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## Cisco NX-OS Interfaces Commands

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This chapter describes the Cisco NX-OS interfaces commands.

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## bandwidth (interface)

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

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

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

<b>Syntax Description</b>	<i>kbps</i>	Intended bandwidth, in kilobits per second. Valid values are 1 to 10000000.
	<b>inherit</b>	(Optional) Specifies the inherited bandwidth such as how a subinterface inherits the bandwidth of its main interface.

<b>Defaults</b>	1000000 kbps
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<b>Command Modes</b>	Interface configuration
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<b>Supported User Roles</b>	network-admin vdc-admin
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	The <b>bandwidth</b> 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.
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### Note

This is a routing parameter only. It does not affect the physical interface.

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.

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**Examples**

This example shows how to configure all subinterfaces off this main interface to inherit the configured bandwidth:

```
switch(config-if)# bandwidth inherit 30000
```

---

**Related Commands**

Command	Description
<b>show interface</b>	Displays the interface configuration information.

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# beacon

To enable the beacon mode for an interface, use the **beacon** command. To disable the beacon mode for an interface, use the **no** form of this command.

**beacon**

**no beacon**

**Syntax Description** This command has no arguments or keywords.

**Command Default** Disabled

**Command Modes** Interface configuration

**Supported User Roles** network-admin  
vdc-admin

Release	Modification
4.0	This command was introduced.

**Usage Guidelines** The beacon mode allows you to identify a physical port by flashing its link-state LED with a green light. To identify the physical port for an interface, you activate the beacon parameter for the interface.

This command does not require a license.

**Examples** This example shows how to enable the beacon mode for the Ethernet port 3/1:

```
switch(config)# interface ethernet 3/1
switch(config-if)# beacon
switch(config-if)#
```

Command	Description
<b>show interface</b>	Displays the interface status, which includes the beacon mode state.

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## carrier-delay

To set the carrier delay on an interface, use the **carrier-delay** command. To return to the default carrier delay value, use the **no** form of this command.

**carrier-delay** {*sec* | {**msec** *value*}}

**no carrier-delay**

### Syntax Description

<i>sec</i>	Seconds of delay. The range of values is from 0 to 60.
<i>value</i>	Milliseconds of delay. The range of values is from 0 to 1000.

### Defaults

The default is 2 seconds or 100 milliseconds.

### Command Modes

Interface

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0(3)	This command was introduced.

### Usage Guidelines



#### Note

You must enable the VLAN interface feature, using the **feature interface-vlan** command, before you can use this command.

If a link goes down and comes back up before the carrier delay timer expires, the down state is effectively filtered, and the rest of the software on the device is not aware that a link-down event occurred. A large carrier delay timer results in fewer link-up/link-down events being detected. When you set the carrier delay time to 0, the device detects each link-up/link-down event that occurs.



#### Note

The **carrier-delay** command is supported only on the VLAN interface mode; no other interface modes support this command.

In most environments, a lower carrier delay time is better than a higher one. The exact value that you choose depends on the nature of the link outages and how long you expect these linkages to last in your network. If your data links are subject to short outages (especially if those outages last less time than it takes for your IP routing to converge) you should set a long carrier delay value to prevent these short

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outages from causing unnecessary churn in your routing tables. However, if you outages tend to be longer, then you may want to set a shorter carrier delay time so that the outages are detected sooner, and the IP route convergence begins and ends sooner.

This command does not require a license.

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**Examples**

This example shows how to set the carrier delay timer to 20 minutes for VLAN 6:

```
switch(config)# interface vlan 6
switch(config-if)# carrier-delay 20
switch(config-if)#
```

---

**Related Commands**

Command	Description
<b>show interface vlan</b>	Displays information about VLAN interfaces.

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## channel-group

To assign and configure a physical interface to a port-channel group, 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	
<i>number</i>	Number of channel group. Maximum number of port channels that can be configured is 256 across all VDCs, and the range of values is from 1 to 4096.
<b>force</b>	Forces the interface to join the channel group, although some parameters are not compatible. See Usage Guidelines below for information on the compatibility parameters and which ones can be forced.
<b>mode</b>	Specifies the port-channel mode of the interface.
<b>on</b>	This is the default channel mode, and all port channels 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 device returns an error message. After you enable LACP globally, by using the <a href="#">feature lacp</a> 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 <b>on</b> .
<b>active</b>	Specifies that when you enable the Link Aggregation Control Protocol (LACP), this command enables LACP on the specified interface. Interface is in active negotiating state, in which the port initiates negotiations with other ports by sending LACP packets.
<b>passive</b>	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.

<b>Defaults</b>	None
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<b>Command Modes</b>	Interface configuration
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<b>Supported User Roles</b>	network-admin vdc-admin
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#### Command History

Release	Modification
4.0	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 device automatically removes the specified from its present channel group and adds that port to 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**. A port channel in the **on** channel mode is a pure port channel and can aggregate a maximum of eight ports. It does not run LACP.

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

All ports in one port channel must be in the same virtual device context (VDC). With LACP enabled, this requirement applies to the possible eight active ports and the possible eight standby ports. The port channels can originate in one VDC (with all ports in that channel in the same VDC) and partner with a port channel in another VDC (again, all ports in that channel must be in that VDC).

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

The compatibility check includes the following operational attributes:

- Network layer
- (Link) speed capability
- Speed configuration
- Duplex capability
- Duplex configuration
- Port mode
- Access VLAN
- Trunk native VLAN
- Tagged or untagged
- Allowed VLAN list
- MTU size
- SPAN—cannot be SPAN source or destination port
- Layer 3 ports cannot have subinterfaces.
- Storm control
- Flow control capability
- Flow control configuration

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



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You can only add interfaces configured with the channel mode set to **on** to static port channels, that is without a configured aggregation protocol. And you can only add interfaces configured with the channel mode as **active** or **passive** to port channels 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 port channel.

Alternatively, you can force ports with incompatible parameters to join the port channel as long the following parameters are the same:

- (Link) speed capability
- Speed configuration
- Duplex capability
- Duplex configuration
- Flow control capability
- Flow control configuration

When the interface joins a port channel, some of its individual parameters are removed and replaced with the values on the port channel, as follows:

- Bandwidth
- Delay
- Extended Authentication Protocol over UDP
- VRF
- IP address (v4 and v6)
- MAC address
- Spanning Tree Protocol
- NAC
- Service policy
- Quality of Service (QoS)
- ACLs

Also, many interface parameters remain unaffected with the interface joins or leaves a port channel, as follows:

- Beacon
- Description
- CDP
- LACP port priority
- Debounce
- UDLD
- MDIX
- Rate mode
- Shutdown
- SNMP trap

If subinterfaces are configured for the port-channel interface and a member port is removed from the port channel, the configuration of the port-channel subinterface is not propagated to the member ports.

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

You do not have to create a port-channel interface before you assign a physical interface to a channel group. A port-channel interface is created automatically when the channel group gets its first physical interface, if it is not already created.

You can create either a Layer 2 or a Layer 3 port channel by entering the **interface port-channel** command or when the channel group gets its first physical interface assignment. The port channels are not created at run time or dynamically.

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(config-if) # channel-group 5 mode active
switch(config-if) #
```

## Related Commands

Command	Description
<b>show interface port-channel</b>	Displays information about the traffic on the specified port-channel interface.
<b>show port-channel summary</b>	Displays information on the port channels.
<b>show lacp</b>	Displays LACP information.

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## clear counters interface

To clear the interface counters, use the **clear counters interface** command.

**clear counters interface** {**all** | **ethernet** *slot/port* | **loopback** *number* | **mgmt** *number* | **port-channel** *channel-number* | **tunnel** *tunnel-number* | **vlan** *vlan-number*}

Syntax Description		
<b>all</b>		Clear all interface counters
<b>ethernet</b> <i>slot/port</i>		Clear Ethernet interface counter for the slot number and port number specified.
<b>loopback</b> <i>number</i>		Clear loopback interface counter for the virtual interface number specified. The loopback range is from 0 to 1023.
<b>mgmt</b> <i>number</i>		Clear Management interface counter for the number specified. The number is 0.
<b>port-channel</b> <i>channel-number</i>		Clear port-channel interface for the number specified. The range is from 1 to 4096.
<b>tunnel</b> <i>tunnel-number</i>		Clear port-channel interface for the number specified. The range is from 0 to 65535.
<b>vlan</b> <i>vlan-number</i>		Clear port-channel interface for the number specified. The range is from 1 to 4096.

<b>Command Default</b>	None
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<b>Command Modes</b>	Any command mode
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<b>Supported User Roles</b>	network-admin vdc-admin
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Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
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<b>Examples</b>	<p>This example shows how to clear and reset the counters on Ethernet port 5/5:</p> <pre>switch# clear counters interface ethernet 5/5 switch#</pre>
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Related Commands	Command	Description
	show interface counters	Displays in and out counters for all interfaces in the system.

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## clear lacp counters

To clear the statistics for all interfaces for Link Aggregation Control Protocol (LACP) groups, use the **clear lacp counters** command.

**clear lacp counters** [**interface port-channel** *channel-number*]

### Syntax Description

*channel-number* (Optional) LACP port-channel number. The range of values is from 1 to 4096.

### Defaults

None

### Command Modes

Any command mode

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
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4.0	This command was introduced.
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### Usage Guidelines

If you enter this command for a static port-channel group, without the aggregation protocol enabled, the device ignores the command.

If you do not specify a channel number, the LACP counters for all LACP port groups are cleared.

This command does not require a license.

### Examples

This example shows how to clear all the LACP counters:

```
switch(config)# clear lacp counters
switch(config) #
```

This example shows how to clear all LACP counters for the LACP port-channel group 20:

```
switch(config)# clear lacp counters interface port-channel 20
switch(config) #
```

### Related Commands

Command	Description
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<b>show lacp counters</b>	Displays information about LACP statistics.
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## clear vpc statistics

To clear virtual port-channel (vPC) statistics, use the **clear vpc statistics** command.

**clear vpc statistics** {all | peer-keepalive | peer-link | vpc number}

Syntax Description		
	<b>all</b>	Clears all vPC statistics on the local vPC peer device.
	<b>peer-keepalive</b>	Clears the vPC peer-keepalive statistics on the local vPC peer device.
	<b>peer-link</b>	Clears statistics on the local vPC peer device.
	<b>vpc number</b>	Clears vPC statistics on the specified vPC. The range is from 1 to 4096.

Defaults	None
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Command Modes	Any command mode
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Supported User Roles	network-admin vdc-admin
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Command History	Release	Modification
	4.1(3)	This command was introduced.

Usage Guidelines	<p>Use the <b>clear vpc statistics</b> command to clear the vPC statistics. If the feature is not enabled, this command is unavailable.</p> <p>The <b>clear vpc statistics peer-link</b> and <b>clear vpc statistics vpc number</b> commands are redirected to the appropriate port channel and the <b>clear statistics port-channel channel-number</b> command.</p> <p>This command does not require a license.</p>
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Examples	<p>This example shows how to clear the statistics for vPC 10:</p> <pre>switch(config)# clear vpc statistics vpc 10 switch(config) #</pre>
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Related Commands	Command	Description
	<b>show vpc statistics</b>	Displays vPC statistical information on vPCs. If the feature is not enabled, the system displays an error when you enter this command.

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# delay

To configure the interface throughput delay for Ethernet interfaces, use the **delay** command. To remove the configured throughput delay, use the **no** form of this command.

**delay** *value*

**no delay**

## Syntax Description

<i>value</i>	Specify the delay time in tens of microseconds. You can set an informational value range between 1 and 16777215 tens of microseconds.
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## Command Default

10 microseconds for all interfaces except loopback ports  
5000 microseconds for loopback ports

## Command Modes

Interface configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	This command was introduced.

## Usage Guidelines

Beginning with Cisco NX-OS Release 4.2(1) for the Cisco Nexus 7000 Series devices, the default delay values are changed. Prior to this release, all the default delay value for all interfaces was 100 microseconds.



### Note

After upgrading from an older release, when you enter the **show running** command on a VLAN interface, the display shows an additional configuration of `delay 100`. If you want to revert the delay value to the new default, enter the **no delay** command for that VLAN interface.

Specifying a value for the throughput delay provides a value for use by Layer 3 protocols; it does not change the actual throughput delay of an interface.

This command does not require a license.

## Examples

This example shows how to configure the throughput-delay time to 100,000 microseconds for the slot 3 port 1 Ethernet interface:

```
switch(config)# interface ethernet 3/1
switch(config-if)# delay 10000
```

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**Related Commands**

Command	Description
<b>show interface</b>	Displays information about the interface, which includes the delay parameter.



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## delay restore

To delay the vPC coming up on the restored vPC peer device after a reload and after the peer adjacency is established and the VLAN interfaces are back up, use the **delay restore** command. To return to the default value, use the **no** form of the command.

**delay restore** *seconds*

**no delay restore** *seconds*

Syntax Description	<i>seconds</i>	Seconds to delay bringing up the restored vPC peer device. The range is from 1 to 3600.
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Defaults	30 seconds
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Command Modes	vpc-domain command mode.
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Supported User Roles	network-admin vdc-admin
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Command History	Release	Modification
	4.2(1)	This command was introduced.

Usage Guidelines	Use the <b>delay restore</b> command to avoid upstream traffic from the access device to the core from being dropped when you restore the vPC peer devices. Sometimes, the restored vPCs may come up before the routing tables are converged, and you may see packet drops.
------------------	---

The **delay restore** command delays bringing up the vPC after the peer adjacency has formed and VLAN interface are up on the restored device after a reload to let the routing protocols converge.

This command does not require a license.

Examples	This example shows how to configure the delay reload:
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```
switch# config t  
switch(config)# vpc domain 5  
switch(config-vpc-domain)# delay restore 40
```

Related Commands	Command	Description
	<b>feature vpc</b>	Enables vPC configuration on the device.

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# description

To provide textual interface descriptions for the Ethernet and management interfaces, use the **description** command. To remove the description, use the **no** form of the command.

**description** *text*

## Syntax Description

<i>text</i>	Specify the description for the interface you are configuring. The maximum is 80 characters.
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## Command Default

None

## Command Modes

Interface configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	This command was introduced.

## Usage Guidelines

You use the **description** command to provide textual interface descriptions. Descriptions can be a maximum of 80 case-sensitive alphanumeric characters.

This command does not require a license.

## Examples

This example shows how to add the description server1 to the Ethernet interface on slot 5, port 2:

```
switch(config)# interface ethernet 5/1
switch(config-if)# description server1
```

## Related Commands

Command	Description
<b>show interface</b>	Displays information about the interface, which includes the description parameter.

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## 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** {*range*}

<b>Syntax Description</b>	<i>range</i>	Range of VLAN interfaces that you want to exclude from shutting down. The range is 1 to 4094.
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<b>Command Default</b>	None
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<b>Command Modes</b>	vpc-domain configuration
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<b>Supported User Roles</b>	network-admin vdc-admin
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Command History	Release	Modification
	4.2(1)	This command was introduced.

<b>Usage Guidelines</b>	Use the <b>dual-active exclude interface-vlan</b> command to ensure that those VLAN interfaces on the vPC secondary peer device that are carried on the vPC peer link but not by the vPC configuration itself do not go down if the vPC peer link fails. The VLAN interfaces must have already been configured.
-------------------------	---



### Note

We do not recommend configuring an interface-VLAN exclude for a VLAN carried on a vPC because this may cause packet losses on dual-active devices if the interface-VLAN still attracts Layer 3 traffic while the vPC primary device and the vPC peer link are down.

This command does not require a license.

<b>Examples</b>	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# config t
switch(config)# vpc-domain 5
switch(config-vpc-domain)# dual-active exclude interface-vlan 10
```

 dual-active exclude interface-vlan

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**Related Commands**

Command	Description
<b>vpc-domain</b>	Configures a vPC domain and enters the vpc-domain configuration mode.

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# duplex

To specify the duplex mode as full, half, or autonegotiate, use the **duplex** command. To return the system to default mode, use the **no** form of this command.

**duplex {full | half | auto}**

**no duplex {full | half | auto}**

## Syntax Description

<b>full</b>	Specify the duplex mode as full.
<b>half</b>	Specify the duplex mode as half.
<b>auto</b>	Specify the duplex mode as autonegotiate.

## Command Default

None

## Command Modes

Interface configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	This command was introduced.

## Usage Guidelines

The interface speed that you specify can affect the duplex mode used for an interface, so you should set the speed before setting the duplex mode. If you set the speed for autonegotiation, the duplex mode is automatically set to be autonegotiated. If you specify 10- or 100-Mbps speed, the port is automatically configured to use half-duplex mode, but you can specify full-duplex mode instead. Gigabit Ethernet is full duplex only. You cannot change the duplex mode on Gigabit Ethernet ports or on a 10/100/1000-Mbps port that is set for Gigabit Ethernet.

See the *Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide* for more information on interface speed and duplex settings.

This command does not require a license.

## Examples

This example shows how to specify the duplex mode for full-duplex:

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

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Related Commands	Command	Description
	show interface	Displays information about the interface, which includes the duplex parameter.

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# encapsulation dot1Q

To enable IEEE 802.1Q encapsulation of traffic on a specified subinterface in a virtual LAN (VLAN), use the `encapsulation dot1q` command in subinterface configuration mode. To disable encapsulation, use the **no** form of this command.

**encapsulation dot1Q** *vlan-id*

**no encapsulation dot1Q** *vlan-id*

## Syntax Description

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

No encapsulation

## Command Modes

Subinterface configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	This command was introduced.

## Usage Guidelines

IEEE 802.1Q encapsulation is configurable on Ethernet 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.

This command does not require a license.

## Examples

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

```
switch(config-subif)# encapsulation dot1q 30
```

## Related Commands

Command	Description
<b>show vlan dot1Q</b>	Displays dot1Q encapsulation information for a VLAN.

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# errdisable detect cause

To enable error-disabled (errdisable) detection for an application, use the **errdisable detect cause** command. To return to the default setting, use the **no** version of this command.

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

**no errdisable detect cause {acl-exception | all | link-flap | loopback}**

Syntax Description	<b>acl-exception</b>	Enables error-disabled detection for access-list installation failures.
	<b>all</b>	Enables error-disabled detection on all causes.
	<b>link-flap</b>	Enables error-disabled disable detection on link-state flapping.
	<b>loopback</b>	Enables error-disabled detection on loopback.

Command Default Disabled

Command Modes Global configuration

SupportedUserRoles network-admin  
vdc-admin

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines Use the **errdisable detect cause** command to enable error detection for an application.

A cause is defined as the reason why the error-disabled state occurred. When a cause is detected on an interface, the interface is placed in an error-disabled state. This error-disabled state is an operational state that is similar to the link-down state. You must enter the **shutdown** command and then the **no shutdown** command to recover an interface manually from the error-disabled state.

This command does not require a license.

Examples This example shows how to enable error-disabled detection on all cases:

```
switch(config)# errdisable detect cause all
```



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Related Commands	Command	Description
	<b>shutdown</b>	Brings the port down administratively.
	<b>no shutdown</b>	Brings the port up administratively.
	<b>show interface status err-disabled</b>	Displays the interface error-disabled state.

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## errdisable recovery cause

To enable the automatic recovery from the error-disabled (errdisable) state for an application, use the **errdisable recovery cause** command. To return to the default setting, use the **no** version of this command.

**errdisable recovery cause** {all | bpduguard | link-flap | failed-port-state | psecure-violation | security-violation | storm-control | udld | vpc-peerlink}

**no errdisable recovery cause** {all | bpduguard | link-flap | psecure-violation | security-violation | storm-control | udld | vpc-peerlink}

### Syntax Description

<b>all</b>	Enables automatic recovery from all causes.
<b>bpduguard</b>	Enables automatic recovery from BPDU Guard error-disabled state.
<b>link-flap</b>	Enables automatic recovery from link-state flapping.
<b>failed-port state</b>	Enables timer automatic recovery from the STP set port state failure.
<b>psecure-violation</b>	Enables timer automatic recovery from the psecure violation disable state.
<b>security-violation</b>	Enables automatic recovery from the 802.1X violation disable state.
<b>storm-control</b>	Enables automatic recovery from the storm control error-disabled state.
<b>udld</b>	Enables automatic recovery from the UDLD error-disabled state.
<b>vpc-peerlink</b>	Enables automatic recovery from an inconsistent vPC peer-link error-disabled state.

### Command Default

Disabled

### Command Modes

Global configuration

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0	This command was introduced.
4.1(3)	Added <b>vpc-peerlink</b> parameter.

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### Usage Guidelines

Use the **errdisable recovery cause** command to enable automatic recovery on the interface from the error-disabled state for an application. This command tries to bring the interface out of the error-disabled state and retry operation once all the causes have timed out. The interface automatically tries to come up again after 300 seconds. To change this interval, use the **errdisable recovery interval** command.

This command does not require a license.

### Examples

This example shows how to automatically recover from the error-disabled state for link flapping after you have enabled the recovery timer:

```
switch(config)# errdisable recovery cause link-flap
```

### Related Commands

Command	Description
<b>errdisable recovery interval</b>	Enables the recovery timer.
<b>show interface status err-disabled</b>	Displays interface error-disabled state.

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# errdisable recovery interval

To enable the recovery timer, use the **errdisable recovery interval** command.

**errdisable recovery interval** *interval*

Syntax	Description
<i>interval</i>	Error detection for access-list installation failures. The range is from 30 to 65535.

Command Default	300 seconds
-----------------	-------------

Command Modes	Global configuration
---------------	----------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	Use the <b>errdisable recovery interval</b> command to configure the recovery timer. This command does not require a license.
------------------	--

Examples	This example shows how to configure the recovery timer: <pre>switch(config)# <b>errdisable recovery interval 32</b></pre>
----------	--

Related Commands	Command	Description
	<b>errdisable recovery cause</b>	Enables the error-disabled recovery for an application.
	<b>show interface status err-disabled</b>	Displays the interface error-disabled state.

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## feature interface-vlan

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

**feature interface-vlan**

**no feature interface-vlan**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Global configuration
----------------------	----------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	You must use the <b>feature interface-vlan</b> command before you can create VLAN interfaces.  This command does not require a license.
-------------------------	---

<b>Examples</b>	This example shows how to enable the interface VLAN feature:  <code>switch(config)# <b>feature interface-vlan</b></code>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>interface vlan</b>	Creates a VLAN interface.

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# feature lacp

To enable Link Aggregation Control Protocol (LACP) port channeling on the device, use the **feature lacp** command. To disable LACP on the device, use the **no** form of this command.

**feature lacp**

**no feature lacp**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Global configuration
----------------------	----------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>You must remove all the LACP configuration parameters from all port channels on the device before you can disable LACP. You cannot disable LACP while LACP configurations remain on the device.</p> <p>Even after you enable LACP globally, you do not have to run LACP on all port channels on the device. You enable LACP on each channel mode using the <b>channel-group mode</b> command.</p> <p>When you enter the <b>no</b> form of this command, the system removes all the LACP configuration from the device.</p> <p>This command does not require a license.</p>
-------------------------	---

<b>Examples</b>	<p>This example shows how to enable LACP port channeling on the device:</p> <pre>switch(config)# <b>feature lacp</b></pre>
-----------------	--

Related Commands	Command	Description
	<b>show lacp port-channel</b>	Displays information on port channels with LACP enabled.

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# feature tunnel

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

**feature tunnel**

**no feature tunnel**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Global configuration
----------------------	----------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	You must use the <b>feature tunnel</b> command before you can create tunnel interfaces. This command requires the Enterprise license.
-------------------------	--

<b>Examples</b>	This example shows how to enable the interface tunnel feature:  <code>switch(config)# <b>feature tunnel</b></code>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>interface tunnel</b>	Creates a tunnel interface.

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# feature uddl

To enable UDLD globally on the device, use the **feature uddl** command. To disable UDLD globally on the device, use the **no feature uddl** command.

**feature uddl**

**no feature uddl**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	Global configuration
----------------------	----------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>feature uddl</b> command to enable UDLD globally on the device. UDLD must be also enabled on the other linked interface and its device. After enabling the devices, it is possible to enable a UDLD <i>mode</i> for an interface.</p> <p>Use the <b>no feature uddl</b> command to disable UDLD globally for Ethernet interfaces on the device.</p> <p>This command does not require a license.</p>
-------------------------	---

<b>Examples</b>	<p>This example shows how to enable the UDLD for a device:</p> <pre>switch# <b>config t</b> switch(config)# <b>feature uddl</b></pre>
-----------------	---

This example shows how to disable UDLD for a device:

```
switch# config t
switch(config)# no feature uddl
```

<b>Related Commands</b>	<table border="1"> <tr> <th>Command</th> <th>Description</th> </tr> <tr> <td><b>show uddl</b></td> <td>Displays information about the uddl configuration.</td> </tr> </table>	Command	Description	<b>show uddl</b>	Displays information about the uddl configuration.
Command	Description				
<b>show uddl</b>	Displays information about the uddl configuration.				



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## feature vpc

To enable virtual port channels (vPCs), use the **feature vpc** command. To return to the default setting, use the **no** form of this command.

**feature vpc**

**no feature vpc**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Global configuration
----------------------	----------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.1(3)	This command was introduced.

<b>Usage Guidelines</b>	You must use the <b>feature vpc</b> command to enable the vPC functionality. You must enable vPCs before you can configure them.
-------------------------	--



**Note**

When you disable vPC, the device clears all the vPC configurations.

This command does not require a license.

<b>Examples</b>	This example shows how to enable vPC functionality on the device:
-----------------	---

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

Related Commands	Command	Description
	<b>show feature</b>	Displays information about the features enabled on the device.
	<b>show vpc brief</b>	Displays vPC information on vPCs. If the feature is not enabled, the system displays an error when you enter this command.

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## flowcontrol

To enable or disable the ability of the Ethernet port to send and receive flow-control pause frames, use the **flowcontrol** command. To return to the default flow-control settings, use the **no** version of the command.

**flowcontrol** {send | receive} {desired | on | off}

**no flowcontrol** {send | receive}

Syntax Description		
<b>send</b>		Specify the flow-control send setting for ports that run at 1000 Mbps or faster.
<b>receive</b>		Specify the flow-control receive setting for ports that run at any speed.
<b>desired</b>		Specify the remote port setting to desired for both send and receive, if the configuration of the remote port is unknown.
<b>on</b>		Specify the remote port setting to on, if you want the local port to send flow-control pause frames.
<b>off</b>		Specify the remote port's send and receive parameter settings to off, if you do not want to use flow control.

Command Default	1-Gb/s interfaces—Off for receive; off for send
	10-Gb/s interfaces—Off for receive; off for send

Command Modes	Interface configuration
---------------	-------------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	Use the <b>flowcontrol</b> command to enable or disable the ability of the Ethernet port to send and receive flow-control pause frames.
------------------	---

Make sure that the remote port has the corresponding setting for the flow control that you need. If you want the local port to send flow-control pause frames, the remote port has a receive parameter set to on or desired. If you want the local port to receive flow-control frames, you must make sure that the remote port has a send parameter set to on or desired. If you do not want to use flow control, you can set the remote port's send and receive parameters to off.

For Ethernet ports that run at 1 Gbps or faster, you can enable or disable the port's ability to send and receive flow-control pause frames. For Ethernet ports that run slower than 1 Gbps, you can enable or disable only the port's ability to receive pause frames.

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When enabling flow control for the local port, you either fully enable the local port to send or receive frames regardless of the flow-control setting of the remote port, or you set the local port to use the desired setting used by the remote port. If you enable both the local and remote ports for flow control, or set the desired flow control of the other port, or set a combination of those two states, flow control is enabled for those ports.



**Note** For ports that run at 10 Gbps, you cannot use the desired state for the send or receive parameter.

To see how the different port flow-control states affect the link flow-control state, see [Table 1](#).

**Table 1** *Port Flow-Control Influences on Link Flow Control*

Port flow control states		Link Flow Control State
Port Receiving Data (Sends Pause Frames)	Port Transmitting Data (Receives Pause Frames)	
Enabled	Enabled	Enabled
Enabled	Desired	Enabled
Enabled	Disabled	Disabled
Desired	Enabled	Enabled
Desired	Desired	Enabled
Desired	Disabled	Disabled
Disabled	Enabled	Disabled
Disabled	Desired	Disabled
Disabled	Disabled	Disabled

This command does not require a license.

### Examples

This example shows how to set Ethernet port 3/1 to send flow-control pause frames:

```
switch# config t
switch(config)# interface ethernet 3/1
switch(config-if)# flowcontrol send on
```

### Related Commands

Command	Description
<b>show interface flowcontrol</b>	Displays information about the interface flowcontrol.
<b>show interface</b>	Displays information about the interface, which includes the flowcontrol parameter.

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# inherit port-profile

To assign a port profile to an interface or range of interfaces and to inherit an additional port profile onto an existing port profile, use the **inherit port-profile** command. To remove an inherited port profile or to remove a port profile from specified interfaces, use the **no** form of this command.

**inherit port-profile** *name*

**no inherit port-profile** *name*

## Syntax Description

<i>name</i>	Port profile that you want to assign to interfaces or to inherit onto the existing port profile.
-------------	--

## Defaults

None

## Command Modes

Interface configuration  
Port-profile configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.2(1)	This command was introduced.

## Usage Guidelines

Use the **inherit port-profile** command to do the following:

- Assign the port profile to a specified interface or range of specified interfaces. You do this in the interface configuration mode. The maximum number of interfaces that can inherit a single profile is 512.
- Inherit configuration parameters from another port profile onto an existing port profile. You do this in the port-profile mode, using the name of the port profile that you want to inherit configurations into. Only port profiles of the same type can be inherited by another port profile. The device supports four levels of inheritance except for the **switchport private-vlan mapping** and the **private-vlan mapping** commands, which support only one inheritance level. The same port profile can be inherited by any number of port profiles. In a port-profile inheritance hierarchy, all the profiles must have the same switchport configuration.

See the **port-profile** command and the **state-enabled** command for information about creating, configuring, and enabling port profiles.

If you attempt to inherit a port profile to the wrong type of interface, the system returns an error.

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When you remove a port profile from a range of interfaces, the system undoes the configuration from the interfaces first and then removes the port-profile link itself. Also, when you remove a port profile, the system checks the interface configuration and either skips port-profiles commands that have been overridden by directly entered interface commands or returns the command to the default value.

You can also choose a subset of interfaces from which to remove a port profile from those interfaces to which you originally applied the profile. For example, if you configured a port profile and configured 10 interfaces to inherit that port profile, you can remove the port profile from just some of the specified 10 interfaces. The port profile continues to operate on the remaining interfaces to which it is applied.

You use the port-profile configuration mode to remove an inherited port profile from an original port profile.

This command does not require a license.

### Examples

This example shows how to assign a specified port profile to a range of interfaces:

```
switch(config)# interface ethernet 2/1-10  
switch(config-if)# port-profile test
```

This example shows how to inherit the configuration parameters from the port profile named switch onto the port profile named test:

```
switch(config)# test  
switch(config-ppm)# inherit port-profile switch
```

### Related Commands

Command	Description
<b>show port-profile</b>	Displays information about port profiles.

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# interface cmp-mgmt module

To create a CMP management interface and enter interface configuration mode, use the **interface cmp-mgmt module** command.

```
interface cmp-mgmt module number
```

Syntax Description	<i>number</i>	Identifying active or standby supervisor module number. Valid values are 9-10.
--------------------	---------------	--

Defaults	None
----------	------

Command Modes	Global configuration Interface configuration
---------------	---

SupportedUserRoles	network-admin vdc-admin
--------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	Use the <b>interface cmp-mgmt module</b> command to create a CMP management interface. This command does not require a license.
------------------	--

Examples	This example shows how to create a CMP management interface:  switch(config)# <b>interface cmp-mgmt module 9</b> switch(config-if-cmp)#
----------	--

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## interface ethernet

To configure an Ethernet interface and enter interface configuration mode, use the **interface ethernet** command.

**interface ethernet** *slot/port*

Syntax Description	<i>slot/port</i>	Specifies the slot number and port number for the Ethernet interface.
--------------------	------------------	---

Defaults	None
----------	------

Command Modes	Global configuration Interface configuration
---------------	---

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	Use the <b>interface ethernet</b> command to enter the interface configuration mode for the specified interface or range of interfaces.  This command does not require a license.
------------------	---

Examples	This example shows how to enter the interface command mode for the Ethernet interface on slot 2, port 1:  switch(config)# <b>interface ethernet 2/1</b> switch(config-if)#
----------	---

Related Commands	Command	Description
	<b>show interface ethernet</b> <i>slot/port</i>	Displays information about the Ethernet interface.

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# 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*

<b>Syntax Description</b>	<i>number</i>	Identifying interface number; valid values are from 0 to 1023.
---------------------------	---------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Global configuration Interface configuration
----------------------	---

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	Use the <b>interface loopback</b> command to create or modify loopback interfaces. This command does not require a license.
-------------------------	--

<b>Examples</b>	This example shows how to create a loopback interface:  switch(config)# <b>interface loopback 50</b> switch(config-if)#
-----------------	--

Related Commands	Command	Description
	<b>show interface loopback</b>	Displays information about the traffic on the specified loopback interface.



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## interface mgmt

To configure the management interface and enter interface configuration mode, use the **interface management** command.

**interface mgmt0**

### Syntax Description

This command has no arguments or keywords.

### Defaults

None

### Command Modes

Global configuration  
Interface configuration

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0	This command was introduced.

### Usage Guidelines

Use the **interface mgmt0** command to configure the management interface and to enter the interface configuration mode.

This command does not require a license.

### Examples

This example shows how to enter the interface configuration mode to configure the management interface:

```
switch(config)# interface mgmt0
switch(config-if)#
```

### Related Commands

Command	Description
<b>show interface mgmt0</b>	Displays information about the traffic on the management interface.

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# interface port-channel

To create a port-channel interface and enter interface configuration mode, use the **interface port-channel** command. To remove a logical port-channel interface or subinterface, use the **no** form of this command.

**interface port-channel** *channel-number*

**no interface port-channel** *channel-number*

<b>Syntax Description</b>	<i>channel-number</i> Channel number that is assigned to this port-channel logical interface. The range of valid values is from 1 to 4096.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Global configuration Interface configuration
----------------------	---

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>interface port-channel</b> command to create or delete port-channel groups and to enter the interface configuration mode for the port channel.</p> <p>You can create port channels implicitly using the <b>bandwidth (interface)</b> command or explicitly using the <b>feature tunnel</b> command.</p> <p>A port can belong to only one channel group.</p> <p>You can create subinterfaces on a Layer 3 port-channel interface. However, you cannot add a Layer 3 interface that has existing subinterfaces to a port channel.</p>
-------------------------	---



## Note

The Layer 3 port-channel interface is the routed interface.

The Link Aggregation Control Protocol (LACP) system ID is unique for each VDC, and channel-group numbers and names can be re-used in different VDCs.

When you use the **interface port-channel** command, follow these guidelines:

- If you are using CDP, you must configure it only on the physical interface and not on the port-channel interface.

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- If you do not assign a static MAC address on the port-channel interface, a MAC address is automatically assigned. If you assign a static MAC address and then later remove it, the MAC address is automatically assigned.
- The MAC address of the port channel 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.

This command does not require a license.

### Examples

This example shows how to create a port-channel group interface with channel-group number 50:

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

### Related Commands

Command	Description
<b>show interface port-channel</b>	Displays information on traffic on the specified port-channel interface.
<b>show port-channel summary</b>	Displays information on the port channels.
<b>show lacp</b>	Displays LACP information.

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# 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*

<b>Syntax Description</b>	<i>number</i>	Identifying interface number; valid values are from 0 to 32767.
---------------------------	---------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Global configuration Interface configuration
----------------------	---

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>interface tunnel</b> command to create or modify tunnel interfaces.</p> <p>Cisco NX-OS supports the GRE header defined in IETF RFC 2784. Cisco NX-OS does not support tunnel keys and other options from IETF RFC 1701.</p> <p>You can configure IP tunnels only in the default virtual device context (VDC).</p> <p>This command requires the Enterprise license.</p>
-------------------------	--

<b>Examples</b>	<p>This example shows how to create a tunnel interface:</p> <pre>switch(config)# <b>interface tunnel</b> 50 switch(config-if)#</pre>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>tunnel source</b>	Sets the source of the IP tunnel.
	<b>tunnel destination</b>	Sets the destination of the IP tunnel.
	<b>show interface tunnel</b>	Displays information about the traffic on the specified tunnel interface.

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## interface vlan

To 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*

### Syntax Description

<i>vlan-id</i>	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.
----------------	---

### Defaults

None

### Command Modes

Global configuration  
Interface configuration

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0	This command was introduced.

### Usage Guidelines

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 Inter-Switch Link (ISL), the 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(config)# interface vlan 50  
switch(config-if)#
```

### Related Commands

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

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# lacp graceful-convergence

To configure port-channel graceful convergences for the Link Aggregation Control Protocol (LACP), use the **lacp graceful-convergence** command. To disable port-channel graceful convergences, use the **no** form of this command.

**lacp graceful-convergence**

**no lacp graceful-convergence**

## Syntax Description

This command has no arguments or keywords.

## Defaults

LACP graceful convergence is enabled.

## Command Modes

Interface configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.2	This command was introduced.

## Usage Guidelines

By default LACP graceful convergence is enabled. In situations where you need to support LACP interoperability with devices where the graceful failover defaults may delay the time taken for a disabled port to be brought down or cause traffic from the peer to be lost, you can disable convergence.



### Caution

To avoid port suspension, you should not disable convergence with a peer running Cisco NX-OS.



### Note

The port channel has to be in the administratively down state before the **lacp graceful-convergence** command can be run.

This command does not require a license.

## Examples

This example shows how to disable LACP graceful convergence on a port channel:

```
switch (config)# interface port-channel 1
switch(config-if)# shutdown
switch(config-if)# no lacp graceful-convergence
switch(config-if)# no shutdown
```

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**Related Commands**

Command	Description
show lacp	Displays LACP information.

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# 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**

<b>Syntax Description</b>	<i>priority</i>	Priority for the physical interfaces. The range of valid numbers is from 1 to 65535.
---------------------------	-----------------	--

<b>Defaults</b>	32768
-----------------	-------

<b>Command Modes</b>	Interface configuration
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	Each port configured to use LACP has an LACP port priority. You can accept the default value of 32768 for the LACP port priority, or 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 or when you have more than eight ports configured for the channel group.
-------------------------	---

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

This command does not require a license.

<b>Examples</b>	This example shows how to set the LACP port priority for the interface to 2000:  switch(config-if)# <b>lacp port-priority 2000</b>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show lacp</b>	Displays LACP information.



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# lACP suspend-individual

To enable individual Link Aggregation Control Protocol (LACP) port suspension behavior on a port channel, use the **lACP suspend-individual** command. To disable individual port suspension behavior on the port channel, use the **no** form of this command.

**lACP suspend-individual**

**no lACP suspend-individual**

---

**Syntax Description** This command has no arguments or keywords.

---

**Defaults** LACP suspend-individual is enabled.

---

**Command Modes** Interface configuration

---

**Supported User Roles** network-admin  
vdc-admin

---

Command History	Release	Modification
	4.2	This command was introduced.

---



---

**Usage Guidelines** By default LACP suspend-individual is enabled. LACP sets a port to the suspended state if it does not receive an LACP PDU from the peer. This can cause some servers to fail to boot up as they require LACP to logically bring-up the port. You can tune behavior to individual use.



**Note**

---

You should only run the **lACP suspend-individual** command on edge ports. The port channel has to be in the administratively down state before the command can be run.

---

This command does not require a license.

---

**Examples** This example shows how to disable LACP suspend-individual on a port channel:

```
switch (config)# interface port-channel 1
switch(config-if)# shutdown
switch(config-if)# no lACP suspend-individual
switch(config-if)# no shutdown
```

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**Related Commands**

Command	Description
show lacp	Displays LACP information.

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# lacp system-priority

To set the system priority of the device 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	<i>priority</i>	Priority for the physical interfaces. The range of valid numbers is from 1 to 65535.
--------------------	-----------------	--

Defaults	32768
----------	-------

Command Modes	Global configuration
---------------	----------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	Each device that runs LACP has an LACP system priority value. You can accept the default value of 32768 for this parameter, or 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. The system ID is unique for each virtual device context (VDC).
------------------	---

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

Related Commands	Command	Description
	<b>show lacp</b>	Displays LACP information.
	<b>show lacp system identifier</b>	Displays information on the LACP system identifier.

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## link debounce

To enable the debounce timer for Ethernet ports and specify a debounce time, use the **link debounce** command. To disable the timer, use the **no** form of this command.

**link debounce** [**time** *milliseconds*]

**no link debounce**

<b>Syntax Description</b>	<b>time</b> <i>milliseconds</i> (Optional) Debounce timer for the time you want to specify. The range of time is from 0 to 5000 ms.	
<b>Command Default</b>	Enabled 100 milliseconds	
<b>Command Modes</b>	Interface configuration	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	<p>Use the <b>link debounce</b> command to enable the debounce timer for Ethernet ports and set it for a specified amount of time in milliseconds. The default debounce time applies when you enter the <b>link debounce</b> command with no arguments.</p> <p>The range of time is from 1 to 5000 ms. The debounce timer is disabled if you specify the time to 0 ms. This command does not require a license.</p>	
<b>Examples</b>	<p>This example shows how to enable the debounce timer and set the debounce time to 1000 ms for the Ethernet port 3/1:</p> <pre>switch# <b>config t</b> switch(config)# <b>interface ethernet 3/1</b> switch(config-if)# <b>link debounce time 1000</b></pre> <p>This example shows how to disable the debounce timer for the Ethernet port 3/1:</p> <pre>switch# <b>config t</b> switch(config)# <b>interface ethernet 3/1</b> switch(config-if)# <b>no link debounce</b></pre>	

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Related Commands	Command	Description
	show interface debounce	Displays the debounce time information about the interface.

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## 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** [**counter** {**1** | **2** | **3**}] *seconds*

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

Syntax Description	<b>1</b>   <b>2</b>   <b>3</b>	Specifies number of counters configured on the interface.
	<i>seconds</i>	Specifies interval between sampling statistics on the interface. The range is from 60 to 300 seconds for VLAN network interfaces, and the range is from 30 to 300 seconds for Ethernet and port-channel interfaces.

Command Default	1—30 seconds; 60 seconds for VLAN network interface
	2—300 seconds
	3—not configured

Command Modes	Interface configuration
---------------	-------------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.2(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.

This command does not require a license.

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Examples

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

```
switch# config t
switch(config)# interface ethernet 3/1
switch(config-if)# load-interval counter 1 60
switch(config-if)# load-interval counter 2 135
switch(config-if)# load-interval counter 3 225
```

Related Commands

Command	Description
show interface	Displays information about the interface.



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## max-ports

To assign a maximum possible number of interfaces that a port profile can inherit, use the **max-ports** command. To return to the default value, use the **no** form of this command.

**max-ports** *number*

**no max-ports** *number*

Syntax Description	<i>number</i>	Maximum number of interfaces that a port profile can inherit. The range is from 1 to 512 ports, and there is no default value.
--------------------	---------------	--

Defaults	None
----------	------

Command Modes	Port-profile configuration
---------------	----------------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.2(1)	This command was introduced.

Usage Guidelines	<p>You must be in the port-profile configuration mode in order to issue this command.</p> <p>You must enable each specific port profile using the <b>state-enabled</b> command.</p> <p>This command does not require a license.</p>
------------------	---

Examples	<p>This example shows how to enter the port-profile configuration mode and to configure the maximum possible number of interfaces that a port profile can inherit:</p> <pre>switch(config)# port-profile type ethernet type test switch(config-ppm)# max-ports 500</pre>
----------	--

Related Commands	Command	Description
	<b>state-enabled</b>	Enables a specified port profile.
	<b>show port-profile</b>	Displays information about port profiles.

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## mdix auto

To enable automatic medium-dependent independent crossover (MDIX) detection for the interface, use the **mdix auto** command. To turn automatic detection off, use the **no** form of this command.

**mdix auto**

**no mdix**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Command Default</b>	Enabled
------------------------	---------

<b>Command Modes</b>	Interface configuration
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>mdix auto</b> command to enable automatic MDIX detection for the port. Use the <b>no mdix</b> command to disable MDIX detection for the port.</p> <p>This command is only available on copper Ethernet ports. To detect the type of connection (crossover or straight) with another copper Ethernet port, enable the MDIX parameter for the local port. Before you begin, MDIX must be enabled on the remote port.</p> <p>This command does not require a license.</p>
-------------------------	--

<b>Examples</b>	This example shows how to enable MDIX for Ethernet port 3/1:
-----------------	--

```
switch# config t
switch(config)# interface ethernet 3/1
switch(config-if)# mdix auto
```

This example shows how to disable MDIX for Ethernet port 3/1:

```
switch# config t
switch(config)# interface ethernet 3/1
switch(config-if)# no mdix
```

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**Related Commands**

Command	Description
<b>show interface</b>	Displays information about the interface, which includes the MDIX status.

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# medium

To set the medium mode for an interface, use the **medium** command in interface configuration command. To remove the entry, use the **no** form of this command.

**medium {broadcast | p2p}**

**no medium {broadcast | p2p}**

Syntax Description	<b>broadcast</b>	Configures the interface as a broadcast medium.
	<b>p2p</b>	Configures the interface as a point-to-point medium.
<b>Defaults</b>	None	
<b>Command Modes</b>	Interface configuration	
<b>Supported User Roles</b>	network-admin vdc-admin	
Command History	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	<p>The <b>medium</b> command is used to configure the interface as broadcast or point to point.</p> <p>This command does not require a license.</p>	
<b>Examples</b>	<p>This example shows how to configure the interface for point-to-point medium:</p> <pre>switch(config-if) # <b>medium p2p</b></pre>	

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## mtu

To configure the maximum transmission unit (MTU) size for Layer 2 and Layer 3 Ethernet interfaces, use the **mtu** command. To return to the default value, use the **no** form of this command.

**mtu** *size*

**no mtu**

<b>Syntax Description</b>	<i>size</i>	For a Layer 2 interface, specify either the default MTU size (1500) in bytes or the system jumbo MTU size (9216, unless you have changed the default system jumbo size). For a Layer 3 interface, specify any even number between the range of 576 and 9216.
---------------------------	-------------	--

<b>Command Default</b>	1500 bytes
------------------------	------------

<b>Command Modes</b>	Interface configuration
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>mtu size</b> command to configure the MTU size for Layer 2 and Layer 3 Ethernet interfaces.</p> <p>For Layer 3 interfaces, you can configure the MTU to be between 576 and 9216 bytes (even values are required). For Layer 2 interfaces, you can configure the MTU to be either the system default MTU (1500 bytes) or the system jumbo MTU size (which has the default size of 9216 bytes).</p>
-------------------------	---



### Note

You can change the system jumbo MTU size, but if you change that value, you should also update the Layer 2 interfaces that use that value so that they use the new system jumbo MTU value. If you do not update the MTU value for Layer 2 interfaces, those interfaces will use the system default MTU (1500 bytes).

This command does not require a license.

<b>Examples</b>	This example shows how to configure the Layer 2 Ethernet port 3/1 with the default MTU size (1500):
-----------------	---

```
switch# conf t
switch(config)# interface ethernet 3/1
switch(config-if)# mtu 1500
```

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Related Commands	Command	Description
	show interface	Displays information about the interface, which includes the MTU size.

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## peer-gateway

To configure the device to send virtual port-channel (vPC) packets to the device's MAC address, use the **peer-gateway** command. To return to the default value, use the **no** form of this command.

**peer-gateway**

**no peer-gateway**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	vpc-domain configuration
----------------------	--------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.2(1)	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>peer-gateway</b> command to have a vPC peer device act as the gateway even for packets that are destined to the vPC peer device's MAC address.</p> <p>This command does not require a license.</p>
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure the device to use the switch gateway even for the packets that are destined the vPC:</p> <pre>switch# <b>config t</b> switch(config)# <b>vpc-domain 5</b> switch(config-vpc-domain)# <b>peer-gateway</b></pre>
-----------------	---

Related Commands	Command	Description
	<b>vpc-domain</b>	Configures a vPC domain and enters the vpc-domain configuration mode.

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## peer-keepalive destination

To configure the virtual port-channel (vPC) peer-keepalive link and message between vPC peer devices, use the **peer-keepalive destination** command.

**peer-keepalive destination** *ipaddress*

[**hold-timeout** *secs*]

[**interval** *msecs* {**timeout** *secs*}]

[{**precedence** {*prec-value* | **network** | **internet** | **critical** | **flash-override** | **flash** | **immediate** | **priority** | **routine**} } | {**tos** {*tos-value* | **max-reliability** | **max-throughput** | **min-delay** | **min-monetary-cost** | **normal**} } | **tos-byte** *tos-byte-value*]

[**source** *ipaddress*]

[**udp-port** *number*]

[**vrf** {*name* | **management** | **vpc-keepalive**}]

### Syntax Description.

<i>ipaddress</i>	IP address of the remote vPC peer device. <b>Note</b> Must be an IPv4 address.
<b>hold-timeout</b>	(Optional) When peer-keepalive link goes down, the secondary vPC peer device waits this interval. The range is 3 to 10 seconds.  During the hold-timeout, the vPC secondary device does not take any action based on any keepalive messages received. This is to prevent the system taking action when the keepalive might be received just temporarily, such as if a supervisor fails a few seconds after the peer link goes down.
<i>secs</i>	(Optional) Variable in seconds.
<b>interval</b>	Number of milliseconds that you want between sending keepalive messages to the remote vPC peer device. This variable configures the interval between sending peer-keepalive messages to the remote vPC peer device and the maximum period to wait to receive a keepalive message from the remote vPC peer device. The range is between 400 to 10,000 milliseconds.
<i>msecs</i>	(Optional) Variable in milliseconds.
<b>timeout</b>	(Optional) Timeout timer starts at the end of the hold-timeout interval. During the timeout period, the secondary vPC peer device checks for vPC peer-keepalive hello messages from the primary vPC peer device. If the secondary vPC peer device receives a single hello message, that device disables all vPC interfaces on the secondary vPC peer device. The range is between 3 and 20 seconds.  During the timeout, the vPC secondary device takes action to become the vPC primary device if no keepalive message is received by the end of the configured interval.



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<b>precedence</b>	(Optional) Precedence value for the peer-keepalive message. Valid values are: <ul style="list-style-type: none"> <li>• 0 to 7</li> <li>• network (7)</li> <li>• internet (6)</li> <li>• critical (5)</li> <li>• flash-override (4)</li> <li>• flash (3)</li> <li>• immediate (2)</li> <li>• priority (1)</li> <li>• routine (0)</li> </ul>
<b>tos</b>	(Optional) Precedence, or TOS value, for the peer-keepalive message. Valid values are: <ul style="list-style-type: none"> <li>• 0, 1, 2, 4, 8</li> <li>• max-reliability (2)</li> <li>• max-throughput (4)</li> <li>• min-delay (8)</li> <li>• min-monetary-cost (1)</li> <li>• normal (0)</li> </ul> <p><b>Note</b> The only valid values are shown here.</p>
<b>tos-byte</b>	(Optional) Precedence, or 8-bit TOS value, for the peer-keepalive message. The higher the numerical value, the higher throughput priority. The range is from 0 to 255.
<b>source</b>	(Optional) IP address of the local vPC peer device. <p><b>Note</b> Must be an IPv4 address.</p>
<b>number</b>	(Optional) Number of the UDP port to send and receive the vPC peer-keepalive messages. The range is from 1024 to 6500.
<b>name</b>	(Optional) Name of VRF that you want to use for the vPC peer-keepalive link and messages.

## Defaults

Peer-keepalive is disabled.

Hold-timeout is 3 seconds.

Interval is 1000 milliseconds.

Timeout is 5 seconds.

Precedence is default, with a level of 6 (internet).

UDP port is 3200.

VRF is management VRF.

## Command Modes

vpc-domain configuration

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**Supported User Roles**

network-admin  
vdc-admin

Command History	Release	Modification
	4.1(3)	This command was introduced.

### Usage Guidelines

You must enable the vPC feature before you can configure the peer-keepalive parameters. The vPC keepalive messages notify the system if one of the vPC peer devices goes down.



#### Note

You must configure the peer-keepalive messages on each of the vPC peer devices to enable the functionality.

Although the keepalive messages can transmit over any Layer 3 topology, we recommend that you create and configure a separate VRF with Layer 3 ports on each vPC peer device as the source and destination for the vPC keepalive messages. The default ports and VRF for the peer-alive link are the management ports and the management VRF. Do not use the peer link itself for the vPC peer-keepalive messages.



#### Note

Ensure that both the source and destination IP addresses used for the peer-keepalive messages are unique in your network.

The vPC keepalive messages are IP/UDP messages.

This command accepts only IPv4 addresses.



#### Note

You must configure the peer-keepalive messages on each of the vPC peer devices to enable the functionality.

The device assumes that its vPC peer device is down when the device does not receive any messages from the peer during the timeout period. We recommend that you configure the timeout value to be three times the interval value.

You can configure either the **precedence**, **tos**, or **tos-byte** value to ensure throughput for the vPC peer-keepalive message.



#### Note

We recommend that you create a separate VRF and assign a Layer 3 port on each vPC peer device for the peer-keepalive link.

This command does not require a license.

### Examples

This example shows how to configure the IP address of the remote vPC peer device for the fault-tolerant link:

```
switch(config-vpc-domain)# peer-keepalive destination 172.28.231.85
```

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Related Commands	Command	Description
	<b>show running-config vpc all</b>	Displays information on vPC peer-keepalive status. If the feature is not enabled, the system displays an error when you enter this command.
	<b>show vpc peer-keepalive</b>	Displays information on vPC peer-keepalive status. If the feature is not enabled, the system displays an error when you enter this command.

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# port-channel load-balance ethernet

To set 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 [module slot]

no port-channel load-balance ethernet [method [module slot]]
```

Syntax Description	<i>method</i>	Load-balancing method. See the “Usage Guidelines” section for a list of valid values.
	<b>module slot</b>	(Optional) Specifies the module slot number.

Defaults	Layer 2 packets— <b>source-dest-mac</b>
	Layer 3 packets— <b>source-dest-ip-port</b>

Command Modes	Global configuration
---------------	----------------------

SupportedUserRoles	network-admin
	vdc-admin

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	When you do not specify a module, you are configuring load balancing for the entire device. When you use the <b>module</b> parameter, you are configuring load balancing for the specified modules
	Valid <i>method</i> values are as follows: <ul style="list-style-type: none"> <li><b>dest-ip-port</b>—Loads distribution on the destination IP address and port.</li> <li><b>dest-ip-port-vlan</b>—Loads distribution on the destination IP address, port, and VLAN.</li> <li><b>destination-ip-vlan</b>—Loads distribution on the destination IP address and VLAN.</li> <li><b>destination-mac</b>—Loads distribution on the destination MAC address.</li> <li><b>destination-port</b>—Loads distribution on the destination port.</li> <li><b>source-dest-ip-port</b>—Loads distribution on the source XOR-destination IP address and port.</li> <li><b>source-dest-ip-port-vlan</b>—Loads distribution on the source XOR-destination IP address, port, and VLAN.</li> <li><b>source-dest-ip-vlan</b>—Loads distribution on the source XOR-destination IP address and VLAN.</li> <li><b>source-dest-mac</b>—Loads distribution on the source XOR-destination MAC address.</li> </ul>

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- **source-dest-port**—Loads distribution on the source XOR-destination port.
- **source-ip-port**—Loads distribution on the source IP address and port.
- **source-ip-port-vlan**—Loads distribution on the source IP address, port, and VLAN.
- **source-ip-vlan**—Loads distribution on the source IP address and VLAN.
- **source-mac**—Loads distribution on the source MAC address.
- **source-port**—Loads distribution on the source port.



#### Note

You cannot configure load balancing using port channels per VDC. You must be in the default VDC to configure this feature; if you attempt to configure this feature from another VDC, the system returns an error.

Use the **module** argument to configure the module independently for port-channeling and load-balancing mode. When you do this, the remaining module use the current load-balancing method configured for the entire device, or the default method if you have not configured a method for the entire device. When you enter the **no** argument in conjunction with a **module** argument, the load-balancing method for the specified module takes the current load-balancing method that is in use for the entire device. If you configured a load-balancing method for the entire device, the specified module uses that configured method, rather than the default **source-dest-ip-port/source-dest-mac**. The per module configuration takes precedence over the load-balancing method configured for the entire device.

You can configure one load-balancing mode for the entire device, a different mode for specified modules, and yet another mode for other specified modules. The per module configuration takes precedence over the load balancing configuration for the entire device.

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

This command does not require a license.

#### Examples

This example shows how to set the load-balancing method for the entire device to use the source port:

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

#### Related Commands

Command	Description
<b>show port-channel load-balance</b>	Displays information on port-channel load balancing.

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## port-profile

To create a port profile and enter the port-profile configuration mode or to enter into the port-profile configuration mode of a previously created port profile, use the port-profile command. To remove the port profile, use the **no** form of this command.

**port-profile** [**type** {**ethernet** | **interface-vlan** | **port-channel**}] *name*

**no port-profile** [**type** {**ethernet** | **interface-vlan** | **port-channel**}] *name*

<b>Syntax Description</b>	<b>type</b>	(Optional) Specifies the type of interfaces.
	<b>ethernet</b>	Specifies Layer 2 or Layer 3 interfaces.
	<b>interface-vlan</b>	Specifies VLAN network interfaces.
	<b>port-channel</b>	Specifies port-channel interfaces.
	<i>name</i>	Name of the port profile.

**Defaults** None

**Command Modes** Interface configuration  
Port-profile configuration

**Supported User Roles** network-admin  
vdc-admin

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.2(1)	This command was introduced.

**Usage Guidelines** Use the **port-profile** command to group configuration commands and apply them to several interfaces simultaneously. All interfaces in the range must be the same type. The maximum number of interfaces that can inherit a single port profile is 512.

The port-profile name must be globally unique across types and networks.

Each port profile can be applied only to a specific type of interface; the choices are as follows:

- Ethernet
- VLAN network interface
- Port channel



**Note**

When you choose **ethernet** as the interface type, the port profile is in the default mode which is Layer 3. Enter the **switchport** command to change the port profile to Layer 2 mode.

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A subset of commands are available under the port-profile configuration mode, depending on which interface type you specify. Layer 3 and CTS commands are not supported by port profiles.

You can configure the following port-profile operations:

- Create port profiles
- Delete port profiles
- Add commands to and delete commands from port profiles
- Inherit port profiles at interfaces
- Enable and disable port profiles
- Inheritance between port profiles
- Configure maximum number of ports that a profile can inherit

You inherit the port profile when you attach the port profile to an interface or range of interfaces. The maximum number of interfaces that can inherit a single profile is 512. When you attach, or inherit, a port profile to an interface or range of interfaces, the system applies all the commands in that port profile to the interfaces.

Additionally, you can have one port profile inherit another port profile, which allows the initial port profile to assume all of the commands of the second, inherited, port profile that do not conflict with the initial port profile. Four levels of inheritance are supported except for the **switchport private-vlan mapping** and **private-vlan mapping** commands, which support only one level of inheritance. See the **inherit port-profile** command for information about inheriting an additional port profile and assigning port profiles to specified interfaces.

The system applies the commands inherited by the interface or range of interfaces according to the following guidelines:

- Commands that you enter under the interface mode take precedence over the port profile's commands if there is a conflict. However, the port profile retains that command in the port profile.
- The port profile's commands take precedence over default commands on the interface, unless it is explicitly overridden by the default command.
- When a range of interfaces inherits a second port profile, the commands of the initial port profile override those commands of the second port profile if there is a conflict.
- After you inherit a port profile onto an interface or range of interfaces, you can override individual configuration values by entering the new value at the interface configuration level. If you then remove the individual configuration values at the interface configuration level, the interface again uses the values in the port profile again.
- There are no default configurations associated with a port profile.

**Note**

You cannot use port profiles with Session Manager. See the *Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 4.2* book for information on Session Manager.

If you delete a specific configuration for a specified range of interfaces using the interface configuration mode, that configuration is also deleted from the port profile for that range of interfaces only. For example, if you have a channel group inside a port profile and you are in the interface configuration mode and you delete that port channel, the specified port channel is also deleted from the port profile as well.

Just as in the device, you can enter a configuration for an object in port profiles without that object being applied to interfaces yet. For example, you can configure a virtual routing and forward instance (VRF) without it being applied to the system. If you then delete that VRF and its configurations from the port profile, the system is unaffected.

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After you inherit a port profile on an interface or range of interfaces and you delete a specific configuration value, that port-profile configuration will not operate on the specified interfaces.

You must enable each specific port profile using the **state-enabled** command.

This command does not require a license.

### Examples

This example shows how to configure, name a port profile, and enter the port-profile configuration mode:

```
switch(config)# port-profile type ethernet test
switch(config-ppm)#
```

### Related Commands

Command	Description
<b>state-enable</b>	Enables a specified port profile.
<b>show port-profile</b>	Displays information about port profiles.



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## rate-mode dedicated

To set the dedicated rate mode for the specified ports, use the **rate-mode dedicated** command.

**rate-mode dedicated**

**no rate-mode**

**Syntax Description** This command has no arguments or keywords.

**Command Default** Shared rate mode is the default.

**Command Modes** Interface configuration

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0	This command was introduced.

**Usage Guidelines** Use the **rate-mode dedicated** command to set the dedicated rate mode for the specified ports.

On a 32-port 10-Gigabit Ethernet module, each set of four ports can handle 10 gigabits per second (Gb/s) of bandwidth. You can use the rate-mode parameter to dedicate that bandwidth to the first port in the set of four ports or share the bandwidth across all four ports.



**Note**

When you dedicate the bandwidth to one port, you must first administratively shut down the ports in the group, change the rate mode to dedicated, and then bring the dedicated port administratively up.

[Table 1-2](#) identifies the ports that are grouped together to share each 10 Gb/s of bandwidth and which port in the group can be dedicated to utilize the entire bandwidth.

**Table 1-2** *Dedicated and Shared Ports*

Ports Groups that Can Share Bandwidth	Ports that Can be Dedicated to Each 10-Gigabit Ethernet of Bandwidth
1, 3, 5, 7	1
2, 4, 6, 8	2
9, 11, 13, 15	9

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**Table 1-2 Dedicated and Shared Ports**

Ports Groups that Can Share Bandwidth	Ports that Can be Dedicated to Each 10-Gigabit Ethernet of Bandwidth
10, 12, 14, 16	10
17, 19, 21, 23	17
18, 20, 22, 24	18
25, 27, 29, 31	25
26, 28, 30, 32	26



**Note**

All ports in each port group must be part of the same virtual device context (VDC). For more information on VDCs, see the *Cisco Nexus 7000 Series NX-OS Virtual Device Context Configuration Guide, Release 4.2*.

When you enter the **rate-mode dedicated** command, the full bandwidth of 10 Gb is dedicated to one port. When you dedicate the bandwidth, all subsequent commands for the port are for dedicated mode. This command does not require a license.

**Examples**

This example shows how to configure the dedicated rate mode for Ethernet ports 4/17, 4/19, 4/21, and 4/23:

```
switch# config t
switch(config)# interface ethernet 4/17, ethernet 4/19, ethernet 4/21, ethernet 4/23
switch(config-if)# shutdown
switch(config-if)# interface ethernet 4/17
switch(config-if)# rate-mode dedicated
switch(config-if)# no shutdown
```

**Related Commands**

Command	Description
<b>show interface</b>	Displays interface information, which includes the current rate mode dedicated.

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## rate-mode shared

To set the shared rate mode for the specified ports, use the **rate-mode shared** command.

**rate-mode shared**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Command Default</b>	Shared rate mode is the default.
------------------------	----------------------------------

<b>Command Modes</b>	Interface configuration
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>rate-mode shared</b> command to set the shared rate mode for the specified ports. This is the default rate mode for the module.</p> <p>That is, use the <b>rate-mode shared</b> command to specify that each 10 Gb of bandwidth on a 32-port 10 GE Ethernet module is shared by ports in the same port group.</p> <p>If the port group is in dedicated rate mode, you must first administratively shut down the ports in the group, change the rate mode to shared, and then bring the ports administratively up.</p> <p>This command does not require a license.</p>
-------------------------	---

<b>Examples</b>	<p>This example shows how to configure the shared rate mode for Ethernet ports 4/17, 4/19, 4/21, and 4/23:</p> <pre>switch# config t switch(config)# interface ethernet 4/17, ethernet 4/19, ethernet 4/21, ethernet 4/23 switch(config-if)# shutdown switch(config-if)# interface ethernet 4/17 switch(config-if)# rate-mode shared switch(config-if)# no shutdown</pre>
-----------------	---

Related Commands	Command	Description
	<b>show interface</b>	Displays interface information, which includes the current rate mode shared.

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## role priority

To override the default selection of virtual port-channel (vPC) primary and secondary devices when you create a vPC domain, use the **role priority** command. To return to the default vPC system priority, use the **no** form of this command.

**role priority** *priority*

**no role priority**

Syntax Description	<i>priority</i>	Role priority. The range is from 1 to 65636.
--------------------	-----------------	--

Defaults	32667
----------	-------

Command Modes	vpc-domain command mode.
---------------	--------------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.1(3)	This command was introduced.

Usage Guidelines	<p>You must enable the vPC feature before you can create a vPC system priority</p> <p>By default, the system 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 the system 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 primary to be lower than that of the other vPC peer device.</p> <p>This command does not require a license.</p>
------------------	--

Examples	This example shows how to create a vPC role priority:
----------	---

```
switch# config t
switch(config)# vpc domain 5
switch(config-vpc-domain)# role priority 2000
```

Related Commands	Command	Description
	<b>show vpc role</b>	Displays the role for this device for the vPC domain as primary or secondary.

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## show interface

To display the interface status and information, use the **show interface** command.

**show interface**

<b>Syntax Description</b>	This command has some keywords. For more details, see the Usage Guidelines for this command.
---------------------------	--

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	Use the <b>show interface</b> command to display the interface status and information. To display <b>show interface</b> commands with valid keywords, see the following commands in this document:
-------------------------	--

- **show interface brief**—Show brief information of interface
- **show interface capabilities**—Show interface capabilities information
- **show interface counters**—Show interface counters
- **show interface counters detailed**—Show only non-zero counters
- **show interface counters errors**—Show interface error counters
- **show interface counters module**—Show interface counters on a specified module
- **show interface counters snmp**—Show SNMP MIB values
- **show interface counters storm-control**—Show interface storm-control counters
- **show interface counters trunk**—Show interface trunk counters
- **show interface debounce**—Show interface debounce time information
- **show interface description**—Show interface description
- **show interface ethernet**—Show Ethernet interface information
- **show interface flowcontrol**—Show interface flow control information
- **show interface mgmt**—Show management interface
- **show interface port-channel**—Show port-channel interface
- **show interface port-channel counters**—Show interface port-channel counters

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- **show interface status**—Show interface line status
- **show interface switchport**—Show interface switchport information
- **show interface transceiver**—Show interface transceiver information
- **show interface trunk**—Show interface trunk information

This command does not require a license.

## Examples

This example shows how to display the interface status and information:

```
switch# show interface
mgmt0 is up
  Hardware: GigabitEthernet, address: 0019.076c.1a78 (bia 0019.076c.1a78)
  Internet Address is 172.28.231.193/23
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  full-duplex, 1000 Mb/s
  Auto-Negotiation is turned on
  1 minute input rate 26608 bits/sec, 10 packets/sec
  1 minute output rate 2272 bits/sec, 0 packets/sec
Rx
  473804 input packets 51412 unicast packets 124811 multicast packets
  297581 broadcast packets 148270388 bytes
Tx
  51994 output packets 50387 unicast packets 1460 multicast packets
  147 broadcast packets 8330595 bytes

Ethernet2/1 is down (Administratively down)
  Hardware: 10/100/1000 Ethernet, address: 0018.bad8.3ffd (bia 0019.076c.4dac)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  auto-duplex, auto-speed
  Beacon is turned off
  Auto-Negotiation is turned on
  Input flow-control is off, output flow-control is off
  Auto-mdix is turned on
  Switchport monitor is off
  Last clearing of "show interface" counters never
  1 minute input rate 0 bits/sec, 0 packets/sec
  1 minute output rate 0 bits/sec, 0 packets/sec
L3 in Switched:
  ucast: 0 pkts, 0 bytes - mcast: 0 pkts, 0 bytes
L3 out Switched:
  ucast: 0 pkts, 0 bytes - mcast: 0 pkts, 0 bytes
Rx
  0 input packets 0 unicast packets 0 multicast packets
  0 broadcast packets 0 jumbo packets 0 storm suppression packets
  0 bytes
Tx
  0 output packets 0 multicast packets
  0 broadcast packets 0 jumbo packets
  0 bytes
  0 input error 0 short frame 0 watchdog
  0 no buffer 0 runt 0 CRC 0 ecc
  0 overrun 0 underrun 0 ignored 0 bad etype drop
  0 bad proto drop 0 if down drop 0 input with dribble
  0 input discard
  0 output error 0 collision 0 deferred
  0 late collision 0 lost carrier 0 no carrier
```

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```
0 babble
0 Rx pause 0 Tx pause
0 interface resets

...<additional lines truncated>
```

**Related Commands**

Command	Description
<b>interface</b>	Enters the interface configuration mode, and configures the types and identities of interfaces.

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# show interface brief

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

**show interface** [*ethernet slot/port | port-channel channel-number*] **command**

<b>Syntax Description</b>	<b>ethernet</b> <i>slot/port</i>   <b>port-channel</b> <i>channel-number</i> (Optional) Type and number of the interface that you want to display.
---------------------------	--

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>If you do not specify an interface, this command displays information about all Layer 2 interfaces. Use the <b>show interface brief</b> command to display brief information about the interface.</p> <p>This command does not require a license.</p>
-------------------------	--

<b>Examples</b>	This example shows how to display brief information about the interface:
-----------------	--

```
switch# show interface brief
```

```
-----
Port    VRF      Status IP Address                      Speed    MTU
-----
mgmt0   --       up    172.28.231.193                  1000     1500
-----
```

```
-----
Ethernet VLAN  Type Mode   Status Reason                      Speed    Port
Interface                                     Ch #
-----
Eth2/1   --    eth  routed down  Administratively down    auto(D)  --
Eth2/2   --    eth  routed down  Administratively down    auto(D)  --
Eth2/3   --    eth  routed down  Administratively down    auto(D)  --
Eth2/4   1     eth  pvlan down   Administratively down    auto(D)  --
Eth2/5   --    eth  routed down  Administratively down    auto(D)  --
Eth2/6   1     eth  access down  Link not connected       auto(D)  --
Eth2/7   1     eth  access up    none                     1000(D)  --
Eth2/8   --    eth  routed down  Administratively down    auto(D)  --
-----
```



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```

Eth2/9      1      eth  access up      none      1000 (D)  --
Eth2/10     1      eth  access down    Link not connected    auto (D)  --
Eth2/11     --     eth  routed down    Administratively down  auto (D)  --
Eth2/12     --     eth  routed down    Administratively down  auto (D)  --
Eth2/13     --     eth  routed down    Administratively down  auto (D)  --
Eth2/14     --     eth  routed down    Administratively down  auto (D)  --
Eth2/15     --     eth  routed down    Administratively down  auto (D)  --
Eth2/16     --     eth  routed down    Administratively down  auto (D)  --
Eth2/17     --     eth  routed down    Administratively down  auto (D)  --
Eth2/18     --     eth  routed down    Administratively down  auto (D)  --
Eth2/19     --     eth  routed down    Administratively down  auto (D)  --
Eth2/20     --     eth  routed down    Administratively down  auto (D)  --
Eth2/21     --     eth  routed down    Administratively down  auto (D)  --
Eth2/22     --     eth  routed down    Administratively down  auto (D)  --
Eth2/23     --     eth  routed down    Administratively down  auto (D)  --
Eth2/24     --     eth  routed down    Administratively down  auto (D)  --
Eth2/25     --     eth  routed down    Administratively down  auto (D)  --
Eth2/26     --     eth  routed down    Administratively down  auto (D)  --
Eth2/27     --     eth  routed down    Administratively down  auto (D)  --
Eth2/28     --     eth  routed down    Administratively down  auto (D)  --
Eth2/29     --     eth  routed down    Administratively down  auto (D)  --
Eth2/30     --     eth  routed down    Administratively down  auto (D)  --
Eth2/31     --     eth  routed down    Administratively down  auto (D)  --
Eth2/32     --     eth  routed down    Administratively down  auto (D)  --
Eth2/33     --     eth  routed down    Administratively down  auto (D)  --
Eth2/34     --     eth  routed down    Administratively down  auto (D)  --
Eth2/35     --     eth  routed down    Administratively down  auto (D)  --
Eth2/36     --     eth  routed down    Administratively down  auto (D)  --
Eth2/37     --     eth  routed down    Administratively down  auto (D)  --
Eth2/38     --     eth  routed down    Administratively down  auto (D)  --
Eth2/39     --     eth  routed down    Administratively down  auto (D)  --
Eth2/40     --     eth  routed down    Administratively down  auto (D)  --
Eth2/41     --     eth  routed down    Administratively down  auto (D)  --
Eth2/42     --     eth  routed down    Administratively down  auto (D)  --
Eth2/43     --     eth  routed down    Administratively down  auto (D)  --
Eth2/44     --     eth  routed down    Administratively down  auto (D)  --
Eth2/45     --     eth  routed down    Administratively down  auto (D)  --
Eth2/46     --     eth  routed down    Administratively down  auto (D)  --
Eth2/47     --     eth  routed down    Administratively down  auto (D)  --
Eth2/48     --     eth  routed down    Administratively down  auto (D)  --

```

```

-----
Interface      Secondary VLAN (Type)      Status      Reason
-----
Vlan1          --                          down        none

```

#### Related Commands

Command	Description
<b>interface</b>	Enters the interface configuration mode, and configures the types and identities of interfaces.

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# show interface capabilities

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

**show interface** [**ethernet** *slot/port* | **port-channel** *channel-number*] **capabilities**

<b>Syntax Description</b>	<b>ethernet</b> <i>slot/port</i> (Optional) Type and number of the interface that you want to display.   <b>port-channel</b> <i>channel-number</i>	
<b>Command Default</b>	None	
<b>Command Modes</b>	Any command mode	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	<p>Use the <b>show interface capabilities</b> command to display information about the capabilities of the interface such as the speed, duplex, and rate mode. If you do not specify an interface, this command displays information about all Layer 2 interfaces.</p> <p>This command does not require a license.</p>	
<b>Examples</b>	<p>This example shows how to display the capabilities for a specific interface:</p> <pre>switch# show interface ethernet 2/7 capabilities Ethernet2/7   Model:                COPPER   Type:                  1000BaseT   Speed:                 10,100,1000,auto   Duplex:                half/full/auto   Trunk encap. type:     802.1Q   Channel:               yes   Broadcast suppression: percentage(0-100)   Flowcontrol:           rx-(off/on/desired),tx-(off/on/desired)   Rate mode:             dedicated   QOS scheduling:        rx-(2q4t),tx-(1p3q4t)   CoS rewrite:           yes   ToS rewrite:           yes   SPAN:                  yes   UDLD:                  yes   Link Debounce:         yes   Link Debounce Time:    yes</pre>	

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MDIX: yes  
Port Group Members: none

**Related Commands**

Command	Description
<b>interface</b>	Enters the interface configuration mode, and configures the types and identities of interfaces.

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# show interface counters

To display in and out counters for all interfaces in the system, use the **show interface counters** command.

**show interface** [*ethernet slot/port* | **port-channel** *channel-number*] **counters**

Syntax Description	ethernet slot/port   (Optional) Type and number of the interface that you want to display port-channel channel-number	
Command Default	None	
Command Modes	Any command mode	
SupportedUserRoles	network-admin vdc-admin	
Command History	Release	Modification
	4.0	This command was introduced.
Usage Guidelines	Use the <b>show interface counters</b> command to display in and out counters for all or a specific interface. If you do not specify an interface, this command displays information about all Layer 2 interfaces.  This command does not require a license.	
Examples	This example shows how to display the in and out counters for all interfaces:	

```

-----
Port                InOctets      InUcastPkts    InMcastPkts    InBcastPkts
-----
mgmt0                137046816      46882          115497          267729
Eth2/1                0              0              0              0
Eth2/2                0              0              0              0
Eth2/3                0              0              0              0
Eth2/4                0              0              0              0
Eth2/5                0              0              0              0
Eth2/6                0              0              0              0
Eth2/7                295061         0              1348            0
Eth2/8                0              0              0              0
Eth2/9                4174381        0              53303           0
Eth2/10               0              0              0              0
Eth2/11               0              0              0              0
Eth2/12               0              0              0              0

```

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Eth2/13	0	0	0	0
Eth2/14	0	0	0	0
Eth2/15	0	0	0	0
Eth2/16	0	0	0	0
Eth2/17	0	0	0	0
Eth2/18	0	0	0	0
Eth2/19	0	0	0	0
Eth2/20	0	0	0	0
Eth2/21	0	0	0	0
Eth2/22	0	0	0	0
Eth2/23	0	0	0	0
Eth2/24	0	0	0	0
Eth2/25	0	0	0	0
Eth2/26	0	0	0	0
Eth2/27	0	0	0	0
Eth2/28	0	0	0	0
Eth2/29	0	0	0	0
Eth2/30	0	0	0	0
Eth2/31	0	0	0	0
Eth2/32	0	0	0	0
Eth2/33	0	0	0	0
Eth2/34	0	0	0	0
Eth2/35	0	0	0	0
Eth2/36	0	0	0	0
Eth2/37	0	0	0	0
Eth2/38	0	0	0	0
Eth2/39	0	0	0	0
Eth2/40	0	0	0	0
Eth2/41	0	0	0	0
Eth2/42	0	0	0	0
Eth2/43	0	0	0	0
Eth2/44	0	0	0	0
Eth2/45	0	0	0	0
Eth2/46	0	0	0	0
Eth2/47	0	0	0	0
Eth2/48	0	0	0	0
Vlan1	0	0	0	--

Port	OutOctets	OutUcastPkts	OutMcastPkts	OutBcastPkts
mgmt0	7555343	45951	1352	136
Eth2/1	0	0	0	0
Eth2/2	0	0	0	0
Eth2/3	0	0	0	0
Eth2/4	0	0	0	0
Eth2/5	0	0	0	0
Eth2/6	0	0	0	0
Eth2/7	4174381	0	53303	0
Eth2/8	0	0	0	0
Eth2/9	295061	0	1348	0
Eth2/10	0	0	0	0
Eth2/11	0	0	0	0
Eth2/12	0	0	0	0
Eth2/13	0	0	0	0
Eth2/14	0	0	0	0
Eth2/15	0	0	0	0
Eth2/16	0	0	0	0
Eth2/17	0	0	0	0
Eth2/18	0	0	0	0
Eth2/19	0	0	0	0
Eth2/20	0	0	0	0
Eth2/21	0	0	0	0
Eth2/22	0	0	0	0

show interface counters

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Eth2/23	0	0	0	0
Eth2/24	0	0	0	0
Eth2/25	0	0	0	0
Eth2/26	0	0	0	0
Eth2/27	0	0	0	0
Eth2/28	0	0	0	0
Eth2/29	0	0	0	0
Eth2/30	0	0	0	0
Eth2/31	0	0	0	0
Eth2/32	0	0	0	0
Eth2/33	0	0	0	0
Eth2/34	0	0	0	0
Eth2/35	0	0	0	0
Eth2/36	0	0	0	0
Eth2/37	0	0	0	0
Eth2/38	0	0	0	0
Eth2/39	0	0	0	0
Eth2/40	0	0	0	0
Eth2/41	0	0	0	0
Eth2/42	0	0	0	0
Eth2/43	0	0	0	0
Eth2/44	0	0	0	0
Eth2/45	0	0	0	0
Eth2/46	0	0	0	0
Eth2/47	0	0	0	0
Eth2/48	0	0	0	0
Vlan1	0	0	0	--

Related Commands	Command	Description
	clear counters interface	Clears the counters for the specified interfaces.

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## show interface counters errors

To display interface error counters, use the **show interface counters errors**.

**show interface** [*ethernet slot/port* | **port-channel** *channel-number*] **counter errors**

<b>Syntax Description</b>	<b>ethernet</b> <i>slot/port</i>   <b>port-channel</b> <i>channel-number</i> (Optional) Type and number of the interface that you want to display.
---------------------------	--

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	Use the <b>show interface counters errors</b> command to display interface error counters. If you do not specify an interface, this command displays information about all Layer 2 interfaces.
-------------------------	--

This command does not require a license.

<b>Examples</b>	This example shows how to display the interface error counters:
-----------------	---

```
switch# show interface counters errors
```

Port	Align-Err	FCS-Err	Xmit-Err	Rcv-Err	UnderSize	OutDiscards
mgmt0	--	--	--	--	--	--
Eth2/1	0	0	0	0	0	0
Eth2/2	0	0	0	0	0	0
Eth2/3	0	0	0	0	0	0
Eth2/4	0	0	0	0	0	0
Eth2/5	0	0	0	0	0	0
Eth2/6	0	0	0	0	0	0
Eth2/7	0	0	0	0	0	0
Eth2/8	0	0	0	0	0	0
Eth2/9	0	0	0	0	0	0
Eth2/10	0	0	0	0	0	0
Eth2/11	0	0	0	0	0	0
Eth2/12	0	0	0	0	0	0
Eth2/13	0	0	0	0	0	0

## ■ show interface counters errors

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Eth2/14	0	0	0	0	0	0
Eth2/15	0	0	0	0	0	0
Eth2/16	0	0	0	0	0	0
Eth2/17	0	0	0	0	0	0
Eth2/18	0	0	0	0	0	0
Eth2/19	0	0	0	0	0	0
Eth2/20	0	0	0	0	0	0
Eth2/21	0	0	0	0	0	0
Eth2/22	0	0	0	0	0	0
Eth2/23	0	0	0	0	0	0
Eth2/24	0	0	0	0	0	0
Eth2/25	0	0	0	0	0	0
Eth2/26	0	0	0	0	0	0
Eth2/27	0	0	0	0	0	0
Eth2/28	0	0	0	0	0	0
Eth2/29	0	0	0	0	0	0
Eth2/30	0	0	0	0	0	0
Eth2/31	0	0	0	0	0	0
Eth2/32	0	0	0	0	0	0
Eth2/33	0	0	0	0	0	0
Eth2/34	0	0	0	0	0	0
Eth2/35	0	0	0	0	0	0
Eth2/36	0	0	0	0	0	0
Eth2/37	0	0	0	0	0	0
Eth2/38	0	0	0	0	0	0
Eth2/39	0	0	0	0	0	0
Eth2/40	0	0	0	0	0	0
Eth2/41	0	0	0	0	0	0
Eth2/42	0	0	0	0	0	0
Eth2/43	0	0	0	0	0	0
Eth2/44	0	0	0	0	0	0
Eth2/45	0	0	0	0	0	0
Eth2/46	0	0	0	0	0	0
Eth2/47	0	0	0	0	0	0
Eth2/48	0	0	0	0	0	0

Port	Single-Col	Multi-Col	Late-Col	Exces-Col	Carri-Sen	Runts
mgmt0	--	--	--	--	--	--
Eth2/1	0	0	0	0	0	0
Eth2/2	0	0	0	0	0	0
Eth2/3	0	0	0	0	0	0
Eth2/4	0	0	0	0	0	0
Eth2/5	0	0	0	0	0	0
Eth2/6	0	0	0	0	0	0
Eth2/7	0	0	0	0	0	0
Eth2/8	0	0	0	0	0	0
Eth2/9	0	0	0	0	0	0
Eth2/10	0	0	0	0	0	0
Eth2/11	0	0	0	0	0	0
Eth2/12	0	0	0	0	0	0
Eth2/13	0	0	0	0	0	0
Eth2/14	0	0	0	0	0	0
Eth2/15	0	0	0	0	0	0
Eth2/16	0	0	0	0	0	0
Eth2/17	0	0	0	0	0	0
Eth2/18	0	0	0	0	0	0
Eth2/19	0	0	0	0	0	0
Eth2/20	0	0	0	0	0	0
Eth2/21	0	0	0	0	0	0
Eth2/22	0	0	0	0	0	0
Eth2/23	0	0	0	0	0	0
Eth2/24	0	0	0	0	0	0



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Eth2/25	0	0	0	0	0	0
Eth2/26	0	0	0	0	0	0
Eth2/27	0	0	0	0	0	0
Eth2/28	0	0	0	0	0	0
Eth2/29	0	0	0	0	0	0
Eth2/30	0	0	0	0	0	0
Eth2/31	0	0	0	0	0	0
Eth2/32	0	0	0	0	0	0
Eth2/33	0	0	0	0	0	0
Eth2/34	0	0	0	0	0	0
Eth2/35	0	0	0	0	0	0
Eth2/36	0	0	0	0	0	0
Eth2/37	0	0	0	0	0	0
Eth2/38	0	0	0	0	0	0
Eth2/39	0	0	0	0	0	0
Eth2/40	0	0	0	0	0	0
Eth2/41	0	0	0	0	0	0
Eth2/42	0	0	0	0	0	0
Eth2/43	0	0	0	0	0	0
Eth2/44	0	0	0	0	0	0
Eth2/45	0	0	0	0	0	0
Eth2/46	0	0	0	0	0	0
Eth2/47	0	0	0	0	0	0
Eth2/48	0	0	0	0	0	0

Port	Giants	SQETest-Err	Deferred-Tx	IntMacTx-Er	IntMacRx-Er	Symbol-Err
mgmt0	--	--	--	--	--	--
Eth2/1	0	--	0	0	0	0
Eth2/2	0	--	0	0	0	0
Eth2/3	0	--	0	0	0	0
Eth2/4	0	--	0	0	0	0
Eth2/5	0	--	0	0	0	0
Eth2/6	0	--	0	0	0	0
Eth2/7	0	--	0	0	0	0
Eth2/8	0	--	0	0	0	0
Eth2/9	0	--	0	0	0	0
Eth2/10	0	--	0	0	0	0
Eth2/11	0	--	0	0	0	0
Eth2/12	0	--	0	0	0	0
Eth2/13	0	--	0	0	0	0
Eth2/14	0	--	0	0	0	0
Eth2/15	0	--	0	0	0	0
Eth2/16	0	--	0	0	0	0
Eth2/17	0	--	0	0	0	0
Eth2/18	0	--	0	0	0	0
Eth2/19	0	--	0	0	0	0
Eth2/20	0	--	0	0	0	0
Eth2/21	0	--	0	0	0	0
Eth2/22	0	--	0	0	0	0
Eth2/23	0	--	0	0	0	0
Eth2/24	0	--	0	0	0	0
Eth2/25	0	--	0	0	0	0
Eth2/26	0	--	0	0	0	0
Eth2/27	0	--	0	0	0	0
Eth2/28	0	--	0	0	0	0
Eth2/29	0	--	0	0	0	0
Eth2/30	0	--	0	0	0	0
Eth2/31	0	--	0	0	0	0
Eth2/32	0	--	0	0	0	0
Eth2/33	0	--	0	0	0	0
Eth2/34	0	--	0	0	0	0
Eth2/35	0	--	0	0	0	0

show interface counters errors

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Eth2/36	0	--	0	0	0	0
Eth2/37	0	--	0	0	0	0
Eth2/38	0	--	0	0	0	0
Eth2/39	0	--	0	0	0	0
Eth2/40	0	--	0	0	0	0
Eth2/41	0	--	0	0	0	0
Eth2/42	0	--	0	0	0	0
Eth2/43	0	--	0	0	0	0
Eth2/44	0	--	0	0	0	0
Eth2/45	0	--	0	0	0	0
Eth2/46	0	--	0	0	0	0
Eth2/47	0	--	0	0	0	0
Eth2/48	0	--	0	0	0	0

Related Commands

Command	Description
<b>clear counters interface</b>	Clears the counters for the specified interfaces.

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# show interface counters storm-control

To display interface storm control discard counters, use the **show interface counters storm-control**.

**show interface** [*ethernet slot/port* | **port-channel** *channel-number*] **counters storm-control**

<b>Syntax Description</b>	<b>ethernet</b> <i>slot/port</i>   <b>port-channel</b> <i>channel-number</i> (Optional) Type and number of the interface that you want to display
---------------------------	---

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	Use the <b>show interface counters storm-control</b> command to display interface storm control discard counters. If you do not specify an interface, this command displays information about all Layer 2 interfaces.  This command does not require a license.
-------------------------	---

<b>Examples</b>	This example shows how to display the interface storm control discard counters:
-----------------	---

```
switch# show interface counters storm-control
```

Port	UcastSupp %	McastSupp %	BcastSupp %	TotalSuppDiscards
Eth2/1	100.00	100.00	100.00	0
Eth2/2	100.00	100.00	100.00	0
Eth2/3	100.00	100.00	100.00	0
Eth2/4	100.00	100.00	100.00	0
Eth2/5	100.00	100.00	100.00	0
Eth2/6	100.00	100.00	100.00	0
Eth2/7	100.00	100.00	100.00	0
Eth2/8	100.00	100.00	100.00	0
Eth2/9	100.00	100.00	100.00	0
Eth2/10	100.00	100.00	100.00	0
Eth2/11	100.00	100.00	100.00	0
Eth2/12	100.00	100.00	100.00	0
Eth2/13	100.00	100.00	100.00	0

```
show interface counters storm-control
```

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Eth2/14	100.00	100.00	100.00	0
Eth2/15	100.00	100.00	100.00	0
Eth2/16	100.00	100.00	100.00	0
Eth2/17	100.00	100.00	100.00	0
Eth2/18	100.00	100.00	100.00	0
Eth2/19	100.00	100.00	100.00	0
Eth2/20	100.00	100.00	100.00	0
Eth2/21	100.00	100.00	100.00	0
Eth2/22	100.00	100.00	100.00	0
Eth2/23	100.00	100.00	100.00	0
Eth2/24	100.00	100.00	100.00	0
Eth2/25	100.00	100.00	100.00	0
Eth2/26	100.00	100.00	100.00	0
Eth2/27	100.00	100.00	100.00	0
Eth2/28	100.00	100.00	100.00	0
Eth2/29	100.00	100.00	100.00	0
Eth2/30	100.00	100.00	100.00	0
Eth2/31	100.00	100.00	100.00	0
Eth2/32	100.00	100.00	100.00	0
Eth2/33	100.00	100.00	100.00	0
Eth2/34	100.00	100.00	100.00	0
Eth2/35	100.00	100.00	100.00	0
Eth2/36	100.00	100.00	100.00	0
Eth2/37	100.00	100.00	100.00	0
Eth2/38	100.00	100.00	100.00	0
Eth2/39	100.00	100.00	100.00	0
Eth2/40	100.00	100.00	100.00	0
Eth2/41	100.00	100.00	100.00	0
Eth2/42	100.00	100.00	100.00	0
Eth2/43	100.00	100.00	100.00	0
Eth2/44	100.00	100.00	100.00	0
Eth2/45	100.00	100.00	100.00	0
Eth2/46	100.00	100.00	100.00	0
Eth2/47	100.00	100.00	100.00	0
Eth2/48	100.00	100.00	100.00	0

#### Related Commands

Command	Description
<b>clear counters interface</b>	Clears the counters for the specified interfaces.

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## show interface counters trunk

To display the counters for Layer 2 switch port trunk interfaces, use the **show interface counters trunk** command.

**show interface** {*ethernet slot/port*} **counters trunk**

Syntax Description	<b>ethernet</b> <i>slot/port</i>	Specifies the module number and port number for the trunk interface that you want to display.
--------------------	-------------------------------------	---

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	The device supports only IEEE 802.1Q encapsulation. This command also displays the counters for trunk port channels.  This command does not require a license.
------------------	--

Examples	This example shows how to display the counters for a trunk interface. This display shows the frames transmitted and received through the trunk interface, as well as the number of frames with the wrong trunk encapsulation:
----------	---

```
switch# show interface ethernet 2/9 counters trunk
```

```
-----  
Port           TrunkFramesTx   TrunkFramesRx   WrongEncap  
-----  
Ethernet2/9           0               0               0
```

Related Commands	Command	Description
	<b>clear counters interface</b>	Clears the counters for the specified interfaces.

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# show interface debounce

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

```
show interface [ethernet slot/port | port-channel channel-number] debounce
```

Syntax	Description
	<b>ethernet</b> <i>slot/port</i>   <b>port-channel</b> <i>channel-number</i> (Optional) Type and number of the interface that you want to display

Command Default	None
-----------------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>4.0</td><td>This command was introduced.</td></tr></table>	Release	Modification	4.0	This command was introduced.
Release	Modification				
4.0	This command was introduced.				

**Usage Guidelines**

Use the **show interface debounce** command to display debounce time information about the interface. If you do not specify an interface, this command displays information about all Layer 2 interfaces.

This command does not require a license.

**Examples**

This example shows how to display debounce time information about the interface:

```
switch# show interface debounce
```

```
-----
Port           Debounce time  Value(ms)
-----
Eth2/1         enable        100
Eth2/2         enable        100
Eth2/3         enable        100
Eth2/4         enable        100
Eth2/5         enable        100
Eth2/6         enable        100
Eth2/7         enable        100
Eth2/8         enable        100
Eth2/9         enable        100
Eth2/10        enable        100
Eth2/11        enable        100
Eth2/12        enable        100
```

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Eth2/13	enable	100
Eth2/14	enable	100
Eth2/15	enable	100
Eth2/16	enable	100
Eth2/17	enable	100
Eth2/18	enable	100
Eth2/19	enable	100
Eth2/20	enable	100
Eth2/21	enable	100
Eth2/22	enable	100
Eth2/23	enable	100
Eth2/24	enable	100
Eth2/25	enable	100
Eth2/26	enable	100
Eth2/27	enable	100
Eth2/28	enable	100
Eth2/29	enable	100
Eth2/30	enable	100
Eth2/31	enable	100
Eth2/32	enable	100
Eth2/33	enable	100
Eth2/34	enable	100
Eth2/35	enable	100
Eth2/36	enable	100
Eth2/37	enable	100
Eth2/38	enable	100
Eth2/39	enable	100
Eth2/40	enable	100
Eth2/41	enable	100
Eth2/42	enable	100
Eth2/43	enable	100
Eth2/44	enable	100
Eth2/45	enable	100
Eth2/46	enable	100
Eth2/47	enable	100
Eth2/48	enable	100

#### Related Commands

Command	Description
<b>link debounce time</b>	Enables the debounce timer for Ethernet ports.

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# show interface description

To display a description about the interface, use the **show interface description** command.

## show interface description

**Syntax Description** This command has no arguments or keywords.

**Command Default** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0	This command was introduced.

**Usage Guidelines** Use the **show interface description** command to display the interface description.  
This command does not require a license.

**Examples** This example shows how to display a description of the interface:

```
switch# show interface description
```

```
-----
Interface          Description
-----
mgmt0              --

-----
Port              Type    Speed  Description
-----
Eth2/1            eth     1000   --
Eth2/2            eth     1000   --
Eth2/3            eth     1000   --
Eth2/4            eth     1000   --
Eth2/5            eth     1000   --
Eth2/6            eth     1000   --
Eth2/7            eth     1000   server2
Eth2/8            eth     1000   --
Eth2/9            eth     1000   --
Eth2/10           eth     1000   ethernet slot 2 port 10
Eth2/11           eth     1000   --
Eth2/12           eth     1000   --
Eth2/13           eth     1000   --
```



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```
Eth2/14      eth      1000    --
Eth2/15      eth      1000    --
Eth2/16      eth      1000    --
Eth2/17      eth      1000    --
Eth2/18      eth      1000    --
Eth2/19      eth      1000    --
Eth2/20      eth      1000    --
Eth2/21      eth      1000    --
Eth2/22      eth      1000    --
Eth2/23      eth      1000    --
Eth2/24      eth      1000    --
Eth2/25      eth      1000    --
Eth2/26      eth      1000    --
Eth2/27      eth      1000    --
Eth2/28      eth      1000    --
Eth2/29      eth      1000    --
Eth2/30      eth      1000    --
Eth2/31      eth      1000    --
Eth2/32      eth      1000    --
Eth2/33      eth      1000    --
```

...<additional lines truncated>

#### Related Commands

Command	Description
<b>description</b>	Provides textual interface descriptions for interfaces.

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# show interface ethernet

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

**show interface ethernet** *slot/port*

Syntax	Description	<i>slot/port</i>	Specifies the slot number and port number for the Ethernet interface
--------	-------------	------------------	--

Command Default	None
-----------------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	Use the <b>show interface ethernet</b> command to display information about the Ethernet interface. This command does not require a license.
------------------	---

Examples	This example shows how to display information about the Ethernet interface:
----------	---

```
switch# show interface ethernet 2/5
Ethernet2/5 is down (Administratively down)
  Hardware: 10/100/1000 Ethernet, address: 0018.bad8.3ffd (bia 0019.076c.4db0)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  auto-duplex, auto-speed
  Beacon is turned off
  Auto-Negotiation is turned on
  Input flow-control is off, output flow-control is off
  Auto-mdix is turned on
  Switchport monitor is off
  Last clearing of "show interface" counters never
  1 minute input rate 0 bits/sec, 0 packets/sec
  1 minute output rate 0 bits/sec, 0 packets/sec
  L3 in Switched:
    ucast: 0 pkts, 0 bytes - mcast: 0 pkts, 0 bytes
  L3 out Switched:
    ucast: 0 pkts, 0 bytes - mcast: 0 pkts, 0 bytes
  Rx
    0 input packets 0 unicast packets 0 multicast packets
    0 broadcast packets 0 jumbo packets 0 storm suppression packets
```

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```
0 bytes
Tx
0 output packets 0 multicast packets
0 broadcast packets 0 jumbo packets
0 bytes
0 input error 0 short frame 0 watchdog
0 no buffer 0 runt 0 CRC 0 ecc
0 overrun 0 underrun 0 ignored 0 bad etype drop
0 bad proto drop 0 if down drop 0 input with dribble
0 input discard
0 output error 0 collision 0 deferred
0 late collision 0 lost carrier 0 no carrier
0 babble
0 Rx pause 0 Tx pause
0 interface resets
```

**Related Commands**

Command	Description
<b>interface</b>	Enters the interface configuration mode, and configures the types and identities of interfaces.

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# show interface flowcontrol

To display the flowcontrol configuration for all or a specified interface, use the **show interface flowcontrol** command.

**show interface** [**ethernet** *slot/port* | **port-channel** *channel-number*] **flowcontrol**

## Syntax Description

**ethernet** *slot/port* | **port-channel** *channel-number* (Optional) Type and number of the interface that you want to display

## Command Default

None

## Command Modes

Any command mode

## Supported User Roles

network-admin 2  
vdc-admin

## Command History

Release	Modification
4.0	This command was introduced.

## Usage Guidelines

Use the **show interface flowcontrol** command to display information about the interface flowcontrol. If you do not specify an interface, this command displays information about all Layer 2 interfaces.

This command does not require a license.

## Examples

This example shows how to display the interface flow control information:

```
switch# show interface flowcontrol
```

```
-----
Port          Send FlowControl  Receive FlowControl  RxPause  TxPause
              admin    oper      admin    oper
-----
Eth2/1        off     off      off     off      0        0
Eth2/2        off     off      off     off      0        0
Eth2/3        off     off      off     off      0        0
Eth2/4        off     off      off     off      0        0
Eth2/5        off     off      off     off      0        0
Eth2/6        off     off      off     off      0        0
Eth2/7        off     off      off     off      0        0
Eth2/8        off     off      off     off      0        0
Eth2/9        off     off      off     off      0        0
Eth2/10       off     off      off     off      0        0
Eth2/11       off     off      off     off      0        0
Eth2/12       off     off      off     off      0        0
-----
```

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Eth2/13	off	off	off	off	0	0
Eth2/14	off	off	off	off	0	0
Eth2/15	off	off	off	off	0	0
Eth2/16	off	off	off	off	0	0
Eth2/17	off	off	off	off	0	0
Eth2/18	off	off	off	off	0	0
Eth2/19	off	off	off	off	0	0
Eth2/20	off	off	off	off	0	0
Eth2/21	off	off	off	off	0	0
Eth2/22	off	off	off	off	0	0
Eth2/23	off	off	off	off	0	0
Eth2/24	off	off	off	off	0	0
Eth2/25	off	off	off	off	0	0
Eth2/26	off	off	off	off	0	0
Eth2/27	off	off	off	off	0	0
Eth2/28	off	off	off	off	0	0
Eth2/29	off	off	off	off	0	0
Eth2/30	off	off	off	off	0	0
Eth2/31	off	off	off	off	0	0
Eth2/32	off	off	off	off	0	0
Eth2/33	off	off	off	off	0	0
Eth2/34	off	off	off	off	0	0
Eth2/35	off	off	off	off	0	0
Eth2/36	off	off	off	off	0	0
Eth2/37	off	off	off	off	0	0
Eth2/38	off	off	off	off	0	0
Eth2/39	off	off	off	off	0	0
Eth2/40	off	off	off	off	0	0
Eth2/41	off	off	off	off	0	0
Eth2/42	off	off	off	off	0	0
Eth2/43	off	off	off	off	0	0
Eth2/44	off	off	off	off	0	0
Eth2/45	off	off	off	off	0	0
Eth2/46	off	off	off	off	0	0
Eth2/47	off	off	off	off	0	0
Eth2/48	off	off	off	off	0	0

#### Related Commands

Command	Description
<b>flowcontrol</b>	Enables or disables the ability of the Ethernet port to send and receive flow-control pause frames.

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## show interface mgmt

To display the management interface information, use the **show interface mgmt** command.

**show interface mgmt** *number* [**brief** | **counters** [**detailed** [**all**] | **errors** [**snmp**]] | **description** | **status**]

Syntax Description		
<b>number</b>		Displays information about the management interface number. The valid value is 0.
<b>brief</b>		(Optional) Displays brief information about the management interface.
<b>counters</b>		(Optional) Displays the counters for the management interface.
<b>detailed</b>		(Optional) Displays detailed information about the counters for the management interface.
<b>errors</b>		(Optional) Displays the errors for the management interface.
<b>snmp</b>		(Optional) Displays the SNMP errors for the management interface.
<b>description</b>		(Optional) Displays the description of the management interface.
<b>status</b>		(Optional) Displays the status of the management interface.

**Command Default** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0	This command was introduced.

**Usage Guidelines** Use the **show interface mgmt** *number* command to display information about the management interface. This command does not require a license.

**Examples** This example shows how to display the management interface information:

```
switch# show interface mgmt0
mgmt0 is up
  Hardware: GigabitEthernet, address: 0019.076c.1a78 (bia 0019.076c.1a78)
  Internet Address is 172.28.231.193/23
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
```

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```
full-duplex, 1000 Mb/s
Auto-Negotiation is turned on
1 minute input rate 6446522 bits/sec, 78642 packets/sec
1 minute output rate 1965455 bits/sec, 20644 packets/sec
Rx
  78681 input packets 15607 unicast packets 20178 multicast packets
  42896 broadcast packets 24189392 bytes
Tx
  20647 output packets 20377 unicast packets 246 multicast packets
  24 broadcast packets 7370904 bytes
```

**Related Commands**

Command	Description
<b>interface</b>	Enters the interface configuration mode, and configures the types and identities of interfaces.

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# show interface port-channel

To display descriptive information about port channels, use the **show interface port-channel** command.

**show interface port-channel** *channel-number* [**brief** | **description** | **flowcontrol** | **status** | **switchport** | **trunk**]

Syntax Description	
<i>channel-number</i>	Number of the port-channel group. Valid values are from 1 to 4096.
<b>brief</b>	(Optional) Specifies the summary information for specified port channels.
<b>description</b>	(Optional) Specifies the description of specified port channels.
<b>flowcontrol</b>	(Optional) Specifies information about the flow-control status control for specified port channels and the statistics on received and transmitted flow-control pause packets.
<b>status</b>	(Optional) Specifies information about the status for specified port channels.
<b>switchport</b>	(Optional) Specifies information for specified Layer 2 port channels including access and trunk modes.
<b>trunk</b>	(Optional) Specifies information for specified Layer 2 port channels on the trunk mode.

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.
	4.2(1)	Display of configured static MAC address for Layer 3 port channels added.

<b>Usage Guidelines</b>	<p>To display more statistics for the specified port channels, use the <b>show interface port-channel counters</b> command.</p> <p>This command does not require a license.</p>
-------------------------	---

<b>Examples</b>	This example shows how to display information for a specific port channel. This command displays statistical information gathered on the port channel at 1-minute intervals:
-----------------	--



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```
switch(config)# show interface port-channel 50
port-channel50 is down (No operational members)
  Hardware is Port-Channel, address is 0000.0000.0000 (bia 0000.0000.0000)
  MTU 1500 bytes, BW 100000 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
  Members in this channel: Eth2/10
  Last clearing of "show interface" counters 2d71.2uh
  1 minute input rate 0 bytes/sec, 0 packets/sec
  1 minute output rate 0 bytes/sec, 0 packets/sec
Rx
  0 input packets 0 unicast packets 0 multicast packets
  0 broadcast packets 0 jumbo packets 0 storm suppression packets
  0 bytes
Tx
  0 output packets 0 multicast packets
  0 broadcast packets 0 jumbo packets
  0 bytes
  0 input error 0 short frame 0 watchdog
  0 no buffer 0 runt 0 CRC 0 ecc
  0 overrun 0 underrun 0 ignored 0 bad etype drop
  0 bad proto drop 0 if down drop 0 input with dribble
  0 input discard
  0 output error 0 collision 0 deferred
  0 late collision 0 lost carrier 0 no carrier
  0 babble
  0 Rx pause 0 Tx pause 0 reset
```

This example shows how to display a brief description for a specific port channel, including the mode for the port channel, the status, speed, and protocol:

```
switch# show interface port-channel 5 brief
```

```
-----
Port-channel VLAN  Type Mode    Status Reason                               Speed  Protocol
Interface
-----
                eth  access down    No operational members              auto(D)  lacp
-----
```

This example shows how to display the description for a specific port channel:

```
switch# show interface port-channel 5 description
```

```
-----
Interface          Description
-----
port-channel5      test
-----
```

This example shows how to display the flow-control information for a specific port channel:

```
switch# show interface port-channel 50 flowcontrol
```

```
-----
Port      Send FlowControl  Receive FlowControl  RxPause TxPause
         admin    oper    admin    oper
-----
Po50      off      off      off      off          0          0
-----
```

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The **oper** display for the *show interface port-channel flowcontrol* command shows as on if one member of the port channel is set to on for flow control; then all the of the members and the entire port channel is set to on for flow control.

This example shows how to display the status of a specific port channel:

```
switch# show interface port-channel 5 status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
	test	down	1	auto	auto	--

This example shows how to display information for a specific Layer 2 port channel:

```
switch# show interface port-channel 50 switchport
Name: port-channel50
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: trunk
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1-3967,4048-4093
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
```

This command displays information for Layer 2 port channels in both the access and trunk modes.

When you use this command for a routed port channel, the device returns the following message:

```
Name: port-channel20
Switchport: Disabled
```

This example shows how to display information for a specific Layer 2 port channel that is in trunk mode:

```
switch# show interface port-channel 5 trunk

switch# show interface port-channel 50 trunk
port-channel50 is down (No operational members)
  Hardware is Ethernet, address is 0000.0000.0000
  MTU 1500 bytes, BW 100000 Kbit, DLY 10 usec
  Port mode is access
  Speed is auto-speed
  Duplex mode is auto
  Beacon is turned off
  Receive flow-control is off, Send flow-control is off
  Rate mode is dedicated
Members in this channel: Eth2/10
  Native Vlan: 1
  Allowed Vlans: 1-3967,4048-4093
```

This command displays information for only Layer 2 port channels in the trunk modes; you cannot display information about Layer 2 port channels in the access mode with this command.

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Related Commands	Command	Description
	show interface port-channel counters	Displays the statistics for channel groups.
	show port-channel summary	Displays summary information for all channel groups.

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# show interface port-channel counters

To display information about port-channel statistics, use the **show interface port-channel counters** command.

```
show interface port-channel channel-number counters [brief | detailed [all | snmp] | errors
[snmp] | trunk]
```

Syntax Description	
<i>channel-number</i>	Number of the port-channel group. Valid values are from 1 to 4096.
<b>brief</b>	(Optional) Specifies the rate MB/s and total frames for specified port channels.
<b>detailed</b>	(Optional) Specifies the nonzero counters for specified port channels.
<b>all</b>	(Optional) Specifies the counters for specified port channels.
<b>snmp</b>	(Optional) Specifies the SNMP MIB values for specified port channels.
<b>errors</b>	(Optional) Specifies the interface error counters for specified port channels.
<b>trunk</b>	(Optional) Specifies the interface trunk counters for specified port channels.

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

**Usage Guidelines** This command displays statistics for all port channels including LACP-enabled port channels and those port channels that are not associated with an aggregation protocol.

This command does not require a license.

**Examples** This example shows how to display the counters for a specific port channel. This display shows the transmitted and received unicast and multicast packets:

```
switch# show interface port-channel 2 counters
```

```
Port                InOctets    InUcastPkts  InMcastPkts  InBcastPkts
```

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```
Po2                6007                1                31                1

Port              OutOctets  OutUcastPkts  OutMcastPkts  OutBcastPkts
Po2                4428                1                25                1
```

This example shows how to display the brief counters for a specific port channel. This display shows the transmitted and received rate and total frames:

```
switch# show interface port-channel 20 counters brief
```

```
-----
Interface              Input (rate is 1 min avg)  Output (rate is 1 min avg)
-----
Rate      Total          Rate      Total
MB/s      Frames          MB/s      Frames
-----
port-channel20        0          0          0          0
```

This example shows how to display all the detailed counters for a specific port channel:

```
switch# show interface port-channel 20 counters detailed all
port-channel20
```

64 bit counters:

```
0. rxHCTotalPkts = 0
1. txHCTotalPkts = 0
2. rxHCUnicastPkts = 0
3. txHCUnicastPkts = 0
4. rxHCMulticastPkts = 0
5. txHCMulticastPkts = 0
6. rxHCBroadcastPkts = 0
7. txHCBroadcastPkts = 0
8. rxHCOctets = 0
9. txHCOctets = 0
10. rxTxHCPkts64Octets = 0
11. rxTxHCPkts65to127Octets = 0
12. rxTxHCPkts128to255Octets = 0
13. rxTxHCPkts256to511Octets = 0
14. rxTxHCPkts512to1023Octets = 0
15. rxTxHCPkts1024to1518Octets = 0
16. rxTxHCPkts1519to1548Octets = 0
17. rxHCTrunkFrames = 0
18. txHCTrunkFrames = 0
19. rxHCDropEvents = 0
```

All Port Counters:

```
0. InPackets = 0
1. InOctets = 0
2. InUcastPkts = 0
3. InMcastPkts = 0
4. InBcastPkts = 0
5. InJumboPkts = 0
6. StormSuppressPkts = 0
7. OutPackets = 0
8. OutOctets = 0
9. OutUcastPkts = 0
10. OutMcastPkts = 0
11. OutBcastPkts = 0
12. OutJumboPkts = 0
13. rxHCPkts64Octets = 0
14. rxHCPkts65to127Octets = 0
15. rxHCPkts128to255Octets = 0
16. rxHCPkts256to511Octets = 0
17. rxHCPkts512to1023Octets = 0
18. rxHCPkts1024to1518Octets = 0
```

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```

19.          rxHCpkts1519to1548Octets = 0
20.          txHCPkts64Octets = 0
21.          txHCPkts65to127Octets = 0
22.          txHCPkts128to255Octets = 0
23.          txHCPkts256to511Octets = 0
24.          txHCpkts512to1023Octets = 0
25.          txHCpkts1024to1518Octets = 0
26.          txHCpkts1519to1548Octets = 0
27.          ShortFrames = 0
28.          Collisions = 0
29.          SingleCol = 0
30.          MultiCol = 0
31.          LateCol = 0
32.          ExcessiveCol = 0
33.          LostCarrier = 0
34.          NoCarrier = 0
35.          Runts = 0
36.          Giants = 0
37.          InErrors = 0
38.          OutErrors = 0
39.          InputDiscards = 0
40.          BadEtypeDrops = 0
41.          IfDownDrops = 0
42.          InUnknownProtos = 0
43.          txCRC = 0
44.          rxCRC = 0
45.          Symbol = 0
46.          txDropped = 0
47.          TrunkFramesTx = 0
48.          TrunkFramesRx = 0
49.          WrongEncap = 0
50.          Babbles = 0
51.          Watchdogs = 0
52.          ECC = 0
53.          Overruns = 0
54.          Underruns = 0
55.          Dribbles = 0
56.          Deferred = 0
57.          Jabbers = 0
58.          NoBuffer = 0
59.          Ignored = 0
60.          bpdOutLost = 0
61.          cos0OutLost = 0
62.          cos1OutLost = 0
63.          cos2OutLost = 0
64.          cos3OutLost = 0
65.          cos4OutLost = 0
66.          cos5OutLost = 0
67.          cos6OutLost = 0
68.          cos7OutLost = 0
69.          RxPause = 0
70.          TxPause = 0
71.          Resets = 0
72.          SQETest = 0
73.          InLayer3Routed = 0
74.          InLayer3RoutedOctets = 0
75.          OutLayer3Routed = 0
76.          OutLayer3RoutedOctets = 0
77.          OutLayer3Unicast = 0
78.          OutLayer3UnicastOctets = 0
79.          OutLayer3Multicast = 0
80.          OutLayer3MulticastOctets = 0
81.          InLayer3Unicast = 0
82.          InLayer3UnicastOctets = 0

```

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```

83.             InLayer3Multicast = 0
84.         InLayer3MulticastOctets = 0
85.             InLayer3AverageOctets = 0
86.             InLayer3AveragePackets = 0
87.             OutLayer3AverageOctets = 0
88.             OutLayer3AveragePackets = 0

```

This example shows how to display the error counters for a specific port channel:

```
switch# show interface port-channel 5 counters errors
```

```

-----
Port          Align-Err      FCS-Err      Xmit-Err      Rcv-Err      UnderSize  OutDiscards
-----
Po5              0              0              0              0              0              0
-----
Port          Single-Col    Multi-Col    Late-Col    Exces-Col    Carri-Sen    Runts
-----
Po5              0              0              0              0              0              0
-----
Port          Giants  SQETest-Err  Deferred-Tx  IntMacTx-Er  IntMacRx-Er  Symbol-Err
-----
              0              --              0              0              0              0
-----

```

This example shows how to display information about the trunk interfaces for a specific port channel:

```
switch# show interface port-channel 5 counters trunk
```

```

-----
Port          TrunkFramesTx  TrunkFramesRx  WrongEncap
-----
port-channel5              0              0              0
-----

```

#### Related Commands

Command	Description
<b>clear counters</b>	Clears the statistics for all interfaces that belong to a specific channel group.
<b>interface port-channel</b> <i>channel-number</i>	

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## show interface status

To display the interface line status, use the **show interface status** command.

**show interface status** [**down** | **err-disabled** | **err-vlans** | **inactive** | **module number** | **up**]

<b>Syntax Description</b>	<b>down</b>	(Optional) Displays the interface down state.
	<b>err-disabled</b>	(Optional) Displays the interface error-disabled state.
	<b>err-vlans</b>	(Optional) Displays the VLANs with errors.
	<b>inactive</b>	(Optional) Displays the interface inactive state.
	<b>module number</b>	(Optional) Limits display to interfaces on module number that you want to display.
	<b>up</b>	(Optional) Displays the interface up state.

**Command Default** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
vdc-admin

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
	4.1(2)	The <b>err-vlans</b> parameter was added.

**Usage Guidelines** Use the **show interface status** to display the interface line status.  
This command does not require a license.

**Examples** This example shows how to display the interface status for a specific module:

```
switch# show interface status module 2
```

Port	Name	Status	Vlan	Duplex	Speed	Type
Eth2/1	--	down	routed	auto	auto	1000BaseT
Eth2/2	--	down	routed	auto	auto	1000BaseT
Eth2/3	--	down	routed	auto	auto	1000BaseT
Eth2/4	--	down	1	auto	auto	1000BaseT
Eth2/5	--	down	routed	auto	auto	1000BaseT
Eth2/6	--	down	1	auto	auto	1000BaseT
Eth2/7	server2	up	1	full	1000	1000BaseT



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```

Eth2/8      --          down    routed    auto      auto      1000BaseT
Eth2/9      --          up      1         full      1000      1000BaseT
Eth2/10     ethernet slot 2 po down    1         auto      auto      1000BaseT
Eth2/11     --          down    routed    auto      auto      1000BaseT
Eth2/12     --          down    routed    auto      auto      1000BaseT
Eth2/13     --          down    routed    auto      auto      1000BaseT
Eth2/14     --          down    routed    auto      auto      1000BaseT
Eth2/15     --          down    routed    auto      auto      1000BaseT
Eth2/16     --          down    routed    auto      auto      1000BaseT
Eth2/17     --          down    routed    auto      auto      1000BaseT
Eth2/18     --          down    routed    auto      auto      1000BaseT
Eth2/19     --          down    routed    auto      auto      1000BaseT
Eth2/20     --          down    routed    auto      auto      1000BaseT
Eth2/21     --          down    routed    auto      auto      1000BaseT
Eth2/22     --          down    routed    auto      auto      1000BaseT
Eth2/23     --          down    routed    auto      auto      1000BaseT
Eth2/24     --          down    routed    auto      auto      1000BaseT
Eth2/25     --          down    routed    auto      auto      1000BaseT
Eth2/26     --          down    routed    auto      auto      1000BaseT
Eth2/27     --          down    routed    auto      auto      1000BaseT
Eth2/28     --          down    routed    auto      auto      1000BaseT
Eth2/29     --          down    routed    auto      auto      1000BaseT
Eth2/30     --          down    routed    auto      auto      1000BaseT
Eth2/31     --          down    routed    auto      auto      1000BaseT
Eth2/32     --          down    routed    auto      auto      1000BaseT
Eth2/33     --          down    routed    auto      auto      1000BaseT
Eth2/34     --          down    routed    auto      auto      1000BaseT
Eth2/35     --          down    routed    auto      auto      1000BaseT
Eth2/36     --          down    routed    auto      auto      1000BaseT
Eth2/37     --          down    routed    auto      auto      1000BaseT
Eth2/38     --          down    routed    auto      auto      1000BaseT
Eth2/39     --          down    routed    auto      auto      1000BaseT
Eth2/40     --          down    routed    auto      auto      1000BaseT
Eth2/41     --          down    routed    auto      auto      1000BaseT
Eth2/42     --          down    routed    auto      auto      1000BaseT
Eth2/43     --          down    routed    auto      auto      1000BaseT
Eth2/44     --          down    routed    auto      auto      1000BaseT
Eth2/45     --          down    routed    auto      auto      1000BaseT
Eth2/46     --          down    routed    auto      auto      1000BaseT
Eth2/47     --          down    routed    auto      auto      1000BaseT
Eth2/48     --          down    routed    auto      auto      1000BaseT

```

#### Related Commands

Command	Description
<b>interface</b>	Enters the interface configuration mode, and configures the types and identities of interfaces.

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# show interface switchport

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

**show interface** [**ethernet** *type/slot* | **port-channel** *channel-number*] **switchport**

## Syntax Description

**ethernet** *type/slot* | **port-channel** *channel-number* (Optional) Type and number of the interface that you want to display.

## Defaults

None

## Command Modes

Any command mode

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	This command was introduced.
4.2(1)	Information about private VLAN promiscuous trunk ports was added.

## Usage Guidelines

If you do not specify an interface, this command displays information about all Layer 2 interfaces, including access, trunk, and port-channel interfaces and all private VLAN ports.

Use the **show interface counters** command to display statistics for the specified Layer 2 interface.

This command does not require a license.

## Examples

This example shows how to display information for all Layer 2 interfaces:

```
switch# show interface switchport
Name: Ethernet2/5
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: access
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1-3967,4048-4093
  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
```

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```
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
```

```
Name: Ethernet2/9
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: trunk
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1-3967,4048-4093
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
```

```
Name: port-channel5
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: access
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1-3967,4048-4093
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
```

Beginning with Cisco NX-OS Release 4.2(1), you can display information on private VLAN promiscuous trunk ports on Cisco Nexus 7000 Series devices. This example shows how to display information for those interfaces:

```
switch# show interface switchport
Name: Ethernet7/4
Switchport: Enabled
Administrative Mode: private-vlan trunk promiscuous
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: on
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: 1, 4, 3000-4000
Administrative private-vlan trunk private VLAN mappings:
    2 (VLAN0002)  3 (VLAN0003)          4 (VLAN0004)  5 (VLAN00005)
    10 (VLAN0010) 20 (VLAN0020)        30 (VLAN0030) 40 (Inactive)
Operational private-vlan: none
```

 show interface switchport

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**Related Commands**

Command	Description
switchport mode	Sets the specified interfaces as either Layer 2 access or trunk interfaces.

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# show interface transceiver

To display the interface transceiver information, use the **show interface transceiver** command.

**show interface transceiver** [*calibrations* | *details*]

Syntax	Description	
		<i>calibrations</i> (Optional) Show interface transceiver calibrations
		<i>details</i> (Optional) Show interface transceiver details

**Command Default** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0	This command was introduced.

**Usage Guidelines** Use the **show interface transceiver** [*calibrations* | *details*] to display the interface line status.  
This command does not require a license.

**Examples** This example shows how to display the interface transceiver calibrations:

```
switch# show interface transceiver calibrations
Ethernet2/1
    sfp is not applicable

Ethernet2/2
    sfp is not applicable

Ethernet2/3
    sfp is not applicable

Ethernet2/4
    sfp is not applicable

Ethernet2/5
    sfp is not applicable

...<additional lines truncated>
```

 show interface transceiver

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Related Commands	Command	Description
	interface	Enters the interface configuration mode, and configures the types and identities of interfaces.

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## show interface transceiver

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

**show interface transceiver** [calibrations | details]

Syntax Description	calibrations	(Optional) Displays calibration information for transceivers.
	detail	(Optional) Displays detailed information for transceivers.

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.1(2)	This command was introduced.
	4.1(2)	This command was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	This example shows how to display calibration information for transceiver interfaces:
----------	---

```
switch(config)# show interface transceiver calibrations
```

```
Ethernet9/25
  sfp is present
  name is CISCO-EXCELIGHT
  part number is SPP5101LR-C1
  revision is A
  serial number is ECL121601PB
  nominal bitrate is 10300 Mbits/sec
  Link length supported for 9/125um fiber is 10 km(s)
  cisco id is --
  cisco extended id number is 4
```

```

          SFP External Calibrations Information
-----
          Slope  Offset      Rx4/Rx3/Rx2/Rx1/Rx0
-----
Temperature    0      0

```

**show interface transceiver**

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```

Voltage          0      0
Current          0      0
Tx Power         0      0
Rx Power                                0.0000/0.0000/0.0000/0.0000/0.0000

```

This example shows how to display detailed information for transceiver interfaces:

```
switch(config)# show interface transceiver detailed
```

```

Ethernet10/9
  sfp is present
  name is CISCO
  part number is SPP5101SR-C1
  revision is A
  serial number is ECL1120017J
  nominal bitrate is 10300 Mbits/sec
  Link length supported for 50/125um fiber is 82 m(s)
  Link length supported for 62.5/125um fiber is 26 m(s)
  cisco id is --
  cisco extended id number is 4

```

SFP Detail Diagnostics Information (external calibration)

		Alarms		Warnings	
		High	Low	High	Low
Temperature	25.54 C	75.00 C	-5.00 C	70.00 C	0.00 C
Voltage	3.22 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	4.49 mA	10.00 mA	0.00 mA	9.00 mA	0.00 mA
Tx Power	-3.50 dBm	2.99 dBm	-11.30 dBm	-1.00 dBm	-7.30 dBm
Rx Power	-2.92 dBm	2.99 dBm	-13.97 dBm	-1.00 dBm	-9.91 dBm
Transmit Fault Count = 0					

**Related Commands**

Command	Description
<b>show interface</b>	Displays information about the specified interfaces.



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## show interface trunk

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

```
show interface [ethernet slot/port | port-channel channel-number] trunk [module number | vlan
vlan-id]
```

### Syntax Description

<b>ethernet</b> <i>slot/port</i>   <b>port- channel</b> <i>channel-number</i>	(Optional) Type and number of the interface you want to display.
<b>module</b> <i>number</i>	(Optional) Specifies the module number.
<b>vlan</b> <i>vlan-id</i>	(Optional) Specifies the VLAN number.

### Defaults

None

### Command Modes

Any command mode

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0	This command was introduced.

### Usage Guidelines

If you do not specify an interface, a module number, or a VLAN number, the system displays information for all trunk interfaces.

This command displays information about all Layer 2 trunk interfaces and trunk port-channel interfaces.

Use the **show interface counters** command to display statistics for the specified Layer 2 interface.

This command does not require a license.

### Examples

This example shows how to display information for all Layer 2 trunk interfaces:

```
switch(config)# show interface trunk
```

```
-----
Port      Native  Status      Port
          Vlan                Channel
-----
Eth2/9    1        trunking    --
Eth2/10   1        trnk-bndl   Po50
Po50      1        not-trunking --
-----
```

show interface trunk

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Port	Vlans Allowed on Trunk
Eth2/9	1-3967,4048-4093
Eth2/10	1-3967,4048-4093
Po50	1-3967,4048-4093

Port	STP Forwarding
Eth2/9	none
Eth2/10	none
Po50	none

Related Commands

Command	Description
<b>switchport mode trunk</b>	Sets the specified interfaces as Layer 2 trunk interfaces.

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# show interface tunnel

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

**show interface tunnel** *number*

Syntax Description	<i>number</i> Number of the tunnel interface you want to display information for.
--------------------	---

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.1(2)	This command was introduced.
	4.2(1)	Display of configured static MAC address added.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	This example shows how to display information on 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
	<b>show interface</b>	Displays information about the specified interfaces.

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# show lacp counters

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

```
show lacp counters [interface port-channel channel-number]
```

Syntax Description	channel-number	(Optional) Number of the LACP channel group. Valid values are from 1 to 4096.
--------------------	----------------	---

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

SupportedUserRoles	network-admin vdc-admin
--------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	If you do not specify the <i>channel-number</i> , all channel groups are displayed.  This command does not require a license.
------------------	---

**Examples** This example shows how to display the LACP statistics for a specific channel group:

```
switch# show lacp counters interface port-channel 1
```

LACPDUs	Marker		Response		LACPDUs			
Port	Sent	Recv	Sent	Recv	Sent	Recv	Pkts	Err
-----								
port-channel1								
Ethernet1/1	554	536	0	0	0	0	0	
Ethernet1/2	527	514	0	0	0	0	0	
Ethernet1/3	535	520	0	0	0	0	0	
Ethernet1/4	515	502	0	0	0	0	0	
Ethernet1/5	518	505	0	0	0	0	0	
Ethernet1/6	540	529	0	0	0	0	0	
Ethernet1/7	541	530	0	0	0	0	0	
Ethernet1/8	547	532	0	0	0	0	0	
Ethernet1/9	544	532	0	0	0	0	0	
Ethernet1/10	513	501	0	0	0	0	0	
Ethernet1/11	497	485	0	0	0	0	0	
Ethernet1/12	493	486	0	0	0	0	0	
Ethernet1/13	492	485	0	0	0	0	0	

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Ethernet1/14	482	481	0	0	0	0	0
Ethernet1/15	481	476	0	0	0	0	0
Ethernet1/16	482	477	0	0	0	0	0

**Related Commands**

Command	Description
<b>clear lacp counters</b>	Clears the statistics for all LACP interfaces or those interfaces that belong to a specific LACP channel group.

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# show lacp interface

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

```
show lacp interface ethernet slot/port
```

Syntax Description	slot/port	Slot number and port number for the interface you want to display.
--------------------	-----------	--

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

SupportedUserRoles	network-admin vdc-admin
--------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

**Usage Guidelines**

The LACP\_Activity field displays whether the link is configured in the active or passive port-channel mode.

The Port Identifier field displays the port priority as part of the information. The part of the information in this field is the port number. The following example shows how to identify the port priority and the port number:

```
Port Identifier=0x8000,0x101
```

The port priority value is 0x8000, and the port number value is 0x101 in this example.

This command does not require a license.

**Examples**

This example shows how to display the LACP statistics for a specific channel group:

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

switch(config-if-range)# show lacp interface eth1/1
Interface Ethernet1/1 is up
  Channel group is 1 port channel is Po1
  PDUs sent: 556
  PDUs rcvd: 538
  Markers sent: 0
  Markers rcvd: 0
  Marker response sent: 0
  Marker response rcvd: 0
  Unknown packets rcvd: 0
```

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```
Illegal packets rcvd: 0
Lag Id: [ [(8000, 0-11-11-22-22-74, 0, 8000, 101), (8000, 0-11-11-22-22-75, 0, 8
000, 401)] ]
Operational as aggregated link since Wed Jun 11 20:37:59 2008

Local Port: Eth1/1   MAC Address= 0-11-11-22-22-74
  System Identifier=0x8000,0-11-11-22-22-74
  Port Identifier=0x8000,0x101
  Operational key=0
  LACP_Activity=active
  LACP_Timeout=Long Timeout (30s)
  Synchronization=IN_SYNC
  Collecting=true
  Distributing=true
  Partner information refresh timeout=Long Timeout (90s)
Actor Admin State=
Actor Oper State=
Neighbor: 4/1
  MAC Address= 0-11-11-22-22-75
  System Identifier=0x8000,0-11-11-22-22-75
  Port Identifier=0x8000,0x401
  Operational key=0
  LACP_Activity=active
  LACP_Timeout=Long Timeout (30s)
  Synchronization=IN_SYNC
  Collecting=true
  Distributing=true
Partner Admin State=
Partner Oper State=
```

**Related Commands**

Command	Description
<b>show port-channel summary</b>	Displays information about all port-channel groups.

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# show lacp neighbor

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

**show lacp neighbor** [**interface port-channel** *channel-number*]

Syntax Description	<i>channel-number</i>
	Port-channel number for the LACP neighbor that you want to display. The range of values is from 1 to 4096.

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	If you do not specify the <i>channel-number</i> , all channel groups are displayed. This command does not require a license.
------------------	---

Examples	This example shows how to display the information about the LACP neighbors for a specific port channel:
----------	---

```
switch# show lacp neighbor interface port-channel 1
Flags:  S - Device is sending Slow LACPDUs  F - Device is sending Fast LACPDUs
        A - Device is in Active mode         P - Device is in Passive mode
port-channel1 neighbors
Partner's information
Port      Partner
System ID System ID      Port Number  Age      Partner
Eth1/1    32768,0-11-11-22-22-750x401  44817      SA
          LACP Partner
          Port Priority      Partner
          32768              Oper Key
                               0x0
                               Partner
                               Port State
                               0x3d
Partner's information
Port      Partner
System ID System ID      Port Number  Age      Partner
Eth1/2    32768,0-11-11-22-22-750x402  44817      SA
```



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LACP Partner	Partner	Partner
Port Priority	Oper Key	Port State
32768	0x0	0x3d

**Related Commands**

Command	Description
<b>show port-channel summary</b>	Displays information about all port-channel groups.

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## show lacp port-channel

To display information about Link Aggregation Control Protocol (LACP) port channels, use the **show lacp port-channel** command.

**show lacp port-channel** [**interface port-channel** *channel-number*]

### Syntax Description

<i>channel-number</i>	Port-channel number for the LACP channel group that you want to display. The range of values is from 1 to 4096.
-----------------------	---

### Defaults

None

### Command Modes

Any command mode

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0	This command was introduced.

### Usage Guidelines

If you do not specify the *channel-number*, all channel groups are displayed.  
This command does not require a license.

### Examples

This example shows how to display the information about LACP port channels:

```
switch# show lacp port-channel

port-channel1
  Local System Identifier=0x8000,0-11-11-22-22-74
  Admin key=0x0
  Operational key=0x0
  Partner System Identifier=0x8000,0-11-11-22-22-75
  Operational key=0x0
  Max delay=0
  Aggregate or individual=1
port-channel2
  Local System Identifier=0x8000,0-11-11-22-22-74
  Admin key=0x1
  Operational key=0x1
  Partner System Identifier=0x8000,0-11-11-22-22-75
  Operational key=0x1
  Max delay=0
  Aggregate or individual=1
```

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Related Commands	Command	Description
	show port-channel summary	Displays information about all port-channel groups.

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# show lacp system-identifier

To display the Link Aggregation Control Protocol (LACP) system identifier for the device, use the **show lacp system-identifier** command.

**show lacp system-identifier**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>The LACP system ID is the combination of the configurable LACP system priority value and the MAC address.</p> <p>Each system that runs LACP has an LACP system priority value. You can accept the default value of 32768 for this parameter, or 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 uses the system priority during negotiation with other devices. A higher system priority value means a lower priority.</p> <p>The system ID is different for each virtual device context (VDC).</p> <p>This command does not require a license.</p>
-------------------------	---

<b>Examples</b>	<p>This example shows how to display the information about the LACP port channel for a specific port channel:</p> <pre>switch&gt; show lacp system-identifier 8000,AC-12-34-56-78-90</pre>
-----------------	--

Related Commands	Command	Description
	<b>lacp system-priority</b>	Sets the system priority for LACP.

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# show port-channel capacity

To display the number of port channels currently used and the number of port channels that are still available on the device, use the **show port-channel capacity** command.

**show port-channel capacity**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode.
----------------------	-------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(2)	This command was introduced.

<b>Usage Guidelines</b>	There are a total of 768 port channels and virtual port channels (vPCs) available on each device. This command does not require a license.
-------------------------	---

<b>Examples</b>	This example shows how to display the number of used and available port channels on the device:  switch (config) # <b>show port-channel capacity</b> Port-channel resources 768 total      103 used      665 free      13% used
-----------------	---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show port-channel summary</b>	Displays information about port channels.

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# show port-channel compatibility-parameters

To display the parameters that must be the same among the member ports in order to join a port channel, use the **show port-channel compatibility parameters** command.

**show port-channel compatibility-parameters**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	When you add an interface to a channel group, the software checks certain interface attributes to ensure that the interface is compatible with the channel group. For example, you cannot add a Layer 3 interface to a Layer 2 channel group. The software also checks a number of operational attributes for an interface before allowing that interface to participate in the port-channel aggregation.
-------------------------	---

This command displays the list of compatibility checks that the system uses.

Using the **channel-group** command, you can force ports with incompatible parameters to join the port channel as long as the following parameters are the same:

- (Link) speed capability
- Speed configuration
- Duplex capability
- Duplex configuration
- Flow-control capability
- Flow-control configuration



<b>Note</b>	See the <b>channel-group</b> command for information about forcing ports to join a port channel.
-------------	--

This command does not require a license.

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## Examples

This example shows how to display the list of compatibility checks that the system makes before an interface to a channel group:

```
switch# show port-channel compatibility-parameters
* port mode
```

Members must have the same port mode configured, either E or AUTO. If they are configured in AUTO port mode, they have to negotiate E 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.

```
* MTU
```

Members have to have the same MTU configured. This only applies to ethernet port-channel.

```
* MEDIUM
```

Members have to have the same medium type configured. This only applies to ethernet port-channel.

```
* Span mode
```

Members must have the same span mode.

```
* sub interfaces
```

Members must not have sub-interfaces.

```
* Duplex Mode
```

Members must have same Duplex Mode configured.

```
* Ethernet Layer
```

Members must have same Ethernet Layer (switchport/no-switchport) configured.

```
* Span Port
```

Members cannot be SPAN ports.

```
* Storm Control
```

Members must have same storm-control configured.

```
* Flow Control
```

Members must have same flowctrl configured.

```
* Capabilities
```

Members must have common capabilities.

```
* port
```

Members port VLAN info.

```
* port
```

**show port-channel compatibility-parameters**

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Members port does not exist.

\* switching port

Members must be switching port, Layer 2.

\* port access VLAN

Members must have the same port access VLAN.

\* port native VLAN

Members must have the same port native VLAN.

\* port allowed VLAN list

Members must have the same port allowed VLAN list.

**Related Commands**

Command	Description
<b>channel-group</b>	Adds or removes interfaces to port-channel groups and assigns the port-channel mode to the interface.



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## show port-channel database

To display information about the current running of the port channels, use the **show port-channel database** command.

**show port-channel database** [**interface port-channel** *channel-number*]

<b>Syntax Description</b>	<i>channel-number</i> Port-channel number for the information that you want to display. The range of values is from 1 to 4096.	
<b>Defaults</b>	None	
<b>Command Modes</b>	Any command mode	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	<p>If you do not specify the <i>channel-number</i>, all channel groups are displayed. This command displays Link Aggregation Control Protocol (LACP)-enabled ports channels and port channels without an associated aggregation protocol.</p> <p>This command does not require a license.</p>	
<b>Examples</b>	<p>This example shows how to display information about the current running of all port channels:</p> <pre>switch# show port-channel database port-channel5   Administrative channel mode is active   Operational channel mode is active   Last membership update is successful   1 ports in total, 0 ports up   Age of the port-channel is 1d:16h:18m:50s   Time since last bundle is 1d:16h:18m:56s   Last bundled member is   Ports:  Ethernet2/5                [down]  port-channel20   Administrative channel mode is active   Operational channel mode is active   Last membership update is successful   1 ports in total, 0 ports up   Age of the port-channel is 1d:16h:18m:50s</pre>	

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```
Time since last bundle is 1d:16h:18m:56s
Last bundled member is
Ports:  Ethernet2/20          [down]
```

This example shows how to display information about the current running of a specific port channel:

```
switch# show port-channel database interface port-channel 20
port-channel20
  Administrative channel mode is active
  Operational channel mode is active
  Last membership update is successful
  1 ports in total, 0 ports up
  Age of the port-channel is 1d:16h:23m:14s
  Time since last bundle is 1d:16h:23m:20s
  Last bundled member is
  Ports:  Ethernet2/20          [down]
```

Related Commands	Command	Description
	show port-channel summary	Displays a summary of information about all port channels.

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# show port-channel load-balance

To display information about load-balancing using port channels, use the **show port-channel load-balance** command.

**show port-channel load-balance** [**forwarding-path interface port-channel** *channel-number*]

## Syntax Description

<b>forwarding-path interface port-channel</b>	(Optional) Identifies the port in the port channel that forwards the packet.
<i>channel-number</i>	Port-channel number for the load-balancing forwarding path that you want to display. The range of values is from 1 to 4096.

## Defaults

None

## Command Modes

Any command mode

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	This command was introduced.

## Usage Guidelines

This command does not require a license.

## Examples

This example shows how to display information about the current port-channel load balancing for the system:

```
switch# show port-channel load-balance
```

```
Port Channel Load-Balancing Configuration:  
System: source-dest-ip-vlan
```

```
Port Channel Load-Balancing Addresses Used Per-Protocol:  
Non-IP: source-dest-mac  
IP: source-dest-ip-vlan
```

## Related Commands

Command	Description
<b>port-channel load-balance ethernet</b>	Configures load balancing using port channels.

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# show port-channel rbh-distribution

To display information about the Result Bundle Hash (RBH) for port channels, use the **show port-channel rbh-distribution** command.

**show port-channel rbh-distribution** [**interface port-channel** *channel-number*]

Syntax Description	<i>channel-number</i>	Port-channel number for the information the you want to display. The range of values is from 1 to 4096.
--------------------	-----------------------	---

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	The RBH value ranges from 0 to 7 and is shared among port members in a port channel. This command does not require a license.
------------------	--

Examples	This example shows how to display RBH distribution for a specific port channel: switch# <b>show port-channel rbh-distribution interface port-channel 4</b>
----------	---

ChanId	Member port	RBH values	Num of buckets
4	Eth3/13	4,5,6,7	4
4	Eth3/14	0,1,2,3	4

Related Commands	Command	Description
	<b>port-channel summary</b>	Displays summary information about port channels.

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## show port-channel summary

To display summary information about the port channels, use the **show port-channel summary** command.

**show port-channel summary**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	If the Link Aggregation Control Protocol (LACP) is not enabled, the output shows <b>NONE</b> in the Protocol column of the display.
-------------------------	---

A channel-group interface can be in the following operational states:

- Down—The interface is down because it is administratively shut down or some other reason not related to port channels.
- Individual—The interface is part of a port channel but unable to aggregate into a port channel because of protocol exchange problems.
  - This interface continues to forward traffic as an individual link.
  - STP is aware of this interface.
- Suspended—The operational parameters of the interface are not compatible with the port channel. This interface is not forwarding traffic, although the physical MAC link state is still up.
- Switched—The interface is switched.
- Up (port channel)—The port channel is up.
- Up in port channel (members)—The port member of the port channel is up.
- Hot standby (LACP only)—The interface is eligible to join the port group if one of the interfaces currently participating in the LACP channel goes down.
  - This interface does not forward data traffic, only protocol data units (PDUs).
  - This interface does not run STP.

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- Module-removed—The module has been removed.
- Routed—The interface is routed.

This command does not require a license.

## Examples

This example shows how to display summary information for the port channels:

```
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
-----
5      Po5 (SD)   Eth       LACP      Eth2/5 (D)
20     Po20 (RD) Eth       LACP      Eth2/20 (D)
```

## Related Commands

Command	Description
<b>show port-channel usage</b>	Displays the port-channel numbers used and available.
<b>show port-channel traffic</b>	Displays transmitted and received unicast, multicast, and broadcast percentages for the port channels.

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## show port-channel traffic

To display traffic statistics for port channels, use the **show port-channel traffic** command.

**show port-channel traffic** [**interface port-channel** *channel-number*]

Syntax Description	<i>channel-number</i>	Port-channel number for the traffic statistics that you want to display. The range of values is from 1 to 4096.
--------------------	-----------------------	---

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.


Usage Guidelines	<p>This command displays the percentage of transmitted and received unicast, multicast, and broadcast traffic about the port channel.</p> <p>If you do not specify the <i>channel-number</i>, information for all port channels is displayed.</p> <p>This command does not require a license.</p>
------------------	---

Examples	This example shows how to display the traffic statistics for all port channels:
----------	---

```
switch(config)# show port-channel traffic
ChanId      Port  Rx-Ucst Tx-Ucst Rx-Mcst Tx-Mcst Rx-Bcst Tx-Bcst
-----
      5    Eth2/5   0.0%   0.0%   0.0%   0.0%   0.0%   0.0%
-----
     20    Eth2/20   0.0%   0.0%   0.0%   0.0%   0.0%   0.0%
```

This example shows how to display the traffic statistics for a specific port channel:

```
switch(config)# show port-channel traffic interface port-channel 5
ChanId      Port  Rx-Ucst Tx-Ucst Rx-Mcst Tx-Mcst Rx-Bcst Tx-Bcst
-----
      5    Eth2/5   0.0%   0.0%   0.0%   0.0%   0.0%   0.0%
```

 show port-channel traffic

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Related Commands	Command	Description
	port-channel summary	Displays summary information about port channels.



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## show port-channel usage

To display the port-channel numbers used and available, use the **show port-channel usage** command.

**show port-channel usage**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>This command displays port-channel numbers used and available in the virtual device context (VDC) that you are monitoring.</p> <p>The number of port-channel numbers available across all VDCs for the entire system is from 1 to 4096.</p> <p>This command does not require a license.</p>
-------------------------	--

<b>Examples</b>	This example shows how to display the usage for all port channels:
-----------------	--

```
switch# show port-channel usage
Totally 2 port-channel numbers used
=====
Used   :    5 , 20
Unused:   1 - 4 , 6 - 19 , 21 - 4096
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>port-channel summary</b>	Displays summary information about port channels.

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# show port-profile

To display information about port profiles, use the **show port-profile** command.

**show port-profile** [**brief** | **expand-interface** [**name** *name*] | **name** *name* | **usage**]

Syntax Description		
<b>brief</b>	(Optional)	Displays brief information about the port profiles.
<b>expand-interface</b> <b>name</b> <i>name</i>	(Optional)	Displays the configured attributes at an interface per port profile. An optional name can be specified to show the expanded interface output for that specific port profile.
<b>name</b> <i>name</i>	(Optional)	Displays information for the specified port profile.
<b>usage</b>	(Optional)	Displays a list of interfaces to which each profile is attached.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.2(1)	This command was introduced.

**Usage Guidelines**

Use the **show port-profile** command to display information about the configured port profiles on the device. It displays all configured port profiles.

Port profiles are not aware of default values, so the default value configuration appears in the port profiles. For example, MTU 1500 is a default value and does not appear in the running-config display of an interface. However, because port profiles are unaware of default values, MTU 1500 appears in the port-profile display.

This command does not require a license.

**Examples** These examples show how to display information about port profiles:

```
switch(config)# show port-profile
try1
  type: Ethernet
  description:
  status: enabled
  max-ports: 512
  inherit:
```

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```
config attributes:
  channel-group 5
evaluated config attributes:
  channel-group 5
assigned interfaces:
  Ethernet1/1
```

```
try2
type: Ethernet
description:
status: disabled
max-ports: 512
inherit:
config attributes:
evaluated config attributes:
assigned interfaces:
```

```
switch(config)# show port-profile brief
```

Port Profile	Profile State	Conf Items	Eval Items	Assigned Intfs	Child Profs
try1	1	1	1	1	0
try2	0	0	0	0	0

```
switch(config)# show port-profile expand-interface
```

```
try1
Ethernet1/1
  channel-group 5
```

```
try2
```

```
switch(config)# show port-profile name try1
```

```
try1
type: Ethernet
description:
status: enabled
max-ports: 512
inherit:
config attributes:
  channel-group 5
evaluated config attributes:
  channel-group 5
assigned interfaces:
  Ethernet1/1
```

```
switch(config)# show port-profile usage
```

```
try1
Ethernet1/1
```

This example shows how to display port profiles and values that you have entered in interface configuration mode using the **show running-config** command:

```
switch(config)# show running-config interface ethernet 8/5
interface ethernet8/5
  inherit try1
  mtu 3000
```

■ show port-profile

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Related Commands	Command	Description
	<b>port-profile</b>	Configures, names, and allows you to enter port-profile configuration mode.
	<b>inherit port-profile</b>	Assigns port profile to specified interfaces and allows one port profile to inherit configuration parameters from another port profile.

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## show running-config interface

To display the running configuration for a specific interface, use the **show running-config interface** command.

```
show running-config interface [all | {ethernet {slot/port} [all]} | expand-port-profile |  
{loopback {number} [all]} | {mgmt0 [all]} | {port-channel {channel-number}  
[membership]} | {tunnel {number} [all]} | {vlan {vlan-id} [all]}
```

Syntax Description		
<b>all</b>		Shows configuration with defaults.
<b>ethernet</b> <i>slot/port</i>		Number of the module and port number.
<b>expand-port-profile</b>		Shows port profiles.
<b>loopback</b> <i>number</i>		Number of the loopback interface. The range of values is from 1 to 4096.
<b>port-channel</b> <i>channel-number</i>		Number of the port-channel group. The range of values is from 0 to 1023.
<b>membership</b>		Membership of the specified port channel.
<b>tunnel</b> <i>number</i>		Number of the tunnel interface. The range of values is from 0 to 65535.
<b>vlan</b> <i>vlan-id</i>		Number of the VLAN. The range of values is from 1 to 4096.

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

SupportedUserRoles	network-admin vdc-admin
--------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.
	4.2(1)	The <b>expand-port-profile</b> parameter was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	This example shows how to display information about the running configuration for a specific Ethernet interface:
----------	--

```
switch(config)# show running-config interface ethernet 2/7  
version 4.0(3)
```

```
interface Ethernet2/7  
description Ethernet port 3 on module 1
```

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```
mtu 8000
delay 20
udld enable
no shutdown
```

This example shows how to display information about the running configuration for a specific range of Ethernet interfaces:

```
switch(config)# show running-config interface ethernet 2/7 - 9
version 4.0(3)
```

```
interface Ethernet2/7
  description Ethernet port 3 on module 1
  mtu 8000
  delay 20
  udld enable
  no shutdown
```

```
interface Ethernet2/8
  no shutdown
```

```
interface Ethernet2/9
  no shutdown
```

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

```
switch(config)# interface loopback 345
switch(config-if)# show running-config interface loopback 345
version 4.0(3)
interface loopback345
```

This example shows how to display the running configuration for a specific port channel:

```
switch(config)# show running-config interface port-channel 10
version 4.0(1)
```

```
interface port-channel10
  switchport
  switchport mode trunk
```

This example shows how to display information about the running configuration for VLAN interface:

```
switch(config)# show running-config interface vlan 50
version 4.0(3)
```

```
interface Vlan50
```

## Related Commands

Command	Description
<b>interface</b>	Enters the interface configuration mode, and configures the types and identities of interfaces.
<b>interface vlan</b>	Creates a VLAN interface and enters interface configuration mode.
<b>show interface ethernet</b>	Displays information about the Ethernet interface.
<b>show port-channel summary</b>	Displays a summary of port-channel information.
<b>show running-config</b>	Displays the running configuration on the device.

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## show running-config interface mgmt

To display the running configuration for a specific management interface, use the **show running-config interface mgmt** command.

**show running-config interface mgmt** {*number*}

<b>Syntax Description</b>	<i>number</i>	Show management interface number you want to display. The range is 0-0.
<b>Command Default</b>	None	
<b>Command Modes</b>	Any command mode	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	Use the <b>show running-config interface mgmt</b> command to display the running configuration for a management interface.  This command does not require a license.	
<b>Examples</b>	This example shows how to display information about the running configuration for management interface 0:  switch# <b>show running-config interface mgmt 0</b> version 4.0(3)  interface mgmt0 ip address 172.28.231.193/23	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show interface mgmt</b>	Displays the management interface information.

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# 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	<b>all</b> (Optional) Displays running configuration for vPC with defaults.
--------------------	---

Defaults	None
----------	------

Command Modes	Any command mode.
---------------	-------------------

SupportedUserRoles	network-admin vdc-admin
--------------------	----------------------------

Command History	Release	Modification
	4.1(3)	This command was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

**Examples** This example shows how to display the running configuration for a vPC:

```
switch (config)# show running-config vpc
version 4.1(2)
feature vpc
vpc domain 2
  role priority 1
  system-priority 32667
  peer-keepalive destination 10.10.76.52 source 10.10.76.51 udp-port 3200 vrf ma
engagement interval 1000 timeout 5

interface port-channel10
  vpc 20

interface port-channel101
  vpc 101

interface port-channel200
  vpc peer-link

interface port-channel201
  vpc 201
```



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Related Commands	Command	Description
	show vpc brief	Displays information about vPCs. If the feature is not enabled, this command returns an error.

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# 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* | **expand-port-profile** | **loopback** *number* | **mgmt0** | **port-channel** {*channel-number*} [**membership**] | **tunnel** *number* | {**vlan** *vlan-id*}

<b>Syntax Description</b>	<b>ethernet</b> <i>slot/port</i>	Number of the module and port number.
	<b>expand-port-profile</b>	Shows port profiles.
	<b>loopback</b> <i>number</i>	Number of the loopback interface. The range of values is from 1 to 4096.
	<b>port-channel</b> <i>channel-number</i>	Number of the port-channel group. The range of values is from 0 to 1023.
	<b>membership</b>	Membership of the specified port channel.
	<b>tunnel</b> <i>number</i>	Number of the tunnel interface. The range of values is from 0 to 65535.
	<b>vlan</b> <i>vlan-id</i>	Number of the VLAN. The range of values is from 1 to 4096.

**Defaults** None

**Command Modes** Any command mode.

**Supported User Roles** network-admin  
vdc-admin

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(2)	This command was introduced.
	4.2(1)	The <b>expand-port-profile</b> parameter was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display the information in the startup configuration for the interface Ethernet 7/1:

```
switch(config)# show startup-config interface ethernet 7/1
version 4.1(2)

interface Ethernet7/1
 ip pim sparse-mode
```

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**Related Commands**

Command	Description
show interface	Displays information about the specified interface.

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## 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.
--------------------	-----	---

Defaults	None
----------	------

Command Modes	Any command mode.
---------------	-------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.1(3)	This command was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	This example shows how to display the vPC information in the startup configuration:
----------	---

```
switch(config)# show startup-config vpc
version 4.1(2)
feature vpc
vpc domain 1
```

```
interface port-channel10
 vpc peer-link
```

```
interface port-channel20
 vpc 100
```

Related Commands	Command	Description
	<b>show vpc brief</b>	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.

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## show uddl

To display information about the UDLD configuration, use the **show uddl** command.

**show uddl** [**ethernet** *slot/port* | **global** | **neighbors**]

<b>Syntax Description</b>	<b>ethernet</b> <i>slot/port</i>	(Optional) Show Ethernet slot and port number you want to display.
	<b>global</b>	(Optional) Show UDLD global status and configuration on all interfaces
	<b>neighbors</b>	(Optional) Show UDLD neighbor interfaces

<b>Command Default</b>	None
------------------------	------


<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>show uddl</b> command to display information about the UDLD configuration for an interface. UDLD must be enabled on the device before you can display this command; enter the <b>feature uddl</b> command to enable UDLD globally on the device.</p> <p>This command does not require a license.</p>
-------------------------	--

<b>Examples</b>	<p>This example shows how to display information about the UDLD configuration for Ethernet port 2/7:</p> <pre>switch# show uddl ethernet 2/7  Interface Ethernet2/7 ----- Port enable administrative configuration setting: disabled Port enable operational state: disabled Current bidirectional state: unknown Current operational state:  uddl-init - Multiple neighbor not detected Message interval: 7 Timeout interval: 5</pre>
-----------------	--

 show uddl

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**Related Commands**

Command	Description
<b>uddl</b>	Configures the ports to use a UDLD mode.
<b>feature uddl</b>	Enables UDLD globally on device.

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## 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	<b>vpc number</b> (Optional) Displays the brief information for the specified vPC. The range is from 1 to 4096.
--------------------	---

Defaults	None
----------	------

Command Modes	Any command mode.
---------------	-------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.1(3)	This command was introduced.
	4.2(1)	Display showing the number of configured vPCs was added.
	4.2(1)	Display showing track object, if configured, was added.

Usage Guidelines	The <b>show vpc brief</b> command displays the vPC domain ID, the peer-link status, the keepalive message status, whether the configuration consistency is successful, and whether peer-link formed or the failure to form.
------------------	---

This command is not available if you have not enabled the vPC feature. See **feature vpc** for information on enabling vPCs.

Beginning with Cisco Release 4.2(1), you can display the track object, if you have configured a tracked object for running vPCs on a single module under the vpc-domain configuration mode. See the *Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide, Release 4.2* for information on this feature.

This command does not require a license.

Examples	This example shows how to display brief information about the vPCs:
----------	---

```
switch(config)# show vpc brief
```

Legend:

(\*) - local vpc is down, forwarding via vPC peer-link

```
vPC domain id           : 10
Peer status              : peer adjacency formed ok
vPC keep-alive status    : peer is alive
```

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```
Configuration consistency status: success
vPC role                        : primary
Number of vPC configured       : 1
```

#### vPC Peer-link status

id	Port	Status	Active vlans
1	Po10	up	1-100

#### vPC status

id	Port	Status	Consistency	Reason	Active vlans
20	Po20	up	success	success	1-100

This example also shows how to display brief information about the vPCs. In this example, the port channel failed the consistency check, and the device displays the reason for the failure:

```
switch(config)# show vpc brief
```

#### Legend:

(\*) - local vpc is down, forwarding via vpc peer-link

```
vPC domain id                : 10
Peer status                   : peer adjacency formed ok
vPC keep-alive status         : peer is alive
Configuration consistency status: failed
Configuration consistency reason: vPC type-1 configuration incompatible - STP interface
port type inconsistent
vPC role                      : secondary
Number of vPC configured      : 1
```

#### vPC Peer-link status

id	Port	Status	Active vlans
1	Po10	up	1-100

#### vPC status

id	Port	Status	Consistency	Reason	Active vlans
20	Po20	up	failed	vPC type-1 configuration incompatible - STP interface port type inconsistent	-

This example also shows how to display information about the tracked objects in the vPCs, which is available beginning in Cisco NX-OS Release 4.2(1):

```
switch(config)# show vpc brief
```

#### Legend:

(\*) - local vpc is down, forwarding via vpc peer-link

```
vPC domain id                : 1
Peer status                   : peer adjacency formed ok
vPC keep-alive status         : peer is alive
Configuration consistency status: success
vPC role                      : secondary
Number of vPC configured      : 3
Track object                  : 12
```



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vPC Peer-link status

```
-----  
id    Port    Status Active vlans  
--    --  
1     Po10    up      1-100
```

#### Related Commands

Command	Description
<b>feature vpc</b>	Enables vPCs on the device.
<b>show port channel summary</b>	Displays information about port channels.

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## 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 port-channel channel-number | vpc
                                number}}
```

<b>Syntax Description</b>	<b>global</b>	(Optional) Displays the configuration of all Type 1 global parameters on both sides of the vPC peer link.
	<b>interface port-channel <i>channel-number</i></b>	(Optional) Displays the configuration of all Type 1 interface parameters on both sides of the vPC peer link.
	<b>vpc <i>number</i></b>	(Optional) Displays the configuration of all Type 1 interface parameters on both sides of the vPC peer link for the specified vPC.

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode.
----------------------	-------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(3)	This command was introduced.
	4.2(1)	Display of local suspended VLANs was added.
		<b>Note</b> The command does not display the vPC peer device's suspended VLANs.
	4.2(1)	vpc argument was added.

<b>Usage Guidelines</b>	The <b>show vpc consistency-parameters</b> 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

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- 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.

This command does not require a license.

## Examples

This example shows how to display the vPC consistency parameters for the specified port channel:

```
switch (config)# show vpc consistency-parameters global
```

Legend:

Type 1 : vPC will be suspended in case of mismatch

Name	Type	Local Value	Peer Value
-----	-----	-----	-----
STP Mode	1	Rapid-PVST	Rapid-PVST
STP Disabled	1	None	None
STP MST	1	" "	" "
Region Name			
STP MST	1	0	0
Region			
Revision			
STP MST	1		
Region			
Instance to			
VLAN Mapping			
STP Loopguard	1	Disabled	Disabled
STP Bridge	1	Enabled	Enabled
Assurance			
STP Port Type	1	Normal	Normal
Allowed VLAN	-	1-100	1-100
Local suspended	-	1-50	-

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VLANs

This example shows how to display the vPC consistency parameters for the specified port channel:

```
switch (config)# show vpc consistency-parameters interface port-channel 20
```

Legend:

Type 1 : vPC will be suspended in case of mismatch

Name	Type	Local Value	Peer Value
-----	----	-----	-----
STP Port Type	1	Default	Default
STP Port Guard	1	None	None
mode	1	on	on
Speed	1	10 Gb/s	10 Gb/s
Duplex	1	full	full
Port Mode	1	trunk	trunk
Native Vlan	1	1	1
MTU	1	1500	1500
Allowed VLAN	-	1-100	1-100
bitset			

#### Related Commands

Command	Description
<b>show vpc brief</b>	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.
<b>show port channel summary</b>	Displays information about port channels.

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## 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**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode.
----------------------	-------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.2(1)	This command was introduced.

<b>Usage Guidelines</b>	<p>The <b>show vpc orphan-ports</b> command displays those ports that are not part of the vPC but that share common VLANs with ports that are part of the vPC.</p> <p>This command is not available if you have not enabled the vPC feature. See <b>feature vpc</b> for information on enabling vPCs.</p> <p>This command does not require a license.</p>
-------------------------	---

<b>Examples</b>	This example shows how to display vPC orphan ports:
-----------------	---

```
switch(config)# show vpc orphan ports
```

Note:

```
-----::Going through port database. Please be patient.::-----
```

VLAN	Orphan Ports
1	Po600
2	Po600
3	Po600
4	Po600
5	Po600
6	Po600
7	Po600
8	Po600
9	Po600
10	Po600

show vpc orphan-ports

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```
11          Po600
12          Po600
13          Po600
14          Po600
15          Po600
```

Related Commands	Command	Description
	feature vpc	Enables vPCs on the device.
	show vpc brief	Displays brief information about vPCs.

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## 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**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode.
----------------------	-------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(3)	This command was introduced.

<b>Usage Guidelines</b>	The show <b>vpc peer-keepalive</b> 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 **feature vpc** for information on enabling vPCs.

This command does not require a license.

<b>Examples</b>	This example shows how to display information about the peer-keepalive message:
-----------------	---

```
n7k-2(config-vpc-domain)# show vpc peer-keepalive
```

```
vpc keep-alive status           : peer is alive
--Send status                   : Success
--Last send at                  : 2008.05.17 18:23:53 986 ms
--Sent on interface              : Eth7/16
--Receive status                 : Success
--Last receive at                : 2008.05.17 18:23:54 99 ms
--Received on interface          : Eth7/16
--Last update from peer          : (0) seconds, (486) msec
```

show vpc peer-keepalive

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```
vPC Keep-alive parameters
--Destination           : 172.23.145.213
--Keepalive interval    : 1000 msec
--Keepalive timeout     : 5 seconds
--Keepalive hold timeout : 3 seconds
--Keepalive vrf         : pkal
--Keepalive udp port     : 3200
--Keepalive tos         : 192
```

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.



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## 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**

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode.
----------------------	-------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(3)	This command was introduced.

<b>Usage Guidelines</b>	The <b>show vpc role</b> command displays the following information about the vPC status:
-------------------------	---

- Status of peer adjacency
- vPC role of the VDC that you are working on
- 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 **feature vpc** for information on enabling vPCs.

This command does not require a license.

<b>Examples</b>	This example shows how to display the vPC role information of the device that you are working on: <pre>switch (config)# show vpc role</pre>
-----------------	--

Primary:

vPC Role status

```
-----  
vPC role                : primary  
Dual Active Detection Status : 0
```

■ **show vpc role**

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```
vPC system-mac           : 00:23:04:ee:be:01
vPC system-priority      : 32667
vPC local system-mac     : 00:22:55:79:ea:c1
vPC local role-priority  : 32667
```

Secondary:

vPC Role status

```
-----
vPC role                : secondary
Dual Active Detection Status : 0
vPC system-mac          : 00:23:04:ee:be:01
vPC system-priority      : 32667
vPC local system-mac     : 00:22:55:79:de:41
vPC local role-priority  : 32667
```

When you reload the primary vPC peer device, the secondary vPC peer device assumes the role of primary device. The following example shows how the vPC role displays then on the new primary device:

switch (config)# **show vpc role**

vPC Role status

```
-----
vPC role                : secondary, operational primary
Dual Active Detection Status : 0
vPC system-mac          : 00:23:04:ee:be:64
vPC system-priority      : 32667
vPC local system-mac     : 00:22:55:79:de:41
vPC local role-priority  : 32667
```

## Related Commands

Command	Description
<b>show vpc brief</b>	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.
<b>show port channel summary</b>	Displays information about port channels.

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## 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	<b>peer-keepalive</b>	Displays statistics about the peer-keepalive message.
	<b>peer-link</b>	Displays statistics about the peer link.
	<b>vpc number</b>	Displays statistics about the specified vPC. The range is from 1 to 4096.

Defaults	None
----------	------

Command Modes	Any command mode.
---------------	-------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	<b>Release</b>	<b>Modification</b>
	4.1(3)	This command was introduced.


Usage Guidelines	The <b>peer-link</b> parameter displays the same information as the <b>show interface port-channel channel number</b> command for the vPC peer-link port channel.
	The <b>vpc number</b> parameter displays the same information as the <b>show interface port-channel channel number</b> command for the specified vPC port channel.
	This command is not available if you have not enabled the vPC feature. See <b>feature vpc</b> for information on enabling vPCs.
	This command does not require a license.

Examples	This example shows how to display statistics about the peer-keepalive message:
----------	--

```
switch# show vpc statistics peer-keepalive

vPC keep-alive status           : peer is alive

VPC keep-alive statistics
-----
peer-keepalive tx count:        1036
peer-keepalive rx count:        1028
average interval for peer rx:   995
Count of peer state changes:    1
```

 show vpc statistics

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**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.

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# shutdown

To bring the port administratively down, use the **shutdown** command.

To bring the port administratively up, use the **no shutdown** command.

**shutdown** [**force**]

**no shutdown** [**force**]

<b>Syntax Description</b>	<b>force</b>  (Optional) Force the interface state to change. When you shutdown a management interface, a warning question is displayed regarding active telnet sessions. You can bypass the question with the <b>force</b> option. The <b>force</b> option is also useful when you run an automated configuration playback.  The force option is only available for Ethernet interfaces or the management port.				
<b>Command Default</b>	None				
<b>Command Modes</b>	Interface configuration				
<b>Supported User Roles</b>	network-admin vdc-admin				
<b>Command History</b>	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>4.0</td><td>This command was introduced.</td></tr></table>	Release	Modification	4.0	This command was introduced.
Release	Modification				
4.0	This command was introduced.				
<b>Usage Guidelines</b>	Use the <b>shutdown</b> command to bring the port administratively down. Use the <b>no shutdown</b> command to bring the port administratively up.  This command does not require a license.				
<b>Examples</b>	<p>This example shows how to bring the port administratively down:</p> <pre>switch(config-if) # <b>shutdown</b></pre> <p>This example shows how to bring the port administratively up:</p> <pre>switch(config-if) # <b>no shutdown</b></pre>				

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**Related Commands**

Command	Description
<b>interface ethernet</b>	Configures the types and identities of Ethernet interfaces.

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# speed

To set the speed for Ethernet ports or management interfaces or set the port to autonegotiate its speed with other ports on the link, use the **speed** command.

```
speed { 10 | 100 | 1000 | 10000 | auto [10 [100 [1000]]]}
```

Syntax Description	<b>10</b>	Sets the speed at 10 Mbps.
	<b>100</b>	Sets the speed at 100 Mbps.
	<b>1000</b>	Sets the speed at 1 Gbps.
	<b>10000</b>	Sets the speed at 10 Gbps.
	<b>auto</b>	Sets the interface to autonegotiation.

<b>Command Default</b>	None
------------------------	------

<b>Command Modes</b>	Interface configuration
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	<p>Before you begin, make sure that the remote port has a speed setting that supports your changes for the local port. If you want to set the local port to use a specific speed, you must set the remote port for the same speed or set the local port to autonegotiate the speed.</p>
-------------------------	---

The interface speed and duplex mode are interrelated, so you should configure both of their parameters at the same time.

The interface speed that you specify can affect the duplex mode used for an interface, so you should set the speed before setting the duplex mode. If you set the speed for autonegotiation, the duplex mode is automatically set to be autonegotiated. If you specify 10- or 100-Mbps speed, the port is automatically configured to use half-duplex mode, but you can specify full-duplex mode instead. If you specify a speed of 1000 Mbps (1 Gbps) or faster, full duplex is automatically used. For more details about configuring this command, see the *Cisco NX-OS Interfaces Configuration Guide*.

This command does not require a license.

<b>Examples</b>	This example shows how to set the speed of Ethernet port 1 on the 48-port 10/100/1000 module in slot 3 to 1000 Mbps and full-duplex mode:
-----------------	---

```
switch# config t
```

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```
switch(config)# interface ethernet 3/1
switch(config-if)# speed 1000
switch(config-if)# duplex full
```

**Related Commands**

Command	Description
<b>duplex</b>	Specifies the duplex mode as full, half, or autonegotiate.
<b>show interface</b>	Displays the interface status, which includes the speed parameters.



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## state enabled

To enable the specified port profile, use the **state enabled** command. To return to the default value, use the **no** form of this command.

**state enabled**

**no state enabled**

<b>Syntax Description</b>	This command has no keywords or arguments.
---------------------------	--

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Port-profile configuration
----------------------	----------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.2(1)	This command was introduced.

<b>Usage Guidelines</b>	Use the <b>state enabled</b> command to enable the specified port profile. See the <b>port-profile</b> command for information about the port-profile feature.
-------------------------	--

To apply the port-profile configurations to the interfaces, you must enable the specific port profile. You can configure and inherit a port profile onto a range of interfaces prior to enabling the port profile; you would then enable that port profile for the configurations to take effect on the specified interfaces. The maximum number of interfaces that can inherit a single profile is 512.

If you inherit one or more port profiles onto an original port profile, only the last inherited port profile must be enabled; the system assumes that the underlying port profiles are enabled.

This command does not require a license.

<b>Examples</b>	This example shows how to enable the port-profile feature:
-----------------	--

```
switch(config)# port-profile type ethernet test
switch(config-ppm)# state enabled
```

Related Commands	Command	Description
	<b>show port-profile</b>	Displays information about the port profiles.

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# switchport

To set the interface as a Layer 2 switching port, use the **switchport** command. To return the interface to the default Layer 3 routed interface status and cause all Layer 2 configuration to be erased, use the **no** form of this command.

**switchport**

**no switchport**

## Syntax Description

This command has no keywords or arguments.

## Defaults

Interfaces are Layer 3 by default.

## Command Modes

Interface configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	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 additional **switchport** commands with keywords. This action is required only if you have not entered the **switchport** command for the interface.

The default switchport mode is the access mode. Use the **switchport mode** command to do the following:

- Set the interface to the Layer 2 access mode
- Return the interface to the Layer 2 trunk mode
- Use the interface with private VLANs.

Enter the **no switchport** command to shut down the port and then reenabte it. This action may generate messages on the device to which the port is connected.

When you use the **no switchport** command, all the Layer 2 configuration is deleted from that interface, and the interface will have the default VLAN configuration.

The port will go down and reinitialize when you change the interface mode.

This command does not require a license.

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---

**Examples**

This example shows how to cause a port interface to stop operating as a Cisco routed port and convert to a Layer 2 switched interface:

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

---

**Related Commands**

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

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## switchport access vlan

To set the access VLAN when the interface is in access mode, use the **switchport access vlan** command. To reset the access-mode VLAN to the appropriate default VLAN for the device, use the **no** form of this command.

**switchport access vlan** *vlan-id*

**no switchport access vlan**

### Syntax Description

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

### Defaults

VLAN1

### Command Modes

Interface configuration

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0	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 access vlan** command. This action is required only if you have not entered the **switchport** command for the interface.

Enter the **no switchport access vlan** command to shut down the port and then reenabling it. This action may generate messages on the device to which the port is connected.

Use the **no** form of the **switchport access vlan** command to reset the access-mode VLAN to the appropriate default VLAN for the device.

This command does not require a license.

### Examples

This example shows how to cause a port interface that has already been configured as a switched interface to operate as an access port in VLAN 2 instead of the platform's default VLAN in the interface-configuration mode:

```
switch(config-if)# switchport access vlan 2
```

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Related Commands	Command	Description
	<b>show interface switchport</b>	Displays the administrative and operational status of a switching (nonrouting) port.

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# switchport host

To configure a port that is not connected to any other devices as a Layer 2 access port with optimized packet forwarding, use the **switchport host** command. To disable a port that is not connected to any other devices as a Layer 2 access, use the **no** form of this command.

**switchport host**

**no switchport host**

## Syntax Description

This command has no keywords or arguments.

## Defaults

Interfaces are Layer 3 by default.

## Command Modes

Interface configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	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 host** command. This action is required only if you have not entered the **switchport** command for the interface.

Entering the **switchport host** command on an interface:

- Makes the Layer 2 interface an access port.
- Makes the Layer 2 interface an STP edge port, which decreases the time that it takes to start up packet forwarding.
- Disables port channeling on this interface.

You should enter the **switchport host** command only on ports that are connected to a single host. When you use this command with an interface connected to other than a single host, the device returns an error message.

To optimize the port configuration, entering the **switchport host** command sets the switch port mode to access and disables channel grouping. Only an end station can accept this configuration.

This command toggles the port if it is in the UP state.

This command does not require a license.

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---

**Examples**

This example shows how to optimize an access port configuration for a host connection:

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

---

**Related Commands**

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


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## switchport mode

To set the Layer 2 interface type, use the **switchport mode** command. To return the interface to the Layer 2 access mode, use the **no** form of this command.

**switchport mode {access | trunk}**

**no switchport mode**

<b>Syntax Description</b>	<table> <tr> <td data-bbox="342 543 532 579"><b>access</b></td><td data-bbox="532 543 1430 617">Specifies the interface as a nontrunking, nontagged single-VLAN Layer 2 interface. An access port carry traffic in one VLAN only.</td></tr> <tr> <td data-bbox="342 617 532 653"><b>trunk</b></td><td data-bbox="532 617 1430 722">Specifies the trunking VLAN interface in Layer 2. A trunk port can carry traffic in one or more VLANs (based on the trunk allowed VLAN list configuration) on the same physical link.</td></tr> </table>	<b>access</b>	Specifies the interface as a nontrunking, nontagged single-VLAN Layer 2 interface. An access port carry traffic in one VLAN only.	<b>trunk</b>	Specifies the trunking VLAN interface in Layer 2. A trunk port can carry traffic in one or more VLANs (based on the trunk allowed VLAN list configuration) on the same physical link.
<b>access</b>	Specifies the interface as a nontrunking, nontagged single-VLAN Layer 2 interface. An access port carry traffic in one VLAN only.				
<b>trunk</b>	Specifies the trunking VLAN interface in Layer 2. A trunk port can carry traffic in one or more VLANs (based on the trunk allowed VLAN list configuration) on the same physical link.				
<b>Defaults</b>	access ports				
<b>Command Modes</b>	Interface configuration				
<b>Supported User Roles</b>	network-admin vdc-admin				
<b>Command History</b>	<table> <tr> <th data-bbox="342 1178 618 1213">Release</th><th data-bbox="618 1178 1430 1213">Modification</th></tr> <tr> <td data-bbox="342 1213 618 1249">4.0</td><td data-bbox="618 1213 1430 1249">This command was introduced.</td></tr> </table>	Release	Modification	4.0	This command was introduced.
Release	Modification				
4.0	This command was introduced.				
<b>Usage Guidelines</b>	<p>You must enter the <b>switchport</b> command without any keywords to configure the LAN interface as a Layer 2 interface before you can enter the <b>switchport mode</b> command. This action is required only if you have not entered the <b>switchport</b> command for the interface.</p> <p>If you enter <b>access</b> mode, the interface goes into nontrunking mode; if you enter <b>trunk</b> mode, the interface goes into trunking mode.</p> <p>To correctly deliver the traffic on a trunk port with several VLANs, the switch uses the IEEE 802.1Q encapsulation, or tagging, method. If an access port receives a packet with an 802.1Q tag in the header, that port drops the packet without learning its MAC source address.</p>				
 <b>Note</b>	<p>A port can function as either an access port, a trunk port, or a private VLAN port; a port cannot function as all three simultaneously.</p> <p>The port will go down and reinitialize when you change the interface mode.</p> <p>This command does not require a license.</p>				



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---

**Examples**

This example shows how to set the interface to trunking mode:

```
switch(config-if)# switchport mode trunk
```

---

**Related Commands**

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

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## 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		
<i>vlan-list</i>		Allowed VLANs that transmit through this interface in tagged format when in trunking mode; the range of valid values is from 1 to 4094.
<b>add</b>		Adds the defined list of VLANs to those currently set instead of replacing the list.
<b>all</b>		Allows all appropriate VLANs to transmit through this interface in tagged format when in trunking mode.
<b>except</b>		Allows all VLANs to transmit through this interface in tagged format when in trunking mode except the specified values.
<b>none</b>		Blocks all VLANs transmitting through this interface in tagged format when in trunking mode.
<b>remove</b>		Removes the defined list of VLANs from those currently set instead of replacing the list.

<b>Defaults</b>	All VLANs
-----------------	-----------

<b>Command Modes</b>	Interface configuration
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	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.

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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
<b>show interface switchport</b>	Displays the administrative and operational status of a switching (nonrouting) port.

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# 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	<i>vlan-id</i>	Native VLAN for the trunk in 802.1Q trunking mode. The range of valid values is from 1 to 4094, except the internally reserved VLANs 3968 to 4047 and 4094.
--------------------	----------------	---


Defaults	VLAN1
----------	-------

Command Modes	Interface configuration
---------------	-------------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	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
```

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Related Commands	Command	Description
	<b>show interface switchport</b>	Displays the administrative and operational status of a switching (nonrouting) port.

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## 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	<b>shutdown</b> (Optional) Configures administrative state as down.
--------------------	---

Defaults	None
----------	------

Command Modes	Global configuration
---------------	----------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	The <b>system default switchport</b> command makes all the interfaces Layer 2 access ports. This command does not require a license.
------------------	---

Examples	This example shows how to configure the system so that all the interfaces are in Layer 2 access mode: <pre>switch(config-if)# <b>system default switchport</b></pre>
----------	---

Related Commands	Command	Description
	<b>show interface switchport</b>	Displays the administrative and operational status of a switching (nonrouting) port.

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## system jumbomtu

To configure the system jumbo MTU size for Layer 2 interfaces, use the **system jumbomtu** command.

**system jumbomtu** *size*

<b>Syntax Description</b>	<i>size</i> Specify an even number between the values of 1500 and 9216.	
<b>Command Default</b>	The system jumbo MTU default size is 1500 bytes.	
<b>Command Modes</b>	Global configuration	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	<p>Use the <b>system jumbomtu</b> command to specify the MTU size for Layer 2 interfaces. The range of configurable values are 1500 to 9216 bytes.</p> <p>The physical level uses an unchangeable bandwidth of 1 GB.</p> <p>This command does not require a license.</p>	
<b>Examples</b>	<p>This example shows how to configure the system jumbo MTU as 8000 bytes and how to change the MTU specification for an interface that was configured with the previous jumbo MTU size:</p> <pre>switch# config t switch(config)# system jumbomtu 8000 switch(config)# show running-config switch(config)# interface ethernet 2/2 switch(config-if)# switchport switch(config-if)# mtu 4608</pre>	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show running-config</b>	Displays the current operating configuration, which includes the system jumbo MTU size.

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# system-mac

To overwrite the MAC address that the device creates for the virtual port-channel (vPC) domain when you create a vPC domain, use the **system-mac** command. To return to the default vPC system MAC address, use the **no** form of this command.

**system-mac** *mac-address*

**no system-mac**

<b>Syntax Description</b>	<i>mac-address</i>	MAC address that you want for the vPC domain using the format XXXX.XXXX.XXXX.
---------------------------	--------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	vpc-domain command mode.
----------------------	--------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(3)	This command was introduced.

<b>Usage Guidelines</b>	<p>You must enable the vPC feature before you can create a vPC system MAC address.</p> <p>Use the <b>system-mac</b> command to overwrite the MAC address created by the system once you create a vPC domain. By default, the system creates a MAC address for the vPC when you create a vPC domain based on the domain ID. Cisco reserved a range of MAC addresses from the IEEE for this purpose and these addresses will be used to complete the last 10 bits of the vPC domain MAC address. The range of default MAC addresses is as follows:</p> <ul style="list-style-type: none"> <li>• Number of reserved MAC addresses—1024</li> <li>• Starting—002304eebe00</li> <li>• Ending—002304eec1ff</li> </ul>
-------------------------	--

This command does not require a license.

<b>Examples</b>	<p>This example shows how to create a vPC system MAC address:</p> <pre>switch# <b>config t</b> switch(config)# <b>vpc domain 5</b> switch(config-vpc-domain)# <b>system-mac 22cd.34ab.ca32</b></pre>
-----------------	--



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**Related Commands**

Command	Description
show vpc role	Displays the system MAC address for the vPC domain.

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# system-priority

To overwrite the system priority that the device creates for the virtual port-channel (vPC) domain when you create a vPC domain, use the **system-priority** command. To return to the default vPC system priority, use the **no** form of this command.

**system-priority** *priority*

**no system-priority** *priority*

<b>Syntax Description</b>	<i>priority</i>	System priority. The range is from 1 to 65535.
---------------------------	-----------------	--

<b>Defaults</b>	32667
-----------------	-------

<b>Command Modes</b>	vpc-domain command mode.
----------------------	--------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(3)	This command was introduced.

<b>Usage Guidelines</b>	You must enable the vPC feature before you can create a vPC system priority.
-------------------------	--



## Note

We recommend that you manually configure the vPC system priority when you are running LACP to ensure that the vPC peer devices are the primary devices on LACP.

This command does not require a license.

<b>Examples</b>	This example shows how to create a vPC system priority:
-----------------	---

```
switch# config t
switch(config)# vpc domain 5
switch(config-vpc-domain)# system-priority 4000
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show vpc role</b>	Displays the system priority for the vPC domain.

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# track

To configure the system to monitor the track-list object that contains all the virtual port-channel (vPC) links to the core and to the vPC peer link when you are using only a single module for all links, use the **track** command. To return to the default, use the **no** form of this command.

**track** *track-object-id*

**no track** *track-object-id*

<b>Syntax Description</b>	<i>track-object-id</i> Track-list object that you already configured.	
<b>Defaults</b>	No tracking	
<b>Command Modes</b>	vpc configuration mode	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.2(1)	This command was introduced.
<b>Usage Guidelines</b>	<p>Beginning with Release 4.2, if you must configure all the vPC peer links and core-facing interfaces on a single N7K-M132XP-12 module, you should configure a track object and a track list that is associated with the Layer 3 link to the core and on all vPC peer links on both vPC peer devices. You can use this configuration to avoid dropping traffic if that particular module goes down because when all the tracked objects on the track list go down, the system does the following:</p> <ul style="list-style-type: none"> <li>Stops the vPC primary peer device sending peer-keepalive messages which forces the vPC secondary peer device to take over.</li> <li>Brings down all the downstream vPCs on that vPC peer device, which forces all the traffic to be rerouted in the access switch toward the other vPC peer device.</li> </ul> <p>Once you configure this feature and if the module fails, the system automatically suspends all the vPC links on the primary vPC peer device and stops the peer-keepalive messages. This action forces the vPC secondary device to take over the primary role and all the vPC traffic to go to this new vPC primary device until the system stabilizes.</p> <p>Create a track list that contains all the links to the core and all the vPC peer links as its object. Enable tracking for the specified vPC domain for this track list. Apply this same configuration to the other PC peer device. See the <i>Cisco Nexus 7000 Series NX-OS Unicast Routing Configuration Guide, Release 4.2</i>, for information about configuring object tracking and track lists.</p> <p>This command does not require a license.</p>	

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---

**Examples**

This example shows how to put the previously configured track-list object into the vPC domain on the vPC peer device:

```
switch# config t  
switch(config)# vpc domain 5  
switch(config-vpc-domain)# track object 5
```

---

**Related Commands**

Command	Description
<b>show vpc brief</b>	Displays information on a vPC tracked object.
<b>feature vpc</b>	Enables vPCs on the device.

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## tunnel destination

To configure the destination endpoint for a tunnel, use the **tunnel destination** command in interface configuration mode. 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*}

<b>Syntax Description</b>	<i>ip-address</i>	IP address for the tunnel destination.
	<i>host-name</i>	Host name for the tunnel destination.
<b>Defaults</b>	None	
<b>Command Modes</b>	Interface configuration	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	<p>Use the <b>tunnel destination</b> command to configure the destination address for an IP tunnel.</p> <p>You should not have two tunnels using the same encapsulation mode with the same source and destination address.</p> <p>This command requires the Enterprise license.</p>	
<b>Examples</b>	<p>This example shows how to configure the tunnel destination:</p> <pre>switch(config-if)# <b>tunnel destination 192.0.2.120</b></pre>	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>tunnel source</b>	Sets the source of the IP tunnel.
	<b>interface tunnel</b>	Creates the IP tunnel.
	<b>show interface tunnel</b>	Displays information about the traffic about the specified tunnel interface.

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## tunnel mode

To configure the tunnel encapsulation mode for a tunnel, use the **tunnel mode** command in interface configuration mode. To restore the default value, use the **no** form of this command.

**tunnel mode gre {ip | ipv6}**

**no tunnel mode gre {ip | ipv6}**

<b>Syntax Description</b>	<b>ip</b>	Configures this tunnel encapsulation mode as IPv4.
	<b>ip v6</b>	Configures this tunnel encapsulation mode as IPv6.
<b>Defaults</b>	None	
<b>Command Modes</b>	Interface configuration	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	Use the <b>tunnel mode</b> command to configure the tunnel encapsulation mode for a tunnel. This command requires the Enterprise license.	
<b>Examples</b>	This example shows how to configure the tunnel mode:  switch(config-if)# <b>tunnel mode gre ip</b>	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>tunnel destination</b>	Sets the destination of the IP tunnel.
	<b>interface tunnel</b>	Creates the IP tunnel.
	<b>show interface tunnel</b>	Displays information about the traffic about the specified tunnel interface.

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## tunnel path-mtu-discovery

To enable Path MTU Discovery (PMTUD) on a tunnel interface, use the **tunnel path-mtu-discovery** command in interface configuration mode. To disable PMTUD on a tunnel interface, use the **no** form of this command.

**tunnel path-mtu-discovery** [**age-timer** {*aging-mins* | **infinite**} | **min-mtu** *mtu-bytes*]

**no tunnel path-mtu-discovery** [**age-timer** {*aging-mins* | **infinite**} | **min-mtu** *mtu-bytes*]

Syntax Description		
<b>age-timer</b>		(Optional) Sets a timer to run for a specified interval, in minutes, after which the tunnel interface resets the maximum transmission unit (MTU) of the path to the default tunnel MTU minus 24 bytes for GRE tunnels or minus 20 bytes for IP-in-IP tunnels.
<i>aging-mins</i>		Number of minutes. The range is from 10 to 30. The default is 10.
<b>infinite</b>		Disables the age timer.
<b>min-mtu</b> <i>mtu-bytes</i>		(Optional) Specifies the minimum Path MTU across GRE tunnels. The range is from 92 to 65535 bytes. The default is 92.

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Interface configuration
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

**Usage Guidelines**

When PMTUD (RFC 1191) is enabled on a tunnel interface, the router performs PMTUD processing for the tunnel IP packets. The router always performs PMTUD processing on the original data IP packets that enter the tunnel. When PMTUD is enabled, no packet fragmentation occurs on the encapsulated packets that travel through the tunnel. Without packet fragmentation, there is a better throughput of TCP connections. PMTUD maximizes the use of available bandwidth in the network between the endpoints of a tunnel interface.

After PMTUD is enabled, the Don't Fragment (DF) bit of the IP packet header that is forwarded into the tunnel is copied to the IP header of the external IP packets. The external IP packet is the encapsulating IP packet. Adding the DF bit allows the PMTUD mechanism to work on the tunnel path of the tunnel. The tunnel endpoint listens for Internet Control Message Protocol (ICMP) unreachable too-big messages and modifies the IP MTU of the tunnel interface, if required.

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When the aging timer is configured, the tunnel code resets the tunnel MTU after the aging timer expires. After the tunnel MTU is reset, a set of full-size packets with the DF bit set is required to trigger the tunnel PMTUD and lower the tunnel MTU. At least two packets are dropped each time that the tunnel MTU changes.

When PMTUD is disabled, the DF bit of an external (encapsulated) IP packet is set to zero even if the encapsulated packet has a DF bit set to one.

The **min-mtu** keyword sets a low limit through the MTU that can be learned through the PMTUD process. Any ICMP signal received that specifies an MTU less than the minimum MTU configured will be ignored. You can use this feature to prevent a denial- of-service attack from any node that can send an ICMP message to the router that specifies a very small MTU.



#### Note

PMTUD on a tunnel interface requires that the tunnel endpoint is able to receive ICMP messages generated by routers in the path of the tunnel. You should check that ICMP messages can be received before you use PMTUD over firewall connections.

This command requires the Enterprise license.

#### Examples

This example shows how to configure PMTUD:

```
switch(config-if)# tunnel path-mtu-discovery
```

#### Related Commands

Command	Description
<b>tunnel destination</b>	Sets the destination of the IP tunnel.
<b>interface tunnel</b>	Creates the IP tunnel.
<b>show interface tunnel</b>	Displays information about the traffic about the specified tunnel interface.



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## tunnel source

To configure the source endpoint for a tunnel, use the **tunnel source** command in interface configuration mode. 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	<i>ip-address</i>	IP address for the tunnel source.
	<i>interface-type number</i>	Interface for the tunnel source.

Defaults	None
----------	------

Command Modes	Interface configuration
---------------	-------------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

Usage Guidelines	Use the <b>tunnel source</b> 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: <pre>switch(config-if)# <b>tunnel source 192.0.2.120</b></pre>
----------	--

Related Commands	Command	Description
	<b>tunnel destination</b>	Sets the destination of the IP tunnel.
	<b>interface tunnel</b>	Creates the IP tunnel.
	<b>show interface tunnel</b>	Displays information about the traffic about the specified tunnel interface.

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## tunnel use-vrf

To specify which VRF to use to look up a tunnel destination IP address, use the **tunnel use-vrf** command in interface configuration mode. 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	<i>vrf-name</i> Name of the VRF in which to look up the tunnel destination IP address.							
Defaults	Default VRF							
Command Modes	Interface configuration							
SupportedUserRoles	network-admin vdc-admin							
Command History	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>4.2(1)</td><td>This command was introduced.</td></tr></table>		Release	Modification	4.2(1)	This command was introduced.		
Release	Modification							
4.2(1)	This command was introduced.							
Usage Guidelines	<p>You should have the tunnel interface and tunnel destination IP address in the same VRF. In other words, you should have the same value for the <i>vrf-name</i> parameter in both the <b>vrf member</b> and <b>tunnel use-vrf</b> commands.</p> <p>This command requires the Enterprise license.</p>							
Examples	<p>This example shows how to specify the VRF in which to look up the tunnel destination IP address:</p> <pre>switch(config-if)# <b>tunnel use-vrf blue</b></pre>							
Related Commands	<table><tr><th>Command</th><th>Description</th></tr><tr><td><b>show interface tunnel</b></td><td>Displays information about the traffic about the specified tunnel interface.</td></tr><tr><td><b>show vrf interface tunnel</b></td><td>Displays information about the VRF tunnel interface.</td></tr></table>		Command	Description	<b>show interface tunnel</b>	Displays information about the traffic about the specified tunnel interface.	<b>show vrf interface tunnel</b>	Displays information about the VRF tunnel interface.
Command	Description							
<b>show interface tunnel</b>	Displays information about the traffic about the specified tunnel interface.							
<b>show vrf interface tunnel</b>	Displays information about the VRF tunnel interface.							

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## tunnel ttl

To configure the time-to-live value for a tunnel, use the **tunnel ttl** command in interface configuration mode. To restore the default value, use the **no** form of this command.

**tunnel ttl** *value*

**no tunnel ttl** [*value*]

<b>Syntax Description</b>	<i>value</i>	Time-to-live value for the tunnel. The range is from 1 to 255.
<b>Defaults</b>	None	
<b>Command Modes</b>	Interface configuration	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	Use the <b>tunnel ttl</b> command to configure the time-to-live value for an IP tunnel. This command requires the Enterprise license.	
<b>Examples</b>	This example shows how to configure the time-to-live value for a tunnel interface:  switch(config-if)# <b>tunnel ttl 30</b>	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>tunnel destination</b>	Sets the destination of the IP tunnel.
	<b>interface tunnel</b>	Creates the IP tunnel.
	<b>show interface tunnel</b>	Displays information about the traffic about the specified tunnel interface.

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# uddld

To configure the interfaces to use a UDLD mode, use the **uddld** command.

**uddld** {enable | disable}

## Syntax Description

<b>disable</b>	Disables the UDLD mode for fiber interfaces.
<b>enable</b>	Enables the normal UDLD mode for non-fiber interfaces.

## Command Default

By default, UDLD is disabled for the 48-port, 10/100/1000 Ethernet module ports.  
By default, UDLD is enabled for the 32-port, 10 gigabit Ethernet module ports.

## Command Modes

Interface configuration

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0	This command was introduced.

## Usage Guidelines

Before you can enable a UDLD mode for specified interfaces, you must make sure that UDLD is already enabled globally on the device. Use the **feature uddld** command to enable UDLD globally.

Use the **uddld** command to enable or disable UDLD separately on specified interfaces. This enables UDLD in normal mode. Enter the **uddld aggressive** command to enable the aggressive mode on UDLD-enabled interfaces.

This command does not require a license.

## Examples

This example shows how to enable the normal UDLD mode for Ethernet port 3/1:

```
switch# config t
switch(config)# feature uddld
switch(config)# interface ethernet 3/1
switch(config-if)# uddld enable
```

This example shows how to disable UDLD for Ethernet port 3/1:

```
switch# config t
switch(config)# interface ethernet 3/1
switch(config-if-range)# uddld disable
```

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Related Commands	Command	Description
	<b>feature udld</b>	Enables UDLD globally on the device.
	<b>show udld</b>	Displays information about the UDLD configuration.

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# uddl aggressive

To configure the interfaces for aggressive UDLD mode, use the **uddl aggressive** command.

## uddl aggressive

<b>Syntax Description</b>	This command has no arguments or keywords.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Interface configuration Global configuration
----------------------	---

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0	This command was introduced.

<b>Usage Guidelines</b>	Before you can enable the aggressive UDLD mode for an interface, you must make sure that UDLD is already enabled globally on the device and on the specified interfaces.
-------------------------	--

Use the **uddl aggressive** command to configure the ports to use a UDLD mode:

- To enable fiber interfaces for the aggressive mode, enter the **uddl aggressive** command in the global command mode and all the fiber interfaces will be in aggressive UDLD mode,
- To enable the copper interfaces for the aggressive, you must enter the **uddl aggressive** command in the interface mode, specifying each interface you want in aggressive UDLD mode.

To use the aggressive UDLD mode, you must configure the interfaces on both ends of the link for the aggressive UDLD mode.

This command does not require a license.

<b>Examples</b>	This example shows how to enable fiber interfaces for the aggressive UDLD mode:
-----------------	---

```
switch# config t
switch(config)# uddl aggressive
```

This example shows how to enable the aggressive UDLD mode for the copper Ethernet interface 3/1:

```
switch# config t
switch(config)# interface ethernet 3/1
switch(config-if)# uddl aggressive
```

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Related Commands	Command	Description
	<b>feature udld</b>	Enables UDLD globally for the device.
	<b>show udld</b>	Displays information about the UDLD configuration.

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## uddld message-time

To set the UDLD message interval timer, use the **uddld message-time** command.

**uddld message-time** *seconds*

<b>Syntax Description</b>	<i>seconds</i>	Enter the number of seconds you want between sending UDLD messages. The range is from 7 to 90 seconds.
<b>Defaults</b>	15 seconds	
<b>Command Modes</b>	Global configuration	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.
<b>Usage Guidelines</b>	<p>Before you can set the UDLD message timer, you must make sure that UDLD is already enabled globally on the device. Use the <b>feature uddld</b> command to globally enable UDLD.</p> <p>This command does not require a license.</p>	
<b>Examples</b>	<p>This example shows how to configure UDLD interval to 30 seconds:</p> <pre>switch# <b>config t</b> switch(config)# <b>uddld message-time 30</b></pre>	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>feature uddld</b>	Enables UDLD globally for the device.
	<b>show uddld</b>	Displays information about the UDLD configuration.



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## udld reset

To reset the interfaces that UDLD has shut down and return them to the UP condition, use the **udld reset** command.

**udld reset**

<b>Syntax</b>	<b>Description</b>
	This command has no arguments or keywords.

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Global configuration
----------------------	----------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to reset those interfaces that UDLD has shut down:</p> <pre>switch# <b>config t</b> switch(config)# <b>udld reset</b></pre>
-----------------	---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>feature udld</b>	Enables UDLD globally for the device.
	<b>show udld</b>	Displays information about the UDLD configuration.

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## vlan dot1q tag native

To enable dot1q (IEEE 802.1Q) tagging for the native VLAN in a trunk, use the **vlan dot1q tag native** command. To return to the default where no packets are tagged in the native VLAN in a trunk, use the **no** form of this command.

**vlan dot1q tag native**

**no vlan dot1q tag native**

### Syntax Description

This command has no arguments or keywords.

### Defaults

Disabled

### Command Modes

Global configuration

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0	This command was introduced.

### Usage Guidelines

Typically, you configure 802.1Q trunks with a native VLAN ID, which strips tagging from all packets on that VLAN and allows all untagged traffic and control traffic to transit the switch. Packets that enter the switch with 802.1Q tags that match the native VLAN ID value are similarly stripped of tagging. If you choose to maintain the tagging on the native VLAN and drop untagged traffic, enter the **vlan dot1q tag native** command.

Use the **vlan dot1q tag native** command to configure the switch to tag the traffic received on the native VLAN and to admit only 802.1Q-tagged frame, dropping any untagged traffic, including untagged traffic in the native VLAN. Control traffic continues to be accepted untagged on the native VLAN on a trunked port, even when the **vlan dot1q tag native** command is enabled.

Use this command to enable the tagging behavior on all native VLANs on all trunked ports on the switch.



#### Note

If you enable 802.1Q tagging on one switch and disable it on another switch, all traffic is dropped; you must identically configure 802.1Q tagging on each switch.

This command does not require a license.

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---

**Examples**

This example shows how to enable dot1q tagging for all VLANs on all trunk ports on the switch:

```
switch(config)# vlan dot1q tag native
```

---

**Related Commands**

Command	Description
<b>show vlan dot1q tag native</b>	Displays native VLAN-tagging information.

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## vpc

To move other port channels into the virtual port channel (vPC), use the **vpc** command. To remove a port channel from the vPC, use the **no** form of this command.

**vpc** *number*

**no vpc** *number*

<b>Syntax Description</b>	<i>number</i>	The number for the vPC. The range of numbers is 1 to 4096.
---------------------------	---------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Interface command mode.
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.1(3)	This command was introduced.

<b>Usage Guidelines</b>	<p>You must enable the vPC feature before you can create a vPC.</p> <p>Once you have created the vPC domain ID and the vPC peer link, you create port channels to attach the downstream device to each vPC peer device. That is, you create one 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.</p>
-------------------------	--



### Note

The vPC number that you assign to the port channel connecting to the downstream device from the vPC peer device *must* be identical on *both* vPC peer devices.

This command does not require a license.

<b>Examples</b>	This example shows how to move a port channel into the vPC:
-----------------	---

```
switch# config t
switch (config)# interface port-channel 10
switch (config-if)# vpc 100
```

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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.

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## vpc domain

To create a virtual port-channel (vPC) domain, use the **vpc domain** command. To remove a vPC domain, use the **no** form of this command.

**vpc domain** *domain-id*

**no vpc domain** *domain-id*

Syntax Description	<i>domain-id</i>	Domain ID for the vPC. The range of numbers is from 1 to 1000. You must use unique vPC IDs for each vPC within a single VDC.
--------------------	------------------	--

Defaults	None
----------	------

Command Modes	Any command mode.
---------------	-------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.1(3)	This command was introduced.

Usage Guidelines	<p>You must enable the vPC feature before you can create a vPC domain.</p> <p>You put all vPC interfaces, including the vPC peer link, on both of the vPC peer devices into the identical vPC domain. You must have unique vPC domain numbers within each VDC. In Cisco NX-OS Release 4.1(3), you can have only one vPC per VDC. Once you create a vPC domain, the system automatically creates a vPC system MAC that is unique to that vPC.</p> <p>You also use this command to enter the vpc-domain command mode in order to configure vPC parameters.</p> <p>This command does not require a license.</p>
------------------	--

Examples	<p>This example shows how to create a vPC domain:</p> <pre>switch# config t switch(config)# vpc domain 5 switch(config-vpc-domain)#</pre> <p>This example shows how to enter the vpc-domain command mode to configure an existing vPC domain:</p> <pre>switch# config t switch(config)# vpc domain 5 switch(config-vpc-domain)#</pre>
----------	---

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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.

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## vpc peer-link

To create a virtual port-channel (vPC) peer link, use the **vpc peer-link** command. To remove a vPC peer link, use the **no** form of this command.

**vpc peer-link**

**no vpc peer-link**

<b>Syntax Description</b>	This command has no arguments or keywords
---------------------------	---

<b>Command Modes</b>	Interface command mode.
----------------------	-------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<table border="1"> <tr> <th>Release</th> <th>Modification</th> </tr> <tr> <td>4.1(3)</td> <td>This command was introduced.</td> </tr> </table>	Release	Modification	4.1(3)	This command was introduced.
Release	Modification				
4.1(3)	This command was introduced.				

<b>Usage Guidelines</b>	<p>You must enable the vPC feature before you can create a vPC peer link.</p> <p>You configure a port channel using 10-Gigabit Ethernet ports on the N7K-M132XP-12 module. We recommend that you use the 10-Gigabit Ethernet ports for the channel in dedicated mode and configure at least two of these ports on two different modules into the port channel for redundancy.</p> <p>Use the <b>vpc peer-link</b> command to make that port channel a vPC peer link. The system returns an error message if you attempt to configure a 1-Gigabit Ethernet interface as a vPC peer link.</p> <p>After you configure the vPC peer device and the vPC peer link is established, the system creates a new MAC address for the vPC and decides which vPC device is the primary device and which is the secondary.</p> <p>This command does not require a license.</p>
-------------------------	--

<b>Examples</b>	This example shows how to create a vPC peer link:
-----------------	---

```
switch# config t
switch(config)# interface port-channel 20
switch(config-if)# vpc peer-link
switch(config-vpc-domain)#
```

<b>Related Commands</b>	<table border="1"> <tr> <th>Command</th> <th>Description</th> </tr> <tr> <td><b>show vpc brief</b></td> <td>Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.</td> </tr> </table>	Command	Description	<b>show vpc brief</b>	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.
Command	Description				
<b>show vpc brief</b>	Displays information about vPCs. If the feature is not enabled, the system displays an error when you enter this command.				



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