Cisco Nexus 3000 Series NX-OS Interfaces Command Reference

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CONTENTS

Preface

This preface describes the audience, organization, and conventions of the *Cisco Nexus 3000 Series NX-OS Interfaces Command Reference*. It also provides information on how to obtain related documentation.

This preface includes the following sections:

Audience

This publication is for experienced network administrators who configure and maintain Cisco Nexus Series switches.

Document Conventions

Command descriptions use these conventions:

Convention	Description
boldface font	Commands and keywords are in boldface.
italic font	Arguments for which you supply values are in italics.
[ ]	Elements in square brackets are optional.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Screen examples use these conventions:

`screen font`	Terminal sessions and information that the switch displays are in screen font.
`boldface screen font`	Information that you must enter is in boldface screen font.
`italic screen font`	Arguments for which you supply values are in italic screen font.
< >	Nonprinting characters, such as passwords, are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

This document uses the following conventions:

Note Means reader *take note*. Notes contain helpful suggestions or references to material not covered in the manual.

Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Related Documentation

Documentation for the Cisco Nexus 3000 Series Switch is available at the following URL:

http://www.cisco.com/en/US/products/ps11541/tsd_products_support_series_home.html

The documentation set is divided into the following categories:

Release Notes

The release notes are available at the follwing URL:

http://www.cisco.com/en/US/products/ps11541/prod_release_notes_list.html

Installation and Upgrade Guides

The installation and upgrade guides are available at the following URL:

http://www.cisco.com/en/US/products/ps11541/prod_installation_guides_list.html

Command References

The command references are available at the following URL:

http://www.cisco.com/en/US/products/ps11541/prod_command_reference_list.html

Technical References

The technical references are available at the following URL:

http://www.cisco.com/en/US/products/ps11541/prod_technical_reference_list.html

Configuration Guides

The configuration guides are available at the following URL:

http://www.cisco.com/en/US/products/ps11541/products_installation_and_configuration_guides_list.html

Error and System Messages

The system message reference guide is available at the following URL:

http://www.cisco.com/en/US/products/ps11541/products_system_message_guides_list.html

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to nexus3k-docfeedback@cisco.com. We appreciate your feedback.

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.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation as an RSS feed and delivers content directly to your desktop using a reader application. The RSS feeds are a free service.

New and Changed Information

This chapter provides release-specific information for each new and changed feature in the *Cisco Nexus 3000 Series NX-OS Interfaces Command Reference*. The latest version of this document is available at the following Cisco website:

http://www.cisco.com/en/US/products/ps11541/tsd_products_support_series_home.html

To check for additional information about this Cisco NX-OS Release, see the *Cisco Nexus 3000 Series Switch Release Notes* available at the following Cisco website:

http://www.cisco.com/en/US/products/ps11541/prod_release_notes_list.html

Table 1 summarizes the new and changed features for Cisco NX-OS Release 6.x and later, and tells you where they are documented.

Table 1 New and Changed Information for Release 6.x

Feature	Description	Changed in Release	Where Documented
no switchport	This command gets an error message on the breakout interface.	7.0(3)I2(1)	• no switchport
vPC	The output for this feature has changed.	7.0(3)I2(1)	• show vpc brief
VLAN Interface Configuration	SVIs are not removed from the layer 3 interface table after running **no interface vlan**. Remove the VLAN itself to remove the SVI.	7.0(3)I2(1)	• interface vlan
Interface Configuration	Unknown unicast blocked, Unknown multicast blocked, and Mac learning outputs have been removed.	7.0(3)I2(1)	• show interface ethernet
LACP Rate	The **lacp rate fast** command is now only allowed with member interfaces in an admin DOWN state.	7.0(3)I2(1)	• lacp rate fast
VXLAN Ingress Replication	This command is enhanced to display all the VXLAN network identifiers (VNIs) configured for a particular peer.	6.0(2)U5(1)	• show nve peers
MAC-Embedded IPv6 Address	Introduced this feature	6.0(2)U4(1)	• ipv6 nd mac-extract
DHCP Client for Switch Provisioning	Added the IPv6 option.	6.0(2)U4(1)	• ip address dhcp

Table 1 New and Changed Information for Release 6.x (continued)

Feature	Description	Changed in Release	Where Documented
Layer 3 Interface	Introduced a command to change the sampling interval for statistics collections on interfaces and an option to display input and output rates for all interfaces.	6.0(2)U4(1)	• load-interval • show interface counters
VXLAN	Introduced this feature.	6.0(2)U3(2)	• feature nv overlay • feature vn-segment-vlan-based • interface nve • ingress-replication • member vni • show interface nve • show nve interface nve • show nve peers • show nve vni • show nve vxlan-params • vn-segment • vxlan udp port
DHCP Client for Switch Provisioning	Introduced this feature.	6.0(2)U3(1)	• ip address dhcp
Downlink Delay	Introduced this feature.	6.0(2)U3(1)	• downlink delay
Symmetric Hashing	Updated the command to include symmetric hashing.	6.0(2)U2(3)	• port-channel load-balance ethernet
Dynamic port breakout for Cisco Nexus 3172	Added support for Cisco Nexus 3172 and introduced a new command option.	6.0(2)U2(3)	• hardware profile portmode
Dynamic port breakout for Cisco Nexus 3132	Updated the **speed** command to configure 40 Gbps interface speed. Added a command to switch between QSFP ports and SFP+ ports.	6.0(2)U2(1)	• speed (Ethernet) • hardware profile front portmode
Consistency Checkers	The following consistency checkers were introduced to check for consistency and display the results: • Port Channel Membership Consistency Checker • Layer 3 Interface Consistency Checker • Link State Consistency Checker	6.0(2)U2(1)	• show consistency-checker membership port-channels • show consistency-checker l3-interface module • show consistency-checker link-state module
Default interface configuration	Added the command to revert an interface to its default configuration.	6.0(2)U2(1)	• default interface

Table 1 New and Changed Information for Release 6.x (continued)

Feature	Description	Changed in Release	Where Documented
IP-in-IP Tunnel Support	Updated the **tunnel mode** command to to select the IP-in-IP tunnel mode.	6.0(2)U2(1)	• tunnel mode
Layer 3 Interface MAC Address Configuration	Command to change the default MAC address on Layer 3 interfaces.	6.0(2)U2(1)	• mac-address
Error-disabled Recovery	Command to disable error-disabled recovery added	6.0(2)U1(2)	• errdisable recovery cause
Switchport Trunks	Default behavior of switchport trunkallowed vlans command changed.	6.0(2)U1(1)	• switchport trunk allowed vlan

Interfaces Commands

This chapter describes the Cisco NX-OS interfaces commands available on Cisco Nexus 3000 Series switches.

abort (switch profile)

To discard the current switch profile configuration, use the **abort** command.

abort

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Use this command when you want to discard the configuration that is imported to a switch profile.

Examples

This example shows how to discard a configuration on a switch profile named s5010 on switch 1 of the peer:

```
switch# configure sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# import running-config
switch(config-sync-sp-import)# exit
switch(config-sync-sp)# abort
switch(config-sync-sp)#
```

Related Commands

Command	Description
commit	Commits a switch profile configuration.
copy running-config startup-config	Copies the running configuration to the startup configuration.
import	Imports a configuration to the switch profile.
show switch-profile buffer	Displays information about the switch profile buffer.
show running-config switch-profile	Displays the running configuration for a switch profile.
verify	Verifies a switch profile configuration.

auto-recovery

To configure the time to restore the virtual port channel (vPC) peer links, use the **auto-recovery** command. To revert to the default delay value, use the **no** form of this command.

auto-recovery [**reload-delay** *delay_value*]

no auto-recovery [**reload-delay** *delay_value*]

Syntax Description

reload-delay	(Optional) Specifies the time to wait before assuming that the vPC peer is dead and to restore the vPC links.
delay_value	Time (in seconds) for restoring the vPC links. The range is from 240 to 3600, and the default is 240.

Command Default

240 seconds

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to enable the automatic recovery interval for 240 seconds (the default value) in vPC domain 100:

```
switch# configuration terminal
switch(config)# vpc domain 100
switch(config-vpc-domain)# auto-recovery
Warning:
 Enables restoring of vPCs in a peer-detached state after reload, will wait for
240 seconds (by default) to determine if peer is un-reachable
switch(config-vpc-domain)#
```

This example shows how to set the automatic recovery delay period for 300 seconds in vPC domain 200:

```
switch# configuration terminal
switch(config)# vpc domain 200
switch(config-vpc-domain)# auto-recovery reload-delay 300
Warning:
 Enables restoring of vPCs in a peer-detached state after reload, will wait for
240 seconds (by default) to determine if peer is un-reachable
switch(config-vpc-domain)#
```

Related Commands

Command	Description
vpc domain	Configures a vPC domain.
show running-config vpc	Displays the running configuration information for vPCs.

autostate

To disable switched virtual interfaces (SVIs) default autostate behavior on VLAN interface, use the **no autostate** command. To reenable default autostate behavior use the **autostate** command.

no autostate

autostate

Syntax Description

This command has no arguments or keywords.

Command Default

Autostate

Command Modes

Interface configuration mode SVI only

Command History

Release	Modification
5.0(3)U5(1)	This command was introduced.

Usage Guidelines

Use the **autostate** command to enable or disable autostate behavior per SVI.

This command does not require a license.

Examples

This example shows how to disable default autostate behavior on a VLAN interface:

```
switch# configure terminal
switch(config)# interface vlan 50
switch(config-if)# no autostate
```

Related Commands

Command	Description
feature interface-vlan	Enables the ability to create VLAN interfaces.
show interface vlan	Displays information about the traffic on the specified VLAN interface.

bandwidth (interface)

To set the inherited and received bandwidth values for an interface, use the **bandwidth** command. To restore the default values, use the **no** form of this command.

bandwidth {*kbps* | **inherit** [*kbps*]}

no bandwidth {*kbps* | **inherit** [*kbps*]}

Syntax Description

kbps	Informational bandwidth in kilobits per second. Valid values are from 1 to 10000000.
inherit	(Optional) Specifies that the bandwidth be inherited from the parent interface.

Command Default

1000000 kbps

Command Modes

Interface configuration mode
Subinterface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The **bandwidth** command sets an informational parameter to communicate only the current bandwidth to the higher-level protocols; you cannot adjust the actual bandwidth of an interface using this command.

The **bandwidth inherit** command controls how a subinterface inherits the bandwidth of its main interface.

The **no bandwidth inherit** command enables all subinterfaces to inherit the default bandwidth of the main interface, regardless of the configured bandwidth. If a bandwidth is not configured on a subinterface, and you use the **bandwidth inherit** command, all subinterfaces will inherit the current bandwidth of the main interface. If you configure a new bandwidth on the main interface, all subinterfaces will use this new value.

If you do not configure a bandwidth on the subinterface and you configure the bandwidth inherit command on the main interface, the subinterfaces will inherit the specified bandwidth.

In all cases, if an interface has an explicit bandwidth setting configured, then that interface will use that setting, regardless of whether the bandwidth inheritance setting is in effect.

This command does not require a license.

Examples

This example shows how to configure the bandwidth for a Layer 2 interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# bandwidth 1000
```

```
switch(config-if)#
```

This example shows how to configure subinterfaces to inherit the bandwidth from the parent routed interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# bandwidth inherit 30000
switch(config-if)# interface ethernet 1/1.1
switch(config-subif)#
```

Related Commands

Command	Description
show interface	Displays the interface configuration information.

buffer-delete

To delete commands from a switch profile buffer, use the **buffer-delete** command.

buffer-delete {*sequence-no* | **all**}

Syntax Description

sequence-no	ID of the command to be deleted. You can use the hyphen (-) to separate a range of IDs; for example, 10-14.
all	Specifies that all buffered commands be deleted.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Use this command if you want to correct the wrong configuration made to the switch profile or you do not want certain configuration commands to be synchronized with the peer after a software upgrade.

Examples

This example shows how to delete buffered commands from the switch profile named s5010 on switch 2 of the peer:

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# show switch-profile s5010 buffer
-------------------------------------------------------------
Seq-no  Command
-------------------------------------------------------------
1       interface ethernet 1/1
1.1       switchport mode trunk
1.2       speed 1000
2       interface port-channel 102
2.1       vpc 1
2.2       switchport mode trunk

switch(config-sync-sp)# buffer-delete 2-2.2
switch(config-sync-sp)# show switch-profile s5010 buffer
-------------------------------------------------------------
Seq-no  Command
-------------------------------------------------------------
1       interface ethernet 1/1
1.1       switchport mode trunk
1.2       speed 1000
```

```
switch(config-sync-sp)#
```

Related Commands

Command	Description
buffer-move	Corrects the order of commands in the switch profile buffer.
commit	Applies the commands to the switch configuration.
copy running-config startup-config	Copies the running configuration to the startup configuration.
show switch-profile buffer	Displays information about the switch profile buffer.
verify	Verifies the commands in the switch profile.

buffer-move

To change the order of commands in the switch profile buffer, use the **buffer-move** command.

buffer-move *from-sequence-no to-sequence-no*

Syntax Description

from-sequence-no	ID of the command to be moved from its current location in the buffer. You can use the hyphen (-) to separate a range of IDs; for example, 10-14.
to-sequence-no	ID of the location where the command is to be moved. You can use the hyphen (-) to separate a range of IDs; for example, 10-14.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Use this command if you want to change the order and precedence of the configuration commands in the switch profile buffer.

Examples

This example shows how to change the order of buffered commands for the switch profile named s5010 on switch 2 of the peer:

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# show switch-profile s5010 buffer
------------------------------------------------------------
Seq-no  Command
------------------------------------------------------------
1       interface ethernet 1/1
1.1       switchport mode trunk
1.2       speed 1000
2       interface port-channel 102
2.1       vpc 1
2.2       switchport mode trunk

switch(config-sync-sp)# buffer-move 2 1
switch(config-sync-sp)# show switch-profile s5010 buffer
------------------------------------------------------------
Seq-no  Command
------------------------------------------------------------
1       interface port-channel 102
1.1       vpc 1
1.2       switchport mode trunk
```

```
2       interface ethernet 1/1
2.1       switchport mode trunk
2.2       speed 1000

switch(config-sync-sp)#
```

Related Commands

Command	Description
buffer-delete	Deletes commands from the switch profile buffer.
commit	Applies the commands to the switch configuration.
copy running-config startup-config	Copies the running configuration to the startup configuration.
show switch-profile buffer	Displays information about the switch profile buffer.
verify	Verifies the commands in the switch profile.

channel-group (Ethernet)

To assign and configure a physical interface to an EtherChannel, use the **channel-group** command. To remove the channel group configuration from the interface, use the **no** form of this command.

channel-group *number* [**force**] [**mode** {**active** | **on** | **passive**}]

no channel-group [*number*]

Syntax Description

number	Number of channel group. The *number* range is from 1 to 4096. Cisco NX-OS creates the EtherChannel associated with this channel group if the EtherChannel does not already exist.
force	(Optional) Specifies that the LAN port be forcefully added to the channel group.
mode	(Optional) Specifies the EtherChannel mode of the interface.
active	Specifies that when you enable the Link Aggregation Control Protocol (LACP), this command enables LACP on the specified interface. The interface is in an active negotiating state, in which the port initiates negotiations with other ports by sending LACP packets.
on	This is the default channel mode. Specifies that all EtherChannels that are not running LACP remain in this mode. If you attempt to change the channel mode to active or passive before enabling LACP, the switch returns an error message. After you enable LACP globally, by using the **feature lacp** command, you enable LACP on each channel by configuring the channel mode as either active or passive. An interface in this mode does not initiate or respond to LACP packets. When an LACP attempts to negotiate with an interface in the on state, it does not receive any LACP packets and becomes an individual link with that interface; it does not join the channel group. The default mode is **on**.
passive	Specifies that when you enable LACP, this command enables LACP only if an LACP device is detected. The interface is in a passive negotiation state, in which the port responds to LACP packets that it receives but does not initiate LACP negotiation.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Use this command to create a channel group that includes the interface that you are working on and to add or remove specific interfaces from the channel group. Use this command to move a port from one channel group to another. You enter the channel group that you want the port to move to; the switch automatically removes the specified port from its present channel group and adds it to the specified channel group.

Use the **force** keyword to force the addition of the interface into the specified channel group.

After you enable LACP globally, by using the **feature lacp** command, you enable LACP on each channel by configuring the channel mode as either **active** or **passive**. An EtherChannel in the **on** channel mode is a pure EtherChannel and can aggregate a maximum of eight ports. The EtherChannel does not run LACP.

You cannot change the mode for an existing EtherChannel or any of its interfaces if that EtherChannel is not running LACP; the channel mode remains as **on**. The system returns an error message if you attempt to change the mode.

Use the **no** form of this command to remove the physical interface from the EtherChannel. When you delete the last physical interface from an EtherChannel, the EtherChannel remains. To delete the EtherChannel completely, use the **no** form of the **interface port-channel** command.

The compatibility check includes the following operational attributes:

- Port mode
- Access VLAN
- Trunk native VLAN
- Tagged or untagged
- Allowed VLAN list
- Switched Port Analyzer (SPAN) (cannot be SPAN source or destination port)
- Storm control

Use the **show port-channel compatibility-parameters** command to see the full list of compatibility checks that Cisco NX-OS uses.

You can only add interfaces configured with the channel mode set to **on** for static EtherChannels, that is, without a configured aggregation protocol. You can only add interfaces configured with the channel mode as **active** or **passive** to EtherChannels that are running LACP.

You can configure these attributes on an individual member port. If you configure a member port with an incompatible attribute, Cisco NX-OS suspends that port in the EtherChannel.

When the interface joins an EtherChannel, some of its individual parameters are overridden with the values on the EtherChannel, as follows:

- MAC address
- Spanning Tree Protocol (STP)
- Service policy
- Quality of service (QoS)
- Access control lists (ACLs)

Interface parameters, such as the following, remain unaffected when the interface joins or leaves a EtherChannel:

- Description
- Cisco Discovery Protocol (CDP)

- LACP port priority
- Debounce
- Rate mode
- Shutdown
- SNMP trap

If interfaces are configured for the EtherChannel interface and a member port is removed from the EtherChannel, the configuration of the EtherChannel interface is not propagated to the member ports.

Any configuration changes that you make in any of the compatibility parameters to the EtherChannel interface are propagated to all interfaces within the same channel group as the EtherChannel (for example, configuration changes are also propagated to the physical interfaces that are not part of the EtherChannel but are part of the channel group).

This command does not require a license.

Examples

This example shows how to add an interface to LACP channel group 5 in active mode:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# channel-group 5 mode active
switch(config-if)#
```

This example shows how to forcefully add an interface to the channel group 5:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# channel-group 5 force
switch(config-if)#
```

Related Commands

Command	Description
show interface port-channel	Displays information about the traffic on the specified EtherChannel interface.
show lacp	Displays LACP information.
show port-channel summary	Displays information on the EtherChannels.

cdp enable

To enable the Cisco Discovery Protocol (CDP) on an Ethernet interface, use the **cdp enable** command. To disable CDP on the interface, use the **no** form of this command.

cdp enable

no cdp enable

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to enable CDP on an Ethernet interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# cdp enable
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays the interface configuration information.

command (switch profile)

To add or modify commands in a switch profile, use any command that is supported in the switch profile. To remove a command from the switch profile, use the **no** form of the supported command.

command argument

no *command argument*

Syntax Description

command	Command supported in a switch profile.
argument	Arguments for the supported command.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

After you configure a switch profile on each peer, you can add the interface configuration, quality of service (QoS), and virtual port channel (vPC) commands to the switch profile.

Note In this release of Cisco NX-OS, FCoE commands are not supported on a switch profile.

The commands that you add or modify are stored in the switch profile buffer until you apply them to the switch configuration using the **commit** command. Alternatively, you may verify the commands in the buffer (using the **verify** command) before applying them to the switch configuration. After you commit the configuration, you can continue to add commands to, or remove commands from, a switch profile configuration. When you commit the configuration again, the updated commands are verified and applied to the switch profile configuration, and the configuration is synchronized between the peers.

Commands are executed in the same order in which they are buffered. You can delete commands from the switch profile buffer using the **buffer-delete** command, or change their order of precedence in the switch profile buffer using the **buffer-move** command.

Examples

This example shows how to add the interface commands to a switch profile named s5010 on switch 1 of the peer:

Peer A

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
switch(config-sync-sp)# interface ethernet 1/1
```

```
switch(config-sync-sp-if)# switchport mode trunk
switch(config-sync-sp-if)# speed 1000
switch(config-sync-sp-if)# exit
switch(config-sync-sp)#
```

This example shows how to add commands to the switch profile named s5010 on switch 2 of the peer:

Peer B

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# interface ethernet 1/1
switch(config-sync-sp-if)# switchport mode trunk
switch(config-sync-sp-if)# speed 1000
switch(config-sync-sp-if)# interface port-channel 102
switch(config-sync-sp-if)# vpc 1
switch(config-sync-sp-if)# switchport mode trunk
switch(config-sync-sp-if)# exit
switch(config-sync-sp)#
```

This example shows how to remove commands from the switch profile named s5010 on switch 2 of the peer:

Peer B

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# interface ethernet 1/1
switch(config-sync-sp-if)# switchport mode trunk
switch(config-sync-sp-if)# speed 1000
switch(config-sync-sp-if)# interface port-channel 102
switch(config-sync-sp-if)# vpc 1
switch(config-sync-sp-if)# no switchport mode trunk <-- command removed from configuration
switch(config-sync-sp-if)# exit
switch(config-sync-sp)#
```

Related Commands

Command	Description
buffer-delete	Deletes commands from the switch profile buffer.
buffer-move	Corrects the order of commands in the switch profile buffer.
commit	Applies the commands to the switch configuration.
copy running-config startup-config	Copies the running configuration to the startup configuration.
show switch-profile buffer	Displays information about the switch profile buffer.
show switch-profile status	Displays the switch profile status.
verify	Verifies the commands in the switch profile.

commit (switch profile)

To commit the commands in the switch profile buffer and save the configuration in the switch, use the **commit** command.

commit

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Use this command to save the switch profile configuration and synchronize the configuration with the peer switch. If the commit fails, you must manually correct the configuration commands and then commit the configuration again.

When you commit a configuration, the following operations are performed to ensure that the configuration is applied uniformly on the peer switch:

- Verifies the commands for mutual exclusion checks (mutex-check) on both switches if the peer switch is reachable; otherwise, the mutex-check is performed locally.

  Note A command that is included in a switch profile cannot be configured outside of the switch profile or on a peer switch. Ensure that the new configuration in the switch profile does not conflict with the configurations that may exist outside the switch profile or inside another switch profile. This feature is called mutual exclusion (mutex) check.

- Creates a checkpoint with a rollback infrastructure.
- Applies the configuration on the local switch and the peer switch.

  If there is a commit failure on any of the switches, the configuration is rolled back on both switches.
- Deletes the checkpoint.

During commit, the configuration revision of the switch profile is used to determine the synchronization of the configuration in the peer switch as follows:

- If the revision number of the local switch profile is the same as the peer, and there is a locally applied configuration that needs to be synchronized, the configuration is synchronized in the peer.
- If the revision number is the same in both switches, and there is no locally applied configuration that needs to be synchronized with the peer, the synchronization session is terminated immediately.

- If the revision number in the local switch does not match that of the peer switch, the configuration is synchronized in the peer.

After you commit a switch profile configuration, you can continue to add or remove commands from the switch profile. When you commit the configuration again, only the updated commands are used for verification and the configuration is then applied to the switch profile and synchronized with the peer switch.

Examples

This example shows how to apply the changes made to the switch profile named s5010 on switch 1 of the peer:

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# interface ethernet 1/1
switch(config-sync-sp-if)# switchport mode trunk
switch(config-sync-sp-if)# speed 1000
switch(config-sync-sp-if)# exit
switch(config-sync-sp)# commit
switch(config-sync-sp)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
show switch-profile	Displays information about the switch profile and the configuration revision.
show switch-profile buffer	Displays information about the switch profile buffer.
show running-config switch-profile	Displays the running configuration for a switch profile.
verify	Verifies the commands in the switch profile.

config sync

To enter the configuration synchronization mode to create switch profiles, use the **config sync** command.

config sync

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Use the **config sync** command on the local and the peer switch that you want to synchronize.

Before you synchronize the configuration on the switches, you must ensure the following:

- Identify the peer switches.
- Enable Cisco Fabric Services (CFS) distribution over IPv4 on the management interface (mgmt0) of the peer switches.

When you use the configuration synchronization feature, the configurations made on one switch is synchronized and made available on the peer switch.

After using the **config sync** command, you can create or configure switch profiles on the peer switches.

Examples

This example shows how to enable CFS over IPv4 on a switch in peer configuration, and then enter the configuration synchronization mode on the switch:

```
switch# configure terminal
switch(config)# cfs ipv4 distribute
switch(config)# exit
switch# config sync
switch(config-sync)# ?
  no               Negate a command or set its defaults
  resync-database  Re-synchronize switch-profile database
  switch-profile   Enter switch-profile configuration mode
  end              Go to exec mode
  exit             Exit from command interpreter
  pop              Pop mode from stack or restore from name
  push             Push current mode to stack or save it under name
  where            Shows the cli context you are in
```

Note While importing any configuration related to PO, it is required to run the command **resync-database**.

Related Commands

Command	Description
cfs ipv4 distribute	Enables CFS distribution over IPv4 on the switch.
switch-profile	Creates or configures switch profiles.

copy running-config startup-config

To save the running configuration to the startup configuration file so that all current configuration details are available after a reboot, use the **copy running-config startup-config** command.

copy running-config startup-config

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

To view the changes to the configuration that you have made, use the **show startup-config** command.

Note Once you enter the **copy running-config startup-config** command, the running and the startup copies of the configuration are identical.

Examples

This example shows how to save the running configuration to the startup configuration:

```
switch# copy running-config startup-config
[########################################] 100%
switch#
```

Related Commands

Command	Description
show running-config	Displays the currently running configuration.
show startup-config	Displays the startup configuration file.

default interface

To reset the configuration of an interface to the default configuration, use the **default interface** command.

default interface *type interface-number*

Syntax Description

type	Specifies the type of interface.
interface-number	Interface number for the interface type: • ethernet—Slot/chassis number. The range is from 1 to 255. • loopback—Virtual interface number. The range is from 0 to 1023. • mgmt—Management interface number. The range is from 0 to 0. • port-channel—Port Channel number. The range is from 1 to 4096. • vlan—Vlan interface number. The range is from 1 to 4094.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U2(1)	This command was introduced.

Usage Guidelines

Use this command to return an interface to its default state. All the user configuration under the specified interface(s) is deleted upon the successful completion of the command.

Caution When using this command, you delete the configuration of the specified interfaces

This command does not require a license.

Examples

This example shows how to revert to the default configuration of an interface:

```
switch# configure terminal
switch(config)# default interface ethernet 1/2
.......Done
switch(config)#
```

Related Commands

Command	Description
show interface switchport	Displays the administrative and operational status of a switching (nonrouting) port.

delay (interface)

To set a delay value for an interface, use the **delay** command. To restore the default delay value, use the **no** form of this command.

delay *tens-of-microseconds*

no delay

Syntax Description

tens-of-microseconds	Throughput delay in tens of microseconds. The range is from 1 to 16,777,215.

Command Default

10 microseconds

Command Modes

Interface configuration mode
Subinterface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to set a delay of 30,000 microseconds on an interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# delay 30000
switch(config-if)#
```

This example shows how to set a delay of 1000 microseconds on a subinterface:

```
switch# configure terminal
switch(config)# interface ethernet 1/1.1
switch(config-subif)# delay 1000
switch(config-subif)#
```

Related Commands

Command	Description
interface ethernet (Layer 3)	Configures an Ethernet routed interface.
show interface	Displays the interface configuration information.

delay restore

To delay the virtual port channel (vPC) from coming up on the restored vPC peer device after a reload when the peer adjacency is already established, use the **delay restore** command. To revert to the default delay value, use the **no** form of this command.

delay restore *time*

no delay restore

Syntax Description

time	Number of seconds to delay bringing up the restored vPC peer device. The range is from 1 to 3600.

Command Default

30 seconds

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Use the **delay restore** command to avoid upstream traffic from the access device to the core from being dropped when you restore the vPC peer devices.

This command does not require a license.

Examples

This example shows how to configure the delay reload time for a vPC link:

```
switch(config)# vpc domain 1
switch(config-vpc-domain)# delay restore 10
switch(config-vpc-domain)#
```

This example shows how to remove the reload time configuration for a vPC link:

```
switch(config)# vpc domain 1
switch(config-vpc-domain)# no delay restore
switch(config-vpc-domain)#
```

Related Commands

Command	Description
show vpc	Displays the vPC configuration.

description (interface)

To add a description to an interface configuration, use the **description** command. To remove the description, use the **no** form of this command.

description *description*

no description

Syntax Description

description	String description of the interface configuration. This string is limited to 80 characters.

Command Default

No description is added.

Command Modes

Interface configuration mode
Subinterface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The **description** command is meant to provide a reminder in the configuration to describe what certain interfaces are used for. The description appears in the output of the following commands such as **show interface** and **show running-config**.

This command does not require a license.

Examples

This example shows how to add a description for an interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# description "10G Server Link"
switch(config-if)#
```

Related Commands

Command	Description
show interface ethernet	Displays the interface configuration information.
show running-config	Displays the contents of the currently running configuration file.

downlink delay

To enable or disable downlink delay and configure the timeout, use the **downlink delay** command.

downlink delay *enable* | *disable* [**timeout** *time-out*]

Syntax Description

delay *enable*	Enables downlink delay.
delay *disable*	Disables downlink delay.
timeout *time-out*	Specifies the delay in seconds. The default value is 20 seconds.

Command Default

Disabled.

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Usage Guidelines

You can configure a timer that during reload enables the downlink RJ-45 ports in hardware only after the specified timeout. This allows the uplink SFP+ ports to be operational first. The timer is enabled in the hardware for only those ports that are admin-enable.

Examples

This example shows how to enable a delay and configure the timeout:

```
switch# configure terminal
switch(config)# downlink delay enable timeout 45
```

dual-active exclude interface-vlan

To ensure that certain VLAN interfaces are not shut down on the virtual port-channel (vPC) secondary peer device when the vPC peer link fails for those VLANs carried on the vPC peer link but not on the vPC configuration itself, use the **dual-active exclude interface-vlan** command. To return to the default value, use the **no** form of this command.

dual-active exclude interface-vlan {*range*}

no dual-active exclude interface-vlan

Syntax Description

range	Range of VLAN interfaces that you want to exclude from shutting down. The allowed VLAN range is from 1 to 3967 and 4048 to 4093.

Command Default

None

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The VLAN interfaces must have already been configured.

This command does not require a license.

Examples

This example shows how to configure the device to keep the VLAN interfaces up on the vPC peer devices if the peer link fails:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)# dual-active exclude interface-vlan 10
switch(config-vpc-domain)#
```

This example shows how to restore the default configuration on the vPC peer devices if the peer link fails:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)# no dual-active exclude interface-vlan
switch(config-vpc-domain)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
show vpc	Displays vPC configuration information.

errdisable detect cause

To enable error-disable detection for a specific cause or for all causes, use the **errdisable detect cause** command in global configuration mode.

errdisable detect cause {**all | link-flap | loopback**}

Syntax Description

all	Enables error detection for all error-disabled causes.
link-flap	Enables error detection for link-state flapping.
loopback	Enables error detection for detected loopbacks.

Command Default

Detection is enabled for all causes.

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

A cause (such as a link-flap or loopback) is the reason for the error-disabled state. When a cause is detected on an interface, the interface is placed in an error-disabled state, an operational state that is similar to a link-down state.

If you set a recovery mechanism for the cause by entering the errdisable recovery global configuration command, the interface is brought out of the error-disabled state and allowed to retry the operation when all causes have timed out.

Examples

This example shows how to enable error-disabled detection for the link-flap error-disabled cause:

```
switch# configure terminal
switch(config)# errdisable detect cause link-flap
switch(config)#
```

Related Commands

Command	Description
errdisable recovery cause	Enables error disabled recovery on an interface.
show interface status err-disabled	Displays the error disabled state of interfaces.

errdisable recovery cause

To enable the error-disabled mechanism to recover from a specific cause, use the **errdisable recovery cause** command in global configuration mode. To disable recovery of an interface from the error-disabled state, use the **no** form of this command.

errdisable recovery cause { all | bpduguard | link-flap | loopback | pause-rate-limit | failed-port-state | udld }

no errdisable recovery cause { all | bpduguard | link-flap | loopback | pause-rate-limit | failed-port-state | udld }

Syntax Description

all	Enables the timer to recover from all error-disabled causes.
bpduguard	Enables the timer to recover from the bridge protocol data unit (BPDU) guard error-disabled state.
link-flap	Enables the timer to recover from the link-flap error-disabled state.
loopback	Enables error detection for detected loopbacks.
pause-rate-limit	Enables the timer to recover from the pause-rate-limit error-disabled state.
failed-port-state	Enables the timer to recover from a Spanning Tree Protocol (STP) set port state failure.
udld	Enables a timer to recover from the Unidirectional Link Detection (UDLD) error disabled state.

Command Default

Recovery is disabled for all causes.

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U1(2)	The no form of this command was introduced.
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

A cause (such as all or BDPU guard) is defined as the reason that the error-disabled state occurred. When a cause is detected on an interface, the interface is placed in the error-disabled state, an operational state similar to link-down state.

If you do not enable the recovery for the cause, the interface stays in the error-disabled state until you enter the **shutdown** and the **no shutdown** interface configuration commands. If you enable the recovery for a cause, the interface is brought out of the error-disabled state and allowed to retry the operation again after 300 seconds when all the causes have timed out.

Examples

This example shows how to enable the errdisable recovery for the BPDU guard error-disabled cause:

```
switch# configure terminal
switch(config)# errdisable recovery cause bpduguard
switch(config)#
```

This example shows how to disable the errdisable recovery for the BPDU guard error-disabled cause:

```
switch# configure terminal
switch(config)# no errdisable recovery cause bpduguard
switch(config)#
```

Related Commands

Command	Description
errdisable detect cause	Enables the error disabled (err-disabled) detection.
show interface status err-disabled	Displays the error disabled state of interfaces.

encapsulation dot1Q

To enable IEEE 802.1Q encapsulation of traffic on a specified subinterface, use the **encapsulation dot1q** command. To disable encapsulation, use the **no** form of this command.

encapsulation dot1Q *vlan-id*

no encapsulation dot1Q *vlan-id*

Syntax Description

vlan-id	VLAN to set when the interface is in access mode; valid values are from 1 to 4093, except for the VLANs reserved for internal switch use.

Command Default

No encapsulation

Command Modes

Subinterface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

IEEE 802.1Q encapsulation is configurable on Ethernet and EtherChannel interfaces. IEEE 802.1Q is a standard protocol for interconnecting multiple switches and routers and for defining VLAN topologies.

Use the **encapsulation dot1q** command in subinterface range configuration mode to apply a VLAN ID to the subinterface.

Note This command is not applicable to loopback interfaces.

This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

Examples

This example shows how to enable dot1Q encapsulation on a subinterface for VLAN 30:

```
switch# configure terminal
switch(config)# interface ethernet 1/5.1
switch(config-subif)# encapsulation dot1q 30
switch(config-subif)#
```

Related Commands

Command	Description
show vlan dot1Q	Displays dot1Q encapsulation information for a VLAN.

feature interface-vlan

To enable the creation of VLAN interfaces (switched virtual interfaces [SVI]), use the **feature interface-vlan** command. To disable the VLAN interface feature, use the **no** form of this command.

feature interface-vlan

no feature interface-vlan

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U5(1)	This command was introduced.

Usage Guidelines

You must use the **feature interface-vlan** command before you can create VLAN interfaces.

This command does not require a license.

Examples

This example shows how to enable the interface VLAN feature:

```
switch(config)# feature interface-vlan
```

Related Commands

Command	Description
interface vlan	Creates a VLAN interface.

feature nv overlay

To enable the VXLAN feature, use the **feature nv overlay** command. To disable the VXLAN feature, use the **no** form of this command.

feature nv overlay

no feature nv overlay

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Usage Guidelines

You must use the **feature nv overlay** command before you can enable VLAN to vn-segment mapping.

Examples

This example shows how to enable the interface VLAN feature:

```
switch(config)# feature nv overlay
```

Related Commands

Command	Description
vxlan udp port	Creates a VXLAN destination UDP port.

feature tunnel

Command	Description
vxlan udp port	Creates a VXLAN destination UDP port.

To enable the creation of tunnel interfaces, use the **feature tunnel** command. To disable the tunnel interface feature, use the **no** form of this command.

feature tunnel

no feature tunnel

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

You must use the **feature tunnel** command before you can create tunnel interfaces.

This command requires the Enterprise license.

Examples

This example shows how to enable the interface tunnel feature:

```
switch(config)# feature tunnel
```

Related Commands

Command	Description
interface tunnel	Creates a tunnel interface.

feature vn-segment-vlan-based

To enable VLAN to vn-segment mapping, use the **feature vn-segment-vlan-based** command. To disable VLAN to vn-segment mapping, use the **no** form of this command.

feature vn-segment-vlan-based

no feature vn-segment-vlan-based

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Usage Guidelines

You must use the **feature nv overlay** command before you can enable the VLAN to vn-segment mapping feature.

Examples

This example shows how to enable VLAN to vn-segment mapping:

```
switch# configure terminal
switch(config)# feature nv overlay
switch(config)# feature vn-segment-vlan-based
switch(config)# copy running-config startup-config
```

Related Commands

Command	Description
feature nv overlay	Enables the VXLAN feature.

feature vpc

Command	Description
feature nv overlay	Enables the VXLAN feature.

To enable a virtual port channel (vPC), which allows links that are physically connected to two different Cisco Nexus 3000 Series devices to appear as a single port channel to a third device, use the **feature vpc** command. To disable vPC on the switch, use the **no** form of this command.

feature vpc

no feature vpc

Syntax Description

This command has no arguments or keywords.

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

In a vPC configuration, the third device can be a Cisco Nexus 2000 Series Fabric Extender, switch, server, or any other networking device.

Examples

This example shows how to enable vPC on the switch:

```
switch(config)# feature vpc
switch(config)#
```

Related Commands

Command	Description
show vpc	Displays the vPC configuration status.
show feature	Displays whether or not vPC is enabled on the switch.

graceful consistency-check

To enable the Graceful Type-1 Consistency feature in a virtual port channel (vPC) domain, use the **graceful consistency-check** command. To disable the Graceful Type-1 Consistency feature, use the **no** form of this command.

graceful consistency-check

no graceful consistency-check

Syntax Description

This command has no arguments or keywords.

Command Default

Enabled

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to enable the Graceful Type-1 Consistency feature in vPC domain 100:

```
switch# configuration terminal
switch(config)# vpc domain 100
switch(config-vpc-domain)# graceful consistency-check
switch(config-vpc-domain)#
```

This example shows how to disable the Graceful Type-1 Consistency feature in vPC domain 100:

```
switch# configuration terminal
switch(config)# vpc domain 100
switch(config-vpc-domain)# no graceful consistency-check
switch(config-vpc-domain)#
```

Related Commands

Command	Description
vpc domain	Configures a vPC domain.
show vpc brief	Displays information about vPCs. If the vPC feature is not enabled, the system displays an error when you enter this command.

hardware profile front portmode

To switch between using the first Quad small form-factor pluggable (QSFP) port and Small form-factor pluggable (SFP+) ports 1 to 4, use the **hardware profile front portmode** command. To restore the default QSFP port mode, use the **no** form of this command.

hardware profile front portmode qsfp | sfp-plus

no hardware profile front portmode

Syntax Description

qsfp	Makes the front panel QSFP port active
sfp-plus	Makes the front panel SFP+ ports 1 to 4 active

Command Default

QSFP is the default port mode

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U2(1)	This command was introduced.

Usage Guidelines

You can use this command only on Cisco Nexus 3132 switches. Use this comand only when the ports are in the 10-GbE mode. If the first QSFP port speed is 40 Gbps, this command will run, but the SFP+ ports will not become active until after the speed is changed to 10 Gbps.

This command does not require a license.

Examples

This example shows how to activate the SFP+ ports:

```
switch# configure terminal
switch(config)# hardware profile front portmode sfp-plus
switch(config)# copy running-config startup-config
```

This example shows how to make the QSFP port active:

```
switch# configure terminal
switch(config)# no hardware profile front portmode
switch(config)# copy running-config startup-config
```

Related Commands

Command	Description
reload	Reloads the Cisco Nexus 3000 Series switch software.
show running-config	Displays the information for the running configuration.

hardware profile portmode

To configure a Quad small form-factor pluggable (QSFP+) port, use the **hardware profile portmode** command. To restore the defaults, use the **no** form of this command.

Note To change the port naming convention from the default 3-tuple mode to 2-tuple mode, use the **2-tuple** option. To revert back to the default use the **hardware profile portmode** command without the **2-tuple** option. When you break out a 40-Gigabit Ethernet port into 10-Gigabit Ethernet ports, the resulting ports are numbered using a 3-tuple naming convention. The 2-tuple naming convention is not applicable for these breakout ports.

hardware profile portmode *port-mode*

no hardware profile portmode

Syntax Description

port-mode	Port mode can be one of the following: • **16x10g+12x40g** • **16x40g** • **32x10g+8x40g** • **48x10g+4x40g** • **64x10g** • **8x10g+14x40g** • **4x10g+32x40g** • **32x40g** • **Fixed32x40g** • **26x40g** • **24x40g** • **48x10g+breakout6x40g** • **48x10g+6x40g** • **72x10g**

Command Default

The Cisco Nexus 3016 switch—16x40G
The Cisco Nexus 3064 switch—64x10G
The Cisco Nexus 3132 switch—Fixed32x40g
The Cisco Nexus 3172 switch—48x10g+breakout6x40g

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U3(1)	Added **48x10g+breakout6x40g, 48x10g+6x40g, and 72x10g** support**.**
6.0(2)U2(1)	Added **4x10g+32x40g, 26x40g, and 24x40g** support**.**
5.0(3)U3(1)	Added **16x10g+12x40g, and 8x10g+14x40g** support**.**
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

We recommend that you follow this step-by-step procedure to change port mode on a Cisco NX-OS device:

1. Copy the running configuration to bootflash by using the **copy running-config** command. You can use this file to configure your device later.
2. Remove all the interface configurations by using the **write erase** command.
3. Reload the Cisco Nexus 3000 Series switch software by using the **reload** command.
4. Use the **hardware profile portmode** command to change port mode.
5. Copy the running configuration and startup configuration by using the **copy running-config startup-config** command.
6. Reload the Cisco Nexus 3000 Series switch software again by using the **reload** command.
7. Manually apply all the interface configuration. You can refer to the configuration file that you saved on the device earlier.

Note The interface numbering changes if the ports are changed from 40G mode to 4x10G mode or vice-versa.

This command does not require a license.

Examples

This example shows how to change the port mode to 48x10g+4x40g for QSFP+ ports:

```
switch# configure terminal
switch(config) copy running-config bootflash:my-config.cfg
switch(config)# write erase
switch(config)# reload
WARNING: This command will reboot the system
Do you want to continue? (y/n) [n] y
switch(config)# hardware profile portmode 48x10g+4x40g
Warning: This command will take effect only after saving the configuration and reload!
Port configurations could get lost when port mode is changed!
switch(config)# copy running-config startup-config
switch(config)# reload
WARNING: This command will reboot the system
Do you want to continue? (y/n) [n] y
```

This example shows how to change the port mode to 48x10g+4x40g for QSFP+ ports and verify the changes:

```
switch# configure terminal
switch(config)# hardware profile portmode 48x10g+4x40g
Warning: This command will take effect only after saving the configuration and r
eload! Port configurations could get lost when port mode is changed!
switch(config)# show running-config

!Command: show running-config
```

```
!Time: Thu Aug 25 07:39:37 2011

version 5.0(3)U2(1)
feature telnet
no feature ssh
feature lldp

username admin password 5 $1$OOV4MdOM$BAB5RkD22YanT4empqqSM0  role network-admin
ip domain-lookup
switchname BLR-QG-5
ip access-list my-acl
  10 deny ip any 10.0.0.1/32
  20 deny ip 10.1.1.1/32 any
class-map type control-plane match-any copp-arp
class-map type control-plane match-any copp-bpdu
:
:
control-plane
  service-policy input copp-system-policy
hardware profile tcam region arpacl 128
hardware profile tcam region ifacl 256
hardware profile tcam region racl 256
hardware profile tcam region vacl 512
hardware profile portmode 48x10G+4x40G
snmp-server user admin network-admin auth md5 0xdd1d21ee42e93106836cdefd1a60e062
<--Output truncated-->
switch#
```

This example shows how to restore the default port mode for QSFP+ ports:

```
switch# configure terminal
switch(config)# no hardware profile portmode
Warning: This command will take effect only after saving the configuration and r
eload! Port configurations could get lost when port mode is changed!
switch(config)#
```

Related Commands

Command	Description
reload	Reloads the Cisco Nexus 3000 Series switch software.
show running-config	Displays the information for the running configuration.

import interface

To import an interface configuration to a switch profile, use the **import interface** command.

import interface {**ethernet** *slot*/*port* | **port-channel** *channel-no*}

Syntax Description

ethernet	Specifies the Ethernet interface configuration to import to the switch profile.
slot/*port*	Chassis or slot number and the port or slot number. The slot can be from 1 to 255 and the port can be from 1 to 128.
port-channel	Specifies the EtherChannel interface configuration to import to the switch profile.
channel-no	EtherChannel number. The range is from 1 to 4096.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

When no option is specified with the **import** command, an empty switch profile is created. You can then selectively add the configuration that is needed to be synchronized with the peer switch.

You can import a switch profile based on the set of commands that you want to import. The following three ways can be used to import commands that were added using the configuration terminal mode:

1. Add selected commands to the switch profile.
2. Add supported commands that were specified for an interface.
3. Add supported system-level commands.

When you import commands to a switch profile, the switch profile buffer must be empty.

Use the **commit** command to complete the import process and move the configuration into the switch profile. Because configuration changes are not supported during the import process, if new commands are added before entering the **commit** command, the switch profile remains unsaved and the switch remains in the switch profile import mode (config-sync-sp-import). You can remove the added commands or use the **abort** command to stop the import. Unsaved configurations are lost if the process is aborted. New commands can be added to the switch profile after the import is complete.

Examples

This example shows how to import the Ethernet interface configuration to a switch profile named s5010 on switch 1 of the peer:

```
switch# config sync
```

```
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# show switch-profile s5010 buffer

switch-profile  : s5010
----------------------------------------------------------
Seq-no  Command
----------------------------------------------------------

switch(config-sync-sp)# import interface ethernet 1/1
switch(config-sync-sp)# show switch-profile buffer

switch-profile  : s5010
----------------------------------------------------------
Seq-no  Command
----------------------------------------------------------
1       interface Ethernet1/1

switch(config-sync-sp-import)# commit
Verification successful...
Proceeding to apply configuration. This might take a while depending on amount o
f configuration in buffer.
Please avoid other configuration changes during this time.
Commit Successful
switch(config-sync)#
```

This example shows how to create an empty switch profile named sp100 on switch 1 of the peer and then add the configuration commands:

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile sp100
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# show switch-profile sp100 buffer

switch-profile  : sp100
----------------------------------------------------------
Seq-no  Command
----------------------------------------------------------

switch(config-sync-sp)# import
switch(config-sync-sp-import)# interface port-channel 100
switch(config-sync-sp-import-if)# switchport mode trunk
switch(config-sync-sp-import-if)# vpc peer-link
switch(config-sync-sp-import-if)# exit
switch(config-sync-sp-import)# commit
Verification successful...
Proceeding to apply configuration. This might take a while depending on amount o
f configuration in buffer.
Please avoid other configuration changes during this time.
Commit Successful
switch(config-sync)#
```

Related Commands

Command	Description
abort	Discards the current switch profile configuration.
commit	Commits a switch profile configuration.
copy running-config startup-config	Copies the running configuration to the startup configuration.

Command	Description
show switch-profile buffer	Displays information about the switch profile buffer.
show running-config switch-profile	Displays the running configuration for a switch profile.

import running-config

To import the running configuration to a switch profile, use the **import running-config** command.

import running-config [**exclude interface ethernet**]

Syntax Description

exclude	(Optional) Specifies the configurations to exclude while importing the current running configuration to a switch profile.
interface	(Optional) Specifies that interface configurations be excluded during the import operation.
ethernet	(Optional) Specifies that all Ethernet interface configurations be excluded from the running configuration during the import operation.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The **import running-config exclude interface ethernet** command discards all physical interface commands in the running configuration during the import operation.

When no option is specified with the **import** command, an empty switch profile is created. You can then selectively add the configuration that is needed to be synchronized with the peer switch.

You can import a switch profile based on the set of commands that you want to import. The following three ways can be used to import commands that were added using the configuration terminal mode:

1. Add selected commands to the switch profile.
2. Add supported commands that were specified for an interface.
3. Add supported system-level commands.

When you import commands to a switch profile, the switch profile buffer must be empty.

Use the **commit** command to complete the import process and move the configuration into the switch profile. Because configuration changes are not supported during the import process, if new commands are added before entering the **commit** command, the switch profile remains unsaved and the switch remains in the switch profile import mode (config-sync-sp-import). You can remove the added commands or use the **abort** command to stop the import. Unsaved configurations are lost if the process is aborted. New commands can be added to the switch profile after the import is complete.

Examples

This example shows how to import the running configuration to a switch profile named s5010 on switch 1 of the peer:

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# show switch-profile buffer

switch-profile  : s5010
----------------------------------------------------------
Seq-no  Command
----------------------------------------------------------

switch(config-sync-sp)# import running-config exclude interface ethernet
switch(config-sync-sp-import)# show switch-profile buffer

switch-profile  : s5010
----------------------------------------------------------
Seq-no  Command
----------------------------------------------------------
2       interface port-channel1
2.1       vpc 1
2.2       speed 10000
3       interface port-channel100
3.1       vpc peer-link
3.2       spanning-tree port type network
3.3       speed 10000

switch(config-sync-sp-import)# commit
Verification successful...
Proceeding to apply configuration. This might take a while depending on amount o
f configuration in buffer.
Please avoid other configuration changes during this time.
Commit Successful
switch(config-sync)#
```

Related Commands

Command	Description
abort	Discards the current switch profile configuration.
commit	Commits a switch profile configuration.
copy running-config startup-config	Copies the running configuration to the startup configuration.
show switch-profile buffer	Displays information about the switch profile buffer.
show running-config switch-profile	Displays the running configuration for a switch profile.

ingress-replication

To enable ingress replication for the VXLAN VNI to the specified unicast address, use the **ingress-replication** command.

ingress-replication *ip-address*

Syntax Description		
	ip-address	Specifies the unicast IP address for ingress replication.

Command Default None

Command Modes VNI configuration mode

Command History	Release	Modification
	6.0(2)U3(1)	This command was introduced.

Examples This example shows how to map a VNI to an NVE interface and create a unicast tunnel:

```
switch(config-if-nve)# member vni 5001
switch(config-if-nve-vni)# ingress-replication 111.1.1.1
```

Related Commands	Command	Description
	member vni	Maps VXLAN VNIs to the NVE interface.

interface ethernet

To enter interface configuration mode for an Ethernet IEEE 802.3 interface, use the **interface ethernet** command.

interface ethernet *slot*/*port*

Syntax Description

slot	Slot number. The range is from 1 to 255.
port	Port number within a particular slot. The port number is from 1 to 128.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to enter configuration mode for Ethernet interface 1/4:

```
switch# configure terminal
switch(config)# interface ethernet 1/4
switch(config-if)#
```

Related Commands

Command	Description
show interface ethernet	Displays various parameters of an Ethernet IEEE 802.3 interface.
speed	Sets the speed on the interface.
vtp (interface)	Enables VLAN Trunking Protocol (VTP) on an interface.

interface ethernet (Layer 3)

To configure a Layer 3 Ethernet IEEE 802.3 routed interface, use the **interface ethernet** command.

interface ethernet *slot*/*port*[.*subintf-port-no*]

Syntax Description

slot	Slot number. The range is from 1 to 255.
port	Port number within a particular slot. The port number is from 1 to 128.
.	(Optional) Specifies the subinterface separator.
subintf-port-no	(Optional) Port number for the subinterface. The range is from 1 to 48.

Command Default

None

Command Modes

Global configuration mode
Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You must use the **no switchport** command in the interface configuration mode to configure the interface as a Layer 3 routed interface. When you configure the interface as a Layer 3 interface, all Layer 2 specific configurations on this interface are deleted.

Use the **switchport** command to convert a Layer 3 interface into a Layer 2 interface. When you configure the interface as a Layer 2 interface, all Layer 3 specific configurations on this interface are deleted.

This command requires the LAN Base Services license.

Examples

This example shows how to enter configuration mode for a Layer 3 Ethernet interface 1/5:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# ip address 10.1.1.1/24
switch(config-if)#
```

This example shows how to configure a Layer 3 subinterface for Ethernet interface 1/5 in the global configuration mode:

```
switch# configure terminal
switch(config)# interface ethernet 1/5.2
switch(config-if)# no switchport
switch(config-subif)# ip address 10.1.1.1/24
switch(config-subif)#
```

This example shows how to configure a Layer 3 subinterface in interface configuration mode:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# interface ethernet 1/5.1
switch(config-subif)# ip address 10.1.1.1/24
switch(config-subif)#
```

This example shows how to convert a Layer 3 interface to a Layer 2 interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# ip address 10.1.1.1/24
switch(config-if)# switchport
switch(config-if)#
```

Related Commands

Command	Description
bandwidth	Sets the bandwidth parameters for an interface.
delay	Configures the interface throughput delay value.
encapsulation	Sets the encapsulation type for an interface.
ip address	Sets a primary or secondary IP address for an interface.
no switchport	Configures an interface as a Layer 3 interface.
service-polic	Configures a service policy for an interface.
show interface ethernet	Displays various parameters of an Ethernet IEEE 802.3 interface.

interface loopback

To create a loopback interface and enter interface configuration mode, use the **interface loopback** command. To remove a loopback interface, use the **no** form of this command.

interface loopback *number*

no interface loopback *number*

Syntax Description

number	Interface number; the range is from 0 to 1023.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Use the **interface loopback** command to create or modify loopback interfaces.

From the loopback interface configuration mode, the following parameters are available:

- **description**—Provides a description of the purpose of the interface.
- **ip**—Configures IP features, such as the IP address for the interface, Address Resolution Protocol (ARP) attributes, load balancing, or Unicast Reverse Path Forwarding (RPF).
- **logging**—Configures logging of events.
- **shutdown**—Shuts down traffic on the interface.

This command does not require a license.

Examples

This example shows how to create a loopback interface:

```
switch# configure terminal
switch(config)# interface loopback 50
switch(config-if)# ip address 10.1.1.1/24
switch(config-if)#
```

Related Commands

Command	Description
show interface loopback	Displays information about the traffic on the specified loopback interface.

interface nve

To create an NVE interface and enter the NVE interface configuration mode, use the **interface nve** command. To remove an NVE interface, use the **no** form of this command.

interface nve *number*

no interface nve *number*

Syntax Description

number	NVE interface number. Only 1 NVE interface is allowed on the switch.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Usage Guidelines

An NVE interface is the overlay interface that terminates VXLAN tunnels. Only 1 NVE interface can be configured on a switch.

Examples

This example shows how to create an NVE interface:

```
switch# configure terminal
switch(config)# interface nve 1
switch(config-if-nve)#
```

Related Commands

Command	Description
feature nv overlay	Enables the VXLAN feature.

interface port-channel

To create an EtherChannel interface and enter interface configuration mode, use the **interface port-channel** command. To remove an EtherChannel interface, use the **no** form of this command.

interface port-channel *channel-number*[*.subintf-channel-no*]

no interface port-channel *channel-number*[*.subintf-channel-no*]

Syntax Description

channel-number	Channel number that is assigned to this EtherChannel logical interface. The range is from 1 to 4096.
.	(Optional) Specifies the subinterface separator. **Note** Applies to Layer 3 interfaces.
subintf-channel-no	(Optional) Port number of the EtherChannel subinterface. The range is from 1 to 4093. **Note** Applies to Layer 3 interfaces.

Command Default

None

Command Modes

Global configuration mode
Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

A port can belong to only one channel group.

When you use the **interface port-channel** command for Layer 2 interfaces, follow these guidelines:

- If you are using the Cisco Discovery Protocol (CDP), you must configure it only on the physical interface and not on the EtherChannel interface.
- The MAC address of the EtherChannel is the address of the first operational port added to the channel group. If this first-added port is removed from the channel, the MAC address comes from the next operational port added, if there is one.

You must use the **no switchport** command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface, all Layer 2 specific configurations on this interface are deleted.

Use the **switchport** command to convert a Layer 3 EtherChannel interface into a Layer 2 interface. When you configure the interface as a Layer 2 interface, all Layer 3 specific configurations on this interface are deleted.

You can configure one or more subinterfaces on a port channel made from routed interfaces.

This command does not require a license.

Examples

This example shows how to create an EtherChannel group interface with channel-group number 50:

```
switch# configure terminal
switch(config)# interface port-channel 50
switch(config-if)#
```

This example shows how to create a Layer 3 EtherChannel group interface with channel-group number 10:

```
switch# configure terminal
switch(config)# interface port-channel 10
switch(config-if)# no switchport
switch(config-if)# ip address 192.0.2.1/24
switch(config-if)#
```

This example shows how to configure a Layer 3 EtherChannel subinterface with channel-group number 1 in interface configuration mode:

```
switch# configure terminal
switch(config)# interface port-channel 10
switch(config-if)# no switchport
switch(config-if)# interface port-channel 10.1
switch(config-subif)# ip address 192.0.2.2/24
switch(config-subif)#
```

This example shows how to configure a Layer 3 EtherChannel subinterface with channel-group number 20.1 in global configuration mode:

```
switch# configure terminal
switch(config)# interface port-channel 20.1
switch(config-subif)# ip address 192.0.2.3/24
switch(config-subif)#
```

Related Commands

Command	Description
encapsulation	(Layer 3 interfaces) Sets the encapsulation type for an interface.
ip address	(Layer 3 interfaces) Sets a primary or secondary IP address for an interface.
no switchport	(Layer 3 interfaces) Configures an interface as a Layer 3 interface.
show interface	Displays configuration information about interfaces.
show lacp	Displays LACP information.
show port-channel summary	Displays information on the EtherChannels.
vtp (interface)	Enables VLAN Trunking Protocol (VTP) on an interface.

interface (switch profile)

To configure interfaces on a switch profile, use the **interface** command. To remove the interface configuration, use the **no** form of this command.

interface {**ethernet** *slot*/*port* | **port-channel** *channel-no*}

Syntax Description

ethernet	Specifies the Ethernet interface to configure in the switch profile.
slot/*port*	Chassis or slot number and the port or slot number. The slot can be from 1 to 255 and the port can be from 1 to 128.
port-channel	Specifies the EtherChannel interface to configure in the switch profile.
channel-no	EtherChannel number. The range is from 1 to 4096.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

A switch profile configured for an interface type can be applied only to that type of interface. For example, a switch profile created for Ethernet interfaces must be attached onto an Ethernet interface.

Examples

This example shows how to configure an Ethernet interface in a switch profile:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# interface ethernet 1/1
switch(config-sync-sp-if)# switchport mode trunk
switch(config-sync-sp-if)# speed 1000
switch(config-sync-sp-if)# exit
switch(config-sync-sp)#
```

This example shows how to remove the Ethernet interface configuration from a switch profile:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# interface ethernet 1/1
switch(config-sync-sp-if)# switchport mode trunk
switch(config-sync-sp-if)# speed 1000
switch(config-sync-sp-if)# exit
switch(config-sync-sp)# no interface ethernet 1/1
switch(config-sync-sp)#
```

Related Commands

Command	Description
switch profile	Creates and configures a switch profile.
show switch-profile	Displays information about the switch profile and the configuration revision.

interface tunnel

To create a tunnel interface and enter interface configuration mode, use the **interface tunnel** command. To remove a tunnel interface, use the **no** form of this command.

interface tunnel *number*

no interface tunnel *number*

Syntax Description

number	Identifying interface number. The range is from 0 to 4095.

Note At any time, a maximum of eight tunnels can be in an operationally up state, even if there are more than eight tunnels configured.

Defaults

None

Command Modes

Global configuration mode
Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

Use the **interface tunnel** command to create or modify tunnel interfaces.

Cisco NX-OS supports the generic routing encapsulation (GRE) header defined in IETF RFC 2784. Cisco NX-OS does not support tunnel keys and other options from IETF RFC 1701.

This command requires the Enterprise license.

Examples

This example shows how to create a tunnel interface:

```
switch(config)# interface tunnel 50
switch(config-if)#
```

Related Commands

Command	Description
tunnel source	Sets the source of the IP tunnel.
tunnel destination	Sets the destination of the IP tunnel.
show interface tunnel	Displays information about the traffic on the specified tunnel interface.

interface vlan

To disable the create a VLAN interface and enter interface configuration mode, use the **interface vlan** command. To remove a VLAN interface, use the **no** form of this command.

interface vlan *vlan-id*

no interface vlan *vlan-id*

Note Beginning in Release 7.0(3)I2(1), SVIs are not removed from the Layer 3 interface table after entering **no interface vlan**. Remove the VLAN itself to remove the SVI.

vlan-id	VLAN to set when the interface is in access mode; valid values are from 1 to 4094, except for the VLANs reserved for the internal switch use.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
7.0(3)I2(1)	This command was updated.
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Before you use this command, enable the interface-vlan feature by using the **feature interface-vlan** command.

Use the **interface vlan** command to create or modify VLAN interfaces.

The VLAN interface is created the first time that you enter the **interface vlan** command for a particular VLAN. The *vlan-id* argument corresponds to the VLAN tag that is associated with the data frames on an IEEE 802.1Q-encapsulated trunk or the VLAN ID that is configured for an access port.

This command does not require a license.

Examples

This example shows how to create a VLAN interface for VLAN 50:

```
switch# configure terminal
switch(config)# interface vlan 50
switch(config-if)#
```

Related Commands

Command	Description
feature interface-vlan	Enables the ability to create VLAN interfaces.
show interface vlan	Displays information about the traffic on the specified VLAN interface.

ip address dhcp

To acquire an IP address on an interface from the DHCP, use the **ip address dhcp** command in interface configuration mode. To remove any address that was acquired, use the **no** form of this command.

ip | ipv6 address dhcp

no ip | ipv6 address dhcp

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)U4(1)	The **ipv6** option was introduced.
6.0(2)U3(1)	This command was introduced.

Usage Guidelines

The **ip | ipv6 address dhcp** command allows any interface to dynamically learn its IPv4 or IPv6 address by using the DHCP protocol.

Examples

This example shows how to request the DHCP server for an IP address:

```
switch# configure terminal
switch(config)# interface vlan 50
switch(config-if)# ip address dhcp
```

This example shows how to configure an IPv6 address of a DHCP client on a management interface:

```
switch# configure terminal
switch(config)# interface mgmt 0
switch(config-if)# ipv6 address dhcp
```

ipv6 nd mac-extract

To extract the next-hop MAC address embedded in a next-hop IPv6 address, use the **ipv6 nd mac-extract** command in interface configuration mode. To disable this function, use the **no** form of this command.

ipv6 nd mac-extract [**exclude nud-phase**]

no ipv6 nd mac-extract [**exclude nud-phase**]

Syntax Description

exclude nud-phase	Blocks packets during the neighbor discovery (ND) phase only. When the **exclude nud-phase** option is not specified, packets are blocked during both ND and Neighbor Unreachability Detection (NUD) phases.

Command Default

Disabled

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)U4(1)	This command was introduced.

Usage Guidelines

Beginning with Cisco NX-OS Release 6.0(2)U4(1), BGP allows an IPv4 prefix to be carried over an IPv6 next-hop. The IPv6 next-hop is leveraged to remove neighbor discovery (ND) related traffic from the network. To do this, the MAC address is embedded in the IPv6 address. Such an address is called a MAC Embedded IPv6 (MEv6) address. The router extracts the MAC address directly from the MEv6 address instead of going through ND. Local interface and next-hop MAC addresses are extracted from the IPv6 addresses.

On MEv6-enabled IPv6 interfaces, the same MEv6 extracted MAC address is used for IPv4 traffic as well.

Note MEv6 is supported on all Layer 3 capable interfaces except SVIs.

Examples

This example shows how to configure a MAC-embedded IPv6 address with ND mac-extract enabled:

```
switch# configure terminal
switch(config)# interface ethernet 1/3
switch(config-if)# no switchport
switch(config-if)# mac-address ipv6-extract
switch(config-if)# ipv6 address 2002:1::10/64
switch(config-if)# ipv6 nd mac-extract
switch(config-if)# show ipv6 icmp interface ethernet 1/3
ICMPv6 Interfaces for VRF "default"
Ethernet1/3, Interface status: protocol-up/link-up/admin-up
```

```
  IPv6 address: 2002:1::10
  IPv6 subnet:  2002:1::/64
  IPv6 interface DAD state:  VALID
  ND mac-extract : Enabled
  ICMPv6 active timers:
      Last Neighbor-Solicitation sent: 00:01:39
      Last Neighbor-Advertisement sent: 00:01:40
      Last Router-Advertisement sent: 00:01:41
      Next Router-Advertisement sent in: 00:03:34
  Router-Advertisement parameters:
      Periodic interval: 200 to 600 seconds
      Send "Managed Address Configuration" flag: false
      Send "Other Stateful Configuration" flag: false
      Send "Current Hop Limit" field: 64
      Send "MTU" option value: 1500
      Send "Router Lifetime" field: 1800 secs
      Send "Reachable Time" field: 0 ms
      Send "Retrans Timer" field: 0 ms
      Suppress RA: Disabled
      Suppress MTU in RA: Disabled
  Neighbor-Solicitation parameters:
      NS retransmit interval: 1000 ms
  ICMPv6 error message parameters:
      Send redirects: true
      Send unreachables: false
  ICMPv6-nd Statisitcs (sent/received):
      RAs: 3/0, RSs: 0/0, NAs: 2/0, NSs: 7/0, RDs: 0/0
      Interface statistics last reset: never
switch(config)#
```

This example shows how to configure a MAC-embedded IPv6 address with ND mac-extract (excluding NUD phase) enabled:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# mac-address ipv6-extract
switch(config-if)# ipv6 address 2002:1::10/64
switch(config-if)# ipv6 nd mac-extract exclude nud-phase
switch(config-if)# show ipv6 icmp interface ethernet 1/3
ICMPv6 Interfaces for VRF "default"
Ethernet1/5, Interface status: protocol-up/link-up/admin-up
IPv6 address: 2002:2::10
IPv6 subnet: 2002:2::/64
IPv6 interface DAD state: VALID
ND mac-extract : Enabled (Excluding NUD Phase)
ICMPv6 active timers:
Last Neighbor-Solicitation sent: 00:06:45
Last Neighbor-Advertisement sent: 00:06:46
Last Router-Advertisement sent: 00:02:18
Next Router-Advertisement sent in: 00:02:24
Router-Advertisement parameters:
Periodic interval: 200 to 600 seconds
Send "Managed Address Configuration" flag: false
Send "Other Stateful Configuration" flag: false
Send "Current Hop Limit" field: 64
Send "MTU" option value: 1500
Send "Router Lifetime" field: 1800 secs
Send "Reachable Time" field: 0 ms
Send "Retrans Timer" field: 0 ms
Suppress RA: Disabled
Suppress MTU in RA: Disabled
Neighbor-Solicitation parameters:
```

```
NS retransmit interval: 1000 ms
ICMPv6 error message parameters:
Send redirects: true
Send unreachables: false
ICMPv6-nd Statisitcs (sent/received):
RAs: 6/0, RSs: 0/0, NAs: 2/0, NSs: 7/0, RDs: 0/0
Interface statistics last reset: never
switch(config-if)#
```

l2protocol tunnel

To enable Layer 2 protocol tunneling, use the **l2protocol tunnel** command. To disable protocol tunneling, use the **no** form of this command.

l2protocol tunnel [**cdp** | **stp** | **vtp**]

no l2protocol tunnel [**cdp** | **stp** | **vtp**]

Syntax Description

cdp	(Optional) Enables Cisco Discovery Protocol (CDP) tunneling.
stp	(Optional) Enables Spanning Tree Protocol (STP) tunneling.
vtp	(Optional) Enables VLAN Trunking Protocol (VTP) tunneling.

Defaults

Layer 2 protocol tunneling is disabled.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to enable Layer 2 protocol tunneling:

```
switch(config-if)# l2protocol tunnel cdp
```

Related Commands

Command	Description
show l2protocol tunnel	Displays Layer 2 protocol tunnel information.

l2protocol tunnel cos

To specify a global class of service (CoS) value on all Layer 2 protocol tunneling interfaces, use the **l2protocol tunnel cos** command. To reset the global CoS value to its default, use the **no** form of this command.

l2protocol tunnel cos *cos-value*

no l2protocol tunnel cos

Syntax Description

cos-value	CoS value. The range is from 0 to 7. The default value is 5.

Defaults

CoS value is 5.

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to specify a global CoS value on all Layer 2 protocol tunneling interfaces:

```
switch(config)# l2protocol tunnel cos 7
```

Related Commands

Command	Description
show l2protocol tunnel	Displays Layer 2 protocol tunnel information.

l2protocol tunnel drop-threshold

To specify the maximum number of packets that can be processed on a Layer 2 protocol tunneling interface before being dropped, use the **l2protocol tunnel drop-threshold** command. To reset the values to 0 and disable the drop threshold, use the **no** form of this command.

l2protocol tunnel drop-threshold [**cdp** | **stp** | **vtp**] *packets-per-sec*

no l2protocol tunnel drop-threshold [**cdp** | **stp** | **vtp**]

Syntax Description

cdp	(Optional) Specifies the number of Cisco Discovery Protocol (CDP) packets that can be processed on an interface.
stp	(Optional) Specifies the number of Spanning Tree Protocol (STP) packets that can be processed on an interface.
vtp	(Optional) Specifies the number of VLAN Trunking Protocol (VTP) packets that can be processed on an interface.
packets-per-sec	Maximum number of packets that can be processed on an interface before being dropped. The range is from 1 to 4096.

Defaults

The drop threshold is disabled.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to specify the maximum number of CDP packets that can be processed on an Layer 2 protocol tunneling interface before being dropped:

```
switch(config-if)# l2protocol tunnel drop-threshold cdp 1024
```

Related Commands

Command	Description
show l2protocol tunnel	Displays Layer 2 protocol tunnel information.

l2protocol tunnel shutdown-threshold

To specify the maximum number of packets that can be processed on a Layer 2 protocol tunneling interface, use the **l2protocol tunnel shutdown-threshold** command. To reset the values to 0 and disable the shutdown threshold, use the **no** form of this command

l2protocol tunnel shutdown-threshold [**cdp** | **stp** | **vtp**] *packets-per-sec*

no l2protocol tunnel shutdown-threshold [**cdp** | **stp** | **vtp**]

Syntax Description

cdp	(Optional) Specifies the number of Cisco Discovery Protocol (CDP) packets that can be processed on an interface.
stp	(Optional) Specifies the number of Spinning Tree Protocol (STP) packets that can be processed on an interface.
vtp	(Optional) Specifies the number of VLAN Trunking Protocol (VTP) packets that can be processed on an interface.
packets-per-sec	Maximum number of packets that can be processed on an interface. When the number of packets is exceeded, the port is put in error-disabled state. The range is from 1 to 4096.

Defaults

The shutdown threshold is disabled.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

When the number of packets is exceeded, the port is put in error-disabled state.

This command does not require a license.

Examples

This example shows how to specify the maximum number of packets that can be processed on an Layer 2 protocol tunneling interface before the port is put in error-disabled state:

```
switch(config-if)# l2protocol tunnel shutdown-threshold 2048
```

Related Commands

Command	Description
show l2protocol tunnel	Displays Layer 2 protocol tunnel information.

lacp min-links

To configure port channel min-links and enter the interface configuration mode, use the **lacp min-links** command. To remove the port channel min-links configuration, use the **no** form of this command.

lacp min-links *number*

no lacp min-links

Syntax Description

number	Min-links number. The range is from 1 to 16.

Defaults

1

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U3(1)	This command was introduced.

Usage Guidelines

The min-link feature works only with the Link Aggregation Control Protocol (LACP) port channels.

This command does not require a license.

Examples

This example shows how to configure port channel min-links and enter the interface configuration mode:

```
switch# configure terminal
switch(config)# interface port-channel 100
switch(config-if)# lacp min-links 10
```

This example shows how to remove the port channel min-links configuration:

```
switch(config-if)# no lacp min-links
switch(config)#
```

Related Commands

Command	Description
show running-config interface port-channel	Displays the port channel min-links configuration.

lacp port-priority

To set the priority for the physical interfaces for the Link Aggregation Control Protocol (LACP), use the **lacp port-priority** command. To return the port priority to the default value, use the **no** form of this command.

lacp port-priority *priority*

no lacp port-priority

Syntax Description

priority	Priority for the physical interfaces. The range of valid numbers is from 1 to 65535.

Command Default

System priority value is 32768.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Each port configured to use LACP has an LACP port priority. You can configure a value between 1 and 65535. LACP uses the port priority in combination with the port number to form the port identifier. The port priority is used with the port number to form the port identifier. The port priority is used to decide which ports should be put into standby mode when there is a hardware limitation that prevents all compatible ports from aggregating.

Note When setting the priority, note that a *higher* number means a *lower* priority.

This command does not require a license.

Examples

This example shows how to set the LACP port priority for the interface to 2000:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# lacp port-priority 2000
switch(config-if)#
```

Related Commands

Command	Description
show lacp	Displays LACP information.

lacp rate fast

To configure the rate at which control packets are sent by the Link Aggregation Control Protocol (LACP), use the **lacp rate fast** command. To restore the rate to 30 seconds, use the **no** form of this command or the **lacp rate normal** command.

lacp rate fast

no lacp rate

no lacp rate fast

lacp rate normal

Note Beginning with release 7.0(3)I2(1), **lacp rate fast** is allowed only with member interfaces in an admin DOWN state.

Syntax Description

This command has no arguments or keywords.

Command Default

1 second

Command Modes

Interface configuration mode

Command History

Release	Modification
7.0(3)I2(1)	This command was updated.
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You must enable LACP before using this command.

The LACP rate fast feature is used to set the rate (once every second) at which the LACP control packets are sent to an LACP-supported interface. The normal rate at which LACP packets are sent is 30 seconds.

This command does not require a license.

Examples

This example shows how to configure the LACP fast rate feature on a specified Ethernet interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# lacp rate fast
switch(config-if)#
```

This example shows how to remove the LACP fast rate configuration from a specified Ethernet interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
```

```
switch(config-if)# no lacp rate fast
switch(config-if)#
```

Related Commands

Command	Description
feature lacp	Enables or disables LACP on the switch.
interface ethernet	Enters Ethernet interface configuration mode.
show lacp	Displays the LACP configuration information.

lacp system-priority

To set the system priority of the switch for the Link Aggregation Control Protocol (LACP), use the **lacp system-priority** command. To return the system priority to the default value, use the **no** form of this command.

lacp system-priority *priority*

no lacp system-priority

Syntax Description

priority	Priority for the physical interfaces. The range of valid numbers is from 1 to 65535.

Command Default

System priority value is 32768.

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Each device that runs LACP has an LACP system priority value. You can configure a value between 1 and 65535. LACP uses the system priority with the MAC address to form the system ID and also during negotiation with other systems.

When setting the priority, note that a *higher* number means a *lower* priority.

This command does not require a license.

Examples

This example shows how to set the LACP system priority for the device to 2500:

```
switch# configure terminal
switch(config)# lacp system-priority 2500
switch(config)#
```

Related Commands

Command	Description
show lacp	Displays LACP information.

lldp (interface)

To enable the reception, or transmission, of Link Layer Discovery Protocol (LLDP) packets on an interface, use the **lldp** command. To disable the reception or transmission of LLDP packets, use the **no** form of this command.

lldp {**receive** | **transmit**}

no lldp {**receive** | **transmit**}

Syntax Description

receive	Specifies that the interface receive LLDP packets.
transmit	Specifies that the interface transmit LLDP packets.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Note LLDP, which is a neighbor discovery protocol that is used for network devices to advertise information about themselves to other devices on the network, is enabled on the switch by default.

This command does not require a license.

Examples

This example shows how to set an interface to transmit LLDP packets:

```
switch# configure terminal
switch(config)# interface ethernet 2/1
switch(config-if)# lldp transmit
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays configuration information about interfaces.

load-interval

To change the sampling interval for statistics collections on interfaces, use the **load-interval** command. To return to the default sampling interval, use the **no** form of this command.

load-interval *seconds* | **counter {1 | 2 | 3}** *seconds*

no load-interval *seconds* | **counter {1 | 2 | 3}** *seconds*

Syntax Description

seconds	Specifies the interval between sampling statistics on the interface. The range is from 5 seconds to 300 seconds.
counter {1 | 2 | 3}	Specifies the counter number configured for this load interval.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)U4(1)	This command was introduced.

Usage Guidelines

Use the **load-interval** command to obtain bit-rate and packet-rate statistics for three different durations.

You can set the statistics collection intervals on the following types of interfaces:

- Ethernet interfaces
- Port-channel interfaces
- VLAN network interfaces

You cannot use this command on the management interface or subinterfaces.

This command sets the sampling interval for such statistics as packet rate and bit rate on the specified interface.

Examples

This example shows how to set the three sample intervals for the Ethernet port 1/3:

```
switch# configure terminal
switch(config)# interface ethernet 1/3
switch(config-if)# load-interval counter 1 5
switch(config-if)# load-interval counter 2 135
switch(config-if)# load-interval counter 3 225
switch(config-if)#
```

mac-address

To enable the reception, or transmission, of Link Layer Discovery Protocol (LLDP) packets on an interface, use the **lldp** command. To disable the reception or transmission of LLDP packets, use the **no** form of this command.

mac-address *static router MAC address*

no mac-address *static router MAC address*

Syntax Description

static router MAC address	Specifies the new MAC address of the Layer 3 interface. You can enter the MAC address in any one of the four supported formats: • E.E.E • EE-EE-EE-EE-EE-EE • EE:EE:EE:EE:EE:EE • EEEE.EEEE.EEEE

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)U2(1)	This command was introduced.

Usage Guidelines

You can configure MAC addresses on SVI, Layer 3 interfaces, port channels, Layer 3 subinterfaces, and tunnel interfaces. You can also configure static MAC addresses on a range of ports and port channels. However, all ports must be in Layer 3. Even if one port in the range of ports is in Layer 2, the command is rejected and an error message appears.

The following are considered as invalid MAC addresses:

- Null MAC address—0000.0000.0000
- Broadcast MAC address—FFFF.FFFF.FFFF
- Multicast MAC address—0100.DAAA.ADDD

Examples

This example shows how to configure an interface MAC address:

```
switch# configure terminal
switch(config)# interface ethernet 3/3
switch(config-if)# mac-address aaaa.bbbb.dddd
switch(config-if)# show interface ethernet 3/3
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays configuration information about interfaces.

member vni

To map VXLAN VNIs to the NVE interface, use the **member vni** command.

member vni {*vnid* | *vnid* **mcast-group** *multicast-group-addr* | *vnid- range* **mcast-group** *start-addr* [*end-addr*]}

Syntax Description

vnid	Specifies the VXLAN VNID.
range	Specifies the range of VXLAN VNIs to be mapped to the NVE interface.
mcast-group	Assigns a multicast group to the VNIs.
multicast-group-addr	Specifies the multicast group address.
start-addr	Specifies the starting IP address of the multicast group.
end-addr	(Optional) Specifies the ending IP address of the multicast group.

Command Default

None

Command Modes

NVE interface configuration mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Usage Guidelines

Ensure the following before mapping VXLAN VNIs to the NVE interface:

- The NVE interface is created and configured.
- The source interface is specified.

Only a single VNI can be mapped to any remote IP address.

Examples

The following example shows how to map a VNI to an NVE interface and assign it to a multicast group:

```
switch(config-if-nve)# member vni 5000 mcast-group 225.1.1.1
switch(config-if-nve-vni)#
```

The following example shows how to map a VNI to an NVE interface and create a unicast tunnel:

```
switch(config-if-nve)# member vni 5001
switch(config-if-nve-vni)# ingress-replication 111.1.1.1
```

Related Commands

Command	Description
ingress-replication	Enables ingress-replication for the VNI to the specified unicast address.

no switchport

To configure the interface as a Layer 3 Ethernet interface, use the **no switchport** command.

no switchport

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
7.0(3)I2(1)	This command gets an error on breakout interface.
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You can configure any Ethernet port as a routed interface. When you configure an interface as a Layer 3 interface, any configuration specific to Layer 2 on this interface is deleted.

If you want to configure a Layer 3 interface for Layer 2, enter the **switchport** command. Then, if you change a Layer 2 interface to a routed interface, enter the **no switchport** command.

This command requires the LAN Base Services license.

Note Beginning in 7.0(3)I2(1), this command gets an error on breakout interface.

Examples

This example shows how to enable an interface as a Layer 3 routed interface:

```
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)#
```

This example shows how to configure a Layer 3 interface as a Layer 2 interface:

```
switch(config)# interface ethernet 1/5
switch(config-if)# switchport
switch(config-if)#
```

Related Commands

Command	Description
copy running-config startup-config	Saves the running configuration to the startup configuration file.
interface ethernet (Layer 3)	Configures an Ethernet routed interface or subinterface.
inteface loopback	Configures a loopback interface.
interface port-channel	Configures an EtherChannel interface or subinterface.
ip address	Sets a primary or secondary IP address for an interface.
show interfaces	Displays interface information.

port-channel load-balance ethernet

To configure the load-balancing method among the interfaces in the channel-group bundle, use the **port-channel load-balance ethernet** command. To return the system priority to the default value, use the **no** form of this command.

port-channel load-balance ethernet *method hash*

no port-channel load-balance ethernet [*method*] [hash]

Syntax Description

method	Load-balancing method. See the "Usage Guidelines" section for a list of valid values.
hash	Hashing type. Currently, **symmetric** is the only valid hashing type. See the "Usage Guidelines" section for a list of load-balancing methods that support symmetric hashing.

Command Default

Loads distribution on the source and destination MAC address.

Command Modes

Global configuration mode
Switch profile configuration mode

Command History

Release	Modification
6.0(2)U2(3)	Support for **symmetric** hashing was introduced.
6.0(2)U2(1)	Support for **destination-ip-gre**, **source-destination-ip-gre**, and **source-ip-gre** was introduced**.**
5.0(3)U2(1)	Support for this command was introduced in switch profiles.
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The valid load-balancing *method* values are as follows:

- **destination-ip**—Loads distribution on the destination IP address.
- **destination-ip-gre**—Loads distribution on the destination IP address using the NVGRE key.
- **destination-mac**—Loads distribution on the destination MAC address.
- **destination-port**—Loads distribution on the destination port.
- **source-destination-ip**—Loads distribution on the source and destination IP address.
- **source-destination-ip-gre**—Loads distribution on the source and destination IP address using the NVGRE key.
- **source-destination-mac**—Loads distribution on the source and destination MAC address.
- **source-destination-port**—Loads distribution on the source and destination port.
- **source-ip**—Loads distribution on the source IP address.

- **source-ip-gre**—Loads distribution on the source IP address using the NVGRE key.
- **source-mac**—Loads distribution on the source MAC address.
- **source-port**—Loads distribution on the source port.

Use the option that provides the balance criteria with the greatest variety in your configuration. For example, if the traffic on an EtherChannel is going only to a single MAC address and you use the destination MAC address as the basis of EtherChannel load balancing, the EtherChannel always chooses the same link in that EtherChannel; using source addresses or IP addresses might result in better load balancing. When NVGRE traffic is forwarded over a port channel or an Equal Cost Multipath (ECMP), use the source or destination addresses with the NVGRE key.

The load-balancing methods that support **symmetric** hashing are as follows:

- **source-dest-ip-only**
- **source-dest-port-only**
- **source-dest-ip**
- **source-dest-port**
- **source-dest-ip-gre**

This command does not require a license.

Examples

This example shows how to set the load-balancing method to use the source IP:

```
switch(config)# port-channel load-balance ethernet source-ip
```

This example shows how to set the load-balancing method to use the destination IP in a switch profile:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# port-channel load-balance ethernet destination-ip
switch(config-sync-sp)#
```

This example shows how to configure symmetric hashing for port channels:

```
switch# configure terminal
switch(config)# port-channel load-balance ethernet source-dest-ip-only symmetric
```

Related Commands

Command	Description
show port-channel load-balance	Displays information on EtherChannel load balancing.
show switch-profile	Displays information about the switch profile and the configuration revision.
switch-profile	Creates or configures a switch profile.

peer-config-check-bypass

To ignore type checks on the primary vPC device when the multichassis EtherChannel trunk (MCT) is down, use the **peer-config-check-bypass** command. To stop ignoring type checks, use the **no** form of this command.

peer-config-check-bypass

no peer-config-check-bypass

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The peer link, also known as the multichassis EtherChannel trunk (MCT), connects the vPC peer switches. The peer link is always forwarding. The bridge protocol data units (BPDUs) or Link Aggregation Control Protocol (LACP) packets that are received by the secondary vPC peer on a vPC port are forwarded to the primary vPC peer through the peer link for processing.

The peer link is used to synchronize the MAC addresses of the vPC peer switches to provide the necessary transport for multicast traffic. It is also used for forwarding traffic that originates at, or is destined for, orphan ports (that is, a non-vPC port).

Examples

This example shows how to configure the primary vPC device to ignore type checks when the MCT is down:

```
switch# configure terminal
switch(config)# vpc domain 100
switch(config-vpc-domain)# peer-config-check-bypass
switch(config-vpc-domain)#
```

This example shows how to stop ignoring type checks when the MCT is down:

```
switch# configure terminal
switch(config)# vpc domain 100
switch(config-vpc-domain)# no peer-config-check-bypass
switch(config-vpc-domain)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
show running-config vpc	Displays the running configuration information for vPCs.
show vpc brief	Displays brief information about each vPC domain.
show vpc peer-keepalive	Displays the status of the peer-keepalive link.
show vpc statistics	Displays information about the configuration for the keepalive messages.

peer-gateway

To enable Layer 3 forwarding for packets destined to the gateway MAC address of the virtual Port Channel (vPC), use the **peer-gateway** command. To disable Layer 3 forwarding packets, use the **no** form of this command.

peer-gateway

no peer-gateway

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The vPC peer-gateway functionality allows a vPC switch to act as the active gateway for packets that are addressed to the router MAC address of the vPC peer. This feature enables local forwarding of such packets without the need to cross the vPC peer-link. In this scenario, the feature optimizes use of the peer-link and avoids potential traffic loss.

You must configure the peer-gateway functionality on both vPC peer switches.

This command does not require a license.

Examples

This example shows how to enable the vPC peer gateway:

```
switch# configure terminal
switch(config)# vpc domain 20
switch(config-vpc-domain)# peer-gateway
switch(config-vpc-domain)#
```

This example shows how to disable the vPC peer gateway:

```
switch# configure terminal
switch(config)# vpc domain 20
switch(config-vpc-domain)# no peer-gateway
switch(config-vpc-domain)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
show vpc	Displays information about the vPCs.

peer-keepalive

To configure the IPv4 address for the remote end of the vPC peer keepalive link that carries the keepalive messages, use the **peer-keepalive** command. To disassociate the peer keepalive link, use the **no** form of this command.

peer-keepalive destination *ipv4_address* [**hold-timeout** *holdtime_seconds* | **interval** *mseconds* {**timeout** *seconds*} | **precedence** {*prec_value* | **critical** | **flash** | **flash-override** | **immediate** | **internet** | **network** | **priority** | **routine**} | **source** *ipv4_address* | **tos** {*tos_value* | **max-reliability** | **max-throughput** | **min-delay** | **min-monetary-cost** | **normal**} | **tos-byte** *tos_byte_value* | **udp-port** *udp_port* | **vrf** {*vrf_name* | **management**}]

no peer-keepalive destination *ipv4_address* [**hold-timeout** *holdtime_seconds* | **interval** *mseconds* {**timeout** *seconds*} | **precedence** {*prec_value* | **critical** | **flash** | **flash-override** | **immediate** | **internet** | **network** | **priority** | **routine**} | **source** *ipv4_address* | **tos** {*tos_value* | **max-reliability** | **max-throughput** | **min-delay** | **min-monetary-cost** | **normal**} | **tos-byte** *tos_byte_value* | **udp-port** *udp_port* | **vrf** {*vrf_name* | **management**}]

Syntax Description

destination	Specifies the remote (secondary) vPC device interface.
ipv4_address	IPv4 address of the vPC device in the *A.B.C.D* format.
hold-timeout *holdtime_seconds*	(Optional) Specifies the hold-timeout period (in seconds) for the secondary vPC peer device to ignore vPC peer-keepalive messages. The range is from 3 to 10. The default hold-timeout value is 3 seconds.
interval *mseconds*	(Optional) Specifies the time interval (in milliseconds) at which the vPC device receives peer-keepalive messages. The range is from 400 to 10000. The default interval time for the vPC peer-keepalive message is 1 second.
timeout *seconds*	(Optional) Specifies the timeout (in seconds) between retransmissions to the remote (secondary) vPC device. The range is from 3 to 20. The default timeout value is 5 seconds.
precedence	(Optional) Classifies the vPC peer-keepalive interface traffic based on the precedence value in the type of service (ToS) byte field of the IP header. The precedence value can be one of the following: • *prec_value*—IP precedence value. The range is from 0 to 7. The default precedence value is 6. • **critical**—Critical precedence (5) • **flash**—Flash precedence (3) • **flash-override**—Flash-override precedence (4) • **immediate**—Immediate precedence (2) • **internet**—Internet precedence (6) • **network**—Network precedence (7) • **priority**—Priority precedence (1) • **routine**—Routine precedence (0)
source	(Optional) Specifies the source (primary) vPC device interface.

tos	(Optional) Specifies the type of service (ToS) value. The ToS value can be one of the following: • *tos_value*—A 4-bit TOS value. The range is from 0 to 15. • **max-reliability**—Max-reliability (2) • **max-throughput**—Max-throughput (4) • **min-delay**—Min-delay (8) • **min-monetary-cos**t—Min-monetary-cost (1) • **normal**—Normal (0)
tos-byte *tos_byte_value*	(Optional) Specifies a 8-bit ToS value. The range is from 0 to 255.
udp-port *udp_port*	(Optional) Specifies the UDP port number to be used for the peer keepalive link. The range is from 1024 to 65000.
vrf *vrf_name*	(Optional) Specifies the virtual routing and forwarding (VRF) name to be used for the peer keepalive link. The name is case sensitive and can be a maximum of 32 alphanumeric characters.
management	Specifies the management VRF. This is the default VRF.

Command Default

Management port and VRF

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

You must configure the vPC peer-keepalive link before the system can form the vPC peer link. Ensure that both the source and destination IP addresses used for the peer-keepalive message are unique in your network and these IP addresses are reachable from the VRF associated with the vPC peer-keepalive link.

The Cisco NX-OS software uses the peer-keepalive link between the vPC peers to transmit periodic, configurable keepalive messages. You must have Layer 3 connectivity between the peer devices to transmit these messages. The system cannot bring up the vPC peer link unless the peer-keepalive link is already up and running.

Note We recommend that you configure a separate VRF instance and put a Layer 3 port from each vPC peer device into that VRF for the vPC peer-keepalive link. Do not use the peer link itself to send vPC peer-keepalive messages.

Examples

This example shows how to set up the peer keepalive link connection between the primary and secondary vPC device:

```
switch(config)# vpc domain 100
switch(config-vpc-domain)# peer-keepalive destination 192.168.2.2 source 192.168.2.1
```

```
Note:
 --------:: Management VRF will be used as the default VRF ::--------
switch(config-vpc-domain)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
vpc peer-link	Creates the vPC peer link between the vPC peer devices.
show running-config vpc	Displays the running configuration information for vPCs.
show vpc peer-keepalive	Displays the status of the peer-keepalive link.
show vpc statistics	Displays information about the configuration for the keepalive messages.

resync-database

To resynchronize the switch profile databases, use the **resync-database** command.

resync-database

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to resynchronize the switch profile databases:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# resync-database
Re-synchronization of switch-profile db takes a few minutes...
Re-synchronize switch-profile db completed successfully.
switch(config-sync)#
```

Related Commands

Command	Description
switch-profile	Configures a switch profile.

role

To manually assign a primary or secondary role to a virtual Port Channel (vPC) device, use the **role** command. To restore the default role priority, use the **no** form of this command.

role priority *priority_value*

no role priority

Syntax Description

priority	Specifies the priority to define primary or secondary roles in the vPC configuration.
priority_value	Priority value for the vPC device. The range is from 1 to 65535.

Command Default

None

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

By default, the Cisco NX-OS software elects a primary and secondary vPC peer device after you configure the vPC domain and both sides of the vPC peer link. However, you may want to elect a specific vPC peer device as the primary device for the vPC. Then, you would manually configure the role value for the vPC peer device that you want as the primary device to be lower than the other vPC peer device.

vPC does not support role preemption. If the primary vPC peer device fails, the secondary vPC peer device takes over to become operationally the vPC primary device. However, the original operational roles are not restored if the formerly primary vPC comes up again.

Examples

This example shows how to configure the role priority of a vPC device:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)# role priority 100
switch(config-vpc-domain)#
```

This example shows how to restore the default role priority of a vPC device:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)# no role priority 100
switch(config-vpc-domain)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
show running-config vpc	Displays the running configuration information for vPCs.
show vpc role	Displays the vPC system priority.

show consistency-checker l3-interface module

To trigger the Layer 3 Interface consistency checker for interfaces in a module and display the results, use the **show consistency-checker l3-interface module** command.

show consistency-checker l3-interface module *slot*

Syntax Description

slot	Module number.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
6.0(2)U2(1)	This command was introduced.

Usage Guidelines

This command performs a consistency check only on the physical interfaces in a module.

Examples

This example shows how to trigger the Layer 3 Interface consistency checker for a module and display the results:

```
switch# show consistency-checker l3-interface module 1
```

Related Commands

Command	Description
show consistency-checker link-state module	Triggers the consistency checker on link states in a module and displays the results.
show consistency-checker membership port-channels	Triggers the consistency checker on all members of a port channel and displays the results.

show consistency-checker link-state module

To trigger the Link State consistency checker for link states in a module and display the results, use the **show consistency-checker link-state module** command.

show consistency-checker link-state module *slot*

Syntax Description

slot	Module number.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
6.0(3)U2(1)	This command was introduced.

Examples

This example shows how to trigger the Link State consistency checker for a module and display the results:

```
switch# show consistency-checker link-state module 1
```

Related Commands

Command	Description
show consistency-checker l3-interface module	Triggers the consistency checker on all interfaces in a module and displays the results.
show consistency-checker membership port-channels	Triggers the consistency checker on all members of a port channel and displays the results.

show consistency-checker membership port-channels

To trigger the Port Channel membership consistency checker for all the members of a port channel and display the results, use the **show consistency-checker membership port-channels** command.

show consistency-checker membership port-channels

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
6.0(2)U2(1)	This command was introduced.

Examples

This example shows how to trigger the Port Channel membership consistency checker for all members of a port channel and display the results:

```
switch# show consistency-checker membership port-channels
```

Related Commands

Command	Description
show consistency-checker l3-interface module	Triggers the consistency checker on all interfaces in a module and displays the results.
show consistency-checker link-state module	Triggers the consistency checker on link states in a module and displays the results.

show interface brief

To display a brief summary of the interface configuration information, use the **show interface brief** command.

show interface brief

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the summary configuration information of the all interfaces:

```
switch# show interface brief

--------------------------------------------------------------------------------
Ethernet      VLAN   Type Mode   Status  Reason                   Speed     Port
Interface                                                                  Ch #
--------------------------------------------------------------------------------
Eth1/1        --      eth  routed up      none                       1000(D) --
Eth1/2        1       eth  access up      none                       1000(D) --
Eth1/3        1       eth  trunk  up      none                       1000(D) --
Eth1/4        1       eth  access up      none                       1000(D) --
Eth1/5        --      eth  routed up      none                       1000(D) --
Eth1/6        1       eth  access down    Link not connected         auto(D) --
Eth1/7        1       eth  access down    Link not connected         auto(D) --:
:
<--snip-->
Eth1/40       1       eth  access up      none                       1000(D) --
Eth1/41       1       eth  access up      none                       1000(D) --
Eth1/42       1       eth  access down    Link not connected         auto(D) --
Eth1/43       1       eth  access down    Link not connected         auto(D) --
Eth1/44       1       eth  access down    Link not connected         auto(D) --
Eth1/45       1       eth  access down    Link not connected         auto(D) --
Eth1/46       1       eth  access down    Link not connected         auto(D) --
Eth1/47       1       eth  access down    Link not connected         auto(D) --
Eth1/48       1       eth  access down    Link not connected         auto(D) --
Eth1/49       1       eth  access down    Link not connected          10G(D) --
Eth1/50       1       eth  access down    Link not connected          10G(D) --
Eth1/51       1       eth  access down    Link not connected          10G(D) --
Eth1/52       1       eth  access down    SFP not inserted            10G(D) --

--------------------------------------------------------------------------------
Port-channel VLAN    Type Mode   Status  Reason                   Speed   Protocol
Interface
--------------------------------------------------------------------------------
```

```
Po301        --      eth  routed down    No operational members      auto(I)  none

--------------------------------------------------------------------------------
Port   VRF          Status IP Address                              Speed    MTU
--------------------------------------------------------------------------------
mgmt0  --           up     10.105.215.236                          1000     1500

--------------------------------------------------------------------------------
Interface Secondary VLAN(Type)                    Status Reason
--------------------------------------------------------------------------------
Vlan1     --                                      down   Administratively down
Vlan15    --                                      down   Administratively down
Vlan100   --                                      up     --

--------------------------------------------------------------------------------
Interface     Status     Description
--------------------------------------------------------------------------------
Lo0           up         --

--------------------------------------------------------------------------------
Interface               Status     IP Address        Encap type       MTU
--------------------------------------------------------------------------------
Tunnel10                down       100.10.0.2/24     GRE/IP           1476
Tunnel11                up         90.1.1.1/24       GRE/IP           1476switch#
```

Related Commands

Command	Description
interface ethernet	Configures an Ethernet IEEE 802.3 interface.

show interface capabilities

To display detailed information about the capabilities of an interface, use the **show interface capabilities** command.

show interface [**ethernet** *slot*/*port*] **capabilities**

Syntax Description

ethernet *slot*/*port*	(Optional) Specifies an Ethernet interface slot number and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You can use the **show interface capabilities** command only for physical interfaces.

Examples

This example shows how to display the interface capabilities:

```
switch# show interface capabilities
Ethernet1/1
  Model:                -SUP
  Type (SFP capable):   10Gbase-SR
  Speed:                1000,10000
  Duplex:               full
  Trunk encap. type:    802.1Q
  Channel:              yes
  Broadcast suppression: percentage(0-100)
  Flowcontrol:          rx-(off/on),tx-(off/on)
  Rate mode:            none
  QOS scheduling:       rx-(6q1t),tx-(1p6q0t)
  CoS rewrite:          no
  ToS rewrite:          no
  SPAN:                 yes
  UDLD:                 yes
  Link Debounce:        yes
  Link Debounce Time:   yes
  MDIX:                 no
  Pvlan Trunk capable:  no
  TDR capable:          no
  Port mode:            Routed,Switched

Ethernet1/2
<--Output truncated-->
switch#
```

This example shows how to display the interface capabilities for a specific interface:

```
switch# show interface ethernet 1/1 capabilities
Ethernet1/1
  Model:                -SUP
  Type (SFP capable):   10Gbase-SR
  Speed:                1000,10000
  Duplex:               full
  Trunk encap. type:    802.1Q
  Channel:              yes
  Broadcast suppression: percentage(0-100)
  Flowcontrol:          rx-(off/on),tx-(off/on)
  Rate mode:            none
  QOS scheduling:       rx-(6q1t),tx-(1p6q0t)
  CoS rewrite:          no
  ToS rewrite:          no
  SPAN:                 yes
  UDLD:                 yes
  Link Debounce:        yes
  Link Debounce Time:   yes
  MDIX:                 no
  Pvlan Trunk capable:  no
  TDR capable:          no
  Port mode:            Routed,Switched

switch#
```

Related Commands

Command	Description
interface ethernet	Configures an Ethernet IEEE 802.3 interface.

show interface counters

To display a brief summary of all the counters on all interfaces, use the **show interface counters** command.

show interface counters [brief | detailed | errors | fc | module | snmp | storm-control]

Syntax Description

brief	(Optional) Displays input and output rates for all interfaces.
detailed	(Optional) Displays only non-zero counters configured.
errors	(Optional) Displays only interface error counters.
fc	(Optional) Displays only fc interface counters.
module	(Optional) Displays counters of interfaces on the module.
snmp	(Optional) Displays SNMP MIB values.
storm-control	(Optional) Displays information about the storm-control counters.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)U4(1)	The **brief** option was added.
6.0(2)U3(1)	This command was introduced.

Examples

This example shows how to display the input and output rates for all interfaces:

```
switch# show interface counters brief

--------------------------------------------------------------------------------
Interface         Input Rate (avg)    Output Rate (avg)
                  ------------------  ------------------
                  Rate     Total      Rate     Total        Rate averaging
                  MB/s     Frames     MB/s     Frames       interval (seconds)
--------------------------------------------------------------------------------
Eth1/1            0        0          0        0            30
                  0        0          0        0            300
Eth1/2            0        0          0        0            30
                  0        0          0        0            300
Eth1/3            0        0          0        0            30
                  0        0          0        0            300
Eth1/4            0        0          0        0            30
                  0        0          0        0            300
Eth1/5            0        0          0        0            30
                  0        0          0        0            300
Eth1/6            0        0          0        0            30
                  0        0          0        0            300
Eth1/7            0        0          0        0            30
                  0        0          0        0            300
```

```
Eth1/8            0         0         0         0           30
                  0         0         0         0           300
Eth1/9            0         0         0         0           30
                  0         0         0         0           300
Eth1/10           0         0         0         0           30
                  0         0         0         0           300
Eth1/11           0         0         0         0           30
                  0         0         0         0           300
Eth1/12           0         0         0         0           30
                  0         0         0         0           300
Eth1/13           0         0         0         0           30
                  0         0         0         0           300
Eth1/14           0         0         0         0           30
                  0         0         0         0           300
Eth1/15           0         0         0         0           30
                  0         0         0         0           300
Eth1/16           0         0         0         0           30
                  0         0         0         0           300
Eth1/17           0         0         0         0           30
                  0         0         0         0           300
Eth1/18           0         0         0         0           30
                  0         0         0         0           300
Eth1/19           0         0         0         0           30
                  0         0         0         0           300
Eth1/20           0         0         0         0           30
                  0         0         0         0           300
Eth1/21           0         0         0         0           30
                  0         0         0         0           300
Eth1/22           0         0         0         0           30
                  0         0         0         0           300
```

This example shows how to display the storm-control counters for all interfaces:

```
switch# show interface counters storm-control

        [Action] S - Shut (Err Disable), T - Trap
--------------------------------------------------------------------------------
Port        UcastSupp %  McastSupp %  BcastSupp %  TotalSuppDiscards Action
--------------------------------------------------------------------------------
Eth1/1           100.00       100.00       100.00                  0    [--]
Eth1/2           100.00       100.00       100.00                  0    [--]
Eth1/3           100.00       100.00       100.00                  0    [--]
Eth1/4           100.00       100.00       100.00                  0    [--]
Eth1/5           100.00       100.00       100.00                  0    [--]
Eth1/6           100.00       100.00       100.00                  0    [--]
Eth1/7           100.00       100.00       100.00                  0    [--]
Eth1/8           100.00       100.00       100.00                  0    [--]
Eth1/9           100.00       100.00       100.00                  0    [--]
Eth1/10          100.00       100.00       100.00                  0    [--]
Eth1/11          100.00       100.00       100.00                  0    [--]
Eth1/12          100.00       100.00       100.00                  0    [--]
Eth1/13          100.00       100.00       100.00                  0    [--]
Eth1/14          100.00       100.00       100.00                  0    [--]
Eth1/15          100.00       100.00       100.00                  0    [--]
Eth1/16          100.00       100.00       100.00                  0    [--]
Eth1/17          100.00       100.00       100.00                  0    [--]
Eth1/18          100.00       100.00       100.00                  0    [--]
Eth1/19          100.00       100.00       100.00                  0    [--]
```

This example shows how to display the detailed information for non-zero counters for all interfaces:

```
switch# show interface counters detailed
Ethernet1/1
```

```
  Rx Packets:                                   33730
  Rx Multicast Packets:                         33730
  Rx Bytes:                                   8121771
  Rx Packets from 128 to 255 bytes:             13492
  Rx Packets from 256 to 511 bytes:             20238
  Tx Packets:                                  222374
  Tx Multicast Packets:                        222374
  Tx Bytes:                                  19168899
  Tx Packets from 0 to 64 bytes:               202141
  Tx Packets from 256 to 511 bytes:             20233
Ethernet1/2
  Rx Packets:                                  222374
  Rx Multicast Packets:                        222374
  Rx Bytes:                                  31257217
  Rx Packets from 65 to 127 bytes:             202140
  Rx Packets from 256 to 511 bytes:             20234
  Tx Packets:                                   20299
  Tx Multicast Packets:                         20299
  Tx Bytes:                                   6236360
  Tx Packets from 0 to 64 bytes:                   65
  Tx Packets from 256 to 511 bytes:             20234
switch#
```

Related Commands

Command	Description
interface ethernet	Configures an Ethernet IEEE 802.3 interface.

show interface debounce

To display the debounce time information for all interfaces, use the **show interface debounce** command.

show interface debounce

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the debounce status of all interfaces:

```
switch# show interface debounce

-------------------------------------------------------------------
Port          Debounce time   Value(ms)
-------------------------------------------------------------------
Eth1/1        enable               100
Eth1/2        enable               100
Eth1/3        enable               100
Eth1/4        enable               100
Eth1/5        enable               100
Eth1/6        enable               100
Eth1/7        enable               100
<--Output truncated-->
switch#
```

Related Commands

Command	Description
link debounce	Enables the debounce timer on an interface.

show interface ethernet

To display information about the interface configuration, use the **show interface ethernet** command.

show interface ethernet *slot/port*[**.***subintf-port-no*] [**brief | counters** {**brief** [*load-interval-id*] | **detailed | errors | snmp | storm-control | trunk**} | **description | status | switchport | transceiver** [**details**]]

Syntax Description

slot/port	Ethernet interface slot number and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
.	(Optional) Specifies the subinterface separator. **Note** Applies to Layer 3 interfaces.
subintf-port-no	(Optional) Port number for the subinterface. The range is from 1 to 48. **Note** Applies to Layer 3 interfaces.
brief	(Optional) Displays brief information about the interfaces.
counters	(Optional) Displays information about the counters configured on an interface.
counters brief	(Optional) Displays brief information about the counters configured on the interface.
counters brief *load-interval-id*	(Optional) Displays brief information about the counters configured on the interface after a specified interval. The load interval ID ranges from 1 to 3.
counters detailed	(Optional) Displays only non-zero counters configured on the interface.
counters errors	(Optional) Displays only interface error counters.
counters snmp	(Optional) Displays SNMP MIB values.
counters storm-control	(Optional) Displays information about the storm-control counters configured on the interface.
counters trunk	(Optional) Displays information about the trunk counters configured on the interface.
description	(Optional) Displays the description of an interface configuration.
status	(Optional) Displays the operational state of the interface.
switchport	(Optional) Displays the switchport information of an interface.
transceiver details	(Optional) Displays detailed information about the transceivers on an interface.

Command Default

Displays all information for the interface.

Command Modes

EXEC mode

Command History

Release	Modification
7.0(3)I2(1)	The command output was updated.
6.0(2)U3(1)	The **storm-control** option was introduced.
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the detailed configuration of the specified interface:

```
switch# show interface ethernet 1/1
Ethernet1/1 is up
  Hardware: 1000/10000 Ethernet, address: 0005.0505.050d (bia 0005.0505.050d)
  MTU 1500 bytes, BW 10000000 Kbit, DLY 10 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  Port mode is access
  full-duplex, 10 Gb/s, media type is 10G
  Beacon is turned off
  Input flow-control is off, output flow-control is off
  Rate mode is dedicated
  Switchport monitor is off
  EtherType is 0x8100
  Last link flapped 09:09:55
  Last clearing of "show interface" counters never
  30 seconds input rate 0 bits/sec, 0 bytes/sec, 0 packets/sec
  30 seconds output rate 0 bits/sec, 0 bytes/sec, 0 packets/sec
  Load-Interval #2: 5 minute (300 seconds)
    input rate 0 bps, 0 pps; output rate 0 bps, 0 pps
  RX
    0 unicast packets  0 multicast packets  0 broadcast packets
    0 input packets  0 bytes
    0 jumbo packets  0 storm suppression packets
    0 runts  0 giants  0 CRC  0 no buffer
    0 input error  0 short frame  0 overrun   0 underrun  0 ignored
    0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
    0 input with dribble  0 input discard
    0 Rx pause
  TX
    0 unicast packets  10778 multicast packets  0 broadcast packets
    10778 output packets  755719 bytes
    0 jumbo packets
    0 output errors  0 collision  0 deferred  0 late collision
    0 lost carrier  0 no carrier  0 babble
    0 Tx pause
  1 interface resets

switch#
```

This example shows how to display the counters configured on a specified interface:

```
switch# show interface ethernet 1/1 counters

--------------------------------------------------------------------------------
Port                                InOctets                      InUcastPkts
--------------------------------------------------------------------------------
Eth1/1                                     0                                0

--------------------------------------------------------------------------------
Port                              InMcastPkts                      InBcastPkts
--------------------------------------------------------------------------------
Eth1/1                                     0                                0
```

```
--------------------------------------------------------------------------------
Port                                OutOctets                       OutUcastPkts
--------------------------------------------------------------------------------
Eth1/1                                755719                                  0

--------------------------------------------------------------------------------
Port                              OutMcastPkts                      OutBcastPkts
--------------------------------------------------------------------------------
Eth1/1                                 10778                                  0
switch#
```

This example shows how to display the storm-control counters for a specific Ethernet interface:

```
switch# show interface ethernet 1/4 counters storm-control

        [Action] S - Shut (Err Disable), T - Trap
--------------------------------------------------------------------------------
Port        UcastSupp %  McastSupp %  BcastSupp %  TotalSuppDiscards Action
--------------------------------------------------------------------------------
Eth1/4           100.00       100.00       100.00                  0    [--]
```

This example shows how to display a brief summary of all counters for a specific Ethernet interface:

```
switch# show interface ethernet 1/4 counters brief

-------------------------------------------------------------------------------
Interface         Input Rate (avg)    Output Rate (avg)
                  ------------------  ------------------
                  Rate     Total      Rate     Total        Rate averaging
                  MB/s     Frames     MB/s     Frames       interval (seconds)
-------------------------------------------------------------------------------
Eth1/4            0        0          0        0            30
                  0        0          0        0            300
```

This example shows how to display the switchport information for a specific interface:

```
switch# show interface ethernet 1/2 switchport
Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: access
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled

switch#
```

This example shows how to display the switchport information for a specific interface beginning in Release 7.0(3)I2(1):

```
switch# show interface ethernet 1/1 switchport
Name: Ethernet1/1
Switchport: Enabled
```

```
Switchport Monitor: Not enabled
Switchport Block Multicast: Not enabled
Switchport Block Unicast: Not enabled
Operational Mode: trunk
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Allowed: 100
Administrative private-vlan primary host-association: none
Administrative private-vlan secondary host-association: none
Administrative private-vlan primary mapping: none
Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none

switch#
```

This example shows how to display the operational status for a specific interface:

```
switch# show interface ethernet 1/5 status

--------------------------------------------------------------------------------
Port          Name               Status    Vlan      Duplex  Speed   Type
--------------------------------------------------------------------------------
Eth1/5        --                 sfpAbsent 1         full    40G     40gb
switch#
```

This example shows how to display the calibration information about the transceivers connected to a specified Ethernet interface:

```
switch# show interface ethernet 1/2 transceiver calibrations
Ethernet1/2
transceiver is present
type is 10Gbase-SR
name is CISCO-AVAGO
part number is SFBR-7700SDZ
revision is B4
serial number is AGD1210210F
nominal bitrate is 10300 MBit/sec
Link length supported for 50/125um fiber is 80 m
Link length supported for 50/125um fiber is 300 m
Link length supported for 62.5/125um fiber is 20 m
cisco id is --
cisco extended id number is 4
Transceiver Internal Calibrations Information
------------------------------------------------------------------------
Slope Offset Rx4/Rx3/Rx2/Rx1/Rx0
------------------------------------------------------------------------
Temperature 0 0
Voltage 0 0
Current 0 0
Tx Power 0 0
Rx Power 0.0000/0.0000/0.0000/0.0000/0.0000
------------------------------------------------------------------------
```

Related Commands

Command	Description
interface ethernet	Configures an Ethernet IEEE 802.3 interface.

Command	Description
interface ethernet (Layer 3)	Configures a Layer 3 Ethernet IEEE 802.3 interface.
switchport monitor rate-limit	Configures the rate limit for traffic on an interface.

show interface loopback

To display information about the loopback interface, use the **show interface loopback** command.

show interface loopback *lo-number* [**brief** | **description**]

Syntax Description

lo-number	Loopback interface number. The range is from 0 to 1023.
brief	(Optional) Displays a brief summary of the loopback interface information.
description	(Optional) Displays the description provided for the loopback interface.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the configuration information for a specific loopback interface:

```
switch# show interface loopback 10
loopback10 is up
  Hardware: Loopback
  Description: Loopback interface 10
  MTU 1500 bytes, BW 8000000 Kbit, DLY 5000 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation LOOPBACK
    0 packets input 0 bytes
    0 multicast frames 0 compressed
    0 input errors 0 frame 0 overrun 0 fifo
    0 packets output 0 bytes 0 underruns
    0 output errors 0 collisions 0 fifo

switch#
```

Table 1 describes the significant fields shown in the display.

Table 1 show interface loopback Field Description

Field	Description
Loopback is ...	Indicates whether the interface hardware is currently active (whether carrier detect is present), is currently inactive (down), or has been taken down by an administrator (administratively down).
Hardware	Hardware is Loopback.
MTU	Maximum transmission unit (MTU) of the interface.
BW	Bandwidth (BW) of the interface in kilobits per second.

Table 1 show interface loopback Field Description (continued)

Field	Description
DLY	Delay (DLY) of the interface in microseconds.
reliability	Reliability of the interface as a fraction of 255 (255/255 is 100 percent reliability), calculated as an exponential average over 5 minutes.
txload	Load on the interface for transmitting packets as a fraction of 255 (255/255 is completely saturated), calculated as an exponential average over 5 minutes.
rxload	Load on the interface for receiving packets as a fraction of 255 (255/255 is completely saturated), calculated as an exponential average over 5 minutes.
Encapsulation	Encapsulation method assigned to interface.
LOOPBACK	Indicates whether loopback is set.
packets input	Total number of error-free packets received by the system.
bytes	Total number of bytes, including data and MAC encapsulation, in the error-free packets received by the system.
multicast frames	Total number of multicast frames enabled on the interface.
compressed	Total number of multicast frames compressed on the interface.
input errors	Sum of all errors that prevented the receipt of datagrams on the interface being examined. This may not balance with the sum of the enumerated output errors, because some datagrams may have more than one error and others may have errors that do not fall into any of the specifically tabulated categories.
frame	Number of packets received incorrectly having a CRC error and a noninteger number of octets. On a serial line, this is usually the result of noise or other transmission problems.
overrun	Number of times the serial receiver hardware was unable to hand received data to a hardware buffer because the input rate exceeded the receiver's ability to handle the data.
fifo	Number of First In, First Out (FIFO) errors in the receive direction.
packets output	Total number of messages transmitted by the system.
bytes	Total number of bytes, including data and MAC encapsulation, transmitted by the system.
underruns	Number of times that the far-end transmitter has been running faster than the near-end router's receiver can handle. This may never happen (be reported) on some interfaces.
output errors	Sum of all errors that prevented the final transmission of datagrams out of the interface being examined. Note that this may not balance with the sum of the enumerated output errors, as some datagrams may have more than one error, and others may have errors that do not fall into any of the specifically tabulated categories.
collisions	Loopback interface does not have collisions.
fifo	Number of First In, First Out (FIFO) errors in the transmit direction.

This example shows how to display the brief information for a specific loopback interface:

```
switch# show interface loopback 10 brief

--------------------------------------------------------------------------------
Interface     Status     Description
--------------------------------------------------------------------------------
loopback10    up         Loopback interface 10
switch#
```

Related Commands

Command	Description
interface loopback	Configures a loopback interface.

show interface port-channel

To display the information about an EtherChannel interface configuration, use the **show interface port-channel** command.

show interface port-channel *number*[**.***subinterface-number*] [**brief | counters** {**brief | detailed | errors | snmp | storm-control | trunk**} **| description | status**]

Syntax Description

number	EtherChannel number. The range is from 1 to 4096.
.*subinterface-number*	(Optional) Port-channel subinterface configuration. Use the EtherChannel number followed by a dot (.) indicator and the subinterface number. The format is *portchannel-number***.***subinterface-number*.
counters brief	(Optional) Displays brief information about the counters configured on the EtherChannel interface.
counters detailed	(Optional) Displays only non-zero counters configured on the EtherChannel interface.
counters errors	(Optional) Displays only interface error counters.
counters snmp	(Optional) Displays SNMP MIB values.
counters storm-control	(Optional) Displays information about the storm-control counters configured on the EtherChannel interface.
counters trunk	(Optional) Displays information about the trunk counters configured on the EtherChannel interface.
description	(Optional) Displays the description of the EtherChannel interface configuration.
status	(Optional) Displays the operational state of the EtherChannel interface.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the configuration information of a specified EtherChannel interface:

```
switch# show interface port-channel 100
port-channel100 is down (No operational members)
  Hardware: Port-Channel, address: 0000.0000.0000 (bia 0000.0000.0000)
  MTU 1500 bytes, BW 3000 Kbit, DLY 10 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  Port mode is access
  auto-duplex, auto-speed
  Beacon is turned off
```

```
  Input flow-control is off, output flow-control is off
  Switchport monitor is off
  EtherType is 0x8100
  No members
  Last clearing of "show interface" counters never
  0 seconds input rate 0 bits/sec, 0 bytes/sec, 0 packets/sec
  0 seconds output rate 0 bits/sec, 0 bytes/sec, 0 packets/sec
  Load-Interval #2: 0 seconds
    input rate 0 bps, 0 pps; output rate 0 bps, 0 pps
  RX
    0 unicast packets  0 multicast packets  0 broadcast packets
    0 input packets  0 bytes
    0 jumbo packets  0 storm suppression packets
    0 runts  0 giants  0 CRC  0 no buffer
    0 input error  0 short frame  0 overrun   0 underrun  0 ignored
    0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
    0 input with dribble  0 input discard
    0 Rx pause
  TX
    0 unicast packets  0 multicast packets  0 broadcast packets
    0 output packets  0 bytes
    0 jumbo packets
    0 output errors  0 collision  0 deferred  0 late collision
    0 lost carrier  0 no carrier  0 babble
    0 Tx pause
  0 interface resets

switch#
```

This example shows how to display the storm-control counters for a specific port-channel:

```
switch# show interface port-channel 122 counters storm-control

[Action] S - Shut (Err Disable), T - Trap
--------------------------------------------------------------------------------
Port        UcastSupp %  McastSupp %  BcastSupp %  TotalSuppDiscards Action
--------------------------------------------------------------------------------
Po122            100.00       100.00       100.00                  0    [-T]
```

Related Commands

Command	Description
interface port-channel	Configures an EtherChannel interface.

show interface mac-address

To display the information about the MAC address, use the **show interface mac-address** command.

show interface [*type slot/port* | *portchannel-no*] **mac-address**

Syntax Description

type	(Optional) Interface for which MAC addresses should be displayed. The *type* can be either Ethernet or EtherChannel.
slot/port	Ethernet interface port number and slot number. The slot number is from 1 to 255, and the port number is from 1 to 128.
portchannel-no	EtherChannel number. The EtherChannel number is from 1 to 4096.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

If you do not specify an interface, the system displays all the MAC addresses.

Examples

This example shows how to display the information on MAC addresses for the entire switch:

```
switch# show interface mac-address
switch(config)# sh interface mac-address

------------------------------------------------------------------------------
Interface                   Mac-Address     Burn-in Mac-Address
------------------------------------------------------------------------------
Ethernet1/1                 0005.0505.053c  0005.0505.050d
Ethernet1/2                 0005.0505.053c  0005.0505.050e
Ethernet1/3                 0005.0505.053c  0005.0505.050f
Ethernet1/4                 0005.0505.053c  0005.0505.0510
Ethernet1/5                 0005.0505.053c  0005.0505.0511
Ethernet1/6                 0005.0505.053c  0005.0505.0512
Ethernet1/7                 0005.0505.053c  0005.0505.0513
<--Output truncated-->
switch#
```

This example shows how to display the MAC address information for a specific port channel:

```
switch# show interface port-channel 100 mac-address

--------------------------------------------------------------------------------
Interface                   Mac-Address     Burn-in Mac-Address
--------------------------------------------------------------------------------
port-channel100             0005.0505.053c  0000.0000.0000
```

```
switch#
```

Related Commands

Command	Description
mac address-table static	Adds static entries to the MAC address table or configures a static MAC address with IGMP snooping disabled for that address.
show mac address-table	Displays information on the MAC address table.

show interface nve

To display all the counters of an NVE interface, use the **show interface nve** command.

show interface nve *id* **counters**

Syntax Description

id	Specifies the NVE ID. You can configure only 1 NVE interface on a switch.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Examples

This example shows how to display the counters of an NVE interface:

```
switch# show interface nve 1 counter
--------------------------------------------------------------------------------
Port                                InOctets                    InUcastPkts
--------------------------------------------------------------------------------
nve1                                       0                              0

--------------------------------------------------------------------------------
Port                              InMcastPkts                    InBcastPkts
--------------------------------------------------------------------------------
nve1                                       0                              0

--------------------------------------------------------------------------------
Port                               OutOctets                   OutUcastPkts
--------------------------------------------------------------------------------
nve1                                       0                              0

--------------------------------------------------------------------------------
Port                             OutMcastPkts                   OutBcastPkts
--------------------------------------------------------------------------------
nve1                                       0                              0
```

Related Commands

Command	Description
feature nv overlay	Enables the VXLAN feature.

show interface private-vlan mapping

To display information about private VLAN mapping for primary VLAN interfaces, use the **show interface private-vlan mapping** command.

show interface private-vlan mapping

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Before you can configure private VLANs, you must enable them by using the **feature private-vlan** command. The commands for configuring private VLANs are not visible until you enable private VLANs.

This command displays the mapping information between the primary and secondary VLANs that allows both VLANs to share the VLAN interface of the primary VLAN.

Examples

This example shows how to display information about primary and secondary private VLAN mapping:

```
switch# show interface private-vlan mapping
```

Related Commands

Command	Description
feature private-vlan	Enables private VLANs.
show interface switchport	Displays information about the ports, including those in private VLANs.
show vlan	Displays summary information for all VLANs.
show vlan private-vlan	Displays information for all private VLANs on the device.
switchport private-vlan mapping	Defines the private VLAN association for a promiscuous port.

show interface status err-disabled

To display the error disabled state of interfaces, use the **show interface status err-disabled** command.

show interface status err-disabled

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the error disabled state of interfaces:

```
switch# show interface status err-disabled
```

Related Commands

Command	Description
errdisable detect cause	Enables the error disabled (err-disabled) detection.
errdisable recovery cause	Enables error disabled recovery on an interface.

show interface switchport

To display information about all the switch port interfaces, use the **show interface switchport** command.

show interface switchport

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information for all Ethernet interfaces:

```
switch# show interface switchport
Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: access
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled

Name: Ethernet1/2
<--Output truncated-->
switch#
```

Related Commands

Command	Description
switchport access vlan	Sets the access VLAN when the interface is in access mode.
switchport monitor rate-limit	Configures the rate limit for traffic on an interface.

show interface transceiver

To display the information about the transceivers connected to a specific interface, use the **show interface transceiver** command.

show interface [**ethernet** *slot*/*port*] **transceiver** [**details**]

Syntax Description

ethernet *slot/port*	(Optional) Displays information about an Ethernet interface slot number and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
details	(Optional) Displays detailed information about the transceivers on an interface.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You can use the **show interface transceiver** command only for physical interfaces.

Examples

This example shows how to display the transceivers for all Ethernet interfaces:

```
switch# show interface transceiver
Ethernet1/1
    transceiver is present
    type is 10Gbase-SR
    name is CISCO-AVAGO
    part number is SFBR-7700SDZ
    revision is B4
    serial number is AGD121220VN
    nominal bitrate is 10300 MBit/sec
    Link length supported for 50/125um fiber is 80 m
    Link length supported for 50/125um fiber is 300 m
    Link length supported for 62.5/125um fiber is 20 m
    cisco id is --
    cisco extended id number is 4

Ethernet1/2
<--Output truncated-->
switch#
```

This example shows how to display the transceivers connected to a specified Ethernet interface:

```
switch# show interface ethernet 1/2 transceiver
Ethernet1/2
```

```
    transceiver is present
    type is 10Gbase-SR
    name is CISCO-AVAGO
    part number is SFBR-7700SDZ
    revision is B4
    serial number is AGD1210210F
    nominal bitrate is 10300 MBit/sec
    Link length supported for 50/125um fiber is 80 m
    Link length supported for 50/125um fiber is 300 m
    Link length supported for 62.5/125um fiber is 20 m
    cisco id is --
    cisco extended id number is 4

switch#
```

This example shows how to display the detailed information about the transceivers connected to a specified Ethernet interface:

```
switch# show interface ethernet 1/2 transceiver details
Ethernet1/2
    transceiver is present
    type is 10Gbase-SR
    name is CISCO-AVAGO
    part number is SFBR-7700SDZ
    revision is B4
    serial number is AGD1210210F
    nominal bitrate is 10300 MBit/sec
    Link length supported for 50/125um fiber is 80 m
    Link length supported for 50/125um fiber is 300 m
    Link length supported for 62.5/125um fiber is 20 m
    cisco id is --
    cisco extended id number is 4
```

Related Commands

Command	Description
interface ethernet	Configures an Ethernet IEEE 802.3 interface.
show interface capabilities	Displays detailed information about the capabilities of an interface.

show interface tunnel

To display information about the tunnel interfaces, use the **show interface tunnel** command.

show interface tunnel *number*

Syntax Description

number	Number of the tunnel interface that you want to display information for. The range is from 0 to 4095.

Defaults

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information about tunnel interfaces:

```
switch(config)# show interface tunnel 5

Tunnel5 is down (Administratively down)
    MTU 1476 bytes, BW 9 Kbit
    Transport protocol is in VRF "default"
    Tunnel protocol/transport GRE/IP
    Last clearing of "show interface" counters never
    Tx
    0 packets output, 1 minute output rate 0 packets/sec
    Rx
    0 packets input, 1 minute input rate 0 packets/sec
```

Related Commands

Command	Description
show interface	Displays information about the specified interfaces.

show lacp

To display Link Aggregation Control Protocol (LACP) information, use the **show lacp** command.

show lacp {**counters** | **interface ethernet** *slot*/*port* | **neighbor** [**interface port-channel** *number*] | **port-channel** [**interface port-channel** *number*] | **system-identifier**}

Syntax Description

counters	Displays information about the LACP traffic statistics.
interface ethernet *slot*/*port*	Displays LACP information for a specific Ethernet interface. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
neighbor	Displays information about the LACP neighbor.
port-channel	Displays information about all EtherChannels.
interface port-channel *number*	(Optional) Displays information about a specific EtherChannel. The EtherChannel number is from 1 to 4096.
system-identifier	Displays the LACP system identification. It is a combination of the port priority and the MAC address of the device.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Use the **show lacp** command to troubleshoot problems related to LACP in a network.

Examples

This example shows how to display the LACP system identification:

```
switch# show lacp system-identifier
32768,0-5-5-5-5-3c
switch#
```

This example shows how to display the LACP information for a specific interface:

```
switch# show lacp interface ethernet 1/1
Interface Ethernet1/1 is invalid
  Channel group is 0 port channel is
  PDUs sent: 0
  PDUs rcvd: 0
  Markers sent: 0
  Markers rcvd: 0
  Marker response sent: 0
  Marker response rcvd: 0
  Unknown packets rcvd: 0
  Illegal packets rcvd: 0
```

```
Lag Id: [ [(0, 0-0-0-0-0-0, 0, 0, 0), (0, 0-0-0-0-0-0, 0, 0, 0)] ]
Operational as aggregated link since Thu Jan  1 00:00:00 1970

Local Port: Eth1/1   MAC Address= 0-5-5-5-5-3c
  System Identifier=0x8000,0-5-5-5-5-3c
  Port Identifier=0x8000,0x0
  Operational key=0
  LACP_Activity=passive
  LACP_Timeout=Long Timeout (30s)
  Synchronization=NOT_IN_SYNC
  Collecting=false
  Distributing=false
  Partner information refresh timeout=Long Timeout (90s)
Actor Admin State=(Ac-0:To-0:Ag-0:Sy-0:Co-0:Di-0:De-0:Ex-0)
Actor Oper State=(Ac-0:To-0:Ag-0:Sy-0:Co-0:Di-0:De-0:Ex-0)
Neighbor: 0/0
  MAC Address= 0-0-0-0-0-0
  System Identifier=0x0,0-0-0-0-0-0
  Port Identifier=0x0,0x0
  Operational key=0
  LACP_Activity=unknown
  LACP_Timeout=Long Timeout (30s)
  Synchronization=NOT_IN_SYNC
  Collecting=false
  Distributing=false
Partner Admin State=(Ac-0:To-0:Ag-0:Sy-0:Co-0:Di-0:De-0:Ex-0)
Partner Oper State=(Ac-0:To-0:Ag-0:Sy-0:Co-0:Di-0:De-0:Ex-0)
switch#
```

Related Commands

Command	Description
lacp port-priority	Sets the priority for the physical interfaces for the LACP.
lacp system-priority	Sets the system priority of the switch for the LACP.

show module

To display module information, use the **show module** command.

show module *module_num*

Syntax Description

module_num	Module number in the switch chassis. The range is from 1 to 3.

Command Default

Display information of all modules

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the module information for a specific module:

```
switch# show module 1
Mod Ports  Module-Type                       Model                  Status
--- -----  --------------------------------- ---------------------- ------------
1    40     40x10GE/Supervisor                N5K-C5020P-BF-SUP      active *

Mod  Sw              Hw      World-Wide-Name(s) (WWN)
---  --------------  ------  --------------------------------------------------
1    4.2(1u)N1(1u)   1.3     --

Mod  MAC-Address(es)                         Serial-Num
---  --------------------------------------  ----------
1    0005.9b78.6e48 to 0005.9b78.6e6f         JAF1413ADCS
switch#
```

Related Commands

Command	Description
show hardware inventory	Displays information about the physical hardware.
show inventory	Displays hardware inventory information.

show nve interface nve

To display the configuration of an NVE interface, use the **show nve interface nve** command.

show nve interface nve *id*

Syntax Description		
	id	Specifies the NVE ID. You can configure only 1 NVE interface on a switch.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	6.0(2)U3(1)	This command was introduced.

Examples This example shows how to display the configuration of an NVE interface:

```
switch# show nve interface nve 1
Interface: nve1, State: up, encapsulation: VXLAN
Source-interface: loopback10 (primary: 111.1.1.1, secondary: 0.0.0.0)
```

Related Commands	Command	Description
	feature nv overlay	Enables the VXLAN feature.

show nve peers

To display peers of the NVE interface, use the **show nve peers** command.

show nve peers

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)U5(1)	This command is enhanced to display all the VXLAN network identifiers (VNIs) configured for a particular peer.
6.0(2)U3(1)	This command was introduced.

Examples

This example shows how to display the peers of an NVE interface:

```
switch# show nve peers
Interface          Peer-IP           Peer-State
-----------------  ---------------   -------------
nve1               1.1.1.1          Up

This example shows how to display all the VXLAN network identifiers (VNIs) configured for
a particular peer:

switch# show nve peers detail
Peer: 1.1.1.1
Interface : nve1
Peer learnt VNI : 10000
Configured VNI's : 10000 10001 10002 10003 10004 10005 10006 10007 10008 10009 10010 10011
10012 10013 10014 10015 10016 10017 10018 10019 10020 10021 10022 10023 10024 10025 10026
10027 10028 10029 10030 10
031 10032 10033 10034 10035 10036 10037 10038 10039 10040 10041 10042 10043 10044 10045
10046 10047 10048 10049 10050 10051 10052 10053 10054 10055 10056 10057 10058 10059 10060
10061 10062 10063 10064 10065 100
66 10067 10068 10069 10070 10071 10072 10073 10074 10075 10076 10077 10078 10079 10080
10081 10082 10083 10084 10085 10086 10087 10088 10089 10090 10091 10092 10093 10094 10095
10096 10097 10098 10099 10100
Provision State : add-complete
Route Update : Yes
Uptime : 14:09:27
```

Related Commands

Command	Description
feature nv overlay	Enables the VXLAN feature.

show nve vni

To display the VNI that is mapped to an NVE interface, use the **show nve vni** command.

show nve vni

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Examples

This example shows how to display the VNI that is mapped to an NVE interface for multicast replication:

```
switch# show nve vni
Interface          VNI        Multicast-group   VNI State
----------------   --------   ---------------   ---------
nve1               5000       225.1.1.1          Up
```

The following example shows how to display the VNI that is mapped to an NVE interface for ingress replication:

```
switch# show nve vni
Interface          VNI        Multicast-group   VNI State
----------------   --------   ---------------   ---------
nve1               5000       0.0.0.0           Up
```

Related Commands

Command	Description
feature nv overlay	Enables the VXLAN feature.

show nve vxlan-params

To display the VXLAN UDP port configured, use the **show nve vxlan-params** command.

show nve vxlan-params

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Examples

This example shows how to display the VXLAN UDP port configured:

```
switch# show nve vxlan-params
VxLAN Dest. UDP Port: 4789
switch#
```

Related Commands

Command	Description
feature nv overlay	Enables the VXLAN feature.

show port-channel capacity

To display the total number of port channels that are configured, or are still available on the device, use the **show port-channel capacity** command.

show port-channel capacity

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the port channels on a device:

```
switch# show port-channel capacity
Port-channel resources
    64 total    4 used    60 free    6% used
switch#
```

Related Commands

Command	Description
port-channel load-balance ethernet	Configures the load-balancing algorithm for EtherChannels.
show tech-support port-channel	Displays Cisco Technical Support information about EtherChannels.

show port-channel compatibility-parameters

To display the parameters that must be the same among the member ports in order to join an EtherChannel interface, use the **show port-channel compatibility-parameters** command.

show port-channel compatibility-parameters

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the EtherChannel interface parameters:

```
switch# show port-channel compatibility-parameters
* port mode

Members must have the same port mode configured.

* port mode

Members must have the same port mode configured, either E,F or AUTO. If
they are configured in AUTO port mode, they have to negotiate E or F mode
when they come up. If a member negotiates a different mode, it will be
suspended.

* speed

Members must have the same speed configured. If they are configured in AUTO
speed, they have to negotiate the same speed when they come up. If a member
negotiates a different speed, it will be suspended.

<--Output truncated-->

switch#
```

Related Commands

Command	Description
port-channel load-balance ethernet	Configures the load-balancing algorithm for EtherChannels.
show tech-support port-channel	Displays Cisco Technical Support information about EtherChannels.

show port-channel database

To display the aggregation state for one or more EtherChannel interfaces, use the **show port-channel database** command.

show port-channel database [**interface port-channel** *number*]

Syntax Description

interface	(Optional) Displays information for an EtherChannel interface.
port-channel *number*	(Optional) Displays aggregation information for a specific EtherChannel interface. The *number* range is from 1 to 4096.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the aggregation state of all EtherChannel interfaces:

```
switch# show port-channel database
port-channel10
    Last membership update is successful
    0 ports in total, 0 ports up
    Age of the port-channel is 0d:00h:04m:04s

switch#
```

This example shows how to display the aggregation state for a specific EtherChannel interface:

```
switch# show port-channel database interface port-channel 21
```

Related Commands

Command	Description
port-channel load-balance ethernet	Configures the load-balancing algorithm for EtherChannels.
show tech-support port-channel	Displays Cisco Technical Support information about EtherChannels.

show port-channel load-balance

To display information about EtherChannel load balancing, use the **show port-channel load-balance** command.

show port-channel load-balance [**forwarding-path interface port-channel** *number* {**vlan** *vlan_ID*} [**dst-ip** *ipv4-addr*] [**dst-ipv6** *ipv6-addr*] [**dst-mac** *dst-mac-addr*] [**l4-dst-port** *dst-port*] [**l4-src-port** *src-port*] [**src-ip** *ipv4-addr*] [**src-ipv6** *ipv6-addr*] [**src-mac** *src-mac-addr*][**ether-type** *ether-type*][**ip-proto** *ip-proto*]]

Syntax Description

forwarding-path interface port-channel	(Optional) Identifies the port in the EtherChannel interface that forwards the packet.
number	EtherChannel number for the load-balancing forwarding path that you want to display. The range is from 1 to 4096.
vlan	(Optional) Identifies the VLAN for hardware hashing.
vlan_ID	VLAN ID. The range is from 1 to 3967 and 4048 to 4093.
dst-ip	(Optional) Displays the load distribution on the destination IP address.
ipv4-addr	IPv4 address to specify a source or destination IP address. The format is *A.B.C.D*.
dst-ipv6	(Optional) Displays the load distribution on the destination IPv6 address.
ipv6-addr	IPv6 address to specify a source or destination IP address. The format is *A*:*B*::*C*:*D*.
dst-mac	(Optional) Displays the load distribution on the destination MAC address.
dst-mac-addr	Destination MAC address. The format is *AAAA*:*BBBB*:*CCCC*.
l4-dst-port	(Optional) Displays the load distribution on the destination port.
dst-port	Destination port number. The range is from 0 to 65535.
l4-src-port	(Optional) Displays the load distribution on the source port.
src-port	Source port number. The range is from 0 to 65535.
src-ip	(Optional) Displays the load distribution on the source IP address.
src-ipv6	(Optional) Displays the load distribution on the source IPv6 address.
src-mac	(Optional) Displays the load distribution on the source MAC address.
src-mac-addr	source MAC address. The format is *AA*:*BB*:*CC*:*DD*:*EE*:*FF*.
ether-type	Identifies the type of Ethernet.
ether-type	Ethernet type.
ip-proto	Specified the IP protocol.
ip-proto	IP protocol.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You must use the **vlan** keyword for tagged packets to determine the use of hardware hashing.

Missing parameters are substituted with zero values unless specified in the output of the CLI.

Software hashing resolution is not used in the following scenarios:

- The specified packet contains an unknown unicast destination MAC address.
- The specified packet contains a multicast destination MAC address.
- The specified packet contains a broadcast MAC address.

Ethertype of the packet and the IP protocol type for IP packets are mandatory fields apart from the other inputs corresponding to the field selected.

Examples

This example shows how to display the port channel load balance information:

```
switch# show port-channel load-balance

Port Channel Load-Balancing Configuration:
System: source-ip

Port Channel Load-Balancing Addresses Used Per-Protocol:
Non-IP: source-mac
IP: source-ip source-mac

switch#
```

Related Commands

Command	Description
port-channel load-balance ethernet	Configures the load-balancing method among the interfaces in the channel-group bundle.

show port-channel summary

To display summary information about EtherChannels, use the **show port-channel summary** command.

show port-channel summary

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Global configuration mode

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Before you use this command, you must configure an EtherChannel group using the **interface port-channel** command.

Examples

This example shows how to display summary information about EtherChannels:

```
switch# show port-channel summary
Flags:  D - Down        P - Up in port-channel (members)
        I - Individual  H - Hot-standby (LACP only)
        s - Suspended   r - Module-removed
        S - Switched    R - Routed
        U - Up (port-channel)
--------------------------------------------------------------------------------
Group Port-       Type     Protocol  Member Ports
      Channel
--------------------------------------------------------------------------------
10    Po10(SD)    Eth      NONE      --
switch#
```

Related Commands

Command	Description
channel-group (Ethernet)	Assigns and configures a physical interface to an EtherChannel.
interface port-channel	Creates an EtherChannel interface and enters interface configuration mode.

show port-channel traffic

To display the traffic statistics for EtherChannels, use the **show port-channel traffic** command.

show port-channel traffic [**interface port-channel** *number*]

Syntax Description

interface	(Optional) Displays traffic statistics for a specified interface.
port-channel *number*	(Optional) Displays information for a specified EtherChannel. The range is from 1 to 4096.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the traffic statistics for all EtherChannels:

```
switch# show port-channel traffic
```

This example shows how to display the traffic statistics for a specific EtherChannel:

```
switch# show port-channel traffic interface port-channel 10
```

Related Commands

Command	Description
port-channel load-balance ethernet	Configures the load-balancing algorithm for EtherChannels.
show tech-support port-channel	Displays Cisco Technical Support information about EtherChannels.

show port-channel usage

To display the range of used and unused EtherChannel numbers, use the **show port-channel usage** command.

show port-channel usage

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the EtherChannel usage information:

```
switch# show port-channel usage
```

Related Commands

Command	Description
port-channel load-balance ethernet	Configures the load-balancing algorithm for EtherChannels.
show tech-support port-channel	Displays Cisco Technical Support information about EtherChannels.

show resource

To display the number of resources currently available in the system, use the **show resource** command.

show resource [*resource*]

Syntax Description

resource	Resource name, which can be one of the following: • **monitor-session**—Displays the number of sessions available in the system. • **port-channel**—Displays the number of EtherChannels available in the system. • **vlan**—Displays the number of VLANs available in the system. • **vrf**—Displays the number of virtual routing and forwardings (VRFs) available in the system.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the resources available in the system:

```
switch# show resource

     Resource              Min       Max      Used    Unused     Avail
    -----------           -----     -----    ------  --------   -------
     vlan                 16        4094     7         9        4041
     monitor-session      0           4      0         0          4
     vrf                  2         1000     2         0        998
     port-channel         0           32     0         0         32
     u4route-mem          32          32     1         31        31
     u6route-mem          16          16     1         15        15
     m4route-mem          58          58     4         54        54
     m6route-mem          8           8      0         8          8
     bundle-map           0           32     0         0         32

switch#
```

Related Commands

Command	Description
show interface port-channel	Displays information about EtherChannels.

show running-config interface

To display the running configuration for a specific port channel, use the **show running-config interface** command.

show running-config interface [**all** | {**ethernet** {*slot/port*} [**all**]} | {**loopback** {*number*} [**all**]} | {**mgmt 0** [**all**]} | **port-channel** {*channel-number*} [**membership**]}

Syntax Description

all	(Optional) Displays configured and default information.
ethernet *slot/port*	Displays the Ethernet interface slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.
loopback *number*	Displays the number of the loopback interface. The range of values is from 1 to 4096.
mgmt 0	Displays the configuration information of the management interface.
port-channel *channel-number*	Displays the number of the port-channel group. The range of values is from 0 to 1023.
membership	Displays the membership of the specified port channel.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U21(1)	This command was introduced.

Examples

This example shows how to display the running configuration for port channel 100 on a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch(config)# show running-config interface port-channel 100

!Command: show running-config interface port-channel100
!Time: Tue Aug 23 09:25:00 2011

version 5.0(3)U2(1)

interface port-channel100
  speed 10000

switch(config)#
```

Related Commands

Command	Description
show startup-config	Displays the running configuration on the device.

show running-config switch-profile

To display the running configuration of a switch profile, use the **show running-config switch-profile** command.

show running-config switch-profile

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the running configuration of a switch profile named s5010 configured on switch 1 of the peer:

```
switch# show running-config switch-profile
switch-profile s5010
  sync-peers destination 192.0.120.3
  interface Ethernet1/1
    switchport mode trunk
    speed 1000

switch#
```

Related Commands

Command	Description
switch-profile	Configures a switch profile.
show startup-config switch-profile	Displays the startup configuration information for the switch profile.

show running-config vpc

To display the running configuration information for virtual port channels (vPCs), use the **show running-config vpc** command.

show running-config vpc [**all**]

Syntax Description[

all	(Optional) Displays configured and default information.

Command Default None

Command Modes Any command mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples This example shows how to display the running configuration for a vPC on a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch (config)# show running-config vpc

!Command: show running-config vpc
!Time: Tue Aug 23 09:30:39 2011

version 5.0(3)U2(1)
feature vpc

vpc domain 5
  no graceful consistency-check

switch#
```

This example shows how to display the configured and default running configuration for a vPC on a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch (config)# show running-config vpc all

!Command: show running-config vpc all
!Time: Tue Aug 23 09:31:44 2011

version 5.0(3)U2(1)
feature vpc

vpc domain 5
  role priority 32667
  system-priority 32667
  no peer-config-check-bypass
  delay restore 30
  no dual-active exclude interface-vlan
  no peer-gateway
```

```
  no auto-recovery
  no graceful consistency-check

switch#
```

Related Commands

Command	Description
show vpc brief	Displays information about vPCs. If the feature is not enabled, this command returns an error.

show startup-config interface

To display interface configuration information in the startup configuration, use the **show startup-config interface** command.

show startup-config interface [**ethernet** *slot/port* | **loopback** *number* | **mgmt 0** | **port-channel** {*channel-number*} [**membership**]

Syntax Description

ethernet *slot/port*	(Optional) Displays the number of the module and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
loopback *number*	Displays the number of the loopback interface. The range of values is from 1 to 4096.
mgmt 0	Displays the configuration information of the management interface.
port-channel *channel-number*	Displays the number of the port-channel group. The range of values is from 0 to 1023.
membership	(Optional) Displays the membership of the specified port channel.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the information in the startup configuration for the interface Ethernet 1/1:

```
switch(config)# show startup-config interface ethernet 1/1

!Command: show startup-config interface Ethernet1/1
!Time: Tue Aug 23 09:33:25 2011
!Startup config saved at: Sat Aug 20 04:58:59 2011

version 5.0(3)U2(1)

interface Ethernet1/1
  switchport mode trunk
  channel-group 1

switch(config)#
```

Related Commands

Command	Description
show interface	Displays information about the specified interface.

show startup-config switch-profile

To display the startup configuration of a switch profile, use the **show startup-config switch-profile** command.

show startup-config switch-profile

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the startup configuration of a switch profile named s5010 that is configured on switch 1 of the peer:

```
switch# show startup-config switch-profile
switch-profile s5010
  sync-peers destination 192.0.120.3

  interface Ethernet101/1/35
    switchport mode trunk
    switchport trunk native vlan 300
    switchport trunk allowed vlan 300-800
switch#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
switch-profile	Configures a switch profile.
show running-config switch-profile	Displays the running configuration information for a switch profile.

show startup-config vpc

To display virtual port channel (vPC) configuration information in the startup configuration, use the **show startup-config vpc** command.

show startup-config vpc [**all**]

Syntax Description

all	(Optional) Displays startup-configuration information for all vPCs.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the vPC information in the startup configuration:

```
switch(config)# show startup-config vpc

!Command: show startup-config vpc
!Time: Tue Aug 23 09:34:50 2011
!Startup config saved at: Tue Aug 23 09:34:46 2011

version 5.0(3)U2(1)
feature vpc

vpc domain 5
  no graceful consistency-check

switch#
```

Related Commands

Command	Description
show vpc brief	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.

show switch-profile

To display the switch profile configured on the switch, use the **show switch-profile** command.

show switch-profile [*sw-profile-name*]

Syntax Description

sw-profile-name	(Optional) Switch profile name. The name is case sensitive, can be a maximum of 64 alphanumeric characters, and can include an underscore and hyphen. The name cannot contain spaces or special characters.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the switch profile that is configured on switch 1 of the peer:

```
switch# show switch-profile
-----------------------------------------------------
Profile-name                          Config-revision
-----------------------------------------------------
s5010                                        1

switch#
```

Table 2 describes the fields shown in the display:

Table 2 show switch-profile Field Descriptions

Field	Description
Profile-name	The name of the switch profile.
Config-revision	The revision of the switch profile configuration. The revision number is used to synchronize the configuration in the peer switch. See the **commit** command for more information.

Related Commands

Command	Description
commit	Commits a switch profile configuration.
switch-profile	Configures a switch profile.
show switch-profile status	Displays the status of the switch profile.

show switch-profile buffer

To display the switch profile buffer, use the **show switch-profile buffer** command.

show switch-profile [*sw-profile-name*] **buffer**

Syntax Description

sw-profile-name	(Optional) Name of the switch profile. The name is case sensitive, can be a maximum of 64 alphanumeric characters and can include an underscore, and hyphen. The name cannot contain spaces or special characters.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the buffer for the switch profile named s5010:

```
switch# show switch-profile s5010 buffer
----------------------------------------------------------
Seq-no  Command
----------------------------------------------------------
1       interface ethernet 1/1
1.1       switchport mode trunk
1.2       speed 1000
2       interface port-channel 102
2.1       vpc 1
2.2       switchport mode trunk

switch#
```

Table 3 describes the fields shown in the display:

Table 3 show switch-profile buffer Field Descriptions

Field	Description
Seq-no	The sequence number or order of entry of the command in the switch profile buffer.
Command	The command used for configuring the switch profile.

Related Commands

Command	Description
command (switch profile)	Adds commands to a switch profile.
import	Imports commands to a switch profile.

Command	Description
switch-profile	Configures a switch profile.
show switch-profile status	Displays the status of the switch profile.

show switch-profile peer

To display information about the destination peer switch in a switch profile configuration, use the **show switch-profile peer** command.

show switch-profile [*sw-profile-name*] **peer** {*ip-address* [**details**] | **details**}

Syntax Description

sw-profile-name	(Optional) Name of the switch profile. The name is case sensitive, can be a maximum of 64 alphanumeric characters and can include an underscore and hyphen. The name cannot contain spaces or special characters.
ip-address	IPv4 address of the destination peer switch in the format *A.B.C.D*.
details	(Optional) Displays detailed information about the peer switch profile.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the information about a destination peer switch with the IPv4 address 192.168.120.3 added to the switch profile named s5010 on switch 1 of the peer:

```
switch# show switch-profile s5010 peer 192.168.120.3
Peer-sync-status           : Not yet merged. pending-merge:1 received_merge:0
Peer-status                : Peer not reachable
Peer-error(s)              :
switch#
```

This example shows how to display the successful commit information about a destination peer switch with the IPv4 address 192.168.120.3 for the switch profile named s5010 on switch 1 of the peer:

```
switch1# show switch-profile s5010 peer 192.168.120.3
Peer-sync-status : In Sync.
Peer-status : Commit Success
Peer-error(s) :
switch1#
```

Table 4 describes the fields shown in the display:

Table 4 show switch-profile peer Field Descriptions

Field	Description
Peer-sync-status	The status of the synchronized configuration in the peer switch as follows: • In Sync—The configuration on both switches are synchronized. • Not yet merged. pending-merge:1 received_merge:0—The configuration in the local switch is not yet merged with the peer switch.
Peer-status	The status of the peer switch during a configuration synchronization, whether reachable or not reachable, successfully verified or committed.
Peer-error(s)	The reason for the failure in connecting to the peer switch.

Related Commands

Command	Description
show switch-profile status	Displays the status of the switch profile.
switch-profile	Configures a switch profile.
sync-peers destination	Configures the peer switch for configuration synchronization.

show switch-profile session-history

To display the session history of the switch profile configuration, use the **show switch-profile session-history** command.

show switch-profile [*sw-profile-name*] **session-history**

Syntax Description

sw-profile-name	(Optional) Name of the switch profile. The name is case sensitive, can be a maximum of 64 alphanumeric characters, and can include an underscore and hyphen. The name cannot contain spaces or special characters.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the session history of the switch profile named s5010 on switch 1 of the peer:

```
switch# show switch-profile s5010 session-history

Start-time: 959269 usecs after Tue Aug 23 06:02:46 2011
End-time: 961304 usecs after Tue Aug 23 06:02:46 2011

Profile-Revision: 1
Session-type: Initial-Exchange
Peer-triggered: No
Profile-status: -

Local information:
----------------
Status: -
Error(s):

Peer information:
----------------
IP-address: 192.0.120.3
Pending-merge: 1
Received-merge: 0
Sync-status: Not yet merged. pending-merge:1 received-merge:0
Status: Peer not reachable
Error(s):

Start-time: 794606 usecs after Tue Aug 23 07:06:49 2011
End-time: 796861 usecs after Tue Aug 23 07:06:49 2011

Profile-Revision: 1
Session-type: Peer-delete
```

```
Peer-triggered: No
Profile-status: Sync Success

Local information:
----------------
Status: Verify Success
Error(s):

switch#
```

Table 5 describes the fields shown in the display:

Table 5 show switch-profile session-history Field Descriptions

Field	Description
Start-time	The start time of the configuration session in the format *nn* usecs after *Day-of-week Month Date hh*:*mm*:*ss Year*, where usecs represents microseconds. For example, 265561 usecs after Tue Aug 23 06:02:46 2011.
End-time	The end time of the configuration session in the format *nn* usecs after *Day-of-week Month Date hh*:*mm*:*ss Year*, where usecs represents microseconds.
Profile-Revision	The number of times the switch profile configuration has been revised.
Session-type	The action taken on the switch profile configuration; for example, Initial-Exchange, Commit, Peer-Delete.
Peer-triggered	The status of receiving the peer reachable notification.
Profile-status	The status of the configuration synchronization.
Local information	The information about the local switch profile.
Status	The status of the configuration synchronization action in the local switch.
Error(s)	The reason for the errors that appear while synchronizing the configuration in the local switch.
Peer information	The information about the peer switch profile.
IP-address	The IPv4 address of the destination peer switch.
Pending-merge	The latest configuration revision number in the local switch that is to be merged with the configuration in the peer switch.
Received-merge	The configuration revision received from the local switch to synchronize with the peer switch.

Table 5 show switch-profile session-history Field Descriptions (continued)

Field	Description
Sync-status	The status of the synchronized configuration in the peer switch as follows: • In Sync—The configuration on the peer switch is synchronized with the configurations of the local switch. • Not yet merged. pending-merge:1 received_merge:0—The configuration in the local switch is not yet merged with the peer switch.
Status	The status of the peer switch, such as the connectivity, or command execution status.
Error(s)	The reason for the errors that appear while synchronizing the configuration in the peer switch.

Related Commands

Command	Description
show switch-profile	Displays the switch profile and configuration revisions.
show switch-profile status	Displays the status of the switch profile.
switch-profile	Configures a switch profile.

show switch-profile status

To display the switch profile configuration status, use the **show switch-profile** command.

show switch-profile [*sw-profile-name*] **status**

Syntax Description

sw-profile-name	(Optional) Name of the switch profile. The name is case sensitive, can be a maximum of 64 alphanumeric characters, and can include an underscore and hyphen. The name cannot contain spaces or special characters.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the status of the switch profile named s5010 on switch 1 of the peer:

```
switch# show switch-profile s5010 status

Start-time: 794606 usecs after Tue Aug 23 07:06:49 2011
End-time: 796861 usecs after Tue Aug 23 07:06:49 20110

Profile-Revision: 3
Session-type: Commit
Peer-triggered: Yes
Profile-status: Sync Success

Local information:
----------------
Status: Commit Success
Error(s):

Peer information:
----------------
IP-address: 192.0.120.3
Sync-status: In Sync.
Status: Commit Success
Error(s):

switch#
```

Table 6 describes the fields shown in the display:

Table 6 show switch-profile status Field Descriptions

Field	Description
Start-time	The start time of the configuration session in the format *nn* usecs after *Day-of-week Month Date hh*:*mm*:*ss Year*, where usecs represents microseconds. For example, 265561 usecs after Tue Aug 23 07:06:49 2011.
End-time	The end time of the configuration session in the format *nn* usecs after *Day-of-week Month Date hh*:*mm*:*ss Year*, where usecs represents microseconds.
Profile-Revision	The number of times the switch profile configuration has been revised.
Session-type	The action taken on the switch profile configuration; for example, Commit, Peer-Delete.
Peer-triggered	The status of receiving the peer reachable notification.
Profile-status	The status of the configuration synchronization.
Local information	The information about the local switch profile.
Status	The status of the configuration synchronization action in the local switch.
Error(s)	The reason for the errors that appear while synchronizing the configuration in the local switch.
Peer information	The information about the peer switch profile.
IP-address	The IPv4 address of the destination peer switch.
Sync-status	The status of the synchronized configuration in the peer switch. • In Sync—The configuration on the peer switch is synchronized with the configurations of the local switch. • Not yet merged. pending-merge:1 received_merge:0—The configuration in the local switch is not yet merged with the peer switch.
Status	The status of the configuration synchronization action in the peer switch.
Error(s)	The reason for the errors that appear while synchronizing the configuration in the peer switch.

Related Commands

Command	Description
show switch-profile	Displays the switch profile and configuration revisions.
switch-profile	Configures a switch profile.

show tech-support port-channel

To display troubleshooting information about EtherChannel interfaces, use the **show tech-support port-channel** command.

show tech-support port-channel

Syntax Description

This command has no arguments and keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The output from the **show tech-support port-channel** command is very long. To better manage this output, you can redirect the output to a file.

Examples

This example shows how to display Cisco technical support information for EtherChannel interfaces:

```
switch# show tech-support port-channel
`show port-channel internal event-history all`
Low Priority Pending queue: len(0), max len(1) [Fri May 28 11:07:02 2010]
High Priority Pending queue: len(0), max len(64) [Fri May 28 11:07:02 2010]
PCM Control Block info:
pcm_max_channels        : 4096
pcm_max_channel_in_use  : 1
pc count                : 0
hif-pc count            : 0
Max PC Cnt              : 1600
==================================================
PORT CHANNELS:
==================================================

ALL PORTS:
Ethernet1/62
state         : down
update        : none
mode          : on
flags         :
cfg flags     :
up_time       : 0 usecs after Thu Jan  1 00:00:00 1970
auto pc       : none
<--Output truncated-->
switch#
```

Related Commands

Command	Description
port-channel load-balance ethernet	Configures the load-balancing method among the interfaces in the channel-group bundle.
show port-channel load-balance	Displays information on EtherChannel load balancing.

show tech-support vpc

To display troubleshooting information about the virtual port channel (vPC), use the **show tech-support vpc** command.

show tech-support vpc

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the vPC troubleshooting information:

```
switch# show tech-support vpc
`show version`
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2011, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software are covered under the GNU Public
License. A copy of the license is available at
http://www.gnu.org/licenses/gpl.html.

Software
  BIOS:      version 1.8.0
  loader:    version N/A
  kickstart: version 5.0(3)U2(1) [build 5.0(3)U2(0.125)]
  system:    version 5.0(3)U2(1) [build 5.0(3)U2(0.125)]
  power-seq: Module 1: version v4.1
  BIOS compile time:       03/08/2011
  kickstart image file is: bootflash:///125.k
  kickstart compile time:  8/11/2011 16:00:00 [08/11/2011 23:16:27]
  system image file is:    bootflash:///125.s
  system compile time:     8/11/2011 16:00:00 [08/12/2011 00:09:45]


Hardware
  cisco Nexus3064 Chassis ("48x10GE + 16x10G/4x40G Supervisor")
  Intel(R) Celeron(R) CPU      with 4007288 kB of memory.
  Processor Board ID FOC152107X4

  Device name: BLR-QSP-5
<--Output truncated-->
switch#
```

Related Commands

Command	Description
show vpc brief	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.

show version

To display information about the software and hardware version, use the **show version** command.

show version

Syntax Description

This command has no arguments or keywords.

Command Default

All version information

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Examples

This example shows how to display the version information of a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch# show version
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2011, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software are covered under the GNU Public
License. A copy of the license is available at
http://www.gnu.org/licenses/gpl.html.

Software
  BIOS:      version 1.8.0
  loader:    version N/A
  kickstart: version 5.0(3)U2(1) [build 5.0(3)U2(0.125)]
  system:    version 5.0(3)U2(1) [build 5.0(3)U2(0.125)]
  power-seq: Module 1: version v4.1
  BIOS compile time:       03/08/2011
  kickstart image file is: bootflash:///125.k
  kickstart compile time:  8/11/2011 16:00:00 [08/11/2011 23:16:27]
  system image file is:    bootflash:///125.s
  system compile time:     8/11/2011 16:00:00 [08/12/2011 00:09:45]


Hardware
  cisco Nexus3064 Chassis ("48x10GE + 16x10G/4x40G Supervisor")
  Intel(R) Celeron(R) CPU      with 4007288 kB of memory.
  Processor Board ID FOC152107X4

  Device name: BLR-QSP-5
  bootflash:    2007040 kB

Kernel uptime is 3 day(s), 5 hour(s), 7 minute(s), 7 second(s)
```

```
Last reset at 331149 usecs after  Sat Aug 20 04:40:54 2011

  Reason: Reset Requested by CLI command reload
  System version: 5.0(3)U2(1)
  Service:

plugin
  Core Plugin, Ethernet Plugin
switch#
```

Related Commands

Command	Description
show vpc brief	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.

show vpc

To display detailed information about the virtual port channels (vPCs) configured on the switch, use the **show vpc** command.

show vpc [*vpc-number*]

Syntax Description

vpc-number	(Optional) vPC number. The range is from 1 to 4096.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Examples

This example shows how to display the vPC information:

```
switch# show vpc
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 100
Peer status                     : peer link not configured
vPC keep-alive status           : Disabled
Configuration consistency status: failed
Per-vlan consistency status     : failed
Configuration consistency reason: vPC peer-link does not exist
Type-2 consistency status       : failed
Type-2 consistency reason       : vPC peer-link does not exist
vPC role                        : none established
Number of vPCs configured       : 0
Peer Gateway                    : Enabled
Dual-active excluded VLANs      : 200
Graceful Consistency Check      : Disabled (due to peer configuration)
switch#
```

This example shows how to display information about a specific vPC:

```
switch# show vpc 5


vPC status
----------------------------------------------------------------------------
id     Port        Status Consistency Reason                     Active vlans
------ ----------- ------ ----------- -------------------------- -----------
5      Po10        down   failed      Consistency Check Not      -
                                      Performed

switch#
```

Related Commands

Command	Description
show vpc brief	Displays vPC information in a brief summary.
vpc	Configures vPC features on the switch.

show vpc brief

To display brief information about the virtual port channels (vPCs), use the **show vpc brief** command.

show vpc brief [**vpc** *number*]

Syntax Description

vpc *number*	(Optional) Displays the brief information for the specified vPC. The range is from 1 to 4096.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
7.0(3)I2(1)	The command output was updated.
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The **show vpc brief** command displays the vPC domain ID, the peer-link status, the keepalive message status, whether the configuration consistency is successful, and whether a peer link formed or failed to form.

This command is not available if you have not enabled the vPC feature. See the **feature vpc** command for information about enabling vPCs.

You can display the track object if you have configured a tracked object for running vPCs on a single module in the vpc-domain configuration mode.

Examples

This example shows how to display brief information about the vPCs on a switch that runs Cisco NX-OS Release 7.0(3)I2(1) and later:

```
switch(config)# show vpc brief
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                     : 75
Peer status                       : peer adjacency formed ok
vPC keep-alive status             : peer is alive
Configuration consistency status  : success
Per-vlan consistency status       : success
Type-2 consistency status         : success
vPC role                          : secondary
Number of vPCs configured         : 1
```

```
Peer Gateway                       : Disabled
Dual-active excluded VLANs         : -
Graceful Consistency Check         : Enabled
Auto-recovery status               : Disabled
Delay-restore status               : Timer is off.(timeout = 30s)    >>>>>> New Addition
Delay-restore SVI status           : Timer is off.(timeout = 10s)    >>>>>> New Addition

vPC Peer-link status
---------------------------------------------------------------------
id   Port   Status Active vlans
--   ----   ------ --------------------------------------------------
1    Po75   up     75

vPC status
----------------------------------------------------------------------------
id   Port   Status Consistency Reason                     Active vlans
--   ----   ------ ----------- ------                     ------------
100  Po110  down*  success     success                    -

switch(config)#
```

This example shows how to display brief information about the vPCs on a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch(config)# show vpc brief
Legend:
                (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id                   : 100
Peer status                     : peer link not configured
vPC keep-alive status           : Disabled
Configuration consistency status: failed
Per-vlan consistency status     : failed
Configuration consistency reason: vPC peer-link does not exist
Type-2 consistency status       : failed
Type-2 consistency reason       : vPC peer-link does not exist
vPC role                        : none established
Number of vPCs configured       : 0
Peer Gateway                    : Enabled
Dual-active excluded VLANs      : 200
Graceful Consistency Check      : Disabled (due to peer configuration)
switch(config)#
```

Related Commands

Command	Description
feature vpc	Enables vPCs on the device.
show port channel summary	Displays information about port channels.
vpc	Configures vPC domains and peers.

show vpc consistency-parameters

To display the consistency of parameters that must be compatible across the virtual port-channel (vPC) interfaces, use the **show vpc consistency-parameters** command.

show vpc consistency-parameters {**global** | **interface** {**ethernet** *slot/port* | **port-channel** *channel-number*} | **vlans** | **vpc** *number*}

Syntax Description

global	Displays the configuration of all Type 1 global parameters on both sides of the vPC peer link.
interface	Displays the configuration for an Ethernet or EtherChannel interface on both sides of the vPC peer link.
ethernet *slot/port*	Displays the configuration of all Type 1 parameters for an Ethernet interface. The slot number is from 1 to 255, and the port number is from 1 to 128.
port-channel *channel-number*	Displays the configuration of all Type 1 parameters for an EtherChannel interface. The channel number is from 1 to 4096.
vlans	Displays the configuration of all VLANs, including incompatible VLANs, on both sides of the vPC peer link for the specified vPC.
vpc *number*	Displays the configuration of all Type 1 interface parameters on both sides of the vPC peer link for the specified vPC.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The **show vpc consistency-parameters** command displays the configuration of all the vPC Type 1 parameters on both sides of the vPC peer link.

Note All the Type 1 configurations must be identical on both sides of the vPC peer link, or the link will not come up.

The vPC Type 1 configuration parameters are as follows:

- Port-channel mode: on, off, or active
- Link speed per channel
- Duplex mode per channel
- Trunk mode per channel

  - Native VLAN
  - VLANs allowed on trunk
  - Tagging of native VLAN traffic
- Spanning Tree Protocol (STP) mode
- STP region configuration for Multiple Spanning Tree
- Enable/disable state the same per VLAN
- STP global settings
  - Bridge Assurance setting
  - Port type setting—We recommend that you set all vPC peer link ports as network ports.
  - Loop Guard settings
- STP interface settings:
  - Port type setting
  - Loop Guard
  - Root Guard
- Maximum transmission unit (MTU)
- Allowed VLAN bit set

This command is not available if you have not enabled the vPC feature. See **feature vpc** for information on enabling vPCs.

Examples

This example shows how to display the vPC global consistency parameters on a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch# show vpc consistency-parameters global
```

This example shows how to display the vPC consistency parameters for the specified port channel on a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch# show vpc consistency-parameters interface port-channel 10
```

This example shows how to display the vPC consistency parameters for the specified vPC on a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch# show vpc consistency-parameters vpc 5
```

This example shows how to display the vPC consistency parameters for VLANs on a switch that runs Cisco NX-OS Release 5.0(3)U2(1):

```
switch# show vpc consistency-parameters vlans
```

Related Commands

Command	Description
show vpc brief	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.
show port channel summary	Displays information about port channels.
vpc	Configures vPC domains and peers.

show vpc orphan-ports

To display ports that are not part of the virtual port channel (vPC) but have common VLANs, use the **show vpc orphan-ports** command.

show vpc orphan-ports

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The **show vpc orphan-ports** command displays those ports that are not part of the vPC but that share common VLANs with ports that are part of the vPC.

This command is not available if you have not enabled the vPC feature. See the **feature vpc** command for information about enabling vPCs.

Examples

This example shows how to display vPC orphan ports:

```
switch(config)# show vpc orphan-ports
```

Related Commands

Command	Description
feature vpc	Enables vPCs on the device.
vpc orphan-port suspend	Suspends a non-vPC port.
show vpc brief	Displays brief information about vPCs.

show vpc peer-keepalive

To display the destination IP for the virtual port-channel (vPC) peer keepalive message and the status of the messages, use the **show vpc peer-keepalive** command.

show vpc peer-keepalive

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The show **vpc peer-keepalive** command displays the destination IP of the peer keepalive message for the vPC. The command also displays the send and receive status as well as the last update from the peer in seconds and milliseconds.

Note We recommend that you create a separate VRF on the peer devices to send and receive the vPC peer keepalive messages. Do not use the peer link itself to send the vPC peer-keepalive messages.

This command is not available if you have not enabled the vPC feature. See the **feature vpc** command for information about enabling vPCs.

Examples

This example shows how to display information about the peer-keepalive message:

```
switch# show vpc peer-keepalive

vPC keep-alive status           : Disabled
--Send status                   : Failed
--Receive status                : Failed
--Last update from peer         : (-n-a-) seconds, (-n-a-) msec

vPC Keep-alive parameters
--Destination                   : N/A
--Keepalive interval            : 1000 msec
--Keepalive timeout             : 5 seconds
--Keepalive hold timeout        : 3 seconds
--Keepalive vrf                 : management
--Keepalive udp port            : 3200
--Keepalive tos                 : 192
switch#
```

Related Commands

Command	Description
show vpc brief	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.

show vpc role

To display information about the virtual port-channel (vPC) role of the peer device, use the **show vpc role** command.

show vpc role

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The **show vpc role** command displays the following information about the vPC status:

- Status of peer adjacency
- vPC role
- vPC MAC address
- vPC system priority
- MAC address of the device that you are working on
- System priority for the device that you are working on

This command is not available if you have not enabled the vPC feature. See the **feature vpc** command for information on enabling vPCs.

Examples

This example shows how to display the vPC role information of the device that you are working on:

```
switch# show vpc role

vPC Role status
----------------------------------------------------
vPC role                        : none established
Dual Active Detection Status    : 0
vPC system-mac                  : 00:00:00:00:00:00
vPC system-priority             : 32667
vPC local system-mac            : 00:05:73:ff:5b:01
vPC local role-priority         : 0
switch#
```

Related Commands

Command	Description
role	Assigns a primary or secondary role to a vPC device.
show vpc brief	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.
show port channel summary	Displays information about port channels.

show vpc statistics

To display virtual port-channel (vPC) statistics, use the **show vpc statistics** command.

show vpc statistics {**peer-keepalive** | **peer-link** | **vpc** *number*}

Syntax Description

peer-keepalive	Displays statistics about the peer-keepalive message.
peer-link	Displays statistics about the peer link.
vpc *number*	Displays statistics about the specified vPC. The range is from 1 to 4096.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

The **peer-link** parameter displays the same information as the **show interface port-channel** *channel number* command for the vPC peer-link port channel.

The **vpc** *number* parameter displays the same information as the **show interface port-channel** *channel number* command for the specified vPC port channel.

This command is not available if you have not enabled the vPC feature. See the **feature vpc** command for information on enabling vPCs.

Examples

This example shows how to display statistics about the peer-keepalive message:

```
switch# show vpc statistics peer-keepalive

vPC keep-alive status           : Suspended (Destination IP not reachable)

vPC keep-alive statistics
--------------------------------------------------
peer-keepalive tx count:          469
peer-keepalive rx count:          0
average interval for peer rx:     0
Count of peer timeouts:           0
switch(config)#
```

This example shows how to display statistics about a specific vPC:

```
switch# show vpc statistics vpc 5
```

Related Commands

Command	Description
show vpc brief	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.
show port channel summary	Displays information about port channels.

shutdown

To shut down the local traffic on an Ethernet interface or Ethernet port-channel interface, use the **shutdown** command. To return the interface to its default operational state, use the **no** form of this command.

shutdown

no shutdown

Syntax Description

This command has no arguments or keywords.

Command Default

Not shut down

Command Modes

Interface configuration mode
Subinterface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You can use this command on the following interfaces:

- Layer 2 interface
- Layer 3 interface

Note Use the **no switchport** command to configure an interface as a Layer 3 interface.

- Layer 3 subinterface

This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

Examples

This example shows how to shut down, or disable, a Layer 2 interface:

```
switch(config)# interface ethernet 1/10
switch(config-if)# shutdown
switch(config-if)#
```

This example shows how to shut down a Layer 3 Ethernet subinterface:

```
switch(config)# interface ethernet 1/5.1
switch(config-subif)# shutdown
switch(config-subif)#
```

Related Commands

Command	Description
no switchport	Converts an interface to a Layer 3 routed interface.
show interface ethernet	Displays the Ethernet interface configuration information.
show interface port-channel	Displays information on traffic about the specified EtherChannel interface.

speed (Ethernet)

To configure the transmit and receive speed for an Ethernet interface, use the **speed** command. To reset to the default speed, use the **no** form of this command.

speed {**10** | **100** | **1000** | **10000** | **40000** |**auto**}

no speed

Syntax Description

10	Sets the interface speed to 10 Mbps.
100	Sets the interface speed to 100 Mbps.
1000	Sets the interface speed to 1 Gbps.
10000	Sets the interface speed to 10 Gbps. This is the default speed for Cisco Nexus 3000 Series switches.
40000	Sets the interface speed to 40 Gbps. This is the default speed for Cisco Nexus 3132 switches.
auto	Sets the interface speed automatically.

Command Default

The default speed is 10000 (10-Gigabit).

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)U2(1)	Added the **40000** keyword.
5.0(3)U3(1)	Added the **10**, **100**, and **auto** keywords.
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The default interface speed for Cisco Nexus 3000 Series switches is 10-Gigabit. To configure these ports for 1-Gigabit Ethernet, insert a 1-Gigabit Ethernet SFP transceiver into the applicable port and then set its speed with the speed command.

Note If the interface and transceiver speed is mismatched, the SFP validation failed message is displayed when you enter the **show interface ethernet** *slot*/*port* command. For example, if you insert a 1-Gigabit SFP transceiver into a port without configuring the **speed 1000** command, you will get this error.

The default interface for Cisco Nexus 3132 switches is 40-Gigabit. When using Cisco Nexus 3132 switches, you can reconfigure interface speeds from 40-Gigabit to 10-Gigabit, and from 10-Gigabit back to 40-Gigabit.

This command does not require a license.

Examples

This example shows how to set the speed for a 1-Gigabit Ethernet port:

```
switch# configure terminal
switch(config)# interface ethernet 2/1
switch(config-if)# speed 1000
switch(config-if)#
```

This example shows how to set the speed for a 10-Gigabit Ethernet port:

```
switch# configure terminal
switch(config)# interface ethernet 1/2
switch(config-if)# speed 10000
switch(config-if)#
```

This example shows how to set the speed for a 40-Gigabit Ethernet port:

```
switch# configure terminal
switch(config)# interface ethernet 1/2/1
switch(config-if)# speed 40000
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays the interface configuration information.

switch-profile

To create or configure a switch profile, use the **switch-profile** command. To delete a switch profile, use the **no** form of this command.

switch-profile *sw-profile-name*

no switch-profile *sw-profile-name* {**all-config** | **local-config**}

Syntax Description

sw-profile-name	Name of the switch profile. The name is case sensitive, can be a maximum of 64 alphanumeric characters, and can include an underscore and hyphen. The name cannot contain spaces or special characters.
all-config	Specifies that the switch profile be deleted with all local and peer configurations.
local-config	Specifies that the switch profile and all local configurations be deleted.

Command Default

None

Command Modes

Configuration synchronization mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Use this command to create a switch profile on each of the peer switches. You must use the same profile name on both the switches in the Cisco Fabric Services (CFS) peer configuration.

Note In this release of Cisco NX-OS, only a pair of switches can be configured as a peer.

You can configure only one active switch profile on each peer switch. If you create or configure a second switch profile, you see the following error message:

```
Error: Another switch profile already exists. Cannot configure more than one
switch-profile.
```

The configuration that is made locally on the switch is synchronized and made available on the peer switch only after the connectivity is established between the peer switches and the configuration is verified and committed on the local switch.

You can configure a switch profile to include the interface configuration, quality of service (QoS), and virtual port channel (vPC) commands. Fibre Channel over Ethernet (FCoE) commands are not supported on a switch profile.

When you delete a switch profile, you can choose to delete the local switch profile with the local configurations on the switch or delete the switch profile with the local configurations and configuration information in the peer. The peer becomes unreachable.

Examples

This example shows how to create a switch profile named s5010 on switch 1 of the peer:

Peer A

```
switch# configure terminal
switch(config)# cfs ipv4 distribute
switch(config)# exit
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)#
```

This example shows how to create a switch profile named s5010 on switch 2 of the peer:

Peer B

```
switch# configure terminal
switch(config)# cfs ipv4 distribute
switch(config)# exit
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)#
```

This example shows how to delete a switch profile named s5010 and its local configuration on switch 1 of the peer:

Peer A

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# no switch-profile s5010 local-config
switch(config-sync)#
```

Related Commands

Command	Description
config sync	Enters configuration synchronization mode.
show switch-profile	Displays the switch profile created on the switch and its configuration revision.
sync-peers destination	Configures the peer switch for configuration synchronization.

switchport block

To prevent the unknown multicast or unicast packets from being forwarded, use the **switchport block** command. To allow the unknown multicast or unicast packets to be forwarded, use the **no** form of this command.

switchport block {**multicast** | **unicast**}

no switchport block {**multicast** | **unicast**}

Syntax Description

multicast	Specifies that the unknown multicast traffic should be blocked.
unicast	Specifies that the unknown unicast traffic should be blocked.

Command Default

Unknown multicast and unicast traffic are not blocked. All traffic with unknown MAC addresses is sent to all ports.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You can block the unknown multicast or unicast traffic on the switch ports.

Blocking the unknown multicast or unicast traffic is not automatically enabled on the switch ports; you must explicitly configure it.

This command does not require a license.

Examples

This example shows how to block the unknown multicast traffic on an interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# switchport block multicast
switch(config-if)#
```

Related Commands

Command	Description
show interface switchport	Displays the switch port information for a specified interface or all interfaces.

switchport dot1q ethertype

To set the EtherType used for Q-in-Q encapsulation on an interface, use the **switchport dot1q ethertype** command. To reset the EtherType to its default value, Use the **no** form of this command.

switchport dot1q ethertype *ethertype*

no switchport dot1q ethertype [*ethertype*]

Syntax Description

ethertype	Value to set for the EtherType. The range is from 0x600 to 0xffff. • 0x8100 is the default EtherType for 802.1q frames • 0x88A8 is the EtherType for 802.1ad double tagged frames • 0x9100 is the EtherType for QinQ frames

Defaults

0x8100 is the default EtherType for 802.1q frames

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

You must enter the **switchport** command without any keywords to configure the Ethernet interface as a Layer 2 interface before you can enter the **switchport mode** command. This action is required only if you have not entered the **switchport** command for the interface.

You must set the EtherType only on the egress trunk interface that carries double tagged frames (the trunk interface that connects the service providers). If you change the EtherType on one side of the trunk, you must set the same value on the other end of the trunk (symmetrical configuration).

Caution The EtherType value you set affects all the tagged packets going out on the interface (not just Q-in-Q packets).

This command does not require a license.

Examples

This example shows how to create a 802.1Q tunnel on an interface:

```
switch(config-if)# switchport dot1q ethertype 0x9100
```

Related Commands

Command	Description
show interface switchport	Displays information about all the switch port interfaces.

switchport host

To configure the interface to be an access host port, use the **switchport host** command. To remove the host port, use the **no** form of this command.

switchport host

no switchport host

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

Ensure that you are configuring the correct interface. It must be an interface that is connected to an end station.

An access host port handles the Spanning Tree Protocol (STP) like an edge port and immediately moves to the forwarding state without passing through the blocking and learning states. Configuring an interface as an access host port also disables EtherChannel on that interface.

This command does not require a license.

Examples

This example shows how to set an interface as an Ethernet access host port with EtherChannel disabled:

```
switch# configure terminal
switch(config)# interface ethernet 2/1
switch(config-if)# switchport host
switch(config-if)#
```

Related Commands

Command	Description
show interface brief	Displays a summary of the interface configuration information.
show interface switchport	Displays information on all interfaces configured as switch ports.

switchport mode

To configure the interface as a nontrunking nontagged single-VLAN Ethernet interface, use the **switchport mode** command. To remove the configuration and restore the default, use the **no** form of this command.

switchport mode {**access** | **trunk**}

no switchport mode {**access** | **trunk**}

Syntax Description

access	Specifies that the interface is in access mode.
trunk	Specifies that the interface is in trunk mode.

Command Default

An access port carries traffic for VLAN 1.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

An access port can carry traffic in one VLAN only. By default, an access port carries traffic for VLAN 1. To set the access port to carry traffic for a different VLAN, use the **switchport access vlan** command.

The VLAN must exist before you can specify that VLAN as an access VLAN. The system shuts down an access port that is assigned to an access VLAN that does not exist.

This command does not require a license.

Examples

This example shows how to set an interface as an Ethernet access port that carries traffic for a specific VLAN only:

```
switch# configure terminal
switch(config)# interface ethernet 2/1
switch(config-if)# switchport mode access
switch(config-if)# switchport access vlan 5
switch(config-if)#
```

Related Commands

Command	Description
show interface ethernet	Displays information about a specified Ethernet interface.

Command	Description
show interface switchport	Displays information on all interfaces configured as switch ports.
switchport access vlan	Sets the access VLAN when the interface is in access mode.

switchport mode dot1q-tunnel

To creates an 802.1Q tunnel on an interface, use the **switchport mode dot1q-tunnel** command. To disable the 802.1Q tunnel on the interface, use the **no** form of this command.

switchport mode dot1q-tunnel

no switchport mode dot1q-tunnel

Syntax Description

This command has no arguments or keywords.

Defaults

No 802.1Q tunnel

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

You must enter the **switchport** command without any keywords to configure the Ethernet interface as a Layer 2 interface before you can enter the **switchport mode** command. This action is required only if you have not entered the **switchport** command for the interface.

The port goes down and reinitializes (port flap) when the interface mode is changed. BPDU filtering is enabled and the Cisco Discovery Protocol (CDP) is disabled on tunnel interfaces.

This command does not require a license.

Examples

This example shows how to create a 802.1Q tunnel on an interface:

```
switch(config-if)# switchport mode dot1q-tunnel
```

Related Commands

Command	Description
show interface switchport	Displays information about all the switch port interfaces.

switchport trunk allowed vlan

To set the list of allowed VLANs on the trunking interface, use the **switchport trunk allowed vlan** command. To allow all VLANs on the trunking interface, use the **no** form of this command.

switchport trunk allowed vlan {*vlan-list* | **add** *vlan-list* | **all** | **except** *vlan-list* | **none** | **remove** *vlan-list*}

no switchport trunk allowed vlan

Syntax Description

vlan-list	Allowed VLANs that transmit through this interface in tagged format when in trunking mode; the range of valid values is from 1 to 4094.
add	Adds the defined list of VLANs to those currently set instead of replacing the list.
all	Allows all appropriate VLANs to transmit through this interface in tagged format when in trunking mode.
except	Allows all VLANs to transmit through this interface in tagged format when in trunking mode except the specified values.
none	Blocks all VLANs transmitting through this interface in tagged format when in trunking mode.
remove	Removes the defined list of VLANs from those currently set instead of replacing the list.

Defaults

No VLANs

Command Modes

Interface configuration mode

SupportedUserRoles

network-admin

Command History

Release	Modification
5.0(2)U1(1)	This command was introduced.

Usage Guidelines

You must enter the **switchport** command without any keywords to configure the LAN interface as a Layer 2 interface before you can enter the **switchport trunk allowed vlan** command. This action is required only if you have not entered the **switchport** command for the interface.

You can enter the **switchport trunk allowed vlan** command on interfaces where the Switched Port Analyzer (SPAN) destination port is either a trunk or an access port.

If you remove VLAN 1 from a trunk, the trunk interface continues to send and receive management traffic in VLAN 1.

When you create a switchport trunk, by default it is not a member of any VLAN. You must explicitly add VLANs to the trunk port for traffic on those VLANs to be allowed on the trunk port. To remove all allowed VLANs from a trunk port, use the **no** form of this command and the trunk port becomes a member of no VLANs.

This command does not require a license.

Examples

This example shows how to add a series of consecutive VLANs to the list of allowed VLANs on a trunking port:

```
switch(config-if)# switchport trunk allowed vlan add 40-50
```

Related Commands

Command	Description
show interface switchport	Displays the administrative and operational status of a switching (nonrouting) port.

switchport trunk native vlan

To change the native VLAN ID when the interface is in trunking mode, use the **switchport trunk native vlan** command. To return the native VLAN ID to VLAN 1, use the **no** form of this command.

switchport trunk native vlan *vlan-id*

no switchport trunk native vlan

Syntax Description

vlan-id	Native VLAN for the trunk in 802.1Q trunking mode. The range is from 1 to 4094, except the internally reserved VLANs are 3968 to 4047 and 4094.

Defaults

VLAN1

Command Modes

Interface configuration mode

SupportedUserRoles

network-admin

vdc-admin

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You must enter the **switchport** command without any keywords to configure the LAN interface as a Layer 2 interface before you can enter the **switchport trunk native vlan** command. This action is required only if you have not entered the **switchport** command for the interface.

Note See the **vlandot1q tag native** command for more information about configuring the native VLAN for 802,1Q trunk ports.

Use the **no** form of the **native vlan** command to reset the native mode VLAN to the default VLAN1 for the device.

This command does not require a license.

Examples

This example shows how to configure the native VLAN for an interface in trunk mode:

```
switch(config-if)# switchport trunk native vlan 5
```

Related Commands

Command	Description
show interface switchport	Displays the administrative and operational status of a switching (nonrouting) port.

sync-peers destination

To add a peer switch to a switch profile, use the **sync-peers destination** command. To remove a peer from the switch profile, use the **no** form of this command.

sync-peers destination *ipv4-address*

no sync-peers destination *ipv4-address*

Syntax Description

destination	Specifies the destination IPv4 address of the peer switch.
ipv4-address	Destination IPv4 address of the peer switch in the format *A.B.C.D*.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Use this command to add the peer switch that will be included in the synchronization. You must have the IPv4 address of the peer switch. You can ensure that configuration synchronization is enabled on the peer switch by using the **config sync** command.

After you add a peer to a switch profile, you can add commands to the switch profile.

Peers maintain a configuration revision of their local configuration as well as the revision. After a network outage, when connectivity is established between the peer switches and the peers are reachable, each peer determines if any configuration in the switch needs to be synchronized with the other peer. Changed configurations will then be synchronized between the peers.

When you remove a peer from the switch profile, all configuration information about the peer is deleted from the local switch.

Examples

This example shows how to add a peer switch with IPv4 address 192.168.1.37 to a switch profile named s5010 on switch 1 of the peer:

Peer A

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# sync-peers destination 192.168.1.37
switch(config-sync-sp)#
```

This example shows how to add a peer switch with IPv4 address 192.168.120.3 to a switch profile named s5010 on switch 2 of the peer:

Peer B

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# sync-peers destination 192.168.120.3
switch(config-sync-sp)#
```

This example shows how to delete a peer with IPv4 address 192.168.1.37 from a switch profile named s5010 on switch 1 of the peer:

Peer A

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
switch(config-sync-sp)# no sync-peers destination 192.168.1.37
switch(config-sync-sp)#
```

Related Commands

Command	Description
command	Adds, modifies, or removes commands from a switch profile.
copy running-config startup-config	Copies the running configuration to the startup configuration.
import	Imports the commands from the running configuration to the switch profile.
show switch-profile	Displays the switch profile created on the switch and its configuration revision.
show switch-profile status	Displays the switch profile status.
switch-profile	Configures a switch profile.

system default interface-vlan no autostate

To disable the systems default autostate behavior on VLAN interfaces (switched virtual interfaces [SVI]), use the **system default interface-vlan no autostate** command. To reenable the VLAN interface default feature, use the **system default interface-vlan autostate** command.

system default interface-vlan no autostate

system default interface-vlan autostate

Syntax Description

This command has no arguments or keywords.

Defaults

Enabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U5(1)	This command was introduced.

Usage Guidelines

You must use the **feature interface-vlan** command before you can create VLAN interfaces.

This command does not require a license.

Examples

This example shows how to disable the systems interface VLAN autostate behavior:

```
switch(config)# system default interface-vlan no autostate
```

Related Commands

Command	Description
feature interface-vlan	Enables the creation of SVIs.

system default switchport

To change the default interface mode for the system from Layer 3 routing to Layer 2 switching, use the **system default switchport** command. To return the system to Layer 3 routing default interface mode, use the **no** form of this command.

system default switchport [shutdown]

no system default switchport [shutdown]

Syntax Description

shutdown	(Optional) Configures the administrative state as down.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The **system default switchport** command makes all the interfaces Layer 2 access ports.

Examples

This example shows how to configure the system so that all the interfaces are in Layer 2 access mode:

```
switch# configure terminal
switch(config)# interface ethernet 1/2
switch(config-if)# system default switchport
```

Related Commands

Command	Description
show interface switchport	Displays the administrative and operational status of a switching (nonrouting) port.

system-mac

To manually configure the virtual port channel (vPC) domain MAC address, use the **system-mac** command. To restore the default vPC system MAC address, use the **no** form of this command.

system-mac *mac_address*

no system-mac

Syntax Description

mac_address	MAC address that you want for the specified vPC domain in the following format aaaa.bbbb.cccc.

Command Default

None

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

When you create a vPC domain, the Cisco NX-OS software automatically creates a vPC system MAC address, which is used for operations that are confined to the link-scope, such as the Link Aggregation Control Protocol (LACP). However, you may choose to configure the vPC domain MAC address manually.

Examples

This example shows how to configure the MAC address for the vPC domain:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)# system-mac 23fb.4ab5.4c4e
switch(config-vpc-domain)#
```

This example shows how to remove the MAC address configuration on the vPC domain:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)# no system-mac 23fb.4ab5.4c4e
switch(config-vpc-domain)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
show vpc peer-keepalive	Displays the status of the peer-keepalive link.

Command	Description
show running-config vpc	Displays the running configuration information for vPCs.
show vpc role	Displays the vPC system priority.
show vpc statistics	Displays information about the configuration for the keepalive messages.

system-priority

To manually configure a system priority for the virtual port channel (vPC) domain, use the **system-priority** command. To restore the default system priority, use the **no** form of this command.

system-priority *priority_value*

no system-priority *priority_value*

Syntax Description

priority_value	System priority that you want for the specified vPC domain. The range is from 1 to 65535, and the default value is 32667.

Command Default

The default for the system priority is 32667.

Command Modes

vPC domain configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

We recommend that you manually configure the vPC system priority when you are running Link Aggregation Control Protocol (LACP) to ensure that the vPC peer devices are the primary devices on LACP. When you manually configure the system priority, ensure that you configure the same priority value on both vPC peer devices. If these values do not match, vPC will not come up.

Examples

This example shows how to configure the system priority for the vPC domain:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)# system-priority 3000
switch(config-vpc-domain)#
```

This example shows how to remove the system priority configuration for the vPC domain:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)# no system-priority 3000
switch(config-vpc-domain)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.

Command	Description
show running-config vpc	Displays the running configuration information for vPCs.
show vpc role	Displays the vPC system priority.

tunnel destination

To configure the destination endpoint for a tunnel, use the **tunnel destination** command. To remove the tunnel destination, use the **no** form of this command.

tunnel destination {*ip-address* | *host-name*}

no tunnel destination {*ip-address* | *host-name*}

Syntax Description

ip-address	IP address for the tunnel destination.
host-name	Hostname for the tunnel destination.

Defaults

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

Use the **tunnel destinatio**n command to configure the destination address for an IP tunnel.

You should not have two tunnels using the same encapsulation mode with the same source and destination address.

This command requires the Enterprise license.

Examples

This example shows how to configure the tunnel destination:

```
switch(config-if)# tunnel destination 192.0.2.120
```

Related Commands

Command	Description
tunnel source	Sets the source of the IP tunnel.
interface tunnel	Creates the IP tunnel.
show interface tunnel	Displays information about the traffic about the specified tunnel interface.

tunnel mode

To configure the tunnel encapsulation mode for a tunnel, use the **tunnel mode** command. To restore the default value, use the **no** form of this command.

tunnel mode {**gre** {**ip**} | **ipip** {**ip** | **decapsulate-any**}}

no tunnel mode

Syntax Description

gre	Specifies GRE encapsulation as the tunnel mode.
ip	Specifies GRE over IP encapsulation as the tunnel mode.
ipip ip	Specifies IP-in-IP encapsulation as the tunnel mode
decapsulate-any	Specifies that any number of IP-in-IP tunnels can terminate at one tunnel interface.

Defaults

None

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)U2(1)	The ipip and ipip decapsulate-any keywords were added.
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

Use the **tunnel mode** command to configure the tunnel encapsulation mode for a tunnel.

This command requires the Enterprise license.

Examples

This example shows how to configure the tunnel mode for IPv4:

```
switch(config-if)# tunnel mode gre ip
```

This example shows how to configure the tunnel mode for multi-point IP-in-IP encapsulation:

```
switch(config-if)# tunnel mode ipip ip
```

Related Commands

Command	Description
tunnel destination	Sets the destination of the IP tunnel.
interface tunnel	Creates the IP tunnel.
show interface tunnel	Displays information about the traffic about the specified tunnel interface.

tunnel source

To configure the source endpoint for a tunnel, use the **tunnel source** command. To remove the tunnel source, use the **no** form of this command.

tunnel source {*ip-address* | *interface-type number*}

no tunnel source [*ip-address* | *interface-type number*]

Syntax Description

ip-address	IP address for the tunnel source.
interface-type number	Interface for the tunnel source.

Defaults

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

Use the **tunnel source** command to configure the source address for an IP tunnel.

You should not have two tunnels using the same encapsulation mode with the same source and destination address.

This command requires the Enterprise license.

Examples

This example shows how to set the tunnel source:

```
switch(config-if)# tunnel source 192.0.2.120
```

Related Commands

Command	Description
tunnel destination	Sets the destination of the IP tunnel.
interface tunnel	Creates the IP tunnel.
show interface tunnel	Displays information about the traffic about the specified tunnel interface.

tunnel use-vrf

To specify which virtual routing and forwarding (VRF) instance to use to look up a tunnel destination IP address, use the **tunnel use-vrf** command. To return to the default, use the **no** form of this command.

tunnel use-vrf *vrf-name*

no tunnel use-vrf *vrf-name*

Syntax Description

vrf-name	Name of the VRF in which to look up the tunnel destination IP address.

Defaults

Default VRF

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise license.

Examples

This example shows how to specify the VRF in which to look up the tunnel destination IP address:

```
switch(config-if)# tunnel use-vrf blue
```

Related Commands

Command	Description
show interface tunnel	Displays information about the traffic about the specified tunnel interface.
show vrf interface tunnel	Displays information about the VRF tunnel interface.

udld (configuration mode)

To configure the Unidirectional Link Detection (UDLD) protocol on the switch, use the **udld** command. To disable UDLD, use the **no** form of this command.

udld {**aggressive** | **message-time** *timer-time* | **reset**}

no udld {**aggressive** | **message-time** | **reset**}

Syntax Description

aggressive	Enables UDLD in aggressive mode on the switch.
message-time *timer-time*	Sets the period of time between UDLD probe messages on ports that are in advertisement mode and are currently determined to be bidirectional. The range is from 7 to 90 seconds. The default is 15 seconds.
reset	Resets all the ports that are shut down by UDLD and permit traffic to begin passing through them again. Other features, such as spanning tree, will behave normally if enabled.

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

UDLD aggressive mode is disabled by default. You can configure UDLD aggressive mode only on point-to-point links between network devices that support UDLD aggressive mode. If UDLD aggressive mode is enabled, when a port on a bidirectional link that has a UDLD neighbor relationship established stops receiving UDLD frames, UDLD tries to reestablish the connection with the neighbor. After eight failed retries, the port is disabled.

To prevent spanning tree loops, normal UDLD with the default interval of 15 seconds is fast enough to shut down a unidirectional link before a blocking port transitions to the forwarding state (with default spanning tree parameters).

When you enable the UDLD aggressive mode, the following occurs:

- One side of a link has a port stuck (both transmission and receive)
- One side of a link remains up while the other side of the link is down

In these cases, the UDLD aggressive mode disables one of the ports on the link, which prevents traffic from being discarded.

This command does not require a license.

Examples

This example shows how to enable the aggressive UDLD mode for the switch:

```
switch# configure terminal
switch(config)# udld aggressive
switch(config)#
```

This example shows how to reset all ports that were shut down by UDLD:

```
switch# configure terminal
switch(config)# udld reset
switch(config)#
```

Related Commands

Command	Description
show udld	Displays the administrative and operational UDLD status.

udld (Ethernet)

To enable and configure the Unidirectional Link Detection (UDLD) protocol on an Ethernet interface, use the **udld** command. To disable UDLD, use the **no** form of this command.

udld {**aggressive** | **disable** | **enable**}

no udld {**aggressive** | **disable** | **enable**}

Syntax Description

aggressive	Enables UDLD in aggressive mode on the interface.
disable	Disables UDLD on the interface.
enable	Enables UDLD in normal mode on the interface.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You can configure normal or aggressive UDLD modes for an Ethernet interface. Before you can enable a UDLD mode for an interface, you must make sure that UDLD is enabled on the switch. UDLD must also be enabled on the other linked interface and its device.

To use the normal UDLD mode on a link, you must configure one of the ports for normal mode and configure the port on the other end for the normal or aggressive mode. To use the aggressive UDLD mode, you must configure both ends of the link for aggressive mode.

This command does not require a license.

Examples

This example shows how to enable the normal UDLD mode for an Ethernet port:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# udld enable
switch(config-if)#
```

This example shows how to enable the aggressive UDLD mode for an Ethernet port:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
switch(config-if)# udld aggressive
switch(config-if)#
```

This example shows how to disable UDLD for an Ethernet port:

```
switch# configure terminal
```

```
switch(config)# interface ethernet 1/1
switch(config-if)# udld disable
switch(config-if)#
```

Related Commands

Command	Description
show udld	Displays the administrative and operational UDLD status.

verify

To verify the buffered configuration of a switch profile, use the **verify** command.

verify

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Switch profile configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

When you use the **verify** command, the commands in the configuration are verified for mutual exclusion locally on the switch and on the peer switch, and then a merge check occurs on the peer switch to verify that the switch profile configurations are identical on both switches.

Note Only one peer can initiate the verification at a time.

Merge checks are done on the peer switch whenever the switch receives a new configuration. The merge checks ensure that the received configuration does not conflict with the switch profile configuration that already exists on the receiving switch. The merge check occurs during the merge or commit process. Errors are reported as merge failures and must be manually corrected.

A command that is included in a switch profile cannot be configured outside of the switch profile or on a peer switch. Ensure that the new configuration in the switch profile does not conflict with the configurations that might exist outside the switch profile or inside another switch profile. This process is called a mutual exclusion (mutex) check.

The following exceptions apply to mutual exclusion checks:

- Interface configuration—An interface configuration is exempted from mutual exclusion checks because it can exist both inside and outside a switch profile. For example, interface ethernet 1/1 can be present inside and outside the switch profile.
- Port shutdown—For operational or debugging reasons, a port may be shut down only on one of the switches. The **shutdown** and **no shutdown** commands are exempted from mutual exclusion checks.
- Port Channel command—When the first member interface is added to a port channel, the port channel inherits certain configurations from the member interface. Mutual exclusion checks are exempted.
- Switchport trunk allowed vlan—The **switchport trunk allowed vlan add** and **switchport trunk allowed vlan remove** command modifies a command instead of replacing the command. These commands are exempted from mutual exclusion checks.

If the configuration verification fails, you see the following error message:

```
Failed: Verify Failed
```

Use the **show switch-profile status** or **show switch-profile peer** command to view the reason for the mutual check failure, merge failure, or the peer switch status.

Examples

This example shows how to verify a configuration on a switch profile named s5010 on switch 1 of the peer:

```
switch# config sync
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# interface ethernet 1/1
switch(config-sync-sp-if)# switchport mode trunk
switch(config-sync-sp-if)# speed 1000
switch(config-sync-sp-if)# exit
switch(config-sync-sp)# verify
Verification Successful
switch(config-sync-sp)#
```

Related Commands

Command	Description
commit	Commits a switch profile configuration.
copy running-config startup-config	Copies the running configuration to the startup configuration.
show switch-profile peer	Displays information about the peer switch.
show switch-profile status	Displays information about the switch profile status.
show running-config switch-profile	Displays the running configuration for a switch profile.

vn-segment

To specify a VXLAN Virtual Network Identifier (VNID), use the **vn-segment** command.

vn-segment *vnid*

Syntax Description

vnid	Specifies the VXLAN VNID.

Command Default

None

Command Modes

VLAN configuration mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Examples

This example shows how to map a VLAN to a VXLAN VNI:

```
switch# configure terminal
switch(config)# vlan 3100
switch(config-vlan)# vn-segment 5000
```

Related Commands

Command	Description
vlan	Specifies the VLAN.

vpc

To move other port channels into a virtual port channel (vPC) to connect to the downstream device, use the **vpc** command. To remove the port channels from the vPC, use the **no** form of this command.

vpc *number*

no vpc *number*

Syntax Description

number	Port channel number to connect to the downstream device. The range is from 1 to 4096. **Note** The vPC number that you assign to the port channel that connects to the downstream device from the vPC peer device must be identical on both vPC peer devices.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

You can use any module in the device for the port channels.

Note We recommend that you attach the vPC domain downstream port channel to two devices for redundancy.

To connect to the downstream device, you create a port channel from the downstream device to the primary vPC peer device, and you create another port channel from the downstream device to the secondary peer device. Finally, working on each vPC peer device, you assign a vPC number to the port channel that connects to the downstream device. You will experience minimal traffic disruption when you are creating vPCs.

Note The port channel number and vPC number can be different, but the vPC number must be the same on both Cisco Nexus 3000 Series switches.

Examples

This example shows how to configure the selected port channel into the vPC to connect to the downstream device:

```
switch# configure terminal
switch(config)# interface port-channel 20
switch(config-if)# vpc 5
switch(config-if)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
show running-config vpc	Displays the running configuration information for vPCs.
show vpc brief	Displays information about each vPC, including information about the vPC peer link.
show vpc consistency-parameters	Displays the status of those parameters that must be consistent across all vPC interfaces.

vpc domain

To create a virtual port channel (vPC) domain and assign a domain ID, use the **vpc domain** command. To revert to the default vPC configuration, use the **no** form of this command.

vpc domain *domain_id*

no vpc domain *domain_id*

Syntax Description

domain_id	vPC domain ID. The range is from 1 to 1000.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

Before you can create a vPC domain and configure vPC on the switch, you must enable the vPC feature using the **feature vpc** command.

The vPC domain includes both vPC peer devices, the vPC peer keepalive link, the vPC peer link, and all the port channels in the vPC domain connected to the downstream device. You can have only one vPC domain ID on each device.

When configuring the vPC domain ID, make sure that the ID is different from the ID used by a neighboring vPC-capable device with which you may configure a double-sided vPC. This unique ID is needed because the system ID is derived from the MAC address ID of the switch. For a vPC, this MAC address is derived from the domain ID. As a result, in a peer-to-peer vPC configuration, if the neighboring switches use the same domain ID, a system ID conflict may occur in the LACP negotiation that may cause an unsuccessful LACP negotiation.

Under the vPC domain, make sure to configure the primary vPC device to ignore type checks by using the **peer-config-check-bypass** command.

Examples

This example shows how to create a vPC domain:

```
switch# configure terminal
switch(config)# vpc domain 5
switch(config-vpc-domain)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
feature vpc	Enables or disables a vPC on the switch.
peer-config-check-bypass	Ignores type checks on primary when the MCT is down.
peer-keepalive	Configures the vPC peer keepalive link.
reload restore	Restores the vPC peer links after a specified period of time.
role priority	Configures the role priority for the vPC device.
show vpc brief	Displays brief information about each vPC domain.

vpc peer-link

To create a virtual port channel (vPC) peer link by designating the port channel that you want on each device as the peer link for the specified vPC domain, use the **vpc peer-link** command. To remove the peer link, use the **no** form of this command.

vpc peer-link

no vpc peer-link

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U2(1)	This command was introduced.

Usage Guidelines

We recommend that you configure the Layer 2 port channels that you are designating as the vPC peer link in trunk mode and that you use two ports on separate modules on each vPC peer device for redundancy.

The Cisco Nexus 3000 Series switch supports 64 hardware port channels. Use the **show port-channel capacity** command to display the total number of port channels supported by the hardware.

Examples

This example shows how to select the port channel that you want to use as the vPC peer link for this device and configure the selected port channel as the vPC peer link:

```
switch# configure terminal
switch(config)# interface port-channel 20
switch(config-if)# vpc peer-link
switch(config-if)#
```

This example shows how to remove the vPC peer link:

```
switch# configure terminal
switch(config)# interface port-channel 20
switch(config-if)# no vpc peer-link
switch(config-if)#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration to the startup configuration.
reload restore	Restores the vPC peer links after a specified period of time.
show port-channel capacity	Reports the number of port channels that are configured and the number of port channels that are still available on the device.
show running-config vpc	Displays the running configuration information for vPCs.
show vpc brief	Displays a brief information about the vPCs.
show vpc brief	Displays information about each vPC, including information about the vPC peer link.
show vpc peer-keepalive	Displays information on the peer-keepalive messages.

vxlan udp port

To configure the UDP port number for VXLAN, use the **vxlan udp port** command.

vxlan udp port *number*

Syntax Description

number	Specifies the destination UDP port number for VXLAN encapsulated packets. The default destination UDP port number is 4789..

Command Default

The default destination UDP port number is 4789.

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)U3(1)	This command was introduced.

Usage Guidelines

The UDP port configuration should be done before the NVE interface is enabled. If the configuration must be changed while the NVE interface is enabled, ensure that you shut down the NVE interface, make the UDP configuration change and then re-enable the NVE interface.

Ensure that the UDP port configuration is done network-wide before the NVE interface is enabled on the network.

Examples

This example shows how to how to create a VXLAN destination UDP port:

```
switch# configure terminal
switch(config)# vxlan udp port 4789
```

Related Commands

Command	Description
feature nv overlay	Enables the VXLAN feature.