Cisco® SG350X-24MP Network Switch for DM NVX™ Encoders/Decoders

Configuration Guide

Crestron Electronics, Inc.

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This document was written by the Technical Publications department at Crestron.

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Cisco® SG350X-24MP Network Switch for DM NVX™ Encoders/Decoders

Introduction

The Cisco® SG350X-24MP is a 24-port gigabit PoE managed network switch. The switch is suitable for a small-scale network using Crestron® DM NVX™ encoders/decoders.

This guide provides information about the following:

- Application scenarios
- Upgrading the SG350X-24MP firmware
- Configuring the SG350X-24MP

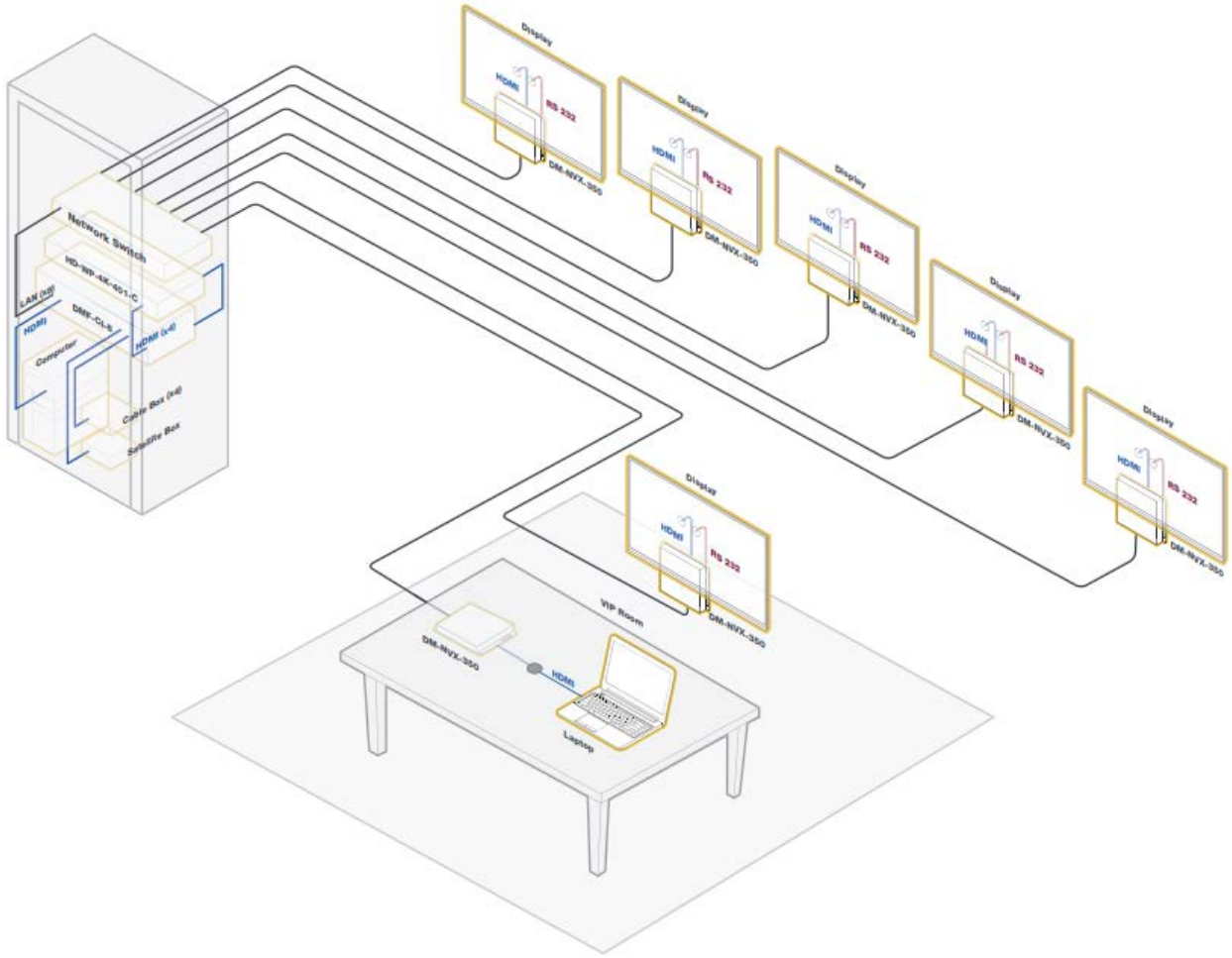
For more information, refer to OLH Answer ID 5828 in the Online Help section of the Crestron website (www.crestron.com/onlinehelp).

Application Scenarios

The SG350X-24MP network switch can be used in small-scale network applications. 4K60 video from content servers, satellite receivers, cable boxes, and Blu-ray™ players can be displayed throughout a residence, conference room, or boardroom. The network design enables flat Layer 2 communication.

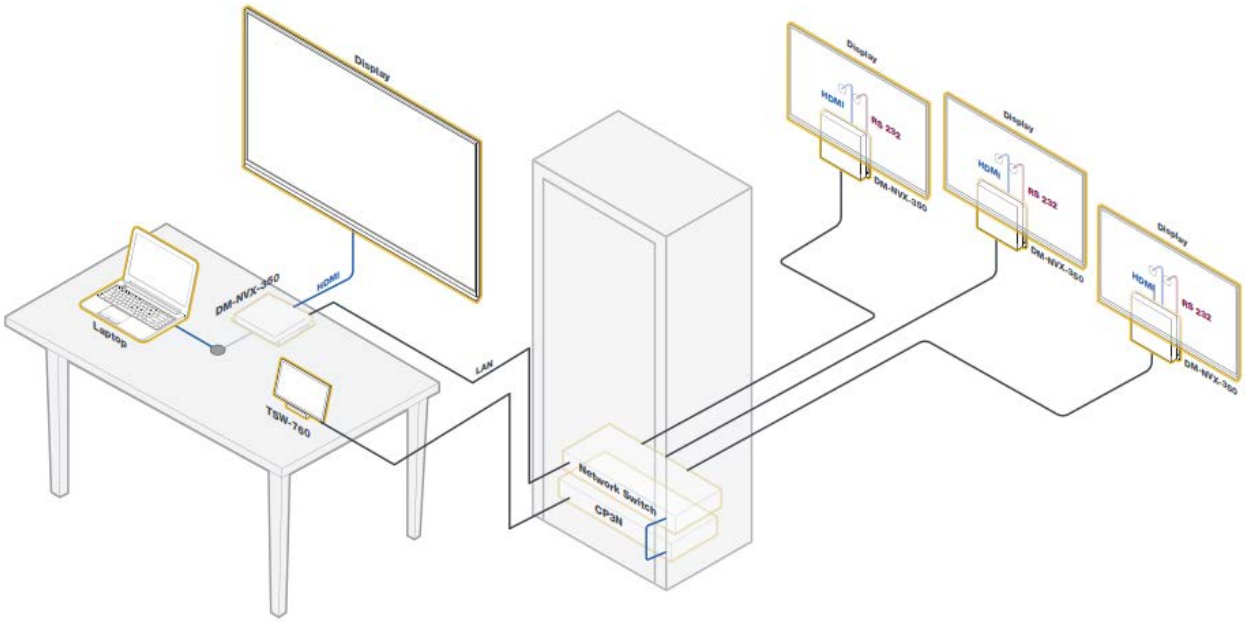
The following illustrations provide two application scenarios. In the first scenario shown on the following page, the key DigitalMedia™ products consist of the following:

- DM-NVX-351-C encoder/decoder card with audio downmixing
- DMF-CI-8 card chassis
- DM-NVX-351 encoder/decoder with audio downmixing
- DM-NVX-350 encoder/decoder
- HD-WP-4K-401-C 4K multi-window video processor


Display
HDMI
RS 232
DM-NVX-350
Network Switch
HD-WP-4K-401-C
LAN (x2)
HDMI
DMF-CI-4
HDMI (x4)
Computer
Cable Box (x4)
Satellite Box
VIP Room
Laptop

In the second scenario shown below, the key DigitalMedia products consist of the following:

- DM-NVX-350 encoders/decoders
- TSW-760 touch screen
- CP3N 3-Series® control system



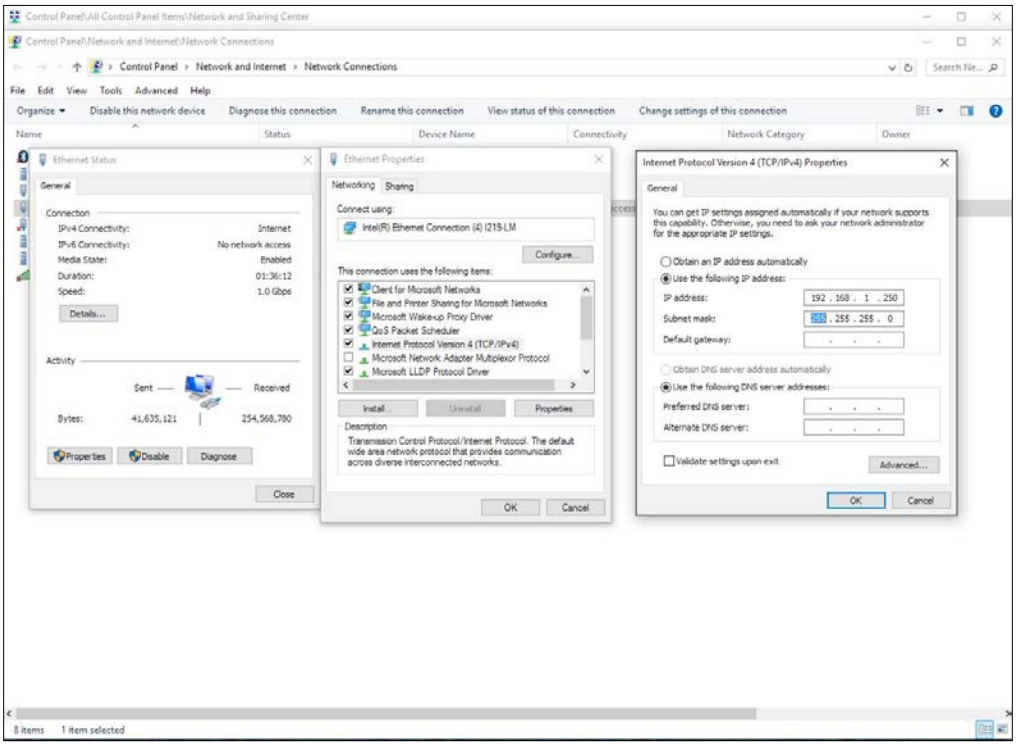
Upgrading the SG350X-24MP Firmware

Before configuring the SG350X-24MP, upgrade the firmware of the switch.

To upgrade the firmware:

1. Configure IP settings on your computer by doing either of the following:

   - If the IP address of the switch is 192.168.1.254 (factory default setting), set an IP address on the computer. The IP address must be unique and must range from 192.168.1.1 to 192.168.1.253.



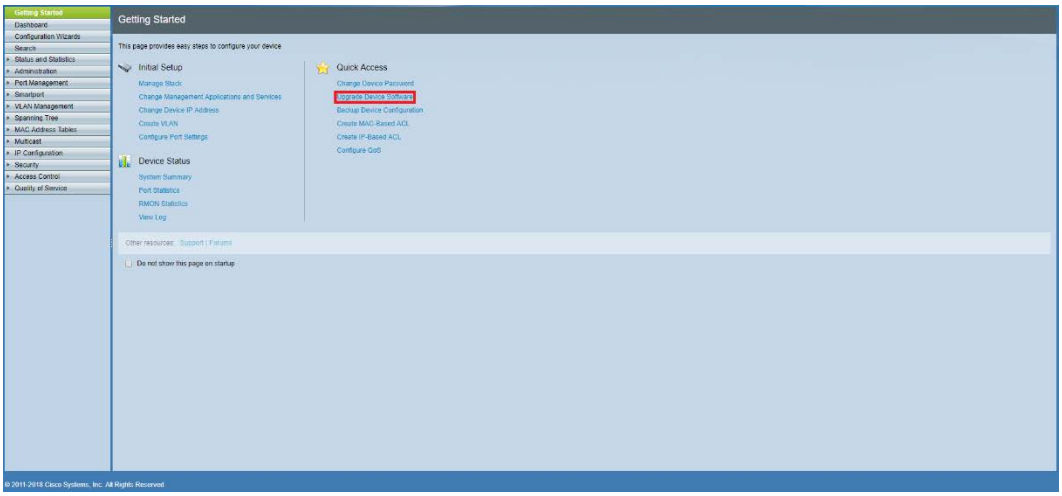
   - If the IP addresses of the switch and your computer are assigned by a DHCP server, ensure that the DHCP server is running and can be reached from both devices. If the DHCP server cannot be reached, disconnect the switch and the computer from the network and then reconnect them. The DHCP server then assigns IP addresses to the devices.

2. Access the web interface of the switch:

   a. Open a web browser, and then go to the IP address.

   b. Log in to the web interface by entering the username and password. The default username and password are both *cisco*.

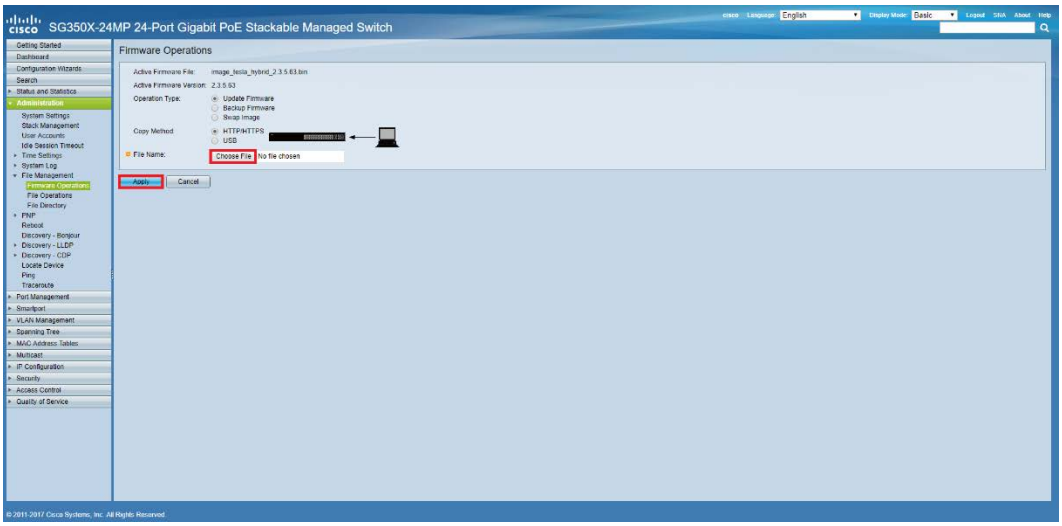
3. In the Getting Started page, select **Upgrade Device Software**.



4. Do the following:

   a. For **File Name**, click **Choose File**, navigate to the firmware file name, and select the file.

   b. Click **Apply**.



   As the firmware loads, the `Processing Data` message appears.

5. When the firmware upgrade process is complete, click **Done**.

Configuring the SG350X-24MP

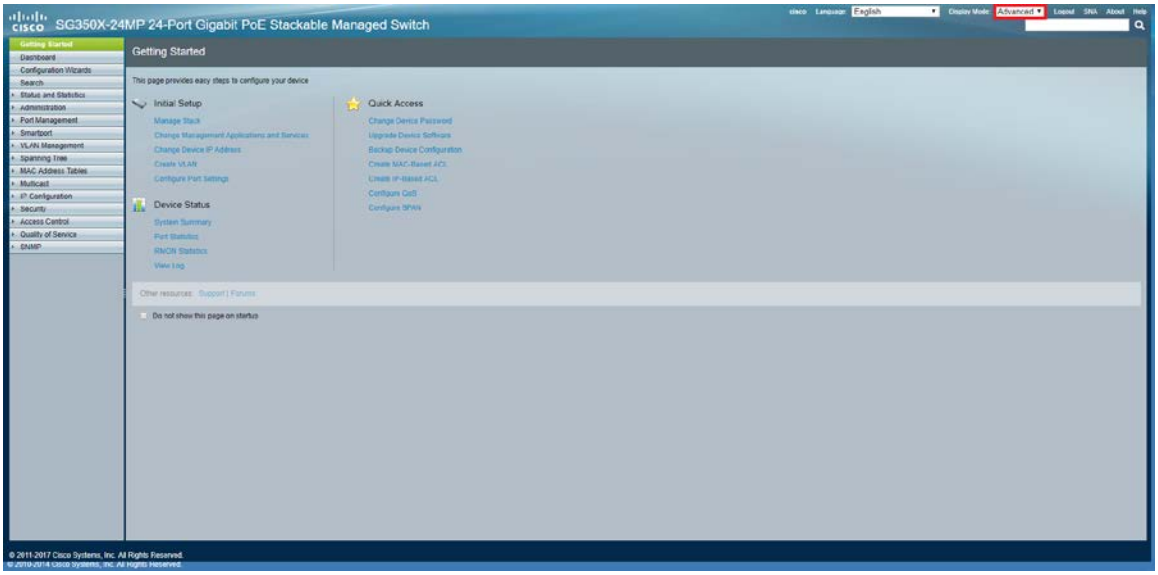
When configuring the SG350X-24MP for use with DM NVX encoders/decoders, be aware of the following:

- All multicast traffic must be contained within the switch.
- A DHCP server may be used to assign IP addresses to connected nodes.
- A Crestron 3-Series control system that has a CONTROL SUBNET port may be used as a DHCP server.
- If a Crestron 3-Series control system with a CONTROL SUBNET port is used, the `igmpproxy off` command must be issued on the control system. For additional information, refer to OLH Answer ID 5887 in the Online Help section of the Crestron website (www.crestron.com/onlinehelp).

To configure the SG350X-24MP, use the web interface of the network switch.

Select Advanced Mode

Configure the SG350X-24MP using Advanced Mode. In the **Display Mode** drop-down list, which is located in the upper-right section of the page, select **Advanced.**



Configure Multicast Settings

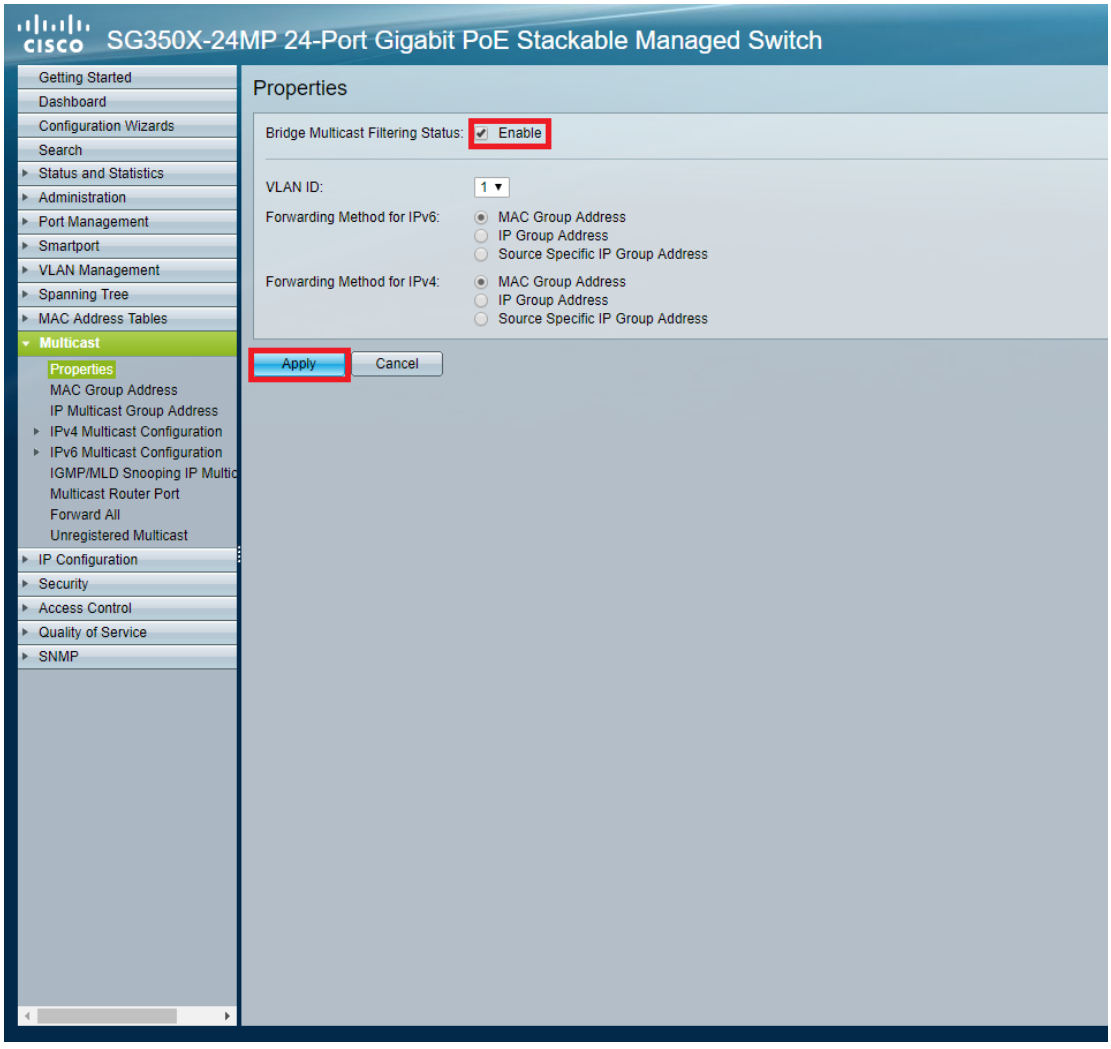
The following sections provide instructions to configure multicast properties, IGMP snooping and IGMP VLAN settings, multicast router ports, multicast forwarding, and unregistered multicast.

NOTE: Throughout the following configuration sections, change only the settings as indicated. Do not change the default settings unless instructed to do so.

Configure Multicast Properties

To configure multicast properties:

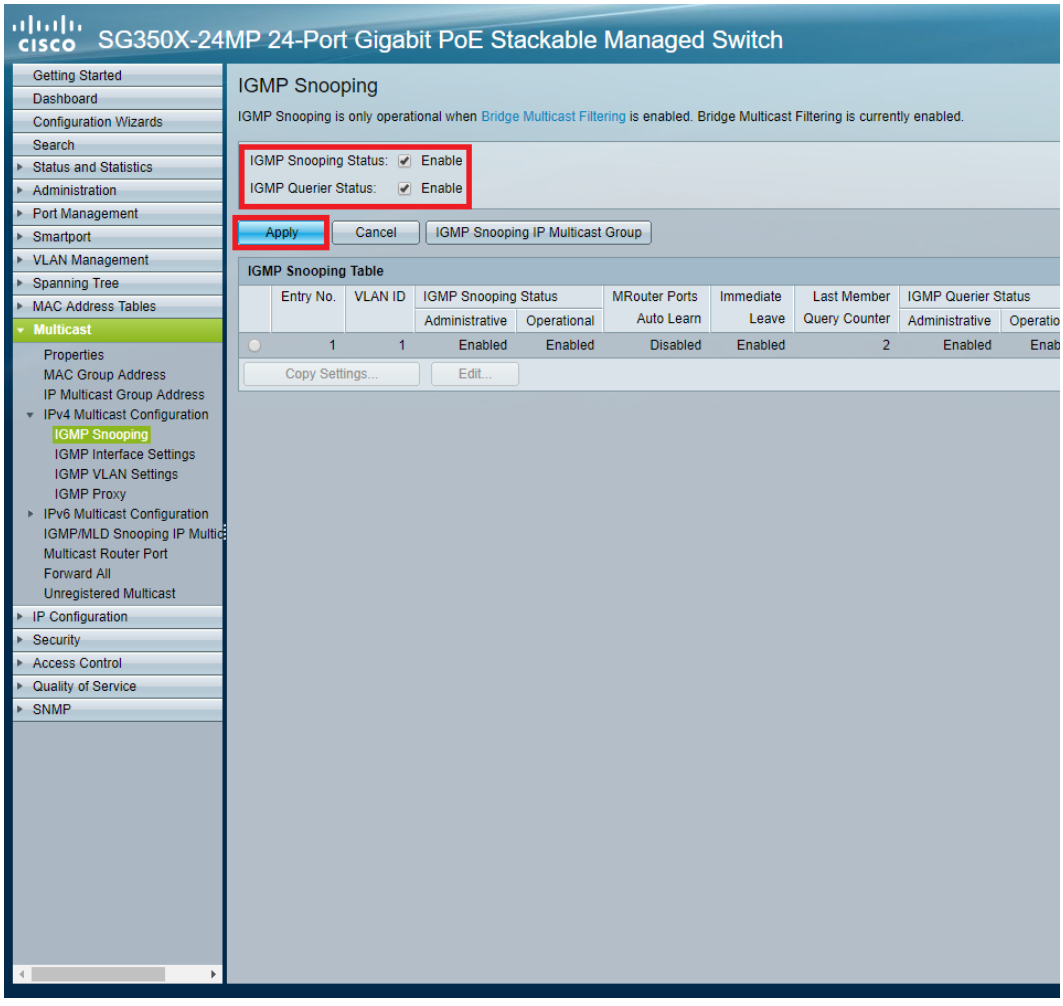
1. In the navigation tree of the web interface, click **Multicast > Properties**.
2. Configure **Bridge Multicast Filtering Status** by selecting **Enable**.
3. Click **Apply**.



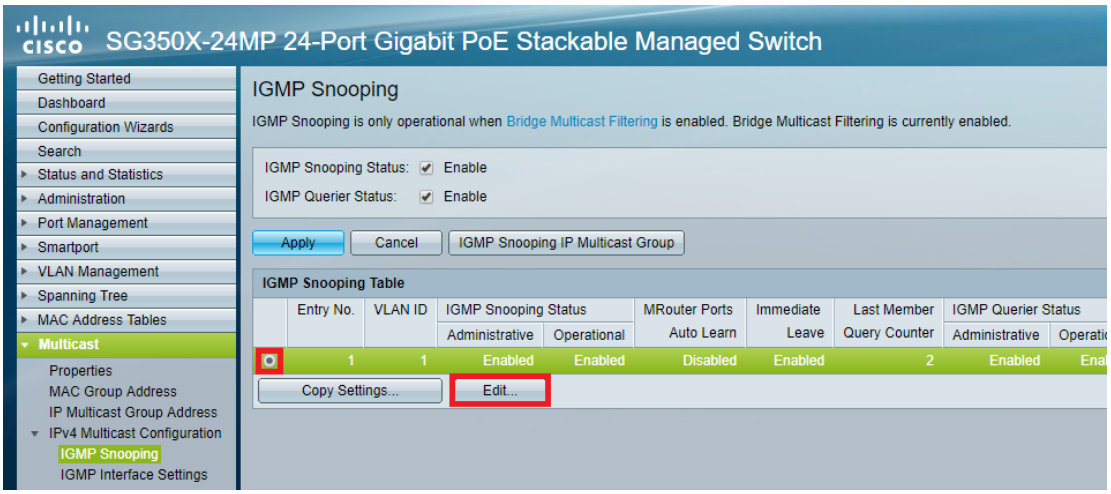
Configure IGMP Snooping for IPv4 Multicast Traffic

To configure IGMP snooping for IPv4 multicast traffic:

1. In the Multicast navigation tree, click **IPv4 Multicast Configuration > IGMP Snooping**.
2. Do the following:
   a. Configure IGMP parameters:
      - **IGMP Snooping Status:** Select **Enable**.
      - **IGMP Querier Status:** Select **Enable**.
   b. Click **Apply**.



3. In the IGMP Snooping Table, select the VLAN and then click **Edit**.

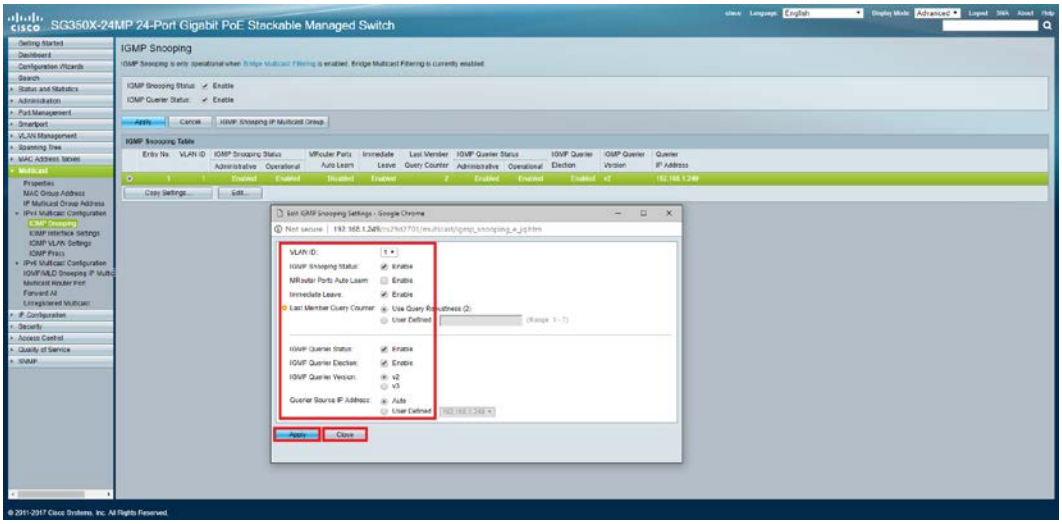


4. In the Edit IGMP Snooping Settings pop-up window:

   a. Configure the following parameters:

   - **IGMP Snooping Status:** Select **Enable**.
   - **MRouter Ports Auto Learn:** Deselect **Enable** (the parameter must be disabled).
   - **Immediate Leave:** Select **Enable**.
   - **IGMP Querier Status:** Select **Enable**.
   - **IGMP Querier Version:** Ensure that **v2** (default setting) is selected.
   - **Querier Source IP Address:** Ensure that **Auto** (default setting) is selected.

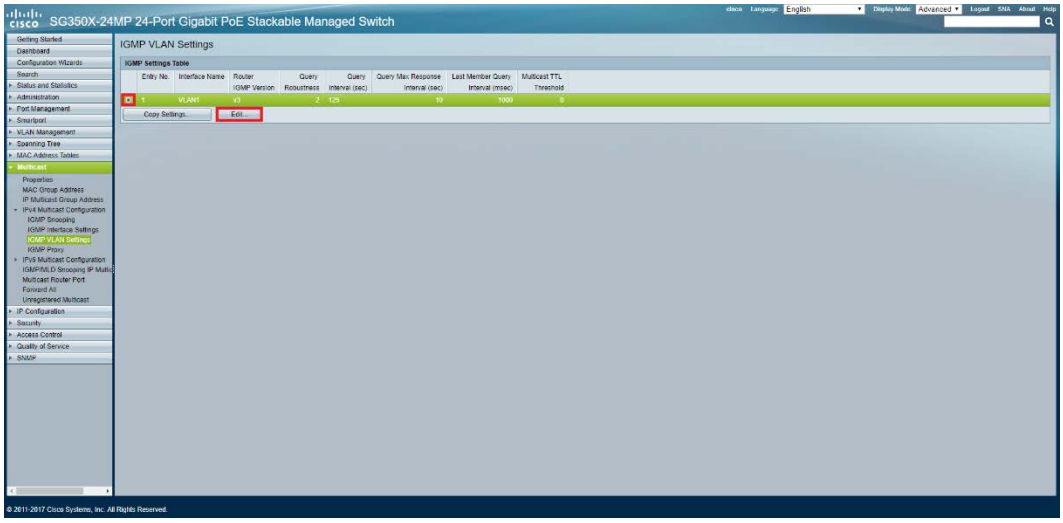
   b. Click **Apply,** and then click **Close**.



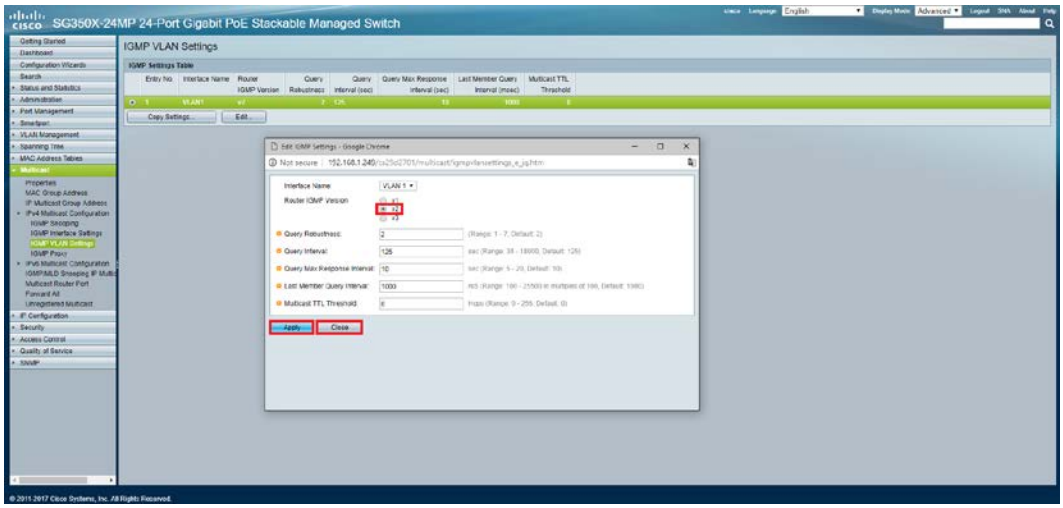
Configure IGMP VLAN Settings for IPv4 Multicast Traffic

To configure IGMP VLAN settings for IPv4 multicast traffic:

1. In the Multicast navigation tree, click **IPv4 Multicast Configuration > IGMP VLAN Settings**.
2. In the IGMP Settings Table, select the VLAN and then click **Edit**.



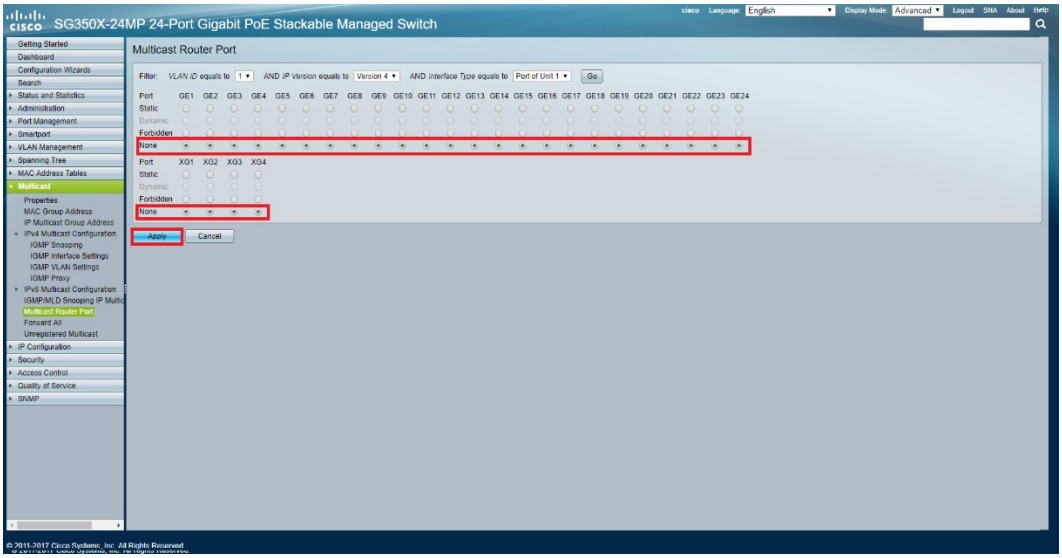
3. In the Edit IGMP Settings pop-up window:
   a. Set **Router IGMP Version** to **v2**.
   b. Click **Apply**, and then click **Close**.



Configure Multicast Router Ports

To configure multicast router ports:

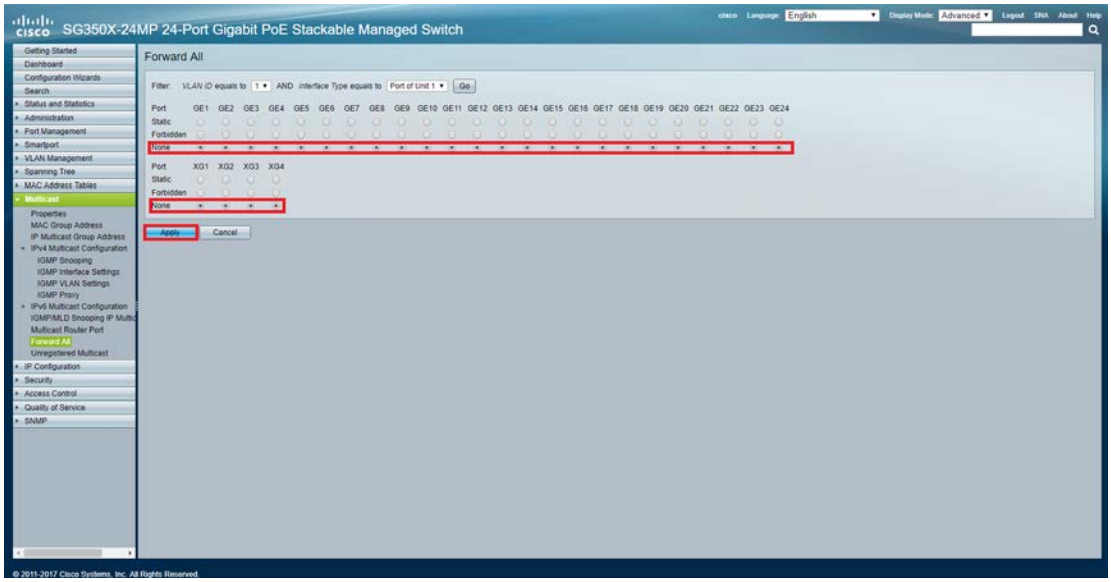
1. In the Multicast navigation tree, click M**ulticast Router Port**.
2. Do the following:
   a. Set all ports to **None** by selecting the **None** radio buttons.
   b. Click **Apply**.



Configure Multicast Forwarding

To configure multicast forwarding:

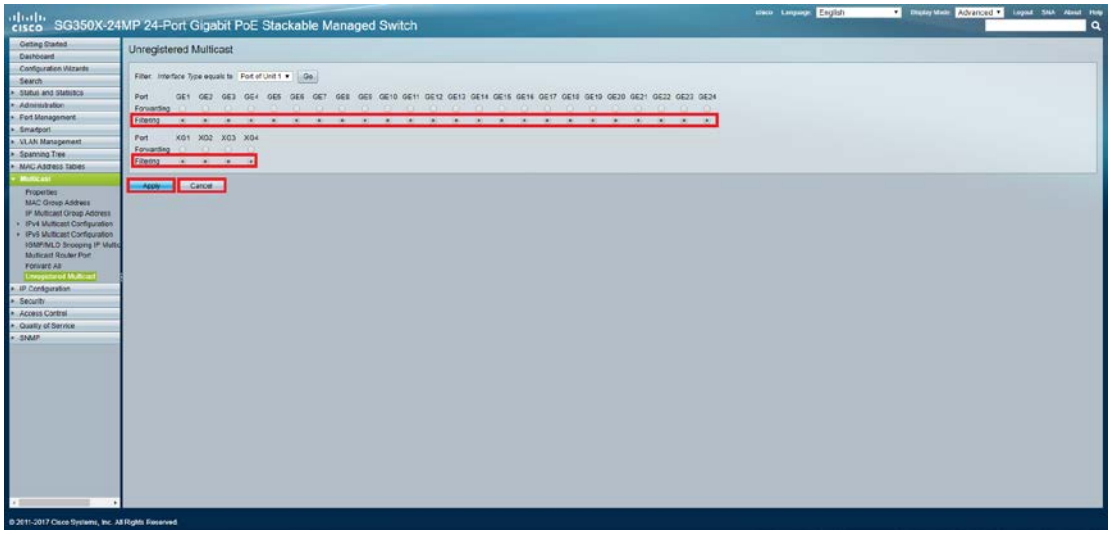
1. In the Multicast navigation tree, click **Forward All.**
2. Ensure that all ports are set to **None** (default setting).
3. Click **Apply**.



Configure Unregistered Multicast

To configure unregistered multicast:

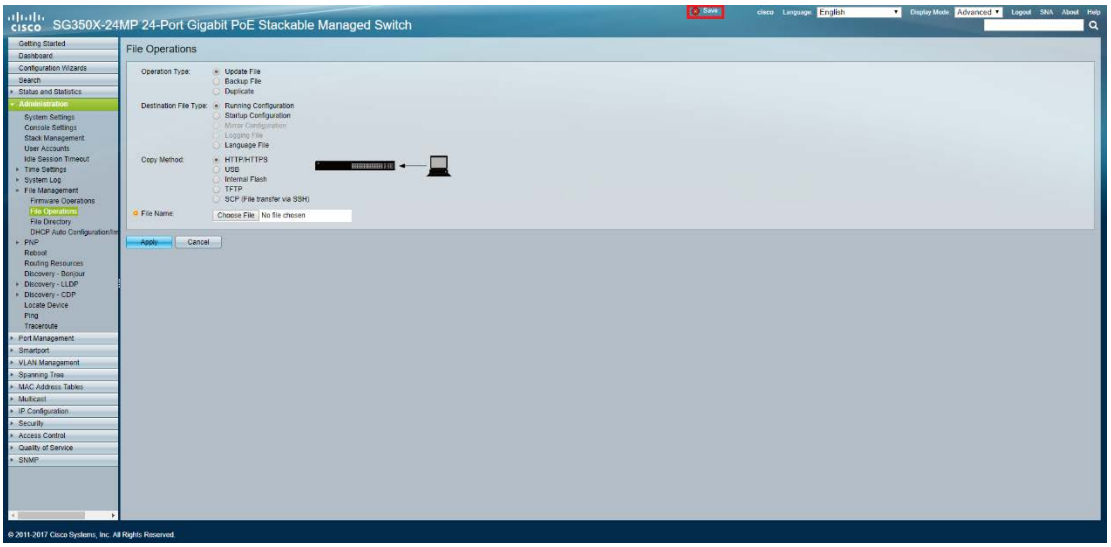
1. In the Multicast navigation tree, click **Unregistered Multicast.**
2. Set all ports to **Filtering** by selecting the **Filtering** radio buttons.
3. Click **Apply**.



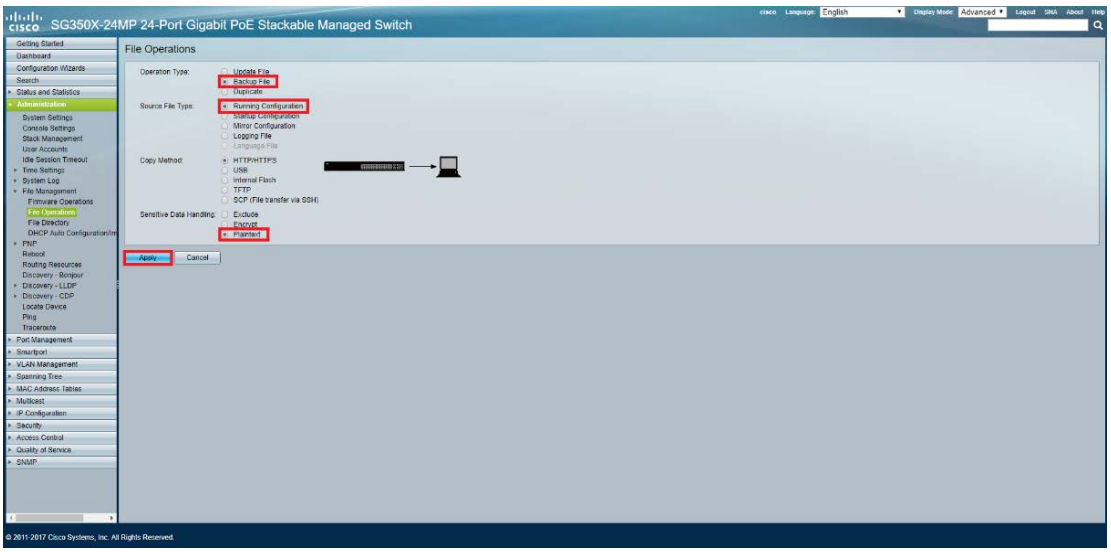
Save the Configuration

To save the configuration:

1. Click the flashing red **Save** icon in the upper-right section of the page.



2. On the File Operations page, click **Apply**.

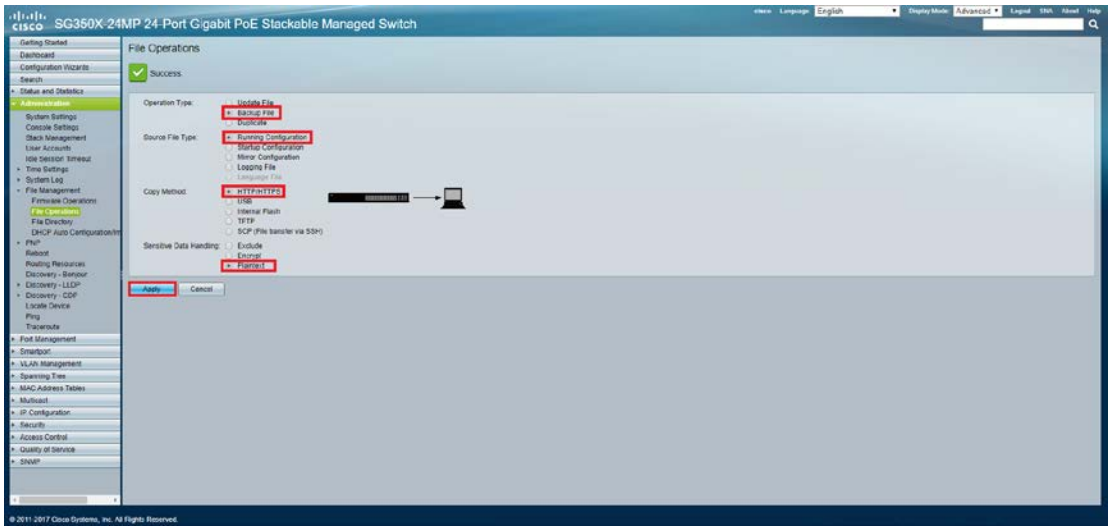


The configuration is saved as the **Running configuration** and as the **Startup configuration**.

Back Up the Configuration

To download a copy of the configuration to your computer:

1. In the navigation tree, click **Administration > File Management > File Operations**.
2. Configure the following parameters:
   - **Operation Type:** Select **Backup File**.
   - **Destination File Type:** Select **Running Configuration**.
   - **Copy Method:** Select **HTTP/HTTPS**.
   - **Sensitive Data Handling:** Select **Plaintext**.
3. Click **Apply**.



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