



Cisco Nexus Fabric Manager Configuration Guide, Release 1.x

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Audience

This publication is for network administrators who configure and maintain the Cisco Nexus Fabric Manager.

Related Documentation for Cisco Nexus Fabric Manager

The entire Cisco Nexus Fabric Manager documentation set is available at the following URL:

<http://www.cisco.com/c/en/us/support/cloud-systems-management/nexus-fabric-manager/tsd-products-support-series-home.html>

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at: <http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>.

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CHAPTER

1

New and Changed Information

- [New and Changed Information, page 1](#)

New and Changed Information

The following table provides an overview of the significant changes to the *Cisco Nexus Fabric Manager Configuration Guide, Release 1.x*.

Feature	Description	Changed in Release	Where Documented
Breakout interface support	Interface role automatically assigned.	1.3(1)	Editing the Switchpool Settings, on page 42
Candidate peer link	Role personality assigned when a leaf is connected to more than one other leaf. One such link is nominated as a vPC peer and other links are set to candidate peer link role and an associated fault is raised.		Editing an Interface Configuration, on page 57
FEX Fabric	Interface role assigned to detected FEX fabric interfaces. Manual configuration of the FEX is required.		Editing the Switchpool Settings, on page 42
New user roles.	Added Operator and Overlay-Admin roles.		Creating a New User, on page 101
9500 platform support expanded.	—		Supported Platforms, on page 8
Port Channel Improvements	Added Members tab enabling a new way to edit port channel members. Added port channel membership editor wizard.		Creating a Host-Facing and Border Port Channel, on page 65
Routing Protocol Authentication	Ability to enable authentication in the underlay OSPF and BGP routing protocols within the fabric		Editing the Switchpool Settings, on page 42
Software support added	Additional Cisco NX-OS releases are now supported.		Supported Software, on page 10
Switch-facing role renamed to Leaf/spine.	Renaming of role only. No change in functionality.		Editing an Interface Configuration, on page 57

Feature	Description	Changed in Release	Where Documented
VLAN range definitions added.	<p>The following VLAN ranges are added:</p> <ul style="list-style-type: none"> • Switchpool wide VRF VLANs • Switchpool wide vPC L3 peering VLANs 		Editing the Switchpool Settings, on page 42
vPC Layer 3 Peering Support	Enables you to add a point-to-point routed link in overlay VRFs between vPC switch pairs.		Creating a VRF, on page 89
vPC Cluster Created	A vPC cluster is created as soon as the peer link is available.		Editing a Switch Configuration, on page 36
Password reset	The instructions for resetting the Cisco Nexus Fabric Manager password were added.	1.2(3)	System Password Reset, on page 139
The number of supported fabric extenders.	The number of supported fabric extenders is four per leaf switch.		Table 5: Cisco Nexus 2000 Series Fabric Extenders, on page 9
Extra CLI commands	A new section was added to explain the extra CLI commands feature.		Extra CLI Commands, on page 20

Feature	Description	Changed in Release	Where Documented
The Auto-create port channel field is now deprecated and should not be enabled. It remains here for migration purposes from older versions of Cisco Nexus Fabric Manager.	A field that specifies whether to automatically build port channels out of parallel leaf-spine links is now disabled and has moved to the Advanced tab.	1.2(2)	Editing the Switchpool Settings, on page 42
Added the Automatic neighbor assertions field	A new field that specifies whether to automatically create a fault when the neighbor of an interface or port channel changes.		Editing the Switchpool Settings, on page 42
Newly supported software has been added	Support has been added for Cisco NX-OS Release 7.0(3)I2(4) and Cisco NX-OS Release 7.0(3)I4(4)		Supported Software, on page 10
Purge feature	When a discovered device is removed from an interface, Cisco Nexus Fabric Manager maintains the linkage to the device so that the device can be added back to the port. The Purge feature removes all references to the removed device.		Purging Device References, on page 61

Feature	Description	Changed in Release	Where Documented
Enhancements to Switch Upgrade Workflow	A membership editor has been added to the upgrade task. Existing upgrade tasks can be easily edited using the membership editor to add or remove switches from the task.	1.2(1)	Starting an Upgrade, on page 98.
Switch cloning	A new workflow has been added to enable the importing a new switch into a switchpool based on the settings of an existing imported switch.		Cloning a Switch, on page 27
Cisco Fabric Extender (FEX) Enhanced Support	Cisco Nexus 2000 Series of Fabric Extenders (FEX) switches are now supported in a managed mode. While they must be connected to the host leaf switch through the CLI, once connected, their host facing interfaces are managed through the Cisco Nexus Fabric Manager including broadcast domain and port channel membership.		Table 5: Cisco Nexus 2000 Series Fabric Extenders, on page 9
New Switchpool Settings for vPC Tuning Parameters	Users can now tune vPC performance parameters including vPC delay restore and vPC auto-recovery reload-delay from within the switchpool settings.		Editing the Switchpool Settings, on page 42
New Border Interface Role	The role of <i>Uplink</i> within previous versions of the Cisco Nexus Fabric Manager has now been renamed to <i>Border</i> .		Interface Management, on page 53
New Switchpool Settings for Default Role for Foreign Devices			Editing the Switchpool Settings, on page 42

Feature	Description	Changed in Release	Where Documented
	Users can now define the role that unknown foreign devices, those devices that are connected to a managed fabric but are not enabled with CDP or LLDP, are assigned, thereby accelerating the time required to build connectivity between connected devices.		
Enhancements to VRF Management	A membership editor has been added to the VRF function. Existing VRFs can be easily edited using the membership editor to add or remove layer 3 interfaces from the VRF. Both default VRFs are also displayed, the underlay VRF which is the switch <i>default</i> VRF and the default overlay VRF named <i>Switchpool Default</i> .		Tenant VRF Management, on page 89
Enhancements to the Untagged Broadcast Domain Configuration	The definition of an untagged broadcast domain on an interface has been added to the interface profile definition. Users can define an untagged broadcast domain from all available broadcast domains and assign the interface profile as a default profile type or easily assign it to one more host-facing or border interfaces.		Broadcast Domain Management, on page 77
Initial Release	—	1.1(1)	—



About Cisco Nexus Fabric Manager

This chapter contains the following sections:

- [Overview, page 7](#)
- [Supported Platforms, page 8](#)
- [Supported Software, page 10](#)
- [Supported and Unsupported Topologies, page 11](#)
- [Supported Browsers, page 11](#)
- [Accessing the Cisco Nexus Fabric Manager , page 12](#)
- [First-Time Login, page 12](#)
- [Resetting the Cisco Nexus Fabric Manager System Root Password, page 12](#)
- [About the GUI, page 14](#)
- [Extra CLI Commands, page 20](#)

Overview

The Cisco Nexus Fabric Manager is a system designed to highly simplify and optimize the full lifecycle management of a switch fabric based on the Cisco Nexus 9000 Series switches. The Cisco Nexus Fabric Manager provides point-and-click methods for performing fabric management tasks such as adding, removing, and configuring network components. The configurable network components include switchpools, switches, switch interfaces, foreign devices (such as hosts), virtual routing and forwarding topologies (VRFs), port channels and broadcast domains.

The Cisco Nexus Fabric Manager user interface leverages an intuitive **Navigation** menu to easily move between the main functions of the system. The main system functions include switchpools, profiles, faults, racks, VRFs, images, upgrades, and authentication.

The Cisco Nexus Fabric Manager also introduces Auto Fabric Provisioning (AFP), which enables the Cisco Nexus Fabric Manager to manage switches that have not yet received any configuration. Through AFP, you can specify the initial switch configuration using the desired management IP address, username, password, and Cisco NX-OS software release. Your initial configuration is automatically applied to the device before being imported into the switchpool.

For installation information, see the [Cisco Nexus Fabric Manager Quick Start Guide](#). Once the Cisco Nexus Fabric Manager is up and running, you can begin adding and configuring user accounts and network components.

Supported Platforms

The Cisco Nexus Fabric Manager supports the following hardware:

Table 1: Cisco Nexus 9500 Platform Switches

Model	Product ID
Nexus 9500	<ul style="list-style-type: none"> • N9K-C9504 • N9K-C9508 • N9K-C9516

Table 2: Cisco Nexus 9500 Line Cards

Model	Product ID
Nexus 9500 100 GE Modules	<ul style="list-style-type: none"> • N9K-X9408PC-CFP2 • N9K-X9432C-S • N9K-X9732C-EX
Nexus 9500 40GE Modules	<ul style="list-style-type: none"> • N9K-X9636PQ • N9K-X9536PQ • N9K-X9432PQ
Nexus 9500 10GE Modules	<ul style="list-style-type: none"> • N9K-X9564PX • N9K-X9464PX • N9K-X9564TX

Table 3: Cisco Nexus 9300 Series Switches

Model	Product ID
Nexus 9300 10GBaseT Switches	<ul style="list-style-type: none"> • N9K-C9372TX • N9K-C9396TX • N9K-C93120TX • N9K-C93128TX • N9K-C93108TC-EX
Nexus 9300 10/25GE Fiber Switches	<ul style="list-style-type: none"> • N9K-C9372PX • N9K-C9372PX-E • N9K-C9396PX • N9K-C93180YC-EX
Nexus 9300 40GE Switches	<ul style="list-style-type: none"> • N9K-C9332PQ • N9K-C9336PQ

Table 4: Cisco Nexus 9200 Series Switches

Model	Product ID
Cisco Nexus 9200 Modules	<ul style="list-style-type: none"> • N9K-C92160YC-X • N9K-C9272Q • N9K-92304QC • N9K-C9236C

Table 5: Cisco Nexus 2000 Series Fabric Extenders

Model	Product ID
Cisco Nexus 2348TQ 10GE	N2K-C2348TQ-10GE
Cisco Nexus 2348TQ-E 10GE	N2K-C2348TQ-E
Cisco Nexus 2348UPQ 10GE	N2K-C2348UPQ
Cisco Nexus 2332TQ 10GE	N2K-C2332TQ-10GT

Model	Product ID
Cisco Nexus 2248PQ 10GE	N2K-C2248PQ
Cisco Nexus 2248TP GE	N2K-C2248TP
Cisco Nexus 2248TP-E	N2K-C2248TP-E
Cisco Nexus 2232PP 10GE	N2K-C2232PP
Cisco Nexus 2232TM 10GE	N2K-C2232TM
Cisco Nexus 2224TP GE	N2K-C2224TP

**Note**

In Cisco Nexus Fabric Manager 1.2(x) releases, the maximum number of supported fabric extenders is four per leaf switch.

Supported Software

The Cisco Nexus Fabric Manager supports the following software:

- Cisco NX-OS 7.0(3)I2(2e)

**Note**

NX-OS patch required.

- Cisco NX-OS 7.0(3)I2(3) (NXOS patch required)
- Cisco NX-OS 7.0(3)I2(4)
- Cisco NX-OS 7.0(3)I2(5)
- Cisco NX-OS 7.0(3)I3(1)
- Cisco NX-OS 7.0(3)I4(1)
- Cisco NX-OS 7.0(3)I4(2)
- Cisco NX-OS 7.0(3)I4(3)
- Cisco NX-OS 7.0(3)I4(4)
- Cisco NX-OS 7.0(3)I4(5)
- Cisco NX-OS 7.0(3)I4(6)
- Cisco NX-OS 7.0(3)I5(2)
- Cisco NX-OS 7.0(3)I6(1)

Supported and Unsupported Topologies

Supported Fabric Topologies

- 2-tier leaf spine architecture
- Border leaf switches



Note May require a CLI configuration to enable required external routing functionality.

- Host-facing and border vPCs are supported and require a physical link between leaf switch pairs to facilitate a vPC peer link.



Note Leveraging connectivity from leaf-to-spine-to-leaf for a vPC peer link is not currently supported, as this is a current NX-OS restriction.

Unsupported Fabric Topologies

- Border spine switches
- Multi-homed Nexus 2000 (FEX) configurations, as this is a current NX-OS restriction.
- The use of VLAN 1 is not supported as either part of the Cisco Nexus Fabric Manager's managed configuration or as a manual addition to the CLI configuration of any switch. VLAN 1 must remain unused.

Supported Browsers

The Cisco Nexus Fabric Manager supports the browsers listed in the table below.

Table 6: Supported Browsers

Browser	Version
Google Chrome	Latest regular release
Mozilla Firefox	Latest regular release

Accessing the Cisco Nexus Fabric Manager

After installation, the Cisco Nexus Fabric Manager login window is accessed by entering the Cisco Nexus Fabric Manager IP address in a web browser. When the login window appears, enter your username and password credentials.

**Note**

- There is no default password. The admin password must be specified during installation. For installation information, see the [Cisco Nexus Fabric Manager Quick Start Guide](#).
- The Cisco Nexus Fabric Manager encrypts switch passwords.

First-Time Login

The Cisco Nexus Fabric Manager first-time login credentials are entered by an admin. For the first-time login, enter the default admin username with the password that was specified during the installation.

After logging in successfully, see [User Management](#), on page 101 to change the password and add user accounts.

Resetting the Cisco Nexus Fabric Manager System Root Password

This section explains how to reset the system password for the Cisco Nexus Fabric Manager Release 1.2(1) and earlier and Release 1.2(2) and later.

Resetting the System Password in Release 1.2(2) and Later

This section explains how to reset the system password for Cisco Nexus Fabric Manager Release 1.2(2) and later releases.

-
- | | |
|---------------|---|
| Step 1 | Open the vSphere client and log in to the Cisco Nexus Fabric Manager appliance host (root). |
| Step 2 | From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose Open Console . |
| Step 3 | From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose Power > Restart Guest . When prompted, click Yes to confirm the reboot. |
| Step 4 | From the console window, click the black field (the prompt becomes a dot) and begin pressing the Down Arrow key repeatedly as the Cisco Nexus Fabric Manager VM begins to start up (during the VMware window). The GNU GRUB window will appear. |
| Step 5 | Use the Up Arrow and Down Arrow keys to highlight the Cisco NFM Version <Version Number>—Password Recovery option. |
| Step 6 | When prompted, enter a new password. When prompted, re-enter the password to confirm. |

The system will boot normally.

What to Do Next

After the Cisco Nexus Fabric Manager starts, verify the password change by logging in to root on the console and entering the new password.

Resetting the System Password in Release 1.2(1) and Earlier

This section explains how to reset the system password for Cisco Nexus Fabric Manager Release 1.2(1) and earlier releases.

-
- Step 1** Open the vSphere client and log in to the Cisco Nexus Fabric Manager appliance host.
- Step 2** From the vSphere client, click the + symbol to open the VM menu.
- Step 3** From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose **Open Console**.
- Step 4** From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose **Power > Restart Guest**. When prompted, click **Yes** to confirm the reboot.
- Step 5** From the console window, click in the black field (the prompt becomes a dot) and begin pressing the **Down Arrow** key repeatedly as the Cisco Nexus Fabric Manager VM begins to start up (VMware screen).
- Step 6** When the **GNU GRUB** window appears, press the **e** key.
- Step 7** Use the **Up Arrow** and **Down Arrow** keys to highlight the option that begins with the word **Kernel** then press the **Enter** key.
Your cursor is placed at the end of a line with editable text.
- Step 8** Replace the last two words in the line with the word **debug** and press the **Enter** key.
- Step 9** From the **GNU GRUB** window, press the **b** key to boot.
You are taken to a new window with a prompt.
- Step 10** At the prompt, enter the following commands:
- ```
mkdir /mnt/gentoo ; mount /dev/sda2 /mnt/gentoo
/mnt/gentoo/rootfs/usr/local/bin/RecoverRootPassword.sh
```
- Step 11** When prompted, enter the new password. After entering the password, you are prompted to re-enter the password for confirmation.
- Note** The Cisco Nexus Fabric Manager will reboot
- 

### What to Do Next

After the Cisco Nexus Fabric Manager starts, verify the password change by logging in to root on the console and entering the new password.



# About the GUI

The Cisco Nexus Fabric Manager is divided into groups of related function windows that enable you to access and manage different network components. You move between the function windows using the **Navigation** menu icon. Some function windows also have a **Settings** drop-down menu icon. The **Settings** drop-down menu contains options that pertain only to the components of the window you have open. The components, such as switches, foreign devices, broadcast domains, interfaces, profiles, and user accounts, are displayed in the function windows as tiles. Each function window that displays tiles also contains an Actions bar, which is used to filter your tiles. This section describes the menu and tile icons and provides an overview for filtering your component tiles.


## Understanding the Icons

This section provides a brief overview of the commonly used icons in the Cisco Nexus Fabric Manager interface.




**Table 7: Icons**

| Icon                                                                                | Description                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | The comment icon enables you to add comments about an object or fault and is found in the details view of the switches, interfaces, foreign devices, port channels, broadcast domains, faults, interface profiles, and switch profiles.                                                                                                                              |
|  | Components, such as switches, interfaces, and profiles, are created and edited in popup dialogs. The edit dialogs display the information icon for component properties that have been edited since the component was created. Click the information icon to display the name of the user who made the most recent change and the date and time the change was made. |



| Icon                                                                              | Description |
|-----------------------------------------------------------------------------------|-------------|
|  |             |

| Icon | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | <p>The <b>Navigation</b> drop-down menu, which is located in the top left corner of each window, enables you to navigate between the Cisco Nexus Fabric Manager function windows. Each function window presents specific options for accessing and managing different network components.</p> <p>The function windows are organized in the <b>Navigation</b> menu as listed below.</p> <ul style="list-style-type: none"> <li>• The <b>Switchpool</b> windows: <ul style="list-style-type: none"> <li>◦ <b>Home</b>—Enables you to view, add, remove, configure, and edit switch settings, interface settings, discovered foreign devices (neighbors), and broadcast domains.</li> <li>◦ <b>Profiles</b>—Enables you to add, remove, and edit configuration profiles applied to interfaces and switches.</li> <li>◦ <b>Racks</b>—Provides the ability to view, add, and delete racks containing switches and/or foreign devices.</li> <li>◦ <b>VRFs</b>—Provides the ability to view, add, and remove VRFs within the managed fabric.</li> </ul> </li> <li>• The <b>Management</b> windows: <ul style="list-style-type: none"> <li>◦ <b>Faults</b>—Presents a summary and detailed description of any faults within the managed fabric, including possible remedial actions.</li> <li>◦ <b>Images</b>—Displays the image catalog in a summary table and enables uploading of additional NX-OS images.</li> <li>◦ <b>Upgrades</b>—Lists defined upgrade objects consisting of a chosen image for the upgrade, a chosen set of switches to upgrade, and the upgrade strategy.</li> </ul> </li> <li>• <b>Subnets</b>—Provides the ability to view, add, and delete management IP subnets where switches within these subnets can be managed by the Cisco Nexus Fabric Manager.</li> <li>• The <b>Administration</b> windows:</li> </ul> |

| Icon                                                                                | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     | <ul style="list-style-type: none"> <li>◦ <b>Authentication</b>—Enables you to create, edit, and view all created user accounts within the system, including administrators, and to specify LDAP settings for creating remote user accounts.</li> <li>◦ <b>System</b>—Enables you to download and upload backup files and to download tech support files.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|    | The <b>Settings</b> drop-down menu appears on the right side of the Actions bar in the <b>Home</b> , <b>Profiles</b> , <b>Racks</b> , <b>VRFs</b> , <b>Faults</b> , <b>Images</b> , <b>Upgrades</b> , <b>Subnets</b> , and <b>Authentication &gt; Users</b> windows. Click the <b>Settings</b> icon to display a menu of options that pertain only to the window you have open. For example, if you are in the <b>Profiles</b> window, clicking the <b>Settings</b> drop-down icon will display options to create or delete profiles. If you are in the <b>VRFs</b> window, you will see options to create or delete VRFs.                                                                                                                                                                                                                                            |
|   | Tiles represent components such as switches, foreign devices, interfaces, and user accounts. When a tile is chosen by clicking in its open white space, configurable options become accessible in a panel that displays on the right side of the window. All tile-display windows also contain an Actions bar, which enables you to filter your tiles using options from a drop-down menu and by entering an expression as a substring (the asterisk as a wildcard is supported). Each tile also has a check box located at the bottom right corner. The check box enables you to apply options to multiple tiles at a time. For example, to delete a group of tiles in the <b>SWITCHES</b> tab of the <b>Home</b> window, click the check box in the tiles you want to delete then choose the <b>Delete selected</b> option from the <b>Settings</b> drop-down list. |
|  | Clicking the filter icon applies the text-based filter expression to the currently viewed group of object tiles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## Filtering Your Component Icons

All of the function windows with tiles or topology nodes contain an Actions bar, which enables you to filter and sort your tiles and the foreign device topology nodes. The Actions bar filter options differ depending on the window you are accessing. This section provides a general overview of the various filter options that are available.

**Table 8: Filter Options**

| Filter Option            | Description                                                                                                                         | Instructions                                                                                                                                                                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Filter expression</b> | The <b>Filter expression</b> field enables you to filter your tiles by object name when you enter text in the field as a substring. | <ol style="list-style-type: none"> <li>1 Enter an expression in the <b>Filter expression</b> field.</li> <li>2 Click <b>Apply filter</b>.</li> </ol>                                                                                                                                       |
| <b>Sort by</b>           | The <b>Sort by</b> drop-down list provides options for sorting the tiles by type.                                                   | Click the <b>Sort by</b> drop-down list and choose an option. The options available differ between the categories of tiles. For example, broadcast domains have an option to sort by VLAN ID and foreign devices have an option to sort by platform ID.                                    |
| <b>Physical view</b>     | The <b>Physical view</b> drop-down option enables you to filter the topology by broadcast domain.                                   | <ol style="list-style-type: none"> <li>1 Click the <b>Physical view</b> drop-down list.</li> <li>2 Choose a component in the list.</li> <li>3 (Optional) Check or uncheck the <b>Not in</b> check box to highlight foreign devices that are not in the chosen broadcast domain.</li> </ol> |
| <b>Show neighbors</b>    | The <b>Show neighbors</b> check-box option enables you to view or hide foreign devices in the topology view.                        | Check/uncheck the <b>Show neighbors</b> check box to view/hide foreign devices.                                                                                                                                                                                                            |

| Filter Option                              | Description                                                                                                                                         | Instructions                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Third filter drop-down list from the left. | This drop-down list enables you to filter your interface tiles from a set of interface class options.                                               | <p>Click the third drop-down list from the left and choose from the following:</p> <ul style="list-style-type: none"> <li>• Physical <ul style="list-style-type: none"> <li>◦ Standalone</li> <li>◦ Port channel member</li> </ul> </li> <li>• Logical port channel</li> <li>• Gateway</li> <li>• Unknown</li> <li>• Select all</li> <li>• Deselect all</li> </ul> |
| <b>Filter by routed mode</b>               | The <b>Filter by routed mode</b> drop-down list enables you to filter your interface tiles based on the specified router mode (Layer 2 or Layer 3). | <p>Click the <b>Filter by routed mode</b> drop-down list and choose from the following:</p> <ul style="list-style-type: none"> <li>• Switched (L2)</li> <li>• Routed (L3)</li> <li>• Select all</li> <li>• Deselect all</li> </ul>                                                                                                                                 |
| <b>Filter by role</b>                      | The <b>Filter by role</b> drop-down list enables you to filter your interface tiles based on the assigned role.                                     | <p>Click the <b>Filter by role</b> drop-down list and choose from the following list of option:</p> <ul style="list-style-type: none"> <li>• <b>Border</b></li> <li>• <b>Host facing</b></li> <li>• <b>Switch facing</b></li> <li>• <b>vPC peer link</b></li> <li>• <b>Unknown</b></li> </ul>                                                                      |

| Filter Option  | Description                                                                                                                               | Instructions                                                                                                                                                                                                     |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter by type | The <b>Filter by type</b> drop-down list provides options for sorting the foreign device tiles by the type of device the tiles represent. | Click the <b>Sort by</b> drop-down list and choose from the following: <ul style="list-style-type: none"> <li>• Host</li> <li>• Hypervisor</li> <li>• Networking</li> <li>• Switch</li> <li>• Unknown</li> </ul> |

## Extra CLI Commands

The following explains how the extra CLI commands configuration within switch objects and profiles are implemented in the Cisco Nexus Fabric Manager. The following steps outline when CLI configuration that is entered via the **Extra CLI commands** field is installed in a newly imported switch:

- 1 AFP bootstrapping of switches (if switches are imported via AFP).
- 2 Switches are imported into the switch pool in monitored state.
- 3 Switches are moved into managed state.
  - a **Extra CLI commands are pushed to the switches.**
  - b A Cisco Nexus Fabric Manager generated configuration for the underlay and overlay are pushed to the switches.



### Note

In Cisco Nexus Fabric Manager Release 1.3(1), new CLI command fields within switch objects, called Pre-provisioning and Post-provisioning CLI, are introduced in section /fill in section here/. They are prefix and suffix configuration that are appended to the staging configuration as part of the AFP bootstrapping of switches in step 1"

For switches that are already imported and in managed mode, the following outlines how changes to the **Extra CLI commands** section are pushed to the switch:

- Saving a change to the **Extra CLI commands** section in a switch modal.
- Saving a change in a switch profile modal.
- When a switch becomes reachable after being unreachable.
- When transitioning a switch from monitored to managed.

**Note**

Switch features that are managed through the Cisco Nexus Fabric Manager, must not be altered via the configuration entered through the **Extra CLI commands** field.

The following is a list of features that the Cisco Nexus Fabric Manager manages and cannot be configured through the **Extra CLI commands** field:

- Building port channels
- Building broadcast domains
- Building VRFs
- Switch software management
- Underlay configuration (routing, EVPN, etc)
- NX-OS feature management for those features specifically enabled by the Cisco Nexus Fabric Manager.
- Interface configuration (VLAN, speed, state, beacon, link discovery protocols CDP/LLDP, IP address, BFD, LACP)

How do you know when the configuration has been applied?

- Go to the switch object **Details** window, scroll to the **CLI COMMANDS** section and verify a configuration change was recently pushed. To verify that specific commands were accepted by the switch, bring up the switch CLI and verify the running configuration.

No command syntax validation is done by the Cisco Nexus Fabric Manager. When erroneous extra CLI commands are applied, a switch object fault is generated in response to the switch generated errors.

The Cisco Nexus Fabric Manager does not trigger a reboot when extra CLI commands are applied. If you have a command that requires a reboot, the reboot must to be done manually.

**Note**

When removing commands from the **Extra CLI Command** section or disabling the section, CLI commands added by the feature are not removed from the switches themselves. These commands can either be removed at the switch CLI or by entering the required CLI commands to remove configuration (eg. prefix commands with **no**) and save these to the **Extra CLI Commands** section. Keep in mind the simple **no** prefix might not remove all added CLI configuration. Refer to the NX-OS configuration guides for the required syntax.

- Which user triggers it?
  - The logs will show the user defined in the Cisco Nexus Fabric Manager switch object as the "owner" of the extra CLI commands changes.







## Switch Management

Switches can be imported manually on a switch-by-switch basis or through an automated process leveraging CDP or LLDP discovery protocols. After a switch has been added to a switchpool, you can edit the switch configuration options such as applying a switch configuration profile or altering the switch management state. Switches can also be initialized through Auto Fabric Provisioning, which enables the Cisco Nexus Fabric Manager to provide a zero-touch user experience for switch import and fabric provisioning.



### Note

When altering the management state, two different options are supported: **monitored** and **managed**. When a switch is set to the **monitored** state, the Cisco Nexus Fabric Manager will treat the resource as read-only, only collecting state information and statistics from it and performing validation to ensure the configurations you want to apply are valid. Warnings or faults are given if the configuration is not valid. In the **monitored** state, configuration changes performed on the switch object are stored within the Cisco Nexus Fabric Manager database, but no actual commands are issued to the device. When the management state is set to **managed**, the Cisco Nexus Fabric Manager will treat the switch as read-write and, in addition to the standard actions of the **monitored** state, will actively manage the switch. In this state, any configuration changes performed on the switch are stored within the Cisco Nexus Fabric Manager database and translated into CLI commands that are issued to the device. Configuration changes on switches that are not pushed for **monitored** state will be pushed if the switches change to **managed** state. By default, switches are imported and set to the **monitored** state. Switch interfaces inherit their management state from the switch they belong to, but the inheritance can be overridden. For example, even if a switch is set to the **managed** state, you can still change select interfaces to the **monitored** state.

This chapter explains how to add, edit, and delete the switches within a switchpool and how to view switch details such as statistics, faults, and history. It contains the following sections:

- [Adding a Switch to a Switchpool, page 24](#)
- [Cloning a Switch, page 27](#)
- [Auto Fabric Provisioning, page 31](#)
- [Viewing Switch Details, page 34](#)
- [Editing a Switch Configuration, page 36](#)
- [Reconciling a Switch Configuration, page 40](#)
- [Accessing the Switch CLI, page 41](#)

- [Deleting a Switch from the Switchpool, page 41](#)
- [Viewing the Switchpool Details, page 42](#)
- [Editing the Switchpool Settings, page 42](#)

## Adding a Switch to a Switchpool

Switches are imported to the switchpool either by their management IP addresses or by using the CDP or LLDP discovery protocol. This section explains how to add a switch to the switchpool by its management IP address.

### Before You Begin

- A management IP address has been configured on the switch.
- Admin user credentials have been configured on the switch.



#### Note

As a best practice, create a separate user account on the switch (for example: nfm-service) with the role "network-admin" and use the account when adding the switch.

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SWITCHES** tab.
- Step 3** From the **Settings** drop-down list, choose **Import new switch**.  
The **ADD SWITCH** dialog box appears with the following tabs: **GENERAL**, **MORE**, and **AFP**.
- Step 4** Enter the appropriate values in the fields of each tab as listed in the *ADD SWITCH Dialog Box Fields* table below, then continue to step 5.

**Table 9: ADD SWITCH Dialog Box Fields**

| Field                     | Description                                                                                                                                                                                                                                            |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL Tab</b>        |                                                                                                                                                                                                                                                        |
| <b>Management address</b> | Enter the IP address of the switch you would like to import.<br><b>Note</b> This is a mandatory field.                                                                                                                                                 |
| <b>Serial number</b>      | Enter the serial number of the switch you would like to import.<br><b>Note</b> Adding the serial number enables you to change the state of the switch upon import. If the serial number is not entered, the switch will be imported in monitored mode. |

| Field                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Management state</b> | <p>Choose a state:</p> <ul style="list-style-type: none"> <li>• <b>Managed</b><br/>—The Cisco Nexus Fabric Manager will send configuration changes to the managed switch.</li> <li>• <b>Monitored</b><br/>—The Cisco Nexus Fabric Manager will not push configurations to the switch. The changes will be stored in the Cisco Nexus Fabric Manager database and pushed to the device when the state is changed to <b>Managed</b>.</li> </ul> <p><b>Note</b> This option is only enabled after entering a serial number in the <b>Serial number</b> field and only affects the management state at import time. Once imported, the management state of a switch can be edited.</p> |
| <b>Username</b>         | <p>Specify a username for the switch.</p> <p><b>Note</b> The username and password can be applied based on a previously defined switch profile. If no switch profile has been created and set as default, a username and password must be entered here to access the switch for import.</p>                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Password</b>         | <p>Specify a password for the switch.</p> <p><b>Note</b> The username and password can be applied based on a previously defined switch profile. If no switch profile has been created and set as default, a username and password must be entered here to access the switch for import.</p>                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>MORE</b> Tab         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Name</b>             | Enter a name for the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Description</b>      | Enter a description of the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| Field                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Role                           | <p>Choose a role:</p> <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Leaf</b></li> <li>• <b>Spine</b></li> </ul> <p><b>Note</b> When set to <b>Auto</b>, the Cisco Nexus Fabric Manager will set the role of Cisco Nexus 9500 Series switches as spine switches and Cisco Nexus 9200 Series and 9300 Series switches as leaf switches. If that role does not match your cabled topology, you will need to manually choose the role as either <b>Spine</b> or <b>Leaf</b> according to your cabled topology.</p> |
| Profile                        | Apply a profile for the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Image                          | <p>Apply an image for the switch.</p> <p><b>Note</b> By setting an image for a switch object, the switch will not be upgraded upon import unless auto fabric provisioning (AFP) is being used. Otherwise, the switch object will have its administrative image set to the chosen value and will be upgraded only when included in an upgrade task.</p>                                                                                                                                                                              |
| AFP tab                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Pre-provisioning CLI commands  | As part of the automatic fabric provisioning (AFP) process, the Cisco Nexus Fabric Manager generates a staging configuration appropriate for each switch. CLI commands that need to be run before the staging configuration can be entered here. These commands are only run as part of the AFP process.                                                                                                                                                                                                                            |
| Post-provisioning CLI commands | As part of the automatic fabric provisioning (AFP) process, the Cisco Nexus Fabric Manager generates a staging configuration appropriate for each switch. CLI commands that need to be run after the staging configuration can be entered here. These commands are only run as part of the AFP process.                                                                                                                                                                                                                             |

**Step 5** Click **IMPORT**.

**Note** Beginning with Cisco Nexus Fabric Manager Release 1.3(1), the **SAVE CHANGES** button is renamed to **IMPORT**.

If a serial number has been entered and the **Management state** has been changed from **Monitored** to **Managed**, a drop-down arrow is added with the **Reset and import switch** option.

A new switch tile is displayed.

## Cloning a Switch

This section explains how to import a switch using the cloning feature.

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SWITCHES** tab.  
Your switch tiles appear.
- Step 3** Click the tile of the switch you want to clone.  
A switch-specific window appears with a switch summary pane on the right that contains the **CLONE** option.
- Step 4** Click **CLONE**.  
The **CLONE SWITCH** dialog box appears with the following **GENERAL**, **MORE**, **AFP**, **SYSLOG**, **SNMP**, **CDP**, **LLDP**, and **NTP** tabs.
- Note** To view the **ADVANCED** tab, press and hold **Ctrl-Shift-A**. To close the **ADVANCED** tab, press **Ctrl-Shift-A** again at any time. If you press it while the editor is opened, the **ADVANCED** tab won't go away immediately. It will only disappear for the next time the editor is opened (and the current changes will still be pushed).
- Step 5** Enter the appropriate values in the fields of each tab as listed in the *CLONE SWITCH Dialog Box Fields* table below then continue to step 7.

**Table 10: CLONE SWITCH Dialog Box Fields**

| Field                     | Description                                                    |
|---------------------------|----------------------------------------------------------------|
| <b>GENERAL Tab</b>        |                                                                |
| <b>Name</b>               | Enter a name for the switch object.                            |
| <b>Management address</b> | Enter an IP address.<br><b>Note</b> This is a mandatory field. |
| <b>Serial number</b>      | Enter the serial number.                                       |

| Field              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management state   | <p>The management state:</p> <ul style="list-style-type: none"> <li>• <b>Managed</b> <p>—The Cisco Nexus Fabric Manager will send configuration changes to the managed switch.</p> </li> <li>• <b>Monitored</b> <p>—The Cisco Nexus Fabric Manager will not push configurations to the switch. The changes will be stored in the Cisco Nexus Fabric Manager database and pushed to the device when the state is changed to <b>Managed</b>.</p> </li> </ul>                                                                          |
| Profile            | Apply a profile to the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Username           | <p>Enter a username for the switch.</p> <p><b>Note</b> The username and password can be applied based on a previously defined switch profile. If no switch profile has been created and set as default, a username and password must be entered here to access the switch for import.</p>                                                                                                                                                                                                                                           |
| Password           | <p>Enter a password for accessing the switch.</p> <p><b>Note</b> The username and password can be applied based on a previously defined switch profile. If no switch profile has been created and set as default, a username and password must be entered here to access the switch for import.</p>                                                                                                                                                                                                                                 |
| <b>MORE</b> Tab    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Description        | Enter a description of the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Role               | <p>Choose a role:</p> <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Leaf</b></li> <li>• <b>Spine</b></li> </ul> <p><b>Note</b> When set to <b>Auto</b>, the Cisco Nexus Fabric Manager will set the role of Cisco Nexus 9500 Series switches as spine switches and Cisco Nexus 9200 Series and 9300 Series switches as leaf switches. If that role does not match your cabled topology, you will need to manually choose the role as either <b>Spine</b> or <b>Leaf</b> according to your cabled topology.</p> |
| Message of the day | Enter a message of the day.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Field                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Beacon LED</b>            | Configure the beacon LED on the switch as <b>on</b> or <b>off</b> ( <b>enable/disable</b> ).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Load balancing method</b> | Choose the load-balancing method to be used by all the port channels configured on the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Image</b>                 | <p>Choose an image to run on the switch. Image changes will not be applied until the switch is explicitly upgraded.</p> <p><b>Note</b> This setting sets the administrative image version for the switch object that will be used when the switch is explicitly added to an upgrade task.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Extra CLI commands</b>    | <p>Enter CLI commands for switch features that are not managed by Cisco Nexus Fabric Manager.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• CLI commands containing semicolons must be on the last line. Otherwise, an error occurs and all CLI configurations coming after a semicolon will fail.</li> <li>• The <b>Extra CLI configuration</b> is applied after saving the switch. To determine that the configuration was applied successfully, see the <b>CLI commands</b> field when viewing the switch details. For more information, see <a href="#">Viewing Switch Details, on page 34</a>.</li> <li>• The Cisco Nexus Fabric Manager does not perform validation checking on the commands entered in the <b>Extra CLI commands</b> field. Any errors that occur will appear in the <b>Faults</b> window. For more information about viewing faults, see <a href="#">Viewing Fault Details, on page 121</a>.</li> <li>• A reboot must be performed manually for commands that required a reboot.</li> <li>• See the logs to determine the user who triggered the commands entered in the <b>Extra CLI commands</b> field. The logs show the user defined in the Cisco Nexus Fabric Manager switch object as the owner of the <b>Extra CLI command</b> changes.</li> </ul> |
| <b>AFP tab</b>               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Field                                  | Description                                                                                                                                                                                                                                                                                              |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pre-provisioning CLI commands</b>   | As part of the automatic fabric provisioning (AFP) process, the Cisco Nexus Fabric Manager generates a staging configuration appropriate for each switch. CLI commands that need to be run before the staging configuration can be entered here. These commands are only run as part of the AFP process. |
| <b>Post-provisioning CLI commands</b>  | As part of the automatic fabric provisioning (AFP) process, the Cisco Nexus Fabric Manager generates a staging configuration appropriate for each switch. CLI commands that need to be run after the staging configuration can be entered here. These commands are only run as part of the AFP process.  |
| <b>SYSLOG Tab</b>                      |                                                                                                                                                                                                                                                                                                          |
| <b>Remote server</b>                   | Specify the IP address of the remote syslog server.                                                                                                                                                                                                                                                      |
| <b>Facility</b>                        | Specify the outgoing facility for all the messages sent to the remote server.                                                                                                                                                                                                                            |
| <b>Severity</b>                        | Send only messages with the specified severity level or higher.                                                                                                                                                                                                                                          |
| <b>SNMP Tab &gt; Server</b>            |                                                                                                                                                                                                                                                                                                          |
| <b>Community</b>                       | Specify the SNMP community.                                                                                                                                                                                                                                                                              |
| <b>Read-write</b>                      | Controls read/write to the SNMP server.                                                                                                                                                                                                                                                                  |
| <b>SNMP Tab &gt; Traps destination</b> |                                                                                                                                                                                                                                                                                                          |
| <b>Community</b>                       | Specify the SNMP community.                                                                                                                                                                                                                                                                              |
| <b>Host</b>                            | Specify the IP address of the SNMP traps receiver.                                                                                                                                                                                                                                                       |
| <b>Version</b>                         | Choose the SNMP protocol version.                                                                                                                                                                                                                                                                        |
| <b>CDP Tab</b>                         |                                                                                                                                                                                                                                                                                                          |
| <b>Hold time</b>                       | Set CDP hold time advertised (in seconds).                                                                                                                                                                                                                                                               |
| <b>Timer</b>                           | Set CDP refresh time interval (in seconds).                                                                                                                                                                                                                                                              |
| <b>LLDP Tab</b>                        |                                                                                                                                                                                                                                                                                                          |
| <b>Hold time</b>                       | Set LLDP hold time advertised (in seconds).                                                                                                                                                                                                                                                              |
| <b>Timer</b>                           | Set the LLDP refresh time interval (in seconds).                                                                                                                                                                                                                                                         |



| Field                   | Description                                                               |
|-------------------------|---------------------------------------------------------------------------|
| Reinit                  | Set delay for LLDP initialization on any interface (in seconds).          |
| TLV DCBXP               | <b>Enable/disable</b> Data Center Bridging Exchange Protocol (DCBXP) TLV. |
| TLV port description    | <b>Enable/disable</b> port description TLV.                               |
| TLV port VLAN           | <b>Enable/disable</b> VLAN ID TLV.                                        |
| TLV system capabilities | <b>Enable/disable</b> system capabilities TLV.                            |
| TLV system description  | <b>Enable/disable</b> system description TLV.                             |
| NTP Tab                 |                                                                           |
| Server IP address       | Enter the NTP server IP.                                                  |
| ADVANCED Tab            |                                                                           |
| Telnet service          | <b>Enable/disable</b> switch Telnet feature.                              |

**Step 6**Click **IMPORT**.

**Note** Beginning with Cisco Nexus Fabric Manager Release 1.3(1), the **SAVE CHANGES** button is renamed to **IMPORT**.

If a serial number has been entered and the **Management state** has been changed from **Monitored** to **Managed**, a drop-down arrow is added with the **Reset and import switch** option.

## Auto Fabric Provisioning

The Auto Fabric Provisioning (AFP) feature enables the Cisco Nexus Fabric Manager to import and manage a switch that is new and unconfigured or has had its configuration erased thereby rendering it to an unconfigured state.

This section explains how to import a switch to a switchpool and lists the fields required for using the Auto Fabric Provisioning feature.

## Before You Begin

- The desired switch image has been uploaded to the Cisco Nexus Fabric Manager.

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SWITCHES** tab.
- Step 3** From the **Settings** drop-down list, choose **Import new Switch**.  
The **ADD SWITCH** dialog box appears with the following tabs: **GENERAL**, **MORE**, and **AFP**.
- Step 4** Enter the appropriate values in the fields of each tab as listed in the following table and continue to step 5.

**Table 11: ADD SWITCH Dialog Box Fields**

| Field                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL</b> Tab           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Management IP address</b> | Enter the desired switch management IP address that you would like to have pushed to the switch.<br><br><b>Note</b> This is a mandatory field.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Serial number</b>         | Enter the serial number of the switch you would like to import.<br><br><b>Note</b> <ul style="list-style-type: none"> <li>• This is a mandatory field.</li> <li>• Adding the serial number enables you to change the state of the switch.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Management state</b>      | Choose a state: <ul style="list-style-type: none"> <li>• <b>Managed</b><br/>—The Cisco Nexus Fabric Manager will send configuration changes to the managed switch.</li> <li>• <b>Monitored</b><br/>—The Cisco Nexus Fabric Manager will not push configurations to the switch. The changes will be stored in the Cisco Nexus Fabric Manager database and pushed to the device when the state is changed to <b>Managed</b>.</li> </ul><br><b>Note</b> This option is only enabled after entering a serial number in the <b>Serial number</b> field and only affects the management state at import time. Once imported, the management state of a switch can be edited. |

| Field              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Username</b>    | Specify a username for the switch.<br><br><b>Note</b> The username and password can be applied based on a previously defined switch profile. If no switch profile has been created and set as default, a username and password must be entered here to access the switch for import.                                                                                                                                                                                                                      |
| <b>Password</b>    | Specify a password for the switch.<br><br><b>Note</b> The username and password can be applied based on a previously defined switch profile. If no switch profile has been created and set as default, a username and password must be entered here to access the switch for import.                                                                                                                                                                                                                      |
| <b>MORE</b> Tab    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Name</b>        | Enter a name for the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Description</b> | Enter a description of the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Role</b>        | Choose a role: <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Leaf</b></li> <li>• <b>Spine</b></li> </ul><br><b>Note</b> When set to <b>Auto</b> , the Cisco Nexus Fabric Manager will set the role of Cisco Nexus 9500 Series switches as spine switches and Cisco Nexus 9300 Series switches as leaf switches. If that role does not match your cabled topology, you will need to manually choose the role as either <b>Spine</b> or <b>Leaf</b> according to your cabled topology. |
| <b>Profile</b>     | Apply a profile for the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Image</b>       | Apply an image for the switch.<br><br><b>Note</b> This field is mandatory and must be either specified in this dialog directly or must be defined in an active default switch profile for leaf and/or spine switches.                                                                                                                                                                                                                                                                                     |
| <b>AFP</b> tab     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

| Field                                 | Description                                                                                                                                                                                                                                                                                              |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Pre-provisioning CLI commands</b>  | As part of the automatic fabric provisioning (AFP) process, the Cisco Nexus Fabric Manager generates a staging configuration appropriate for each switch. CLI commands that need to be run before the staging configuration can be entered here. These commands are only run as part of the AFP process. |
| <b>Post-provisioning CLI commands</b> | As part of the automatic fabric provisioning (AFP) process, the Cisco Nexus Fabric Manager generates a staging configuration appropriate for each switch. CLI commands that need to be run after the staging configuration can be entered here. These commands are only run as part of the AFP process.  |

**Step 5** Click **IMPORT**.

**Note** Beginning with Cisco Nexus Fabric Manager Release 1.3(1), the **SAVE CHANGES** button is renamed to **IMPORT**.

If a serial number has been entered and the **Management state** has been changed from **Monitored** to **Managed**, the **IMPORT** button changes to **RESET AND IMPORT SWITCH** and a drop-down arrow is added with the **Import** option.

A new switch tile is displayed.

## Viewing Switch Details

Clicking the switch name on a switch tile enables you to view detailed information about that switch such as the CPU utilization and lines of configuration statistics, associated interfaces, neighbor devices, history, faults, underlay information. You can also view hardware information for the switch and its components such as the serial and model numbers. This section explains where to find this information.

### Before You Begin

At least one switch has been added to the switchpool.

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **SWITCHES** tab.  
Your switch tiles appear.

**Step 3** Click to highlight a tile.  
A summary pane appears on the right with the profile information below:

- **Description**—Description text
- **Management state**—State of the switch (managed or monitored)

- **Role**—Role assigned to the switch (spine or leaf)
- **Image**—Image on the switch
- **Software version**—Software version on the switch
- **Management IP address**—Management IP address of the switch
- **Management subnet**—
- **ID**—Internal unique name assigned by Cisco Nexus Fabric Manager to every switch object
- **Profile**—Profile on the switch
- **Serial number**—Serial number of the switch
- **Model number**—Model number of the switch
- **Username**—Switch username used by Cisco Fabric Manager to access the switch

**Step 4**

Click the **name** inside the switch tile you want to view.  
A switch-specific window opens with the following tabs:

- **OVERVIEW**—Displays the following:
    - **CPU load**—Displays the CPU utilization statistics in 4 different views: the last hour with markers at 15-minute increments, the last 6 hours with markers at 2-hour increments, the last day with markers at 8-hour increments, and the last week with markers at 2-day increments
    - **Lines of config**—Displays the lines of configuration statistics in 4 different views: the last hour with markers at 15-minute increments, the last 6 hours with markers at 2-hour increments, the last day with markers at 8-hour increments, and the last week with markers at 2-day increments
    - **Chassis info**—Lists the chassis information of the switch.
    - **Inventory**—Lists the hardware inventory of the switch.
    - **Underlay**—Displays the switch underlay router ID and routing interface.
    - **Comment**—Icon that enables you to add a comment.
    - **CLI commands**— Provides a link to a complete list of CLI commands that the Cisco Nexus Fabric Manager has pushed to the switch and when the last push was performed.
  - **INTERFACES**—Tiles for all the interfaces on the switch.
  - **NEIGHBORS**—Tiles for all the neighbor devices of the switch.
  - **HISTORY**—Lists the history of actions taken on the switch.
  - **FAULTS**—List of faults on the switch.
-

# Editing a Switch Configuration

Switches that have been imported to the switchpool can be edited to apply new profiles and to change other options such as the role, managed state, and device discovery protocol. This section explains how to find the **SWITCH SETTINGS** dialog box where you can edit your switch configuration.

## Before You Begin

A switch has been successfully added to the switchpool.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SWITCHES** tab.  
Your switch tiles appear.
- Step 3** Click the **white space** inside the switch tile you want to edit.  
A switch-specific window appears with a switch summary pane on the right that contains the **EDIT** option.
- Step 4** Click **EDIT**.  
The **SWITCH SETTINGS** dialog box appears with the following **GENERAL**, **MORE**, **AFP**, **SYSLOG**, **SNMP**, **CDP**, **LLDP**, and **NTP** tabs.
- Note** To view the **ADVANCED** tab, press and hold **Ctrl-Shift-A**. To close the **ADVANCED** tab, press **Ctrl-Shift-A** again at any time. If you press it while the editor is opened, the **ADVANCED** tab won't go away immediately. It will only disappear for the next time the editor is opened (and the current changes will still be pushed).
- Step 5** Enter the appropriate values in the fields of each tab as listed in the *SWITCH SETTINGS Dialog Box Fields* table below then continue to step 7.

**Table 12: SWITCH SETTINGS Dialog Box Fields**

| Field                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL Tab</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Name</b>             | Enter a name for the switch profile.                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Profile</b>          | Apply a profile to the switch.                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Description</b>      | Enter a description of the switch.                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Management state</b> | Choose a state: <ul style="list-style-type: none"> <li>• <b>Managed</b><br/>—The Cisco Nexus Fabric Manager will send configuration changes to the managed switch.</li> <li>• <b>Monitored</b><br/>—The Cisco Nexus Fabric Manager will not push configurations to the switch. The changes will be stored in the Cisco Nexus Fabric Manager database and pushed to the device when the state is changed to <b>Managed</b>.</li> </ul> |

| Field                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Role</b>                  | <p>Choose a role:</p> <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Leaf</b></li> <li>• <b>Spine</b></li> </ul> <p><b>Note</b> When set to <b>Auto</b>, the Cisco Nexus Fabric Manager will set the role of Cisco Nexus 9500 Series switches as spine switches and Cisco Nexus 9200 Series and 9300 Series switches as leaf switches. If that role does not match your cabled topology, you will need to manually choose the role as either <b>Spine</b> or <b>Leaf</b> according to your cabled topology.</p> |
| <b>Username</b>              | <p>Enter a username for the switch.</p> <p><b>Note</b> The username and password can be applied based on a previously defined switch profile. If no switch profile has been created and set as default, a username and password must be entered here to access the switch for import.</p>                                                                                                                                                                                                                                           |
| <b>Password</b>              | <p>Enter a password for accessing the switch.</p> <p><b>Note</b> The username and password can be applied based on a previously defined switch profile. If no switch profile has been created and set as default, a username and password must be entered here to access the switch for import.</p>                                                                                                                                                                                                                                 |
| <b>MORE</b> Tab              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Message of the day</b>    | Enter a message of the day.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Beacon LED</b>            | Configure the beacon LED on the switch as <b>on</b> or <b>off</b> ( <b>enable/disable</b> ).                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Load balancing method</b> | Choose the load-balancing method to be used by all the port channels configured on the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>vPC primary</b>           | Set whether this switch should be the primary switch when it is part of a vPC cluster.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Image</b>                 | Choose an image to run on the switch. Image changes will not be applied until the switch is explicitly upgraded.                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Field                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extra CLI commands             | <p>Enter CLI commands for switch features that are not managed by Cisco Nexus Fabric Manager.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• CLI commands containing semicolons must be on the last line. Otherwise, an error occurs and all CLI configurations coming after a semicolon will fail.</li> <li>• The <b>Extra CLI configuration</b> is applied after saving the switch. To determine that the configuration was applied successfully, see the <b>CLI commands</b> field when viewing the switch details. For more information, see <a href="#">Viewing Switch Details, on page 34</a>.</li> <li>• The Cisco Nexus Fabric Manager does not perform validation checking on the commands entered in the <b>Extra CLI commands</b> field. Any errors that occur will appear in the <b>Faults</b> window. For more information about viewing faults, see <a href="#">Viewing Fault Details, on page 121</a>.</li> <li>• A reboot must be performed manually for commands that required a reboot.</li> <li>• See the logs to determine the user who triggered the commands entered in the <b>Extra CLI commands</b> field. The logs show the user defined in the Cisco Nexus Fabric Manager switch object as the owner of the <b>Extra CLI command</b> changes.</li> </ul> |
| AFP tab                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Pre-provisioning CLI commands  | As part of the automatic fabric provisioning (AFP) process, the NFM generates a staging configuration appropriate for each switch. CLI commands that need to be run before the staging configuration can be entered here. These commands are only run as part of the AFP process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Post-provisioning CLI commands | As part of the automatic fabric provisioning (AFP) process, the NFM generates a staging configuration appropriate for each switch. CLI commands that need to be run after the staging configuration can be entered here. These commands are only run as part of the AFP process.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SYSLOG Tab                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Remote server                  | Specify the IP address of the remote syslog server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



| Field                        | Description                                                                                    |
|------------------------------|------------------------------------------------------------------------------------------------|
| Facility                     | Specify the outgoing facility for all the messages sent to the remote server.                  |
| Severity                     | Send only messages with the specified severity level or higher.                                |
| SNMP Tab > Server            |                                                                                                |
| Community                    | Specify the SNMP community.<br><b>Note</b> Leaving this option blank disables the SNMP server. |
| Read-write                   | Controls read/write to the SNMP server.                                                        |
| SNMP Tab > Traps destination |                                                                                                |
| Community                    | Specify the SNMP community.                                                                    |
| Host                         | Specify the IP address of the SNMP traps receiver.                                             |
| Version                      | Choose the SNMP protocol version.                                                              |
| CDP Tab                      |                                                                                                |
| Hold time                    | Set CDP hold time advertised (in seconds).                                                     |
| Timer                        | Set CDP refresh time interval (in seconds).                                                    |
| LLDP Tab                     |                                                                                                |
| Hold time                    | Set LLDP hold time advertised (in seconds).                                                    |
| Timer                        | Set the LLDP refresh time interval (in seconds).                                               |
| Reinit                       | Set delay for LLDP initialization on any interface (in seconds).                               |
| TLV DCBXP                    | <b>Enable/disable</b> Data Center Bridging Exchange Protocol (DCBXP) TLV.                      |
| TLV port description         | <b>Enable/disable</b> port description TLV.                                                    |
| TLV port VLAN                | <b>Enable/disable</b> VLAN ID TLV.                                                             |
| TLV system capabilities      | <b>Enable/disable</b> system capabilities TLV.                                                 |
| TLV system description       | <b>Enable/disable</b> system description TLV.                                                  |
| NTP Tab                      |                                                                                                |
| Server IP address            | Enter the NTP server IP.                                                                       |

| Field                 | Description                                  |
|-----------------------|----------------------------------------------|
| <b>ADVANCED</b> Tab   |                                              |
| <b>Telnet service</b> | <b>Enable/disable</b> switch Telnet feature. |

**Step 6** Click **SAVE**.

**Note** Beginning with Cisco Nexus Fabric Manager Release 1.3(1), the **SAVE CHANGES** button is renamed to **SAVE**.

If a serial number has been entered and the **Management state** has been changed from **Monitored** to **Managed**, a drop-down arrow is added with the **Reset and save** option.

## Reconciling a Switch Configuration

In some cases, it might be required to conduct a full reconciliation of the known switch object information and configuration pushed by the Cisco Nexus Fabric Manager to the switch. For example, the Cisco Nexus Fabric Manager captures a snapshot of the running configuration every 30 minutes for RMA purposes. When a reconciliation is performed, the Cisco Nexus Fabric Manager retrieves a current copy of the running configuration. The Cisco Nexus Fabric Manager also reconciles and pushes the self-known current NFM-managed configuration to the switch. Such a function can help fix a switch configuration that may have been inadvertently modified at the CLI.



### Warning

Reconciling a switch can be disruptive to an otherwise normally functioning switch. Proceed with caution.

This section explains how to reconcile a switch from the switchpool.

### Before You Begin

A switch has been successfully added to the switchpool.

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **SWITCHES** tab.  
Your switch tiles appear.

**Step 3** Click the **white space** inside the switch tile you want to refresh.  
A switch-specific window appears with a summary pane on the right with the **RECONCILE** option.

**Step 4** Click **RECONCILE**.  
The **RECONCILE** dialog box appears.

**Step 5** Click **RECONCILE** or click the drop-down arrow to choose **Reset and reconcile**.  
**Note** The **Reset and reconcile** option initializes the configuration.

## Accessing the Switch CLI

This section explains how to access a switch CLI.

### Before You Begin

A switch has been successfully added to the switchpool.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
  - Step 2** Click the **SWITCHES** tab.  
Your switch tiles appear.
  - Step 3** Click the **white space** inside the switch tile for which you want to access the CLI.  
A switch-specific window appears with a switch summary pane on the right that contains the **CLI** option.
  - Step 4** Click **CLI**.  
The CLI login appears.
  - Step 5** Log in to the CLI with the appropriate user credentials for the switch.
- 

## Deleting a Switch from the Switchpool

Switches added successfully can be deleted from the switchpool. Switches that were not successfully added can be deleted for cleanup purposes. This section explains how to delete a switch from the switchpool.

### Before You Begin

A switch has been successfully/unsuccessfully added to the switchpool.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
  - Step 2** Click the **SWITCHES** tab.  
Your switch tiles appear.
  - Step 3** Click the **white space** inside the switch tile you want to delete.  
A switch-specific window appears with a switch summary pane on the right that contains the **DELETE** option.
  - Step 4** Click **DELETE**.  
The **DELETE** dialog box appears.
  - Step 5** Click **DELETE**.
-

## Viewing the Switchpool Details

This section explains how to view switchpool details.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SETTINGS** tab.  
A switchpool-specific window appears with the **Created** and **Last modified** information on the left, and a switchpool summary pane on the right. The summary pane displays the following properties:
- **Available broadcast domain VLANs**—Number of available VLANs that can be auto-assigned by Cisco Nexus Fabric Manager during broadcast domain creation if a VLAN ID is not specified
  - **Available VRF VLANs**—Used as dummy SVIs in the creation of Layer 3 symmetric routing VNIs. One per VRF.
  - **Available vPC L3 peering VLANs**—Used for point-to-point routed link SVIs between vPC switches. One per VRF.
  - **Automatic neighbor assertions**—Enable/disable the automatic creation of a fault when the neighbor of an interface or port channel changes. This can be helpful for detecting ports that have been cabled incorrectly.
  - **Assignable VLANs**—Displays a list of the VLANs that are available in the addressable range.
  - **Unallocated VLANs**—Range of VLAN IDs that cannot be auto assigned by Cisco Nexus Fabric Manager but can also be manually assigned during the creation of a broadcast domain
  - **Available underlay IPs**—Number of available underlay IP addresses that are automatically assigned to various underlay switch interface types
- 

## Editing the Switchpool Settings

This section explains how to edit the switchpool settings.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SETTINGS** tab.  
A switchpool-specific window appears with a switchpool summary pane on the right that contains the **EDIT** option.
- Step 3** Click **EDIT**.  
The **SWITCHPOOL SETTINGS** dialog appears with tabs for **GENERAL**, **MORE**, and **UNDERLAY**.
- Note** To view the **ADVANCED** tab, press and hold **Ctrl-Shift-A**. To close the **ADVANCED** tab, press **Ctrl-Shift-A** again at any time. If you press it while the editor is opened, the **ADVANCED** tab won't go away immediately. It will only disappear for the next time the editor is opened (and the current changes will still be pushed).
- Step 4** Enter the appropriate values in the fields of each tab as listed in the *SWITCHPOOL SETTINGS Dialog Box Fields* table below then continue to Step 6.

Table 13: SWITCHPOOL SETTINGS Dialog Box Fields

| Field                                         | Description                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL SETTINGS</b> Tab                   |                                                                                                                                                                                                                                                                                                                                                 |
| <b>Auto-import switches</b>                   | <p>Specifies whether to use discovered switch CDP/LLDP tables to auto import connected switches with matching credentials.</p> <ul style="list-style-type: none"> <li>• <b>Enabled</b> —Eligible neighbor switches are automatically imported.</li> <li>• <b>Disabled</b>—Eligible neighbor switches are not automatically imported.</li> </ul> |
| <b>DHCP based POAP</b>                        | Enables or disables Power On Auto Provisioning (POAP) of eligible neighbor switches discovered using DHCP over the Cisco Nexus Fabric Manager mgmt0 interface.                                                                                                                                                                                  |
| <b>Switchpool wide broadcast domain VLANs</b> | <p>Enter the range of VLANs to be assigned Cisco Nexus Fabric Manager for broadcast domains when a user does not specify one.</p> <p><b>Note</b> Default value is in the range of 2-1500.</p>                                                                                                                                                   |
| <b>Switchpool wide VRF VLANs</b>              | <p>Enter the range of VLANs to be assigned to VRFs for use as Layer 3 VNI/SVI pairing for symmetric VXLAN routing. One VLAN per VRF is required. .</p> <p><b>Note</b> Default value is in the range of 1501-3964.</p>                                                                                                                           |
| <b>Switchpool wide vPC L3 peering VLANs</b>   | <p>Select the pool of VLANs the Cisco Nexus Fabric Manager will draw from for creating the overlay point-to-point routed links over vPC peer links.</p> <p><b>Note</b> Default value is 3965.</p>                                                                                                                                               |
| <b>vPC cluster VLAN</b>                       | <p>Enter the VLAN ID used to program SVI interfaces for vPC Layer 3 peer links (underlay).</p> <p><b>Note</b> Default value is 3966.</p>                                                                                                                                                                                                        |

| Field                                          | Description                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Default role for unrecognized neighbor devices | <p>The default role is used when not enough information is available for the NFM to automatically detect the role of a connect neighbor device.</p> <ul style="list-style-type: none"> <li>• <b>Border</b></li> <li>• <b>Breakout</b></li> <li>• <b>FEX fabric</b></li> <li>• <b>Host facing</b></li> <li>• <b>Leaf/spine</b></li> <li>• <b>Unknown</b></li> </ul> |
| <b>General Tab &gt; Default profiles</b>       |                                                                                                                                                                                                                                                                                                                                                                    |
| Leaf switch                                    | Click the drop-down list to choose a leaf switch profile to be applied to all discovered or assigned leaf switches.                                                                                                                                                                                                                                                |
| Spine switch                                   | Click the drop-down list to choose a spine switch profile to be applied to all discovered or assigned spine switches.                                                                                                                                                                                                                                              |
| Host facing interface                          | Click the drop-down list to choose a host-facing interface profile to be applied to all host-facing interfaces.                                                                                                                                                                                                                                                    |
| Leaf/spine interface                           | Click the drop-down list to choose a switch facing interface profile to be applied to all Leaf/spine interfaces.                                                                                                                                                                                                                                                   |
| Border interface                               | Click the drop-down list to choose a border interface profile to be applied to all border interfaces.                                                                                                                                                                                                                                                              |
| <b>MORE Tab</b>                                |                                                                                                                                                                                                                                                                                                                                                                    |
| Reserved VLANs                                 | <p>Set the pool of VLANs that the Cisco Nexus Fabric Manager must not use. This must be in sync with the set of reserved VLANs defined within NX-OS on the managed switch.</p> <p><b>Note</b> Default value is in the range of 3968-4095.</p>                                                                                                                      |
| <b>More Tab &gt; Switchpool default VRF</b>    |                                                                                                                                                                                                                                                                                                                                                                    |
| VLAN ID                                        | <p>Specify the default VLAN ID reserved for SVI as part of VXLAN routing within a default VRF.</p> <p><b>Note</b> Default value is 3967.</p>                                                                                                                                                                                                                       |

| Field                           | Description                                                                                                                                                                                                                                              |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>VNID</b>                     | Specify the default VNID reserved for VXLAN routing within the default VRF.<br><br><b>Note</b> Default value is 16777214.                                                                                                                                |
| <b>UNDERLAY Tab</b>             |                                                                                                                                                                                                                                                          |
| <b>MAC address</b>              | Set the MAC address used for all anycast gateways.<br><br><b>Note</b> The MAC address is auto-generated by default.                                                                                                                                      |
| <b>BGP router AS number</b>     | Enter the autonomous system used for BGP service in underlay.<br><br><b>Note</b> <ul style="list-style-type: none"> <li>• The BGP Router AS Number cannot exceed the 2 byte range (65535).</li> <li>• Default value is 65535.</li> </ul>                 |
| <b>BGP Authentication</b>       | When BGP authentication is enabled, BGP routing updates exchanged between peers are verified and accepted only if authentication is successful. This prevents malicious or incorrect routing information from being introduced into the routing table.   |
| <b>BGP authentication key</b>   | For BGP authentication to be successful, peers must be configured with the same authentication key. The key must be at least 1 character and at most 80 characters.                                                                                      |
| <b>OSPF router instance tag</b> | Set the instance number used for OSPF service in the underlay.<br><br><b>Note</b> Default value is 100.                                                                                                                                                  |
| <b>OSPF authentication</b>      | When OSPF authentication is enabled, OSPF routing updates exchanged between peers are verified and accepted only if authentication is successful. This prevents malicious or incorrect routing information from being introduced into the routing table. |
| <b>OSPF authentication key</b>  | For OSPF authentication to be successful, peers must be configured with the same authentication key. The key must be at least 1 character and at most 16 characters.                                                                                     |
| <b>OSPF key ID</b>              | The OSPF key ID allows the switches to reference multiple passwords. This makes password migration easier and more secure. For example, to migrate from one password to another, configure a password under a different key ID and remove the first key. |

| Field                                 | Description                                                                                                                                                                                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Underlay MTU</b>                   | Specify the maximum frame size used on underlay interfaces. The system jumbo MTU and overlay interfaces automatically set to this value minus 50.<br><br><b>Note</b> Default value is 9216.                                                                     |
| <b>VNID allocation offset</b>         | The number to be used as a fixed offset of VLAN IDs for numbering VXLAN VNIDs<br><br><b>Note</b> Default value is 20000.                                                                                                                                        |
| <b>UNDERLAY</b> Tab > Underlay pool   |                                                                                                                                                                                                                                                                 |
| <b>IP address pool</b>                | Set the IP address subnet used for underlay addressing. This is automatically divided and assigned to underlay interfaces and links. This range must be adequately sized according to the expected fabric size.<br><br><b>Note</b> Default value is 10.0.0.0/8. |
| <b>ADVANCED</b> Tab                   |                                                                                                                                                                                                                                                                 |
| <b>Auto-create port channels</b>      | Specifies whether to automatically build port channels out of parallel leaf-spine links. This field has been disabled and cannot be enabled.                                                                                                                    |
| <b>vPC delay restore</b>              | Enter the vPC delay restore in seconds.<br><br><b>Note</b> Default value is 60.                                                                                                                                                                                 |
| <b>vPC Auto-recovery reload-delay</b> | Enter the vPC auto-recovery reload delay in seconds.<br><br><b>Note</b> Default value is 300.                                                                                                                                                                   |



| Field                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Automatic neighbor assertions | <p>Specifies whether to automatically create a fault when the neighbor of an interface or port channel changes. This can be helpful for detecting ports that have been cabled incorrectly.</p> <ul style="list-style-type: none"><li>• <b>Enabled</b>—Faults are created when a neighbor changes.</li><li>• <b>Disabled</b>—Faults are not created when a neighbor changes.</li></ul> <p><b>Note</b> This feature is <b>Enabled</b> by default. However, if you plan to move devices around, especially swapping ports for devices discovered through CDP or LLDP, it is recommended to turn this feature off. Otherwise, this feature will generate faults and require remediation actions be taken before a device will connect to the new port that was previously occupied by another discovered device.</p> |

**Step 5** Click **SAVE CHANGES**.

---





## Foreign Device Management

---

Foreign devices can be discovered automatically using the CDP or LLDP discovery protocol, provided they are CDP- or LLDP-capable and the protocols are enabled.

This chapter has the following sections:

- [Foreign Device Discovery: CDP-LLDP, page 49](#)
- [Viewing Foreign Device Details, page 49](#)
- [Editing a Foreign Device, page 50](#)
- [Deleting a Foreign Device, page 51](#)

### Foreign Device Discovery: CDP-LLDP

A foreign device is any discovered device that is not considered to be within the switchpool and likely is not able to be imported into a switch pool such as a host or unsupported switch.



#### Note

To stop the auto-import of eligible neighboring Cisco Nexus switches, set the switch interface **Role** field to **Host facing** or **Border**. If the neighbor was discovered while importing a switch, delete it from the switchpool and set switch interface **Role** field to **Host facing** or **Border**. This will stop the neighbor from being automatically imported again.

for information about editing the interface, see [Editing an Interface Configuration, on page 57](#).

### Viewing Foreign Device Details

This section explains how to view the details of a foreign device.

#### Before You Begin

- A switch has been successfully added to the switchpool.

- A foreign device has been detected.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **NEIGHBORS** tab.  
Your foreign device tiles appear.
- Step 3** Click to highlight a tile.  
A summary pane appears on the right with the information below:
- **Description**—Description text entered when editing the foreign device
  - **Created**—Date and time the foreign device was created
  - **Type**—Type of device
  - **Discovery protocols**—Protocols used for the foreign device discovery (LLDP, CDP)
  - **IP address**—IP address of the foreign device if discovered
  - **Platform ID**—PID of the platform
  - **System name**—Name of the foreign device
  - **Interface count**—Number of interfaces associated with the foreign device
  - **Device ID list**—List of all device IDs associated with the foreign device
- Step 4** Click the **name** inside the foreign device tile you want to view.  
A foreign device-specific window appears with the following tabs:
- **OVERVIEW**—Displays general information, and a **comment** icon for adding a comment
  - **INTERFACES**—Displays the interfaces associated with the foreign device
  - **NEIGHBORS**—Lists the neighbors of the foreign device
  - **HISTORY**—Lists the history of actions taken on the foreign device
- 

## Editing a Foreign Device

You can edit a foreign device after it has been added to the switchpool. This section explains how to edit its parameters.

### Before You Begin

- A switch has been successfully added to the switchpool.

- A foreign device has been detected.

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **NEIGHBORS** tab.  
Your foreign device tiles appear.

**Step 3** Click the **white space** inside the foreign device tile you want to edit.  
A foreign device-specific window appears with a summary pane on the right that contains the **EDIT** options.

**Step 4** Click **EDIT**.  
The **FOREIGN DEVICE SETTINGS** dialog box appears with fields you can edit as described in the **FOREIGN DEVICE SETTINGS Dialog Box Fields** table below.

**Table 14: FOREIGN DEVICE SETTINGS Dialog Box Fields**

| Field       | Description                                                                                                                                                                                                                    |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name        | The name of the foreign device.<br><b>Note</b> Editing the name and clicking <b>SAVE CHANGES</b> is a local change and does not push any configuration to the foreign device.                                                  |
| Description | Enter a description of the foreign device.                                                                                                                                                                                     |
| Type        | The type of foreign device. Options include the following: <ul style="list-style-type: none"><li>• <b>Auto</b></li><li>• <b>Host</b></li><li>• <b>Hypervisor</b></li><li>• <b>Networking</b></li><li>• <b>Switch</b></li></ul> |

**Step 5** Click **SAVE CHANGES** when finished.

## Deleting a Foreign Device

You can delete the configuration of a foreign device after it has been added to the fabric. This section explains how to delete the configuration parameters.

### Before You Begin

- A switch has been successfully added to the switchpool.

- A foreign device has been detected.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **NEIGHBORS** tab.  
Your foreign device tiles appear.
- Step 3** Click the **white space** inside the foreign device tile you want to delete.  
A foreign device-specific window appears with a summary pane on the right that contains the **DELETE** option.
- Step 4** Click **DELETE**.  
The **DELETE** dialog box appears.
- Step 5** Click **DELETE**.
-



## Interface Management

Switch interfaces are automatically classified into the following groups based on their end-point connectivity:

- **Perimeter interfaces**
  - **Border**—Interfaces that connect to foreign devices that are networking devices
  - **Host facing**—Interfaces that connect to foreign devices that are not networking devices
- **Infrastructure interfaces**
  - **Leaf/spine**—
  - **FEX fabric**—
  - **Breakout**—
  - **vPC peer link**—Interfaces that connect to vPC peer links
- **Unknown**—Interfaces for which end-point connectivity cannot be determined automatically

This chapter explains how to apply filter options when viewing your interfaces, how to edit your interface configurations, and how to view interface details. It has the following sections:

- [Filtering Infrastructure and Perimeter Interfaces, page 54](#)
- [Viewing Interface Details, page 55](#)
- [Resetting an Interface, page 56](#)
- [Editing an Interface Configuration, page 57](#)
- [Configuring Breakout Interfaces, page 59](#)
- [Editing the Broadcast Domain Membership of an Interface, page 60](#)
- [Purging Device References, page 61](#)
- [Deleting an Interface, page 62](#)
- [Purging Selected Interfaces, page 63](#)

# Filtering Infrastructure and Perimeter Interfaces

An infrastructure interface can be leaf/spine or a vPC peer-link, and a perimeter interface can be host-facing or a border interface. You can filter your interfaces by type using the filter options in the Actions bar located above your interface tiles. This section explains how to set the filter options for these interface types.

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
The **INTERFACES** tab displays three drop-down filter boxes in the Actions bar located above the interface **Tiles**.
- Step 3** Click the third drop-down filter box from the left.  
The filter options appear as listed in the following table:

**Table 15: Filter Options Table**

| Option                           | Description                                                                                                                                                                                                                         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Perimeter interfaces</b>      | Selects/Deselects <b>Border</b> and <b>Host facing</b> interfaces                                                                                                                                                                   |
| <b>Border</b>                    | Displays interfaces connected to switches outside of the switchpool or other networking devices.                                                                                                                                    |
| <b>Host facing</b>               | Displays interfaces connected to a physical host                                                                                                                                                                                    |
| <b>Infrastructure interfaces</b> | Displays <b>Switch facing</b> and <b>vPC peer link</b> interfaces                                                                                                                                                                   |
| <b>Leaf/spine</b>                | Displays interfaces that are connected to other switch ports within the fabric, specifically leaf-spine connections only                                                                                                            |
| <b>FEX fabric</b>                | Displays interfaces that are connected to fabric extenders (FEXs).                                                                                                                                                                  |
| <b>Breakout</b>                  | Displays interfaces that are connected to breakout cables.                                                                                                                                                                          |
| <b>vPC peer link</b>             | Displays interfaces that are connected to other switch ports within the fabric, specifically leaf-to-leaf connections for vPC purposes only                                                                                         |
| <b>Unknown</b>                   | Displays interfaces for which end-point connectivity cannot be determined automatically or are not connected to any devices. In both cases the interface will be in soft-shutdown mode and not able to communicate with the fabric. |
| <b>Select all</b>                | Selects all options                                                                                                                                                                                                                 |
| <b>Deselect all</b>              | Deselects all selected options                                                                                                                                                                                                      |

**Note** Any filter options that are already selected can be deselected either by clicking **Deselect all** or by clicking each individual option.



# Viewing Interface Details

Clicking the interface name on the interface tile enables you to view detailed information about the interface such as the number of Tx and Rx bits and packets sent per second, associated broadcast domains, history, and faults. This section explains where to find this information.

## Before You Begin

A switch has been successfully added to the switchpool.

---

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear.

**Step 3** Click to highlight a tile.  
A **summary** pane appears on the right with the profile information below:

- **Profile**—Associated interface profile
- **Class**—Class of the interface
- **Routed mode**—Layer 2 or Layer 3
- **Description**—Description text
- **Management state**—State of the interface (managed or monitored)
- **Role**—Role assigned to the interface
- **MTU**—Operational MTU that is being used (where applicable)
- **Speed**—Interface speed
- **Untagged broadcast domain**—Untagged broadcast domain implemented as a native VLAN on a VLAN trunked interface
- **Broadcast domains**—Number of broadcast domains associated with the interface
- **MAC address**—MAC number (where applicable)
- **Neighbor interface**—Neighbor interface
- **Neighbor device**—Neighbor device
- **Candidate neighbor**—Candidate neighbor

**Step 4** Click the **name** in the interface tile you want to view.  
An interface-specific window appears with the following tabs:

- **OVERVIEW**—Displays the following:
  - **Bits Per Second**—Graphs that display the received and transmitted bits per second statistics in 4 different views: the last hour with markers at 15-minute increments, the last 6 hours with markers at 2-hour increments, the last day with markers at 8-hour increments, and the last week with markers at 2-day increments.

- **PACKETS PER SECOND**—Graphs that display the received and transmitted packets per second statistics in 4 different views: the last hour with markers at 15-minute increments, the last 6 hours with markers at 2-hour increments, the last day with markers at 8-hour increments, and the last week with markers at 2-day increments.
  - **Last modified**—A field that displays when the interface was last modified.
  - **LLDP Tx**—A field that displays the LLDP protocol Tx status. When on, LLDP is transmitting for auto discovery.
  - **LLDP Rx**—A field that displays the LLDP protocol Rx status. When on, LLDP is receiving for auto discovery.
  - **CDP**—A field that displays the CDP protocol status. When on, the CDP protocol for auto-discovery is transmitting and receiving.
  - **Beacon LED**—A field that displays the status of the beacon LED on the interface, which can be on or off (enabled/disabled).
  - **Transceiver info**—A field that displays the transceiver information.
  - **Comment**—Icon that enables you to add a comment.
  - **BROADCAST DOMAINS**—Displays the broadcast domain to which the interface belongs and allows broadcast domain membership editing.
  - **HISTORY**—Lists the history of actions taken on the interface.
  - **FAULTS**—Lists the faults on the interface.
- 

## Resetting an Interface

Resetting an interface performs the equivalent of a **shut/no shut** CLI command on the interface. This section explains how to reset an interface.

### Before You Begin

A switch has been successfully added to the switchpool.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
  - Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear.
  - Step 3** Click the **name** inside the interface tile you want to reset.  
An interface-specific window appears with a summary pane on the right that contains the **RESET** option.
  - Step 4** Click **RESET**.  
The **RESET INTERFACES** dialog box appears.
  - Step 5** Click **RESET**.
-

# Editing an Interface Configuration

You can edit the configuration of an interface after it has been added to the switchpool. This section explains how to edit the configuration parameters.

## Before You Begin

A switch has been successfully added to the switchpool.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear.
- Step 3** Click the **white space** inside the interface tile you want to edit.  
An interface-specific window appears with a summary pane on the right that contains the **EDIT** option.
- Step 4** Click **EDIT**.  
The **INTERFACE SETTINGS** dialog box appears with tabs for **GENERAL**, **MORE**, and **ROUTING**.
- Step 5** Enter the appropriate values in the fields of each tab as listed in the *INTERFACE SETTINGS Dialog Box Fields* table below then continue to step 7.

**Table 16: INTERFACE SETTINGS Dialog Box Fields**

| Field              | Description                                  |
|--------------------|----------------------------------------------|
| <b>GENERAL</b> Tab |                                              |
| <b>Name</b>        | The name of the interface.                   |
| <b>Profile</b>     | Apply an interface profile to the interface. |
| <b>Description</b> | Enter a description of the interface.        |

| Field                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Role                      | <p>Choose a role:</p> <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Border</b></li> <li>• <b>Host facing</b></li> <li>• <b>Leaf/spine</b></li> <li>• <b>vPC peer link</b></li> </ul> <p><b>Note</b> Choosing <b>Border</b> or <b>Host facing</b> prevents the Cisco Nexus Fabric Manager from automatically importing supported Nexus 9000 switches that may be connected to the interface when auto-import is enabled in the switchpool settings. For more information about switchpool settings, see <a href="#">Editing the Switchpool Settings, on page 42</a></p> |
| State                     | Specify the state of the interface. The state can be <b>Enabled</b> or <b>Disabled</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>MORE Tab</b>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Management state          | <p>Choose a state:</p> <ul style="list-style-type: none"> <li>• <b>Managed</b> <p>—The Cisco Nexus Fabric Manager will send configuration changes to the managed interface.</p> </li> <li>• <b>Monitored</b> <p>—The Cisco Nexus Fabric Manager will not push configurations to this interface. The changes will be stored in the Cisco Nexus Fabric Manager database and pushed to the device when the state is changed to <b>Managed</b>.</p> </li> </ul>                                                                                                                                 |
| Desired neighbor device   | <p>Choose the neighbor device you want to connect with the interface. By setting a desired neighbor device, Cisco Nexus Fabric Manager will only allow the specified device to connect to the switch interface. Any other discovered device will raise a fault and connectivity will not be granted until the user explicitly allows it</p> <p><b>Note</b> CDP must be enabled on the remote device interface.</p>                                                                                                                                                                          |
| Untagged broadcast domain | Choose an untagged broadcast domain.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Field                    | Description                                                                                                                                                                                                                                                                                   |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Speed                    | Specify the speed for the interface. The options include <b>Auto</b> and various speed values that depend on the interface capabilities.<br><br><b>Note</b> The speed for 100 Mbps is displayed in the interface tiles as FE (Fast Ethernet), and the speed for 100 Gbps is displayed as 100. |
| Beacon LED               | Configure the beacon LED on the interface as <b>on</b> or <b>off</b> ( <b>enable/disable</b> ).                                                                                                                                                                                               |
| Link discovery protocols | Enable one or both of the following link discovery protocols on the interface to allow the interface to advertise out:<br><br><ul style="list-style-type: none"> <li>• <b>LLDP</b></li> <li>• <b>CDP</b></li> </ul>                                                                           |
| <b>ROUTING</b> Tab       |                                                                                                                                                                                                                                                                                               |
| Routed mode              | <b>Enabled</b> The interface is configured for Layer 3 mode and the properties below are enabled.<br><br><b>Disabled</b> The interface is configured for Layer 2 mode and the properties below are disabled.                                                                                  |
| IP address               | Enter the IP address.                                                                                                                                                                                                                                                                         |
| VRF                      | Choose a VRF.                                                                                                                                                                                                                                                                                 |
| MAC address              | Enter a MAC address.                                                                                                                                                                                                                                                                          |
| MTU                      | Specify the maximum transmission unit size.                                                                                                                                                                                                                                                   |

**Step 6** Click **SAVE CHANGES**.

## Configuring Breakout Interfaces

Breakout interfaces, although not fully automated, can be configured manually through the Extra-config field of the interface (For more information about the Extra-config field, see [Editing an Interface Configuration](#), on page 57).

New breakout interfaces are then discovered, which enables other configurations, such as broadcast domains, native VLANs, port channels, and vPCs, to be allowed on the breakout interfaces.

**Note**

50G breakout interfaces are not supported but will work if the **Speed** field of the interface is set to auto.

## Editing the Broadcast Domain Membership of an Interface

This section explains how to add and remove one or more broadcast domains from an interface and how to set or unset an untagged broadcast domain.

**Note**

The Cisco Nexus Fabric Manager does not currently support the deployment and management of "border spines."

### Before You Begin

- For adding broadcast domains to an interface:
  - A broadcast domain has been created.
  - At least one host-facing or border interface on a leaf switch that exists and is configured in Layer 2 mode.
- For removing broadcast domains from an interface:
  - At least one broadcast domain has been added to an interface.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
The **INTERFACES** tab displays your interface tiles.
- Step 3** (Optional) Follow these steps to filter for specific interfaces:
- 1 Enter an expression in the **Filter expression** field of the Actions bar.
  - 2 Click **Apply filter**.
- Step 4** Click on the **name** inside an interface tile.  
An interface-specific window appears.
- Step 5** Click the **BROADCAST DOMAINS** tab.  
Any broadcast domain tiles associated with this interface are displayed.
- Step 6** From the **Settings** drop-down list, choose **Manage membership**.  
Your broadcast tiles appear.
- Step 7** (Optional) Follow these steps to filter for specific broadcast domains:
- 1 Enter an expression in the **Filter expression** field of the Actions bar.
  - 2 Click **Apply filter**.

**Step 8** Choose one of the following:

- Adding broadcast domains:
  - To add all the broadcast domains displayed in the **BROADCAST DOMAINS** tab, click the + (plus) symbol on the right side of the Actions bar.
  - To add a specific broadcast domain, click the + (plus) symbol in the bottom right-hand corner of a broadcast domain tile.
- Note**
  - You can enable more than one tile at a time. This configuration effectively creates a VLAN trunk on the interface.
  - After a broadcast domain has been added, it can be set as an untagged broadcast domain by clicking **Set untagged** in the panel on the right. A small tag icon appears in the tile.
- Removing broadcast domains:
  - To remove all the broadcast domains displayed in the **BROADCAST DOMAINS** tab, click the - (minus) symbol on the right side of the Actions bar.
  - To remove a specific broadcast domain, click the - (minus) symbol in the bottom right-hand corner of a broadcast domain tile.
- Note**
  - You can disable more than one tile at a time.
  - If the removed broadcast domain was untagged, removing it will also unset it as untagged broadcast domain.

**Step 9** When finished, click **EXIT MEMBERSHIP MODE**.  
The changes you made are saved.

## Purging Device References

The Cisco Nexus Fabric Manager tracks all discovered neighbors via CDP and LLDP and the switch interfaces they are discovered on. When a discovered device is removed from an interface, Cisco Nexus Fabric Manager maintains the linkage to the device so that the device can be added back to the port. When a discovered device is removed from a port, and not added back to the port, and no other discoverable devices would be added to the port, the **Purge** feature removes all references to the removed device. This feature applies to any discovered devices including hosts, unmanaged switches, or managed switches.

The **Purge** button only appears when an expired neighbour exists on the interface because the device has been removed or the interface is down. This section explains how to purge device references.

**Before You Begin**

A discovered device has been removed from an interface or the interface is down.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
  - Step 2** Click the **Interfaces** tab.  
The interface tiles appear.
  - Step 3** From the interface tile of the removed device, click in the white space. An interface-specific window appears with a summary pane on the right that contains the PURGE option.
  - Step 4** Click **PURGE**. The **PURGE EXPIRED NEIGHBOR** dialog box appears.
  - Step 5** Click **PURGE**.
- 

## Deleting an Interface

Line cards can be added or removed for modular switches. When a line card is removed, Cisco NX-OS hides all its interfaces and makes them unavailable for stats or configuration. The Cisco Nexus Fabric Manager tracks historical stats, event history, and faults of all interfaces. Hiding interfaces on absent line cards reduces visibility. Instead, the Cisco Nexus Fabric Manager keeps the interfaces in absent state and are marked as "Role undetermined." Users can still query for stats, history, and faults on absent interfaces, as well as edit their configuration.

Interfaces move to the absent state when a line card is explicitly taken out of the slot of the chassis, when a line card is powered off from the switch CLI, or when a line card fails and reboots. Interfaces move out of the absent state when a line card goes back online in the same slot of the chassis.

If you plan to leave a slot empty, you can choose to delete absent interfaces corresponding to the line card that used to be in that slot. Physical interfaces can only be deleted while in absent state. If an interface is deleted, its configuration (including port channel and broadcast domain membership), statistics, and history are discarded while its faults are automatically resolved. If a line card is later inserted again in the slot, a new interface object is created by the Cisco Nexus Fabric Manager in default state.

**Before You Begin**

A switch has been successfully added to the switchpool.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
  - Step 2** Click the **INTERFACES** tab.  
The **INTERFACES** tab displays three drop-down filter boxes in the Actions bar located above the switch tiles.
  - Step 3** Click the third drop-down **filter box** from the left.  
A list of filter options appears.  
**Note** Any filter options that are already selected can be deselected either by clicking **Deselect all** or by clicking each individual option.
  - Step 4** Choose **Unknown**.



- The interfaces without cables, or other problems, are displayed.
- Step 5** Click the **check box** in the bottom right corner of the tile you want to delete. You can select more than one tile.
- Step 6** From the **Settings** drop-down list, choose **Delete selected**.  
The **DELETE SELECTED INTERFACES** dialog box appears.
- Step 7** Click **DELETE**.
- 

## Purging Selected Interfaces

---

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **Interfaces** tab.  
The interface tiles appear.
- Step 3** Check the **check box** in the bottom right hand corner of the tiles that you want to purge. You can choose more than one tile.
- Step 4** From the **Settings** drop-down list, choose **Purge selected interfaces**.
-





## CHAPTER

# 6

## Host-Facing and Border Port Channel Management

---

This chapter explains how to create, edit, and delete host-facing and border port channels. It has the following sections:

- [Creating a Host-Facing and Border Port Channel, page 65](#)
- [Viewing Port Channel Details, page 68](#)
- [Editing a Host-Facing or Border Port Channel, page 69](#)
- [Editing the Broadcast Domain Membership of a Host-Facing and Border Port Channel, page 70](#)
- [Resetting a Port Channel, page 72](#)
- [Deleting a Host-Facing and Border Port Channel, page 72](#)

## Creating a Host-Facing and Border Port Channel

This section explains how to create a host-facing and border port channel.

### Before You Begin

- A switch has been successfully added to the switchpool.
- Two or more interfaces must be present.

---

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **INTERFACES** tab.

An interface-specific window appears with a group of filter boxes in the Actions bar located above your interface tiles.

**Step 3** (Optional) In the third filter box above the interface tiles, click the drop-down and choose **Host facing** or **Border**.

**Step 4** Click the **check box** located at the bottom right corner of the host-facing or border interface tile you want to add to the port channel. You can choose more than one tile. Note that the interfaces should be connected to the same device. The

device information is displayed on the tile as neighbor information if the neighbor device supports and has either CDP or LLDP enabled. If CDP or LLDP information is not available, no information will be displayed.

**Step 5** From the **Settings** drop-down list, choose **Add to new logical port channel**. The **CREATE NEW LOGICAL PORT CHANNEL** dialog box appears with **GENERAL**, **MORE**, **ROUTING**, and **MEMBERS** tabs.

**Step 6** Enter the appropriate values in the fields of each tab as listed in the *CREATE NEW LOGICAL PORT CHANNEL Dialog Box Fields* table below then continue to step 9.

**Table 17: CREATE NEW LOGICAL PORT CHANNEL Dialog Box Fields**

| Field                                                                                  | Description                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL</b> Tab                                                                     |                                                                                                                                                                                                                                                                                                                   |
| <b>Name</b>                                                                            | Enter a name for the port channel.                                                                                                                                                                                                                                                                                |
| <b>Profile</b>                                                                         | Apply a profile.                                                                                                                                                                                                                                                                                                  |
| <b>Description</b>                                                                     | Enter a description of the port channel.                                                                                                                                                                                                                                                                          |
| <b>Role</b>                                                                            | Choose a role: <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Border</b></li> <li>• <b>Host facing</b></li> </ul> <p><b>Note</b> The role will be automatically determined by the roles of the physical member interfaces. It is rare that there is a requirement to change this setting.</p> |
| <b>Port channel mode</b>                                                               | Choose from the following options: <ul style="list-style-type: none"> <li>• <b>LACP</b></li> <li>• <b>Static</b></li> </ul> <p><b>Note</b> The default value is Static.</p>                                                                                                                                       |
| <b>State</b>                                                                           | <b>Enabled/Disabled</b>                                                                                                                                                                                                                                                                                           |
| <b>SELECTED</b> tab                                                                    |                                                                                                                                                                                                                                                                                                                   |
| Click to see the specified interface(s) that can be added to the logical port channel. |                                                                                                                                                                                                                                                                                                                   |
| <b>MOVING</b> tab                                                                      |                                                                                                                                                                                                                                                                                                                   |
| Click to see the specified interface(s) being moved to the logical port channel.       |                                                                                                                                                                                                                                                                                                                   |
| <b>EXCLUDED</b> tab                                                                    |                                                                                                                                                                                                                                                                                                                   |

| Field                                                                                     | Description                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Click to see the specified interface(s) that cannot be added to the logical port channel. |                                                                                                                                                                                                                                                                                                                                                                         |
| <b>MORE</b> Tab                                                                           |                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Untagged broadcast domain</b>                                                          | Set the untagged broadcast domain for this port channel.                                                                                                                                                                                                                                                                                                                |
| <b>Speed</b>                                                                              | Speed determines the speed of the port channel seed. The seed determines the set of authoritative parameters by which all member interfaces are compared to determine whether they can be an active part of this port channel. Speed does not change the actual speed of the physical ports.                                                                            |
| <b>ROUTING</b> Tab                                                                        |                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Routed mode</b>                                                                        | <p><b>Enabled</b> The interface is configured for Layer 3 mode and the properties below are enabled.</p> <p><b>Disabled</b> The interface is configured for Layer 2 mode and the properties below are disabled.</p>                                                                                                                                                     |
| <b>IP address</b>                                                                         | Enter the IP address.                                                                                                                                                                                                                                                                                                                                                   |
| <b>VRF</b>                                                                                | Choose a VRF.                                                                                                                                                                                                                                                                                                                                                           |
| <b>MAC address</b>                                                                        | Enter a MAC address.                                                                                                                                                                                                                                                                                                                                                    |
| <b>MTU</b>                                                                                | Specify the maximum transmission unit size.                                                                                                                                                                                                                                                                                                                             |
| <b>MEMBERS</b> Tab                                                                        |                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Add more items</b>                                                                     | <p>Add interfaces.</p> <p><b>Note</b> As the interfaces are added, they are displayed. Interfaces can be removed by clicking on the check marks beside the included interfaces. A green check mark indicates a valid port channel member. A red check mark indicates an invalid member and a reason is displayed in the dialog by hovering over the red check mark.</p> |

**Step 7**Click **SAVE CHANGES**.

A new port-channel interface tile will be displayed.

# Viewing Port Channel Details

Clicking the port channel name on a port channel tile enables you to view detailed information about the port channel such as the number of Tx and Rx bits and packets sent per second, the members of the port channel, associated broadcast domains, a history of tasks, and a list of faults. This section explains where to find this information.

## Before You Begin

A host-facing and border port channel has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear with a group of filter boxes in the Actions bar located above your interface tiles.
- Step 3** (Optional) In the third filter box above the switch tiles, click the **drop-down** list and choose **Host facing**.
- Step 4** Click to highlight a tile.  
A summary pane appears on the right with the information below:

- **Profile**—Interface profile
- **Interface class**—Class of the interface
- **Routed mode**—Router mode, which can be Layer 2 or Layer 3
- **Description**—Description text
- **Management state**—State of the interface (managed or monitored)
- **Role**—Role assigned to the interface
- **Port channel mode**—Port channel mode of the interface
- **MTU**—Operational MTU that is being used (where applicable)
- **Aggregate speed**—Interface speed
- **Untagged broadcast domain**—Untagged broadcast domain
- **Broadcast domains**—Number of broadcast domains associated with the interface
- **Neighbor interface**—Neighbor interface
- **Neighbor device**—Neighbor device
- **Members**—Candidate neighbor
- **Backing**—Actual port channel interface identifiers on port channel member switches

- Step 5** In the host-facing and border port channel tile, click the **name**.  
A port channel-specific window opens displaying the following tabs:

- **OVERVIEW**—Displays statistics for transmitted and received bits and packets, member information, such as the number of active broadcast domain members and the total number of configured members on the broadcast domain, general transceiver information, and a **comment** icon for adding a comment.

- **MEMBERS**—Displays the interface members or interfaces that are members of the port channel.
- **BROADCAST DOMAINS**—Displays associated broadcast domains and allows broadcast domain membership editing.
- **HISTORY**—Lists the history of actions taken on the port channel.
- **FAULTS**—Lists the faults on the port channel.

## Editing a Host-Facing or Border Port Channel

This section explains how to edit a host-facing and border port channel.

### Before You Begin

A host-facing and border port channel has been created.

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear. Port channel interfaces are identified by the letters "PO" on the interface tile.
- Step 3** Click in the whitespace of the interface tile you want to edit.  
A logical port channel-specific window appears with a summary pane on the right that contains the **EDIT** option.
- Step 4** Click **EDIT**.  
The **LOGICAL PORT CHANNEL SETTINGS** dialog box appears with **GENERAL SETTINGS** and **MORE SETTINGS** tabs.
- Step 5** Enter the appropriate values in the fields of each tab as listed in the following table and then continue to the next step.

**Table 18: LOGICAL PORT CHANNEL SETTINGS Dialog Box Fields**

| Field              | Description                                                                                                                           |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL Tab</b> |                                                                                                                                       |
| <b>Name</b>        | Enter a name for the port channel.                                                                                                    |
| <b>Profile</b>     | Apply a profile.                                                                                                                      |
| <b>Description</b> | Enter a description of the port channel.                                                                                              |
| <b>Role</b>        | Choose a role: <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Border</b></li> <li>• <b>Host facing</b></li> </ul> |

| Field                     | Description                                                                                                                                                                                                         |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port channel mode         | Choose from the following options: <ul style="list-style-type: none"> <li>• LACP</li> <li>• Static</li> </ul> <p><b>Note</b> The default value is LACP.</p>                                                         |
| State                     | Specify the state of the interface. The state can be <b>Enabled/Disabled</b> .                                                                                                                                      |
| <b>MORE</b> Tab           |                                                                                                                                                                                                                     |
| Untagged broadcast domain | Set the untagged broadcast domain for this port channel.                                                                                                                                                            |
| Speed                     | Set the interface speed.                                                                                                                                                                                            |
| <b>ROUTING</b> Tab        |                                                                                                                                                                                                                     |
| Routed mode               | <p><b>Enabled</b> The interface is configured for Layer 3 mode and the properties below are enabled.</p> <p><b>Disabled</b> The interface is configured for Layer 2 mode and the properties below are disabled.</p> |
| IP address                | Enter the IP address.                                                                                                                                                                                               |
| VRF                       | Choose a VRF.                                                                                                                                                                                                       |
| MAC address               | Enter a MAC address.                                                                                                                                                                                                |
| MTU                       | Specify the maximum transmission unit size.                                                                                                                                                                         |

**Step 6** Click **SAVE CHANGES**.

## Editing the Broadcast Domain Membership of a Host-Facing and Border Port Channel

This section explains how to add and remove one or more existing broadcast domains.

### Before You Begin

- For adding broadcast domains to a host-facing and border port channel:



- At least one broadcast domain has been created.
- A host-facing and border port channel has been created.
- For removing broadcast domains from a host-facing and border port channel:
  - At least one broadcast domain has been added to a host-facing and border port channel.

---

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **INTERFACES** tab.  
The **INTERFACES** tab displays your interface tiles.

**Step 3** (Optional) Follow these instructions to locate your host-facing and border interfaces:

- 1 In the third filter box above the switch tiles, click the drop-down arrow.
- 2 Choose **Host facing** or **Border**.

The host-facing and border interfaces are displayed.

**Step 4** Click on the **name** inside an interface tile.  
An interface-specific window appears.

**Step 5** Click the **BROADCAST DOMAINS** tab.  
Any broadcast domain tiles associated with this interface are displayed.

**Step 6** From the **Settings** drop-down list, choose **Manage membership**.  
Broadcast domain tiles appear.

**Step 7** (Optional) Follow these steps to filter for specific broadcast domains:

- 1 Enter an expression in the **Filter expression** field of the Actions bar.
- 2 Click **Apply filter**.

**Step 8** Choose one of the following:

- Adding broadcast domains:
  - To add all the broadcast domains displayed in the **BROADCAST DOMAINS** tab, click the + (plus) symbol on the right side of the Actions bar .
  - To add a specific broadcast domain, click the + (plus) symbol in the bottom right corner of a broadcast domain tile.

**Note**

- You can select more than one tile at a time.
  - After a broadcast domain has been added, it can be set as an untagged broadcast domain by clicking **Set untagged** in the panel on the right. A small tag icon appears in the tile.
- Removing broadcast domains:
    - To remove all the broadcast domains displayed in the **BROADCAST DOMAINS** tab, click the - (minus) symbol on the right side of the Actions bar.

- To remove a specific broadcast domain, click the - (minus) symbol in the bottom right corner of a broadcast domain tile.

**Note**

- You can select more than one tile at a time.
- If the removed broadcast domain was untagged, removing it will also unset it as untagged broadcast domain.

**Step 9** When finished, click **EXIT MEMBERSHIP MODE**.  
The changes you made are saved.

---

## Resetting a Port Channel

Resetting a port channel interface instructs the switches to perform a **shutdown, no-shutdown** command sequence on the port channel interface itself. In the case of a virtual port channel (vPC), this action will take place on both member leaf switches.

This section explains how to reset a host-facing and border port channel.

### Before You Begin

A host-facing or border port channel has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear. Port channel interfaces are identified by the letters "PO" on the interface tile.
- Step 3** Click in the whitespace of the interface tile you want to reset.  
A port channel interface-specific window appears with a summary pane on the right that contains the **RESET** option.
- Step 4** Click **RESET**.  
The **RESET INTERFACES** dialog box appears.
- Step 5** Click **RESET**.
- 

## Deleting a Host-Facing and Border Port Channel

This section explains how to delete a host-facing and border port channel.

### Before You Begin

A host-facing or border port channel has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
  - Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear. Port channel interfaces are identified by the letters "PO" on the interface tile.
  - Step 3** Click in the whitespace of the interface tile you want to delete.  
A port channel interface-specific window appears with a summary pane on the right that contains the **DELETE** option.
  - Step 4** Click **DELETE**.  
The **DELETE SELECTED** dialog box appears.
  - Step 5** Click **DELETE**.
-





## Host-Facing and Border Port Channel Member Management

After a host-facing or border port channel has been created, its members can be managed. This section explains how to add and remove members on a host-facing or border port channel.

- [Adding Members to a Host-Facing and Border Port Channel, page 75](#)
- [Removing Members from a Host-Facing and Border Port Channel, page 76](#)

### Adding Members to a Host-Facing and Border Port Channel

This section explains how to add members to a host-facing and border port channel.

#### Before You Begin

- A host-facing or border port channel has been created.
- Additional host-facing or border interfaces are available.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear with a group of filter boxes in the Actions bar located above your interface tiles.
- Step 3** (Optional) In the third filter box above the switch tiles, click the **drop-down** arrow and choose **Host facing** or **Border**.
- Step 4** Click the **check box** in the bottom right corner of the switch tiles you want to add to the port channel. You can select more than one tile. Note that the interfaces should be connected to the same device. The device information is displayed on the tile as neighbor information.
- Step 5** From the **Settings** drop-down list, choose **Add to logical port channel**.  
The **ADD TO EXISTING LOGICAL PORT CHANNEL** dialog box appears with the following three options:
- **SELECTED**—Click to see the specified interface(s) that can be added to the logical port channel.
  - **MOVING**—Click to see the specified interface(s) being moved to the logical port channel.

- **EXCLUDED**—Click to see the specified interface(s) that cannot be added to the logical port channel.

**Step 6** Click the **Add to** drop-down and choose the desired port channel.

**Step 7** Click **ADD**.

---

## Removing Members from a Host-Facing and Border Port Channel

This section explains how to remove members from a host-facing and border port channel.

### Before You Begin

A host-facing or border port channel with more than one member has been created.

---

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear. Port channel interfaces are identified by the letters "PO" on the interface tile.

**Step 3** Click the **name** inside the port channel tile you want to edit.  
An interface-specific window appears.

**Step 4** Click the **MEMBERS** tab.  
The interfaces that are members of this port channel appear.

**Step 5** Click the **check box** in the bottom right corner of the interface tile you want to remove. You can select more than one tile.

**Step 6** From the **Settings** drop-down list, choose **Remove selected**.  
A confirmation dialog box appears.

**Step 7** Click **REMOVE**.

---



## Broadcast Domain Management

This chapter explains how to create, edit, and remove broadcast domains and to view broadcast domain statistics. This chapter also explains how to configure IP gateways per broadcast domain which are implemented as VXLAN anycast gateways by the Cisco Nexus Fabric Manager. It has the following sections:

- [Creating a Broadcast Domain, page 77](#)
- [Viewing Broadcast Domain Details, page 79](#)
- [Editing a Broadcast Domain, page 80](#)
- [Deleting a Broadcast Domain, page 81](#)
- [Editing Members of a Broadcast Domain, page 82](#)
- [Setting Untagged Broadcast Domains, page 83](#)

### Creating a Broadcast Domain

This section explains how to create a broadcast domain.

#### Before You Begin

A switch has been successfully added to the switchpool.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **BROADCAST DOMAINS** tab.
- Step 3** From the **Settings** drop-down list, choose **Create new broadcast domain**.  
The **CREATE NEW BROADCAST DOMAIN** dialog box appears.
- Note** To view the **ADVANCED** tab, press and hold **Ctrl-Shift-A**. To close the **ADVANCED** tab, press **Ctrl-Shift-A** again at any time. If you press it while the editor is opened, the **ADVANCED** tab won't go away immediately. It will only disappear for the next time the editor is opened (and the current changes will still be pushed).
- Step 4** Enter the appropriate values in the fields listed in the *CREATE NEW BROADCAST DOMAIN Dialog Box Fields* table below then continue to step 5.

Table 19: CREATE NEW BROADCAST DOMAIN Dialog Box Fields

| Field                  | Description                                                                                                                                                                                                                                                                                                                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Create multiple        | Check the check box to create multiple broadcast domains at a time. When checked, additional fields become visible.                                                                                                                                                                                                               |
| Count                  | Specify the number of broadcast domains you want to create.<br><b>Note</b> This field is only visible if the <b>Create multiple</b> check box is checked.                                                                                                                                                                         |
| VLAN IDs               | Specify the VLAN IDs for the broadcast domains you want to create. This field takes a comma-separated list of IDs and ID ranges and represents the administrative VLAN ID. This value takes precedence over the <b>Count</b> field.<br><b>Note</b> This field is only visible if the <b>Create multiple</b> check box is checked. |
| Name                   | Enter the name for your broadcast domain.<br><b>Note</b> This field is not visible if the <b>Create multiple</b> check box is checked.                                                                                                                                                                                            |
| Name prefix            | Enter the name for your broadcast domain. The name will be used as a prefix. A count will be appended to the name for each broadcast domain.<br><b>Note</b> This field is only visible if the <b>Create multiple</b> check box is checked.                                                                                        |
| Description            | Enter a description of the broadcast domain.<br><b>Note</b> This field is not visible if the <b>Create multiple</b> check box is checked.                                                                                                                                                                                         |
| State                  | Enables and disables the broadcast domain.<br><b>Note</b> This field is not visible if the <b>Create multiple</b> check box is checked.                                                                                                                                                                                           |
| VLAN ID                | Enter a VLAN ID.<br><b>Note</b> This field is not visible if the <b>Create multiple</b> check box is checked.                                                                                                                                                                                                                     |
| <b>Gateway section</b> |                                                                                                                                                                                                                                                                                                                                   |
| IP address             | Enter the IP address for your gateway.<br><b>Note</b> This field is not visible if the <b>Create multiple</b> check box is checked.                                                                                                                                                                                               |



| Field                   | Description                                                                                                                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First IP address</b> | Enter the IP address for your gateway. The IP entered will be the first IP. Using the prefix, additional IPs will be generated.<br><b>Note</b> This field is only visible if the <b>Create multiple</b> check box is checked. |
| <b>VRF</b>              | Click the drop-down list to choose a VRF. Note that a VRF will be chosen by default.<br><b>Note</b> The default is switchpool default.                                                                                        |
| <b>MTU</b>              | Specify the maximum transmission unit size.<br><b>Note</b> This field is not visible if the <b>Create multiple</b> check box is checked.                                                                                      |
| <b>ADVANCED</b> tab     |                                                                                                                                                                                                                               |
| <b>VNID</b>             | Set the VXLAN VNID associated with the new broadcast domain. This field is optional and will be assigned by the NFM if not specified.                                                                                         |

**Step 5** Click **CREATE**.

## Viewing Broadcast Domain Details

Clicking the name on a broadcast domain tile enables you to view detailed information about that broadcast domain such as the active members and total members, the associated members, the history of tasks, and a list of faults. This section explains where to find this information.

### Before You Begin

- At least one broadcast domain has been added.

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **BROADCAST DOMAINS** tab.  
Your broadcast domain tiles appear in the screen.

**Step 3** Click to highlight a tile.  
A summary pane appears on the right with the broadcast domain information below:

- **VLAN ID**—VLAN ID associated with this broadcast domain

- **Description**—Description of the broadcast domain
- **Active members**—Active members for this domain
- **Total members**—Total members for this domain
- **Gateway address**—Gateway address
- **Gateway VRF**—VRF used for the gateway

**Step 4**

Click the **name** inside the broadcast domain tile you want to view.  
A broadcast domain-specific window appears with the following tabs:

- **OVERVIEW**—Displays the following:
    - **ACTIVE**—Statistics for the active broadcast domain members
    - **TOTAL**—Total number of configured members on the broadcast domain
    - **GENERAL**—General information such as when the broadcast domain was created and when the broadcast domain was last modified
    - **COMMENT**—Icon for adding a comment
  - **MEMBERS**—Displays associated interfaces and port channels
  - **HISTORY**—Lists the history of actions taken on the broadcast domain
- 

## Editing a Broadcast Domain

This section explains how to edit a broadcast domain.

### Before You Begin

A broadcast domain has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
  - Step 2** Click the **BROADCAST DOMAINS** tab.  
Your broadcast domain tiles appear.
  - Step 3** Click the whitespace in the broadcast domain tile you want to edit.  
A broadcast domain-specific window appears with a summary pane on the right that contains the **EDIT** option.
  - Step 4** Click **EDIT**.  
The **BROADCAST DOMAIN SETTINGS** dialog box appears.
  - Step 5** Enter the appropriate values in the fields listed in the *BROADCAST DOMAIN SETTINGS Dialog Box Fields* table below then continue to step 7.

Table 20: BROADCAST DOMAIN SETTINGS Dialog Box Fields

| Field           | Description                                                                                                                                |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Name            | Enter the name for your broadcast domain.                                                                                                  |
| Description     | Enter a description of the broadcast domain.                                                                                               |
| State           | Enables and disables the broadcast domain.                                                                                                 |
| VLAN ID         | Enter a VLAN ID.                                                                                                                           |
| Gateway section |                                                                                                                                            |
| IP address      | Enter the IP address for your gateway.                                                                                                     |
| VRF             | Click the drop-down list to choose a VRF. Note that a VRF will be chosen by default.<br><br><b>Note</b> The default is switchpool default. |
| MTU             | Specify the maximum transmission unit size.                                                                                                |

**Step 6** Click **SAVE CHANGES**.

## Deleting a Broadcast Domain

This section explains how to delete a broadcast domain.

### Before You Begin

A broadcast domain has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **BROADCAST DOMAINS** tab.  
Your broadcast domain tiles appear.
- Step 3** Click the whitespace in the broadcast domain tile you want to delete.  
A broadcast domain-specific window appears with a summary pane on the right that contains the **DELETE** option.
- Step 4** Click **DELETE**.  
The **DELETE** dialog box appears.
- Step 5** Click **DELETE**.
-

# Editing Members of a Broadcast Domain

This section explains how to add and remove one or more members from a broadcast domain.

## Before You Begin

- For adding members to a broadcast domain:
  - A broadcast domain has been created.
  - At least one host-facing or border interface on a leaf switch has been created and configured in Layer 2 mode.
- For removing members from a broadcast domain:
  - At least one member has been added to the broadcast domain.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **BROADCAST DOMAIN** tab.  
The **BROADCAST DOMAIN** tab displays your broadcast domain tiles.
- Step 3** (Optional) Follow these steps to filter for specific broadcast domains:
- 1 Enter an expression in the **Filter expression** field of the Actions bar.
  - 2 Click **Apply filter**.
- Step 4** Click in the whitespace of the broadcast domain tile.
- Step 5** Click the **MEMBERS** tab.  
Any interface tiles associated with this broadcast domain are displayed.
- Step 6** From the **Settings** drop-down list, choose **Manage Membership**.  
Your interface tiles appear.
- Step 7** (Optional) Follow these steps to filter for specific interfaces:
- 1 Enter an expression in the **Filter expression** field of the Actions bar.
  - 2 Click **Apply filter**.
- Step 8** Choose one of the following:
- Adding members:
    - To add all the interfaces displayed in the **MEMBERS** tab, click the + (plus) symbol on the right side of the Actions bar.
    - To add a specific interface, click the + (plus) symbol in the bottom right corner of an interface tile.
  - Note** You can select more than one tile at a time.
  - Removing members:

- To remove all the interfaces displayed in the **MEMBERS** tab, click the - (minus) symbol on the right side of the Actions bar.
- To remove a specific interface, click the - (minus) symbol in the bottom right corner of an interface tile.

**Note** You can select more than one tile at a time.

**Step 9** When finished, click **EXIT MEMBERSHIP MODE**.  
The changes you made are saved.

---

## Setting Untagged Broadcast Domains

This section explains how to set an untagged broadcast domain in a given host-facing or border interface.

### Before You Begin

A broadcast domain has been created and has been applied to a given host-facing or border interface.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
Your interface tiles appear.
- Step 3** Click the **name** inside the interface tile that is a member of the broadcast domain you want to set as untagged.
- Step 4** Click the **BROADCAST DOMAINS** tab.  
Your broadcast domain tiles associated with the chosen interface appear.
- Step 5** Click on the broadcast domain tile you want to tag.
- Step 6** Click **Set untagged** in the panel on the right.  
A small tag icon appears in the tile.
-





## Gateway Management

---

A gateway can be associated to a broadcast domain to become the default gateway for the subnet. Although gateways are created with broadcast domains, they contain properties that you can only edit from the **INTERFACES** tab after they have been created. This chapter explains how to edit and delete a gateway. It has the following sections:

- [Creating Gateways, page 85](#)
- [Editing a Gateway, page 85](#)
- [Deleting a Gateway, page 86](#)
- [Viewing Gateway Details, page 87](#)

### Creating Gateways

Gateways are created with broadcast domains. For information on creating broadcast domains and gateways, see [Creating a Broadcast Domain, on page 77](#).

### Editing a Gateway

This section explains how to edit a gateway.

#### Before You Begin

At least one gateway has been created.

- 
- |               |                                                                                                                           |
|---------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | From the <b>Navigation</b> drop-down list, choose <b>Home</b> .                                                           |
| <b>Step 2</b> | Click the <b>INTERFACES</b> tab.                                                                                          |
| <b>Step 3</b> | (Optional) From the <b>Filter by interface class</b> drop-down list, choose <b>Gateway</b> .<br>The gateway tiles appear. |
| <b>Step 4</b> | Click the <b>name</b> inside the gateway interface tile you want to edit.                                                 |

- Step 5** A gateway-specific window appears with a summary pane on the right that contains the **EDIT** option. Click **EDIT**.  
The **GATEWAY SETTINGS** dialog box appears with the **GENERAL SETTINGS** tab.
- Step 6** Enter the appropriate values in the fields of each tab as listed in the *GATEWAY SETTINGS Dialog Box Fields* table below then continue to step 8.

**Table 21: GATEWAY SETTINGS Dialog Box Fields**

| Field                       | Description                                                       |
|-----------------------------|-------------------------------------------------------------------|
| <b>GENERAL SETTINGS</b> Tab |                                                                   |
| <b>Name</b>                 | Enter a name for the gateway.                                     |
| <b>Description</b>          | Enter a description of the gateway.                               |
| <b>IP Address</b>           | Enter the IP address of the gateway with the net mask.            |
| <b>State</b>                | Enable or disable the interface.                                  |
| <b>VRF</b>                  | Choose a specific VRF. Note that a VRF will be chosen by default. |
| <b>MTU</b>                  | Specify the maximum transmission unit size.                       |

- Step 7** Click **SAVE CHANGES**.

## Deleting a Gateway

This section explains how to delete a gateway.

### Before You Begin

- At least one gateway has been created.

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.  
Your gateway interface tiles appear with a **filter box** in the actions bar above the tiles.
- Step 3** (Optional) Click the first **filter box** and choose **Gateway**.  
Your gateway interface tiles (identified by the GW icon) appear in the screen.
- Step 4** Click the **name** inside the gateway interface tile you want to delete.



- Step 5** A gateway-specific window appears with a summary pane on the right that contains the **DELETE** option.  
Click **DELETE**.
- Step 6** The **DELETE** dialog box appears.  
Click **DELETE**.
- 

## Viewing Gateway Details

Once a gateway has been created as part of a broadcast domain creation task, a specific gateway object and associated gateway tile is created. To view the details of a gateway, you must access the gateway tile via the **Interfaces** tab. Clicking the name on a gateway tile enables you to view detailed information about that gateway such as the number of Rx bits and packets sent per second, when the gateway was created, and when it was last modified. The following task explains how to find this information.

### Before You Begin

At least one gateway has been added.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **INTERFACES** tab.
- Step 3** (Optional) From the **Filter by interface class** drop-down list, choose **Gateway**.  
The gateway tiles appear.
- Step 4** Click in a tile.  
A summary pane appears on the right with the following gateway information:
- **Description**—Description of the gateway
  - **MAC address**—MAC address of the anycast gateway
  - **Note** As by design, the same MAC address is used by all gateways, within all broadcast domains, on all switches within a managed fabric. This MAC address can be changed via the switchpool settings options.
  - **MTU**—Operational MTU that is being used for the gateway interface
  - **VRF**—The VRF in which the gateway interface resides
  - **Broadcast domain**—The broadcast domain to which the gateway interface is associated
  - **IP address**—IP address of the gateway interface
- Step 5** Click the name inside the gateway tile you want to view.  
A gateway-specific window appears with the following tabs:
- **OVERVIEW**—Displays the following:
    - **BITS PER SECOND**—Received (Rx) bits per second statistics for the gateway
    - **PACKETS PER SECOND**—Received (Rx) packets per second statistics for the gateway

- **GENERAL**—General information such as when the gateway was created and when the gateway was last modified
  - **COMMENT**—Icon for adding a comment
-



## Tenant VRF Management

Tenant VRFs can be assigned to gateways. Routing is automatically enabled among broadcast domains associated to gateways that share the same tenant VRF.



### Note

Tenant VRFs can be created and assigned to broadcast domain gateways and any layer 3 host-facing or border port channels and interfaces. Routing is automatically available among broadcast domain gateways within a given VRF as each leaf switch participates in each broadcast domain. As such, every leaf switch is directly connected to every VRF and the layer 3 networks within them. This includes the number of VRF members. Clicking the **members** link in the tile opens up the **MEMBERS** tab to display the VRF member tiles. The number displayed in the VRF tile can be larger than the number of member tiles because logical interfaces (port channels and gateways) are backed by physical interfaces (physical port channels and SVIs) when deployed. The Cisco Nexus Fabric Manager hides these physical interfaces and shows only the aggregated (logical) interface. These objects exist as read-only entities and must be accounted for in the total VRF members.

This chapter has the following sections:

- [Creating a VRF, page 89](#)
- [Editing a VRF, page 91](#)
- [Deleting a VRF, page 91](#)

## Creating a VRF

This section explains how to create a VRF.

- Step 1** From the **Navigation** drop-down list, choose **VRFs**.
- Step 2** From the **Settings** drop-down list, choose **Create new VRF**.  
The **ADD VRF** dialog box appears.

**Note** To view the **ADVANCED** tab, press and hold **Ctrl-Shift-A**. To close the **ADVANCED** tab, press **Ctrl-Shift-A** again at any time. If you press it while the editor is opened, the **ADVANCED** tab won't go away immediately. It will only disappear for the next time the editor is opened (and the current changes will still be pushed).

**Step 3**

Enter the appropriate values in the fields as listed in the *ADD VRF Dialog Box Fields* table below then continue to step 4.

**Table 22: ADD VRF Dialog Box Fields**

| Field                 | Description                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name                  | Enter a name for the VRF.                                                                                                                                                                                                                                                                                                                                                                                    |
| Description           | Enter a description for the VRF.                                                                                                                                                                                                                                                                                                                                                                             |
| State                 | Choose <b>enable/disable</b> to change the state of the VRF.                                                                                                                                                                                                                                                                                                                                                 |
| <b>vPC L3 peering</b> |                                                                                                                                                                                                                                                                                                                                                                                                              |
| vPC L3 peering        | Enable/disable L3 routing over vPC peer links for this VRF.                                                                                                                                                                                                                                                                                                                                                  |
| Routing VLAN ID       | Set the VLAN ID to use for creating SVIs to establish point-to-point routed links between vPC switch pairs in this VRF. If no VLAN ID is provided, an available VLAN ID is automatically chosen from the switchpool wide vPC L3 peering VLANs pool. This pool can be configured from the switchpool settings <b>General</b> tab.                                                                             |
| IP address pool       | Set the IP address pool for allocating IP addresses to the routed point-to-point links between vPC switch pairs in this VRF. The pool must be large enough to assign addresses for all vPC switch pair links. The routing prefix length below defines the per-link subnet size requirement. For example, with a routing prefix length of 30 and 5 vPC switch pairs, the pool must be at least /27 or larger. |
| Routing prefix        | The routing prefix length defines the subnet size to allocate for each point-to-point link between vPC switch pairs. This length should typically be 30 in order to provide one IP address for each SVI endpoint of a link.                                                                                                                                                                                  |
| <b>ADVANCED</b> tab   |                                                                                                                                                                                                                                                                                                                                                                                                              |
| Layer 3 VNI           | Set the administrative Layer 3 VNI for VXLAN routing.                                                                                                                                                                                                                                                                                                                                                        |

**Step 4**

Click **SAVE CHANGES**.

## Editing a VRF

This section explains how to edit a VRF.

### Before You Begin

At least one VRF has been added.

- 
- Step 1** From the **Navigation** drop-down list, choose **VRFs**.  
The VRF tiles appear.
- Step 2** Click in the whitespace of the VRF tile you want to edit.  
A VRF-specific window appears with a summary pane on the right that contains the **EDIT** option.
- Step 3** Click **EDIT**.  
The **EDIT VRF** dialog box appears.
- Step 4** Enter the appropriate values in the fields listed in the *Edit VRF Dialog Box Fields* table below then continue to step 6.

**Table 23: EDIT VRF Dialog Box Fields**

| Field       | Description                                                  |
|-------------|--------------------------------------------------------------|
| Name        | Enter a name for the VRF.                                    |
| Description | Enter a description for the VRF.                             |
| State       | Choose <b>enable/disable</b> to change the state of the VRF. |

- Step 5** Click **SAVE CHANGES**.
- 

## Deleting a VRF

### Before You Begin

At least one VRF has been added.

- 
- Step 1** From the **Navigation** drop-down list, choose **VRFs**.  
The VRF tiles appear.
- Step 2** Click the **name** in the VRF tile you want to delete.  
A VRF-specific window appears with a summary pane on the right that contains the **DELETE** option.
- Step 3** Click **DELETE**.

**Step 4**

The **DELETE VRF** dialog box appears.  
Click **DELETE**.

---



# Switch Software Management

To upgrade your switches to a new software release, you must upload the new software image to the switch image catalog. Then you may create an upgrade object that contains the list of switches to upgrade, the image to use, and additional configurable options. This section explains how to upload Cisco NX-OS images to the switch image catalog, how to create, edit, and delete an upgrade object, and how to start and stop an upgrade.



## Note

A maximum of ten parallel switch upgrades are supported.

This chapter has the following sections:

- [Uploading Images to the Switch Images Catalog, page 93](#)
- [Creating an Upgrade Object, page 94](#)
- [Editing an Upgrade Object, page 95](#)
- [Adding New Members to an Existing Upgrade Object, page 97](#)
- [Removing Members from an Upgrade Object, page 97](#)
- [Starting an Upgrade, page 98](#)
- [Stopping an Upgrade, page 99](#)
- [Deleting an Upgrade, page 99](#)

## Uploading Images to the Switch Images Catalog

The switch images catalog is a summary table that lists and sorts your uploaded switch software images. To access the images catalog, click the **Navigation** menu to display a drop-down list and choose **Images**. The images listed in the switch images catalog are used for creating upgrade objects, which enable you to specify the image you want to upgrade to. This section explains how to upload an image to the images catalog.

**Step 1** From the **Navigation** drop-down list, choose **Images**.

- The **Images** window appears.
- Step 2** From the **Settings** drop-down list, choose **Upload new image**.  
The **UPLOAD NEW IMAGE** dialog box appears.
- Step 3** Click **CHOOSE FILES**.  
The **File Upload** dialog box appears.
- Step 4** Browse for the file then click **Open**.  
You return to the **UPLOAD NEW IMAGE** dialog box.
- Step 5** Click **UPLOAD**.  
The image will upload to the image catalog and can be used to create an upgrade object. For information on creating an upgrade object, see [Creating an Upgrade Object, on page 94](#).

## Creating an Upgrade Object

To upgrade your switches, you upload a new image to the switch images catalog then create an upgrade object. An upgrade object contains members, which are the switches you chose to upgrade, and configurable options such as a name, a description, the image that the switches will be upgraded to, and the upgrade strategy. After the upgrade object has been created, you initiate the upgrade as a separate task (see [Starting an Upgrade, on page 98](#)). This section explains how to create an upgrade object.

### Before You Begin

- A switch has been successfully added to the switchpool.
- At least one image is in the image catalog.

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SWITCHES** tab.
- Step 3** Click the **check box** in the bottom right corner of the switch tiles you want to upgrade.
- Step 4** From the **Settings** drop-down list, choose **Add to new Upgrade**.  
The **CREATE UPGRADE** dialog box appears displaying the **GENERAL** and **MORE** tabs.
- Step 5** Enter the appropriate values in the fields of each tab as listed in the *CREATE UPGRADE Dialog Box Fields* table below then continue to step 7.

**Table 24: CREATE UPGRADE Dialog Box Fields**

| Field              | Description                          |
|--------------------|--------------------------------------|
| <b>GENERAL</b> Tab |                                      |
| <b>Name</b>        | Enter a name for the upgrade task.   |
| <b>Description</b> | Enter a description for the upgrade. |



| Field                                                                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Image</b>                                                                      | Choose the image you are upgrading to by using the drop-down menu.                                                                                                                                                                                                                                                                                                                                                                      |
| <b>SELECTED</b> Tab                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Click to see the specified switch(es) that can be added to the upgrade object.    |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>EXCLUDED</b> Tab                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Click to see the specified switch(es) that cannot be added to the upgrade object. |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>MORE</b> Tab                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Strategy</b>                                                                   | Choose one of the following options: <ul style="list-style-type: none"> <li>• <b>Parallel</b> —All switches are upgraded in parallel.</li> <li>• <b>Sequential</b>—Switches are upgraded one at a time.</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• If <b>Sequential</b> is chosen, there is a <b>Timeout (sec)</b> box with a default 60-second delay.</li> <li>• The default value is Parallel.</li> </ul> |

**Step 6**

Click **SAVE CHANGES**.

The upgrade object can now be started, edited, or deleted. For how to start the upgrade, see [Starting an Upgrade, on page 98](#). For how to edit an upgrade, see [Editing an Upgrade Object, on page 95](#). For how to delete an upgrade, see [Deleting an Upgrade, on page 99](#). To add additional switches to the upgrade object, see [Adding New Members to an Existing Upgrade Object, on page 97](#). To remove switches from the upgrade object, see [Removing Members from an Upgrade Object, on page 97](#).

## Editing an Upgrade Object

An upgrade object contains members, which are the switches you chose to upgrade, and configurable options such as a name, a description, the image that the switch will be upgraded to, and the upgrade strategy. To add additional switches to the upgrade object, see [Adding New Members to an Existing Upgrade Object, on page 97](#). To remove switches from the upgrade object, see [Removing Members from an Upgrade Object, on page 97](#). This section explains how to edit the configurable options of your existing upgrade object.

### Before You Begin

An upgrade object has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Upgrades**.  
The **Upgrades** window appears listing your created upgrade objects.
- Step 2** Click on the upgrade object name you want to edit.  
An upgrade-specific window appears with an Upgrade summary pane on the right.
- Step 3** Click **EDIT**.  
The **UPGRADE SETTINGS** dialog box appears displaying the **GENERAL** and **MORE** tabs.
- Step 4** Enter the appropriate values in the fields of each tab as listed in the *UPGRADE SETTINGS Dialog Box Fields* table below then continue to step 6.

**Table 25: UPGRADE SETTINGS Dialog Box Fields**

| Field              | Description                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL Tab</b> |                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Name</b>        | Enter a name for the upgrade task.                                                                                                                                                                                                                                                                                                                                          |
| <b>Description</b> | Enter a description for the upgrade.                                                                                                                                                                                                                                                                                                                                        |
| <b>Image</b>       | Choose the image you are upgrading to using the drop-down menu.                                                                                                                                                                                                                                                                                                             |
| <b>MORE Tab</b>    |                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Strategy</b>    | Choose one of the following options: <ul style="list-style-type: none"> <li>• <b>Parallel</b> —All switches are upgraded in parallel.</li> <li>• <b>Sequential</b>—Switches are upgraded one at a time.</li> <li>• If <b>Sequential</b> is chosen, there is a <b>Timeout (sec)</b> box with a default 60-second delay.</li> <li>• The default value is Parallel.</li> </ul> |

- Step 5** Click **SAVE CHANGES**.  
The upgrade object can now be started or deleted. For how to start the upgrade, see [Starting an Upgrade, on page 98](#).  
For how to delete an upgrade object, see [Deleting an Upgrade, on page 99](#).
-

## Adding New Members to an Existing Upgrade Object

An upgrade object contains members, which are the switches you chose to upgrade. This section explains how to add members to an existing upgrade object.

### Before You Begin

- A switch has been successfully added to the switchpool.
- An upgrade object has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SWITCHES** tab.
- Step 3** Click the **check box** in the bottom right corner of the switch tiles you want to upgrade.
- Step 4** From the **Settings** drop-down list, choose **Add to upgrade**.  
The **ADD TO EXISTING UPGRADE** dialog box appears.
- Note** The following options appear in the dialog box:
- **SELECTED**—Click to see the specified switch(es) that can be added to the upgrade object.
  - **EXCLUDED**—Click to see the specified switch(es) that cannot be added to the upgrade object.
- Step 5** From the **Add to** drop-down list, choose an **upgrade object**.
- Step 6** Click **ADD**.  
The upgrade object can now be started, edited, or deleted. For how to start the upgrade, see [Starting an Upgrade, on page 98](#). For how to edit an upgrade, see [Editing an Upgrade Object, on page 95](#). For how to delete an upgrade, see [Deleting an Upgrade, on page 99](#). To remove switches from the upgrade object, see [Removing Members from an Upgrade Object, on page 97](#).
- 

## Removing Members from an Upgrade Object

An upgrade object contains members, which are the switches you chose to upgrade. This section explains how to remove members from an existing upgrade object.

### Before You Begin

Members have been added to an upgrade object.

- 
- Step 1** From the **Navigation** drop-down list, choose **Upgrades**.  
The **Upgrades** screen appears listing your uploaded image files.
- Step 2** Click the **MEMBERS** tab.

A list of switches chosen for this upgrade object are displayed.

- Step 3** Click the **check box** in the bottom right-hand corner of the switch tiles you want to remove from the upgrade object.
- Step 4** Click the **Settings** icon.
- Step 5** Choose **Remove selected**.  
The **REMOVE SELECTED DEVICES** dialog box appears.
- Step 6** Click **REMOVE**.  
The upgrade object can now be started, edited, or deleted. For how to start the upgrade, see [Starting an Upgrade, on page 98](#). For how to edit an upgrade, see [Editing an Upgrade Object, on page 95](#). For how to delete an upgrade, see [Deleting an Upgrade, on page 99](#). To add additional switches to the upgrade object, see [Adding New Members to an Existing Upgrade Object, on page 97](#).

## Starting an Upgrade

You can upgrade your switch software to a new image after the new image has been uploaded to the switch images catalog and an upgrade object has been created. This section explains how to start an upgrade using your existing upgrade object.



### Note

If a switch is being upgraded to the image it is already running, no message is generated in the Cisco Nexus Fabric Manager UI. The upgrade finishes successfully as soon as it is determined that the switch is already running the image to which it is being upgraded. If you click the **HISTORY** tab of the switch object, it displays a completed upgrade task with the following message: Switch already running the correct image, nothing to do.

### Before You Begin

- A switch has been successfully added to the switchpool.
- An upgrade object has been created.
- The desired Cisco NX-OS image has been uploaded.

- Step 1** From the **Navigation** drop-down list, choose **Upgrades**.  
The **Upgrades** window appears listing your created upgrade objects.
- Step 2** Click on the upgrade you want to start.  
An upgrade-specific window appears with an Upgrade summary pane on the right.
- Step 3** Verify that the image being uploaded to each switch is correct. The upgrade-specific window displays the image information in the **Switches** section.
- Note** The Cisco Nexus Fabric Manager chooses the image being uploaded by searching in the locations listed below. The search is performed in the following order until an image is found:
- 1 The switch object.
  - 2 The switch profile that is applied to the switch.

3 The upgrade object.

**Step 4**

Click **START**.

If needed, the upgrade object can now be stopped. For how to stop the upgrade, see [Stopping an Upgrade, on page 99](#).

---

## Stopping an Upgrade

You can stop an upgrade after the upgrade object has been started. This section explains how to stop an upgrade.

### Before You Begin

An upgrade has been started.

**Step 1**

From the **Navigation** drop-down list, choose **Upgrades**.

The **Upgrades** window appears listing your created upgrade objects.

**Step 2**

Click on the upgrade you want to stop.

An upgrade-specific window appears with an upgrade summary pane on the right.

**Step 3**

Click **STOP**.

The upgrade object can now be started again, edited, or deleted. For how to edit an upgrade, see [Editing an Upgrade Object, on page 95](#). For how to delete an upgrade, see [Deleting an Upgrade, on page 99](#). To add additional switches to the upgrade object, see [Adding New Members to an Existing Upgrade Object, on page 97](#). To remove switches from the upgrade object, see [Removing Members from an Upgrade Object, on page 97](#).

---

## Deleting an Upgrade

An upgrade object is used to upgrade your switches. This section explains how to delete your existing upgrade object.

### Before You Begin

An upgrade object has been created.

**Step 1**

From the **Navigation** drop-down list, choose **Upgrades**.

The **Upgrades** window appears listing your created upgrade objects.

**Step 2**

Click on the upgrade you want to delete.

An upgrade-specific window appears with a summary pane on the right that contains the **DELETE** option.

**Step 3**

Click **DELETE**.

**Step 4**

The **DELETE UPGRADE** dialog box appears.  
Click **DELETE**.

---



## User Management

This chapter explains how to create and manage administrators and how to configure remote authentication. User administration relates only to the users of the Cisco Nexus Fabric Manager and does not create or manage users on individual managed switches. This chapter has the following sections:

- [Creating a New User, page 101](#)
- [Editing a User, page 103](#)
- [Deleting a User, page 104](#)
- [Configuring Remote Authentication, page 104](#)

### Creating a New User

You can add administrator accounts to your fabric. This section explains how to add new user and admin accounts.

- Step 1** From the **Navigation** drop-down list, choose **Authentication**.
- Step 2** From the **USERS** tab, click the **Settings** drop-down list and choose **Create new user**. The **ADD USER** dialog box appears.
- Step 3** Enter the appropriate values listed in the *ADD USER Dialog Box Fields* table then continue to step 6.

**Table 26: ADD USER Dialog Box Fields**

| Field           | Description                                                                                                                                                                                                                                                                                  |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Username</b> | Enter a username for the new user.<br><br><b>Note</b> A <b>Username</b> can be up to a maximum of 64 characters consisting of alphanumerics (A-Z, 0-9) periods (.), hyphens (-), and underscores (_). Additionally, it can be suffixed by @ followed by arbitrary characters (email format). |

| Field        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Role         | <ul style="list-style-type: none"> <li>• <b>Administrator</b>—Has full Cisco Nexus Fabric Manager management capabilities including all settings, workflows, and options.</li> <li>• <b>Operator</b>—An operator has the following capabilities: Has read-only access to all views and settings within the Cisco Nexus Fabric Manager with a couple of exceptions. An operator can invoke a backup and retrieve a tech support file from the Cisco Nexus Fabric Manager. An operator can only see their own user account and cannot see any other users. <ul style="list-style-type: none"> <li>◦ Has read-only access to all views and settings within the Cisco Nexus Fabric Manager with a couple of exceptions.</li> <li>◦ Can invoke a backup and retrieve a tech support file from the Cisco Nexus Fabric Manager. An operator can only see their own user account and cannot see any other users.</li> <li>◦ Can only see their own user account and cannot see any other users.</li> </ul> </li> <li>• <b>Overlay administrator</b>—An overlay administrator has the following capabilities: <ul style="list-style-type: none"> <li>◦ Administer broadcast domains and VRFs including their creation and assignment to interfaces.</li> <li>◦ Can invoke a backup and retrieve a tech support files from the Cisco Nexus Fabric Manager.</li> <li>◦ Can only see their own user account and cannot see any other users.</li> <li>◦ Has read-only access to all other views and settings similar to the operator role.</li> </ul> </li> </ul> |
| Description  | Enter a description of the account.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Authenticate | Specify local or remote authentication.<br><br><b>Note</b> An LDAP server must be configured to enable remote authentication. If an LDAP server is not configured, the remote authentication option will not appear.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Password     | Enter a password for the new user.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



| Field            | Description                                                                             |
|------------------|-----------------------------------------------------------------------------------------|
| Confirm Password | Reenter the password.                                                                   |
| State            | Set account to <b>enable</b> or <b>disable</b> . Disabled accounts do not allow log in. |

**Step 4** Click **SAVE CHANGES**.

---

## Editing a User

This section explains how to make changes, such as creating a new password, to an existing user account.

### Before You Begin

A user account has been created.

---

- Step 1** From the **Navigation** drop-down list, choose **Authentication**.  
The user tiles appear in the **USERS** tab.
- Step 2** From the **USERS** tab, click on the user tile of the user you want to edit.  
A user-specific window appears with a user summary pane on the right that contains the **EDIT** option.
- Step 3** Click **EDIT**.  
The **EDIT USER** dialog box appears.
- Step 4** Enter the appropriate values listed in the *EDIT USER Dialog Box Fields* table then continue to step 6.

**Table 27: EDIT USER Dialog Box Fields**

| Field           | Description                                                                                                                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Username        | Enter a username for the new user.                                                                                                                                                                               |
| Role            | <b>Admin</b> is the only available role.                                                                                                                                                                         |
| Description     | Enter a description of the account.                                                                                                                                                                              |
| Authenticate    | Specify local or remote authentication.<br><b>Note</b> An LDAP server must be configured to enable remote authentication. If an LDAP server is not configured, the remote authentication option will not appear. |
| Change Password | Enables you to change the user account password.                                                                                                                                                                 |

| Field                                        | Description                                                                                   |
|----------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>New Password</b> (Not always visible)     | Enter a password for the new user.<br><b>Note</b> Leaving the field blank will give an error. |
| <b>Confirm Password</b> (Not always visible) | Reenter the password.<br><b>Note</b> Leaving the field blank will give an error.              |
| <b>State</b>                                 | Set account to <b>enable</b> or <b>disable</b> . Disabled accounts do not allow login.        |

**Step 5** Click **SAVE CHANGES**.

---

## Deleting a User

This section explains how to delete an admin account.

- 
- Step 1** From the **Navigation** drop-down list, choose **Authentication**.  
The user tiles appear in the **USERS** tab.
- Step 2** From the **USERS** tab, click on the user tile of the user you want to delete.  
A user-specific window appears with a summary pane on the right that contains the **DELETE** option.
- Step 3** Click **DELETE**.  
The **DELETE** dialog box appears.
- Step 4** Click **DELETE**.
- 

## Configuring Remote Authentication

An LDAP server can be added and configured to enable remote entity authentication. When an LDAP server is configured, the option for remote authentication is available in the user configuration options. This section explains how to add and configure an LDAP server.

### Before You Begin

You must have an LDAP server.

- 
- Step 1** From the **Navigation** drop-down list, choose **Authentication**.

The **USERS** and **LDAP SETTINGS** tabs appear.

**Step 2** Click the **LDAP SETTINGS** tab.

**Step 3** Click **Add LDAP Server**.

The **ADD LDAP CONFIGURATION** dialog box appears.

**Step 4** Enter the appropriate values listed in the *ADD LDAP CONFIGURATION Dialog Box Fields* table then continue to step 5.

**Table 28: ADD LDAP CONFIGURATION Dialog Box Fields**

| Field          | Description                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Server         | The IP address or name of the LDAP server host.                                                                                                                                                                                                                                                                                                                                             |
| Port           | The port of the LDAP server host.<br><b>Note</b> The default value is 389.                                                                                                                                                                                                                                                                                                                  |
| Server Type    | Choose one of the following options for encrypted communication with the LDAP server: <ul style="list-style-type: none"><li>• <b>TLS</b>— Indicates that the Cisco Nexus Fabric Manager will attempt LDAP authentication using a TLS connection.</li><li>• <b>LDAPS</b>—Indicates that the Cisco Nexus Fabric Manager will attempt LDAP authentication using an LDAPS connection.</li></ul> |
| Base DN        | The starting Distinguished Name that searches on the LDAP server for users.                                                                                                                                                                                                                                                                                                                 |
| Bind DN        | The Distinguished Name of the user for authentication to the LDAP server. The user must be able to perform the necessary searches.                                                                                                                                                                                                                                                          |
| Bind Password  | The password to successfully connect to the LDAP server.                                                                                                                                                                                                                                                                                                                                    |
| User attribute | The field name that holds the username.                                                                                                                                                                                                                                                                                                                                                     |
| Subtree search | If set to enabled, indicates a search of a username and the entire subtree of which the base distinguished name is the topmost object. If this property is not set, the default value is disabled.                                                                                                                                                                                          |

**Step 5** Click **SAVE CHANGES**.





## Profile Management

---

Interface and switch profiles simplify the distribution of configuration attributes in common to multiple objects of the same type. Profiles can be associated to a switch or interface directly by editing their settings. Profiles can also be designated to be assigned by default to either switches or interfaces based on their role by editing the switchpool settings. Note that changes to a profile are automatically propagated to the objects they are linked to.

This chapter explains how to create and edit switch and interface profiles. It has the following sections:

- [Creating a Switch Profile, page 107](#)
- [Viewing a Switch Profile, page 111](#)
- [Editing a Switch Profile, page 111](#)
- [Deleting a Switch Profile, page 114](#)
- [Creating an Interface Profile, page 115](#)
- [Viewing an Interface Profile, page 116](#)
- [Editing an Interface Profile, page 117](#)
- [Deleting an Interface Profile, page 118](#)

### Creating a Switch Profile

You can create a switch profile that can be applied to one or more managed switches.

- 
- |               |                                                                                                                                                                                                                                                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | From the <b>Navigation</b> drop-down list, choose <b>Profiles</b> .                                                                                                                                                                                             |
| <b>Step 2</b> | Click the <b>SWITCH</b> tab.                                                                                                                                                                                                                                    |
| <b>Step 3</b> | From the <b>Settings</b> drop-down list, choose <b>Create new switch profile</b> .<br>The <b>CREATE SWITCH PROFILE</b> dialog box appears with the <b>GENERAL</b> , <b>MORE</b> , <b>SYSLOG</b> , <b>SNMP</b> , <b>CDP</b> , <b>LLDP</b> , and <b>NTP</b> tabs. |
| <b>Step 4</b> | Enter the appropriate values in the fields for each tab as described in the <i>CREATE SWITCH PROFILE Dialog Box Fields</i> table below then continue to step 7.                                                                                                 |

- Note**
- Before assigning a value to a specific property in the profile, click on the (+) icon on the left border of the dialog box to include it as part of the profile.
  - To remove a property from a profile, click on the (-) icon on the left border of the dialog box in correspondence of the property you want to exclude.
  - To view the **ADVANCED** tab, press and hold **Ctrl-Shift-A**. To close the **ADVANCED** tab, press **Ctrl-Shift-A** again at any time. If you press it while the editor is opened, the **ADVANCED** tab won't go away immediately. It will only disappear for the next time the editor is opened (and the current changes will still be pushed).

**Table 29: CREATE SWITCH PROFILE Dialog Box Fields**

| Field                        | Description                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL Tab</b>           |                                                                                                                                                   |
| <b>Name</b>                  | Enter a name for the switch profile.                                                                                                              |
| <b>Description</b>           | Enter a description for the switch profile.                                                                                                       |
| <b>MORE Tab</b>              |                                                                                                                                                   |
| <b>Username</b>              | Enter a username for accessing the switch.                                                                                                        |
| <b>Password</b>              | Enter a password for accessing the switch.                                                                                                        |
| <b>Message of the day</b>    | Enter a message of the day.                                                                                                                       |
| <b>Beacon LED</b>            | Configure the beacon LED on the switch as <b>on</b> or <b>off</b> ( <b>enable/disable</b> ).                                                      |
| <b>Load balancing method</b> | Choose the load-balancing method to be used by all the port channels configured on the switch.<br><br><b>Note</b> The default value is SrcDstMac. |
| <b>Image</b>                 | Choose an image to run on the switch. Image changes will not be applied until the switch is explicitly upgraded.                                  |

| Field                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Extra CLI commands</b>              | <p>Enter CLI commands for switch features that are not managed by Cisco Nexus Fabric Manager.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• CLI commands containing semicolons must be on the last line. Otherwise, an error occurs and all CLI configurations coming after a semicolon will fail.</li> <li>• The <b>Extra CLI configuration</b> is applied after saving the switch. To determine that the configuration was applied successfully, see the <b>CLI commands</b> field when viewing the switch details. For more information, see <a href="#">Viewing Switch Details, on page 34</a>.</li> <li>• The Cisco Nexus Fabric Manager does not perform validation checking on the commands entered in the <b>Extra CLI commands</b> field. Any errors that occur will appear in the <b>Faults</b> window. For more information about viewing faults, see <a href="#">Viewing Fault Details, on page 121</a>.</li> <li>• A reboot must be performed manually for commands that required a reboot.</li> <li>• See the logs to determine the user who triggered the commands entered in the <b>Extra CLI commands</b> field. The logs show the user defined in the Cisco Nexus Fabric Manager switch object as the owner of the <b>Extra CLI command</b> changes.</li> </ul> |
| <b>SYSLOG Tab</b>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Remote server</b>                   | Specify the IP address of the remote syslog server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Facility</b>                        | Specify the outgoing facility for all the messages sent to the remote server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Severity</b>                        | Send only messages with the specified severity level or higher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>SNMP Tab &gt; Server</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Community</b>                       | <p>Specify the SNMP community.</p> <p><b>Note</b> Leaving this option blank disables the SNMP server.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Read-write</b>                      | Controls read/write to the SNMP server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>SNMP Tab &gt; Traps destination</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Field                   | Description                                                                                             |
|-------------------------|---------------------------------------------------------------------------------------------------------|
| Community               | Specify the SNMP community.                                                                             |
| Host                    | Specify the IP address of the SNMP traps receiver.                                                      |
| Version                 | Choose the SNMP protocol version.<br><b>Note</b> The default value is 2c.                               |
| CDP Tab                 |                                                                                                         |
| Hold time               | Set CDP hold time advertised (in seconds).                                                              |
| Timer                   | Set CDP refresh time interval (in seconds).<br><b>Note</b> The default value is 60.                     |
| LLDP Tab                |                                                                                                         |
| Hold time               | Set LLDP hold time advertised (in seconds).<br><b>Note</b> The default value is 120.                    |
| Timer                   | Set the LLDP refresh time interval (in seconds).<br><b>Note</b> The default value is 30.                |
| Reinit                  | Set delay for LLDP initialization on any interface (in seconds).<br><b>Note</b> The default value is 2. |
| TLV DCBXP               | <b>Enable/disable</b> Data Center Bridging Exchange Protocol (DCBXP) TLV.                               |
| TLV port description    | <b>Enable/disable</b> port description TLV.                                                             |
| TLV port VLAN           | <b>Enable/disable</b> VLAN ID TLV.                                                                      |
| TLV system capabilities | <b>Enable/disable</b> system capabilities TLV.                                                          |
| TLV system description  | <b>Enable/disable</b> system description TLV.                                                           |
| NTP Tab                 |                                                                                                         |
| Server IP address       | Enter the NTP server IP.                                                                                |
| ADVANCED Tab            |                                                                                                         |
| Telnet service          | <b>Enable/disable</b> switch Telnet feature.                                                            |



**Step 5** Click **SAVE CHANGES**.

---

## Viewing a Switch Profile

This section explains how to view a switch profile.

### Before You Begin

A switch profile has been created.

---

**Step 1** From the **Navigation** drop-down list, choose **Profiles**.

**Step 2** Click the **SWITCH** tab.

A switch-specific window appears displaying your switch profile tiles.

**Step 3** Click the name of the switch profile you want to view.

A switch profile-specific window appears with the following tabs:

- **OVERVIEW**—Displays the date the profile was created and the date it was last modified
  - **SWITCHES**—Displays the tiles for all the switches using the profile
  - **HISTORY**—Lists the history of the creating and changes to the profile
- 

## Editing a Switch Profile

This section explains how to edit a switch profile.

### Before You Begin

A switch profile has been created.

---

**Step 1** From the **Navigation** drop-down list, choose **Profiles**.

**Step 2** Click the **SWITCH** tab.

A switch-specific window appears displaying your switch profile tiles.

**Step 3** Click the name of the switch profile you want to edit.

A switch profile-specific window appears with a summary pane on the right that contains the **EDIT** option.

**Step 4** Click **EDIT**.

The **SWITCH PROFILE SETTINGS** dialog box appears with the **GENERAL**, **MORE**, **SYSLOG**, **SNMP**, **CDP**, **LLDP**, and **NTP** tabs.

**Step 5**

Enter the appropriate values in the fields for each tab as described in the *SWITCH PROFILE SETTINGS Dialog Box Fields* table below then continue to step 7.

**Note**

- Before assigning a value to a specific property in the profile, click on the (+) icon on the left border of the dialog box to include it as part of the profile.
- To remove a property from a profile, click on the (-) icon on the left border of the dialog box in correspondence of the property you want to exclude.
- To view the **ADVANCED** tab, press and hold **Ctrl-Shift-A**. To close the **ADVANCED** tab, press **Ctrl-Shift-A** again at any time. If you press it while the editor is opened, the **ADVANCED** tab won't go away immediately. It will only disappear for the next time the editor is opened (and the current changes will still be pushed).

**Table 30: SWITCH PROFILE SETTINGS Dialog Box Fields**

| Field                        | Description                                                                                                                                       |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL</b> Tab           |                                                                                                                                                   |
| <b>Name</b>                  | Enter a name for the switch profile.                                                                                                              |
| <b>Description</b>           | Enter a description for the switch profile.                                                                                                       |
| <b>MORE</b> Tab              |                                                                                                                                                   |
| <b>Username</b>              | Enter a username for accessing the switch.                                                                                                        |
| <b>Password</b>              | Enter a password for accessing the switch.                                                                                                        |
| <b>Message of the day</b>    | Enter a message of the day.                                                                                                                       |
| <b>Beacon LED</b>            | Configure the beacon LED on the switch as <b>on</b> or <b>off</b> ( <b>enable/disable</b> ).                                                      |
| <b>Load balancing method</b> | Choose the load-balancing method to be used by all the port channels configured on the switch.<br><br><b>Note</b> The default value is SrcDstMac. |
| <b>Image</b>                 | Choose an image to run on the switch. Image changes will not be applied until the switch is explicitly upgraded.                                  |

| Field                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Extra CLI commands</b>              | <p>Enter CLI commands for switch features that are not managed by Cisco Nexus Fabric Manager.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• CLI commands containing semicolons must be on the last line. Otherwise, an error occurs and all CLI configurations coming after a semicolon will fail.</li> <li>• The <b>Extra CLI configuration</b> is applied after saving the switch. To determine that the configuration was applied successfully, see the <b>CLI commands</b> field when viewing the switch details. For more information, see <a href="#">Viewing Switch Details, on page 34</a>.</li> <li>• The Cisco Nexus Fabric Manager does not perform validation checking on the commands entered in the <b>Extra CLI commands</b> field. Any errors that occur will appear in the <b>Faults</b> window. For more information about viewing faults, see <a href="#">Viewing Fault Details, on page 121</a>.</li> <li>• A reboot must be performed manually for commands that required a reboot.</li> <li>• See the logs to determine the user who triggered the commands entered in the <b>Extra CLI commands</b> field. The logs show the user defined in the Cisco Nexus Fabric Manager switch object as the owner of the <b>Extra CLI command</b> changes.</li> </ul> |
| <b>SYSLOG Tab</b>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Remote server</b>                   | Specify the IP address of the remote syslog server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Facility</b>                        | Specify the outgoing facility for all the messages sent to the remote server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Severity</b>                        | Send only messages with the specified severity level or higher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>SNMP Tab &gt; Server</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Community</b>                       | Specify the SNMP community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Read-write</b>                      | Controls read/write to the SNMP server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>SNMP Tab &gt; Traps destination</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Community</b>                       | Specify the SNMP community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Field                   | Description                                                               |
|-------------------------|---------------------------------------------------------------------------|
| Host                    | Specify the IP address of the SNMP traps receiver.                        |
| Version                 | Choose the SNMP protocol version.                                         |
| CDP Tab                 |                                                                           |
| Hold time               | Set CDP hold time advertised (in seconds).                                |
| Timer                   | Set CDP refresh time interval (in seconds).                               |
| LLDP Tab                |                                                                           |
| Hold time               | Set LLDP hold time advertised (in seconds).                               |
| Timer                   | Set the LLDP refresh time interval (in seconds).                          |
| Reinit                  | Set delay for LLDP initialization on any interface (in seconds).          |
| TLV DCBXP               | <b>Enable/disable</b> Data Center Bridging Exchange Protocol (DCBXP) TLV. |
| TLV port description    | <b>Enable/disable</b> port description TLV.                               |
| TLV port VLAN           | <b>Enable/disable</b> VLAN ID TLV.                                        |
| TLV system capabilities | <b>Enable/disable</b> system capabilities TLV.                            |
| TLV system description  | <b>Enable/disable</b> system description TLV.                             |
| NTP Tab                 |                                                                           |
| Server IP address       | Enter the NTP server IP.                                                  |
| ADVANCED Tab            |                                                                           |
| Telnet service          | <b>Enable/disable</b> switch Telnet feature.                              |

**Step 6** Click **SAVE CHANGES**.

## Deleting a Switch Profile

This section explains how to delete a switch profile.

### Before You Begin

- A switch profile has been created.
- The switch profile is not linked to a switch.

**Note**

To unlink the switch profile from a switch, change the **Profile** field when [Editing a Switch Configuration](#), on page 36.

- 
- Step 1** From the **Navigation** drop-down list, choose **Profiles**.
- Step 2** Click the **SWITCH** tab.  
A switch-specific window appears displaying your switch profile tiles.
- Step 3** Click in the whitespace of the switch profile you want to delete.  
A switch profile-specific window appears with a summary pane on the right that contains the **DELETE** option.
- Step 4** Click **DELETE**.  
The **DELETE** dialog box appears.
- Step 5** Click **DELETE**.
- 

## Creating an Interface Profile

This section explains how to create an interface profile that can be applied to your interface configurations.

### Before You Begin

A switch has been successfully added to the switchpool.

- 
- Step 1** From the **Navigation** drop-down list, choose **Profiles**.
- Step 2** Click the **INTERFACE** tab.
- Step 3** From the **Settings** drop-down list, choose **Create new interface profile**.  
The **CREATE NEW INTERFACE PROFILE** dialog box appears with the **GENERAL** and **MORE** tabs.
- Step 4** Enter the appropriate values in the fields for each tab as described in the *CREATE NEW INTERFACE PROFILE Dialog Box Fields* table below then continue to step 7.
- Note** Before assigning a value to a specific property in the profile, click on the (+) icon on the left border of the dialog box to include it as part of the profile.
- To remove a property from a profile, click on the (-) icon on the left border of the dialog box in correspondence of the property you want to exclude.

Table 31: CREATE NEW INTERFACE PROFILE Dialog Box Fields

| Field                            | Description                                                                                                                 |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL Tab</b>               |                                                                                                                             |
| <b>Name</b>                      | Enter a name for the interface profile.                                                                                     |
| <b>Description</b>               | Enter a description for the interface profile.                                                                              |
| <b>MORE Tab</b>                  |                                                                                                                             |
| <b>State</b>                     | Specify the state of the interface. The state can be <b>Enabled</b> or <b>Disabled</b> .                                    |
| <b>Routing mode</b>              | Choose <b>Layer 2</b> or <b>Layer 3</b> routing mode.                                                                       |
| <b>Port channel mode</b>         | Choose from the following options: <ul style="list-style-type: none"> <li>• <b>LACP</b></li> <li>• <b>Static</b></li> </ul> |
| <b>Untagged broadcast domain</b> | Set the untagged broadcast domain for this interface.                                                                       |
| <b>Speed</b>                     | Specify the speed for the interface. The options include <b>Auto</b> and various supported interface speeds.                |
| <b>VRF</b>                       | Specify the VRF for this interface.<br><b>Note</b> The default value is Switchpool.                                         |
| <b>MTU</b>                       | Set the maximum transmission unit size.                                                                                     |
| <b>Beacon LED</b>                | Configure the beacon LED on the switch as <b>on</b> or <b>off (enable/disable)</b> .                                        |
| <b>LLDP</b>                      | Enable for LLDP auto-discovery.                                                                                             |
| <b>CDP</b>                       | Enable for CDP auto-discovery.                                                                                              |

**Step 5** Click **SAVE CHANGES**.

## Viewing an Interface Profile

This section explains how to view an interface profile.

### Before You Begin

An interface profile has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Profiles**.
- Step 2** Click the **INTERFACE** tab.  
An interface-specific window appears displaying your interface profile tiles.
- Step 3** Click the name of the interface profile you want to view.  
An interface profile-specific window appears with the following tabs:
- **OVERVIEW**—Displays the date the profile was created, the date it was last modified, and a **comment** icon for adding a comment
  - **INTERFACES**—Displays the tiles for all the interfaces using the profile
  - **HISTORY**—Lists the history of the profile
- 

## Editing an Interface Profile

This section explains how to edit an interface profile.

### Before You Begin

At least one switch has been added.

- 
- Step 1** From the **Navigation** drop-down list, choose **Profiles**.
- Step 2** Click the **INTERFACE** tab.  
An interface-specific window appears displaying your interface profile tiles.
- Step 3** Click in the whitespace of an interface profile tile that you want to edit.  
An interface profile-specific window appears with a summary pane on the right that contains the **EDIT** option.
- Step 4** Click **EDIT**.  
The **INTERFACE PROFILE SETTINGS** dialog box appears with the **GENERAL** and **MORE** tabs.
- Step 5** Enter the appropriate values in the fields for each tab as described in the *INTERFACE PROFILE SETTINGS Dialog Box Fields* table below then continue to step 7.
- Note** Before assigning a value to a specific property in the profile, click on the (+) icon on the left border of the dialog box to include it as part of the profile.
- To remove a property from a profile, click on the (-) icon on the left border of the dialog box in correspondence of the property you want to exclude.

Table 32: INTERFACE PROFILE SETTINGS Dialog Box Fields

| Field                            | Description                                                                                                                 |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL Tab</b>               |                                                                                                                             |
| <b>Name</b>                      | Enter a name for the interface profile.                                                                                     |
| <b>Description</b>               | Enter a description for the interface profile.                                                                              |
| <b>MORE Tab</b>                  |                                                                                                                             |
| <b>State</b>                     | Specify the state of the interface. The state can be <b>Enabled</b> or <b>Disabled</b> .                                    |
| <b>Routing mode</b>              | Choose <b>Layer 2</b> or <b>Layer 3</b> routing mode.                                                                       |
| <b>Port channel mode</b>         | Choose from the following options: <ul style="list-style-type: none"> <li>• <b>LACP</b></li> <li>• <b>Static</b></li> </ul> |
| <b>Untagged broadcast domain</b> | Set the untagged broadcast domain for this interface.                                                                       |
| <b>Speed</b>                     | Specify the speed for the interface. The options include <b>Auto</b> and various supported interface speeds.                |
| <b>VRF</b>                       | Specify the VRF for this interface.<br><b>Note</b> The default value is Switchpool.                                         |
| <b>MTU</b>                       | Set the maximum transmission unit size.                                                                                     |
| <b>Beacon LED</b>                | Configure the beacon LED on the switch as <b>on</b> or <b>off</b> ( <b>enable/disable</b> ).                                |
| <b>LLDP</b>                      | Enable for LLDP auto-discovery.                                                                                             |
| <b>CDP</b>                       | Enable for CDP auto-discovery.                                                                                              |

**Step 6** Click **SAVE CHANGES**.

## Deleting an Interface Profile

This section explains how to delete an interface profile.



### Before You Begin

- An interface profile has been created.
- The interface profile is not linked to an interface.

**Note**

To unlink the interface profile from an interface, change the **Profile** field when [Editing an Interface Configuration](#), on page 57.

- 
- Step 1** From the **Navigation** drop-down list, choose **Profiles**.
- Step 2** Click the **INTERFACE** tab.  
An interface-specific window appears displaying your interface profile tiles.
- Step 3** Click the **name** of the interface profile you want to delete.  
An interface profile-specific window appears with a summary pane on the right that contains the **DELETE** option.
- Step 4** Click **DELETE**.  
The **DELETE** dialog box appears.
- Step 5** Click **DELETE**.
-





## Fault Management

---

This chapter explains how to manage system faults. It has the following sections:

- [Viewing Fault Details, page 121](#)
- [Acknowledging Faults, page 121](#)
- [Choosing Remedial Actions, page 122](#)

### Viewing Fault Details

This section explains how to view fault details.

#### Before You Begin

At least one fault exists.

- 
- |               |                                                                                                                                                                                                                                                                                                                                                        |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | From the <b>Navigation</b> drop-down list, choose <b>Faults</b> .                                                                                                                                                                                                                                                                                      |
| <b>Step 2</b> | (Optional) The <b>Faults</b> window contains a list of filters in the Actions bar. Choose one or more of the following options to filter your faults— <b>Resolved/Unresolved</b> , <b>Acknowledged/Unacknowledged</b> , and/or enter an expression as a substring (using the asterisk as a wildcard is supported) in the <b>Filter expression</b> box. |
| <b>Step 3</b> | Click on a fault ID.<br>A fault-specific window appears with a panel on the right displaying the <b>OVERVIEW</b> tab, which contains the date the fault originated, the date the fault was last modified, and a <b>comment</b> icon for adding a comment.                                                                                              |
- 

### Acknowledging Faults

Faults are viewed on the **Faults** window by clicking the **Navigation** menu drop-down list icon and choosing **Faults**. The **Faults** window contains the Actions bar, which houses a row of filter boxes that enable you to filter system faults based on status options, such as resolved/unresolved, acknowledged/unacknowledged, and by entering an expression as a substring (using the asterisk as a wildcard is supported).

After viewing a fault, you can specify that you have acknowledged the fault. This section explains how to acknowledge a fault.

### Before You Begin

At least one fault exists.

- 
- Step 1** From the **Navigation** drop-down list, choose **Faults**.
  - Step 2** (Optional) The **Faults** window contains a list of filters in the Actions bar. Choose one or more of the following options to filter your faults—**Resolved/Unresolved**, **Acknowledged/Unacknowledged**, and/or enter an expression as a substring (using the asterisk as a wildcard is supported) in the **Filter expression** box.
  - Step 3** Click on a fault ID.  
A panel appears on the right with two tabs—**ACKNOWLEDGE** and **REMEDIAL ACTIONS**.
  - Step 4** Click **ACKNOWLEDGE**.  
The fault is now set to Acknowledged.
- 

## Choosing Remedial Actions

Remedial actions are options you can choose to resolve a fault. This section explains how to choose a remedial action from a fault.

### Before You Begin

At least one fault exists.

- 
- Step 1** From the **Navigation** drop-down list, choose **Faults**.
  - Step 2** (Optional) The **Faults** window contains a list of filters in the Actions bar. Choose one or more of the following options to filter your faults—**Resolved/Unresolved**, **Acknowledged/Unacknowledged**, **Severity**, and/or enter an expression as a substring (using the asterisk as a wildcard is supported) in the **Filter expression** box.
  - Step 3** Click on a fault ID.  
A fault-specific window appears with a panel on the right with two tabs—**ACKNOWLEDGE** and **REMEDIAL ACTIONS**.
  - Step 4** Click **REMEDIAL ACTIONS**.  
The **REMEDIAL ACTIONS ON FAULT** dialog box appears with options for resolving the fault.
  - Step 5** To choose an option, click **Take action**.
-



## Rack Management

---

A rack can hold switches or foreign devices. This chapter explains how to create a rack and how to add switches and foreign devices. It has the following sections:

- [Creating a Rack, page 123](#)
- [Adding Switches to a Rack, page 123](#)
- [Adding Foreign Devices to a Rack, page 124](#)
- [Removing Devices from a Rack, page 125](#)
- [Deleting a Rack, page 125](#)

### Creating a Rack

This section explains how to create a rack.

#### Before You Begin

A foreign device has been discovered.

- 
- |               |                                                                          |
|---------------|--------------------------------------------------------------------------|
| <b>Step 1</b> | From the <b>Navigation</b> drop-down list, choose <b>Racks</b> .         |
| <b>Step 2</b> | From the <b>Settings</b> drop-down list, choose <b>Create new rack</b> . |
| <b>Step 3</b> | Enter a rack name in the <b>Name</b> field.                              |
| <b>Step 4</b> | (Optional) Enter a description in the <b>Description</b> field.          |
| <b>Step 5</b> | Click <b>SAVE CHANGES</b> .                                              |
- 

### Adding Switches to a Rack

This section explains how to add devices to a rack.

**Before You Begin**

- A switch has been successfully added to the switchpool.
- At least one rack has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **SWITCHES** tab.  
Your switch tiles appear.
- Step 3** Click the **check box** in the bottom right corner of the switch tile you want to add. You can select more than one tile.
- Step 4** From the **Settings** drop-down list, choose **Add to rack**.  
The **ADD DEVICES TO RACK** dialog box appears.  
**Note** To see the specified switch(es) that will be added to the rack, click **SELECTED** inside the dialog box.
- Step 5** From the **Add to rack** drop-down list, choose a rack.
- Step 6** Click **ADD**.
- 

## Adding Foreign Devices to a Rack

This section explains how to add foreign devices to a rack.

**Before You Begin**

- A foreign device has been discovered.
- A rack has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **NEIGHBORS** tab.  
Your foreign device tiles appear.
- Step 3** Click the **check box** in the bottom right corner of the foreign tile you want to add. You can select more than one tile.
- Step 4** From the **Settings** drop-down list, choose **Add to rack**.  
The **ADD DEVICES TO RACK** dialog box appears.  
**Note** To see the specified device(s) that will be added to the rack, click **SELECTED** inside the dialog box.
- Step 5** Click the **Add to rack** drop-down and choose a rack.
- Step 6** Click **ADD**.
-

# Removing Devices from a Rack

This section explains how to delete a rack.

## Before You Begin

- At least one rack has been created.
- At least one switch or foreign device has been added to the rack.

- 
- Step 1** From the **Navigation** drop-down list, choose **Racks**.  
The **Racks** window appears with your rack tiles.
- Step 2** Click the **name** inside the rack tile you want to change.  
A rack-specific window appears displaying the **OVERVIEW** and **DEVICES** tabs.
- Step 3** Click the **DEVICES** tab.  
The devices included in the rack appear.
- Step 4** Click the **check box** in the bottom right corner of the tile you want to remove. Note that you can select more than one tile.
- Step 5** From the **Settings** drop-down list, choose **Remove selected**.  
The **CONFIGURE** dialog box appears.
- Step 6** Click **REMOVE**.
- 

# Deleting a Rack

This section explains how to delete a rack.

## Before You Begin

At least one rack has been created.

- 
- Step 1** From the **Navigation** drop-down list, choose **Racks**.  
The **Racks** window appears with your rack tiles.
- Step 2** Click the **check box** in the bottom right corner of the rack tile you want to delete. You can select more than one tile.
- Step 3** From the **Settings** drop-down list, choose **Delete selected**.  
The **DELETE SELECTED OBJECTS** dialog box appears.
- Step 4** Click **DELETE**.
-







## Topology Management

The **Topology** tab displays your switches and your interfaces as icons to give an overview of your network topology. The display of your icons can be expanded, collapsed, and filtered using the **Settings** drop-down menu and Actions bar options. The **Topology** tab also enables you to apply common configurations to groups of interfaces and to groups of switches.

This chapter explains how to control the way that the topology icons are displayed and how to apply common configurations to groups of switches and groups of interfaces. It has the following sections:

- [Viewing the Topology, page 127](#)
- [Applying Common Configurations to a Group of Switches, page 129](#)
- [Applying Common Configurations to a Group of Interfaces, page 132](#)

### Viewing the Topology

This section explains how to control the view of your topology.

#### Before You Begin

At least one switch has been added.

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **Topology** tab.  
Your imported switches are displayed.

**Step 3** Explore your topology.  
You can select, expand, collapse, zoom in, zoom out, and move your topology components using a set of shortcut controls and menu options. To control the expansion of all switches and other components, click the **Settings** drop-down menu and choose one of the options listed below. For all other options, see the *Shortcut Topology Controls* table.

- **Expand all switches**—Displays the topology for all switches
- **Expand all**—Displays the topology for all devices
- **Collapse all**—Collapses all expanded icons

**Table 33: Shortcut Topology Controls**

| Action                                     | Description                                                                                                                                                                                                                                                                                         |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Collapse a topology icon                   | Right-click the expanded icon you want to collapse.                                                                                                                                                                                                                                                 |
| Expand a topology icon                     | Double-click the collapsed icon you want to expand.                                                                                                                                                                                                                                                 |
| Select multiple icons                      | <ul style="list-style-type: none"> <li>• <b>Ctrl-Click</b>—Press and hold the <b>Ctrl</b> key and click each icon you want to select or deselect.</li> <li>• <b>Shift-Click-Drag</b>—Press and hold the <b>Shift</b> key and click and drag the mouse over the icons you want to select.</li> </ul> |
| Zoom in                                    | <b>Shift-Ctrl-Click-Drag</b> —Press and hold the <b>Shift-Ctrl</b> keys and click and drag the mouse over the area you want to zoom in to.                                                                                                                                                          |
| Return to normal view and center the icons | Double-click the background to center your icons in the Topology window. You will also zoom to normal view.                                                                                                                                                                                         |
| Open a dialog to edit a component          | Double-click an expanded icon to open the edit options for the selected network component.                                                                                                                                                                                                          |
| View the detail summary pane               | Click an expanded icon to open the details view.                                                                                                                                                                                                                                                    |

**Step 4** (Optional) The Actions bar contains filter options that change what you see in the topology. Choose one or more of the following options to filter your topology view:

- **Filter expression**—Enter the full or partial text of an object name. All objects containing the entered text will become highlighted.
- **Physical view**—Click the drop-down list to choose a view option. The options that appear will depend on what you have configured on your fabric. For example, a broadcast domain view is only available if you have broadcast domains configured on your fabric.
- **Not in**—Place a check in the check box to filter components that are not in the topology view. This option is only enabled when applicable.
- **Show neighbors**—Place a check in the check box to display icons that represent foreign devices.

# Applying Common Configurations to a Group of Switches

The **Topology** tab enables you to apply common configurations to a group of similar devices. This section explains how to apply the same configuration to a group of switches.

## Before You Begin

More than one switch exists on your fabric.

- Step 1** From the **Navigation** drop-down list, choose **Home**.
- Step 2** Click the **Topology** tab.  
Your imported switches are displayed.
- Step 3** Press and hold the **Ctrl** key and click to highlight a group of switch icons in the topology. Note that highlighted icons are outlined in blue.
- Note** You can only edit groups of the same components. For example, a group of switches or a group of interfaces.  
A message is displayed notifying you when components that cannot be configured in a group have been selected.
- Step 4** From the **Settings** drop-down list, choose **Edit selected**.  
The **SWITCH SETTINGS** dialog box appears with the **GENERAL**, **MORE**, **SYSLOG**, **SNMP**, **CDP**, **LLDP**, and **NTP** tabs. The tabs contain fields with the current values of the selected group of switches. If a value is different between one or more of the selected devices, the dialog field value is set to **Mixed**. Enter the appropriate values in the fields of each tab as listed in the *SWITCH SETTINGS (MULTIPLE) Dialog Box Fields* table below. The values entered are applied to the entire group.

**Table 34: SWITCH SETTINGS (MULTIPLE) Dialog Box Fields**

| Field                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL Tab</b>      |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Profile</b>          | Apply a profile to the switch.                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Description</b>      | Enter a description of the switch.                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Management state</b> | Choose a state: <ul style="list-style-type: none"><li>• <b>Managed</b><br/>—The Cisco Nexus Fabric Manager will send configuration changes to the managed switch.</li><li>• <b>Monitored</b><br/>—The Cisco Nexus Fabric Manager will not push configurations to the switch. The changes will be stored in the Cisco Nexus Fabric Manager database and pushed to the device when the state is changed to <b>Managed</b>.</li></ul> |

| Field                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Role                  | <p>Choose a role:</p> <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Leaf</b></li> <li>• <b>Spine</b></li> </ul> <p><b>Note</b> When set to <b>Auto</b>, the Cisco Nexus Fabric Manager will set the role of Cisco Nexus 9500 Series switches as spine switches and Cisco Nexus 9300 Series switches as leaf switches. If that does not match your cabled topology, you will need to manually choose the role as either <b>Spine</b> or <b>Leaf</b> according to your cabled topology.</p> |
| Username              | Enter a username for the switch.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Password              | Enter a password for accessing the switch                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>MORE</b> Tab       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Message of the day    | Enter a message of the day.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Beacon LED            | Configure the beacon LED on the switch as <b>on</b> or <b>off</b> ( <b>enable/disable</b> ).                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Load-balancing method | <p>Choose the load balancing method to be used by all the port channels configured on the switch.</p> <p><b>Note</b> The default value is SrcDstMac.</p>                                                                                                                                                                                                                                                                                                                                                       |
| Image                 | Choose an image to run on the switch. Image changes will not be applied until the switch is explicitly upgraded.                                                                                                                                                                                                                                                                                                                                                                                               |

| Field                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Extra CLI commands</b>              | <p>Enter CLI commands for switch features that are not managed by Cisco Nexus Fabric Manager.</p> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>• CLI commands containing semicolons must be on the last line. Otherwise, an error occurs and all CLI configurations coming after a semicolon will fail.</li> <li>• The <b>Extra CLI configuration</b> is applied after saving the switch. To determine that the configuration was applied successfully, see the <b>CLI commands</b> field when viewing the switch details. For more information, see <a href="#">Viewing Switch Details, on page 34</a>.</li> <li>• The Cisco Nexus Fabric Manager does not perform validation checking on the commands entered in the <b>Extra CLI commands</b> field. Any errors that occur will appear in the <b>Faults</b> window. For more information about viewing faults, see <a href="#">Viewing Fault Details, on page 121</a>.</li> <li>• A reboot must be performed manually for commands that required a reboot.</li> <li>• See the logs to determine the user who triggered the commands entered in the <b>Extra CLI commands</b> field. The logs show the user defined in the Cisco Nexus Fabric Manager switch object as the owner of the <b>Extra CLI command</b> changes.</li> </ul> |
| <b>SYSLOG Tab</b>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Remote server</b>                   | Specify the IP address of the remote syslog server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Facility</b>                        | Specify the outgoing facility for all the messages sent to the remote server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Severity</b>                        | Send only messages with the specified severity level or higher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>SNMP Tab &gt; Server</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Community</b>                       | Specify the SNMP community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Read-write</b>                      | Controls read/write to the SNMP server.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>SNMP Tab &gt; Traps destination</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Community</b>                       | Specify the SNMP community.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Field                   | Description                                                               |
|-------------------------|---------------------------------------------------------------------------|
| Host                    | Specify the IP address of the SNMP traps receiver.                        |
| Version                 | Choose the SNMP protocol version.                                         |
| CDP Tab                 |                                                                           |
| Hold time               | Set CDP hold time advertised (in seconds).                                |
| Timer                   | Set CDP refresh time interval (in seconds).                               |
| LLDP Tab                |                                                                           |
| Hold time               | Set LLDP hold time advertised (in seconds).                               |
| Timer                   | Set the LLDP refresh time interval (in seconds).                          |
| Reinit                  | Set delay for LLDP initialization on any interface (in seconds).          |
| TLV DCBXP               | <b>Enable/disable</b> Data Center Bridging Exchange Protocol (DCBXP) TLV. |
| TLV port description    | <b>Enable/disable</b> port description TLV.                               |
| TLV port VLAN           | <b>Enable/disable</b> VLAN ID TLV.                                        |
| TLV system capabilities | <b>Enable/disable</b> system capabilities TLV.                            |
| TLV system description  | <b>Enable/disable</b> system description TLV.                             |
| NTP Tab                 |                                                                           |
| Server IP Address       | Enter the NTP server IP.                                                  |
| ADVANCED Tab            |                                                                           |
| Telnet service          | <b>Enable/disable</b> switch Telnet feature.                              |

**Step 5** Click **SAVE CHANGES**.

## Applying Common Configurations to a Group of Interfaces

The **Topology** tab enables you to apply common configurations to a group of similar devices. This section explains how to apply the same configuration to a group of interfaces.

## Before You Begin

More than one interface exists on your fabric.

**Step 1** From the **Navigation** drop-down list, choose **Home**.

**Step 2** Click the **Topology** tab.

Your imported switches are displayed.

**Step 3** Press and hold the **Ctrl** key and click to highlight a group of interface icons in the topology. Note that highlighted icons are outlined in blue.

**Note** You can only edit groups of the same components. For example, a group of switches or a group of interfaces.

A message is displayed notifying you when components that cannot be configured in a group have been selected.

**Step 4** From the **Settings** drop-down list, choose **Edit selected**.

A dialog appears with the current values of the selected group of interfaces. If a value is different between one or more of the selected devices, the dialog field value is set to **Mixed**. Enter the appropriate values in the fields listed tab as listed in the *INTERFACE SETTINGS (MULTIPLE) Dialog Box Fields* table below. The values entered are applied to the entire group.

**Table 35: INTERFACE SETTINGS (MULTIPLE) Dialog Box Fields**

| Field              | Description                                                                                                                                                                                           |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL</b> Tab |                                                                                                                                                                                                       |
| <b>Profile</b>     | Apply an interface profile to the interface.                                                                                                                                                          |
| <b>Description</b> | Enter a description of the interface.                                                                                                                                                                 |
| <b>Role</b>        | Choose a role: <ul style="list-style-type: none"> <li>• <b>Auto</b></li> <li>• <b>Border</b></li> <li>• <b>Host facing</b></li> <li>• <b>Switch facing</b></li> <li>• <b>vPC peer link</b></li> </ul> |
| <b>State</b>       | Specify the state of the interface. The state can be <b>Enabled</b> or <b>Disabled</b> .                                                                                                              |
| <b>MORE</b> Tab    |                                                                                                                                                                                                       |

| Field                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management state          | <p>Choose a state:</p> <ul style="list-style-type: none"> <li>• <b>Managed</b> <p>—The Cisco Nexus Fabric Manager will send configuration changes to the managed switch.</p> </li> <li>• <b>Monitored</b> <p>—The Cisco Nexus Fabric Manager will not push configurations to the switch. The changes will be stored in the Cisco Nexus Fabric Manager database and pushed to the device when the state is changed to <b>Managed</b>.</p> </li> </ul> |
| Untagged broadcast domain | Set the untagged broadcast domain for this interface.                                                                                                                                                                                                                                                                                                                                                                                                |
| Speed                     | Specify the speed for the interface. The options include <b>Auto</b> and a list of various supported interface speeds.                                                                                                                                                                                                                                                                                                                               |
| Beacon LED                | Configure the beacon LED on the interface as <b>on</b> or <b>off (enable/disable)</b> .                                                                                                                                                                                                                                                                                                                                                              |
| Link discovery protocols  | <p>Enable one or both of the following link discovery protocols on the interface to allow the interface to advertise out:</p> <ul style="list-style-type: none"> <li>• <b>LLDP</b></li> <li>• <b>CDP</b></li> </ul>                                                                                                                                                                                                                                  |

**Step 5** Click **SAVE CHANGES**.

---





## System Management

---

Tech support files help the Cisco TAC team to determine problems you are experiencing with the Cisco Nexus Fabric Manager. Backup files enable you to restore the Cisco Nexus Fabric Manager at a later time. This chapter explains how to download the tech support and backup files and how to upload backup files to restore the Cisco Nexus Fabric Manager. It has the following sections:

- [Downloading Tech Support Files, page 135](#)
- [Downloading Backup Files, page 136](#)
- [Uploading Backup Files, page 136](#)

## Downloading Tech Support Files

When contacting Cisco TAC, tech support files are critical to help determine the issue. This section explains how to obtain Cisco Nexus Fabric Manager tech support files.



### Note

---

All user and switch passwords are encrypted and cannot be decrypted by Cisco. The decryption keys are not included in the tech support files.

---

---

**Step 1** From the **Navigation** drop-down list, choose **System**.

**Step 2** Under **TECH-SUPPORT**, click **Download**.  
The download starts immediately.

---

## Downloading Backup Files

Backup files can be downloaded to fully restore the Cisco Nexus Fabric Manager at a later time. This section explains how to download the backup files.

- 
- Step 1** From the **Navigation** drop-down list, choose **System**.
- Step 2** Under **BACK UP & RESTORE**, click **Download**.  
The download starts immediately.
- 

## Uploading Backup Files

Backup files can be uploaded to fully restore the Cisco Nexus Fabric Manager. This section explains how to upload the backup files.

**Note**

Uploading backup files will restore the Cisco Nexus Fabric Manager database, management IP addresses, and credentials to the values stored in the backup. Restoring these values could also result in switch configuration changes.

---

**Before You Begin**

You have previously downloaded Cisco Nexus Fabric Manager backup files.

- 
- Step 1** From the **Navigation** drop-down list, choose **System**.
- Step 2** Under **BACK UP & RESTORE**, click **Upload**.  
The **UPLOAD BACKUP** dialog appears.
- Step 3** Click **CHOOSE FILE**.  
The **File Upload** dialog appears.
- Step 4** Choose a backup file.
- Step 5** Click **Open**.  
The **File Upload** dialog reappears.
- Step 6** Click **UPLOAD**.
-



## APPENDIX

# A

## Enabling TLS 1.1 or Earlier for the Cisco Nexus Fabric Manager

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- [About Enabling TLS for the Cisco Nexus Fabric Manager, page 137](#)

### About Enabling TLS for the Cisco Nexus Fabric Manager

Because of known security weaknesses with TLS 1.1 and earlier releases, TLS 1.2 is enabled by default. This section explains how you can disable TLS 1.2 and re-enabled TLS 1.1 or earlier.

### Enabling TLS 1.1 and Earlier

This section explains how to enable TLS 1.1 and earlier in the Apache configuration.

- 
- |               |                                                                                                                     |
|---------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | Using an SSH client, log in to the Cisco Nexus Fabric Manager appliance host (root).                                |
| <b>Step 2</b> | Stop the Cisco Nexus Fabric Manager service by entering the following:<br><code># service esm stop</code>           |
| <b>Step 3</b> | Edit the following as appropriate:<br><code>etc/apache2/vhosts.d/esmui.conf.base</code>                             |
| <b>Step 4</b> | Replace the lines in the left column with the lines in the right column of the <i>Text Replacement</i> table below. |

**Table 36: Text Replacement**

| Original Text                                                                                                                                                                                                                                                                                                     | Replacement Text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SSLProtocol all -SSLv2 -SSLv3                                                                                                                                                                                                                                                                                     | SSLProtocol all -SSLv2 -SSLv3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| SSLCipherSuite<br>ECDHE-ECDSA-AES256-GCM-SHA384:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-<br>ECDSA-CHACHA20-POLY1305:ECDHE-RSA-CHACHA20-POLY1305:ECDHE-RSA-AES128-GCM-SHA256:ECDHE-<br>RSA-AES128-GCM-SHA256:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-RSA-AES256-GCM-SHA384:ECDHE-RSA-AES128-<br>SHA256:ECDHE-RSA-AES128-SHA256 | SSLCipherSuite<br>ECDHE-ECDSA-CHACHA20-POLY1305:ECDHE-RSA-<br>CHACHA20-POLY1305:ECDHE-ECDSA-AES128-GCM-SHA256:ECDHE-RSA-AES128-<br>GCM-SHA256:ECDHE-ECDSA-AES256-GCM-SHA384:ECDHE-RSA-AES256-GCM-<br>SHA384:DHE-RSA-AES128-GCM-SHA256:DHE-RSA-AES256-GCM-SHA384:ECDHE-<br>ECDSA-AES128-SHA256:ECDHE-RSA-AES128-SHA256:ECDHE-ECDSA-AES128-<br>SHA:ECDHE-RSA-AES256-SHA384:ECDHE-RSA-AES128-SHA:ECDHE-ECDSA-AES256-<br>SHA384:ECDHE-ECDSA-AES256-SHA:ECDHE-RSA-AES256-SHA:DHE-RSA-AES128-<br>SHA256:DHE-RSA-AES128-SHA:DHE-RSA-AES256-SHA256:DHE-RSA-AES256-<br>SHA:AES128-GCM-SHA256:AES256-GCM-SHA384:AES128-SHA256:AES256-<br>SHA256:AES128-SHA:AES256-SHA:!DSS |

**Step 5** Restart the Cisco Nexus Fabric Manager by entering the following:

```
service esm stop
```

**What to Do Next**

The Cisco Nexus Fabric Manager will now start with TLS 1.1 or earlier enabled in the Apache configuration.



## System Password Reset

---

- [Concept, page 139](#)
- [Resetting the System Password in Release 1.2\(1\) and Earlier, page 139](#)
- [Resetting the System Password in Release 1.2\(2\) and Later, page 141](#)

### Concept

This section explains how to reset the system password for the Cisco Nexus Fabric Manager Release 1.2(1) and earlier and Release 1.2(2) and later.

### Resetting the System Password in Release 1.2(1) and Earlier

This section explains how to reset the system password for Cisco Nexus Fabric Manager Release 1.2(1) and earlier releases.

## SUMMARY STEPS

1. Open the vSphere client and log in to the Cisco Nexus Fabric Manager appliance host.
2. From the vSphere client, click the + symbol to open the VM menu.
3. From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose **Open Console**.
4. From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose **Power > Restart Guest**. When prompted, click **Yes** to confirm the reboot.
5. From the console window, click in the black field (the prompt becomes a dot) and begin pressing the **Down Arrow** key repeatedly as the Cisco Nexus Fabric Manager VM begins to start up (VMware screen).
6. When the **GNU GRUB** window appears, press the **e** key.
7. Use the **Up Arrow** and **Down Arrow** keys to highlight the option that begins with the word **Kernel** then press the **Enter** key.
8. Replace the last two words in the line with the word **debug** and press the **Enter** key.
9. From the **GNU GRUB** window, press the **b** key to boot.
10. At the prompt, enter the following commands:
11. When prompted, enter the new password. After entering the password, you are prompted to re-enter the password for confirmation.

## DETAILED STEPS

- 
- |                |                                                                                                                                                                                                                       |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b>  | Open the vSphere client and log in to the Cisco Nexus Fabric Manager appliance host.                                                                                                                                  |
| <b>Step 2</b>  | From the vSphere client, click the + symbol to open the VM menu.                                                                                                                                                      |
| <b>Step 3</b>  | From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose <b>Open Console</b> .                                                                                               |
| <b>Step 4</b>  | From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose <b>Power &gt; Restart Guest</b> . When prompted, click <b>Yes</b> to confirm the reboot.                            |
| <b>Step 5</b>  | From the console window, click in the black field (the prompt becomes a dot) and begin pressing the <b>Down Arrow</b> key repeatedly as the Cisco Nexus Fabric Manager VM begins to start up (VMware screen).         |
| <b>Step 6</b>  | When the <b>GNU GRUB</b> window appears, press the <b>e</b> key.                                                                                                                                                      |
| <b>Step 7</b>  | Use the <b>Up Arrow</b> and <b>Down Arrow</b> keys to highlight the option that begins with the word <b>Kernel</b> then press the <b>Enter</b> key.<br>Your cursor is placed at the end of a line with editable text. |
| <b>Step 8</b>  | Replace the last two words in the line with the word <b>debug</b> and press the <b>Enter</b> key.                                                                                                                     |
| <b>Step 9</b>  | From the <b>GNU GRUB</b> window, press the <b>b</b> key to boot.<br>You are taken to a new window with a prompt.                                                                                                      |
| <b>Step 10</b> | At the prompt, enter the following commands:<br><br><pre># mkdir /mnt/gentoo ; mount /dev/sda2 /mnt/gentoo # /mnt/gentoo/rootfs/usr/local/bin/RecoverRootPassword.sh</pre>                                            |
| <b>Step 11</b> | When prompted, enter the new password. After entering the password, you are prompted to re-enter the password for confirmation.<br><b>Note</b> The Cisco Nexus Fabric Manager will reboot                             |
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### What to Do Next

After the Cisco Nexus Fabric Manager starts, verify the password change by logging in to root on the console and entering the new password.

## Resetting the System Password in Release 1.2(2) and Later

This section explains how to reset the system password for Cisco Nexus Fabric Manager Release 1.2(2) and later releases.

### SUMMARY STEPS

1. Open the vSphere client and log in to the Cisco Nexus Fabric Manager appliance host (root).
2. From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose **Open Console**.
3. From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose **Power > Restart Guest**. When prompted, click **Yes** to confirm the reboot.
4. From the console window, click the black field (the prompt becomes a dot) and begin pressing the **Down Arrow** key repeatedly as the Cisco Nexus Fabric Manager VM begins to start up (during the VMware window).
5. Use the **Up Arrow** and **Down Arrow** keys to highlight the **Cisco NFM Version <Version Number>—Password Recovery** option.
6. When prompted, enter a new password. When prompted, re-enter the password to confirm.

### DETAILED STEPS

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|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Step 1</b> | Open the vSphere client and log in to the Cisco Nexus Fabric Manager appliance host (root).                                                                                                                                                                      |
| <b>Step 2</b> | From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose <b>Open Console</b> .                                                                                                                                          |
| <b>Step 3</b> | From the vSphere client, right-click on the Cisco Nexus Fabric Manager virtual machine and choose <b>Power &gt; Restart Guest</b> . When prompted, click <b>Yes</b> to confirm the reboot.                                                                       |
| <b>Step 4</b> | From the console window, click the black field (the prompt becomes a dot) and begin pressing the <b>Down Arrow</b> key repeatedly as the Cisco Nexus Fabric Manager VM begins to start up (during the VMware window).<br>The <b>GNU GRUB</b> window will appear. |
| <b>Step 5</b> | Use the <b>Up Arrow</b> and <b>Down Arrow</b> keys to highlight the <b>Cisco NFM Version &lt;Version Number&gt;—Password Recovery</b> option.                                                                                                                    |
| <b>Step 6</b> | When prompted, enter a new password. When prompted, re-enter the password to confirm.<br>The system will boot normally.                                                                                                                                          |
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### What to Do Next

After the Cisco Nexus Fabric Manager starts, verify the password change by logging in to root on the console and entering the new password.

