OmniStream™
Certified Switches

AT-OMNI-111 AT-OMNI-121 AT-OMNI-512 AT-OMNI-232
AT-OMNI-112 AT-OMNI-122 AT-OMNI-521 AT-OMNI-238

Atlona Manuals
Networked AV

Version Information

Version	Release Date	Notes
31	Sept 2022	Clarified IP configuration instructions on page 48.

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Introduction

Switch Requirements

Atlona has made every effort to make sure that all switches listed in this document, meet or exceed functionality with OmniStream products, identifying them as *OmniStream Certified Switches*. Atlona will continue to update this document as more switches are tested. However, due to the vast number of manufacturers and switch models on the market today, it is not possible to test each one. Before purchasing a switch that is not included in this document, make sure that it supports the following features.

IGMP

- IGMP Snooping
- IGMP Querier
- IGMP Immediate Leave
- Unregistered Multicast Flooding
- Static Multicast Groups (optional)

IMPORTANT: Failing to meet all of the above requirements (except for Static Multicast Groups) may lead to performance issues.

PoE Budget

In addition to the above requirements, the power budget of the PoE switch must be identified. To determine the maximum number of PoE devices that can be connected to a switch, two factors need to be considered:

1) The PoE budget of the switch.
2) The power requirements of each device.

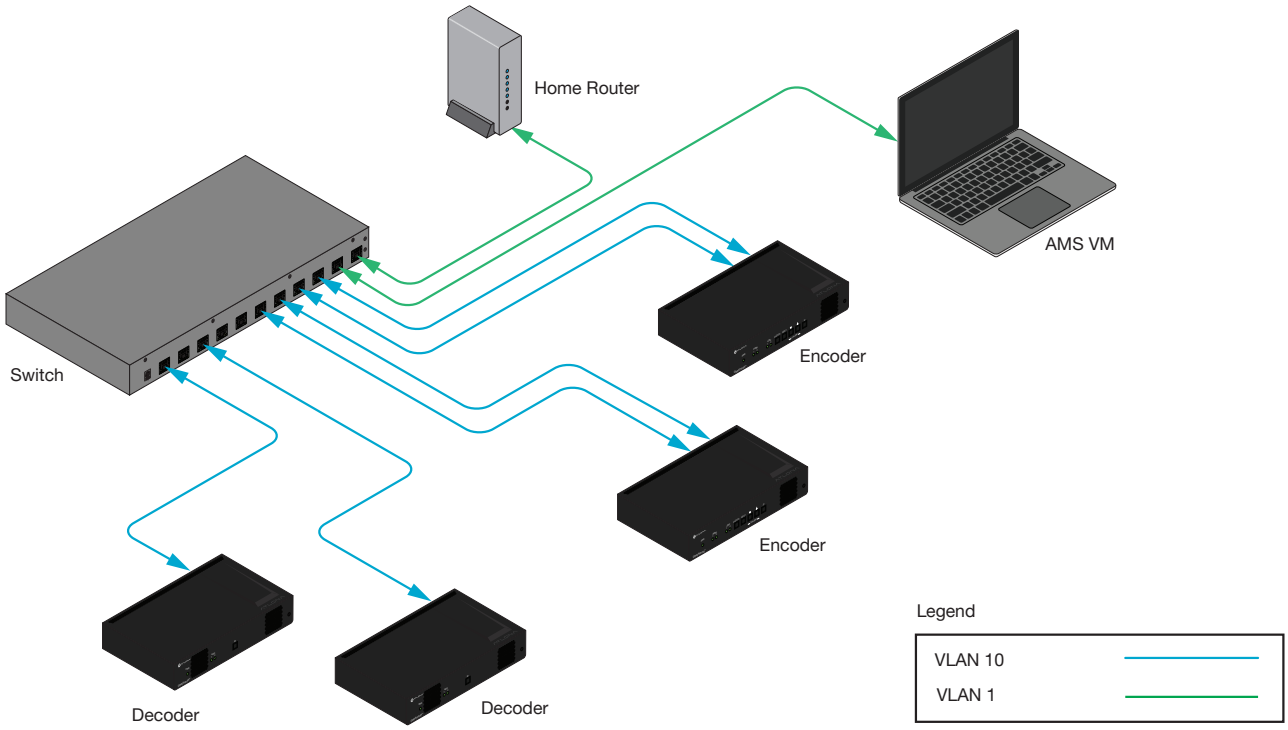
When purchasing a switch, identify the *PoE budget* or *power dedicated to PoE*, in the switch specifications. This number is the total power that the switch can provide when PoE devices are connected. For example, a 24-port 370-watt PoE switch can supply up to 15.4 W of power on all 24 ports. In this case, you can connect 24 OmniStream units.

NOTE: If connecting OmniStream devices to a non-PoE switch or if using the analog audio capabilities, then OmniStream units must be connected to the external power supply (Atlona part no. AT-PS-48083-C). The power supply is not included and sold separately.

Features of Configurations

- Connect OmniStream devices plug and play.
- Connect management ports to an external network, such as a home router.

NOTE: Devices that are connected to either OmniStream ports (VLAN 10) or management ports (VLAN 1) on the OmniStream switch will be able to communicate with both the OmniStream units as well as the Internet (using a connected home router). Devices that are connected to the home router will only be able to connect to OmniStream devices if a static route is configured on the home router. Refer to Home Router Static Routing (page 7) on the next page.



Known Limitations

- The network configuration file is applicable only to one standalone switch.
- If planning to connect multiple switches together, then a custom configuration will be required.
- Management network must use IP addresses from 192.168.1.1 through 192.168.1.253. If a different range is used, then a custom configuration will be needed.
- The management ports have DHCP disabled, as a typical home router will handle this task. If the system will not be connected to another network using the management ports, one of the OmniStream ports should be used for management.
- Without a static route configured on the home router, any devices connected to the home router will not be able to connect to the OmniStream devices.
- The home router must be set to 192.168.1.x in order for the Internet to be accessible from the OmniStream VLAN (VLAN 10).

Home Router Static Routing

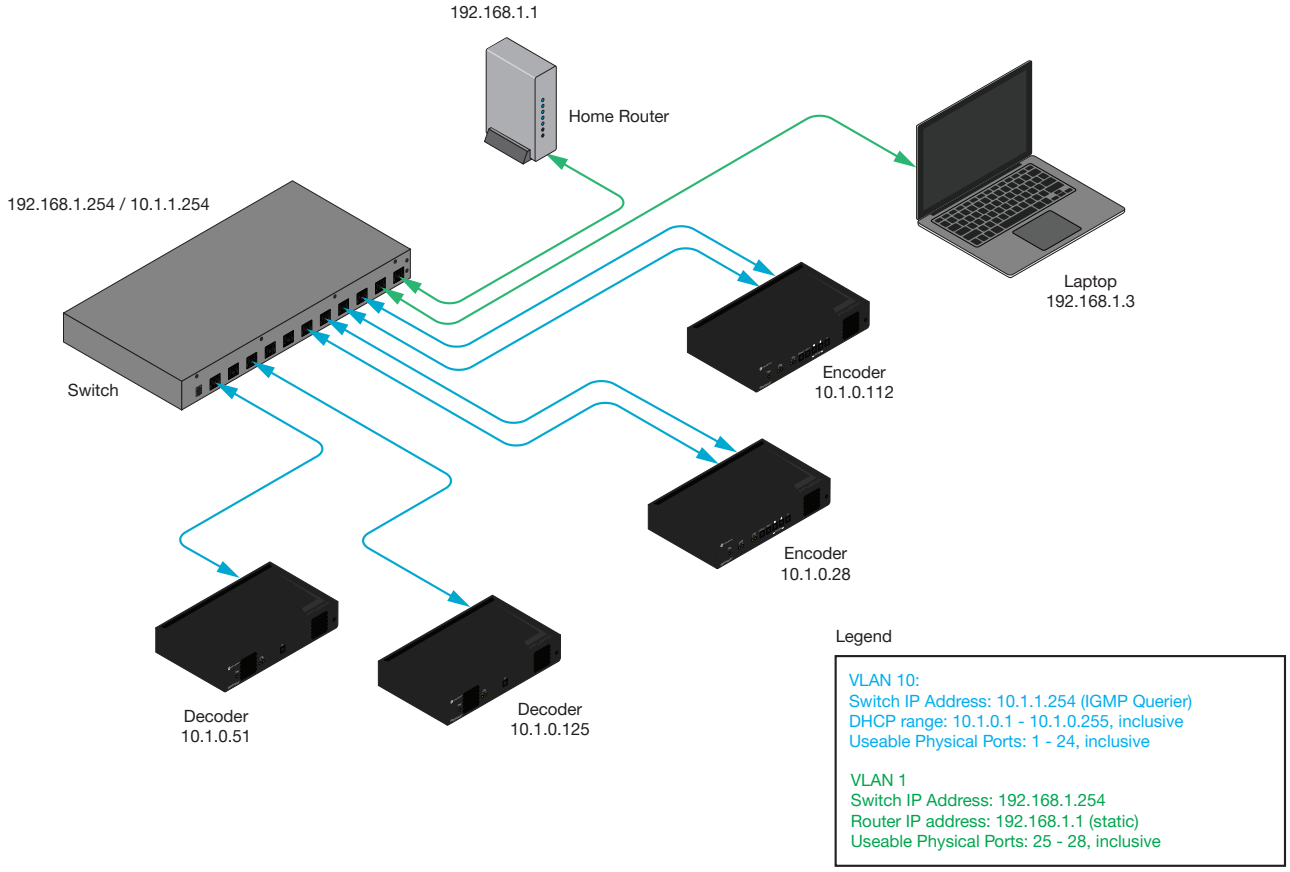
In order for devices that are connected to the home router, to be able to connect to OmniStream devices on VLAN 10, a static route must be configured on the home router. This static route is required to send the network traffic to the proper destination. Configuring static routing will vary by manufacturer, but most home routers have this ability. Essentially, the router must be instructed to route any traffic bound for the 10.1.0.0/23 range (IP address starting at 10.1.0.0 with a subnet mask of 255.255.254.0) will use the gateway 192.168.1.254. However, if the home router is using the same gateway, then the IP address of the switch must be changed to 192.168.1.253.

NOTE: Without defining a static route on the home router, the system will still function properly but without connectivity to the OmniStream devices (VLAN 10) from the home router.

A static route for the OmniStream ports (VLAN 10) would be defined assuming that the home router is set to 192.168.1.1. If this is not the case, then the static route will need to be modified to enable Internet access to the OmniStream VLAN.

NOTE: If the home router is not set to 192.168.1.1, then the configuration file may still be used as is, but VLAN 10 will not have Internet access.

The diagram below shows a sample home network setup using a Cisco SG300-24MP switch. In this example, devices on the home network (VLAN1) can be connected to ports 25 through 28. The router (with a static IP address), for example, can be connected to port 25, allowing three additional devices to be physically connected to ports 26 through 28. Ports 1 through 24 (VLAN10) would be used to connect OmniStream devices. Note that the switch has two IP addresses, allowing the laptop on VLAN1 to access OmniStream devices on VLAN10. Except for the switch and the router, all other IP addresses are arbitrary.



Default Configurations

Araknis Networks AN-310-SW-F/R-8-POE

Configuration File	https://atlonainc.box.com/s/y81xwh9cev5m4fn94589gjvphu18bqu5

Summary

Version: 1.2.00

Ports 1 through 8 can be used to connect OmniStream devices.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 1 through 10
  - Default gateway: 10.1.1.1

NOTE: Araknis L2 switches do not provide an integrated DHCP service. A separate DHCP server will need to be provided. In this case, a router with DHCP pool enabled can be connected to any physical port on the switch.

- Spanning tree mode: RSTP
- IGMP
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

Araknis Networks AN-310-SW-F/R-16-POE

Configuration File	https://atlonainc.app.box.com/s/s4rhypkqyjacbmqh3tczl7auxz7q8mpm

Summary

Version: 1.2.00

Ports 1 through 16 can be used to connect OmniStream devices.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 1 through 18
  - Default gateway: 10.1.1.1

NOTE: Araknis L2 switches do not provide an integrated DHCP service. A separate DHCP server will need to be provided. In this case, a router with DHCP pool enabled can be connected to any physical port on the switch.

- Spanning tree mode: RSTP
- IGMP
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

Araknis Networks AN-310-SW-F/R-24-POE

Configuration File	https://atlonainc.app.box.com/s/vrerlra60k0z868irqf2bliqn42nf6n8

Summary

Version: 1.2.00

Ports 1 through 24 can be used to connect OmniStream devices.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 1 through 26
  - Default gateway: 10.1.1.1

NOTE: Araknis L2 switches do not provide an integrated DHCP service. A separate DHCP server will need to be provided. In this case, a router with DHCP pool enabled can be connected to any physical port on the switch.

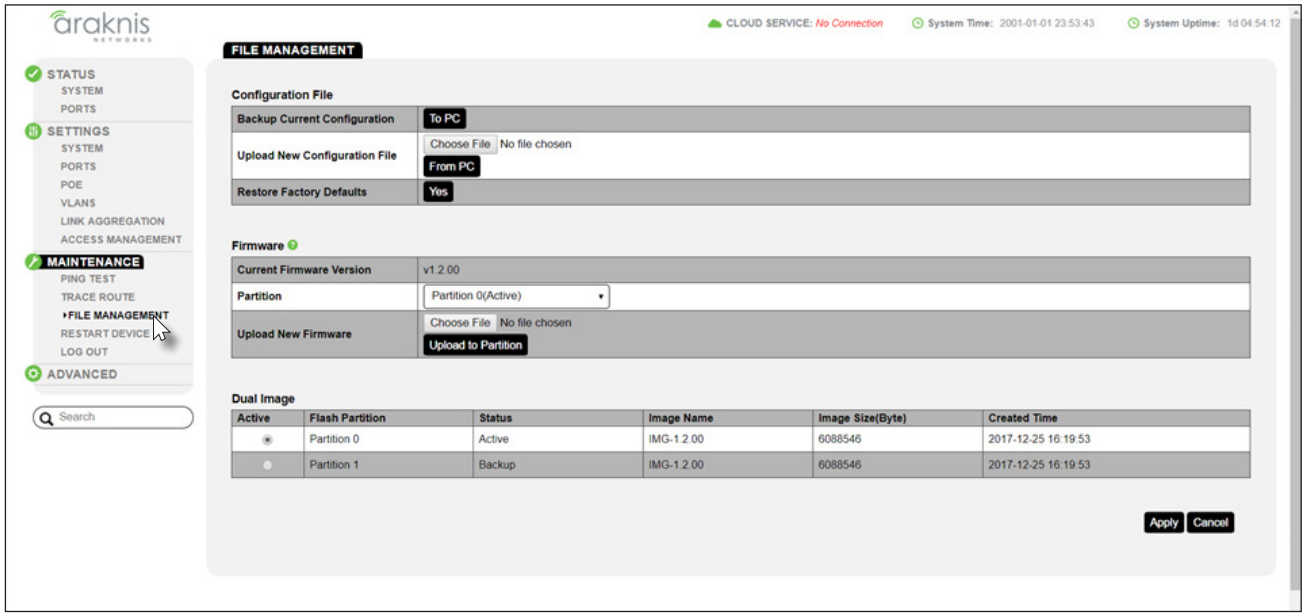
- Spanning tree mode: RSTP
- IGMP
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

Uploading configuration files to Araknis switches

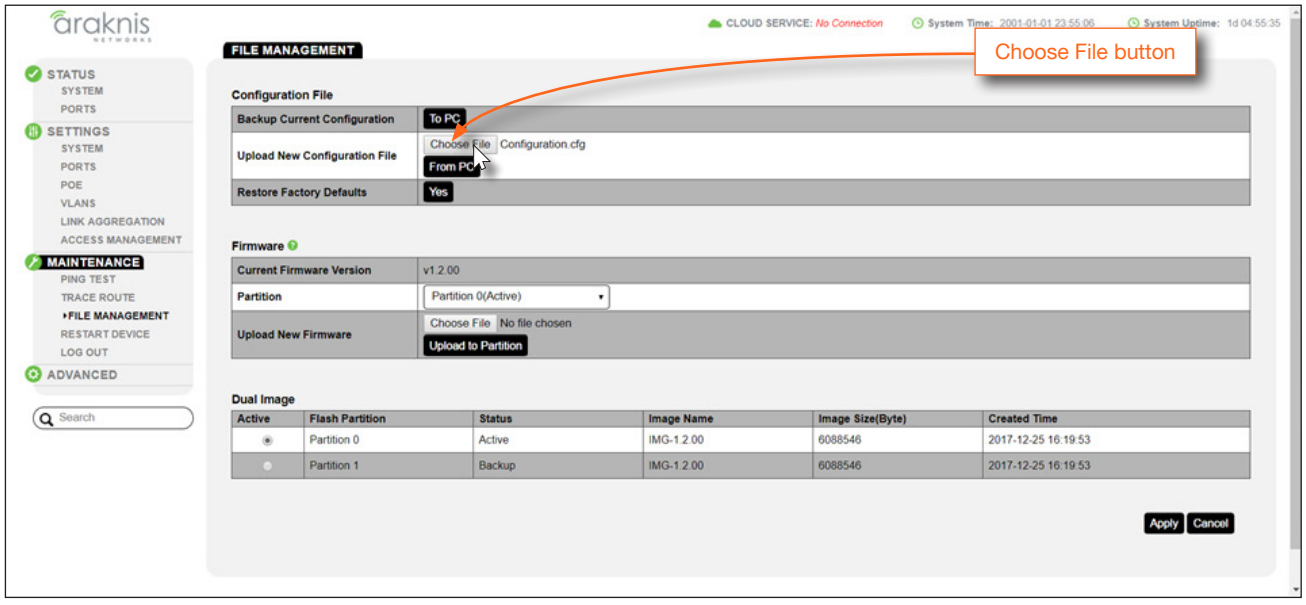
1. Download the required configuration file.
2. Open a web browser and enter the IP address of the switch in the address bar: 192.168.20.254
3. Enter the login credentials to access the user interface. The default credentials are listed below:

   Username: araknis
   Password: araknis

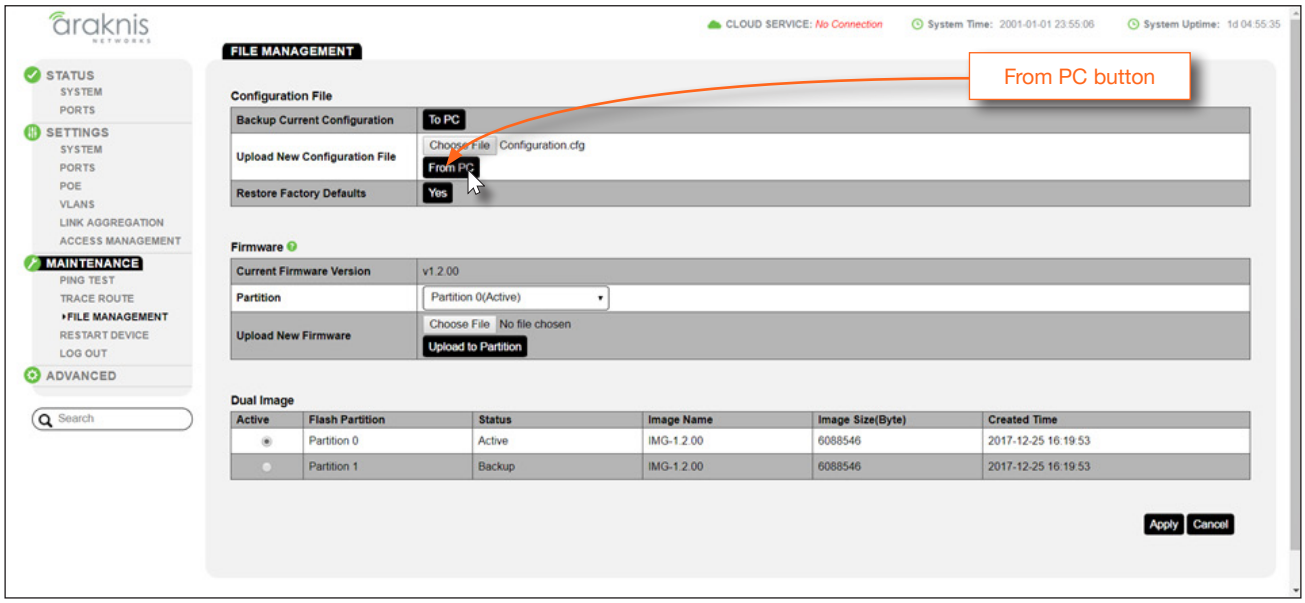
4. Click **MAINTENANCE** > **FILE MANAGEMENT**.



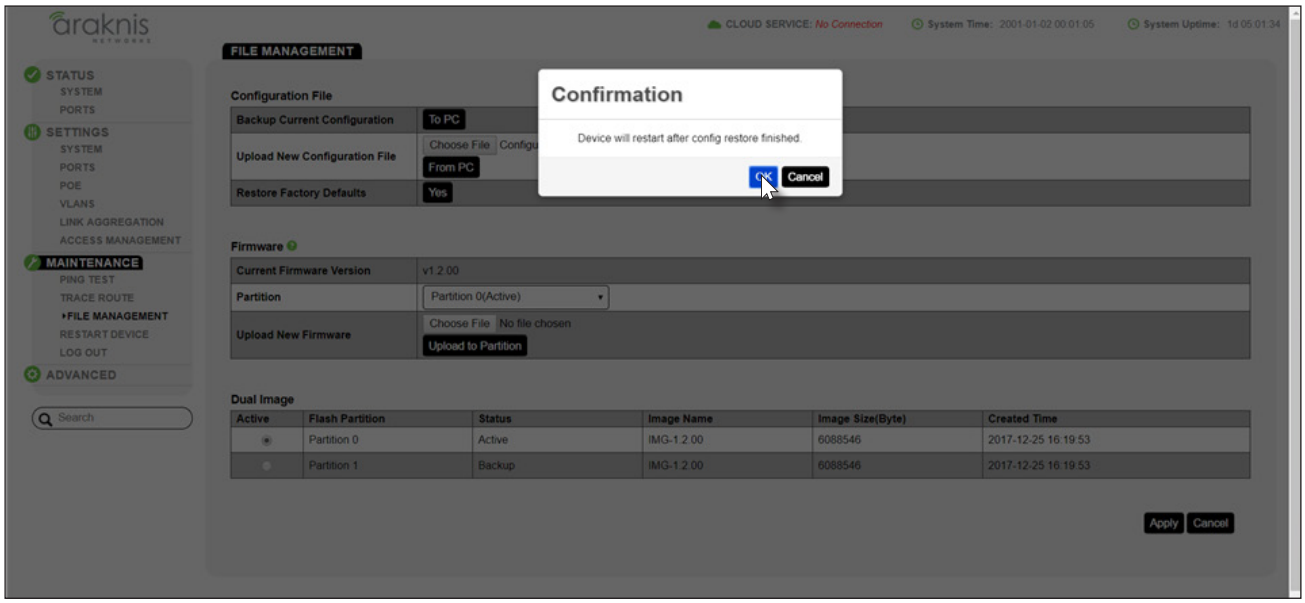
5. Under the **Configuration File** section, click the **Choose File** button and select the configuration file which was downloaded in Step 1.



6. Click the **From PC** button to begin uploading the configuration file to the switch.



7. A **Confirmation** message box will be displayed. Click **OK** to dismiss the message box and continue with the upload procedure.



8. Enter the new IP address of the switch in a web browser window: 10.1.1.254.

9. Configuration is complete. Log in to the switch using the following credentials:

username: **admin**
password: **Atlona**

Aruba Networks 2930F-24G-PoE+-4SFP (JL261A)

Configuration File	https://atlonainc.box.com/s/u9e7ivw3mmd8rvz1aaffljm40bs58kre

Summary

Version: WC.16.05.0013

Ports 1 through 23 are to be used only for OmniStream.

Ports 24 through 28 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 24 through 28
  - Default gateway: 192.168.1.1 (home router for Internet traffic)

IMPORTANT: Ports 25 - 28 are SFP interfaces and intended for 1G transceivers.

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 23
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RPVST
- BPDU guard: Enabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled

IGMP Filtering

The following table lists IP addresses which are excluded from IGMP filtering, and should not be used.

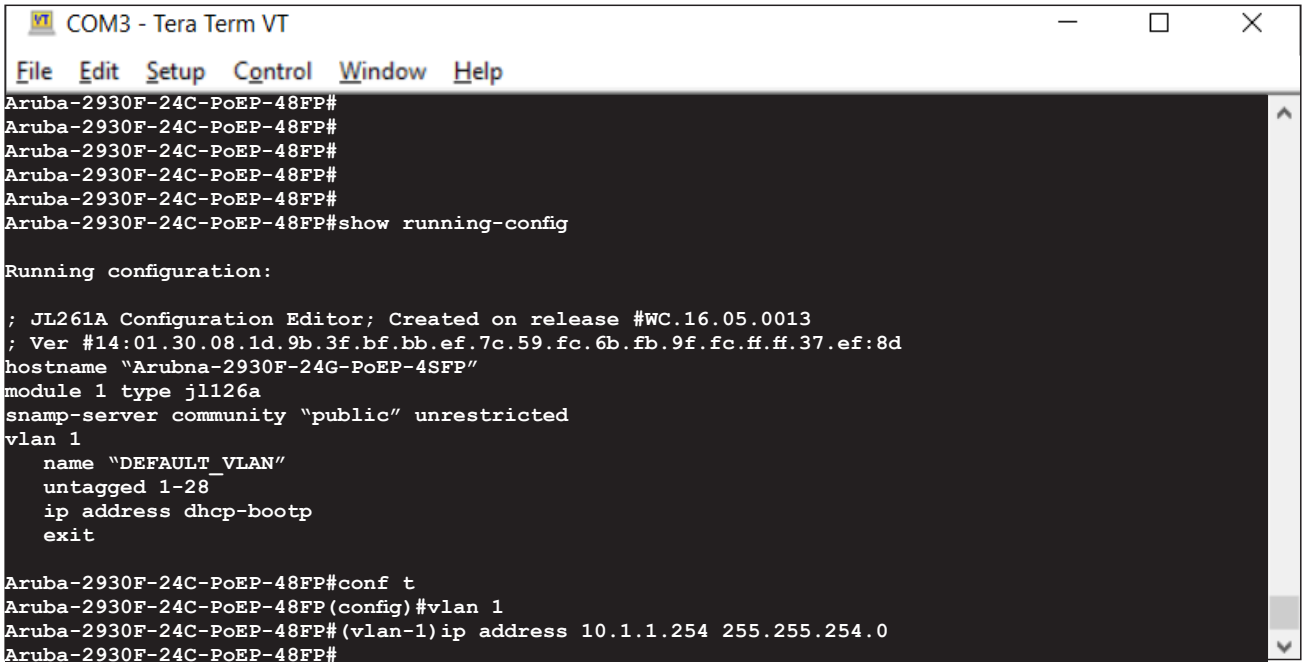
Groups of consecutive addresses in the range of 224.0.0.x to 239.0.0.x		Groups of consecutive addresses in the range of 224.128.0.x to 239.128.0.x	
224.0.0.x	232.0.0.x	224.128.0.x	232.128.0.x
225.0.0.x	233.0.0.x	225.128.0.x	233.128.0.x
226.0.0.x	234.0.0.x	226.128.0.x	234.128.0.x
227.0.0.x	235.0.0.x	227.128.0.x	235.128.0.x
228.0.0.x	236.0.0.x	228.128.0.x	236.128.0.x
229.0.0.x	237.0.0.x	229.128.0.x	237.128.0.x
230.0.0.x	238.0.0.x	230.128.0.x	238.128.0.x
231.0.0.x	239.0.0.x	231.128.0.x	239.128.0.x

Instructions for uploading the configuration file for Aruba switches

1. Download the required configuration file.
2. Connect a PC to the console port of the Aruba 2930F, using a rollover cable (not provided with switch). If the PC only has USB ports, a DB9-to-USB serial adapter will be required.
3. Open a terminal session on the PC. The Aruba switch will auto-detect the baud rate and the switch will be placed in *privileged mode*, which is idenfied by the "#" prompt. Switch to *global config mode* by typing the following at the command prompt, then press [ENTER]: `config t`
4. Type the following at the global config mode prompt and press [ENTER]: `vlan 1`
5. Enter an IP address and subnet mask for the switch, allowing access to the web interface, then press [ENTER]:

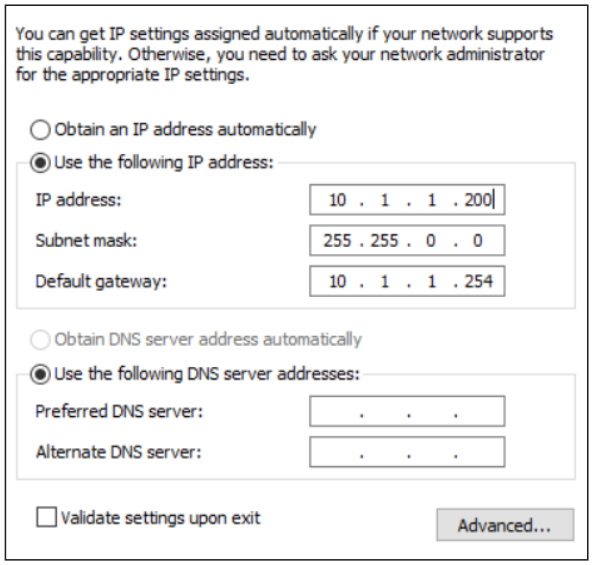
   `ip address 10.1.1.254 255.255.254.0`

   Refer to the illustration below for reference:



6. Connect the PC to any Ethernet port on the switch, from 1 through 23.

7. Assign the PC Network Interface Controller (NIC) to an IP address within the range of `10.1.0.0/23`. For example: `10.1.1.200 255.255.254.0`. In the Default gateway field, enter `10.1.1.254`. Refer to the illustration on the right.

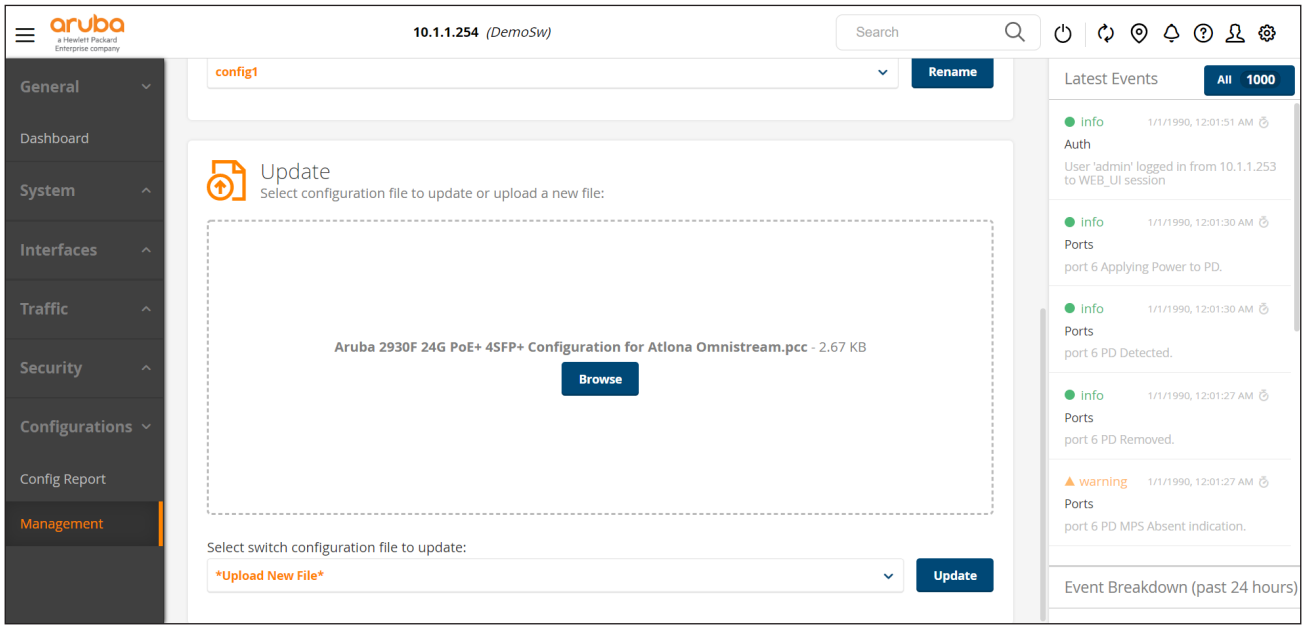


8. Open a web browser and enter the gateway IP address of `10.1.1.254`.

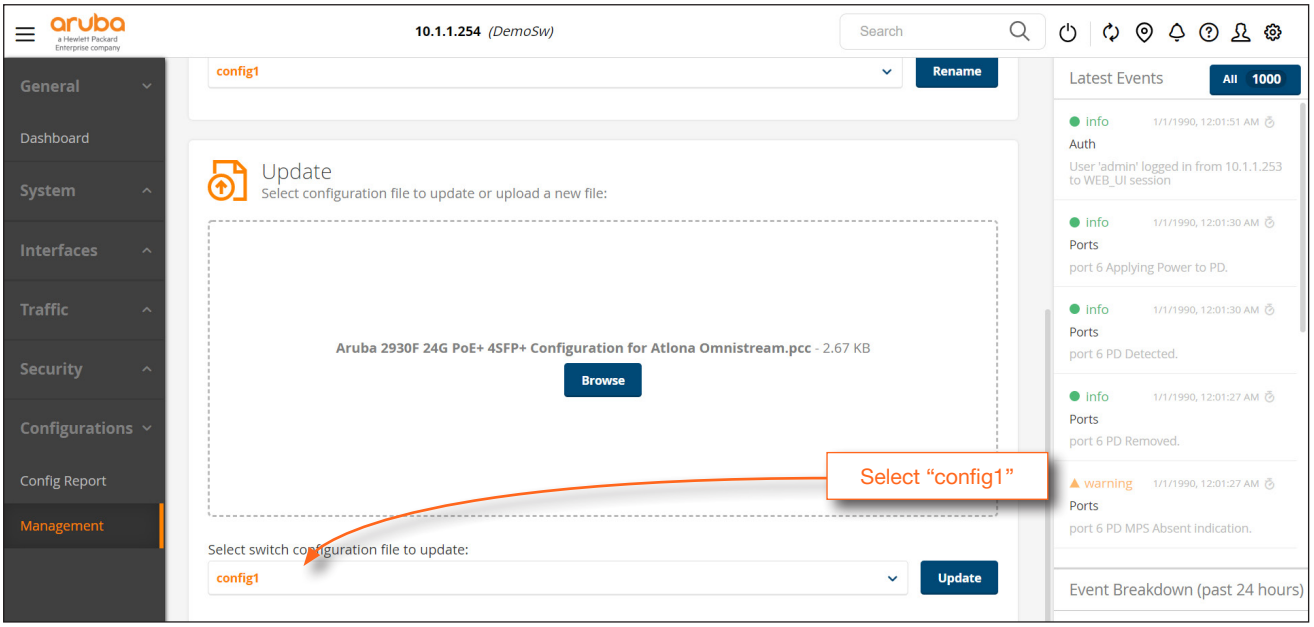
9. Log in to the switch web interface and enter the following credentials, if required:

   user: `admin`
   password: (leave blank)

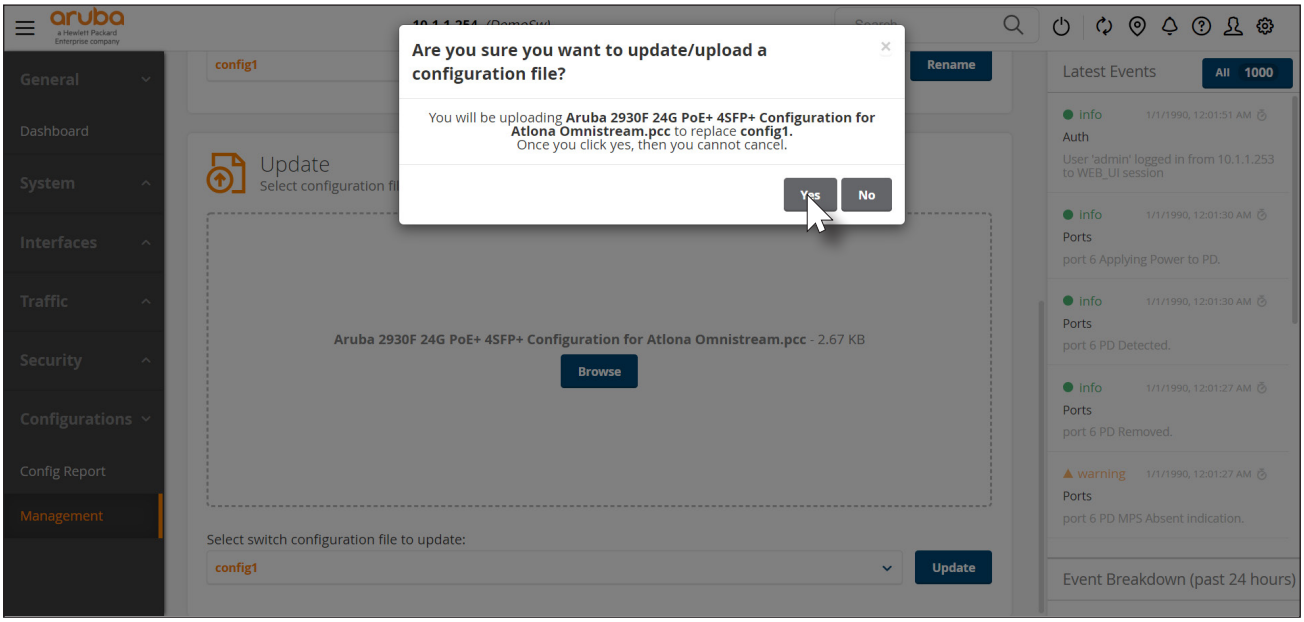
10. Click **Configuration** > **Management** and load the Atlona provide Aruba switch configuration.



11. Under the *Update* section, locate the **Select switch configuration file to update:** drop-down list and select **config1** to overwrite this configuration file. By default, this is the start-up configuration filename.



12. Click **Yes** when prompted to overwrite the configuration file.



13. Switch configuration is complete and will take effect immediately, without the need for a reboot.

Cisco CBS350-24FP-4X

Configuration File	https://atlonainc.box.com/s/9n5oaislm3pl31s1iklk8espsl80ks8y

Summary

Version: 3.1.0.57

GigabitEthernet ports 1 through 24 are to be used only for OmniStream.

TenGigabitEthernet ports 1 through 4 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: user configured
  - Password: user configured
- VLAN 1
  - Ports: TenGigabitEthernet 1 through 4
  - Static routing: 192.168.1.254 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: GigabitEthernet 1 through 24
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Uploading configuration files to the Cisco CBS350-24FP-4X switch

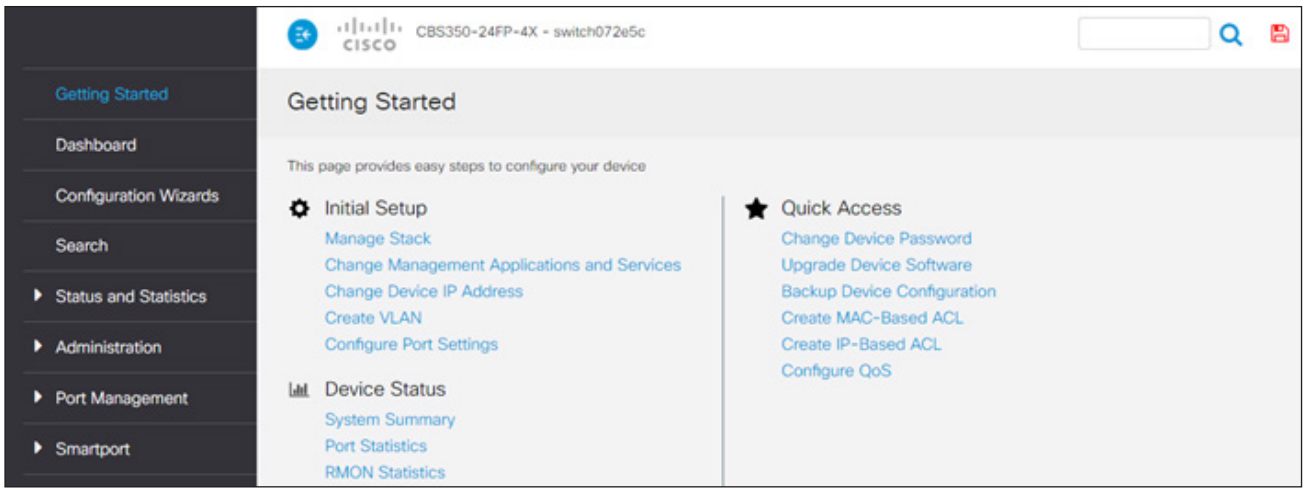
1. Connect a computer directly to the **Gi1/0/1** interface of the switch.
2. In Windows, go to the command prompt, type `ncpa.cpl`, and press [ENTER]. This will display the network properties for Windows.
3. Right-click on the adapter for the network switch and select **Properties** from the context menu.
4. Under the **Ethernet Properties** dialog box, click **Internet Protocol Version 4** and then click the **Properties** button.
5. Click the **Use the following IP address** radio button and enter an IP address in the 192.168.1.0/24 subnet. NOTE: Cisco CBS-series switches ship with a default IP address of 192.168.1.254/24.
6. Set the **Subnet mask** field to 255.255.255.0.
7. Click the **OK** button.
8. Download the configuration file from the link at the top of the page under Cisco CBS350-24FP-4X (page 17).
9. Open a web browser and enter the IP address of 192.168.1.254 to display the switch login screen.



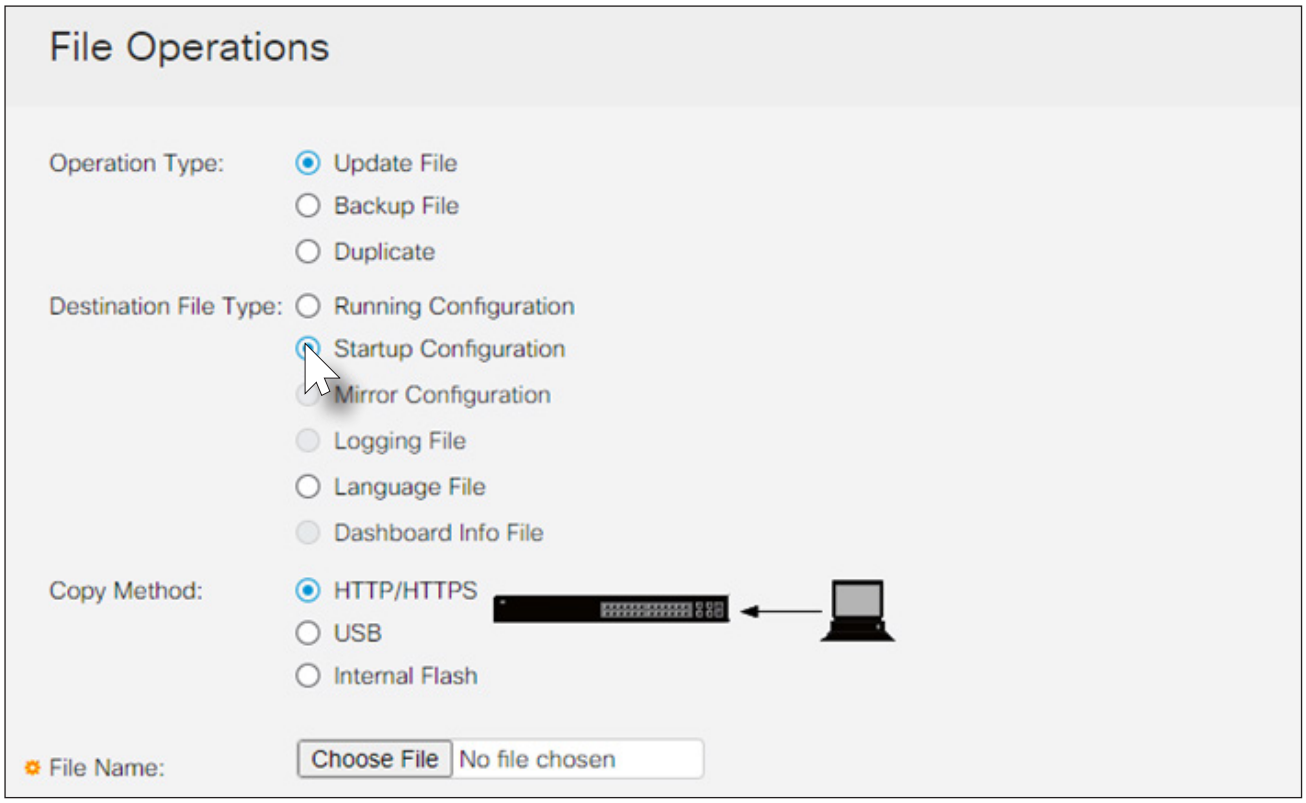
10. Log in using the default credentials:

    Username: cisco
    Password: cisco

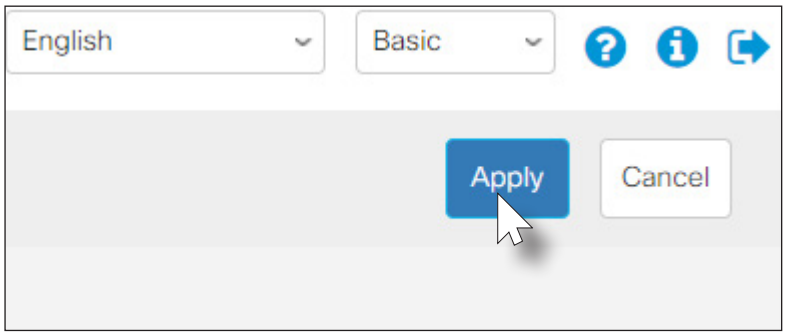
11. When prompted, change the default password. If successful, the **Getting Started** page will be displayed.



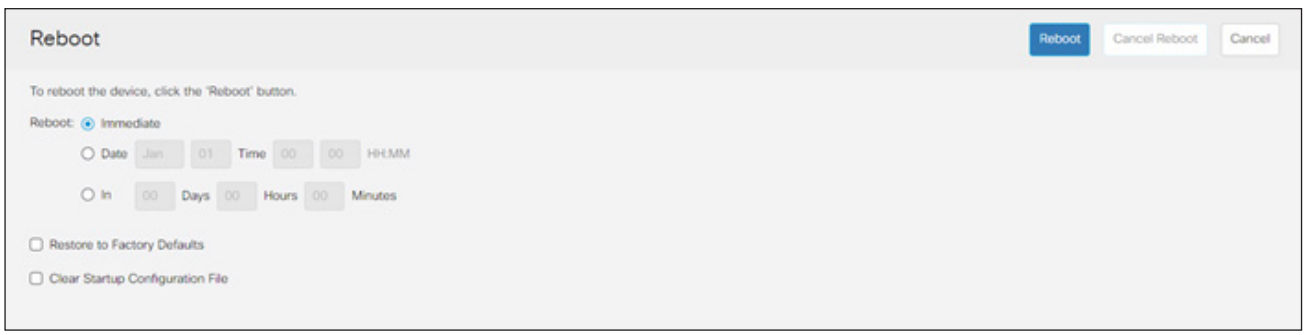
12. Click **Administration** > **File Management** > **File Operations**.
13. Click the **Startup Configuration** radio button.



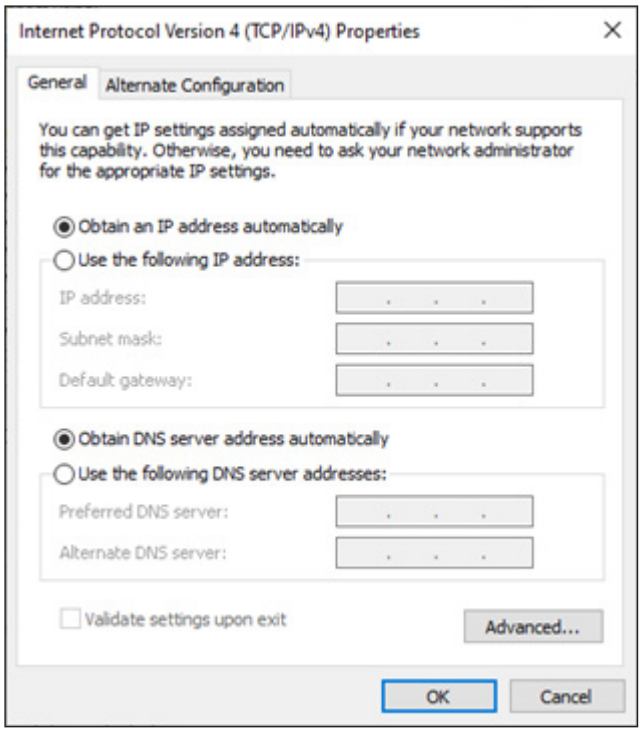
14. Click **Choose File** and select the configuration file, downloaded in Step 6.
15. Click the **Apply** button.



16. Once the upload procedure has completed, click **Administration** > **Reboot**.



17. Return to the **Internet Protocol Version 4 (TCP/IPv4) Properties** window on the computer.
18. Click the **Obtain an IP address automatically** radio button.



19. Launch a web browser and go to 10.1.1.254.
20. Log in to the switch.
21. Configuration is complete.

Cisco CBS350-48FP-4X

Configuration File	https://atlonainc.box.com/s/7bcxbzxmzqj2kcuz2ubbykbj7odgj6sp

Summary

Version: 3.1.0.57

GigabitEthernet ports 1 through 48 for Omnistream.

TenGigabitEthernet ports 1 through 4 are used for management and uplink.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: user configured
  - Password: user configured
- VLAN 1
  - Ports: TenGigabitEthernet 1 through 4
  - Static routing: 192.168.1.254 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: GigabitEthernet ports 1 through 48
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Uploading configuration files to the Cisco CBS350-48FP-4X switch

Follow the instructions under Uploading configuration files to the Cisco CBS350-24FP-4X switch (page 18).

Configuration Files for other CBS350 Switches

Configuration Files	https://atlonainc.box.com/s/99v0zhszwmygwgrg44mn6sk08gjdxgkl

Cisco SG300-10MPP

Configuration File	https://atlonainc.box.com/s/zxo0979vqcd2t4lelxe6ln82k7mvgizt

Summary

Version: 1.4.7.6

Ports 1 through 8 are to be used only for OmniStream.

Ports 9 and 10 are to be used for management and can be connected to another network, such as a router that has Internet access.

NOTE: Before uploading the configuration, change the **System Mode** to **L3** (router mode). The **System Mode** can be changed under **Administration** > **System Settings** > **System Mode**. Refer to the image under Cisco SG300-52MP (page 25) for more information.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 9 and 10
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 8
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Cisco SG300-28MP

Configuration File	https://atlonainc.box.com/s/l0q7wxtnrckgr4clnl9k843ya4menolh

Summary

Version: 1.4.7.6

Ports 1 through 24 are to be used only for OmniStream.

Ports 25 through 28 are to be used for management and can be connected to another network, such as a router that has Internet access.

NOTE: Before uploading the configuration, change the **System Mode** to **L3** (router mode). The **System Mode** can be changed under **Administration** > **System Settings** > **System Mode**. Refer to the image under Cisco SG300-52MP (page 25) for more information.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 25 through 28
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 24
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Cisco SG300-52MP

Configuration File	https://atlonainc.box.com/s/3ty9h2a2nl21csw2boa2tc0st9dxawao

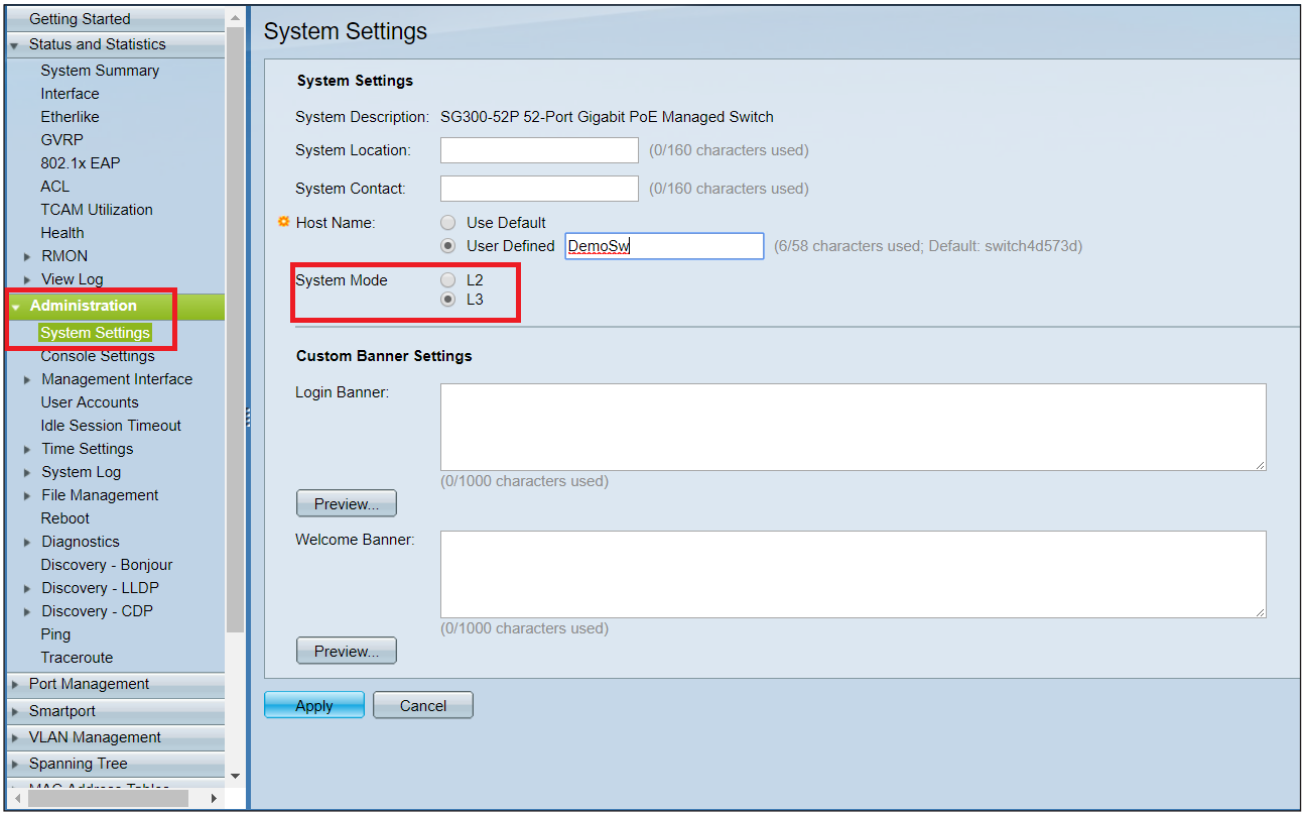
Summary

Version: 1.4.7.6

Ports 1 through 48 are to be used only for OmniStream.

Ports 49 through 52 are to be used for management and can be connected to another network, such as a router that has Internet access.

NOTE: Before uploading the configuration, change the **System Mode** to **L3** (router mode).
The **System Mode** can be changed under **Administration** > **System Settings** > **System Mode**.



Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona

- VLAN 1
  - * Ports: 49 through 52
  - * Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - * Ports: 1 through 48
  - * DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - * Snooping: Enabled
  - * Unregistered flooding: Disabled
  - * Immediate leave: Enabled
  - * Querier: Enabled
  - * Custom multicast address for AT-OMNI-232 management added

Cisco SG350-10MP

Configuration File	https://atlonainc.app.box.com/s/rankeecnh9ey21gtrxrogkafvda2i6r8

Summary

Version: 2.2.8.4

Ports 1 through 8 are to be used only for OmniStream.

Ports 9 and 10 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 9 and 10
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 8
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Cisco SG350-28MP

Configuration File	https://atlonainc.app.box.com/s/zt893yn66iflnqctwcfsx2sc2z6rvpbh

Summary

Version: 2.2.8.4

Ports 1 through 24 are to be used only for OmniStream.

Ports 25 through 28 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 25 through 28
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 24
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Cisco SG350-52MP

Configuration File	https://atlonainc.app.box.com/s/mr18ycd1we66q5v4m2u1i4pjms1qqvzf

Summary

Version: 2.2.8.4

Ports 1 through 48 are to be used only for OmniStream.

Ports 49 through 52 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 49 through 52
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 48
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Cisco SG350X-24MP

Configuration File	https://atlonainc.box.com/s/ovcb2ozkekvcc713hyi7sn5n5lpyvagb

Summary

Version: 2.4.0.91

Ports 1 through 24 (Gigabit) are to be used only for OmniStream.

Ports 1 through 4 (Ten Gigabit) are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports (Ten Gigabit): 1 through 4
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports (Gigabit): 1 through 24
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Cisco SG350X-48MP

Configuration File	https://atlonainc.app.box.com/s/gg8zwwi76g3nc83hxsa607havyf7g8si

Summary

Version: 2.4.0.91

Ports 1 through 48 (Gigabit) are to be used only for OmniStream.

Ports 1 through 4 (Ten Gigabit) are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports (Ten Gigabit): 1 through 4
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports (Gigabit): 1 through 48
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Cisco SG550X-24MP

Configuration File	https://atlonainc.app.box.com/s/w2ux7ckmvd1ezsdk962nv49bxsk2sswu

NOTE: The same configuration can be used for the Cisco SG550X-24MPP.

Summary

Version: 2.3.5.63

Ports 1 through 24 (Gigabit) are to be used only for OmniStream.

Ports 1 through 4 (Ten Gigabit) are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports (Ten Gigabit): 1 through 4
  - Static routing (Ten Gigabit): 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports (Gigabit): 1 through 24
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Cisco SG550X-48MP

Configuration File	https://atlonainc.app.box.com/s/o47er6etart69hxogl95c5rlzkdnp3sx

Summary

Version: 2.3.5.63

Ports 1 through 48 (Gigabit) are to be used only for OmniStream.

Ports 1 through 4 (Ten Gigabit) are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports (Ten Gigabit): 1 through 4
  - Static routing (Gigabit): 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports (Gigabit): 1 through 48
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop protection: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled
  - Custom multicast address for AT-OMNI-232 management added

Extreme Networks X460-G2-24P-10GE4

Configuration File	https://atlonainc.box.com/s/n1jt42gu8njmhx705lt2tclb61kknfkm

Summary

Version: 22.6.1.4

Ports 1 through 24 are to be used only for OmniStream.

Ports 25 through 32 are to be used for management and can be connected to another network, such as a router that has Internet access. Refer to the technical specifications of the switch for usage.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 25 through 32
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 24
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 3 hours
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- SSH: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Unregistered Flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled

Luminex GigaCore 26i

Configuration File	https://atlonainc.box.com/s/gqdm9ulolk7mr4oxr6e28mc7xov9see4

Summary

Version: 2.6.1

Ports 1 through 26 are to be used only for OmniStream.

Configuration Details

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 1 through 26
  - Static routing: 192.168.1.1

NOTE: The Luminex GigaCore26i switch cannot act as a DHCP server. For installations that require DHCP, connect an external DHCP server to the switch. The Luminex GigaCore26i switch is a L2 switch and can accommodate multiple L2 VLANs or networks, but cannot route between those networks. In order to route traffic between multiple VLANs, a user has to connect a router that will handle the routing between multiple networks.

- VLAN 1
  - Ports: 1 through 26
  - DHCP range: N/A
- DHCP lease time: N/A
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop Protection: Enabled
- SSH: Enabled
- IGMP
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled

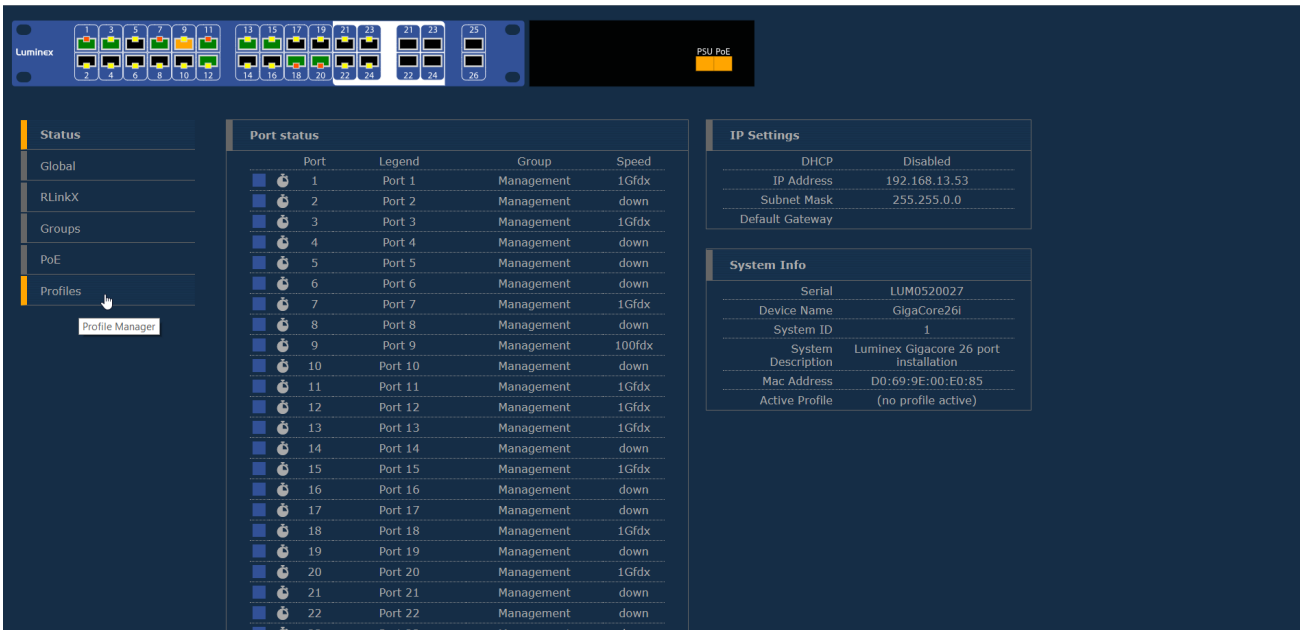
Uploading configuration files to the Luminex GigaCore 26i switch

NOTE: The default IP address of the switch is 192.168.13.53 (255.255.0.0).

1. Download the Luminex GigaCore 26i configuration file from the link under Luminex GigaCore 26i (page 35).
2. Open a web browser and enter the IP address of the switch in the address bar.
3. Enter the login credentials. The following are the default login credentials:

   Username: admin
   Password: (no password)

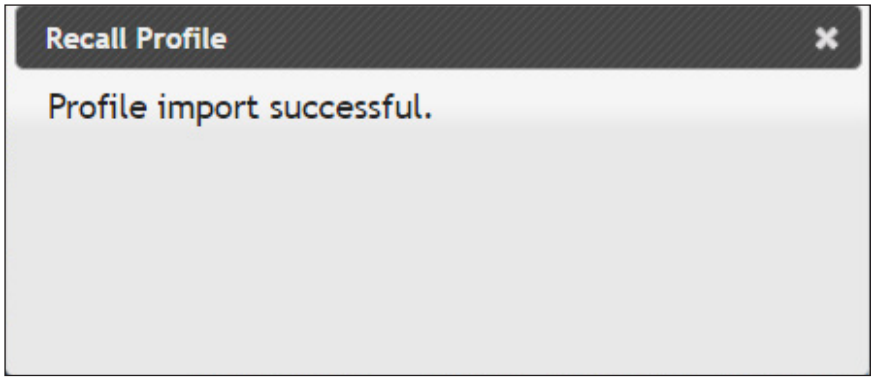
4. Click **Profiles** in the side menu bar to access the **Profile Manager**.



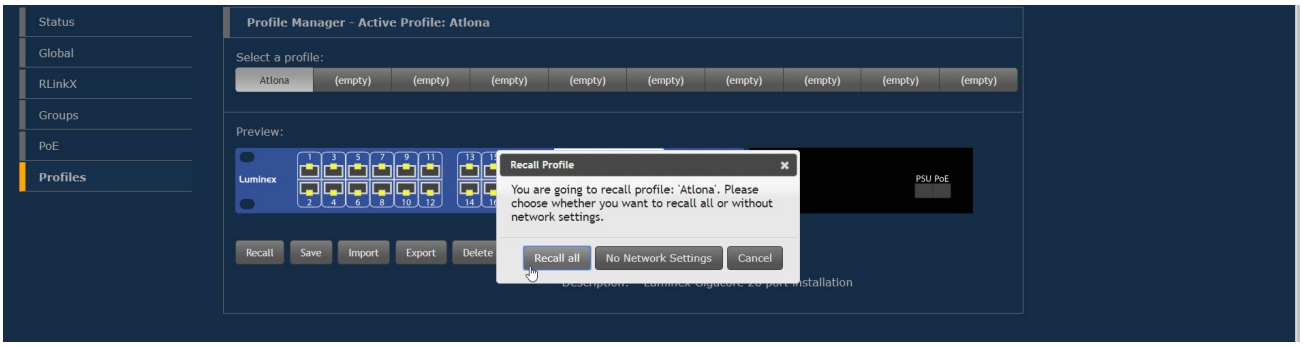
5. In the **Profile Manager** window group, click the **Import** button and select the `Luminex GigaCore 26i Configuration for Atlona OmniStream.txt` file.



Once the file has been uploaded, a message box will be displayed indicating that the import procedure was successful. Click the “X” in the upper-right corner of the message box to dismiss it.



6. Click the **Recall** button. The **Recall Profile** dialog box will be displayed. Click **Recall all**, as shown on the next page.



NOTE: After the **Recall all** button is clicked, the switch will reboot and load the Atlona configuration file. The IP address of the switch will change from 192.168.13.53 (255.255.0.0) to 192.168.1.254 (255.255.255.0).

7. Change the IP address of the laptop to match the IP address range of the switch.

8. Log in to the switch with the following credentials:

   Username: admin
   Password: Atlona

NOTE: This configuration is based on VLAN 1. If a user requires configuration for a specific VLAN, then it will need to be a custom configuration.

Luxul AMS-4424P

Configuration File	https://atlonainc.box.com/s/jhqkpbra26sds32rr6nj4atizkpsyhry

Summary

Version: 4.1.3

Ports 1 through 22 are to be used only for OmniStream.

Ports 23 and 26 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://192.168.1.254**
VLAN 10: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 23 through 26
  - Static routing: 192.168.1.1 (home router for Internet traffic)

IMPORTANT: Ports 25 and 26 are SFP+ interfaces and intended for 1G/10G transceivers.

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 22
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop Protection: Enabled
- SSH: Enabled
- IGMP
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled

Luxul XMS-2624

Configuration File	https://atlonainc.box.com/s/facgyfw6mxjmk35idsfdvjzmou782l0d

Summary

Version: 4.2.3

Ports 1 through 24 are to be used only for OmniStream.

Ports 25 and 26 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://192.168.1.254**
VLAN 10: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 25 through 26
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 24
  - DHCP range: 10.1.0.1 through 10.1.1.0

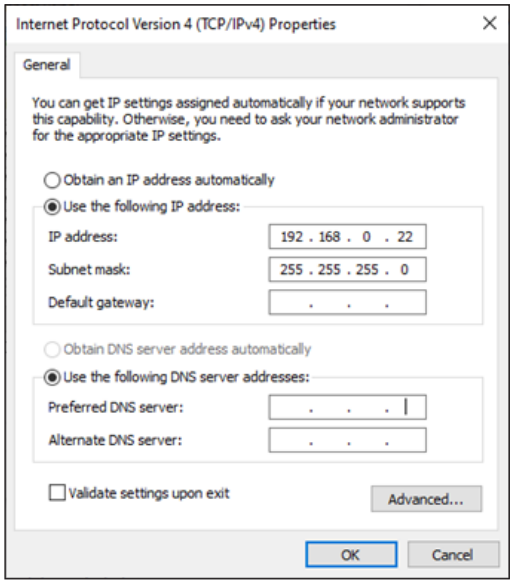
NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop Protection: Enabled
- SSH: Enabled
- IGMP
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled

Uploading configuration files to the Luxul XMS-2624 switch

NOTE: The following configuration is compatible with the Luxul AMS-2624

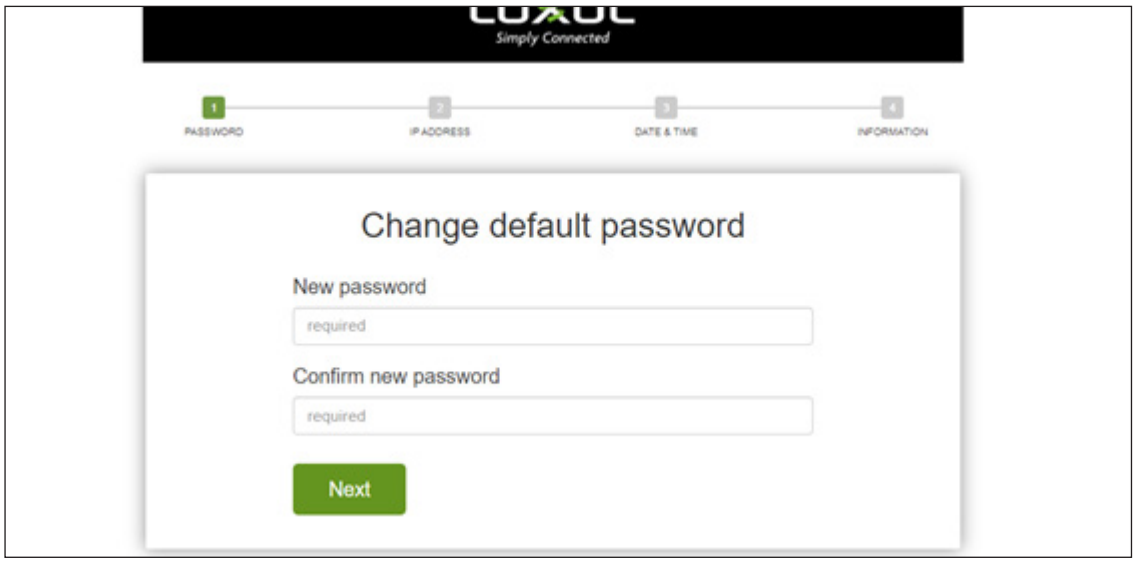
1. Download the Luxul XMS-2624 configuration file from the link under Luxul XMS-2624 (page 39).
2. Connect the PC to Ethernet interface 1 on the switch.
3. Configure the PC Ethernet interface with a static IP address in the `192.168.0.0/24` range.



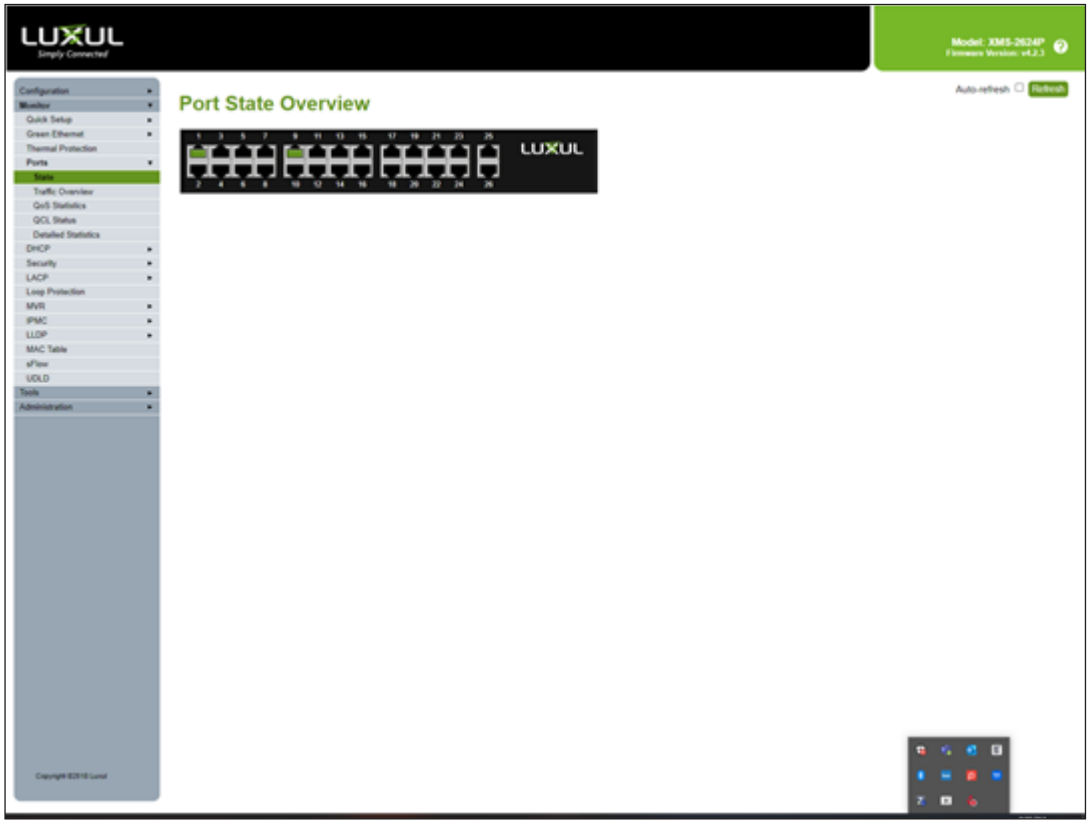
4. Open a web browser and navigate to `192.168.0.4`. This is the default IP address of the switch.
5. Enter the login credentials. The following are the default login credentials:

   Username: admin
   Password: admin

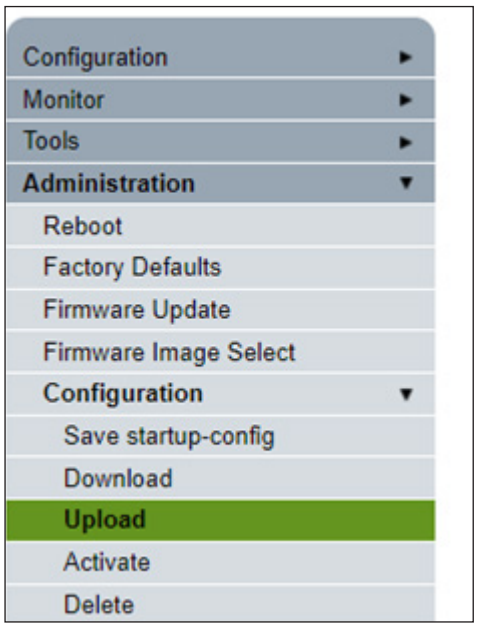
6. The **Change default password** screen will be displayed. Create a new password, then click **Next**.



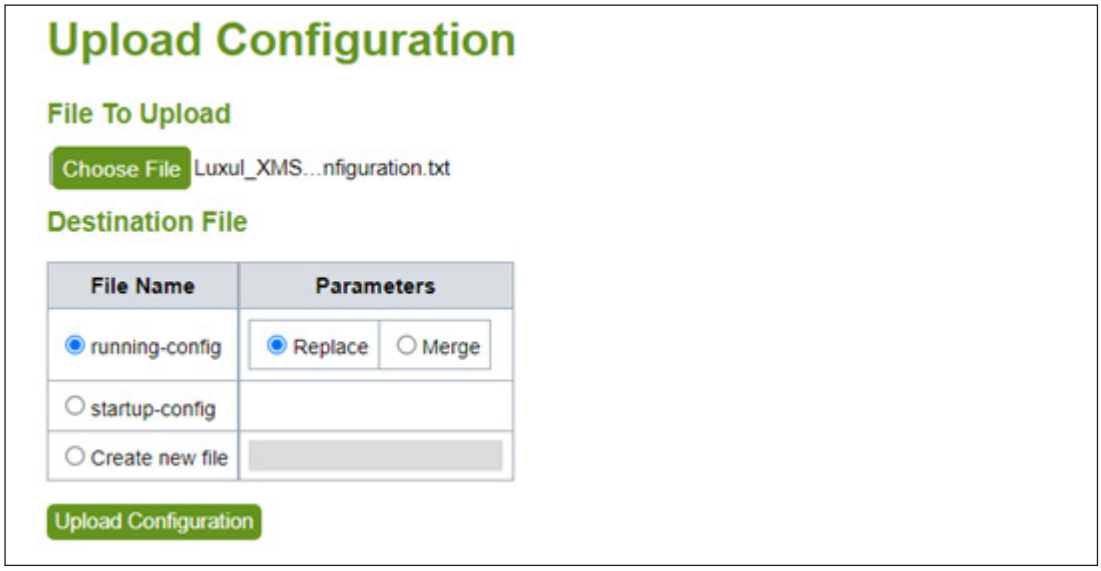
7. Click **Next** when asked to set the IP address.
8. Click **Next** when asked to set date and time.
9. Click **Apply** when asked to set system information.
10. Enter the username and new password on the **Login** screen.
11. The **Port State Overview** page will be displayed.



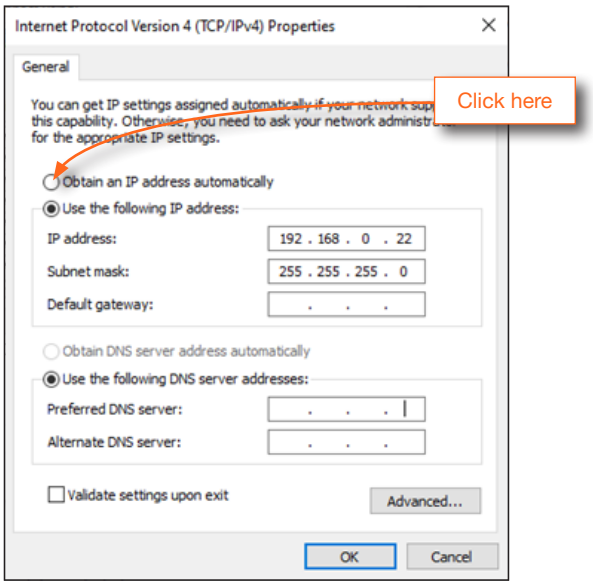
12. Click **Administration** > **Configuration**, then click **Upload**.



13. Click the **Choose File** button and select the configuration file that was downloaded in Step 1.
14. Click the **running-config** radio button.
15. Under **Parameters**, click the **Replace** radio button.
16. Click **Upload Configuration** to upload the file to the switch.



17. On the PC, return to the **Internet Protocol Version 4 (TCP/IPv4) Properties** dialog, from Step 3, and click the **Obtain an IP address automatically** radio button.



18. Launch a web browser and enter the IP address of `10.1.1.254` in the address bar.
19. Repeat Steps 6 through 11.

20. Click **Administration** > **Configuration**, then click **Save startup-config**.
21. Click **Save Configuration**.



NETGEAR M4250-10G2F-PoE+

The following configuration will also work on the following switch models:

- M4250-10G2F-PoE+ (GSM4212P)
- M4250-10G2XF-PoE+ (GSM4212PX)
- M4250-10G2XF-PoE++ (GSM4212UX)

IMPORTANT: The M4250-10G2F-PoE+ (GSM4212P) provides 1G/s uplinks. Therefore, this switch should only be used in standalone applications and not as a core or distribution layer switch.

Configuration File	https://atlonainc.app.box.com/s/i6e6d3he65f7exuzd4ixpas9blvh4xb3

Summary

Version: 13.0.2.21

Ports 1 through 10 can be used to connect OmniStream devices.

Ports 11 through 12 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://192.168.1.254**
VLAN 10: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: user configured
- VLAN 1
  - Ports: 11 through 12
  - Static routing: 192.168.1.254 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

Continued on next page.

Configuration Details (continued)

- VLAN 10
  - * Ports: 1 through 10
  - * DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Loop protection: Enabled
- IGMP (VLAN 10 only)
  - * Snooping: Enabled
  - * Immediate leave: Enabled
  - * Querier: Enabled

NETGEAR M4250-26G4F-PoE+

NOTE: The following configuration will also work on the following switch models:
- M4250-26G4F-PoE++ (GSM4230UP)
- M4250-26G4XF-PoE+ (GSM4230PX)

Configuration File	https://atlonainc.app.box.com/s/9veozfcdvv46r9wqpgo75yxyokb4k3ib

Summary

Version: 13.0.2.21

Ports 1 through 26 can be used to connect OmniStream devices.

Ports 27 through 30 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://192.168.1.254**
VLAN 10: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: user configured

- VLAN 1
  - Ports: 27 through 30
  - Static routing: 192.168.1.254 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 26
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Loop protection: Enabled

- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

NETGEAR M4250-40G8F-PoE+

NOTE: The following configuration will also work on the following switch models:
- M4250-40G8XF-PoE+ (GSM4248PX)
- M4250-40G8XF-PoE++ (GSM4248UX)

Configuration File	https://atlonainc.app.box.com/s/2pg4rkblbxk45ka4kfuz0sv4hs43pxnl

Summary

Version: 13.0.2.21

Ports 1 through 40 can be used to connect OmniStream devices.

Ports 41 through 48 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://192.168.1.254**
VLAN 10: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: user configured

- VLAN 1
  - Ports: 41 through 48
  - Static routing: 192.168.1.254 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 40
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Loop protection: Enabled

- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

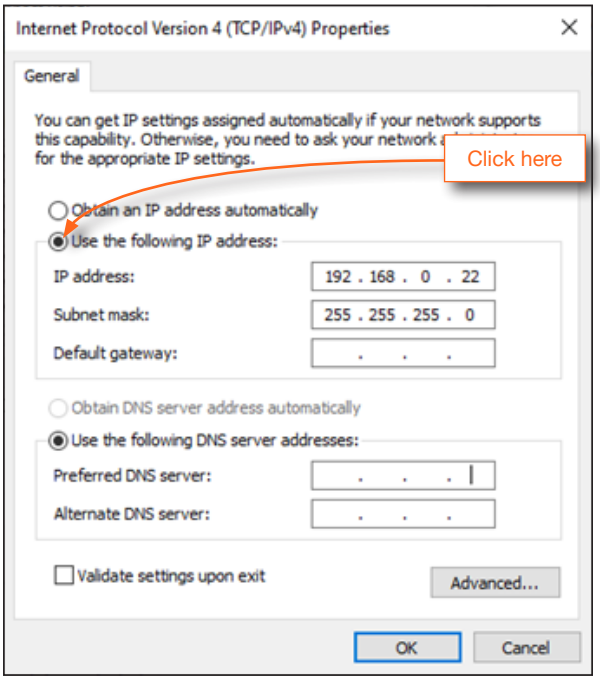
IGMP Filtering

The following table lists IP addresses which are excluded from IGMP filtering, and should not be used.

Groups of consecutive addresses in the range of 224.0.0.18 to 239.0.0.18		Groups of consecutive addresses in the range of 224.128.0.18 to 239.128.0.18	
224.0.0.18	232.0.0.18	224.128.0.18	232.128.0.18
225.0.0.18	233.0.0.18	225.128.0.18	233.128.0.18
226.0.0.18	234.0.0.18	226.128.0.18	234.128.0.18
227.0.0.18	235.0.0.18	227.128.0.18	235.128.0.18
228.0.0.18	236.0.0.18	228.128.0.18	236.128.0.18
229.0.0.18	237.0.0.18	229.128.0.18	237.128.0.18
230.0.0.18	238.0.0.18	230.128.0.18	238.128.0.18
231.0.0.18	239.0.0.18	231.128.0.18	239.128.0.18

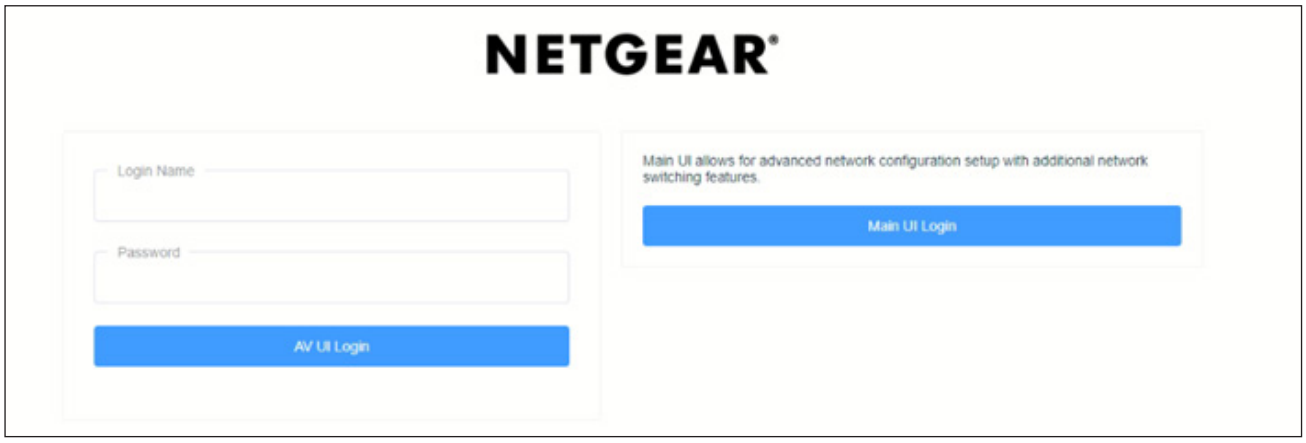
Uploading configuration files to NETGEAR M4250 switches

1. Connect a computer directly to the switch using the out-of-band (OOB) interface.
2. In Windows, go to the command prompt, type `ncpa.cpl`, and press [ENTER]. This will display the network properties for Windows.
3. Right-click on the adapter for the network switch and select **Properties** from the context menu.
4. Under the **Ethernet Properties** dialog box, click **Internet Protocol Version 4** and then click the **Properties** button.
5. Click the **Use the following IP address** radio button and enter 192.168.0.22 in the **IP address** field. This assigns a static IP address to the computer for communicating with the network switch.
6. Set the **Subnet mask** field to 255.255.255.0.
7. Click the **OK** button.



8. Download the configuration file from the link at the top of the page under NETGEAR M4250-10G2F-PoE+ (page 44), NETGEAR M4250-26G4F-PoE+ (page 46), or NETGEAR M4250-40G8F-PoE+ (page 47).

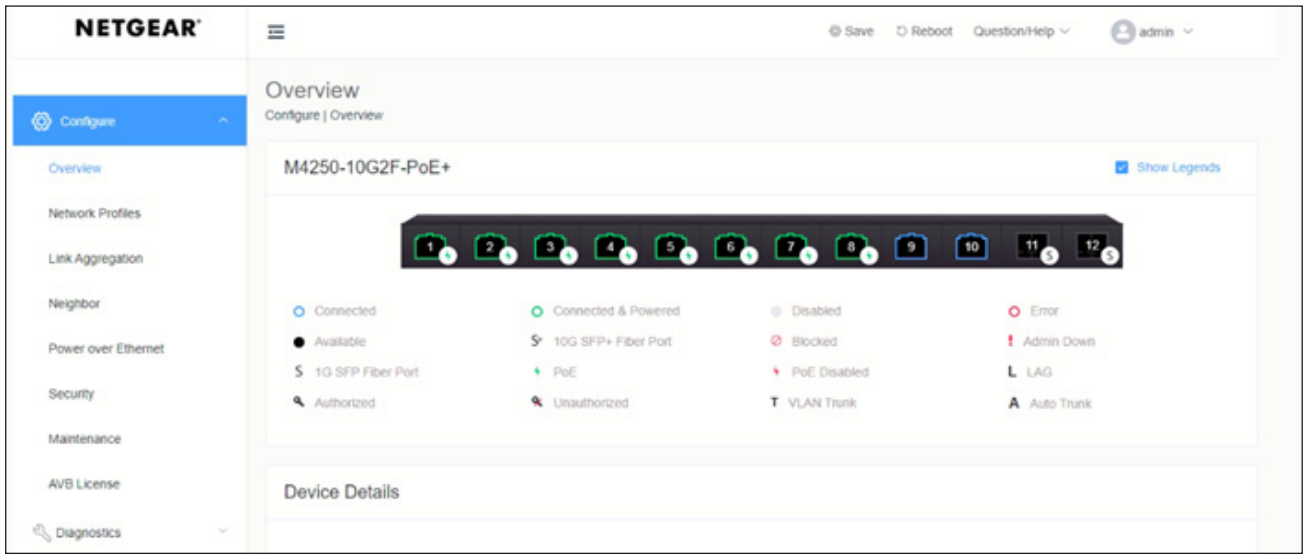
9. Open a web browser and enter the IP address of 192.168.0.239 to display the login screen.



10. Log in using the default credentials:

    Username: admin
    Password: (leave blank)

11. When prompted, change the default password. If successful, the **Overview** page will be displayed.



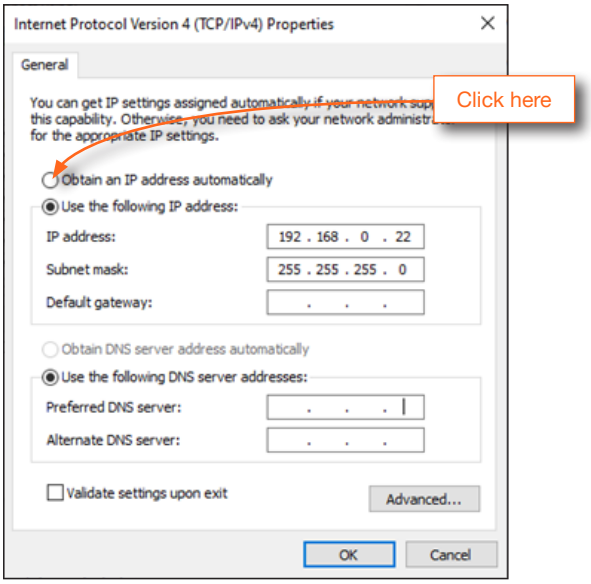
12. Click **Maintenance**, in the left menu bar.

13. Click **Browse File**, under **Restore**, and select the configuration file to be uploaded.

14. Click the **Upload** button to upload the configuration file to the switch.



15. After the configuration file has been successfully uploaded, click the **Restore Now** button.
16. Bring back the **Internet Protocol Version 4** window from Step 7, and click the **Obtain an IP address automatically** radio button. This removes the static IP address assignment and restores DHCP mode.



17. Click the **OK** button to apply changes.
18. Configuration is complete.

NETGEAR M4300-28G-PoE+

Configuration File	https://atlonainc.box.com/s/tarn01a0jmkbvxlsl3njctho32cab2vo

Summary

Version: 12.0.7.17

Ports 1 through 24 can be used to connect OmniStream devices.

Ports 25 through 28 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://192.168.1.254**
VLAN 10: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 25 through 28
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 24
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

NETGEAR M4300-52G-PoE+

Configuration File	https://atlonainc.box.com/s/ftjqi7cyhp0fxprecaxg6tvwqzn3plg5

IMPORTANT: The GSM4352PA model provides a 480 W PoE budget with a single power supply. Depending on the number of connected PoE receivers, two power supplies may be required. Refer to the following datasheet: https://www.downloads.netgear.com/files/GDC/datasheet/en/M4300.pdf

Summary

Version: 12.0.7.17

Ports 1 through 48 can be used to connect OmniStream devices.

Ports 49 through 52 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP address:
VLAN1: **http://192.168.1.254**
VLAN 10: **http://10.1.1.254**

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 49 through 52
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 48
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

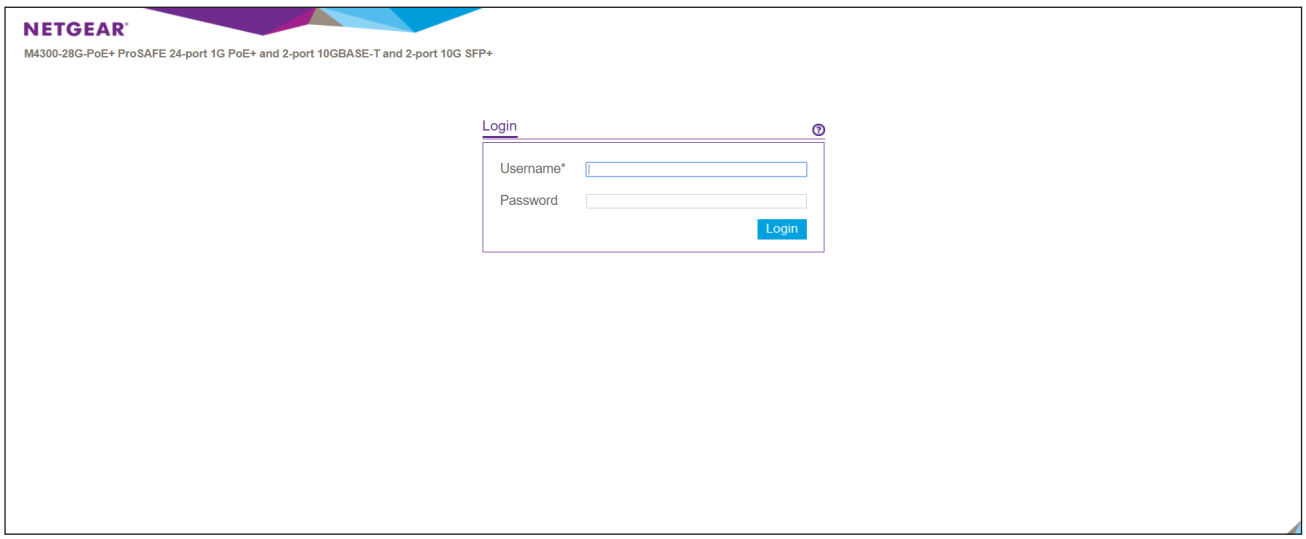
Uploading configuration files to NETGEAR 4300 switches

IGMP Filtering

The following table lists IP addresses which are excluded from IGMP filtering, and should not be used.

Groups of consecutive addresses in the range of 224.0.0.18 to 239.0.0.18		Groups of consecutive addresses in the range of 224.128.0.18 to 239.128.0.18	
224.0.0.18	232.0.0.18	224.128.0.18	232.128.0.18
225.0.0.18	233.0.0.18	225.128.0.18	233.128.0.18
226.0.0.18	234.0.0.18	226.128.0.18	234.128.0.18
227.0.0.18	235.0.0.18	227.128.0.18	235.128.0.18
228.0.0.18	236.0.0.18	228.128.0.18	236.128.0.18
229.0.0.18	237.0.0.18	229.128.0.18	237.128.0.18
230.0.0.18	238.0.0.18	230.128.0.18	238.128.0.18
231.0.0.18	239.0.0.18	231.128.0.18	239.128.0.18

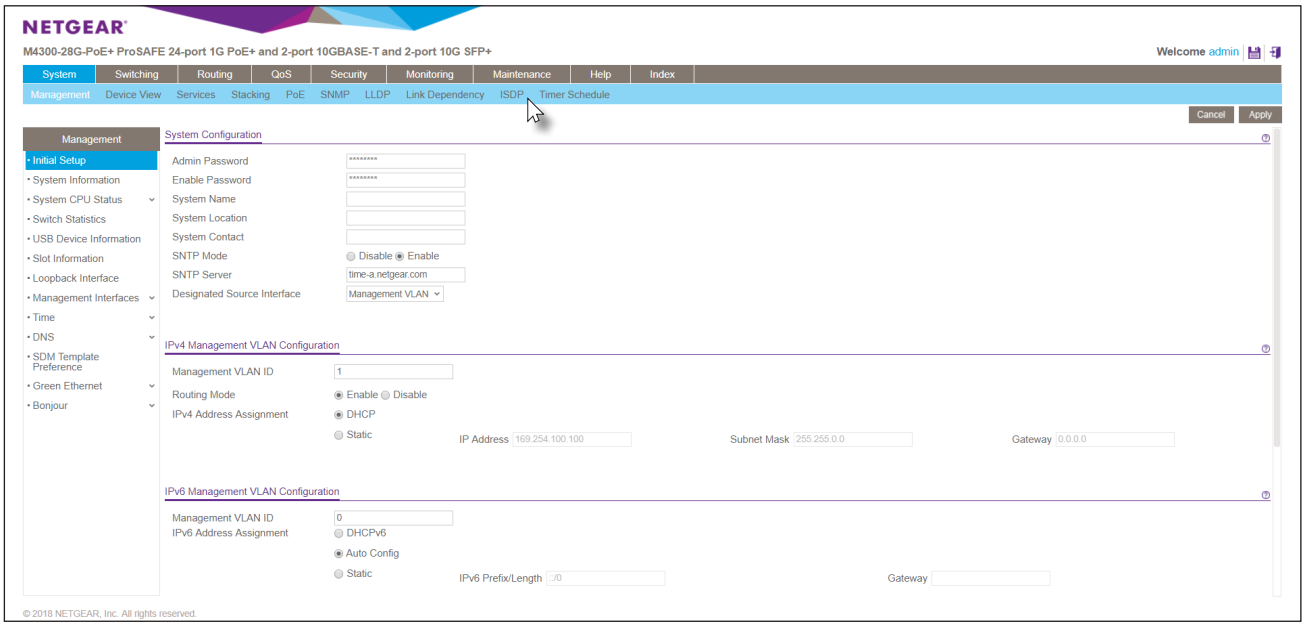
1. Connect a computer directly to the switch using the out-of-band (OOB) interface.
2. In Windows, go to the command prompt, type `ncpa.cpl`, and press [ENTER]. This will display the network properties for Windows.
3. Right-click on the adapter for the network switch and select **Properties** from the context menu.
4. Under the **Ethernet Properties** dialog box, click **Internet Protocol Version 4** and then click the **Properties** button.
5. Click the **Use the following IP address** radio button and enter an IP range between 192.168.0.1 through 192.168.0.254.
6. Set the **Subnet mask** field to 255.255.255.0.
7. Click the **OK** button, then minimize the **Network Connections** window. This window will be used again, later in the procedure.
8. Download the configuration file from the link at the top of the page under NETGEAR M4300-28G-PoE+ (page 51) or NETGEAR M4300-52G-PoE+ (page 52).



9. Open a web browser and enter the IP address of 192.168.0.239 to display the login screen.

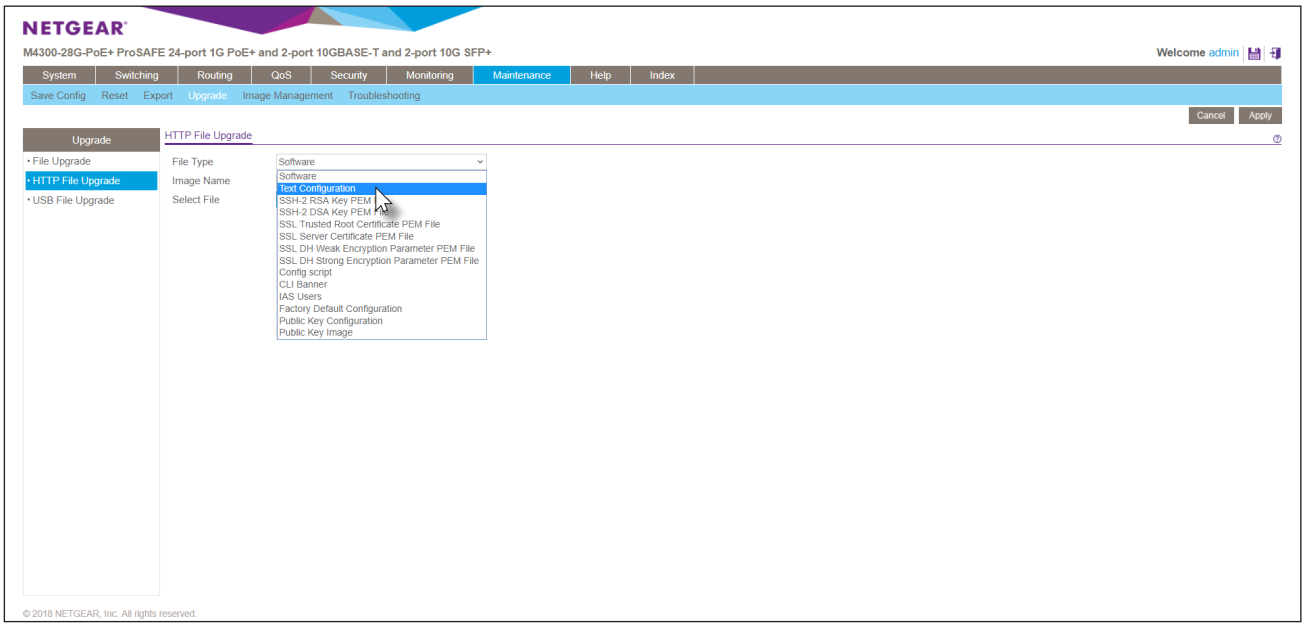
10. Log in using the default credentials:

    Username: admin
    Password: (leave blank)

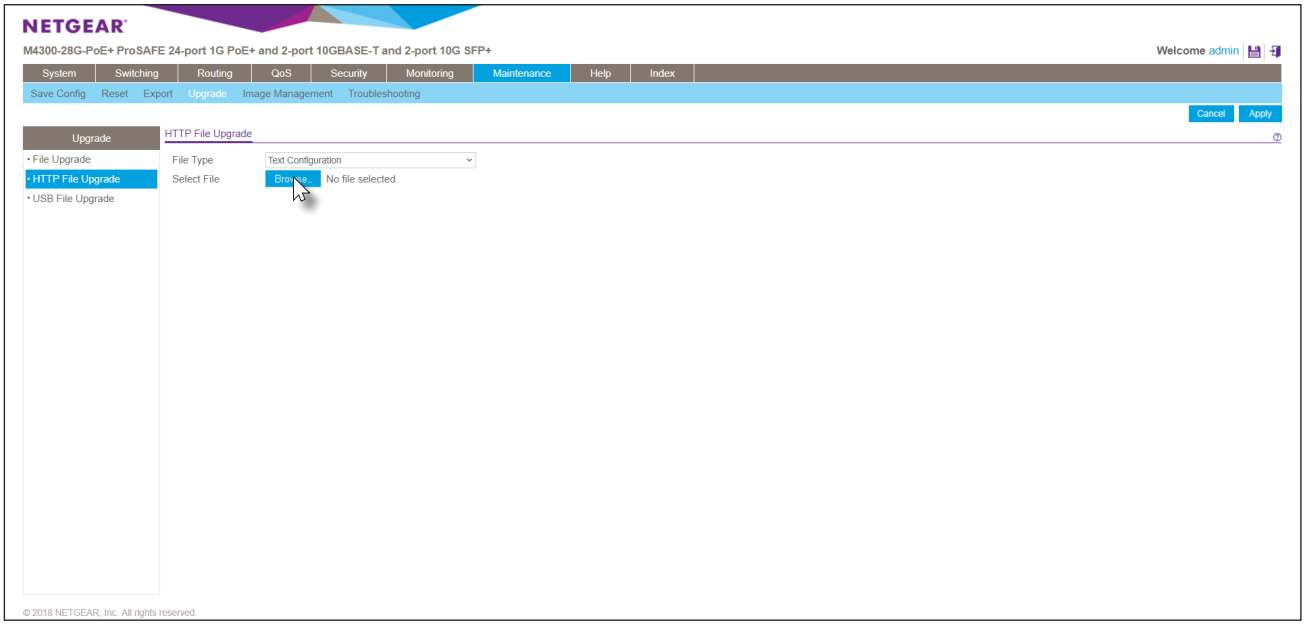


11. Click the **Maintenance** tab, at the top of the screen, then click the **Upgrade** tab.

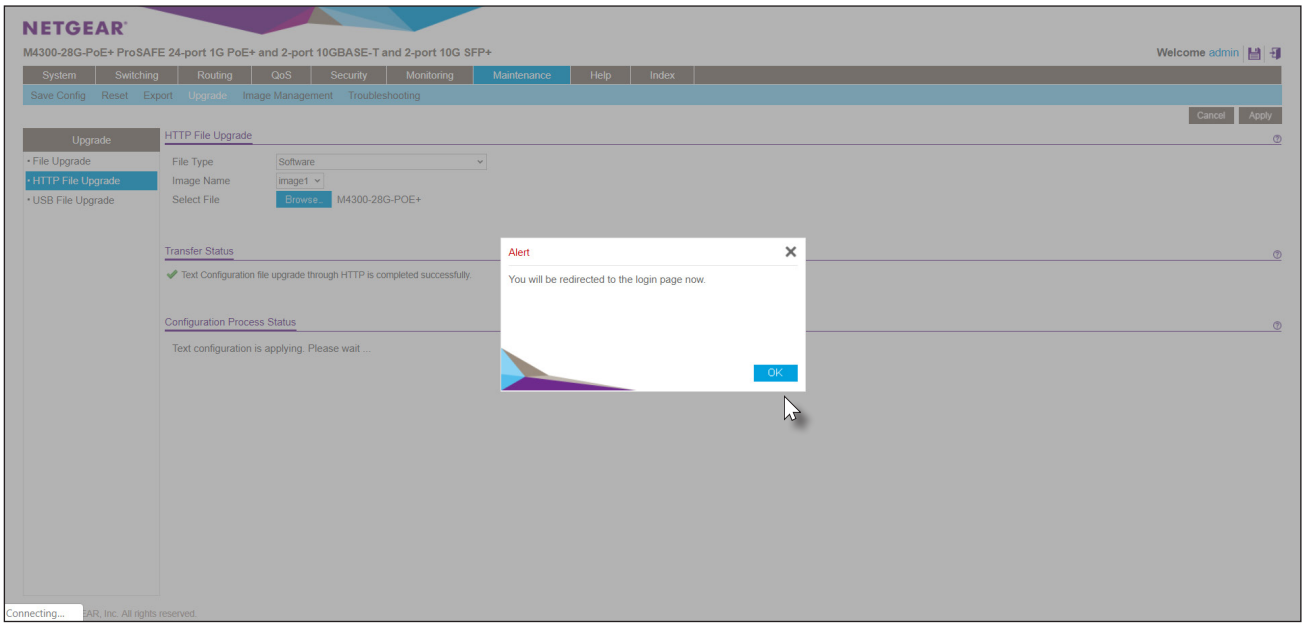
12. Click **HTTP File Upgrade** in the menu bar on the left side of the screen.



13. Click the **File Type** drop-down list and select **Text Configuration**.



14. Click the **Browse...** button and select the configuration file to be uploaded.



15. After the configuration file has been successfully uploaded, a message box will be displayed indicating that the web interface redirect to the login page. Click **OK** to dismiss the message box.

16. Maximize the **Network Connections** window from Step 7, and click the **Obtain an IP address automatically** radio button, then click **OK** to apply changes.

17. Configuration is complete.

Pakedge S3L-24P

Configuration File	https://atlonainc.app.box.com/s/atpqziv3rbtf82ps7kgvoub6c66mk5p2

Summary

Version: 1.0.0

Ports 1 through 23 are to be used only for OmniStream.

Ports 24 through 28 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 24 through 28
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 23
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

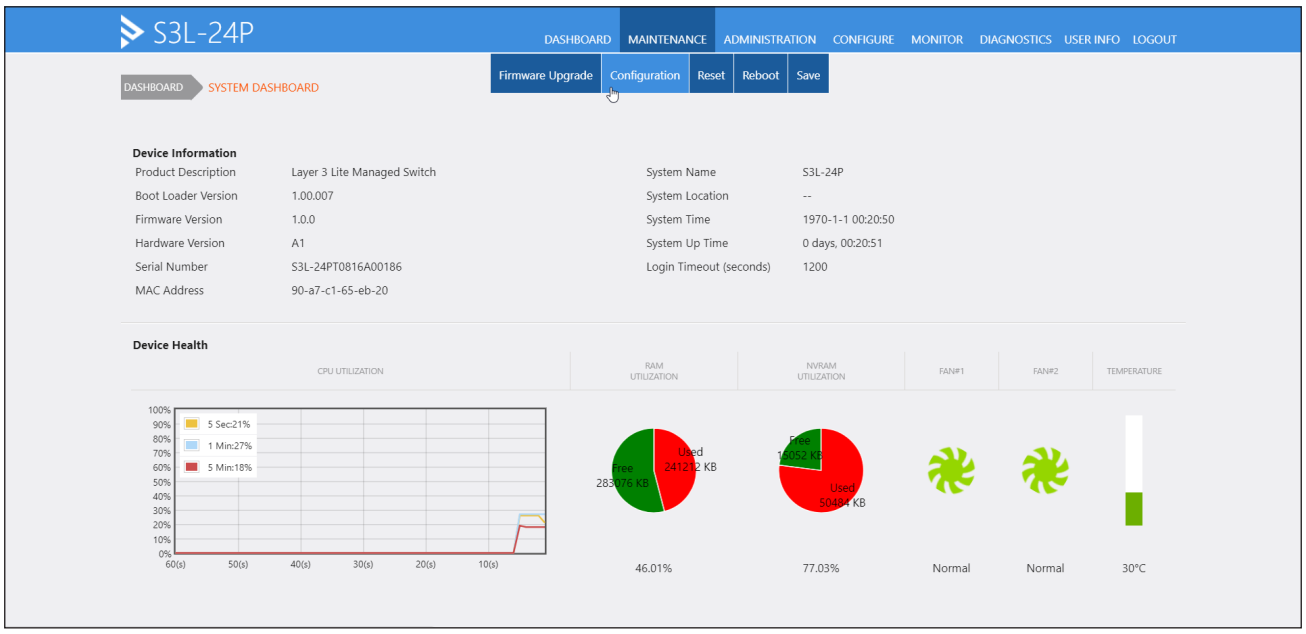
- DHCP lease time: 7 days
- Spanning tree mode: Point-to-Point
- BPDU guard: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

Uploading configuration files to the Pakedge S3L-24P switch

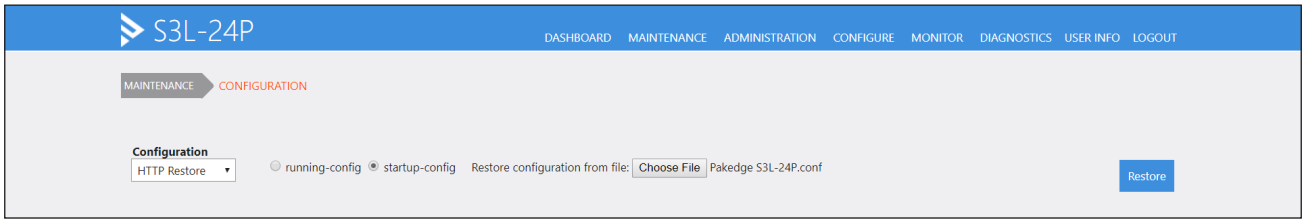
1. Download the Pakedge S3L-24P configuration file from the link under Pakedge S3L-24P (page 56).
2. Open a web browser and enter the IP address of the switch in the address bar.
3. Enter the login credentials. The following are the default login credentials:

   Username: pakedge
   Password: pakedges

4. Click **Maintenance** > **Configuration** at the top of the page.



4. Select **HTTP Restore** from the **Configuration** drop-down list.
5. Click **Choose File** and select the `Pakedge S3L-24P.conf` file.



6. Click the **Restore** button, on the right.
7. Configuration is complete.

Ruckus ICX 7150-48ZP

Configuration File	https://atlonainc.box.com/s/cpzy20qmnfdbf8sg3gga27hgkca6ddvx

Summary

Version: 08.0.70d

Ports 1 through 48 are to be used only for OmniStream.

Configuration Details

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 1 through 48
  - Static routing: 10.10.8.1

NOTE: Ruckus switches use two types of images: 1. Switch Image 2. Router Image. This configuration is based on the Switch image. Before applying this configuration, make sure that the switch is running the Switch image.

Assumptions: This configuration is a flat Layer 2 configuration. To route across multiple networks, a router will be required. This configuration also assumes that there is an external DHCP server (home router).

- VLAN 1
  - Ports: 1 through 48
  - DHCP range: N/A
- DHCP lease time: N/A
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- Green Ethernet: Disabled
- Loop Protection: Enabled
- SSH: Enabled
- Telnet: Enabled
- IGMP
  - Snooping: Enabled
  - Unregistered flooding: Disabled
  - Immediate leave: Enabled
  - Querier: Enabled

Uploading configuration files to the Ruckus ICX 7150-48ZP switch

NOTE: By default, Ruckus switches do not have a static IP address, but can act as a DHCP client.

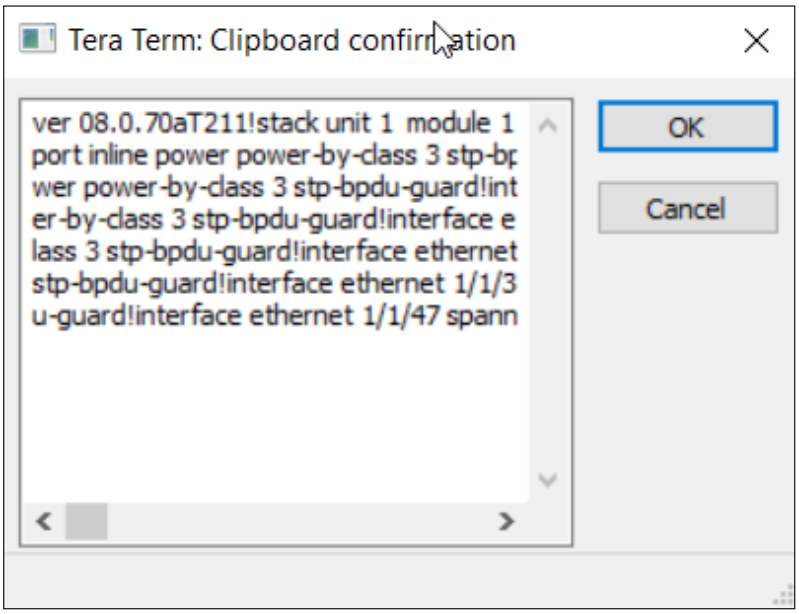
1. Download the Ruckus ICX 7150-48ZP configuration file here.
2. Open a console session to the switch.
3. Enter the **en** command at the command prompt.

```
ICX7150-48ZP Switch>en
No password has been assigned yet...
ICX7150-48ZP Switch#
```

4. Press [ENTER] then type **conf t** at the command prompt.

```
ICX7150-48ZP Switch#conf t
ICX7150-48ZP Switch(config)#
```

5. Press [ENTER].
6. Open the configuration file in a text editor and copy-and-paste the contents of the configuration file into the console window.



7. Type the **wr mem** command at the command prompt and press [ENTER].

```
DemoSw#
DemoSw#wr mem

 There is no startup config file, unable to save legacy config

Flash Memory Write (8192 bytes per dot)
.
Write startup-config done.
Copy Done.
```

8. Configuration is complete.

   To access the switch, use the IP address 10.10.8.254 and log in using the following credentials:

   username: **admin**
   password: **Atlona**

Ubiquiti ES-24-500W / ES-24-250W

Configuration File	https://atlonainc.box.com/s/xpcrqhwco946b80lqbz9dafk8u07cjmp

It should be noted that the only difference between the ES-24-500W and ES-24-250W switch is the power consumption. The configuration information for both switches is identical. Refer to Uploading configuration files to Ubiquiti switches (page 63) for details on uploading the configuration file to the switch.

Summary

Version: 1.8.1

Ports 1 through 22 are to be used only for OmniStream.

Ports 23 through 26 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 23 through 26
  - Static routing: 192.168.1.1 (home router for Internet traffic)

IMPORTANT: Ports 25 - 26, are SFP interfaces and intended for 1G transceivers.

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 22
  - DHCP range: 10.1.0.1 through 10.1.1.0

NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

Ubiquiti ES-48-500W / ES-48-750W

Configuration File	https://atlonainc.box.com/s/xkzril8ihpeuf551124rc20a12yg1ksl

It should be noted that the only difference between the ES-48-500W and ES-48-750W switch is the power consumption. The configuration information for both switches is identical. Refer to Uploading configuration files to Ubiquiti switches (page 63) for details on uploading the configuration file to the switch.

Summary

Version: 1.8.0

Ports 1 through 46 are to be used only for OmniStream.

Ports 47 through 52 are to be used for management and can be connected to another network, such as a router that has Internet access.

Configuration Details

Once the configuration file has been uploaded, access the switch GUI using the following IP addresses:
VLAN1: **http://192.168.1.254**
VLAN10: **http://10.1.1.254**.

- Hostname: DemoSw
- Login credentials
  - Username: admin
  - Password: Atlona
- VLAN 1
  - Ports: 47 through 52
  - Static routing: 192.168.1.1 (home router for Internet traffic)

NOTE: DHCP is not enabled on VLAN 1. It is expected that these ports would be connected to an external network with its own DHCP server, which must be using the 192.168.1.1 through 192.168.1.254 range to function properly with this configuration. If a different IP range is used, then the switch configuration must be modified, accordingly.

- VLAN 10
  - Ports: 1 through 46
  - DHCP range: 10.1.0.1 through 10.1.1.0

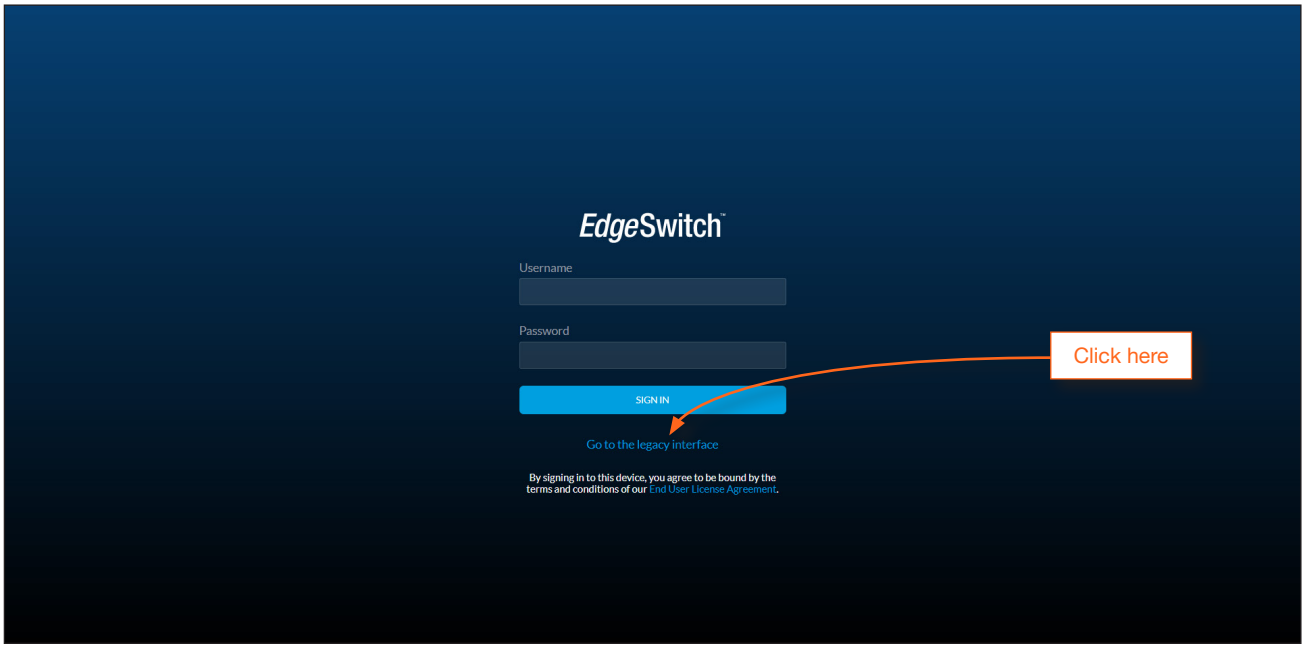
NOTE: Static address assignments may be made in the 10.1.1.1 through 10.1.1.253 range with a subnet mask of 255.255.254.0.

- DHCP lease time: 7 days
- Spanning tree mode: RSTP
- BPDU guard: Enabled
- IGMP (VLAN 10 only)
  - Snooping: Enabled
  - Immediate leave: Enabled
  - Querier: Enabled

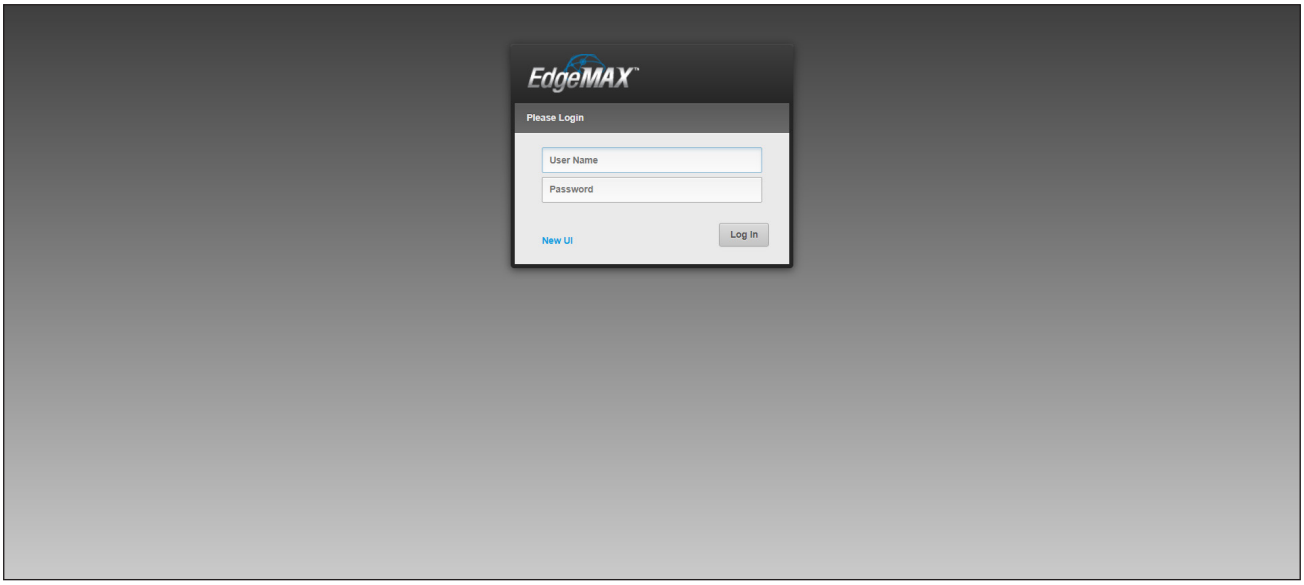
Uploading configuration files to Ubiquiti switches

1. In Windows, go to the command prompt, type `ncpa.cpl`, and press [ENTER]. This will display the network properties for Windows.
2. Right-click on the adapter for the network switch and select **Properties** from the context menu.
3. Under the **Ethernet Properties** dialog box, click **Internet Protocol Version 4** and then click the **Properties** button.
4. Click the **Use the following IP address** radio button and enter an IP address that is within the range of the network switch. For example, if the switch is 192.168.1.2, then enter an IP address of 192.168.1.10.
5. Set the **Subnet mask** field to 255.255.255.0.
6. Click the **OK** button, then minimize the **Network Connections** window. This window will be used again, later in the procedure.
7. Download the correct configuration file from the link at the top of the previous Ubiquiti configuration pages.
8. Power on the switch. Once the switch is powered, it will attempt to locate a DHCP server to assign an IP address. However, by default, if no DHCP server is found, it will be assigned the static IP address of 192.168.1.2.
9. Open a web browser and enter the IP address of the switch in the address bar and display the login screen.
10. Click the **Go to the legacy interface** link, under the **SIGN IN** button.

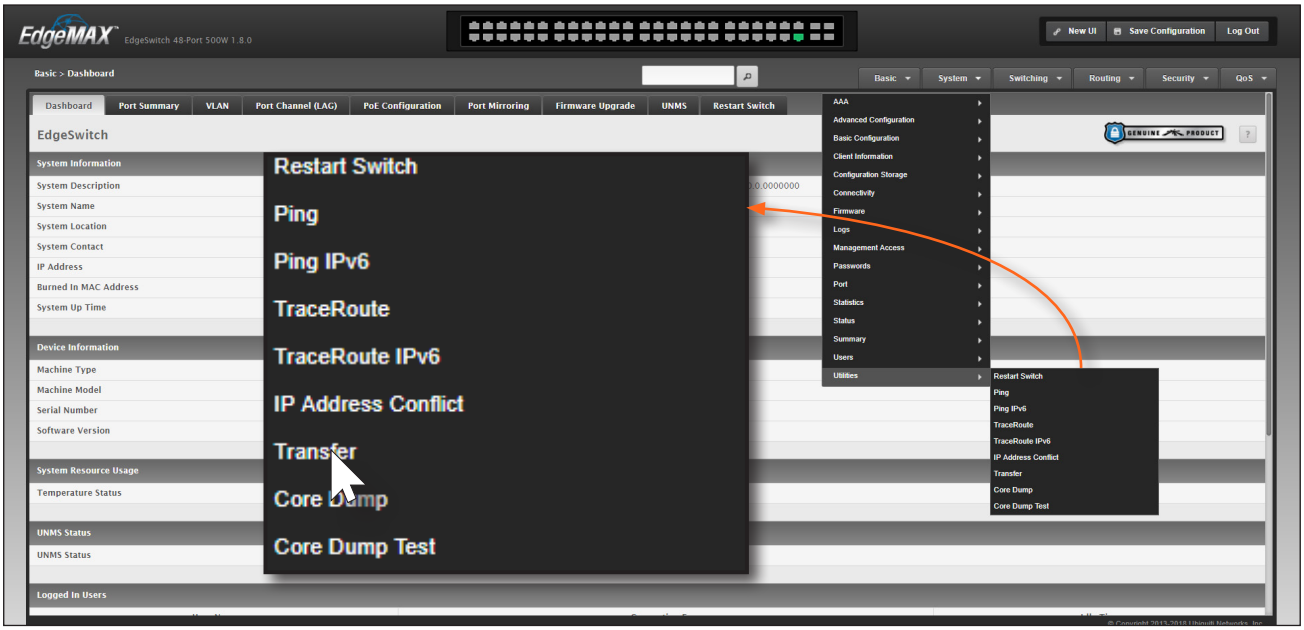
IMPORTANT: Do not enter login credentials on this screen. Switch to the legacy interface before entering login credentials.



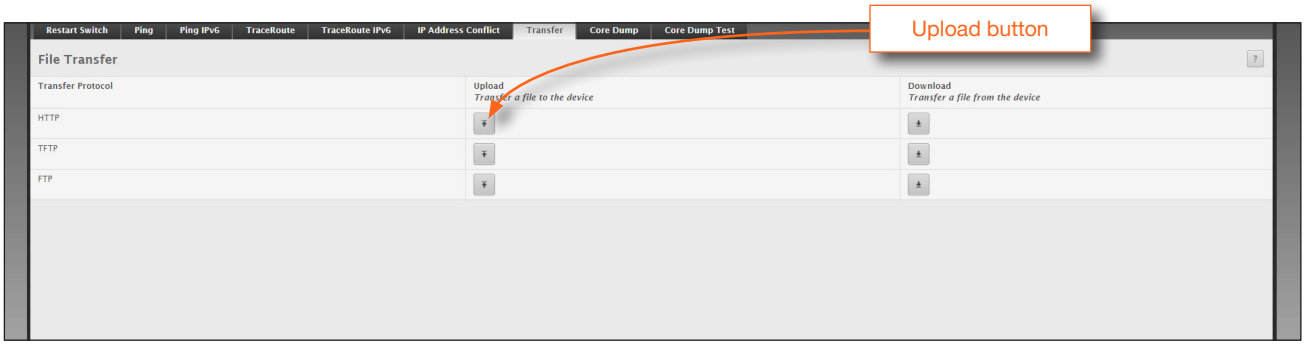
11. Enter the login credentials to access the user interface.



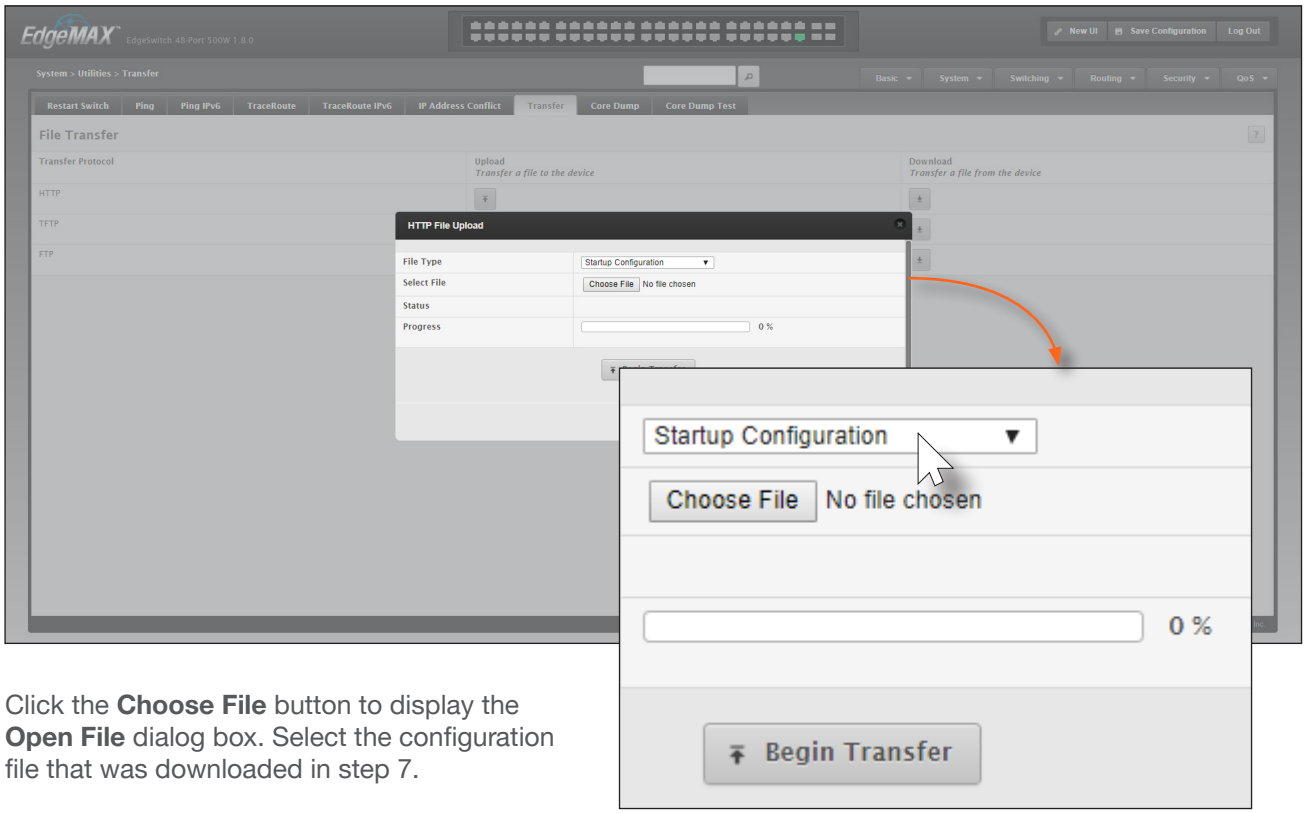
12. Enter the IP address of the switch in a web browser, login, and click **System** > **Utilities** > **Transfer**.



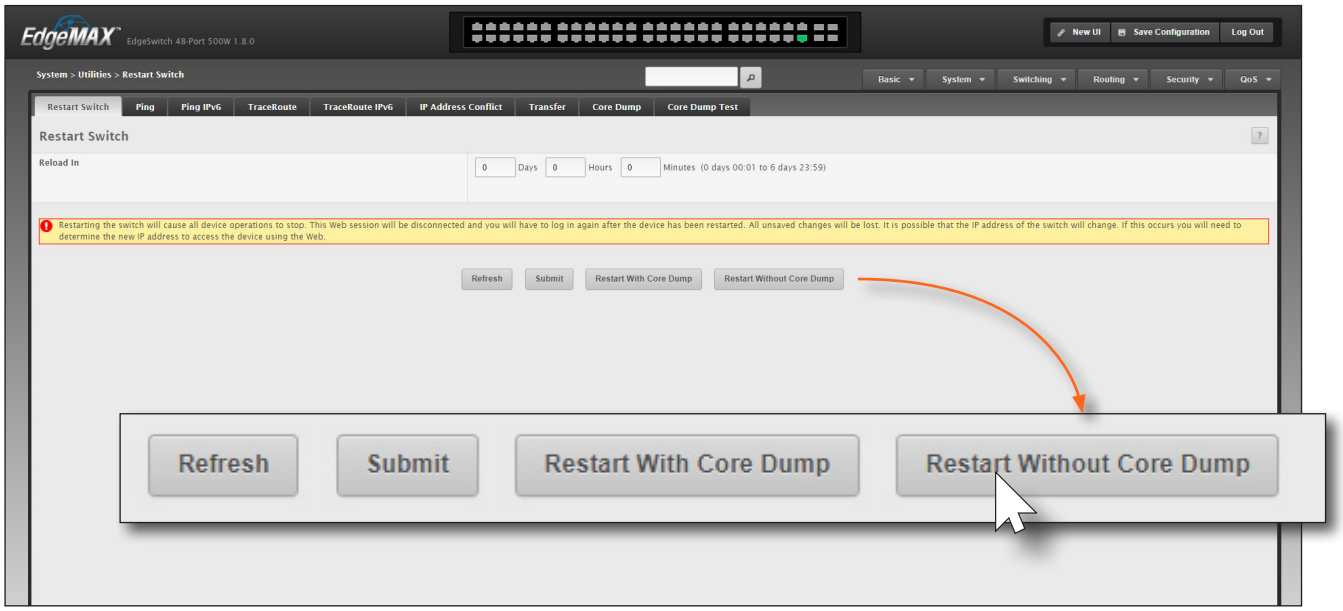
13. In the **Transfer** tab, click the **Upload** button in the HTTP row, highlighted below. Once this button is clicked, the **HTTP File Upload** dialog will be displayed.



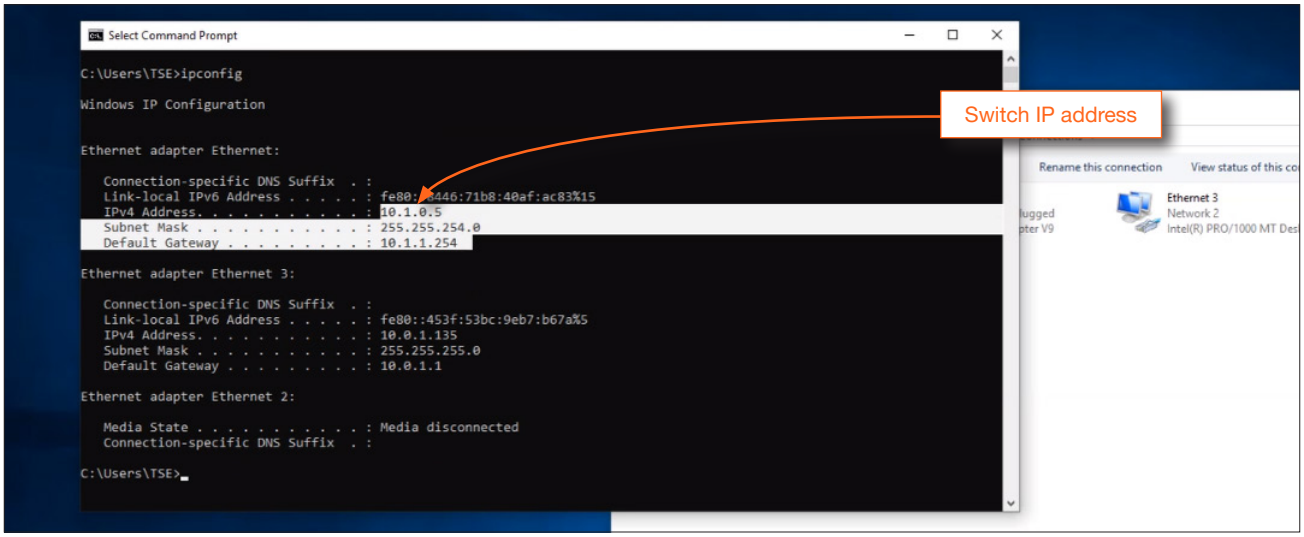
14. Click the **File Type** drop-down list and select **Setup Configuration**.



15. Click the **Choose File** button to display the **Open File** dialog box. Select the configuration file that was downloaded in step 7.
16. Click the **Open** button to select the configuration file.
17. Click the **Begin Transfer** button on the **HTTP File Upload** dialog. The upload sequence should only take a few seconds.
18. Click **Close** to dismiss the **HTTP File Upload** dialog box.
19. Click **System** > **Utilities** > **Restart Switch**.
20. Click the **Restart Without Core Dump** button.



21. In Windows, return to the **Network Connections** window, which was minimized in step 9. If the window was closed, go to the command prompt, type `cpna.cpl`, and press [ENTER] to restore the window.
22. Right-click on the adapter for the network switch and select **Properties** from the context menu.
23. Under the **Ethernet Properties** dialog box, click **Internet Protocol Version 4** and then click the **Properties** button.
24. Restore DHCP by clicking the **Obtain an IP address automatically** radio button.
25. Click **OK** to commit changes, then click **OK** on the **Ethernet Properties** dialog to dismiss it.
26. Go to the windows command prompt and check the IP of the network switch by executing the `ipconfig` command. Note that it may take a minute or so for the switch to complete the reboot procedure. Once the switch is up and running, the DHCP IP address will be displayed.



27. Enter the new IP address of the switch in a web browser window. In the example above, the IP address is `10.1.0.5`.
28. Configuration is complete. Log in to the switch using the following credentials:

    Username: admin
    Password: Atlona

Network Switch Configuration

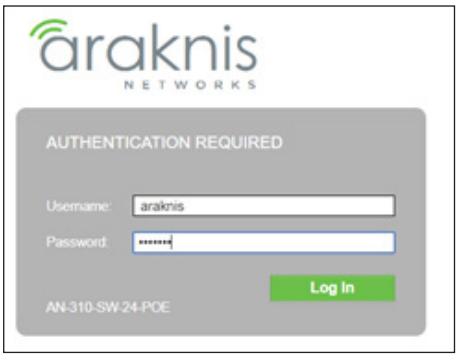
Before working with the OmniStream devices, the network switch must be set up. This section will provide instructions for manually configuring two different switches: Araknis AN-310-SW-24-POE and Cisco SG350X-24MP.

Araknis AN-310-SW-24-POE

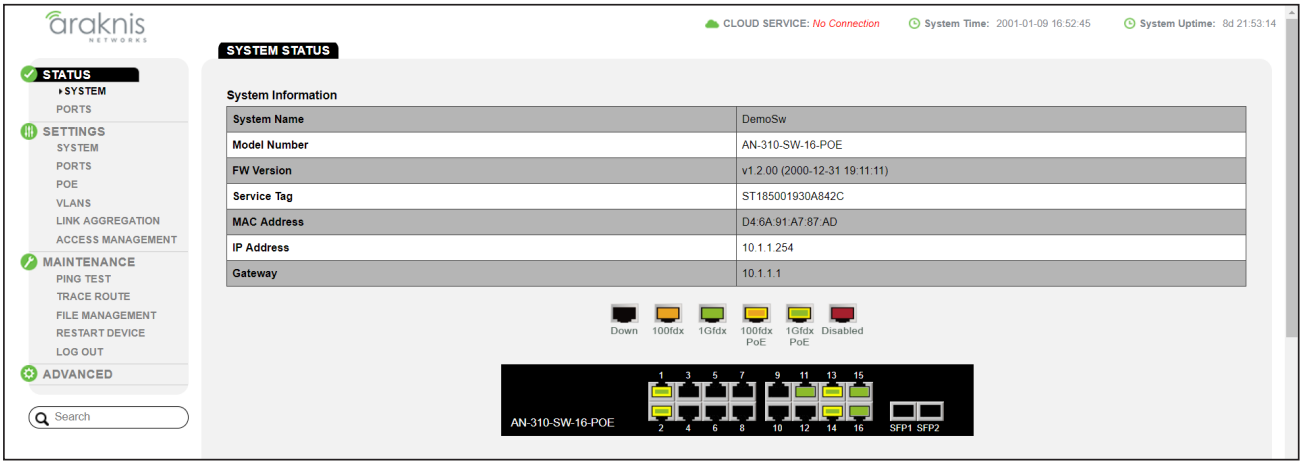
NOTE: Although this section specifically shows images of the AN-310-SW-24-POE web interface, the following instructions are applicable to all Araknis 8/16/24-port network switches with both front and rear-facing ports. These switches default to an IP address of 192.168.20.254.

1. Connect the PC directly to any of the switch interfaces and configure the PC network adapter with a static IP address within the same subnet. For example, if the default IP address of the switch is 192.168.20.254, then assign the PC a static IP address in the range of 192.168.20.x (where x ≠ 254).
2. Launch the desired web browser and enter the IP address of the network switch into the address field, then press [ENTER].
3. Enter the username and password. The default login credentials are as follows:

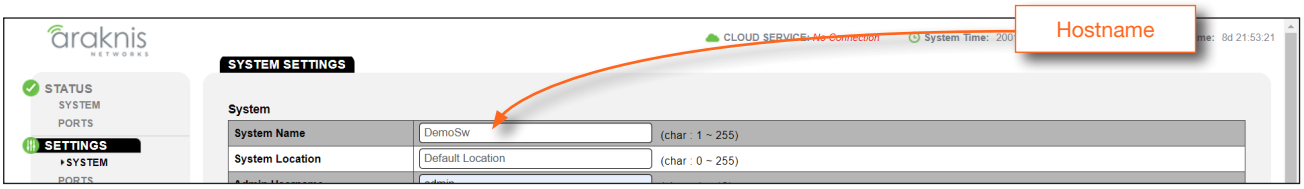
   Username: araknis
   Password: araknis



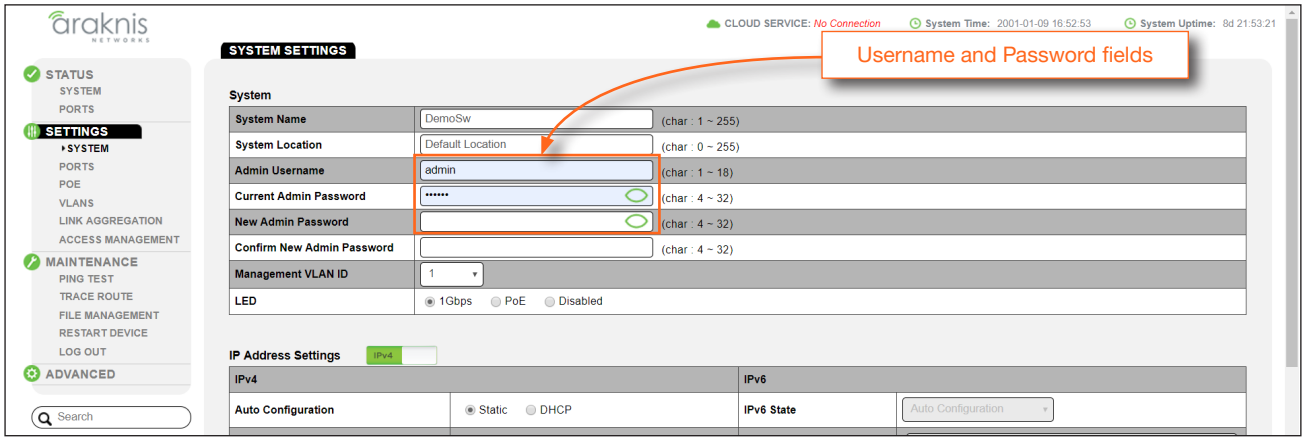
4. The **System Status** page will be displayed.



5. Click **Settings** > **System** in the menu bar on the left. In the **System Name** field, optionally change the default hostname. Refer to the next page for illustration.

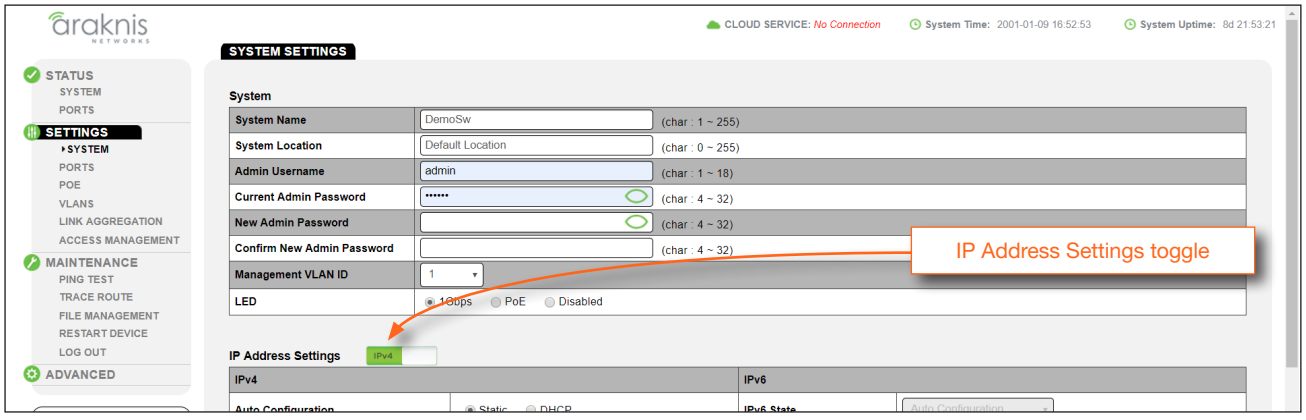


6. Enter the new administrator user name and password in the **Admin Username** and **New Admin Password** fields, respectively. When changing the password, confirm the new password in the **Confirm New Admin Password** field.



7. Click **Settings** > **Access Management** in the menu on the left side of the screen.

8. Click toggle switch, next to **IP Address Settings**, and set it to **IPv4**.



9. Click the **Static** radio button, next to **Auto Configuration**.

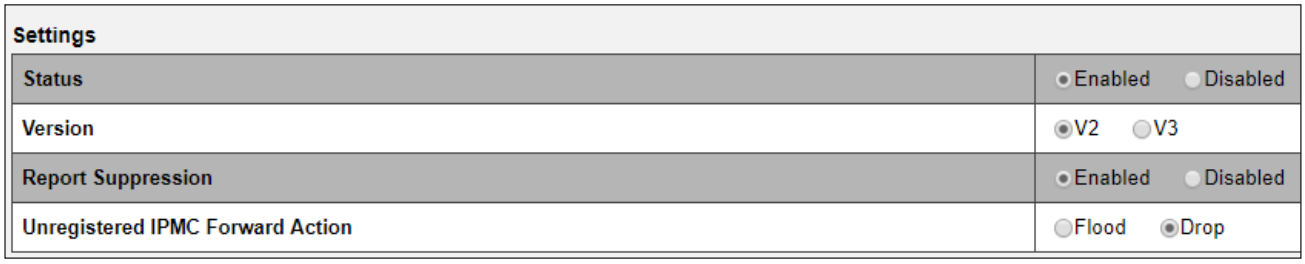
10. Enter the following information in the **IPv4 Address**, **Subnet Mask**, and **Default Gateway** fields. This IP address is used for management and the IGMP querier.

    - IPv4 Address: 10.1.1.254
    - Subnet Mask: 255.255.255.0
    - Default Gateway: 10.1.1.1

11. Click **Apply** to commit changes. The switch will prompt to be set to the new IP address.

12. Update the network settings of the computer to use an IP address of 10.1.1.x (where x ≠ 254) and a subnet of 255.255.255.0.

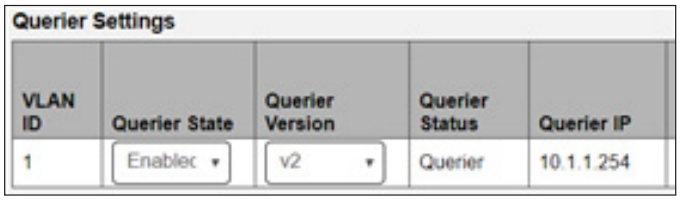
13. Click **Settings** > **VLAN**, in the menu on the left side of the screen.
14. Change the name of VLAN 1. By default, all interfaces are part of VLAN 1. Create additional VLANs as required.
15. Click **Advanced** > **Multicast** > **IGMP Snooping**.
16. Click the following radio buttons, under **IGMP Snooping**.
    - Status: **Enabled**
    - Report Supression: **Enabled**
    - Unregistered IPMC Forward Action: **Drop**



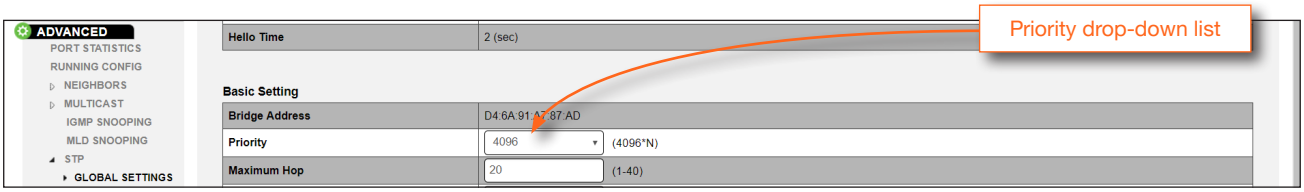
17. Under VLAN Settings, click the **IGMP Snooping Status** drop-down list and select **Enabled**.
18. Click the **Fast Leave** drop-down list and select **Enabled**.



19. Under **Querier Settings**, click the **Querier State** drop-down list and select **Enabled** for VLAN1, then click **Apply** to commit changes.
20. Locate the **Querier Settings** section and confirm that for VLAN ID 1, the following is true:
    - Querier Status: Querier
    - Querier IP: IP address should match the IPv4 address of the switch.



22. Click **Advanced** > **STP** > **Global Settings**.
23. Under **Basic Settings**, click the **Priority** drop-down list and select **4096**.



24. Click **Apply** to commit changes.
25. Configuration is complete.

Cisco SG350X-24MP

IMPORTANT: The following is divided into five sections. Each section must be followed in the order listed below. Deviating from this order, or skipping steps within a section, may result in unpredictable switch operation.

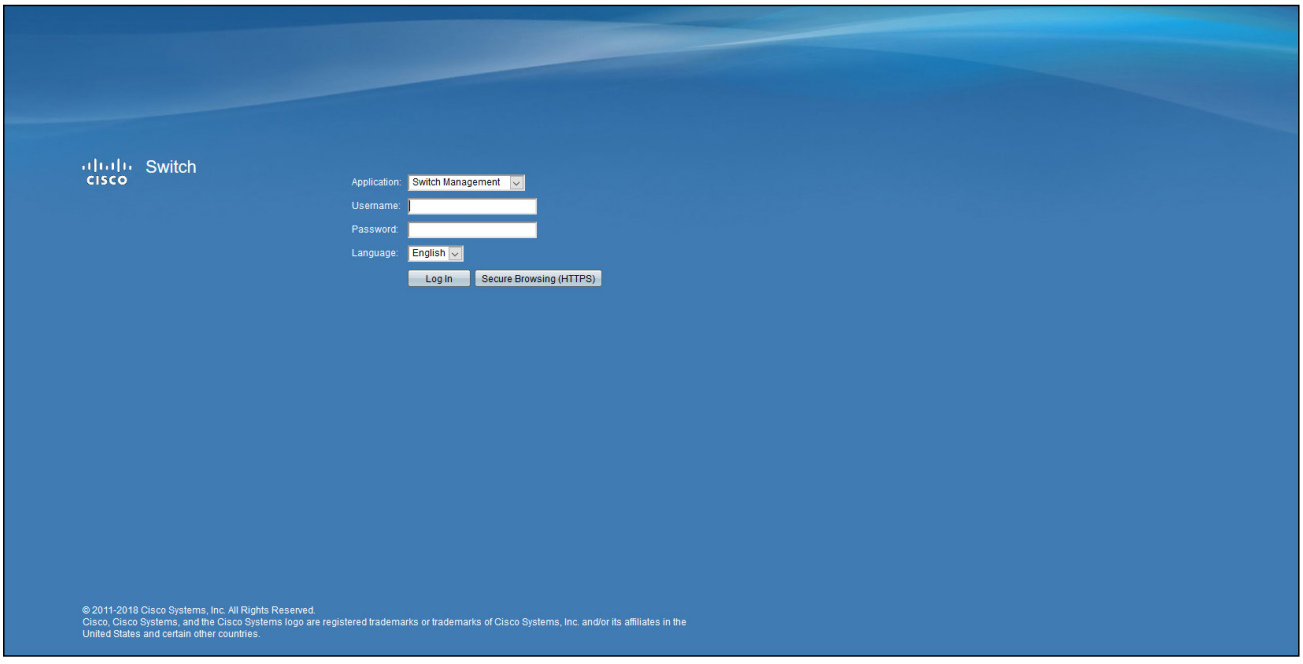
- Getting Started
- VLAN Setup
- IPv4 Interface Setup
- Setting IP Multicast
- Setting up User Accounts

Getting Started

1. Connect a PC or laptop to the network switch. It is best to you whichever port will remain on VLAN1 of the switch to avoid the PC losing connection when settings are changed on the switch.
2. Go into the computer settings and change the IP of the PC to be on the same range as the switch.

NOTE: If the IP address of the network switch is 192.168.1.254, then the computer should be set to 192.168.1.xx, where xx represents values from 1 to 253, as long as that IP address is not already assigned on that network. The default IP address for all Cisco switches is 192.168.1.254/24.

3. Launch the desired web browser and enter the IP address of the network switch into the address field, then press [ENTER].

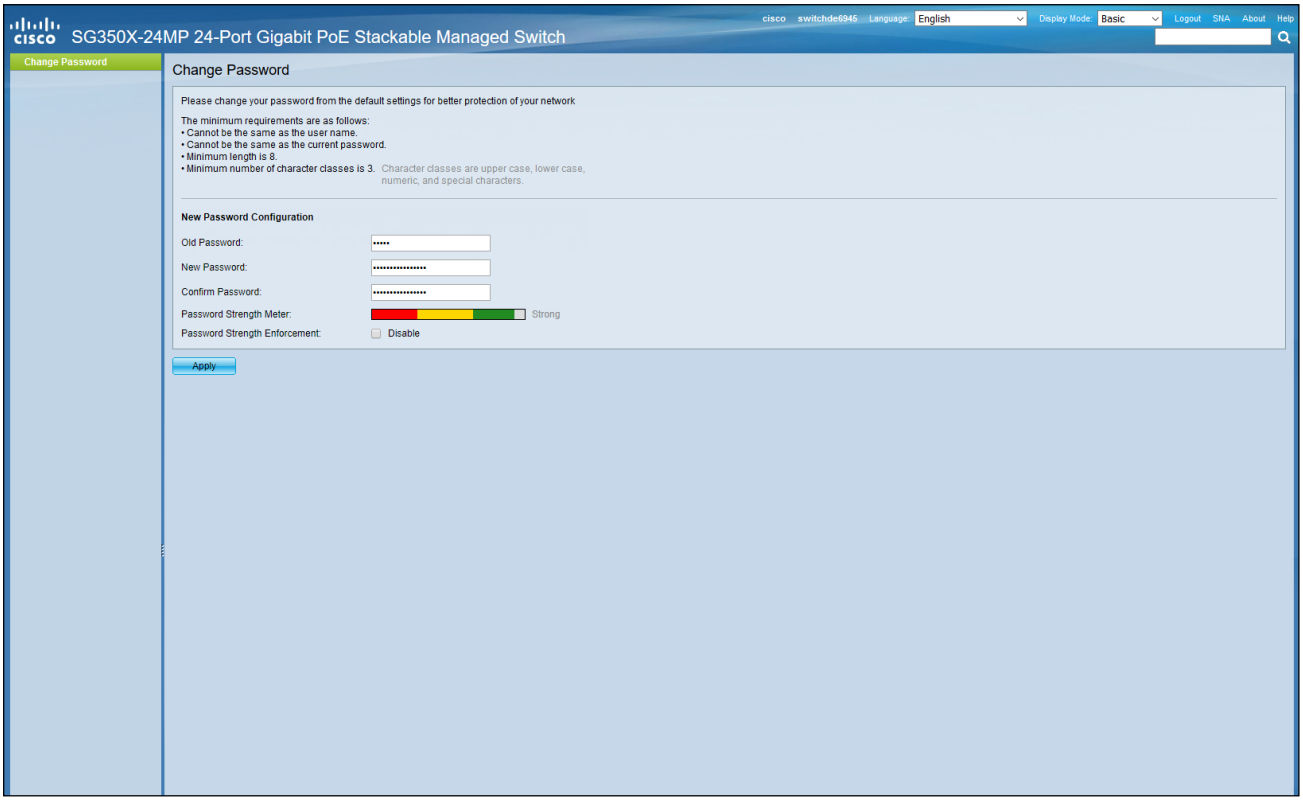


4. Enter the username and password. The default login credentials are as follows:

   Username: cisco
   Password: cisco

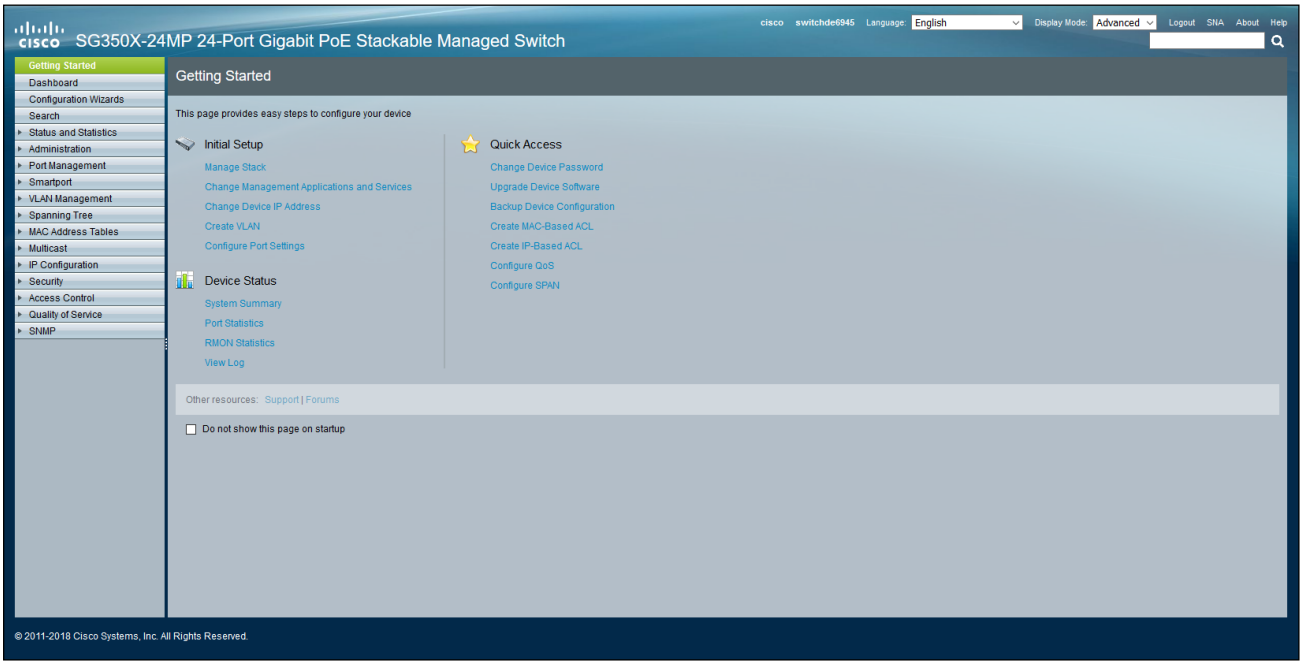
5. Click the **Login** button.

   The switch will most likely require a new password to be assigned, before going further. This step may vary depending on the network switch. Enter the desired password, as required.



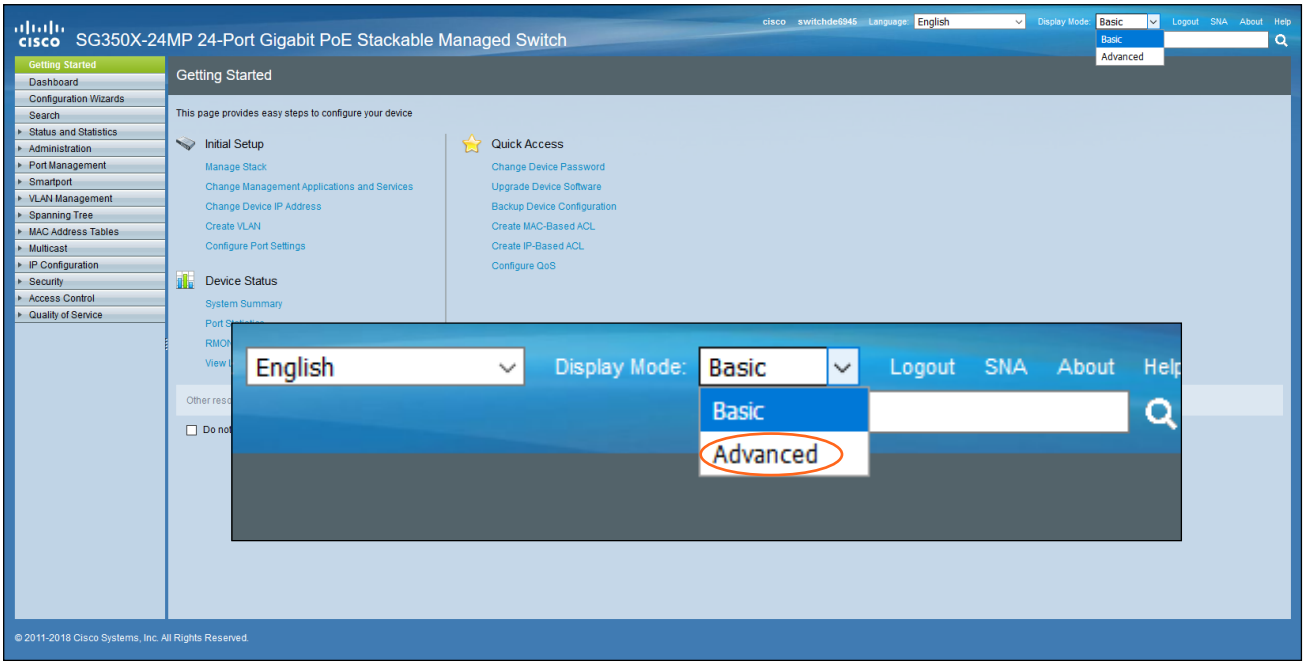
6. Click the **Apply** button to commit changes.

7. The **Getting Started** page will be displayed.



VLAN Setup

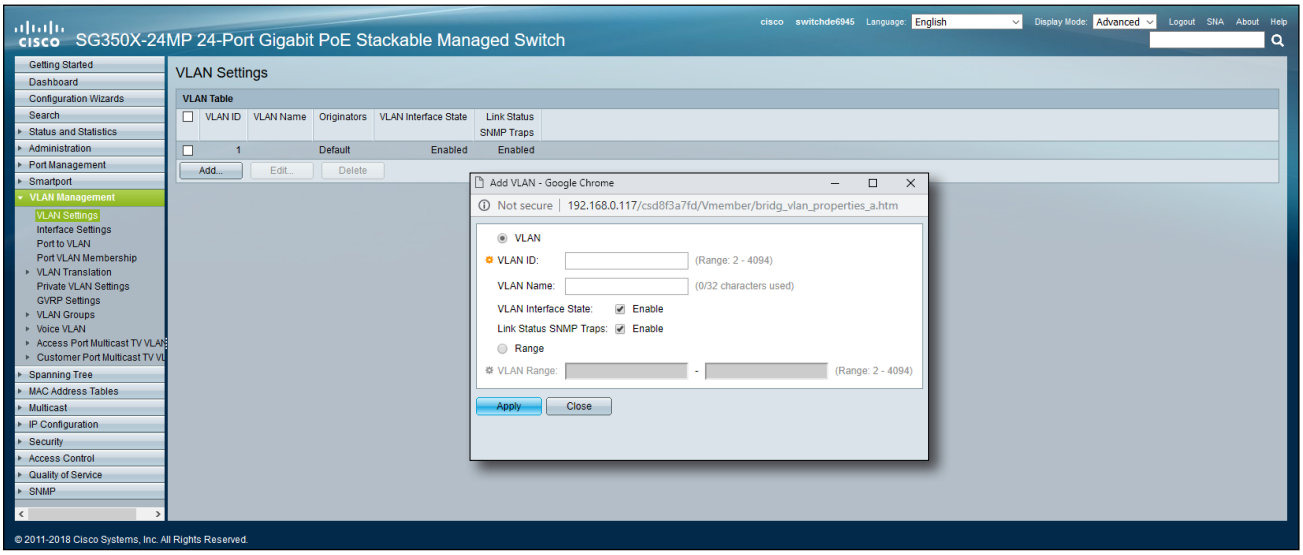
8. Click the **Display Mode** drop-down list, near the upper-right hand corner of the screen, and select **Advanced**.



9. Select **VLAN Management** from the menu on the left side of the screen. The **VLAN Management** menu will expand and the **VLAN Settings** page will be displayed. If the **VLAN Setting** page is not displayed, click **VLAN Management** > **VLAN Setting** to display the page.

   By Default, VLAN 1 is active. If the network is self-contained, skip to 15. Otherwise, continue with the next step.

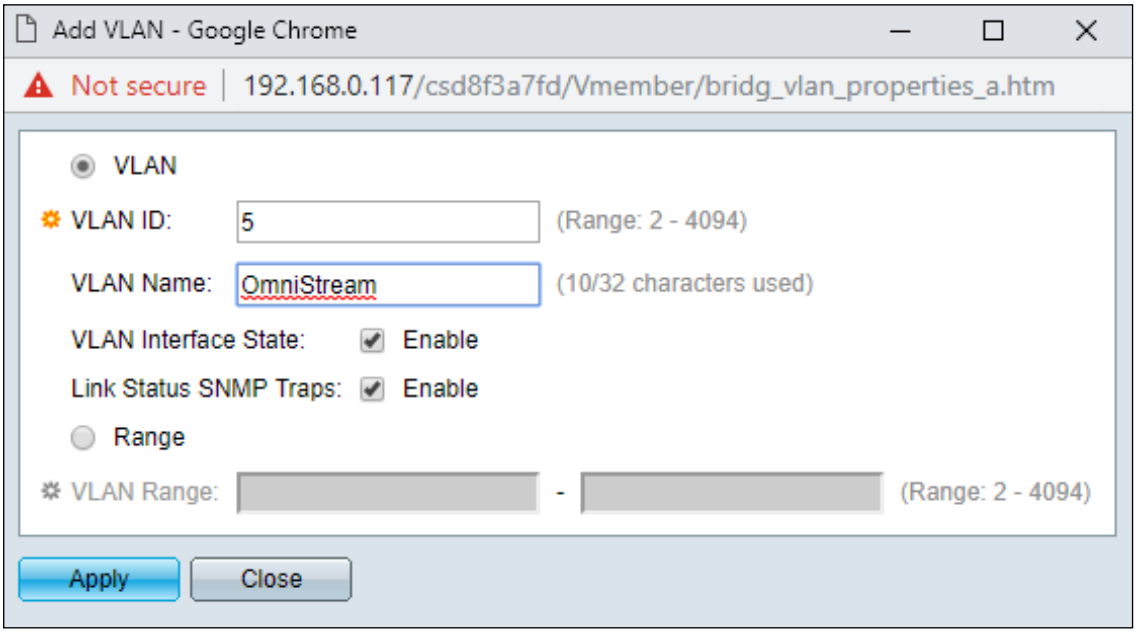
10. Click the **Add...** button. The **Add VLAN** dialog will be displayed. The purpose of creating a VLAN is to separate a network into separate logical areas / broadcast domains. In this case, the VLAN is created to isolate AV-over-IP traffic from normal network traffic.



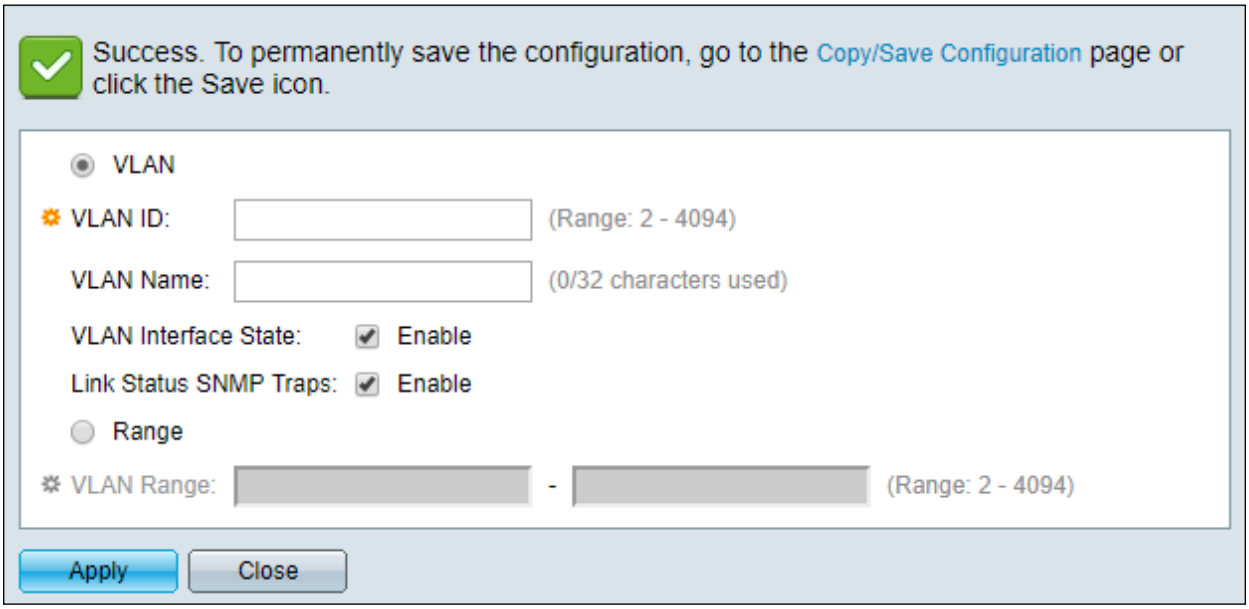
11. Enter the numerical ID of the VLAN in the **VLAN ID** field. This value is required and must be within the range of 2 to 4094.

NOTE: VLAN 1 is the Cisco default VLAN. This VLAN can be used, but it cannot be modified or deleted.

12. OPTIONAL: Enter a name for the VLAN in the **VLAN Name** field. For example, the name of the VLAN could be used to identify a department, within a company, which uses that broadcast domain. In this example, "OmniStream" has been assigned as the name of VLAN 5.



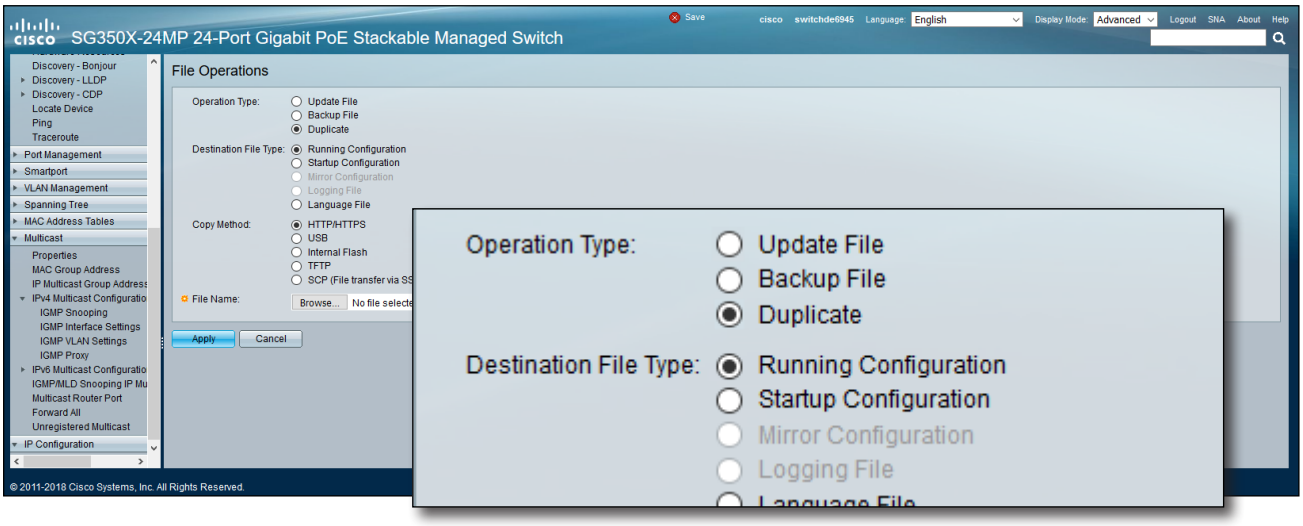
13. Click the **Apply** button to commit changes. If the VLAN was successfully created, the dialog box will display a "Success" message.



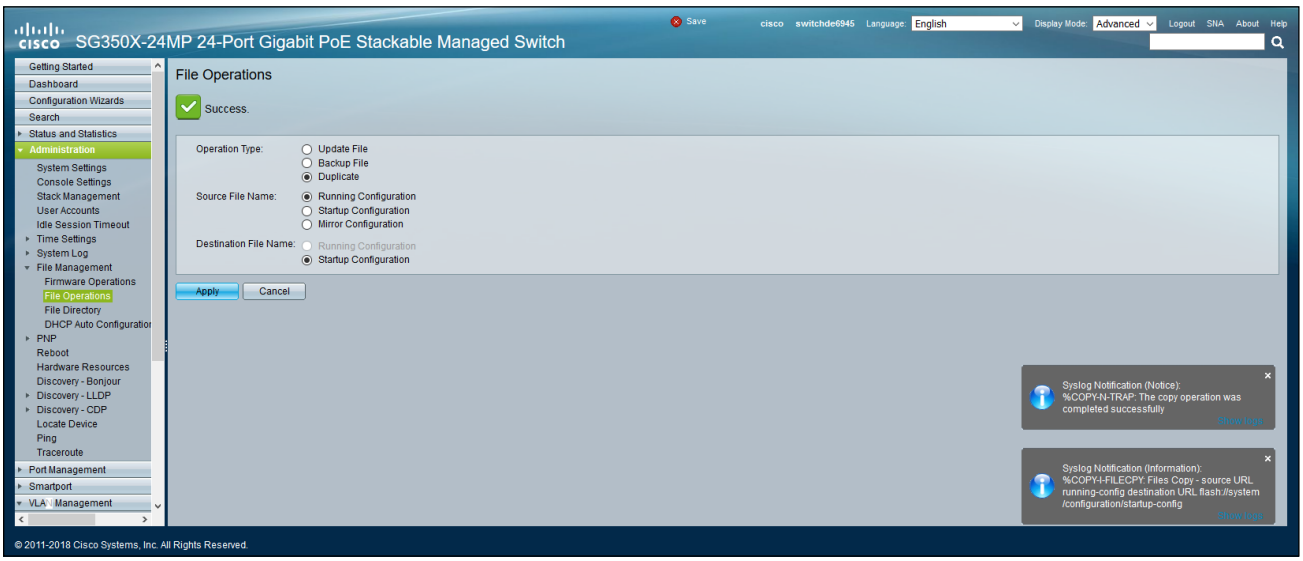
14. Repeat steps 11 through 13 to create as many VLANs as needed. If no additional VLANs are required, click the **Close** button to dismiss the **Add VLAN** dialog box.

15. Click **Administration**, in the left-hand menu bar and select **File Operations**. The **File Operations** page will be displayed.

16. Click the **Duplicate** radio button, next to **Operation Type**.

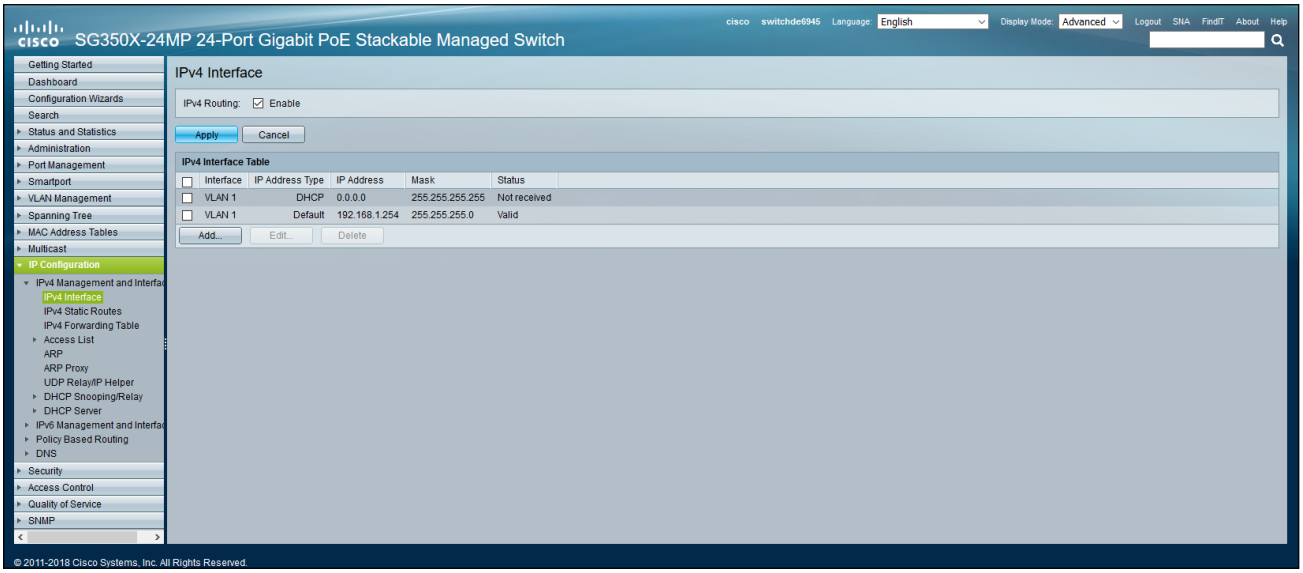


17. Click the **Apply** button to commit changes.

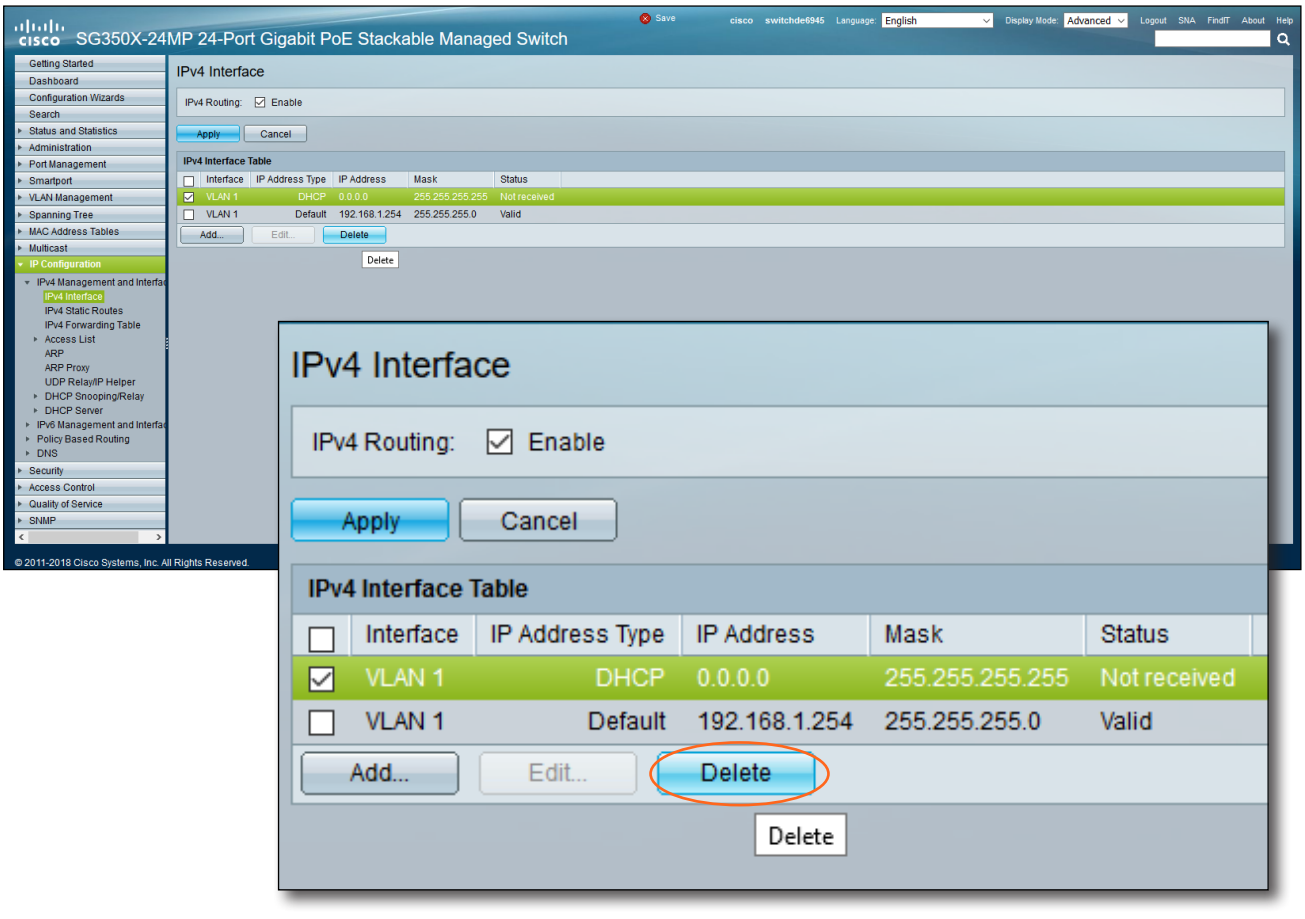


IPv4 Interface Setup

18. Click **IP Configuration** in the left-hand menu bar and select **IPv4 Interface**. The **IPv4 Interface** page will be displayed.



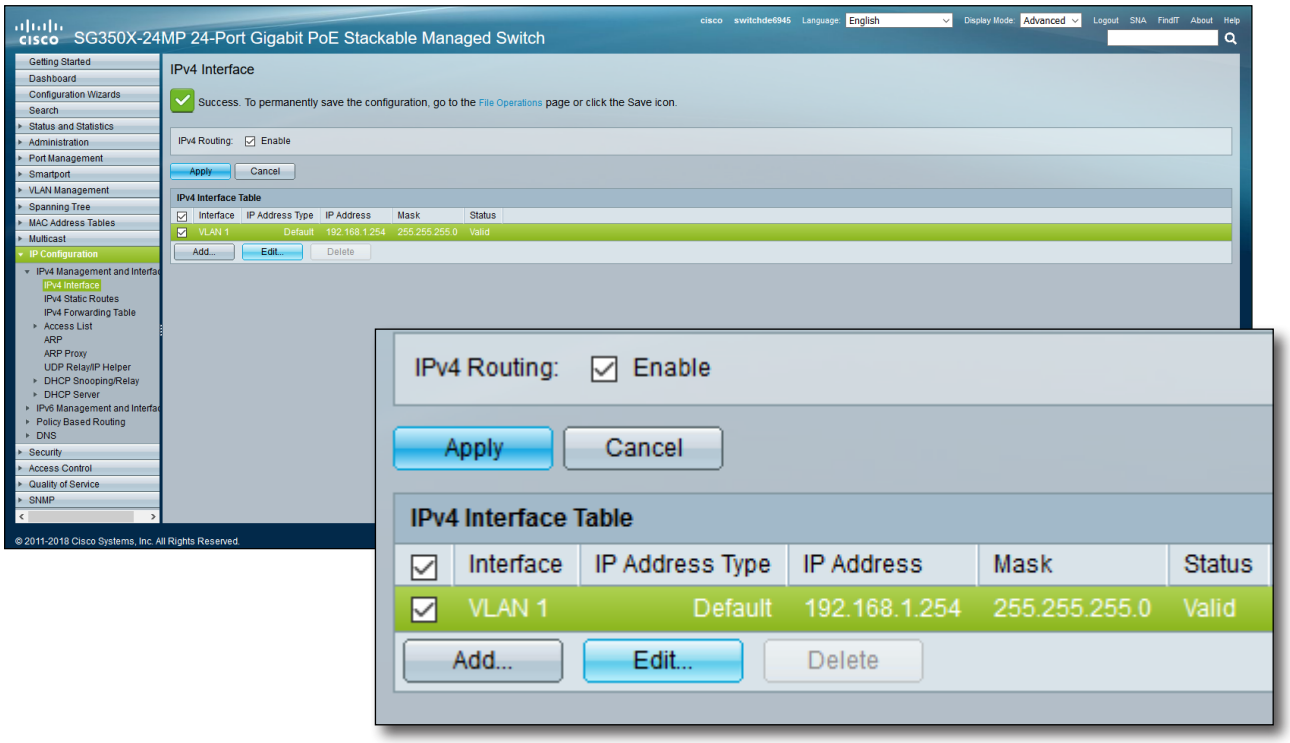
19. Click the check box next to **VLAN 1** (DHCP) and then click the **Delete** button.



20. Check the IP settings for VLAN 1. If no changes are required, continue with Step 4. However, if a different IP address or subnet mask need to be specified, then follow the steps below:

    a. Click the check box next to **VLAN 1**.

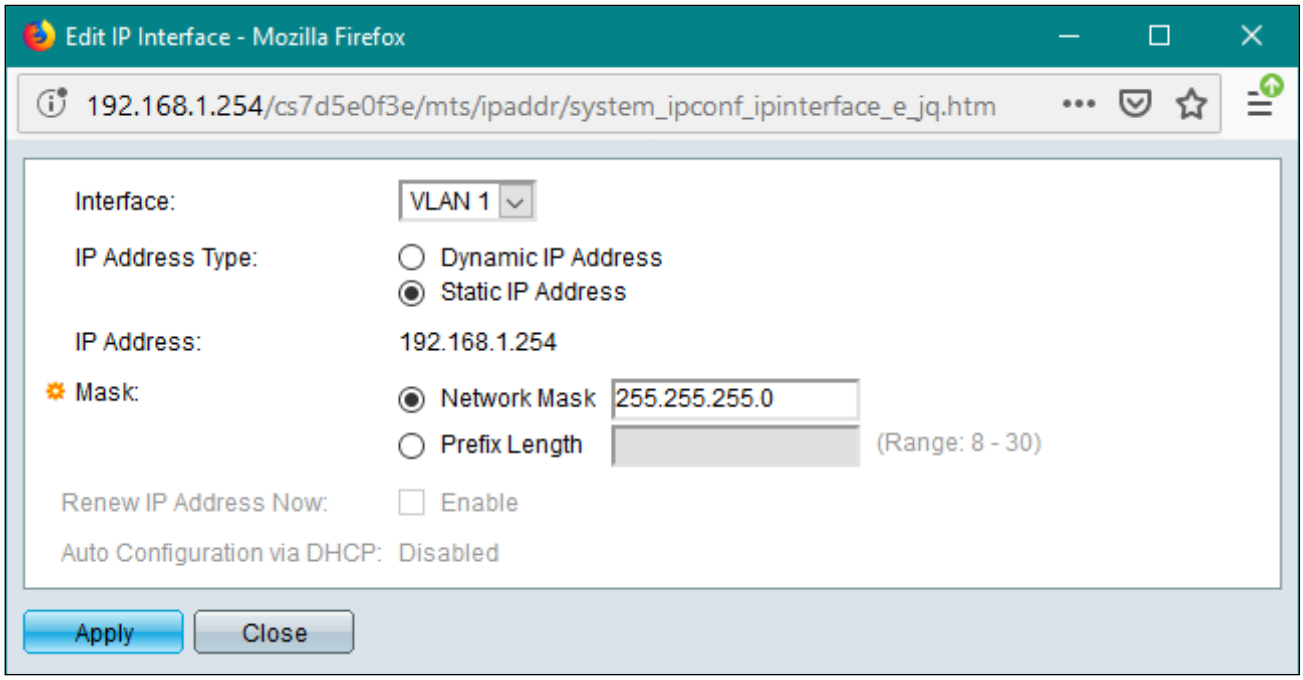
    b. Click the **Edit** button.



    c. The **Edit IP Interface** dialog will be displayed.

    d. Make make the required changes, then click the **Apply** button to commit changes.

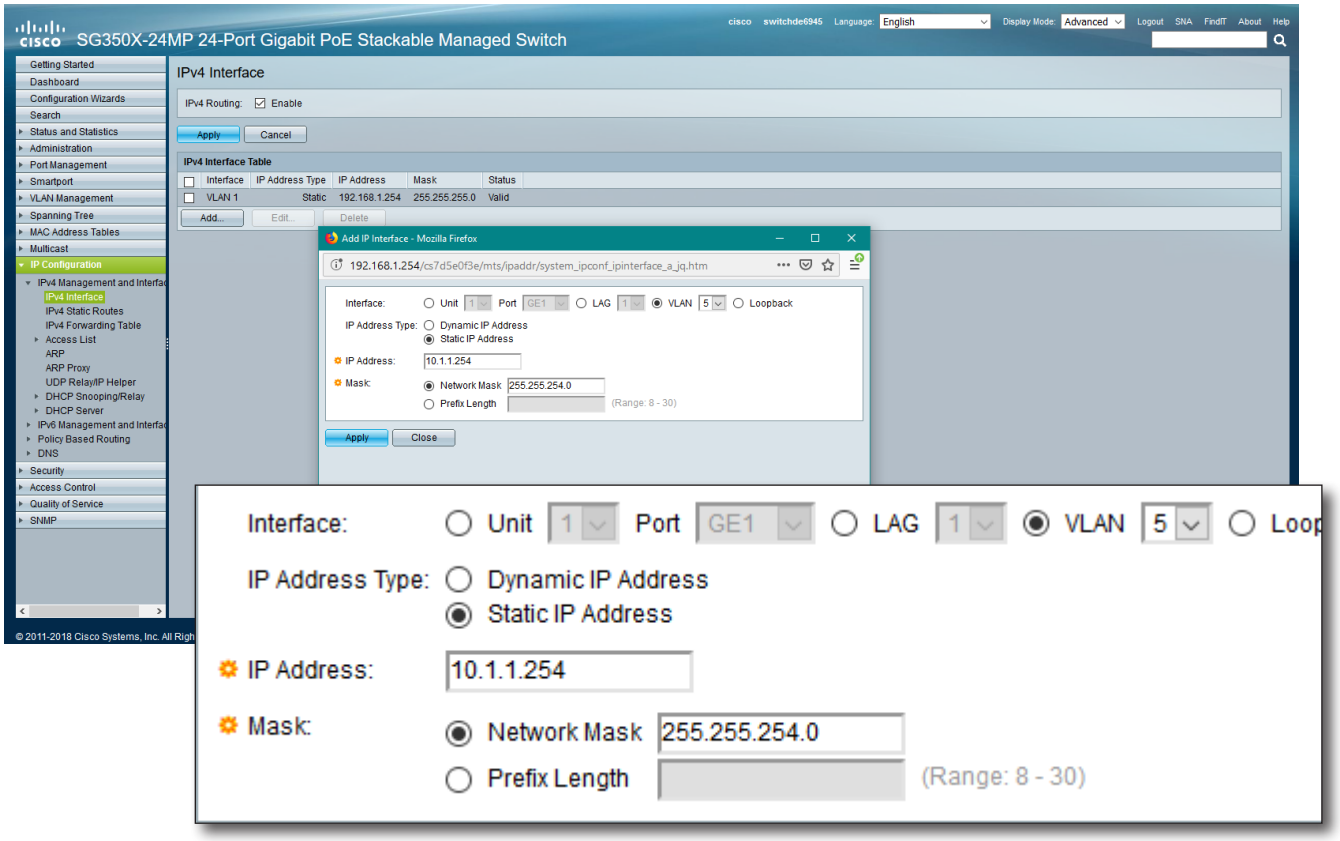
    e. Click the **Close** button to dismiss the **Edit IP Interface** dialog box.



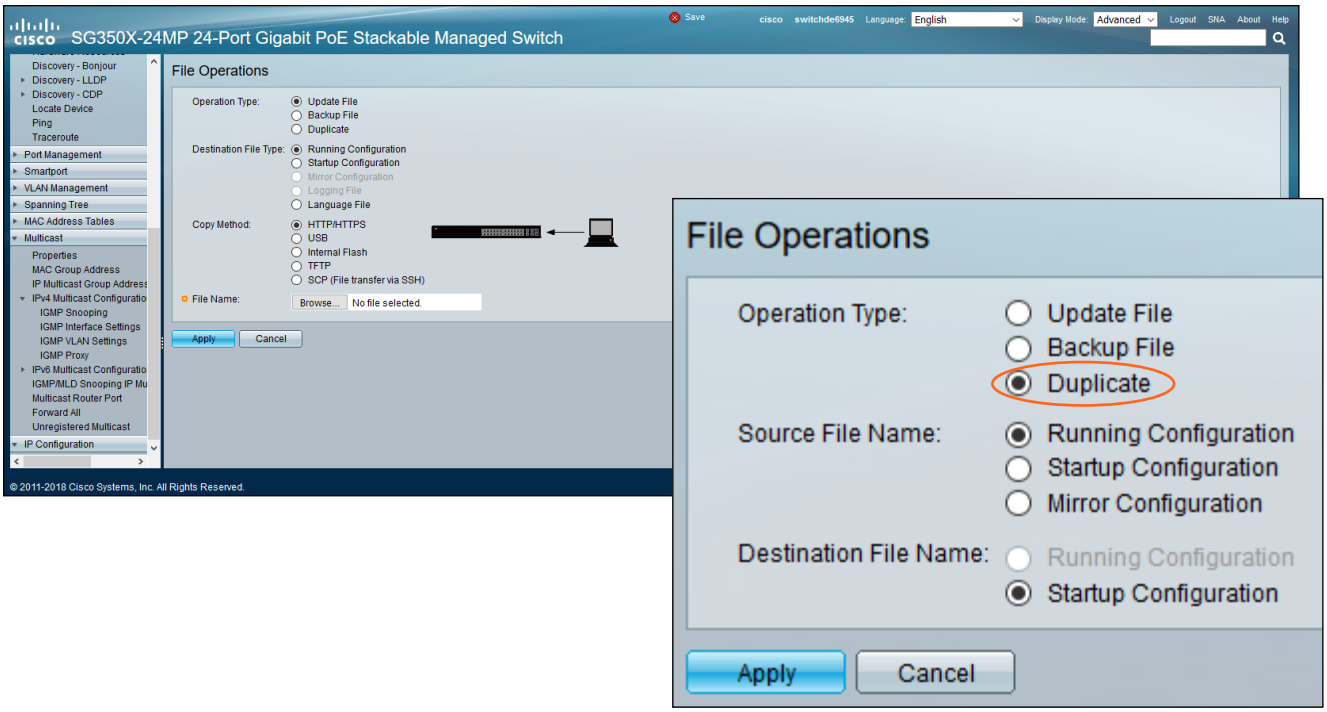
21. Click the **Add...** button. The **Add IP Interface** dialog box will be displayed.
22. Click the VLAN radio button, then click the drop-down list to select the VLAN that was created under VLAN Setup (page 72).
23. Click the **Static IP Address** radio button.

NOTE: It is recommended that a static IP address be assigned to a VLAN, to avoid IP changes.

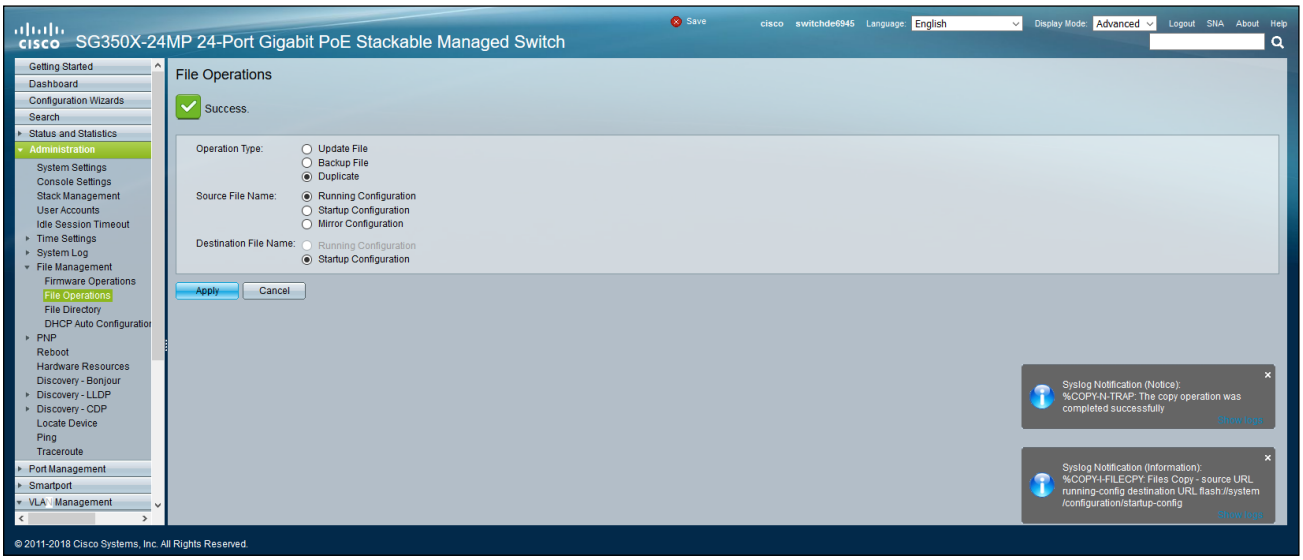
24. Enter the IP address of the VLAN, in the **IP Address** field. In the example below, 10.1.1.254 is used. However, any available IP address in the pool may be used.
25. Click the **Network Mask** radio button and enter the subnet mask. In this example, 255.255.254.0 is used. However, depending upon the requirements, any valid network mask may be used.



26. Click the **Apply** button to commit changes. Repeat Steps 4 through 9 for each additional VLAN, as necessary.
27. After all VLANs have been set up, click the **Close** button to dismiss the **Add IP Interface** dialog box.
28. Click **Administration** > **File Operations** in the menu bar on the left side of the screen. The **File Operations** page will be displayed.
29. Click the **Duplicate** radio button, next to **Operation Type**. Refer to the next page for more information.

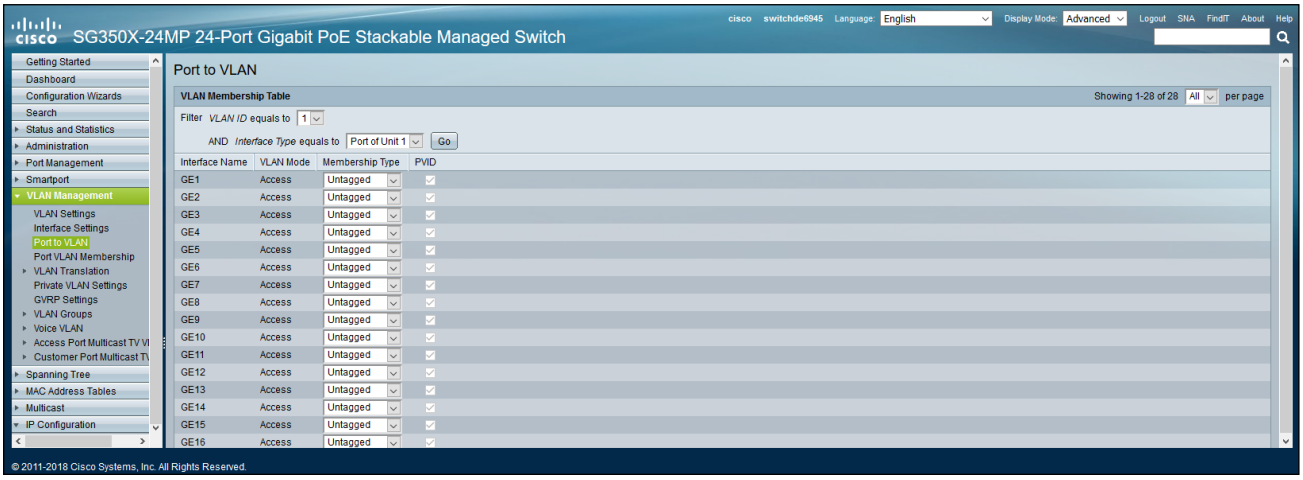


30. Click the **Apply** button to commit changes.



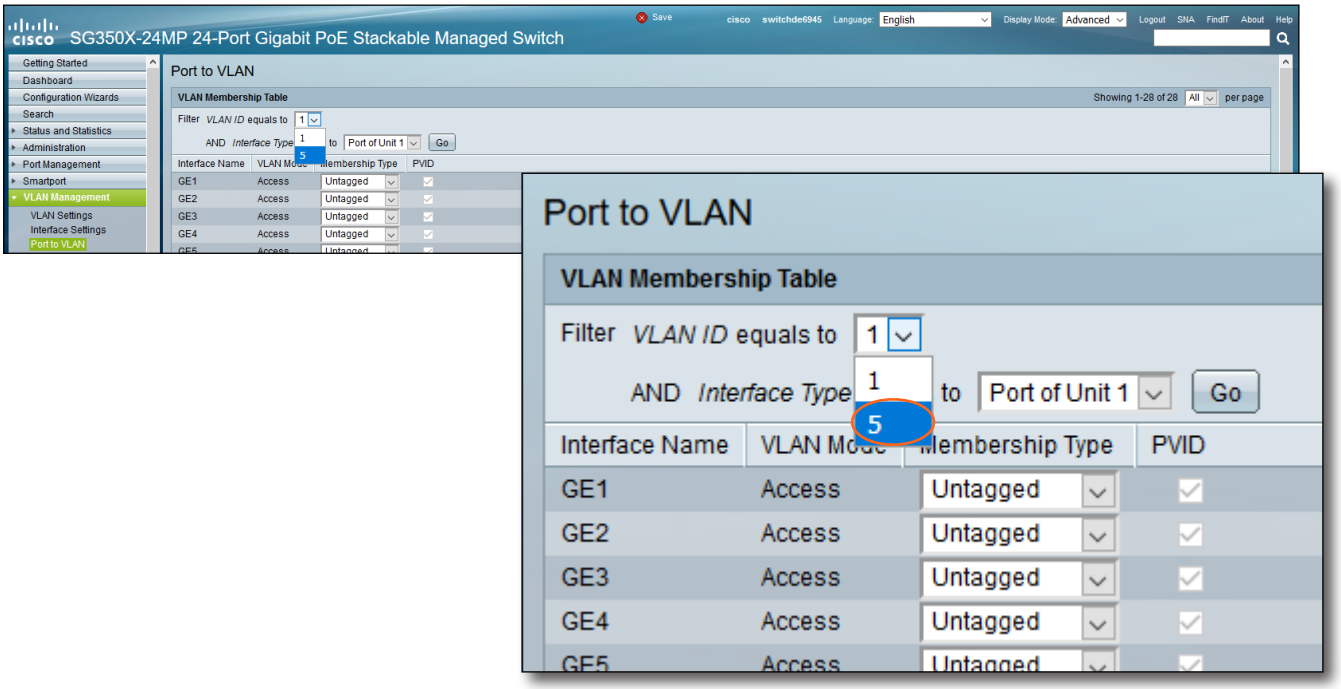
Port Mapping

31. Click **Port to VLAN** from the **VLAN Management** menu. By default, the **Membership Type**, for each physical port (interface), is assigned as **Untagged**.

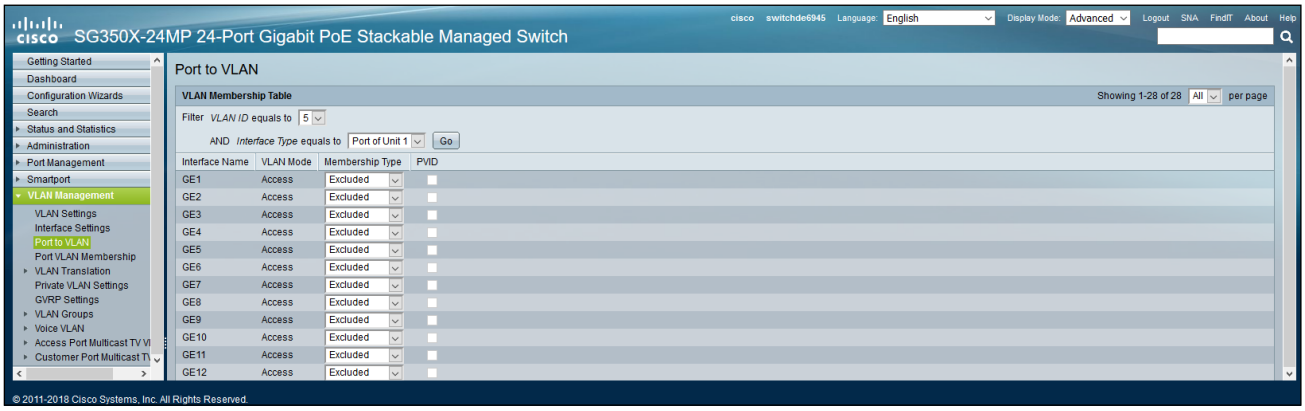


32. Click the **VLAN ID equals to** drop-down list and select the VLAN ID that was created under VLAN Setup (page 72).

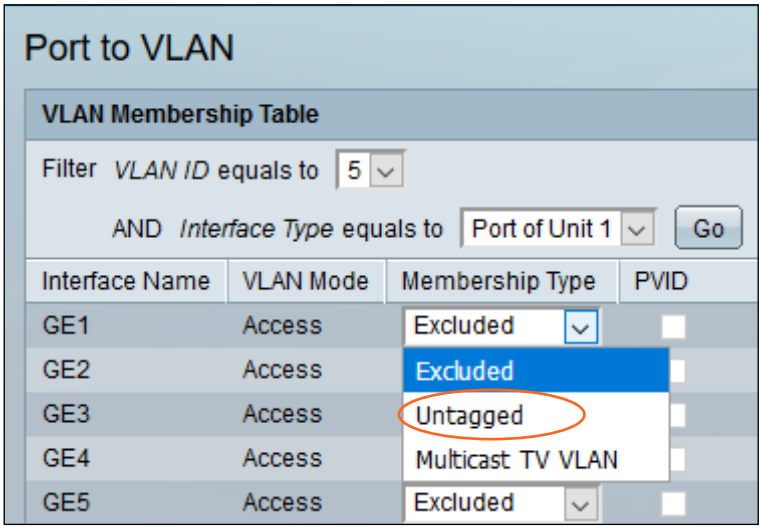
33. Leave the **AND Interface Type equals to** drop-down list as **Port of Unit 1**. Click the **Go** button.



34. The **Membership Type**, for the VLAN, will automatically be assigned as **Excluded** for each physical port on the switch.

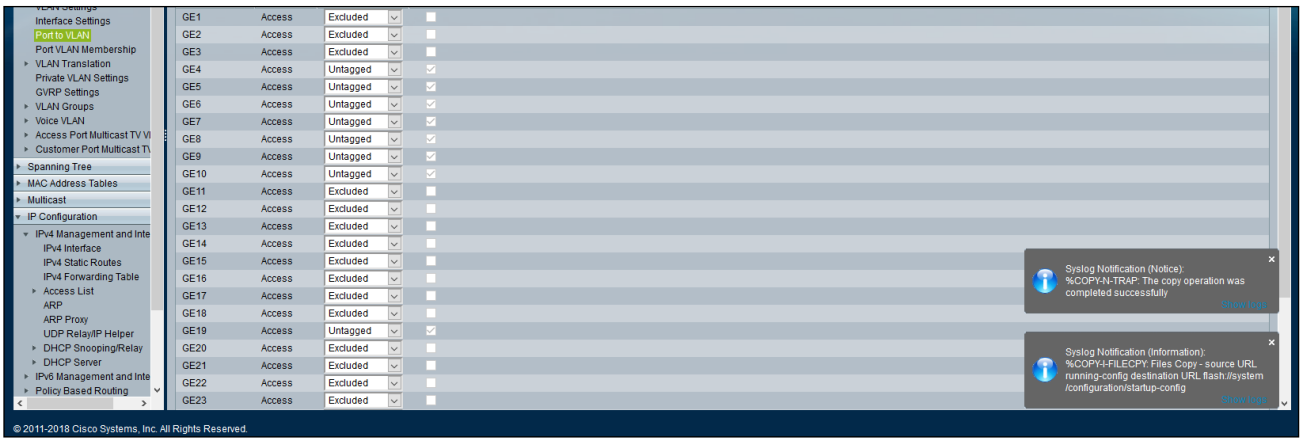


35. Determine which physical ports will use the selected VLAN. Click the **Membership Type** drop-down list for each physical port that will use the VLAN, and set its value to **Untagged**. For example, if physical ports 6 and 7 will be used for VLAN 5, then set the **Membership Type** for these two ports to **Untagged**.



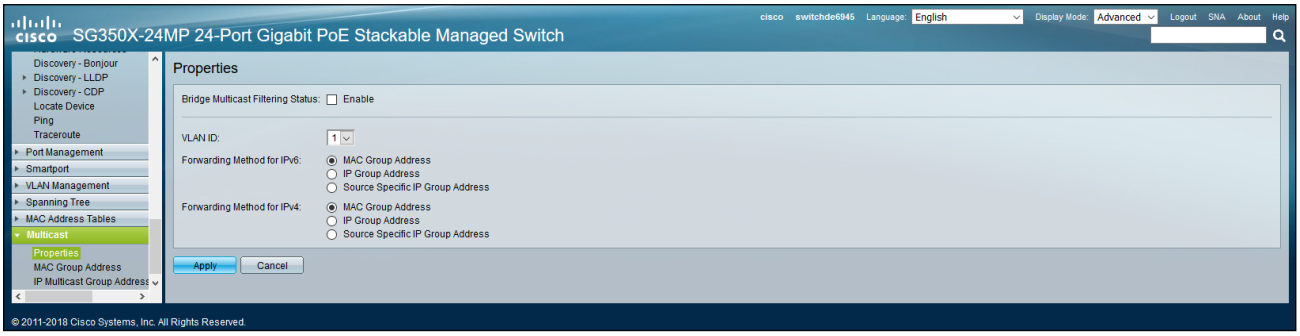
36. Scroll to the bottom of the list of ports and click the **Apply** button. Success messages will appear at the top and bottom right of the screen.

NOTE: If the port the PC is connect to is move off VLAN1, then it will need to be set to the IP settings of the new VLAN to continue.



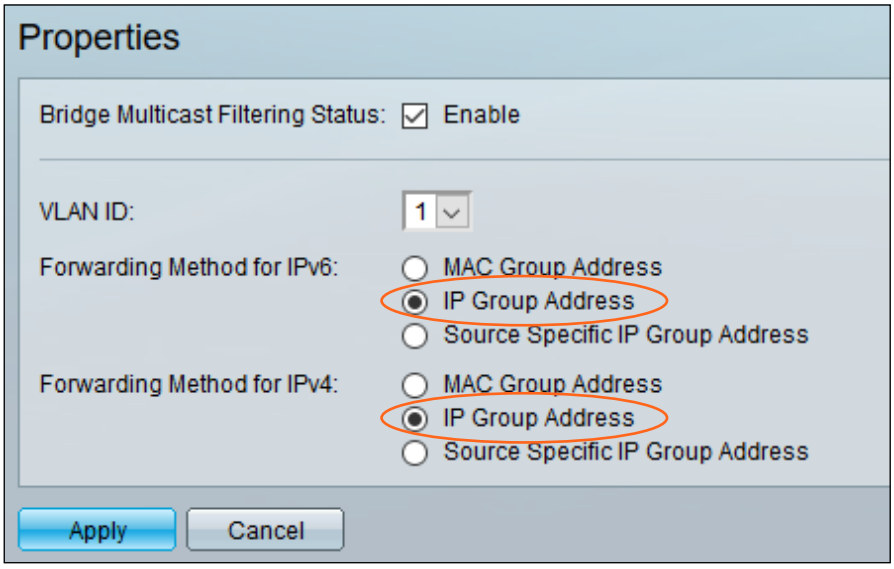
Configuring IP Multicast

37. Click **Multicast** from the menu bar on the left side of the screen. The **Properties** window will automatically be displayed.



38. Click the **Enable** box, next to **Bridge Multicast Filtering Status**, to enable this feature.

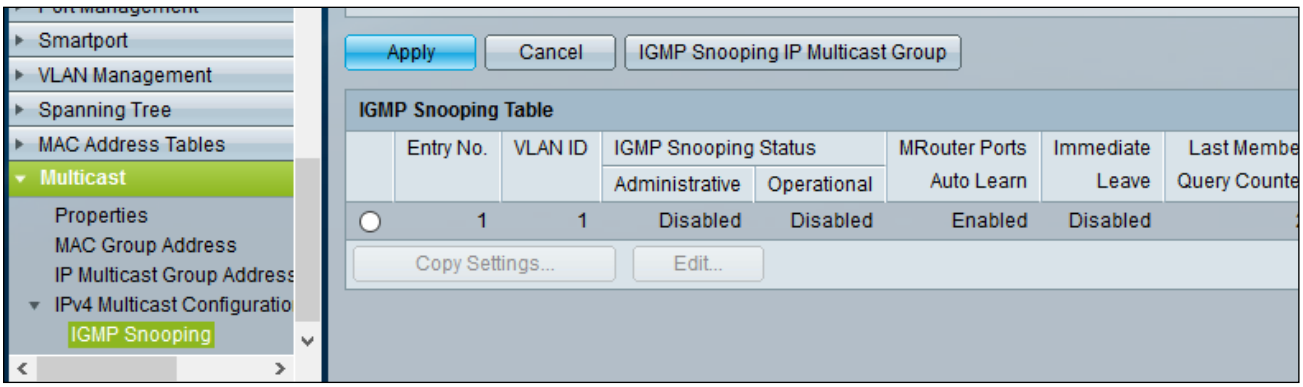
39. Click the **IP Group Address** radio button, under both **Forwarding Method for IPv6** and **Forwarding Method for IPv4**.



40. Click the **Apply** button to commit changes.

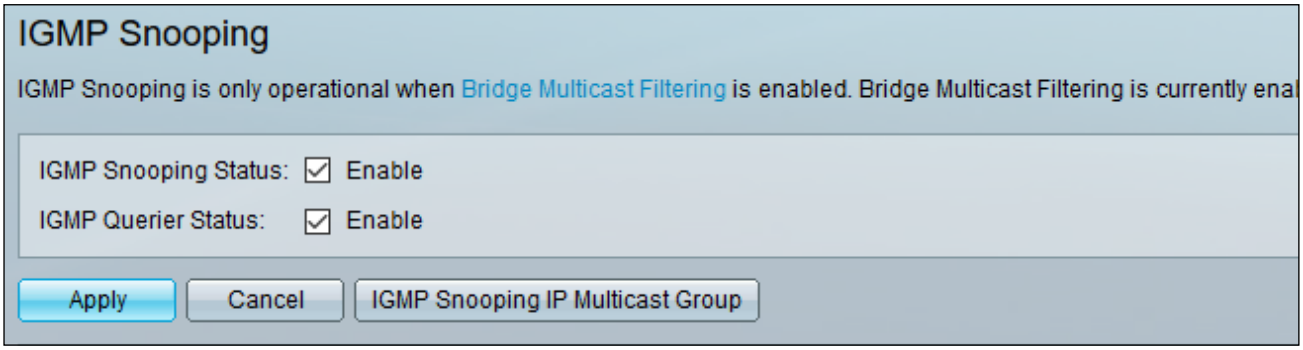
41. Repeat steps 38 and 39 for each VLAN.

42. Click **IGMP Snooping**, under **IPv4 Multicast Configuration**, from the menu bar on the left side of the screen.

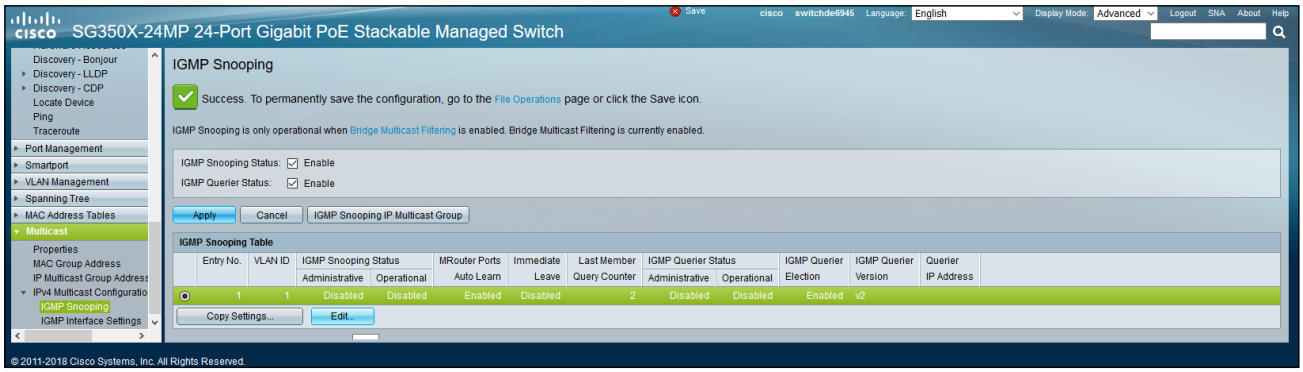


43. Click the check box next to **IGMP Snooping**, to enable this feature.

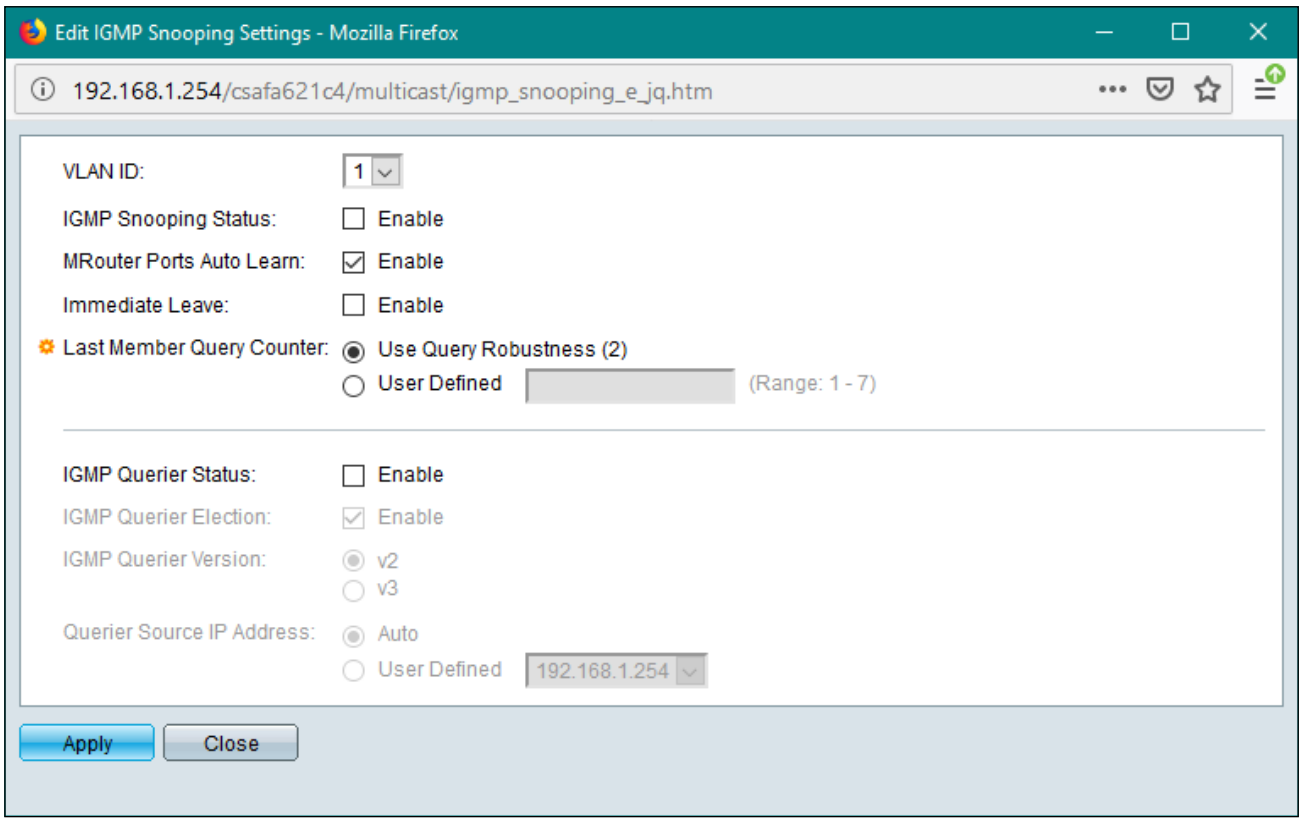
44. Click the **Apply** button to commit changes.



45. Click the radio button next to **VLAN 1**, as shown below, in the **IGMP Snooping Table**.

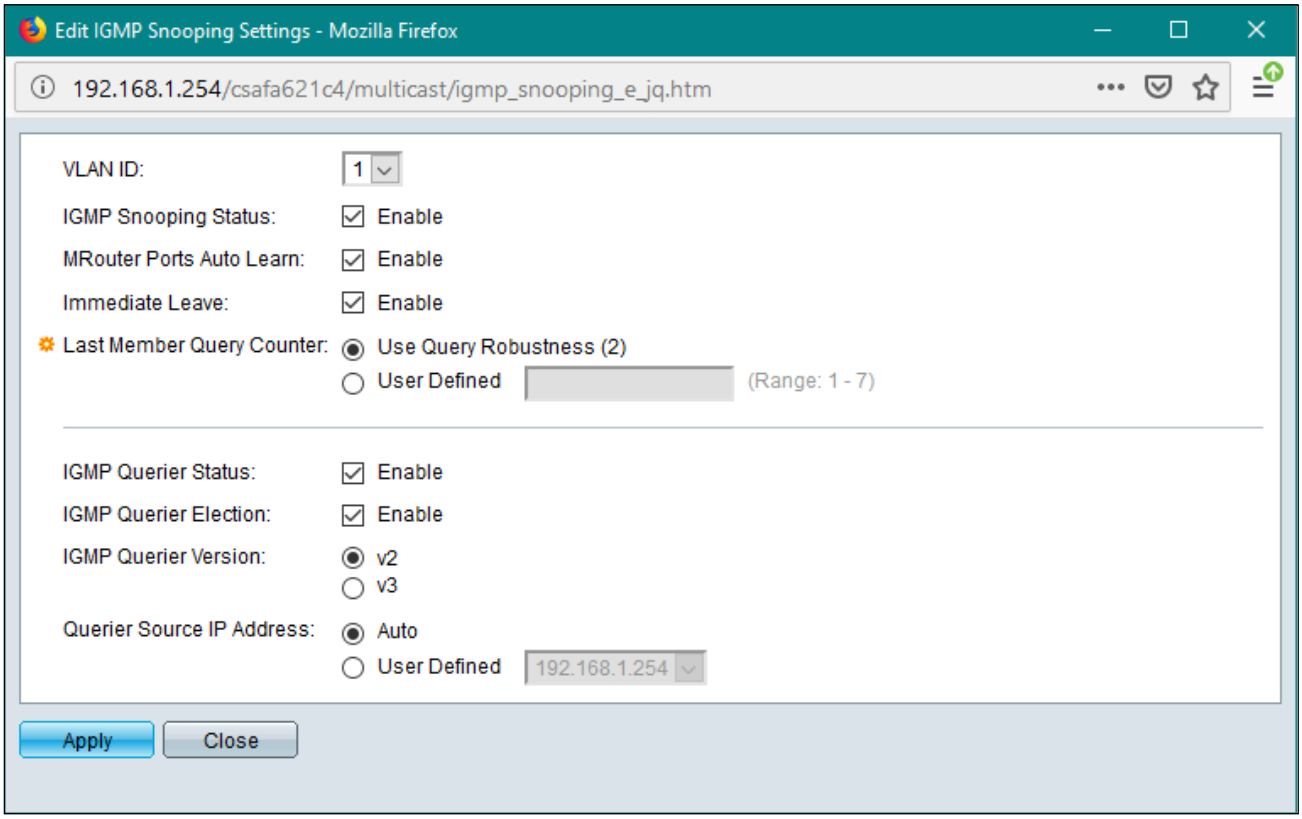


46. Click the **Edit...** button to display the **Edit IGMP Snooping Settings** dialog box.



47. Click the **Enable** checkboxes next to **IGMP Snooping Status**, **Immediate Leave**, and **IGMP Querier Status**. Make sure each of these checkboxes display a checkmark. Leave the rest of the settings as they are.

48. Click the **Apply** button to commit changes.

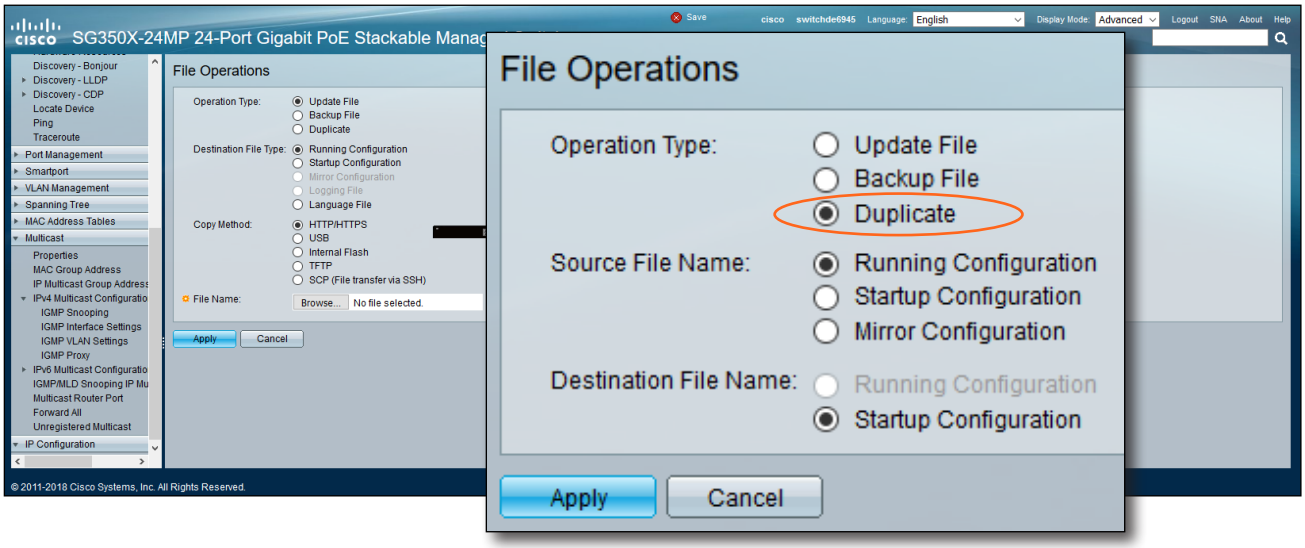


49. Click the **VLAN ID** drop-down list, and select the next VLAN ID number. Repeat steps 17 and 18 for each VLAN that was created.

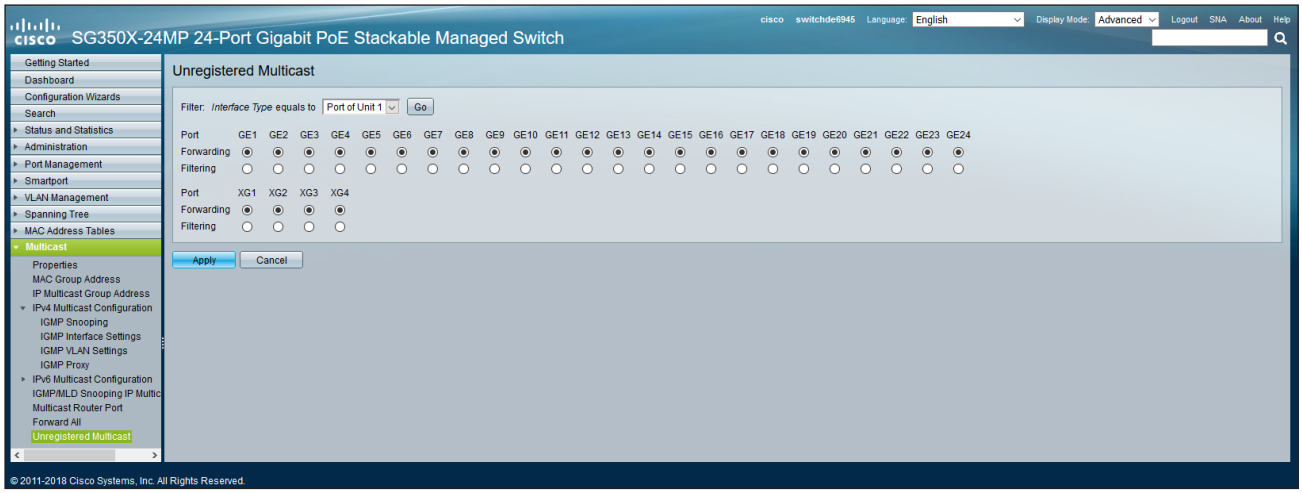
50. Click the **Close** button to dismiss the **Edit IGMP Snooping Settings** dialog.

51. Click **Administration** > **File Operations** in the menu bar on the left side of the screen. The **File Operations** page will be displayed.

52. Click the **Duplicate** radio button, next to **Operation Type**, then click the **Apply** button to commit changes.

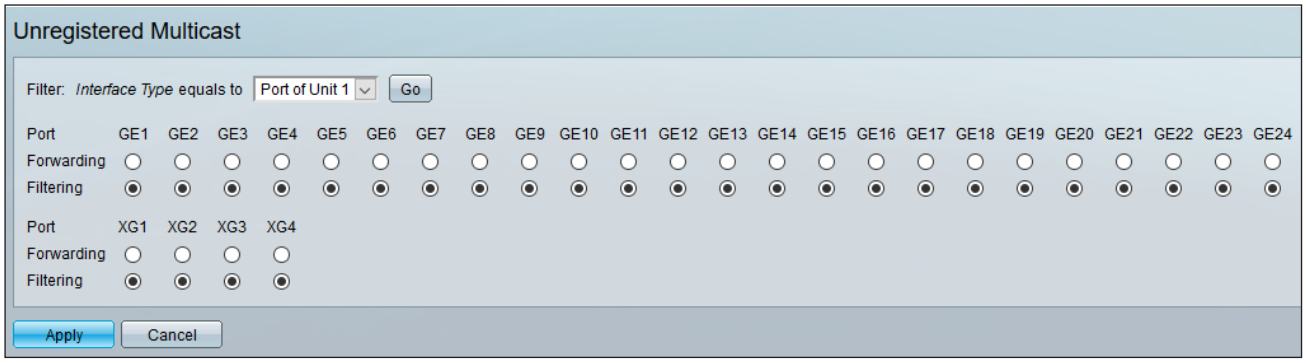


53. Click **Unregistered Multicast** from the **Multicast** menu on the left side of the screen. By default, all physical ports will have port forwarding enabled, as shown below.



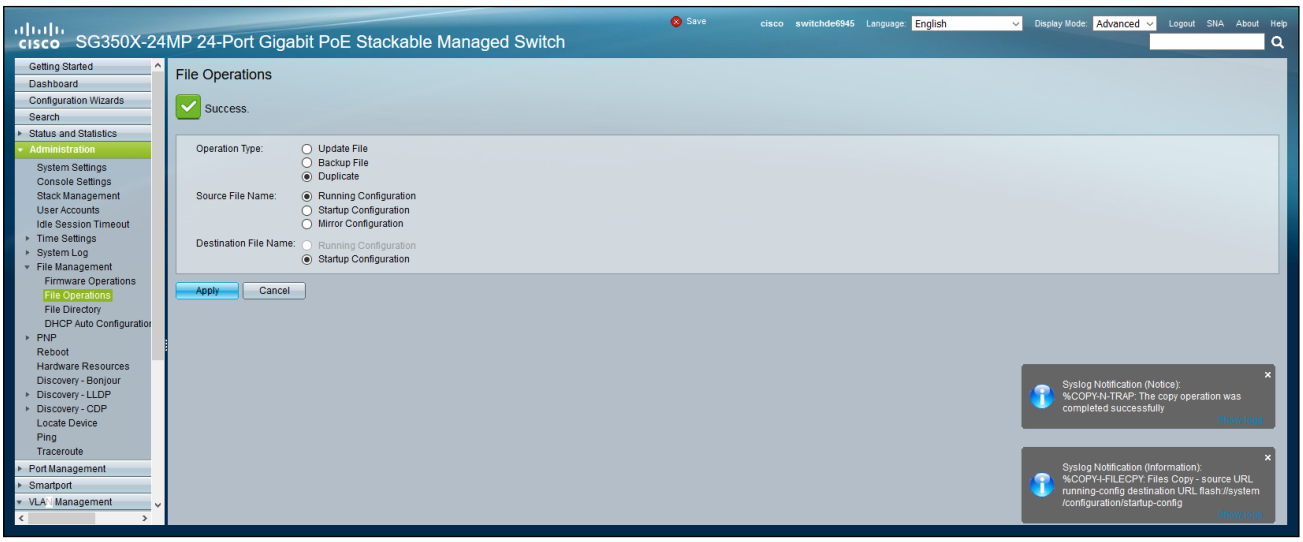
54. Click the **Filtering** radio button to assign port filtering to each port.

55. Click the **Apply** button to commit changes.



56. Click **Administration** > **File Operations** in the menu bar on the left side of the screen. The **File Operations** page will be displayed.

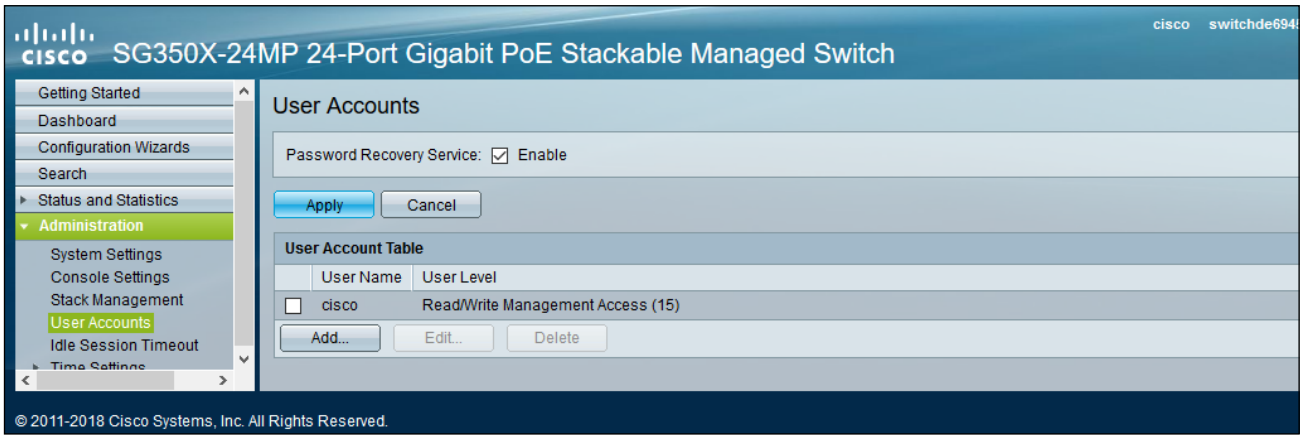
57. Click the **Duplicate** radio button, next to **Operation Type**, then click the **Apply** button to commit changes.



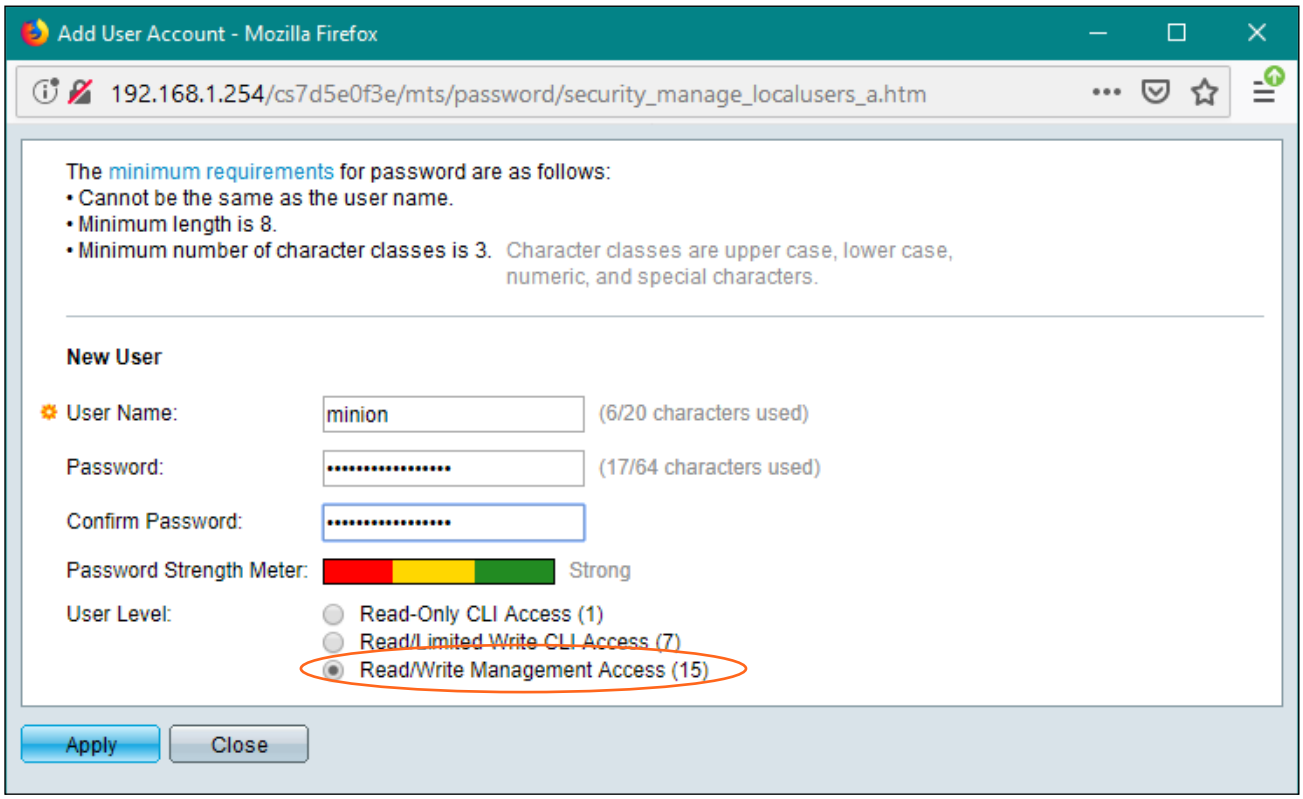
Creating User Accounts

This next section is optional, and provides instructions on creating user accounts. This is only required if multiple users will need access to the network switch.

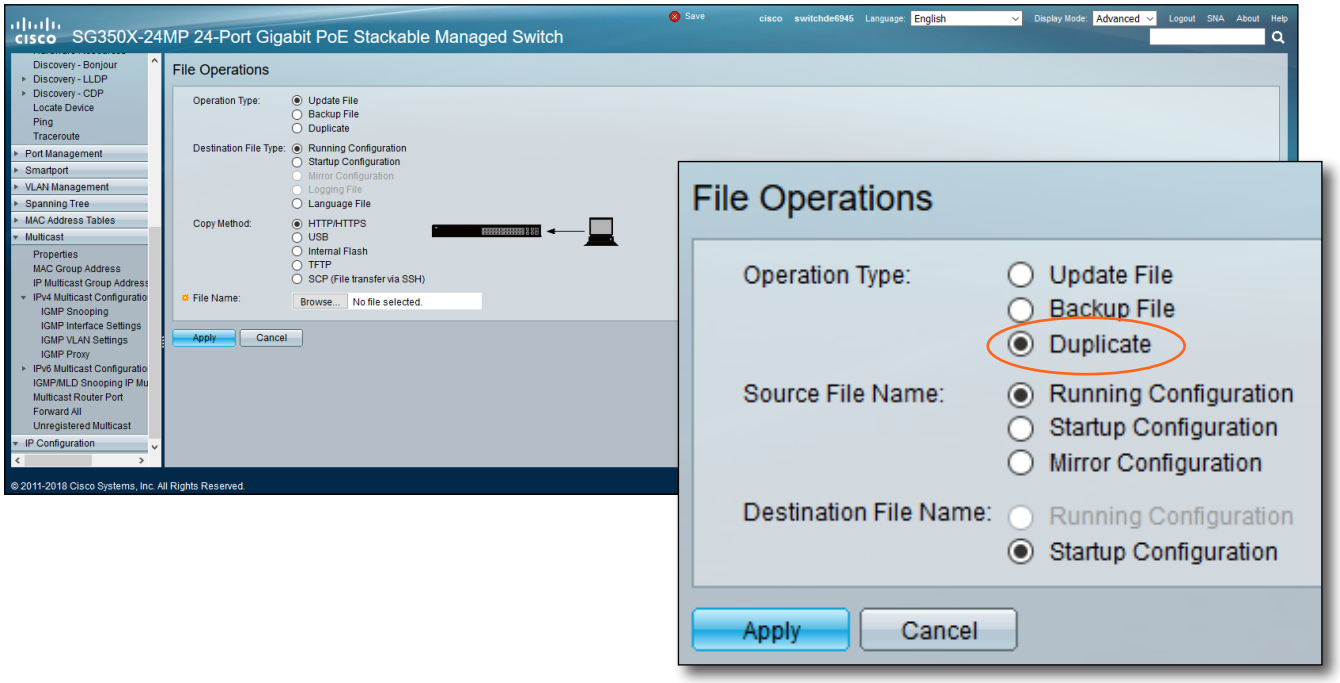
1. Click **User Accounts** from the **Administration** menu.



2. Click the **Add...** button to display the **Add User Account** dialog box.
3. Enter the desired username and password in the **User Name** and **Password** fields, respectively. Confirm the password by re-entering it in the **Confirm Password** field.
4. Click the **Read/Write Management Access** radio button, then click the **Apply** button to commit changes.
5. Repeat steps 2 through 4, as required, for each user.
6. Click the **Close** button to dismiss the **Add User Account** dialog box and click **Yes** when prompted to save changes.



7. Click **Administration** > **File Operations** in the menu bar on the left side of the screen. The **File Operations** page will be displayed.
8. Click the **Duplicate** radio button, next to **Operation Type**.
9. Click the **Apply** button to commit changes.
10. Switch configuration is complete.



Configuration Requirements for Cisco Catalyst 9300

IGMP Configuration

- `ip igmp snooping last-member-query-interval 100`
- `ip igmp snooping querier`
- `ip igmp snooping vlan vlan-id immediate-leave`

IGMP Recommended Configuration

What is IGMP?

IGMP snooping is a mechanism to constrain multicast traffic to only the ports that have receivers attached. The mechanism adds efficiency because it enables a Layer-2 switch to selectively send out multicast packets on only the ports that need them. Without IGMP snooping, the switch floods the packets on every port. The switch “listens” for the exchange of IGMP messages by the router and the end hosts. In this way, the switch builds an IGMP snooping table that has a list of all the ports that have requested a particular multicast group.

Problems can arise if you have a mixture of ports snooping and not snooping.

When IGMP is disabled, multicast is broadcast out all switch ports. This solution works but is typically not desired and loses the benefits of a multicast solution.

Step 1 - Enable Global IGMP Snooping

IGMP snooping should be enabled by default on Cisco IOS-XE. The following command is only required if IGMP snooping is disabled.

```
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#ip igmp snooping
Switch(config)#^Z
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
```

Step 2 - Set IGMP Querier

Most networks use a single IP subnet for each broadcast domain (or VLAN). IGMP dynamically assigns the IGMP querier address to the Layer-3 interface IP address, by default. Static configuration of the IGMP querier is only required when using multiple IP subnets for a single broadcast domain or when using a secondary IP addresses on a Layer-3 VLAN interface. In this case, the static querier address configuration can designate which IP address to use for that VLAN. Note that specifiying the VLAN is optional.

```
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#ip igmp snooping [vlan vlan-id] querier address ip-address
Switch(config)#^Z
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
```

Step 3 - Enable IGMP Immediate Leave

The device uses IGMP snooping Immediate Leave to remove from the forwarding table an interface that sends a leave message without the device sending group-specific queries to the interface. The VLAN interface is pruned from the multicast tree for the multicast group specified in the original leave message. Immediate Leave ensures optimal bandwidth management for all hosts on a switched network, even when multiple multicast groups are simultaneously in use. Immediate Leave is only supported on IGMP version 2 hosts. IGMP version 2 is the default version for the device.

NOTE: Immediate Leave should be used only on VLANs where a single host is connected to each port. If Immediate Leave is enabled on VLANs where more than one host is connected to a port, some hosts may be dropped, inadvertently.

IMPORTANT: Do not use immediate leave if you are connecting hubs or additional switch to connect more than one device to a port.

Immediate leave is recommended for the best user experience. Best practice guidelines recommends each device has a dedicated switchport and Immediate Leave is configured for each VLAN. Configure Immediate Leave for each VLAN that will be streaming AV over IP.

```
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#ip igmp snooping vlan vlan-id immediate-leave
Switch(config)#ip igmp snooping last-member-query-interval 100
Switch(config)#^Z
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
```

Appendix

Troubleshooting

S3L-24P Pakedge Switch Isn't Passing Multicast

SKU: S3L-24P

Challenge: The loaded Atlona default configuration file for the S3L-24P Package switch does not pass OmniStream multicast as expected.

Details: The switch is not accepting the VLAN 10 IP interface using the provided configuration. The IGMP Snooping mechanism won't work as expected without the VLAN 10 IP address. The VLAN 10 default IP address (in case you are loading the Atlona default configuration file) is 10.1.1.254 with a subnet mask of 255.255.254.0. To complete the switch configuration and begin using OmniStream, follow the procedure below:

1. Log in to the web UI of the Pakedge switch.
2. Click **Administration** > **Management** > **Network Interface** > **IPv4**.
3. Enter the following information in each field, as shown:
   - Interface: vlan10
   - ARP timeout: 14400
   - Primary IP address: Static, 10.1.1.254/23
4. Click the **Apply** button to commit changes.
5. Click **Maintenance** > **Save**, then save the current configuration.

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