Preface

This document, *Cisco Nexus 1000V Port Profile Configuration Guide, Release 4.0(4)SV1(1)*, provides procedures for configuring port profiles.

This preface includes the following topics:

- Audience, page 1
- Document Organization, page 1
- Document Conventions, page 2
- Related Documentation, page 2

**Audience**

To use this guide, you must be familiar with networking and Ethernet technology.

**Document Organization**

This document is organized into the following chapters:

<table>
<thead>
<tr>
<th>Chapter and Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1, “Overview”</td>
<td>Describes port profiles and their use.</td>
</tr>
<tr>
<td>Chapter 1, “Port Profile Configuration”</td>
<td>Describes how to configure port profiles in Nexus 1000V.</td>
</tr>
</tbody>
</table>
Document Conventions

Command descriptions use these conventions:

<table>
<thead>
<tr>
<th><strong>boldface font</strong></th>
<th>Commands and keywords are in boldface.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>italic font</strong></td>
<td>Arguments for which you supply values are in italics.</td>
</tr>
<tr>
<td>{ }</td>
<td>Elements in braces are required choices.</td>
</tr>
<tr>
<td>[ ]</td>
<td>Elements in square brackets are optional.</td>
</tr>
<tr>
<td>x</td>
<td>y</td>
</tr>
<tr>
<td><strong>string</strong></td>
<td>A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.</td>
</tr>
</tbody>
</table>

Screen examples use these conventions:

<table>
<thead>
<tr>
<th><strong>screen font</strong></th>
<th>Terminal sessions and information the device displays are in screen font.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface screen font</strong></td>
<td>Information you must enter is in boldface screen font.</td>
</tr>
<tr>
<td><strong>italic screen font</strong></td>
<td>Arguments for which you supply values are in italic screen font.</td>
</tr>
<tr>
<td>&lt; &gt;</td>
<td>Nonprinting characters, such as passwords, are in angle brackets.</td>
</tr>
<tr>
<td>[ ]</td>
<td>Default responses to system prompts are in square brackets.</td>
</tr>
<tr>
<td>!, #</td>
<td>An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.</td>
</tr>
</tbody>
</table>

This document uses the following conventions for notes and cautions:

<table>
<thead>
<tr>
<th><strong>Note</strong></th>
<th>Means reader <em>take note</em>. Notes contain helpful suggestions or references to material not covered in the manual.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caution</strong></td>
<td>Means reader <em>be careful</em>. In this situation, you might do something that could result in equipment damage or loss of data.</td>
</tr>
</tbody>
</table>

Related Documentation

Cisco Nexus 1000V includes the following documents available on Cisco.com:

**General Information**
Cisco Nexus 1000V Release Notes, Release 4.0(4)SV1(1)  
Cisco Nexus 1000V and VMware Compatibility Information, Release 4.0(4)SV1(1)

**Install and Upgrade**
Cisco Nexus 1000V Software Installation Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V Virtual Ethernet Module Software Installation Guide, Release 4.0(4)SV1(1)

Configuration Guides
Cisco Nexus 1000V License Configuration Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V Getting Started Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V Interface Configuration Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V Layer 2 Switching Configuration Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V Port Profile Configuration Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V Quality of Service Configuration Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V Security Configuration Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V System Management Configuration Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V High Availability and Redundancy Reference, Release 4.0(4)SV1(1)

Reference Guides
Cisco Nexus 1000V Command Reference, Release 4.0(4)SV1(1)
Cisco Nexus 1000V MIB Quick Reference

Troubleshooting and Alerts
Cisco Nexus 1000V Troubleshooting Guide, Release 4.0(4)SV1(1)
Cisco Nexus 1000V Password Recovery Guide
Cisco NX-OS System Messages Reference
Overview

This chapter provides an overview of the Cisco Nexus 1000V port profiles and includes the following sections:

- Understanding Port Profiles, page 1-1
- Port Profile States, page 1-2
- Port Profile Characteristics, page 1-2
- vPC Host Mode, page 1-5

Understanding Port Profiles

In Cisco Nexus 1000V, port profiles are used to configure interfaces. A port profile can be assigned to multiple interfaces giving them all the same configuration. Changes to the port profile can be propagated automatically to the configuration of any interface assigned to it.

In the VMware vCenter Server, a port profile is represented as a port group. The VEthernet or Ethernet interfaces are assigned in vCenter Server to a port profile for:

- Defining port configuration by policy.
- Applying a single policy across a large number of ports.
- Supporting both VEthernet and Ethernet ports.

Port profiles that are configured as uplinks, can be assigned by the server administrator to physical ports (a vmnic or a pnic). Port profiles that are not configured as uplinks can be assigned to a VM virtual port.

Note: While manual interface configuration overrides that of the port profile, it is not recommended. Manual interface configuration is only used, for example, to quickly test a change or allow a port to be disabled without having to change the inherited port profile.

For more information about assigning port profiles, see your VMware documentation.

To verify that the profiles are assigned as expected, use the following show commands:

```
show port-profile usage
show running-config interface interface-id
```

Note: The output of the command `show running-config interface interface-id` shows a config line such as, `inherit port-profile MyProfile`, indicating the inherited port profile.
Note Inherited port profiles cannot be changed or removed from an interface using the Cisco Nexus 1000V CLI. This can only be done through the vCenter Server.

Note Inherited port profiles are automatically configured by the Cisco Nexus 1000V when the ports are attached on the hosts. This is done by matching up the VMware port group assigned by the system administrator with the port profile that created it.

Port Profile States

Port profiles are disabled by default. The following table describes port profile behavior in the two states. To enable a port profile, see the “Enabling a Port Profile” procedure on page 1-33.

<table>
<thead>
<tr>
<th>State</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabled (the default)</td>
<td>When disabled, a port profile behaves as follows:</td>
</tr>
<tr>
<td></td>
<td>• Its configuration is not applied to assigned ports.</td>
</tr>
<tr>
<td></td>
<td>• If exporting policies to a VMware port group, the port group is not</td>
</tr>
<tr>
<td></td>
<td>created on the vCenter Server.</td>
</tr>
<tr>
<td>Enabled</td>
<td>When enabled, a port profile behaves as follows:</td>
</tr>
<tr>
<td></td>
<td>• Its configuration is applied to assigned ports.</td>
</tr>
<tr>
<td></td>
<td>• If inheriting policies from a VMware port group, the port group is</td>
</tr>
<tr>
<td></td>
<td>created on the vCenter Server.</td>
</tr>
</tbody>
</table>

Port Profile Characteristics

The following characteristics can be configured for a port profile. For detailed port profile configuration procedures, see the section, Port Profile Configuration, page 1-1.

Table 1-1 Port Profile Characteristics

<table>
<thead>
<tr>
<th>Port Profile Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>acl</td>
</tr>
<tr>
<td>capability (uplink, l3control)</td>
</tr>
<tr>
<td>channel-group</td>
</tr>
<tr>
<td>default (resets characteristic to its default)</td>
</tr>
<tr>
<td>description</td>
</tr>
<tr>
<td>inherit</td>
</tr>
<tr>
<td>interface state (shut/no shut)</td>
</tr>
<tr>
<td>name</td>
</tr>
<tr>
<td>netflow</td>
</tr>
</tbody>
</table>
Port Profile Inheritance

One port profile can be configured to inherit the policies from another port profile. The characteristics of the parent profile become the default settings for the child. The inheriting port profile ignores any non-applicable configuration.

The following table shows port profile characteristics and whether they can be inherited.

<table>
<thead>
<tr>
<th>Port Profile Characteristic</th>
<th>Can it be inherited?</th>
</tr>
</thead>
<tbody>
<tr>
<td>acl</td>
<td>X</td>
</tr>
<tr>
<td>capability (uplink, l3control)</td>
<td>X</td>
</tr>
<tr>
<td>channel group</td>
<td>X</td>
</tr>
<tr>
<td>default (resets characteristic to its default)</td>
<td>X</td>
</tr>
<tr>
<td>description</td>
<td>X</td>
</tr>
<tr>
<td>inherit</td>
<td>X</td>
</tr>
<tr>
<td>interface state (shut/no shut)</td>
<td>X</td>
</tr>
<tr>
<td>name</td>
<td>X</td>
</tr>
<tr>
<td>netflow</td>
<td>X</td>
</tr>
<tr>
<td>port security</td>
<td>X</td>
</tr>
<tr>
<td>private vlan configuration</td>
<td>X</td>
</tr>
<tr>
<td>qos policy</td>
<td>X</td>
</tr>
<tr>
<td>state (enabled or disabled)</td>
<td>X</td>
</tr>
<tr>
<td>switchport mode (access or trunk)</td>
<td>X</td>
</tr>
<tr>
<td>system vlan vlan list</td>
<td>X</td>
</tr>
<tr>
<td>vlan configuration</td>
<td>X</td>
</tr>
</tbody>
</table>

**Table 1-1 Port Profile Characteristics (continued)**

<table>
<thead>
<tr>
<th>Port Profile Characteristics</th>
<th>Can it be inherited?</th>
</tr>
</thead>
<tbody>
<tr>
<td>port security</td>
<td></td>
</tr>
<tr>
<td>private vlan configuration</td>
<td></td>
</tr>
<tr>
<td>qos policy</td>
<td></td>
</tr>
<tr>
<td>state (enabled or disabled)</td>
<td></td>
</tr>
<tr>
<td>switchport mode (access or trunk)</td>
<td></td>
</tr>
<tr>
<td>system vlan vlan list</td>
<td></td>
</tr>
<tr>
<td>vlan configuration</td>
<td></td>
</tr>
<tr>
<td>vmware max-ports</td>
<td></td>
</tr>
<tr>
<td>vmware port-group name</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 1      Overview

Information about the System Port Profile

Using the CLI, you can configure alternate characteristics directly on the new port profile to override the inherited characteristics.

You can also explicitly remove port profile inheritance, so that a port profile returns to normal defaults except where there has been direct configuration.

For more information, see the procedure, Inheriting a Port Profile Configuration, page 1-9.

### Information about the System Port Profile

A system port profile is designed to establish and protect vCenter Server connectivity. They can carry the following VLANs:

- System VLANs or VNICs used when bringing up the ports before communication is established between the VSM and VEM.
- The uplink that carries the control VLAN
- Management uplink(s) used for VMware vCenter Server connectivity or SSH or Telnet connections. There can be more than one management port or VLAN, for example, one dedicated for vCenter Server connectivity, one for SSH, one for SNMP, a switch interface, and so forth.
- VMware kernel NIC for accessing VMFS storage over iSCSI or NFS.

### System Port Profile Rules

System port profiles and system VLANs are subject to the following rules.

- System VLANs cannot be deleted when the profile is in use.
- Non-system VLANs in a system port profile can be freely added or deleted, even when the profile is in use, that is, one or more DVS ports are carrying that profile.
- System VLANs can always be added to a system port profile or a non-system port profile, even when the profile is in use.
- The native VLAN on a system port profile may be a system VLAN or a non-system VLAN.

<table>
<thead>
<tr>
<th>Port Profile Characteristic</th>
<th>Can it be inherited?</th>
</tr>
</thead>
<tbody>
<tr>
<td>acl</td>
<td>X</td>
</tr>
<tr>
<td>capability (uplink, l3control)</td>
<td>X</td>
</tr>
<tr>
<td>channel group</td>
<td>X</td>
</tr>
<tr>
<td>vmware max-ports</td>
<td>X</td>
</tr>
<tr>
<td>vmware port-group name</td>
<td>X</td>
</tr>
</tbody>
</table>
Use the following steps to change the set of system VLANs on a port profile without removing all system VLANs:

1. Remove all ports carrying the profile from the DVS.
2. Set the new list of system VLANs on the profile with the “system vlan …” command. The new list may add or delete system VLANs from the old list.
3. Add the the ports back to the DVS with the same profile.

Use the following steps to remove all system VLANs from a port:

1. Remove all ports carrying the port profile from the DVS, if you plan to modify the system profile.
2. Prepare a port profile without system VLANs, either by modifying the old port profile or by creating a new one.
3. Reboot the VEM host where the port resides.
4. Apply the non-system profile to the port.

vPC Host Mode

Virtual port channel host mode (vPC-HM) allows member ports in a port channel to connect to two different upstream switches. With vPC-HM, ports are grouped into two subgroups for traffic separation. If CDP is enabled on the upstream switch, then the subgroups are automatically created using CDP information. If CDP is not enabled on the upstream switch, then you must manually create the subgroup on the interface.

As shown in Figure 1-1, in vPC-HM, member ports are assigned a subgroup ID (0 or 1) for traffic separation.
To configure a port profile in vPC-HM, see the “Configuring a Port Channel Connecting to Two Upstream Switches” procedure on page 1-20.

vPC-HM can also be configured on the interface. For more information, see the *Cisco Nexus 1000V Interface Configuration Guide, Release 4.0(4)SV1(1)*.
Port Profile Configuration

Use this chapter to configure port profiles. This chapter includes the following topics:

- Information About Port Profiles, page 1-1
- Creating a Port Profile, page 1-1
- Updating an Existing Port Profile, page 1-4
- Removing a Port Profile, page 1-35

Information About Port Profiles

Port profiles simplify interface configuration by defining policies that can be reused for multiple interfaces. For more information about port profiles, see Chapter 1, “Overview.”

Creating a Port Profile

The following flow chart shows the procedures required to create and configure a new port profile.

BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- You have configured the Nexus 1000V connection using the procedure in the document, Cisco Nexus 1000V Getting Started Guide, Release 4.0(4)SV1(1).
- The Nexus 1000V is connected to the vCenter Server.
- You have identified the characteristics needed for this port profile.
- You know whether this port profile is inheriting policies, and if so, from which port profile.

Note: To find a port profile that most closely matches your current needs, use the procedure, Viewing the Port Profile Configuration, page 1-30.
Creating a Port Profile

Creating a New Port Profile, page 1-8

Is this the first port profile configured for this Nexus 1000V?

No

Is this port profile inheriting policies from another?

Yes

Inheriting a Port Profile Configuration, page 1-9

No

Configuring the VMware Options, page 1-11

Configuring Port Management, page 1-13

Configuring a Port Channel, page 1-18

Configuring a VLAN, page 1-22

Configuring a Private VLAN, page 1-25

Go to Flow Chart 1-1 on the next page

End

Go to Flow Chart 1-1 on the next page
Flow Chart 1-1  Creating a Port Profile

1. Creating a Port Profile (continued)
2. Configuring a MAC or IP ACL, page 1-27
3. Configuring a Netflow Flow Monitor, page 1-28
4. Viewing the Port Profile Configuration, page 1-30
5. Enabling a Port Profile, page 1-33
6. End
Updating an Existing Port Profile

The following flow chart shows the procedures required to update an existing port profile configuration.

BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- The Nexus 1000V is connected to the vCenter Server.
- You have identified the characteristics needed for this port profile.
- You know whether this port profile is inheriting policies, and if so, from which port profile.

<table>
<thead>
<tr>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>To identify a port profile to inherit, examine the current profiles and find a one that most closely matches your current needs, using the procedure, Viewing the Port Profile Configuration, page 1-30.</td>
</tr>
</tbody>
</table>
Flow Chart 1-2  Updating an Existing Port Profile

Do you want to update Port Management?

Do you want to update the VMware Options?

Do you want to change the parent port profile?

Updating an Existing Port

Yes

Inheriting a Port Profile Configuration, page 1-9

Yes

Configuring the VMware Options, page 1-11

No

Configuring Port Management, page 1-13

No

Configuring a Port Channel, page 1-18

Yes

Do you want to update a Port Channel?

No

Configuring a VLAN, page 1-22

Yes

Do you want to update a VLAN configuration?

No

Go to Flow Chart 1-3 on the next page

No

Yes

Configuring Port Management, page 1-13
Flow Chart 1-3  Updating an Existing Port Profile (continued)

Do you want to update a private VLAN configuration?

- No
- Yes → Configuring a Private VLAN, page 1-25

Do you want to update an ACL?

- No
- Yes → Configuring a MAC or IP ACL, page 1-27

Do you want to update a flow monitor?

- No
- Yes → Configuring a Netflow Flow Monitor, page 1-28

End
Removing a Port Profile

The following flow chart shows the procedures required to remove a port profile.

Before You Begin

- You are logged in to the CLI in configuration mode.
- You have configured the Nexus 1000V connection using the procedure in the document, Cisco Nexus 1000V Getting Started Guide, Release 4.0(4)SV1(1).
- The Nexus 1000V is connected to vCenter Server/ESX.
- You know whether another port profile inherits the characteristics of this port profile.

Note To find a port profile that most closely matches your current needs, use the procedure, Viewing the Port Profile Configuration, page 1-30.

Flow Chart 1-4 Removing a Port Profile

![Flow Chart 1-4 Removing a Port Profile](chart.png)
Creating a New Port Profile

Use this procedure to create a new port profile.

BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- You know the name that you want to give to this port profile. A name can be up to 80 characters but each port profile must have a unique name.
- You know whether the ports are going to be uplink ports.

Note: If the port profile is configured as an uplink (capability uplink command), then it cannot be used to configure VMware virtual ports.

- You know whether the ports need to be initialized with system settings.

SUMMARY STEPS

1. config t
2. port-profile profilename
3. (Optional) description profiledescription
4. (Optional) capability {uplink | l3control}
5. show port-profile [brief | expand-interface | usage] [name <profile-name>]
6. copy running-config startup-config

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>config t</td>
</tr>
<tr>
<td>Example:</td>
<td>n1000v# config t</td>
</tr>
<tr>
<td></td>
<td>n1000v(config)#</td>
</tr>
<tr>
<td></td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2</td>
<td>port-profile profilename</td>
</tr>
<tr>
<td>Example:</td>
<td>n1000v(config)# port-profile AccessProf</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>Places you into CLI Global Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td></td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 3</td>
<td>description profiledescription</td>
</tr>
<tr>
<td>Example:</td>
<td>n1000v(config-port-prof)# description allaccess4</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>Optional) Adds a description to the new port profile. This description is automatically pushed to the vCenter Server.</td>
</tr>
<tr>
<td></td>
<td>profile description: up to 80 ASCII characters</td>
</tr>
<tr>
<td></td>
<td>Note If the description includes spaces, it must be surrounded by quotations (“all access 4”).</td>
</tr>
</tbody>
</table>
## Chapter 1      Port Profile Configuration

### Removing a Port Profile

**Example:**

```
n1000v(config)## port-profile AccessProf
n1000v(config-port-prof)# description allaccess
n1000v(config-port-prof)# capability uplink
n1000v(config-port-prof)# show port-profile name AccessProf
```

<table>
<thead>
<tr>
<th>Step</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>capability {uplink</td>
<td>l3control}</td>
</tr>
<tr>
<td>5</td>
<td>show port-profile name profile-name</td>
<td>(Optional) Displays information about the port profile(s).</td>
</tr>
<tr>
<td>6</td>
<td>copy running-config startup-config</td>
<td>(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</td>
</tr>
</tbody>
</table>

---

### Inheriting a Port Profile Configuration

Use this procedure to inherit policies from an existing port profile configuration. This procedure takes the configuration of the inherited port profile and uses it as the default configuration for another profile.

**Note** To identify a port profile to inherit, examine the current profiles in your Nexus 1000V using the procedure, Viewing the Port Profile Configuration, page 1-30. and find one with characteristics that most closely match your current needs.

**Before You Begin**

- You are logged in to the CLI in EXEC mode.
- You are familiar with Table 1-2 on page 1-3 showing which characteristics can be inherited and which cannot.
- You know the name of the existing port profile whose policies will be inherited.

**Example:**

```
n1000v(config)# port-profile AccessProf
n1000v(config-port-prof)# description allaccess
n1000v(config-port-prof)# capability uplink
n1000v(config-port-prof)# show port-profile name AccessProf
```

```
port-profile AccessProf
  description: allaccess
  status: disabled
capability uplink: yes
  system vlans: none
  port-group: config attributes:
  evaluated config attributes:
  assigned interfaces:
```

```
n1000v(config-port-prof)# copy running-config startup-config
```
SUMMARY STEPS

1. config t
2. port-profile profilename
3. inherit port-profile profilename
4. (Optional) capability {uplink | l3control}
5. show port-profile [brief | expand-interface | usage] [name <profile-name>]
6. copy running-config startup-config

Detailed Steps

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>config t</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>n1000v# config t</td>
<td></td>
</tr>
<tr>
<td>n1000v(config)#</td>
<td>Places you in CLI Global Configuration mode.</td>
</tr>
<tr>
<td>Step 2</td>
<td>port-profile profilename</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>n1000v(config)# port-profile AccessProf</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)#</td>
<td>Places you into CLI Global Configuration mode for the specified port profile. The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td>Step 1</td>
<td>inherit port-profile portprofilename</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)# inherit port-profile mgmtNetwork</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)#</td>
<td>Adds the inherited configuration to the new port profile as a default configuration. Any inherited setting can be changed using the CLI. profile name: A name for the port profile whose policies are inherited. The name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td>Step 2</td>
<td>show port-profile</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)# show port-profile</td>
<td>(Optional) Displays information about the profile that inherits and the profile that is inherited.</td>
</tr>
<tr>
<td>Step 3</td>
<td>copy running-config startup-config</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)# copy running-config startup-config</td>
<td>(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</td>
</tr>
<tr>
<td>Step 4</td>
<td>You have completed this procedure. If using a flow chart, return to the one that pointed you here:</td>
</tr>
<tr>
<td></td>
<td>• Figure 1-1, Flow Chart: Creating a Port Profile, on page 1-2</td>
</tr>
<tr>
<td></td>
<td>• Flow Chart 1-2, Updating an Existing Port Profile, on page 1-5</td>
</tr>
</tbody>
</table>
Chapter 1      Port Profile Configuration

Removing a Port Profile

status: disabled
capability uplink: no
capability l3control: no
system vlans: none
port-group:
max-ports: 32
inherit:
config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 100-110
  no shutdown
evaluated config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 100-110
  no shutdown
assigned interfaces:

port-profile AccessProf
description:
status: enabled
capability uplink: yes
capability l3control: no
system vlans: none
port-group: WebProfile
max-ports: -
inherit: port-profile mgmtNetwork
cconfig attributes:
  channel-group auto mode on
evaluated config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 100-110
  channel-group auto mode on
  no shutdown
assigned interfaces:

Configuring the VMware Options

Use this procedure to designate that this is a VMware port profile.

BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- You know if you want the VMware port group to have the same name as the port profile; or if you are specifying an alternate name for the VMware port group.
- The `vmware max-ports` command is only available for non-uplink profiles.
- You know if you want to restrict the maximum number of ports that can be assigned to the port profile. If so, you know what the maximum number is.

SUMMARY STEPS

1. `config t`
2. `port-profile profilename`
3. `vmware port-group [pg_name]`
4. `vmware max-ports number`
5. `show port-profile [brief | expand-interface | usage] [name <profile-name>]`

6. `copy running-config startup-config`

**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description/Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> config t</td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td>Example: n1000v# config t n1000v(config)#</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong> port-profile <em>profile-name</em></td>
<td>Places you into CLI Global Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td>Example: n1000v(config)# port-profile AccessProf n1000v(config-port-prof)#</td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td><strong>Step 3</strong> vmware port-group [<em>pg_name</em>]</td>
<td>Designates the port-profile as a VMware port-group.</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# vmware port-group n1000v(config-port-prof)#</td>
<td>The port profile is mapped to a VMware port group of the same name. When a vCenter Server connection is established, the port group created in Nexus 1000V is then distributed to the virtual switch on the vCenter Server.</td>
</tr>
<tr>
<td><strong>Step 4</strong> vmware max-ports num</td>
<td>Designates the maximum number of ports that can be assigned to the non-uplink port profile.</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# vmware max-ports 5 n1000v(config-port-prof)#</td>
<td>When the specified maximum number of ports is reached, no more ports can be assigned.</td>
</tr>
<tr>
<td>The default is 32 ports.</td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong> show port-profile name <em>profile-name</em></td>
<td>(Optional) Displays information about port profile(s).</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# show port-profile name AccessProf</td>
<td></td>
</tr>
<tr>
<td><strong>Step 6</strong> copy running-config startup-config</td>
<td>(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# copy running-config startup-config</td>
<td></td>
</tr>
</tbody>
</table>
Configuring Port Management

Use this procedure to configure port management, including access or trunk mode, and the administrative state for each port in the profile.

BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- You know whether you are configuring the port profile as an access port or trunk port.
  - An access port transmits packets on only one, untagged VLAN. You specify which VLAN traffic that the interface carries, which becomes the access VLAN. If you do not specify a VLAN for an access port, that interface carries traffic only on the default VLAN. The default VLAN is VLAN1.
  - A trunk port transmits untagged packets for the native VLAN; and encapsulated, tagged packets for all other VLANs.
- You know if you want to restrict the maximum number of ports that can be assigned to the port profile. If so, you know what the maximum number is.

SUMMARY STEPS

1. `config t`
2. `port-profile profilename`
3. `switchport mode {access | trunk}`
4. `no shutdown`
5. `show port-profile [brief | expand-interface | usage] [name <profile-name>]`
6. `copy running-config startup-config`

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td><code>config t</code></td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>n1000v# config t</td>
<td></td>
</tr>
<tr>
<td>n1000v(config)#</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td><code>port-profile profilename</code></td>
<td>Places you into CLI Global Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td>n1000v(config)# port-profile AccessProf</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)#</td>
<td></td>
</tr>
</tbody>
</table>
### Command Description

<table>
<thead>
<tr>
<th>Step</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>`switchport mode {access</td>
<td>trunk}`</td>
</tr>
<tr>
<td>4</td>
<td><code>no shutdown</code></td>
<td>Administratively enables all ports in the profile.</td>
</tr>
<tr>
<td>5</td>
<td><code>show port-profile name profile-name</code></td>
<td>(Optional) Displays information about port profile(s).</td>
</tr>
<tr>
<td>6</td>
<td><code>copy running-config startup-config</code></td>
<td>(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</td>
</tr>
</tbody>
</table>

Example:
```
Example:
n1000v(config)# config t
n1000v(config)# port-profile AccessProf
n1000v(config-port-prof)# switchport mode access
n1000v(config-port-prof)# no shutdown
n1000v(config-port-prof)# show port-profile name AccessProf
port-profile AccessProf
  description: allaccess4
  status: disabled
  capability uplink: yes
  system vlans: none
  port-group: AccessProf
  config attributes:
    switchport mode access
    no shutdown
  evaluated config attributes:
    switchport mode access
    no shutdown
  assigned interfaces:
  n1000v(config-port-prof)#
```

### Clearing a Port Management Policy from a Port Profile

Use this procedure to remove either the shutdown or switchport mode configuration from a port profile and change it to its default state. Removing the shutdown configuration changes the state of the port profile ports to shutdown. Removing the switchport mode converts the port profile ports to switch access ports.
BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- After removing the configuration for an attribute, then the attribute does not appear in show command output.

SUMMARY STEPS

1. `config t`
2. `port-profile profilename`
3. `default {shutdown | switchport mode}`
4. `show port-profile [brief | expand-interface | usage] [name <profile-name>]`
5. `copy running-config startup-config`

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td><code>config t</code></td>
</tr>
</tbody>
</table>
| Example: | n1000v# config t  
n1000v(config)#  |
|         | Places you in the CLI Global Configuration mode. |
| Step 2  | `port-profile profilename`  |
| Example: | n1000v(config)# port-profile AccessProf  
n1000v(config-port-prof)#  |
|         | Places you into CLI Global Configuration mode for the specified port profile.  
The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V. |
| Step 3  | `default {shutdown | switchport mode}`  |
| Example: | n1000v(config-port-prof)# default switchport mode  
n1000v(config-port-prof)#  |
|         | Removes either the shutdown attribute or the switchport mode attribute configuration from the port profile.  
• **shutdown**: Reverts port profile ports to shutdown state  
• **switchport mode**: Reverts port profile ports to switch access ports. |
| Step 4  | `show port-profile name profile-name`  |
| Example: | n1000v(config-port-prof)# show port-profile name AccessProf  |
|         | (Optional) Displays information about port profile(s). After removing an attribute’s configuration, the show command output does not display the attribute. |

(Cisco Nexus 1000V Port Profile Configuration Guide, Release 4.0(4)SV1(1))
### Configuring a System Port Profile

Use this procedure to configure a system port profile for critical ports.

**BEFORE YOU BEGIN**

- You are logged in to the CLI in EXEC mode.
- For information about system port profiles, see “Information about the System Port Profile” section on page 1-4.

**SUMMARY STEPS**

1. `config t`
2. `port-profile profilename`
3. `description profiledescription`
4. `system vlan vlan-id-list`
5. `show port-profile [brief | expand-interface | usage] [name <profile-name>]`
6. `copy running-config startup-config`

**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> config t</td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td><code>n1000v# config t</code></td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td><code>n1000v(config)#</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong> port-profile <strong>profilename</strong></td>
<td>Places you into CLI Global Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td>Example:</td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td><code>n1000v(config)# port-profile AccessProf</code></td>
<td></td>
</tr>
<tr>
<td><code>n1000v(config-port-prof)#</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong> description <strong>profiledescription</strong></td>
<td>Adds a description to the port profile. This description is automatically pushed to the vCenter Server.</td>
</tr>
<tr>
<td>Example:</td>
<td>profile description: up to 80 ASCII characters</td>
</tr>
<tr>
<td><code>n1000v(config-port-prof)# description &quot;System profile for critical ports&quot;</code></td>
<td>Note: If the description includes spaces, it must be surrounded by quotations.</td>
</tr>
<tr>
<td><code>n1000v(config-port-prof)#</code></td>
<td></td>
</tr>
</tbody>
</table>
### Removing a Port Profile

**Example:**

```bash	n1000v# show port-profile
port-profile UplinkProfile1
description: System profile for critical ports
status: enabled
capability uplink: yes
system vlans: 114,115
port-group: up1
config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 110-119
  no shutdown
evaluated config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 110-119
  no shutdown
assigned interfaces:
  Ethernet4/2
t1000v# show port-profile
port-profile UplinkProfile2
description: System profile for critical ports
status: enabled
capability uplink: yes
system vlans: none
port-group: up2
config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 117
  channel-group auto mode on
  no shutdown
evaluated config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 117
  channel-group auto mode on
  no shutdown
assigned interfaces:
  port-channel1
  Ethernet4/3
t1000v# show running-config
```

**Step 4**

```bash
system vlan vlan-id-list
```

**Example:**

```bash
n1000v(config-port-prof)# system vlan 114,115
n1000v(config-port-prof)#
```

adds the system vlan to this port profile. A system vlan is used to configure and bring up physical or veth ports before the VSM has established communication with the VEM.

**Step 5**

```bash
show port-profile name profile-name
```

**Example:**

```bash
n1000v(config-port-prof)# show port-profile name AccessProf
```

(Optional) Displays information about port profile(s). After removing an attribute’s configuration, the show command output does not display the attribute.

---

**Example:**

```bash
n1000v# show port-profile
port-profile UplinkProfile1
  description: System profile for critical ports
  status: enabled
  capability uplink: yes
  system vlans: 114,115
  port-group: up1
  config attributes:
    switchport mode trunk
    switchport trunk allowed vlan 110-119
    no shutdown
  evaluated config attributes:
    switchport mode trunk
    switchport trunk allowed vlan 110-119
    no shutdown
  assigned interfaces:
    Ethernet4/2
port-profile UplinkProfile2
  description: System profile for critical ports
  status: enabled
  capability uplink: yes
  system vlans: none
  port-group: up2
  config attributes:
    switchport mode trunk
    switchport trunk allowed vlan 117
    channel-group auto mode on
    no shutdown
  evaluated config attributes:
    switchport mode trunk
    switchport trunk allowed vlan 117
    channel-group auto mode on
    no shutdown
  assigned interfaces:
    port-channel1
    Ethernet4/3
t1000v# show running-config
```

---

---
Removing a Port Profile

state enabled
port-profile UplinkProfile2
capability uplink
vmware port-group
switchport mode trunk
switchport trunk allowed vlan 117
channel-group auto mode on
no shutdown
state enabled

Configuring a Port Channel

This section includes the following procedures:

• Configuring a Port Channel Connecting to a Single Upstream Switch, page 1-18
• Configuring a Port Channel Connecting to Two Upstream Switches, page 1-20

Configuring a Port Channel Connecting to a Single Upstream Switch

Use this procedure to configure a port channel in a port profile when all ports in the group are connected to the same upstream switch.

To configure a port channel in a port profile when the ports are connected to two different upstream switches, see the “Configuring a Port Channel Connecting to Two Upstream Switches” procedure on page 1-20.

BEFORE YOU BEGIN

• You are logged in to the CLI in EXEC mode.
• The channel group number assignment is made automatically when the port profile is assigned to the first interface.
• The channel group mode is set to on.

SUMMARY STEPS

1. config t
2. port-profile profilename
3. channel-group auto mode { on | active | passive } [ sub-group cdp ]
4. show port-profile [ brief | expand-interface | usage ] [ name <profile-name> ]
5. copy running-config startup-config
## Chapter 1  Port Profile Configuration

### Removing a Port Profile

#### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td>n1000v# config t</td>
<td></td>
</tr>
<tr>
<td>n1000v(config)#</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>port-profile profilename</td>
</tr>
<tr>
<td>Example:</td>
<td>Places you into Port Profile Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td>n1000v(config)# port-profile AccessProf</td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td>n1000v(config-port-prof)</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>channel-group {auto} [mode {on</td>
</tr>
<tr>
<td>Example:</td>
<td>Defines a channel group and saves it in the running configuration.</td>
</tr>
<tr>
<td>n1000v(config-port-prof)# channel-group auto mode on</td>
<td>• auto: A unique port channel is created and automatically assigned when the port profile is assigned to the first interface. Each additional interface belonging to the same module is added to the same port-channel. In VMware environments, a different port channel is created for each module.</td>
</tr>
<tr>
<td>n1000v(config-port-prof)#</td>
<td>• mode: on, active, or passive (active and passive use LACP)</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>show port-profile name profile-name</td>
</tr>
<tr>
<td>Example:</td>
<td>(Optional) Displays information about port profile(s).</td>
</tr>
<tr>
<td>n1000v(config-port-prof)# show port-profile name AccessProf</td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>copy running-config startup-config</td>
</tr>
<tr>
<td>Example:</td>
<td>(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</td>
</tr>
<tr>
<td>n1000v(config-port-prof)# copy running-config startup-config</td>
<td></td>
</tr>
</tbody>
</table>

Example:  
n1000v# config t  
n1000v(config)# port-profile AccessProf  
n1000v(config-port-prof)# channel-group auto mode on  
n1000v(config-port-prof)# show port-profile name AccessProf  
port-profile AccessProf  
description: allaccess4  
status: disabled  
capability uplink: yes  
port-group: AccessProf  
config attributes:  
  switchport mode access  
  channel-group auto mode on
Removing a Port Profile

evaluated config attributes:
switchport mode access
channel-group auto mode on
assigned interfaces:
  n1000v(config-port-prof)#

Configuring a Port Channel Connecting to Two Upstream Switches

Use this procedure to configure the uplink port profile, to be used by the physical NICs in the VEM, in vPC-HM when the ports in the port channel connect to two different upstream switches.

To configure a port channel in a port profile when the ports are connected to a single upstream switch, see the “Configuring a Port Channel” procedure on page 1-18.

BEFORE YOU BEGIN

• You are logged in to the CLI in EXEC mode.
• When you create a port channel, an associated channel group is automatically created.
• The channel group mode must be set to on.
• You know whether CDP is configured in the upstream switches. If so, then CDP creates a subgroup for each upstream switch to manage its traffic separately.
• If you are using CDP with the default CDP timer (60 seconds), links that advertise that they are in service and then out of service in quick succession can take up to 60 seconds to be returned to service.
• If CDP is not configured in the upstream switch, then you must manually configure subgroups to manage the traffic flow on the separate switches.
• If vPC-HM is not configured when port channels connect to two different upstream switches, then the VMs behind the Cisco Nexus 1000V receive duplicate packets from the network for broadcast/unknown floods/multicast.
• vPC-HM can also be configured on the interface. For more information, see the Cisco Nexus 1000V Interface Configuration Guide, Release 4.0(4)SV1(1).

SUMMARY STEPS

1. config t
2. port-profile profilename
3. channel-group auto mode { on | active | passive } [ sub-group cdp ]
4. Do one of the following
   – If CDP is not configured for the upstream switch(es), then continue with the next step.
   – If CDP is configured for the upstream switch(es), then go to Step 9.
5. exit
6. interface ethernet range
7. sub-group-id number
8. Repeat steps 6 and 7 for each port member connected to an upstream switch that is not configured for CDP.
9. show port-profile [ brief | expand-interface | usage ] [ name <profile-name> ]
10. copy running-config startup-config

**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Step</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>config t</td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
</tbody>
</table>
|  | Example:  
n1000v# config t  
n1000v(config)# | |
| **Step 2** | port-profile profilename | Places you into Configuration mode for the specified port profile. The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V. |
|  | Example:  
n1000v(config)# port-profile uplinkProf  
n1000v(config-port-prof)# | |
| **Step 3** | channel-group {auto} [mode {on | active | passive}] {sub-group cdp} | Defines a channel group for the specified port profile and saves it in the running configuration. |
|  | Example:  
n1000v(config-port-prof)# channel-group auto mode on sub-group cdp  
n1000v(config-port-prof)# | |
| **Step 4** | Do one of the following:  
  - If CDP is not configured for both upstream switch(es), then continue with the next step.  
  - If CDP is configured for both upstream switch(es), then go to Step 9. | |
| **Step 5** | exit | Exits the Interface Configuration mode for the port channel and returns you to Global Configuration mode. |
|  | Example:  
n1000v(config-if)# exit  
n1000v(config)# | |
| **Step 6** | interface ethernet range | Places you into Interface Configuration mode for the specified interface range. |
|  | Example:  
n1000v(config)# interface ethernet3/2-3  
n1000v(config-if)# | |
Chapter 1  Port Profile Configuration

Removing a Port Profile

Example:
```
n1000v(config-if)# sub-group-id 0
n1000v(config-if)#
```

Step 7  
```
sub-group id number
```
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>sub-group id number</td>
<td>Configures the specified port channel members as vPC-HM so that the specified subgroup can manage traffic for one of the two upstream switches. Allowable subgroup numbers = 0 or 1</td>
</tr>
</tbody>
</table>

Step 8  
```
Repeat Step 6 and Step 7 for each port member connected to an upstream switch that is not configured for CDP.
```

Step 9  
```
show port-profile name profile-name
```
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show port-profile name profile-name</td>
<td>(Optional) Displays information about port profile(s).</td>
</tr>
</tbody>
</table>

Step 10  
```
copy running-config startup-config
```
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>copy running-config startup-config</td>
<td>(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</td>
</tr>
</tbody>
</table>

Example:
```
n1000v# config t
n1000v(config)# port-profile uplinkProf
n1000v(config-port-prof)# channel-group auto mode on sub-group cdp
doc-n1000v(config-port-prof)# show port-profile name uplinkProf
port-profile uplinkProf
  description:
    status: disabled
    capability uplink: no
    capability l3control: no
    system vlans: none
    port-group:
      max-ports: 32
      inherit:
        config attributes:
          channel-group auto mode on sub-group cdp
        evaluated config attributes:
          channel-group auto mode on sub-group cdp
        assigned interfaces:
n1000v(config-port-prof)# copy running-config startup-config
```

The following is an example of a port profile configuration where the ports connect to two different upstream switches. This port profile can be used with all ports configured in the channel.
```
n1000v# config t
n1000v(config)# port-profile up-system
n1000v(config-port-prof)# capability uplink
n1000v(config-port-prof)# vmware port-group
n1000v(config-port-prof)# switchport mode trunk
n1000v(config-port-prof)# switchport trunk allowed vlan 232,270-279
n1000v(config-port-prof)# channel-group auto mode on sub-group cdp
n1000v(config-port-prof)# no shutdown
n1000v(config-port-prof)# system vlan 232,270-271
n1000v(config-port-prof)# state enabled
```

Configuring a VLAN

Use this procedure to configure a VLAN for the port profile.
BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- You know whether the port profile is needed for trunks or access ports.
- You know the needed VLAN configuration for this port profile.
- The VLAN must already be created on the switch before you can configure it.
- You know the VLAN ID for the VLAN you are configuring.
- VLAN1 is the default VLAN. You cannot create, modify, or delete this VLAN.
- You know the supported VLAN ranges. Nexus 1000V supports up to 4094 VLANs in accordance with the IEEE 802.1Q standard. These VLANs are organized into ranges with different uses.

Table 1-1 describes the available VLAN ranges.

<table>
<thead>
<tr>
<th>VLAN Numbers</th>
<th>Range</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Normal</td>
<td>Cisco default. You can use this VLAN, but you cannot modify or delete it.</td>
</tr>
<tr>
<td>2–1005</td>
<td>Normal</td>
<td>You can create, use, modify, and delete these VLANs.</td>
</tr>
<tr>
<td>1006-4094</td>
<td>Extended</td>
<td>You can create, name, and use these VLANs. You cannot change the following parameters:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• State is always active.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• VLAN is always enabled.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>You cannot shut down these VLANs.</td>
</tr>
<tr>
<td>3968-4047</td>
<td>Internally allocated</td>
<td>These 80 VLANs, plus VLAN 4094, are allocated for internal device use. You cannot create, delete, or modify any VLANs within the block reserved for internal use.</td>
</tr>
<tr>
<td>and 4094</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUMMARY STEPS

1. `config t`
2. `port-profile profilename`
3. Do one of the following:
   - (Optional) `switchport access vlan vlan-id-access`
   - (Optional) `switchport trunk allowed vlan {allowed-vlans | add add-vlans | except except-vlans | remove remove-vlans | all | none}`
4. `switchport trunk native vlan vlan-id`
5. `show port-profile [brief | expand-interface | usage] [name <profile-name>]`
6. `copy running-config startup-config`
Removing a Port Profile

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>• If you are assigning this switchport to VLAN 1, the default, go to Step 10. No action is needed since this is the default configuration.</td>
</tr>
<tr>
<td></td>
<td>• Otherwise, continue with the next step.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>config t</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>n1000v# config t</td>
</tr>
<tr>
<td></td>
<td>n1000v(config)#</td>
</tr>
<tr>
<td></td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>port-profile profilename</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>n1000v(config)# port-profile AccessProf</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>Places you into CLI Global Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td></td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>• To assign a specific VLAN ID number to the access port, continue with the next step.</td>
</tr>
<tr>
<td></td>
<td>• Otherwise, go to Step 7.</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>switchport access vlan vlan-id-access</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)# switchport access vlan 4</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>Assigns a VLAN ID to the access port for this port profile.</td>
</tr>
<tr>
<td><strong>Step 6</strong></td>
<td>Go to Step 10.</td>
</tr>
<tr>
<td><strong>Step 7</strong></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td></td>
<td>• To specify allowed VLAN IDs on the trunk port, continue with the next step.</td>
</tr>
<tr>
<td></td>
<td>• To set the trunking native characteristics when the interface is in trunking mode, go to Step 9.</td>
</tr>
<tr>
<td></td>
<td>• Otherwise, go to Step 10</td>
</tr>
<tr>
<td><strong>Step 8</strong></td>
<td>switchport trunk allowed vlan {allowed-vlans</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)# switchport trunk allowed vlan all</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>To specify allowed VLANs on the trunk port, in configuration mode for the new port profile, use the switchport trunk allowed vlan command followed by an option:</td>
</tr>
<tr>
<td></td>
<td>• allowed VLAN IDs</td>
</tr>
<tr>
<td></td>
<td>• add VLAN IDs</td>
</tr>
<tr>
<td></td>
<td>• except VLAN IDs</td>
</tr>
<tr>
<td></td>
<td>• remove VLAN IDs</td>
</tr>
<tr>
<td></td>
<td>• all</td>
</tr>
<tr>
<td></td>
<td>• none</td>
</tr>
<tr>
<td><strong>Step 9</strong></td>
<td>switchport trunk native vlan vlan-id</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)# switchport trunk native vlan 3</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>Sets the trunking native characteristics when interface is in trunking mode.</td>
</tr>
</tbody>
</table>
Chapter 1      Port Profile Configuration

Removing a Port Profile

Example:

n1000v# config t
n1000v(config)# port-profile AccessProf
n1000v(config-port-prof)# switchport trunk allowed vlan all
n1000v(config-port-prof)# switchport trunk native vlan 3
n1000v(config-port-prof)# show port-profile name AccessProf

Configuring a Private VLAN

Use this procedure to configure the port profile to be used as a private VLAN.

For detailed information about private VLAN, see the document, Cisco Nexus 1000V Layer 2 Switching Configuration Guide, Release 4.0(4)SV1(1).

BEFORE YOU BEGIN

• You are logged in to the CLI in EXEC mode.
• You know the VLAN IDs for both the primary VLAN and the secondary VLAN in the private VLAN pair.
• You know whether this private VLAN inherits its configuration.

SUMMARY STEPS

1. config t
2. port-profile profile-name
3. switchport mode private-vlan [host | promiscuous]
4. `switchport private-vlan host-association primary-vlan secondary-vlans`
5. `switchport private-vlan mapping primary_vlan [add | remove] secondary_vlans`
6. `show port-profile [brief | expand-interface | usage] [name <profile-name>]`
7. `copy running-config startup-config`

**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> config t</td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td>Example: n1000v# config t n1000v(config)#</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong> port-profile profilename</td>
<td>Places you into CLI Global Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td>Example: n1000v(config)# port-profile AccessProf n1000v(config-port-prof)#</td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td><strong>Step 3</strong> switchport mode private-vlan {host</td>
<td>promiscuous}</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# switchport mode private-vlan promiscuous n1000v(config-port-prof)#</td>
<td>• <strong>promiscuous</strong>: Promiscuous ports belong to the primary VLAN and communicate with the Layer 3 gateway. Promiscuous ports can communicate with any interface in the PVLAN domain, including those associated with secondary VLANs.</td>
</tr>
<tr>
<td><strong>Step 4</strong> switchport private-vlan host-association primary-vlan secondary-vlans</td>
<td>Assigns the primary and secondary PVLAN IDs to the port profile and saves this association in the running configuration.</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# switchport private-vlan host-association 3 300 301 302 n1000v(config-port-prof)#</td>
<td>• primary: Each PVLAN has only one primary VLAN ID.</td>
</tr>
<tr>
<td><strong>Step 5</strong> switchport private-vlan mapping primary_vlan [add</td>
<td>remove] secondary_vlans</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# switchport private-vlan mapping primary_vlan add 3 300 301 302 n1000v(config-port-prof)#</td>
<td>• secondary: Each PVLAN can have multiple secondary VLAN IDs.</td>
</tr>
</tbody>
</table>
Configuring a MAC or IP ACL

Use this procedure to configure a MAC or an IP ACL for a port profile.

BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- You know the name of the IP or MAC access control list that you want to configure for this port profile.
- You know the direction of packet flow for the access list.
- For more information about ACLs, see the Cisco Nexus 1000V Security Configuration Guide, Release 4.0(4)SV1(1)

SUMMARY STEPS

1. config t
2. port-profile profile-name
3. mac port access-group {acl_name | acl_dir}
   ip port access-group {acl_name | acl_dir}
4. show port-profile [brief | expand-interface | usage] [name <profile-name>]
5. copy running-config startup-config

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td>config t</td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td>Example: n1000v# config t n1000v(config)#</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td>port-profile profile-name</td>
<td>Places you into CLI Global Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td>Example: n1000v(config)# port-profile AccessProf n1000v(config-port-prof)#</td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 6</strong></td>
<td></td>
</tr>
<tr>
<td>show port-profile name profile-name</td>
<td>(Optional) Displays information about port profile(s).</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# show port-profile name AccessProf</td>
<td></td>
</tr>
<tr>
<td><strong>Step 7</strong></td>
<td></td>
</tr>
<tr>
<td>copy running-config startup-config</td>
<td>(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</td>
</tr>
<tr>
<td>Example: n1000v(config-port-prof)# copy running-config startup-config</td>
<td></td>
</tr>
</tbody>
</table>
Removing a Port Profile

Example:

```
n1000v# config t
n1000v(config)# port-profile AccessProf
n1000v(config-port-prof)# mac port access-group allaccess4 out
n1000v(config-port-prof)# show port-profile name AccessProf
```

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 3</strong></td>
<td>Do one of the following:</td>
</tr>
<tr>
<td>• If adding a MAC ACL, continue with the next step.</td>
<td></td>
</tr>
<tr>
<td>• If adding an IP ACL go to <strong>Step 5</strong>.</td>
<td></td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>`mac port access-group {acl_name</td>
</tr>
<tr>
<td>Example:</td>
<td>n1000v(config-port-prof)# mac port access-group allaccess4 out</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>Continue with <strong>Step 6</strong>.</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>`ip port access-group {acl_name</td>
</tr>
<tr>
<td>Example:</td>
<td>n1000v(config-port-prof)# ip flow access-group allaccess4 in</td>
</tr>
<tr>
<td></td>
<td>n1000v(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>Continue with <strong>Step 6</strong>.</td>
</tr>
<tr>
<td><strong>Step 6</strong></td>
<td><code>show port-profile name profile-name</code></td>
</tr>
<tr>
<td>Example:</td>
<td>n1000v(config-port-prof)# show port-profile name AccessProf</td>
</tr>
<tr>
<td><strong>Step 7</strong></td>
<td><code>copy running-config startup-config</code></td>
</tr>
<tr>
<td>Example:</td>
<td>n1000v(config-port-prof)# copy running-config startup-config</td>
</tr>
<tr>
<td>Example:</td>
<td>config t</td>
</tr>
<tr>
<td>n1000v(config)# port-profile AccessProf</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)# mac port access-group allaccess4 out</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)# show port-profile name AccessProf</td>
<td></td>
</tr>
<tr>
<td>port-profile AccessProf</td>
<td></td>
</tr>
<tr>
<td>description: allaccess4 out</td>
<td></td>
</tr>
<tr>
<td>status: disabled</td>
<td></td>
</tr>
<tr>
<td>capability uplink: yes</td>
<td></td>
</tr>
<tr>
<td>system vlans: none</td>
<td></td>
</tr>
<tr>
<td>port-group: AccessProf</td>
<td></td>
</tr>
<tr>
<td>config attributes:</td>
<td></td>
</tr>
<tr>
<td>mac port access-group allaccess4 out</td>
<td></td>
</tr>
<tr>
<td>ip flow monitor allaccess4 in</td>
<td></td>
</tr>
<tr>
<td>evaluated config attributes:</td>
<td></td>
</tr>
<tr>
<td>mac port access-group allaccess4 out</td>
<td></td>
</tr>
<tr>
<td>ip flow monitor allaccess4 out</td>
<td></td>
</tr>
<tr>
<td>assigned interfaces:</td>
<td></td>
</tr>
<tr>
<td>n1000v(config-port-prof)#</td>
<td></td>
</tr>
</tbody>
</table>

Configuring a Netflow Flow Monitor

Use this procedure to configure a Netflow flow monitor for the port profile.
BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.
- For more information about netflow, see the *Cisco Nexus 1000V System Management Configuration Guide, Release 4.0(4)SV1(1)*

SUMMARY STEPS

1. `config t`
2. `port-profile profilename`
3. `ip flow monitor name {input | output}`
4. `show port-profile [brief | expand-interface | usage] [name <profile-name>]`
5. `copy running-config startup-config`

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td><code>config t</code></td>
</tr>
</tbody>
</table>
| Example:| n1000v# config t  
n1000v(config)# | Places you in the CLI Global Configuration mode. |
| Step 2  | `port-profile profilename`  |
| Example:| n1000v(config)# port-profile AccessProf  
n1000v(config-port-prof)# | Places you into CLI Global Configuration mode for the specified port profile.  
The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V. |
| Step 3  | `ip flow monitor name {input | output}`  |
| Example:| n1000v(config-port-prof)# ip flow monitor allaccess4 output  
n1000v(config-port-prof)# | Applies a flow monitor to the port profile.  
- `name`: adds the name of the flow monitor  
- `input`: applies the flow monitor to incoming traffic.  
- `output`: applies the flow monitor to outgoing traffic. |
| Step 4  | `show port-profilename profile-name`  |
| Example:| n1000v(config-port-prof)# show port-profile name AccessProf | (Optional) Displays information about port profile(s). |
| Step 5  | `copy running-config startup-config`  |
| Example:| n1000v(config-port-prof)# copy running-config startup-config | (Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration. |

Example:
```
n1000v# config t  
n1000v(config)# port-profile AccessProf  
n1000v(config-port-prof)# ip flow monitor allaccess4 output  
n1000v(config-port-prof)# show port-profile name AccessProf
```
Removing a Port Profile

Port-profile AccessProf
description: allaccess4
status: disabled
capability uplink: yes
system vlans: none
port-group: AccessProf
cfg attributes:
ip flow monitor allaccess4 output
evaluated cfg attributes:
ip flow monitor allaccess4 output
assigned interfaces:

n1000v(config-port-prof)#

Viewing the Port Profile Configuration

Use this procedure to view port profile configurations.

BEFORE YOU BEGIN

- You are logged in to the CLI in any command mode.
- You have configured the port profile using the section, Creating a New Port Profile, page 1-8.

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show port-profile [brief</td>
<td>expand-interface</td>
</tr>
</tbody>
</table>

Example 1-1  Command output for the command, show port-profile

n1000v# show port-profile
port-profile UplinkProfile1
description: Profile for critical system ports
status: enabled
capability uplink: yes
capability l3control: no
system vlans: 1,110-119
port-group: UplinkProfile1
max-ports: -
inherit:
cfg attributes:
  switchport mode trunk
  switchport trunk allowed vlan 1,110-119
  no shutdown
evaluated cfg attributes:
  switchport mode trunk
  switchport trunk allowed vlan 1,110-119
  no shutdown
assigned interfaces:
  Ethernet4/2
port-profile UplinkProfile2
description:
status: enabled
Chapter 1  Port Profile Configuration

Removing a Port Profile

capability uplink: yes
capability l3control: no
system vlans: none
port-group: UplinkProfile2
max-ports: -
inherit:
config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 117
  no shutdown
evaluated config attributes:
  switchport mode trunk
  switchport trunk allowed vlan 117
  no shutdown
assigned interfaces:
  Ethernet4/3

port-profile Ubuntu-Profile
description:
  status: enabled
capability uplink: no
capability l3control: no
system vlans: none
port-group: Ubuntu-Profile
max-ports: 32
inherit:
config attributes:
  switchport mode access
  switchport access vlan 118
  no shutdown
evaluated config attributes:
  switchport mode access
  switchport access vlan 118
  no shutdown
assigned interfaces:
  Vethernet1

Example 1-2  Command output for the command, show port-profile name

n1000v# show port-profile name Ubuntu-Profile
port-profile Ubuntu-Profile
description:
  status: enabled
capability uplink: no
capability l3control: no
system vlans: none
port-group: Ubuntu-Profile
max-ports: 32
inherit:
config attributes:
  switchport mode access
  switchport access vlan 118
  no shutdown
evaluated config attributes:
  switchport mode access
  switchport access vlan 118
  no shutdown
assigned interfaces:
  Vethernet1
n1000v#
Removing a Port Profile

Example 1-3  Command output for the command, show port-profile brief

n1000v# show port-profile brief

<table>
<thead>
<tr>
<th>Port Profile</th>
<th>Profile</th>
<th>Remote Conf</th>
<th>Eval</th>
<th>Child Items</th>
<th>Child Intfs</th>
<th>Prof</th>
<th>State</th>
<th>Mgmt</th>
<th>Items</th>
<th>Intfs</th>
<th>Profs</th>
</tr>
</thead>
<tbody>
<tr>
<td>UplinkProfile1</td>
<td>enabled</td>
<td>vmware</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UplinkProfile2</td>
<td>enabled</td>
<td>vmware</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ubuntu-Profile</td>
<td>enabled</td>
<td>vmware</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

n1000v# sh port-profile usage

<table>
<thead>
<tr>
<th>Port Profile</th>
<th>Port</th>
<th>Adapter</th>
<th>Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>UplinkProfile1</td>
<td>Eth2/2</td>
<td>vmnic1</td>
<td>mcs-srvr26</td>
</tr>
<tr>
<td>UplinkProfile2</td>
<td>Eth2/3</td>
<td>vmnic2</td>
<td>mcs-srvr26</td>
</tr>
<tr>
<td></td>
<td>Eth2/4</td>
<td>vmnic3</td>
<td>mcs-srvr26</td>
</tr>
<tr>
<td>Ubuntu-Profile</td>
<td>Veth439</td>
<td></td>
<td>ubuntu-2</td>
</tr>
</tbody>
</table>

Example 1-4  Command output for the command, show port-profile expand-interface name

n1000v# show port-profile expand-interface name UplinkProfile1

port-profile UplinkProfile1
Ethernet2/2
  switchport mode trunk
  switchport trunk allowed vlan 110-119
  no shutdown

n1000v#

Example 1-5  Command output for the command, show port-profile expand-interface

n1000v# show port-profile expand-interface

port-profile UplinkProfile1
Ethernet2/2
  switchport mode trunk
  switchport trunk allowed vlan 110-119
  no shutdown

port-profile UplinkProfile2
Ethernet2/3
  switchport mode trunk
  switchport trunk allowed vlan 117
  no shutdown
Ethernet2/4
  switchport mode trunk
  switchport trunk allowed vlan 117
  no shutdown

port-profile Ubuntu-Profile
Vethernet439
  switchport mode access
Removing a Port Profile

Example 1-6  Command output for the port-profile portion of the command, show running-config

```plaintext
n1000v# show running-config
...
port-profile UplinkProfile1
description "Profile for critical system ports"
capability uplink
vmware port-group
switchport mode trunk
switchport trunk allowed vlan 110-119
no shutdown
state enabled
port-profile UplinkProfile2
capability uplink
vmware port-group
switchport mode trunk
switchport trunk allowed vlan 117
no shutdown
state enabled
port-profile Ubuntu-Profile
vmware port-group
switchport mode access
switchport access vlan 118
no shutdown
state enabled
...
```

Enabling a Port Profile

Use this procedure to enable a port profile.

BEFORE YOU BEGIN

- You are logged in to the CLI in EXEC mode.

SUMMARY STEPS

1. config t
2. port-profile profilename
3. state enabled
4. show port-profile [brief | expand-interface | usage] [name <profile-name>]
5. copy running-config startup-config
## DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td><strong>config t</strong>&lt;br&gt;Example:&lt;br&gt;n1000v# config t&lt;br&gt;n1000v(config)#</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td><strong>port-profile</strong> <em>profile-name</em>&lt;br&gt;Example:&lt;br&gt;n1000v(config)# port-profile AccessProf&lt;br&gt;n1000v(config-port-prof)#</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td><strong>state enabled</strong>&lt;br&gt;Example:&lt;br&gt;n1000v(config-port-prof)# state enabled&lt;br&gt;n1000v(config-port-prof)#</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td><strong>show port-profile name</strong> <em>profile-name</em>&lt;br&gt;Example:&lt;br&gt;n1000v(config-port-prof)# show port-profile name AccessProf</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td><strong>copy running-config startup-config</strong>&lt;br&gt;Example:&lt;br&gt;n1000v(config-port-prof)# copy running-config startup-config</td>
</tr>
</tbody>
</table>
Removing a Port Profile

Use this procedure to remove a port profile.

BEFORE YOU BEGIN

• You are logged in to the CLI in EXEC mode.
• You have configured the port profile using the section, Creating a New Port Profile, page 1-8.
• When you remove a port profile that is mapped to a VMware port group, the associated port group and settings within the vCenter Server are also removed.

Note You cannot remove a port profile if there are active interfaces associated with it.

SUMMARY STEPS

1. config t
2. (Optional) show port-profile usage name profile_name
3. no port-profile profile_name
4. show port-profile name profile_name
5. copy running-config startup-config

Caution You are not allowed to remove a port profile that is inherited by another profile until you first remove the inheritance from all affected port profiles. To cut off the inheritance, use the procedure, Removing Inherited Policies, page 1-36.

Caution This procedure fails if any port profile is inheriting characteristics from the profile you are attempting to remove.
### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> config t</td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong> n1000v# config t n1000v(config)#</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong> show port-profile usage name profile_name</td>
<td>(Optional) Verifies if active interfaces use this port profile.</td>
</tr>
<tr>
<td><strong>Example:</strong> n1000v(config)# show port-profile usage name AccessProf</td>
<td>Note: You cannot remove a port-profile if there are active interfaces associated with it.</td>
</tr>
<tr>
<td><strong>Step 3</strong> no port-profile profile_name</td>
<td>Removes the port profile configuration and operational settings.</td>
</tr>
<tr>
<td><strong>Example:</strong> n1000v(config)# no port-profile AccessProf n1000v(config)#</td>
<td></td>
</tr>
<tr>
<td><strong>Step 4</strong> show port-profile name profile_name</td>
<td>(Optional) Verifies that the port profile does not exist.</td>
</tr>
<tr>
<td><strong>Example:</strong> n1000v(config)# show port-profile name AccessProf ERROR: port-profile AccessProf does not exist n1000v(config)#</td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong> copy running-config startup-config</td>
<td>(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</td>
</tr>
<tr>
<td><strong>Example:</strong> n1000v(config-port-prof)# copy running-config startup-config</td>
<td></td>
</tr>
</tbody>
</table>

#### Example:
```
n1000v# config t
n1000v(config)# show port-profile usage name AccessProf
--- Port        Profile        Adapter        Owner ---
n1000v(config)# no port-profile AccessProf
n1000v(config)# show port-profile name AccessProf
ERROR: port-profile AccessProf does not exist
n1000v(config)# copy running-config startup-config
```

### Removing Inherited Policies

Use this procedure to remove the inherited policies from a port profile.

**Before You Begin**

- You are logged in to the CLI in configuration mode.
- You have configured the port profile using the section, Creating a New Port Profile, page 1-8.
- You have configured the port profile to inherit policies using the procedure, Inheriting a Port Profile Configuration, page 1-9.
SUMMARY STEPS

1. config t
2. (Optional) show port-profile usage name profile_name
3. no port-profile profile_name
4. show port-profile name profile_name
5. copy running-config startup-config

Detailed Steps

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>config t</td>
</tr>
<tr>
<td>Example:</td>
<td>n1000v# config t</td>
</tr>
<tr>
<td></td>
<td>n1000v(config)#</td>
</tr>
<tr>
<td></td>
<td>Places you in the CLI Global Configuration mode.</td>
</tr>
<tr>
<td>Step 1</td>
<td>port-profile portprofilename</td>
</tr>
<tr>
<td>Example:</td>
<td>(config)# port-profile Access4</td>
</tr>
<tr>
<td></td>
<td>(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>Places you into CLI Global Configuration mode for the specified port profile.</td>
</tr>
<tr>
<td></td>
<td>The port profile name can be up to 80 characters and must be unique for each port profile on the Nexus 1000V.</td>
</tr>
<tr>
<td>Step 2</td>
<td>no port-profile inherit</td>
</tr>
<tr>
<td>Example:</td>
<td>(config-port-prof)# no port-profile map</td>
</tr>
<tr>
<td></td>
<td>(config-port-prof)#</td>
</tr>
<tr>
<td></td>
<td>In configuration mode for the port profile, use the no port-profile inherit command to remove the inherited policies.</td>
</tr>
<tr>
<td></td>
<td>The port profile settings are returned to the defaults, except for any settings that were explicitly configured independent of those inherited.</td>
</tr>
<tr>
<td>Step 3</td>
<td>You have completed this procedure.</td>
</tr>
</tbody>
</table>

Feature History for Port Profiles

This section provides the Port Profiles feature history.

<table>
<thead>
<tr>
<th>Feature Name</th>
<th>Releases</th>
<th>Feature Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Profiles</td>
<td>4.0</td>
<td>This feature was introduced.</td>
</tr>
</tbody>
</table>
INDEX

A
Access Control List  2-27
ACL  2-27
allowing vlans  2-24
asymmetric port channel  1-5

C
capability command  2-9
channel-group command  2-19, 2-21
characteristics of port profile, list  1-2
clearing a policy  2-14, 2-16
community ports  2-26

D
default command  2-15
description command  2-8, 2-16
disabled state, about  1-2
documentation
   additional publications  1-ii

E
enable
   port profile  2-34
   ports in the profile  2-14
enabled state, about  1-2
except vlan IDs  2-24
extended vlan range  2-22

F
flow chart
   updating an existing port profile  2-4

H
host ports  2-26

I
internally-allocated vlans  2-22
ip flow monitor command  2-29
isolated ports  2-26

M
mac port access-group command  2-28
mapping pvlan  2-26

N
netflow  2-28
no port-profile command  2-36
normal vlan range  2-22
no shutdown command  2-14
number, channel group  2-19, 2-21
number range, vlan  2-22

O
options, designating group as VMware  2-11
Index

P

pg-name option 2-12
port channel, host mode 1-5
port management 2-13
port profile
  ACL 2-27
  creating, 2-8
  enabling 2-33
  mapping pvlan 2-26
  netflow 2-28
  port channels 2-18
  port management 2-13
  private vlan 2-25
  remove 2-35
  updating, flow chart 2-4
  viewing 2-30
  vlan 2-22
  VMware tag 2-11
port-profile command 2-8, 2-10, 2-29, 2-34
ports, private vlan 2-26
private VLAN 2-25
promiscuous ports 2-26
PVLAN 2-25
PVLAN-switchport association 2-26

state enabled command 2-34
switchport access vlan, command 2-24
switchport mode command 2-14, 2-15
switchport mode private-vlan command 2-26
switchport private-vlan host-association command 2-26
switchport private-vlan mapping command 2-26
switchport-PVLAN association 2-26
switchport trunk allowed vlan, command 2-23, 2-24
system vlan command 2-17

U

updating port profiles 2-4
uplink capability 2-9

V

VLAN, private 2-25
vlan ID allowed 2-24
vlan ranges 2-22
VMware, identifying in port group 2-11
vmware port-group command 2-12
vPC-HM
  about 1-5
  configuring 2-20

R

ranges, vlan 2-22
related documents 1-ii
remove vlan IDs 2-24
removing a port profile 2-35

S

show port-profile command 2-30
shutdown command 2-15
state
  port profile, about 1-2

Cisco Nexus 1000V Port Profile Configuration Guide, Release 4.0(4)SV1(1)