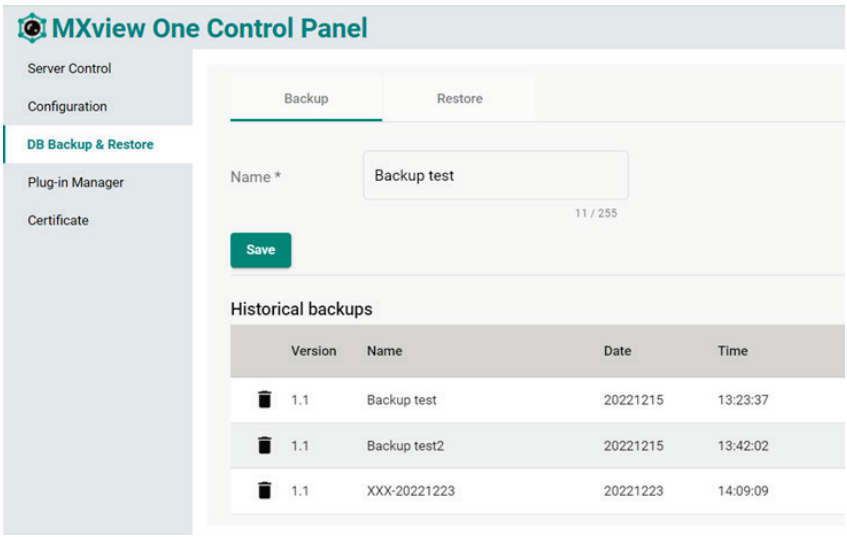
1. Navigate to **DB Backup & Restore** on the MXview One Control Panel.
   The Database Backup & Restore screen will appear and includes **Backup** and **Restore** functions.



2. Choose the **Backup** tab to start the process of backing up the database.
3. In the **Name** field, specify the backup file name.
4. Click **Save**.
5. The message that the file of the backup database has been stored in the specified directory will be displayed.



6. When the database has been backed up successfully it will appear in the **Historical backups** list.

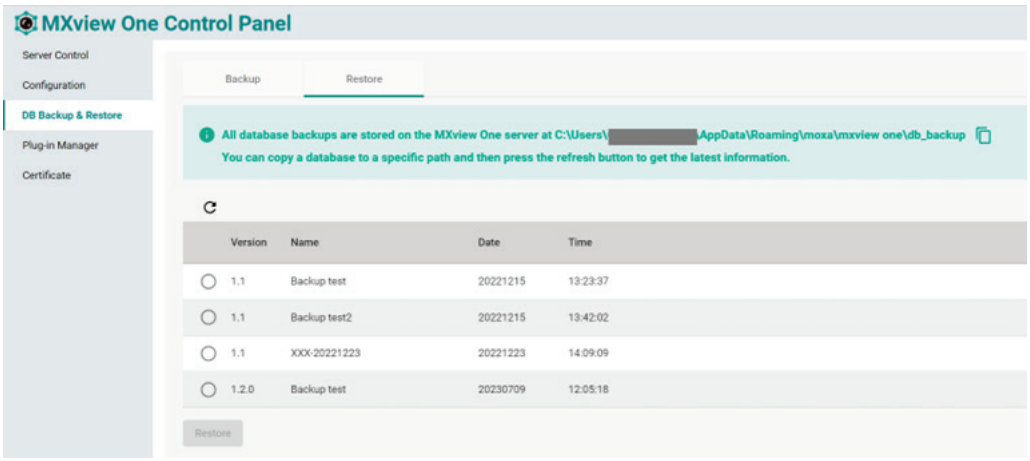


The system backup file includes the following items:

- Topology
- Traffic
- Availability
- Event
- Threshold settings
- Maintenance scheduler settings
- OID items
- Trap items
- System settings
- System Restore

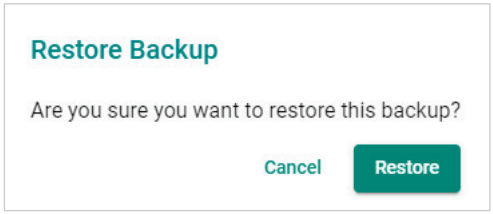
The MXview One system will restore the system configurations from a backup file.

1. Click the **Restore** Tab.

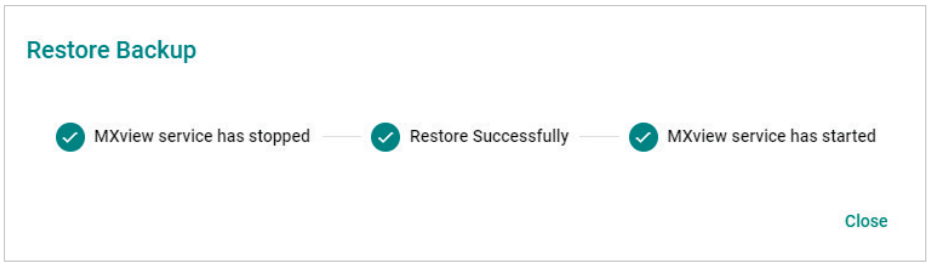


2. Choose the backups you want to restore in the table. You can also copy a database to a specific path and then press the refresh button to get the latest result.
3. Click **Restore**.

   A confirmation screen will appear.



4. Displaying the restoration process.



5. Click **Close**.

Plug-in Manager

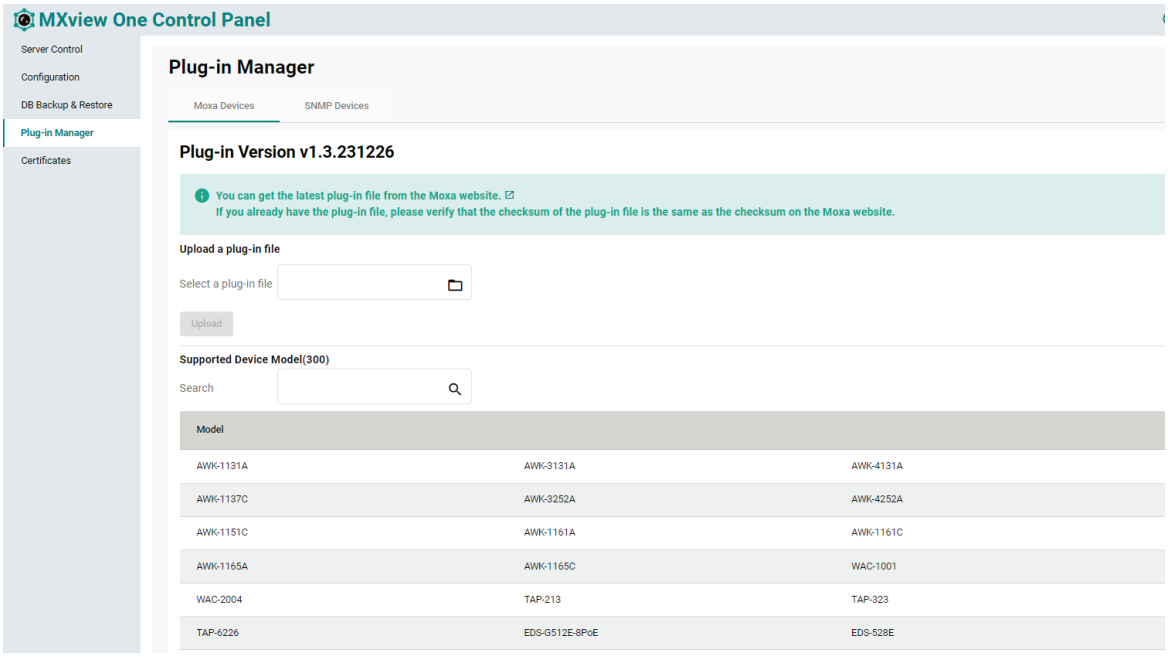
Navigate to **Plug-in Manager** on the **Control Panel**. The Plug-in Manager is a tool that can be used to manage the plug-in files. The **Plug-in Manager** screen features two tabs: **Moxa Devices** and **SNMP Devices**.

Moxa Devices

When you discover a new Moxa product that has not been integrated in to the latest MXview One version, you may not be able to retrieve the product information from MXview One. To solve this, you can download the plug-in file from Moxa's website, and then upload the file in the Plug-in Manager. After uploading the plug-in files, these new models can be supported by MXview One.

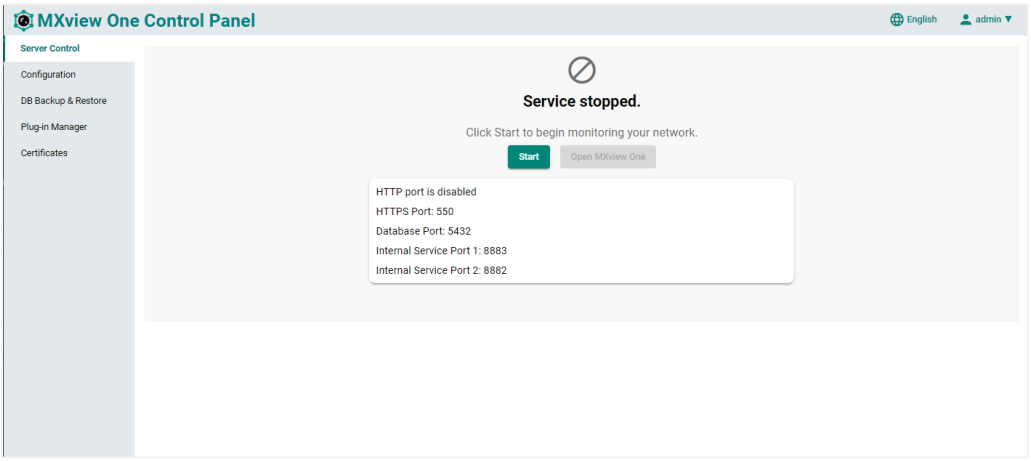
The **Plug-in Manager** screen includes the following information:

- Plug-in file version
- Upload a Plug-in file
- Supported device model



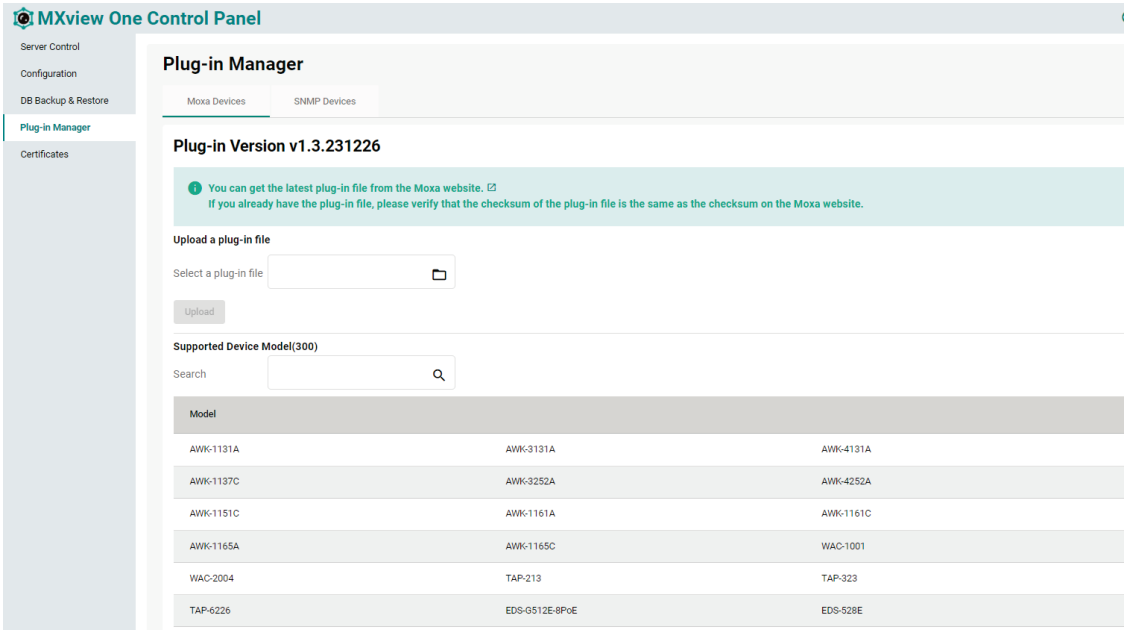
Steps to **Upload a Plug-in File**:

1. Stop MXview One.

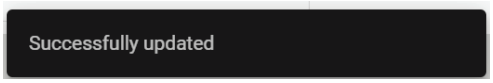


2. Download the latest plug-in file from the Moxa website. https://www.moxa.com/en/products/industrial-network-infrastructure/network-management-software/mxview-one-series#resources

3. Navigate to the **Plug-in Manager** on the **Control Panel**.



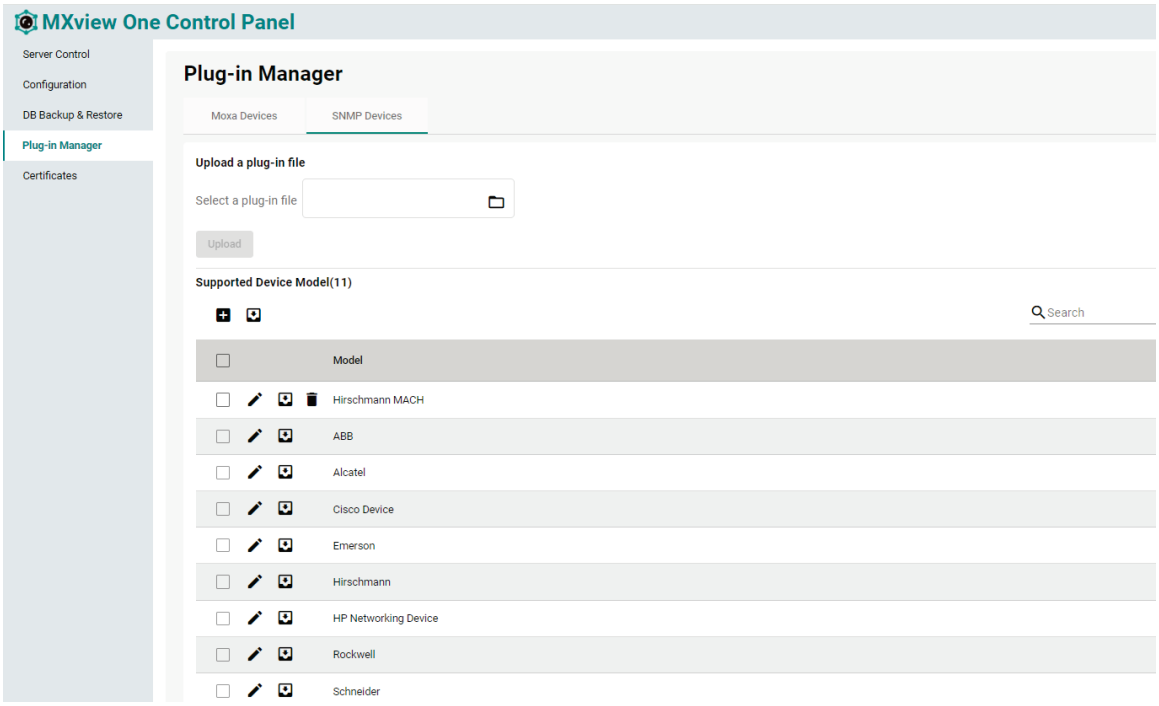
4. Click the folder ( ) icon in **Select a Plug-in File** to upload the file (.zip) from your local machine.
5. Click **Upload** and if successful, the message below will be displayed.
   MXview One will upload the plug-in file and display the supported devices.



SNMP Devices

By default, MXview One will show basic information for third-party SNMP devices by polling the RFC-1213 public MIB and does not require users to upload device plug-in files. MXview One can also monitor the status of these SNMP devices.

To show more detailed information for third-party SNMP devices in MXview One, users can create an SNMP device plug-in by uploading the device's private MIB files and defining the OID and OID syntax mapping.



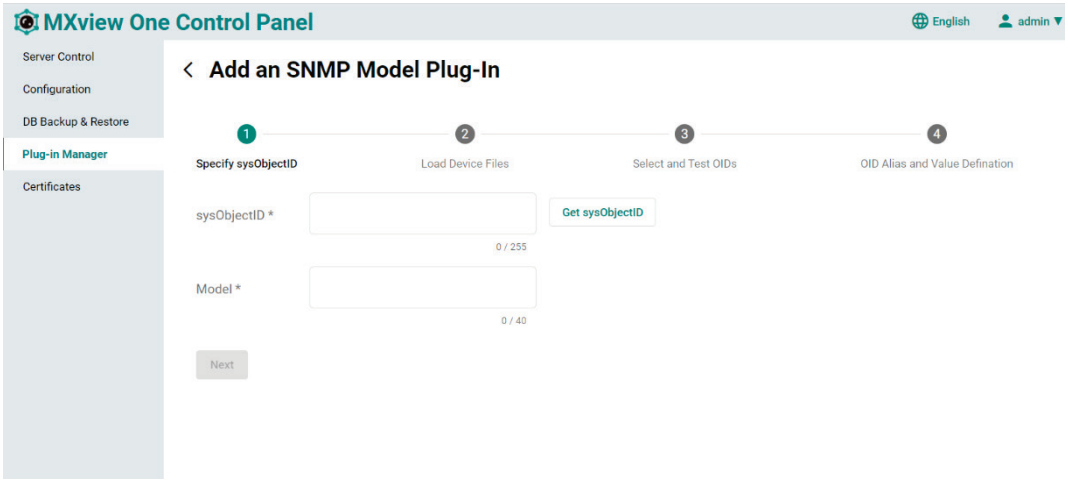
The tab SNMP Devices includes the following information:

- Upload a plug-in file: This function allows users to upload plug-in files for third-party SNMP devices.
- Supported Device Model: This is the third-party SNMP device plug-in list, including built-in and user-defined SNMP plug-in. You can edit, download but cannot delete the built-in plug-in. If your third-party device is not in the list, you can create a new SNMP plug-in, and please refer to the Create a Plug-in

Creating a Plug-in

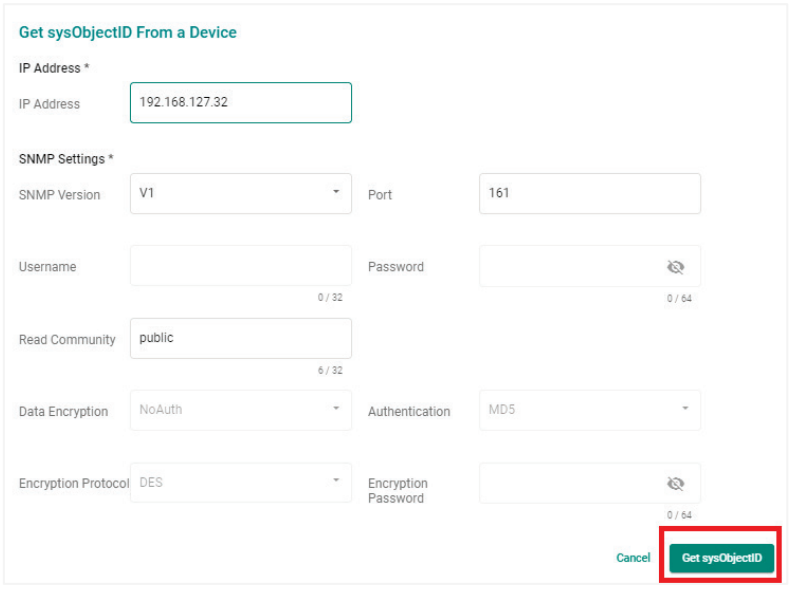
Steps to **Create an SNMP Plug-in**:

1. Navigate to **Control Panel > Plug-in Manager > SNMP Devices**.
2. Click the **Add** ( ) icon.
   The **Add an SNMP Model Plug-in** screen will appear.

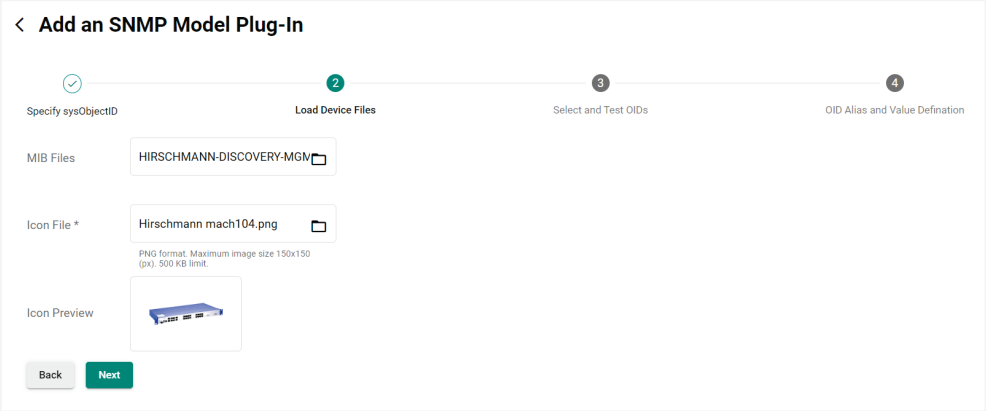


There are four steps to creating a third-party SNMP device plug-in file:

3. Specify sysObjectID.
   a. **sysObjectID**: You can manually type in the sysObjectID or click the **Get sysObjectID** button to let MXview One retrieve the sysObjectID. When clicking the **Get sysObjectID** button, the **Get sysObjectID From a Device** window will appear.

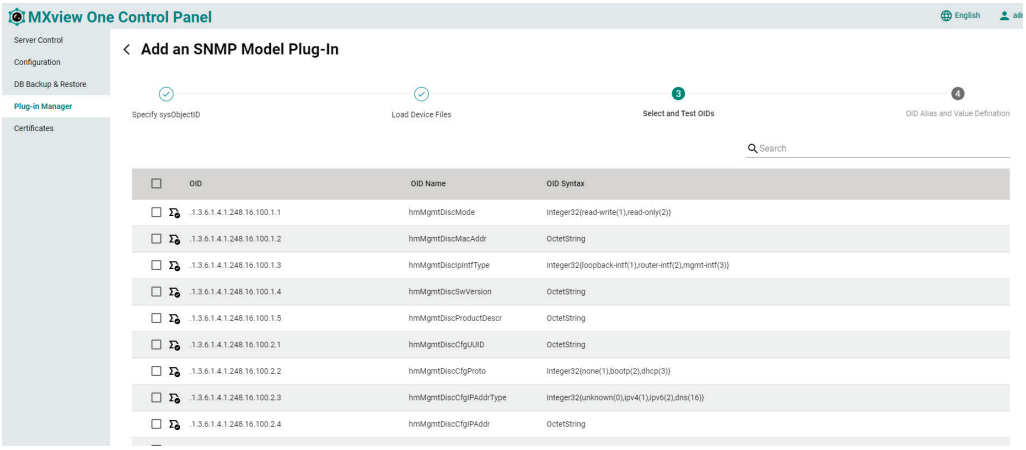


   After specifying all the necessary information, click **Get sysObjectOID**. If successful, a confirmation message will appear.
   Model: Specify the model name. The model name only supports A-Z a-z 0-9 _ - , (comma) ( ) and space.
   b. When finished, click **Next**.
4. Load Device Files.
   a. **MIB Files**: Upload all the necessary MIB files. You can upload multiple MIB files at once.
   b. **Icon File**: Upload the device icon in PNG format. The maximum resolution is 150 x 150 px. The maximum file size is 500 KB limit.
      - ❒ **Icon Preview**: The icon preview will show the uploaded image as it will appear in the topology.



c. When finished, click **Next**.

5. Select and Test OIDs.
After uploading the MIB files, the OIDs from the MIB files will be shown. You can test the OIDs to check the value before selecting them and moving on to the next step.

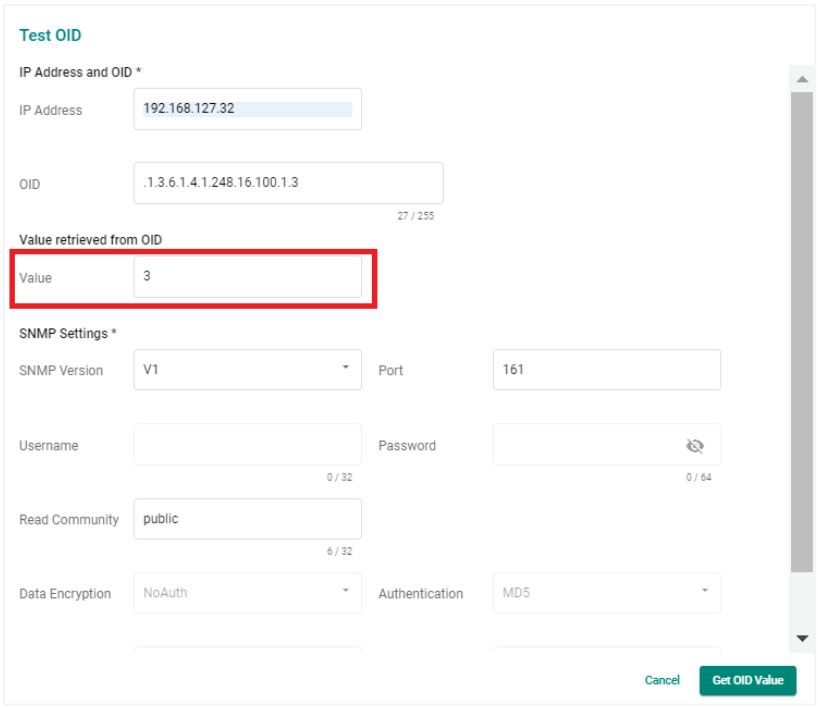


a. Test OIDs.

i. Click on the **Test OID** ( ) icon of the OID you want to test.
The **Test OID** window will appear.

ii. Specify the IP address and SNMP settings.

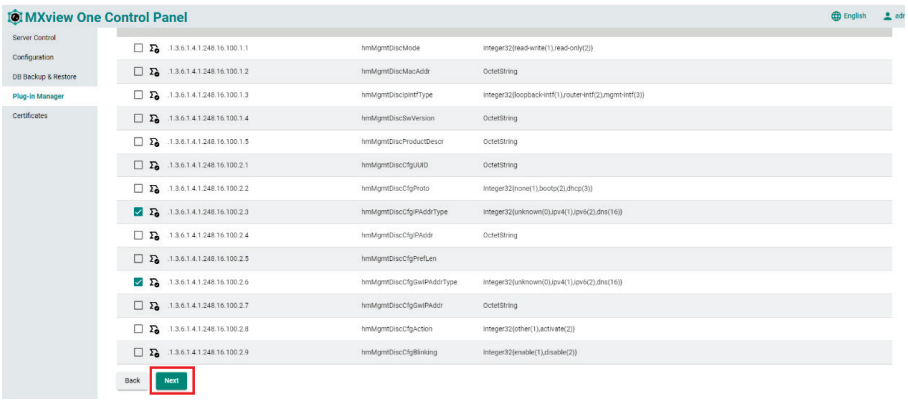
iii. Click the **Get OID Value** button. The retrieved value will show in the **Value retrieved from OID** field.



b. Select OIDs.

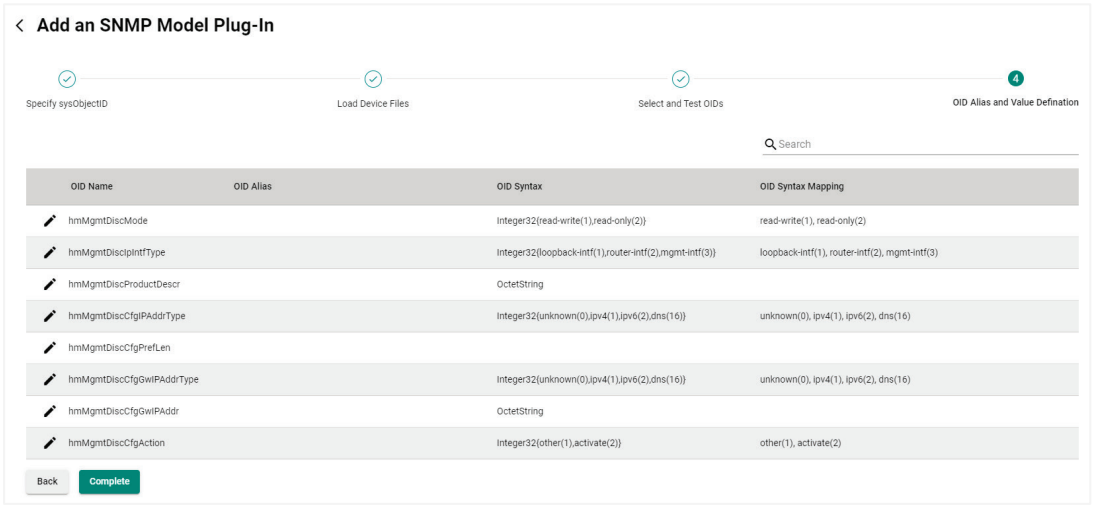
i. Select the OIDs you want to monitor in MXview One.

ii. When finished, click **Next**.



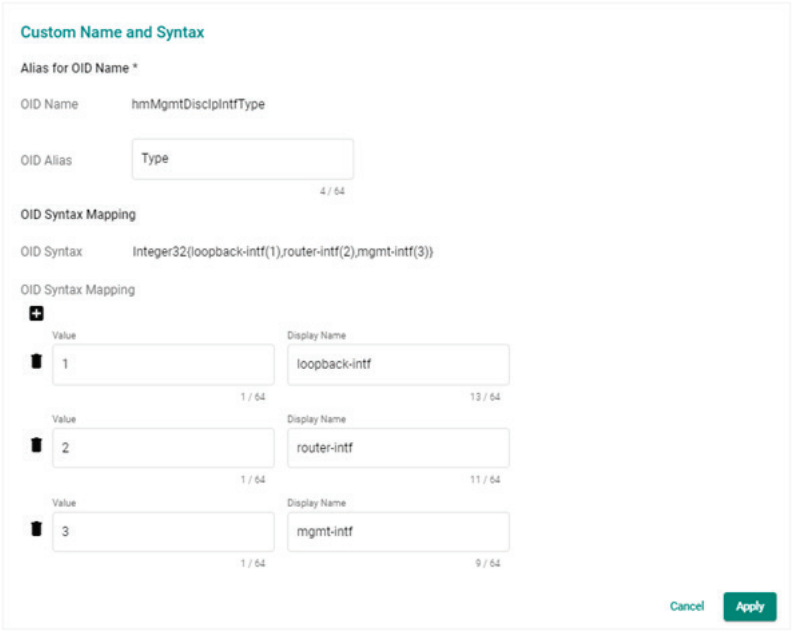
6. OID Alias and Value Definition

   An overview of all selected OIDs will be shown. The OID Alias, OID Syntax, and OID Syntax Mapping is listed for each entry.



   If necessary, you can manually edit the OID information.

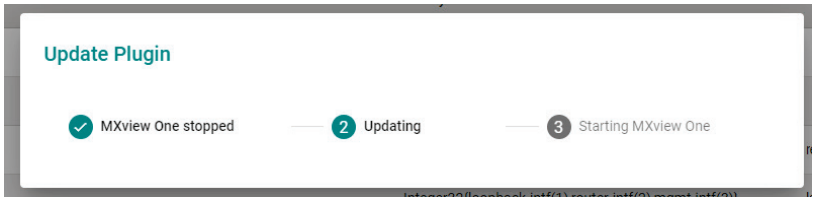
   a. Click the **Pencil** ( ) icon of the OID you want to edit.
      The **Custom Name and Syntax** window will appear.



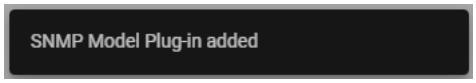
   b. Edit the OID Alias and OID Syntax Mapping information as required.

   c. When finished, click **Apply**.

7. When finished with all four steps, click **Complete**.
   The **Update Plug-in** window will appear.



8. If successful, a confirmation will appear indicating the plug-in was created.



The plug-in will now show in the **Supported Device Model** list.

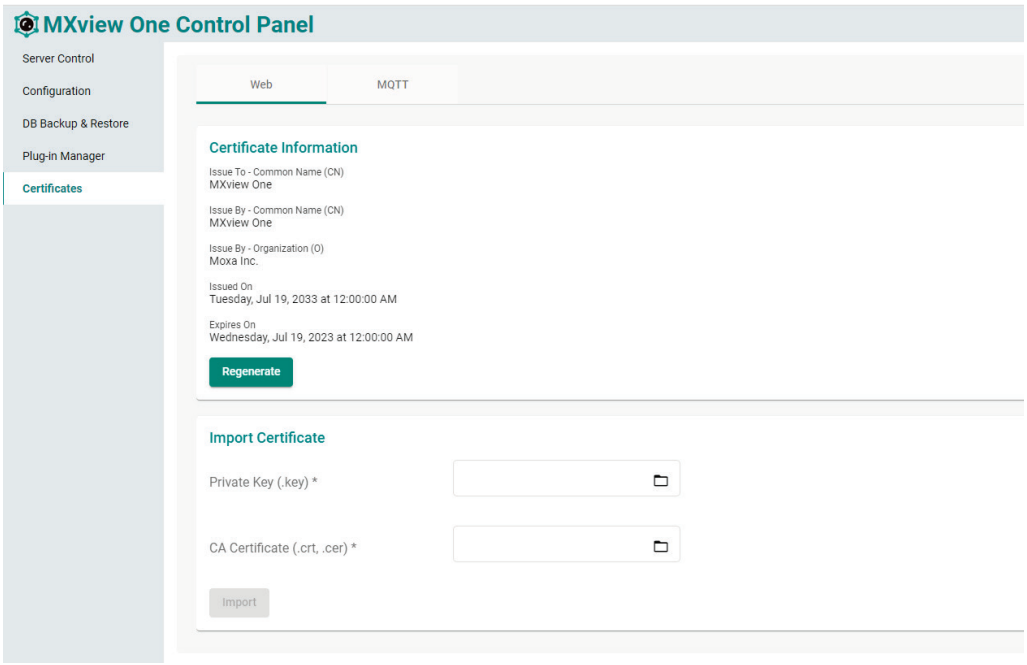
Certificates

From the **Certificate** page, you can view the certificates used by MXview One. By default, you can view information for **Web** certificates. If this MXview One instance is managed through MXview One Central Manager, an additional **MQTT** certificate tab will be available.

Web Certificates

On the **Web** tab, you can view the information for the current web certificates, including:

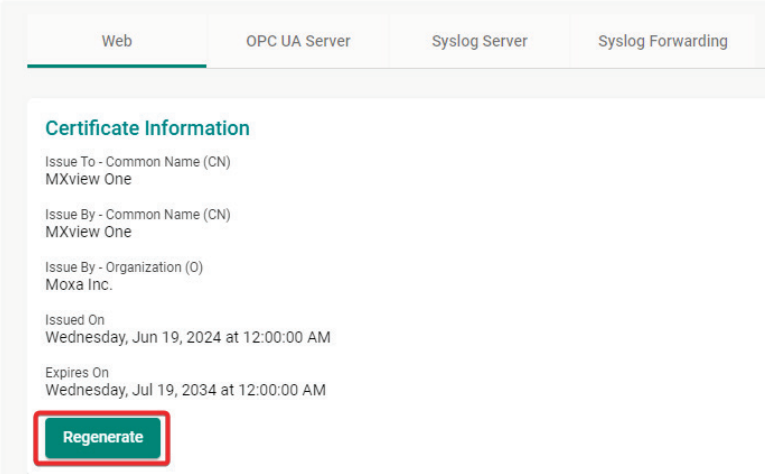
- Issue To – Common Name (CN)
- Issue By – Common Name (CN)
- Issue By – Organization (O)
- Issued On
- Expires On



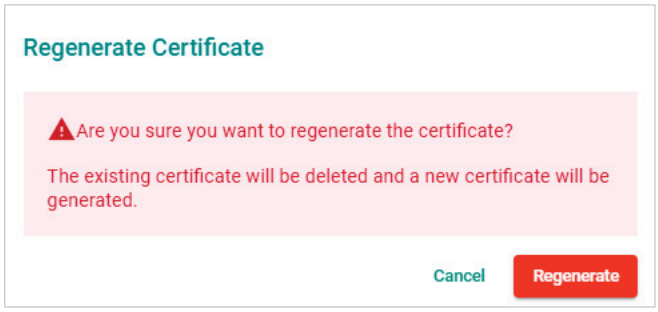
Regenerating the Web Certificate

1. Navigate to **Control Panel > Certificates.**
2. Go to the **Web** tab.
3. Click the **Regenerate** button.

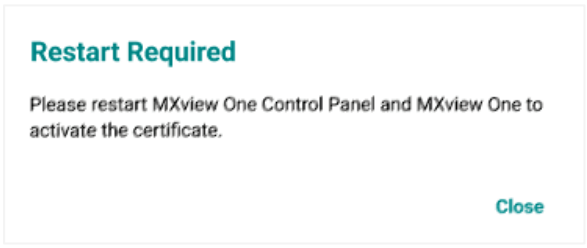
   The **Regenerate Certificate** window will appear.



4. Click **Regenerate** to regenerate the certificate.



5. After successfully regenerating the certificate, MXview One Central Manager Control Panel will need to be restarted for the certificate to take effect. Click Close and restart the instance.

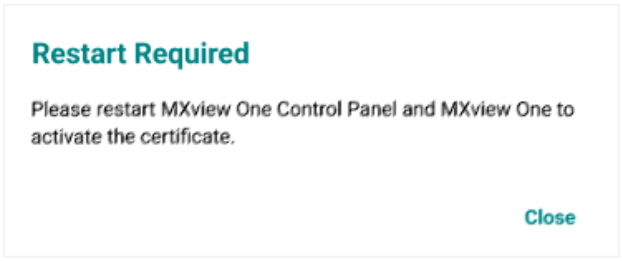


Importing a Web Certificate

You can manually important a certificate file and key file.

1. Navigate to **Control Panel > Certificates.**
2. Go to the **Web** tab.
3. In the **Import Certificate** section, click the folder icon for the Private Key and CA Certificate fields and navigate to the certificate (.crt, .cer) and key (.key) file on the local host.

4. Click **Import**.
5. After successfully importing the certificate, MXview One Control Panel will need to be restarted for the certificate to take effect. Click **Close** and restart the instance.



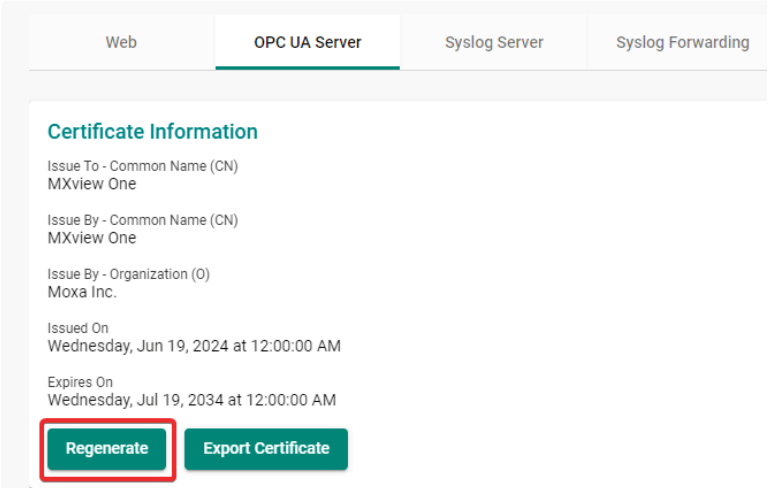
OPC UA Server Certificates

On the **OPC UA Server** tab, you can view the information for the current OPC UA certificates, including:

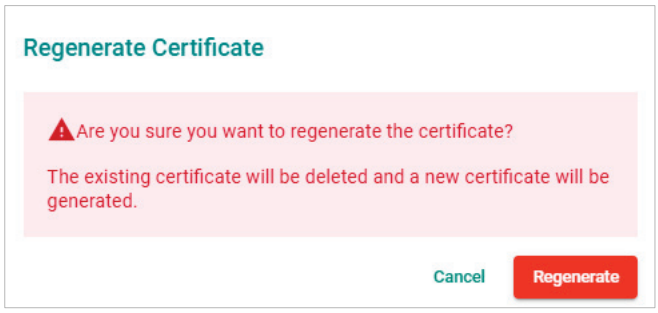
- Issue To – Common Name (CN)
- Issue By – Common Name (CN)
- Issue By – Organization (O)
- Issued On
- Expires On

Regenerating the OPC UA Server Certificate

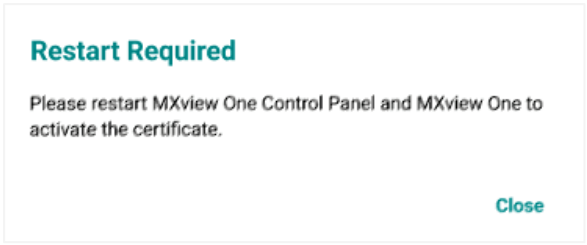
1. Navigate to **Control Panel > Certificates**.
2. Go to the **OPC UA Server** tab.
3. Click the **Regenerate** button.
   The **Regenerate Certificate** window will appear.



4. Click **Regenerate** to regenerate the certificate.

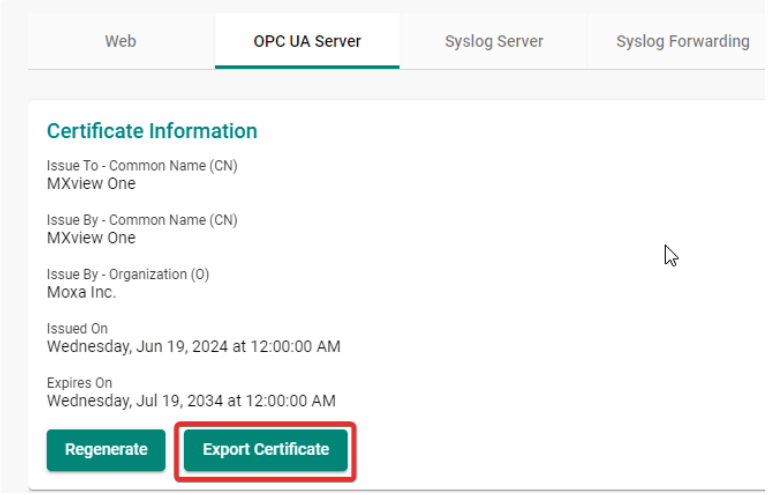


5. After successfully regenerating the certificate, MXview One Control Panel will need to be restarted for the certificate to take effect. Click **Close** and restart the instance.



Exporting the OPC UA Server Certificate

1. Navigate to **Control Panel > Certificates**.
2. Go to the **OPC UA Server** tab.
3. Click the **Export Certificate** button.
   MXview One will export the OPC UA certificate as a ZIP file.

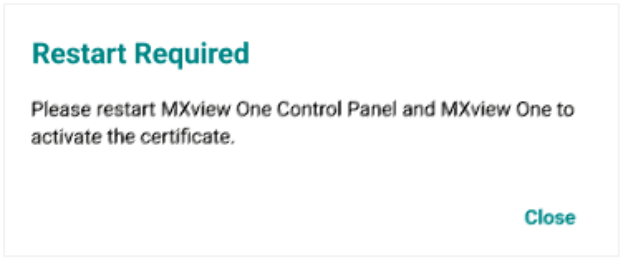


Importing an OPC UA Server Certificate

1. Navigate to **Control Panel > Certificates.**
2. Go to the **OPC UA Server** tab.
3. In the **Import Certificate** section, click the folder icon for the Private Key, Certificate, and CA Certificate fields and navigate to the CA certificate (.crt, .cer), certificate (.pem), and key (.key) file on

the local host.

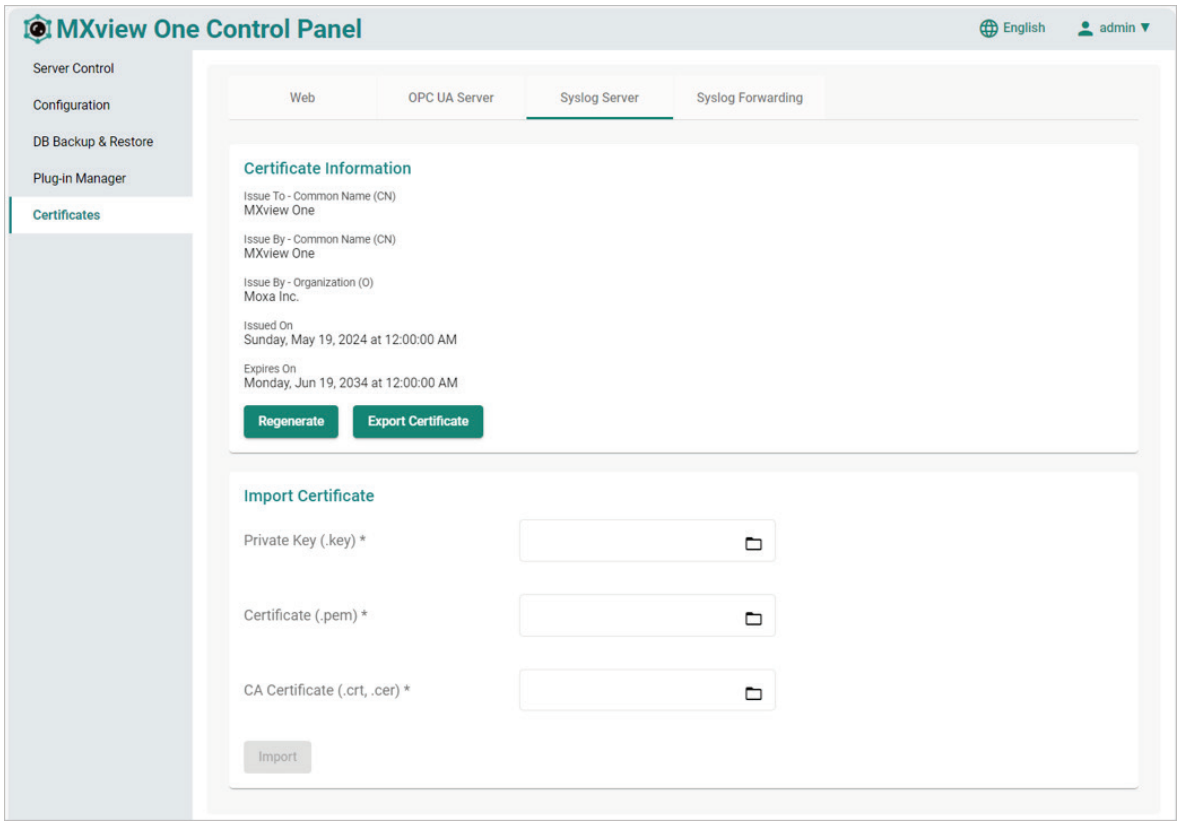
4. Click **Import**.
5. After successfully importing the certificate, MXview One Control Panel will need to be restarted for the certificate to take effect. Click **Close** and restart the instance.



Syslog Server Certificates

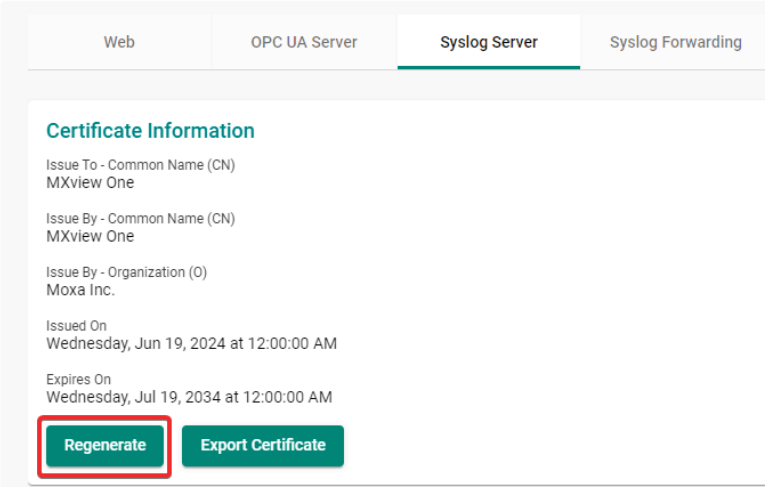
On the **Syslog Server** tab, you can view the information for the current syslog server certificates, including:

- Issue To – Common Name (CN)
- Issue By – Common Name (CN)
- Issue By – Organization (O)
- Issued On
- Expires On

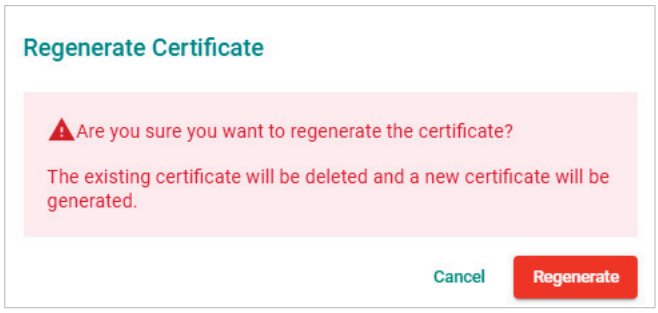


Regenerating the Syslog Server Certificate

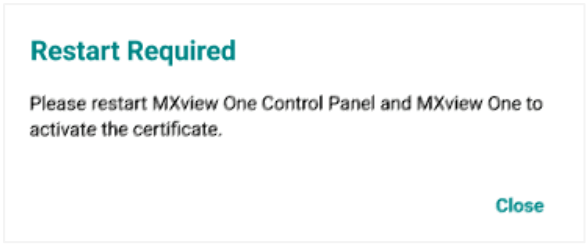
1. Navigate to **Control Panel > Certificates**.
2. Go to the **Syslog Server** tab.
3. Click the **Regenerate** button.
   The **Regenerate Certificate** window will appear.



4. Click **Regenerate** to regenerate the certificate.

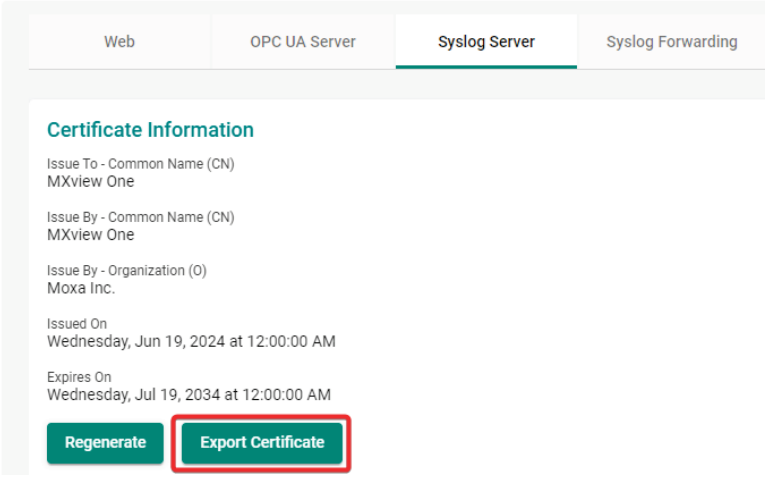


5. After successfully regenerating the certificate, MXview One Control Panel will need to be restarted for the certificate to take effect. Click **Close** and restart the instance.



Exporting the Syslog Server Certificate

1. Navigate to **Control Panel > Certificates**.
2. Go to the **Syslog Server** tab.
3. Click the **Export Certificate** button.
   MXview One will export the syslog server certificate as a ZIP file.

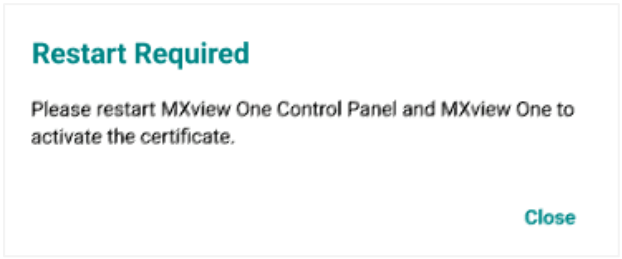


Importing a Syslog Server Certificate

1. Navigate to **Control Panel > Certificates.**
2. Go to the **Syslog Server** tab.
3. In the **Import Certificate** section, click the folder icon for the Private Key, Certificate, and CA Certificate fields and navigate to the CA certificate (.crt, .cer), certificate (.pem), and key (.key) file on

the local host.

4. Click **Import**.
5. After successfully importing the certificate, MXview One Control Panel will need to be restarted for the certificate to take effect. Click **Close** and restart the instance.



Syslog Forwarding Certificates

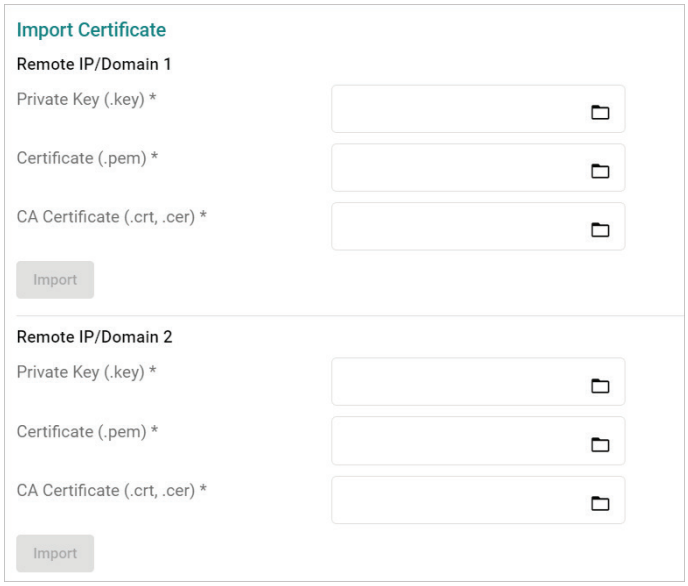
On the **Syslog Forwarding** tab, you can view the information for the current syslog forwarding certificates, including:

- Issue To – Common Name (CN)
- Issue By – Common Name (CN)
- Issue By – Organization (O)
- Issued On
- Expires On

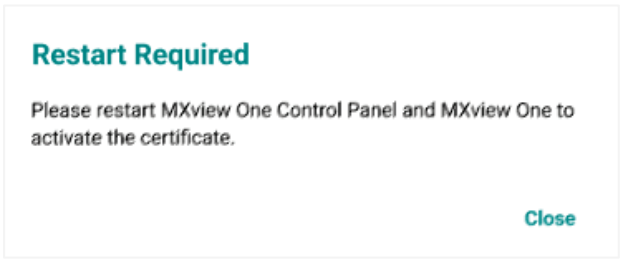
Importing a Syslog Forwarding Certificate

1. Navigate to **Control Panel > Certificates.**
2. Go to the **Syslog Forwarding** tab.
3. In the **Import Certificate** section, click the folder icon for the Private Key, Certificate, and CA Certificate fields and navigate to the CA certificate (.crt, .cer), certificate (.pem), and key (.key) file on

the local host. Repeat these instructions for both the 1st and 2nd syslog forwarding server.



4. Click **Import**.
5. After successfully importing the certificate, MXview One Control Panel will need to be restarted for the certificate to take effect. Click **Close** and restart the instance.

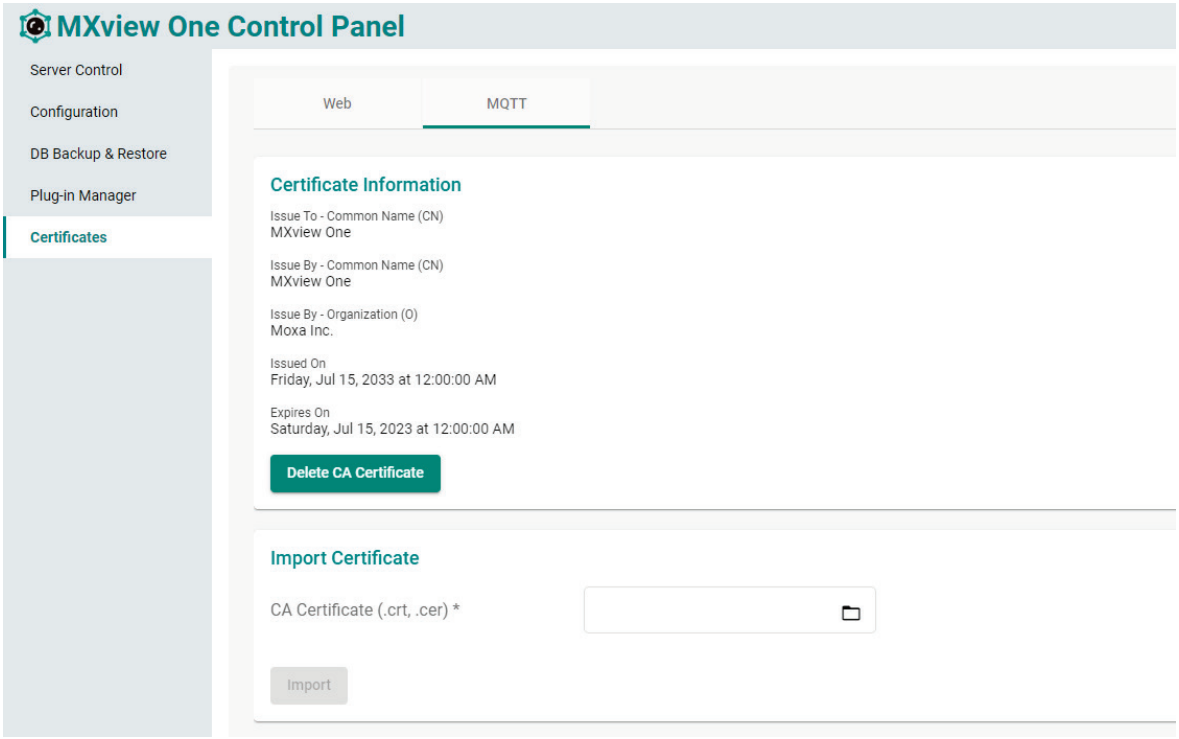


MQTT Certificates

> **NOTE**
>
> By default, no MQTT certificate will be available. To view MQTT certificate information, import the CA Certificate generated through MXview One Central Manager. Refer to Importing the MXview One Central Manager CA Certificate.

If this MXview One instance is managed through MXview One Central Manager, the MQTT tab will be available. On the **MQTT** tab, you can view the information for the current MQTT certificates, including:

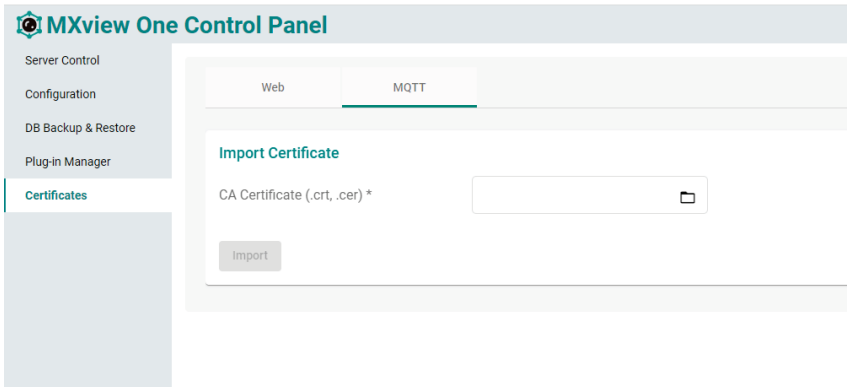
- Issue To – Common Name (CN)
- Issue By – Common Name (CN)
- Issue By – Organization (O)
- Issued On
- Expires On



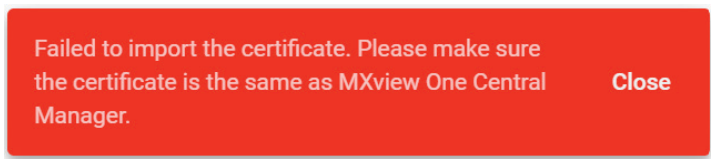
Importing the MXview One Central Manager CA Certificate

If this MXview One instance is managed through MXview One Central Manager, upload the CA certificate generated through MXview One Central Manager Control Panel here.

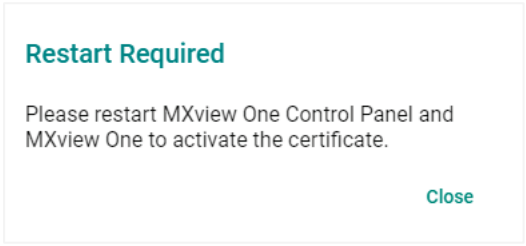
1. Click the folder icon for the CA Certificate field and navigate to the certificate file generated through MXview One Central Manager Control Panel on the local host.



If the uploaded certificate is not from Central Manager, an error message will appear.

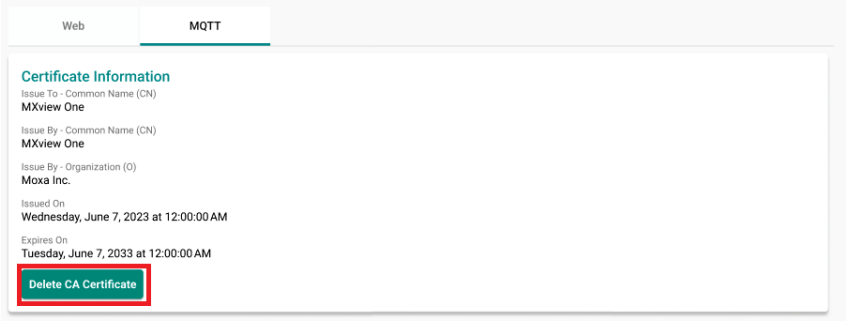


2. Click **Import**.
3. After successfully importing the certificate, MXview One Control Panel will need to be restarted for the certificate to take effect. Click **Close** and restart the instance.

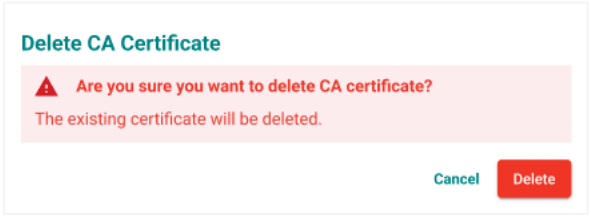


Deleting the CA Certificate

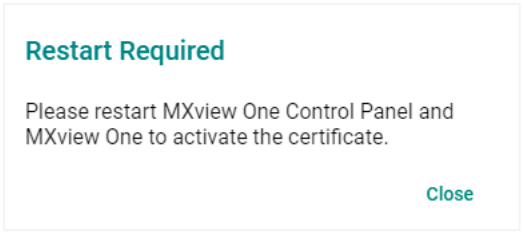
1. Click **Delete CA Certificate** to delete the current CA certificate file.
   The **Delete CA Certificate** window will appear.



2. When prompted, click **Delete**.

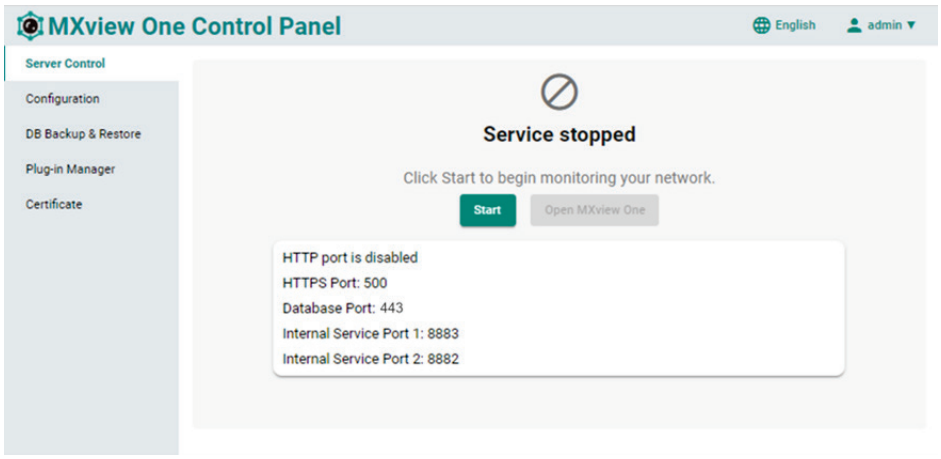


3. After successfully deleting the certificate, MXview One Control Panel will need to be restarted for the certificate to take effect. Click **Close** and restart the instance.

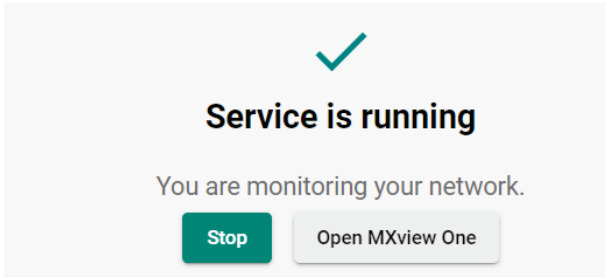


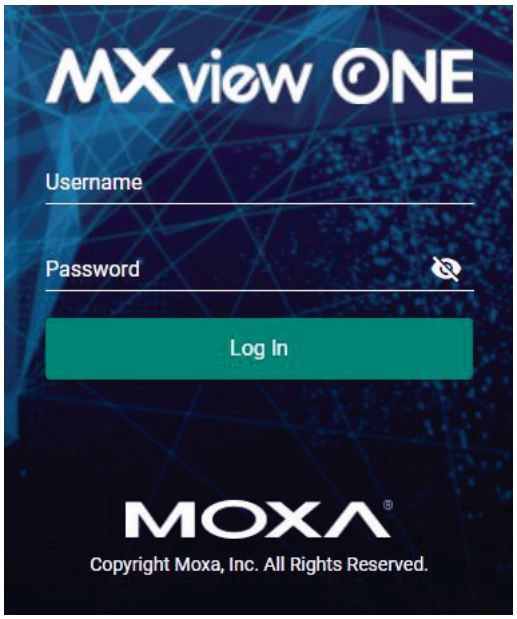
Starting the MXview One Server and Logging Into MXview One

1. On the **Server Control** page, click **Start**. The MXview One server will start running.



2. Wait for the status to display **Service is running**, then click **Open MXview One** and log in to MXview One:





Provide the following login credentials

- **Username:** The default username is **admin**.
- **Password:** The default password is **moxa**.

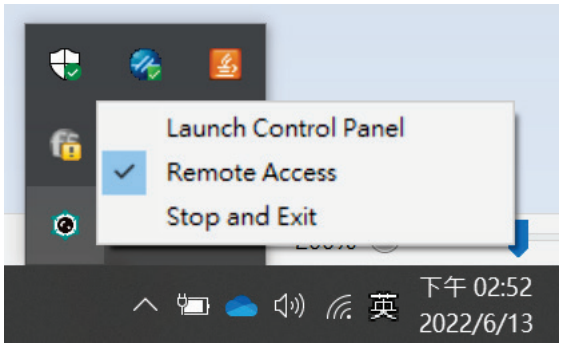
NOTE

Alternatively, you can log in to MXview One from a computer located remotely after starting the MXview One service. For more information, see **Logging Into MXview One Remotely**.

Logging Into MXview One Remotely

You can log in remotely to MXview One that is installed on your local site computer from another computer.

1. Launch the MXview One server at the local site computer. Go to the tool bar and click the MXview One icon. Select **Remote Access**.

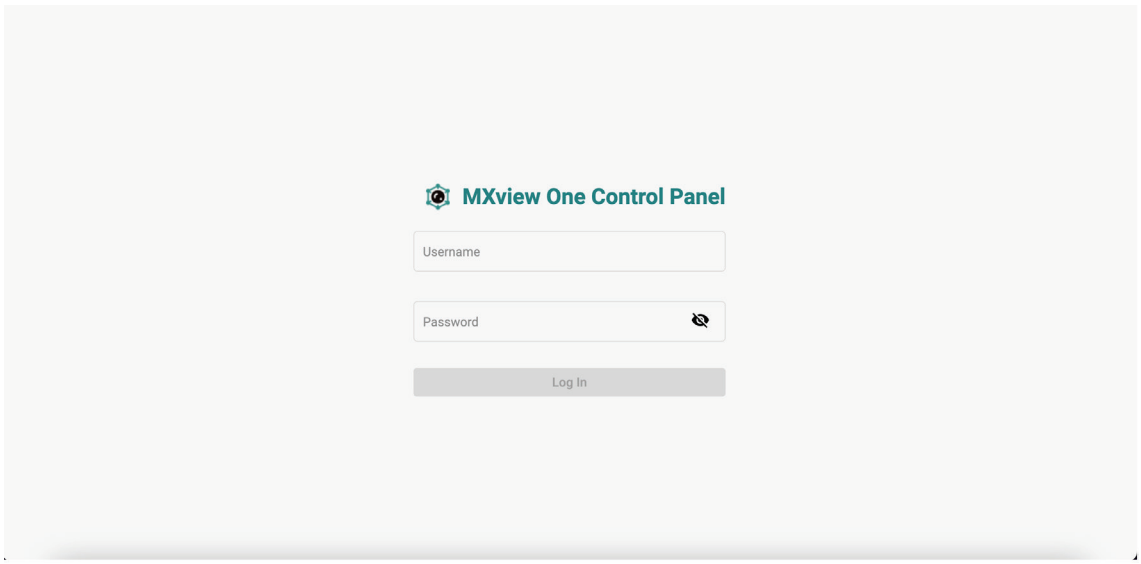


NOTE

If you want to close the remote function, just click Remote Access again, then the function will be closed.

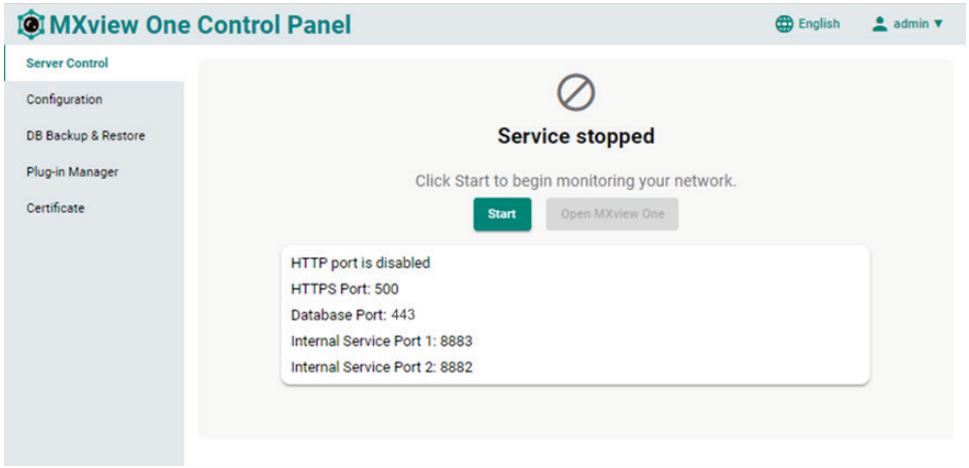
2. Open a web browser on the computer located at the remote site.
3. In the address bar, input the IP address or domain name of the computer that you want to log in to MXview One from.
   - Format: **https://[IP address]:[Port]**
   - Example: https://192.168.1.250:7100

   The MXview One Control Panel appears.



4. Provide the following login credentials
   - **Username:** The default username is **admin**.
   - **Password:** The default password is **moxa**.

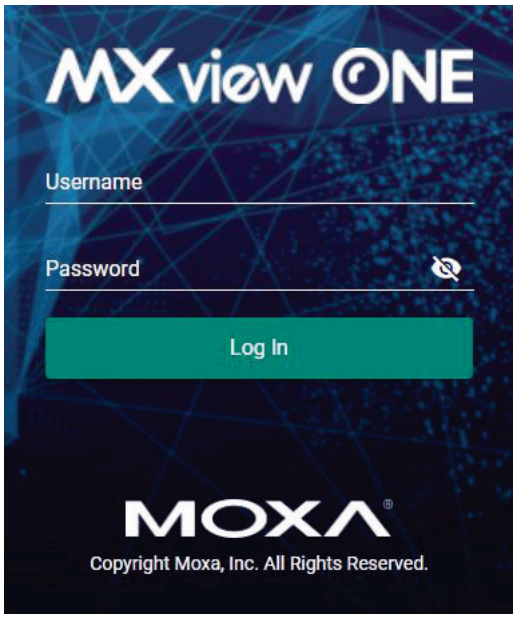
5. You can choose one of the actions listed below:
   - Click the Start button
   - Click the Stop button
   - Change the configurations on the Configuration page



6. To open the MXview One web console, you can type the IP address of the computer at the local site into another web browser once the MXview One Control Panel displays 'Service is running now'.
   - Format: **https://[IP address]**
   - Example: https://192.168.1.250

   The MXview One web console appears.

7. Provide the following login credentials
   - **Username:** The default username is **admin**.
   - **Password:** The default password is **moxa**.



NOTE

A maximum of 10 users can log in to MXview One web console at the same time.

License Management

You can monitor your devices inside the networking status via MXview One. Please note, in order to monitor the devices, you need to activate the Node-based license. For example, if you activate 123 nodes in MXview One, then during the device discovery MXview One will only recognize up to 123 nodes. MXview One will stop the device discovery process once it reaches the 123-node limit.

To increase the node limit, you can purchase additional licenses and import the license into MXview One.

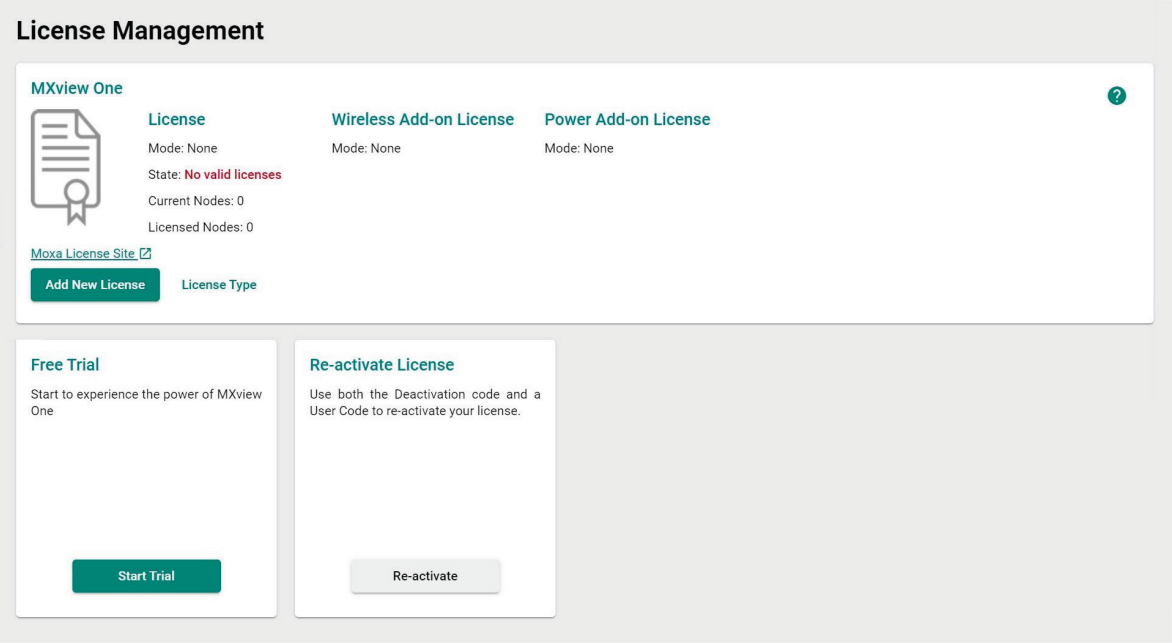
NOTE

Click "Start Trial" to start using MXview One.

Checking the License

The **License Management** screen displays information about your MXview One license, including the number of licensed nodes, nodes currently in use, and application license. You can also use the **License Management** screen to add a new license or deactivate an existing license.

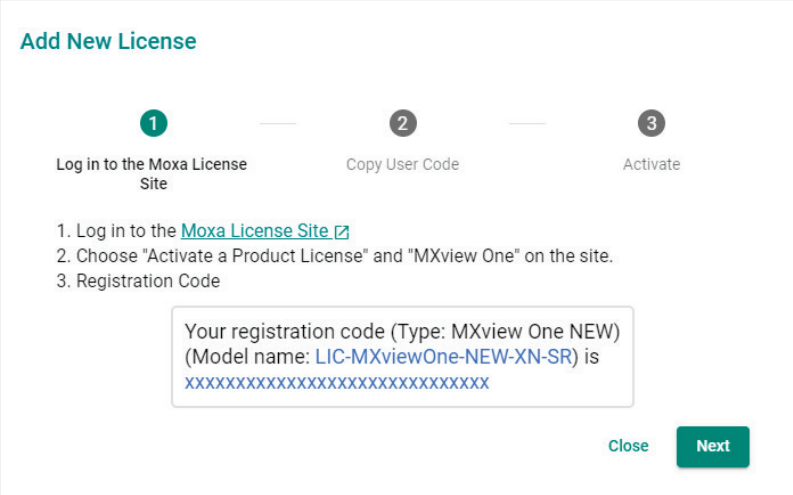
To access the **License Management** screen, navigate to **Menu** ( ) **> Administration > License Management.**



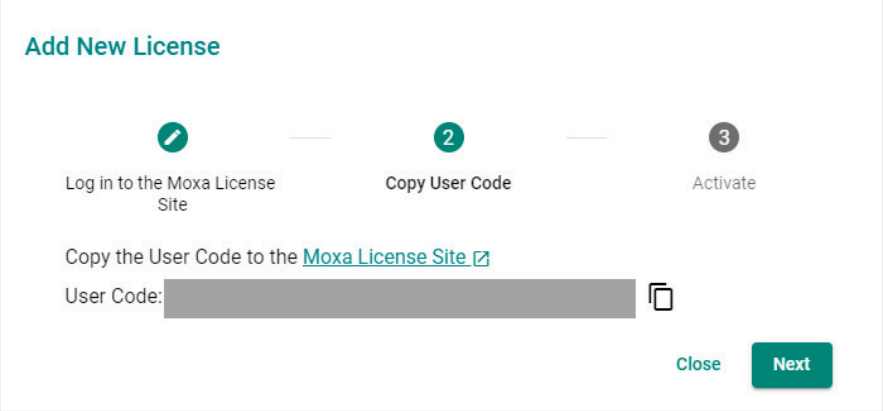
Adding a New License

To increase the node limit of your MXview One server, you need to add the node-based license.

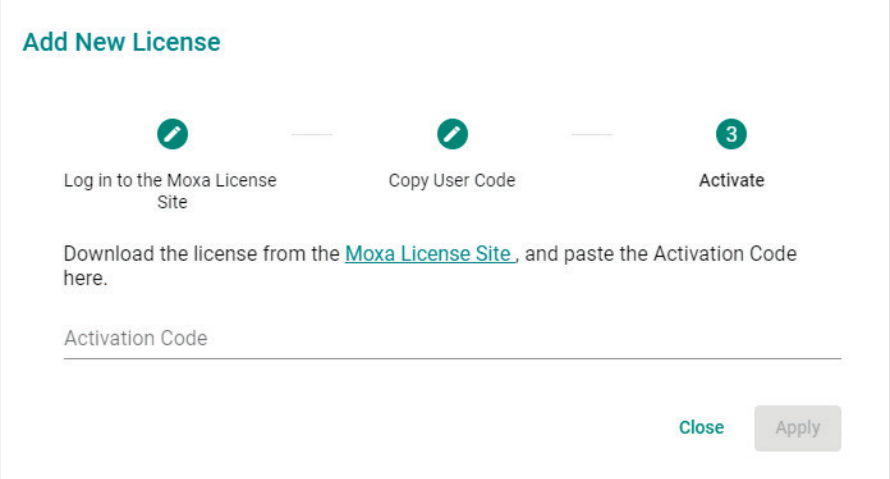
1. Navigate to **Menu** ( ) **> Administration > License Management**.
   The **License Management** screen appears.
   In the **Add New License** section, click **Add New License**.
2. Login to the Moxa License Site to activate the MXview One license. Click **Next** to get the User Code.



3. Copy the User Code.



4. Input a valid activation code.



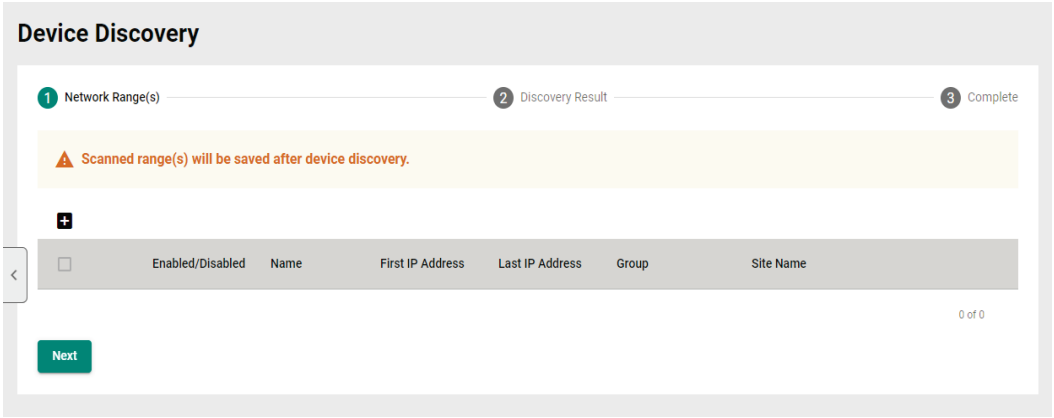
5. Click **Apply**.
   MXview One activates the new license.

> **NOTE**
>
> Please reference Chapter 4: **License Management** to get more details on how to get the activation code.

Using Device Discovery

MXview One provides Device Discovery to help users quickly determine the network topology and handle basic configuration tasks.

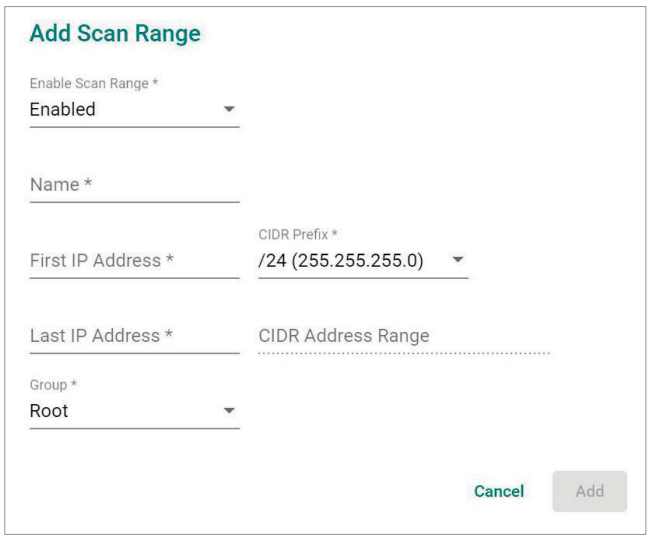
1. To launch Device Discovery manually please do the following:
   Navigate to **Menu** ( ) **> Device Discovery**.
   Device Discovery appears to the right of the navigation panel.



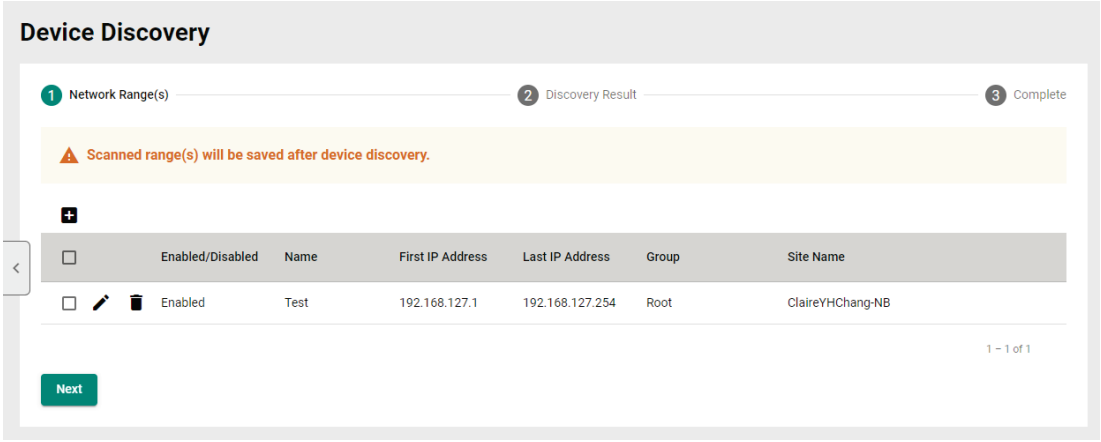
2. Add the IP address ranges to scan for devices.

> **NOTE**
>
> MXview One supports scanning multiple IP address ranges. The selected IP address scan ranges must be enabled in order for MXview One to scan for devices.

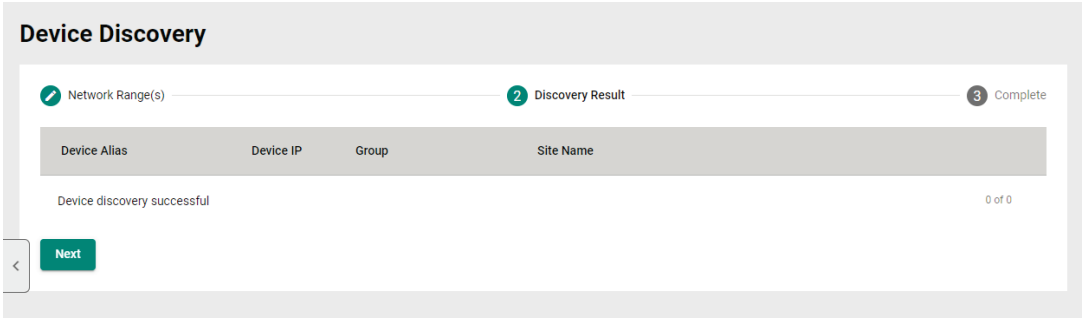
> **NOTE**
>
> Moxa devices must have the SNMP function enabled for MXview One to scan the devices.



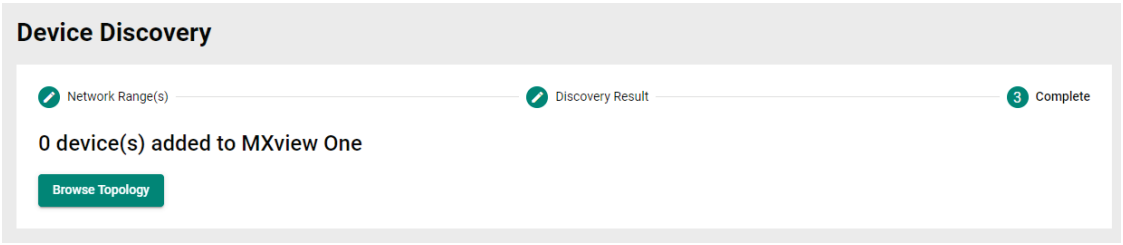
a. Click the **Add** (+) icon.
   The **Add Scan Range** screen appears.
b. Select one of the following options:
   - **Enabled:** Select to enable scanning of the specified IP address range.
   - **Disabled:** Select to disable scanning of the specified IP address range.
c. Configure the following:
   - Provide a custom display Name for the scan range.
   - Specify the **First IP Address** of the scan range.
   - Specify the **Last IP Address** of the scan range.
   - Select the **CIDR Prefix** for the scan range (if applicable).
   - Select the MXview One **Group** to assign the scan range to.
d. Click **Add**.
e. (Optional) Add additional network scan ranges, repeat the previous steps.
f. (Optional) Modify scan range settings, click the **Edit** (✎) icon next to an added scan range.
g. (Optional) Remove a scan range, click the **Delete** (🗑) icon next to the added scan range.
h. Select one or more scan ranges to scan.
i. Click **Next**.
   MXview One scans the specified IP address ranges for devices.



3. View devices discovered on the network.
   a. MXview One displays discovered devices on the **Discovery Result** list. Scroll down to view more devices on the list.



   b. Click **Next**.
4. Click **Browse Topology** to view the detailed network topology.
   The **Topology** screen appears.



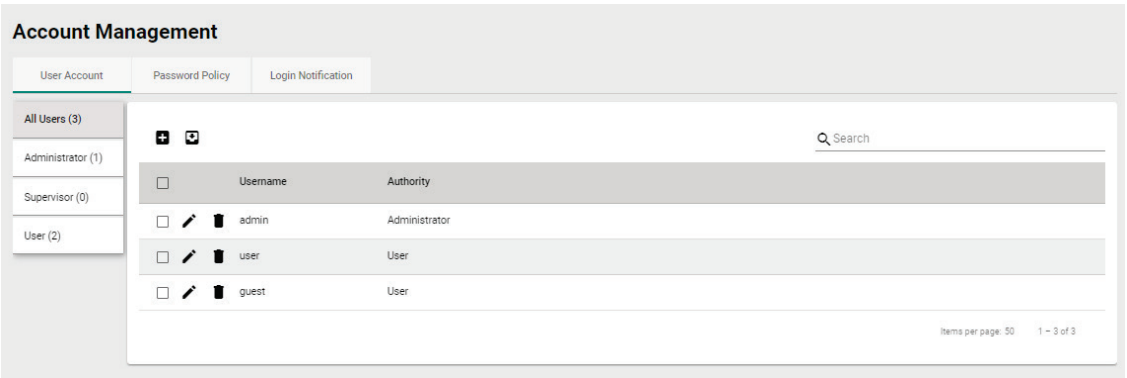
NOTE

MXview One cannot guarantee that it can draw the link of the topology for non LLDP devices. However, you can draw the link of the topology manually by clicking **Add Link**.

Account Management

To launch Account Management, please do the following: Navigate to **Menu** ( ) **> Account Management**.

The Account Management screen allows you to view, add, modify, and delete user accounts from MXview One. You can also export a list of user accounts and related information as a CSV file.



MXview One provides three default accounts:

- admin
- user
- guest

Default Username	Default Password	Authority
admin	moxa	Administrator
user	moxa	User
guest	moxa	User

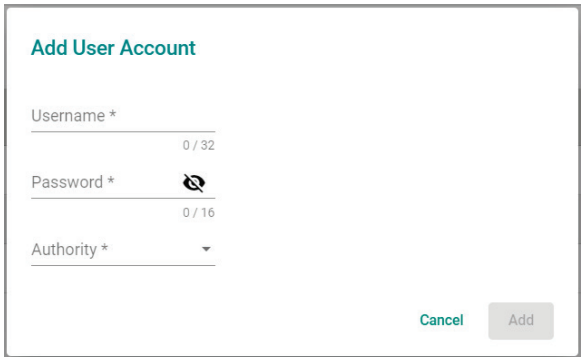
Each account can be assigned one of the following **Authority** permissions:

- **Administrator:** Has full access rights to modify any settings/configurations and can assign authorities to other accounts.
- **Supervisor:** Has full access rights to modify any settings/configurations on all pages apart from the **Account Management** page.
- **User:** Has the permissions listed below.

Function	Description
Dashboard	Read-only
Topology	Read-only
Event History	Can do some actions: Export, Filter
Syslog Viewer	Can do some actions: Export, Filter
Inventory Report	Can do some actions: Export
About MXview One	Can check the version
User Manual	Can link to the document
API Documentation	Can link to the document

Adding User Accounts

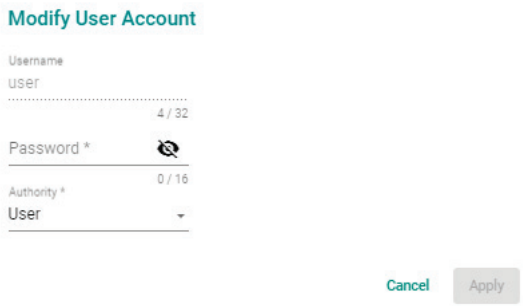
1. Navigate to **Menu** (☰) **> Administration > Account Management**.
   The **Account Management** screen appears.
2. Click the **Add** (⊞) icon in the top right corner of the screen.
   The **Add User Account** screen appears.



3. Configure the following account details:
   - **Username:** Specify the username for the account.
   - **Password:** Specify the login password (minimum length: 4 characters) for the account.
   - **Authority:** Assign the authority permission (Administrator, Supervisor, or User) for the account.
4. Click **Add**.

Modifying User Accounts

1. Navigate to **Menu** (☰) **> Administration > Account Management**.
   The **Account Management** screen appears.
2. Click the **Edit** (✎) icon in front of the account you want to modify.
   The **Modify user account** screen appears.



3. Modify the following account details:
   - **Password:** Specify the login password (minimum length: 4 characters) for the account.
   - **Authority:** Assign the authority permission (Administrator, Supervisor, or User) for the account.
4. Click **Apply**.

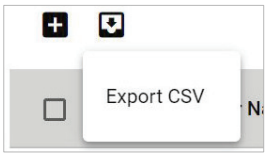
Deleting User Accounts

1. Navigate to **Menu** ( ) **> Administration > Account Management**.
   The **Account Management** screen appears.
2. (Optional) Select the check box(es) in front of one or more account(s).
3. Click the **Delete** ( ) icon in front of the account you want to delete, or in the top left corner of the screen (if multiple accounts are selected).
   MXview One deletes the account(s).

Exporting User Accounts

The Account Management screen allows you to export a CSV file containing all user accounts with corresponding authority permissions and accessible sites.

1. Navigate to **Menu** ( ) **> Administration > Account Management**.
   The **Account Management** screen appears.
2. Click the **Export** ( ) icon.

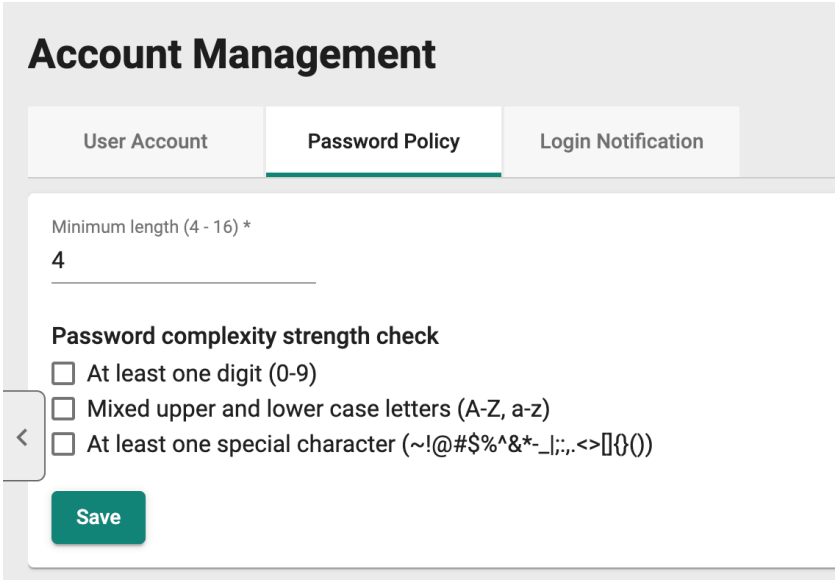


3. Select **Export CSV**.

Configuring the Password Policy

Use the **Password Policy** screen to modify the password requirements for user accounts.

1. Navigate to **Menu** ( ) **> Administration > Account Management > Password Policy**.
   The **Password Policy** screen appears.



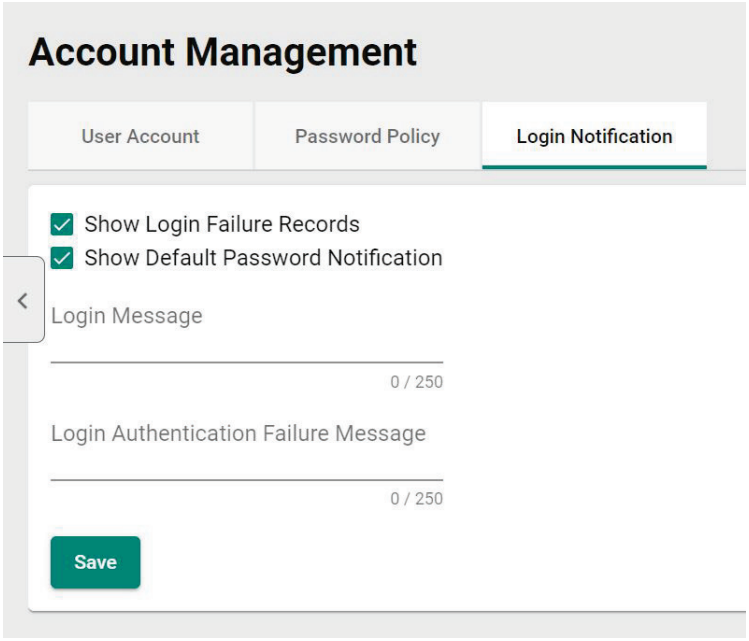
2. Specify the minimum password length (between 4 to 16 characters).
3. Select one or more of the following password complexity requirements:
   - **At least one digit (0~9)**
   - **Mixed upper and lower case letters (A~Z, a~z)**
   - **At least one special character (**~!@#$%^&*-_|;:,.<>[]{}()**)**
4. Click **Save**.

   MXview One requires all new account passwords to satisfy the modified password policy.

Configuring Login Notifications

Use the **Password Policy** screen to customize the notifications displayed when users log in to MXview One.

1. Navigate to **Menu** ( ) **> Administration > Account Management > Login Notification**.
   The **Login Notification** screen appears.



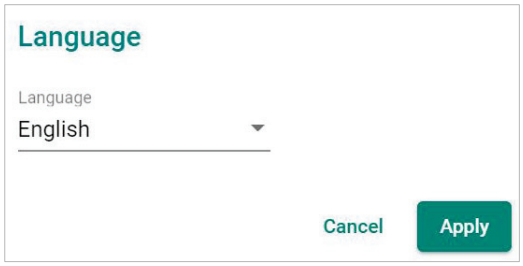
2. To enable the following notification(s), select the corresponding checkbox(es):
   - **Show Login Failure Records**
   - **Show Default Password Notification**
3. To disable the following notification(s), clear the corresponding checkbox(es):
   - **Show Login Failure Records**
   - **Show Default Password Notification**
4. To display a custom login message, type a string (up to 250 characters in length) in the **Login Message** field.
5. To display a custom login authentication failure message, type a string (up to 250 characters in length) in the **Login Authentication Failure Message** field.
6. Click **Save**.
   MXview One displays the configured login notifications the next time a user logs in.

Changing the Display Language

Use the **Language** icon screen to customize the notifications displayed when users log in to MXview One.

1. Navigate to **Language** ( ).

   The **Language** screen appears.
2. Select language.



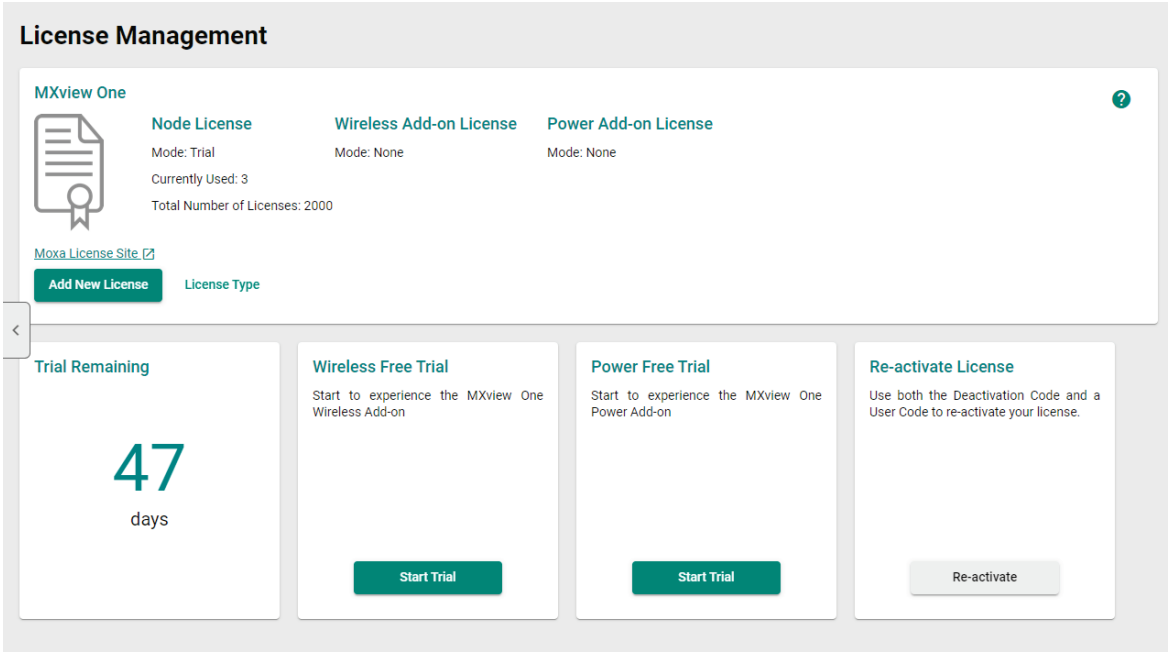
3. MXview One supports the following languages:
   - **German (Deutsch)**
   - **Japanese (日本語)**
   - **English**
   - **Spanish (Español)**
   - **French (Français)**
   - **Simplified Chinese (简体中文)**
   - **Traditional Chinese (繁體中文)**
4. Click **Save**.

   MXview One updates the display language.

License Management Overview

The **License Management** screen displays information about your MXview One license, including the license types, the number of licensed nodes, nodes currently in use, and the Add-on license. You can also use the **License Management** screen to add a new license or deactivate an existing license.

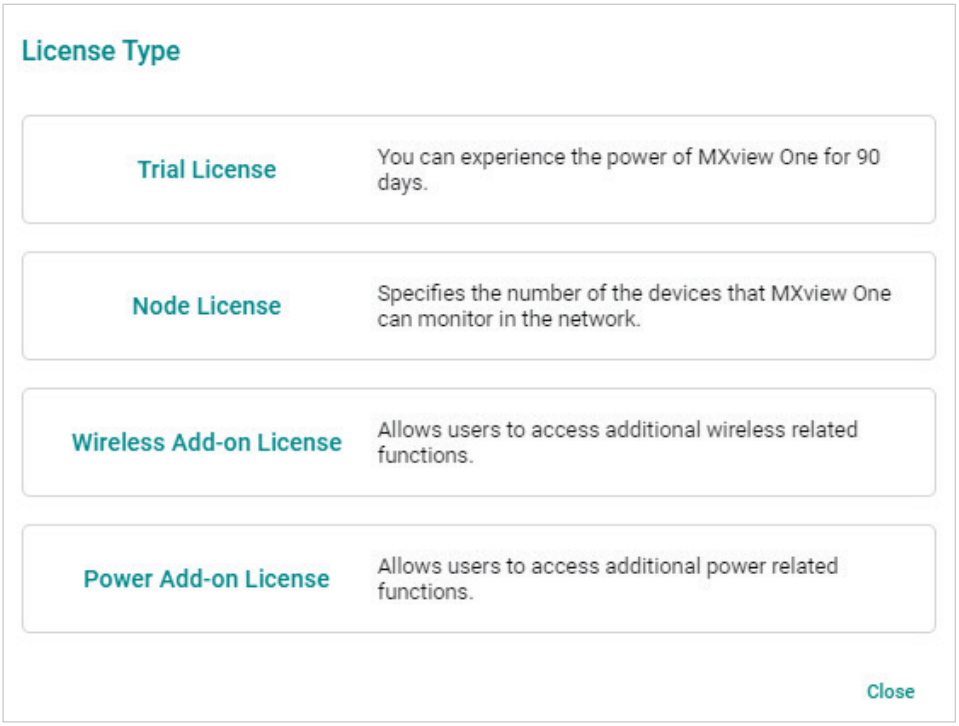
To access the **License Management** screen, navigate to **Menu** ( ) **> Administration > License Management**.



License Type

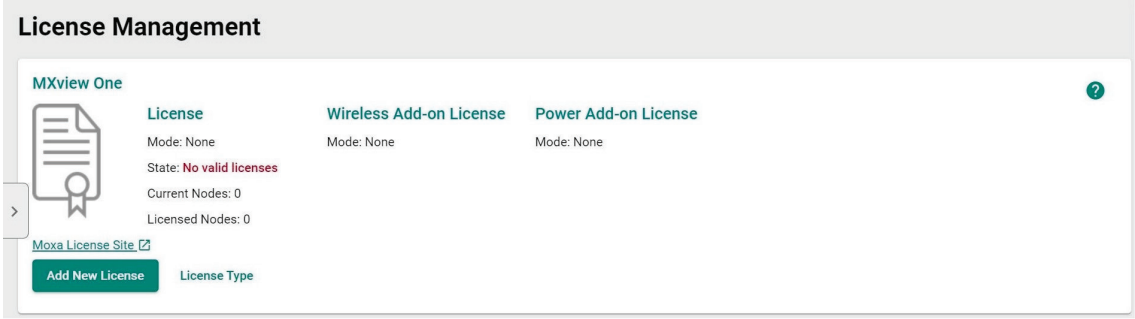
MXview One provides numerous types of licenses. Each license has a specific function.

Trial License	You can experience the power of MXview One for 90 days.
Node License	Specifies the number of devices that MXview One can monitor in the network.
Wireless Add-on License	Allows users to access additional wireless related functions.
Power Add-on License	Allows users to access additional power related functions.

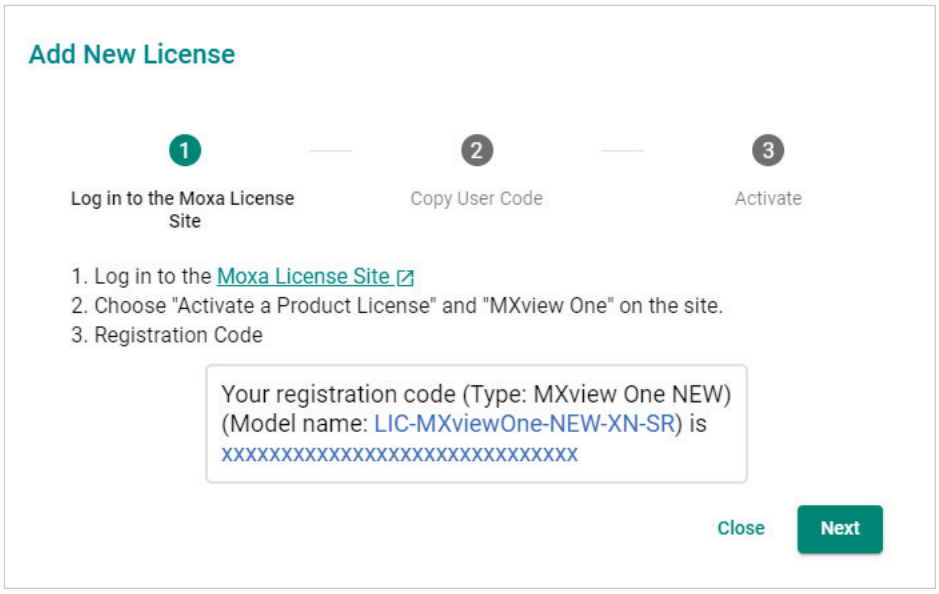


Adding a New License

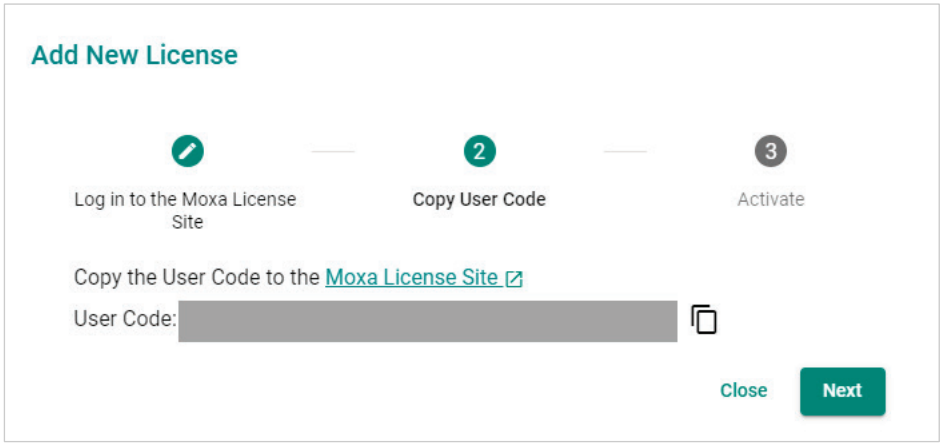
1. Navigate to **Menu** ( ) **> Administration > License Management**.
   The **License Management** screen appears.
2. In the **Add New License** section, click **Add New License**.



   The **Add New License** screen appears.

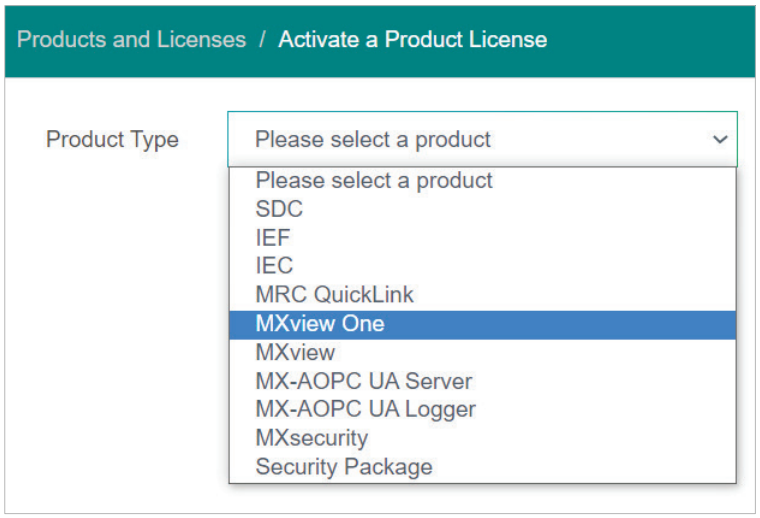


3. Click **Next**.
4. Copy the User Code and click **Next**.

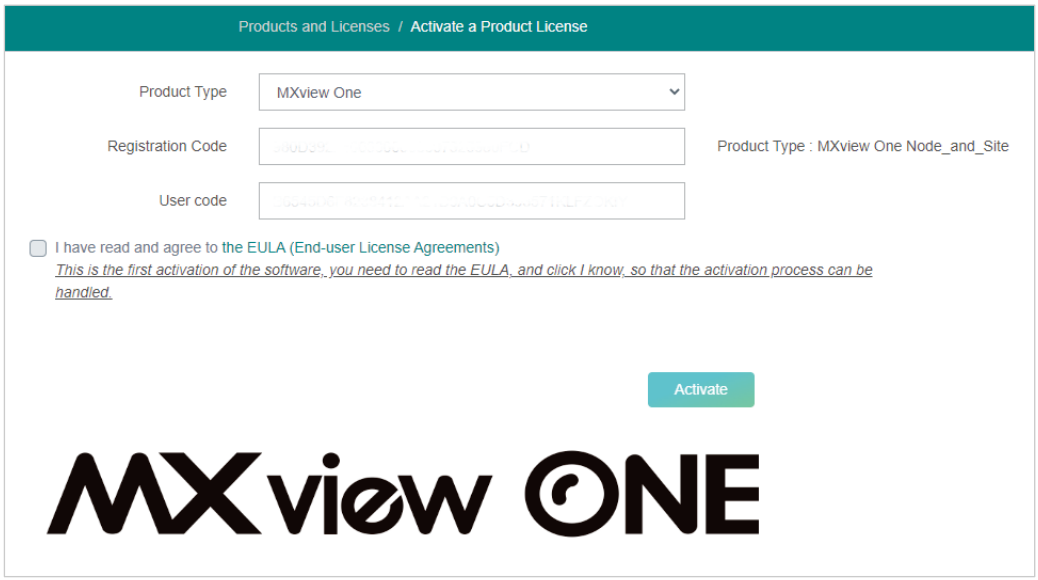


5. Open a web browser and go to https://license.moxa.com/. Select **MXview One** and Log in to your Moxa account.

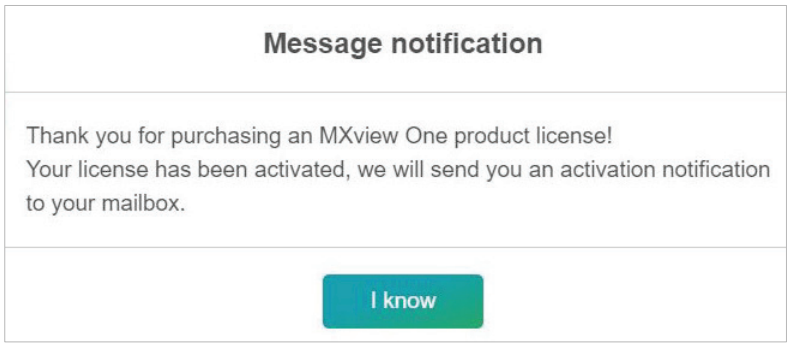
6. Click **Products and Licenses > Activate a Product License**. Then, select **MXview One** from the product type list.



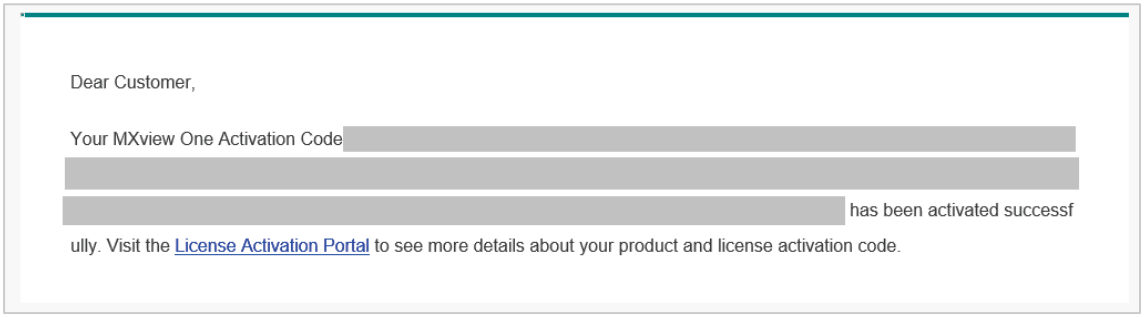
7. Input a valid **Registration Code** and see if the Product Type behind the Registration Code has displayed correctly of your license.
8. Paste a valid **User code** from MXview One. Click "I have read and agree to the EULA (End-user License Agreements)" checkbox. Then click **Activate** to get the activation code.



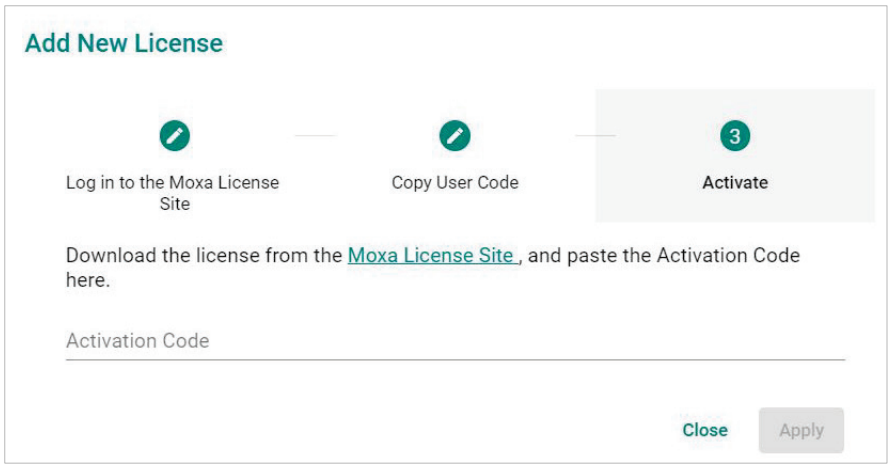
9. Once the process has been successfully completed, a pop-up window will appear to inform you that your license code has been activated. Click **I know** to close the window. If the license failed to activate, enter the correct Registration Code and User code again. If you are still experiencing problems, please contact Moxa Support.



10. Check your email account you used to apply for your moxa account. The activation code will be sent to this email address.



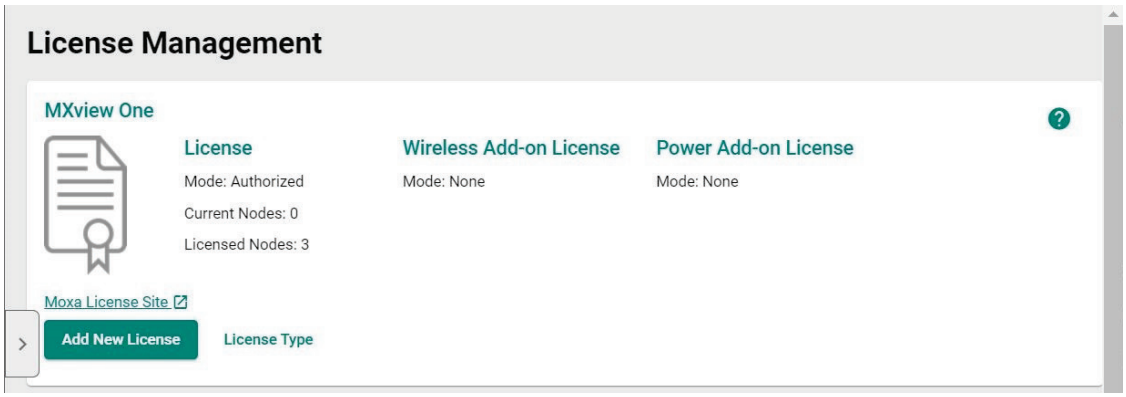
11. Copy the activation code from the email.
12. In MXview One, paste the activation code into the **Activation Code** field.



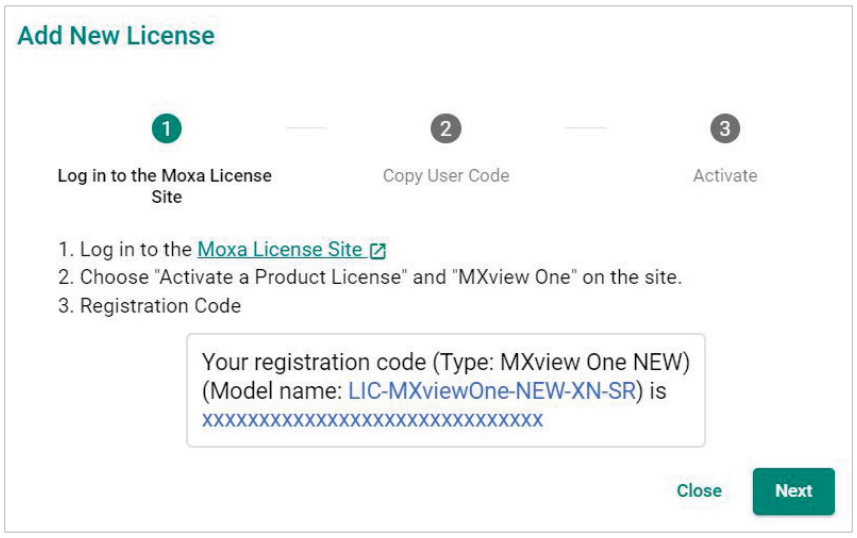
13. Click **Apply** and then MXview One will activate the new license.

Adding an Add-on License

1. Navigate to **Menu** ( ) **> Administration > License Management**.
   The **License Management** screen will appear.



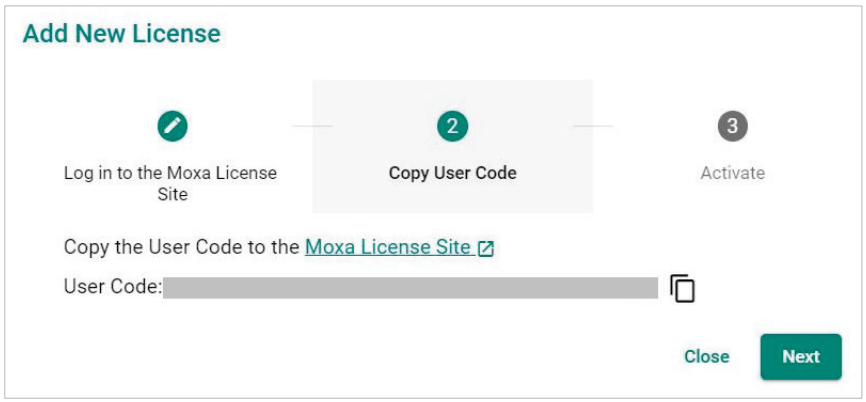
2. Click **Add New License**. The **Add New License** screen will appear.



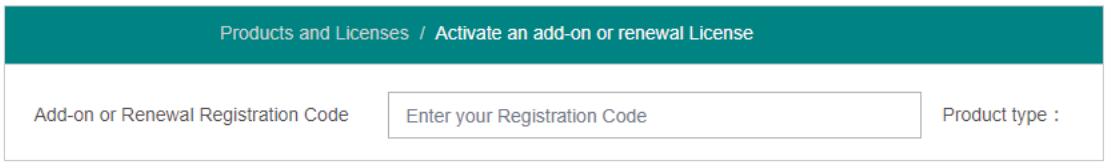
3. Click **Next**.
4. Copy the User Code and click **Next**.

NOTE

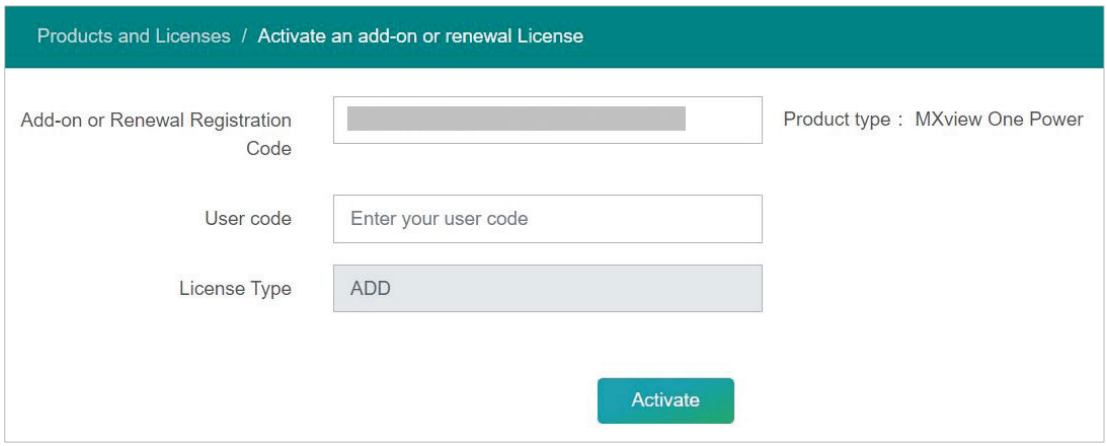
Please activate the Node-based License before activating the Add-on License.



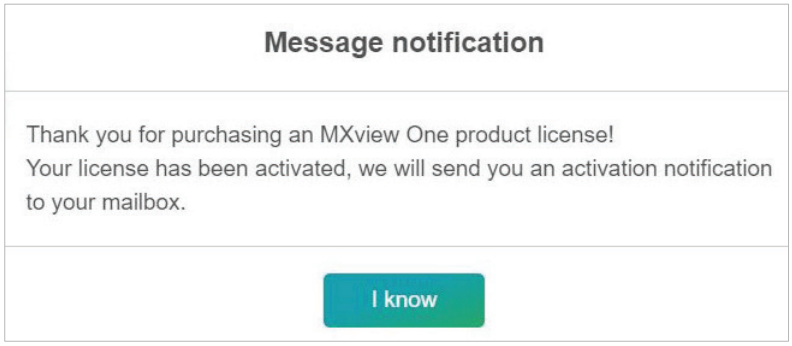
5. Open a web browser and go to https://license.moxa.com/. Select **MXview One** and log in to your Moxa account.
6. Click **Products and Licenses > Activate an add-on or renewal License**. Input a valid **Add-on Registration Code** and see if the Product Type behind the Registration Code has shown your license correctly.



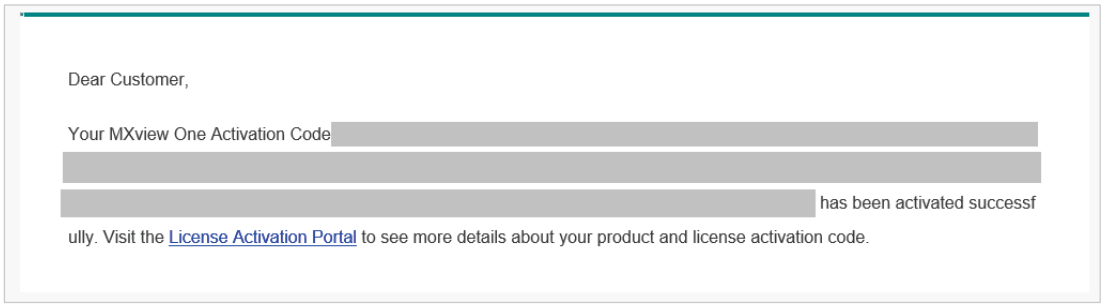
7. Paste a valid User code from MXview One. Then, click **Activate** to get the activation code.



8. Once the process has been successfully completed, a pop-up window will appear to inform you that your license code has been activated. Click **I know** to close the window. If the license failed to activate, enter the correct Registration Code and User code again. If you are still experiencing problems, please contact Moxa Support.

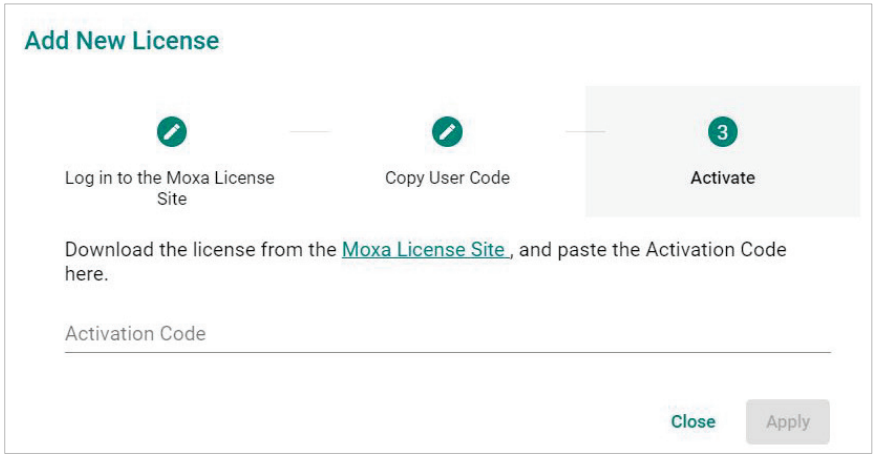


9. Check the email account you used to apply for your moxa account. The activation code will be sent to this email address.



10. Copy the activation code from the email.

11. In MXview One, paste the activation code into the Activation Code field.

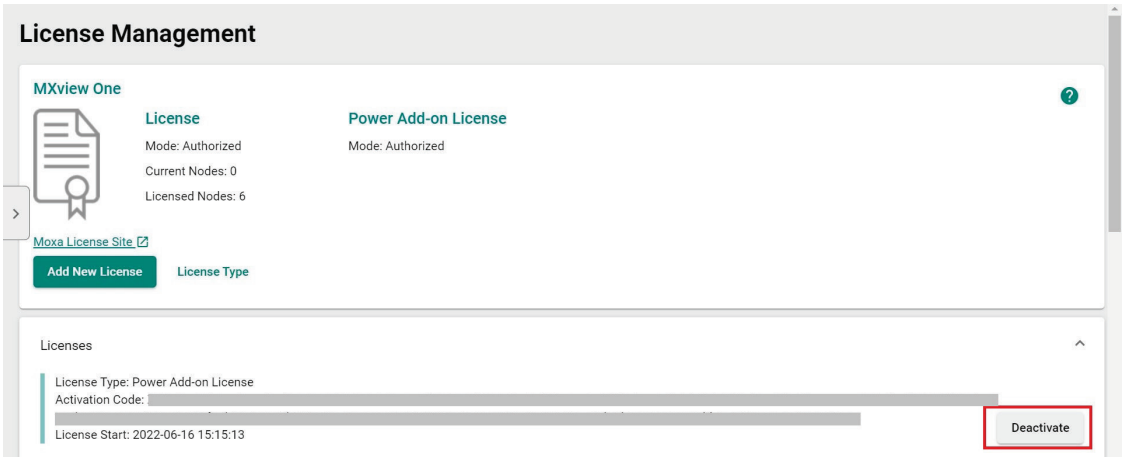


12. Click **Apply** and MXview One will activate the license.

Deactivating a License

If you want to transfer a license to a different instance of MXview One, the license has to be deactivated first.

1. Navigate to **Menu** ( ) **> Administration > License Management**.
   The **License Management** screen appears.
2. Expand the **Licenses** section.
   A list of activated licenses and activation codes appears.
3. Click **Deactivate** and MXview One will deactivate the license.



NOTE

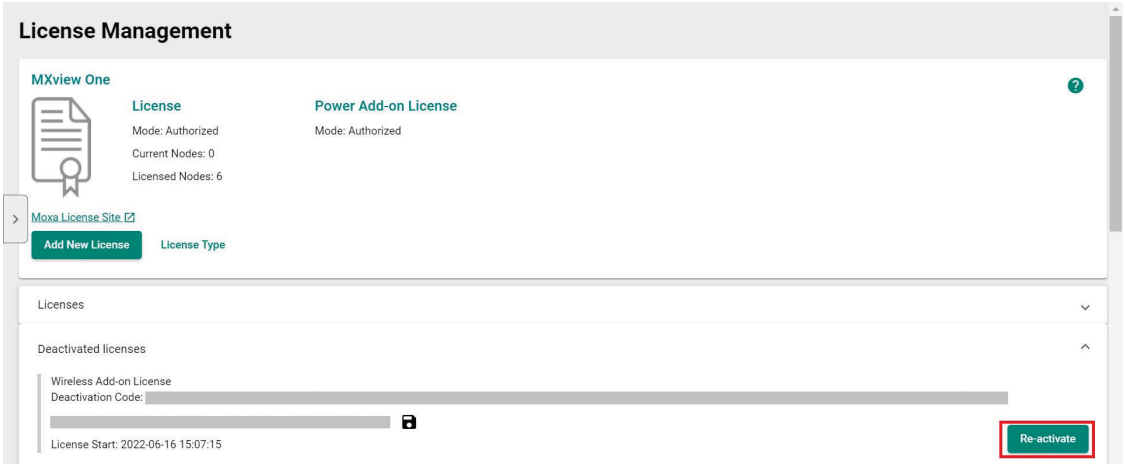
If you only have one Node-based License with one Add-on License, you will have to deactivate the Add-on License first, then deactivate the Node-based License next.

If you have more than one Node-based License, it is ok for you to deactivate the Node-based License or Add-on License without any order.

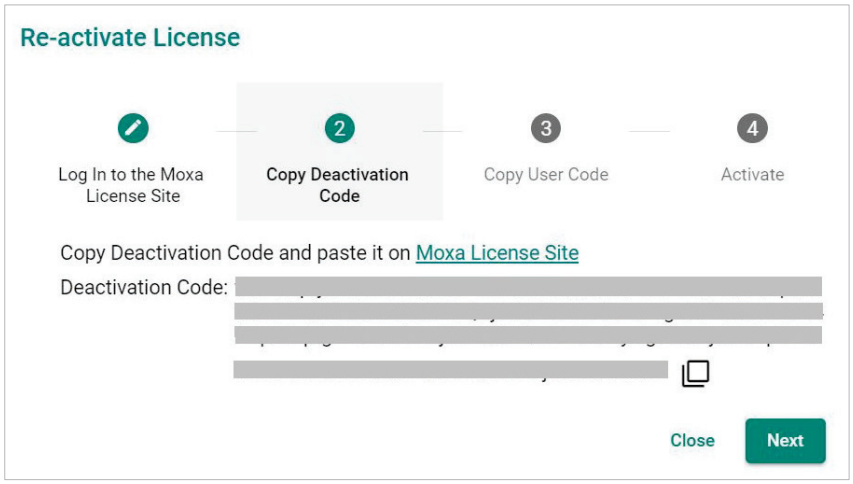
Reactivating a Deactivated License

A deactivated license can be reactivated on the current instance of MXview One.

1. Navigate to **Menu** ( ) **> Administration > License Management**.
   The **License Management** screen appears.
2. Expand the **Deactivated Licenses** section.
   A list of deactivated licenses and deactivation codes will appear.

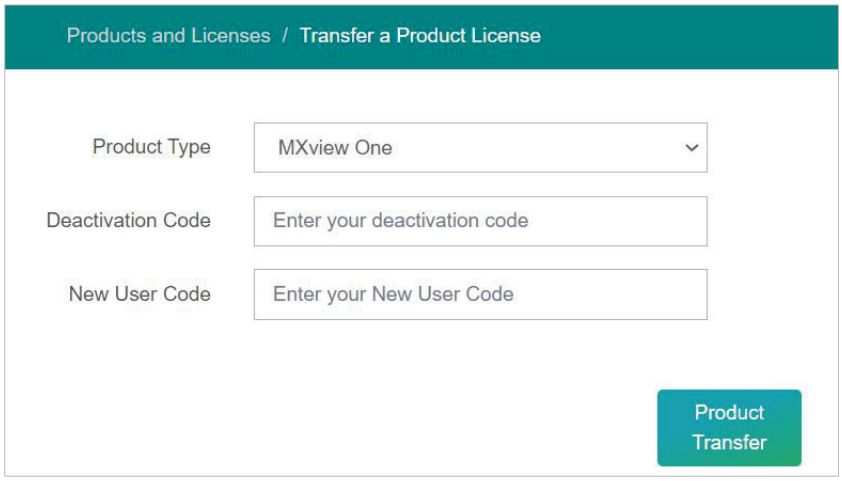


3. Click **Re-activate** and then click **Next**.
4. Copy the deactivation code and click **Next**.



5. Open a web browser and go to https://license.moxa.com. Select **MXview One** and log in using your Moxa account.
6. Select **Products and Licenses** and click **Transfer a Product License**. Then, select **MXview One** from the product type list.

7. Paste the **Deactivation Code** followed by the **New User Code** from MXview One. Then, click **Product Transfer**.

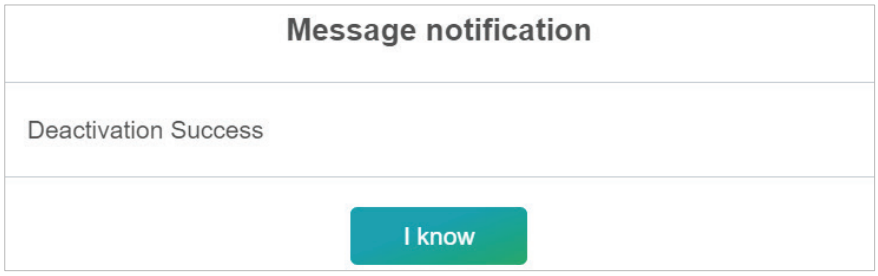


NOTE

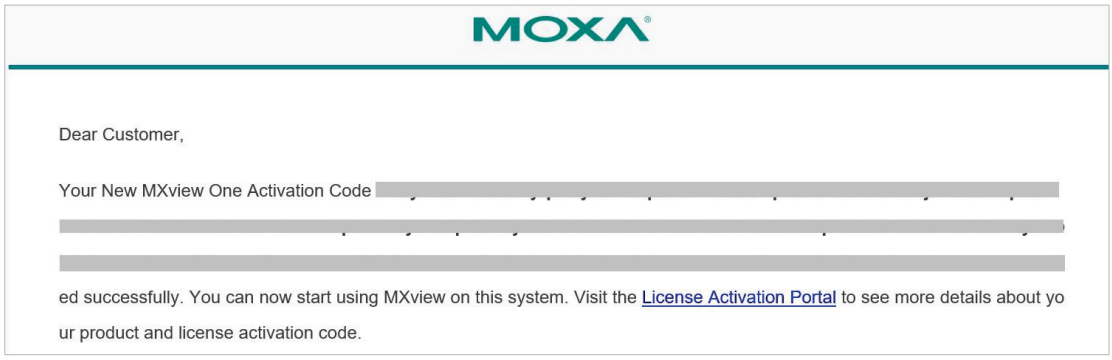
'Reactivating a Deactivated License' and 'Transfer a Deactivated License to another MXview One instance' are using the same menu here.

If you are implementing 'Reactivating a Deactivated License' on the current instance of MXview One, please paste the current MXview One User code in the 'New User Code' section.

8. Once the process has been successfully completed, a pop-up window will appear to inform you that your license code has been deactivated. Click **I know** to close the window. If the license failed to deactivate, enter the license key again. If you are still experiencing problems, please contact Moxa Support.

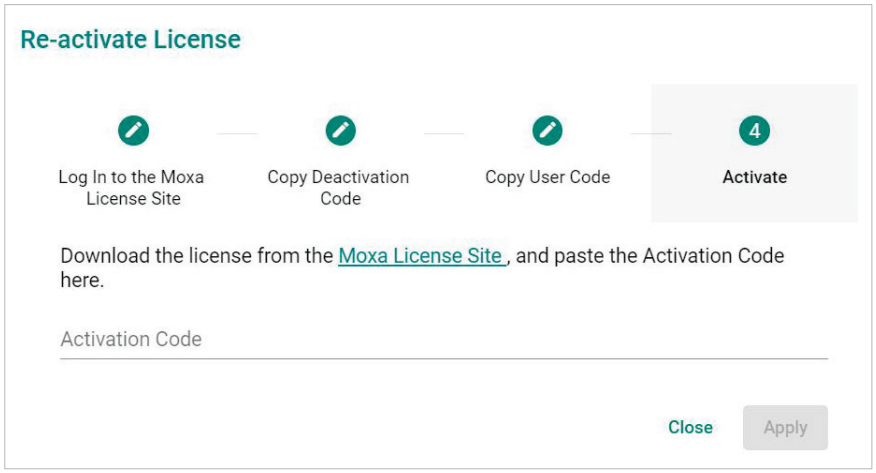


9. Check the email account you used to apply for your moxa account. The activation code will be sent to this email address.



10. Copy the activation code from the email.

11. In MXview One, paste the activation code into the Activation Code field.

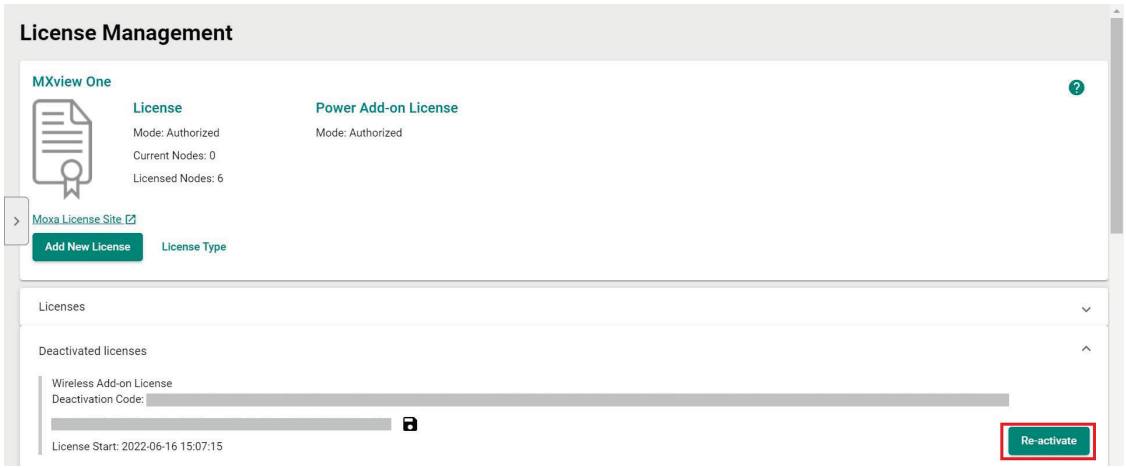


12. Click **Apply** and MXview One will reactivate the license.

Transferring a License to a Different Instance of MXview One

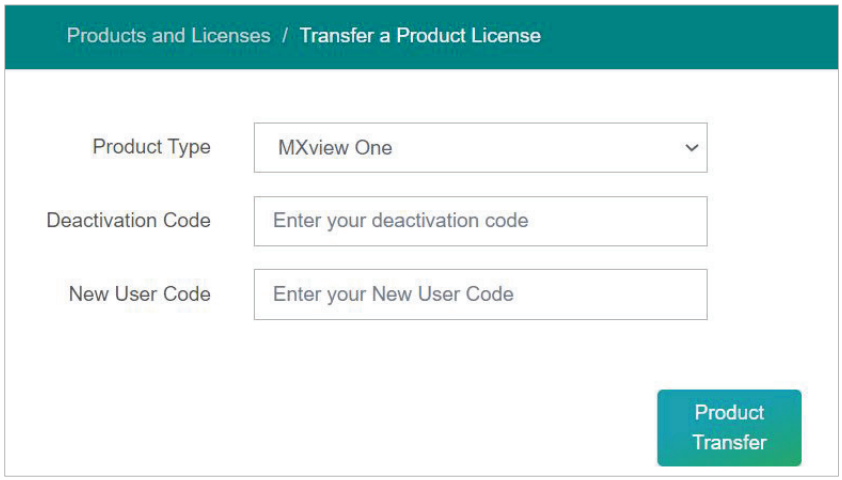
A deactivated license can be transferred to a new instance of MXview One.

1. Navigate to **Menu** ( ) **> Administration > License Management**.
   The **License Management** page will appear.
2. Expand the **Deactivated Licenses** section. A list of deactivated licenses and deactivation codes will appear. Copy the deactivation codes.



3. Open a web browser and go to https://license.moxa.com. Select **MXview One** and log in using your Moxa account.
4. Select **Products and Licenses** and click **Transfer a Product License**. Then, select **MXview One** from the product type list.

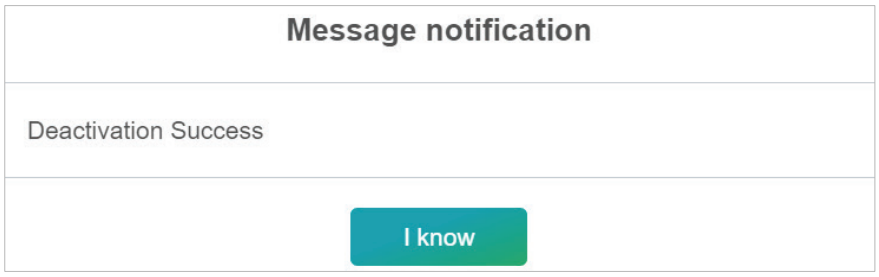
5. Paste the **Deactivation Code** and the **New User Code** from a new installation of MXview One. Then, click **Product Transfer**.



NOTE

To obtain a new User Code, please visit "**Adding a New License**", and follow steps 1 to 4 to obtain and copy the new User Code.

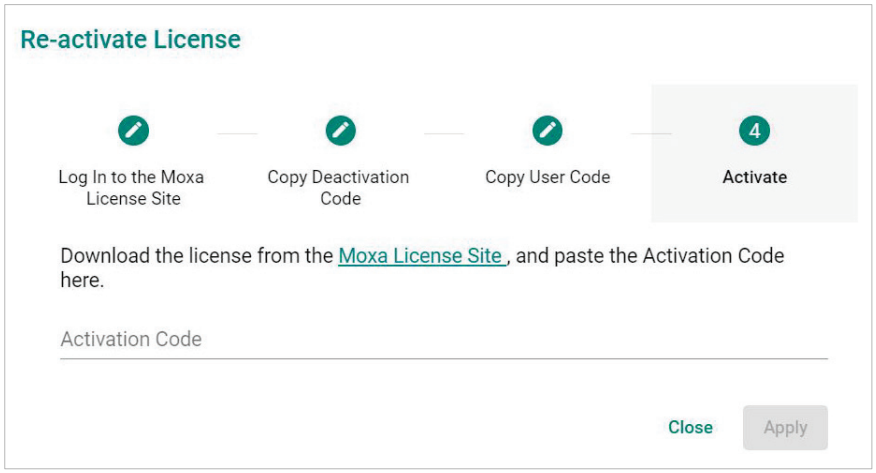
6. Once the process has been successfully completed, a pop-up window will appear to inform you that your license code has been deactivated. Click **I know** to close the window. If the license failed to deactivate, enter the license key again. If you are still experiencing problems, please contact Moxa Support.



7. Check the email account you used to apply for your moxa account. The activation code will be sent to this email address.

8. Copy the activation code from the email.

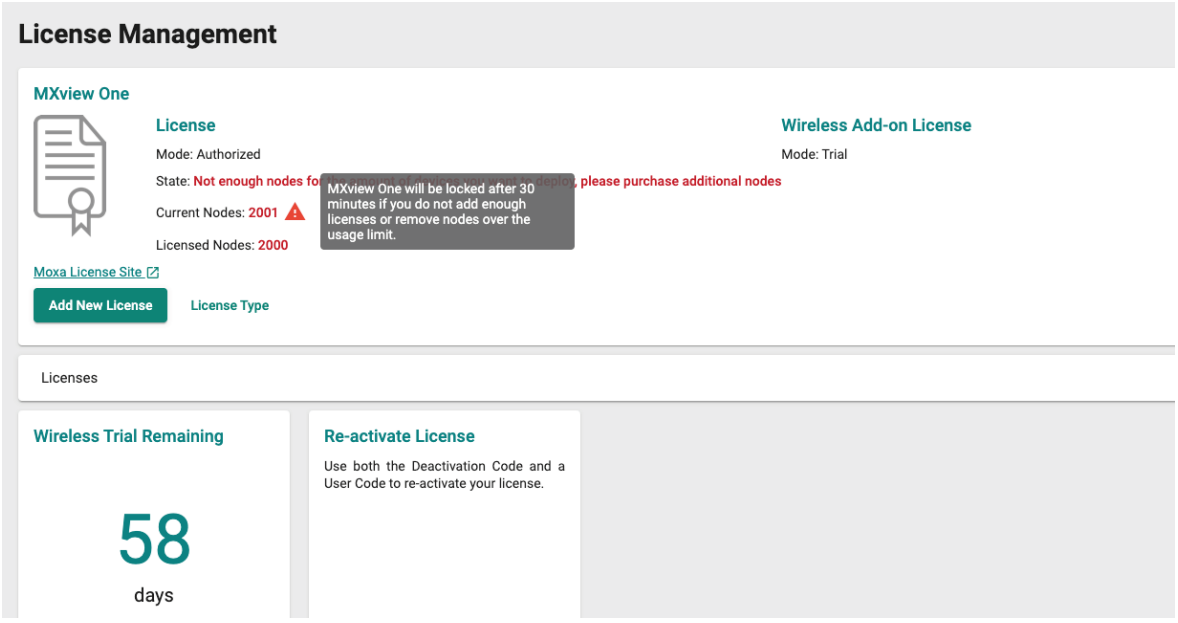
9. In MXview One, paste the activation code into the Activation Code field.



10. Click **Apply** and MXview One will reactivate the license.

Quantity of Monitored Devices Exceeds the Number of Node-based Licenses

When the quantity of monitored devices exceeds the activated number of license nodes, you can purchase additional Node-based Licenses and activate them as required. Or you can delete the extra devices that you don't have to monitor.



1. **Buy Extra Node-based Licenses**

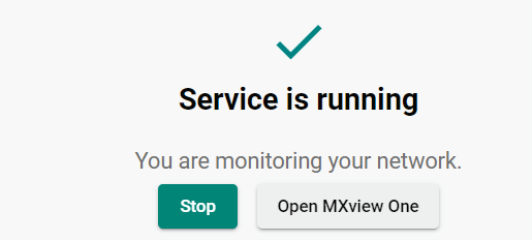
   Order the required quantity of Node-based Licenses from your channel or Moxa Sales Representative. Then, follow the instructions on **Adding a New License** to activate a new license.

2. **Delete Extra Devices**

   a. You can delete the devices on the **Topology** page to meet the number of Node-based Licenses you available.

b. Please follow the instructions below:

- ❒ Press the **Stop** button in the Control Panel.



- ❒ After 1 minute, Click **Start** and wait for the status to display 'Service is running now'. Then, click **Open MXview One** and Log in to MXview One.
- ❒ Navigate to **Menu** ( ) **> Topology**.

  The **Topology** screen will appear and displays the Topology Map by default.
- ❒ Click the devices you want to delete and then click **Delete**. From now on, MXview One will not count the delete devices.

5. Dashboard Widgets

The MXview One **Dashboard** contains several widgets that provide summary information about your network devices and event highlights.

Dashboard Overview

To access the Dashboard, navigate to **Menu** ( ) **> Dashboard**.

Use the **Dashboard** to gain a quick overview of your network devices, important system events.

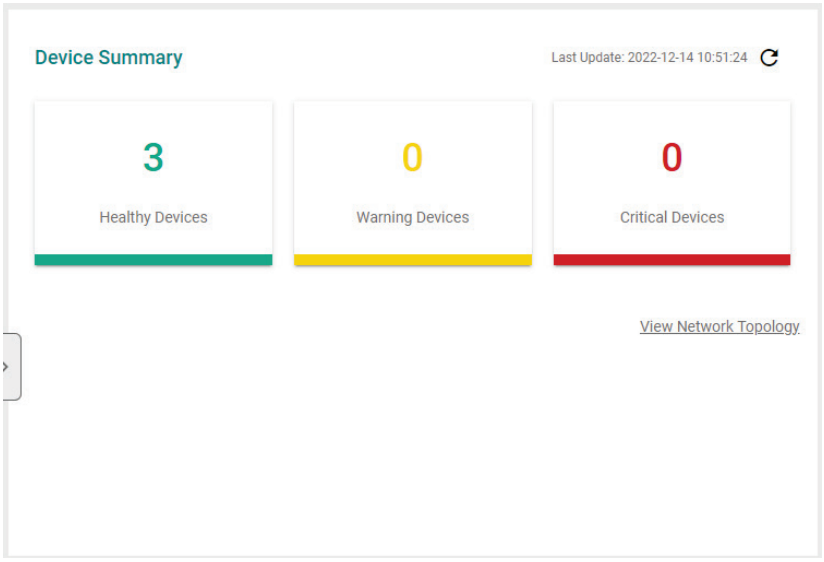
The **Dashboard** displays the following widgets:

- Device Summary
- Event Highlights: Cold/Warm Start Trap
- Event Highlights: ICMP Unreachable
- Event Highlights: Link Down

To refresh the data displayed in all the widgets, click the **Settings** ( ) icon in the top right corner of the screen and select **Refresh All**.

Device Summary

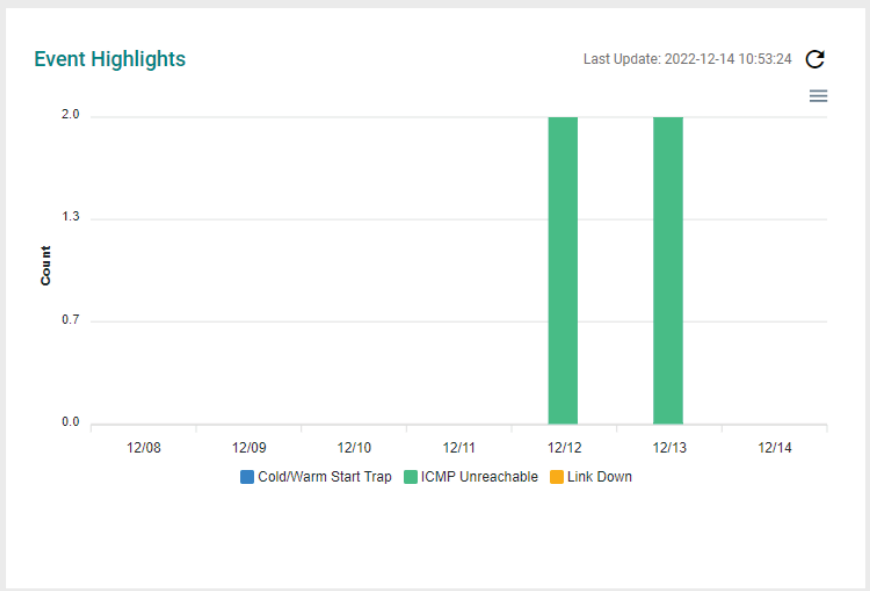
The **Device Summary** widget displays the following information about the devices on your network:



- **Healthy Devices:** The number of devices with no critical events or warnings.
  Click to view additional details about the devices on the **Topology** screen.
- **Warning Devices:** The number of devices with warnings.
  Click to view additional details about the devices on the **Topology** screen.
- **Critical Devices:** The number of devices with critical events.
  Click to view additional details about the devices on the **Topology** screen.

Event Highlights

The Event Highlights will display the following events during the past seven days: Cold/Warm Start Trap, ICMP Unreachable, and Link Down.



Event Highlights: The **Cold/Warm Start Trap** widget displays the number of cold start traps and warm start traps issued by devices at a site, and the day on which the events occurred.

Event Highlights: The **ICMP Unreachable** widget displays the number of times an ICMP-enabled device on your network was unreachable, and the day on which the events occurred.

Event Highlights: The **Link Down** widget displays the number of times a port link was down on a device on a specific date.

You can perform the following actions on this widget:

- To view the number of event highlights issued at a site on a specific date, hover over a bar in the widget chart.
- To view additional details about the event on the **Event History** screen, click a bar on the widget chart.
- To refresh the widget data, click the **Refresh** (↻) button following the **Last Update** timestamp.
- To download the Event Highlights data, click (≡) below the Refresh button.

6. Device Discovery and Polling

Device Discovery Overview

MXview One uses SNMP, ICMP, and MMS to discover devices within the scan ranges. When a Moxa device has been located, MXview One will generate an actual image of the device, demonstrated below, to indicate the device's location on the network.

MXview One will also list detailed properties and configuration parameters, including the following:

- MAC Address
- Model Name
- IP Address
- Netmask
- Gateway
- Trap Server Address
- Auto IP Configuration
- Type of Redundancy Protocol
- Role in Redundancy Protocol
- Status and Properties of the Port
- Power Status
- Status and Version of the SNMP Protocol

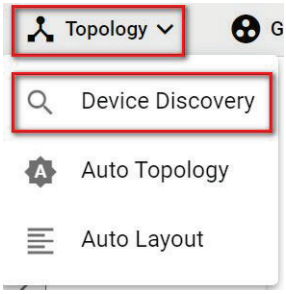
MXview One will display one of the following graphics to indicate devices:

Device	Image
Moxa devices with SNMP enabled.	
Non-Moxa devices with SNMP enabled.	
Non-Moxa devices with ICMP enabled.	
Non-Moxa devices with MMS enabled.	

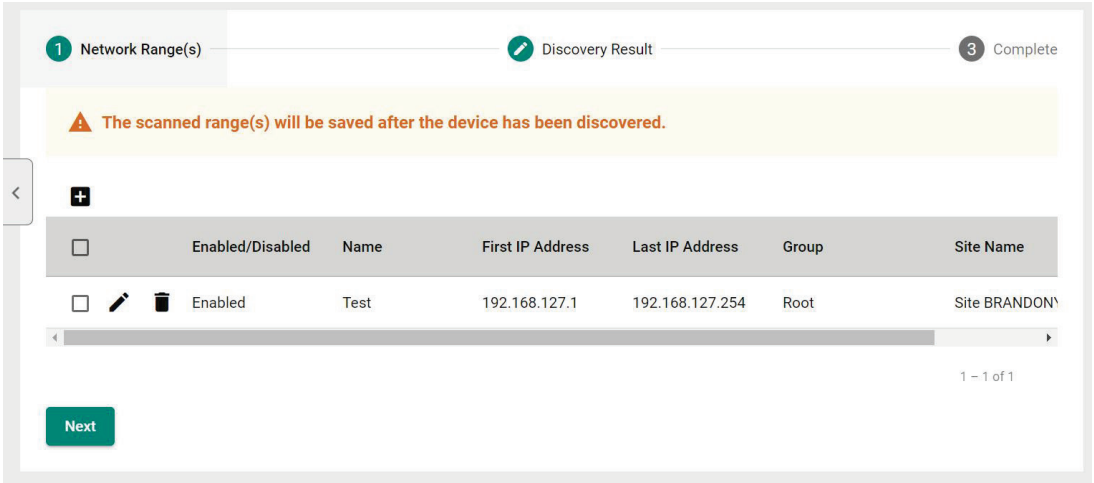
Configuring IP Address Scan Ranges

MXview One allows you to scan multiple ranges of IP addresses within your network. Each network range is defined by a starting IP address and an ending IP address. Use **Device Discovery** to configure network scan ranges.

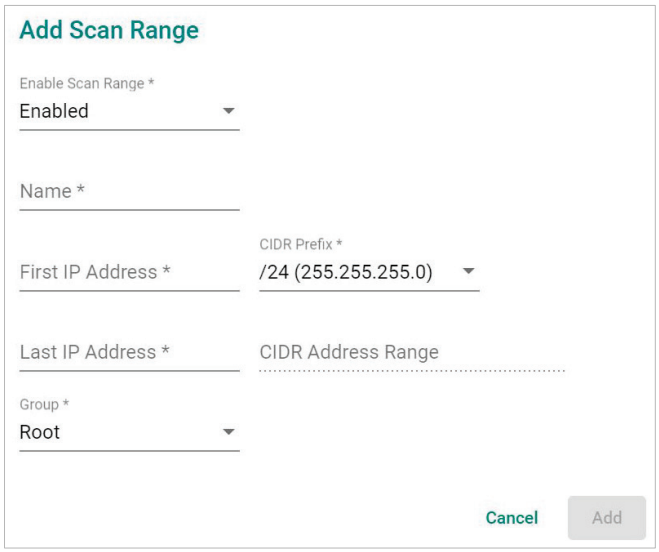
1. Access the **Device Discovery** screen by the following method:
   a. Navigate to **Menu** ( ) **> Device Discovery**.
   b. Navigate to **Menu** ( ) **> Topology**, and then navigate to **Topology > Device Discovery** from the Topology toolbar menu.



The **Device Discovery** screen will appear.



2. To add a new scan range:
   a. Click the **Add** ( ) button in the top left corner.
   The **Add Scan Range** screen will appear.



b. Select the scan range status:
   - ❒ **Enabled**
   - ❒ **Disabled**

c. Provide a **Name** for the scan range.

d. Provide the starting IP address for the scan range.

e. Provide the ending IP address for the scan range.

f. Select the **CIDR Prefix** (if applicable).

g. Assign the scan range to a **Group**.

h. Click **Add**.

   The new scan range appears in the Network Range table.

3. To edit a scan range:

   a. Select the check box next to the scan range in the **Network Range** table.

   b. Click the **Edit** (✎) icon.

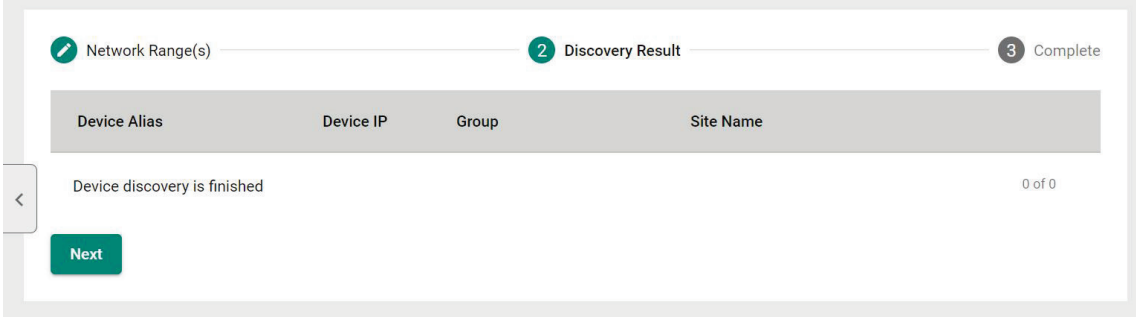
      The **Edit Scan Range** screen appears.

   c. Modify the scan range settings.

   d. Click **Apply**.

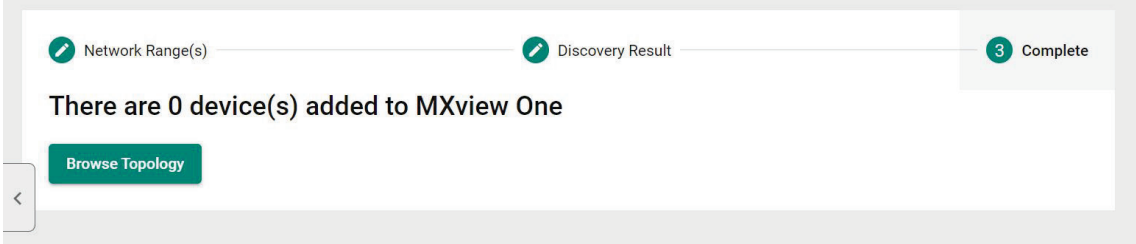
      The **Device Discovery** screen displays the **Network Range** table with the updated scan range information.

4. Click **Next** to discover the devices within the specific IP address ranges.



5. To complete scan range configuration, click **Next**.

   The **Complete** tab and the number of devices added to MXview One.



6. To view the updated topology, click **Browse Topology**.

   The **Topology** screen will appear and display the updated Topology Map.

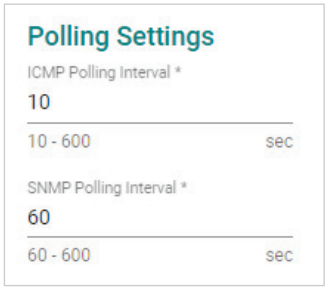
Configuring Device Polling Settings

Devices in the assigned scan range can be discovered via SNMP and ICMP protocols. (The default polling interval of ICMP is 10 seconds, while SNMP is 60 seconds. Users can go to the **Default Device Template** page to change the polling intervals.) After a device is discovered, MXview One will use SNMP and ICMP to poll the device periodically. To configure this function properly, you will need to know the following information:

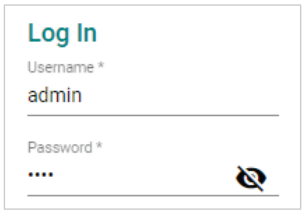
NOTE

MXview One **Dashboard** widgets also use the device polling settings. For more information about the MXview One **Dashboard** widgets, see Chapter 5: **Dashboard Overview**.

1. Navigate to **Menu** ( ) **> Administration > Default Device Template**.
   The **Default Device Template** screen appears.
2. Scroll down to the **Polling Settings** section.



3. Configure the following ICMP polling settings:
   ICMP polling interval: Specify the time in seconds between polls. MXview One will use ICMP protocol to check if the device is alive.
4. Configure the following SNMP polling settings:
   SNMP polling interval: Specify the time in seconds between polls.
5. Scroll down to the **Log In** section to configure the device web console login credentials:
   - **Username:** The login username for the device web console
   - **Password:** The login password for the device web console

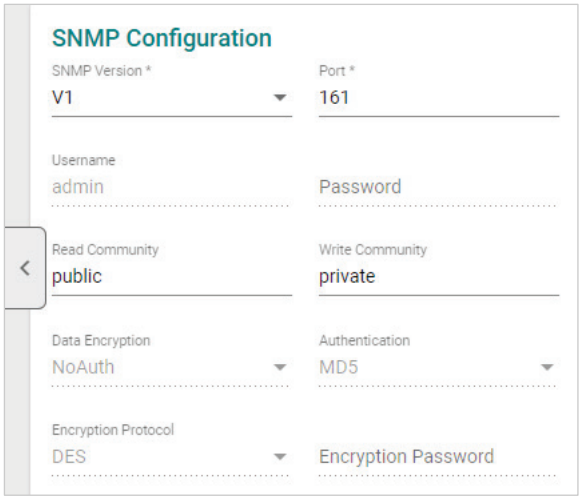


6. Click **Save**.
   MXview One will update the modified settings.

Changing Default SNMP Configuration

The default SNMP read community string that is used to discover devices is public. Use the **Default Device Template** screen to change the default read community string or modify other default SNMP configuration.

1. Navigate to **Menu** ( ) **> Administration > Default Device Template**.
   The **Default Device Template** screen will appear.
2. Scroll down to the **SNMP Configuration** section.

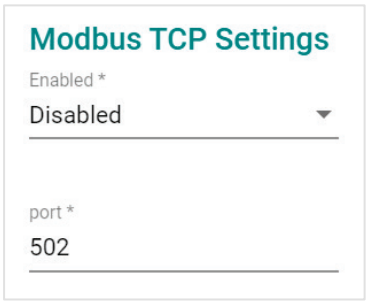


3. Configure the following:
   a. **SNMP Version:** Select the SNMP protocol version
   b. **SNMP Port:** Specify the SNMP port
   c. **Username:** Specify the SNMP server username
   d. **Password:** Specify the SNMP server password
   e. **Read Community:** Specify the new community string
   f. **Write Community:** Specify the new community string
   g. **Data Encryption:** Select the data encryption method
      - ❒ NoAuth
      - ❒ AuthNoPriv
      - ❒ AuthPriv
   h. **Authentication:** Select the authentication method
      - ❒ MD5
      - ❒ SHA
      - ❒ SHA256
      - ❒ SHA512
   i. **Encryption Protocol:** Select the encryption protocol and input the Encryption Password.
      - ❒ DES
      - ❒ AES
4. Click **Save**.
   MXview One updates the modified settings.

Changing Modbus TCP Settings

By configuring Modbus TCP Settings in the Default Device Template section, MXview One will be able to detect whether a device has Modbus attributes or not. If a device supports Modbus, a Modbus string will appear above the device icon in the topology to easily identify the device.

1. Navigate to **Menu** ( ) **> Administration > Default Device Template**.
   The **Default Device Template** screen will appear.
2. Scroll down to the **Modbus TCP Settings** section.



3. Configure the following:
   a. **Enabled:** Enable or disabled Modbus TCP settings
      - ❒ Enabled
      - ❒ Disabled
   b. **Port:** Specify the Modbus TCP port
4. Click **Save**.
   MXview One updates the modified settings.

7. Topology Management

MXview One allows you to view a graphical representation of your network topology, add/delete devices and links to the Topology Map, organize the topology structure, and export the Topology Map as a PNG image. You can also scan specific IP address ranges to discover devices on your network.

Topology Overview

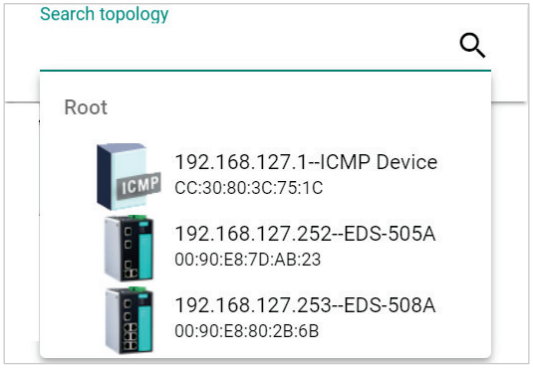
The Topology screen allows you to view the Topology Map, which is a graphical representation of the devices in your network, and perform most actions in MXview One. For example, you can use the Network Topology screen to do the following:

- Display a graphical representation of a real network.
- Show connecting relationships between devices.
- Indicate the status of devices and links.

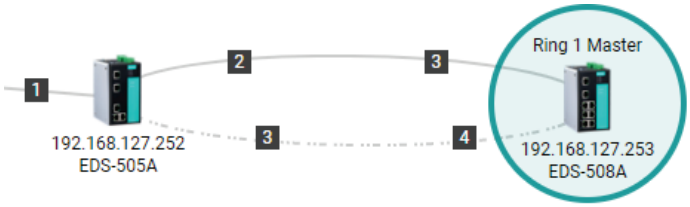
Viewing the Topology Map

Use the Topology screen to view the Topology Map of your network.

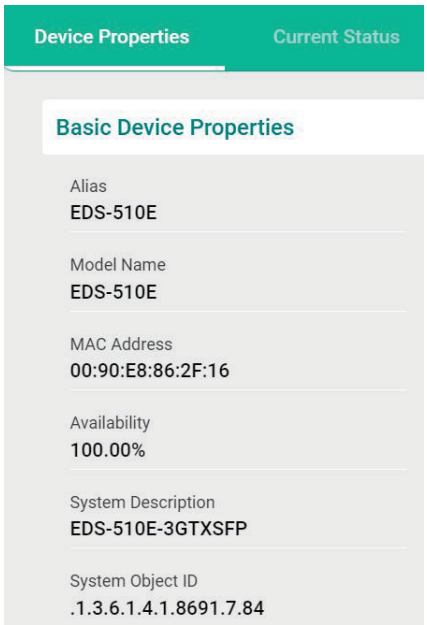
1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and displays the Topology Map by default.
2. If the **List view** is displayed, click the **Topology view** ( ) icon in the top right corner.
   The Topology screen will display a graphical representation of the devices and links on your network.
3. To search for a specific device on the Topology Map:
   a. Click the **Search topology** ( ) icon in the top left corner.
      The topology search box appears with a drop-down directory tree of the Topology Map structure.



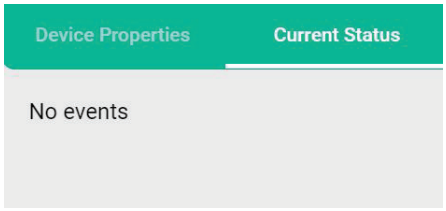
   b. Search the device in the drop-down directory tree or type a string in the search box. Click the specific device and MXview One will bring you to the device on the Topology Map.
4. To view the details of a specific device, select the device in the Topology Map.



   The **Device Properties** pane appears to the right of the Topology Map.

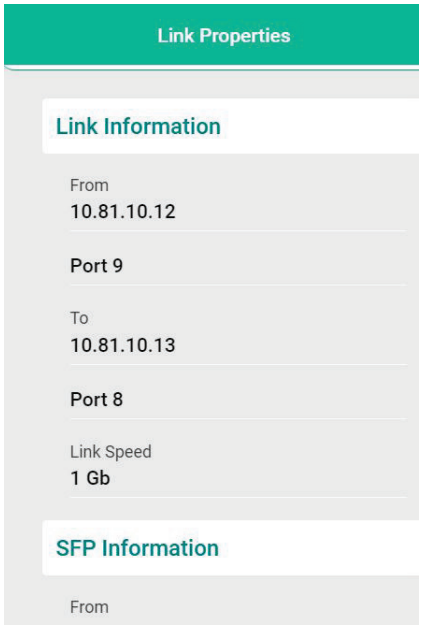


5. To view events associated with the device, click the **Current Status**.
   The **Current Status** pane displays events associated with the device.



6. To view details about a link between devices, select a link in your Topology Map.

   The **Link Properties** pane appears to the right of the Topology Map.



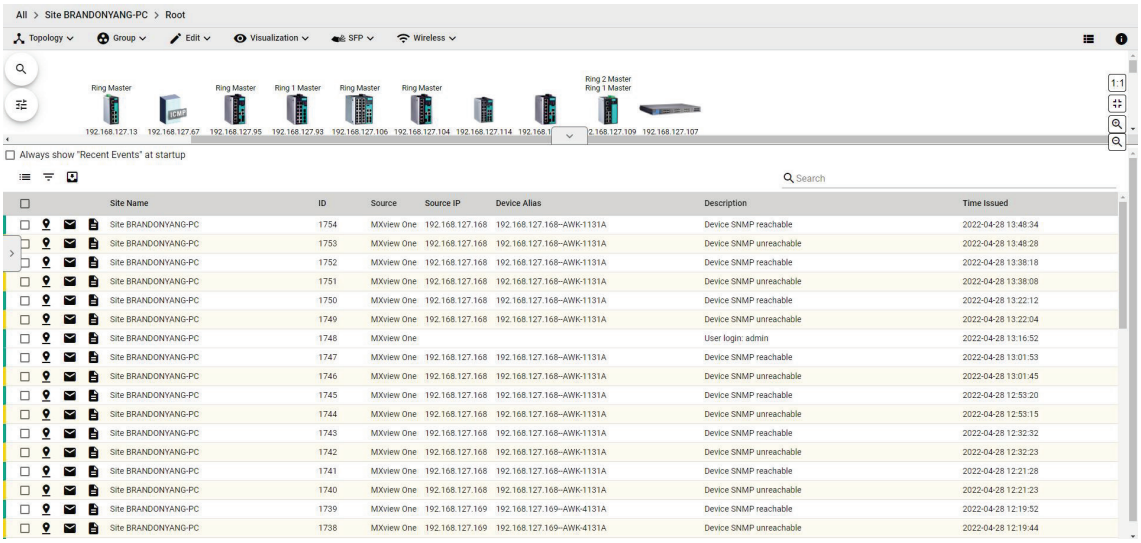
Viewing Recent Events

Use the **Topology** screen to view recent events from devices in your topology. You can filter the events in the list or export the data as a CSV file.

For more information on viewing all events, see Event Monitoring.

1. Navigate to **Menu** ( ) **> Topology**.

   The **Topology** screen will appear and displays the **Recent Events** panel on the bottom.



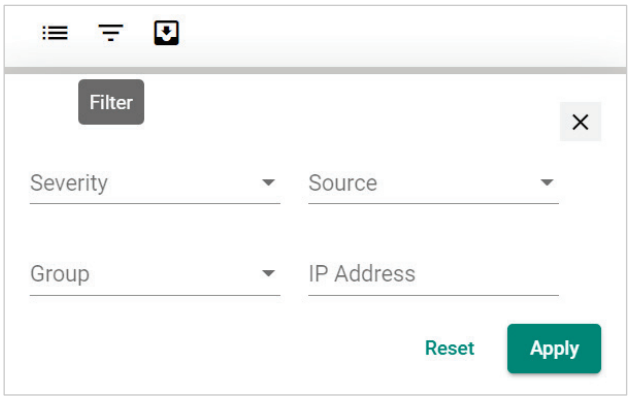
2. To filter the information in the table, type a full or partial string that matches the value in any of the table columns on the right of the search space.

   MXview One filters the table to only display events with values that fully or partially match the specified string.

3. To filter the information in the table by specific criteria:

   a. Click the **Filter** ( ) icon below the **Recent Events** tab.

   The criteria selection screen appears.



   b. Specify any of the following criteria:

   - **Severity:** Select the event severity level
     - Any
     - Information
     - Warning
     - Critical
     - System Information

- **Source:** Select the source that detected the event
  - Any
  - MXview One
  - Trap
- **Group:** Select the device group
- **IP Address:** Select the device IP address

c. Click **Apply**.

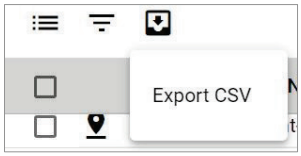
MXview One filters the table to only display events that match the specified criteria.

4. To acknowledge the events in the table:
   a. Click the Acknowledge ( ) icon before the specific event, then the event will be confirmed.
   b. If you want to acknowledge more events, click the checkbox before the events or click the checkbox on the tool bar to select all the events. Then, click the Acknowledge icon.
5. To sort the data in the table by a specific column, click the column heading.

   MXview One sorts the table by the column.

6. To export data displayed in the **Recent Events** tab:

   a. Click the **Export** ( ) icon.

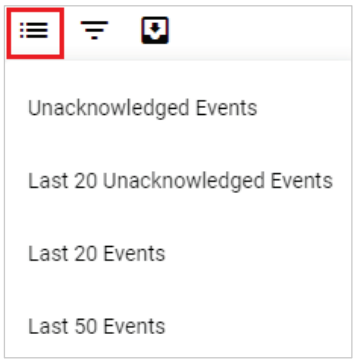


   b. Select **Export CSV**.
   c. Specify the location to save the exported file.
   d. Click **Save**.

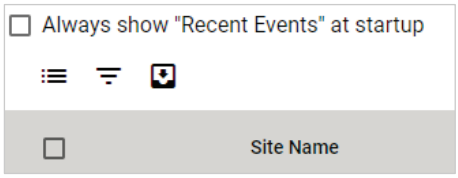
   MXview One exports the displayed event data as a CSV file.

7. To quickly filter event, click the **Quick filter event** ( ) icon to find the events.

   The events include the following:
   - Unacknowledged Events
   - Last 20 Unacknowledged Events
   - Last 20 Events
   - Last 50 Events.



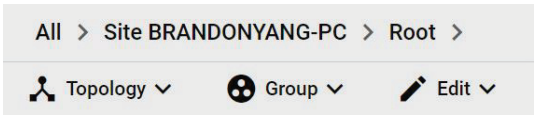
8. MXview One allows users to display the Recent Events panel all the time by clicking the **Always show "Recent Events" at the startup** checkbox.



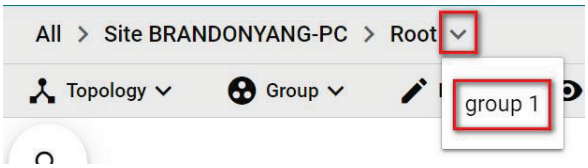
Organizing the Topology Structure By Group Function

The Topology Map can be organized into a multi-layer tree structure of up to 5 layers. Organizing the topology structure into groups helps manage a large number of nodes on the computer screen. For example, users can move nodes of the same subnet or location into the same group. Root, which is the only group at the first layer, exists by default and cannot be deleted. Groups created by users are in the layer under Root. Devices can be moved between groups.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
   - MXview One represents the Topology Map structure by a path at the top of the **Topology** screen:

   - If the Topology Map contains groups under the Root layer, you can click the right arrow (**>**) and select the group:

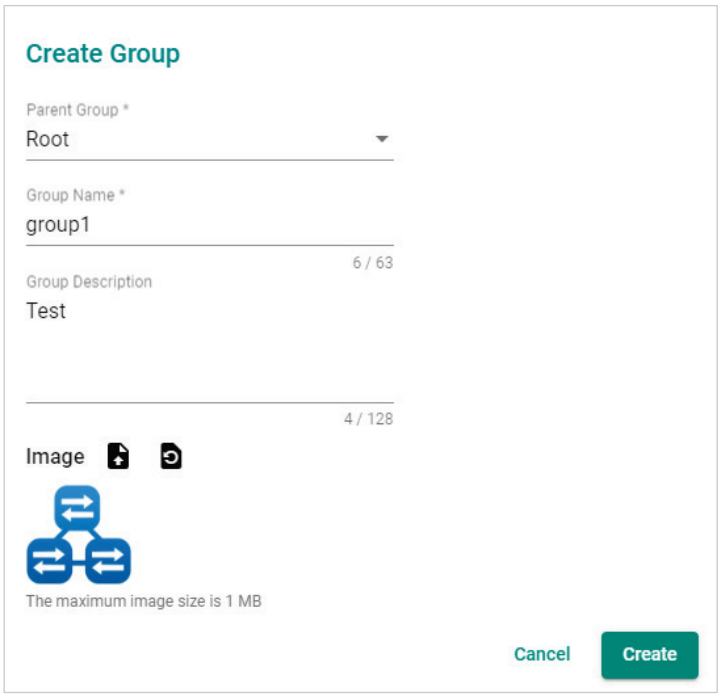
   - You can also click the following icon used to indicate user-defined groups within the Topology Map:

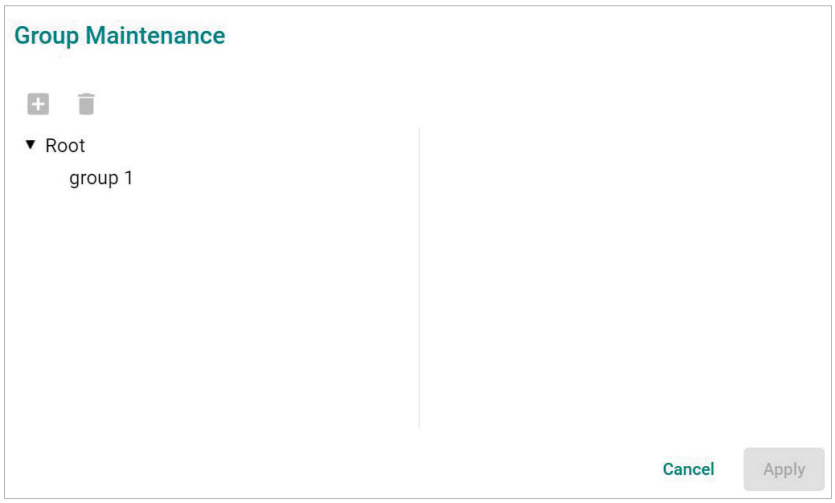
2. If **List view** is displayed, click the **Topology view** ( ) icon in the top right corner.
   The **Topology** screen displays the following toolbar above the Topology Map:

3. To create a group:
   a. Navigate to **Group > Create Group**.
      The **Create Group** screen appears.

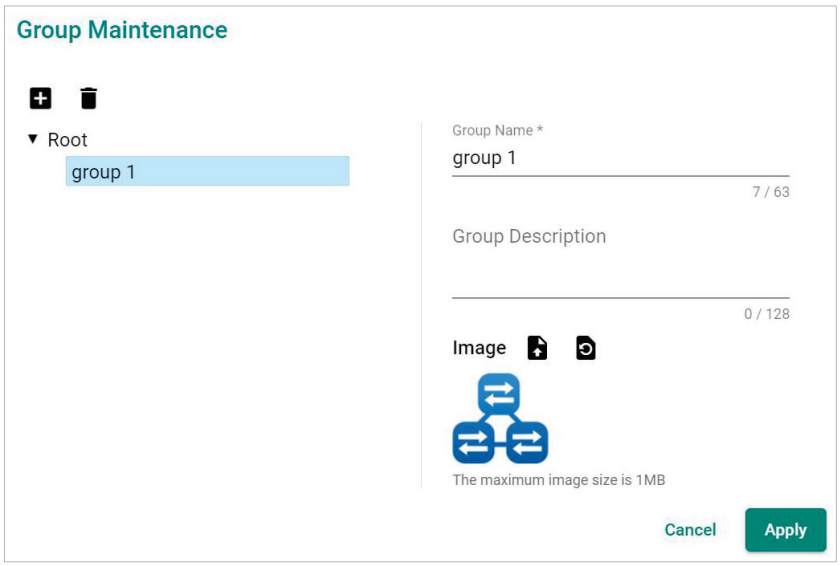


   b. Configure the following:
      - ❒ Parent Group
      - ❒ Group Name
      - ❒ Group Description
      - ❒ Group Icon
   c. Click **Create**.
      MXview One will add the group below to the specified parent group.
4. To reorganize the groups within the Topology Map structure:
   a. Navigate to **Group > Group Maintenance**.
      The **Group Maintenance** screen appears.



b. Select a layer to modify.

The group details appear to the right of the topology directory tree.



c. (Optional) Edit the group details or perform one of the following points:

i. (Optional) Click **Add** to add a new group below the selected layer.

ii. (Optional) Click **Delete** to remove a group from the topology structure.

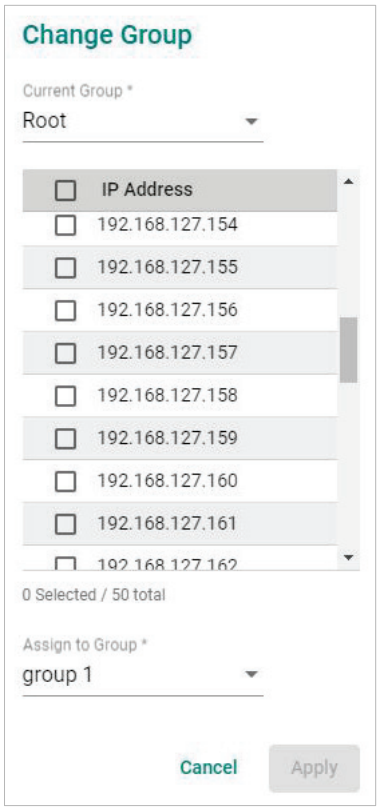
d. Click **Apply**.

5. To reassign the device(s) in a group:

a. There are two ways to reassign the device(s) in a group:

i. Navigate to Group > **Change Group**. The Change Group screen appears.

ii. Select the device(s) you want to reassign on the topology and click the Change Group icon on the toolbar.



b. If the **IP Address** list does not display the IP address(es) of the device(s) you want to reassign, select the **Current Group** drop-down list.

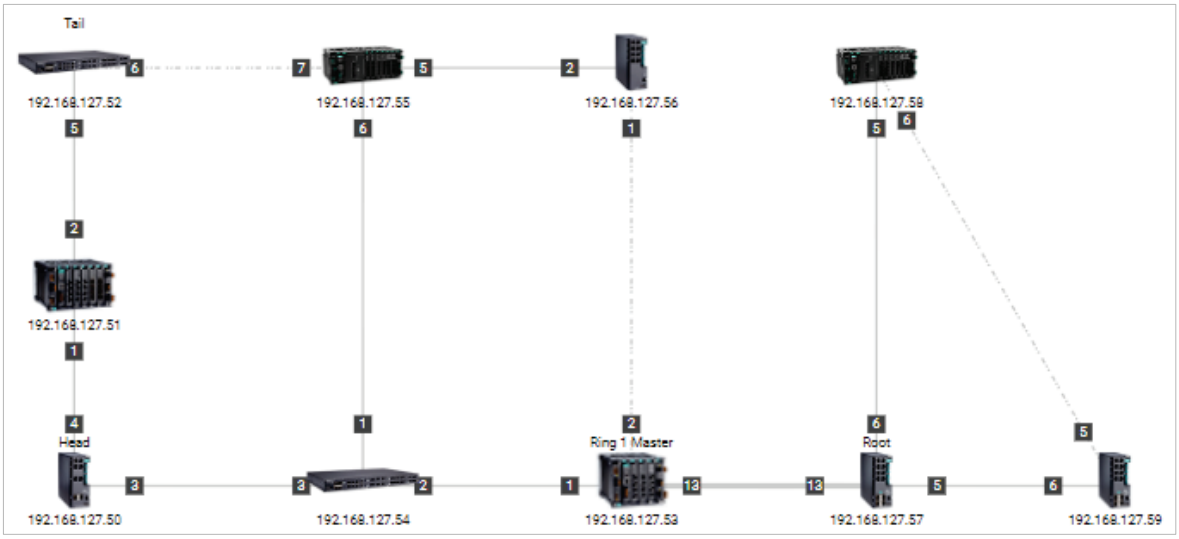
c. Select the IP address(es) of the device(s) that you want to reassign to a different group.

d. From the **Assign to Group** drop-down list, select the new group for the selected device(s).

e. Click **Apply**.

Redundant Topologies

Redundant topologies have at least one backup link, which will be indicated with a dashed line:



For devices that play a particular role in the topology, MXview One will label the devices by displaying the roles above the images of the devices. Backup links will be indicated with dashed lines.

- RSTP has a **Root**
- Turbo Ring has a **Master**
- Turbo Chain has a **Head** and a **Tail**
- Dual Homing

NOTE

Only the **Auto Topology** function can draw dashed lines for redundancy links. Redundant links that are added manually will appear as solid lines.

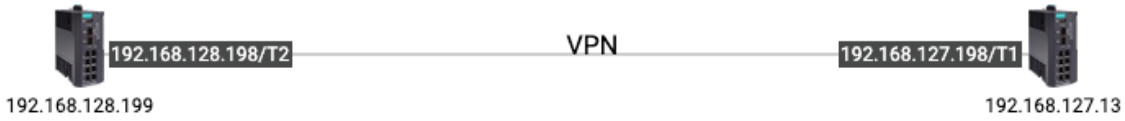
PoE Power Consumption Visualization

By periodic polling, a PoE link will display the port number, power (watts), voltage (V), and current (mA) directly on the topology map.

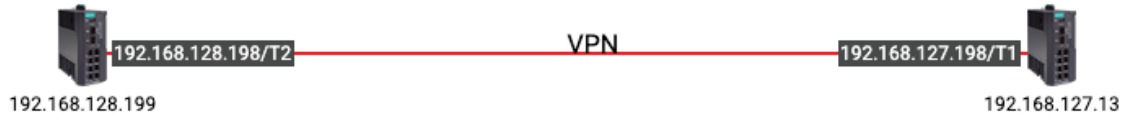
VPN Tunnel Visualization

The VPN tunnel link will display 'VPN' on the link.

1. The VPN tunnel is connected.



2. The VPN tunnel is disconnected.



NOTE

VPN Tunnel Visualization is only available on Moxa's EDR-810 and EDR-G9010 series of secure routers.

Port Trunking

Port trunking, also called link aggregation, involves grouping links into a link aggregation group. Trunking links will be indicated with thick, solid lines.

NOTE

Only **Auto Topology** can draw thick lines for trunking links. Trunking links that are added manually will appear as solid lines.

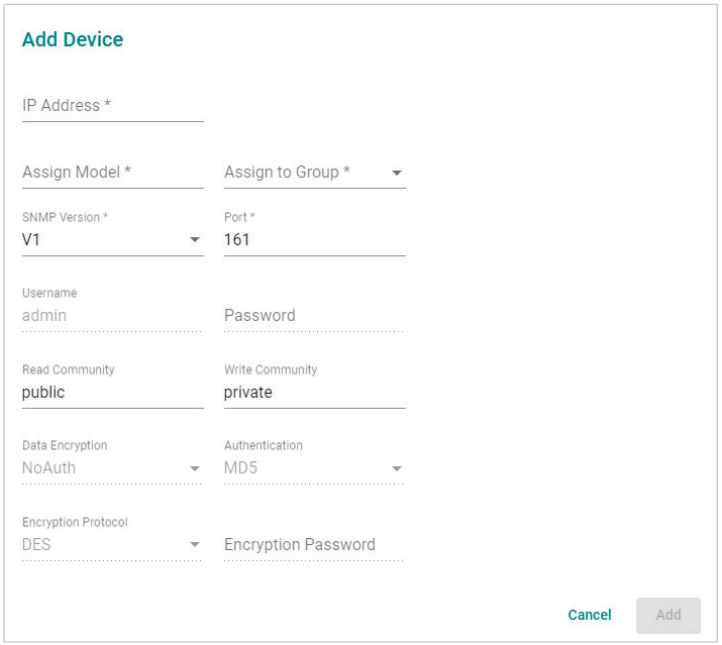
NOTE

For trunked link, check **Device Properties** to get the port number corresponding to the trunking information.

Adding Devices and Links

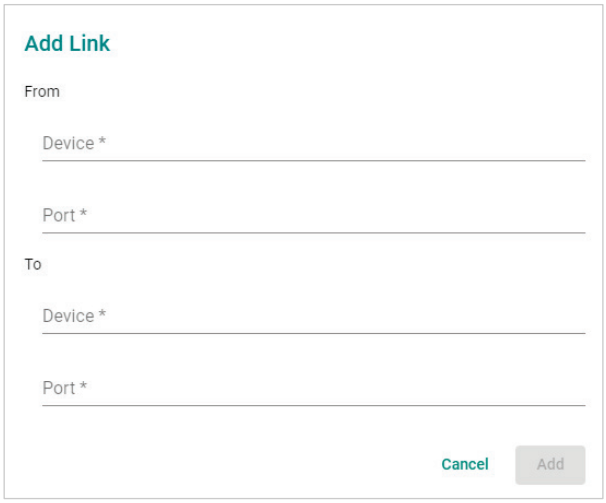
MXview One allows you to manually add devices and links to an automatically generated Topology Map. The **Topology** screen allows you to add devices from Topology View or List View.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. To add a device to the Topology Map:
   a. Click **Edit > Add Device**.
      The **Add Device** screen will appear.



   b. Configure the following:
      - **IP Address:** Specify the IP address of the device
      - **Assign Model:** Select the model of the device
      - **Assign to Group:** Select the group to assign the device to
      - **SNMP Version:** Select the SNMP version
      - **Port:** Specify the port number
      - **Username:** Specify the device login Username
      - **Password:** Specify the password
      - **Read Community:** Specify the SNMP read community string
      - **Write Community:** Specify the SNMP write community string
      - **Data Encryption:** Select the data encryption method
      - **Authentication:** Select the authentication method
      - **Encryption Protocol:** Select the encryption protocol and input the **Encryption Password**
   c. Click **Add**.
      MXview One adds the device to the topology.

3. To add a link to the Topology Map:
   a. Navigate to **Edit > Add Link**.
      The **Add Link** screen will appear.



   b. Configure the following information for the two devices joined by the link:
      - **Device:** Specify the IP address of the device
      - **Port:** Specify the device port number
   c. Click **Add**.
      MXview One adds the link between the specified devices.

> **NOTE**
>
> Links drawn between two devices in the Topology Map are bidirectional. You may specify either device as the **From** device or the **To** device.

> **NOTE**
>
> Trunking and redundancy links added manually will appear as solid lines.

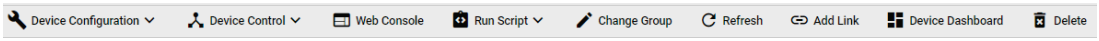
> **NOTE**
>
> Port numbers must be numeric and entered correctly to obtain the correct traffic information.

> **NOTE**
>
> For modular switches, a port number depends on the chassis to which the port belongs, but not on how many modules are inserted. For switches such as the PT-7828, the first module's port numbers are from 1 to 8, the second module's port numbers are from 9 to 16, and so on. The port number depends only on which slot the module is in; in other words, the port number is the same regardless of whether other slots are empty or occupied.

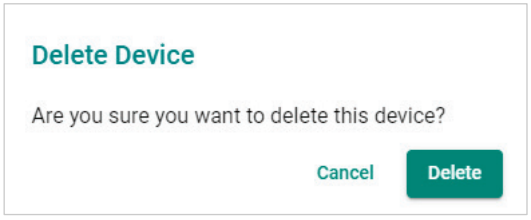
Deleting Devices and Links

You can delete devices and links from the Topology Map. After a device is deleted, it will be removed from the topology map, and the device will not be polled or located when performing Device Discovery. Deleting a link will delete a link from the topology map, but it will not affect the actual network configuration.

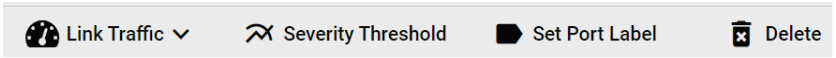
1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. To delete a device from the Topology Map:
   a. Select the device.



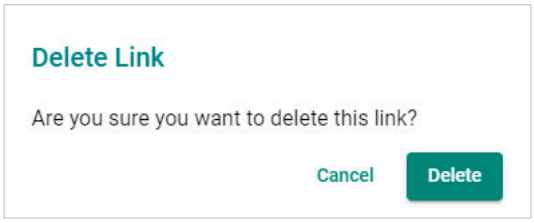
   The following toolbar menu will appear.
   b. Click **Delete**.
   A confirmation screen will appear.



   c. Click **Delete**.
   MXview One deletes the device from the Topology Map.
3. To delete a link from the Topology Map:
   a. Select the link.
   The following toolbar menu will appear.



   b. Click **Delete**.
   A confirmation screen will appear.



   c. Click **Delete**.
   MXview One deletes the link from the Topology Map.

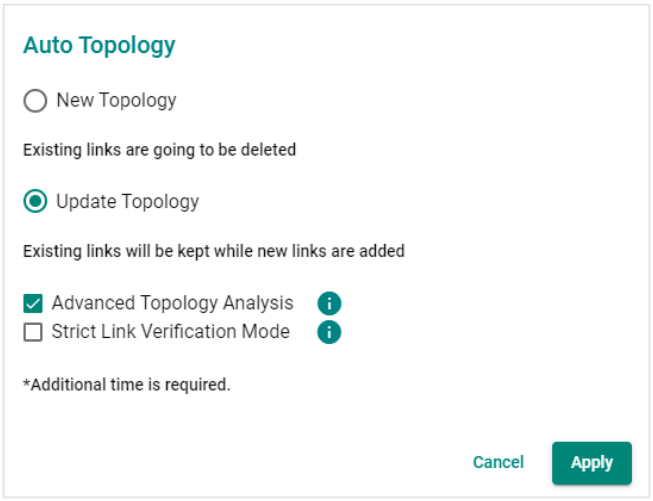
Updating the Topology Map

Updating the existing topology adds new links and updates existing links, but does not change the status of links that are indicated as having been disconnected or links that were drawn manually.

For devices with LLDP functionality, MXview One can draw the physical topology map, down to the port level of the devices. For devices without an LLDP MIB, MXview One is able to draw links by using ARP. To activate this function, select the **Advanced Topology Analysis** checkbox from the **Auto Topology** screen.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. If **List view** is selected, click the **Topology view** ( ) icon in the top right corner.
   The **Topology** screen displays a graphical representation of the devices and links on your network.

3. Navigate to **Topology > Auto Topology**.
   The **Auto Topology** screen appears.



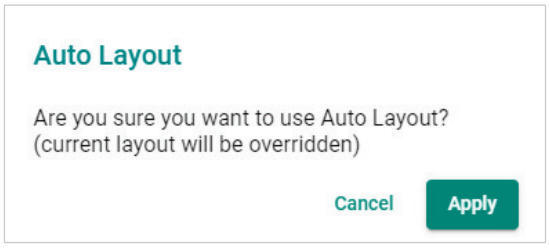
4. Select **Update Topology**.
5. (Optional) Select **Advanced Topology Analysis** to draw links for devices without an LLDP MIB.
6. (Optional) Select **Strict Link Verification Mode**. If enabled, links between devices will only be shown on the topology if the devices on both ends have the other device's information in their LLDP table.
7. Click **Apply**.
   MXview One will update the Topology Map.

> **NOTE**
>
> MXview One cannot guarantee that it can draw the link of the topology for non LLDP devices. However, you can draw the link of the topology manually by clicking **Add Link**.

Refreshing the Topology Layout

After changes have been made, use the **Auto Layout** feature to refresh the layout of the Topology Map. Auto Layout does not update any devices or links. It only redraws the topology to better fit the screen.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and displays the Topology Map by default.
2. If **List view** is selected, click the **Topology view** ( ) icon in the top right corner.
   The **Topology** screen will display a graphical representation of the devices and links on your network.
3. Navigate to **Topology > Auto Layout**.
   The **Auto Layout** screen appears.



4. Click **Apply**.
   MXview One refreshes the Topology Map layout.

Creating a New Topology Map

Creating a new topology deletes all links, requests LLDP information from devices, and draws topology maps based on the gathered information.

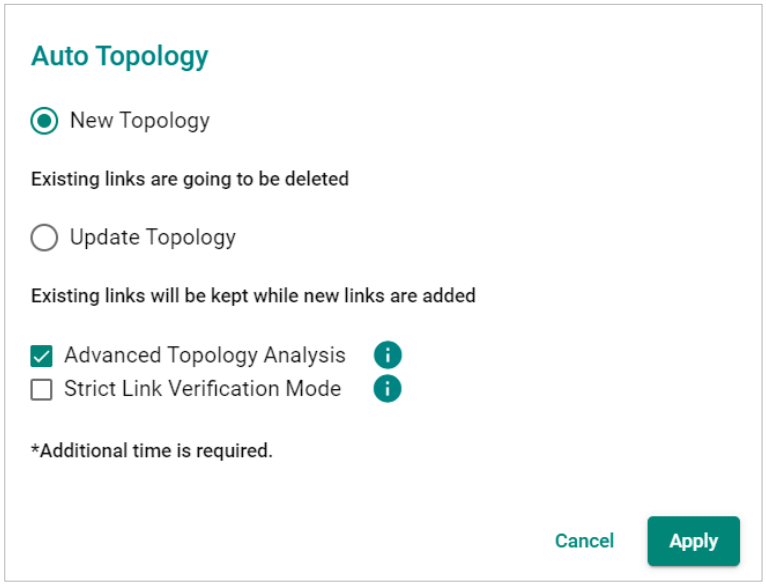
For devices with LLDP functionality, MXview One can draw the physical topology map, down to the port level of the devices. For devices without an LLDP MIB, MXview One is able to draw links by using ARP. To activate this function, select the **Advanced Topology Analysis** checkbox from the **Auto Topology** screen.

> **NOTE**
>
> Links drawn manually will also be deleted by this action.

> **NOTE**
>
> Your devices must have firmware version 3.1 or higher to use **Advanced Topology Analysis**.

> **NOTE**
>
> If the Auto Topology function does not create an accurate representation of the actual network, deselect the **Advanced Topology Analysis** check box and try again.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. If **List view** is selected, click the **Topology view** ( ) icon in the top right corner.
   The **Topology** screen displays a graphical representation of the devices and links on your network.
3. Navigate to **Topology > Auto Topology**.
   The **Auto Topology** screen appears.



4. Select **New Topology**.
5. (Optional) Select **Advanced Topology Analysis** to draw links for devices without an LLDP MIB.
6. Click **Apply**.
   MXview One will create a new Topology Map.

NOTE

MXview One cannot guarantee that it can draw the link of the topology for non LLDP devices. However, you can draw the link of the topology manually by clicking **Add Link**.

Setting/Editing the Background Image

MXview One allows you to customize the Topology Map by uploading a background image in JPG, GIF, or PNG format.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and will display the Topology Map by default.
2. If **List view** is selected, click the **Topology view** ( ) icon in the top right corner.
   The **Topology** screen will display a graphical representation of the devices and links on your network.
3. Navigate to **Edit > Background**.
   The **Background** screen appears.

4. Upload the background image by using one of the following methods:
   - The image size must be less than 20 MB.
   - Click **Set Background** ( ) icon to upload the image file.

   MXview One will set the uploaded image as the Topology Map background.
5. Use the sliders to modify the **Alpha** and **Saturation** value of a background image.

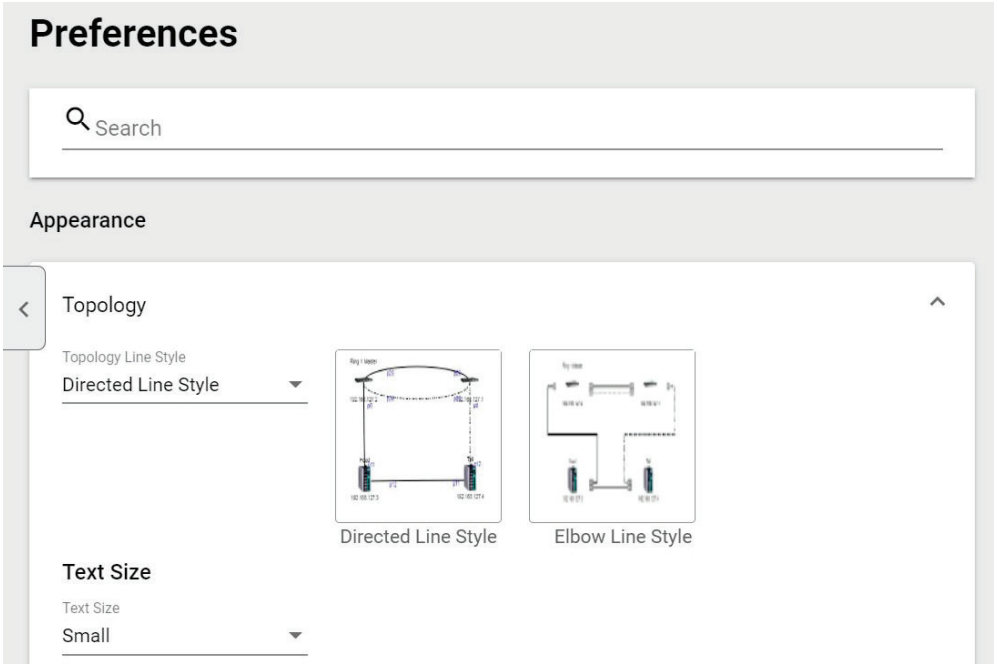
6. Under the **Position** section, modify the value of X and Y to move the origin of the image to a suitable location. Modify the 'Width' and 'Height' to change the size of the image.

7. To delete a background image, click ( ) to remove the background image from the Topology Map.

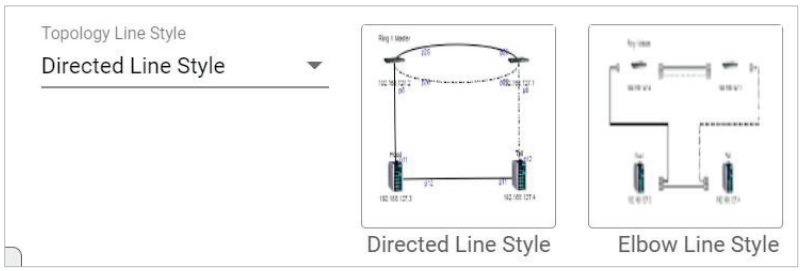
Editing the Topology Appearance

Use the **Preferences** screen to modify how the Topology Map displays the topology line style, PoE status, background color, link status, and traffic load.

1. Navigate to **Menu** ( ) **> Administration > Preferences.**.
   The **Preferences** screen appears.
2. In the **Appearance** section, expand **Topology**.
   The **Topology** settings appear.

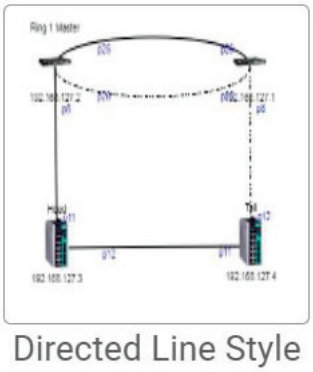


3. To modify the Topology Line Style, select one of the following from the drop-down list:



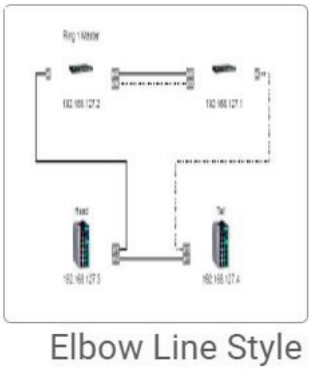
- **Directed Line Style**

  MXview One applies the following style to the lines indicating the links between devices in the Topology Map:



- **Elbow Line Style**

  MXview One applies the following style to the lines indicating the links between devices in the Topology Map:

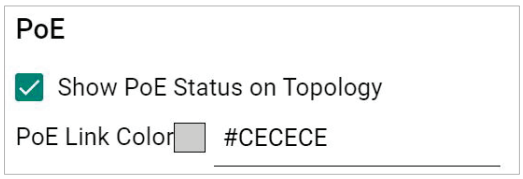


4. To modify the text size in MXview One:

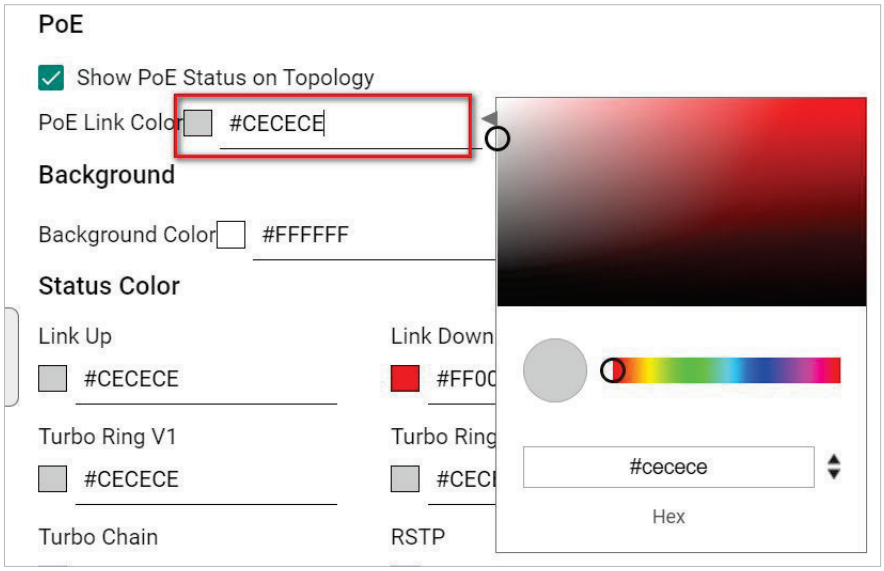
   Select one of the following from the drop-down list:

   - Large
   - Medium
   - Small

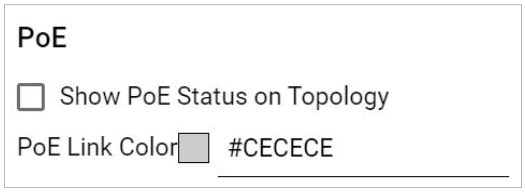
5. To modify how MXview One displays Power-over-Ethernet (PoE) links:
   a. Select the **Show PoE Status on Topology** check box to indicate the PoE link status on the Topology Map.



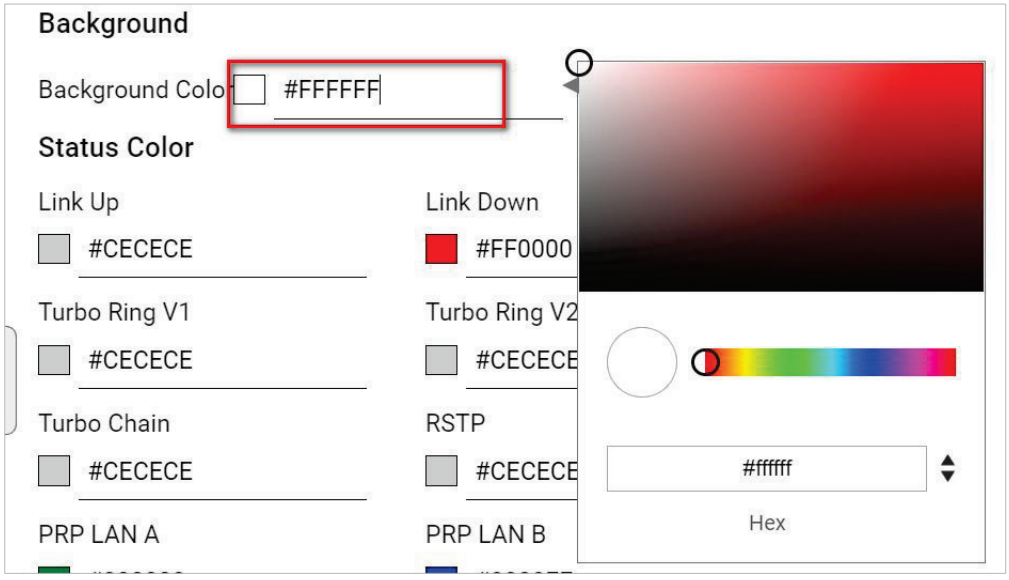
   b. Click the **PoE Link Color** field and specify a new color.



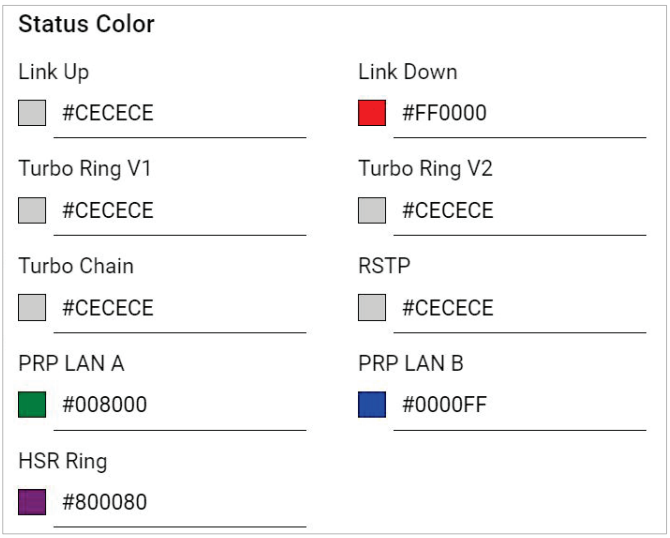
   c. (Optional) Clear the **Show PoE Status on Topology** check box to hide the PoE link status on the Topology Map.



6. To modify the Topology Map background, click the Background Color field and specify a new color.



7. To modify the color used to indicate the status of specific links in the Topology Map, click to modify the **Status Color** hex code for any of the following links:
   - Link Up
   - Link Down
   - Turbo Ring V1
   - Turbo Ring V2
   - Turbo Chain
   - RSTP
   - PRP/Coupling LAN A
   - PRP/Coupling LAN B
   - HSR Ring



NOTE

The three status colors (**PRP LAN A, PRP LAN B, HSR Ring**) will appear when you activate the MXview Power license.

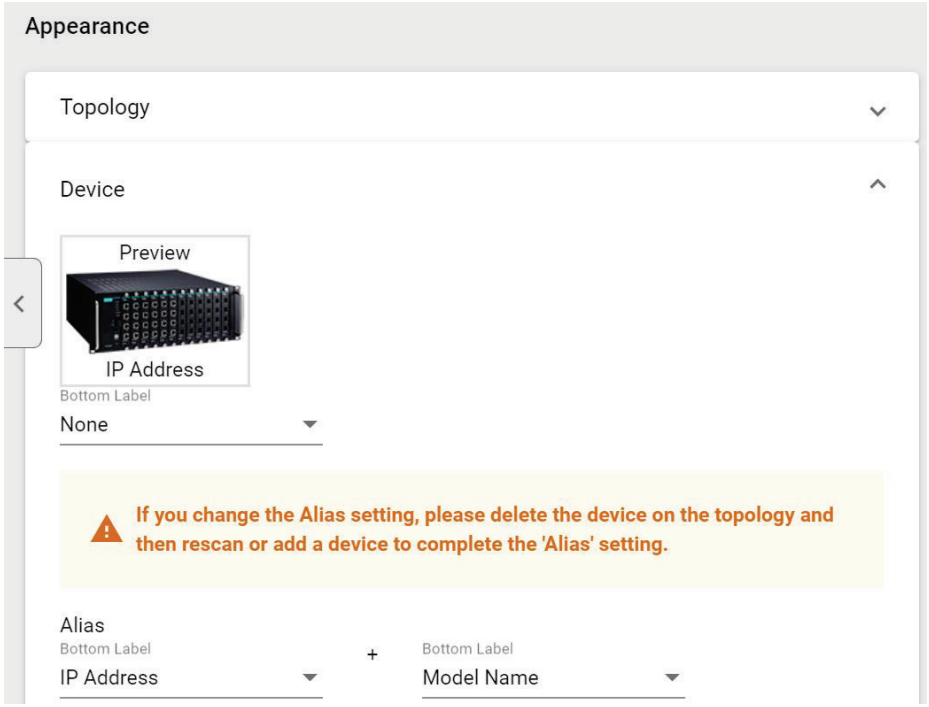
8. Click **Save**.

   MXview One will update the modified settings.

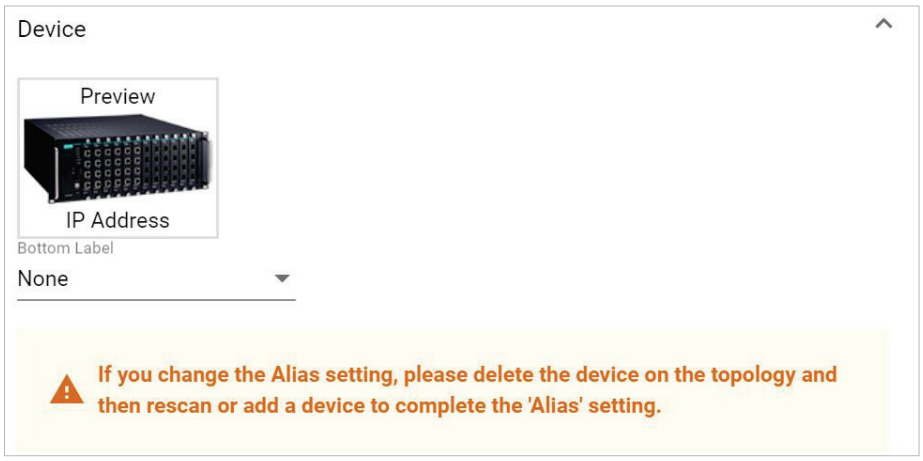
Editing the Device Appearance

Use the **Preferences** screen to modify how devices appear in the Topology Map.

1. Navigate to **Menu** ( ) **> Administration > Preferences.**
   The **Preferences** screen will appear.
2. In the **Appearance** section, expand **Device**.
   The **Device** settings will appear.



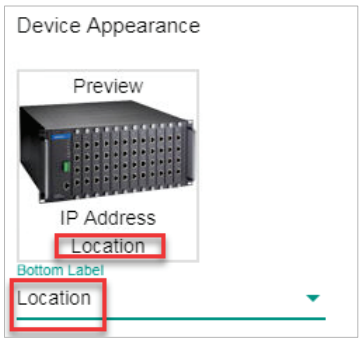
3. To modify the label that indicates the device in the Topology Map:
   a. Locate the **Bottom Label** drop-down list located below the Preview image:



b. Select one of the following properties from the **Bottom Label** drop-down:

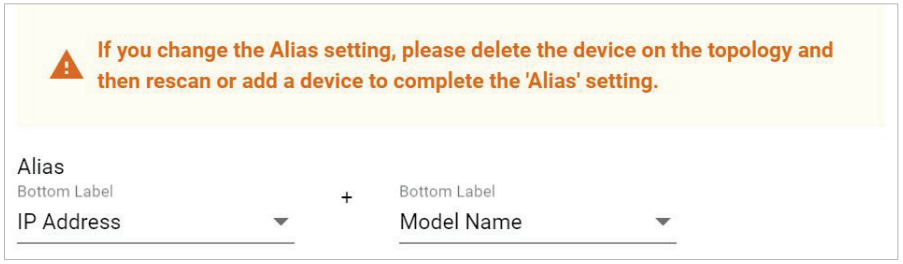
- ❒ Location
- ❒ Alias
- ❒ Model Name
- ❒ MAC

MXview One displays the selected property below the IP address of the device.



4. To modify the device alias:

a. Locate the **Alias** section.



b. From the first drop-down list in the Alias section, select one of the following:

- ❒ IP Address
- ❒ MAC
- ❒ Model Name
- ❒ Location
- ❒ SysName

c. From the second drop-down list in the Alias section, select one of the following:

- ❒ IP Address
- ❒ MAC
- ❒ Model Name
- ❒ Location
- ❒ SysName

NOTE

If you change the Alias setting, please delete the device on the topology and then rescan or add a device to complete the 'Alias' setting.

5. Click **Save**.

MXview One updates the modified settings.

Exporting the Topology Map

MXview One allows you to export the Topology Map as a PNG image.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. If **List view** is selected, click the **Topology view** ( ) icon in the top right corner.
   The **Topology** screen will display a graphical representation of the devices and links on your network.
3. Navigate to **Edit > Export Topology**.
   MXview One exports the PNG image of the Topology Map.

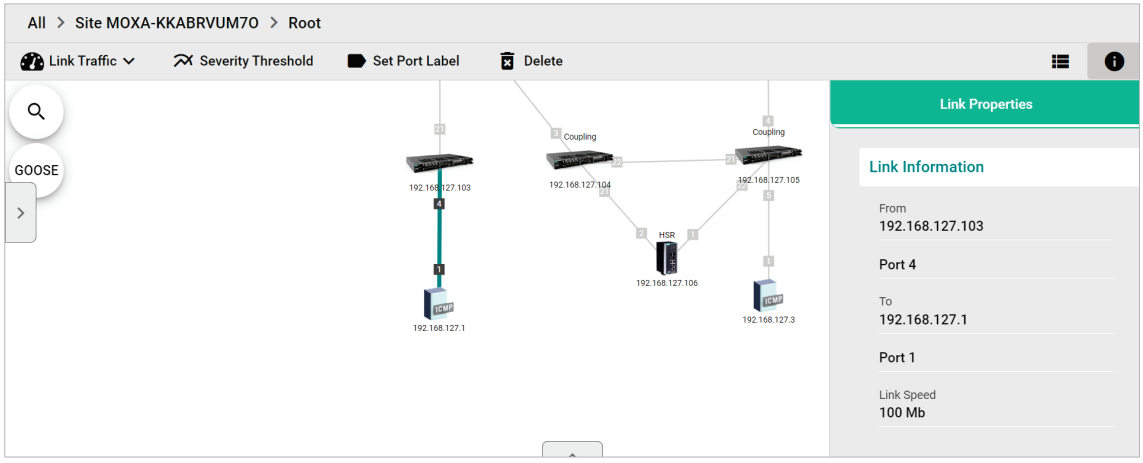
8. Network and Traffic Monitoring

MXview One allows you to monitor the traffic between devices on your network and trigger events for specific traffic conditions. You can apply topology views to monitor traffic load, network security, as well as wireless access points and clients.

Viewing Link Properties

Click a link on the Topology Map to view link properties and perform the following:

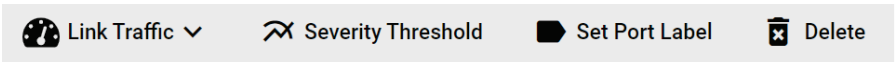
1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Click on a link between devices in the Topology Map.
   The **Link Properties** pane appears to the right of the Topology Map.



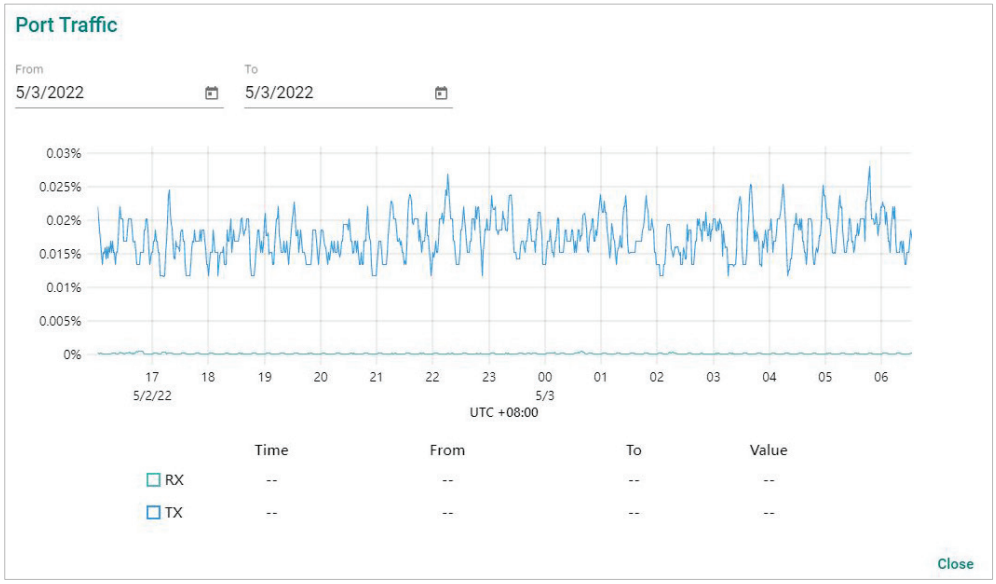
Viewing Port Traffic

The **Port Traffic** screen displays a graph that shows the utilization percentage (Y-axis) over a specific time period (X-axis). You can also adjust the time period for the data that is displayed by changing the starting date and ending date. The minimum interval you can select is one day and the maximum interval you can select is 90 days.

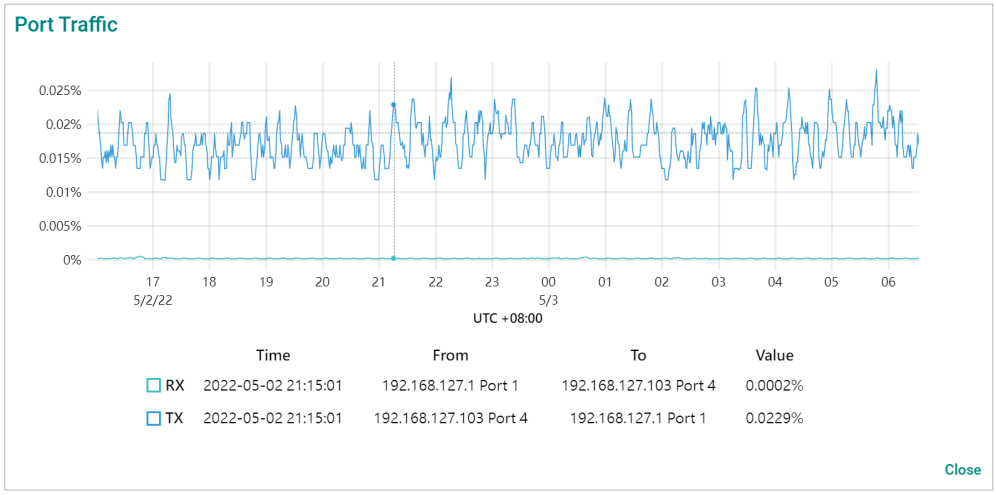
1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. Click on a link between devices in the Topology Map.
   The **Link Properties** pane and the following toolbar appear when a link is selected.



3. Navigate to **Link Traffic > Port Traffic**.
   The **Port Traffic** screen will appear.



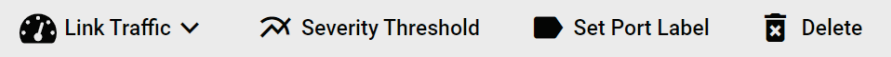
4. To adjust the time period for the graph data:
   a. Click the **From** date and select a new starting date.
   b. Click the **To** date and select a new ending date.
5. Hover over a line to view the direction of traffic.
   For example, the green line at the top of the following graph represents traffic from **192.168.127.1 (device IP address) Port 1 to 192.168.127.103 (device IP address) Port 4**.



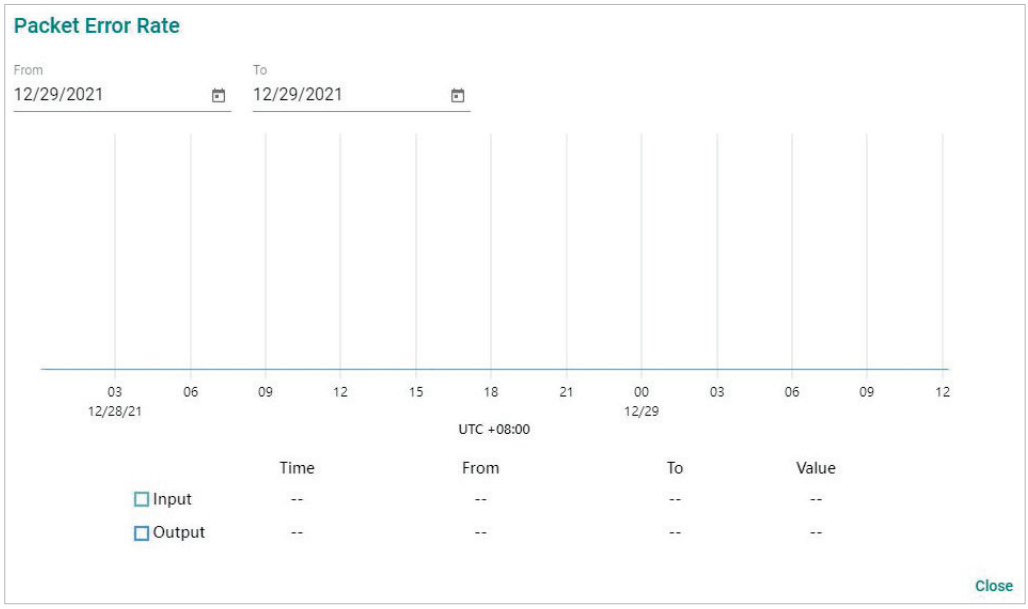
Viewing Packet Error Rates

The **Packet Error Rate** screen displays a graph that shows the packet error rate (Y-axis) over a specific time period (X-axis). You can also adjust the time period for the data that is displayed by changing the start and end dates. The minimum interval is one day and the maximum interval you can select is 90 days.

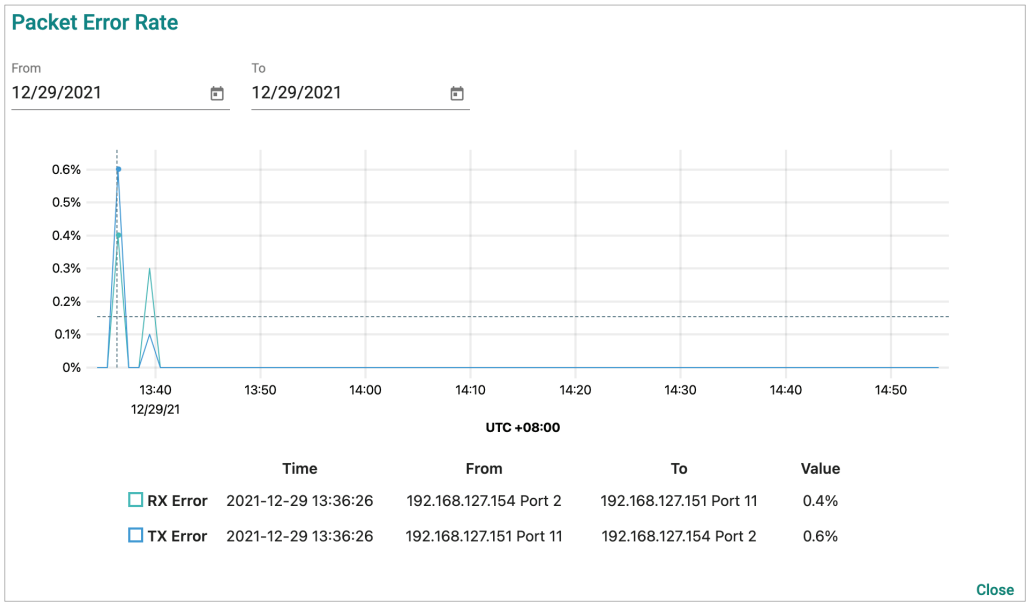
1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. Click on a link between devices in the Topology Map.
   The **Link Properties** pane and toolbar appear when a link is selected.



3. Navigate to **Link Traffic > Packet Error Rate**.
   The **Packet Error Rate** screen appears.



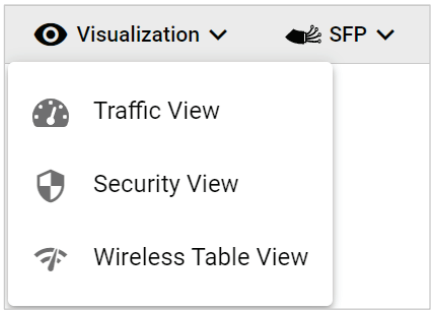
4. To adjust the time period for the graph data:
   a. Click the **From** date and select a new starting date.
   b. Click the **To** date and select a new ending date.
5. Hover over a line to view the packet error rate.



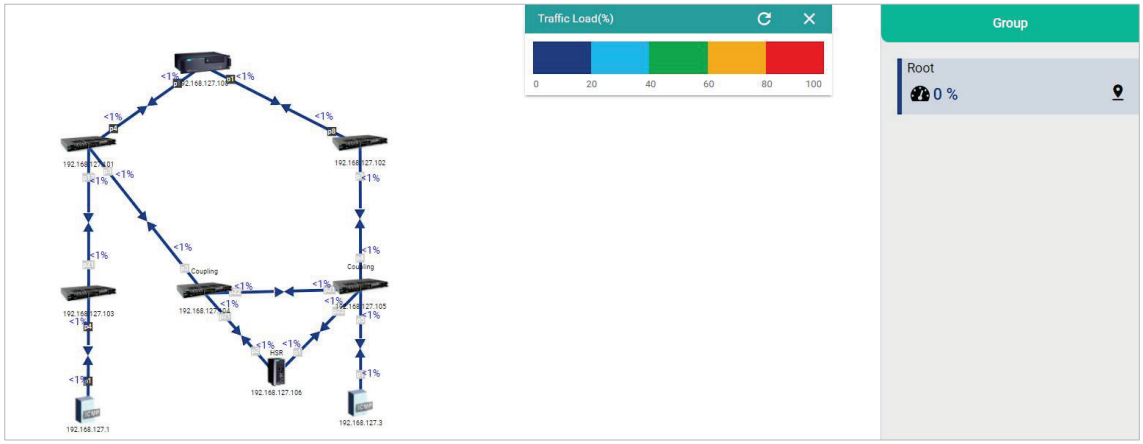
Monitoring Traffic Loads

MXview One collects the traffic load information of every link and displays the information to provide users with a network-wide view.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and displays the Topology Map by default.
2. If **List view** is selected, click the **Topology view** ( ) icon in the top right corner.
   The **Topology** screen will display a graphical representation of the devices and links on your network.
3. From the toolbar menu, navigate to **Visualization > Traffic View**.



The **Traffic Load** legend will appear and the Topology Map color-codes each link to indicate the traffic load.



Monitoring Network Security

ISA/IEC 62443 is a continuously evolving cybersecurity standard whose guidelines have already been adopted in many industrial automation applications. This standard, including its subsections, aims to cover points such as general requirements, policies and procedure, system-level requirements, and component-level requirements.

Moxa's MXview One follows Moxa's security guidelines, which are based on the IEC 62443-4-2 component-level recommendations. Security View checks the security level of Moxa's network devices. There are five levels for checking the results in Security View:

- High
- Medium
- Basic
- Open: Security Level below basic
- Unknown: Devices without security-related information for MXview One

NOTE

The definition of general baseline is based on several industrial cybersecurity policies and requirements.

1. Navigate to **Menu** ( ) **> Topology**.

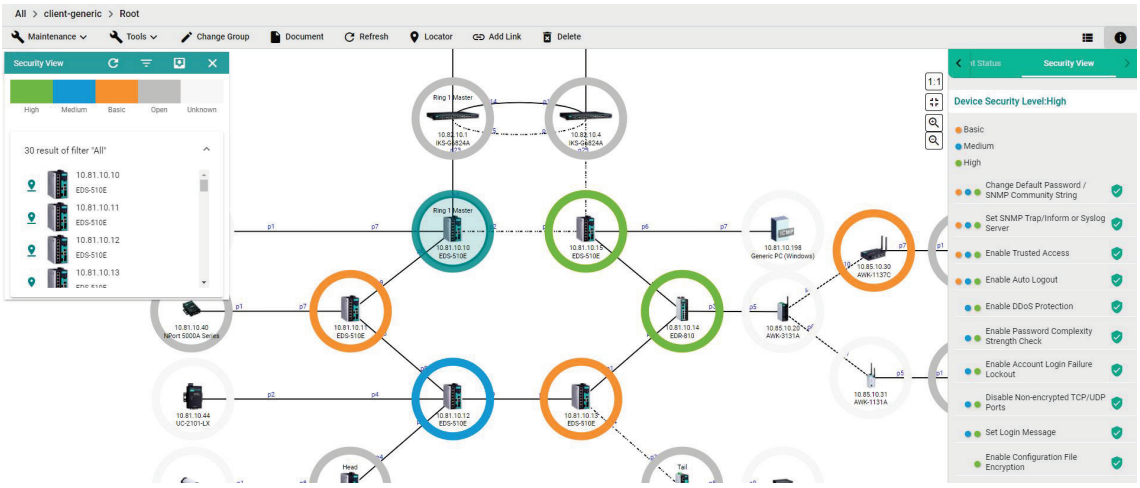
   The **Topology** screen will appear and display the Topology Map by default.

2. If **List view** is selected, click the **Topology view** ( ) icon in the top right corner.

   The **Topology** screen will display a graphical representation of the devices and links on your network.

3. From the toolbar menu, navigate to **Visualization > Security View**.

   The **Security View** window will appear and the Topology Map indicates the security level of each device with a color-coded circle.



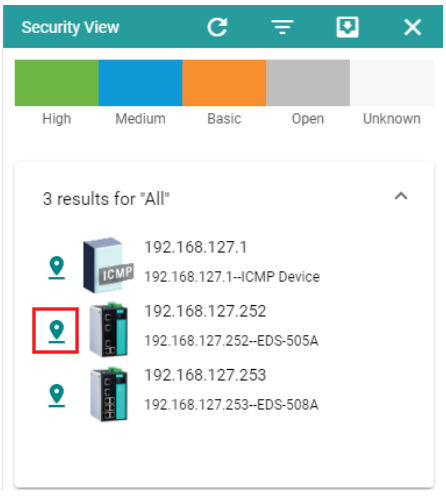
4. To filter the devices in the **Security View** window by security level:

   a. Click the **Filter** ( ) icon.

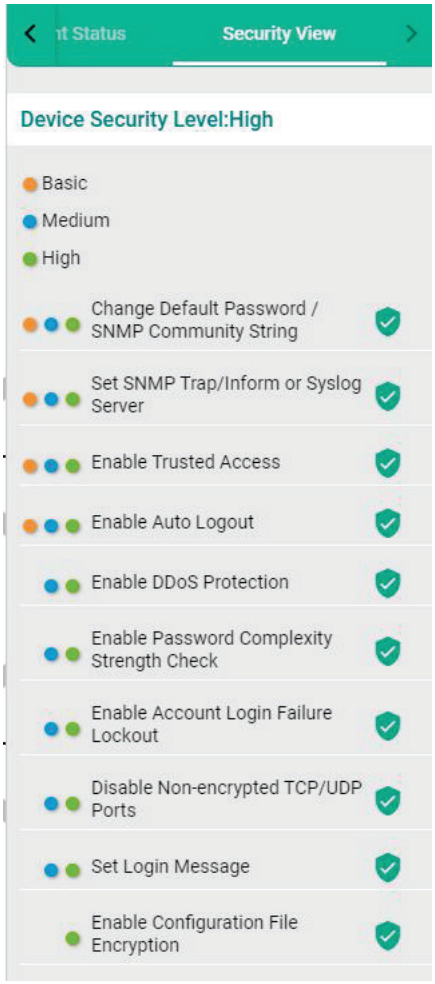
   b. Select the security level.

      The **Security View** window filters the list of devices to only show devices that match the selected security level.

5. To locate a device in the Topology Map, click the device in the Security View window.



The **Security View** details pane will appear on the right and the Topology Map highlights the circle around the device.



6. View security details for a specific device by using one of the following methods:
   - Select a device from the Topology Map.
   - Select a device from the **Security View** window.

   The **Security View** details pane will appear and displays the device security level and security-related configuration statuses.
7. View the Security View Report:

   Click **Export** to export the Security View Report in either CSV or PDF format.

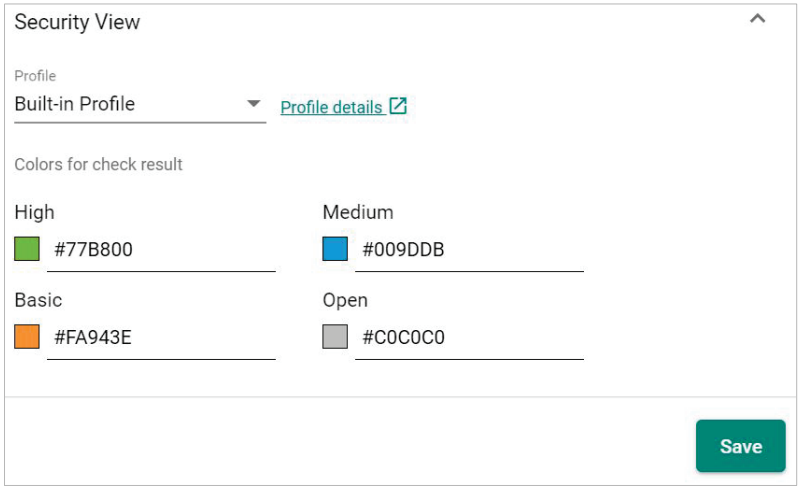
8. Review the following items in the Security View details pane:

Item	Description
Enable Auto Logout	Check if the Auto Logout function is enabled.
Set Login Message	Check if both the Web Login Message and Web Login Fail Message are configured.
Disable Non-encrypted TCP/UDP Ports	Check if non-encrypted TCP/UDP Ports are disabled. HTTP, Telnet, and Moxa Proprietary Protocol should be disabled. SNMP must be set to V3 only.
Enable Account Login Failure Lockout	Check if the Account Login Failure Lockout function is enabled.
Enable Trusted Access	Check if the Trusted Access function is enabled or not. At least one rule must be set.
Enable Password Complexity Strength Check	Check if the Password Complexity Strength Check function is enabled.
Enable Configuration File Encryption	Check if the Configuration File Encryption function is enabled. At least one rule must be enabled.
Enable DDoS Protection	Check if Broadcast Storm Protection is enabled. For eCos switches, MXview One checks whether Broadcast Storm Protection is enabled. For EDR routers, MXview One checks whether at least one form of DoS protection is enabled. For MXnos switches, MXview One checks whether at least one of the following is enabled: Broadcast, Multicast, or DLF protection.
Set SNMP Trap/Inform or Syslog Server	Check if the SNMP Trap/Inform or Syslog Server is set.
Change Default Password/SNMP Community String	Check if the Default Password or SNMP Community String is set.
Enable SSL/TLS High Secure Mode	Check if the HTTPS is enabled and HTTP is disabled.

NOTE

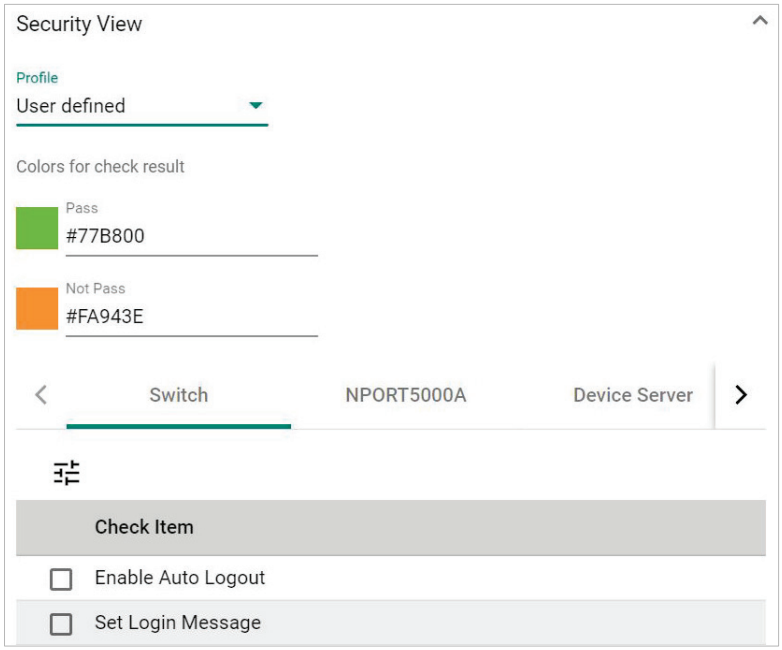
Users can use Security Wizard function in MXconfig to easily set the Security View status of devices.

9. To modify the colors used to indicate the security levels:
   a. Navigate to **Menu** () **> Administration > Preferences**.
      The **Preferences** screen will appear.
   b. Under the **Appearance** section, expand **Security View**.
   c. In the **Colors for check result** section, modify the color used to indicate a security level.



   d. Click **Save**.

10. To define a custom security profile:
    a. Navigate to **Menu** ( ) **> Administration > Preferences**.
       The **Preferences** screen will appear.
    b. Under the **Appearance** section, expand **Security View**.
    c. From the **Profile** drop-down list, select **User defined**.
       The user-defined profile settings will appear.



    d. (Optional) Modify the colors for the check result.
    e. Click one of the following device tabs to configure the profile settings:
        - ❒ Switch
        - ❒ NPORT5000A
        - ❒ Device Server
        - ❒ Terminal Server
        - ❒ Gateway
        - ❒ Wireless
        - ❒ IO
    f. (Optional) Click the **Settings** ( ) icon to select a baseline.
    g. Select the check box for each item you want to add to security profile.
    h. Click **Save**.

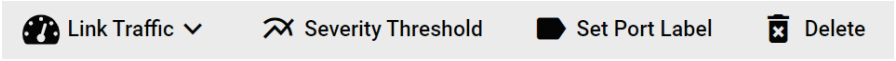
Configuring Severity Thresholds for Traffic and Fiber Status Monitoring Events

MXview One allows you to configure the following traffic conditions on a link to trigger events:

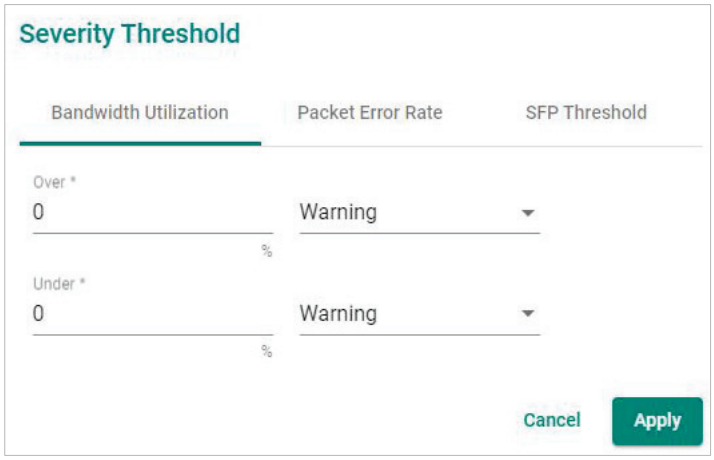
- Bandwidth utilization is over the threshold.
- Bandwidth utilization is under the threshold.
- Packet error rate is over the threshold.
- Fiber Rx is under the threshold.
- Fiber Tx is under the threshold.
- Fiber temperature is over the threshold.
- Fiber voltage is under the threshold.
- Fiber voltage is over the threshold.

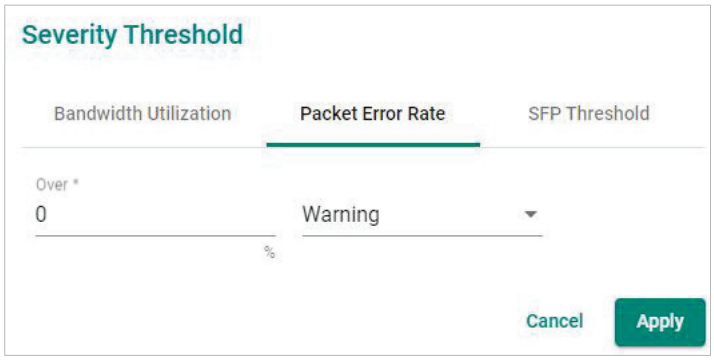
Since a link is bidirectional, the event will be triggered when the traffic condition in either direction satisfies the configured severity threshold.

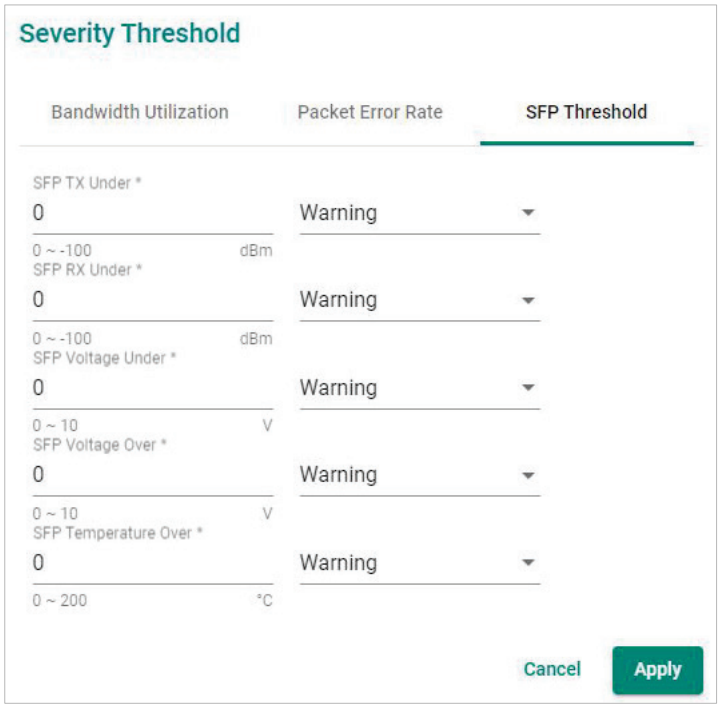
1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Click on a link between devices in the Topology Map.
   The **Link Properties** pane and toolbar appear when a link is selected.



3. Click **Severity Threshold**.
   The **Severity Threshold** screen will appear.







4. To trigger an event when the bandwidth utilization on a link exceeds a specified percentage:
   a. Click the **Bandwidth Utilization** tab.
   b. In the **Over** field, specify the maximum bandwidth utilization percentage.
   c. From the adjacent drop-down list, select one of the following severity levels:
      - ❒ Information
      - ❒ Warning
      - ❒ Critical
5. To trigger an event when the bandwidth utilization on a link falls below a specified percentage:
   a. Click the **Bandwidth Utilization** tab.
   b. In the **Under** field, specify the minimum bandwidth utilization percentage.
   c. From the adjacent drop-down list, select one of the following severity levels:
      - ❒ Information
      - ❒ Warning
      - ❒ Critical
6. To trigger an event when the packet error rate exceeds a specified percentage:
   a. Click the **Packet Error Rate** tab.
   b. In the **Over** field, specify the maximum bandwidth utilization percentage.
   c. From the adjacent drop-down list, select one of the following severity levels:
      - ❒ Information
      - ❒ Warning
      - ❒ Critical
7. To trigger an event when the SFP Tx falls below a specific range:
   a. Click the **SFP Threshold** tab.
   b. In the **SFP Tx Under** field, specify the maximum Tx threshold in dB (0~-100)
   c. From the adjacent drop-down list, select one of the following severity levels:
      - ❒ Information
      - ❒ Warning
      - ❒ Critical

8. To trigger an event when the SFP Rx falls below a specific range:
    a. Click the **SFP Threshold** tab.
    b. In the **SFP Rx Under** field, specify the maximum Rx threshold in dB (0~-100)
    c. From the adjacent drop-down list, select one of the following severity levels:
        - ❒ Information
        - ❒ Warning
        - ❒ Critical
9. To trigger an event when the SFP voltage falls below a specific range:
    a. Click the **SFP Threshold** tab.
    b. In the **SFP Voltage Under** field, specify the maximum voltage in V (0~10)
    c. From the adjacent drop-down list, select one of the following severity levels:
        - ❒ Information
        - ❒ Warning
        - ❒ Critical
10. To trigger an event when the SFP voltage exceeds a specific range:
    a. Click the **SFP Threshold** tab.
    b. In the **SFP Voltage Over** field, specify the minimum voltage in V (0~10)
    c. From the adjacent drop-down list, select one of the following severity levels:
        - ❒ Information
        - ❒ Warning
        - ❒ Critical
11. To trigger an event when the SFP temperature exceeds a specific range:
    a. Click the **SFP Threshold** tab.
    b. In the **SFP Temperature Over** field, specify the minimum temperature in Celsius (0~100)
    c. From the adjacent drop-down list, select one of the following severity levels:
        - ❒ Information
        - ❒ Warning
        - ❒ Critical
12. Click **Apply**.

    MXview One will update the modified settings.
13. (Optional) Configure the Severity Threshold and Fiber status:
    a. Navigate to **Menu** ( ) **> Administration > Global Device Settings**.

    The **Global Device Settings** screen appears.
    b. To set the threshold, you can go to the sections below to complete the settings.
        - ❒ Bandwidth Utilization
        - ❒ Packet Error Rate
        - ❒ SFP Threshold
    c. Click **Save**.

    MXview updates the web console protocol settings.

NOTE

If you complete the Bandwidth Utilization, Packet Error Rate, and SFP Threshold settings in the Global Device Settings section, the settings will be implemented to all the devices in your topology.

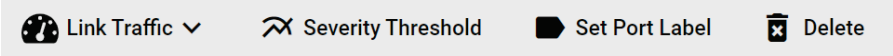
Configuring Custom Port Labels

MXview One uses the following port labelling convention to identify directions of traffic on a link.

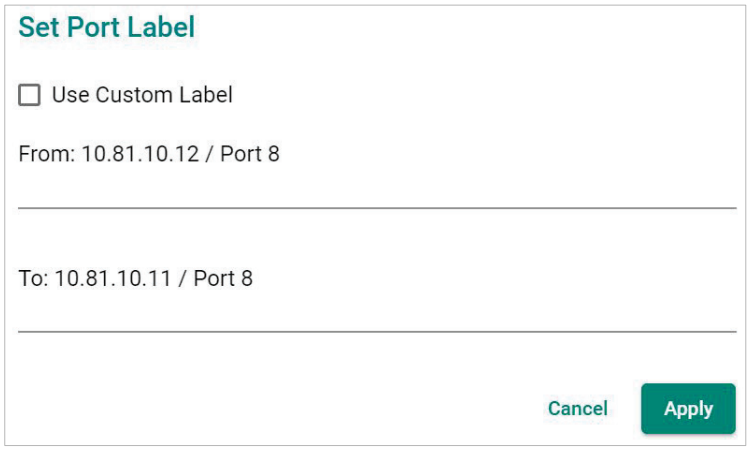
<Device IP Address> / <Port Number>

You can use the Set Port Label screen to customize the port labels.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Click on a link between devices in the Topology Map.
   The **Link Properties** pane and toolbar appear when a link is selected.



3. Click **Set Port Label**.
   The **Set Port Label** screen appears.

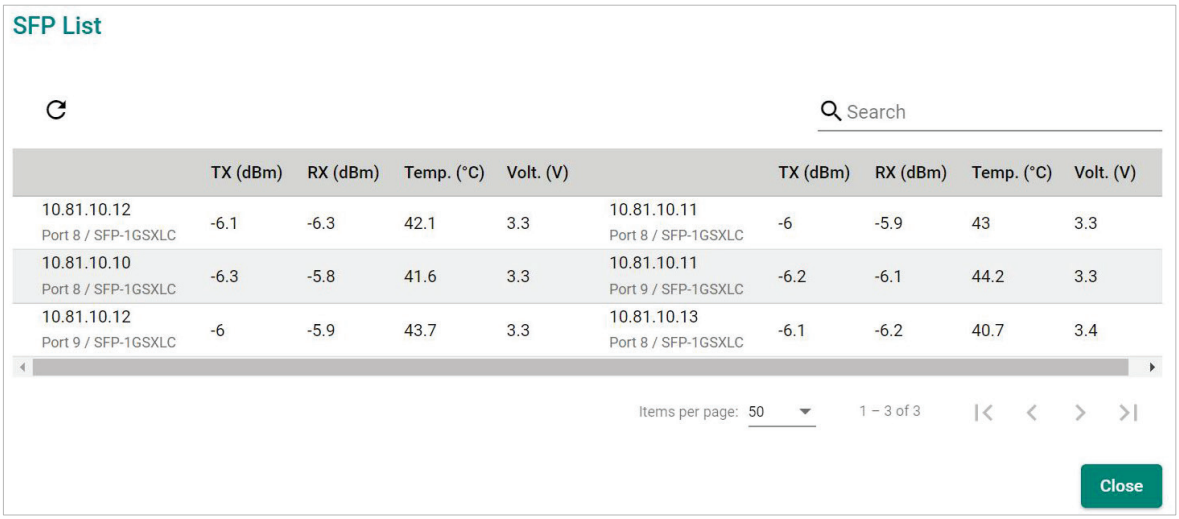


4. Select the **Use Custom Label** check box.
5. In the **From** field, provide a new label for the source port.
6. In the **To** field, provide a new label for the destination port.
7. Click **Apply**.

Viewing the SFP Fiber Status in Table View

MXview One collects and display fiber status in **SFP > SFP List**

The list shows Fiber TX, RX, temperature, and voltage of the cables that are connected.

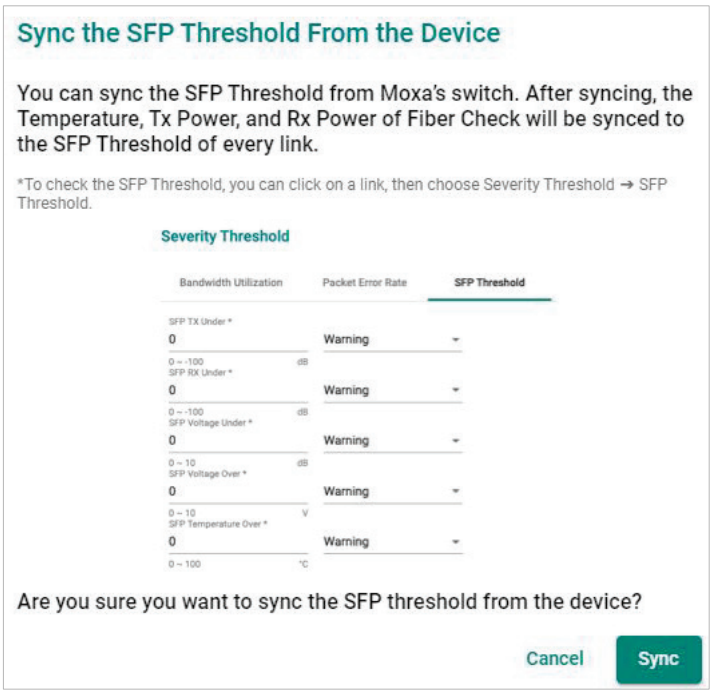


Synchronize the SFP Threshold From the Device

MXview One can synchronize the threshold from devices, which can detect Moxa's SFP connector to get the specific threshold.

Navigate to **SFP > Sync Threshold From the Device**

Click **Sync** and the threshold from the devices will sync to the SFP Threshold of every link.

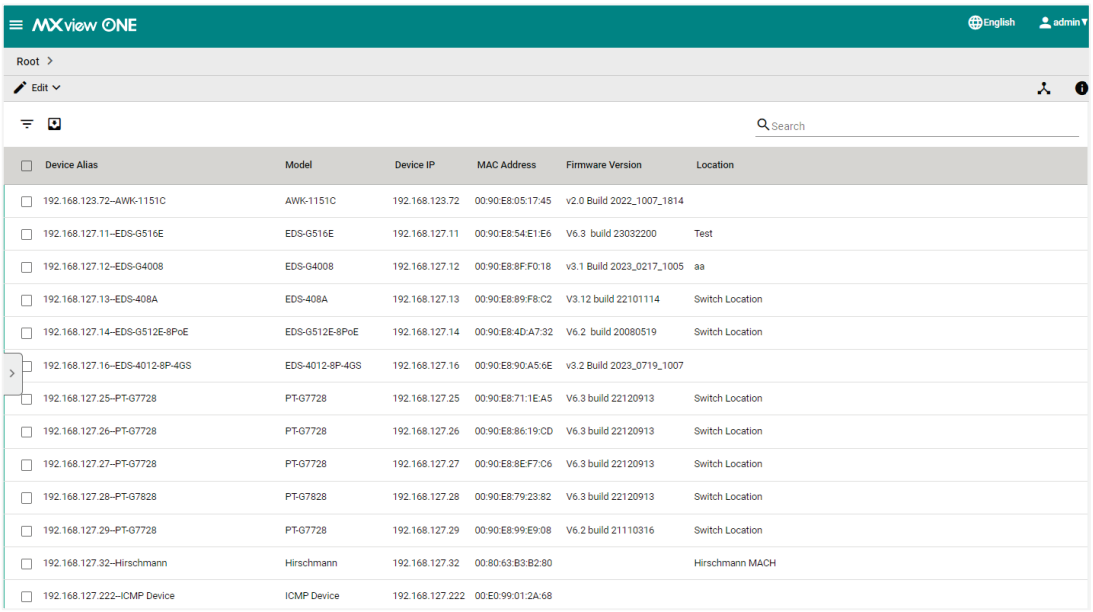


10. Device Operation in the Topology

The MXview One **Topology** screen provides several features and tools for managing and maintaining devices in your network topology.

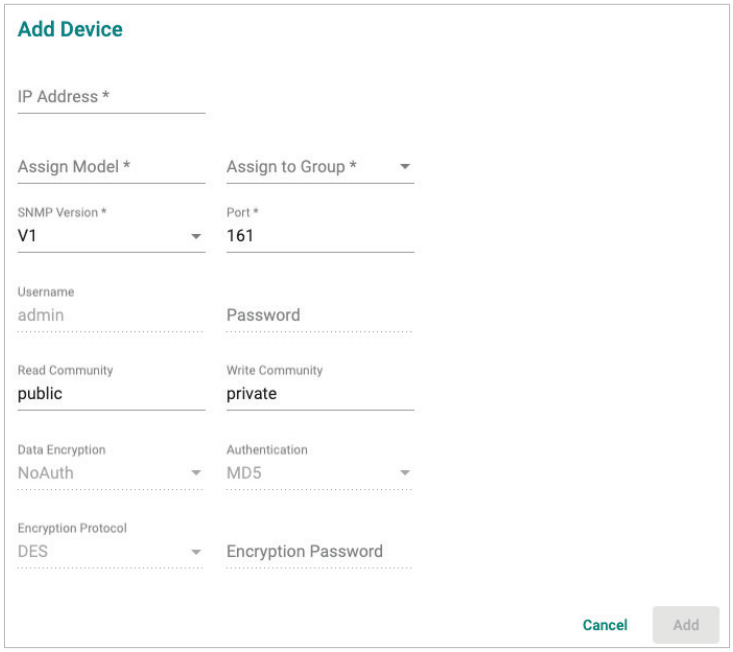
Viewing the Device List

The **List view** on the **Topology** screen will display a list of discovered devices in your network topology. You can also use this view to manually add devices to your network topology or export filtered data as a CSV file.

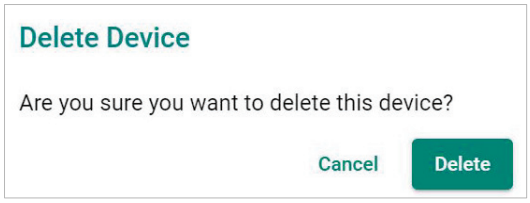


1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map in Topology view.
2. Click the **List view** ( ) icon in the top right corner.
   The **Topology** screen displays a list of devices on your network.

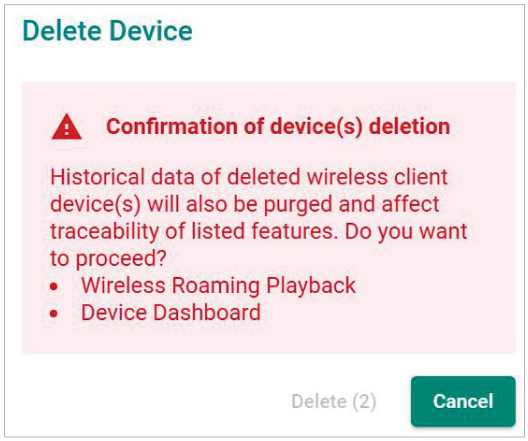
3. To add a device to your network topology:
   a. Click **Edit > Add Device**.
      The **Add Device** screen will appear.



   b. Configure the following:
      - ❒ **IP Address:** Specify the IP address of the device
      - ❒ **Assign Model:** Select the model of the device
      - ❒ **Assign To Group:** Select the group to assign the device to
      - ❒ **SNMP Version:** Select the SNMP version
      - ❒ **Username:** Specify the device login Username
      - ❒ **Password:** Create a password
      - ❒ **Read Community:** Specify the SNMP read community string
      - ❒ **Write Community:** Specify the SNMP write community string
      - ❒ **Data Encryption:** Select the data encryption method
      - ❒ **Authentication:** Select the authentication method
      - ❒ **Encryption Key:** Specify the encryption key
   c. Click **Add**.
      MXview One adds the device to the topology.
4. To delete devices in your network topology:
   a. Check the box on the first column of devices.
   b. Click the **Delete** (🗑) icon on the menu bar. The **Delete Device** screen appears.
   c. For non AWK devices, read the message and then click **Delete** if you are sure you want to delete the device.



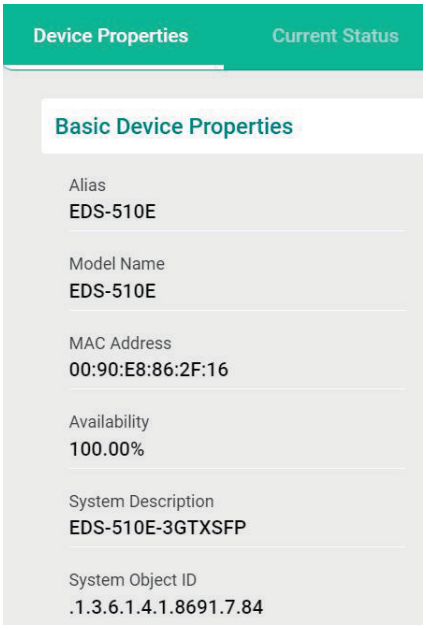
d. For AWK devices, read the message and wait for the countdown. Click **Delete** if you are sure you want to delete the device.



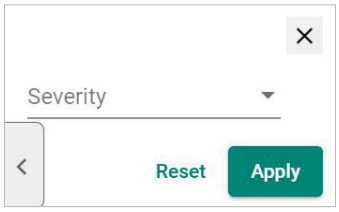
NOTE

If you click the check box for all the devices, when you click the Delete icon, you will delete all the devices in the topology.

5. To view device properties, select the check box next to the **Device Alias**.
   The **Device Properties** details pane will appear.



6. To filter the device list by severity level:
   a. Click the **Filter** ( ) icon in the top left corner.
      The **Severity** drop-down list appears.

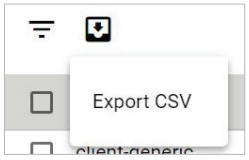


b. Select one of the following severity levels:
   - ❒ **Critical**
   - ❒ **Warning**
   - ❒ **Information**

c. Click **Apply**.
   MXview One filters the device list to only display devices with the selected severity level.

7. To export the device list:

a. Click the **Export** ( ) icon.



b. Select **Export CSV**.
   MXview One will export the displayed data as a CSV file.

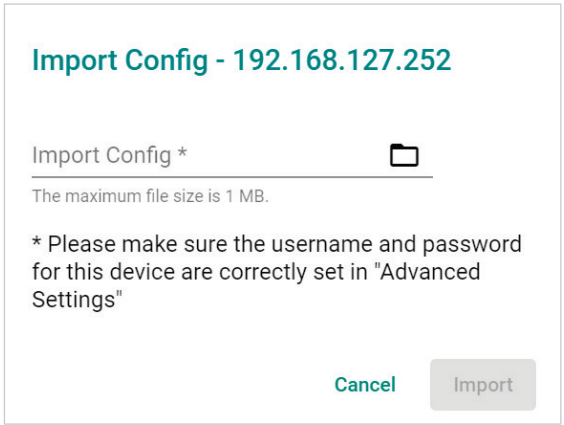
Importing Device Configurations

Use the **Topology** screen to import an INI-formatted configuration file to a device in your network topology by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device that you want to import configurations to:
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the site name in the Device List.

   The toolbar options change.

4. Navigate to **Device Control > Import Config**.
   The **Import Config** screen appears and indicates the IP address of the selected device.



5. Click the folder ( ) icon to upload the configuration file from your local machine.
6. Click **Import**.
   MXview One imports the configuration file to the specified device.

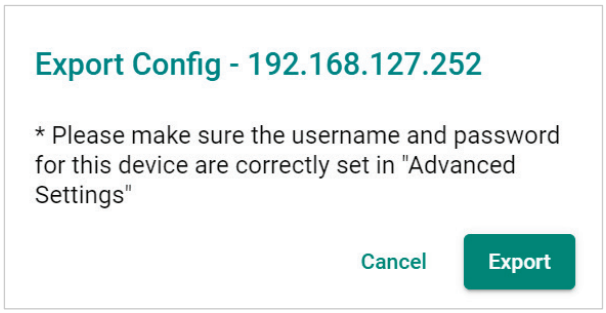
Exporting Device Configurations

Use the **Topology** screen to export an INI-formatted configuration file from a device in your network topology by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device that you want to export configurations from.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

4. Navigate to **Device Control > Export Config**.
   The **Export Config** screen will appear and indicate the IP address of the selected device.



5. Click **Export**.
   MXview One exports the device configurations as an INI file in the specified location.

Upgrading Firmware

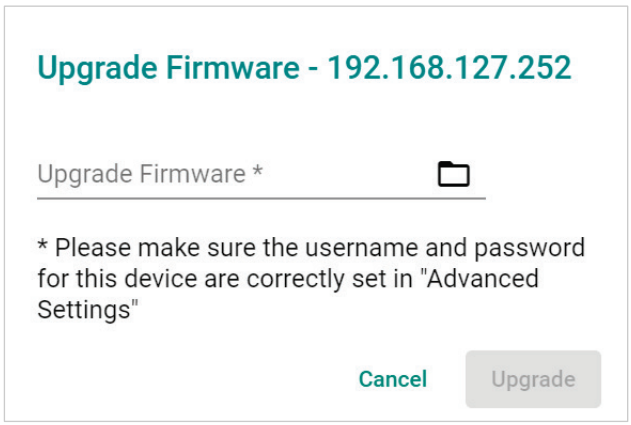
Use the **Topology** screen to upgrade the firmware (ROM-formatted file) on a device in your network topology by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.

   b. **List view:** Displays a list of the devices in your network topology.
3. Select the device that you want to upgrade the firmware for:
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

4. Navigate to **Device Control > Upgrade Firmware**.
   The **Upgrade Firmware** screen appears and indicates the IP address of the selected device.



5. Click the folder ( ) icon to upload the ROM-formatted firmware file from your local machine.
6. Click **Upgrade**.
   MXview One will upgrade the firmware on the specified device.

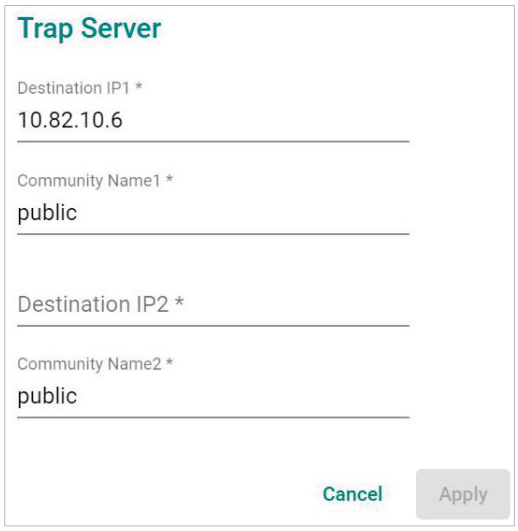
Configuring SNMP Trap Server

MXview One can collaborate with other network management software and send SNMP Traps to non-Moxa NMS. MXview One supports up to two trap servers depending on the device.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

4. Navigate to **Device Configuration > Trap Server**.
   The **Trap Server** screen appears.



5. Configure the following SNMP trap server settings for the device:
   - **Destination IP1**
   - **Community Name1**
   - (Optional) **Destination IP2**
   - (Optional) **Community Name2**
6. Click **Apply**.
   MXview One sends SNMP traps to the configured trap server(s) when events are detected on the device.

NOTE

When a device fails to reply within seven seconds, MXview One will display the message "Failed to update device Trap server settings." Please confirm the execution results via the same settings page or go to the web page of the devices.

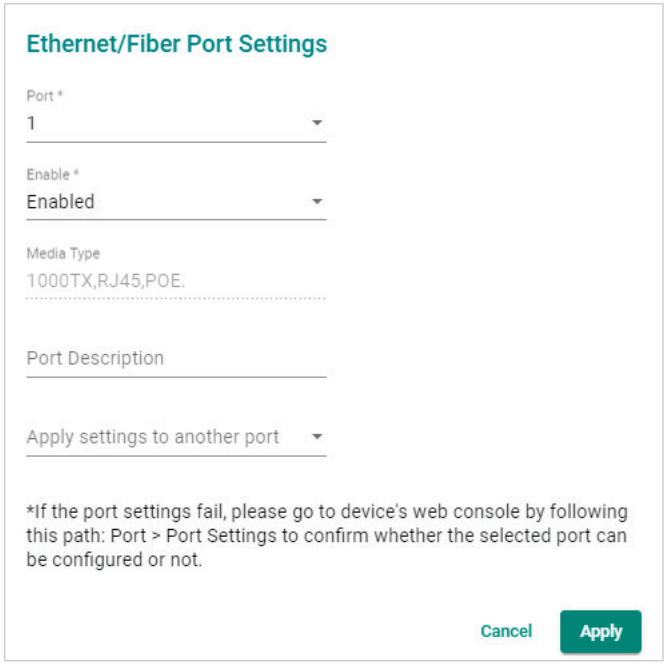
Configuring Port Settings

Use the **Topology** screen to configure port settings for a device in your network topology by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options will change.

4. Navigate to **Device Configuration > Ethernet/Fiber Port Settings**.
   The **Ethernet/Fiber Port Setting** screen appears.



5. Configure the following port settings for the device:
   - **Port:** Select the port number.
   - **Enable:** Enable or disable the port.
   - **Port Description:** Provide a description of the port.
   - **Apply settings to another port:** Select to apply the configured settings to other ports on the device.
6. Click **Apply**.
   MXview One will update the port settings to the device.

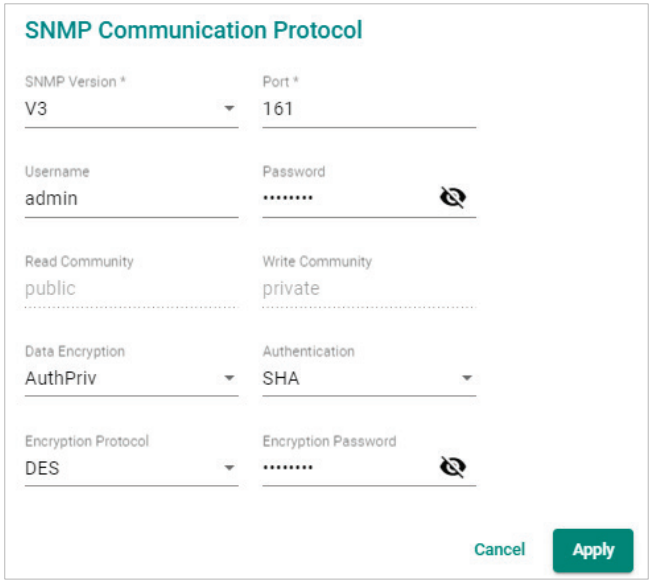
Configuring SNMP Communication Protocol

Use the **Topology** screen to configure SNMP settings for a device in your network topology by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options will change.

4. Navigate to **Device Configuration > SNMP Communication Protocol**.
   The **SNMP Communication Protocol** screen will appear.



5. Configure the following SNMP settings for the device:
   - **SNMP Version**
   - **SNMP Port**
   - **Username**
   - **Password**
   - **Read Community**
   - **Write Community**
   - **Data Encryption**
   - **Authentication**
   - **Encryption Protocol**
   - **Encryption Password**
6. Click **Apply**.
   MXview One updates the SNMP communication protocol settings to the device.

NOTE

For the first time, users can use the Default Device Template function to set the function template. For more information, see **Changing Default SNMP Configuration**.

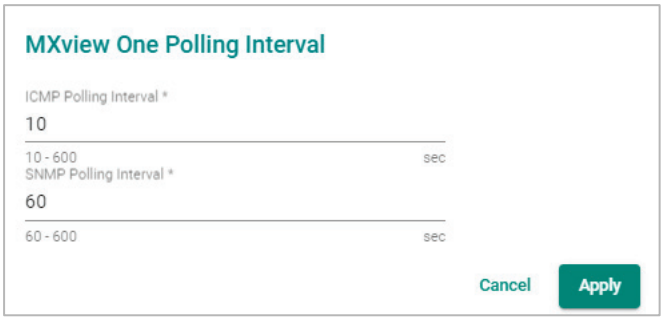
Configuring MXview One Polling Interval

Use the **Topology** screen to configure ICMP or SNMP polling settings for a device in your network topology by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

4. Navigate to **Device Configuration > MXview One Polling Interval**.
   The **MXview One Polling Interval** screen appears.



5. Configure the following polling settings for the device:
   - **ICMP polling interval**
   - **SNMP polling interval**
6. Click **Apply**.
   MXview One will update the polling settings for the device.

> **NOTE**
>
> For the first time, users can use the Default Device Template function to set the function template. For more information, see **Default Device Template**.

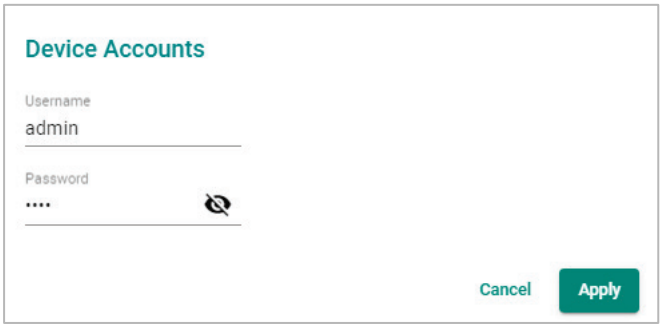
Configuring Device Accounts

Use the **Topology** screen to configure advanced settings for a device in your network topology by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

4. Navigate to **Device Configuration > Device Accounts**.
   The **Device Accounts** screen appears.



5. Enter the **Username** and **Password** for the device web console.
6. Click **Apply**.
   MXview One updates the advanced settings.

Modifying the Device Alias

Use the **Topology** screen to configure advanced settings for a device in your network topology by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

4. Navigate to **Device Configuration > Device Alias**.
   The **Device Alias** screen appears.

5. Edit the **Alias** field.
6. Click **Apply**.
   MXview One updates the advanced settings.

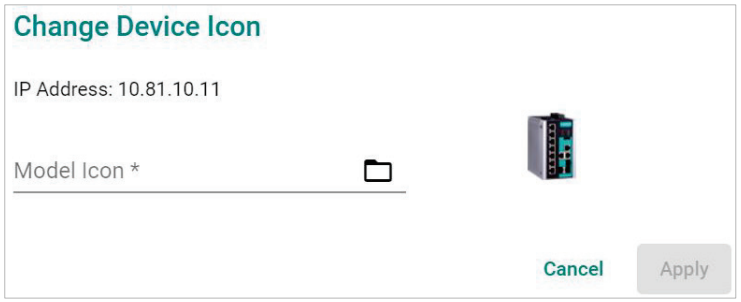
Changing the Device Icon

Use the **Topology** screen to change the device icon by selecting the device from the **Topology Map** or **Device List**, and then upload a JPG, GIF, or PNG image file.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options will change.

4. Navigate to **Device Configuration > Change Device Icon**.
   The **Change Device Icon** screen appears.



5. Click the folder ( ) icon to upload the device icon from your local machine. (The maximum image size is 100 KB.)
6. Click **Apply**.
   MXview One will change the device icon to the uploaded JPG, GIF, or PNG image file.

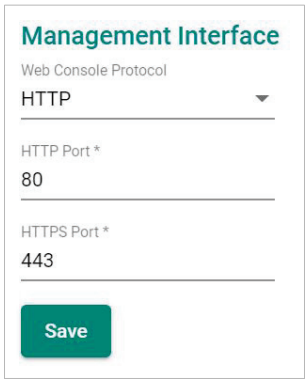
Signing on to Device Web Consoles

MXview One allows you to use the **Topology** screen to the web console for a device from the **Topology Map** or **Device List**.

NOTE

You can use the **Global Device Settings** screen to configure the web console protocol. The web console protocol can be set to HTTP or HTTPS, and then the port numbers of the HTTP and HTTPS can be set by users.

1. (Optional) Configure the web console protocol:
   a. Navigate to **Menu** ( ) **> Administration > Global Device Settings**.
      The **Global Device Settings** screen appears.
   b. Find the **Management Interface** to complete the settings.



   c. Configure the following:
      - ❒ **Web Console Protocol**
      - ❒ **HTTP Port**
      - ❒ **HTTPS Port**
   d. Click **Save**.
      MXview One updates the web console protocol settings.

NOTE

If you complete the Management Interface settings in the Global Device Settings section, the settings will be applied to all the devices in your topology.

2. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
3. Select one of the following views:
   - ➢ **Topology view:** Displays a graphical representation of the devices in your network topology.
   - ➢ **List view:** Displays a list of the devices in your network topology.
4. Select the device.
   - ➢ **Topology view:** Click the icon of the device in the Topology Map.
   - ➢ **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

5. Navigate to **Web Console**.
   The login screen for device web console appears in a new browser tab.

NOTE

You may need to allow pop-ups on your web browser in order to view the device web console.

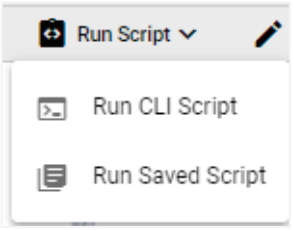
6. Enter the **Username** and **Password** for the device web console.
7. Click **Login**.
   The device web console will successfully log in.

Managing and Running Scripts

The **Run Script** function allows you to quickly perform a set of actions on one or multiple devices at once. You can run scripts on selected devices from the **Topology** or **Device Management** screen.

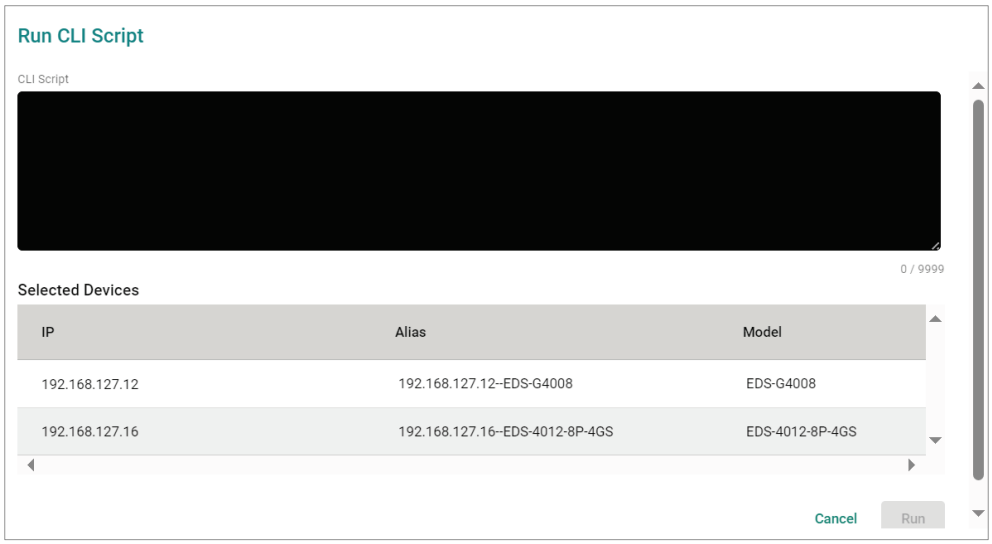
Click the **Run Script** ( ) icon in the menu bar to expand the script functions. There are two main functions:

- **Run CLI Script**: Write and run a CLI script and test if the script works correctly.
- **Run Saved Script**: Select and run a CLI Script from the Saved CLI Scripts database. Refer to the Saved CLI Scripts section.



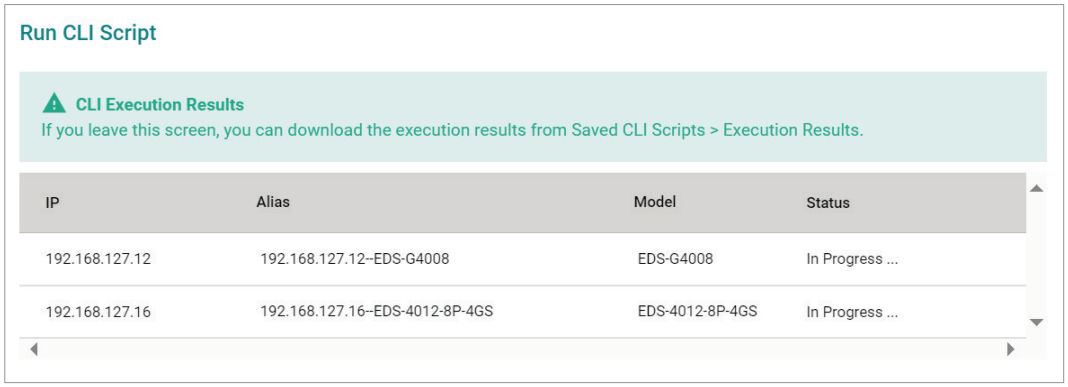
Running a CLI Script

1. In the **Topology** or **Device Management** screen, select the device(s) to run the script on.
2. Click the **Run Script** ( ) icon in the menu bar and click **Run CLI Script**.
   The **Run CLI Script** window will appear.



3. Enter the script:
   a. In the CLI Script field, enter the CLI command(s) to execute.
   b. Confirm the selected devices that the script will be executed on.
   c. Click **Run**.

4. The system will show the script execution status for each device.

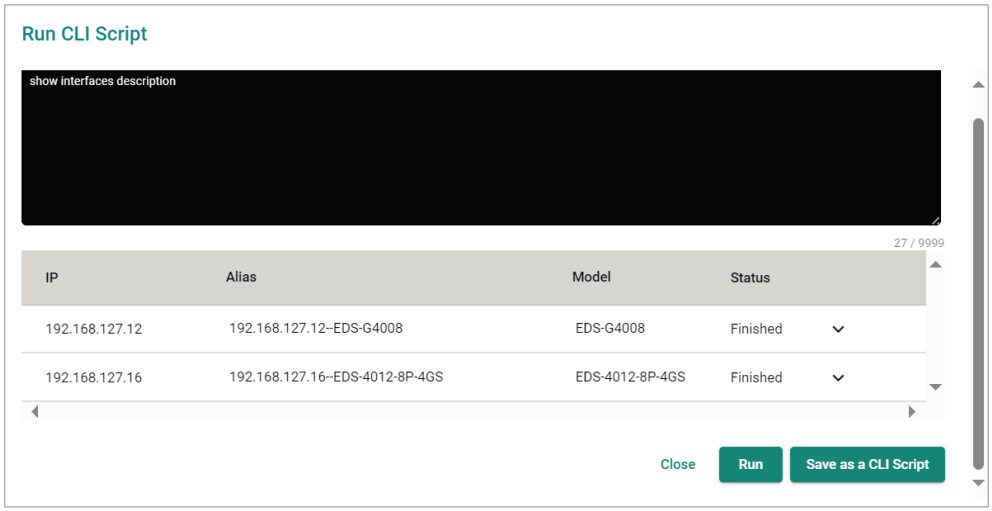


NOTE

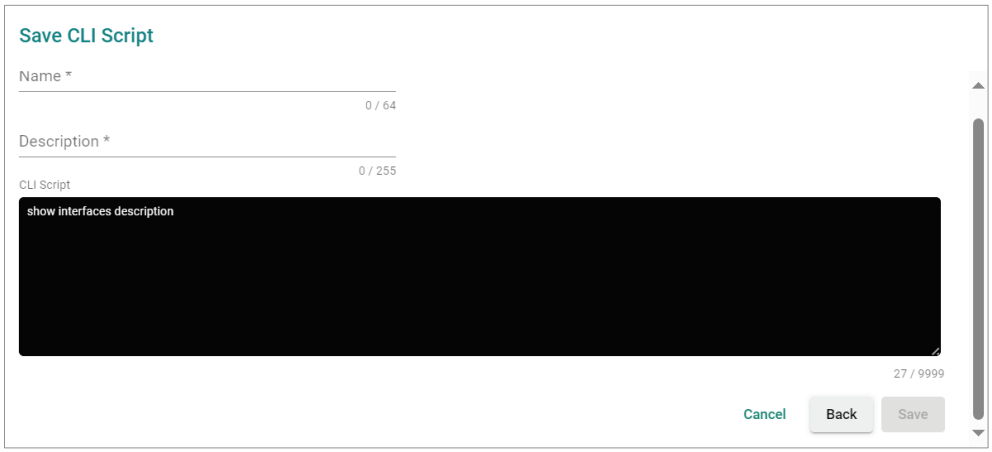
You cannot perform any actions on the device while the script is running. If you close the MXview One web page, you can download the execution results from **Saved CLI Scripts > Execution Results** page.

5. Check the script results.

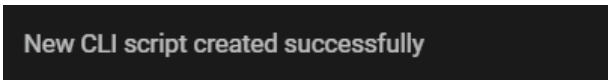
   When all devices have finished running the script, click the **Expand** ( ) icon next to the device to check the result.



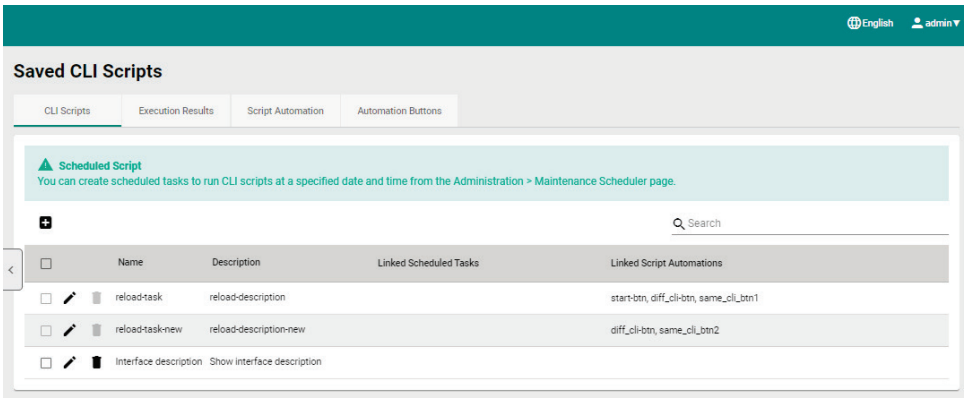
6. You can either run or save the script:
   a. **Run script**: Modify the CLI script (if necessary) and click **Run**. The system will execute the CLI script on the selected devices.
   b. **Save script**: Click **Save as a CLI Script** to save the CLI script for future use.
   The **Save CLI Script** window will appear.



   i. Enter a name and description for the script.
   The CLI Script field is read-only and cannot be modified here.
   ii. Click **Save**. A confirmation message will appear.

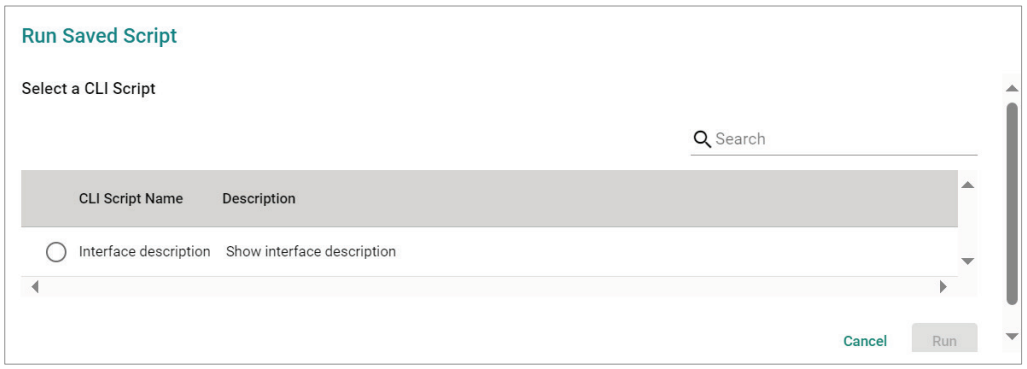


   iii. The CLI script will be stored and shown in the **Saved CLI Scripts** section.

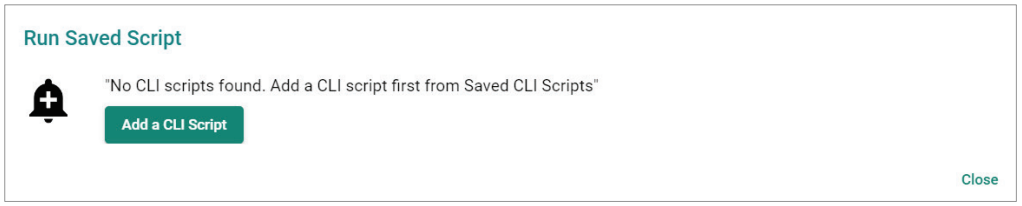


Running a Saved CLI Script

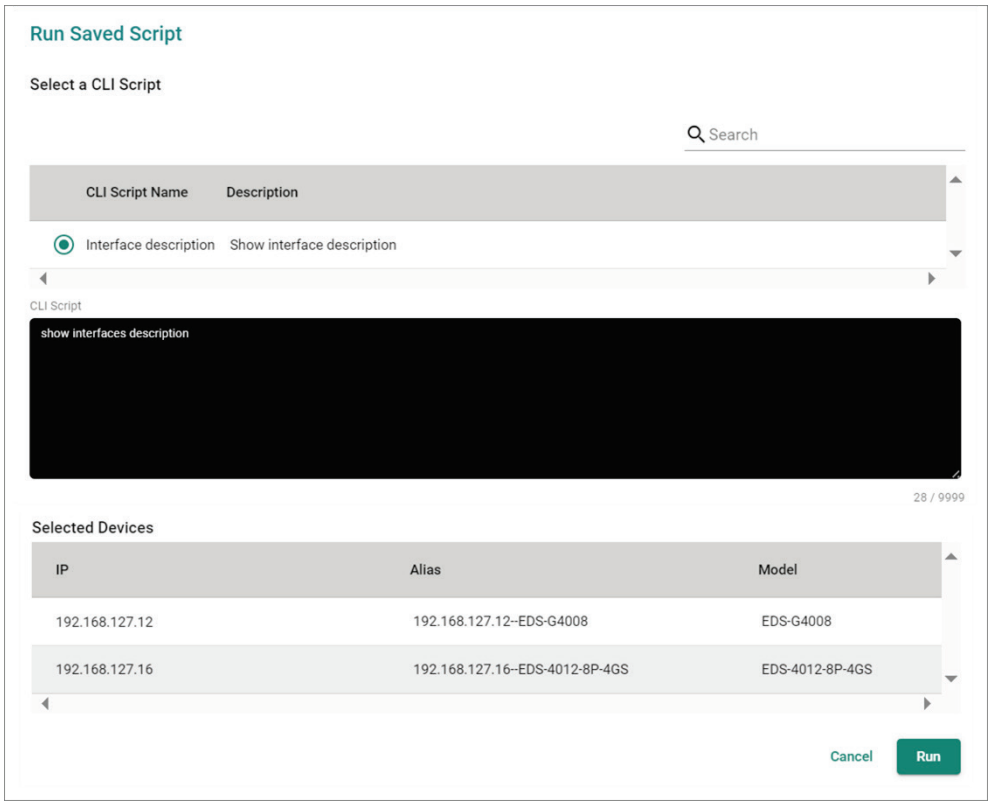
1. In the **Topology** or **Device Management** screen, select the device(s) to run the script on.
2. Click the **Run Script** ( ) icon in the menu bar and click **Run Saved Script**.
   The **Run Saved Script** window will appear.



   If no saved scripts can be found, the following message will appear.

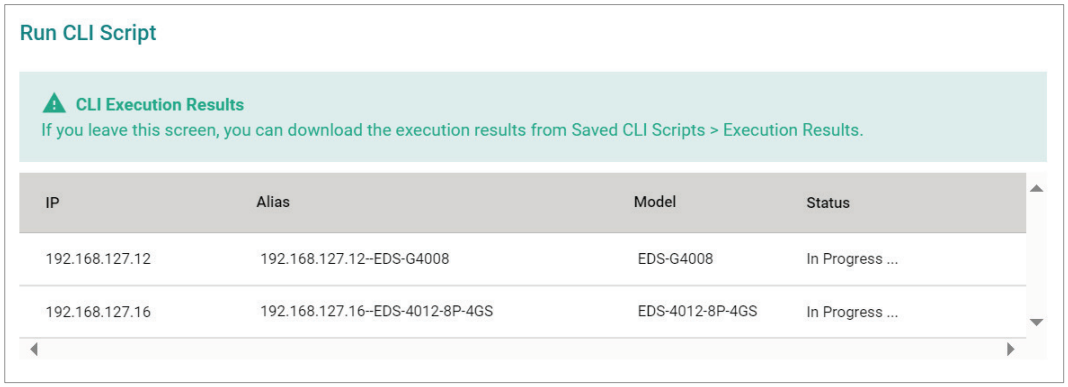


   Click the **Add a CLI Script** to create a script. Refer to Adding a CLI Script.
3. Select the script you want to execute and confirm the selected devices that the script will be executed on.
   You can modify the script if necessary.



4. Click **Run**.

5. The system will show the script execution status for each device.

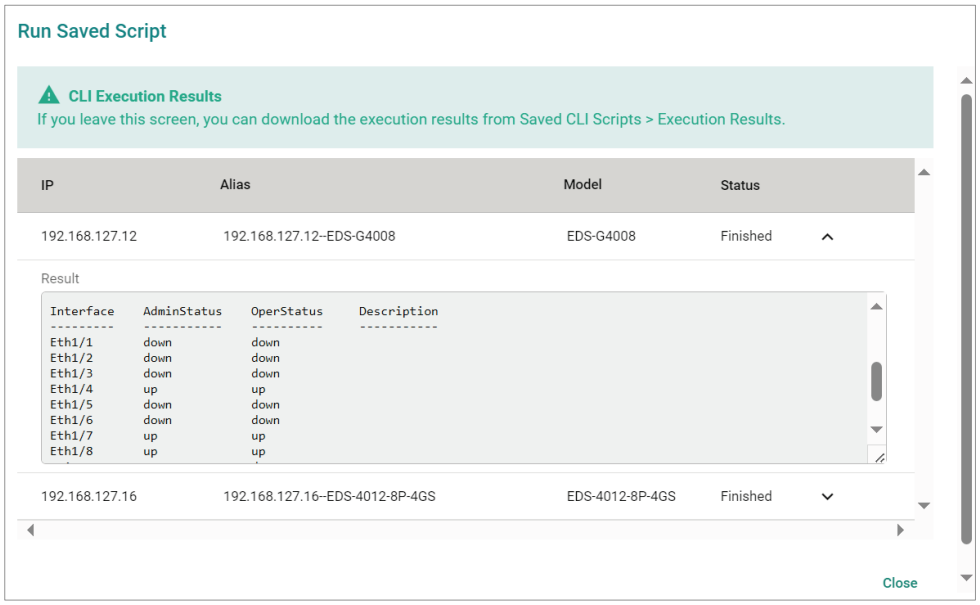


NOTE

You cannot perform any actions on the device while the script is running. If you close the MXview One web page, you can download the execution results from **Saved CLI Scripts > Execution Results** page.

6. Check the script results

   When all devices have finished running the script, click the **Expand** ( ) icon next to the device to check the result.



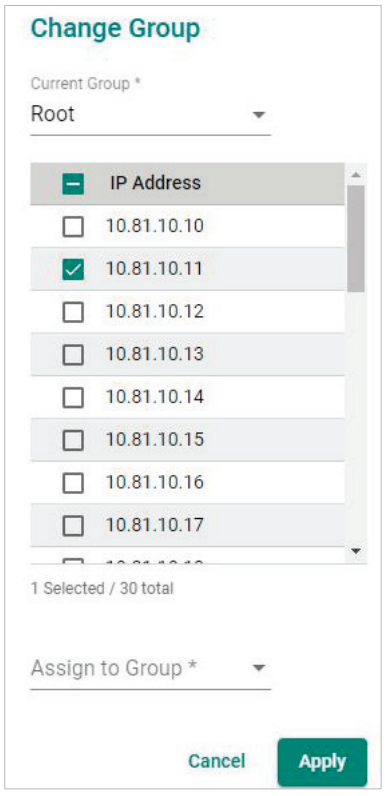
Changing Device Groups

Use the **Topology** screen to change the assigned group for a device by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen will appear and display the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

4. Click **Change Group**.
   The **Change Group** screen will appear and displays the following information:



5. (Optional) Select additional IP addresses to assign other devices from the current group to the new group.
6. From the **Assign to Group** drop-down list, select the new group that you want to assign the selected device(s) to.
7. Click **Apply**.
   MXview One will assign the selected device(s) to the new group.

Refreshing the Device Status

Since some device data is collected by polling, there may be a time delay for some data. Use the **Topology** screen to refresh the device status by selecting the device from the **Topology Map** or **Device List**.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options change.

4. Click **Refresh**.
   MXview One polls the device for updated data.

Deleting Devices

Use the **Topology** screen to delete devices from the Topology Map. After a device is deleted, it will be removed from the topology map and the device will not be polled.

1. Navigate to **Menu** ( ) **> Topology**.
   The **Topology** screen appears and displays the Topology Map by default.
2. Select one of the following views:
   - **Topology view:** Displays a graphical representation of the devices in your network topology.
   - **List view:** Displays a list of the devices in your network topology.
3. Select the device.
   - **Topology view:** Click the icon of the device in the Topology Map.
   - **List view:** Select the check box next to the device in the Device List.

   The toolbar options will change.

4. Click **Delete**.
   MXview One removes the device from your network topology.

11. Device Management

The **Device Management** feature lets users perform certain functions directly from within MXview One, without having to enter the device's web console. This feature covers two sections: **Configuration and Control** and **Account and Password**.

The **Device Configuration and Control** section provides quick access buttons to quickly execute commonly used device management functions. Users can perform these functions either from the menu bar on the **Topology** screen, or directly from the **Configuration and Control** page.

The **Account and Password** section allows administrators to check device accounts and perform account and default password audits.

Configuration and Control

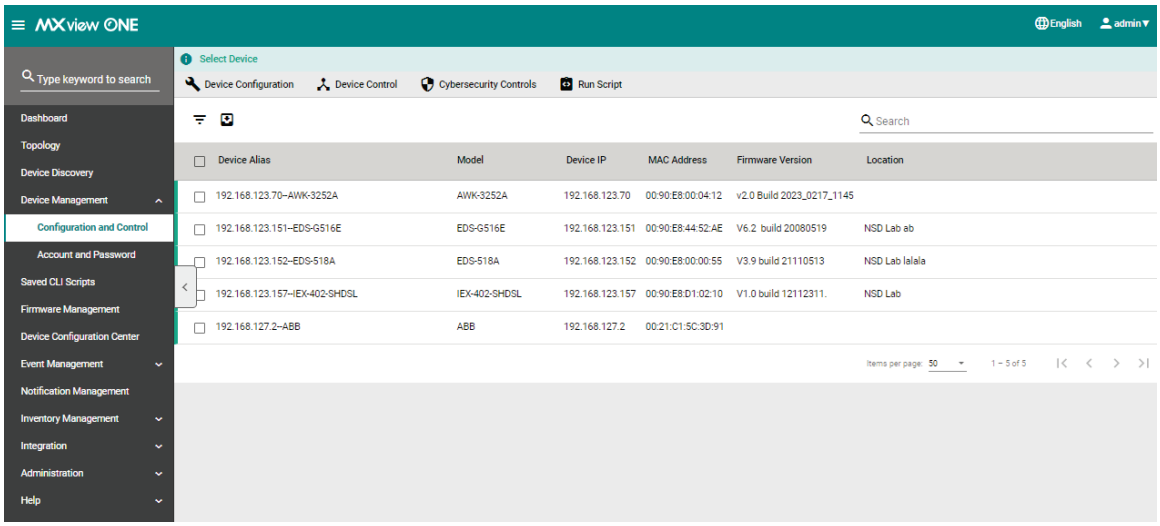
Configuration and Control Overview

To access the Configuration and Control page, in the function tree, navigate to **Menu ( ) > Device Management> Configuration and Control**.

At the top of this screen is the menu bar which provides quick access buttons for device management functions. At the bottom part of the page is the device list which allows users to select the devices to perform the quick function on.

The quick access functions are organized into four main types:

- Device Configuration
- Device Control
- Cybersecurity Controls
- Run Script



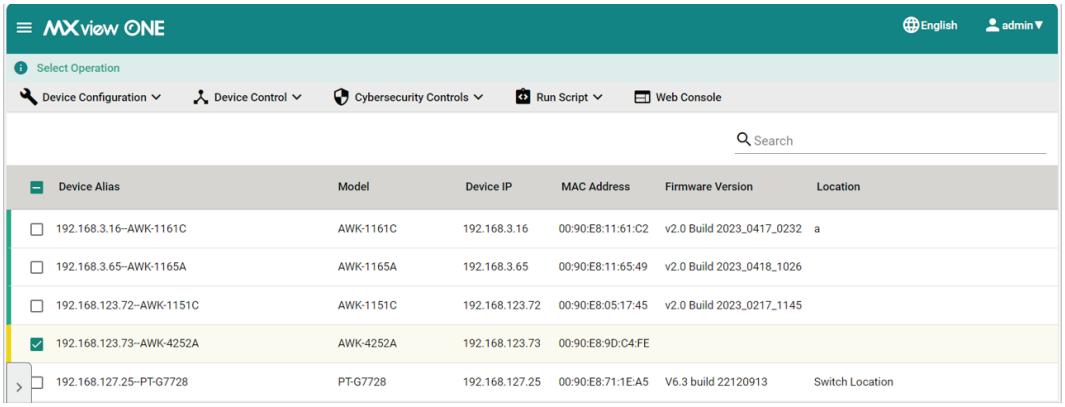
Refer to the following section for an overview of all functions in each category.

Device Configuration

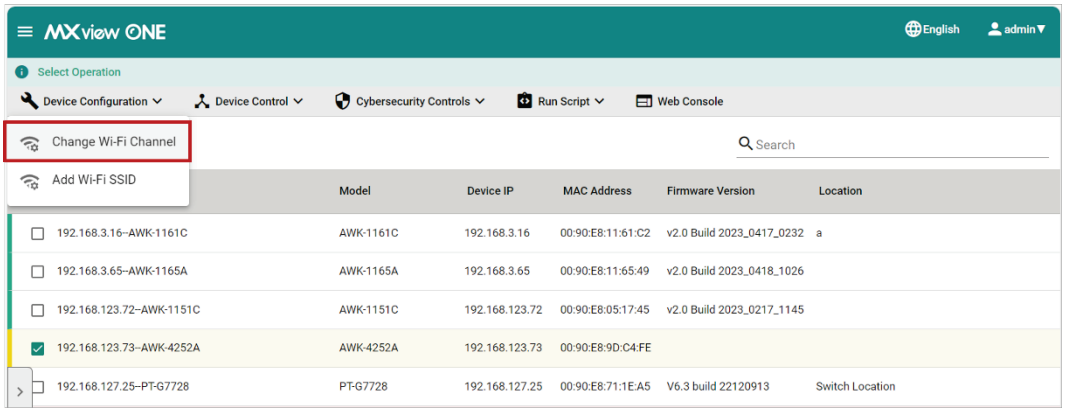
Change Wi-Fi Channel

If the performance of your wireless devices is affected by interruptions in the current Wi-Fi channel, you can use the Change Wi-Fi Channel function to switch to another channel to improve performance.

1. Navigate to **Menu** ( ) **> Device Management> Configuration and Control**.
2. Selected the device(s) to configure from the device list.



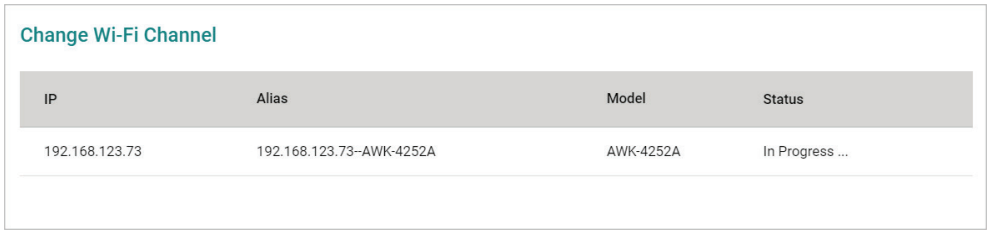
3. From the **Device Configuration** drop-down list, select **Change Wi-Fi Channel**.
The **Change Wi-Fi Channel** screen will appear.



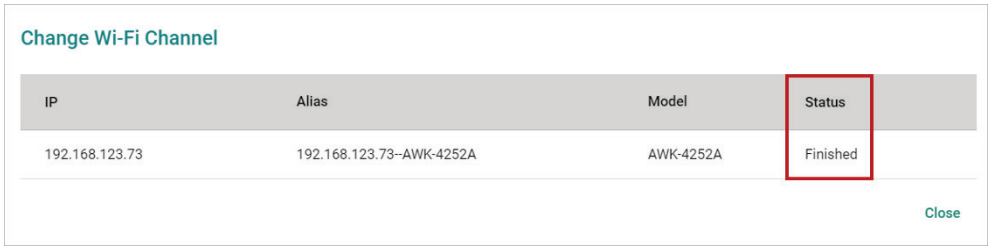
4. Modify the Wi-Fi channel settings.

Setting	Description	Limit
Channel	Enter the channel for the 2.4 GHz and 5 GHz band.	2.4 GHz: 1 to 13 5 GHz: 36 to 196
Channel Width	Select the width of the channel.	2.4 GHz: 20 MHz, 20/40 MHz 5 GHz: 20 MHz, 20/40 MHz, 20/40/80 MHz

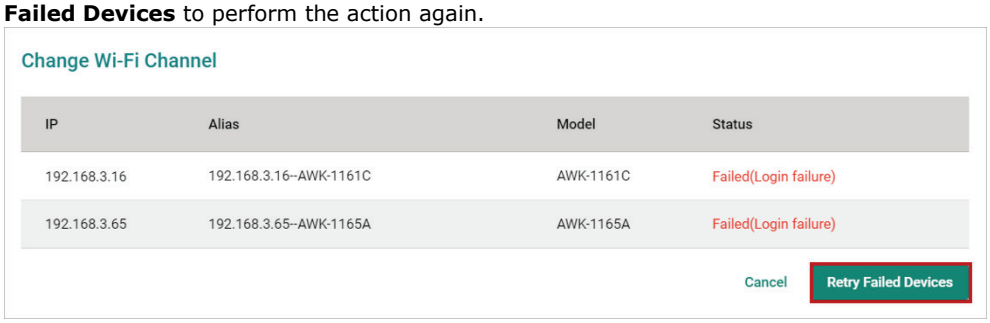
5. When finished, click **Change**. The system will execute the action.



6. If successful, a confirmation will be shown in the Status column.



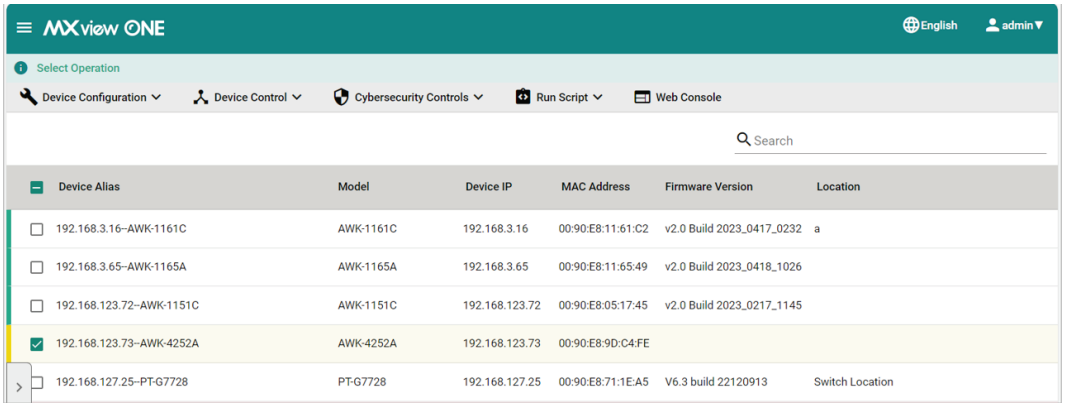
If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.



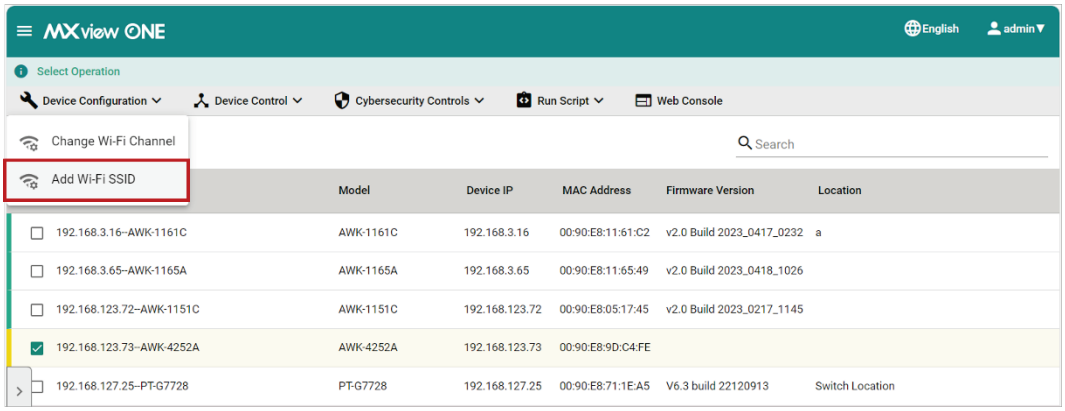
Add Wi-Fi SSID

Use the **Add Wi-Fi SSID** function to create additional Wi-Fi SSIDs for your wireless environment.

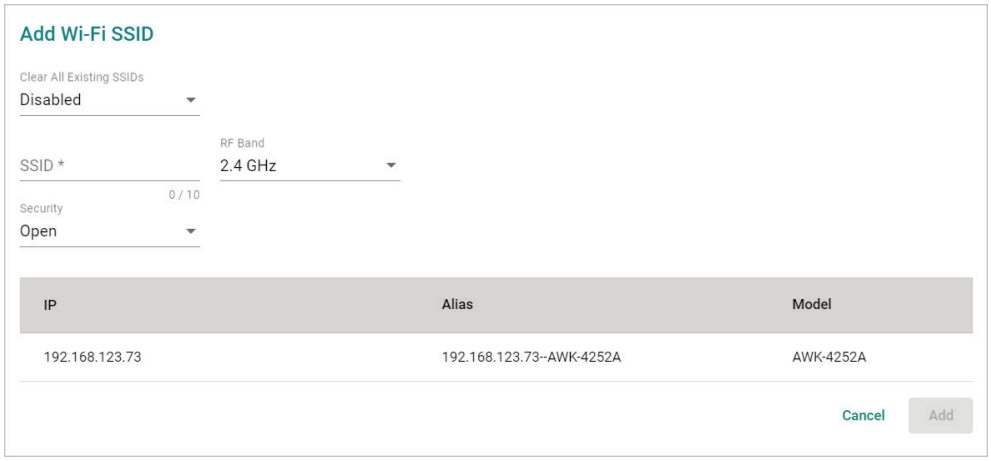
1. Navigate to **Menu** ( ) **> Device Management > Configuration and Control**.
2. Selected the device(s) to configure from the device list.



3. From the **Device Configuration** drop-down list, select **Add Wi-Fi SSID**.
   The **Add Wi-Fi SSID** screen will appear.



4. Modify the Wi-Fi SSID settings.



Clear All Existing SSIDs

Setting	Description
Enabled or Disabled	Choose to keep or delete all existing SSIDs on the selected device(s).

SSID

Setting	Description
SSID Name	Enter a name for the SSID.

RF Band

Setting	Description
2.4 GHz, 5 GHz	Select the RF band for this SSID.

Security

Setting	Description
Open WPA WPA2 WPA3 WPA/WPA2 Mixed WPA2/WPA3 Mixed	Select the security mode for the SSID.

When using any security mode other than **Open**, configure the following settings:

WPA Mode

Setting	Description
Personal	Authenticate WPA, WPA2, or WPA3 with a Pre-shared key (PSK).

Protected Management Frame

Setting	Description

Disabled	Disable the protected management frame. This option is not available when using WPA3.
802.11w	Use the 802.11w protocol as the protected management frame.

Encryption

Setting	Description
AES	Use Advance Encryption System (AES) encryption.
TKIP/AES Mixed	Use TKIP/AES Mixed encryption. This option provides a TKIP broadcast key and TKIP+AES unicast key to support legacy AP clients. This option is rarely used and is not available when using WPA3.

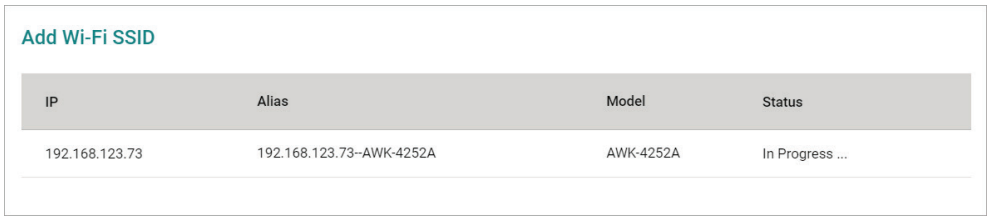
EAPOL Version

Setting	Description
1	Use EAPOL Version 1 as the security authentication method.
2	Use EAPOL Version 2 as the security authentication method.

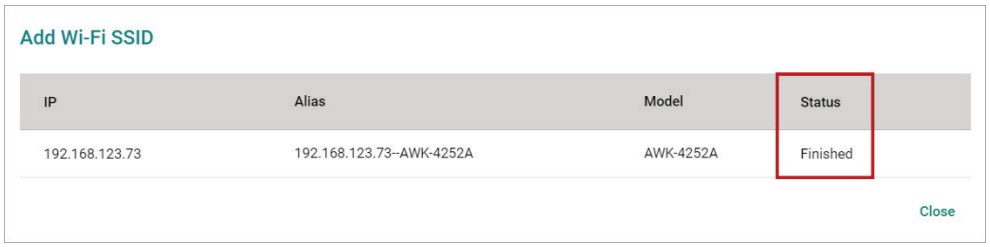
Passphrase

Setting	Description
8 to 63 characters	Enter the passphrase. This is the master key to generate keys for encryption and decryption.

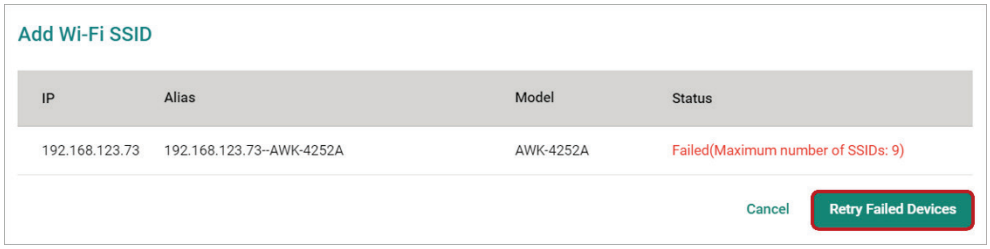
5. When finished, click **Add**. The system will execute the action.



6. If successful, a confirmation will be shown in the Status column.



If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.

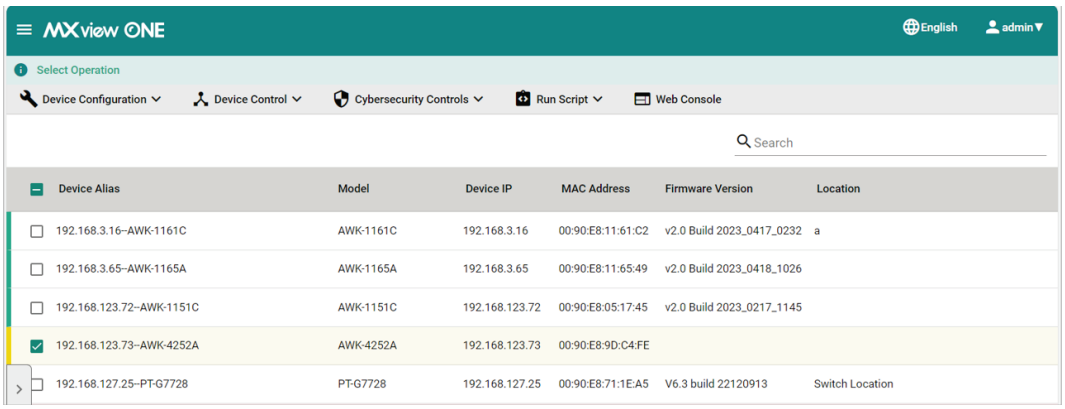


Dynamic Sticky MAC

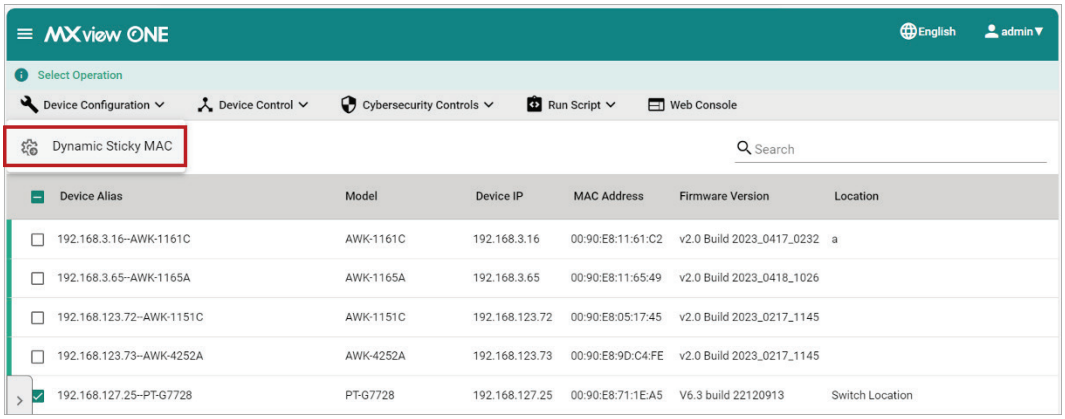
Use the **Dynamic Sticky MAC** function to configure Dynamic Sticky MAC settings for one or multiple selected devices at once.

1. Navigate to **Menu** ( ) **> Device Management > Configuration and Control**.

2. Selected the device(s) to configure from the device list.

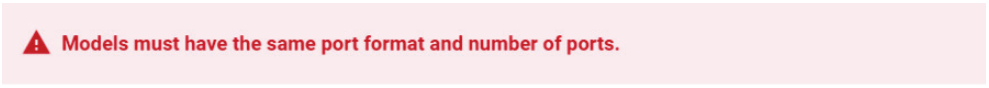


3. From the **Device Configuration** drop-down list, select **Dynamic Sticky MAC**.
The **Dynamic Sticky MAC** screen will appear.

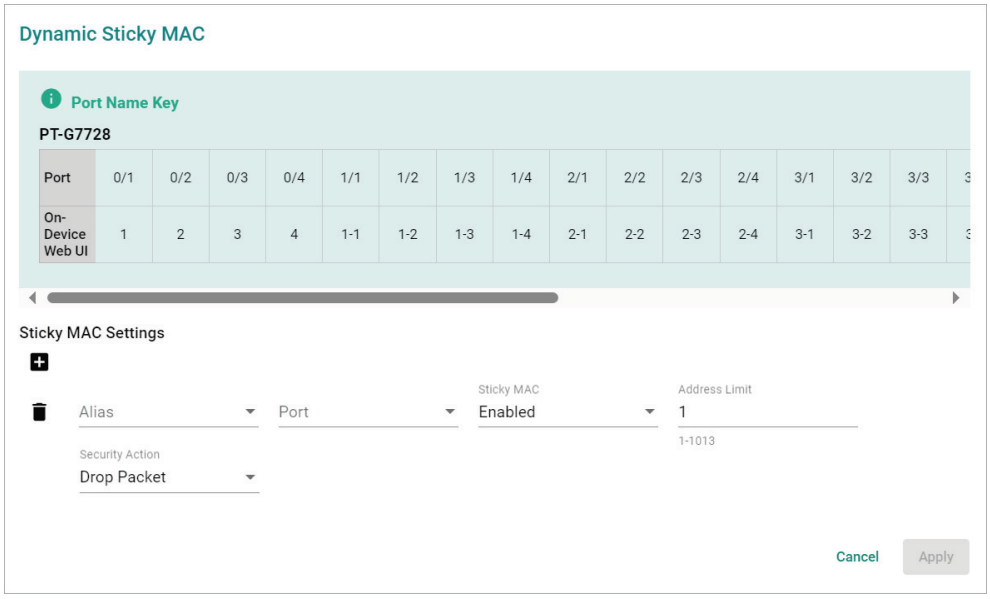


NOTE

You can only select devices with the same port format (either non-modular or modular device) and the same number of ports to execute the Dynamic Sticky MAC function. For example, you can set multiple non-modular switches at the same time, but not non-modular and modular switches. Because non-modular switch and modular switches have different port formats. An error message will appear if the selection is incompatible.



4. Click the Add ( ) icon and configure the following settings:



Alias

Setting	Description
Device Alias	Select the device(s) to configure Sticky MAC settings for.

Port

Setting	Description
Port	Select the port(s) associated with the device for which to configure the Sticky MAC settings for. You can refer to the Port Name Key section at the top of the page to understand the correlation between the ports listed in the Port drop-down menu and the on-device web UI.

Sticky MAC

Setting	Description
Enabled or Disabled	Enable or disable the Sticky MAC function for the selected port(s).

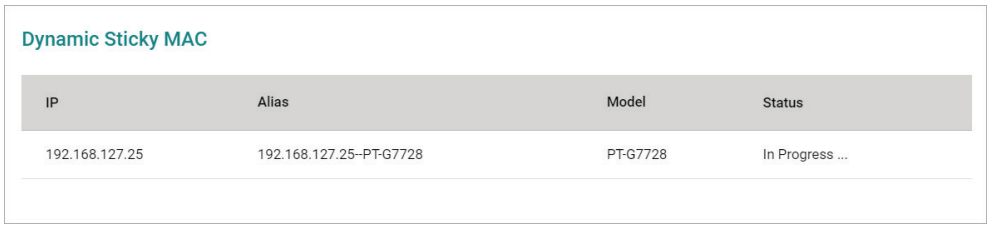
Address Limit

Setting	Description
1 to 1013	Specify the maximum numbers of the learned MAC addresses.

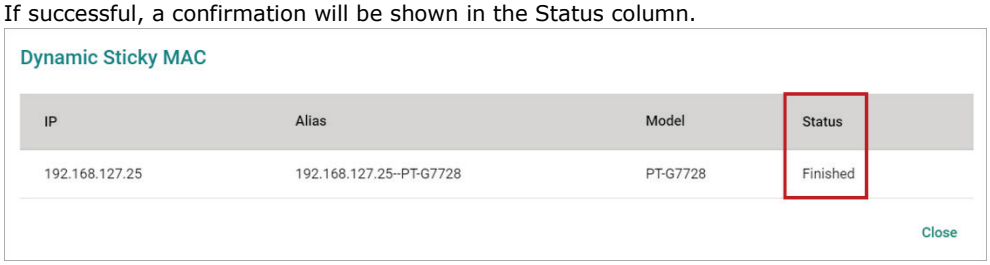
Security Action

Setting	Description
Shutdown Port	Shut down the port if a violation occurs.
Drop Packet	Drop the packet if a violation occurs.

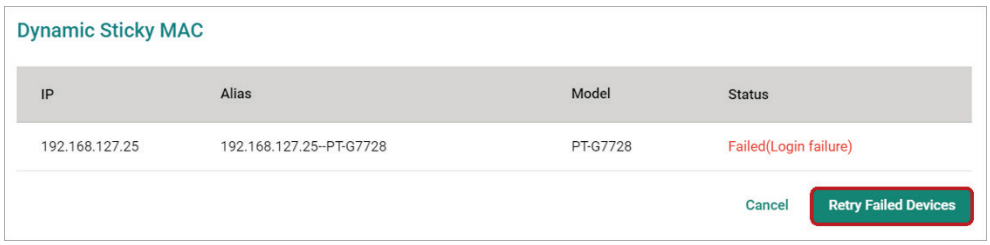
5. When finished, click **Apply**. The system will execute the action.



6. If successful, a confirmation will be shown in the Status column.



If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.

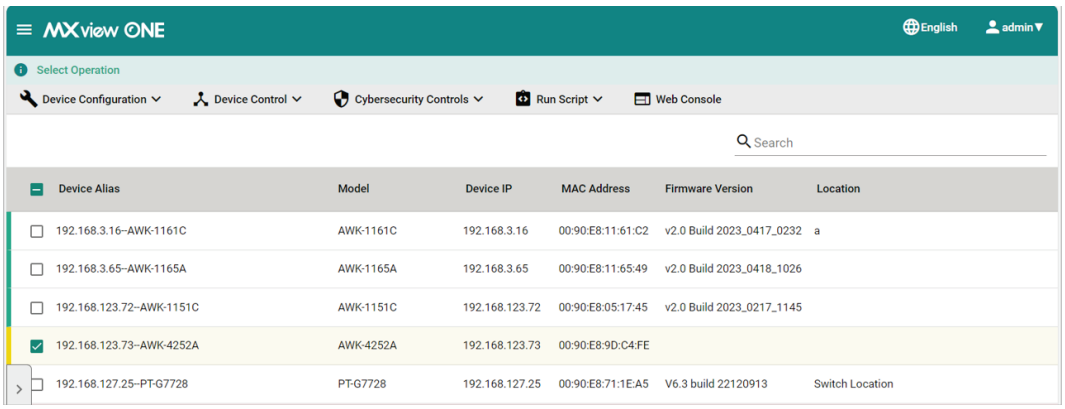


Device Control

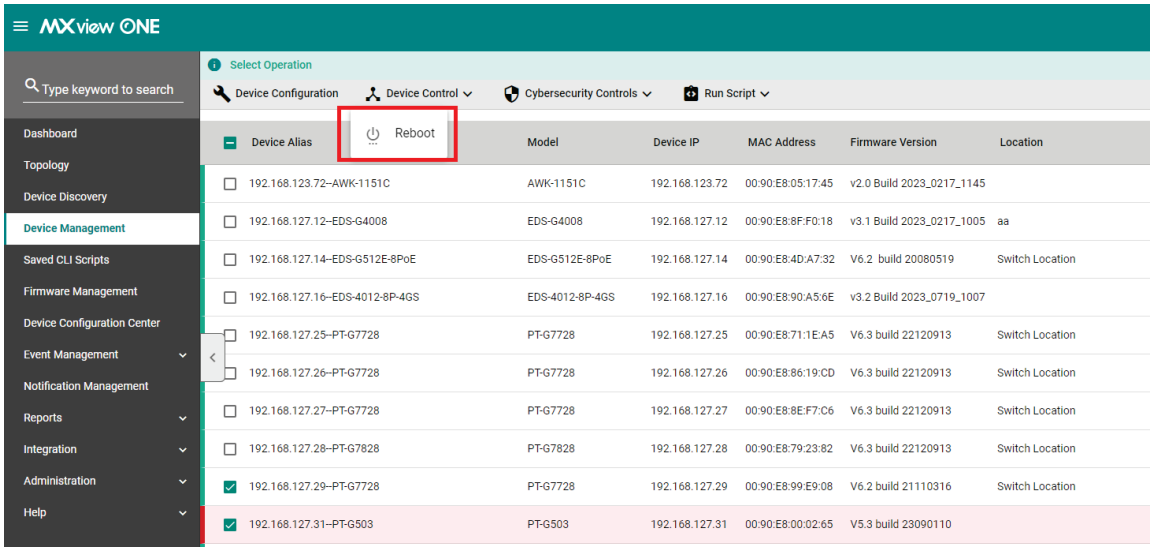
Reboot

Use the **Reboot** function to manually reboot devices or configure a reboot schedule.

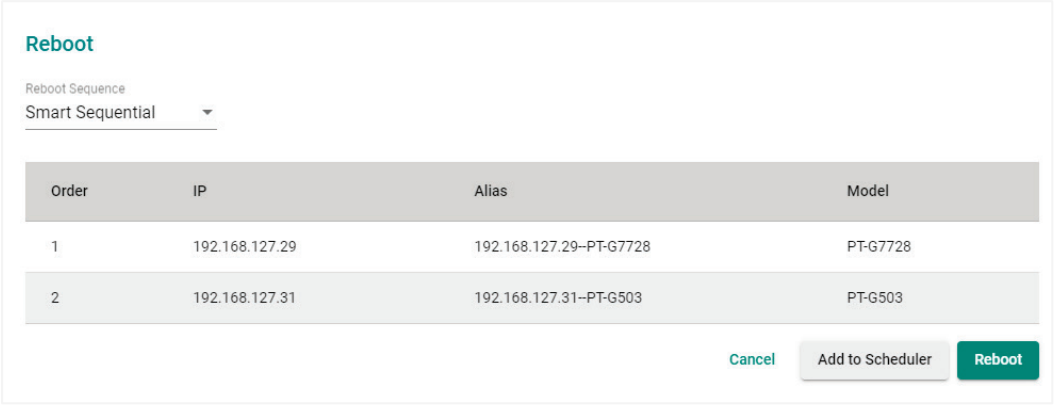
1. Navigate to **Menu** ( ) **> Device Management > Configuration and Control**.
2. Selected the device(s) to configure from the device list.



3. From the **Device Control** drop-down list, select **Reboot**.
   The **Reboot** screen will appear.



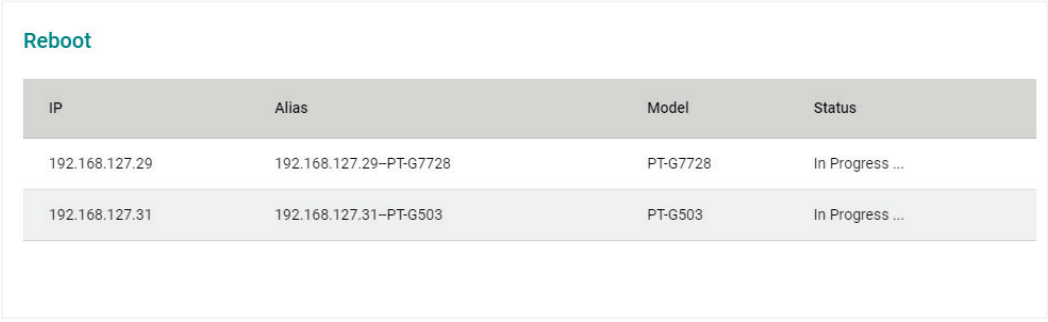
4. Configure the reboot sequence and execution time.



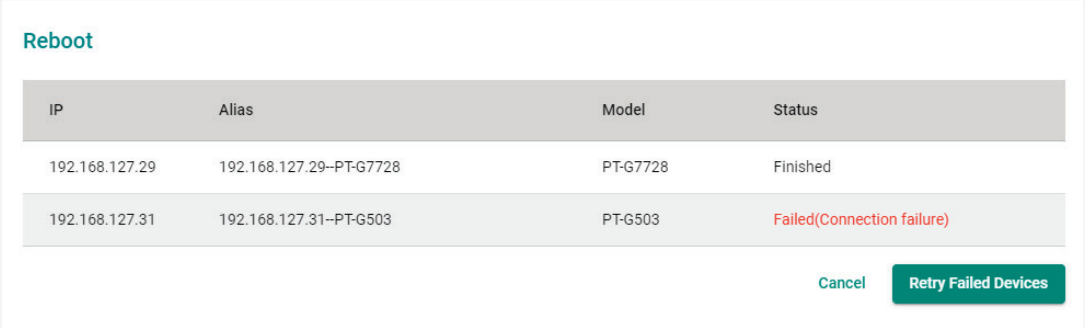
   a. Select the reboot sequence:
      - ❒ **Strict Sequential**: Reboot the devices based on the device sequence in the topology starting from the device furthest away from the computer running MXview One, proceeding to the nearest one.
      - ❒ **Smart Sequential:** Reboot the devices based on the device sequence in the topology but simultaneously reboot all devices in the same topology layer.

   b. Select an execution time:
      - ❒ **Reboot**: Click **Reboot** to restart the devices instantly.
      - ❒ **Add to Scheduler:** Click **Add to Schedular** to create a new scheduled task. MXview One will reboot the devices based on the specified time and date in the schedule.

5. To reboot devices instantly, click **Reboot**. The system will execute the action.



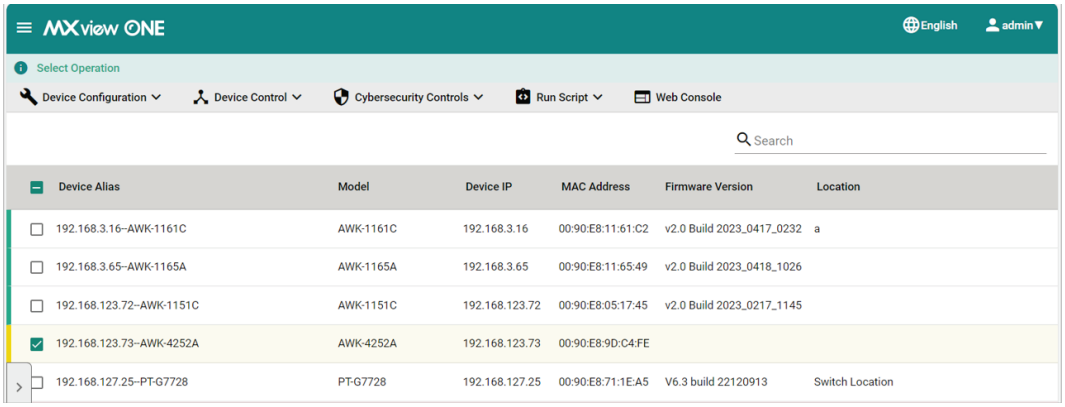
6. If successful, a confirmation will be shown in the Status column.
   If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.



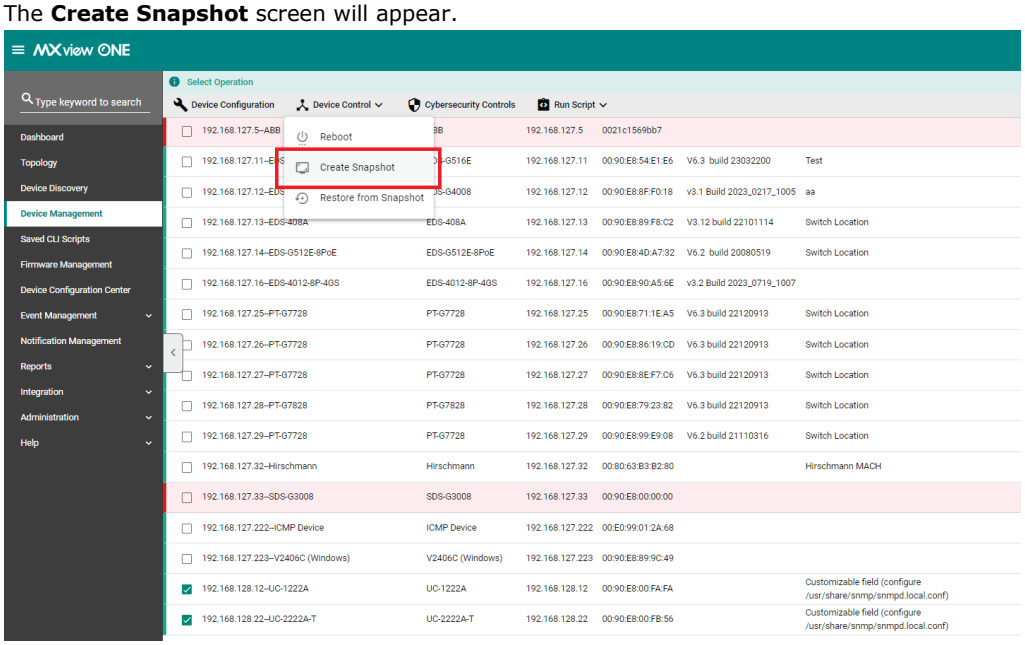
Create Snapshot

Use the **Snapshot** function to create a snapshot of the current configuration. The snapshot can be used to restore the configuration later.

1. Navigate to **Menu** ( ) **> Device Management > Configuration and Control**.
2. Selected the device(s) to configure from the device list.



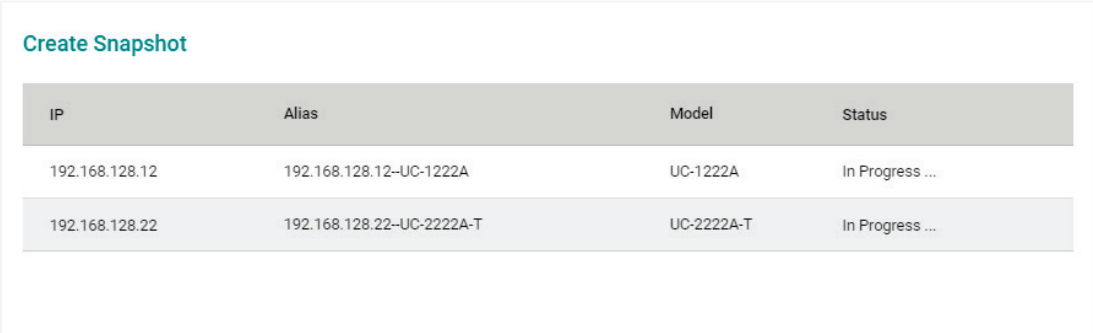
3. From the **Device Control** drop-down list, select **Create Snapshot**.
   The **Create Snapshot** screen will appear.



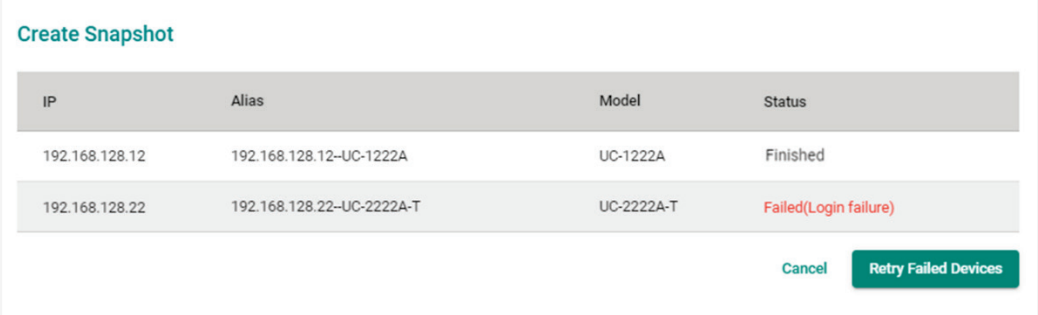
4. Configure the execution time.

- **Create**: Click **Create** to create a snapshot instantly.
- **Add to Scheduler:** Click **Add to Schedular** to create a new scheduled task. MXview One will create a snapshot based on the specified time and date in the schedule.

5. To create a snapshot instantly, click **Create**. The system will execute the action.



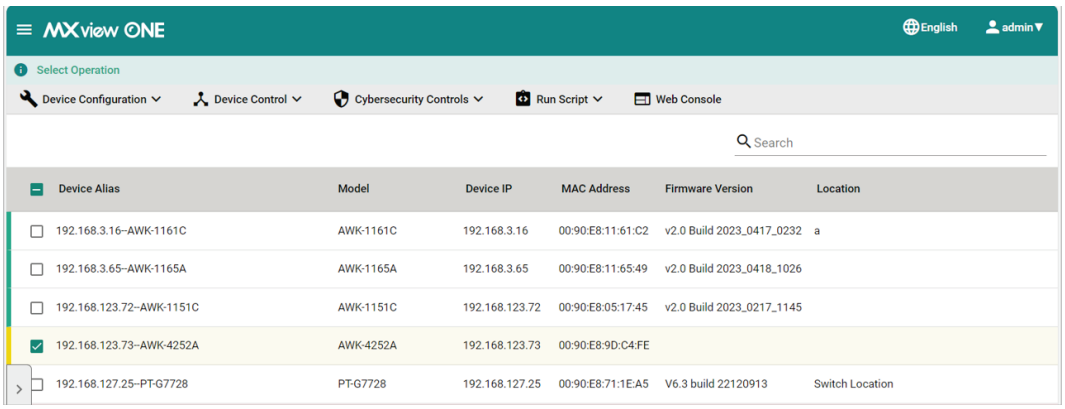
6. If successful, a confirmation will be shown in the Status column.
If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.



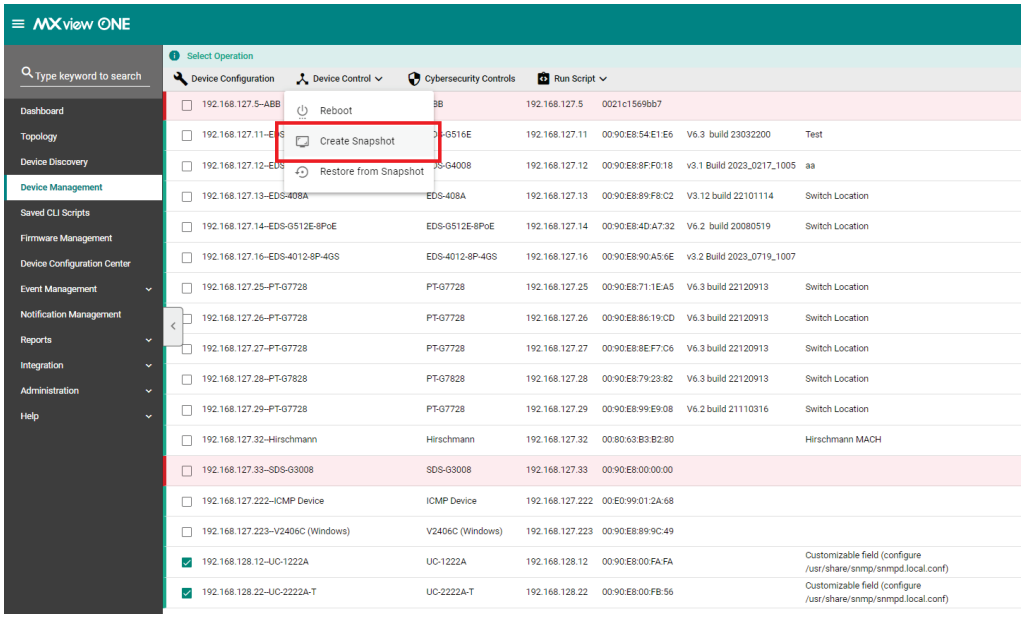
Restore From Snapshot

Use the **Restore from Snapshot** to restore the configuration from a previously created snapshot.

1. Navigate to **Menu** (☰) **> Device Management > Configuration and Control**.
2. Selected the device(s) to configure from the device list.



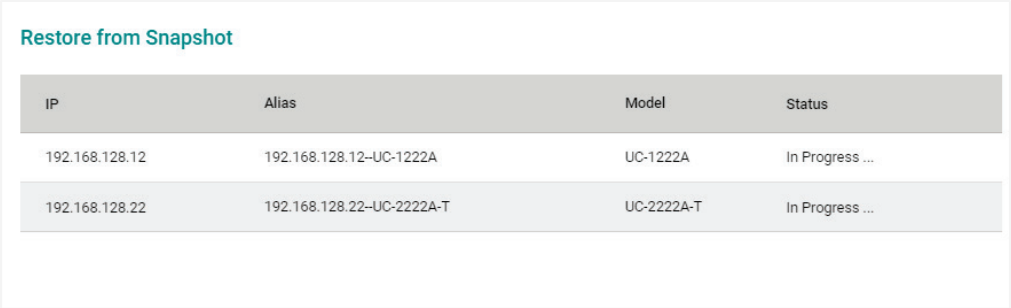
3. From the **Device Control** drop-down list, select **Restore from Snapshot**.
   The **Restore from Snapshot** screen will appear.



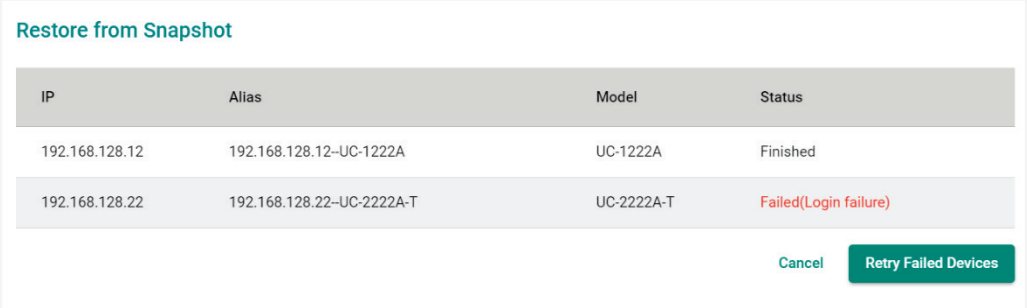
4. Configure the execution time.

- **Restore**: Click **Restore** to restore the snapshot instantly.
- **Add to Scheduler:** Click **Add to Schedular** to create a new scheduled task. MXview One will restore the snapshot based on the specified time and date in the schedule.

5. To restore the snapshot instantly, click **Restore**. The system will execute the action.



6. If successful, a confirmation will be shown in the Status column.
If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.

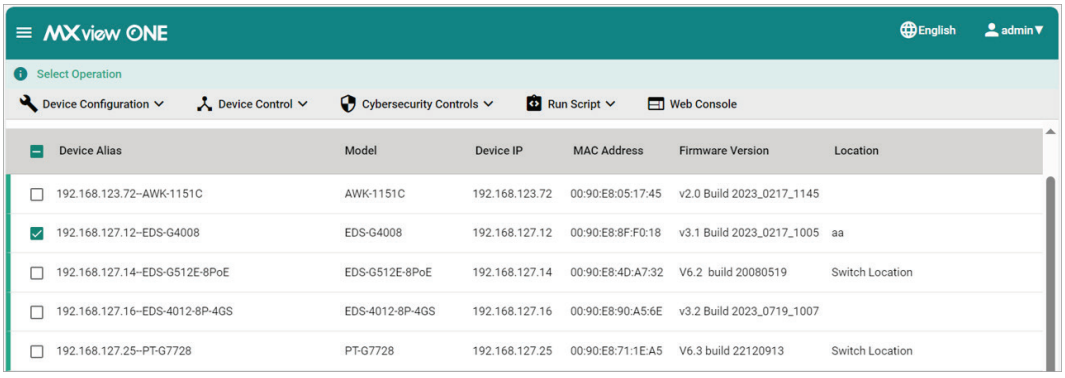


Cybersecurity Controls

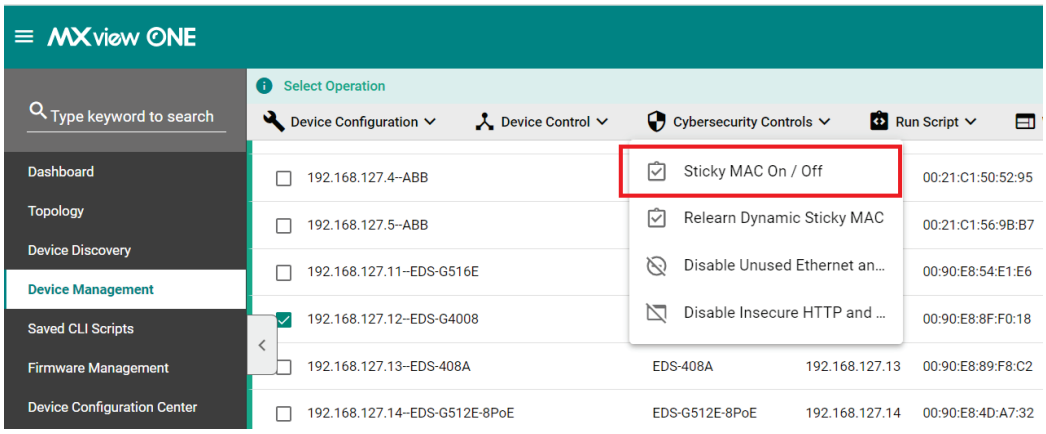
Sticky MAC On/Off

Use the **Sticky MAC On/Off** function to enable or disable Sticky MAC for the selected device(s).

1. Navigate to **Menu** ( ) **> Device Management > Configuration and Control**.
2. Selected the device(s) to configure from the device list.

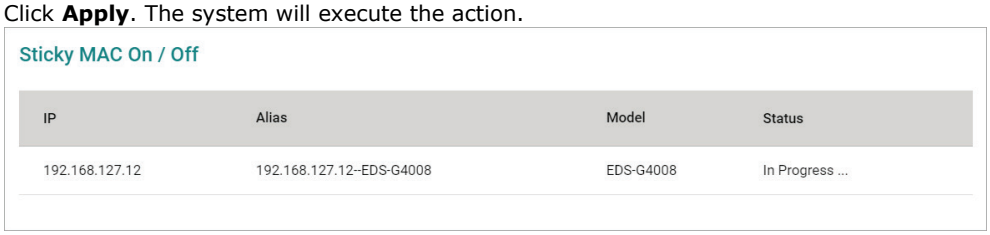


3. From the **Cybersecurity Controls** drop-down list, select **Sticky MAC On/Off**.
   The **Sticky MAC On/Off** screen will appear.

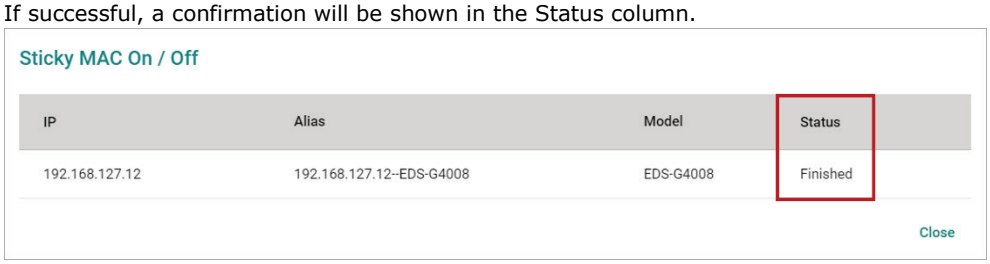


4. Choose to enable or disable Sticky MAC.

5. Click **Apply**. The system will execute the action.



6. If successful, a confirmation will be shown in the Status column.

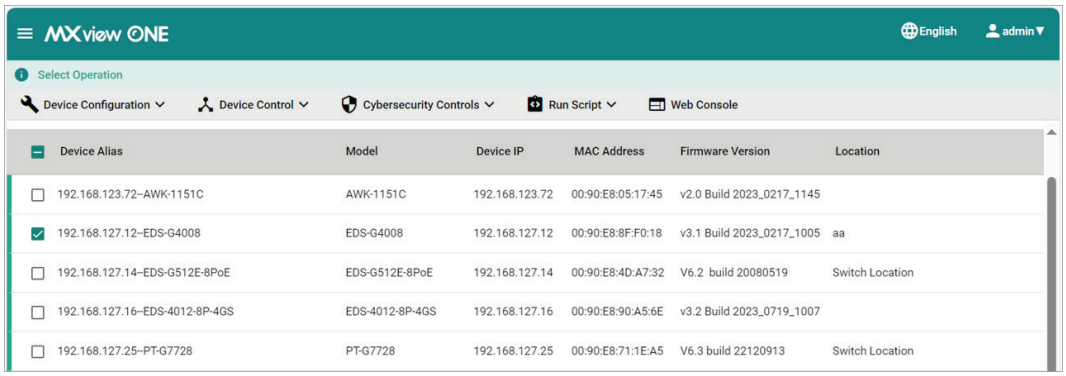


   If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.

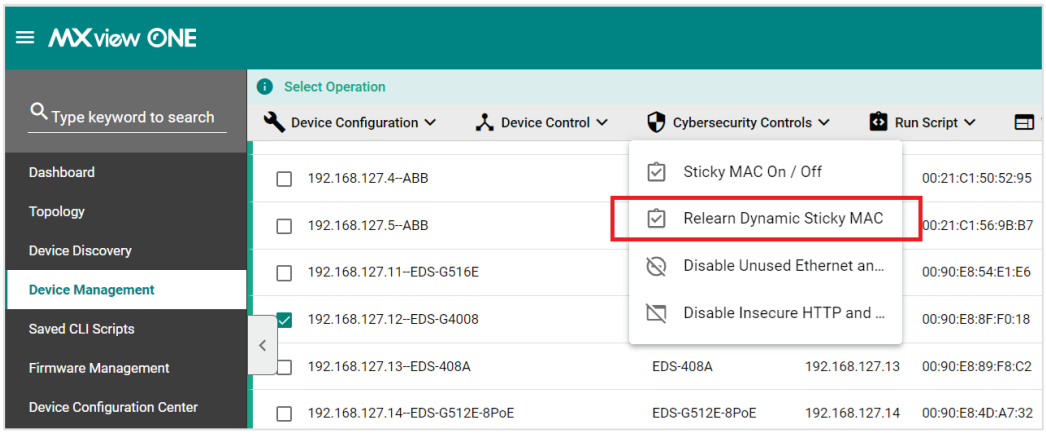
Relearning Dynamic Sticky MAC

Use the **Relearn Dynamic Sticky MAC** function to reset all previously learned MAC addresses and relearn them again for the selected device(s).

1. Navigate to **Menu** ( ) **> Device Management > Configuration and Control**.
2. Selected the device(s) to configure from the device list.

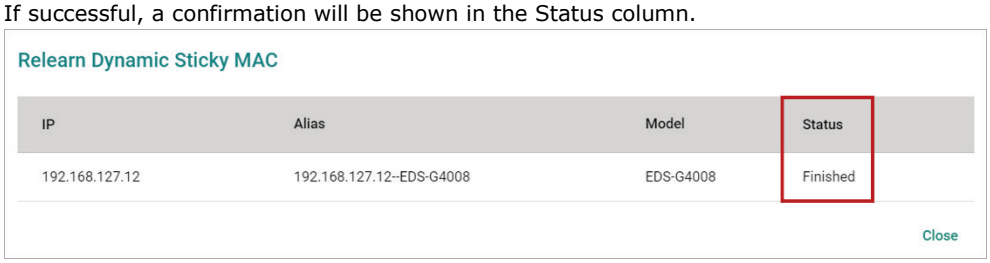


3. From the **Cybersecurity Controls** drop-down list, select **Relearn Dynamic Sticky MAC**. The **Relearn Dynamic Sticky MAC** screen will appear.



4. Click **Relearn**. The system will execute the action.

5. If successful, a confirmation will be shown in the Status column.

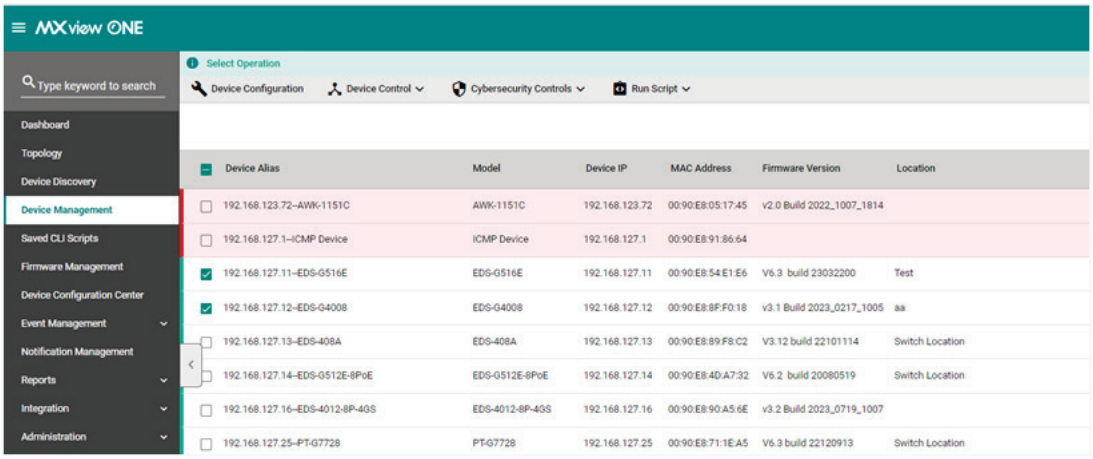


If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.

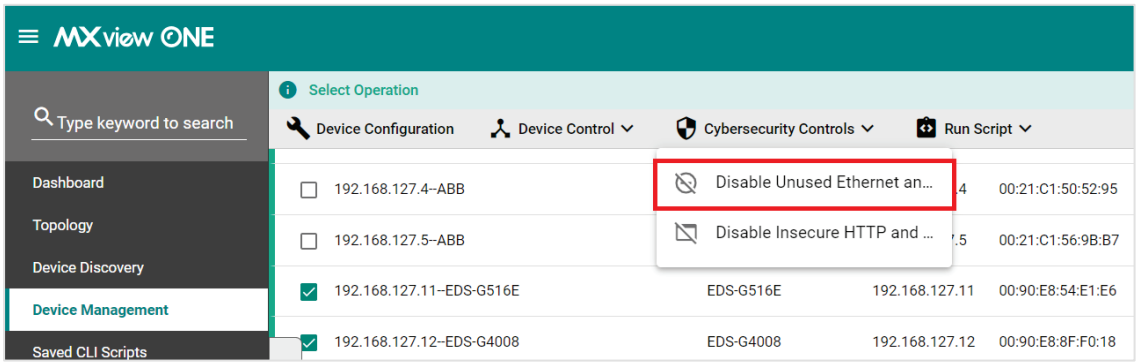
Disable Unused Ethernet and Fiber Ports

Use the **Disable Unused Ethernet and Fiber Ports** function to disable any unused Ethernet or fiber ports to make sure these ports cannot be exploited to gain unauthorized access to the device.

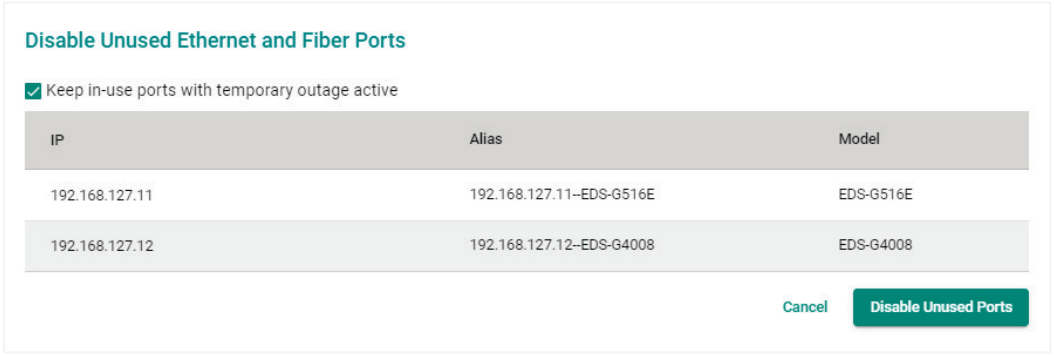
1. Navigate to **Menu** ( ) **> Device Management > Configuration and Control**.
2. Selected the device(s) to configure from the device list.



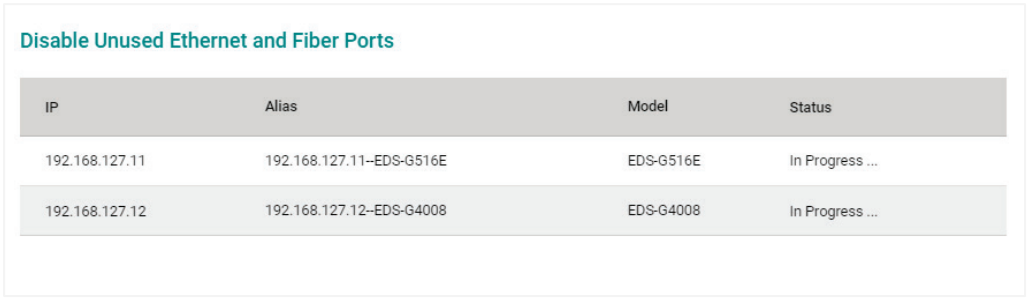
3. From the **Cybersecurity Controls** drop-down list, select **Disable Unused Ethernet and Fiber Ports**. The **Disable Unused Ethernet and Fiber Ports** screen will appear.



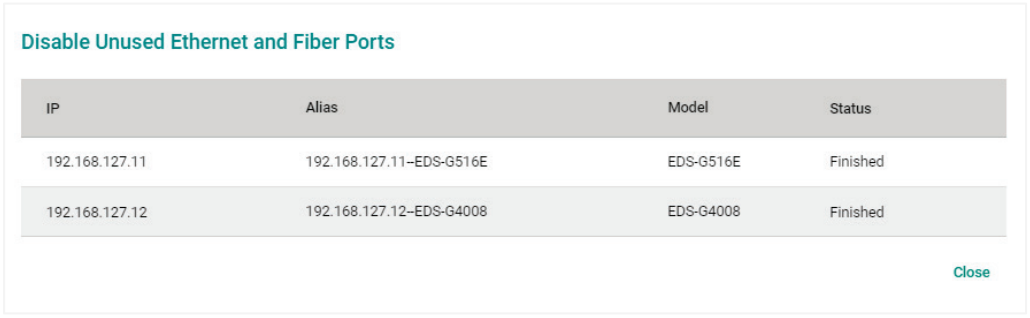
4. Choose to keep ports with temporary inactivity active.



5. Click **Disable Unused Ports**. The system will execute the action.



If successful, a confirmation will be shown in the Status column.

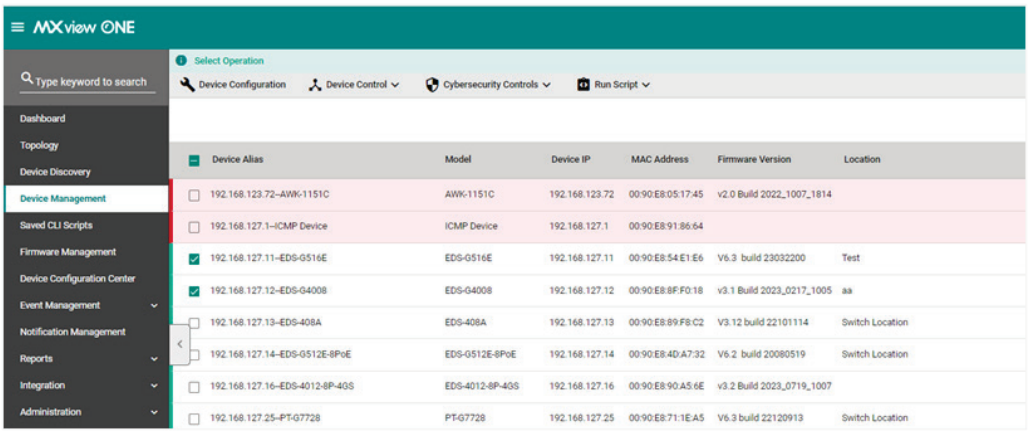


If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.

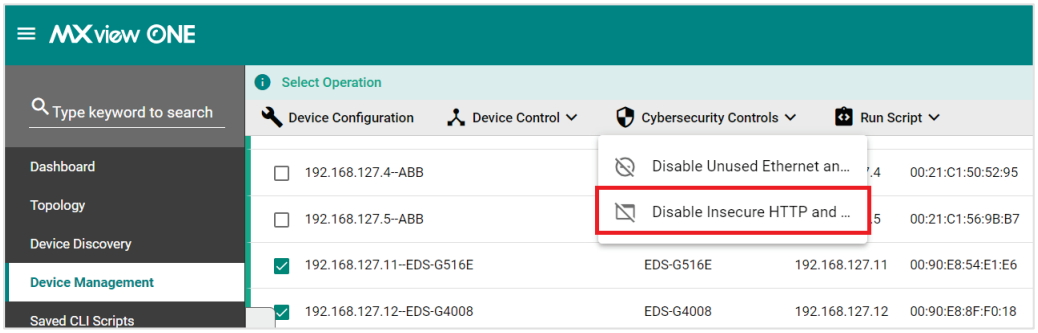
Disable Insecure HTTP and Telnet Console

Use the **Disable Insecure HTTP and Telnet Console** function to disable the non-secure HTTP and Telnet connection interfaces.

1. Navigate to **Menu** ( ) **> Device Management > Configuration and Control**.
2. Selected the device(s) to configure from the device list.

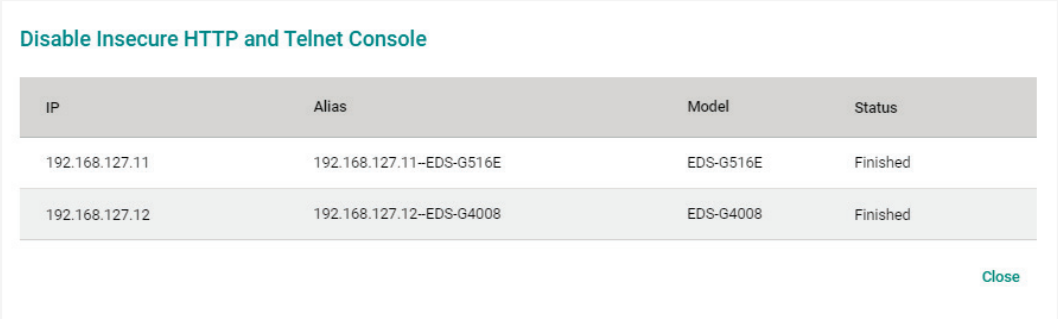


3. From the **Cybersecurity Controls** drop-down list, select **Disable Insecure HTTP and Telnet Console**.
   The **Disable Insecure HTTP and Telnet Console** screen will appear.



4. Click **Disable HTTP and Telnet**. The system will execute the action.

If successful, a confirmation will be shown in the Status column.



If unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.

Run Script

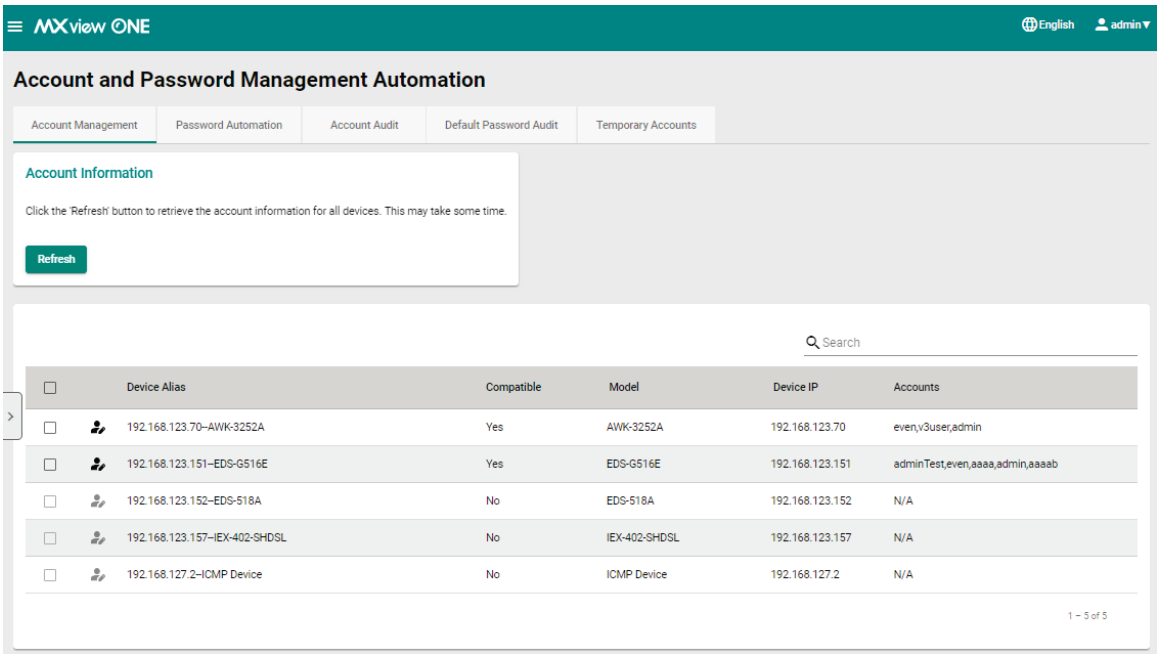
Refer to the Managing and Running Scripts section.

Account and Password

Account Management Overview

To access the **Account Management** page, in the function tree, navigate to **Menu** ( ) **> Device Management > Account and Password** and go to the **Account Management** tab.

The **Account Management** tab shows an overview of all user accounts on each device.



This page displays the following information in a table format:

Column	Description
Device Alias	The unique name of the device.
Compatible	Shows if the device supports MXview One retrieving account information.
Model	The device model name.
Device IP	The IP address of the device.
Accounts	The list of accounts associated with the device. Under certain conditions, the following statuses can show: • **Unable to retrieve accounts**: The device supports this feature, but MXview One was unable to successfully retrieve account information from the device. • **N/A**: MXview One cannot retrieve account information because the device does not support this feature.

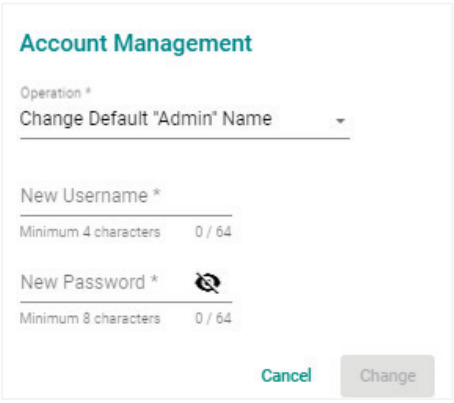
Click **Refresh** at the top of the page to update the account information in the table.

Editing Accounts on a Device

> **NOTE**
>
> This function is only available for compatible devices. If the device is incompatible, this function will be greyed out.

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Account Management** tab.

3. Click the **Edit** ( ) icon next to the device account you want to edit.
   The **Account Management** window will appear.

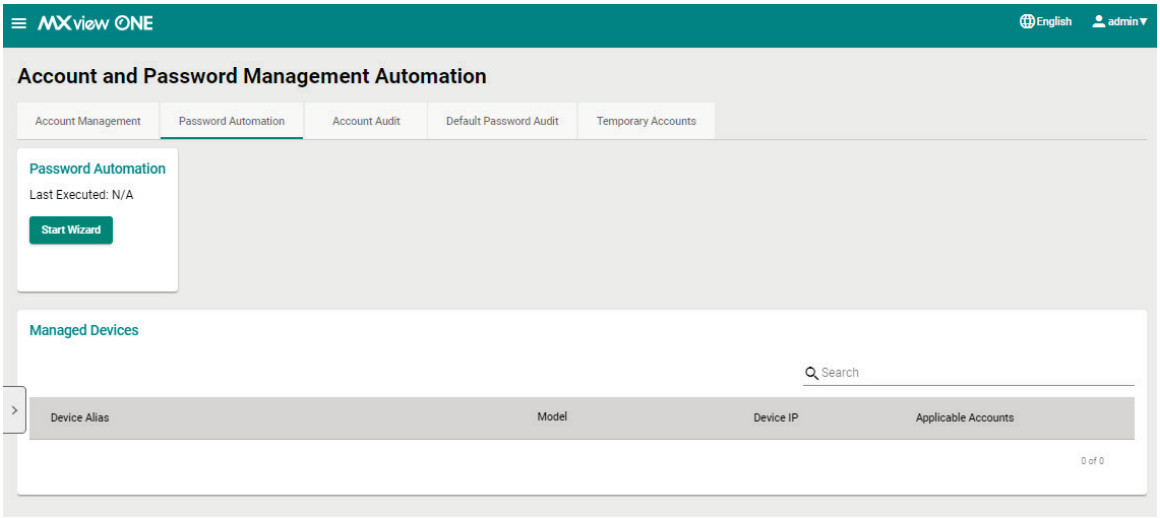


4. To change the default admin account credentials:
   a. Select **Change Default ''Admin'' Name** as the operation.
   b. Specify the new username and password.
   c. Click **Change**.
5. To add an account:
   a. Select **Edit Account** as the operation.
   b. Select the **Add Account** radio button.
   c. Specify the username, password, and authority of the account.
   d. Click **Add**.
6. To delete an account:
   a. Select **Edit Account** as the operation.
   b. Select the **Delete Account** radio button.
   a. Enter the username of the account you want to delete.
   b. Click **Delete**.

Password Automation Overview

To access the **Account Management** page, in the function tree, navigate to **Menu** ( ) **> Device Management > Account and Password** and go to the **Password Automation** tab.

The **Password Automation** tab shows an overview of all user accounts on each device.



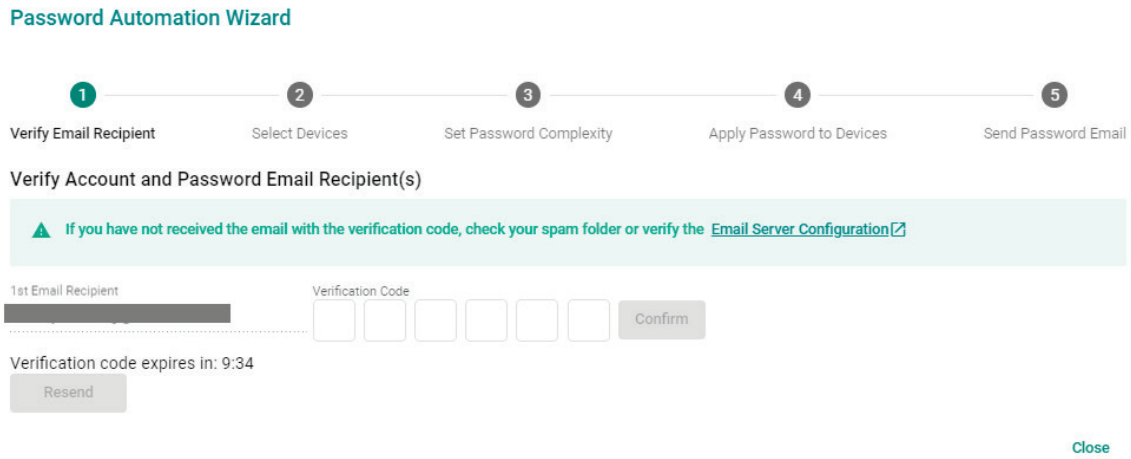
This page displays the following information in a table format:

Column	Description
Device Alias	The unique name of the device.
Model	The device model name.
Device IP	The IP address of the device.
Applicable Accounts	Shows the device accounts that the password automation functions are applied to.

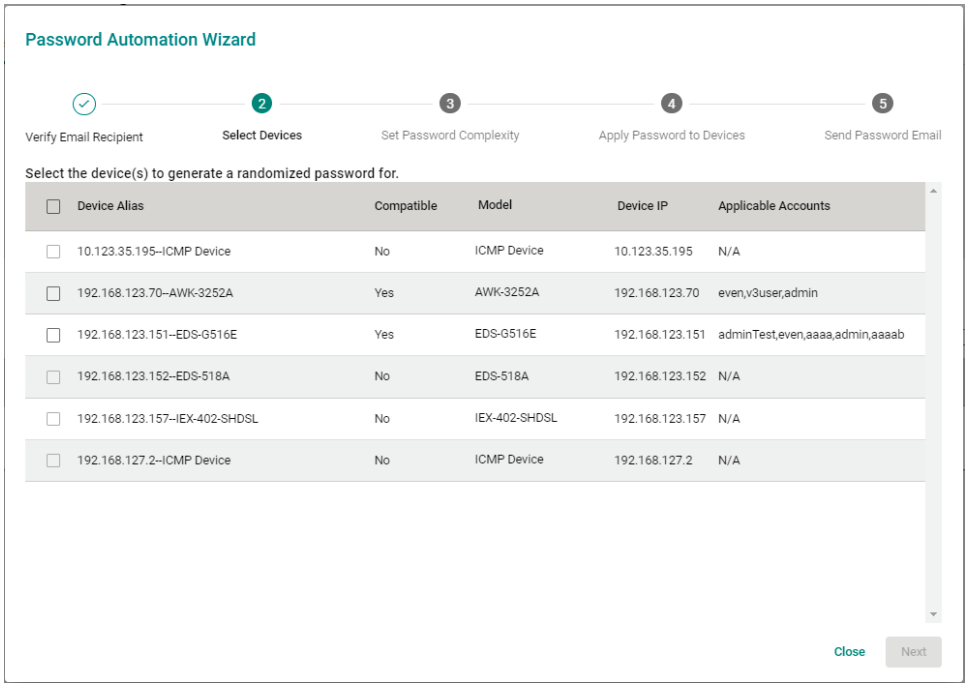
Running the Password Automation Wizard

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Password Automation** tab.
3. In the **Password Automation** section, click **Start Wizard**.
4. When prompted, verify your MXview One account.
   The **Password Automation Wizard** screen will appear.

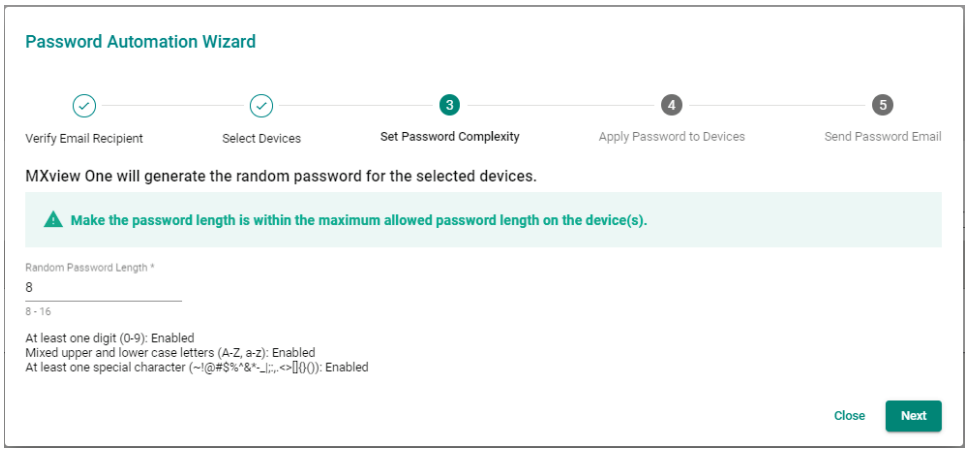
5. Enter the 1st and 2nd recipient email addresses and click **Verify Email**.
   MXview One will send a verification code to these addresses.
6. Enter the verification code in the Wizard to continue.
   If you have not received an email, check your Spam folder or confirm the Email Server Configuration settings in MXview One.



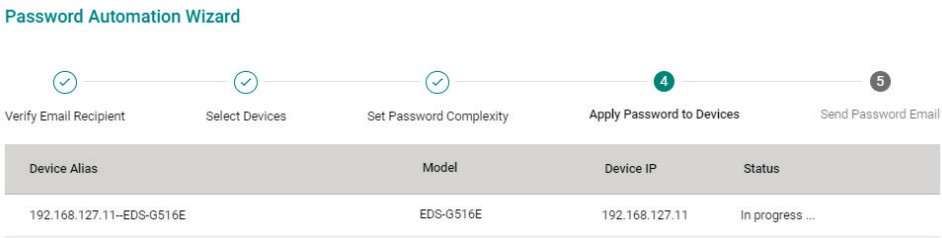
7. Select the device(s) to generate a randomized password for and click **Next**.



8. Specify the randomized password length and click **Next**.
   MXview One will generate a random password of the specified length containing:
   - At least one digit (0-9).
   - Mixed upper and lowercase letters (A-Z, a-z).
   - At least one special character (~!@#$%^&*-_|;:,.<>[]{}())

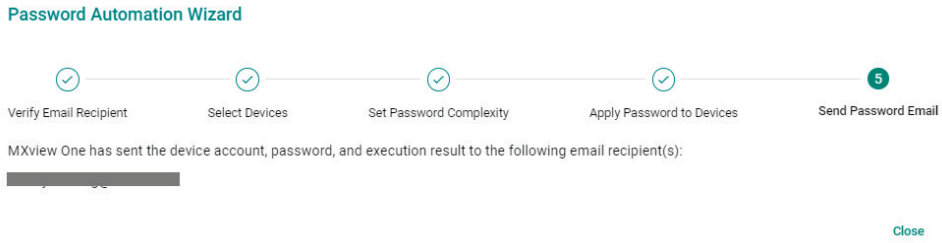


9. MXview One will start generating new passwords for the selected devices.

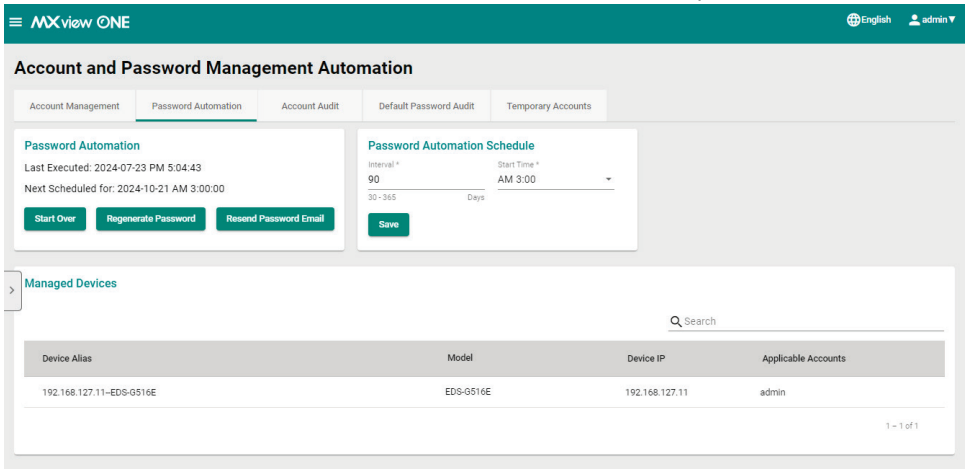


10. When finished, MXview One will send the device account and password information to the email recipients specified at the beginning of the Wizard.
    Users will receive two emails. One email containing the account information and execution results and

another email containing the string to unzip the account information file.



11. Click **Close**.
12. The table will show all the devices and associated accounts that password automation is applied to.



NOTE

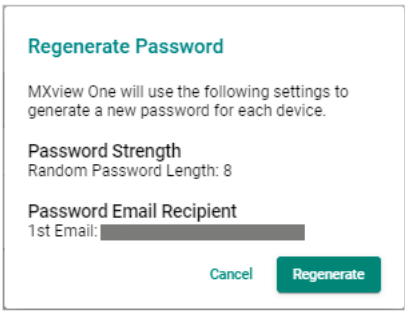
Click **Start Over** to run the Password Automation Wizard again.

Regenerating Device Passwords

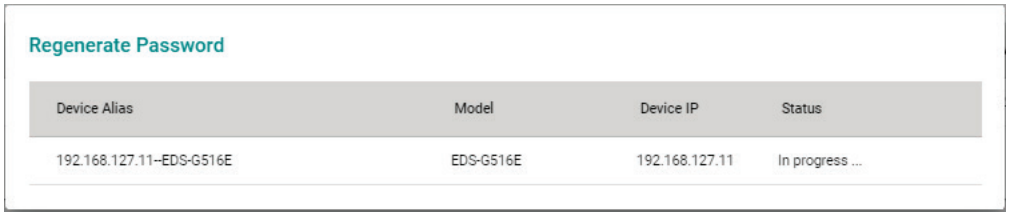
NOTE

This function is only available after completing the Password Automation Wizard at least once. Refer to Running the Password Automation Wizard.

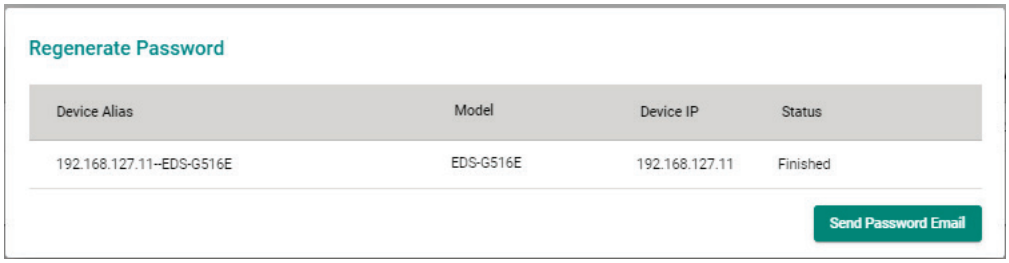
1. Navigate to **Menu** (☰) **> Device Management > Account and Password**.
2. Go to the **Password Automation** tab.
3. In the **Password Automation** section, click **Regenerate Password**.
4. When prompted, verify your MXview One account.
   The **Regenerate Password** screen will appear.



5. Click **Regenerate**.
   MXview One will generate a new password for all applicable devices.



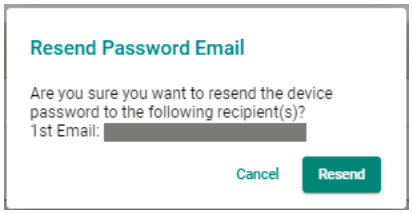
6. Click **Send Password Email** to receive an email with the new randomized passwords to the recipients specified in the Password Automation Wizard.



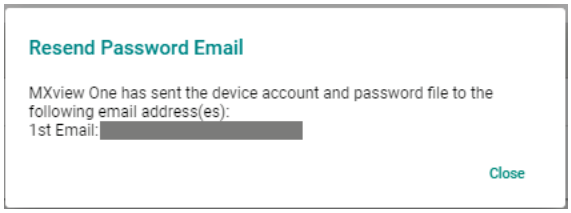
Resending the Password Email

> **NOTE**
>
> This function is only available after completing the Password Automation Wizard at least once. Refer to Running the Password Automation Wizard.

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Password Automation** tab.
3. In the **Password Automation** section, click **Resend Password Email**.
4. When prompted, verify your MXview One account.
   The **Resend Password Email** screen will appear.



5. Click **Resend**.
   MXview One will send an email with the device account credentials to the recipients specified in the Password Automation Wizard.



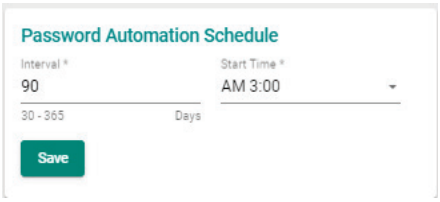
Configuring a Password Automation Schedule

With the password automation schedule function, you can configure a specific interval at which MXview One will generate new randomized passwords for all applicable devices.

NOTE

This function is only available after completing the Password Automation Wizard at least once. Refer to Running the Password Automation Wizard.

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Password Automation** tab.
3. In the **Password Automation Schedule** section, configure the following settings:

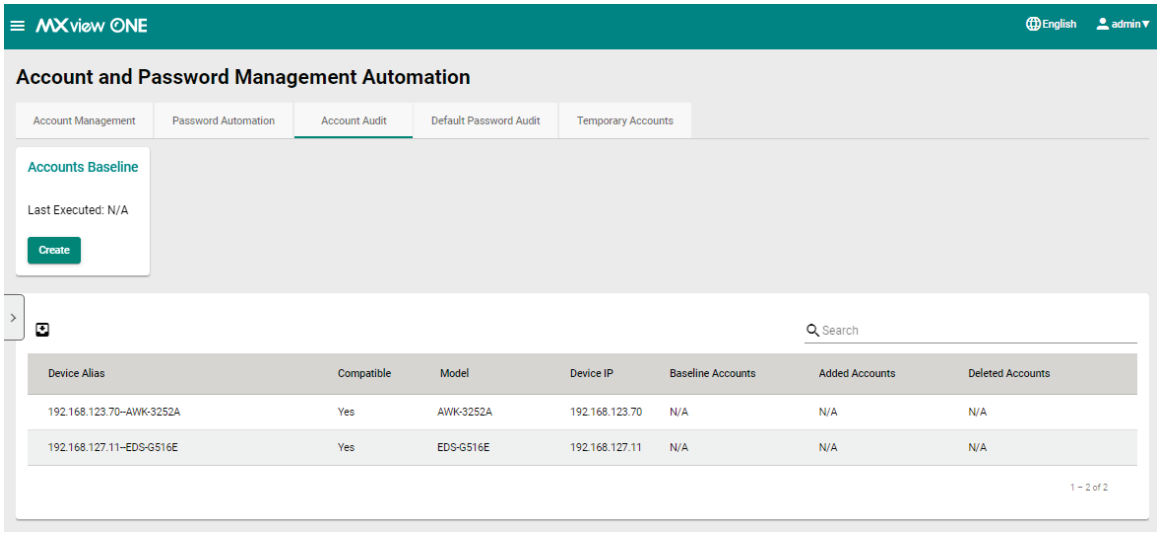


   - **Interval**: Select the interval (in days) at which MXview One will randomize device passwords.
   - **Start Time**: Specify the day of time when MXview One will execute the password automation.
4. Click **Save**.

Account Audit Overview

To access the **Account Audit** page, in the function tree, navigate to **Menu** ( ) **> Device Management > Account and Password** and go to the **Account Audit** tab.

The **Account Audit** tab lets users create a device account baseline and perform an account audit to easily identify newly added or deleted accounts.

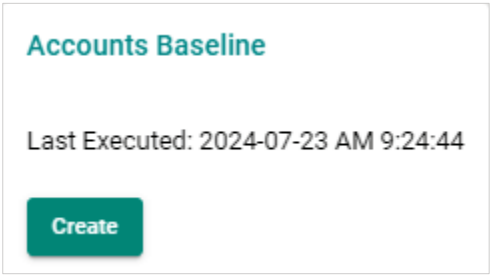


This page displays the following information in a table format:

Column	Description
Device Alias	The unique name of the device.
Compatible	Shows if the device supports MXview One retrieving account information. If the device does not support this function, the **Accounts** column will show **N/A**.
Model	The device model name.
Device IP	The IP address of the device.
Baseline Accounts	Shows the user accounts associated with the device when creating the baseline.
Added Accounts	Shows the user accounts that were added compared to the baseline after performing an account audit.
Deleted Accounts	Shows the user accounts that were deleted compared to the baseline after performing an account audit.

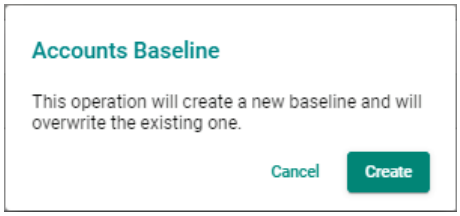
Creating an Account Baseline

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Account Audit** tab.
3. The **Accounts Baseline** section includes the following information:



   - **Last Executed**: Shows the date and time when the most recent baseline was created. If no baseline has been created before, this will show **N/A**.

4. Click **Create**.
   The **Device Baseline** window will appear.

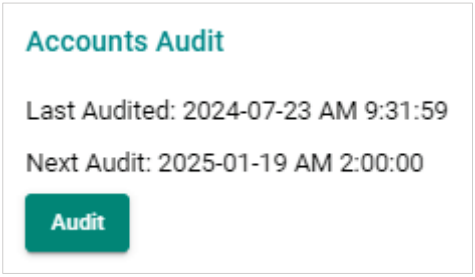


5. Click **Create**.

Executing a Manual Account Audit

> **NOTE**
>
> This function is only available after creating an account baseline. Refer to Creating an Account Baseline.

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Account Audit** tab.
3. The **Accounts Audit** section shows the following information:



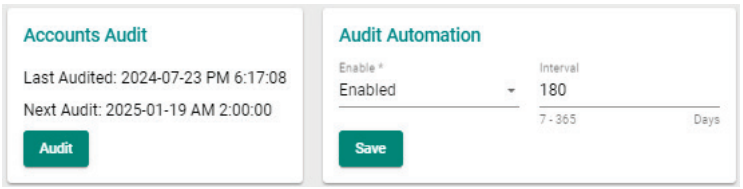
   - **Last Audited**: Shows the date and time of the most recent account audit.
   - **Next Audit**: If automatic account auditing is enabled, this shows the time and date of the next scheduled audit.

4. Click **Audit**.
   MXview One will compare the current accounts to the baseline and will show any added or deleted accounts in the table.

Configuring an Automatic Account Audit Schedule

> **NOTE**
>
> This function is only available after creating an account baseline. Refer to Creating an Account Baseline.

1. Navigate to **Menu** (☰) **> Device Management > Account and Password**.
2. Go to the **Account Audit** tab.
3. In the **Audit Automation** section, configure the following settings:

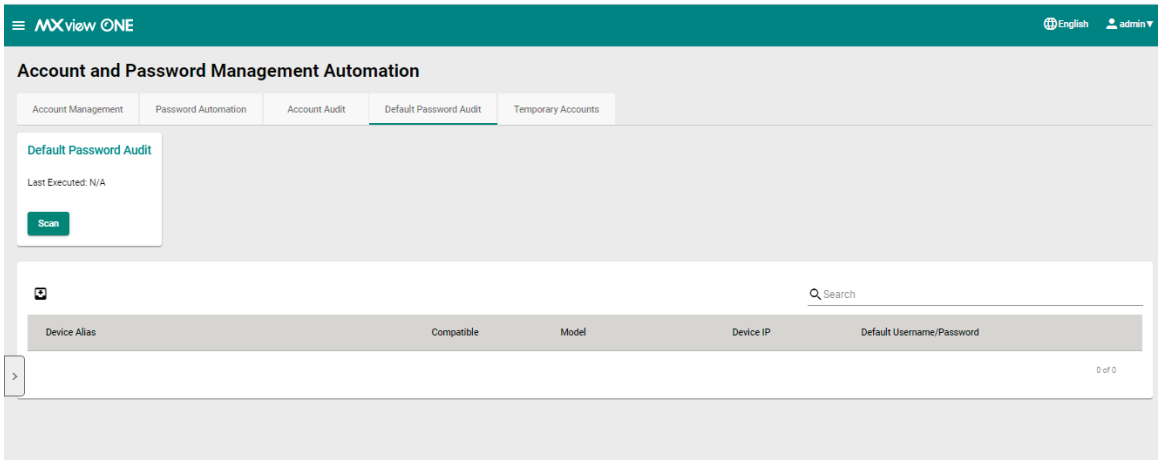


   - **Enable**: Enable or disable the automatic account auditing function.
   - **Interval**: Specify the interval (in days) when MXview One will perform an account audit.
4. Click **Save**.

Default Password Audit Overview

To access the **Default Password Audit** page, in the function tree, navigate to **Menu** (☰) **> Device Management > Account and Password** and go to the **Default Password Audit** tab.

The **Default Password Audit** tab lets users quickly check for any accounts that are using the default password.

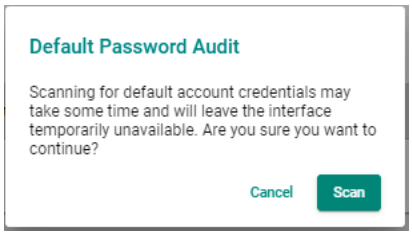


This page displays the following information in a table format:

Column	Description
Device Alias	The unique name of the device.
Compatible	Shows if the device supports MXview One retrieving account information.
Model	The device model name.
Device IP	The IP address of the device.
Default Account/Password	Shows if the account is using the default credentials: • **Yes**: The device uses the default username and password. For security reasons, it is highly recommended to change the default credentials. • **No**: The device is not using the default credentials. • **N/A**: MXview One cannot retrieve account information because the device does not support this feature.

Performing a Default Password Audit

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Default Password Audit** tab.
3. In the **Default Password Audit** section, click **Scan**.
   The **Default Password Audit** window will appear.

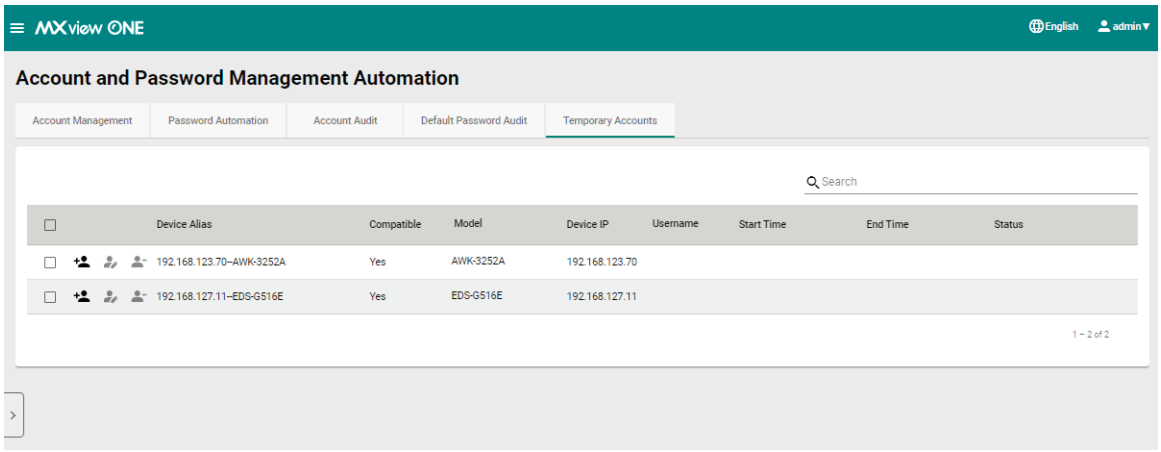


4. Click **Scan**.
   MXview One will scan for any accounts using the default credentials and list them in the table.

Temporary Accounts Overview

To access the **Temporary Accounts** page, in the function tree, navigate to **Menu** ( ) **> Device Management > Account and Password** and go to the **Temporary Accounts** tab.

The **Temporary Accounts** tab allows users to create, edit, and delete temporary accounts for devices.

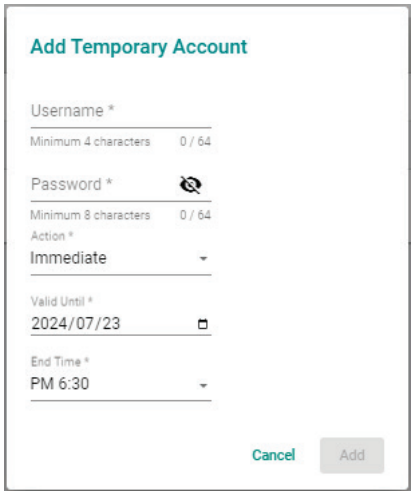


This page displays the following information in a table format:

Column	Description
Device Alias	The unique name of the device.
Compatible	Shows if the device supports the temporary accounts function.
Model	The device model name.
Device IP	The IP address of the device.
Username	The username of the account.
Start Time	The account validity start time.
End Time	The account validity end time.
Status	The status of the account.

Adding a Temporary Account

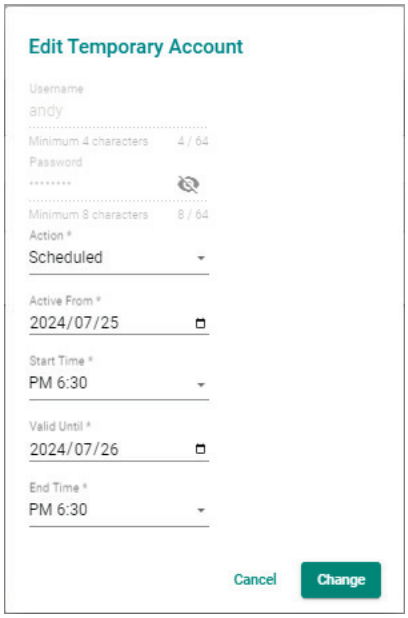
1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Temporary Accounts** tab.
3. Click the **Add** ( ) icon next to the device you want to create a temporary account for.
   The **Add Temporary Account** window will appear.



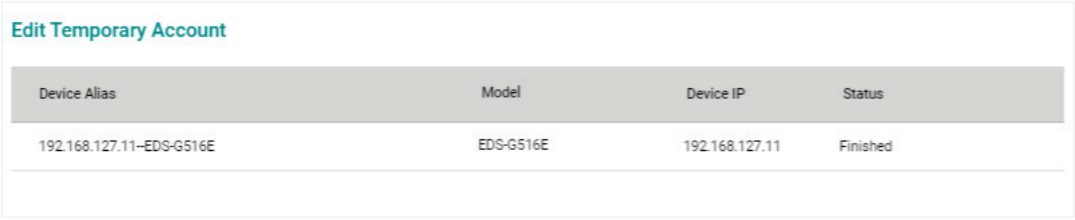
4. Configure the following settings:
   - **Username**: Enter a username for the account.
   - **Password**: Enter the password for the account.
   - **Action**: Select the type of account.
     - **Immediate**: The account will be active immediately until the specified end date.
     - **Scheduled**: The account will only be active during the specified time period.
   - **Active From**: If you selected **Scheduled**, specify the date the account will be valid from.
   - **Start Time**: If you selected **Scheduled**, specify the starting time the account will be valid from.
   - **Valid Until**: Specify the date the account expires.
   - **End Time**: Specify the time of day the account expires.
5. Click **Add**.
   MXview One will show the status of the account creation.

Editing a Temporary Account

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Temporary Accounts** tab.
3. Click the **Edit** ( ) icon next to the device you want to edit the temporary account for.
   The **Edit Temporary Account** window will appear.

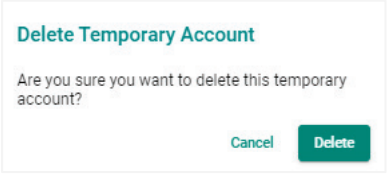


4. Configure the following settings:
   - **Action**: Select the type of account.
     - **Immediate**: The account will be active immediately until the specified end date.
     - **Scheduled**: The account will only be active during the specified time period.
   - **Active From**: If you selected **Scheduled**, specify the date the account will be valid from.
   - **Start Time**: If you selected **Scheduled**, specify the starting time the account will be valid from.
   - **Valid Until**: Specify the date the account expires.
   - **End Time**: Specify the time of day the account expires.
5. Click **Change**.
   MXview One will show the status of the account modification.



Deleting a Temporary Account

1. Navigate to **Menu** ( ) **> Device Management > Account and Password**.
2. Go to the **Temporary Accounts** tab.
3. Click the **Delete** ( ) icon next to the device you want to delete the temporary account of.
   The **Delete Temporary Account** window will appear.



4. Click **Delete**.
   MXview One will show the status of the account deletion.

12. Saved CLI Scripts

The CLI Scripts function allows users to generate and execute CLI scripts from within MXview One. After creating and saving CLI scripts, users can create script automations and automation buttons to quickly execute batch configurations on multiple devices at once.

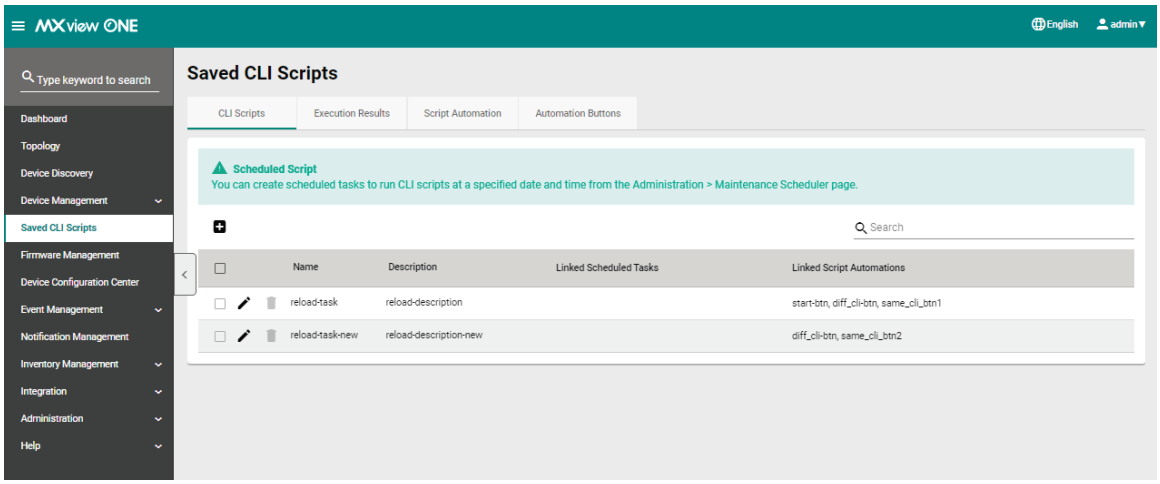
Saved CLI Scripts Overview

To access the **Saved CLI Scripts** page, in the function tree, navigate to **Menu** ( ) > **Saved CLI Scripts**.

If there are no saved CLI scripts, a script will need to be created by clicking the **Add** ( ) icon. Refer to **Adding a CLI Script** for information on how to create a script.

If there are saved CLI scripts, the following tabs will be available:

- **CLI Scripts**: This list shows all saved CLI scripts. From this table, you can create, edit, or delete CLI scripts.
- **Execution Results**: From this tab, you can download or delete the execution results of previously executed scripts.
- **Script Automation**: From this tab, you can view, create, edit, or delete script automations.
- **Automation Buttons**: Each script automation you create will generate an automation button. From this tab, you can manage script automation buttons.

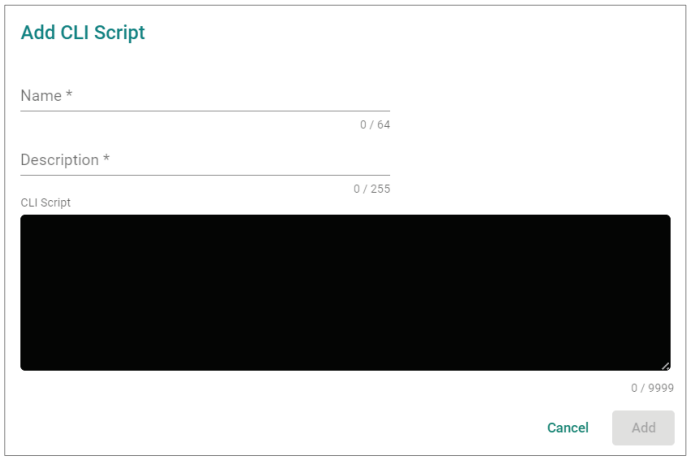


CLI Scripts

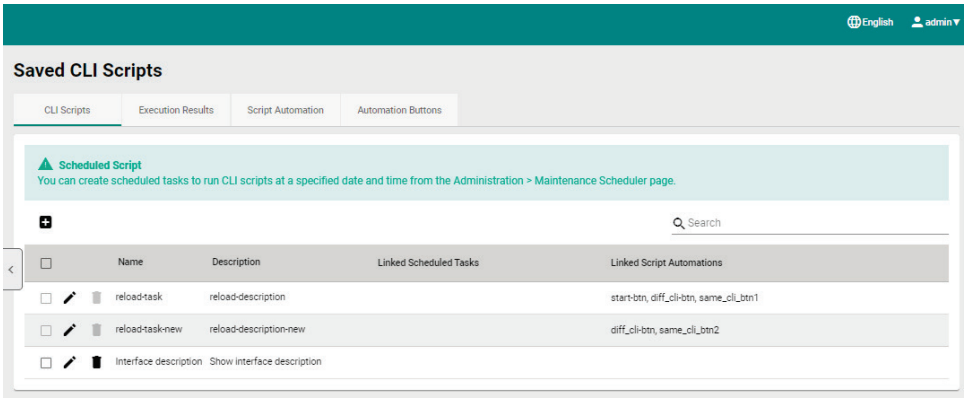
Adding a CLI Script

1. Navigate to **Menu** ( ) **> Saved CLI Scripts > CLI Scripts**.
   The **Saved CLI Scripts** screen will appear. A list of configured CLI scripts will show in the **CLI Scripts** list (if any).

2. Click the **Add** ( ) icon.
   The **Add CLI Script** screen will appear.



3. Configure the following settings:
   a. **Name**: Enter a name for the CLI script.
   b. **Description**: Enter a description for the CLI script.
   c. **CLI Script**: Enter the CLI command(s) to execute.
4. Click **Add**.
   The CLI script will be added to the table.



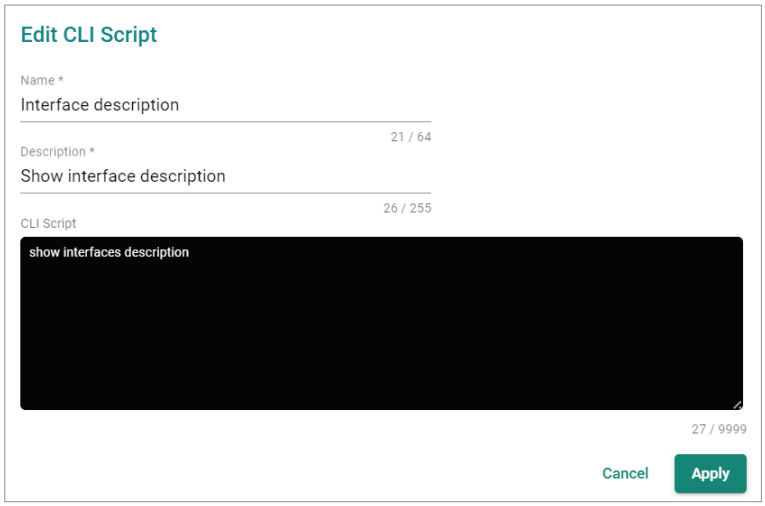
Searching for a CLI Script

1. Navigate to **Menu** ( ) **> Saved CLI Scripts > CLI Scripts**.
   The **Saved CLI Scripts** screen will appear. A list of configured CLI scripts will show in the **CLI Scripts** list (if any).

2. In the **Search** ( ) field, type the full or partial information of the CLI script.
   All CLI scripts matching the entered string will be shown in the table.

Editing a CLI Script

1. Navigate to **Menu** ( ) **> Saved CLI Scripts > CLI Scripts**.
   The **Saved CLI Scripts** screen will appear. A list of configured CLI scripts will show in the **CLI Scripts** list (if any).
2. Click the **Edit** ( ) icon next to the script you want to edit.
   The **Edit CLI Script** screen will appear.



3. Configure the following settings:
   a. **Name**: Enter a name for the CLI script.
   b. **Description**: Enter a description for the CLI script.
   c. **CLI Script**: Enter the CLI command(s) to execute.
4. Click **Apply**.
   A confirmation will appear to verify the CLI script was updated.

Deleting a CLI Script

NOTE

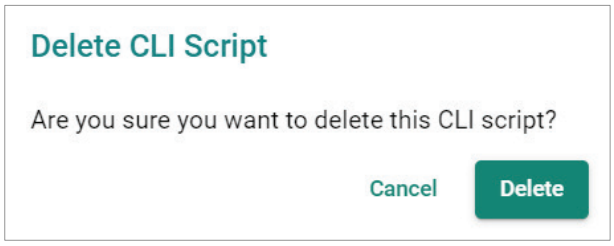
A CLI script cannot be deleted if it is linked to a scheduled task. To delete the script, modify or delete the scheduled task first on the **Administration> Maintenance Scheduler** page.

1. Navigate to **Menu** ( ) **> Saved CLI Scripts > CLI Scripts**.

   The **Saved CLI Scripts** screen will appear. A list of configured CLI scripts will show in the **CLI Scripts** list (if any).

2. Click the **Delete** ( ) icon next to the CLI script you want to delete.

   A confirmation window will appear.



3. Click **Delete**.

   A confirmation will appear to verify the CLI script was deleted.

Deleting Multiple CLI Scripts

NOTE

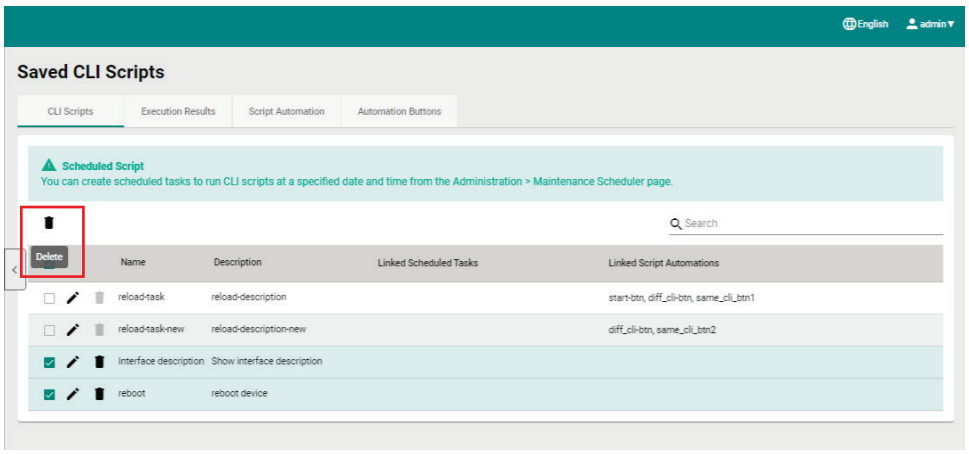
A CLI script cannot be deleted if it is linked to a scheduled task. To delete the script, modify or delete the scheduled task first on the **Administration> Maintenance Scheduler** page.

1. Navigate to **Menu** ( ) **> Saved CLI Scripts > CLI Scripts**.

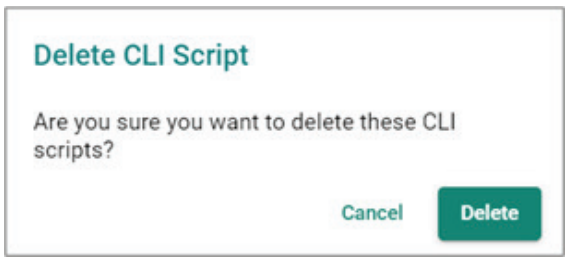
   The **Saved CLI Scripts** screen will appear. A list of configured CLI scripts will show in the **CLI Scripts** list (if any).

2. Select the checkbox of the scripts you want to delete in the list.

3. Click the **Delete** ( ) icon at the top-left corner of the page.



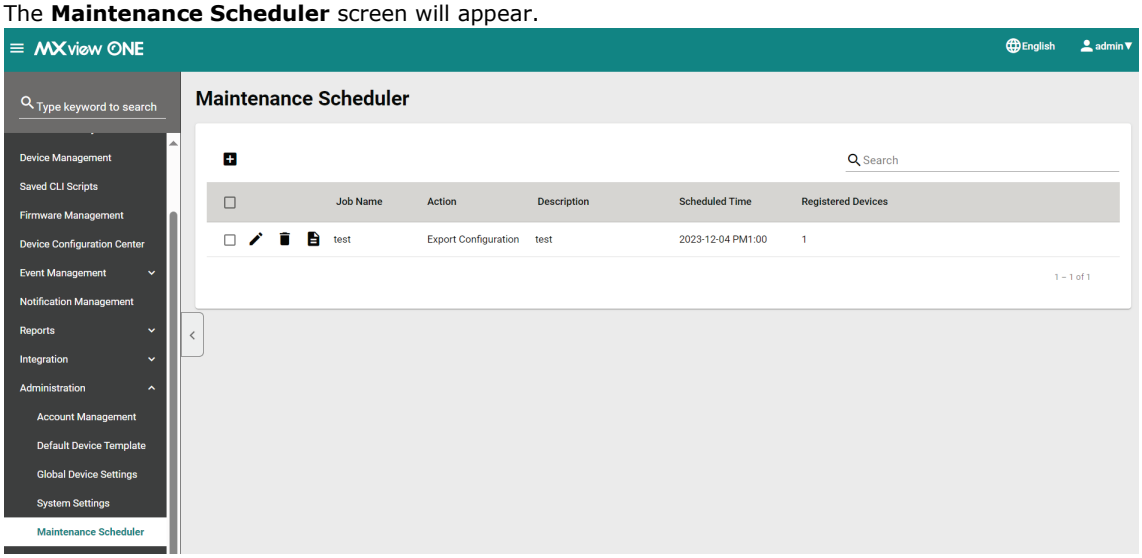
4. A confirmation window will appear.



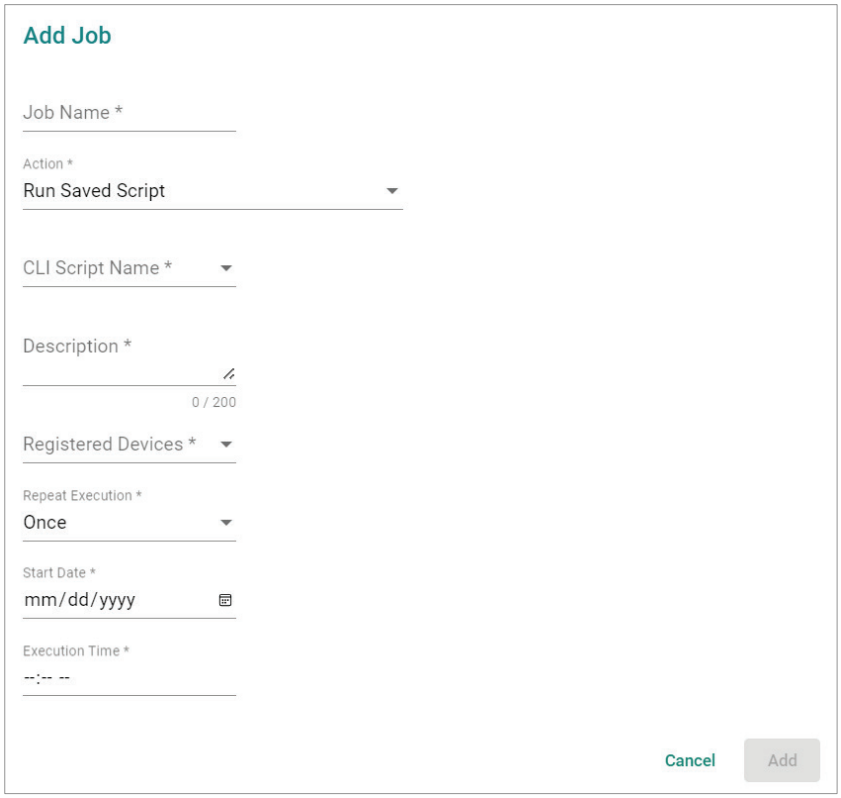
5. Click **Delete**.
   A confirmation will appear to verify the CLI script was deleted.

Creating a CLI Script Scheduled Task

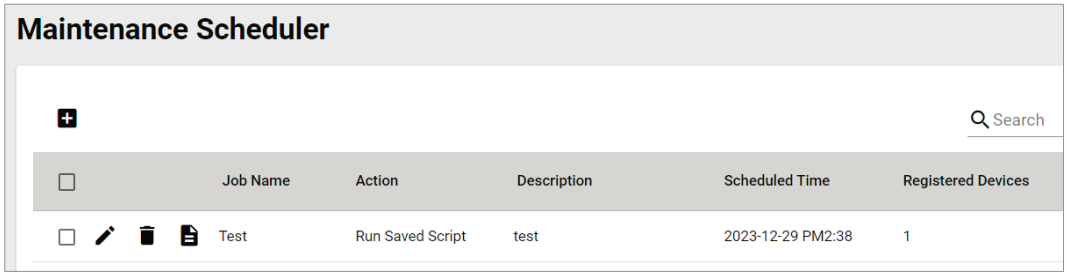
1. Navigate to **Menu** ( ) **> Administration > Maintenance Scheduler**.
   The **Maintenance Scheduler** screen will appear.



2. Click the **Add** ( ) icon.
   The **Add Job** screen will appear.



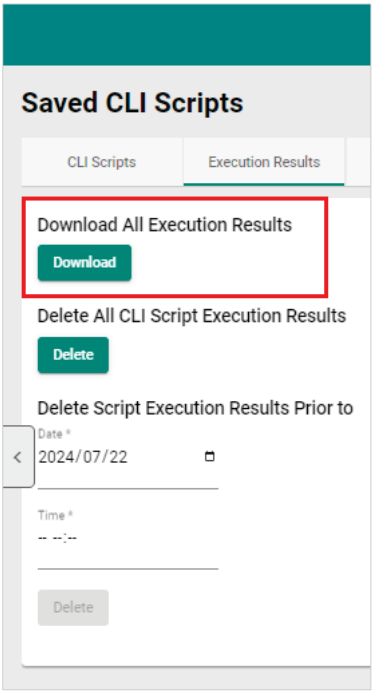
3. Configure the following settings:
   a. **Job Name**: Enter a name for the job.
   b. **Action**: Select **Run Saved Script** from the Action drop-down list.
   c. **CLI Script Name**: Select the CLI script that you want to execute.
   d. **Description**: Enter a description for the job.
   e. **Registered Devices**: Select the devices that you want to run the selected CLI script on.
   f. **Repeat Execution**: Select the job execution frequency: Once, Daily, Weekly, Monthly.
   g. **Start Date**: If you select **Once** in the Repeat Execution field, specify the start date to begin executing the scheduled job.
   h. **On**: If you select **Weekly** or **Monthly** in the Repeat Execution field, specify when to begin executing the scheduled job.
   i. **Execution Time**: Specify the time of day to run the scheduled job.
4. Click **Add**.
   MXview One will display the scheduled job in the Maintenance Scheduler table and will run the CLI script for the selected devices according to the defined schedule.



Execution Results

Download All Execution Results

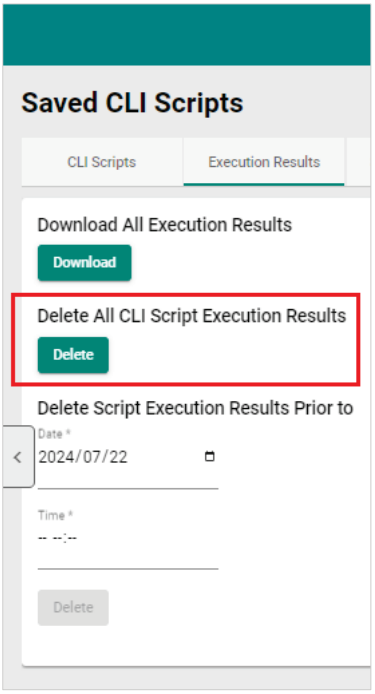
1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
   The **Saved CLI Scripts** screen will appear.
2. Go to the **Execution Results** tab.



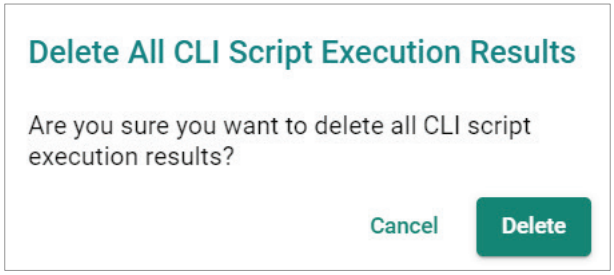
3. Click **Download**.
   MXview One will download all the CLI script execution results as a ZIP file.

Delete All CLI Script Execution Results

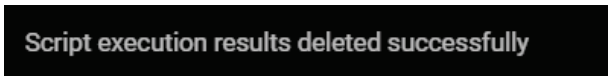
1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
   The **Saved CLI Scripts** screen will appear.
2. Go to the **Execution Results** tab.



3. Click **Delete**.
   A confirmation window will appear.

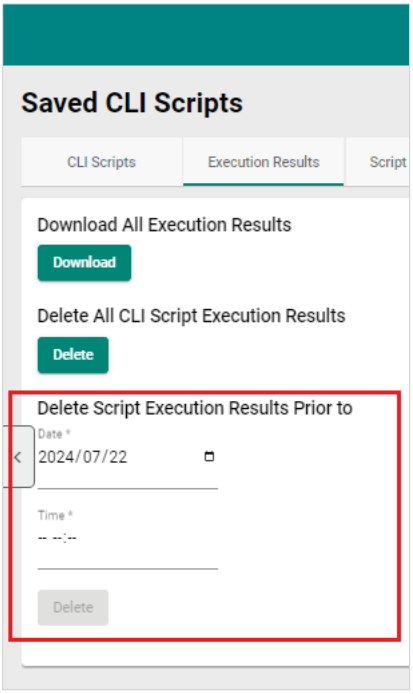


4. Click **Delete**.
   A confirmation will appear to verify all execution results have been deleted.

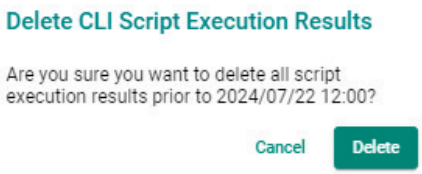


Delete Execution Results Prior to a Specified Time

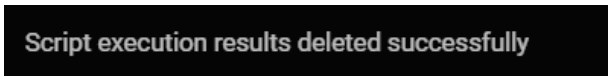
1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
   The **Saved CLI Scripts** screen will appear.
2. Go to the **Execution Results** tab.



3. Specify the **Date** and **Time**. All execution results prior to this time will be deleted.
4. Click **Delete**.
   A confirmation window will appear.



5. Click **Delete**.
   A confirmation will appear to verify all execution results have been deleted.



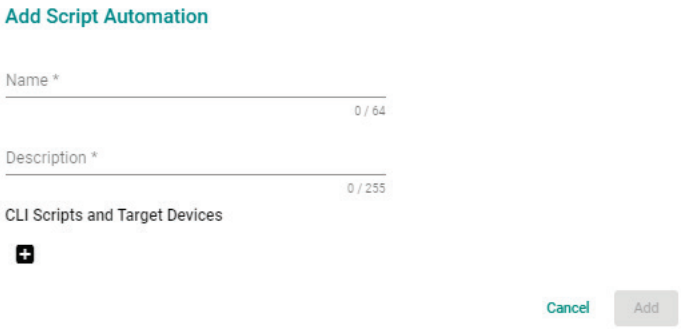
Script Automation

From the **Script Automation** screen, you can create and manage script automations. A script automation allows you to combine multiple saved CLI scripts into a single script. A corresponding automation button then lets you quickly execute the included commands to the specified devices with just a single click.

Adding a Script Automation

1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
   The **Saved CLI Scripts** screen will appear.
2. Go to the **Script Automation** tab.

3. Click the **Add** ( ) icon.
   The **Add Script Automation** screen will appear.

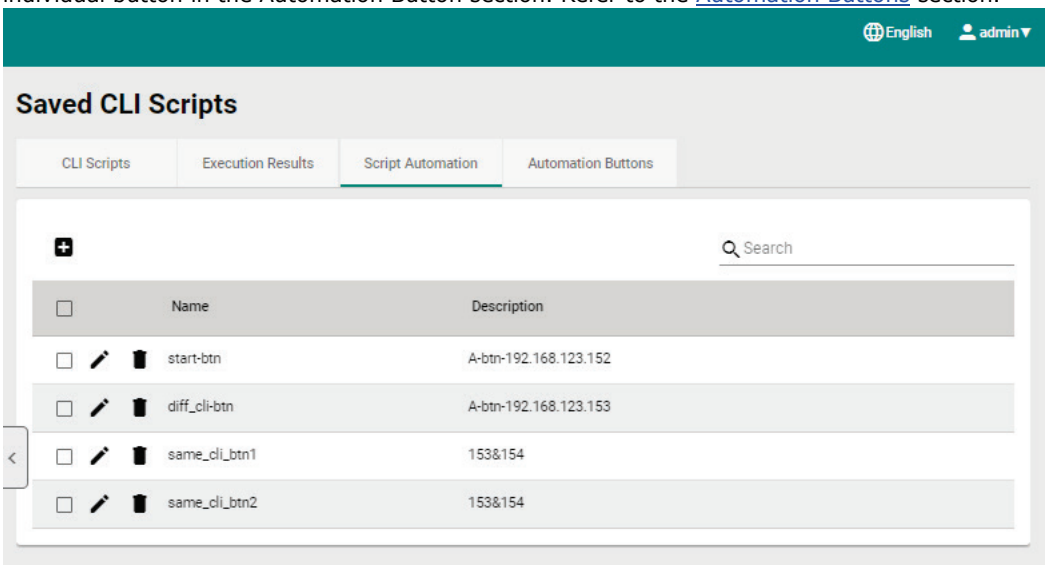


4. Configure the following settings:
   - **Name**: Enter a name for the script automation.
   - **Description**: Enter a description for the script automation.
   - **CLI Scripts and Target Devices**: Select the saved CLI script and devices to include in this automation. You can add a maximum of 50 scripts in a single script automation.
     This requires a previously created saved CLI script. Refer to the Adding a CLI Script section.

     Click the **Add** ( ) icon to add additional entries to the automation.

> **NOTE**
>
> Only one saved CLI script can be assigned to an individual target device.

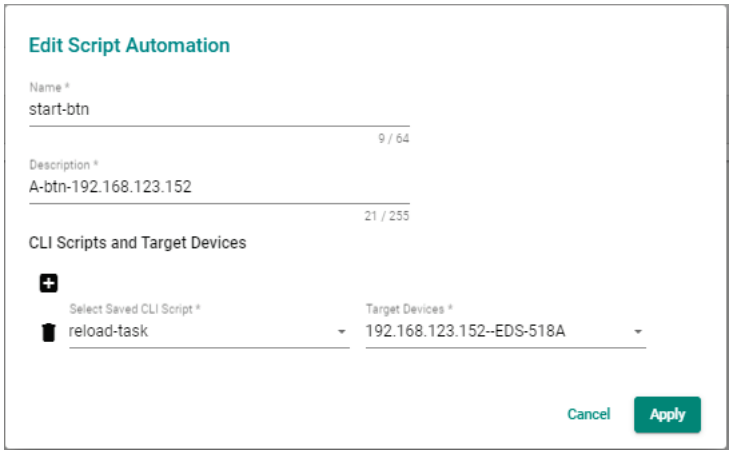
5. Click **Add**.
   The script automation will be added to the table. Each script automation entry will also create an individual button in the Automation Button section. Refer to the Automation Buttons section.



> **NOTE**
>
> MXview One supports a maximum of 200 script automations.

Editing a Script Automation

1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
   The **Saved CLI Scripts** screen will appear.
2. Go to the **Script Automation** tab.
3. Click the **Edit** ( ) icon next to the script automation you want to edit.
   The **Edit Script Automation** screen will appear.



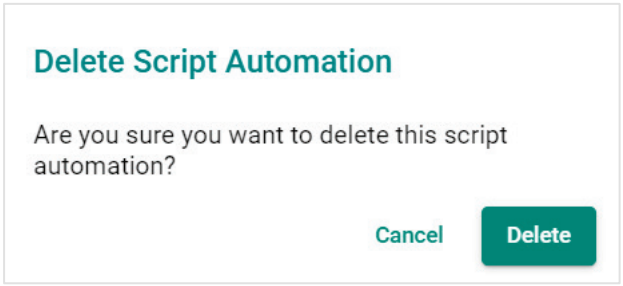
4. Configure the following settings:
   - **Name**: Enter a name for the script automation.
   - **Description**: Enter a description for the script automation.
   - **CLI Script and Target Devices**: Select the saved CLI script and devices to include in this automation. You can add a maximum of 50 scripts in a single script automation.
     This requires a previously created saved CLI script. Refer to the Adding a CLI Script section.

     Click the **Add** ( ) icon to add additional entries to the automation.

     Click the **Delete** ( ) icon to remove an entry.
5. Click **Apply**.
   A confirmation will appear to verify the script automation was updated

Deleting a Script Automation

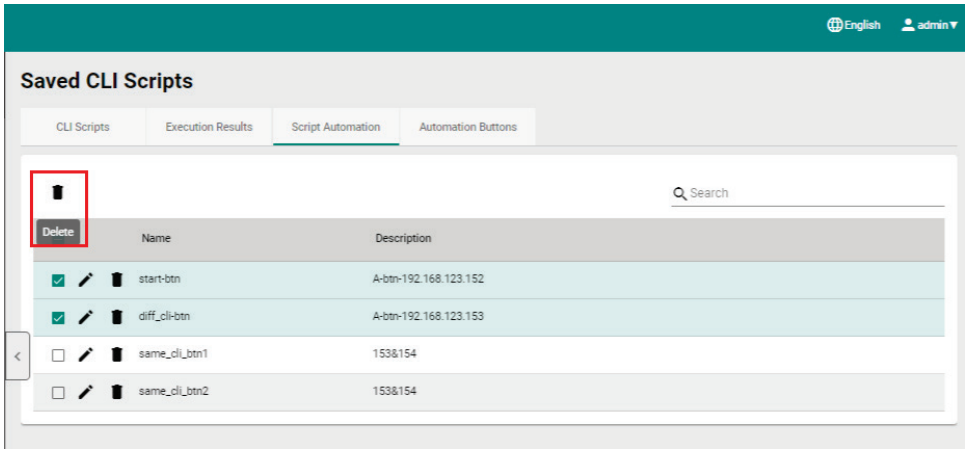
1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
2. Go to the **Script Automation** tab.
   The **Script Automation** screen will appear. A list of configured script automation will show.
3. Click the **Delete** ( ) icon next to the script automation you want to delete.
   A confirmation window will appear.



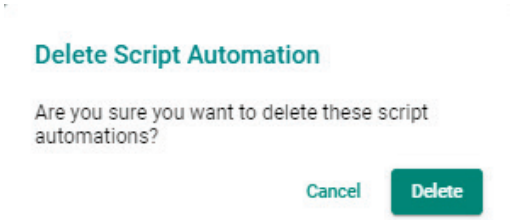
4. Click **Delete**.
   A confirmation will appear to verify the CLI script was deleted.

Deleting Multiple Script Automations

1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
2. Go to the **Script Automation** tab.
   The **Script Automation** screen will appear. A list of configured script automation will show in the CLI Scripts list (if any).
3. Select the checkbox of the script automations you want to delete in the list.
4. Click the **Delete** ( ) icon at the top of the page.



5. A confirmation window will appear.



6. Click **Delete**.
   A confirmation will appear to verify the script automations were deleted.

Automation Buttons

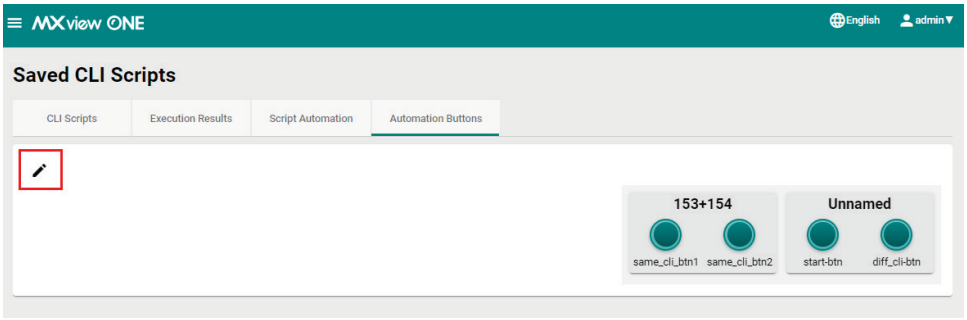
From the **Automation Buttons** screen, you can manage automation buttons for configured script automations.

Each newly added automation script will automatically generate an automation button that is placed in the default Unnamed group.

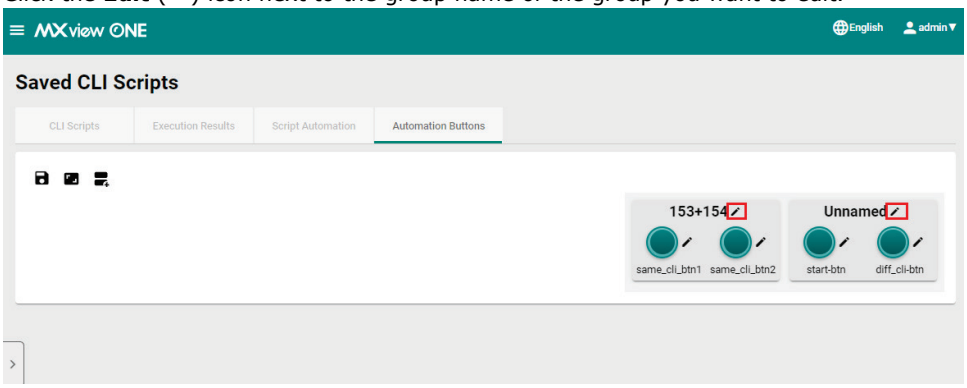
Editing an Automation Button Group

1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
2. Go to the **Automation Buttons** tab.

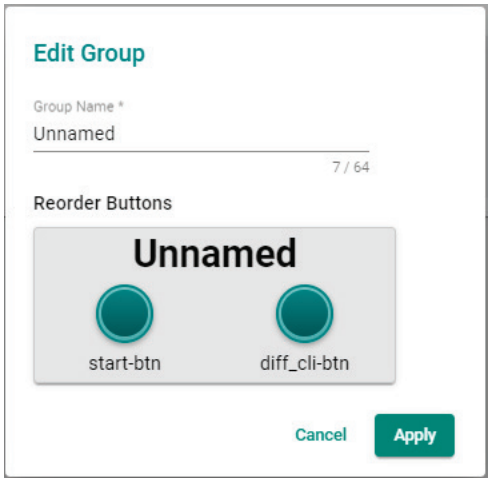
3. Click the **Edit** (✎) icon in the top-left corner of the screen to enter edit mode.



4. Click the **Edit** (✎) icon next to the group name of the group you want to edit.

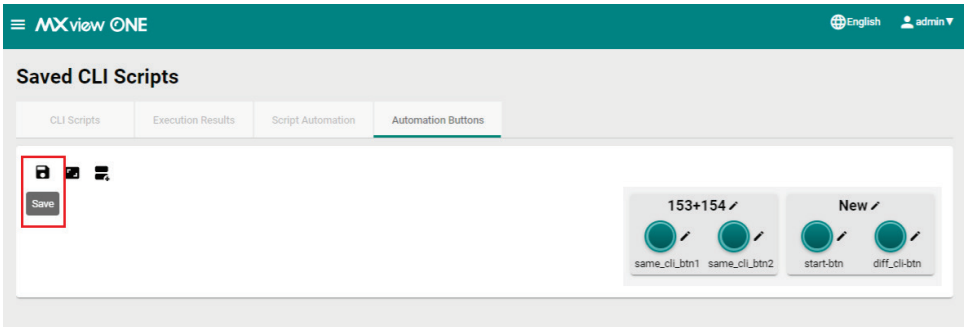


The **Edit Group** will appear.

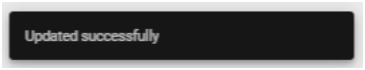


5. Configure the following settings:
   - **Group Name**: Enter a name for the group.
   - **Reorder Buttons**: Click and drag the buttons to adjust their position.
6. Click **Apply**.
   The changes will appear on the **Automation Buttons** page.

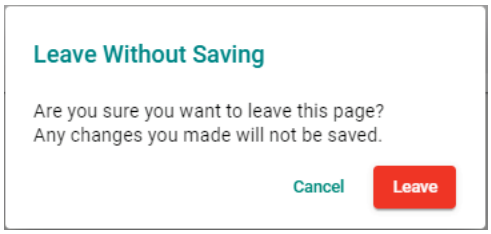
7. Click the **Save** ( ) icon to save your changes and leave edit mode.



8. A confirmation will appear to verify the button group was updated.

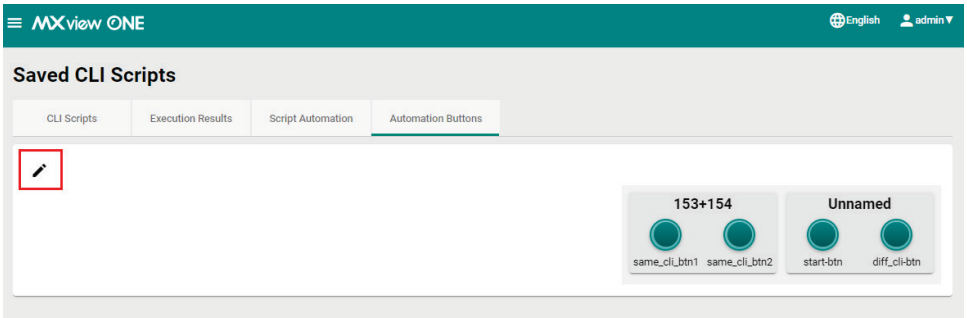


If you leave the **Automation Buttons** page without saving, a confirmation window will appear.

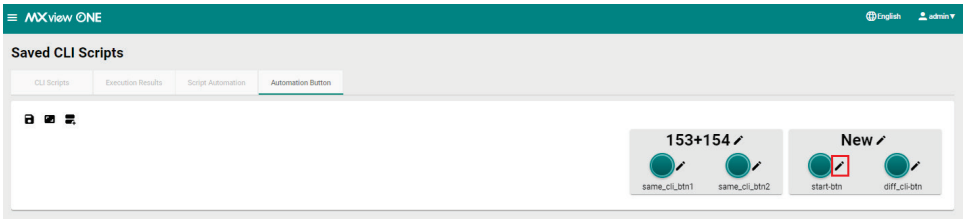


Editing an Automation Button

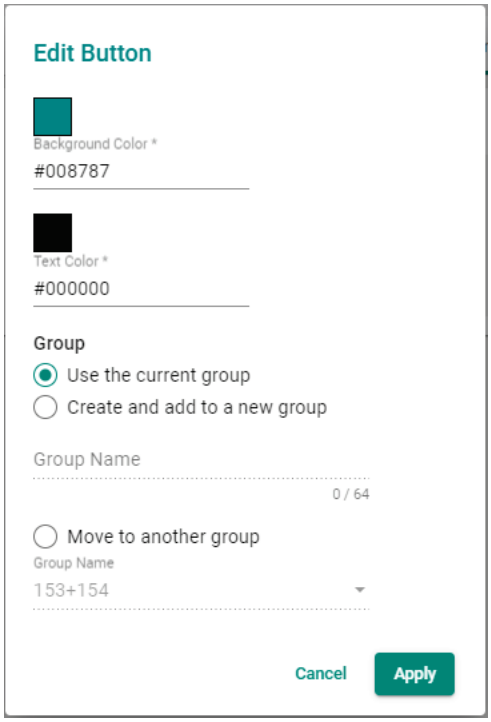
1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
2. Go to the **Automation Buttons** tab.
3. Click the **Edit** ( ) icon in the top-left corner of the screen to enter edit mode.



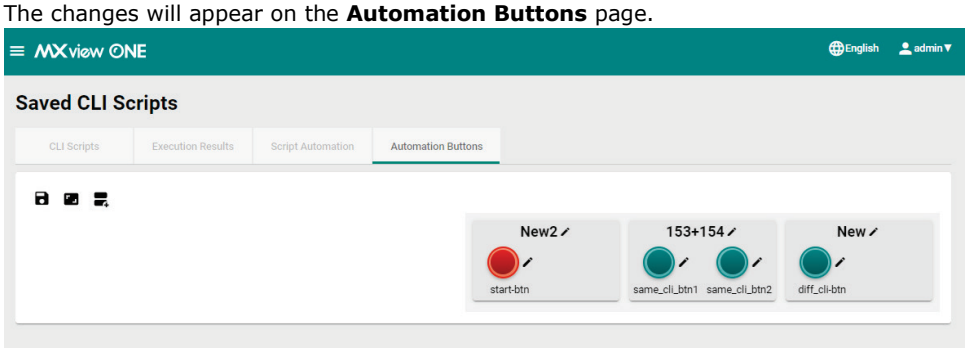
4. Click the **Edit** ( ) icon next to the button you want to edit.



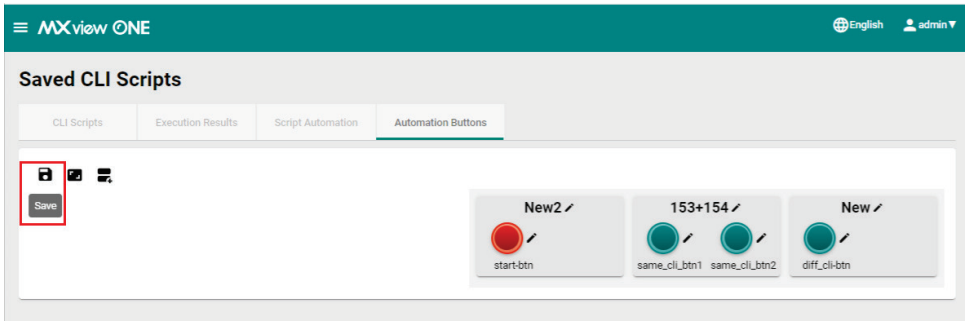
The **Edit Button** window will appear.



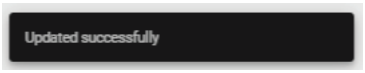
5. Configure the following settings:
   a. **Background Color**: Click the value to open the color picker. Select the preferred background color on the color picker or enter the color's hex value.
   b. **Text Color**: Click the value to open the color picker. Select the preferred text color on the color picker or enter the color's hex value.
   c. **Group**: Select the group to assign this button to.
      - **Use the current group**: Leave the button in its currently assigned group.
      - **Create and add to a new group**: Create and assign the button to a new group.
      - **Move to another group**: Select an existing group to assign the button to.
6. Click **Apply**.
   The changes will appear on the **Automation Buttons** page.



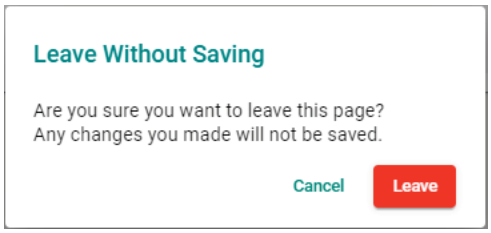
7. Click the **Save** ( ) icon to save your changes and leave edit mode.



8. A confirmation will appear to verify the button was updated.

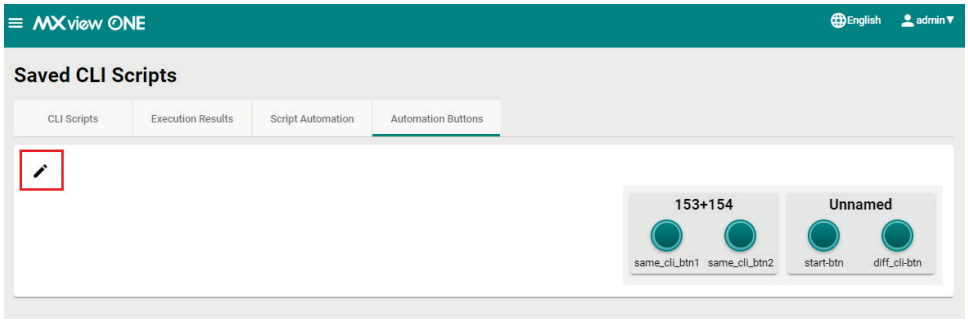


If you leave the **Automation Buttons** page without saving, a confirmation window will appear.

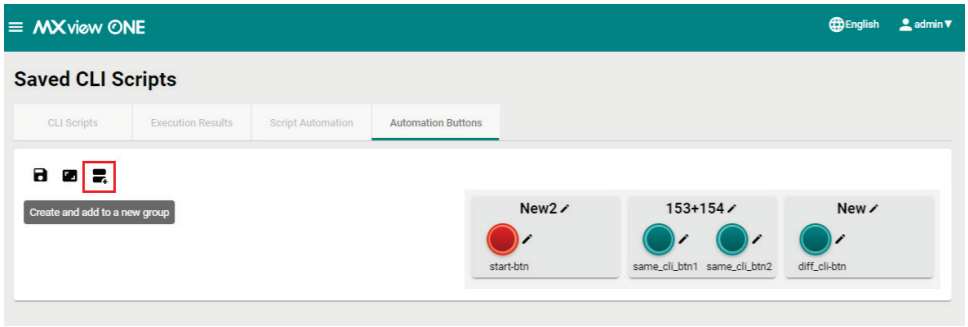


Creating an Automation Button Group

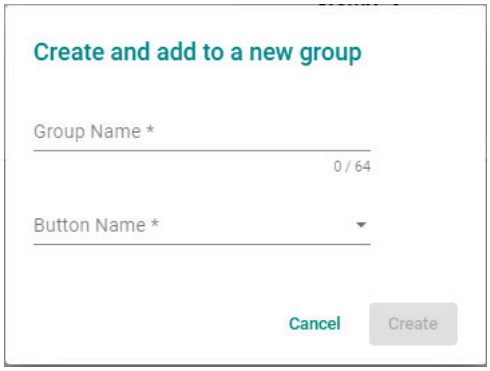
1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
2. Go to the **Automation Buttons** tab.
3. Click the **Edit** ( ) icon in the top-left corner of the screen to enter edit mode.



4. Click the **Create and add to a new group** ( ) icon in the top-left corner of the screen.

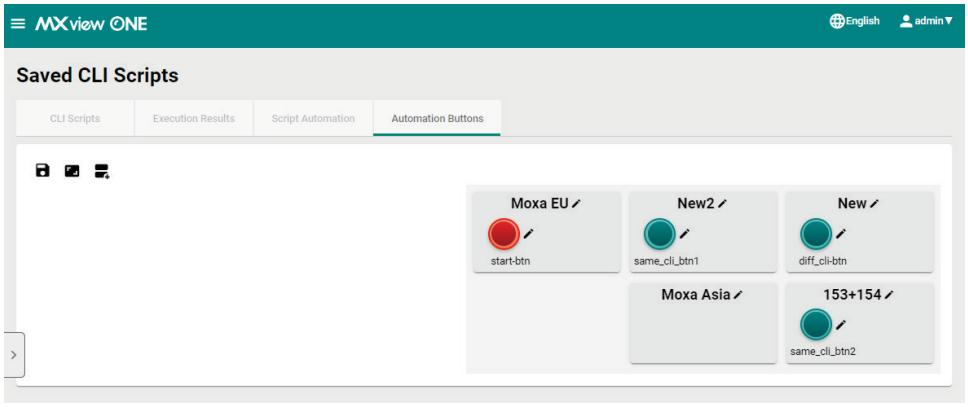


The **Create and add to a new group** window will appear.

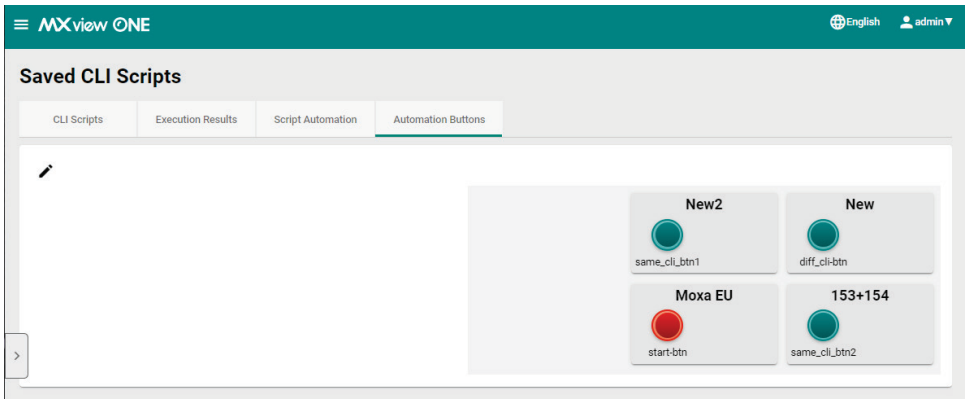


5. Configure the following settings:
   - **Group Name**: Enter a name for the group.
   - **Button Name**: Select the button(s) to add to this group.

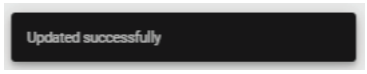
6. Click **Create**.
   The changes will appear on the **Automation Buttons** page.



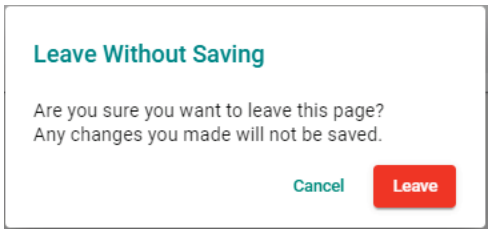
7. Click the **Save** ( ) icon to save your changes and leave edit mode.



8. A confirmation will appear to verify the button was updated.



   If you leave the **Automation Buttons** page without saving, a confirmation window will appear.

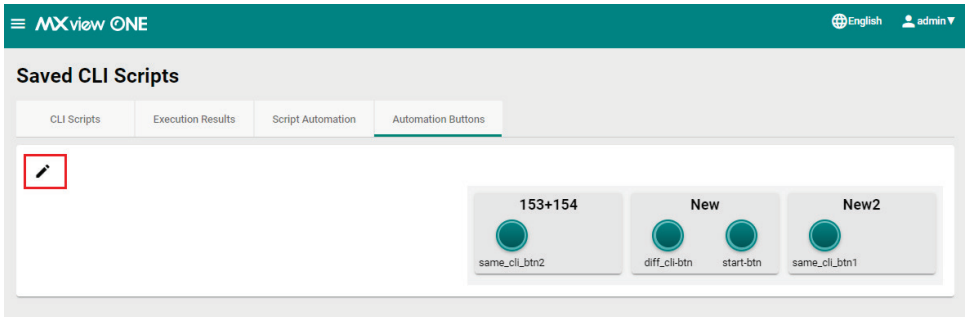


Changing the Automation Button Widget Size

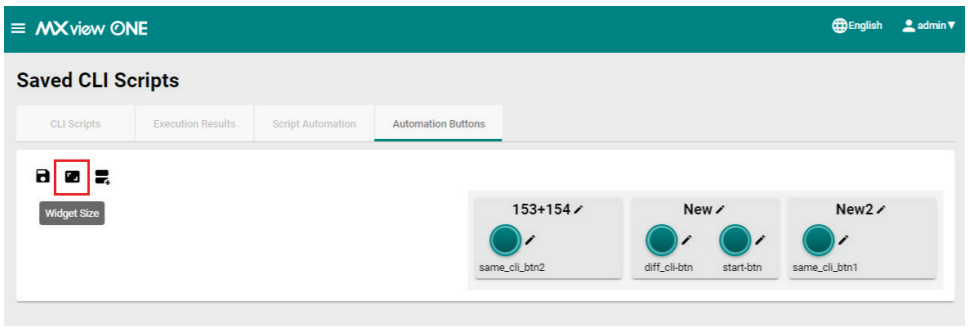
> **NOTE**
>
> Changes to the widget size will reflect on both the **Automation Buttons** and **Topology** pages.

1. Navigate to **Menu** ( ) **> Saved CLI Scripts**.
2. Go to the **Automation Buttons** tab.

3. Click the **Edit** ( ) icon in the top-left corner of the screen to enter edit mode.



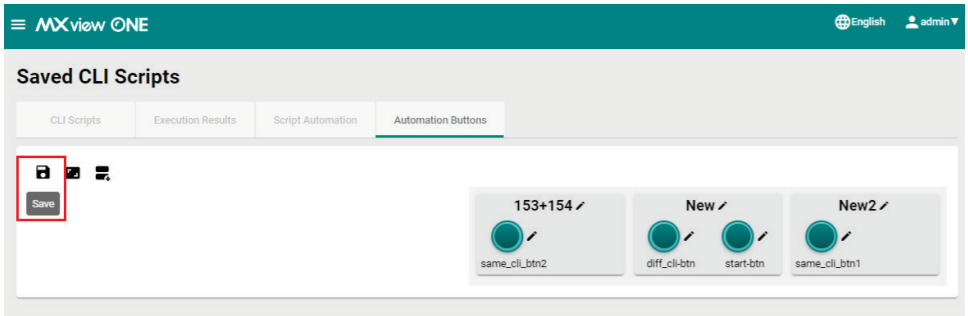
4. Click the **Widget Size** ( ) icon in the top-left corner of the screen.



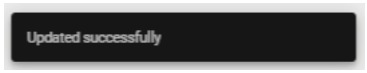
The **Widget Size** window will appear.

5. Configure the following settings:
   - **Widget Size**: Select the size of the automation button widgets on the **Automation Buttons** and **Topology** pages.
   - **Align all groups in a single column**: Check to align automation button group widgets in a single column.

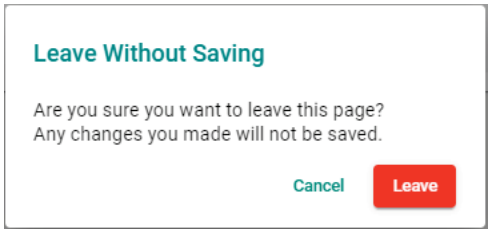
6. Click the **Save** ( ) icon to save your changes and leave edit mode



7. A confirmation will appear to verify the button was updated.



If you leave the **Automation Buttons** page without saving, a confirmation window will appear.



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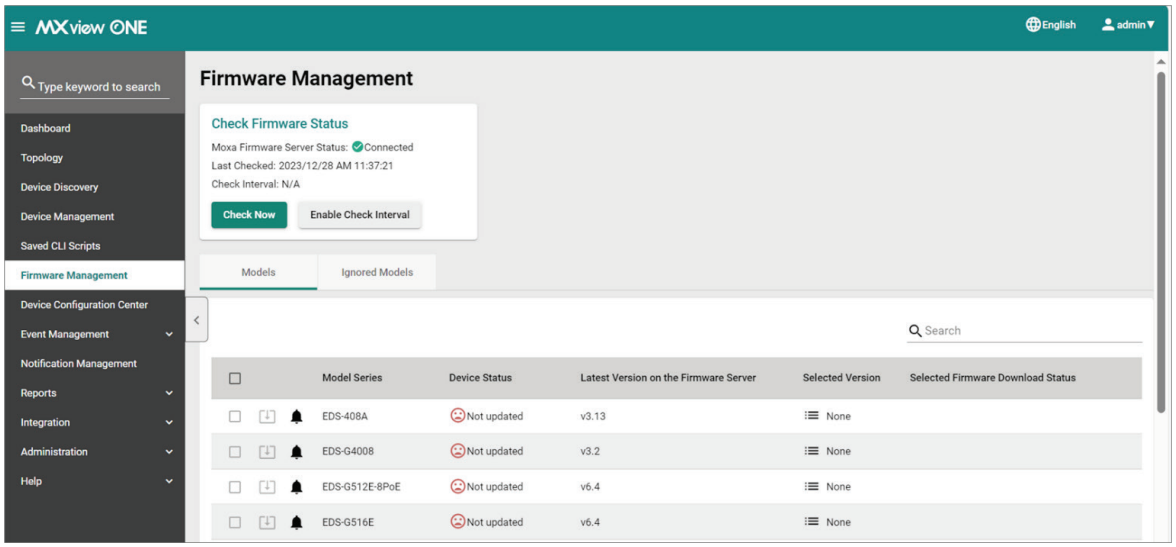
13. Firmware Management

MXview One features Moxa Firmware Server integration to check for the availability of the latest firmware for devices. From the Firmware Management section, users can review the release notes, download the firmware file, and perform firmware updates for multiple devices at once.

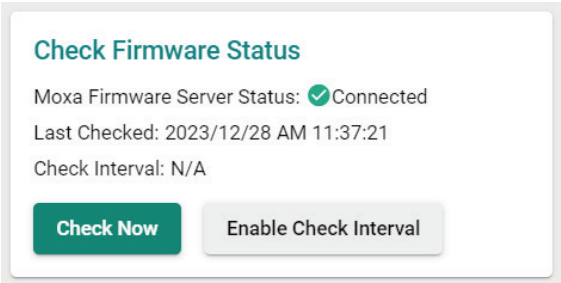
Firmware Management Overview

To access the Firmware Management page, in the function tree, navigate to **Menu** (☰) **> Firmware Management**.

On this page, users can find the **Check Firmware Status** function and a table of with the firmware information of all model series in the topology.



Check Firmware Status

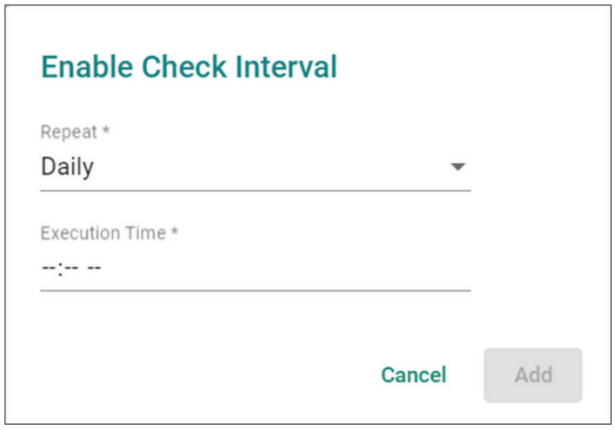


The **Check Firmware Status** section includes the following the information:

- **Moxa Firmware Server Status**: This indicates the status of the MXview One connection to the Moxa Firmware Server.
- **Last Checked**: This is the date and time MXview One last checked the firmware information on the Moxa Firmware Server.
- **Check Interval**: If Check Interval is enabled, this shows the interval at which MXview One will check for firmware information. If no interval is configured, this will show "N/A".

There are two ways for MXview One to check for the firmware information on the Moxa Firmware Server:

- **Check Now**: Click **Check Now** to immediately check for updated firmware information.
- **Enable Check Interval**: Specify a time and date interval at which MXview One will check for new firmware information.

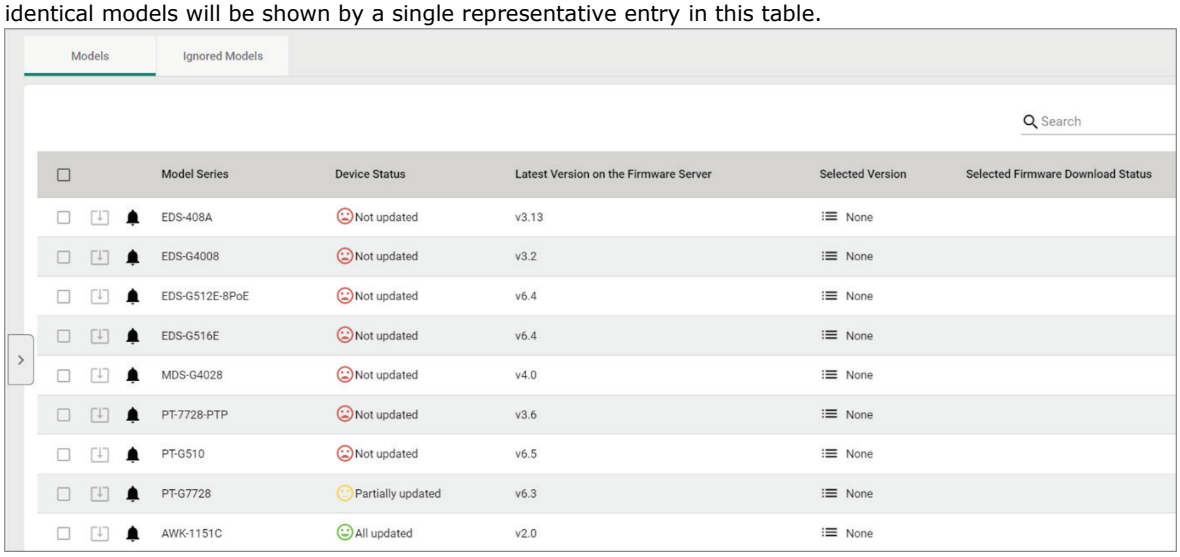


Model Series Table Overview

The models table is divided into two separate tabs: **Models** and **Ignored Models**.

Models

The **Models** tab shows an overview of all the model series and their respective firmware information. All identical models will be shown by a single representative entry in this table.



This screen includes the following information:

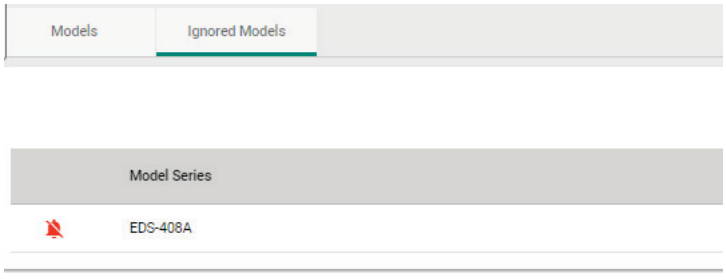
Itom	Description
Model Series	The model name. All identical models will be represented by a single entry. For example, if there are multiple EDS-408A devices, only one EDS-408A entry will appear in the table.
Device Status	The current firmware version status of the model series. The following statuses can be shown: • **All updated**: The firmware version of all models of this type is up to date. • **Partially updated**: The firmware version of some of the models of this type is not up to date. • **Not updated**: The firmware version of all models of this type is not up to date. • **No information available**: There is no firmware version information available on the firmware server for this model.
Latest Version on the Firmware Server	The latest firmware version of this model series on the Moxa firmware server.
Selected Version	Shows the currently selected firmware version and its release notes. Users can select a different firmware version. Refer to Selecting a Firmware Version.
Selected Firmware Download Status	After selecting a firmware version to download, this shows the firmware file download progress as a percentage.

The following actions are available from this screen:

Icon	Name	Description
	Disable new version notifications	Click this icon to prevent MXview One from checking for and sending notifications for new firmware versions for that model series. This will add the model series to the Ignored Models list. Refer to Ignored Models for more information.
	Upgrade firmware	Click this icon to initiate a firmware upgrade. Refer to Upgrading Firmware.
	Select firmware version	Click this icon to select a different firmware version. Refer to Selecting a Firmware Version.
	Security patch available	This icon indicates a new security patch is available for that model series.
	Enable new version notifications	Click this icon to enable MXview One to check for and send notifications for new firmware versions for that model series.

Ignored Models

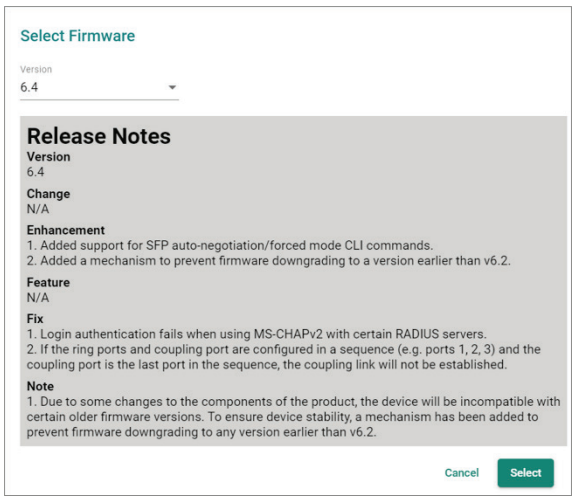
The Ignored Models lists all models for which MXview One is not checking for new firmware and is not sending notifications. To add a model series to the Ignored Models list, click the **bell** ( ) icon on the Models tab next to the model series.



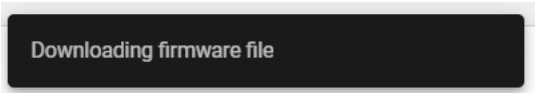
Selecting a Firmware Version

Users can manually select a firmware version to upgrade to. When upgrading firmware, MXview One will apply the selected firmware to all similar models.

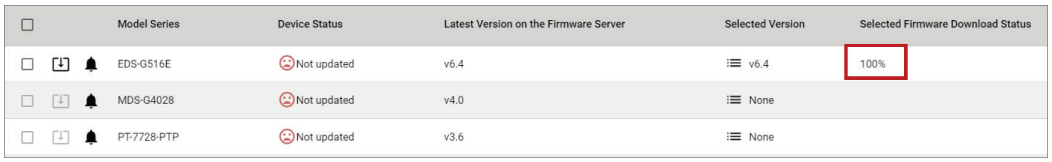
1. Navigate to **Menu** ( ) **> Firmware Management**.
2. Go to **Models** tab.
3. In the device list, click the **Select Firmware** ( ) icon of the corresponding model series in the Selected Version column.
   The **Select Firmware** window will appear.
4. Select a different firmware version from the Version drop-down menu. The release notes for the selected firmware version will appear in the section below.



5. Click **Select**.
6. MXview One will begin download the selected firmware.



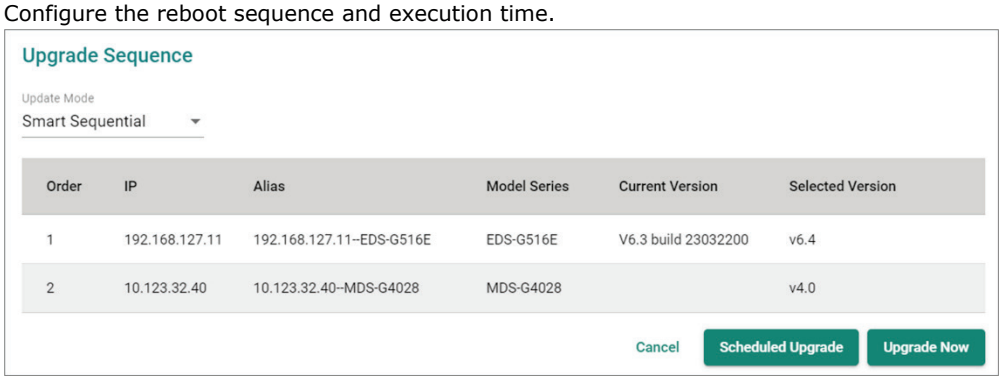
7. The download progress will be shown in the Selected Firmware Download Status.



Upgrading Firmware

Once you have selected a firmware version and MXview One has finished downloading the firmware file, you can upgrade the firmware of the selected model series. To select and download a firmware version, refer to Selecting a Firmware Version.

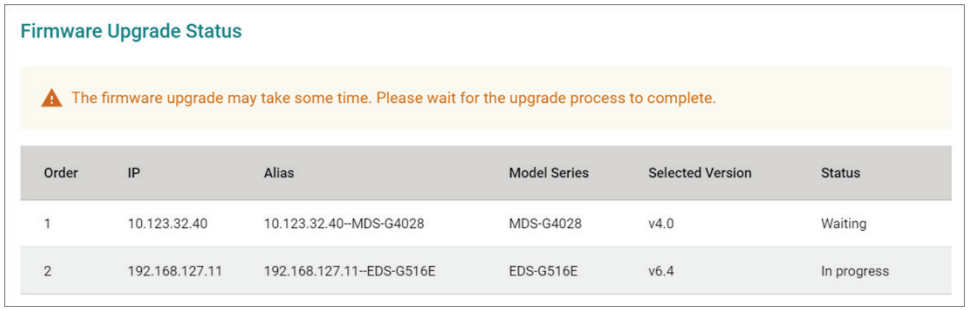
1. Navigate to **Menu** ( ) **> Firmware Management**.
2. Go to the **Models** tab.
3. In the device list, select the model series to upgrade firmware for.
   You can select multiple model series.
4. Click the **Upgrade Firmware** ( ) icon.
5. Configure the reboot sequence and execution time.



   a. Select the reboot sequence:
      - ❒ **Strict Sequential**: Upgrade the devices based on the device sequence in the topology starting from the device furthest away from the computer running MXview One, proceeding to the nearest one.
      - ❒ **Smart Sequential:** Upgrade the devices based on the device sequence in the topology but simultaneously upgrade all devices in the same topology layer.

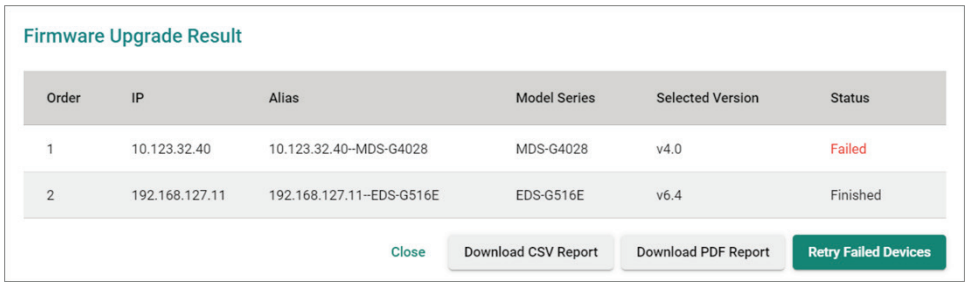
> **NOTE**
>
> The computer running MXview One must be added to the topology in order for MXview One to determine the upgrade sequence. If the computer running MXview One is not added to the topology, you cannot select an update mode and MXview One will update the device firmware concurrently.

   b. Select an execution time:
      - ❒ **Upgrade Now**: Click **Upgrade Now** to upgrade the devices instantly.
      - ❒ **Scheduled Upgrade:** Click **Scheduled Upgrade** to create a new scheduled task. MXview One will upgrade the devices based on the specified time and date in the schedule.
6. To upgrade the devices instantly, click **Upgrade Now**. The system will execute the action.

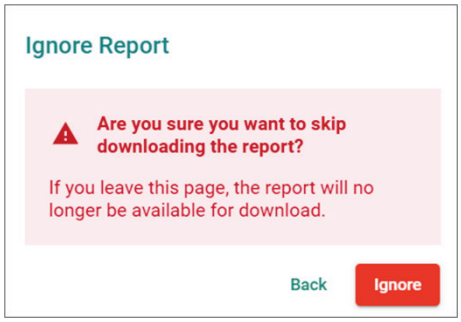


7. Click **Download CSV Report** or **Download PDF Report** to download a summary report of the firmware upgrade.

8. If the firmware upgrade was unsuccessful, check the error description in the Status column to identify the issue. Click **Retry Failed Devices** to perform the action again.



9. If you close this page without downloading the results report, a confirmation will appear. Clicking **Ignore** will delete the results report permanently.



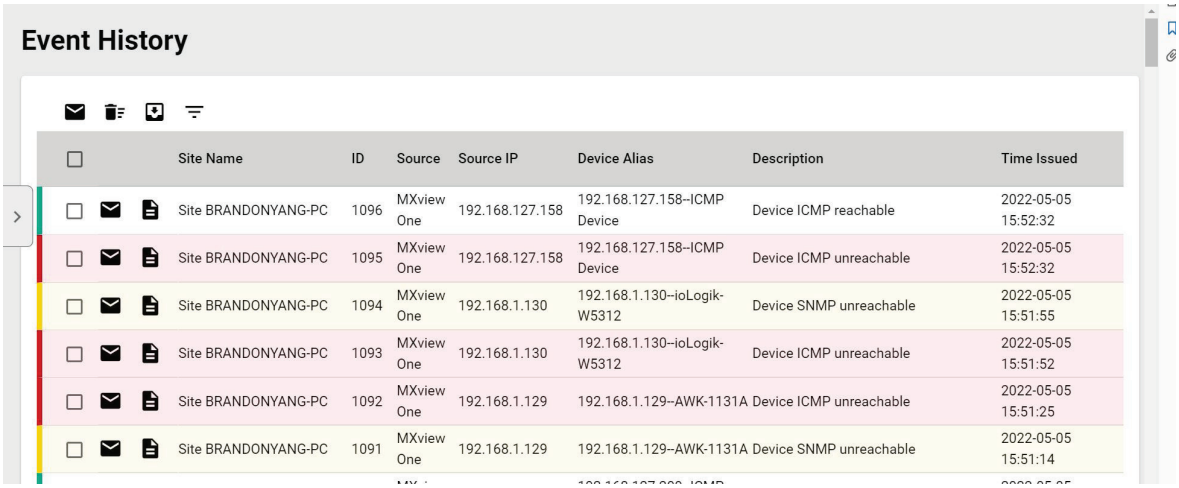
14. Events and Notifications

MXview One allows you to monitor system events, create custom monitoring events, and configure event notifications.

Event Monitoring

Viewing Event History

The **Event History** screen provides information about all the network events for devices in your topology. Use the filters to customize the information displayed in the table. You can also export the data as a CSV file.

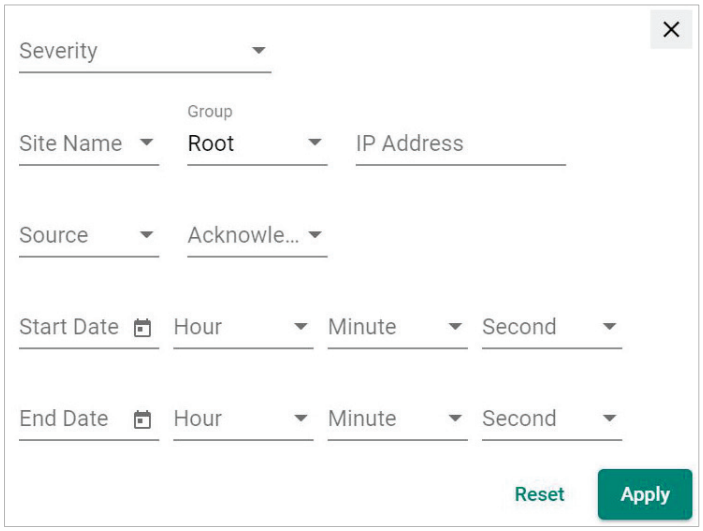


1. Navigate to **Menu** ( ) **> Event Management > Event History**.

   The **Event History** screen will display the following information in a table format:

Column	Description
Ack All Events/Acknowledge	Acknowledge status of the event
Show Details	The detailed information of this event
Site Name	The site to which the device that issued the event belongs
ID	The unique identifier of the event
Source IP	The IP address of the device that issued the event
Source	The source of the event
Device Alias	The unique name of the device
Description	The description of the event
Time Issued	The time the event was issued

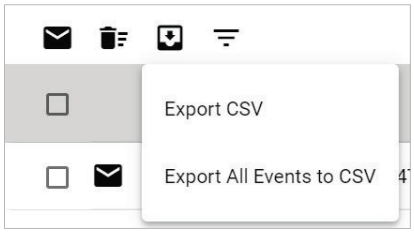
2. To filter the information in the table by specific criteria:
   a. Click the **Filter** ( ) icon in the top left corner.
      The following screen will appear.



   b. Specify any of the following criteria:

Criteria	Description
Severity	Select the severity level of the event
Site Name	Select the site to which the device that issued the event belongs
Group	Select the group to which the device is assigned
IP Address	Specify the IP address of the device
Source	Select the source of the event
Acknowledge	Select the acknowledgement status of the event
Start Date	Specify the start date and time for the event data to display
End Date	Specify the end date and time for the event data to display

   c. Click **Apply**.
      MXview One filters the table to only display events that match the specified criteria.
3. To sort the data in the table by a specific column, click the column heading.
   MXview One sorts the table by the column.
4. To export data displayed on the **Event History** screen:
   a. Click the **Export** ( ) icon.

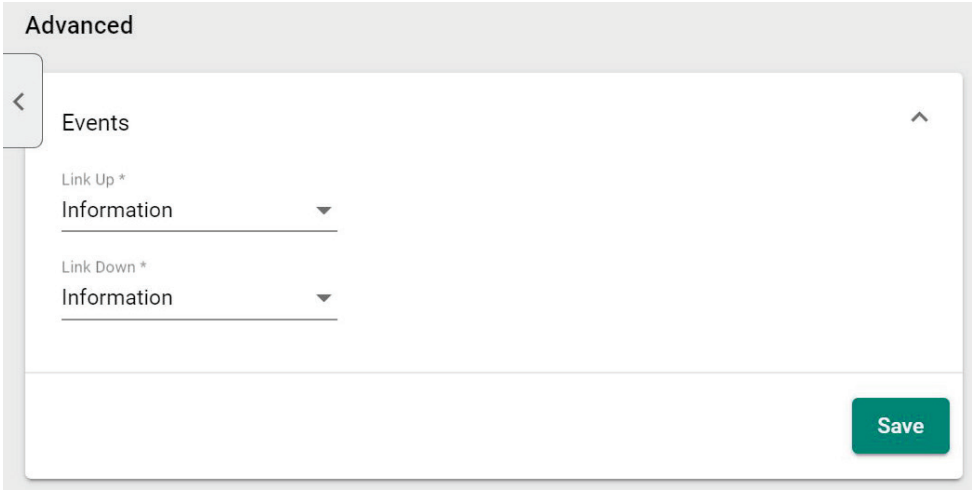


   b. Select **Export CSV** for just the events on the first page or **Export All Events to CSV** for all event pages.
      MXview One exports the displayed event data as a CSV file.

Configuring Event Thresholds and Severity Levels

Use the **Preferences** and **Global Device Settings** screen to configure default event thresholds and severity levels.

1. Navigate to **Menu** ( ) **> Administration > Preferences**.
   The **Preferences** screen will appear.
2. In the **Advanced** section, expand **Events**.
   The **Events** settings will appear.



3. Select one of the following severity levels for **Link Up** events:
   - **Information**
   - **Waning**
   - **Critical**
4. Select one of the following severity levels for **Link Down** events:
   - **Information**
   - **Warning**
   - **Critical**
5. Navigate to **Menu** ( ) **> Administration > Global Device Settings**.
   The **Global Device Settings** screen will appear.

> **NOTE**
>
> Once you save the settings in the Global Device Settings section, the settings will synchronize to each device in the topology.

6. To trigger events when network bandwidth utilization exceeds a threshold:
   a. Select **Enabled** from the first **Bandwidth Utilization Over** drop-down list.

b. Specify the percentage of bandwidth utilization for the threshold.

c. Select the **Severity** level for the event.

7. To trigger events when network bandwidth utilization falls below a threshold:
   a. Select **Enabled** from the first **Bandwidth Utilization Under** drop-down list.

   b. Specify the percentage of bandwidth utilization for the threshold.

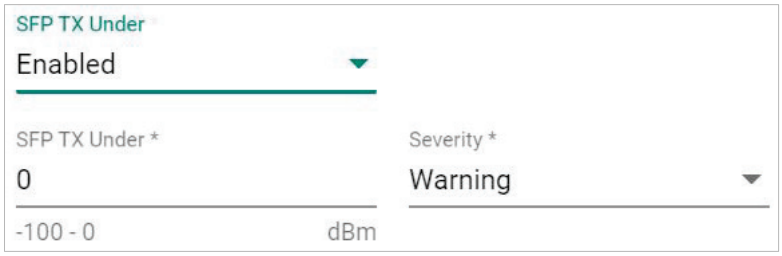
   c. Select the **Severity** level for the event.

8. To trigger events when the packet error rate exceeds a threshold:
   a. Select **Enabled** from the first **Packet Error Rate Over** drop-down list.

   b. Specify the packet error rate for the threshold.

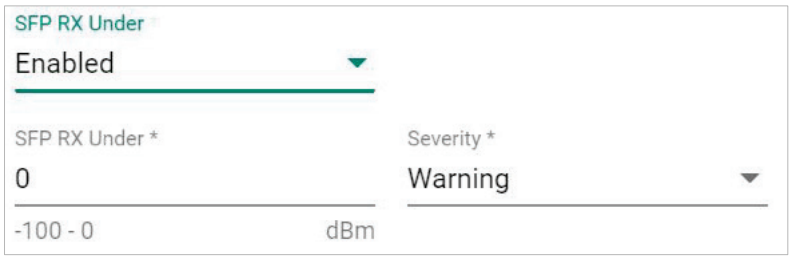
   c. Select the **Severity** level for the event.

9. To trigger events when the SFP TX value is below a certain threshold:
   a. Select **Enabled** from the first **SFP TX Under** drop-down list.



   b. Specify the SFP TX threshold level.

10. To trigger events when the SFP RX value is below a certain threshold:
   a. Select **Enabled** from the first **SFP RX Under** drop-down list.



   b. Specify the SFP RX threshold level.

11. To trigger events when the SFP voltage is below a certain threshold:
   a. Select **Enabled** from the first **SFP Voltage Under** drop-down list.

b. Specify the SFP Voltage threshold level.

12. To trigger events when the SFP voltage is over a certain threshold:
    a. Select **Enabled** from the first **SFP Voltage Over** drop-down list.

    b. Specify the SFP Voltage threshold level.

13. To trigger events when the SFP temperature is over a certain threshold:
    a. Select **Enabled** from the first **SFP Temperature Over** drop-down list.

    b. Specify the SFP Temperature threshold level.

> **NOTE**
>
> If the threshold is set as '0', the threshold function will be disabled.

14. Click **Save**.
    MXview One will update the event threshold settings.

Notification Methods

MXview One supports email notifications for events. The notification method requires specific server configurations.

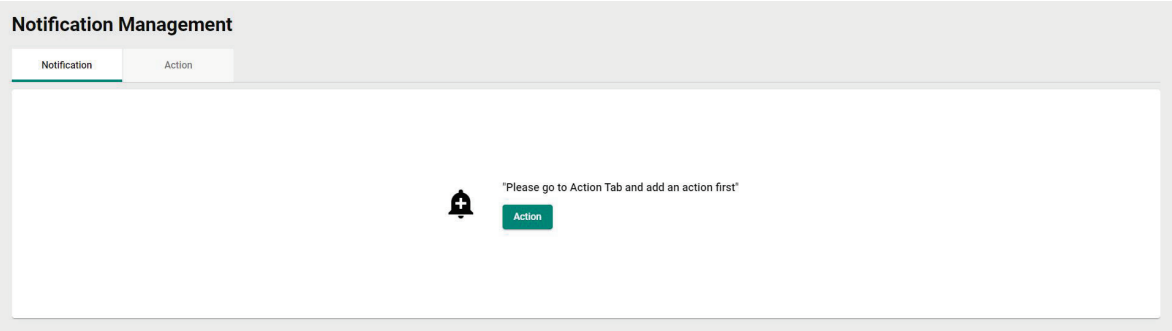
Configuring Email Server Settings

Use the **System Settings** screen to configure an email server to send email notifications for event notifications.

1. Navigate to **Menu** (☰) **> Administration > System Settings**.
   The **System Settings** screen will appear.
2. Find the **Email Server Configuration** section.
3. Configure the following:
   - **Server Domain Name/IP**
   - **Port number**
   - **Encryption**
   - **Username**
   - **Password**
   - **Sender Address**
4. Click **Save**.
   MXview One can send email messages for configured event notifications.

Notification Management

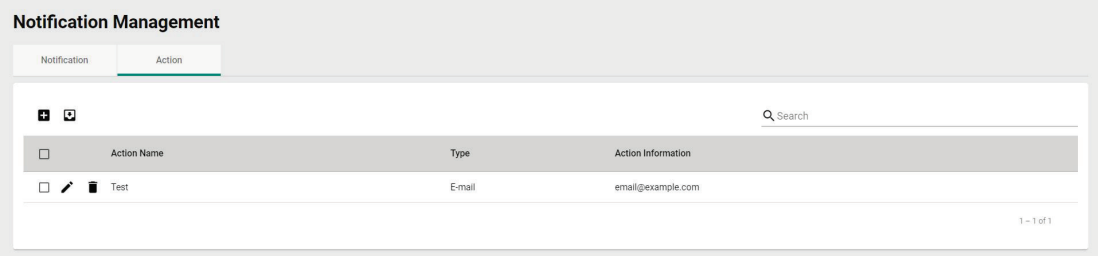
The **Notification Management** screen allows you to configure event notifications by issuing a registered action (e.g., sending an email message to a specified recipient) when configured events are detected on your network.



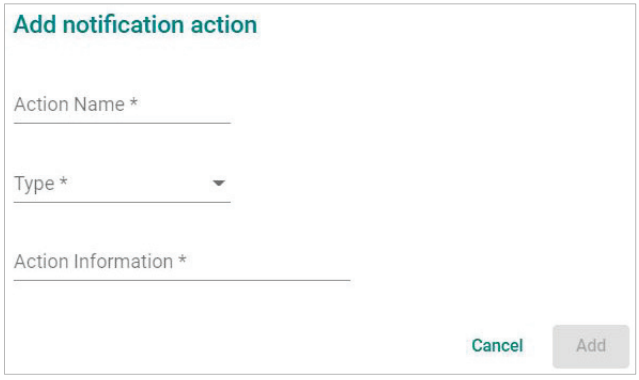
Configuring New Event Notifications

MXview One event notifications require at least one registered action (e.g., sending an email message to a specified recipient), which MXview One performs when a specified event is detected on your network.

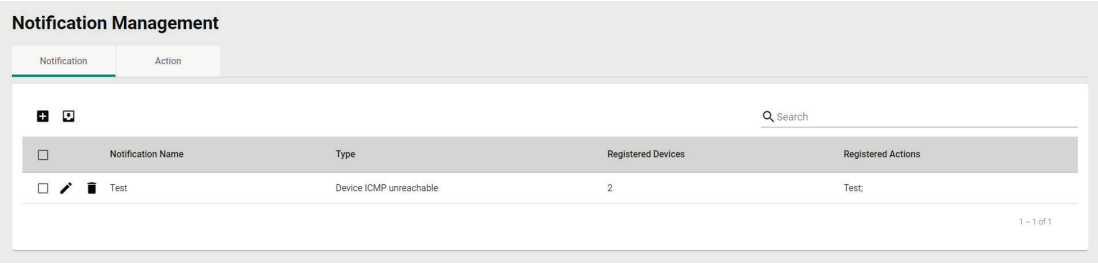
1. Navigate to **Menu** ( ) **> Notification Management**.
   The **Notification Management** screen appears.
2. To register an action:
   a. Click the **Action** tab.
      The **Action** tab displays a list of registered actions (if any).



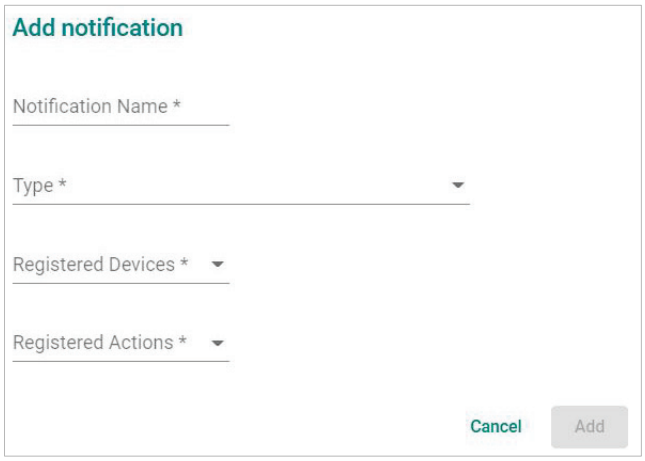
   b. Click the **Add** ( ) icon in the top right corner.
      The **Add notification action** screen will appear.



   c. In the **Action Name** field, type a name to describe the action.
   d. From the **Type** drop-down list, select one of the following actions:
      - **E-mail:** Sends an email to the specified email address.
   e. Provide additional information required for the action (if any).
   f. Click **Add**.
      The registered action appears in the table on the **Action** tab.
3. To add a new event notification:
   a. Click the **Notification** tab.
      The **Notification** tab displays a list of configured event notifications (if any).



b. Click the **Add** (+) icon in the top right corner.
The **Add** notification screen appears.

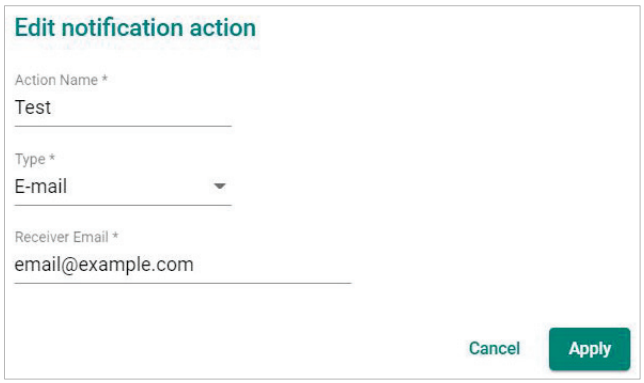


c. In the **Notification Name** field, type a name to describe the event notification.
d. From the **Type** drop-down list, select the event type.
e. From the **Registered Devices** drop-down list, select the network device(s) you want to monitor.
f. From the **Registered Actions** drop-down list, select the action that MXview One performs when the specified event is detected on the previously selected device(s).
g. Click **Add**.
The event notification appears in the table on the **Notification** tab.

Editing or Exporting Registered Actions

Use the **Action** tab on the **Notification Management** screen to edit registered actions or export a CSV file containing registered action information.

1. Navigate to **Menu** (☰) **> Notification Management**.
The **Notification Management** screen will appear.
2. Click the **Action** tab.
The **Action** tab displays a list of registered actions.
3. To edit a registered action:
a. Click the **Edit** (✎) icon next to the action you want to edit.
The **Edit notification action** screen will appear.

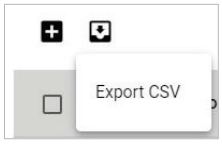


b. Modify the following settings:
- ❒ Action Name
- ❒ Type
- ❒ Action information

c. Click **Apply**.
The **Action** tab appears and displays the updated action information.

4. To export data displayed on the Action tab:

   a. Click the **Export** ( ) icon.



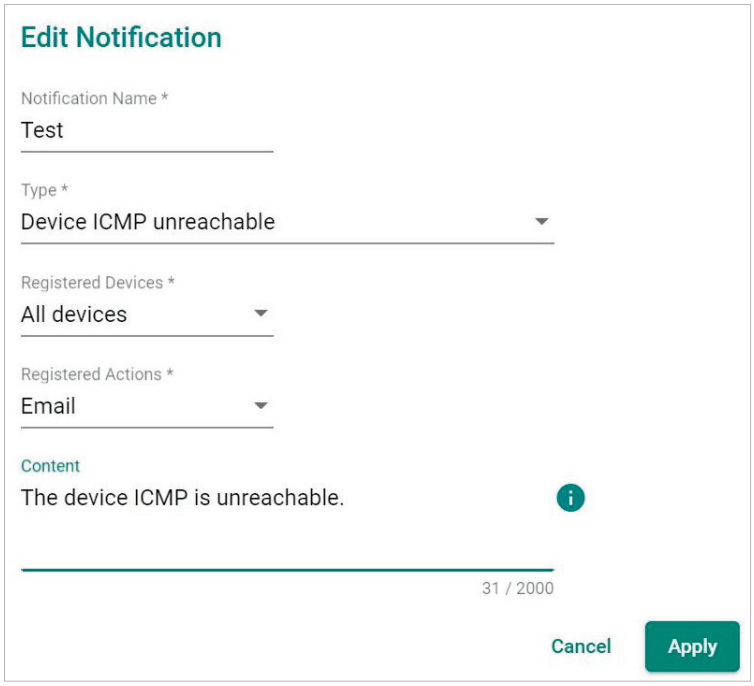
   b. MXview One exports the displayed action data as a CSV file.

Editing or Exporting Notification Configurations

Use the **Notification** tab on the **Notification Management** screen to edit configured notifications or export a CSV file containing notification configuration information.

1. Navigate to **Menu** ( ) **> Notification Management**.
   The **Notification Management** screen will appear.
2. Click the **Notification** tab.
   The **Notification** tab displays a list of configured notifications.
3. To edit a notification:

   a. Click the **Edit** ( ) icon next to the action you want to edit.
   The **Edit notification** screen will appear.

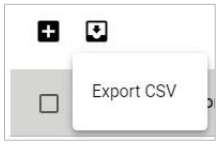


   b. Modify the following settings:
      - ❒ Notification Name
      - ❒ Type
      - ❒ Registered devices
      - ❒ Registered Actions

   c. Click **Apply**.
   The **Notification** tab appears and displays the updated notification information.

4. To export data displayed on the **Notification** tab:

   a. Click the **Export** ( ) icon.

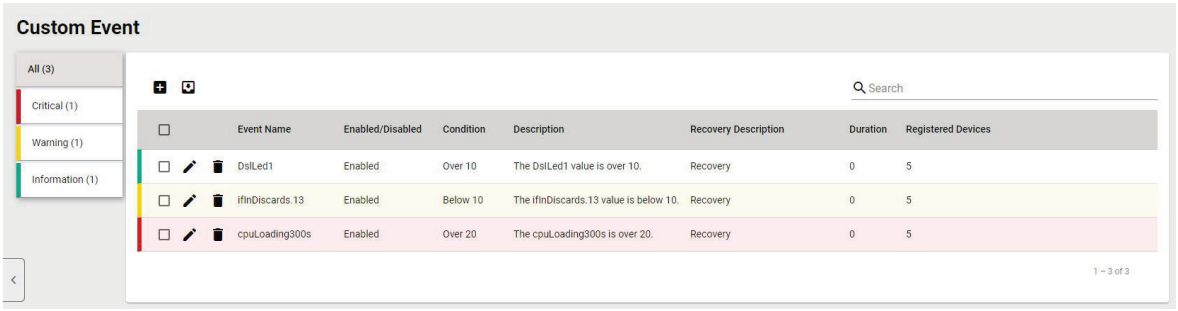


   b. Select **Export CSV**.

      MXview One exports the displayed notification data as a CSV file.

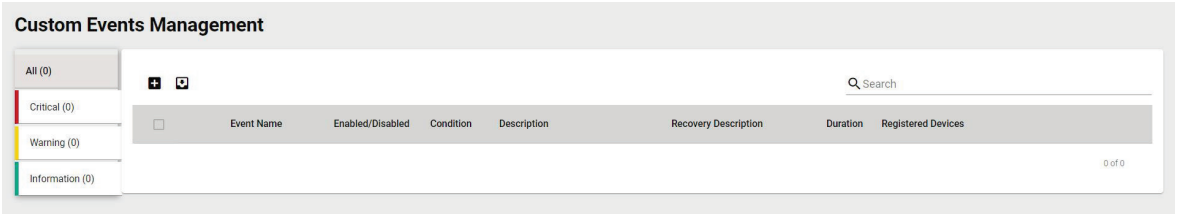
Custom Event Management

The **Custom Event** screen provides information about all the custom events configured on MXview One. You can use the **Custom Event** screen to view whether a custom event is enabled or disabled, modify a custom event, or export custom event configurations as a CSV file.

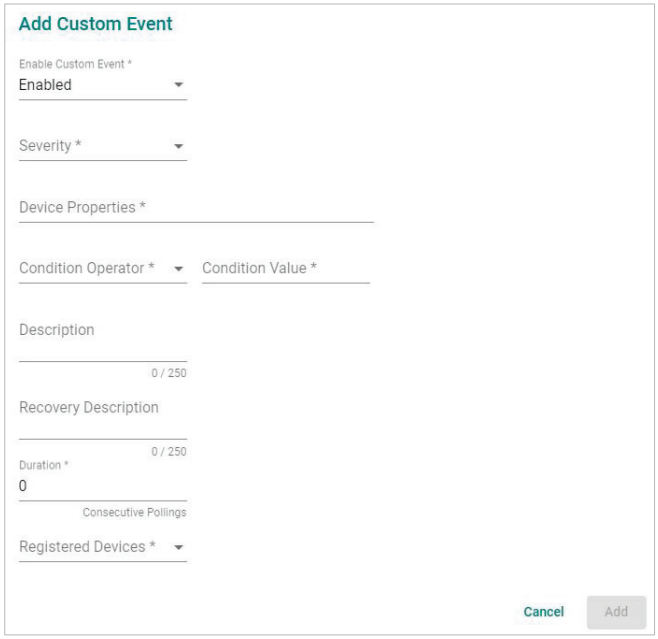


Configuring Custom Events

The Custom Event screen allows you to define your own events to monitor with flexible detection thresholds, severity levels, and duration times. You can also export the custom event configurations as a CSV file.



1. Navigate to **Menu** ( ) **> Event Management > Custom Event**.
   The **Custom Event** screen appears.
2. Click the **Add** ( ) button in the top-left corner of the screen.
   The **Add custom event** screen will appear.

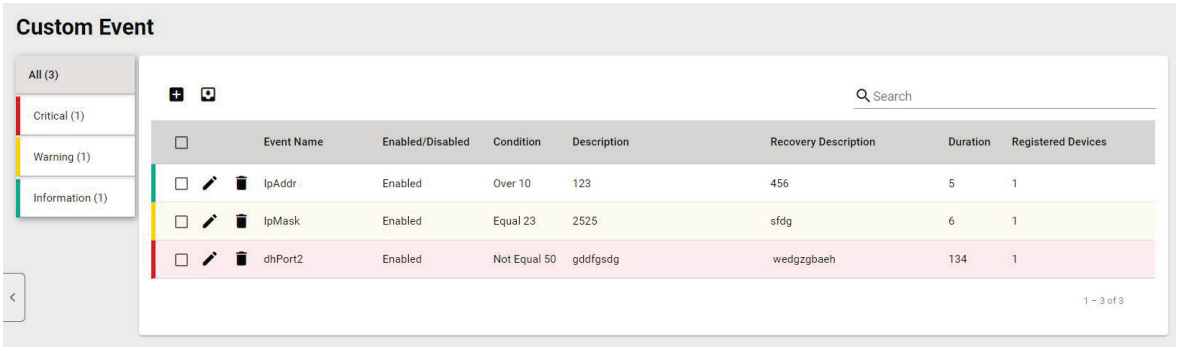


3. Select the default event status:
   - **Enabled:** MXview One monitors the event
   - **Disabled:** MXview One does not monitor the event
4. Select one of the following severity levels for the event:
   - Information
   - Warning
   - Critical
5. Click the **Device Properties** and select the device property to monitor.
6. Configure the following threshold criteria:
   - **Condition Operator:** Select the criteria operator for matching the condition value
   - **Condition Value:** Specify the value for the criteria operator to match
7. (Optional) In the **Description** field, type a string (up to 250 characters in length) to describe the custom monitoring.
8. (Optional) In the **Recovery Description** field, type a string (up to 250 characters in length) to describe how to recover from the event.
9. In the **Duration** field, users can specify how many times an event can happen without any action being taken. If the number of times the event happens exceeds the **Duration**, then MXview One will send an alert.
10. From the **Register Devices** drop-down list, select the devices to monitor for the custom event.
11. Click **Add**.
    The custom event appears in the **Custom Event** table.

> **NOTE**
>
> If the threshold is set as '0', the threshold function will be disabled.

Viewing or Exporting Custom Event Settings

The **Custom Event** screen provides information about all the custom events configured on MXview One. You can use the **Custom Event** screen to view whether a custom event is enabled or disabled, modify a custom event, or export custom event configurations as a CSV file.



1. Navigate to **Menu** ( ) **> Event Management > Custom Event**.

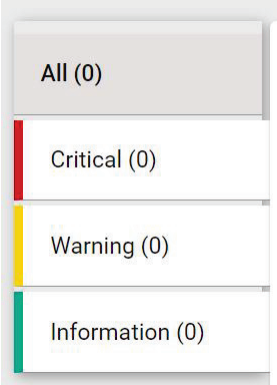
   The **Custom Event** screen will appear and displays the following information in a table format:

Column	Description
Event Name	The name of the event
Enabled/Disabled	The monitoring status of the event
Condition	The threshold criteria configured for the event
Description	The description of the event
Recovery Description	The recovery description of the event
Duration	The number of times of consecutive pollings for the event
Registered Devices	The number or registered devices that the event applies to

2. To search for information in the table, type a full or partial string that matches the value in any of the table columns.

   MXview One filters the table to only display events with values that fully or partially match the specified string.

3. To filter the information in the table by event severity, click one of the color-coded severity levels in the left-side panel.



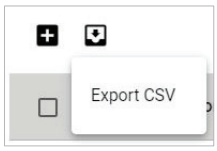
   MXview One filters the table to only display events that match the selected severity level.

4. To sort the data in the table by a specific column, click the column heading.

   MXview One sorts the table by the column.

5. To export data displayed on the **Custom Event** screen:

   a. Click the **Export** ( ) icon.

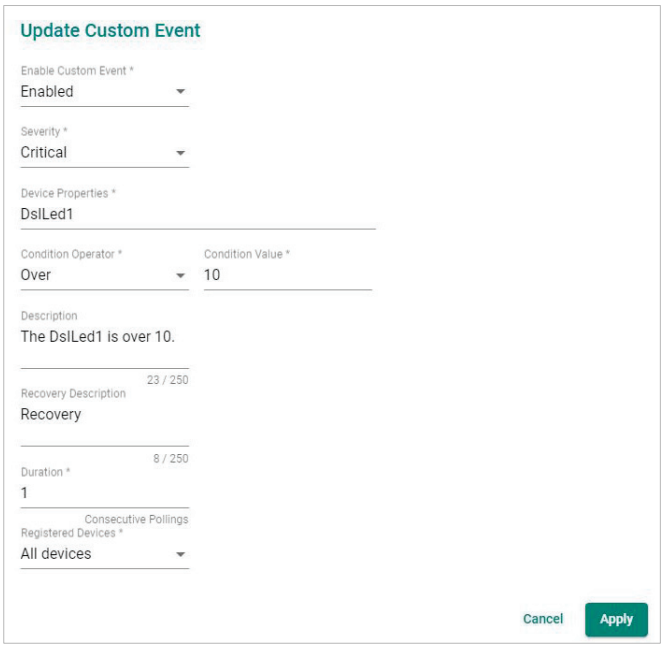


   b. Select **Export CSV.**
   MXview One exports the displayed event data as a CSV file.

Enabling/Disabling or Editing Custom Events

To enable or disable a custom event, edit the custom event settings.

1. Navigate to **Menu** ( ) **> Event Management > Custom Event**.
   The **Custom Event** screen appears.
2. Click the **Edit** ( ) icon next to the event you want to enable/disable.
   The **Update custom event** screen appears.



3. From the **Enable Custom Event** drop-down list, select one of the following:
   - **Enabled**
   - **Disabled**
4. Modify any additional event settings you wish to change.
5. Click **Apply**.
   The **Custom Event** screen will appear and displays the updated event information.

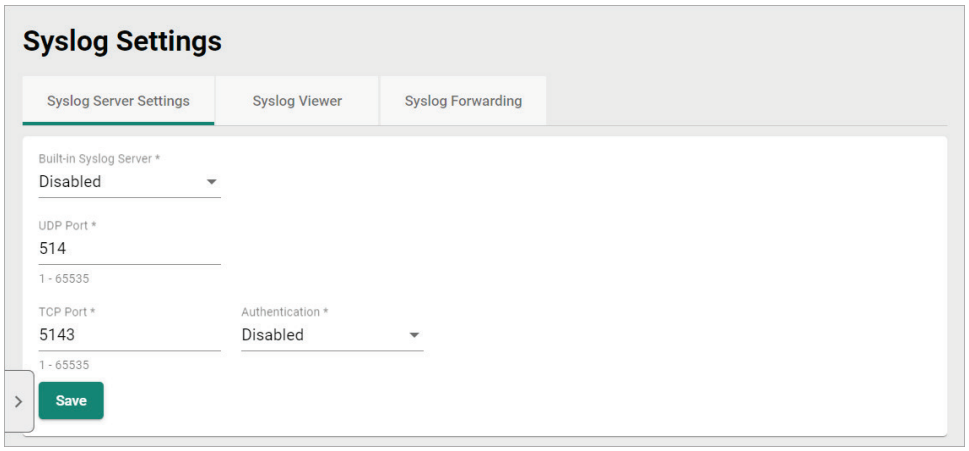
> **NOTE**
>
> If the threshold is set as '0', the threshold function will be disabled.

Syslog Settings

MXview One features a built-in syslog server to receive and log syslog events from devices. Users can also define filtering rules, allowing MXview One to forward syslog events that match these rules to one or multiple external syslog servers.

Enabling/Disabling the Built-in Syslog Server

1. Navigate to **Menu** ( ) **> Event Management > Syslog Settings**.
   The **Syslog Settings** screen appears.
2. Go to the **Syslog Server Settings** tab.



3. To enable the syslog server:
   a. In the **Built-in Syslog Server** field, select a syslog mode.
      - ❒ **Enable (UDP only)**: Enable the syslog server and restrict it to UDP only.
      - ❒ **Enable (TCP only)**: Enable the syslog server and restrict it to TCP only.
      - ❒ **Enable (UDP & TCP)**: Enable the syslog server and make it accessible via TCP and UDP.

   b. Specify the syslog server's UDP port. The default port number is 514.
   c. Specify the syslog server's TCP port. The default port number is 5143.
   d. Select an authentication mode:
      - ❒ **Disabled**: Do not require authentication.
      - ❒ **TLS only**: Use TLS authentication.
      - ❒ **TLS + certificate**: Use a combination of TLS and certificates for authentication.

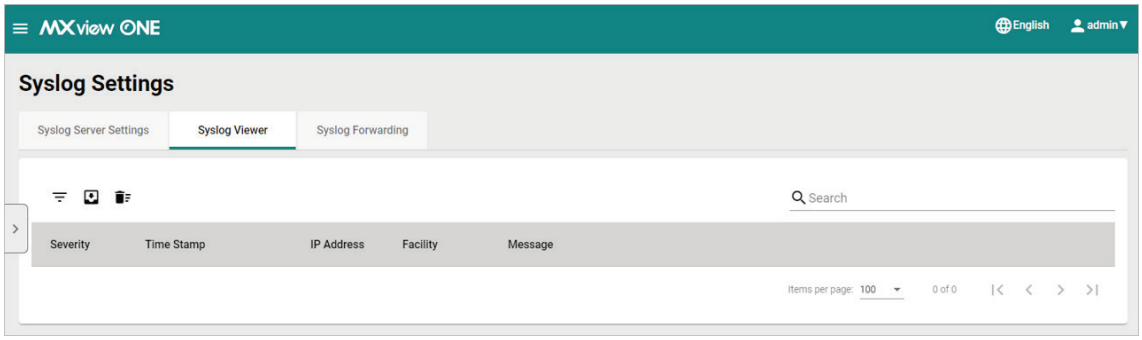
   e. Click **Save**.

> **NOTE**
>
> If you selected **TLS + certificate** as the authentication method, the **Download and manage certificates from the MXview One Control Panel** message will show. Click the link to go to MXview One Control Panel for managing the syslog server certificate.

4. To disable the syslog server:
   a. In the **Built-in Syslog Server** field, select **Disabled**.
   b. Click **Save**.

Viewing Syslog Events

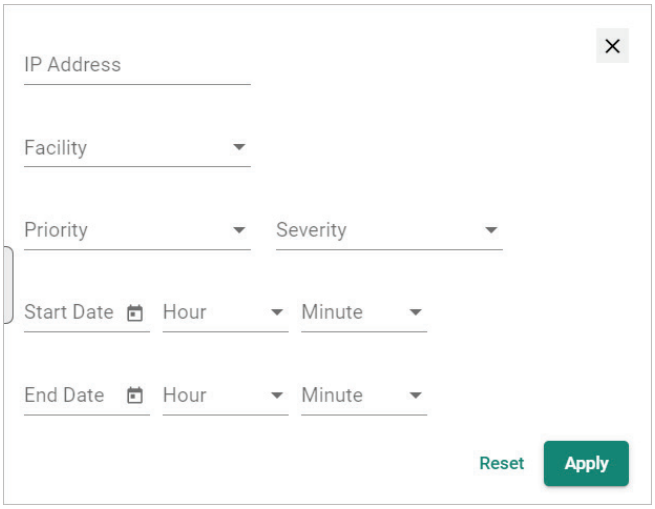
Use the **Syslog Viewer** tab on the **Syslog Settings** screen to view information about syslog events on your network. Use the filters to customize the information displayed in the table. You can also export the data as a CSV file.



1. Navigate to **Menu** ( ) **> Event Management > Syslog Settings**.
   The **Syslog Settings** screen appears.
2. Go to the **Syslog Viewer** tab.
   The **Syslog Viewer** screen displays the following information in a table format:

Column	Description
Severity	The severity of the event
Time Stamp	The time the event was issued
IP Address	The IP address of the device that issued the event
Facility	The group the device is assigned to
Message	The description of the event

3. To search the information in the table, type a full or partial string that matches the value in any of the table columns.
   MXview One searches the table to only display results that fully or partially match the specified string.
4. To filter the information in the table by specific criteria:
   a. Click the **Filter** ( ) icon in the top-left corner.
      The following screen will appear.



   b. Specify any of the following criteria:

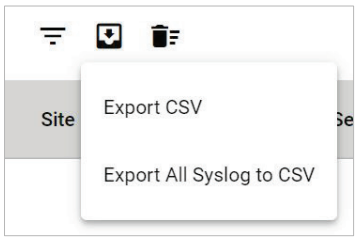
Criteria	Description
IP Address	Specify the IP address of the device that issued the event
Facility	Select the group to which the device is assigned
Priority	Select the criteria operator for matching the event severity level: • **Higher than or equal to** • **Equals** • **Lower than or equal to**
Severity	Select the severity level of the event
Start Date	Specify the start date and time for the event data to display
End Date	Specify the end date and time for the event data to display

   c. Click **Apply**.

MXview One filters the table to only display events that match the specified criteria.

5. To sort the data in the table by a specific column, click the column heading.
   MXview One sorts the table by the column.
6. To export data displayed on the **Syslog Viewer** screen:

   a. Click the **Export** ( ) icon.

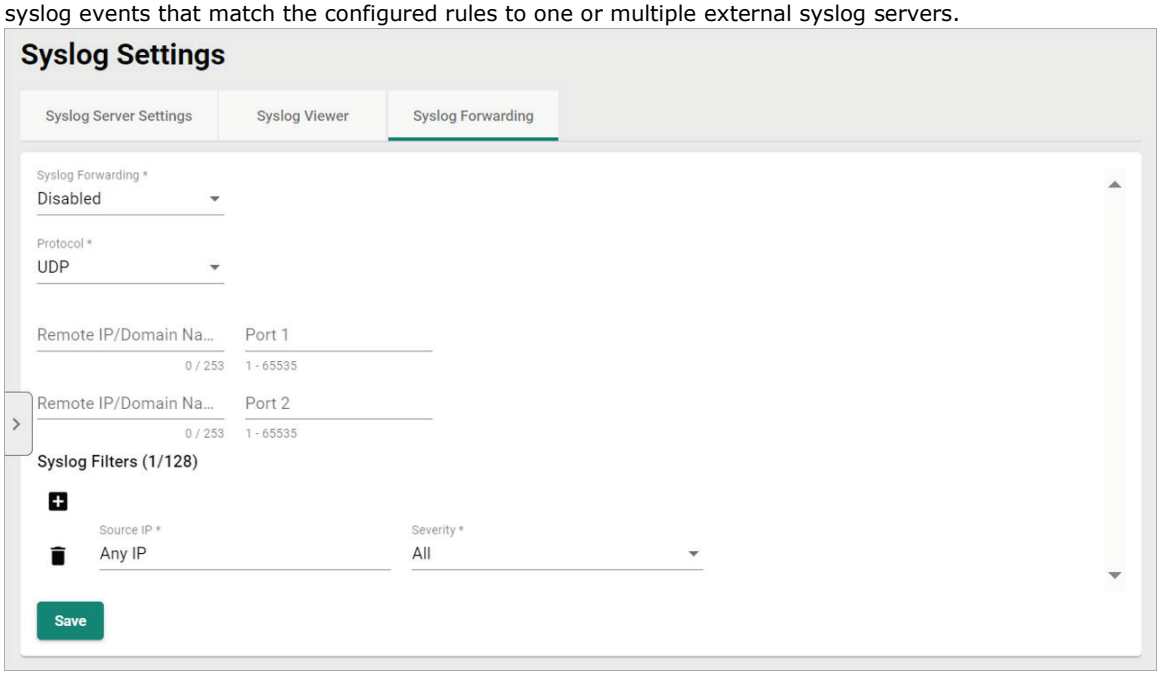


   b. Select **Export CSV** for just the first syslog page or **Export All Syslog to CSV** for all syslog pages.
   MXview One exports the displayed syslog data as a CSV file.

7. To clear all syslog data, click the **Clear All Events** ( ) icon.
   MXview One clears all syslog data on the **Syslog Viewer** screen.

Enabling/Disabling Syslog Forwarding

From the **Syslog Forwarding** tab on the **Syslog Settings** screen, you can enable or disable the syslog forwarding function and define the filtering rules. MXview One will act as a syslog forwarder and forward the syslog events that match the configured rules to one or multiple external syslog servers.



1. Navigate to **Menu** ( ) **> Event Management > Syslog Settings**.
   The **Syslog Settings** screen appears.
2. Go to the **Syslog Forwarding** tab.
3. To enable syslog forwarding:

   a. Configure the following settings:

   - **Syslog Forwarding:** Select **Enabled**.
   - **Protocol**: Select the communication protocol (**UDP** or **TCP**).

- **Authentication**: If you selected **TCP** as the **Protocol**, select an authentication method (**Disabled**, **TLS only**, **TLS + certificate**).

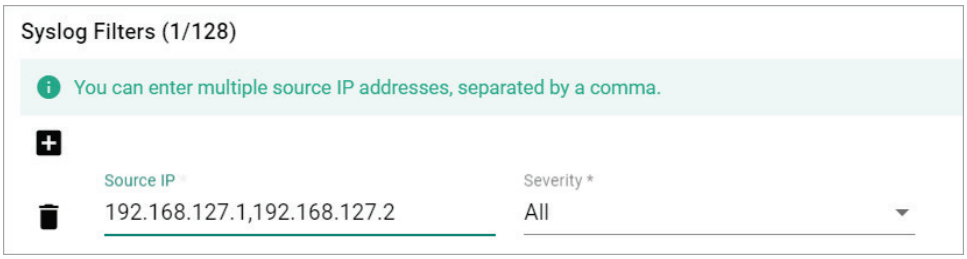
> **NOTE**
>
> If you selected **TLS + certificate** as the authentication method, the **Download and manage certificates from the MXview One Control Panel** message will show. Click the link to go to MXview One Control Panel for managing the syslog forwarding certificate.

- **Remote IP/Domain Name 1/2**: Specify the IP address or domain name of the 1st and 2nd syslog server.
- **Port 1/2**: Specify the port number of the 1st and 2nd syslog server.

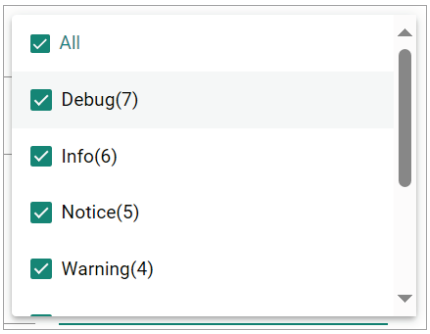
b. In the **Syslog Filters** section, configure the syslog filtering rules. The default rule is **Source IP=Any IP, Severity=All**, meaning MXview One will forward all syslog events from all sources and all severities.

To add a filtering rule, click the **Add** ( ) icon and configure the following settings:

- **Source IP**: Specify the IP addresses of the device(s) you want to forward syslog events for. You can enter multiple IP addresses, separated by a comma.



- **Severity**: Select the event severity level(s) that will be forwarded.



> **NOTE**
>
> MXview One supports a maximum of 128 syslog forwarding filtering rules.

c. To delete a filtering rule, click the **Delete** ( ) icon next to the rule you want to delete.

d. Click **Save**.
MXview One will forward any syslog events that match the configured rules.

4. To disable syslog forwarding:
   a. In the **Syslog Forwarding** field, select **Disabled**.
   b. Click **Save**.

15. Inventory Management

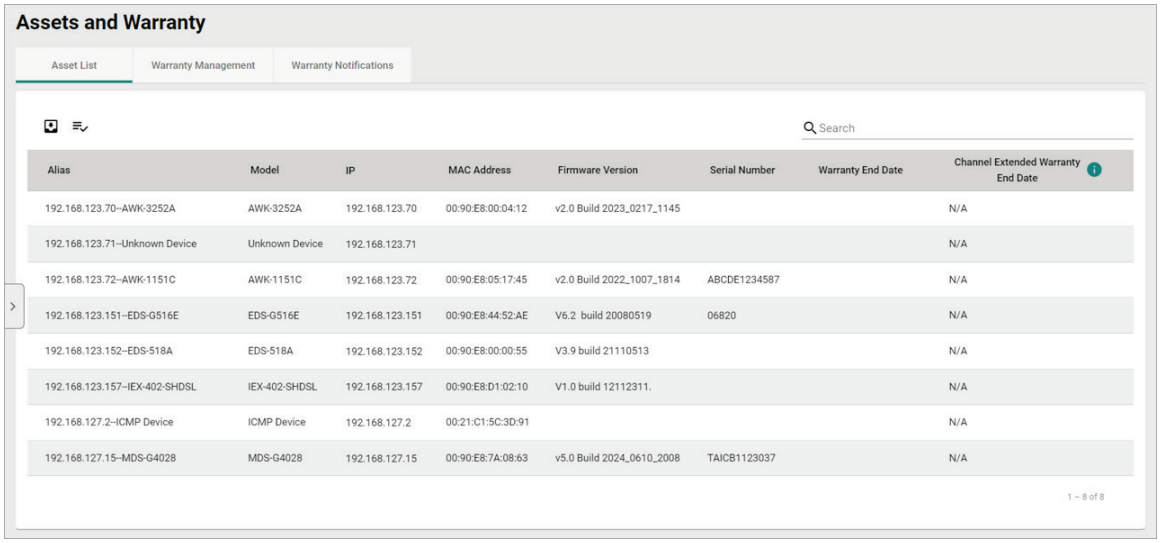
The **Inventory Management** section allows users to manage device inventory, check warranty information, and manage rogue devices.

Assets and Warranty

Asset List Overview

To access the **Asset List** page, in the function tree, navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty** and go to the **Asset List** tab.

The **Asset List** section provides a summary of key information about your network devices.



This page displays the following information in a table format:

Column	Description
Alias	The unique name of the device.
Model	The model number of the device.
IP	The IP address of the device.
MAC Address	The MAC address of the device.
Firmware Version	The firmware version of the device.
Serial Number	The serial number of the device.
Warranty End Date	The date the device warranty expires.
Channel Extended Warranty End Date	The expiration date of the extended device warranty provided by your channel representative.

NOTE

The **Channel Extended Warranty End Date** value is provided by the channel partner and must be entered by the user. Refer to Editing the Channel Extended Warranty End Date.

Searching the Asset List

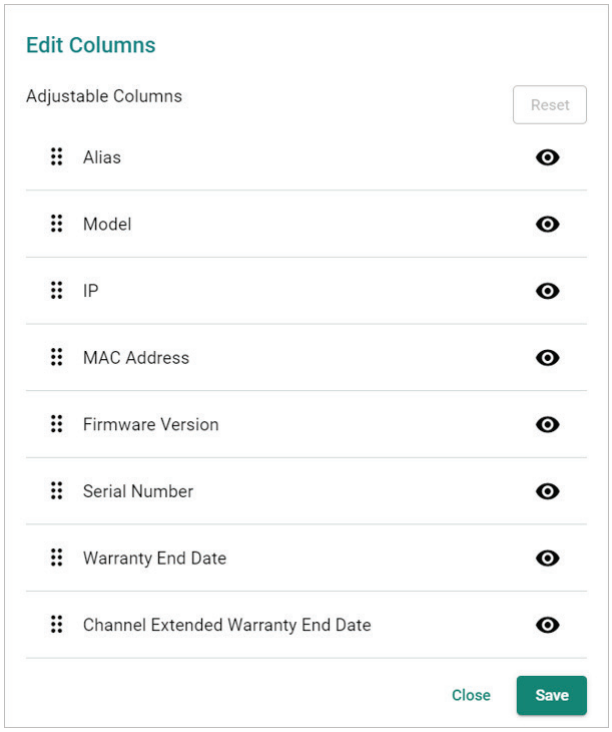
1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Asset List** tab.
3. In the **Search** ( ) field, type the full or partial information.
   All items matching the entered string will be shown in the table.

Exporting the Asset List

1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Asset List** tab.
3. Click the **Export** ( ) icon in the top-left corner of the table.
   MXview One exports the asset list as a CSV file.

Editing the Asset List Layout

1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Asset List** tab.
3. Click the **Edit Columns** ( ) icon in the top-left corner of the table.
   The **Edit Columns** window will appear.



4. To show or hide a column:
   a. Click the **Visible** ( ) and **Hidden** ( ) icons to toggle column visibility.
5. To change the column order:
   a. Click and drag the **Drag** ( ) icon of the column you want to move.

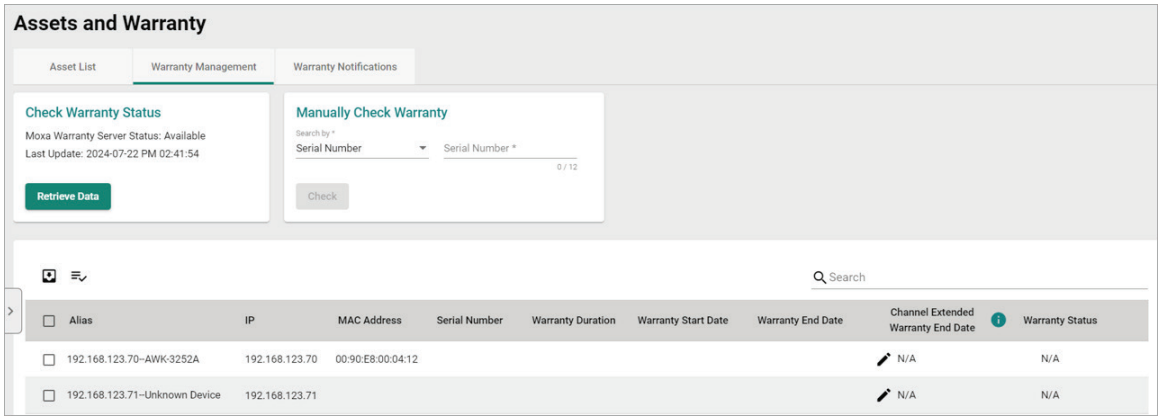
   b. Drag the column to the desired position and release the mouse.
6. To revert all changes to column visibility and order, click **Reset**.

7. Click **Save**.

Warranty Management Overview

To access the **Warranty Management** page, in the function tree, navigate to **Menu** (☰) **> Inventory Management > Assets and Warranty** and go to the **Warranty Management** tab.

The **Warranty Management** section shows warranty information for your devices.



This page displays the following information in a table format:

Column	Description
Alias	The unique name of the device.
IP	The IP address of the device.
MAC Address	The MAC address of the device.
Serial Number	The serial number of the device.
Warranty Duration	The warranty duration of the device.
Warranty Start Date	The date the device warranty starts.
Warranty End Date	The date the device warranty expires.
Channel Extended Warranty End Date	The expiration date of the extended device warranty provided by your channel representative.
Warranty Status	The current warranty status of the device. **Valid**: The warranty is active and valid. The remaining duration (in days) between the current date and the **Warranty End Date/Channel Extended Warranty End Date** is greater than the threshold value configured for the **Send Reminder** field on the **Warranty Notifications** tab. Refer to Enabling Warranty Expiration Notifications. **Expires soon**: The warranty is active and valid. The remaining duration (in days) between the current date and the **Warranty End Date/Channel Extended Warranty End Date** is equal to or less than the threshold value configured for the **Send Reminder** field on the **Warranty Notifications** tab. Refer to Enabling Warranty Expiration Notifications. **Expired**: The device warranty has exceeded the warranty period.

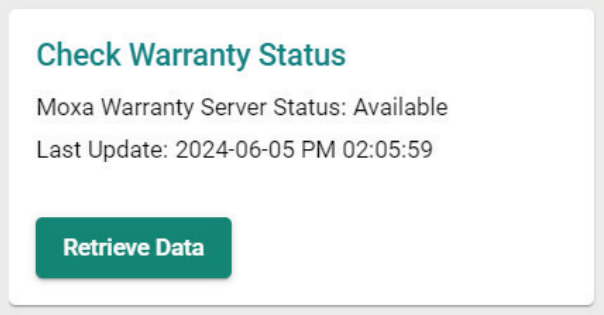
NOTE

The **Channel Extended Warranty End Date** value is provided by the channel partner and must be entered by the user. Refer to Editing the Channel Extended Warranty End Date.

Checking the Warranty Status of All Devices

1. Navigate to **Menu** (☰) **> Inventory Management > Assets and Warranty**.
2. Go to the **Warranty Management** tab.

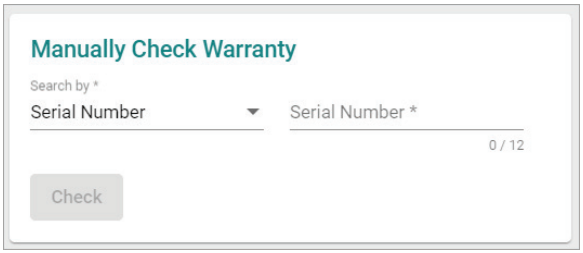
3. The **Check Warranty Status** section includes the following information:



   - **Moxa Warranty Server Status**: This indicates the status of the connection to the Moxa warranty server. If this connection is unavailable, the warranty table cannot be updated until the connection to the warranty server is restored.
   - **Last Update**: Shows the date and time the warranty table was last checked and updated.
4. Click **Retrieve Data**.
   MXview One will check for updates and refresh the table.

Checking the Warranty Status of a Specific Device

1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Warranty Management** tab.
3. The **Manually Check Warranty** section includes the following information:



   - **Search by**: Select the criteria to search for warranty information, either based on serial number or MAC address.
   - **Serial Number**: If **Serial Number** is selected in the **Search by** field, specify the serial number of the device to check warranty information for.
   - **MAC Address**: If **MAC Address** is selected in the **Search by** field, specify the MAC address of the device to check warranty information for.
4. Click **Check**.
   MXview One will check and show the warranty information for the specified criteria.

Searching the Warranty Management List

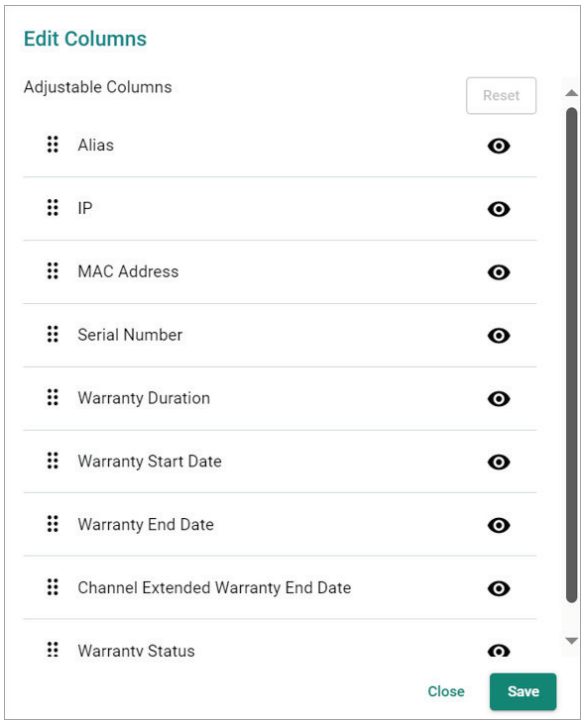
1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Warranty Management** tab.
3. In the **Search** ( ) field, type the full or partial information.
   All items matching the entered string will be shown in the table.

Exporting the Warranty Management List

1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Warranty Management** tab.
3. Click the **Export** ( ) icon in the top-left corner of the table.
   MXview One exports the warranty management table as a CSV file.

Editing the Warranty Management List Layout

1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Warranty Management** tab.
3. Click the **Edit Columns** ( ) icon in the top-left corner of the table.
   The **Edit Columns** window will appear.

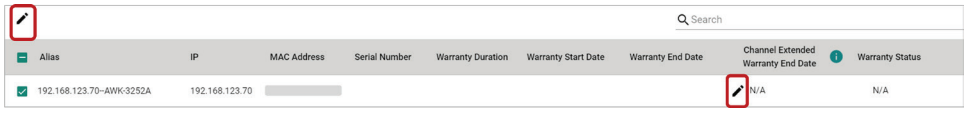


4. To show or hide columns:
   a. Click the **Visible** ( ) and **Hidden** ( ) icons to toggle column visibility.
5. To change the column order:
   a. Click and drag the **Drag** ( ) icon of the column you want to move.

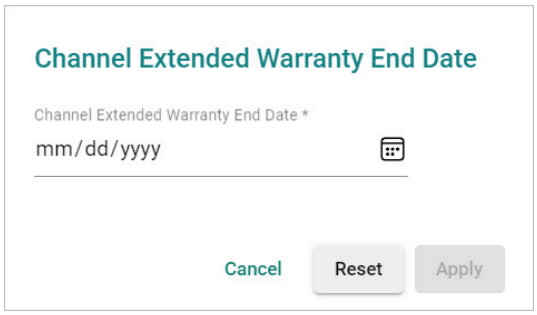
   b. Drag the column to the desired position and release the mouse.
6. To revert all changes to column visibility and order, click **Reset**.
7. Click **Save**.

Editing the Channel Extended Warranty End Date

1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Warranty Management** tab.
3. Check the box of the device(s) you want to edit the Channel Extended Warranty End Date for.
4. Click the **Edit** ( ) icon in the **Channel Extended Warranty End Date** column of the device you want to edit.
   If you selected multiple devices, click the **Edit** ( ) icon in the top-left corner of the page.



The **Channel Extended Warranty End Date** window will appear.



5. To update the channel extended warranty end date:
   a. Click the **Calendar** ( ) icon to select the new warranty end date.
   b. Click **Apply**.
   MXview One will update the channel extended warranty end date value and warranty status according to the new end date.

6. To reset the channel extended warranty end date:
   a. Click **Reset**.
   MXview One will update the channel extended warranty end date value to its default value of **N/A**.

Warranty Notifications Overview

To access the **Warranty Notifications** page, in the function tree, navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty** and go to the **Warranty Notifications** tab.

From the **Warranty Notifications** tab, you can enable and configure warning notifications to inform you when a device's warranty is about to expire.

Enabling Warranty Expiration Notifications

1. Navigate to **Menu** ( ) **> Inventory Management > Assets and Warranty**.
2. Go to the **Warranty Notifications** tab.
3. Configure the following settings:
   a. **Enabled**: Enable or disable warranty expiration notifications.
   b. **Send Reminder**: Specify how many days before the Warranty End Date/Channel Extended Warranty End Date you want to receive a notification.
   c. **Email to**: Enter the email address of the warranty notification recipient(s).

> **NOTE**
>
> You can add multiple recipient email addresses, separated by a comma.

4. Click **Save**.
   MXview One will send an email notification to the specified recipients when the number of days from the current date to the device Warranty End Date/Channel Extended Warranty End Date is equal to the value set in the **Send Reminder** field.

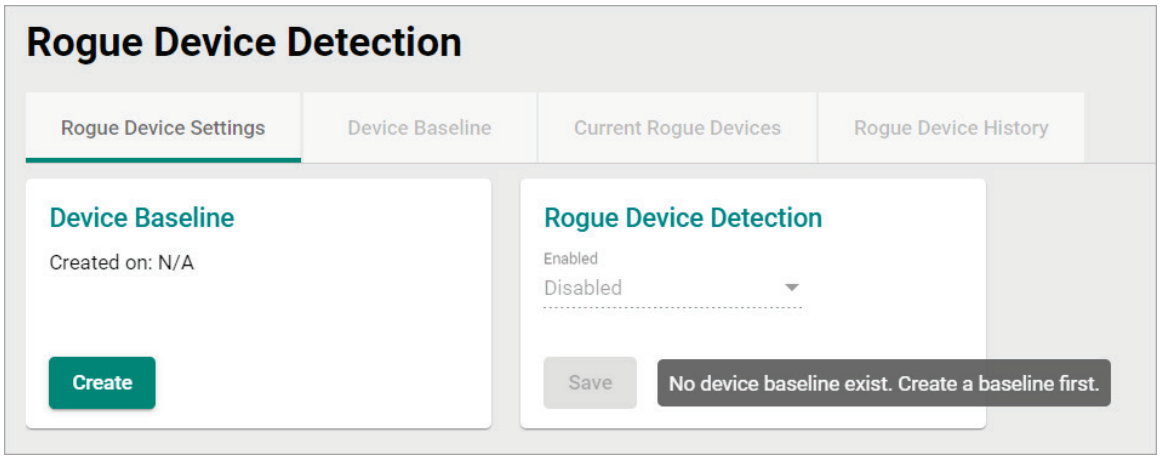
Rogue Device Detection

From the **Rogue Device Detection** section, users can create a baseline of the currently monitored devices. When MXview One detects an unknown device connection that is not part of this baseline, the system will identify and show information about this rogue device. This feature can help users manage the connection status of devices within their network, preventing unknown devices from gaining access to the network.

Rogue Device Settings Overview

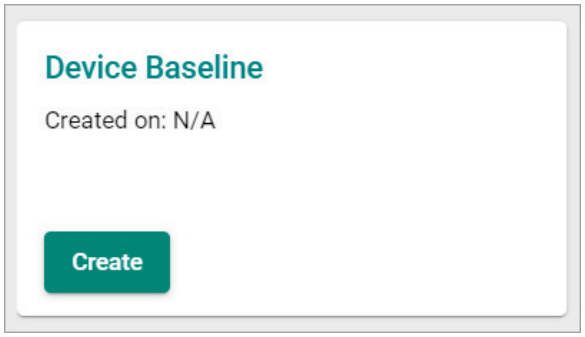
To access the **Rogue Device Settings** page, in the function tree, navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection** and go to the **Rogue Device Settings** tab.

From the **Rogue Device Settings** tab, you can create a device baseline and enable the rogue device detection function.



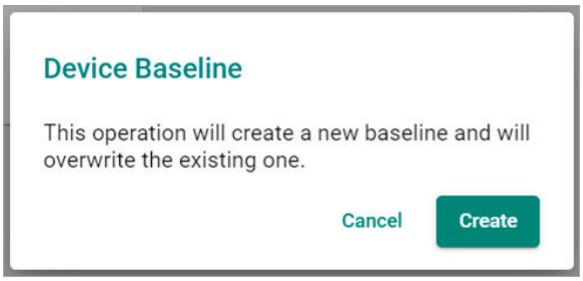
Creating a Device Baseline

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Rogue Device Settings** tab.
3. The **Device Baseline** section includes the following information:

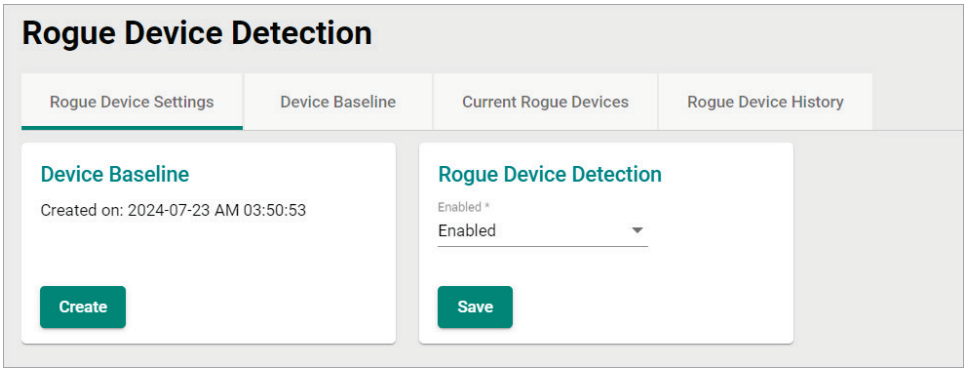


- **Created on**: Shows the date and time when the most recent baseline was created. If no baseline has been created before, this will show **N/A**.

4. Click **Create**.
   The **Device Baseline** window will appear.



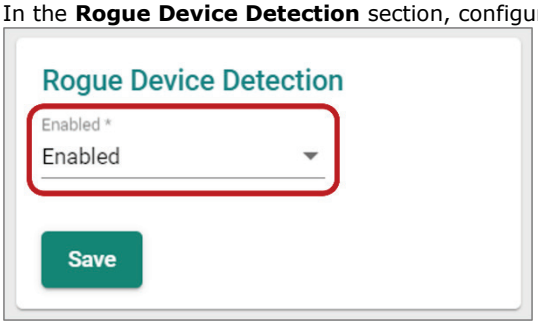
5. Click **Create**.
   MXview One will create a baseline of the currently monitored devices and enable the **Rogue Device Detection** function.



Enabling/Disabling Rogue Device Detection

> **NOTE**
>
> To enable or disable **Rogue Device Detection**, a device baseline must be created first. Refer to Creating a Device Baseline.

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Rogue Device Settings** tab.
3. In the **Rogue Device Detection** section, configure the following settings:



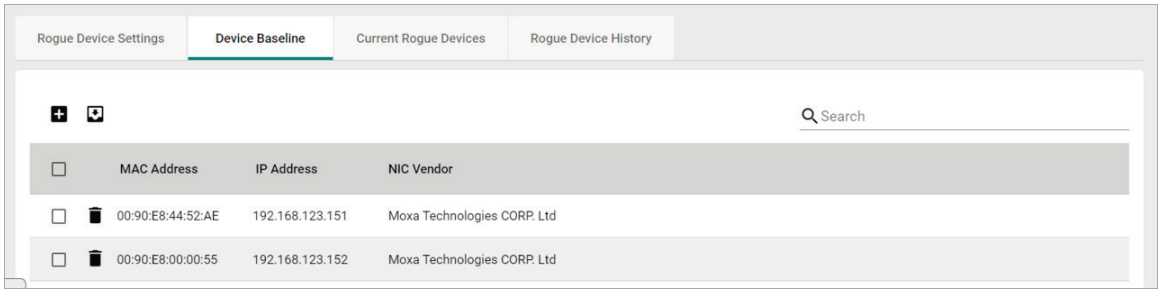
   - **Enabled**: Enable or disable the Rogue Device Detection function.
4. Click **Save**.

> **NOTE**
>
> After creating a device baseline and enabling the **Rogue Device Detection** function, you can add devices to the baseline via the **Device Discovery** function or by **Adding a Rogue Device to the Baseline**.

Device Baseline Overview

To access the **Device Baseline** page, in the function tree, navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection** and go to the **Device Baseline** tab.

From the **Device Baseline** tab, you can view information about the devices included in the most recent baseline. From this screen, you can also add or remove devices from the baseline and export the device baseline.



This page displays the following information in a table format:

Column	Description
MAC Address	The MAC address of the device.
IP Address	The IP address of the device.
NIC Vendor	The vendor of the device's network interface card.

Searching the Device Baseline

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Device Baseline** tab.
3. In the **Search** ( ) field, type the full or partial information.
   All items matching the entered string will be shown in the table.

Adding a Device to the Baseline

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Device Baseline** tab.
3. Click the **Add** ( ) icon in the top-left corner of the screen.
   The **Add Device to Baseline** screen will appear.
4. Specify the MAC address of the device you want to add to the baseline.
5. Click **Add**.

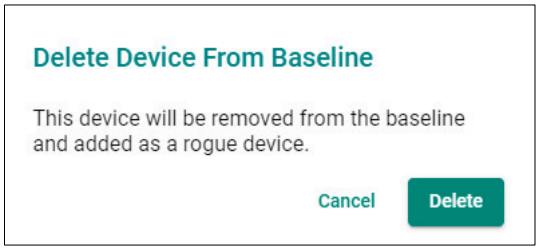
Deleting Devices From the Baseline

NOTE

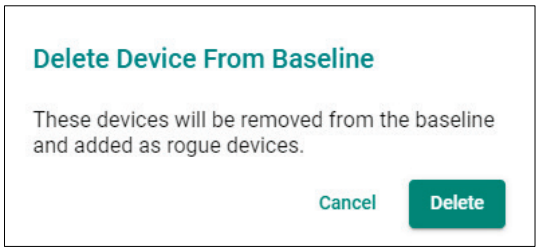
If a device that was removed from the baseline attempts to reconnect, MXview One will identify the device as a rogue device and add it to the **Current Rogue Devices** list. Refer to Current Rogue Devices Overview.

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Device Baseline** tab.
   To delete a single device:

a. Click the **Delete** ( ) icon next to the device you want to delete from the baseline.
The **Delete Device From Baseline** screen will appear.



3. To delete multiple devices:
   a. Check the box of the devices you want to delete from the baseline.
   b. Click the **Delete** ( ) icon in the top-left corner of the screen.
   The **Delete Device From Baseline** screen will appear.



4. Click **Delete**.

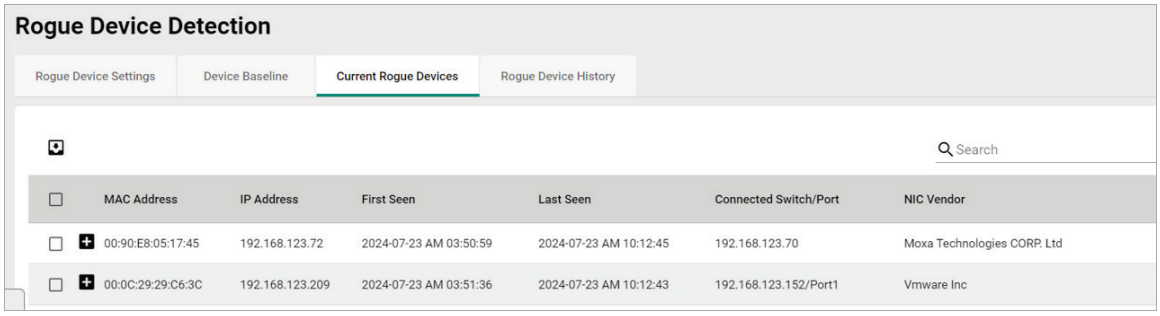
Exporting the Device Baseline

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Device Baseline** tab.
3. Click the **Export** ( ) icon in the top-left corner of the table.
   MXview One exports the device baseline as a CSV file.

Current Rogue Devices Overview

To access the **Current Rogue Devices** page, in the function tree, navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection** and go to the **Current Rogue Devices** tab.

From the **Current Rogue Devices** tab, you can view information about rogue devices detected on your network.



This page displays the following information in a table format:

Column	Description
MAC Address	The MAC address of the rogue device.
IP Address	The IP address of the rogue device.
First Seen	The date and time MXview One first detected the rogue device.

Last Seen	The date and time MXview One last detected the rogue device.
Connected Switch/Port	The switch device and port the rogue device is connected to.
NIC Vendor	The vendor of the rogue device's network interface card.

NOTE

It is possible to see the same IP listed with different MAC addresses in the rogue device list. This could indicate one of the following situations:

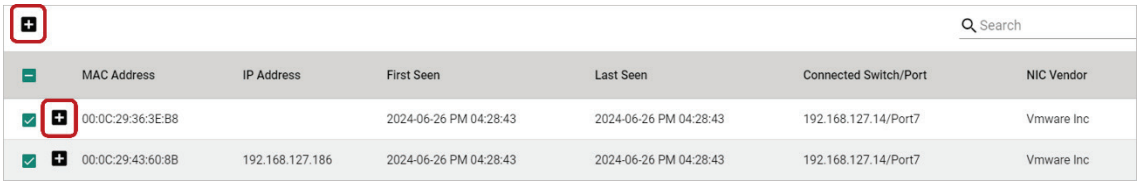
- A single device with multiple MAC addresses: In addition to a CPU MAC address, certain Moxa products (e.g. EDS-(G)4000 Series, MDS-G4028 Series, etc.) and some third-party devices have an individual MAC address for each port.
- Different devices using the same IP address: Different devices using an identical IP address indicate a possible IP conflict. To avoid issues, identify and resolve any IP conflicts.

Searching the Current Rogue Devices List

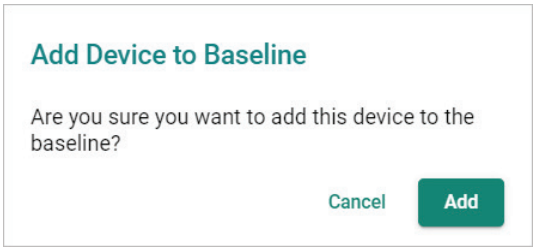
1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Current Rogue Devices** tab.
3. In the **Search** ( ) field, type the full or partial information.
   All items matching the entered string will be shown in the table.

Adding a Rogue Device to the Baseline

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Current Rogue Devices** tab.
3. Click the **Add** ( ) icon next to the rogue device you want to add to the baseline.
   To add multiple rogue devices to the baseline, check the box of the devices you want to add and click the **Add** ( ) icon in the top-left corner of the screen.



   The **Add Device to Baseline** window will appear.



4. Click **Add**.

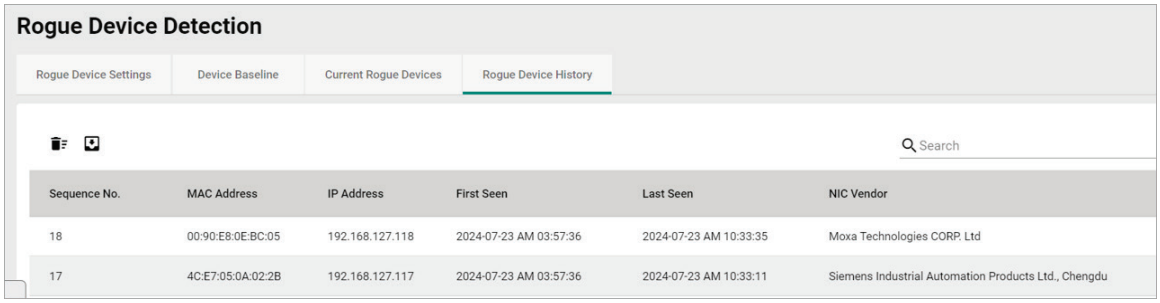
Exporting the Current Rogue Devices List

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Current Rogue Devices** tab.
3. Click the **Export** ( ) icon in the top-left corner of the table.
   MXview One exports the current rogue devices list as a CSV file.

Rogue Device History Overview

To access the **Rogue Device History** page, in the function tree, navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection** and go to the **Rogue Device History** tab.

From the **Rogue Device History** tab, you can view information about rogue devices that were originally in the Current Rogue Devices list but are currently no longer detected by MXview One.



This page displays the following information in a table format:

Column	Description
Sequence No.	The index of the history record.
MAC Address	The MAC address of the rogue device.
IP Address	The IP address of the rogue device.
First Seen	The date and time MXview One first detected the rogue device.
Last Seen	The date and time MXview One last detected the rogue device.
NIC Vendor	The vendor of the rogue device's network interface card.

Searching the Rogue Device History

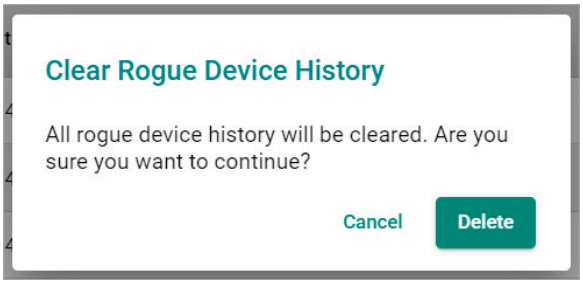
1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Rogue Device History** tab.
3. In the **Search** ( ) field, type the full or partial information.
   All items matching the entered string will be shown in the table.

Exporting the Rogue Device History

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Rogue Device History** tab.
3. Click the **Export** ( ) icon in the top-left corner of the table.
   MXview One exports the rogue device history as a CSV file.

Clearing the Rogue Device History

1. Navigate to **Menu** ( ) **> Inventory Management > Rogue Device Detection**.
2. Go to the **Rogue Device History** tab.
3. Click the **Delete** ( ) icon in the top-left corner of the screen.
   The **Clear Rogue Device History** window will appear.



4. Click **Delete**.
   MXview One will clear the rogue device history.

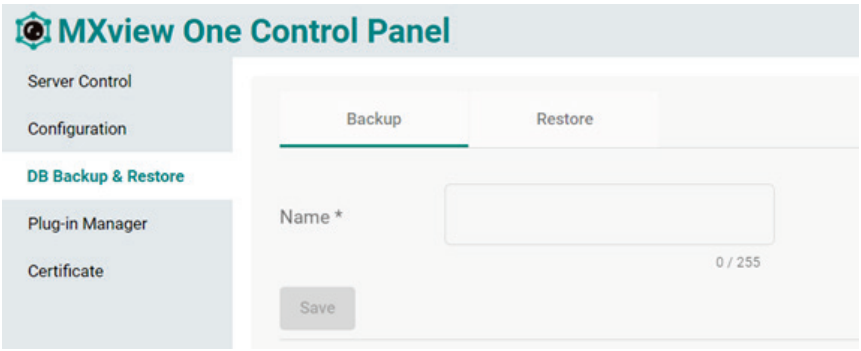
16. Backups, Restores, and Compares

The MXview One web console provides several features to assist database backups and device configuration migrations. MXview One allows you to back up or restore configurations for multiple devices, and also compare changes between different versions of archived configuration files. You can also create scheduled jobs to automatically export/import device configurations or back up the MXview One database.

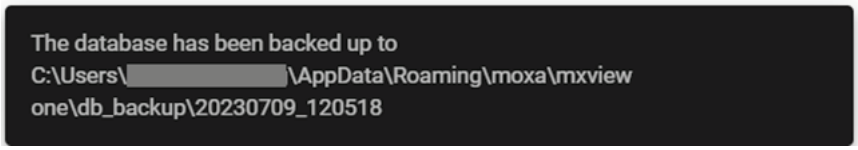
Backing Up the MXview One Database

Use the **DB Backup & Restore** screen on the **Control Panel** to back up the MXview One database.

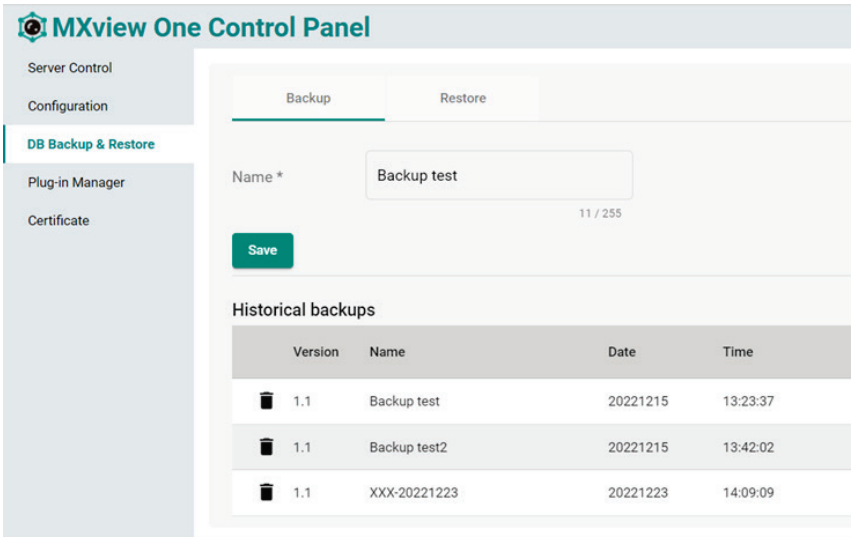
1. Navigate to **DB Backup & Restore** on the MXview One Control Panel.
   The Database Backup & Restore screen appears.



2. Choose the **Backup** tab to start the process of backing up the database.
3. In the **Name** field, specify the backup file name.
4. Click **Save**.
5. The message that the file of the backup database has been stored in the specified directory will be displayed.



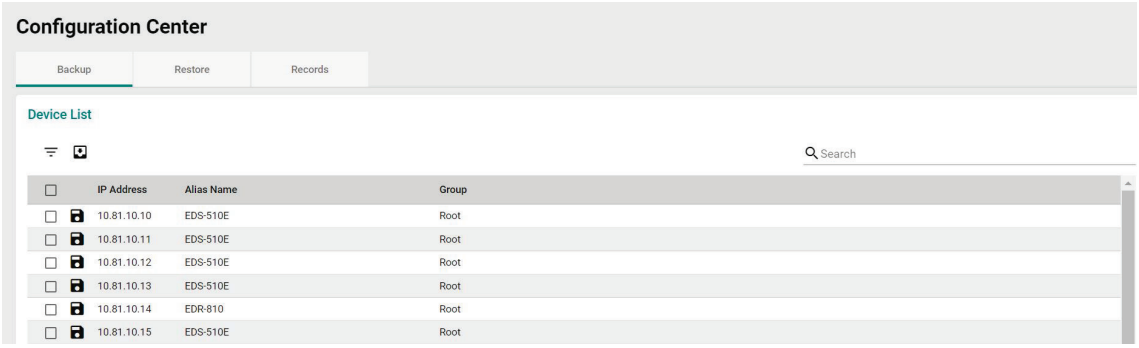
6. The **Database backup completed** will appear on the **Historical backups** list.



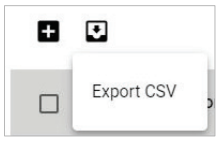
Backing Up Device Configurations

Use the **Device Configuration Center** screen to export configuration backup files from one or more devices.

1. Navigate to **Menu** ( ) **> Device Configuration Center**.
   The **Device Configuration Center** screen appears.
2. Click the **Backup** tab.
   Available devices will appear in the **Device List**.



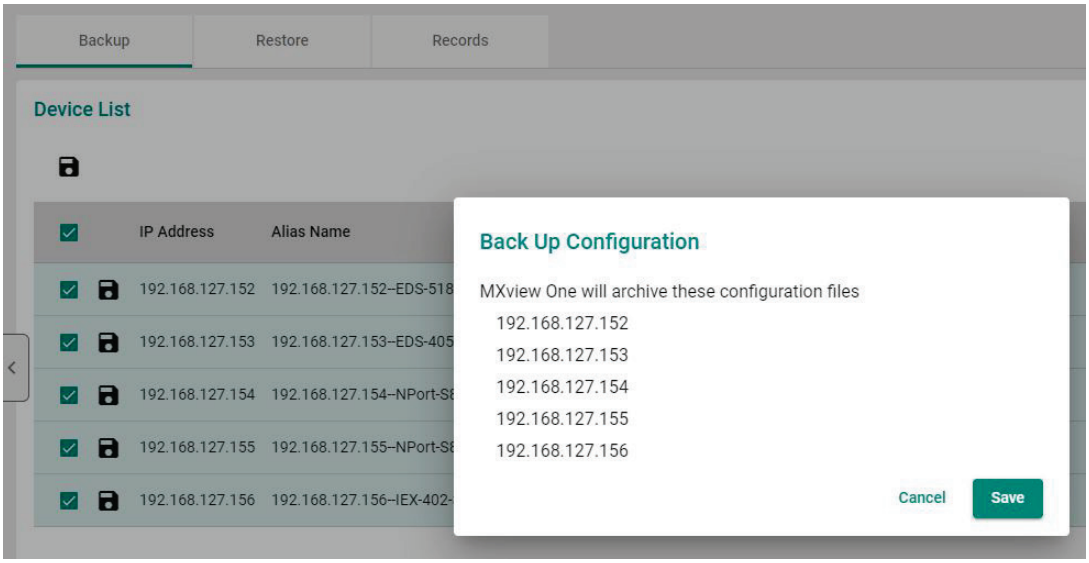
3. (Optional) Filter the devices in the **Device List**:
   a. Click the **Filter** ( ) icon.
   b. Specify any of the following criteria:
      - **Group:** The group in the MXview One tree structure that the device is assigned to
      - **IP Address:** The IP address of the device
   c. Click **Apply**.
      MXview One filters the **Device List** according to the specified criteria.
4. To export the device list from all available devices:
   a. Click the **Export** ( ) icon.



   MXview One exports the 'All available devices' list as a CSV file.

5. To back up configurations from specific devices:
   a. Select the check box next to the device(s) you want to back up.
   b. Click the **Backup** (💾) icon in either of the following locations:
      - ❒ For a single device, click the **Backup** (💾) next to the selected device.
      - ❒ For multiple devices, click the **Backup** (💾) icon in the upper left corner of the screen.

      The **Backup Configuration** screen appears.



   c. Click **Save**.

      MXview One archives configuration files from selected device(s) to the MXview One server and displays them in the **Records** tab. Also, MXview One will export configurations from the selected device(s) as a ZIP file.

      For more information, please see the following topics:

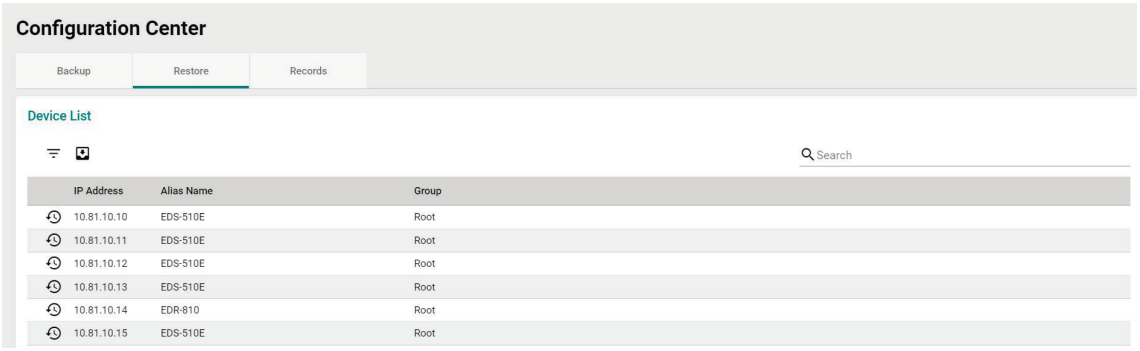
      Comparing Archived Configuration Files

> **NOTE**
>
> If MXview One compares two configuration files and they are the same, it will only leave the latest one. If the two configuration files are different, MXview One will keep both in the **Records** tab.

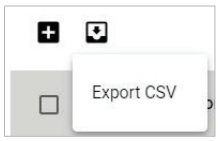
Restoring Device Configurations

Use the **Configuration Center** screen to restore configurations to one or more devices by restoring an archived configuration from the MXview One server or importing a local configuration backup file (in INI format).

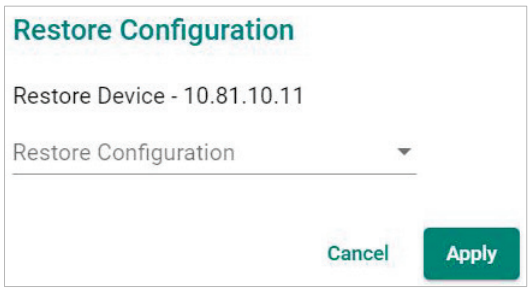
1. Navigate to **Menu** ( ) **> Device Configuration Center**.
   The **Device Configuration Center** screen will appear.
2. Click the **Restore** tab.
   Available devices will appear in the **Device List**.



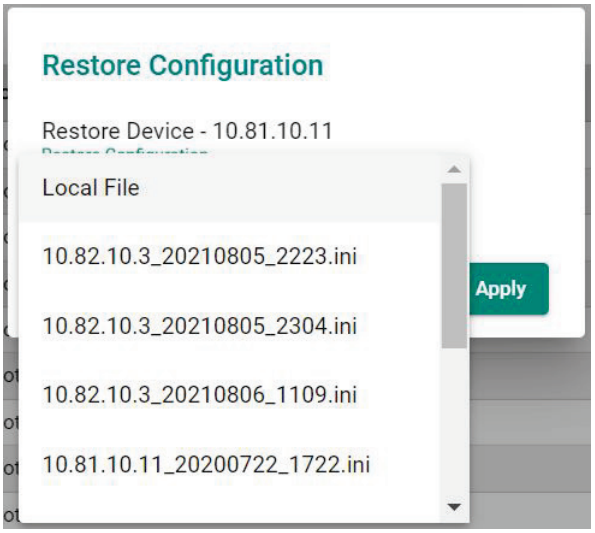
3. (Optional) Filter the devices in the **Device List**:
   a. Click the **Filter** ( ) icon.
   b. Specify any of the following criteria:
      - **Group:** The group that the device is assigned to
      - **IP Address:** The IP address of the device
   c. Click **Apply**.
      MXview One filters the **Device List** according to the specified criteria.
4. (Optional) Export configurations from all available devices:
   a. Click the **Export** ( ) icon.



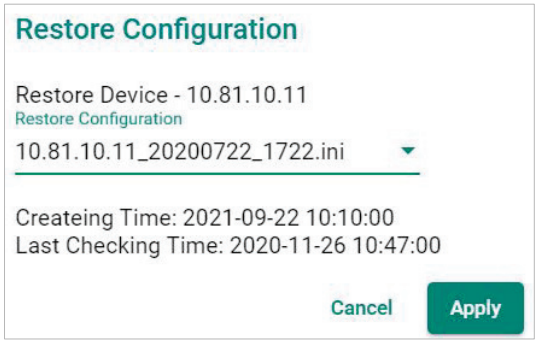
   b. Select **Export CSV**.
      MXview One exports the 'All available devices' list as a CSV file.
5. To restore an archived configuration file to a device:
   a. Click the **Restore** ( ) icon next to the **IP Address** of a device in the **Device List**.
      The **Restore Configuration** screen will appear.



b. From the **Restore Configuration** drop-down list, select the archived device configuration to restore.



c. Click **Apply**.

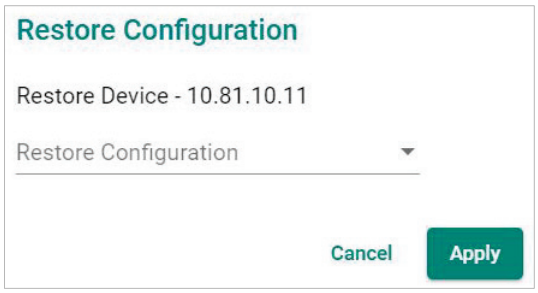


MXview One imports the configuration file to the selected device.

6. To import a local configuration file to a device:

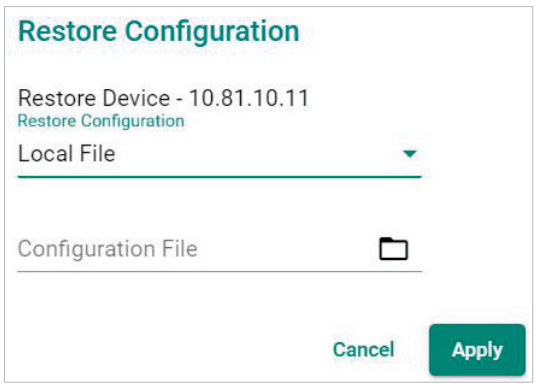
a. Click the **Restore** (⟲) icon next to the **IP Address** of a device in the **Device List**.

The **Restore Configuration** screen appears.



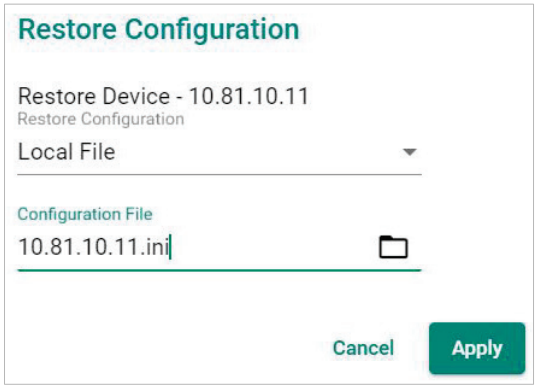
b. From the **Restore Configuration** drop-down list, select **Local File**.

c. Click the **Configuration File** field to a select the configuration file.



d. Select the configuration file to import and click Open.

e. Click **Apply**.

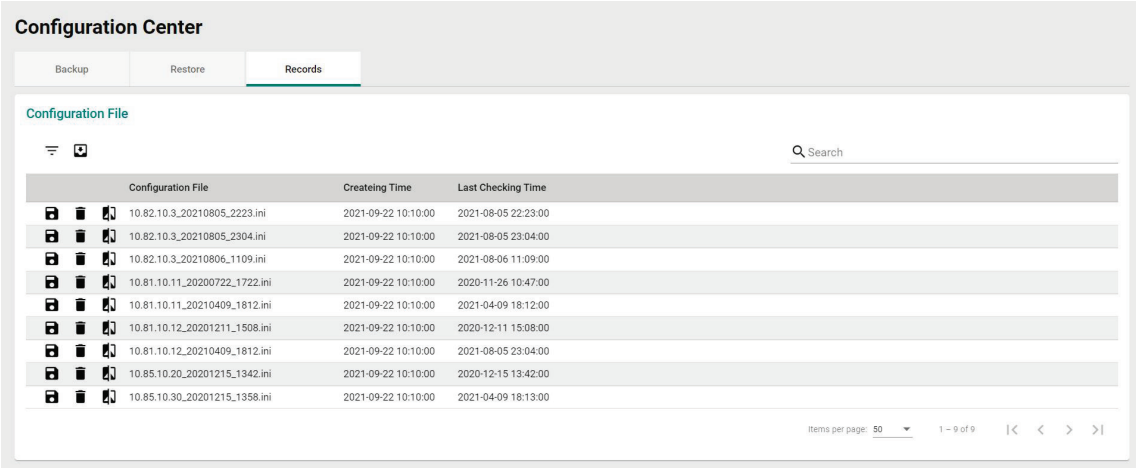


MXview One imports the configuration file to the selected device.

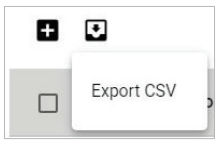
Comparing Archived Configuration Files

Use the **Device Configuration Center** to compare changes in the history of saved configuration files.

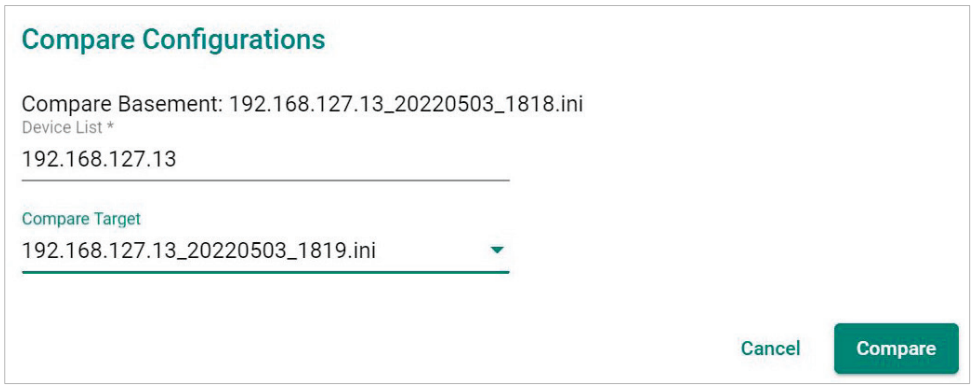
1. Navigate to **Menu** ( ) **> Device Configuration Center**.
   The **Device Configuration Center** screen appears.
2. Click the **Records** tab.
   A list of archived backup configuration files appears.



3. (Optional) Filter the list of configuration files:
   a. Click the **Filter** ( ) icon.
   b. Specify any of the following criteria:
      - **Group:** The group that the device is assigned to
      - **Start Date:** The earliest file creation date
      - **Start Time:** The earliest file creation time on the Start Date
      - **End Date:** The latest file creation or update date
      - **End Time:** The latest file creation or update time on the End Date
   c. Click **Apply**.
4. (Optional) Export configurations from all available devices:
   a. Click the **Export** ( ) icon.

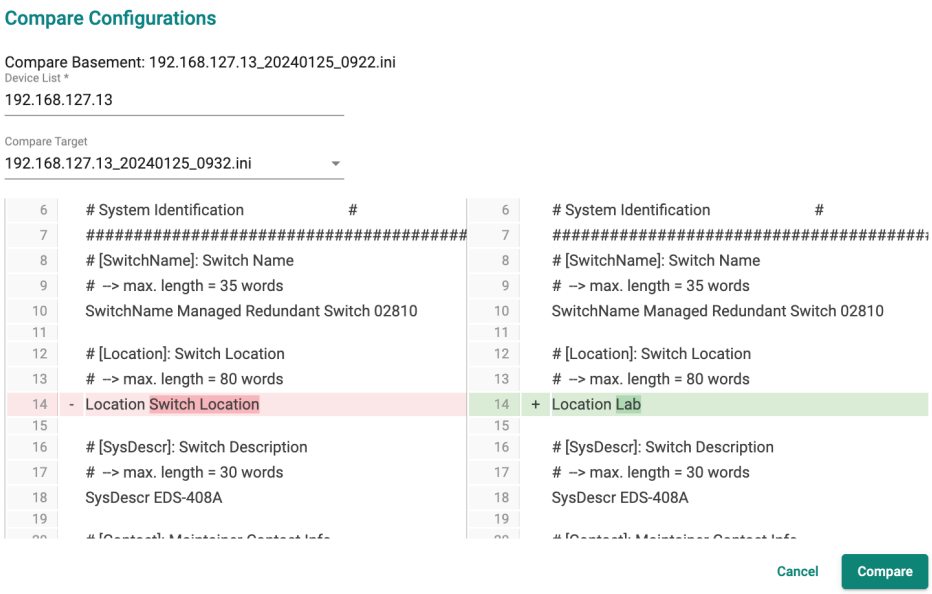


   b. Select **Export CSV**.
      MXview One exports all the devices information as a CSV file.
5. Click the **Compare** ( ) icon next to the configuration file you want to compare.
   The **Compare Configurations** screen will appear.



6. Select the device from the **Device List** drop-down list.
7. Select the target configuration file to compare from the **Compare Target** drop-down list.

8. Click **Compare**.
   MXview One will display a comparison of the selected configuration files.



   The inserted, deleted, and modified lines in the configuration will be highlighted.

> **NOTE**
>
> The green lines are the configurations of Compare Target. The red lines are the configurations of Compare basement.

Creating Maintenance Scheduler for Database/Configuration Backups

Use the **Maintenance Scheduler** to automatically export/import device configurations or back up the MXview One database on a predefined schedule.

1. Navigate to **Menu** ( ) **> Administration > Maintenance Scheduler**.
   The **Maintenance Scheduler** screen appears.
2. (Optional) Search a previously saved scheduled job, type a job name in the search box.
   The **Maintenance Scheduler** table displays a list of matching scheduled jobs.
3. Click the **Add** ( ) button.
   The **Add job** screen appears.
4. Specify the Job Name.
5. Select one of the following options from the Action drop-down box:
   - **Export Configuration**
   - **Import Configuration**
   - **Database Backup**
6. Type a **Description** for the job.
7. Select the **Registered Devices** that apply.
8. Select a job frequency from the **Repeat Execution** drop-down box:
   - Once
   - Daily
   - Weekly
   - Monthly

9. Specify the **Start Date** to begin executing the scheduled job.
10. Specify the **Execution Time** on the Start Date to run the scheduled job.
11. Click **Add**.

    MXview One will display the scheduled job on the **Maintenance Scheduler** table and will execute the job according to the defined schedule.

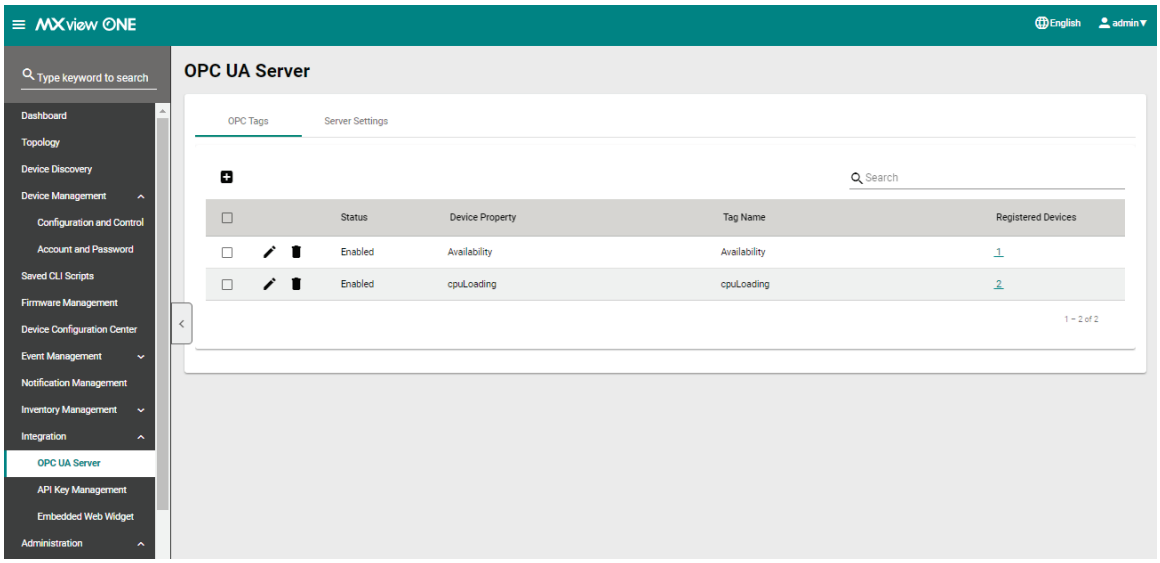
17. Custom Integrations

MXview One supports several features that enable integration with third-party applications or external systems.

OPC UA Server Overview

MXview One supports integrated OPC UA Server functionality to integrate with OPC clients such as SCADA systems. From this section, users can configure OPC tags and server settings.

To access the **OPC UA Server** screen, navigate to **Menu** ( ) **> Integration > OPC UA Server**.



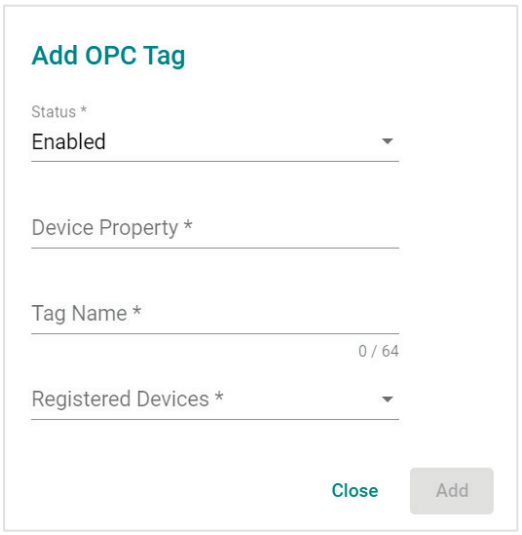
Viewing the OPC Tags Table

1. Navigate to **Menu** ( ) **> Integration > OPC UA Server**.
   The **OPC UA Server** screen appears.
2. Go to the **OPC Tags** tab.
3. The OPC tags table includes the following information:

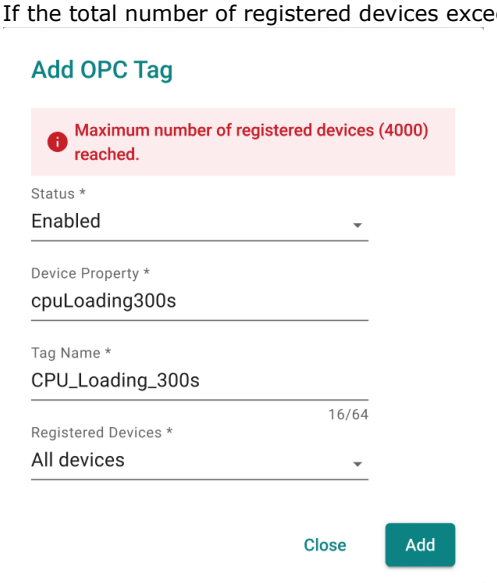
Column	Description
Status	Shows the status of the OPC tag.
Device Property	Shows the SNMP device property of the tag name.
Tag Name	Shows the tag name.
Registered Devices	Shows the devices registered to the tag. Click the hyperlink number in this column to show an overview of all registered devices. 

Adding an OPC Tag

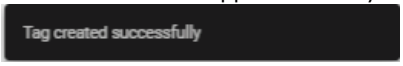
1. Navigate to **Menu (☰) > Integration > OPC UA Server**.
   The **OPC UA Server** screen appears.
2. Go to the **OPC Tags** tab.
3. Click the **Add** (⊞) icon.
   The **Add OPC Tag** screen will appear.



4. Configure the following settings:
   - **Status**: Select to enable or disable the OPC tag.
   - **Device Property**: Select the SNMP property to generate the OPC tag.
   - **Tag Name**: Enter a name for the OPC tag.
   - **Registered Devices**: Select the devices to register to this tag.
5. Click **Add**.
   If the total number of registered devices exceeds 4000, an error message will show.



A confirmation will appear to verify tag was created.

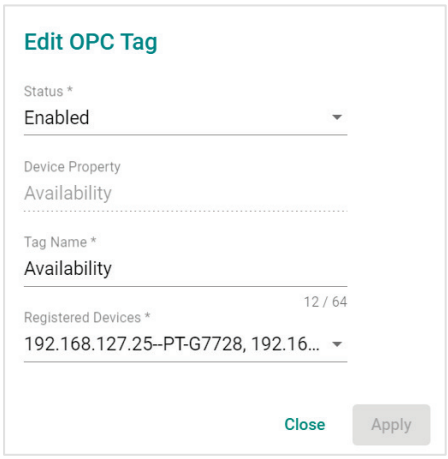


NOTE

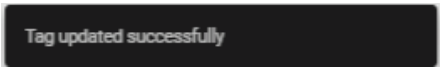
MXview One supports a maximum of 2000 OPC tags.

Editing an OPC Tag

1. Navigate to **Menu ( ) > Integration > OPC UA Server**.
   The **OPC UA Server** screen appears.
2. Go to the **OPC Tags** tab.
3. Click on the **Edit** ( ) icon next to the tag you want to edit
   The **Edit OPC Tag** screen will appear.

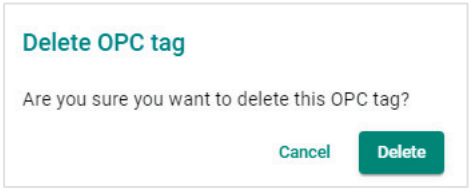


4. Configure the following settings:
   - **Status**: Select to enable or disable the OPC tag.
   - **Tag Name**: Enter a name for the OPC tag.
   - **Registered Devices**: Select the devices to associate this tag with.
5. Click **Apply**.
   A confirmation will appear to verify the tag was updated.

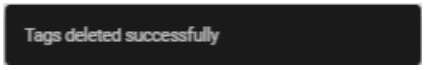


Deleting an OPC Tag

1. Navigate to **Menu ( ) > Integration > OPC UA Server**.
   The **OPC UA Server** screen appears.
2. Go to the **OPC Tags** tab.
3. Click the **Delete** ( ) icon next to the tag you want to delete.
   A confirmation window will appear.

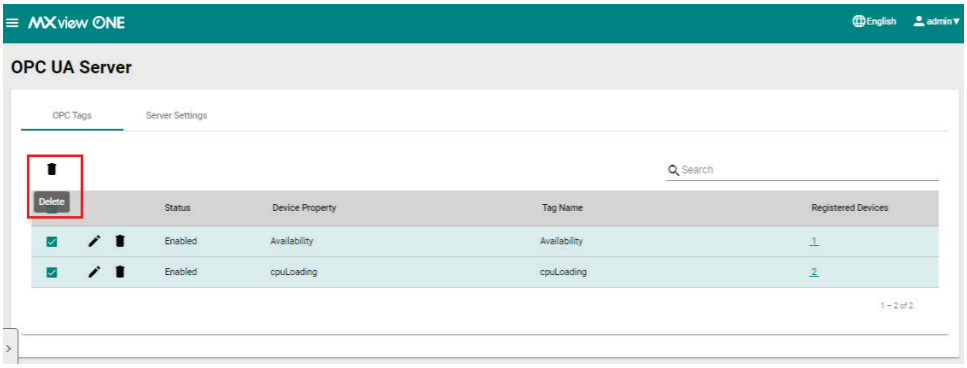


4. Click **Delete**.
   A confirmation will appear to verify the tag was deleted.

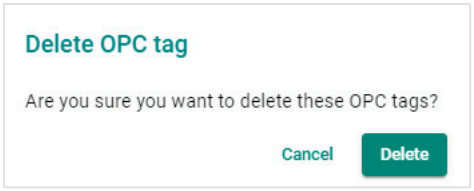


Deleting Multiple OPC Tags

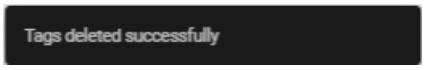
1. Navigate to **Menu (☰) > Integration > OPC UA Server**.
   The **OPC UA Server** screen appears.
2. Go to the **OPC Tags** tab
3. Select the checkbox of the OPC tags you want to delete in the list.
4. Click the **Delete** (🗑) icon at the top of the page.



5. A confirmation window will appear.



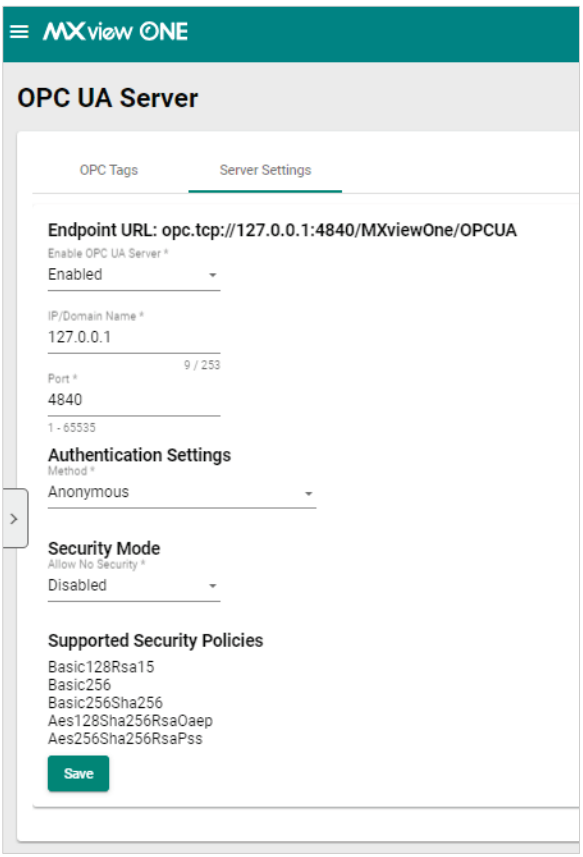
6. Click **Delete**.
   A confirmation will appear to verify the tags were deleted.



Configuring OPC UA Server Settings

1. Navigate to **Menu (☰) > Integration > OPC UA Server**.
   The **OPC UA Server** screen appears.
2. Go to the **Server Settings** tab.
3. Enable the OPC UA server.

4. Configure the following settings:



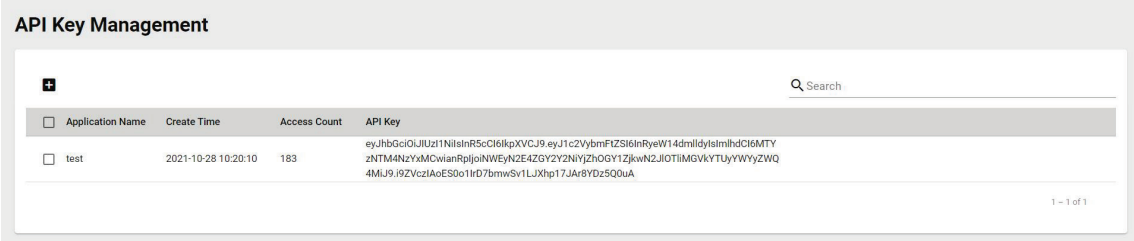
- **IP/Domain Name**: Specify the OPC UA server's IP or domain name.
- **Port**: Enter the server port.
- **Authentication Settings**: Select an authentication method.
  - **Anonymous**: OPC clients can connect to the OPC UA server anonymously without authentication.
  - **Account and Password**: Specify an account and password for OPC clients to connect to the OPC UA server (MXview One).
  - **Certificate**: Authenticate OPC clients using a certificate provided by MXview One Control Panel.
- **Allow No Security**: Enable or disable allowing no security.
  - **Disabled**: The connection requires encryption.
  - **Enabled**: The connection can be established without encryption.

5. Click **Save**.

Managing RESTful API Keys

MXview One supports RESTful APIs for custom integrations with third-party products. Use the **API Key Management** screen to add new applications and generate API keys.

1. Navigate to **Menu** ( ) **> Integration > API Key Management**.
   The **API Key Management** screen will appear.

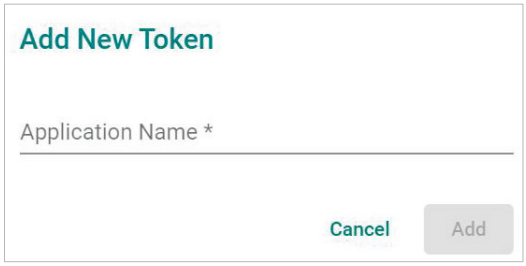


2. (Optional) Search the list of applications, type a string in the search box.

   MXview One filters the list of applications to display only the applications that contain full or partial matching strings.

3. To add a new API key for an application:
   a. Click the **Add** (+) icon in the top left corner of the screen.

      The **Add New Token** screen will appear.



   b. Specify an **Application Name**.
   c. Click **Add**.

      MXview One will add the new application to the **API Key Management** screen and display the generated API key.

4. To regenerate an API key for an existing application:
   a. Select the check box next to the **Application Name**.

      The **Regenerate the API Key** (↻) icon will appear in the top left corner of the screen.

   b. Click the **Regenerate the API Key** (↻) icon.

      MXview One will regenerate the API key for the selected application.

> **NOTE**
>
> Regenerating the API key will prevent any APIs that use the old API key from working properly.

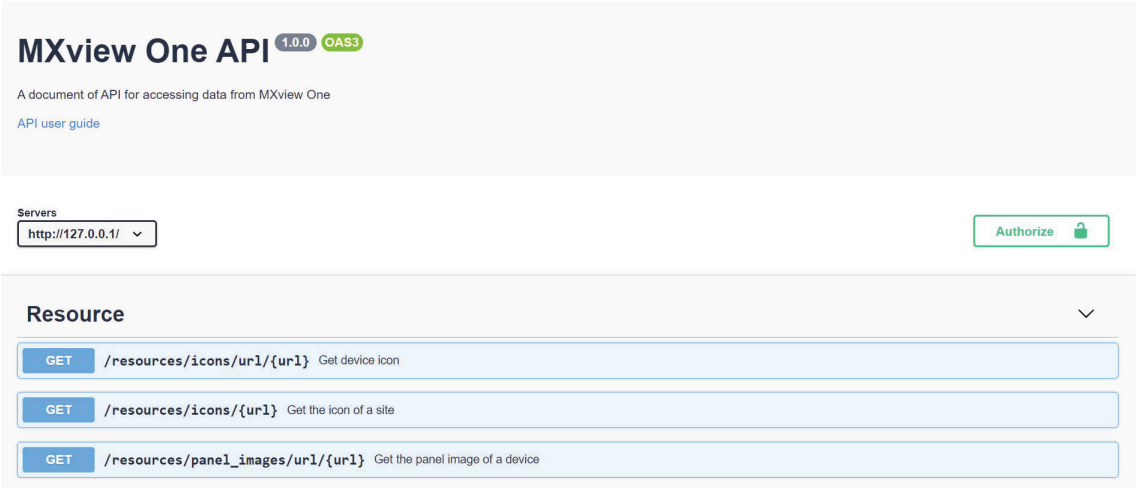
5. To delete an application:
   a. Select the check box next to the **Application Name**.
   b. Click the **Delete** (🗑) icon in the top left corner of the screen.

      MXview One will delete the application.

> **NOTE**
>
> Deleting the application will prevent any APIs that use the old API key from working properly.

6. To view API reference documentation, navigate to **Menu** ( ) **> Help > API Documentation**.

   The **MXview One API** screen will appear and display the reference document for supported MXview One APIs. Click **API user guide** below the MXview One API title, where you can find the guidelines for using the RESTful API functions.



Embedding Web Widgets

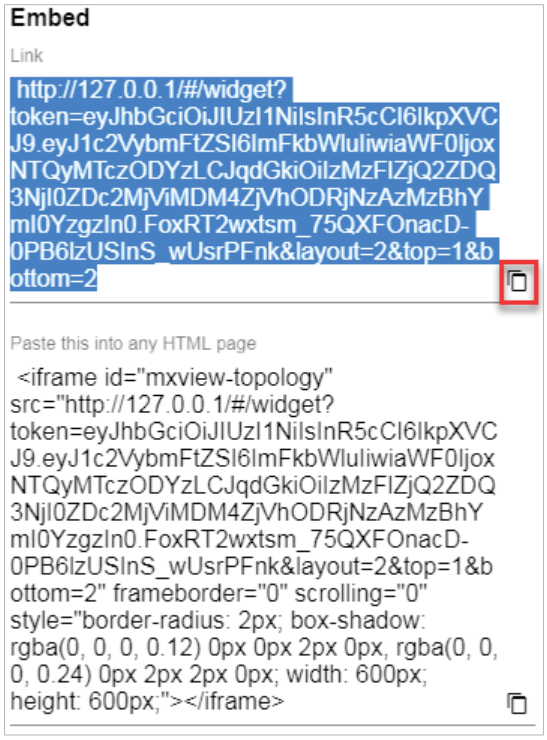
MXview One allows you to embed the Topology Map and Recent Events widgets from the MXview One **Topology** screen in third-party applications.

1. Navigate to **Menu** ( ) **> Integration > Embedded Web Widget**.

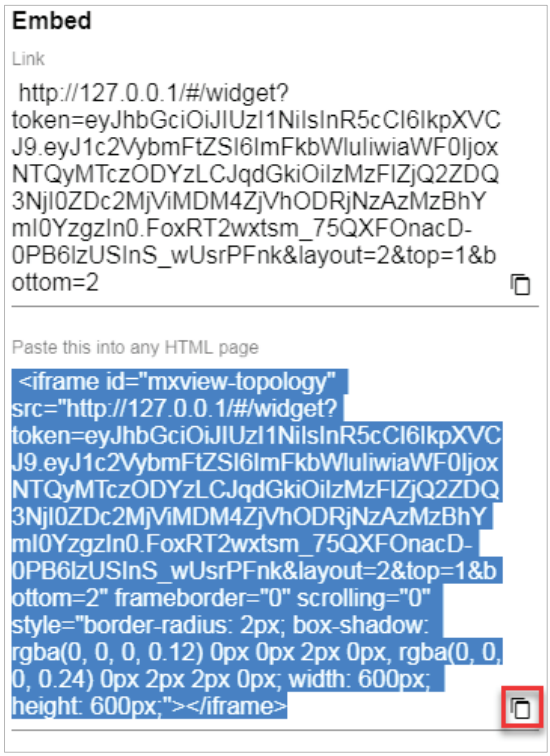
   The **Embedded Web Widget** screen will appear.

2. From the **Select API Key** drop-down list, select the **Application Name** for the API key you want to use.

3. From the **Select Layout** drop-down list, select the widget(s) you want to embed:
   - **Topology and Recent Events:** Embeds both the Topology Map and Recent Events widgets in the target application
   - **Topology:** Embeds only the Topology Map in the target application
   - **Recent event:** Embeds only the Recent Events widget in the target application
4. Copy and paste the widget link for the target application:
   - To embed the widget in a web application, click the **Copy link** (⧉) icon in the **Link** section.



   - To embed the link in a static HTML page, click the **Copy link** (⧉) icon in the **Paste this into any HTML page** section.



18. Wireless Add-on Module

MXview One supports several optional modules that extend the functionality of the main module. These modules require a separate license to use.

Introduction

The MXview One Wireless Add-on Module provides a set of tools to help you monitor and troubleshoot your wireless network through MXview One and supports up to a total of 200 wireless APs and clients. The add-on gives you clear, real-time information about the status of your wireless network including the client roaming status and key wireless performance indicators such as SNR and noise level. The wireless module also instantly notifies you of any problems with your wireless devices and helps you narrow down the root cause of the problem, allowing for quick and easy troubleshooting.

System Requirements

The computer that the MXview One Wireless Add-on Module is installed on must satisfy the following system requirements based on the maximum capacity of 200 wireless APs and clients:

	System Requirements
CPU	2 GHz or faster dual core CPU
RAM	8 GB or higher
Hard Disk Space	20 to 30 GB for 1 month of performance and event history recording
OS	Windows 10 (64-bit) Windows 11 (64-bit) Windows Server 2016 (64-bit) Windows Server 2019 (64-bit)
Browser Requirements	Chrome: Version 76 or later Firefox: Version 69 or later Microsoft Edge: Version 79 or later

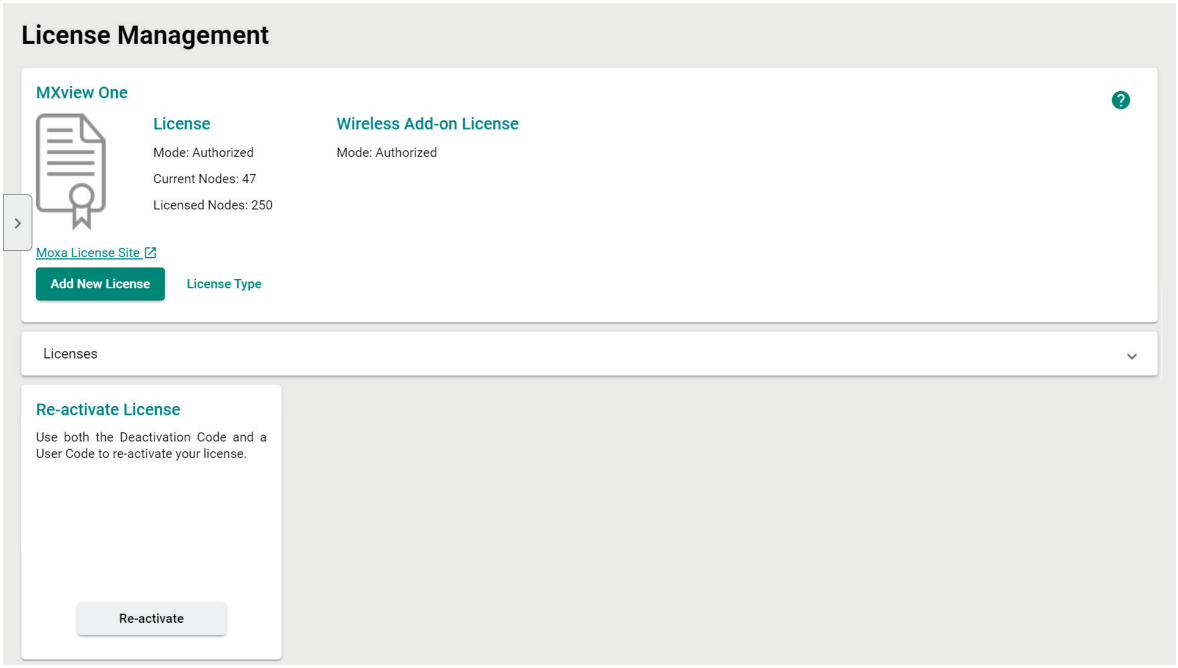
Supported Devices

The MXview One Wireless Add-on Module supports the following wireless devices:

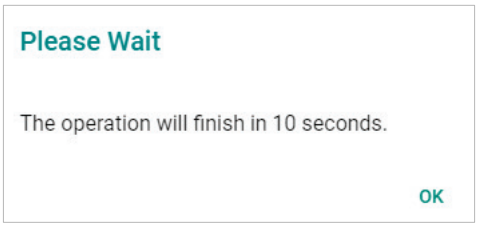
- AWK-1131A Series (firmware v1.22 or higher)
- AWK-1137C Series (firmware v1.6 or higher)
- AWK-1151C Series (firmware v2.0 or higher)
- AWK-1161A Series (firmware v1.0 or higher)
- AWK-1161C Series (firmware v1.0 or higher)
- AWK-1165A Series (firmware v1.0 or higher)
- AWK-1165C Series (firmware v1.0 or higher)
- AWK-3131A Series (firmware v1.16 or higher)
- AWK-3252A Series (firmware v2.0 or higher)
- AWK-4131A Series (firmware v1.16 or higher)
- AWK-4252A Series (firmware v2.0 or higher)

Getting Started With the Wireless Add-on Module

In order to use the MXview One Wireless Add-on module, you will need to activate it first. You can choose to activate a new license, or enable the wireless 90-Day free trial through the license management page.



The system will automatically restart after you activate the module. A message will appear telling you to wait 10 seconds while the module activates. Once done, click **OK** to refresh your browser and enable the Wireless Add-on features.



- For detailed information on how to activate the MXview One Wireless Add-on Module, refer to **License Management**.
- To add wireless devices to your MXview One network, refer to **Using Device Discovery**.

NOTE

Please activate the Node-based License first and then the Wireless Add-on License.

Wireless Module Features

The MXview One Wireless Add-on Module offers a set of features specifically designed to help you monitor and troubleshoot your wireless network more easily.

Main Dashboard

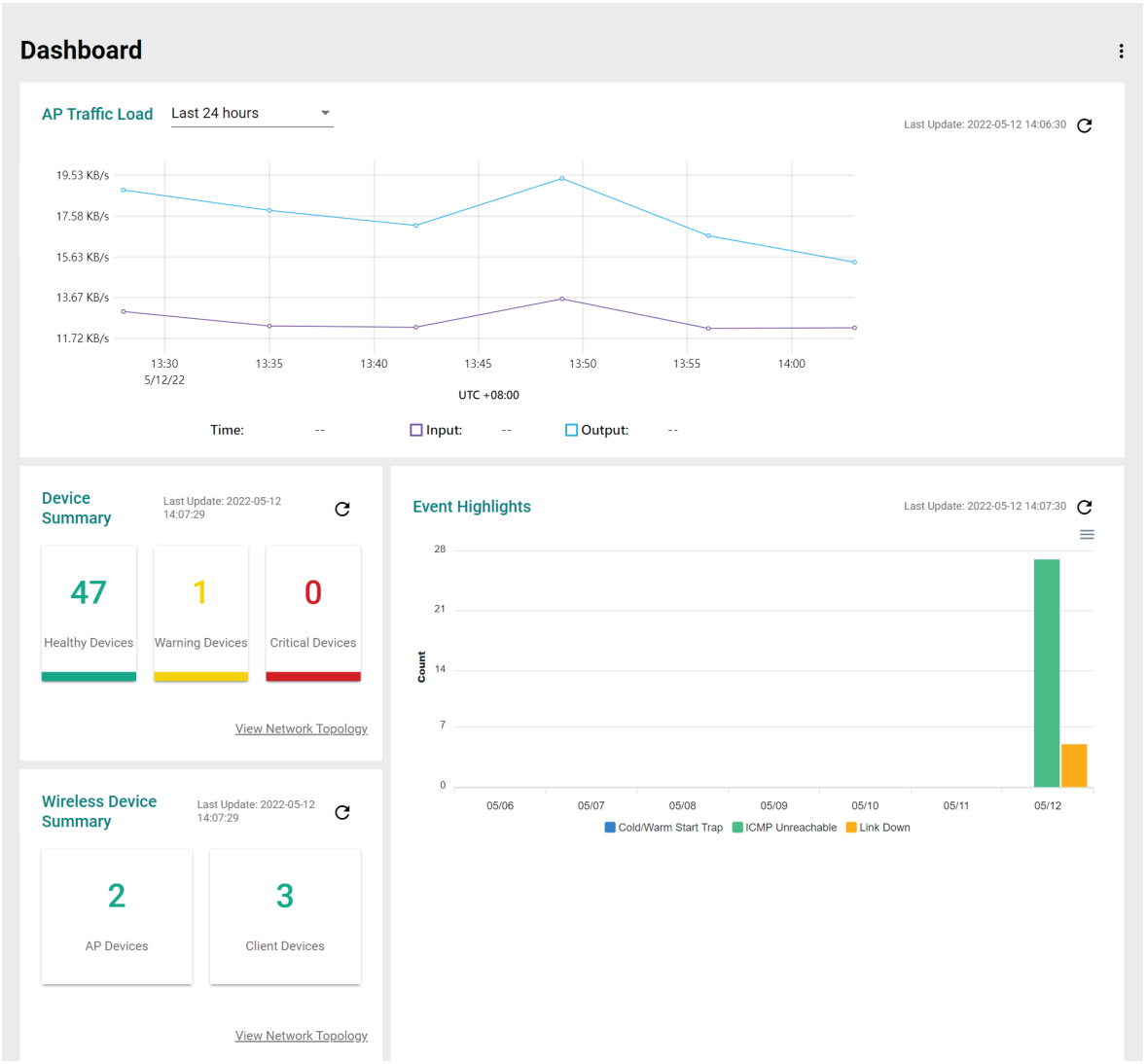
If the wireless module is activated, the MXview One Dashboard will show two additional types of information: AP Traffic load and the Wireless Device Summary.

The AP Traffic Load graph shows the aggregated traffic of all the AP devices monitored by MXview One. You can select a specific time to check the wireless network status at that time. MXview One provides three time sections: **Last 24 hours, Last week,** and **Last 2 weeks**.

The Wireless Device Summary shows the number of deployed wireless devices. Clicking one of the cards will direct you to the Wireless Device Summary screen where you can find more detailed information about the wireless devices. Refer to Chapter 5: **Dashboard Widgets** for more information about the other cards on the dashboard.

To access the Dashboard, navigate to **Menu** ( ) **> Dashboard**.

To refresh the data displayed in all the widgets, click the **Settings** ( ) icon in the top-right corner of the screen and select **Refresh All**.



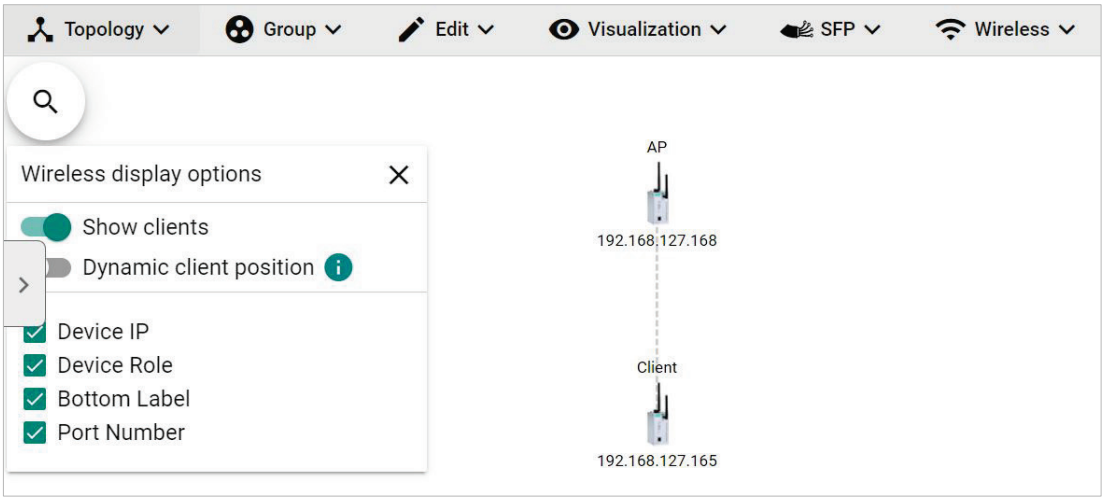
Dynamic Wireless Client Roaming

The MXview One Wireless Add-on Module features dynamic wireless roaming display, which updates roaming connections of wireless clients in real-time. Instead of using LLDP data to draw links between devices, MXview One uses both the client list data from the wireless AP and AP data from the wireless client to detect wireless roaming changes.

To enable the dynamic wireless client roaming function, toggle the **Dynamic client position** option. In this mode, wireless clients will automatically move below the AP they connect to when roaming. The link between the client and AP on the topology will also change dynamically if the client connects to another AP.

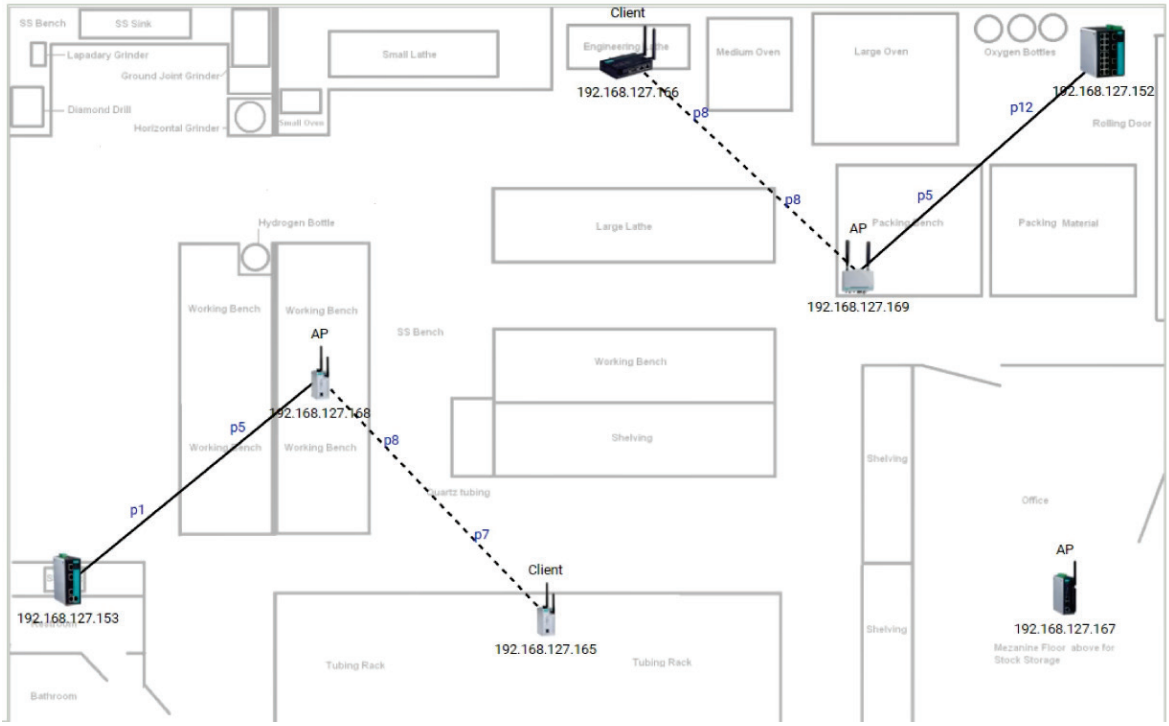
Refer to the table below for a description of each display option.

Option	Description
Show clients	Toggle this option on or off to show or hide wireless clients on the topology
Dynamic client position	Enable this option to have wireless clients move to a position close to the AP they are associated with Disabling this option will return the clients to their original position

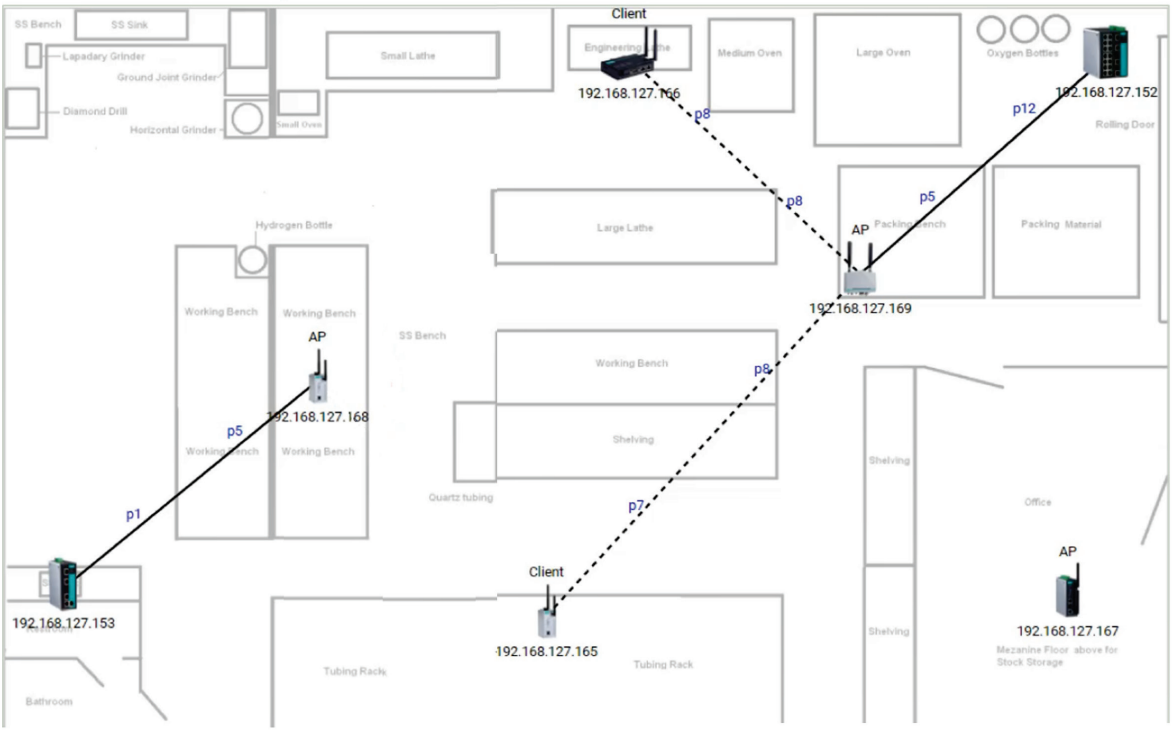


The following diagrams are an example of the dynamic roaming display showing dynamic client-AP link changes.

In the first scenario there are two wireless APs that each have one client connected to it.



When the client roams to another AP, MXview One will automatically redraw the link to the new AP on the wireless topology diagram.

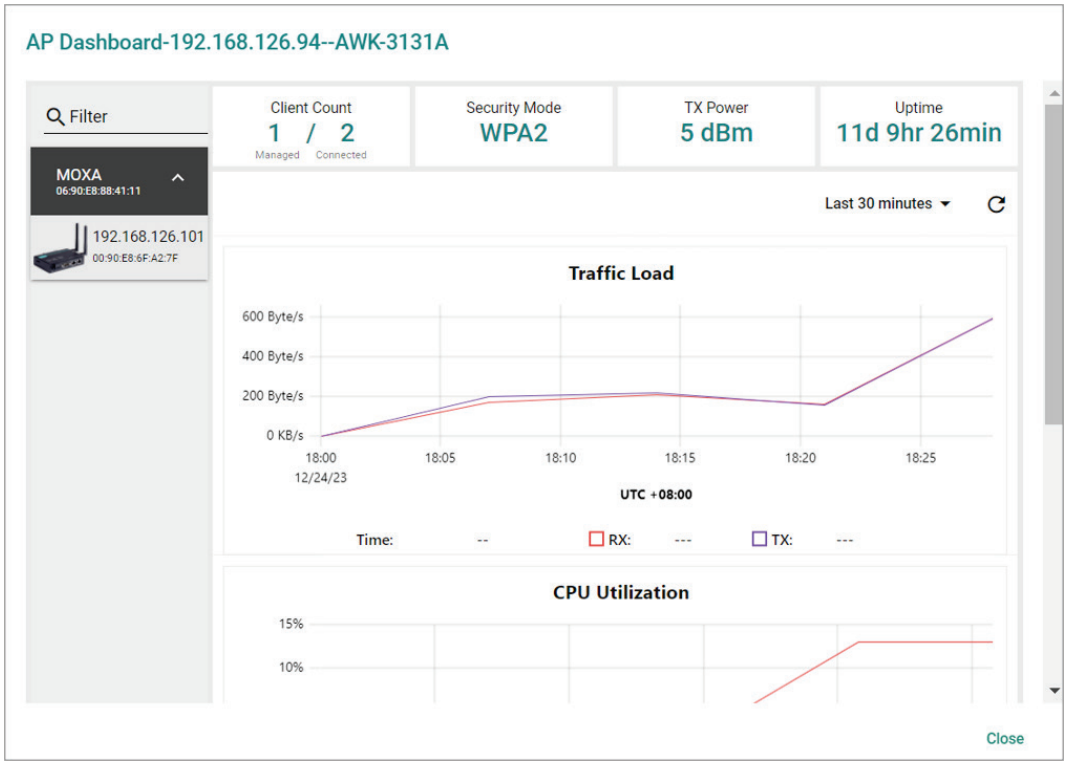


AP/Client Device Dashboard

Use the **AP/Client Device Dashboard** screens to see detailed information and performance statistics of the client or AP.

To access the AP/Client Device Dashboard, click on any wireless AP or client device's icon on the topology diagram and click **Device Dashboard** in the toolbar.

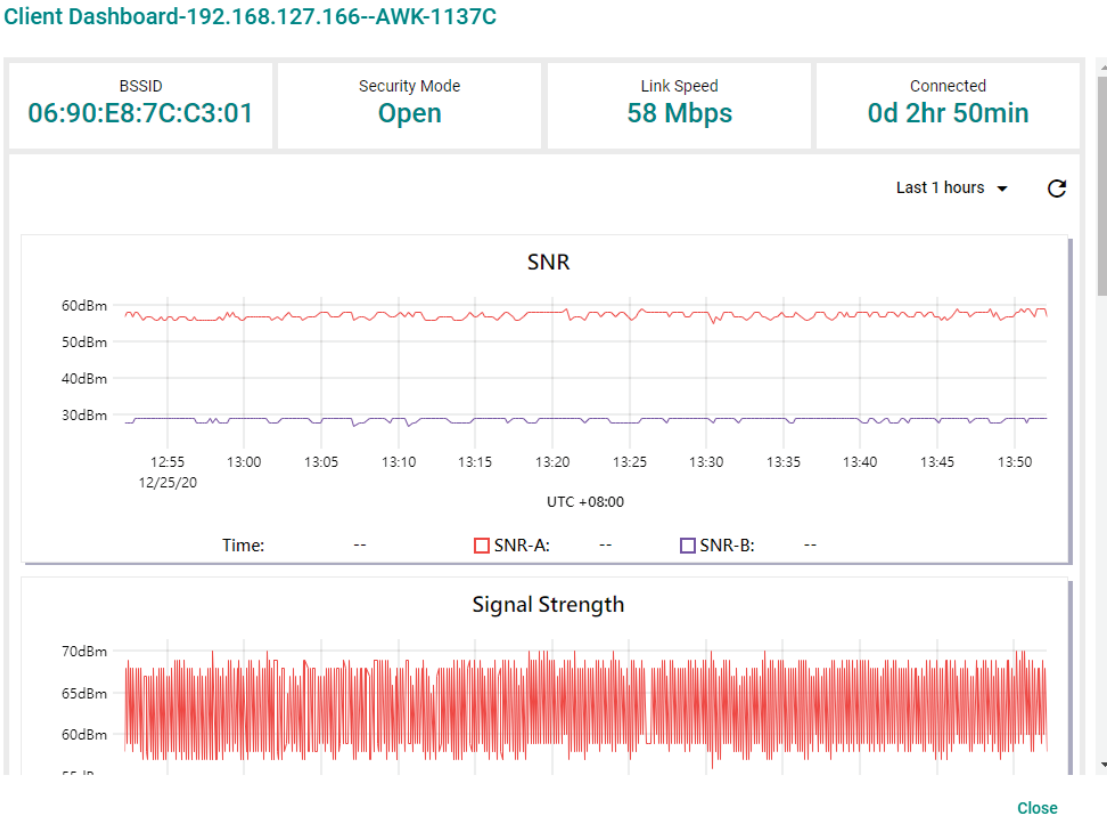
AP Device Dashboard



The AP Device Dashboard shows the following information:

Parameter	Description	
Client Count	Managed	The total number of wireless clients connected to this AP that are managed by MXview One
	Connected	The total number of wireless clients that are connected to this AP
Security Mode	The Security Mode of the AP: Open, WEP, WPA, or WPA2	
TX Power	The current transmission power of the AP	
Uptime	The total time the wireless AP has been online since the last restart	
Traffic Load	The current and historical traffic throughput of the wireless interface	
CPU Utilization	The current and historical CPU utilization of the AP (only supported by certain firmware versions)	
Memory Utilization	The current and historical memory utilization of the AP (only supported by certain firmware versions)	

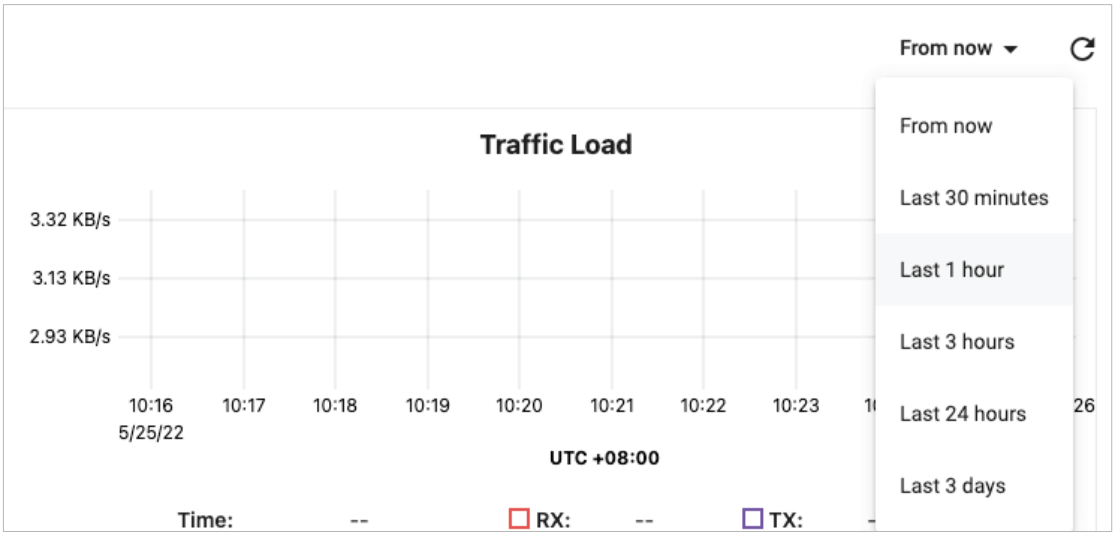
Client Device Dashboard



The Client Device Dashboard shows the following information:

Parameter	Description
BSSID	The BSSID of the wireless AP the client is connected to
Security Mode	The Security Mode of the client: Open, WEP, WPA, or WPA2
Link Speed	The real-time bandwidth of the connection to the AP
Connected	The total time the wireless client has been connected to the AP
SNR	The current and historical Signal-to-Noise ratio of the client If the wireless device has multiple antennas, the SNR of each antenna will be separately shown as SNR-A and SNR-B
Signal Strength	The current and historical signal strength of the client
Noise Floor	The current and historical noise floor of the client
Traffic Load	The current and historical traffic throughput of the wireless interface
CPU Utilization	The current and historical CPU utilization of the client (only supported by certain firmware versions)
Memory Utilization	The current and historical memory utilization of the client (only supported by certain firmware versions)

You can view the device diagnostics and usage parameters in real-time or recall the history for up to the last 3 days from the drop-down menu in the top-right. You can zoom in on the timeline to examine a narrower time period. Double-click the timeline to return to the original view.

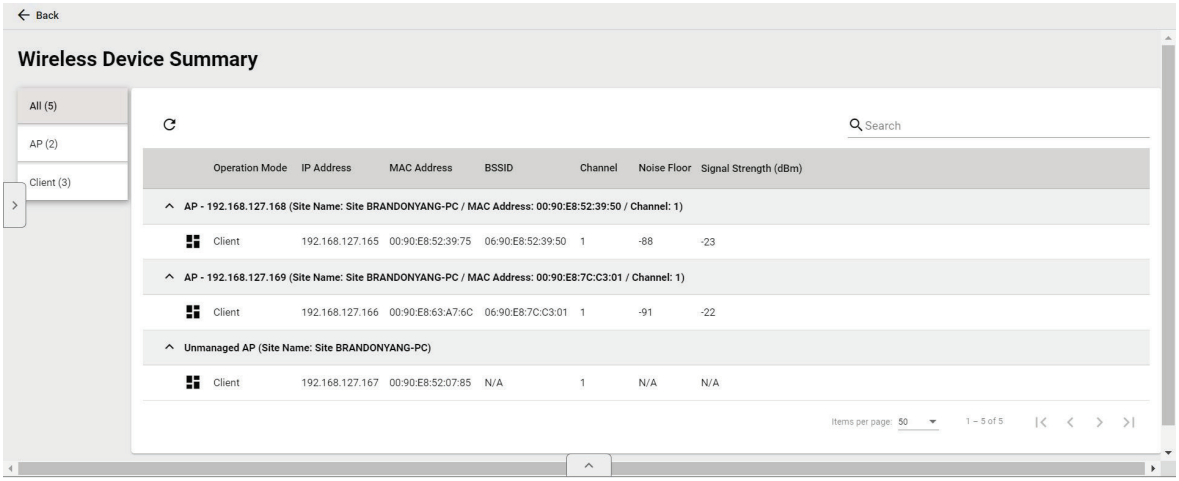


Wireless Device Summary

The Wireless Device Summary screen provides detailed information about all the AP and client devices including the device's IP and MAC address, operation mode, and current signal strength.

To access the Wireless Device Summary screen, expand the **Wireless** ( ) menu in the toolbar and click **Wireless Device Summary**.

Click **Back** in the top-left corner to return to the topology view.

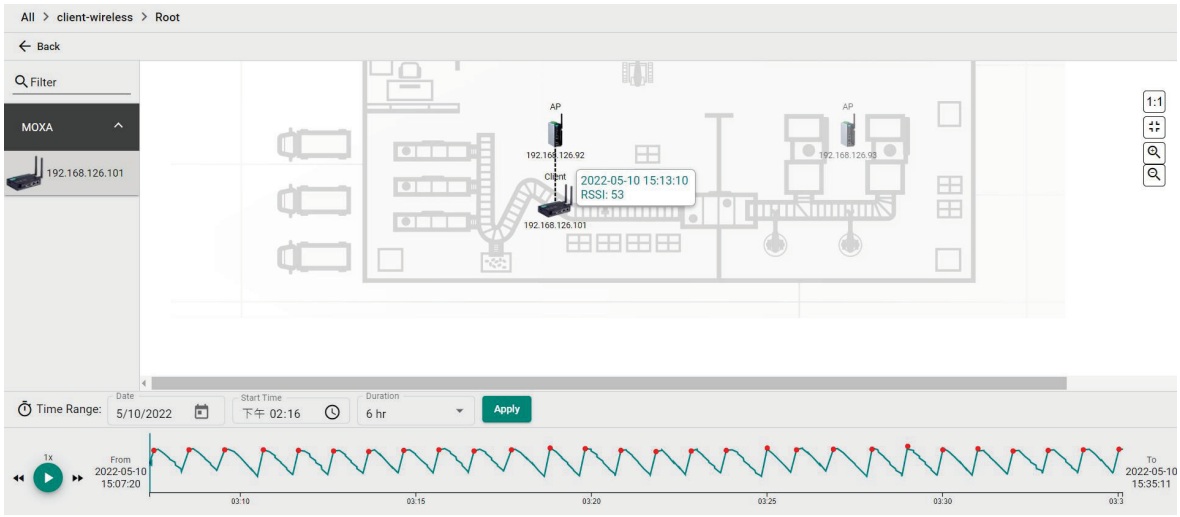


Wireless Roaming Playback

Through the Wireless Roaming Playback screen, you can recall the roaming history of a specific client. By default, MXview One will keep the roaming playback data for 30 days.

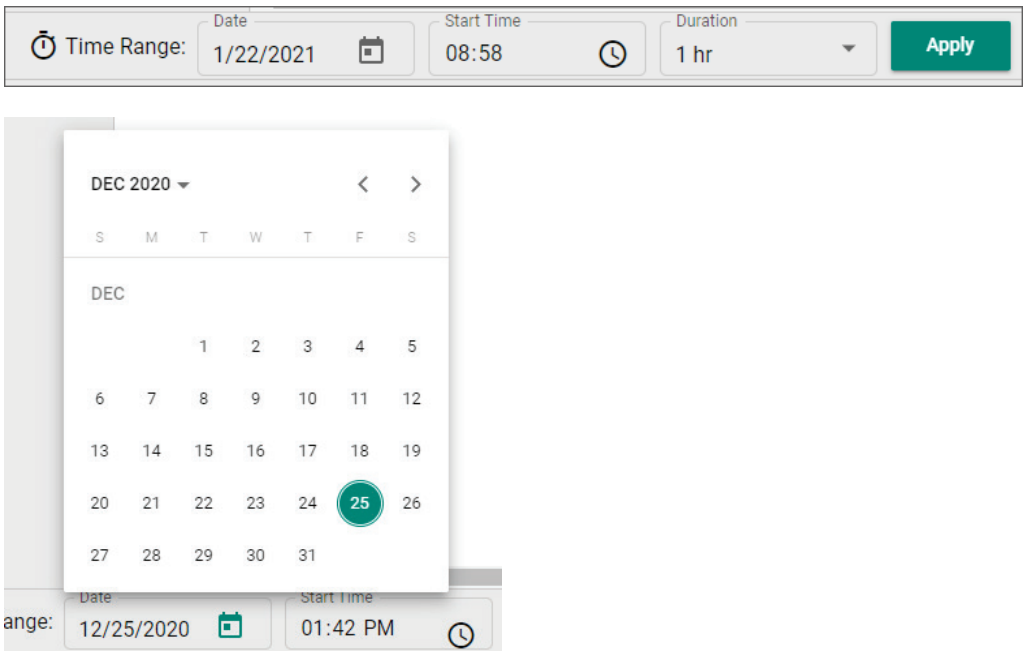
To access the Wireless Roaming Playback screen, expand the **Wireless** ( ) menu in the toolbar and click **Wireless Roaming Playback**.

Click **Back** in the top-left corner to return to the topology view.

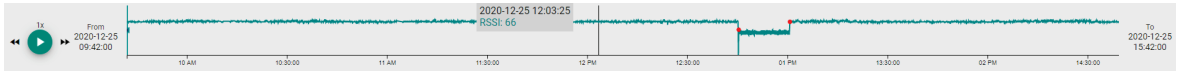


On the left-hand side is a list of wireless clients, in the center is the topology map, and located at the bottom is the playback progress bar. Select any client from the list and click **Play** ( ) to start playing the wireless roaming history for the selected time range. You can adjust the playback speed by clicking the **Decrease Speed** ( ) or **Increase Speed** ( ) button to increase or decrease the playback speed respectively.

To view the history for a specific time and date, click ( ) to choose the starting date, set the time in the Start Time field, select the duration of the playback history from the Duration drop-down menu, and click **Apply**.



The progress bar also displays the RSSI value at the time. In addition, the red dots indicate the time when the wireless client roamed to a different AP. You can zoom in on the timeline to examine a narrower time period. Click **Apply** to return to the original view.



19. Power Add-on Module

MXview One supports several optional modules that extend the functionality of the main module. These modules require a separate license to use.

Introduction

The MXview Power Add-on Module provides a set of features to help you monitor and troubleshoot your power substation network that follows the IEC 61850 standard and supports switches that have the PRP/HSR function with deep visualization. To monitor the IED (Intelligent Electronic Device), which is an important device that can receive data and issue commands on the network, MXview Power supports the MMS protocol to view and provide the status of the IED. Furthermore, there is a critical packet called GOOSE in power substation networks, and MXview Power can also help customers troubleshoot GOOSE events such as GOOSE Timeout and GOOSE Tampered. The power module instantly notifies you of any problems with your power devices and helps you narrow down the root cause of the problem, allowing for quick and easy troubleshooting.

System Requirements

The computer that the MXview Power Add-on Module is installed on must satisfy the same system requirements as those required for MXview One. See **System Requirements** in Chapter 1 for more information.

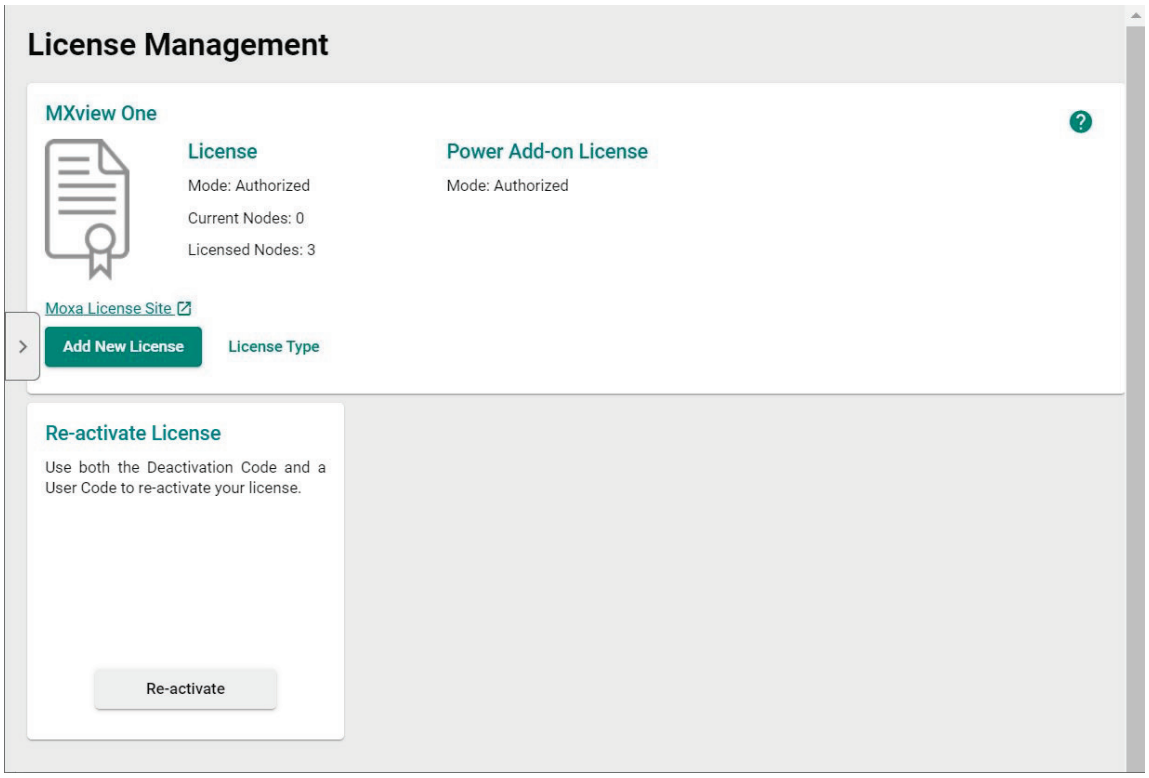
Supported Devices With PRP/HSR Features

PRP/HSR features can be visualized with the devices that support PRP/HSR functions or have a PRP/HSR module.

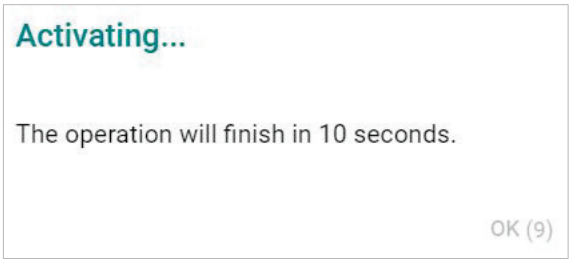
- PT-G503 Series (firmware v5.1 or higher)
- PT-G510 Series (firmware v6.4 or higher)
- PT-G7728/G7828 Series and LM-7000H-2GPHR module (firmware v6.2 or higher)
- DA-820C Series and DN-PRP-HSR-I210 or DA-PRP-HSR-I210 (OS Win 10 or higher)

Getting Started With the Power Add-on Module

In order to use the MXview Power Add-on module, you will need to activate it first. You can choose to activate a new license or enable the Power 90-day free version through the License Management page.



The system will automatically restart after you activate the module. A message will appear telling you to wait 10 seconds while the module activates. Once done, click **OK** to refresh your browser and enable the Power Add-on features.



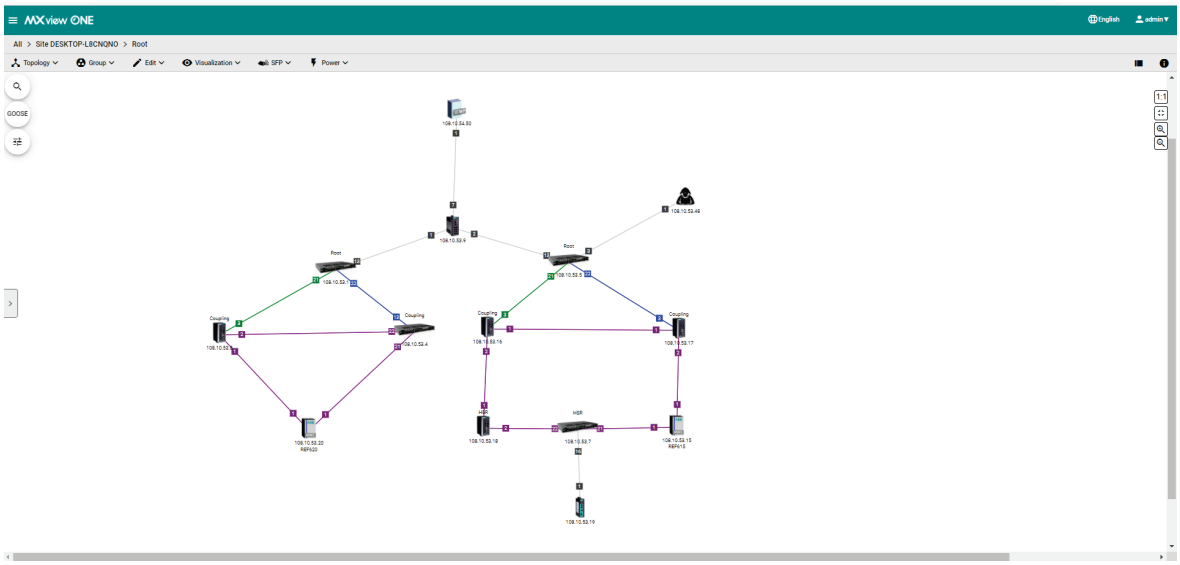
- For detailed information on how to activate the MXview Power Add-on Module, refer to **Chapter 4: License Management**.
- To add power devices to your MXview One network, refer to **Using Device Discovery**.

NOTE

Please activate the Node-based License and then the Power Add-on License.

Power Module Features

The MXview Power Add-on Module offers a set of features specifically designed to help you monitor and troubleshoot your power substation network more easily.



Topology

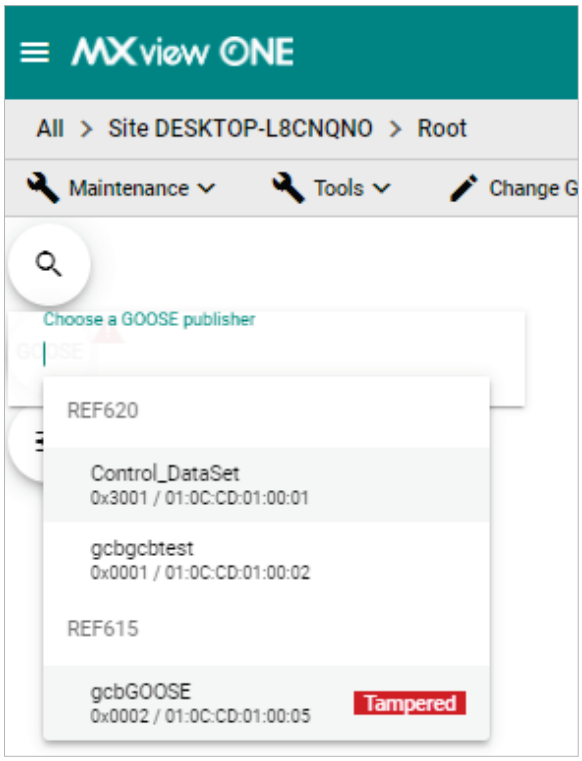
After you enable the MXview Power add-on module, you will see the panel has changed on the left hand-side.

GOOSE panel

1. Before you import the SCD file, the GOOSE panel will be displayed in light gray. At this point, it has limited functionality.

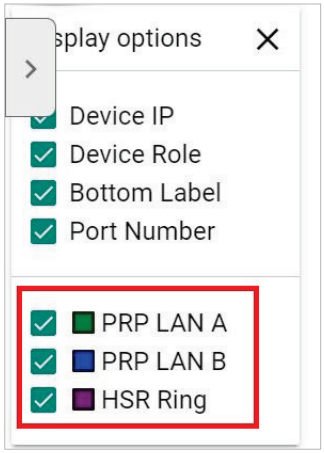
2. Once you have imported the SCD file via **Power > Import SCD**, you can find the IED as a GOOSE publisher identity via the GOOSE panel.
   a. Click **GOOSE panel**.

b. Scroll down or type the GOOSE-related information, such as IED name or GoCB name.



Display Options

1. Once you have activated the MXview Power add-on module, you can see the display options include extra functions such as PRP LAN A, PRP LAN B, and HSR Ring.
2. If the box is checked, you can see the color of the link for the PRP/HSR on the topology. If you uncheck the box, then the link will not display the color for the PRP/HSR function.



NOTE

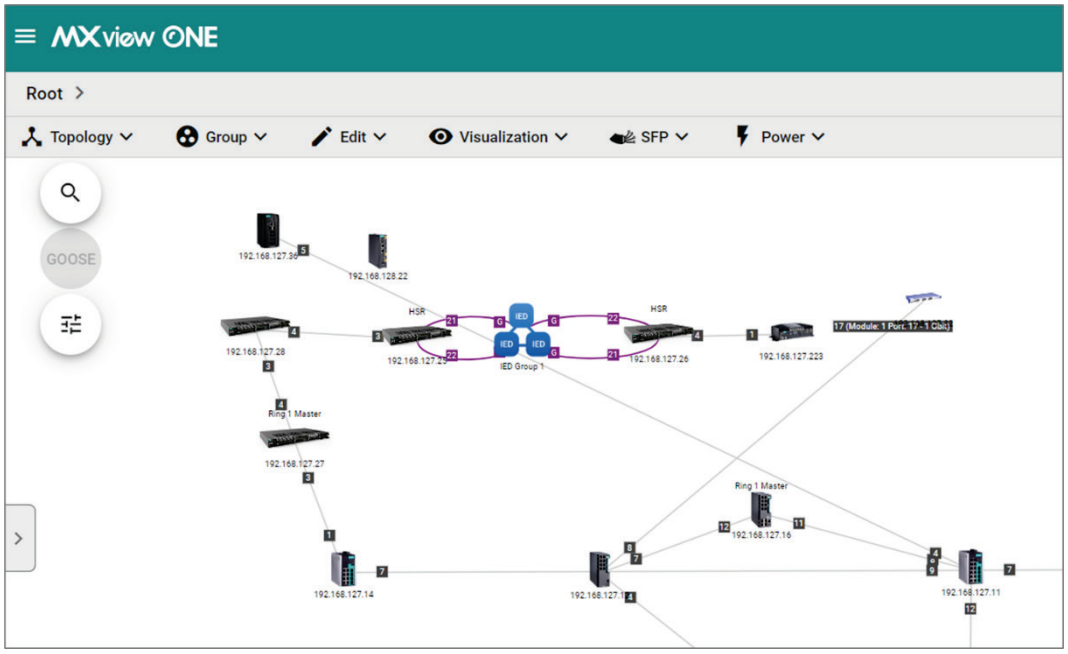
PRP LAN A is represented by a green line, PRP LAN B by a blue line, and HSR Ring by a purple line.

NOTE

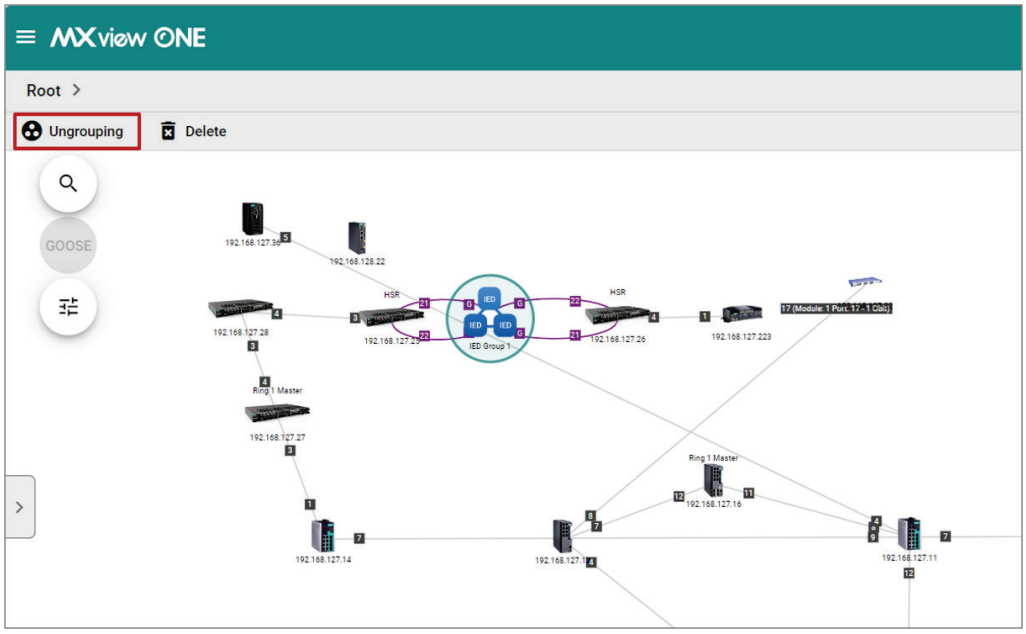
MXview One cannot guarantee that it can draw the link of the topology for non LLDP devices, such as an IED device. However, you can draw the link of the topology manually by clicking **Add Link**.

Ungrouping an IED Group

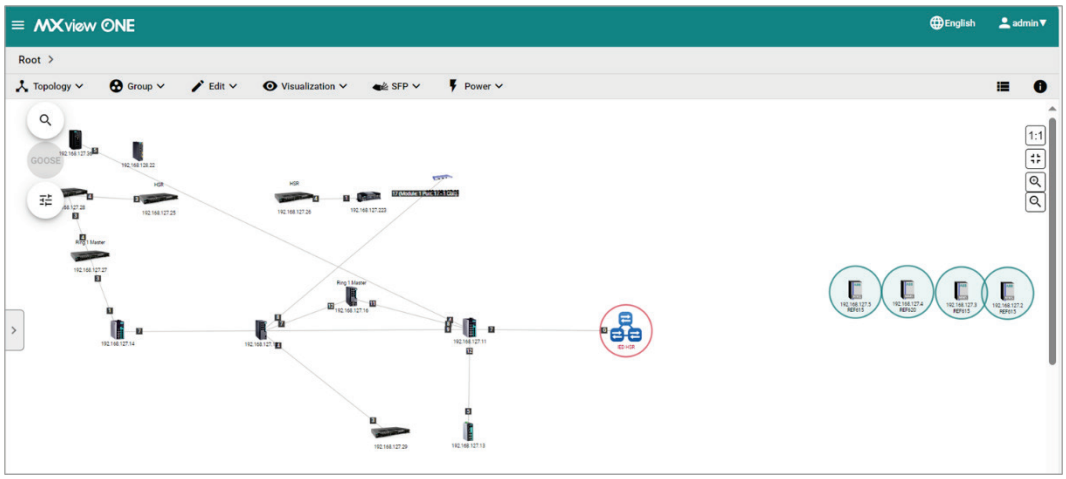
After executing the **Auto Topology** function, MXview One will automatically group the IEDs within the same HSR ring into an IED Group and represent the HSR link with a purple line. If you want to display the IEDs within the Root group or display GOOSE Message information in the topology, you can use the **Ungrouping** function.



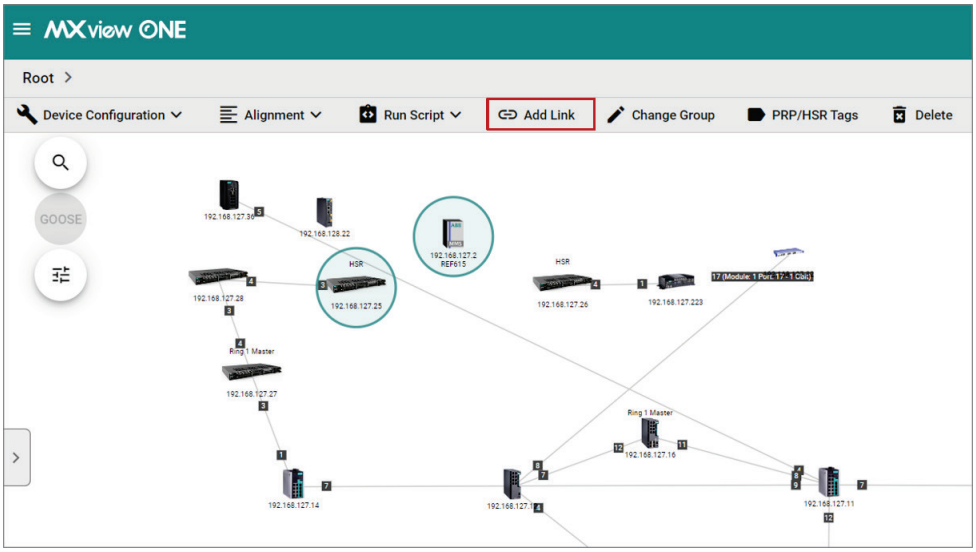
1. Navigate to **Menu** ( ) **> Topology**
   The **Topology** screen will appear and display the Topology Map by default.
2. Click on the IED group in the topology that you want to ungroup.
3. Click **Ungrouping**.



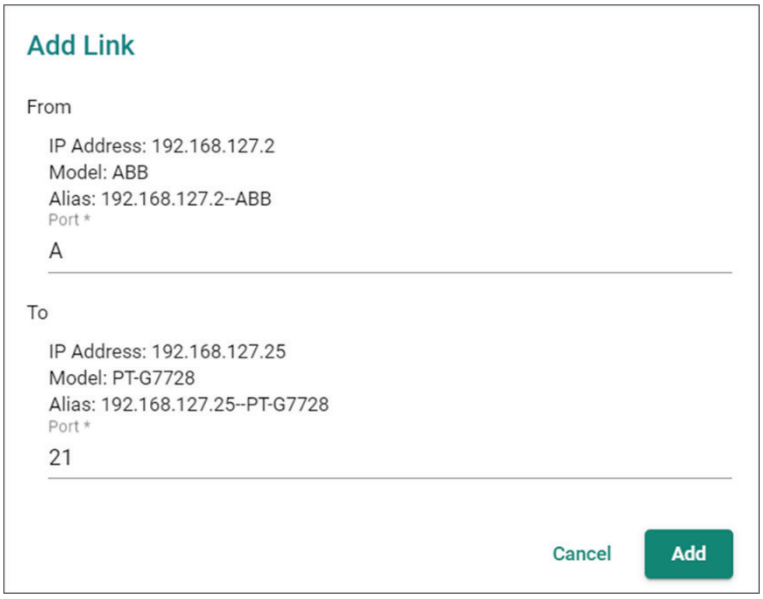
4. After ungrouping an IED group, the individual IEDs will be shown on the right-hand side of the topology.



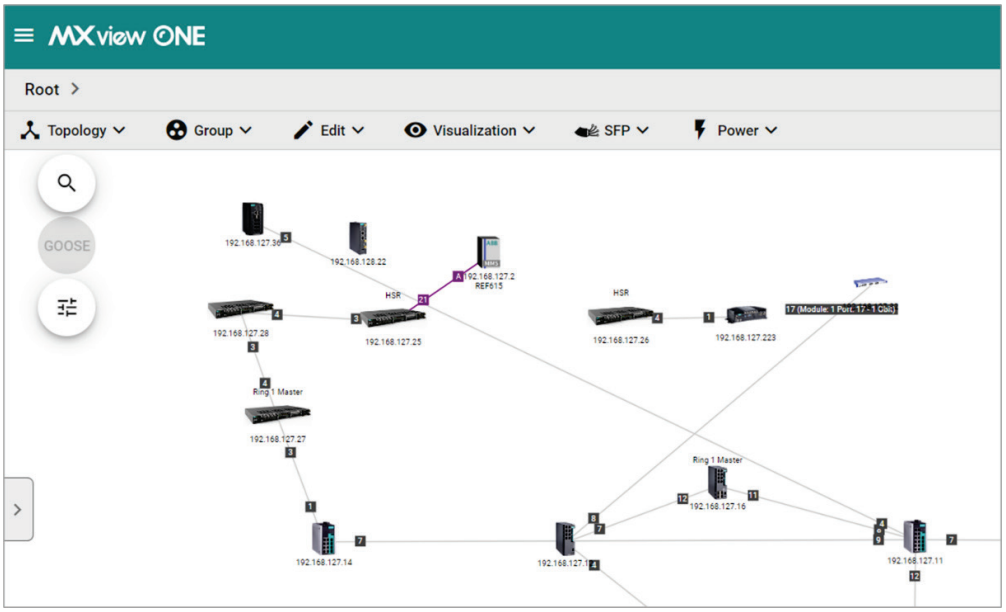
5. Align the network connections for each IED.
   a. Drag and move the IEDs to their appropriate position in the topology.
   b. Select the devices to draw a connection between and click **Add Link**.
   The **Add Link** screen will appear.



c. Specify the device port number. You can set the port number to non-numerical mode (e.g., A, B) on the IED side.



d. Click **Add**. MXview One will draw the connection on the topology.

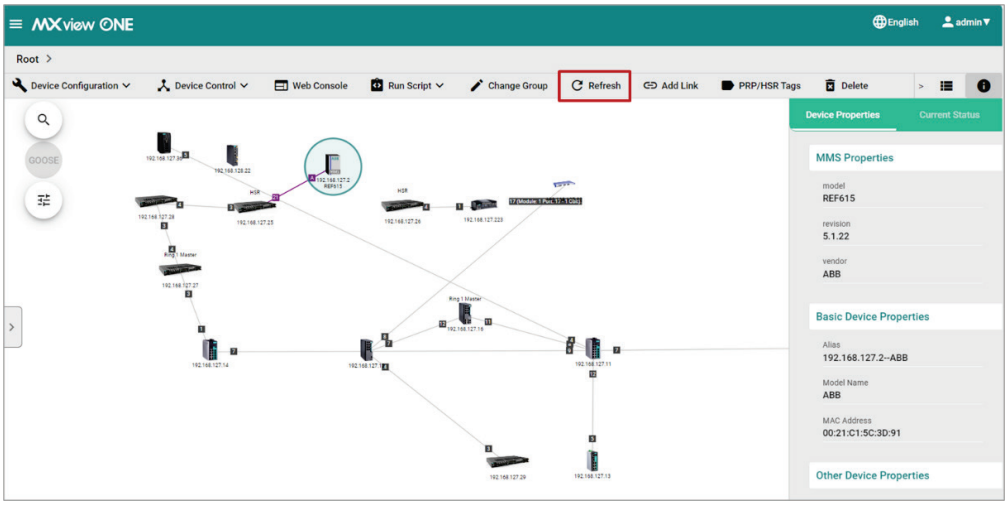


e. Repeat this process for any other remaining IED connections.

6. (**Optional**) Refresh the IED information.

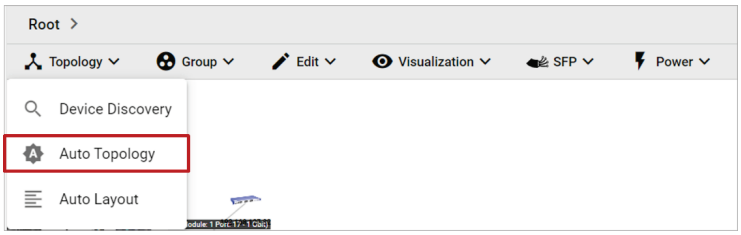
a. Select one or multiple IEDs.

b. Click **Refresh**. MXview One will retrieve the latest information from the IED.

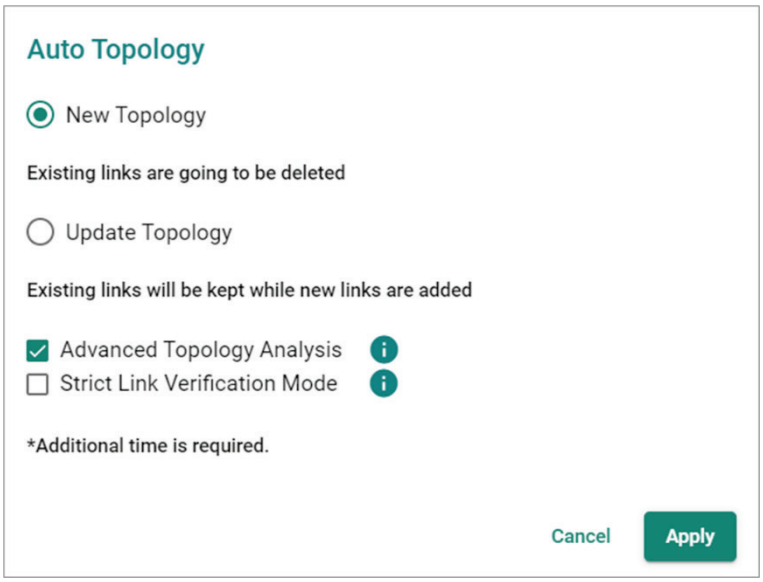


7. (**Optional**) Restore the original IED group.

a. Go to **Topology > Auto Topology**.
The **Auto Topology** screen will appear.



b. Select **New Topology** or **Update Topology**.



c. Click **Apply**.
MXview One will restore the topology and IED group to their original state.

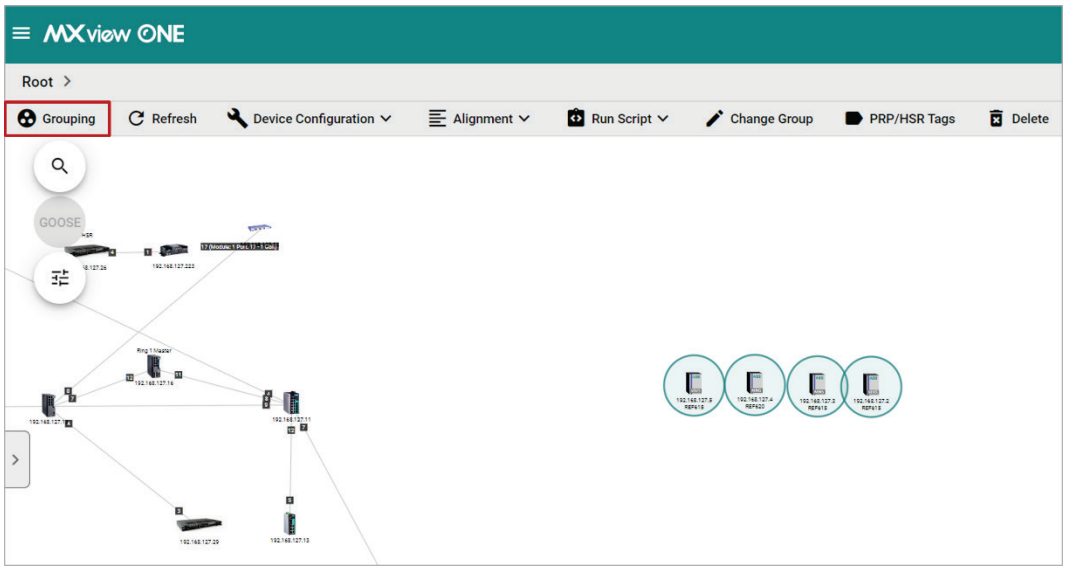
NOTE

To display GOOSE Message information on the topology, you must first ungroup the IED group, manually draw the links between the IEDs, and import the SCD file.

Creating an IED Group

Using the **Grouping** function, you can assign multiple IEDs on the topology to a single IED group.

1. Navigate to **Menu** ( ) **> Topology**
   The **Topology** screen will appear and display the Topology Map by default.
2. Select the IEDs in the topology that you want to group together.
3. Click **Grouping**.



4. MXview One will combine the selected IEDs together and show them as a single group on the topology. To ungroup an IED group, refer to Ungrouping an IED Group.

Import SCD

The SCD (Substation Configuration Description) file includes the information of the critical packet – GOOSE message in the network. To visualize the GOOSE message flow in MXview Power, the user has to import the SCD file.

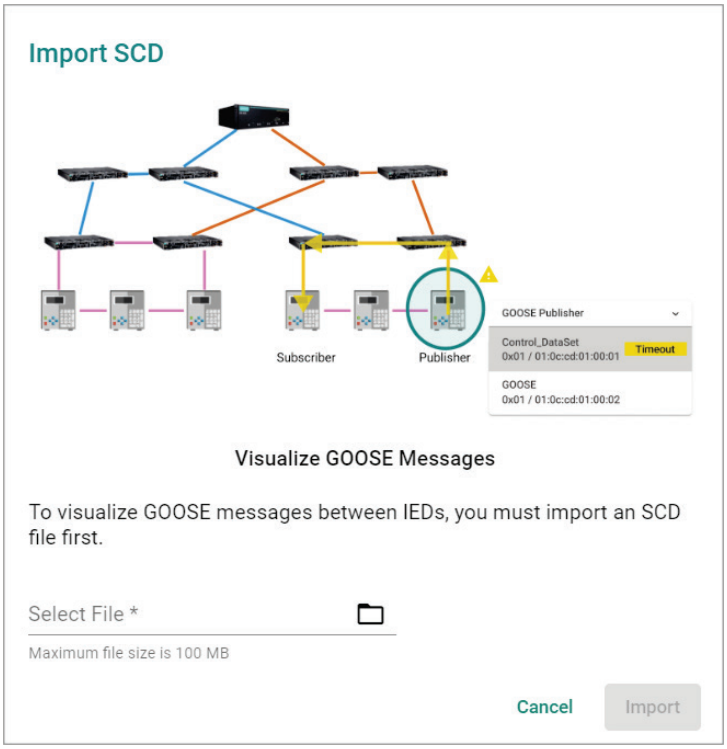
1. Navigate to **Menu** ( ) **> Topology**

   The **Topology** screen will appear and display the Topology Map by default.

2. To import the SCD file to the Topology Map:

   a. Click **Power > Import SCD**.

   The **Import SCD** screen will appear.

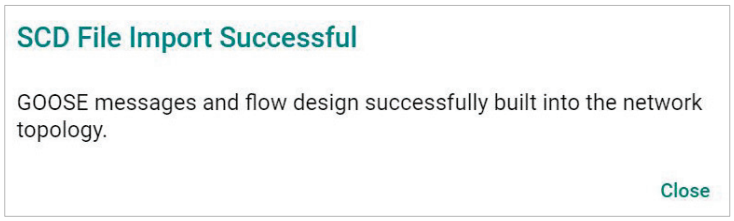


   b. Upload the SCD file by clicking the **File** ( ) icon. The file size must be less than 100 MB.

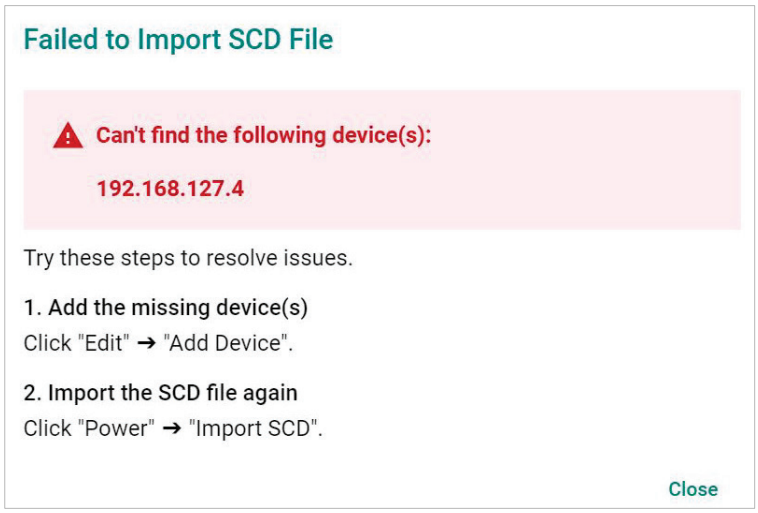
3. Click **Import**.

4. MXview Power will import the uploaded SCD file into the Topology Map.

   If the SCD file is correct, the user will see the message below.



If the SCD file content cannot find the devices in the Topology, then MXview Power will display the missing devices and provide the steps for the user to resolve the problem.

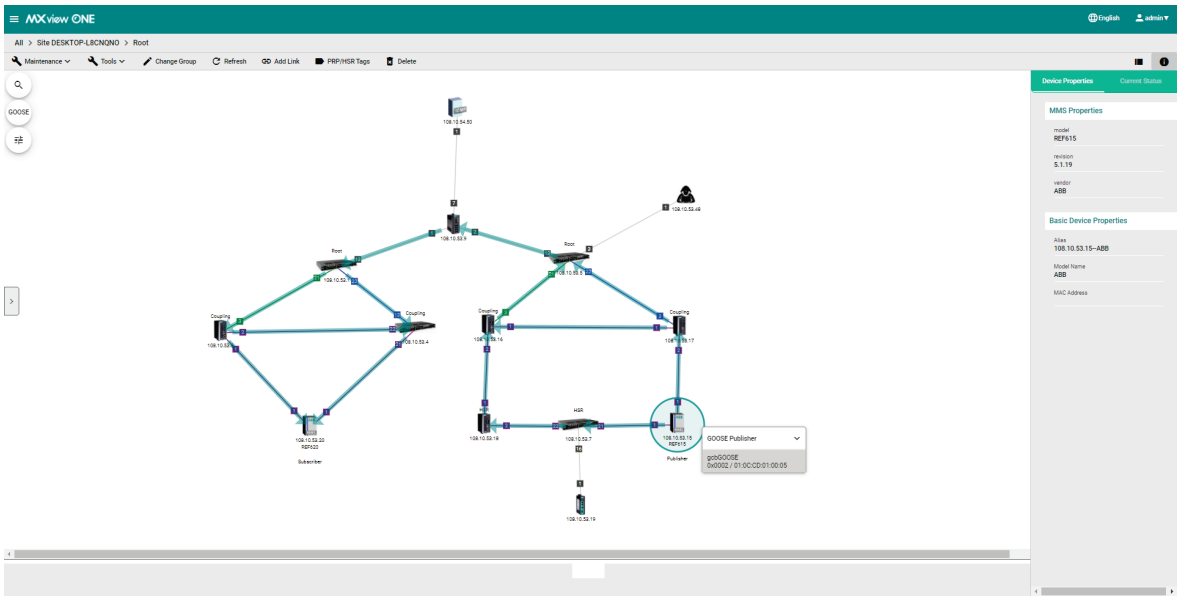


GOOSE Message

MXview Power can display the GOOSE Message information on the Topology or in the IED Device Property panel by importing the SCD file. Moxa's PT switch, which was specifically designed for use in power substation systems, can detect GOOSE events. MXview Power can collect the GOOSE events and alert users when there is something wrong. Users can follow the step-by-step guidelines to solve the GOOSE events.

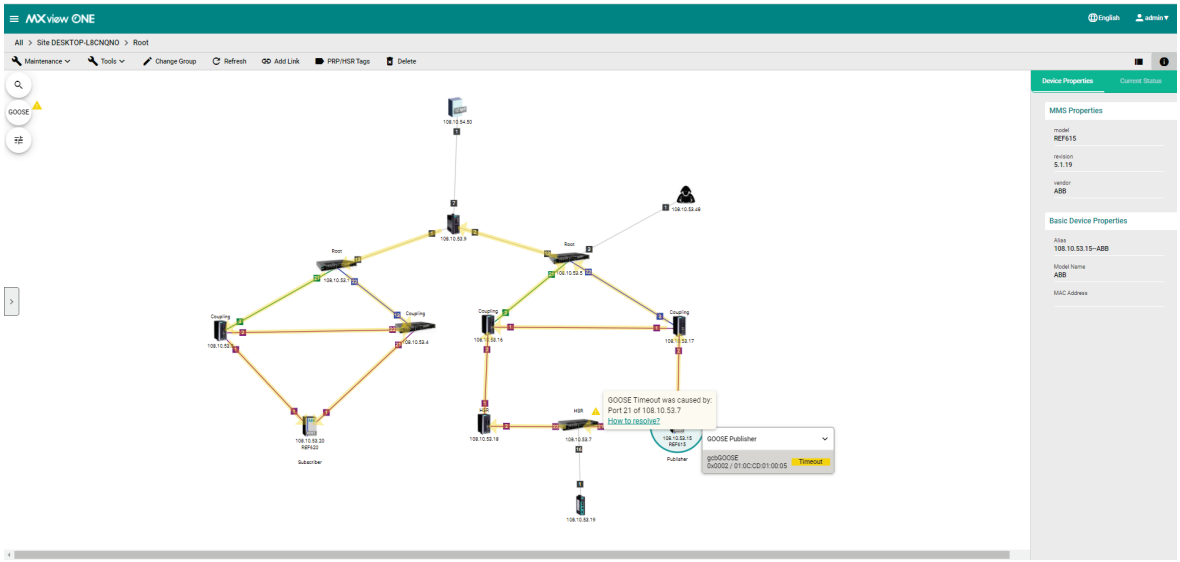
GOOSE Flow

There are two roles for IED device(s): Subscriber and Publisher. The topology displays the flow of the GOOSE packet, which starts from the Publisher and ends at the Subscriber. The route you see on the GOOSE flow is not the completed GOOSE packet publishing direction. The purpose of displaying the GOOSE flow is to troubleshoot the path of the GOOSE packet for certain cases such as a GOOSE event (e.g. GOOSE Timeout, GOOSE Tampered), a device malfunction, or a link going down. The GOOSE flow will show the path the packet took to enable faster troubleshooting and minimize substation network recovery times.

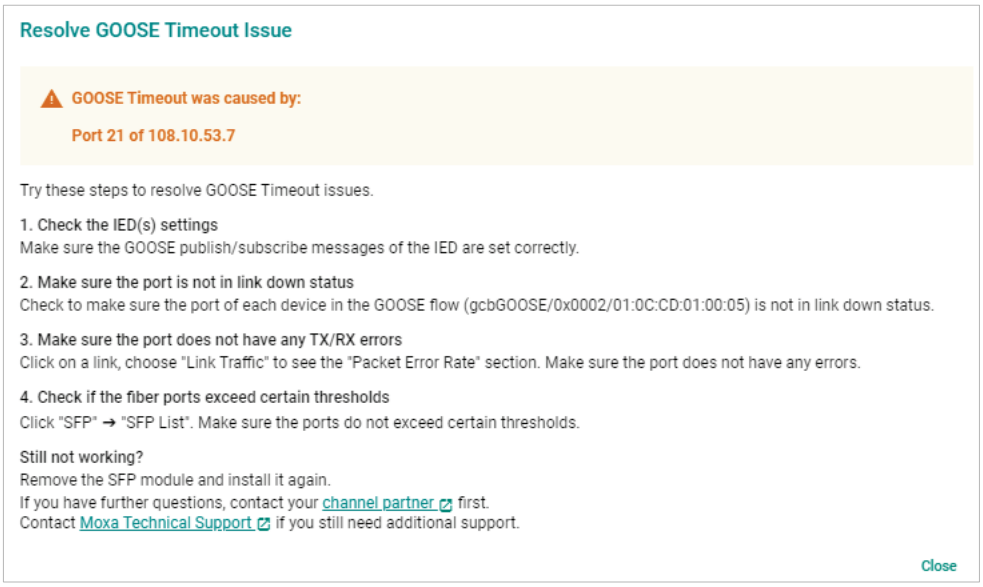


GOOSE Timeout

When a GOOSE Timeout event happens, MXview Power can display the event and indicate the possibly affected devices on the Topology by placing a yellow triangle next to them. When users click on the IED device, it will display the specific GOOSE message and will also include a Timeout status notification.



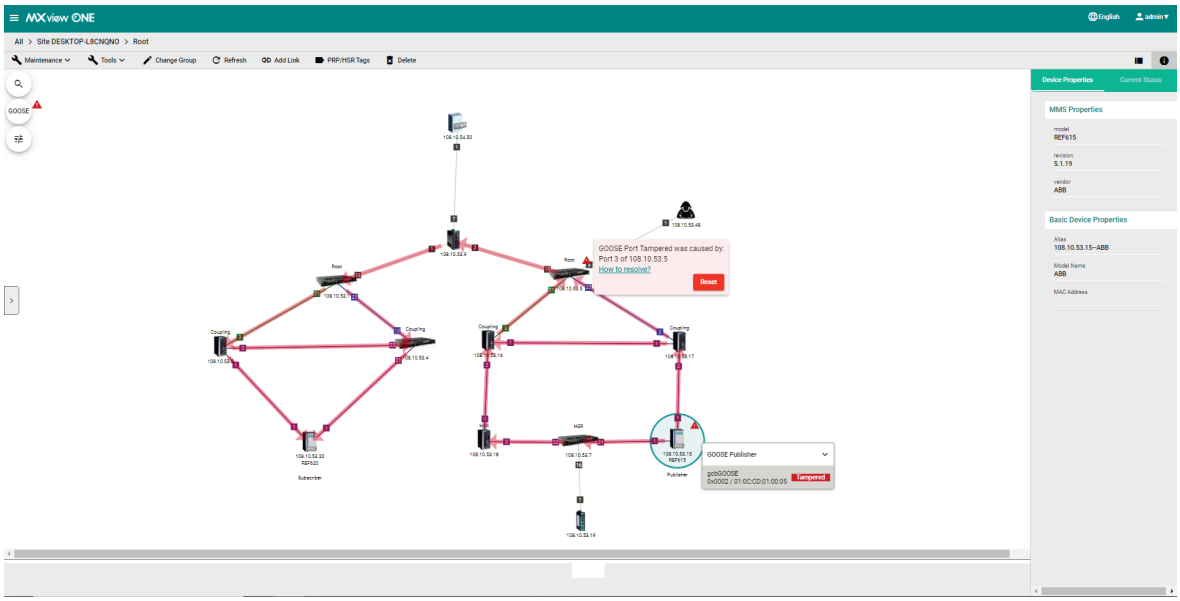
Click the **How to resolve** link and MXview Power will provide you with step-by-step instructions to solve the problem.



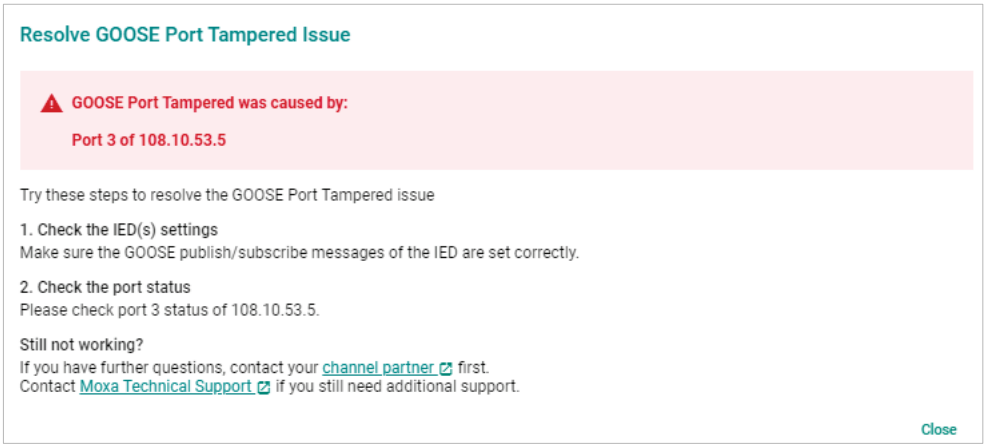
Once the problem is solved, MXview Power will provide the recovery status in the Recent Event panel and the yellow triangle will disappear.

GOOSE Tampered

When a GOOSE Tampered event happens, MXview Power can display the event and provide the possibly affected devices on the Topology by placing a red triangle next to them. When users click on the IED device, it will display the specific GOOSE message and will also include a Tampered status notification.



Click the **How to resolve** link and MXview Power will provide you with step-by-step instructions to solve the problem.



In order to enhance security, MXview Power allows users to click the **Reset** button to clear the events log for the devices. Once the event logs are cleared, MXview Power will provide the recovery status in the Recent Event panel and the red triangle will disappear.