



Technical Notes

Q-SYS NS Series Network Switches

Firmware and Configuration Guide

This document serves as a user guide to update the firmware and configurations on the Q-SYS NS Series network switches.

1. Introduction and Reference

Overview

QSC NS Series network switches ship with a specifically qualified firmware version and QSC-developed configuration to support turn-key deployment of stand-alone QSC Q-SYS systems supporting Q-LAN, AES67, and Dante audio, video, and control networking protocols. The firmware version qualified by QSC will not always be the most recent release found on the Dell website for the N1100 product line.

IMPORTANT: Do not load any firmware or configuration versions other than those approved by QSC.

Firmware and Configuration Versions

At the time of this writing, and distributed alongside this document, the approved versions are:

- Firmware: v6.6.0.24 (N1100v6.6.0.24.stk)
- Configuration: v1.6.0 (NS11##P_Config_160.text)

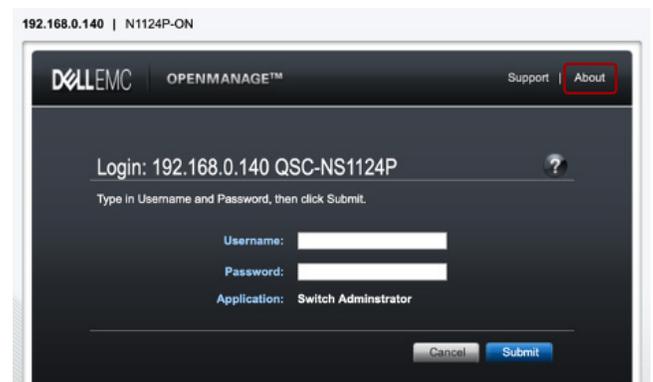
2. Identifying Your Firmware Version

- Connect your PC's Ethernet interface to an open port on the NS Series switch.
- If necessary, configure your PC's Ethernet interface using a static IP address within the 192.168.0.x scope. Use any free address that does not duplicate the switch's address, or an address of any other device attached to the switch.

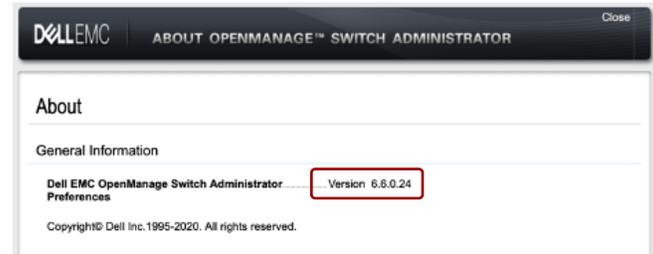
Model	IP Address	Subnet Mask
NS1108P	192.168.0.130	255.255.255.0
NS1124P	192.168.0.140	255.255.255.0
NS1148P	192.168.0.150	255.255.255.0

NS Series Default Credentials

- Username: admin
 - Password: qscsystems
- Open a web browser and type in the **IP address** of the switch.
 - While you have access to the switch, click **About** in the upper right corner of the UI.

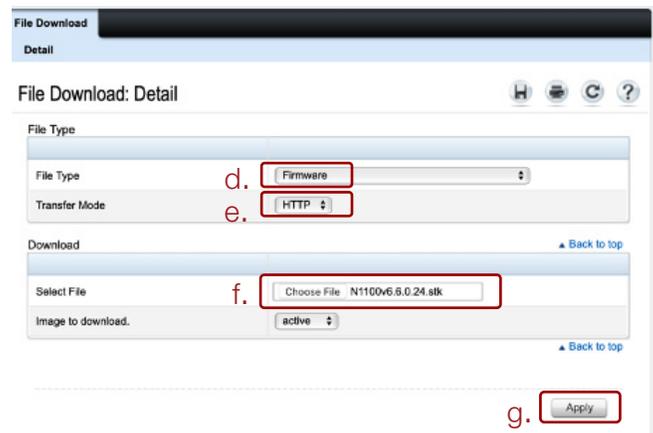


- e. The current RUNNING firmware version is located on the “ABOUT OPENMANGE” popup window.
- f. If your firmware version is prior to, or later than, v6.6.0.24, proceed to **Updating Firmware**. If your firmware is equal to v6.6.0.24, proceed to **Updating the Configuration**.



3. Updating Firmware

- a. Open a web browser and type in the IP address of the switch.
- b. Use the default login credentials (if still applicable).
- c. Navigate to SYSTEM > FILE MANAGEMENT > FILE DOWNLOAD.
- d. Set the “File Type” to **Firmware**.
- e. Set the “Transfer Mode” to **HTTP**.
- f. Select the firmware file (.stk) you want to download to the switch.
- g. Press **Apply**.
- h. A confirmation will pop up notifying that the file download to the switch can take several minutes. Press **OK** to start the download and wait:



Warning! The image can take several minutes (~16 minutes) to complete.

Management access will be blocked for the duration of the transfer.

Are you sure you want to continue?



- i. When transfer has completed, navigate to SYSTEM > FILE MANAGEMENT > ACTIVE IMAGES to confirm:
- j. Manually power cycle the switch.



4. Configuration

IMPORTANT: Updating the configuration will return the switch to its factory default IP configuration shown above. If the switch is connected to a larger IT infrastructure, it is recommended that you:

- a. Make note of the switch's IP configuration.
- b. Isolate the switch from the network.
- c. Update the switch's configuration.
- d. Connect directly to the switch at the default IP and restore your desired scope.

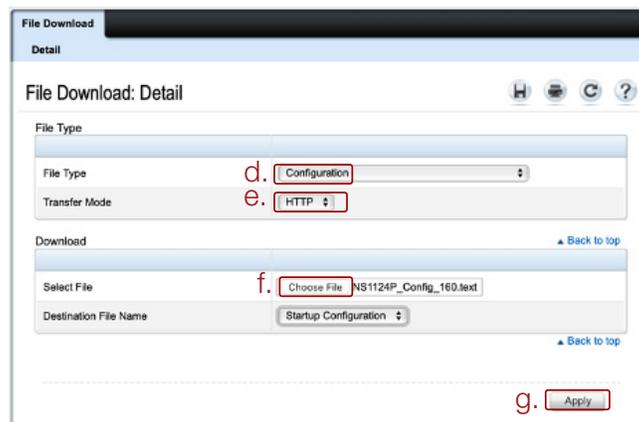
While the Q-SYS NS Series is intended for stand-alone AV networks consisting of only one switch, it is important that the core or central switch be made the IGMP querier if they must be interconnected. This is typically the largest switch at the center of a star or "Hub & Spoke" topology. In this situation, two conditions must be met:

- a. Each switch should have a distinct IP address.
- b. The desired IGMP querier switch (the core or central switch) should have the lowest IP address amongst those distinct addresses.

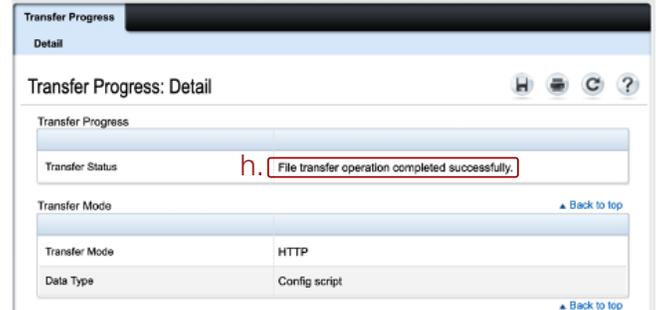
Please keep these items in mind when restoring switch IP addresses. Follow the instructions for changing the IP address completely (Section 5).

Updating to v1.6.0 Configuration

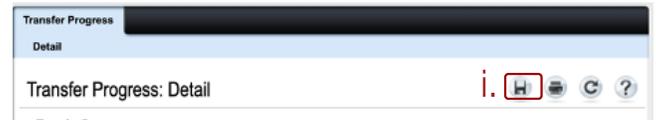
- a. Open a web browser and type in the [IP address](#) of the switch.
- b. Use the default [login credentials](#) (if still applicable).
- c. Navigate to SYSTEM > FILE MANAGEMENT > FILE DOWNLOAD.
- d. Set the "File Type" to **Configuration**.
- e. Set the "Transfer Mode" to **HTTP**.
- f. Select the firmware file (.text) for your switch model.
- g. Press **Apply**.



h. Confirm the file transfer operation completed successfully under Transfer Status:



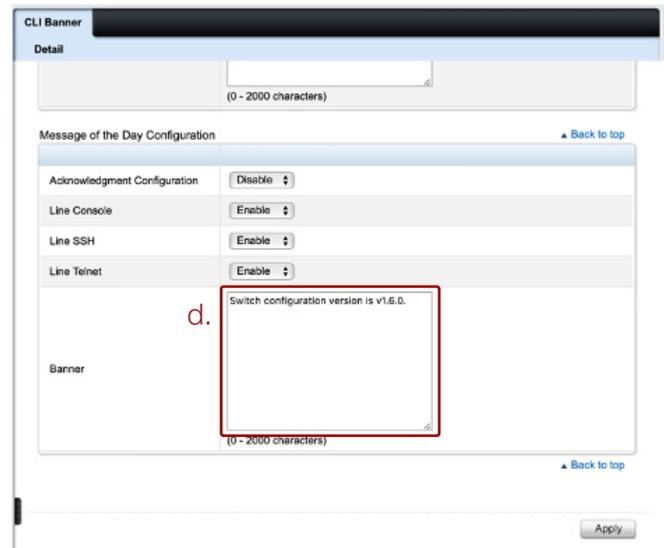
i. Click **Save** in the upper right and click “OK” on the resulting prompt:



j. Manually power cycle the switch.

Verifying the v1.6.0 Configuration

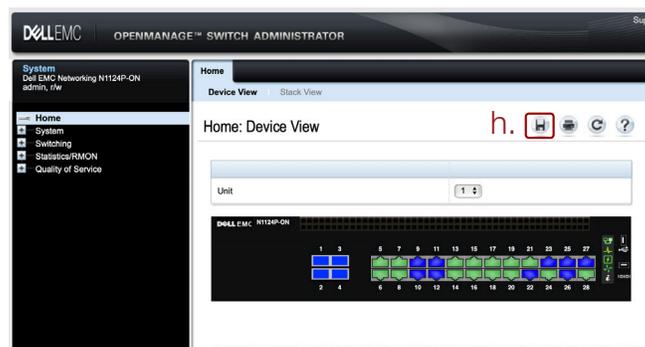
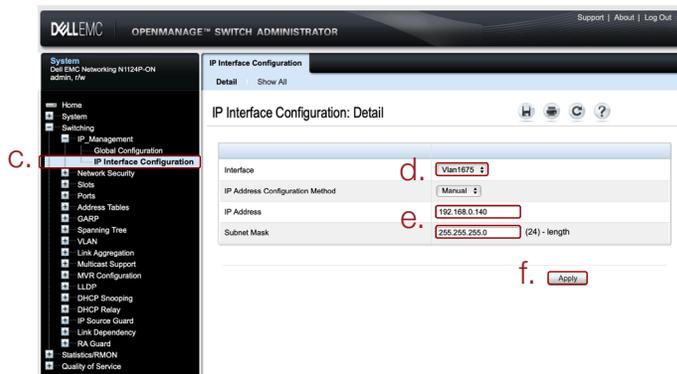
- Open a web browser and type in the [IP address](#) of the switch.
- Use the default [login credentials](#) (if still applicable).
- Navigate to SYSTEM > GENERAL > CLI Banner.
- Scroll down to the MESSAGE OF THE DAY CONFIGURATION section and verify that “switch” configuration version is v1.6.0. appears in the BANNER field:



5. Changing or verifying the switch's IP configuration

If you have changed IP scope from the factory default to avoid conflicts or fit your topology, use the following steps to verify and/or change the switch's IP configuration:

- Open a web browser and type in the IP address of the switch.
- Use the default login credentials (if still applicable).
- Navigate to SWITCHING > IP_MANAGEMENT > IP INTERFACE CONFIGURATION.
- From the "Interface" drop-down menu, select VLAN 1675.
- Enter the desired IP Address and/or Subnet Mask.
- Click **Apply**. The switch will log you off as it changes its IP configuration, however your web browser may not show that anything has happened.
- Type the new IP address of the switch into your web browser and log in again.
- Click **Save** in the upper right.

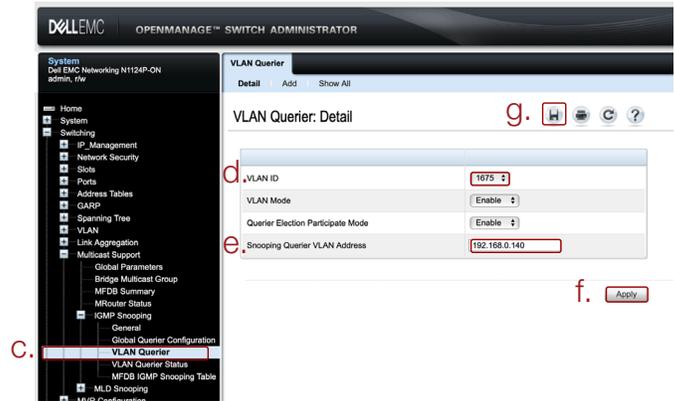


IMPORTANT: After changing the IP address, you must also change the VLAN Querier address.

6. Changing the VLAN Querier address

If you have changed IP address of the switch from the factory default, you must also change the VLAN Querier address. Use the following steps to do so:

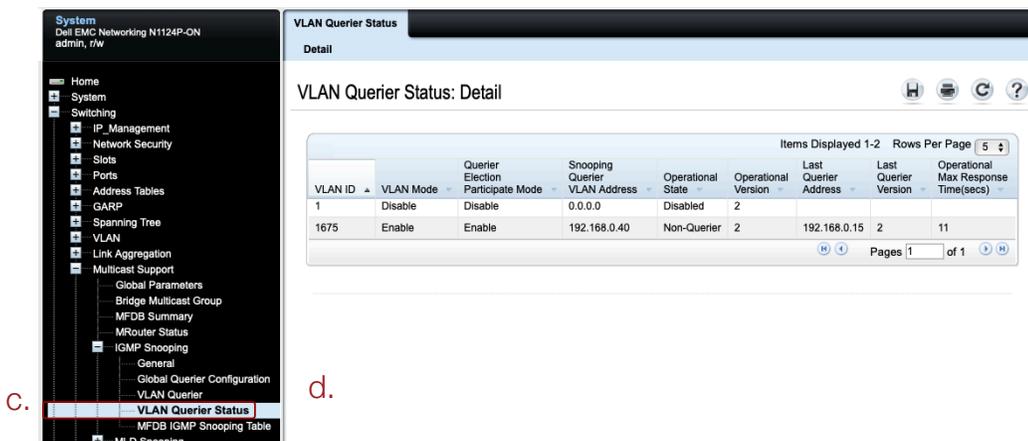
- Open a web browser and type in the IP address of the switch.
- Use the default login credentials (if still applicable).
- Navigate to SWITCHING > MULTICAST SUPPORT > IGMP SNOOPING > VLAN QUERIER.
- From the “VLAN ID” drop-down menu, select 1675.
- Enter the switches new IP Address in the “Snooping Querier VLAN Address” field.
- Click **Apply**.
- Click **Save** in the upper right.



7. Verifying VLAN Querier Status

To ensure the VLAN querier is configured correctly or to view the status of an NS Series switch:

- Open a web browser and type in the IP address of the switch.
- Use the default login credentials (if still applicable).
- Navigate to SWITCHING > MULTICAST SUPPORT > IGMP SNOOPING > VLAN QUERIER STATUS.
- Reference the line for VLAN ID 1675.



In the example screenshot shown, we can see that the VLAN Querier is configured correctly for a switch with an IP address of 192.168.0.40, but it is not currently the querier because there is another switch on the network set as querier with a lower IP address. In order to make 192.168.0.40 the querier, you would need to either set the switch at 192.168.0.15 to a higher IP address or set this switch to an IP address of 192.168.0.14 or lower. Don't forget to set the VLAN Querier address to match when changing the IP address.