



## Show Commands

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# show bfd neighbors

To display information about Bidirectional Forwarding Detection (BFD) neighbors, use the show bfd neighbors command.

```
show bfd neighbors [fabricpath] [application name] {dest-ip|src-ip} ipaddr interface int-if] [vrf vrf-name]
[details]
```

## Syntax Description

<b>fabricpath</b>	(Optional) Displays BFD information for the fabricpath neighbor.
<b>application name</b>	(Optional) Displays BFD information for the named protocol that BFD is enabled on.
<b>dest-ip ipaddr</b>	(Optional) Displays BFD information for the destination IP address. The IP address is in dotted decimal notation for IPv4 and in A:B::C:D format for IPv6.
<b>scr-ip ipaddr</b>	(Optional) Displays BFD information for the source IP address. The IP address is in dotted decimal notation for IPv4 and in A:B::C:D format for IPv6.
<b>interface int-if</b>	(Optional) Displays BFD information for the interface. Use the ? keyword to display a list of supported interfaces.
<b>vrf vef-name</b>	(Optional) Displays BFD information for the virtual routing and forwarding (VRF) instance.
<b>details</b>	(Optional) Displays detailed BFD information.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
7.0(0)N1(1)	The fabricpath keyword was added.
6.0(2)N1(1)	This command was introduced.

**Examples**

This example shows how to display detailed information about bfd neighbors:

```
switch# show bfd neighbors details
OurAddr      NeighAddr      LD/RD          RH/RS          Holddown(mu
lt)          State          Int            Vrf            Down          N/A(3)
0000.0000.0002      0000.0000.0001      1090519045/0      Down          N/A(3)
                Down          Pol            default
Session state is Down and not using echo function
Local Diag: 0, Demand mode: 0, Poll bit: 0, Authentication: None
MinTxInt: 2000000 us, MinRxInt: 2000000 us, Multiplier: 3
Received MinRxInt: 0 us, Received Multiplier: 3
Holddown (hits): 0 ms (0), Hello (hits): 2000 ms (15654)
Rx Count: 0, Rx Interval (ms) min/max/avg: 0/0/1 last: 26456358 ms ago
Tx Count: 15654, Tx Interval (ms) min/max/avg: 1689/1689/1689 last: 1359 ms ago
Destination Switch id: 2000      Source Switch Id: 1000
Registered protocols:  bfd_app
Downtime: 0 days 7 hrs 20 mins 55 secs
Last packet: Version: 0
                State bit: AdminDown      - Diagnostic: 0
                Poll bit: 0                - Demand bit: 0
                Multiplier: 3            - Final bit: 0
                My Discr.: 0              - Length: 24
                Min tx interval: 0        - Your Discr.: 0
                Min Echo interval: 0      - Min rx interval: 0
                Min Echo interval: 0      - Authentication bit: 0
Hosting LC: 4, Down reason: No Diagnostic, Reason not-hosted: None
```

**Table 1: show bfd neighbors Field Descriptions**

Field	Description
OurAddr	IP address of the interface for which the <b>show bfd neighbors</b> command was entered.
NeighAddr	IPv4 or IPv6 address of the BFD adjacency or neighbor.
LD/RD	Local discriminator and remote discriminator being used for the session.
RH	Remote Heard—Indicates that the remote BFD neighbor has been heard.
Holddown(mult)	Detect timer multiplier that is used for this session.
State	State of the interface—Up or Down.
Int	Interface type and slot/port.
Session state is UP and not using echo function	BFD is up and not running in echo mode.
RX Count	Number of BFD control packets that have been received from the BFD neighbor.
TX Count	Number of BFD control packets that have been sent by the BFD neighbor.

Field	Description
TX Interval	Interval, in milliseconds, between sent BFD packets.
Registered protocols	Routing protocols that have been registered with BFD.
Last packet: Version:	BFD version detected and run between the BFD neighbors.
Diagnostic	<p>Diagnostic code specifying the local system's reason for the last transition of the session from Up to some other state.</p> <p>State values are as follows:</p> <ul style="list-style-type: none"> <li>• 0—No Diagnostic</li> <li>• 1—Control Detection Time Expired</li> <li>• 2—Echo Function Failed</li> <li>• 3—Neighbor Signaled Session Down</li> <li>• 4—Forwarding Plane Reset</li> <li>• 5—Path Down</li> <li>• 6—Concentrated Path Down</li> <li>• 7—Administratively Down</li> </ul>
Demand bit	Demand Mode bit. If set, the transmitting system wants to operate in demand mode. BFD has two modes—asynchronous and demand. The Cisco implementation of BFD supports only asynchronous mode.
Poll bit	Poll bit. If the Poll bit is set, the transmitting system is requesting verification of connectivity or of a parameter change.
Final bit	Final bit. If the Final bit is set, the transmitting system is responding to a received BFD control packet that had a Poll (P) bit set.

Field	Description
Multiplier	<p>Detect time multiplier. The negotiated transmit interval, multiplied by the detect time multiplier, determines the detection time for the transmitting system in BFD asynchronous mode.</p> <p>The detect time multiplier is similar to the hello multiplier in Intermediate System-to-Intermediate System (IS-IS), which is used to determine the hold timer: (hello interval) * (hello multiplier) = hold timer. If a hello packet is not received within the hold-timer interval, a failure has occurred.</p> <p>Similarly, for BFD: (transmit interval) * (detect multiplier) = detect timer. If a BFD control packet is not received from the remote system within the detect-timer interval, a failure has occurred.</p>
Length	Length of the BFD control packet, in bytes.
My Discr.	My Discriminator. Unique, nonzero discriminator value generated by the transmitting system used to demultiplex multiple BFD sessions between the same pair of systems.
Your Discr.	Your Discriminator. The discriminator received from the corresponding remote system. This field reflects the received value of My Discriminator or is zero if that value is unknown.
Min tx interval	Minimum transmission interval, in microseconds, that the local system wants to use when sending BFD control packets.
Min rx interval	Minimum receipt interval, in microseconds, between received BFD control packets that the system can support.
Min Echo interval	Minimum interval, in microseconds, between received BFD control packets that the system can support. If the value is zero, the transmitting system does not support the receipt of BFD echo packets.

**Related Commands**

Command	Description
feature bfd	Enables the BFD feature.

# show cdp all

To display the interfaces in the Cisco Discovery Protocol (CDP) database, use the **show cdp all** command.

**show cdp all**

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

**Command Default** None

**Command Modes** EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

**Examples** This example shows how to display the interfaces in the CDP database:

```
switch# show cdp all
mgmt0 is up
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
Ethernet1/1 is down
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
Ethernet1/2 is down
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
Ethernet1/3 is down
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
Ethernet1/4 is down
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
Ethernet1/5 is down
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
Ethernet1/6 is down
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
<--Output truncated-->
switch#
```

**show cdp all****Related Commands**

Command	Description
cdp	Enables CDP on the switch.



# show cdp entry

To display the interfaces in the Cisco Discovery Protocol (CDP) database, use the **show cdp entry** command.

```
show cdp entry {all| name device-name}
```

## Syntax Description

<b>all</b>	Displays all interfaces in the CDP database.
<b>name device-name</b>	Displays a specific CDP entry that matches a name. The device name can be a maximum of 256 alphanumeric characters.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display all the entries in the CDP database:

```
switch# show cdp entry all
-----
Device ID:sw-sw70
Interface address(es):
  IPv4 Address: 10.193.88.70
Platform: WS-C3560E-48T, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet0/30
Holdtime: 142 sec
Version:
Cisco IOS Software, C3560E Software (C3560E-UNIVERSALK9-M), Version 12.2(50)SE2,
  RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Fri 15-May-09 22:11 by nachen
Advertisement Version: 2
Native VLAN: 88
Duplex: full
Mgmt address(es):
  IPv4 Address: 10.193.88.70
-----
Device ID:switch(FOC16333ZER)
System Name: switch
Interface address(es):
  IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/4, Port ID (outgoing port): Ethernet1/12
Holdtime: 178 sec
```

```

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2u)N1(1u)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
  IPv4 Address: 10.193.88.192
-----
Device ID:switch(FOC16333ZER)
System Name: switch
Interface address(es):
  IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/6, Port ID (outgoing port): Ethernet1/10
Holdtime: 126 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2u)N1(1u)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
  IPv4 Address: 10.193.88.192
-----
Device ID:switch(FOC16333ZER)
System Name: switch
Interface address(es):
  IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/10, Port ID (outgoing port): Ethernet1/6
Holdtime: 126 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2u)N1(1u)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
  IPv4 Address: 10.193.88.192
-----
Device ID:switch(FOC16333ZER)
System Name: switch
Interface address(es):
  IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/12, Port ID (outgoing port): Ethernet1/4
Holdtime: 178 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2u)N1(1u)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
  IPv4 Address: 10.193.88.192
switch#

```

This example shows how to display a specific entry from the CDP database:

```

switch# show cdp entry name swor95(SS113110AAS)
-----
Device ID:swor95(SS113110AAS)
System Name:swor95
Interface address(es):

```

```
IPv4 Address: 192.168.0.95
Platform: N5K-C5010P-BF, Capabilities: Switch IGMP Filtering Supports-STP-Dispute
Interface: Ethernet1/29, Port ID (outgoing port): Ethernet1/19
Holdtime: 173 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 192.168.0.95
switch#
```

**Related Commands**

Command	Description
<b>cdp</b>	Enables CDP on the switch.

# show cdp global

To display the Cisco Discovery Protocol (CDP) global parameters, use the **show cdp global** command.

**show cdp global**

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

**Command Default** None

**Command Modes** EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

**Examples** This example shows how to display the CDP global parameters:

```
switch# show cdp global
Global CDP information:
  CDP enabled globally
  Refresh time is 60 seconds
  Hold time is 180 seconds
  CDPv2 advertisements is enabled
  DeviceID TLV in System-Name(Default) Format
switch#
```

Related Commands	Command	Description
	cdp	Enables CDP on the switch.

# show cdp interface

To display the Cisco Discovery Protocol (CDP) parameters for an interface, use the **show cdp interface** command.

**show cdp interface** {*ethernet slot* /[*QSFP-module* /] *port*| *mgmt mgmt-num*}

## Syntax Description

<b>ethernet</b>	Specifies an Ethernet interface.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<b>mgmt mgmt-num</b>	Specifies a management interface. The management interface number is 0.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the CDP parameters for an Ethernet interface:

```
switch# show cdp interface ethernet 1/30
Ethernet1/30 is down
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
switch#
```

This example shows how to display the CDP parameters for a management interface:

```
switch# show cdp interface mgmt 0
mgmt0 is up
  CDP enabled on interface
  Refresh time is 60 seconds
  Hold time is 180 seconds
switch#
```

**Related Commands**

Command	Description
cdp	Enables CDP on the switch.

# show cdp neighbors

To display the Cisco Discovery Protocol (CDP) neighbors, use the **show cdp neighbors** command.

**show cdp neighbors** [*interface* {*ethernet slot* /[*QSFP-module* /] *port*| *mgmt mgmt-num*}] [*detail*]

## Syntax Description

<b>interface</b>	(Optional) Displays CDP neighbor information for an Ethernet or management interface.
<b>ethernet</b>	Displays CDP neighbor information for an Ethernet interface.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<b>mgmt mgmt-num</b>	Displays CDP neighbor information for a management interface. The management interface number is 0.
<b>detail</b>	(Optional) Displays the detailed information about CDP neighbors.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display all CDP neighbors:

```
switch# show cdp neighbors
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater,
                  V - VoIP-Phone, D - Remotely-Managed-Device,
                  s - Supports-STP-Dispute
Device-ID         Local Intrfce Hldtme Capability Platform      Port ID
```

## show cdp neighbors

```

sw-sw70          mgmt0          179   S I      WS-C3560E-48T Gig0/30
switch(FOC16333ZER)
Eth1/4           155   S I s    N6K-C6004-96Q Eth1/12
switch(FOC16333ZER)
Eth1/6           162   S I s    N6K-C6004-96Q Eth1/10
switch(FOC16333ZER)
Eth1/10          162   S I s    N6K-C6004-96Q Eth1/6
switch(FOC16333ZER)
Eth1/12          155   S I s    N6K-C6004-96Q Eth1/4

```

This example shows how to display the CDP neighbors for a specific Ethernet interface:

```

switch# show cdp neighbors interface ethernet 1/29
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater,
                  V - VoIP-Phone, D - Remotely-Managed-Device,
                  s - Supports-STP-Dispute, M - Two-port Mac Relay
Device ID        Local Intrfce  Hldtme  Capability  Platform      Port ID
swor95(SSII3110AAS)  Eth1/29      146     S I s      N5K-C5010P-BF Eth1/19
switch#

```

This example shows how to display the detailed information of the CDP neighbors for a specific Ethernet interface:

```

switch# show cdp neighbors interface ethernet 1/29 detail
-----
Device ID:swor95(SSII3110AAS)
System Name:swor95
Interface address(es):
  IPv4 Address: 192.168.0.95
Platform: N5K-C5010P-BF, Capabilities: Switch IGMP Filtering Supports-STP-Dispute
Interface: Ethernet1/29, Port ID (outgoing port): Ethernet1/19
Holdtime: 141 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
Physical Location: snmplocation
Mgmt address(es):
  IPv4 Address: 192.168.0.95
switch#

```

This example shows how to display the CDP neighbors for the management interface:

```

switch# show cdp neighbors interface mgmt 0
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater,
                  V - VoIP-Phone, D - Remotely-Managed-Device,
                  s - Supports-STP-Dispute
Device-ID        Local Intrfce  Hldtme  Capability  Platform      Port ID
sw-sw70          mgmt0          159     S I          WS-C3560E-48T Gig0/30
switch#

```

This example shows how to display the detailed information of the CDP neighbors for the management interface:

```

switch# show cdp neighbors interface mgmt 0 detail
-----
Device ID:sw-sw70
System Name:
Interface address(es):
  IPv4 Address: 10.193.88.70
Platform: cisco WS-C3560E-48TD, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet0/30
Holdtime: 152 sec
Version:
Cisco IOS Software, C3560E Software (C3560E-UNIVERSALK9-M), Version 12.2(50)SE2,
RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Fri 15-May-09 22:11 by nachen

```



```

Advertisement Version: 2
Native VLAN: 88
VTP Management Domain:
Duplex: full
Mgmt address(es):
    IPv4 Address: 10.193.88.70
switch#

```

This example shows how to display the detailed information of all CDP neighbors:

```

switch# show cdp neighbors detail
-----
Device ID:sw-sw70
VTP Management Domain Name:
Interface address(es):
    IPv4 Address: 10.193.88.70
Platform: WS-C3560E-48T, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet0/30
Holdtime: 127 sec
Version:
Cisco IOS Software, C3560E Software (C3560E-UNIVERSALK9-M), Version 12.2(50)SE2,
  RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Fri 15-May-09 22:11 by nachen
Advertisement Version: 2
Native VLAN: 88
Duplex: full
Mgmt address(es):
    IPv4 Address: 10.193.88.70
-----
Device ID:switch(FOC16333ZER)
System Name: switch
Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/4, Port ID (outgoing port): Ethernet1/12
Holdtime: 163 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
-----
Device ID:switch(FOC16333ZER)
System Name: switch
Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/6, Port ID (outgoing port): Ethernet1/10
Holdtime: 170 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
-----
Device ID:switch(FOC16333ZER)
System Name: switch
Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/10, Port ID (outgoing port): Ethernet1/6

```

## show cdp neighbors

```

Holdtime: 170 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
-----
Device ID:switch(FOC16333ZER)
System Name: switch
Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/12, Port ID (outgoing port): Ethernet1/4
Holdtime: 163 sec
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)
Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
switch#

```

**Related Commands**

Command	Description
<b>cdp</b>	Enables CDP on the switch.

# show cdp traffic

To display the Cisco Discovery Protocol (CDP) traffic statistics, use the **show cdp traffic** command.

**show cdp traffic interface** {*ethernet slot* [*QSFP-module*] *port*| *mgmt mgmt-num*}

## Syntax Description

<b>interface</b>	Displays CDP traffic statistics for an Ethernet or management interface.
<b>ethernet</b>	Displays CDP traffic statistics for an Ethernet interface.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<b>mgmt mgmt-num</b>	Displays CDP traffic statistics for a management interface. The management interface number is 0.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the CDP traffic statistics for an Ethernet interface:

```
switch# show cdp traffic interface ethernet 1/29
-----
Traffic statistics for Ethernet1/29
Input Statistics:
  Total Packets: 3203
  Valid CDP Packets: 3203
    CDP v1 Packets: 0
    CDP v2 Packets: 3203
  Invalid CDP Packets: 0
  Unsupported Version: 0
  Checksum Errors: 0
```

```

    Malformed Packets: 0
Output Statistics:
  Total Packets: 3203
    CDP v1 Packets: 0
    CDP v2 Packets: 3203
  Send Errors: 0
switch#

```

This example shows how to display CDP traffic statistics for a management interface:

```

switch# show cdp traffic interface mgmt 0
-----
Traffic statistics for mgmt0
Input Statistics:
  Total Packets: 3201
  Valid CDP Packets: 3201
    CDP v1 Packets: 0
    CDP v2 Packets: 3201
  Invalid CDP Packets: 0
    Unsupported Version: 0
    Checksum Errors: 0
    Malformed Packets: 0
Output Statistics:
  Total Packets: 3201
    CDP v1 Packets: 0
    CDP v2 Packets: 3201
  Send Errors: 0
switch#

```

#### Related Commands

Command	Description
cdp	Enables CDP on the switch.

# show interface brief

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

**show interface brief**

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

**Command Default** None

**Command Modes** EXEC mode

Release	Modification
6.0(2)N1(1)	This command was introduced.

**Examples** This example shows how to display a brief summary of the configuration information for specified interfaces:

```
switch# show interface brief
-----
Ethernet      VLAN   Type Mode   Status Reason                               Speed   Port
Interface                                           Ch #
-----
Eth1/1        1      eth  access down  SFP not inserted                    40G (D) --
Eth1/2        1      eth  access down  SFP not inserted                    40G (D) --
Eth1/3        1      eth  access down  SFP not inserted                    40G (D) --
Eth1/4        1      eth  access up    none                                  40G (D) --
Eth1/5        1      eth  access down  SFP not inserted                    40G (D) --
Eth1/6        1      eth  access up    none                                  40G (D) --
Eth1/7        1      eth  access down  SFP not inserted                    40G (D) --
Eth1/8        1      eth  access down  SFP not inserted                    40G (D) --
Eth1/9        1      eth  access down  SFP not inserted                    40G (D) --
Eth1/10       1      eth  access up    none                                  40G (D) --
Eth1/11       1      eth  access down  SFP not inserted                    40G (D) --
Eth1/12       1      eth  access up    none                                  40G (D) --
Eth5/1/1      1      eth  access up    none                                  10G (D) --
Eth5/1/2      1      eth  access down  Link not connected                  10G (D) --
Eth5/1/3      1      eth  access down  Link not connected                  10G (D) --
Eth5/1/4      1      eth  access down  Link not connected                  10G (D) --
Eth5/2/1      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/2/2      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/2/3      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/2/4      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/3/1      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/3/2      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/3/3      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/3/4      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/4/1      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/4/2      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/4/3      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/4/4      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/5/1      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/5/2      1      eth  access down  SFP not inserted                    10G (D) --
Eth5/5/3      1      eth  access down  SFP not inserted                    10G (D) --
```

## show interface brief

```

Eth5/5/4      1      eth  access down  SFP not inserted      10G(D) --
Eth5/6/1      1      eth  access down  SFP not inserted      10G(D) --
Eth5/6/2      1      eth  access down  SFP not inserted      10G(D) --
Eth5/6/3      1      eth  access down  SFP not inserted      10G(D) --
Eth5/6/4      1      eth  access down  SFP not inserted      10G(D) --
Eth5/7/1      1      eth  access down  SFP not inserted      10G(D) --
Eth5/7/2      1      eth  access down  SFP not inserted      10G(D) --
Eth5/7/3      1      eth  access down  SFP not inserted      10G(D) --
Eth5/7/4      1      eth  access down  SFP not inserted      10G(D) --
Eth5/8/1      1      eth  access down  SFP not inserted      10G(D) --
Eth5/8/2      1      eth  access down  SFP not inserted      10G(D) --
Eth5/8/3      1      eth  access down  SFP not inserted      10G(D) --
Eth5/8/4      1      eth  access down  SFP not inserted      10G(D) --
Eth5/9/1      1      eth  access down  SFP not inserted      10G(D) --
Eth5/9/2      1      eth  access down  SFP not inserted      10G(D) --
Eth5/9/3      1      eth  access down  SFP not inserted      10G(D) --
Eth5/9/4      1      eth  access down  SFP not inserted      10G(D) --
Eth5/10/1     1      eth  access down  SFP not inserted      10G(D) --
Eth5/10/2     1      eth  access down  SFP not inserted      10G(D) --
Eth5/10/3     1      eth  access down  SFP not inserted      10G(D) --
Eth5/10/4     1      eth  access down  SFP not inserted      10G(D) --
Eth5/11/1     1      eth  access down  SFP not inserted      10G(D) --
Eth5/11/2     1      eth  access down  SFP not inserted      10G(D) --
Eth5/11/3     1      eth  access down  SFP not inserted      10G(D) --
Eth5/11/4     1      eth  access down  SFP not inserted      10G(D) --
Eth5/12/1     1      eth  access down  SFP not inserted      10G(D) --
Eth5/12/2     1      eth  access down  SFP not inserted      10G(D) --
Eth5/12/3     1      eth  access down  SFP not inserted      10G(D) --
Eth5/12/4     1      eth  access down  SFP not inserted      10G(D) --
Eth6/1        1      eth  access down  SFP not inserted      40G(D) --
Eth6/2        1      eth  access down  SFP not inserted      40G(D) --
Eth6/3        1      eth  access down  SFP not inserted      40G(D) --
Eth6/4        1      eth  access down  SFP not inserted      40G(D) --
Eth6/5        1      eth  access down  SFP not inserted      40G(D) --
Eth6/6        1      eth  access down  SFP not inserted      40G(D) --
Eth6/7        1      eth  access down  SFP not inserted      40G(D) --
Eth6/8        1      eth  access down  SFP not inserted      40G(D) --
Eth6/9        1      eth  access down  SFP not inserted      40G(D) --
Eth6/10       1      eth  access down  SFP not inserted      40G(D) --
Eth6/11       1      eth  access down  SFP not inserted      40G(D) --
Eth6/12       1      eth  access down  SFP not inserted      40G(D) --
Eth8/1        1      eth  access down  SFP not inserted      40G(D) --
Eth8/2        1      eth  access down  SFP not inserted      40G(D) --
Eth8/3        1      eth  access down  SFP not inserted      40G(D) --
Eth8/4        1      eth  access down  Link not connected    40G(D) --
Eth8/5        1      eth  access down  SFP not inserted      40G(D) --
Eth8/6        1      eth  access down  SFP not inserted      40G(D) --
Eth8/7        1      eth  access down  SFP not inserted      40G(D) --
Eth8/8        1      eth  access down  SFP not inserted      40G(D) --
Eth8/9        1      eth  access down  SFP not inserted      40G(D) --
Eth8/10       1      eth  access down  SFP not inserted      40G(D) --
Eth8/11       1      eth  access down  SFP not inserted      40G(D) --
Eth8/12       1      eth  access down  SFP not inserted      40G(D) --

```

```

-----
Port   VRF           Status IP Address                               Speed   MTU
-----
mgmt0  --           up    10.193.88.192                           1000   1500
switch#
switch#

```

This example shows how to display a brief summary of the configuration information for several interfaces, including routed interfaces:

```
switch# show interface brief
```

```

-----
Ethernet  VLAN  Type Mode   Status  Reason                               Speed  Port
Interface                                     Speed  Ch #
-----
Eth1/1    1     eth  access down  Link not connected    10G(D) --
Eth1/2    1     eth  trunk  up      none                       10G(D) --
Eth1/3    1     eth  access down  SFP not inserted     10G(D) --

```

```

Eth1/4      1      eth access down SFP not inserted 10G(D) --
Eth1/5      --     eth routed up   none              10G(D) --
Eth1/5.2    --     eth routed down Configuration Incomplete 10G(D) --
Eth1/6      1      eth access up   none              10G(D) --
Eth1/7      1      eth access up   none              10G(D) --
Eth1/8      1      eth trunk up    none              10G(D) 100
Eth1/9      1      eth access up   none              10G(D) --
Eth1/10     1      eth access down Link not connected 10G(D) --
Eth1/11     1      eth access down SFP not inserted 10G(D) --
Eth1/12     1      eth access down SFP not inserted 10G(D) --
Eth1/13     1      eth access down SFP not inserted 10G(D) --
Eth1/14     1      eth access down SFP not inserted 10G(D) --
Eth1/15     1      eth access down SFP not inserted 10G(D) --
Eth1/16     1      eth access down SFP not inserted 10G(D) --
Eth1/17     1      eth access up   none              10G(D) --
Eth1/18     1      eth access up   none              10G(D) --
Eth1/19     1      eth fabric up   none              10G(D) --
Eth1/20     1      eth access down Link not connected 10G(D) --
Eth1/21     1      eth access up   none              10G(D) --
Eth1/22     1      eth access down Link not connected 10G(D) --
Eth1/23     1      eth access down SFP not inserted 10G(D) --
Eth1/24     1      eth access down SFP not inserted 10G(D) --
Eth1/25     1      eth access down Link not connected 10G(D) --
Eth1/26     1      eth access down SFP not inserted 10G(D) --
Eth1/27     1      eth access down SFP not inserted 10G(D) --
Eth1/28     1      eth access down SFP not inserted 10G(D) --
Eth1/29     1      eth access down Link not connected 10G(D) --
Eth1/30     1      eth access down SFP not inserted 10G(D) --
Eth1/31     1      eth access down SFP not inserted 10G(D) --
Eth1/32     1      eth access up   none              10G(D) --
-----
Port-channel VLAN Type Mode Status Reason Speed Protocol
Interface
-----
Po100      1      eth trunk up    none              a-10G(D) none
-----
Port VRF Status IP Address Speed MTU
-----
mgmt0     --      up    172.29.231.33 1000 1500
-----
Interface Secondary VLAN(Type) Status Reason
-----
Vlan1     --      up    --
Vlan100   --      up    --
-----
Ethernet VLAN Type Mode Status Reason Speed Port
Interface
-----
Eth100/1/1 1      eth access up    none              10G(D) --
Eth100/1/2 1      eth access down  Link not connected auto(D) --
Eth100/1/3 1      eth access up    none              10G(D) --
Eth100/1/4 1      eth access down  Link not connected auto(D) --
Eth100/1/5 1      eth access down  Link not connected auto(D) --
Eth100/1/6 1      eth access down  Link not connected auto(D) --
Eth100/1/7 1      eth access down  Link not connected auto(D) --
Eth100/1/8 1      eth access down  Link not connected auto(D) --
Eth100/1/9 1      eth access down  Link not connected auto(D) --
Eth100/1/10 1     eth access up    none              10G(D) --
Eth100/1/11 1     eth access down  Link not connected auto(D) --
Eth100/1/12 1     eth access down  Link not connected auto(D) --
Eth100/1/13 1     eth access down  Link not connected auto(D) --
Eth100/1/14 1     eth access down  Link not connected auto(D) --
Eth100/1/15 1     eth access up    none              10G(D) --
Eth100/1/16 1     eth access down  Link not connected auto(D) --
-----
Interface Status Description
-----
Lo10      up      --
switch#

```

Note the following in the above display:

- Ethernet 1/5 is a Layer 3-ready interface. The following fields in the display help identify an interface as a configured Layer 3 interface:
  - Mode—routed
  - Status—up
  - Reason—none
- Ethernet 1/5.2 is a Layer 3 subinterface; however, the interface is not ready for Layer 3 configuration (Status—down).
- Interface Lo10 is a Layer 3 loopback interface.

This example shows how to display a brief summary of interfaces configured as FabricPath interfaces:

```
switch# show interface brief
-----
Ethernet      VLAN   Type Mode   Status Reason                               Speed   Port
Interface                                           Ch#
-----
Eth1/1        1      eth  access down   SFP not inserted                     1000 (D) --
Eth1/2        --      eth  routed down   SFP not inserted                     1000 (D) --
Eth1/3        1      eth  access down   SFP not inserted                      10G (D) --
Eth1/4        1      eth  access down   SFP not inserted                      10G (D) --
Eth1/5        1      eth  f-path down   SFP not inserted                      10G (D) --
Eth1/6        1      eth  access down   Link not connected                    10G (D) --
Eth1/7        1      eth  fabric down   Link not connected                    10G (D) --
Eth1/8        1      eth  access down   SFP not inserted                      10G (D) --
Eth1/9        1      eth  access down   SFP not inserted                      10G (D) --
Eth1/10       1      eth  access down   SFP not inserted                      10G (D) --
Eth1/11       1      eth  access down   SFP not inserted                      10G (D) --
Eth1/12       1      eth  access down   SFP not inserted                      10G (D) --
Eth1/13       1      eth  access down   SFP not inserted                      10G (D) --
Eth1/14       1      eth  access down   SFP not inserted                      10G (D) --
Eth1/15       1      eth  pvlan up     none                                  1000 (D) --
Eth1/16       1      eth  access down   SFP not inserted                      10G (D) --
Eth1/17       1      eth  access down   SFP not inserted                      10G (D) --
switch#
```

In the above display, Ethernet 1/5 has the mode shown as “f-path” which indicates that it has been configured as a FabricPath port.

#### Related Commands

Command	Description
<b>interface ethernet</b>	Configures an Ethernet IEEE 802.3 interface.



# show interface capabilities

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

**show interface ethernet slot [QSFP-module] port capabilities**

## Syntax Description

<b>ethernet</b>	Specifies an Ethernet interface slot number and port number.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Usage Guidelines

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

If the interface and transceiver speed is mismatched, the SFP validation failed message appears when you enter the `show interface ethernet slot/[QSFP-module]/port` command. For example, if you insert a 1-Gigabit SFP transceiver into a port without configuring the **speed 1000** command, you see this error. By default, all ports are 10-Gigabit ports.

## Examples

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

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

Ethernet1/1
  Model: N6K-C6004-M12Q-FIX
  Type (SFP capable): unknown
  Speed: 40000
  Duplex: full
  Trunk encap. type: 802.1Q
```

## show interface capabilities

```

Channel:                yes
Broadcast suppression:  no
Flowcontrol:            rx- (off/on) ,tx- (off/on)
Rate mode:              none
QOS scheduling:         rx- (6q1t) ,tx- (1p6q0t)
CoS rewrite:            no
ToS rewrite:            no
SPAN:                  yes
UDLD:                  yes
MDIX:                  no
Link Debounce:         yes
Link Debounce Time:    yes
Pvlan Trunk capable:   yes
TDR capable:           no
FabricPath capable:    yes
Port mode:              Switched
FEX Fabric:            yes
switch#

```

## Related Commands

Command	Description
<b>interface ethernet</b>	Configures an Ethernet IEEE 802.3 interface.

# show interface debounce

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

**show interface debounce**

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

**Command Default** None

**Command Modes** EXEC mode

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

```
switch# show interface debounce
```

```
-----
Port           Debounce time  Value(ms)
-----
Eth1/1         enable         100
Eth1/2         enable         100
Eth1/3         enable         100
Eth1/4         enable         100
Eth1/5         enable         100
Eth1/6         enable         100
Eth1/7         enable         100
Eth1/8         enable         100
Eth1/9         enable         100
Eth1/10        enable         100
Eth1/11        enable         100
Eth1/12        enable         100
Eth5/1/1       enable         100
Eth5/1/2       enable         100
Eth5/1/3       enable         100
Eth5/1/4       enable         100
Eth5/2/1       enable         100
Eth5/2/2       enable         100
Eth5/2/3       enable         100
Eth5/2/4       enable         100
Eth5/3/1       enable         100
Eth5/3/2       enable         100
Eth5/3/3       enable         100
Eth5/3/4       enable         100
Eth5/4/1       enable         100
Eth5/4/2       enable         100
Eth5/4/3       enable         100
Eth5/4/4       enable         100
Eth5/5/1       enable         100
Eth5/5/2       enable         100
Eth5/5/3       enable         100
```

## show interface debounce

```

Eth5/5/4      enable      100
Eth5/6/1      enable      100
Eth5/6/2      enable      100
Eth5/6/3      enable      100
Eth5/6/4      enable      100
Eth5/7/1      enable      100
Eth5/7/2      enable      100
Eth5/7/3      enable      100
Eth5/7/4      enable      100
Eth5/8/1      enable      100
Eth5/8/2      enable      100
Eth5/8/3      enable      100
Eth5/8/4      enable      100
Eth5/9/1      enable      100
Eth5/9/2      enable      100
Eth5/9/3      enable      100
Eth5/9/4      enable      100
Eth5/10/1     enable      100
Eth5/10/2     enable      100
Eth5/10/3     enable      100
Eth5/10/4     enable      100
Eth5/11/1     enable      100
Eth5/11/2     enable      100
Eth5/11/3     enable      100
Eth5/11/4     enable      100
Eth5/12/1     enable      100
Eth5/12/2     enable      100
Eth5/12/3     enable      100
Eth5/12/4     enable      100
Eth6/1        enable      100
Eth6/2        enable      100
Eth6/3        enable      100
Eth6/4        enable      100
Eth6/5        enable      100
Eth6/6        enable      100
Eth6/7        enable      100
Eth6/8        enable      100
Eth6/9        enable      100
Eth6/10       enable      100
Eth6/11       enable      100
Eth6/12       enable      100
Eth8/1        enable      100
Eth8/2        enable      100
Eth8/3        enable      100
Eth8/4        enable      100
Eth8/5        enable      100
Eth8/6        enable      100
Eth8/7        enable      100
Eth8/8        enable      100
Eth8/9        enable      100
Eth8/10       enable      100
Eth8/11       enable      100
Eth8/12       enable      100
switch#

```

## Related Commands

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

# show interface ethernet

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

```
show interface ethernet slot [QSFP-module] port [. subintf-port-no] [brief|counters|description|status|switchport]
```

## Syntax Description

<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
.	(Optional) Specifies the subinterface separator. <b>Note</b> This keyword applies to Layer 3 interfaces.
<i>subintf-port-no</i>	(Optional) Port number for the subinterface. The range is from 1 to 48. <b>Note</b> This argument applies to Layer 3 interfaces.
<b>brief</b>	(Optional) Displays brief information about the interfaces.
<b>counters</b>	(Optional) Displays information about the counters configured on an interface.
<b>description</b>	(Optional) Displays the description of an interface configuration.
<b>status</b>	(Optional) Displays the operational state of the interface.
<b>switchport</b>	(Optional) Displays the switchport information of an interface.

**Command Default** Displays all information for the interface.

**Command Modes** EXEC mode

**Command History**

Release	Modification
6.0(2)N1(1)	This command was introduced.

**Usage Guidelines**

If the interface and transceiver speed is mismatched, the SFP validation failed message appears when you enter the **show interface ethernet slot/[QSFP-module/]port** command. For example, if you insert a 1-Gigabit SFP transceiver into a port without configuring the **speed 1000** command, you will get this error.

By default, all ports on a Cisco Nexus device are 40-Gigabit ports.

**Examples**

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

```
switch# show interface ethernet 1/1

Ethernet1/1 is up
Dedicated Interface
Hardware: 40000 Ethernet, address: c84c.753d.5b78 (bia c84c.753d.5b78)
MTU 1500 bytes, BW 40000000 Kbit, DLY 10 usec
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA
Port mode is access
auto-duplex, 40 Gb/s
Beacon is turned off
Input flow-control is off, output flow-control is off
Switchport monitor is off
EtherType is 0x8100
Last link flapped never
Last clearing of "show interface" counters never
0 interface resets
30 seconds input rate 0 bits/sec, 0 packets/sec
30 seconds output rate 0 bits/sec, 0 packets/sec
Load-Interval #2: 5 minute (300 seconds)
  input rate 0 bps, 0 pps; output rate 0 bps, 0 pps
RX
  0 unicast packets  0 multicast packets  0 broadcast packets
  0 input packets  0 bytes
  0 jumbo packets  0 storm suppression bytes
  0 runts  0 giants  0 CRC  0 no buffer
  0 input error  0 short frame  0 overrun  0 underrun  0 ignored
  0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
  0 input with dribble  0 input discard
  0 Rx pause
TX
  0 unicast packets  0 multicast packets  0 broadcast packets
  0 output packets  0 bytes
  0 jumbo packets
  0 output errors  0 collision  0 deferred  0 late collision
  0 lost carrier  0 no carrier  0 babble  0 output discard
  0 Tx pause
switch#
```

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

Do we want to have values other than zero?

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

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

Port	InMcastPkts	InBcastPkts
Eth1/1	0	0
Port	OutOctets	OutUcastPkts
Eth1/1	0	0
Port	OutMcastPkts	OutBcastPkts
Eth1/1	0	0

This example shows how to display the information for an interface configured for Adapter-FEX:

```
switch# show interface ethernet 1/2

Ethernet1/2 is up
  Hardware: 1000/10000 Ethernet, address: 000d.ecb0.fc49 (bia 000d.ecb0.fc49)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  Port mode is vntag
  full-duplex, 1000 Mb/s, media type is 10G
  Beacon is turned off
  Input flow-control is off, output flow-control is on
  Rate mode is dedicated
  Switchport monitor is off
  EtherType is 0x8100
  Last link flapped 00:00:13
  Last clearing of "show interface" counters 1d05h
  30 seconds input rate 0 bits/sec, 0 bytes/sec, 0 packets/sec
  30 seconds output rate 1328 bits/sec, 166 bytes/sec, 0 packets/sec
  Load-Interval #2: 5 minute (300 seconds)
    input rate 0 bps, 0 pps; output rate 160 bps, 0 pps
  RX
    32453811602 unicast packets   649076 multicast packets   0 broadcast packets
    32454460682 input packets   2206903326245 bytes
    0 jumbo packets   0 storm suppression packets
    3 runts   0 giants   1 CRC   0 no buffer
    4 input error   0 short frame   0 overrun   0 underrun   0 ignored
    0 watchdog   0 bad etype drop   0 bad proto drop   0 if down drop
    0 input with dribble   0 input discard
    0 Rx pause
  TX
    33695526841 unicast packets   36871810887 multicast packets   72059438 broadcast packets
    70639397169 output packets   4803378946692 bytes
    0 jumbo packets
    3 output errors   0 collision   0 deferred   0 late collision
    0 lost carrier   0 no carrier   0 babble
    0 Tx pause
  2 interface resets
switch#
```

The above display shows the port mode configured as a virtual network tag (VNTag) port.

This example shows how to display the detailed configuration information of a specified subinterface:

```
switch# show interface ethernet 1/5.2

Ethernet1/5.2 is up
  Hardware: 1000/10000 Ethernet, address: 0005.73a6.1dbc (bia 0005.73a6.1d6c)
  Description: Eth 1/5.2 subinterfaces
  Internet Address is 192.0.0.3/24
  MTU 1500 bytes, BW 1500 Kbit, DLY 2000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation 802.1Q Virtual LAN, Vlan ID 100
  EtherType is 0x8100
switch#
```

This example shows how to display the brief configuration information of a specified subinterface:

```
switch# show interface ethernet 1/5.2 brief
```

```
-----
Ethernet      VLAN   Type Mode   Status Reason          Speed   Port
Interface                                           Ch #
-----
Eth1/5.2     100   eth  routed up    none          10G(D)  --
switch#
```

This example shows how to display the purpose of a specified subinterface:

```
switch# show interface ethernet 1/5.2 description
```

```
-----
Port          Type   Speed  Description
-----
Eth1/5.2     eth    10G    Eth 1/5.2 subinterfaces
switch#
```

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

```
switch# show interface ethernet 1/2 switchport
```

```
Name: Ethernet1/2
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: trunk
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1,300-800
Pruning VLANs Enabled: 2-1001
Administrative private-vlan primary host-association: none
Administrative private-vlan secondary host-association: none
Administrative private-vlan primary mapping: none
Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Monitor destination rate-limit: 1G
switch#
```

This example shows how to display the information about a specific Ethernet interface that is bound to a virtual Ethernet interface:

```
switch(config)# interface vethernet 10

switch(config-if)# bind interface ethernet 1/5 channel 10
switch(config-if)# inherit port-profile ppVEth

switch(config-if)# untagged cos 3

switch(config-if)# exit

switch(config)# exit

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

```
-----
Ethernet      VLAN   Type Mode   Status Reason          Speed   Port
Interface                                           Ch #
-----
Eth1/5        --    eth  routed down  SFP not inserted  10G(D)  10
switch#
```

The following table describes the significant fields in the above display.



**Table 2: show interface ethernet brief Field Description**

Field	Description
Ethernet Interface	Ethernet interface information.
VLAN	VLANs associated with the Ethernet interface.
Type	Type of interface.
Mode	Mode configured for the interface: access, trunk, routed (applies to Layer 3 interfaces), and vlan.
Status	Indicates whether the interface hardware is currently active (up), is currently inactive (down), or has been taken down by an administrator (administratively down).
Reason	Indicates the reason the interface is inactive or administratively down.
Speed	Interface speed.
Port Ch #	EtherChannel associated with the interface.

This example shows how to display the MAC address of a specified subinterface:

```
switch# show interface ethernet 1/5.2
mac-address
```

```
-----
Interface           Mac-Address       Burn-in Mac-Address
-----
Ethernet1/5.2      0005.73a6.1dbc   0005.73a6.1d6c
switch#
```

**Related Commands**

Command	Description
<b>interface ethernet</b>	Configures an Ethernet IEEE 802.3 interface.
<b>interface ethernet (Layer 3)</b>	Configures a Layer 3 Ethernet IEEE 802.3 interface.
<b>switchport mode vntag</b>	Configures an Ethernet interface as a VNTag port.
<b>switchport monitor rate-limit</b>	Configures the rate limit for traffic on an interface.

# show interface loopback

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

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

## Syntax Description

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

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

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

```
switch# show interface loopback 10

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

The following table describes the significant fields shown in the display.

**Table 3: show interface loopback Field Description**

Field	Description
Loopback is ...	Whether the interface hardware is currently active (whether carrier detect is present), is currently inactive (down), or has been taken down by an administrator (administratively down).
Hardware	Hardware is Loopback.
MTU	Maximum transmission unit (MTU) of the interface.
BW	Bandwidth (BW) of the interface in kilobits per second.
DLY	Delay (DLY) of the interface in microseconds.
reliability	Reliability of the interface as a fraction of 255 (255/255 is 100 percent reliability), calculated as an exponential average over 5 minutes.
txload	Load on the interface for transmitting packets as a fraction of 255 (255/255 is completely saturated), calculated as an exponential average over 5 minutes.
rxload	Load on the interface for receiving packets as a fraction of 255 (255/255 is completely saturated), calculated as an exponential average over 5 minutes.
Encapsulation	Encapsulation method assigned to the interface.
LOOPBACK	Indicates whether loopback is set.
packets input	Total number of error-free packets received by the system.
bytes	Total number of bytes, including data and MAC encapsulation, in the error-free packets received by the system.
multicast frames	Total number of multicast frames enabled on the interface.
compressed	Total number of multicast frames compressed on the interface.

Field	Description
input errors	Sum of all errors that prevented the receipt of datagrams on the interface being examined. This might not equal the sum of the enumerated output errors, because some datagrams might have more than one error and others might have errors that do not fall into any of the specifically tabulated categories.
frame	Number of packets received incorrectly having a CRC error and a noninteger number of octets. On a serial line, this number is usually the result of noise or other transmission problems.
overrun	Number of times that the serial receiver hardware was unable to hand received data to a hardware buffer because the input rate exceeded the receiver's ability to handle the data.
fifo	Number of First In, First Out (FIFO) errors in the receive direction.
packets output	Total number of messages transmitted by the system.
bytes	Total number of bytes, including data and MAC encapsulation, transmitted by the system.
underruns	Number of times that the far-end transmitter has been running faster than the near-end router's receiver can handle. This situation might never happen (be reported) on some interfaces.
output errors	Sum of all errors that prevented the final transmission of datagrams out of the interface being examined. This might equal the sum of the enumerated output errors, as some datagrams might have more than one error, and others might have errors that do not fall into any of the specifically tabulated categories.
collisions	Loopback interface does not have collisions.
fifo	Number of First In, First Out (FIFO) errors in the transmit direction.

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

```
switch# show interface loopback 10 brief
```

```
-----  
Interface      Status      Description  
-----
```

```
loopback10    up          --
switch#
```

**Related Commands**

Command	Description
<b>interface loopback</b>	Configures a loopback interface.

# show interface mac-address

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

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

## Syntax Description

<i>type</i>	(Optional) Interface for which MAC addresses should be displayed. The <i>type</i> can be either Ethernet or EtherChannel or vethernet.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<i>portchannel-no</i>	EtherChannel number. The EtherChannel number is from 1 to 4096.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Usage Guidelines

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

## Examples

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

```
switch# show interface mac-address
```

```
-----
Interface                Mac-Address          Burn-in Mac-Address
-----
Ethernet1/1              c84c.753d.5b74      c84c.753d.5b78
Ethernet1/2              c84c.753d.5b74      c84c.753d.5b79
Ethernet1/3              c84c.753d.5b74      c84c.753d.5b7a
Ethernet1/4              c84c.753d.5b74      c84c.753d.5b7b
Ethernet1/5              c84c.753d.5b74      c84c.753d.5b7c
-----
```

Ethernet1/6	c84c.753d.5b74	c84c.753d.5b7d
Ethernet1/7	c84c.753d.5b74	c84c.753d.5b7e
Ethernet1/8	c84c.753d.5b74	c84c.753d.5b7f
Ethernet1/9	c84c.753d.5b74	c84c.753d.5b80
Ethernet1/10	c84c.753d.5b74	c84c.753d.5b81
Ethernet1/11	c84c.753d.5b74	c84c.753d.5b82
Ethernet1/12	c84c.753d.5b74	c84c.753d.5b83
Ethernet5/1/1	c84c.753d.5b74	a44c.11e7.ea20
Ethernet5/1/2	c84c.753d.5b74	a44c.11e7.ea21
Ethernet5/1/3	c84c.753d.5b74	a44c.11e7.ea22
Ethernet5/1/4	c84c.753d.5b74	a44c.11e7.ea23
Ethernet5/2/1	c84c.753d.5b74	a44c.11e7.ea24
Ethernet5/2/2	c84c.753d.5b74	a44c.11e7.ea25
Ethernet5/2/3	c84c.753d.5b74	a44c.11e7.ea26
Ethernet5/2/4	c84c.753d.5b74	a44c.11e7.ea27
Ethernet5/3/1	c84c.753d.5b74	a44c.11e7.ea28
Ethernet5/3/2	c84c.753d.5b74	a44c.11e7.ea29
Ethernet5/3/3	c84c.753d.5b74	a44c.11e7.ea2a
Ethernet5/3/4	c84c.753d.5b74	a44c.11e7.ea2b
Ethernet5/4/1	c84c.753d.5b74	a44c.11e7.ea2c
Ethernet5/4/2	c84c.753d.5b74	a44c.11e7.ea2d
Ethernet5/4/3	c84c.753d.5b74	a44c.11e7.ea2e
Ethernet5/4/4	c84c.753d.5b74	a44c.11e7.ea2f
Ethernet5/5/1	c84c.753d.5b74	a44c.11e7.ea30
Ethernet5/5/2	c84c.753d.5b74	a44c.11e7.ea31
Ethernet5/5/3	c84c.753d.5b74	a44c.11e7.ea32
Ethernet5/5/4	c84c.753d.5b74	a44c.11e7.ea33
Ethernet5/6/1	c84c.753d.5b74	a44c.11e7.ea34
Ethernet5/6/2	c84c.753d.5b74	a44c.11e7.ea35
Ethernet5/6/3	c84c.753d.5b74	a44c.11e7.ea36
Ethernet5/6/4	c84c.753d.5b74	a44c.11e7.ea37
Ethernet5/7/1	c84c.753d.5b74	a44c.11e7.ea38
Ethernet5/7/2	c84c.753d.5b74	a44c.11e7.ea39
Ethernet5/7/3	c84c.753d.5b74	a44c.11e7.ea3a
Ethernet5/7/4	c84c.753d.5b74	a44c.11e7.ea3b
Ethernet5/8/1	c84c.753d.5b74	a44c.11e7.ea3c
Ethernet5/8/2	c84c.753d.5b74	a44c.11e7.ea3d
Ethernet5/8/3	c84c.753d.5b74	a44c.11e7.ea3e
Ethernet5/8/4	c84c.753d.5b74	a44c.11e7.ea3f
Ethernet5/9/1	c84c.753d.5b74	a44c.11e7.ea40
Ethernet5/9/2	c84c.753d.5b74	a44c.11e7.ea41
Ethernet5/9/3	c84c.753d.5b74	a44c.11e7.ea42
Ethernet5/9/4	c84c.753d.5b74	a44c.11e7.ea43
Ethernet5/10/1	c84c.753d.5b74	a44c.11e7.ea44
Ethernet5/10/2	c84c.753d.5b74	a44c.11e7.ea45
Ethernet5/10/3	c84c.753d.5b74	a44c.11e7.ea46
Ethernet5/10/4	c84c.753d.5b74	a44c.11e7.ea47
Ethernet5/11/1	c84c.753d.5b74	a44c.11e7.ea48
Ethernet5/11/2	c84c.753d.5b74	a44c.11e7.ea49
Ethernet5/11/3	c84c.753d.5b74	a44c.11e7.ea4a
Ethernet5/11/4	c84c.753d.5b74	a44c.11e7.ea4b
Ethernet5/12/1	c84c.753d.5b74	a44c.11e7.ea4c
Ethernet5/12/2	c84c.753d.5b74	a44c.11e7.ea4d
Ethernet5/12/3	c84c.753d.5b74	a44c.11e7.ea4e
Ethernet5/12/4	c84c.753d.5b74	a44c.11e7.ea4f
Ethernet6/1	c84c.753d.5b74	a44c.11e7.e9f0
Ethernet6/2	c84c.753d.5b74	a44c.11e7.e9f1
Ethernet6/3	c84c.753d.5b74	a44c.11e7.e9f2
Ethernet6/4	c84c.753d.5b74	a44c.11e7.e9f3
Ethernet6/5	c84c.753d.5b74	a44c.11e7.e9f4
Ethernet6/6	c84c.753d.5b74	a44c.11e7.e9f5
Ethernet6/7	c84c.753d.5b74	a44c.11e7.e9f6
Ethernet6/8	c84c.753d.5b74	a44c.11e7.e9f7
Ethernet6/9	c84c.753d.5b74	a44c.11e7.e9f8
Ethernet6/10	c84c.753d.5b74	a44c.11e7.e9f9
Ethernet6/11	c84c.753d.5b74	a44c.11e7.e9fa
Ethernet6/12	c84c.753d.5b74	a44c.11e7.e9fb
Ethernet8/1	c84c.753d.5b74	c84c.753d.5c38
Ethernet8/2	c84c.753d.5b74	c84c.753d.5c39
Ethernet8/3	c84c.753d.5b74	c84c.753d.5c3a
Ethernet8/4	c84c.753d.5b74	c84c.753d.5c3b
Ethernet8/5	c84c.753d.5b74	c84c.753d.5c3c
Ethernet8/6	c84c.753d.5b74	c84c.753d.5c3d

## show interface mac-address

```

Ethernet8/7          c84c.753d.5b74  c84c.753d.5c3e
Ethernet8/8          c84c.753d.5b74  c84c.753d.5c3f
Ethernet8/9          c84c.753d.5b74  c84c.753d.5c40
Ethernet8/10         c84c.753d.5b74  c84c.753d.5c41
Ethernet8/11         c84c.753d.5b74  c84c.753d.5c42
Ethernet8/12         c84c.753d.5b74  c84c.753d.5c43
mgmt0                c84c.753d.5b39  c84c.753d.5b39
switch#

```

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

```
switch# show interface port-channel 5 mac-address
```

```

-----
Interface           Mac-Address      Burn-in Mac-Address
-----
port-channel15     0005.9b78.6e7c  0005.9b78.6e7c
switch#

```

## Related Commands

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



## show interface mgmt

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

```
show interface mgmt intf-num [brief| capabilities| counters [detailed [all]| errors [snmp]]| description|
status]
```

### Syntax Description

<i>intf-num</i>	Management interface number. The value is 0.
<b>brief</b>	(Optional) Displays a summary of the configuration information for the management interface.
<b>capabilities</b>	(Optional) Displays the interface capabilities information.
<b>counters</b>	(Optional) Displays information about the management interface counters.
<b>detailed</b>	(Optional) Displays detailed information of only the nonzero interface counters.
<b>all</b>	(Optional) Displays all nonzero interface counters.
<b>errors</b>	(Optional) Displays the interface error counters, such as receive or transmit error counters.
<b>snmp</b>	(Optional) Displays the Simple Network Management Protocol (SNMP) MIB values for the nonzero interface counters.
<b>description</b>	(Optional) Displays the interface description.
<b>status</b>	(Optional) Displays the interface line status.

**Command Default** None

**Command Modes** EXEC mode

### Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

**Examples**

This example shows how to display the configuration information of the management interface:

```
switch# show interface mgmt
0

mgmt0 is up
  Hardware: GigabitEthernet, address: 0005.9b74.a6c1 (bia 0005.9b74.a6c1)
  Internet Address is 10.193.51.174/21
  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
  EtherType is 0x0000
  1 minute input rate 11336 bits/sec, 9 packets/sec
  1 minute output rate 2248 bits/sec, 3 packets/sec
  Rx
    22722587 input packets 7487592 unicast packets 7082728 multicast packets
    8152267 broadcast packets 3375124199 bytes
  Tx
    7618171 output packets 7283211 unicast packets 334751 multicast packets
    209 broadcast packets 1056259251 bytes
switch#
```

This example shows how to display the summary configuration information of the management interface:

```
switch# show interface mgmt 0 brief
-----
Port    VRF      Status IP Address                Speed    MTU
-----
mgmt0   --      up    10.193.88.192             1000    1500
switch#
```

**Related Commands**

Command	Description
interface mgmt	Configures a management interface.

# show interface port-channel

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

**show interface port-channel** *number* [*.subinterface-number*] [**brief**] **counters**| **description**| **status**]

## Syntax Description

<i>.number</i>	EtherChannel number. The range is from 1 to 4096.
<i>.subinterface-number</i>	(Optional) Port-channel subinterface configuration. Use the EtherChannel number followed by a dot (.) indicator and the subinterface number. The format is: <i>portchannel-number.subinterface-number</i>
<b>brief</b>	(Optional) Displays a summary of the configuration information for the management interface.
<b>counters</b>	(Optional) Displays information about the counters configured on the EtherChannel interface.
<b>description</b>	(Optional) Displays the description of the EtherChannel interface configuration.
<b>status</b>	(Optional) Displays the operational state of the EtherChannel interface.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

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

```
switch# show interface port-channel 21

port-channel21 is up
  Hardware: Port-Channel, address: 000d.ece7.df72 (bia 000d.ece7.df72)
  MTU 1500 bytes, BW 10000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
```

## show interface port-channel

```

Encapsulation ARPA
Port mode is trunk
full-duplex, 10 Gb/s
Beacon is turned off
Input flow-control is on, output flow-control is on
Switchport monitor is off
Members in this channel: Eth2/3
Last clearing of "show interface" counters never
30 seconds input rate 0 bits/sec, 0 packets/sec
30 seconds output rate 352 bits/sec, 0 packets/sec
Load-Interval #2: 5 minute (300 seconds)
  input rate 0 bps, 0 pps; output rate 368 bps, 0 pps
RX
  0 unicast packets  0 multicast packets  0 broadcast packets
  0 input packets  0 bytes
  0 jumbo packets  0 storm suppression packets
  0 runts  0 giants  0 CRC  0 no buffer
  0 input error  0 short frame  0 overrun  0 underrun  0 ignored
  0 watchdog  0 bad etype drop  0 bad proto drop  0 if down drop
  0 input with dribble  0 input discard
  0 Rx pause
TX
  0 unicast packets  15813 multicast packets  9 broadcast packets
  15822 output packets  1615917 bytes
  0 jumbo packets
  0 output errors  0 collision  0 deferred  0 late collision
  0 lost carrier  0 no carrier  0 babble
  0 Tx pause
  1 interface resets
switch#

```

## Related Commands

Command	Description
<b>interface port-channel</b>	Configures an EtherChannel interface.

# show interface status err-disabled

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

```
show interface status err-disabled
```

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

**Command Default** None

**Command Modes** EXEC mode

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

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

```
-----
Port          Name              Status Reason
-----
Eth114/1/27  --                down   BPDUGuard errDisable
Eth114/1/28  --                down   BPDUGuard errDisable
Eth114/1/29  --                down   BPDUGuard errDisable
Eth114/1/30  --                down   BPDUGuard errDisable
Eth114/1/31  --                down   BPDUGuard errDisable
Eth114/1/32  --                down   BPDUGuard errDisable
Eth114/1/33  --                down   BPDUGuard errDisable
Eth114/1/34  --                down   BPDUGuard errDisable
Eth114/1/35  --                down   BPDUGuard errDisable
Eth114/1/36  --                down   BPDUGuard errDisable
Eth114/1/39  --                down   BPDUGuard errDisable
Eth114/1/40  --                down   BPDUGuard errDisable
Eth114/1/41  --                down   BPDUGuard errDisable
Eth114/1/42  --                down   BPDUGuard errDisable
Eth114/1/43  --                down   BPDUGuard errDisable
Eth114/1/44  --                down   BPDUGuard errDisable
Eth114/1/45  --                down   BPDUGuard errDisable
Eth114/1/46  --                down   BPDUGuard errDisable
Eth114/1/47  --                down   BPDUGuard errDisable
--More--
switch#
```

## Related Commands

Command	Description
<b>errdisable detect cause</b>	Enables the error-disabled (err-disabled) detection.

Command	Description
errdisable recovery cause	Enables error-disabled recovery on an interface.

# show interface switchport

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

**show interface switchport**

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

**Command Default** None

**Command Modes** EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

**Usage Guidelines** You can configure the rate limit on the following Cisco Nexus 5000 Series switches using the **switchport monitor rate-limit 1G** command:

Does this apply to the 5500 and 6000?

- Cisco Nexus 5010 Series
- Cisco Nexus 5020 Series

**Examples** This example shows how to display information for all Ethernet and virtual Ethernet interfaces:

```
switch# show interface switchport

Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: fex-fabric
  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:
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled
Name: Ethernet1/2
  Switchport: Enabled
  Switchport Monitor: Not enabled
```

## show interface switchport

```

Operational Mode: fex-fabric
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

```

```
--More--
```

```
switch#
```

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

What should this command be? It is the same as the previous one.

```
switch# show interface switchport
```

```

Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: fex-fabric
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795,900,1002-1005
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled
Name: Ethernet1/2
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: vntag
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled
Name: Ethernet1/3
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: trunk
  Access Mode VLAN: 700 (VLAN0700)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795
<--snip-->
:
:
Name: port-channel4000
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: access
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795,900,1002-1005
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none

```



```

Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Name: Vethernet2
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: access
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1,300-795,900,1002-1005
Pruning VLANs Enabled: 2-1001
Administrative private-vlan primary host-association: none
Administrative private-vlan secondary host-association: none
Administrative private-vlan primary mapping: none
Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Name: Vethernet10
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: access
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1,300-795,900,1002-1005
Pruning VLANs Enabled: 2-1001
Administrative private-vlan primary host-association: none
Administrative private-vlan secondary host-association: none
Administrative private-vlan primary mapping: none
Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Name: Ethernet101/1/1
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: access
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1,300-795,900,1002-1005
Pruning VLANs Enabled: 2-1001
Administrative private-vlan primary host-association: none
<--Output truncated-->
switch#

```

This example shows how to display the rate limit status for Ethernet interface 1/2:

```

switch# show interface switchport

BEND-2(config-if)# show interface switchport
Name: Ethernet1/1
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: fex-fabric
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1,300-800,900
Pruning VLANs Enabled: 2-1001
Administrative private-vlan primary host-association: none
Administrative private-vlan secondary host-association: none

```

## show interface switchport

```

Administrative private-vlan primary mapping: none
Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Name: Ethernet1/2
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: trunk
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1,300-800
Pruning VLANs Enabled: 2-1001
Administrative private-vlan primary host-association: none
Administrative private-vlan secondary host-association: none
Administrative private-vlan primary mapping: none
Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Monitor destination rate-limit: 1G
Name: Ethernet1/3
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: trunk
Access Mode VLAN: 700 (VLAN0700)
Trunking Native Mode VLAN: 1 (default)
<--Output truncated-->
switch #

```

In the above display, the significant field for Ethernet interface 1/2 is highlighted.

This example shows how to display the voice VLAN information for an Ethernet interface:

```

switch# show interface ethernet 1/28 switchport

Name: Ethernet1/28
Switchport: Enabled
Switchport Monitor: Not enabled
Operational Mode: access
Access Mode VLAN: 3000 (VLAN3000)
Trunking Native Mode VLAN: 1 (default)
Trunking VLANs Enabled: 1,200,300-302,500,2001-2248,3000-3001,4049,4090
Pruning VLANs Enabled: 2-1001
Voice VLAN: 3
Extended Trust State : not trusted [COS = 0]
Administrative private-vlan primary host-association: none
Administrative private-vlan secondary host-association: none
Administrative private-vlan primary mapping: none
Administrative private-vlan secondary mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk private VLANs: none
Operational private-vlan: none
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
switch#

```

**Related Commands**

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

# show interface switchport backup

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

**show interface switchport backup [detail]**

## Syntax Description

<b>detail</b>	(Optional) Displays detailed information for backup interfaces.
---------------	---

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display information for all Flex Links:

```
switch# show interface switchport backup
```

```
Switch Backup Interface Pairs:
Active Interface      Backup Interface      State
-----
Ethernet1/2          Ethernet1/1           Active Down/Backup Down
Ethernet1/20         Ethernet1/21          Active Down/Backup Down
port-channel300      port-channel301       Active Up/Backup Down
port-channel500      port-channel501       Active Down/Backup Down
port-channel502      port-channel503       Active Down/Backup Down
port-channel504      Ethernet2/1           Active Down/Backup Down
switch#
```

This example shows how to display the detailed information for all Flex Links:

```
switch# show interface switchport backup detail
```

```
Switch Backup Interface Pairs:
Active Interface      Backup Interface      State
-----
Ethernet1/2          Ethernet1/1           Active Down/Backup Down
    Preemption Mode   : off
    Multicast Fast Convergence : Off
    Bandwidth : 1000000 Kbit (Ethernet1/2), 10000000 Kbit (Ethernet1/1)
Ethernet1/20         Ethernet1/21          Active Down/Backup Down
    Preemption Mode   : off
    Multicast Fast Convergence : Off
    Bandwidth : 10000000 Kbit (Ethernet1/20), 10000000 Kbit (Ethernet1/21)
port-channel300      port-channel301       Active Up/Backup Down
    Preemption Mode   : forced
```

```

Preemption Delay : 35 seconds (default)
Multicast Fast Convergence : On
Bandwidth : 20000000 Kbit (port-channel300), 10000000 Kbit (port-channel
301)
port-channel500      port-channel501      Active Down/Backup Down
Preemption Mode    : off
Multicast Fast Convergence : On
Bandwidth : 100000 Kbit (port-channel500), 100000 Kbit (port-channel501)
port-channel502      port-channel503      Active Down/Backup Down
Preemption Mode    : off
Multicast Fast Convergence : Off
Bandwidth : 100000 Kbit (port-channel502), 100000 Kbit (port-channel503)
port-channel504      Ethernet2/1          Active Down/Backup Down
Preemption Mode    : off
Multicast Fast Convergence : Off
Bandwidth : 100000 Kbit (port-channel504), 0 Kbit (Ethernet2/1)
switch#

```

The following table describes the significant fields displayed in the output.

**Table 4: show interface switchport backup Field Descriptions**

Field	Description
Active Interface	Layer 2 interface being configured.
Backup Interface	Layer 2 interface to act as a backup link to the interface being configured.
State	Flex Links status.
Preemption Mode	Preemption scheme for a backup interface pair.
Preemption Delay	Preemption delay configured for a backup interface pair.
Multicast Fast Convergence	Fast convergence configured on the backup interface.
Bandwidth	Bandwidth configured on the backup interface.

**Related Commands**

Command	Description
<b>switchport backup interface</b>	Configures Flex Links.
<b>show running-config backup</b>	Displays the running configuration information for backup interfaces.
<b>show running-config flexlink</b>	Displays the running configuration information for Flex Links.

# show interface transceiver

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

**show interface ethernet slot [QSFP-module] port transceiver [details]**

## Syntax Description

<b>ethernet</b>	Displays information about an Ethernet interface slot number and port number.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<b>details</b>	(Optional) Displays detailed information about the transceivers on an interface.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Usage Guidelines

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

## Examples

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

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

Ethernet1/1
  transceiver is present
  type is SFP-H10GB-CU1M
  name is CISCO-MOLEX
  part number is 74752-9044
  revision is 07
  serial number is MOC14081360
  nominal bitrate is 10300 MBit/sec
```

```
Link length supported for copper is 1 m
cisco id is --
cisco extended id number is 4
switch#
```

**Related Commands**

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

# show lacp

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

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

## Syntax Description

<b>counters</b>	Displays information about the LACP traffic statistics.
<b>interface ethernet</b>	Displays LACP information for a specific Ethernet interface.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<b>neighbor</b>	Displays information about the LACP neighbor.
<b>interface port-channel</b> <i>number</i>	(Optional) Displays information about a specific EtherChannel. The EtherChannel number is from 1 to 4096.
<b>port-channel</b>	Displays information about all EtherChannels.
<b>system-identifier</b>	Displays the LACP system identification. It is a combination of the port priority and the MAC address of the device.

**Command Default** None

**Command Modes** EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Usage Guidelines

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



**Examples**

This example shows how to display the LACP system identification:

```
switch# show lacp system-identifier
32768,0-5-9b-78-6e-7c
switch#
```

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

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

Interface Ethernet1/1 is up
  Channel group is 1 port channel is Po1
  PDUs sent: 1684
  PDUs rcvd: 1651
  Markers sent: 0
  Markers rcvd: 0
  Marker response sent: 0
  Marker response rcvd: 0
  Unknown packets rcvd: 0
  Illegal packets rcvd: 0
Lag Id: [ [(8000, 0-5-9b-78-6e-7c, 0, 8000, 101), (8000, 0-d-ec-c9-c8-3c, 0, 8000, 101)] ]
Operational as aggregated link since Wed Apr 21 00:37:27 2010
Local Port: Eth1/1   MAC Address= 0-5-9b-78-6e-7c
  System Identifier=0x8000,0-5-9b-78-6e-7c
  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=(Ac-1:To-1:Ag-1:Sy-0:Co-0:Di-0:De-0:Ex-0)
Actor Oper State=(Ac-1:To-0:Ag-1:Sy-1:Co-1:Di-1:De-0:Ex-0)
Neighbor: 1/1
  MAC Address= 0-d-ec-c9-c8-3c
  System Identifier=0x8000,0-d-ec-c9-c8-3c
  Port Identifier=0x8000,0x101
  Operational key=0
  LACP_Activity=active
  LACP_Timeout=Long Timeout (30s)
  Synchronization=IN_SYNC
  Collecting=true
  Distributing=true
Partner Admin State=(Ac-0:To-1:Ag-0:Sy-0:Co-0:Di-0:De-0:Ex-0)
Partner Oper State=(Ac-1:To-0:Ag-1:Sy-1:Co-1:Di-1:De-0:Ex-0)
switch#
```

**Related Commands**

Command	Description
<b>clear lacp counters</b>	Clears LACP counters.
<b>lacp port-priority</b>	Sets the priority for the physical interfaces for the LACP.
<b>lacp system-priority</b>	Sets the system priority of the switch for the LACP.

# show port-channel capacity

To display the total number of EtherChannel interfaces and the number of free or used EtherChannel interfaces, use the **show port-channel capacity** command.

**show port-channel capacity**

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

**Command Default** None

**Command Modes** EXEC mode

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	6.0(2)N1(1)	This command was introduced.

**Examples** This example shows how to display the EtherChannel capacity:

```
switch# show port-channel capacity

Port-channel resources
  768 total    29 used    739 free    3% used
switch#
```

## Related Commands

<b>Command</b>	<b>Description</b>
<b>port-channel load-balance ethernet</b>	Configures the load-balancing algorithm for EtherChannels.
<b>show tech-support port-channel</b>	Displays Cisco Technical Support information about EtherChannels.

# show port-channel compatibility-parameters

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

**show port-channel compatibility-parameters**

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

**Command Default** None

**Command Modes** EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the EtherChannel interface parameters:

```
switch# show port-channel compatibility-parameters
* port mode
Members must have the same port mode configured.
* port mode
Members must have the same port mode configured, either E,F or AUTO. If
they are configured in AUTO port mode, they have to negotiate E or F mode
when they come up. If a member negotiates a different mode, it will be
suspended.
* speed
Members must have the same speed configured. If they are configured in AUTO
speed, they have to negotiate the same speed when they come up. If a member
negotiates a different speed, it will be suspended.
* MTU
Members have to have the same MTU configured. This only applies to ethernet
port-channel.
* shut lan
Members have to have the same shut lan 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.
* load interval
Member must have same load interval configured.
--More--
<---output truncated--->
switch#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>port-channel load-balance ethernet</b>	Configures the load-balancing algorithm for EtherChannels.
<b>show tech-support port-channel</b>	Displays Cisco Technical Support information about EtherChannels.

# show port-channel database

To display the aggregation state for one or more EtherChannel interfaces, use the **show port-channel database** command.

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

## Syntax Description

<b>interface</b>	(Optional) Displays information for an EtherChannel interface.
<b>port-channel</b> <i>number</i>	Displays aggregation information for a specific EtherChannel interface. The <i>number</i> range is from 1 to 4096.
<i>.subinterface-number</i>	(Optional) Subinterface number. Use the EtherChannel number followed by a dot (.) indicator and the subinterface number. The format is <i>portchannel-number.subinterface-number</i> .

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the aggregation state of all EtherChannel interfaces:

```
switch# show port-channel database
port-channel19
  Last membership update is successful
  4 ports in total, 4 ports up
  First operational port is Ethernet199/1/24
  Age of the port-channel is 0d:09h:11m:30s
  Time since last bundle is 0d:09h:12m:20s
  Last bundled member is
  Ports:   Ethernet199/1/24  [active ] [up] *
          Ethernet199/1/28  [active ] [up]
          Ethernet199/1/30  [active ] [up]
          Ethernet199/1/31  [active ] [up]
port-channel21
  Last membership update is successful
  1 ports in total, 1 ports up
  First operational port is Ethernet2/3
```

```

    Age of the port-channel is 0d:09h:11m:30s
    Time since last bundle is 0d:09h:12m:20s
    Last bundled member is
    Ports:  Ethernet2/3      [on] [up] *
port-channel150
    Last membership update is successful
--More--
<---output truncated--->
switch#

```

This example shows how to display the aggregation state for a specific EtherChannel interface:

```

switch# show port-channel database interface port-channel 21

port-channel21
  Last membership update is successful
  1 ports in total, 1 ports up
  First operational port is Ethernet2/3
  Age of the port-channel is 0d:09h:13m:14s
  Time since last bundle is 0d:09h:14m:04s
  Last bundled member is
  Ports:  Ethernet2/3      [on] [up] *
switch#

```

### Related Commands

Command	Description
<b>port-channel load-balance ethernet</b>	Configures the load-balancing algorithm for EtherChannels.
<b>show tech-support port-channel</b>	Displays Cisco Technical Support information about EtherChannels.

# show port-channel load-balance

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

```
show port-channel load-balance [forwarding-path interface port-channel number {.|} vlan vlan_ID]
[dst-ip ipv4-addr] [dst-ipv6 ipv6-addr] [dst-mac dst-mac-addr] [l4-dst-port dst-port] [l4-src-port src-port]
[src-ip ipv4-addr] [src-ipv6 ipv6-addr] [src-mac src-mac-addr]]
```

## Syntax Description

<b>forwarding-path interface port-channel</b>	(Optional) Identifies the port in the EtherChannel interface that forwards the packet.
<i>number</i>	EtherChannel number for the load-balancing forwarding path that you want to display. The range is from 1 to 4096.
.	(Optional) Subinterface number separator. Use the EtherChannel number followed by a dot (.) indicator and the subinterface number. The format is <i>portchannel-number.subinterface-number</i> .
<b>vlan</b>	(Optional) Identifies the VLAN for hardware hashing.
<i>vlan_ID</i>	VLAN ID. The range is from 1 to 3967 and 4048 to 4093.
<b>dst-ip</b>	(Optional) Displays the load distribution on the destination IP address.
<i>ipv4-addr</i>	IPv4 address to specify a source or destination IP address. The format is <i>A.B.C.D</i> .
<b>dst-ipv6</b>	(Optional) Displays the load distribution on the destination IPv6 address.
<i>ipv6-addr</i>	IPv6 address to specify a source or destination IP address. The format is <i>A:B::C:D</i> .
<b>dst-mac</b>	(Optional) Displays the load distribution on the destination MAC address.
<i>dst-mac-addr</i>	Destination MAC address. The format is <i>AAAA:BBBB:CCCC</i> .
<b>l4-dst-port</b>	(Optional) Displays the load distribution on the destination port.
<i>dst-port</i>	Destination port number. The range is from 0 to 65535.

<b>l4-src-port</b>	(Optional) Displays the load distribution on the source port.
<i>src-port</i>	Source port number. The range is from 0 to 65535.
<b>src-ip</b>	(Optional) Displays the load distribution on the source IP address.
<b>src-ipv6</b>	(Optional) Displays the load distribution on the source IPv6 address.
<b>src-mac</b>	(Optional) Displays the load distribution on the source MAC address.
<i>src-mac-addr</i>	Source MAC address. The format is <i>AA:BB:CC:DD:EE:FF</i> .

**Command Default** None

**Command Modes** EXEC mode

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	6.0(2)N1(1)	This command was introduced.

### Usage Guidelines

You must use the **vlan** keyword to determine the use of hardware hashing.

When you do not use hardware hashing, the output displays all parameters used to determine the outgoing port ID. Missing parameters are shown as zero values in the output.

If you do not use hardware hashing, the outgoing port ID is determined by using control-plane selection. Hardware hashing is not used in the following scenarios:

- The specified VLAN contains an unknown unicast destination MAC address.
- The specified VLAN contains a known or an unknown multicast destination MAC or destination IP address.
- The specified VLAN contains a broadcast MAC address.
- The EtherChannel has only one active member.
- The destination MAC address is unknown when the load distribution is configured on the source IP address (**src-ip**), source port (**l4-src-port**), or source MAC address (**src-mac**).
- If multichassis EtherChannel trunk (MCT) is enabled and the traffic flows from a virtual port channel (vPC) peer link, the output displays “Outgoing port id (vPC peer-link traffic).”



To get accurate results, you must do the following:

- (For unicast frames) Provide the destination MAC address (dst-mac) and the VLAN for hardware hashing (vlan). When the destination MAC address is not provided, hardware hashing is assumed.
- (For multicast frames) For IP multicast, provide either the destination IP address (dst-ip) or destination MAC address (dst-mac) with the VLAN for hardware hashing (vlan). For non-IP multicast, provide the destination MAC address with the VLAN for hardware hashing.
- (For broadcast frames) Provide the destination MAC address (dst-mac) and the VLAN for hardware hashing (vlan).

## Examples

This example shows how to display the port channel load-balancing information:

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

Port Channel Load-Balancing Configuration:
System: source-dest-ip
Port Channel Load-Balancing Addresses Used Per-Protocol:
Non-IP: source-dest-mac
IP: source-dest-ip source-dest-mac
switch#
```

The following table describes the fields shown in the display.

**Table 5: show port-channel load-balance Field Descriptions**

Field	Description
System	Load-balancing method configured on the switch.
Non-IP	Field that will be used to calculate the hash value for non-IP traffic.
IP	Fields used for IPv4 and IPv6 traffic.

This example shows how to display the port channel load-balancing information when hardware hashing is not used:

```
switch# show port-channel load-balance forwarding-path interface port-channel 5 vlan 3
dst-ip 192.0.2.37

Missing params will be substituted by 0's.
Load-balance Algorithm on FEX: source-dest-ip
crc8_hash: Not Used      Outgoing port id: Ethernet133/1/3
Param(s) used to calculate load-balance (Unknown unicast, multicast and broadcast
 packets):
      dst-mac: 0000.0000.0000
      vlan id: 3
switch#
```

This example shows how to display the port channel load-balancing information when hardware hashing is not used to determine the outgoing port ID:

```
switch# show port-channel load-balance forwarding-path interface port-channel 10 vlan 1
dst-ip 192.0.2.25 src-ip 192.0.2.10 dst-mac ffff.ffff.ffff src-mac aa:bb:cc:dd:ee:ff
14-src-port 0 14-dst-port 1

Missing params will be substituted by 0's.
```

```

Load-balance Algorithm on switch: source-dest-port
crc8_hash: Not Used      Outgoing port id: Ethernet1/1
Param(s) used to calculate load-balance (Unknown unicast, multicast and broadcast packets):

    dst-mac: ffff.ffff.ffff
    vlan id: 1
switch#

```

This example shows how to display the port channel load-balancing information when MCT is enabled and traffic flows from a vPC peer link:

```

switch# show port-channel load-balance forwarding-path interface port-channel 10 vlan 1
dst-ip 192.0.2.25 src-ip 192.0.2.10 dst-mac ffff.ffff.ffff src-mac aa:bb:cc:dd:ee:ff
l4-src-port 0 l4-dst-port 1

```

```

Missing params will be substituted by 0's.
Load-balance Algorithm on switch: source-dest-port
crc8_hash: Not Used      Outgoing port id (non vPC peer-link traffic): ethernet1/2
crc8_hash: Not Used      Outgoing port id (vPC peer-link traffic): Ethernet1/1
Param(s) used to calculate load-balance (Unknown unicast, multicast and broadcast packets):

    dst-mac: ffff.ffff.ffff
    vlan id: 1
switch#

```

This example shows how to display the port channel load-balancing information when hardware hashing is used to determine the outgoing port ID:

```

switch# show port-channel load-balance forwarding-path interface port-channel 10 vlan 1
dst-ip 192.0.2.25 src-ip 192.0.2.10 src-mac aa:bb:cc:dd:ee:ff l4-src-port 0 l4-dst-port 1

```

```

Missing params will be substituted by 0's.
Load-balance Algorithm on switch: source-dest-port
crc8_hash: 204 Outgoing port id: Ethernet1/1
Param(s) used to calculate load-balance:
    dst-port: 1
    src-port: 0
    dst-ip: 192.0.2.25
    src-ip: 192.0.2.10
    dst-mac: 0000.0000.0000
    src-mac: aabb.ccdd.eeff
switch#

```

## Related Commands

Command	Description
<b>port-channel load-balance ethernet</b>	Configures the load-balancing method among the interfaces in the channel-group bundle.

# show port-channel summary

To display summary information about EtherChannels, use the **show port-channel summary** command.

**show port-channel summary**

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

**Command Default** None

**Command Modes** Global configuration modeEXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

**Usage Guidelines** Before you use this command, you must configure an EtherChannel group using the **interface port-channel** command.

**Examples** This example shows how to display summary information about EtherChannels:

```
switch# show port-channel summary

Flags:  D - Down          P - Up in port-channel (members)
        I - Individual    H - Hot-standby (LACP only)
        s - Suspended     r - Module-removed
        S - Switched      R - Routed
        U - Up (port-channel)

-----
Group Port-      Type   Protocol  Member Ports
Channel
-----
1      Po1 (SU)    Eth     LACP      Eth1/1 (P)  Eth1/2 (P)  Eth1/3 (P)
        Po1 (SU)    Eth     LACP      Eth1/4 (P)  Eth1/21 (P) Eth1/22 (P)
        Po1 (SU)    Eth     LACP      Eth1/23 (P) Eth1/24 (P) Eth1/25 (P)
        Po1 (SU)    Eth     LACP      Eth1/26 (P) Eth1/27 (P) Eth1/28 (P)
        Po1 (SU)    Eth     LACP      Eth1/29 (P) Eth1/30 (P) Eth1/31 (P)
        Po1 (SU)    Eth     LACP      Eth1/32 (P)
3      Po3 (SU)    Eth     NONE      Eth1/9 (P)  Eth1/10 (P) Eth1/13 (P)
        Po3 (SU)    Eth     NONE      Eth1/14 (P) Eth1/40 (P)
5      Po5 (SU)    Eth     NONE      Eth3/5 (P)  Eth3/6 (P)
6      Po6 (SU)    Eth     NONE      Eth1/5 (P)  Eth1/6 (P)  Eth1/7 (P)
        Po6 (SU)    Eth     NONE      Eth1/8 (P)
12     Po12 (SU)   Eth     NONE      Eth3/3 (P)  Eth3/4 (P)
15     Po15 (SD)   Eth     NONE      --
20     Po20 (SU)   Eth     NONE      Eth1/17 (P) Eth1/18 (P) Eth1/19 (D)
        Po20 (SU)   Eth     NONE      Eth1/20 (P)
24     Po24 (SU)   Eth     LACP      Eth105/1/27 (P) Eth105/1/28 (P) Eth105/1/29
(P)                                         Eth105/1/30 (P) Eth105/1/31 (P) Eth105/1/32
(P)                                         Eth105/1/32
```

## show port-channel summary

```

25    Po25 (SU)    Eth    LACP    Eth105/1/23 (P)  Eth105/1/24 (P)  Eth105/1/25
(P)
                                     Eth105/1/26 (P)
33    Po33 (SD)    Eth    NONE    --
41    Po41 (SD)    Eth    NONE    --
44    Po44 (SD)    Eth    NONE    --
48    Po48 (SD)    Eth    NONE    --
100   Po100 (SD)   Eth    NONE    --
101   Po101 (SD)   Eth    NONE    --
102   Po102 (SU)   Eth    LACP    Eth102/1/2 (P)
103   Po103 (SU)   Eth    LACP    Eth102/1/3 (P)
104   Po104 (SU)   Eth    LACP    Eth102/1/4 (P)
105   Po105 (SU)   Eth    LACP    Eth102/1/5 (P)
106   Po106 (SU)   Eth    LACP    Eth102/1/6 (P)
107   Po107 (SU)   Eth    LACP    Eth102/1/7 (P)
108   Po108 (SU)   Eth    LACP    Eth102/1/8 (P)
109   Po109 (SU)   Eth    LACP    Eth102/1/9 (P)
110   Po110 (SU)   Eth    LACP    Eth102/1/10 (P)
111   Po111 (SU)   Eth    LACP    Eth102/1/11 (P)
<---output truncated--->
switch#

```

## Related Commands

Command	Description
<b>channel-group (Ethernet)</b>	Assigns and configures a physical interface to an EtherChannel.
<b>interface port-channel</b>	Creates an EtherChannel interface and enters interface configuration mode.

# show port-channel traffic

To display the traffic statistics for EtherChannels, use the **show port-channel traffic** command.

**show port-channel traffic** [**interface port-channel** *number* [*.subinterface-number*]]

## Syntax Description

<b>interface port-channel</b> <i>number</i>	(Optional) Displays traffic statistics for a specified interface. The range is from 1 to 4096.
<i>.subinterface-number</i>	(Optional) Subinterface number. Use the EtherChannel number followed by a dot (.) indicator and the subinterface number. The format is <i>portchannel-number.subinterface-number</i> .

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the traffic statistics for all EtherChannels:

```
switch# show port-channel traffic
```

ChanId	Port	Rx-Ucst	Tx-Ucst	Rx-Mcst	Tx-Mcst	Rx-Bcst	Tx-Bcst
10	Eth1/7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Eth1/8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Eth1/9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Eth1/10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
4000	Eth1/1	0.0%	0.0%	99.64%	99.81%	0.0%	0.0%
4000	Eth1/2	0.0%	0.0%	0.06%	0.06%	0.0%	0.0%
4000	Eth1/3	0.0%	0.0%	0.23%	0.06%	0.0%	0.0%
4000	Eth1/4	0.0%	0.0%	0.06%	0.06%	0.0%	0.0%

```
switch#
```

This example shows how to display the traffic statistics for a specific EtherChannel:

```
switch# show port-channel traffic interface port-channel 10
```

ChanId	Port	Rx-Ucst	Tx-Ucst	Rx-Mcst	Tx-Mcst	Rx-Bcst	Tx-Bcst
10	Eth1/7	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Eth1/8	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Eth1/9	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

## show port-channel traffic

```
      10  Eth1/10    0.0%    0.0%    0.0%    0.0%    0.0%    0.0%
switch#
```

**Related Commands**

Command	Description
<b>port-channel load-balance ethernet</b>	Configures the load-balancing algorithm for EtherChannels.
<b>show tech-support port-channel</b>	Displays Cisco Technical Support information about EtherChannels.

# show port-channel usage

To display the range of used and unused EtherChannel numbers, use the **show port-channel usage** command.

**show port-channel usage**

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

**Command Default** None

**Command Modes** EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

**Examples** This example shows how to display the EtherChannel usage information:

```
switch# show port-channel usage

Total 29 port-channel numbers used
=====
Used :   19 , 21 , 50 , 100 , 150 , 170 - 171 , 198 - 199 , 256
        301 , 400 - 401 , 1032 - 1033 , 1111 , 1504 , 1511 , 1514 , 1516 - 1520
        1532 , 1548 , 1723 , 1905 , 1912
Unused:  1 - 18 , 20 , 22 - 49 , 51 - 99 , 101 - 149 , 151 - 169
        172 - 197 , 200 - 255 , 257 - 300 , 302 - 399 , 402 - 1031
        1034 - 1110 , 1112 - 1503 , 1505 - 1510 , 1512 - 1513 , 1515 , 1521 - 1531
        1533 - 1547 , 1549 - 1722 , 1724 - 1904 , 1906 - 1911 , 1913 - 4096
        (some numbers may be in use by SAN port channels)

switch#
```

Related Commands	Command	Description
	<b>port-channel load-balance ethernet</b>	Configures the load-balancing algorithm for EtherChannels.
	<b>show tech-support port-channel</b>	Displays Cisco Technical Support information about EtherChannels.

# show port-security

To display the port security configuration on an interface, use the **show port-security** command.

```
show port-security [address [interface {ethernet slot [QSFP-module] port| port-channel channel-num}]]
interface {ethernet slot [QSFP-module] port| port-channel channel-num} | state]
```

## Syntax Description

<b>address</b>	(Optional) Displays the secure MAC address of a port.
<b>interface</b>	(Optional) Displays the secure address for an interface.
<b>ethernet</b>	(Optional) Displays the secure address for an Ethernet interface.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<b>port-channel</b> <i>channel-num</i>	(Optional) Displays the secure address for an EtherChannel interface. The <i>channel-num</i> is from 1 to 4096.
<b>state</b>	(Optional) Displays whether a port is secure.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Usage Guidelines

This command does not require a license.



**Examples**

This example shows how to display the port security configuration on an interface:

```
switch# show port-security
Total Secured Mac Addresses in System (excluding one mac per port) : 0
Max Addresses limit in System (excluding one mac per port) : 8192
-----
Secure Port  MaxSecureAddr  CurrentAddr  SecurityViolation  Security Action
              (Count)          (Count)      (Count)
-----
Ethernet1/5      10              0              0              Shutdown
=====
switch#
```

**Related Commands**

Command	Description
<b>clear port-security dynamic</b>	Clears the dynamically secured addresses on a port.
<b>show running-config port-security</b>	Displays the port security configuration information.
<b>switchport port-security</b>	Configures the switchport parameters to establish port security.

# show resource

To display the number of resources currently available in the system, use the **show resource** command.

**show resource** [ *resource* ]

## Syntax Description

<i>resource</i>	<p>(Optional) Resource name, which can be one of the following:</p> <ul style="list-style-type: none"> <li>• <b>port-channel</b>— Displays the number of EtherChannels available in the system.</li> <li>• <b>vlan</b>— Displays the number of VLANs available in the system.</li> <li>• <b>vrf</b>— Displays the number of virtual routing and forwarding (VRF) instances available in the system.</li> </ul>
-----------------	--

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the resources available in the system:

```
switch# show resource

Resource Min Max Used Unused Avail
-----
vlan 16 4094 509 0 3
monitor-session 0 2 0 0 2
vrf 2 1000 2 0 998
port-channel 0 768 2 0 766
u4route-mem 32 32 1 31 31
u6route-mem 16 16 1 15 15
m4route-mem 58 58 0 58 58
m6route-mem 8 8 0 8 8
bundle-map 0 16 2 0 14
```

**Related Commands**

Command	Description
show interface port-channel	Displays information about EtherChannels.

# show running-config

To display the contents of the currently running configuration file, use the **show running-config** command.

**show running-config [all]**

## Syntax Description

<b>all</b>	(Optional) Displays the full operating information including default settings.
------------	--

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display information about the running configuration:

```
switch# show running-config
```

This example shows how to display detailed information about the running configuration:

```
switch# show running-config all
```

## Related Commands

Command	Description
<b>show startup-config</b>	Displays the contents of the startup configuration file.

# show running-config backup

Is this a supported command?

To display the running configuration for backup interfaces, use the **show running-config backup** command.

**show running-config backup [all]**

## Syntax Description

<b>all</b>	(Optional) Displays backup interface information including default settings.
------------	--

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the running configuration for backup interfaces:

```
switch# show running-config backup

!Command: show running-config backup
!Time: Sun Jan  4 06:27:36 2009
version 5.0(3)N2(1)
feature flexlink
logging level Flexlink 5
interface port-channel300
  switchport backup interface port-channel301 preemption mode forced
  switchport backup interface port-channel301 multicast fast-convergence
interface port-channel500
  switchport backup interface port-channel501 preemption delay 36
  switchport backup interface port-channel501 multicast fast-convergence
interface port-channel502
  switchport backup interface port-channel503
interface port-channel504
  switchport backup interface Ethernet2/1
interface Ethernet1/2
  switchport backup interface Ethernet1/1
interface Ethernet1/20
  switchport backup interface Ethernet1/21
interface Ethernet2/2
  switchport backup interface port-channel507 preemption mode forced
switch#
```

This example shows how to display the detailed running configuration for backup interfaces:

```
switch# show running-config backup all
```

## show running-config backup

```

!Command: show running-config backup all
!Time: Sun Jan  4 06:28:04 2009
version 5.0(3)N2(1)
feature flexlink
logging level Flexlink 5
interface port-channel300
  switchport backup interface port-channel301 preemption mode forced
  switchport backup interface port-channel301 preemption delay 35
  switchport backup interface port-channel301 multicast fast-convergence
interface port-channel500
  switchport backup interface port-channel501 preemption mode off
  switchport backup interface port-channel501 preemption delay 36
  switchport backup interface port-channel501 multicast fast-convergence
interface port-channel502
  switchport backup interface port-channel503 preemption mode off
  switchport backup interface port-channel503 preemption delay 35
interface port-channel504
  switchport backup interface Ethernet2/1 preemption mode off
  switchport backup interface Ethernet2/1 preemption delay 35
interface Ethernet1/2
  switchport backup interface Ethernet1/1 preemption mode off
  switchport backup interface Ethernet1/1 preemption delay 35
interface Ethernet1/20
  switchport backup interface Ethernet1/21 preemption mode off
  switchport backup interface Ethernet1/21 preemption delay 35
interface Ethernet2/2
  switchport backup interface port-channel507 preemption mode forced
  switchport backup interface port-channel507 preemption delay 35
switch#

```

## Related Commands

Command	Description
<b>show running-config flexlink</b>	Displays the Flex Links running configuration.
<b>show startup-config backup</b>	Displays the startup configuration for backup interfaces.
<b>show startup-config flexlink</b>	Displays the startup configuration for Flex Links.
<b>show tech-support backup</b>	Displays troubleshooting information for backup interfaces.
<b>show tech-support flexlink</b>	Displays troubleshooting information for Flex Links.

# show running-config interface

To display the running configuration for a specific port channel, use the **show running-config interface** command.

**show running-config interface** [**ethernet slot** [**QSFP-module**] **port**| **fc slot port**| **loopback number**| **mgmt 0**| **port-channel channel-number** [**membership**]| **vethernet veth-id**| **vlan vlan-id**] [**all**] **expand-port-profile**]

## Syntax Description

<b>ethernet</b>	(Optional) Displays the Ethernet interface slot number and port number.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<b>fc slot /port</b>	(Optional) Displays the configuration information of the Fibre Channel interface. The slot number is from 1 to 2 and the port number is from 1 to 48.
<b>loopback number</b>	(Optional) Displays the number of the loopback interface. The range of values is from 1 to 4096.
<b>mgmt 0</b>	(Optional) Displays the configuration information of the management interface.
<b>port-channel channel-number</b>	(Optional) Displays the number of the port-channel group. The range of values is from 0 to 1023.
<b>membership</b>	Displays the membership of the specified port channel.
<b>tunnel number</b>	Displays the number of the tunnel interface. The range of values is from 0 to 65535.
<b>vethernet veth-id</b>	(Optional) Displays the configuration information of the virtual Ethernet interface. The range is from 1 to 1048575.
<b>vlan vlan-id</b>	(Optional) Displays the configuration information of the VLAN. The range of values is from 1 to 4096.
<b>all</b>	(Optional) Displays configured and default information .

<b>expand-port-profile</b>	(Optional) Displays the configuration information of port profiles.
----------------------------	---

**Command Default** None

**Command Modes** Any command mode

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	6.0(2)N1(1)	This command was introduced.

### Examples

This example shows how to display the running configuration for port channel 10:

```
switch(config)#
show running-config interface port-channel 10
version 4.0(1)
interface port-channel10
  switchport
  switchport mode trunk
switch(config)#
```

This example shows how to display the running configuration for a virtual Ethernet interface:

Is this command supported?

```
switch# show running-config interface vethernet 10
!Command: show running-config interface Vethernet10
!Time: Fri Jan 2 01:40:37 2009
version 5.1(3)N1(1)
interface Vethernet10
  inherit port-profile ppVEth
  untagged cos 3
  switchport access vlan 101
  bind interface Ethernet1/5 channel 10
switch#
```

This example shows how to display the running configuration for VLAN 5 that has been configured as an SVI to be used for in-band management:

Is this command supported?

```
switch# show running-config interface vlan 5
!Command: show running-config interface Vlan5
!Time: Mon Apr 4 07:46:35 2005
version 5.1(3)N1(1)
interface Vlan5
  management
switch#
```

### Related Commands

<b>Command</b>	<b>Description</b>
<b>show startup-config</b>	Displays the running configuration on the device.





# show running-config poe

[NOTE: per Christine, “the commands exist in the software but I was told they will remain in the code but we shouldn't show them in the docs until the rubicon fex goes out”]

To display the running configuration for Power over Ethernet (PoE) ports, use the **show running-config poe** command.

**show running-config poe [all]**

## Syntax Description

<b>all</b>	(Optional) Displays detailed information about PoE ports, including default settings.
------------	---

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
5.0(3)N2(1)	This command was introduced.

## Examples

This example shows how to display the running configuration for PoE ports:

```
switch# show running-config poe
```

## Related Commands

Command	Description
<b>show startup-config poe</b>	Displays the startup configuration information about PoE ports.
<b>show tech-support poe</b>	Displays troubleshooting information about PoE ports.

# show startup-config backup

Is this command supported?

To display the startup configuration for backup interfaces, use the **show startup-config backup** command.

**show startup-config backup [all]**

## Syntax Description

<b>all</b>	(Optional) Displays backup interface information including default settings.
------------	--

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the startup configuration for backup interfaces:

```
switch# show startup-config backup

!Command: show startup-config backup
!Time: Sun Jan  4 06:28:43 2009
!Startup config saved at: Thu Jan  1 03:40:28 2009
version 5.0(3)N2(1)
feature flexlink
logging level Flexlink 5
interface port-channel300
  switchport backup interface port-channel301 preemption mode forced
interface port-channel500
  switchport backup interface port-channel501 preemption delay 36
  switchport backup interface port-channel501 multicast fast-convergence
interface port-channel502
  switchport backup interface port-channel503
interface port-channel504
  switchport backup interface Ethernet2/1
interface Ethernet1/2
  switchport backup interface Ethernet1/1
interface Ethernet1/20
  switchport backup interface Ethernet1/21
interface Ethernet2/2
  switchport backup interface port-channel507 preemption mode forced
switch#
```

This example shows how to display the detailed startup configuration for backup interfaces:

```
switch# show startup-config backup all
```

## show startup-config backup

```

!Command: show startup-config backup all
!Time: Sun Jan  4 06:29:17 2009
!Startup config saved at: Thu Jan  1 03:40:28 2009
version 5.0(3)N2(1)
feature flexlink
logging level Flexlink 5
interface port-channel300
  switchport backup interface port-channel301 preemption mode forced
  switchport backup interface port-channel301 preemption delay 35
interface port-channel500
  switchport backup interface port-channel501 preemption mode off
  switchport backup interface port-channel501 preemption delay 36
  switchport backup interface port-channel501 multicast fast-convergence
interface port-channel502
  switchport backup interface port-channel503 preemption mode off
  switchport backup interface port-channel503 preemption delay 35
interface port-channel504
  switchport backup interface Ethernet2/1 preemption mode off
  switchport backup interface Ethernet2/1 preemption delay 35
interface Ethernet1/2
  switchport backup interface Ethernet1/1 preemption mode off
  switchport backup interface Ethernet1/1 preemption delay 35
interface Ethernet1/20
  switchport backup interface Ethernet1/21 preemption mode off
  switchport backup interface Ethernet1/21 preemption delay 35
interface Ethernet2/2
  switchport backup interface port-channel507 preemption mode forced
  switchport backup interface port-channel507 preemption delay 35
switch#

```

## Related Commands

Command	Description
<b>copy running-config startup-config</b>	Copies the running configuration information to the startup configuration file.
<b>show running-config backup</b>	Displays the running configuration information for backup interfaces.
<b>show running-config flexlink</b>	Displays Flex Links running configuration information.
<b>show tech-support backup</b>	Displays troubleshooting information for backup interfaces.
<b>show tech-support flexlink</b>	Displays troubleshooting information for Flex Links.

# show tech-support

To display troubleshooting information about backup interfaces or Flex Links, use the **show tech-support** command.

Is this command supported? If yes, need new command outputs.

**show tech-support {backup| flexlink}**

## Syntax Description

<b>backup</b>	Displays troubleshooting information about backup interfaces.
<b>flexlink</b>	Displays troubleshooting information about Flex Links.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

This example shows how to display the troubleshooting information about backup interfaces:

```
switch# show tech-support backup

`show interface switchport backup detail`
Switch Backup Interface Pairs:
Active Interface      Backup Interface      State
-----
Ethernet1/2          Ethernet1/1            Active Down/Backup Down
    Preemption Mode   : off
    Multicast Fast Convergence : Off
    Bandwidth : 1000000 Kbit (Ethernet1/2), 10000000 Kbit (Ethernet1/1)
Ethernet1/20         Ethernet1/21           Active Down/Backup Down
    Preemption Mode   : off
    Multicast Fast Convergence : Off
    Bandwidth : 10000000 Kbit (Ethernet1/20), 10000000 Kbit (Ethernet1/21)
port-channel300      port-channel301        Active Up/Backup Down
    Preemption Mode   : forced
    Preemption Delay  : 35 seconds (default)
    Multicast Fast Convergence : On
    Bandwidth : 20000000 Kbit (port-channel300), 10000000 Kbit (port-channel
301)
port-channel500      port-channel501        Active Down/Backup Down
    Preemption Mode   : off
    Multicast Fast Convergence : On
    Bandwidth : 100000 Kbit (port-channel500), 100000 Kbit (port-channel501)
```

```

port-channel502      port-channel503      Active Down/Backup Down
  Preemption Mode    : off
  Multicast Fast Convergence : Off
  Bandwidth : 100000 Kbit (port-channel502), 100000 Kbit (port-channel503)
port-channel504      Ethernet2/1          Active Down/Backup Down
  Preemption Mode    : off
  Multicast Fast Convergence : Off
  Bandwidth : 100000 Kbit (port-channel504), 0 Kbit (Ethernet2/1)
`show platform backup internal trace`
FLEXLINK Trace Dump in FIFO order
=====
Trace Buffer Size: 5 MB; Num of times buffer wrapped 0; Max Rec-Size 156; Rec_id
for next Msg 6219
=====
::0::[Thu Jan 1 00:01:21 2009 594649 usecs] flexlink_db_initialize: timer libra
ry initialization successful
::1::[Thu Jan 1 00:01:21 2009 594702 usecs] flexlink_db_initialize: starting VD
C 1
::2::[Thu Jan 1 00:01:21 2009 594752 usecs] flexlink_initialize: flexlink_db_in
itialize done
::3::[Thu Jan 1 00:01:21 2009 594946 usecs] flexlink_mts_queue_initialize: mts
bind for flexlink_q_mts(7) successful
::4::[Thu Jan 1 00:01:21 2009 595015 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SDWRAP_DEBUG_DUMP(1530) with flexlink_q_mts
::5::[Thu Jan 1 00:01:21 2009 595064 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSLOG_FACILITY_OPR(185) with flexlink_q_mts
::6::[Thu Jan 1 00:01:21 2009 595113 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSMGR_CFG_ACTION(1360) with flexlink_q_mts
::7::[Thu Jan 1 00:01:21 2009 595161 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSMGR_CFG_SAVED(1361) with flexlink_q_mts
::8::[Thu Jan 1 00:01:21 2009 595209 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_VSH_CMD_TLV(7679) with flexlink_q_mts
::9::[Thu Jan 1 00:01:21 2009 595257 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_VSH_CMD_TLV_SYNC(7682) with flexlink_q_mts
::10::[Thu Jan 1 00:01:21 2009 595304 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_FM_SRV_ENABLE_FEATURE(8925) with flexlink_q_mts
::11::[Thu Jan 1 00:01:21 2009 595351 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_FM_SRV_DISABLE_FEATURE(8926) with flexlink_q_mts
::12::[Thu Jan 1 00:01:21 2009 595400 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_IM_IF_CREATED(62467) with flexlink_q_mts
::13::[Thu Jan 1 00:01:21 2009 595448 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_IM_IF_REMOVED(62468) with flexlink_q_mts
::14::[Thu Jan 1 00:01:21 2009 595495 usecs] flexlink_mts_queue_initialize: reg
<--Output truncated-->
switch#

```

This example shows how to display the troubleshooting information for Flex Links:

```

switch# show tech-support flexlink

`show interface switchport backup detail`
Switch Backup Interface Pairs:
Active Interface      Backup Interface      State
-----
Ethernet1/2          Ethernet1/1          Active Down/Backup Down
  Preemption Mode    : off
  Multicast Fast Convergence : Off
  Bandwidth : 1000000 Kbit (Ethernet1/2), 10000000 Kbit (Ethernet1/1)
Ethernet1/20         Ethernet1/21         Active Down/Backup Down
  Preemption Mode    : off
  Multicast Fast Convergence : Off
  Bandwidth : 10000000 Kbit (Ethernet1/20), 10000000 Kbit (Ethernet1/21)
port-channel300      port-channel301      Active Up/Backup Down
  Preemption Mode    : forced
  Preemption Delay   : 35 seconds (default)
  Multicast Fast Convergence : On
  Bandwidth : 20000000 Kbit (port-channel300), 10000000 Kbit (port-channel
301)
port-channel500      port-channel501      Active Down/Backup Down
  Preemption Mode    : off
  Multicast Fast Convergence : On
  Bandwidth : 100000 Kbit (port-channel500), 100000 Kbit (port-channel501)
port-channel502      port-channel503      Active Down/Backup Down

```

```

Preemption Mode : off
Multicast Fast Convergence : Off
Bandwidth : 100000 Kbit (port-channel502), 100000 Kbit (port-channel503)
port-channel504 Ethernet2/1 Active Down/Backup Down
Preemption Mode : off
Multicast Fast Convergence : Off
Bandwidth : 100000 Kbit (port-channel504), 0 Kbit (Ethernet2/1)
`show platform backup internal trace`
FLEXLINK Trace Dump in FIFO order
=====
Trace Buffer Size: 5 MB; Num of times buffer wrapped 0; Max Rec-Size 156; Rec_id
for next Msg 6225
=====
::0:.[Thu Jan 1 00:01:21 2009 594649 usecs] flexlink_db_initialize: timer libra
ry initialization successful
::1:.[Thu Jan 1 00:01:21 2009 594702 usecs] flexlink_db_initialize: starting VD
C 1
::2:.[Thu Jan 1 00:01:21 2009 594752 usecs] flexlink_initialize: flexlink_db_in
italize done
::3:.[Thu Jan 1 00:01:21 2009 594946 usecs] flexlink_mts_queue_initialize: mts
bind for flexlink_q_mts(7) successful
::4:.[Thu Jan 1 00:01:21 2009 595015 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SDWRAP_DEBUG_DUMP(1530) with flexlink_q_mts
::5:.[Thu Jan 1 00:01:21 2009 595064 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSLOG_FACILITY_OPR(185) with flexlink_q_mts
::6:.[Thu Jan 1 00:01:21 2009 595113 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSMGR_CFG_ACTION(1360) with flexlink_q_mts
::7:.[Thu Jan 1 00:01:21 2009 595161 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSMGR_CFG_SAVED(1361) with flexlink_q_mts
::8:.[Thu Jan 1 00:01:21 2009 595209 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_VSH_CMD_TLV(7679) with flexlink_q_mts
::9:.[Thu Jan 1 00:01:21 2009 595257 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_VSH_CMD_TLV_SYNC(7682) with flexlink_q_mts
::10:.[Thu Jan 1 00:01:21 2009 595304 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_FM_SRV_ENABLE_FEATURE(8925) with flexlink_q_mts
::11:.[Thu Jan 1 00:01:21 2009 595351 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_FM_SRV_DISABLE_FEATURE(8926) with flexlink_q_mts
::12:.[Thu Jan 1 00:01:21 2009 595400 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_IM_IF_CREATED(62467) with flexlink_q_mts
<--Output truncated-->
switch#

```

**Related Commands**

Command	Description
<b>show running-config backup</b>	Displays the running configuration information for backup interfaces.
<b>show running-config flexlink</b>	Displays Flex Links running configuration information.

# show tech-support poe

[NOTE: per Christine, “the commands exist in the software but I was told they will remain in the code but we shouldn't show them in the docs until the rubicon fex goes out”]

To display the troubleshooting information for Power over Ethernet (PoE) ports, use the **show tech-support poe** command.

**show tech-support poe**

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

**Command Default** None

**Command Modes** EXEC mode

## Command History

Release	Modification
5.0(3)N2(1)	This command was introduced.

## Examples

This example shows how to display the troubleshooting information for PoE ports:

```
switch# show tech-support poe
```

## Related Commands

Command	Description
<b>power inline</b>	Enables PoE ports on the switch.
<b>show running-config poe</b>	Displays the running configuration information about PoE ports.



# show uddl

To display the Unidirectional Link Detection (UDLD) information for a switch, use the **show uddl** command.

**show uddl** [*ethernet slot* [*QSFP-module*] *port*] *global* | *neighbors*]

## Syntax Description

<b>ethernet</b>	(Optional) Displays UDLD information for an Ethernet IEEE 802.3z interface.
<i>slot</i>	The slot number is from 1 to 255.
<i>QSFP-module</i>	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
<i>port</i>	The port number is from 1 to 128.
<b>global</b>	(Optional) Displays the UDLD global status and configuration information for all interfaces.
<b>neighbors</b>	(Optional) Displays information about UDLD neighbor interfaces.

## Command Default

None

## Command Modes

EXEC mode

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Examples

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

```
switch# show uddl

Interface Ethernet1/1
-----
Port enable administrative configuration setting: device-default
Port enable operational state: enabled
Current bidirectional state: bidirectional
Current operational state: advertisement - Single neighbor detected
Message interval: 15
Timeout interval: 5
      Entry 1
```

```

-----
Expiration time: 41
Cache Device index: 1
Current neighbor state: bidirectional
Device ID: FLC12280095
Port ID: Ethernet1/1
Neighbor echo 1 devices: SSI130205RT
Neighbor echo 1 port: Ethernet1/1
Message interval: 15
Timeout interval: 5
CDP Device name: N5Kswitch-2 (FLC12280095)
Interface Ethernet1/2
-----
Port enable administrative configuration setting: device-default
Port enable operational state: enabled
Current bidirectional state: bidirectional
Current operational state: advertisement - Single neighbor detected
Message interval: 15
Timeout interval: 5
Entry 1
-----
--More--
switch#

```

This example shows how to display the UDLD information for a specified interface:

```

switch# show udld ethernet 1/1

Interface Ethernet1/1
-----
Port enable administrative configuration setting: device-default
Port enable operational state: enabled
Current bidirectional state: bidirectional
Current operational state: advertisement - Single neighbor detected
Message interval: 15
Timeout interval: 5
Entry 1
-----
Expiration time: 41
Cache Device index: 1
Current neighbor state: bidirectional
Device ID: FLC12280095
Port ID: Ethernet1/1
Neighbor echo 1 devices: SSI130205RT
Neighbor echo 1 port: Ethernet1/1
Message interval: 15
Timeout interval: 5
CDP Device name: N5Kswitch-2 (FLC12280095)
switch#

```

This example shows how to display the UDLD global status and configuration for all interfaces:

```

switch# show udld global

UDLD global configuration mode: enabled
UDLD global message interval: 15
switch#

```

This example shows how to display the UDLD neighbor interfaces:

```

switch# show udld neighbors

Port          Device Name    Device ID  Port ID    Neighbor State
-----
Ethernet1/1   FLC12280095   1          Ethernet1/1  bidirectional
Ethernet1/2   FLC12280095   1          Ethernet1/2  bidirectional
Ethernet1/3   FLC12280095   1          Ethernet1/3  bidirectional
Ethernet1/4   FLC12280095   1          Ethernet1/4  bidirectional
Ethernet1/7   JAF1346000H   1          Ethernet1/7  bidirectional
Ethernet1/8   JAF1346000H   1          Ethernet1/8  bidirectional
Ethernet1/9   JAF1346000C   1          Ethernet1/9  bidirectional
Ethernet1/10  JAF1346000C   1          Ethernet1/10 bidirectional
switch#

```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>uddl (configuration mode)</b>	Configures the UDLD protocol on the switch.
<b>uddl (Ethernet)</b>	Configures the UDLD protocol on an Ethernet interface.

# 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

<i>vpc number</i>	(Optional) Displays brief information about the specified vPC. The range is from 1 to 4096.
-------------------	---

## Command Default

None

## Command Modes

Any command mode  
network-admin

## Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

## Usage Guidelines

The **show vpc brief** command displays the vPC domain ID, the peer-link status, the keepalive message status, whether the configuration consistency is successful, and whether the peer link formed or failed to form.

This command is not available if you have not enabled the vPC feature. See the **feature vpc** command for information on enabling vPCs.

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.

## 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
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 shows how to display information about the tracked objects in the vPCs:

```

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
vPC Peer-link status
-----
id  Port  Status Active vlans
--  ---  -----
1   Po10  up    1-100

```

**Related Commands**

Command	Description
feature vpc	Enables vPCs on the device.
show port channel summary	Displays information about port channels.

