



Show Commands

This chapter describes the Cisco NX-OS interface commands.

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		
fabricpath	(Optional) Displays BFD information for the fabricpath neighbor.	
application <i>name</i>	(Optional) Displays BFD information for the named protocol that BFD is enabled on.	
dest-ip <i>ipaddr</i>	(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.	
scr-ip <i>ipaddr</i>	(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.	
interface <i>int-if</i>	(Optional) Displays BFD information for the interface. Use the ? keyword to display a list of supported interfaces.	
vrf <i>vrf-name</i>	(Optional) Displays BFD information for the virtual routing and forwarding (VRF) instance.	
details	(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            Po1              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
```

```

Holdown (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 - Diagnostic: 0
                State bit: AdminDown - Demand bit: 0
                Poll bit: 0 - Final bit: 0
                Multiplier: 3 - Length: 24
                My Discr.: 0 - Your Discr.: 0
                Min tx 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 show bfd neighbors 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.
Holdown(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.
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.

Field	Description
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"> • 0—No Diagnostic • 1—Control Detection Time Expired • 2—Echo Function Failed • 3—Neighbor Signaled Session Down • 4—Forwarding Plane Reset • 5—Path Down • 6—Concentrated Path Down • 7—Administratively Down
Demand bit	<p>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.</p>
Poll bit	<p>Poll bit. If the Poll bit is set, the transmitting system is requesting verification of connectivity or of a parameter change.</p>
Final bit	<p>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.</p>
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	<p>Length of the BFD control packet, in bytes.</p>
My Discr.	<p>My Discriminator. Unique, nonzero discriminator value generated by the transmitting system used to demultiplex multiple BFD sessions between the same pair of systems.</p>

Field	Description
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#
```

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	all	Displays all interfaces in the CDP database.
	name <i>device-name</i>	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:
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  RELEASE SOFTWARE (fc2)
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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-Dispute
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-Dispute
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
```

■ show cdp entry

```

Interface address(es):
  IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Dispute
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
cdp	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	Parameter	Description
	ethernet	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.
	mgmt mgmt-num	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		
interface	(Optional) Displays CDP neighbor information for an Ethernet or management interface.	
ethernet	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.	
mgmt <i>mgmt-num</i>	Displays CDP neighbor information for a management interface. The management interface number is 0.	
detail	(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
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
```

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, M - Two-port Mac Relay

Device ID	Local Infrfce	Hldtme	Capability	Platform	Port ID
swor95 (SSI13110AAS)	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 (SSI13110AAS)
System Name:swor95
Interface address(es):
  IPv4 Address: 192.168.0.95
Platform: N5K-C5010P-BF, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
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 Infrfce	Hldtme	Capability	Platform	Port ID
sw-sw70	mgmt0	159	S I	WS-C3560E-48T	Gig0/30

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:

```
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  RELEASE SOFTWARE (fc2)
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```

```
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)
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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)
```

■ show cdp neighbors

```

System Name: switch

Interface address(es):
  IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Dispute
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-Dispute
Interface: Ethernet1/10, Port ID (outgoing port): Ethernet1/6
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-Dispute
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
	cdp	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	Parameter	Description
	interface	Displays CDP traffic statistics for an Ethernet or management interface.
	ethernet	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.
	mgmt mgmt-num	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

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

Usage Guidelines This command cannot be used to view counter brief information pertaining to both front-panel port and FEX port simultaneously.

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) --
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) --

```

show interface brief

```

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                                     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                                     Ch #
-----

```

```

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                                           Ch #
-----
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) --

```

show interface brief

```

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.

This example shows the error displayed when the **show interface brief** command is used to view counter brief information pertaining to both front-panel port and FEX port simultaneously:

```

switch# show interface ethernet 3/1, ethernet 103/1/2 counters brief
                                     ^
Invalid range at '^' marker.

```

This example shows how to display counter brief information pertaining to a single port:

```

switch# show interface ethernet 103/1/2 counters brief

```

```

-----
Interface          Input Rate (avg)      Output Rate (avg)
-----
Rate      Total      Rate      Total      Rate averaging
MB/s      Frames      MB/s      Frames      interval (seconds)
-----
Eth3/1          0          0          2205      1011740      30
                  0          0          2205      1011730      300

```

```

switch# show interface ethernet 103/1/2 counters brief

```

```

-----
Interface          Input Rate (avg)      Output Rate (avg)
-----
Rate      Total      Rate      Total      Rate averaging
MB/s      Frames      MB/s      Frames      interval (seconds)
-----
Eth103/1/2        1117      512494      1117      512494      30
                  1124      515622      1124      515620      300
switch#

```

Related Commands

Command	Description
interface ethernet	Configures an Ethernet IEEE 802.3 interface.

show interface capabilities

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

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

Syntax Description	ethernet	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
  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
```

■ show interface capabilities

```

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
interface ethernet	Configures an Ethernet IEEE 802.3 interface.

show interface debounce

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

show interface debounce

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	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
```

show interface debounce

```

Eth5/5/2      enable      100
Eth5/5/3      enable      100
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. Note 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. Note This argument applies to Layer 3 interfaces.
brief	(Optional) Displays brief information about the interfaces.
counters	(Optional) Displays information about the counters configured on an interface.
description	(Optional) Displays the description of an interface configuration.
status	(Optional) Displays the operational state of the interface.
switchport	(Optional) Displays the switchport information of an interface.

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:

```
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
switch#

```

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#
```

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

show interface loopback

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

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

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

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	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#
```

[Table 2](#) describes the significant fields shown in the display.

Table 2 *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.

Table 2 *show interface loopback Field Description (continued)*

Field	Description
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.
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
interface loopback	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.	
<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
Ethernet8/7	c84c.753d.5b74	c84c.753d.5c3e
Ethernet8/8	c84c.753d.5b74	c84c.753d.5c3f

show interface mac-address

```

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
mac address-table static	Adds static entries to the MAC address table or configures a static MAC address with IGMP snooping disabled for that address.
show mac address-table	Displays information 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.
brief	(Optional) Displays a summary of the configuration information for the management interface.
capabilities	(Optional) Displays the interface capabilities information.
counters	(Optional) Displays information about the management interface counters.
detailed	(Optional) Displays detailed information of only the nonzero interface counters.
all	(Optional) Displays all nonzero interface counters.
errors	(Optional) Displays the interface error counters, such as receive or transmit error counters.
snmp	(Optional) Displays the Simple Network Management Protocol (SNMP) MIB values for the nonzero interface counters.
description	(Optional) Displays the interface description.
status	(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
```

show interface mgmt

```

      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>
brief	(Optional) Displays a summary of the configuration information for the management interface.
counters	(Optional) Displays information about the counters configured on the EtherChannel interface.
description	(Optional) Displays the description of the EtherChannel interface configuration.
status	(Optional) Displays the operational state of the EtherChannel interface.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	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
  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)
```

show interface port-channel

```

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
interface port-channel	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

Command History	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#
```

■ show interface status err-disabled

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

show interface switchport

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

show interface switchport

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	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:

- Cisco Nexus 5010 Series
- Cisco Nexus 5020 Series

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

```
switch# show interface switchport
Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: 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
  Operational Mode: fex-fabric
```

show interface switchport

```

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 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: 1,300-795,900,1002-1005
  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: 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
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

```

show interface switchport

```

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

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

show interface 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	detail (Optional) Displays detailed information for backup interfaces.				
Command Default	None				
Command Modes	EXEC mode				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>6.0(2)N1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	6.0(2)N1(1)	This command was introduced.
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)		

show interface switchport backup

```

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#

```

Table 3 describes the significant fields displayed in the output.

Table 3 *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
switchport backup interface	Configures Flex Links.
show running-config backup	Displays the running configuration information for backup interfaces.
show running-config flexlink	Displays the running configuration information for Flex Links.

show interface transceiver

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

```
show interface ethernet [chassis] slot[QSFP-module]port transceiver [details | calibrations | sprom]
```

Syntax Description		
ethernet <i>slot/port</i>	Displays information about an ethernet interface slot number and port number.	
	<i>slot</i> —Valid values are from 1 to 255.	
	<i>port</i> —Valid values are from 1 to 128.	
<i>chassis</i>	(Optional) The chassis ID is an optional entry that you can use to address the ports of a connected Fabric Extender. The chassis ID is configured on a physical Ethernet or EtherChannel interface on the switch to identify the Fabric Extender discovered through the interface.	
	Valid values are from 100 to 199.	
<i>QSFP-module</i>	(Optional) The QSFP+ port on the Generic Expansion Module (GEM).	
	Valid values for the port numbers are from 1 to 4.	
transceiver	Displays information about interfaces connected to transceiver modules.	
details	(Optional) Displays detailed information about the transceivers on an interface.	
calibrations	(Optional) Displays calibration information about the transceivers on an interface.	
sprom	(Optional) Displays sprom information about the transceivers on an interface.	

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	6.0(2)N1(2)	Support for the QSFP+ GEM port was added.
	5.2(1)N1(1)	This command was introduced.

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

Examples The following example shows how to display information on transceivers connected to a specified ethernet interface:

```
switch# show interface ethernet 1/1 transceiver
Etransceiver is present
  type is SFP-H10GB-CU1M
  name is CISCO-TYCO
  part number is 1-2053783-1
  revision is R
  serial number is TED1742A0RL
  nominal bitrate is 10300 MBit/sec
  Link length supported for copper is 1 m
  cisco id is --
  cisco extended id number is 4
```

The following example shows how to display calibration information of transceivers connected to a specified ethernet interface:

```
switch# show interface ethernet 1/1 transceiver calibrations
Ethernet1/1
  transceiver is present
  type is 10Gbase-SR
  name is CISCO-FINISAR
  part number is FTLX8571D3BCL-C2
  revision is A
  serial number is FNS18290J93
  nominal bitrate is 10300 MBit/sec
  Link length supported for 50/125um OM2 fiber is 82 m
  Link length supported for 62.5/125um fiber is 26 m
  Link length supported for 50/125um OM3 fiber is 300 m
  cisco id is --
  cisco extended id number is 4
```

SFP Internal Calibrations Information

```
-----
          Slope  Offset      Rx4/Rx3/Rx2/Rx1/Rx0
-----
Temperature  256      0
Voltage      256      0
Current      256      0
Tx Power     256      0
Rx Power                                0.0000/0.0000/0.0000/1.0000/0.0000
-----
```

The following example shows how to display detailed information of transceivers connected to a specified ethernet interface:

```
switch# show interface ethernet 1/1 transceiver details
Ethernet1/1
  transceiver is present
  type is 10Gbase-SR
  name is CISCO-FINISAR
  part number is FTLX8571D3BCL-C2
  revision is A
  serial number is FNS18290J93
  nominal bitrate is 10300 MBit/sec
  Link length supported for 50/125um OM2 fiber is 82 m
  Link length supported for 62.5/125um fiber is 26 m
  Link length supported for 50/125um OM3 fiber is 300 m
  cisco id is --
  cisco extended id number is 4
```

SFP Detail Diagnostics Information (internal calibration)

```
-----
          Current          Alarms          Warnings
```

	Measurement	High	Low	High	Low
Temperature	39.19 C	75.00 C	-5.00 C	70.00 C	0.00 C
Voltage	3.30 V	3.63 V	2.97 V	3.46 V	3.13 V
Current	8.00 mA	11.80 mA	4.00 mA	10.80 mA	5.00 mA
Tx Power	-2.54 dBm	1.69 dBm	-11.30 dBm	-1.30 dBm	-7.30 dBm
Rx Power	-2.20 dBm	1.99 dBm	-13.97 dBm	-1.00 dBm	-9.91 dBm

Note: ++ high-alarm; + high-warning; -- low-alarm; - low-warning

The **show interface transceiver details** command output:

- When the small form-factor pluggable (SFP) port is shut down and the laser is turned off, the value of the Current field in the output will be close to zero and the Tx power value will be at a minimum (close to -40 dBm).
- When the SFP port is shutdown and the laser is not turned off, the Current and Tx power values will stay at operational levels. The Rx power value will depend on the behavior of the remote side of the link and the interface status—it can either stay at an operational level, or at a minimum (close to -40 dBm), or N/A.



Note

The output for the **show interface transceiver** command will vary based on the transceiver type, name, part number, revision, and link length of the device.

Related Commands

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

show 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		
counters		Displays information about the LACP traffic statistics.
interface ethernet		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.
neighbor		Displays information about the LACP neighbor.
interface port-channel <i>number</i>		(Optional) Displays information about a specific EtherChannel. The EtherChannel number is from 1 to 4096.
port-channel		Displays information about all EtherChannels.
system-identifier		Displays the LACP system identification. It is a combination of the port priority and the MAC address of the device.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	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, 800
0, 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
clear lacp counters	Clears LACP counters.
lacp port-priority	Sets the priority for the physical interfaces for the LACP.
lacp system-priority	Sets the system priority of the switch for the LACP.

show 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

Command History	Release	Modification
	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	Command	Description
	port-channel load-balance ethernet	Configures the load-balancing algorithm for EtherChannels.
	show tech-support port-channel	Displays Cisco Technical Support information about EtherChannels.

show port-channel compatibility-parameters

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

show port-channel compatibility-parameters

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	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.

show port-channel compatibility-parameters

```

* Span mode

Members must have the same span mode.

* load interval

Member must have same load interval configured.
--More--
<---output truncated--->
switch#

```

Related Commands

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

show port-channel database

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

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

Syntax Description	interface	(Optional) Displays information for an EtherChannel interface.
	port-channel <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-channel50
  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
port-channel load-balance ethernet	Configures the load-balancing algorithm for EtherChannels.
show tech-support port-channel	Displays Cisco Technical Support information about EtherChannels.

show port-channel load-balance

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

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

Syntax Description	
forwarding-path interface port-channel	(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> .
vlan	(Optional) Identifies the VLAN for hardware hashing.
<i>vlan_ID</i>	VLAN ID. The range is from 1 to 3967 and 4048 to 4093.
dst-ip	(Optional) Displays the load distribution on the destination IP address.
<i>ipv4-addr</i>	IPv4 address to specify a source or destination IP address. The format is <i>A.B.C.D</i> .
dst-ipv6	(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> .
dst-mac	(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> .
l4-dst-port	(Optional) Displays the load distribution on the destination port.
<i>dst-port</i>	Destination port number. The range is from 0 to 65535.
l4-src-port	(Optional) Displays the load distribution on the source port.
<i>src-port</i>	Source port number. The range is from 0 to 65535.
src-ip	(Optional) Displays the load distribution on the source IP address.
src-ipv6	(Optional) Displays the load distribution on the source IPv6 address.
src-mac	(Optional) Displays the load distribution on the source MAC address.
<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

Command History

Release	Modification
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#
```

[Table 4](#) describes the fields shown in the display.

Table 4 *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
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: 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
```

■ show port-channel load-balance

```

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
port-channel load-balance ethernet	Configures the load-balancing method among the interfaces in the channel-group bundle.

show port-channel summary

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

show port-channel summary

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode
EXEC mode

Command History	Release	Modification
	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)
                               Eth1/4 (P)  Eth1/21 (P) Eth1/22 (P)
                               Eth1/23 (P) Eth1/24 (P) Eth1/25 (P)
                               Eth1/26 (P) Eth1/27 (P) Eth1/28 (P)
                               Eth1/29 (P) Eth1/30 (P) Eth1/31 (P)
                               Eth1/32 (P)
 3   Po3 (SU)    Eth    NONE      Eth1/9 (P)  Eth1/10 (P) Eth1/13 (P)
                               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)
                               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)
                               Eth1/20 (P)
24   Po24 (SU)   Eth    LACP      Eth105/1/27 (P) Eth105/1/28 (P) Eth105/1/29
(P)
```

■ show port-channel summary

```

(P)
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
channel-group (Ethernet)	Assigns and configures a physical interface to an EtherChannel.
interface port-channel	Creates an EtherChannel interface and enters interface configuration mode.

show port-channel traffic

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

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

Syntax Description	
interface port-channel <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%
    10     Eth1/10  0.0%    0.0%    0.0%    0.0%    0.0%    0.0%
switch#
```

show port-channel traffic

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

show port-channel usage

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

show port-channel usage

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes EXEC mode

Command History	Release	Modification
	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
	port-channel load-balance ethernet	Configures the load-balancing algorithm for EtherChannels.
	show tech-support port-channel	Displays Cisco Technical Support information about EtherChannels.

show port-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		
address	(Optional)	Displays the secure MAC address of a port.
interface	(Optional)	Displays the secure address for an interface.
ethernet	(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.
port-channel <i>channel-num</i>	(Optional)	Displays the secure address for an EtherChannel interface. The <i>channel-num</i> is from 1 to 4096.
state	(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
	clear port-security dynamic	Clears the dynamically secured addresses on a port.
	show running-config port-security	Displays the port security configuration information.
	switchport port-security	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>	(Optional) Resource name, which can be one of the following: <ul style="list-style-type: none"> • port-channel—Displays the number of EtherChannels available in the system. • vlan—Displays the number of VLANs available in the system. • vrf—Displays the number of virtual routing and forwarding (VRF) instances available in the system.
---------------------------	-----------------	--

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

```
switch#
```

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	all (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
	show startup-config	Displays the contents of the startup configuration file.

show running-config backup

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

show running-config backup [all]

Syntax Description	all	(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

!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
show running-config flexlink	Displays the Flex Links running configuration.
show startup-config backup	Displays the startup configuration for backup interfaces.
show startup-config flexlink	Displays the startup configuration for Flex Links.

Command	Description
show tech-support backup	Displays troubleshooting information for backup interfaces.
show tech-support flexlink	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		
ethernet	(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.	
fc <i>slot</i> / <i>port</i>	(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.	
loopback <i>number</i>	(Optional) Displays the number of the loopback interface. The range of values is from 1 to 4096.	
mgmt <i>0</i>	(Optional) Displays the configuration information of the management interface.	
port-channel <i>channel-number</i>	(Optional) Displays the number of the port-channel group. The range of values is from 0 to 1023.	
membership	Displays the membership of the specified port channel.	
vethernet <i>veth-id</i>	(Optional) Displays the configuration information of the virtual Ethernet interface. The range is from 1 to 1048575.	
vlan <i>vlan-id</i>	(Optional) Displays the configuration information of the VLAN. The range of values is from 1 to 4096.	
all	(Optional) Displays configured and default information.	
expand-port-profile	(Optional) Displays the configuration information of port profiles.	

Command Default None

Command Modes Any command 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 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:

```
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:

```
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

Command	Description
show startup-config	Displays the running configuration on the device.

show startup-config

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

show startup-config

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 information from the startup configuration file:

```
switch# show startup-config
```

Related Commands	Command	Description
	show running-config	Displays the contents of the currently running configuration file.

show startup-config backup

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

show startup-config backup [all]

Syntax Description	all	(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

!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
copy running-config startup-config	Copies the running configuration information to the startup configuration file.
show running-config backup	Displays the running configuration information for backup interfaces.
show running-config flexlink	Displays Flex Links running configuration information.

Command	Description
show tech-support backup	Displays troubleshooting information for backup interfaces.
show tech-support flexlink	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.

show tech-support {backup | flexlink}

Syntax Description	backup	Displays troubleshooting information about backup interfaces.
	flexlink	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
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

::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
show running-config backup	Displays the running configuration information for backup interfaces.
show running-config flexlink	Displays Flex Links running configuration information.

show tech-support port-channel

To display troubleshooting information about EtherChannel interfaces, use the **show tech-support port-channel** command.

show tech-support port-channel

Syntax Description This command has no arguments and keywords.

Command Default None

Command Modes EXEC mode

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

Usage Guidelines The output from the **show tech-support port-channel** command is very long. To better manage this output, you can redirect the output to a file.

Examples This example shows how to display Cisco technical support information for EtherChannel interfaces:

```
switch# show tech-support port-channel
`show port-channel internal event-history all`
Low Priority Pending queue: len(0), max len(2) [Wed Jan 30 04:05:04 2013]
High Priority Pending queue: len(0), max len(32) [Wed Jan 30 04:05:04 2013]
PCM Control Block info:
pcm_max_channels      : 4096
pcm_max_channel_in_use : 1912
pc count              : 29
hif-pc count          : 20
Max PC Cnt            : 768
=====
PORT CHANNELS:

port-channel19
channel      : 19
bundle      : 65535
ifindex      : 0x16000012
admin mode   : active
oper mode    : active
fop ifindex  : 0x1fc605c0
nports      : 4
active       : 4
pre cfg      : 0
l1l         : 0
lif         : 0
iod         : 43
global id    : 1
```

■ show tech-support port-channel

```

flag          : 0
--More--
<---output truncated--->
switch#

```

Related Commands	Command	Description
	port-channel load-balance ethernet	Configures the load-balancing method among the interfaces in the channel-group bundle.
	show port-channel load-balance	Displays information on EtherChannel load balancing.

show 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		
ethernet	(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.	
global	(Optional) Displays the UDLD global status and configuration information for all interfaces.	
neighbors	(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 UDL D information for a specified interface:

```
switch# show udd 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 UDL D global status and configuration for all interfaces:

```
switch# show udd global
```

```

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

```

This example shows how to display the UDL D neighbor interfaces:

```
switch# show udd 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

Command	Description
udld (configuration mode)	Configures the UDLD protocol on the switch.
udld (Ethernet)	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	vpc number	(Optional) Displays brief information about the specified vPC. The range is from 1 to 4096.
---------------------------	-------------------	---

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

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

Supported Use Roles	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

```

■ show vpc brief

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