Show 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 name	(Optional) Displays BFD information for the named protocol that BFD is enabled on.
dest-ip ipaddr	(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 ipaddr	(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 int-if	(Optional) Displays BFD information for the interface. Use the ? keyword to display a list of supported interfaces.
vrf vef-name	(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           Holdown(mu
lt)     State       Int                 Vrf
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.

Field	Description
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.
Diagnostic	Diagnostic code specifying the local system's reason for the last transition of the session from Up to some other state. State values are as follows: • 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	Demand Mode bit. If set, the transmitting system wants to operate in demand mode. BFD has two modes—asynchronous and demand. The Cisco implementation of BFD supports only asynchronous mode.
Poll bit	Poll bit. If the Poll bit is set, the transmitting system is requesting verification of connectivity or of a parameter change.
Final bit	Final bit. If the Final bit is set, the transmitting system is responding to a received BFD control packet that had a Poll (P) bit set.

Field	Description
Multiplier	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. 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. 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.
Length	Length of the BFD control packet, in bytes.
My Discr.	My Discriminator. Unique, nonzero discriminator value generated by the transmitting system used to demultiplex multiple BFD sessions between the same pair of systems.
Your Discr.	Your Discriminator. The discriminator received from the corresponding remote system. This field reflects the received value of My Discriminator or is zero if that value is unknown.
Min tx interval	Minimum transmission interval, in microseconds, that the local system wants to use when sending BFD control packets.
Min rx interval	Minimum receipt interval, in microseconds, between received BFD control packets that the system can support.
Min Echo interval	Minimum interval, in microseconds, between received BFD control packets that the system can support. If the value is zero, the transmitting system does not support the receipt of BFD echo packets.

Related Commands

Command	Description
feature bfd	Enables the BFD feature.

show cdp all

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

show cdp all

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

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

Examples

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

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

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 *device-name*	Displays a specific CDP entry that matches a name. The device name can be a maximum of 256 alphanumeric characters.

Command Default

None

Command Modes

EXEC mode

Command History

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

Examples

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

```
switch# show cdp entry all
----------------------------------------
Device ID:sw-sw70

Interface address(es):
    IPv4 Address: 10.193.88.70
Platform: WS-C3560E-48T, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet0/30
Holdtime: 142 sec
Version:

Cisco IOS Software, C3560E Software (C3560E-UNIVERSALK9-M), Version 12.2(50)SE2,
 RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Fri 15-May-09 22:11 by nachen

Advertisement Version: 2

Native VLAN: 88
Duplex: full
Mgmt address(es):
    IPv4 Address: 10.193.88.70
----------------------------------------
Device ID:switch(FOC16333ZER)
System Name: switch

Interface address(es):
    IPv4 Address: 10.193.88.192
```

```
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e

Interface: Ethernet1/4, Port ID (outgoing port): Ethernet1/12
Holdtime: 178 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2u)N1(1u)

Advertisement Version: 2

Native VLAN: 1
Duplex: full

MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
----------------------------------------
Device ID:switch(FOC16333ZER)
System Name: switch

Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/6, Port ID (outgoing port): Ethernet1/10
Holdtime: 126 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2u)N1(1u)

Advertisement Version: 2
Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
----------------------------------------
Device ID:switch(FOC16333ZER)
System Name: switch

Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/10, Port ID (outgoing port): Ethernet1/6
Holdtime: 126 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2u)N1(1u)

Advertisement Version: 2

Native VLAN: 1
Duplex: full

MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
----------------------------------------
Device ID:switch(FOC16333ZER)
System Name: switch

Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/12, Port ID (outgoing port): Ethernet1/4
Holdtime: 178 sec
```

```
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2u)N1(1u)

Advertisement Version: 2

Native VLAN: 1
Duplex: full

MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
switch#
```

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

```
switch# show cdp entry name swor95(SSI13110AAS)
----------------------------------------
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-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

ethernet	Specifies an Ethernet interface.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	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.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	The port number is from 1 to 128.
mgmt *mgmt-num*	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
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater,
                  V - VoIP-Phone, D - Remotely-Managed-Device,
                  s - Supports-STP-Dispute, M - Two-port Mac Relay


Device ID              Local Intrfce   Hldtme  Capability  Platform      Port ID
swor95(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 Intrfce Hldtme Capability  Platform      Port ID
sw-sw70              mgmt0         159    S I       WS-C3560E-48T Gig0/30
switch#
```

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

```
switch# show cdp neighbors interface mgmt 0 detail
----------------------------------------
Device ID:sw-sw70
System Name:
Interface address(es):
    IPv4 Address: 10.193.88.70
Platform: cisco WS-C3560E-48TD, Capabilities: Switch IGMP Filtering
```

```
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet0/30
Holdtime: 152 sec

Version:
Cisco IOS Software, C3560E Software (C3560E-UNIVERSALK9-M), Version 12.2(50)SE2,
 RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Fri 15-May-09 22:11 by nachen

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

switch#
```

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

```
switch# show cdp neighbors detail
----------------------------------------
Device ID:sw-sw70
VTP Management Domain Name:
Interface address(es):
    IPv4 Address: 10.193.88.70
Platform: WS-C3560E-48T, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet0/30
Holdtime: 127 sec

Version:
Cisco IOS Software, C3560E Software (C3560E-UNIVERSALK9-M), Version 12.2(50)SE2,
 RELEASE SOFTWARE (fc2)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Fri 15-May-09 22:11 by nachen

Advertisement Version: 2
Native VLAN: 88
Duplex: full
Mgmt address(es):
    IPv4 Address: 10.193.88.70
----------------------------------------
Device ID:switch(FOC16333ZER)
System Name: switch

Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/4, Port ID (outgoing port): Ethernet1/12
Holdtime: 163 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)

Advertisement Version: 2

Native VLAN: 1
Duplex: full
MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
----------------------------------------
Device ID:switch(FOC16333ZER)
System Name: switch

Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/6, Port ID (outgoing port): Ethernet1/10
Holdtime: 170 sec
```

```
Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)

Advertisement Version: 2

Native VLAN: 1
Duplex: full

MTU: 1500
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 10.193.88.192
----------------------------------------
Device ID:switch(FOC16333ZER)
System Name: switch

Interface address(es):
    IPv4 Address: 10.193.88.192
Platform: N6K-C6004-96Q, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/10, Port ID (outgoing port): Ethernet1/6
Holdtime: 170 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 6.0(2)N1(1)

Advertisement Version: 2

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

Related Commands

Command	Description
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

interface	Displays CDP traffic statistics for an Ethernet or management interface.
ethernet	Displays CDP traffic statistics for an Ethernet interface.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	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.

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) --
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
--------------------------------------------------------------------------------
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) --
Eth1/8        1       eth  access down    SFP not inserted            10G(D) --
Eth1/9        1       eth  access down    SFP not inserted            10G(D) --
Eth1/10       1       eth  access down    SFP not inserted            10G(D) --
Eth1/11       1       eth  access down    SFP not inserted            10G(D) --
Eth1/12       1       eth  access down    SFP not inserted            10G(D) --
Eth1/13       1       eth  access down    SFP not inserted            10G(D) --
Eth1/14       1       eth  access down    SFP not inserted            10G(D) --
Eth1/15       1       eth  pvlan  up      none                       1000(D) --
Eth1/16       1       eth  access down    SFP not inserted            10G(D) --
Eth1/17       1       eth  access down    SFP not inserted            10G(D) --
switch#
```

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

Related Commands

Command	Description
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.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	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
  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
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

slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	The port number is from 1 to 128.
.	(Optional) Specifies the subinterface separator. **Note** This keyword applies to Layer 3 interfaces.
subintf-port-no	(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:

Do we want to have values other than zero?

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

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

```
--------------------------------------------------------------------------------
Eth1/1                                      0                                   0
--------------------------------------------------------------------------------
Port                                 OutOctets                      OutUcastPkts
--------------------------------------------------------------------------------
Eth1/1                                      0                                   0
--------------------------------------------------------------------------------
Port                               OutMcastPkts                      OutBcastPkts
--------------------------------------------------------------------------------
Eth1/1                                      0                                   0
switch#
```

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

```
switch# show interface ethernet 1/2

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

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

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

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

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

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

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

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

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

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

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

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

switch#
```

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

```
switch(config)# interface vethernet 10
switch(config-if)# bind interface ethernet 1/5 channel 10
switch(config-if)# inherit port-profile ppVEth
switch(config-if)# untagged cos 3
switch(config-if)# exit
switch(config)# exit
switch# show interface ethernet 1/5 brief

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

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

Table 2: show interface ethernet brief Field Description

Field	Description
Ethernet Interface	Ethernet interface information.
VLAN	VLANs associated with the Ethernet interface.

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

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

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

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

Related Commands

Command	Description
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

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

Command Default

None

Command Modes

EXEC mode

Command History

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

Examples

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

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

switch#
```

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

Table 3: show interface loopback Field Description

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

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

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

```
switch# show interface loopback 10 brief
--------------------------------------------------------------------------------
Interface     Status     Description
--------------------------------------------------------------------------------
loopback10    up         --
switch#
```

Related Commands

Command	Description
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

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

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
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
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-channel5              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

intf-num	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 mgmt0
mgmt0 is up
  Hardware: GigabitEthernet, address: 0005.9b74.a6c1 (bia 0005.9b74.a6c1)
  Internet Address is 10.193.51.174/21
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec
  reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  full-duplex, 1000 Mb/s
  EtherType is 0x0000
  1 minute input rate 11336 bits/sec, 9 packets/sec
  1 minute output rate 2248 bits/sec, 3 packets/sec
  Rx
    22722587 input packets 7487592 unicast packets 7082728 multicast packets
    8152267 broadcast packets 3375124199 bytes
  Tx
    7618171 output packets 7283211 unicast packets 334751 multicast packets
    209 broadcast packets 1056259251 bytes
switch#
```

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

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

Related Commands

Command	Description
interface mgmt	Configures a management interface.

show interface port-channel

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

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

Syntax Description

.*number*	EtherChannel number. The range is from 1 to 4096.
.*subinterface-number*	(Optional) Port-channel subinterface configuration. Use the EtherChannel number followed by a dot (.) indicator and the subinterface number. The format is: *portchannel-number***.***subinterface-number*
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)
    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#
```

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:

Does this apply to the 5500 and 6000?

- Cisco Nexus 5010 Series
- Cisco Nexus 5020 Series

Examples

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

```
switch# show interface switchport
Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: fex-fabric
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1-3967,4048-4093
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs:
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled

Name: Ethernet1/2
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: fex-fabric
```

```
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1-3967,4048-4093
  Administrative private-vlan primary host-association: none
--More--
switch#
```

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

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

```
switch# show interface switchport
Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: fex-fabric
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795,900,1002-1005
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled

Name: Ethernet1/2
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: vntag
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled

Name: Ethernet1/3
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: trunk
  Access Mode VLAN: 700 (VLAN0700)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795
<--snip-->
:
:
Name: port-channel4000
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: access
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795,900,1002-1005
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
```

```
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled

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

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

Name: Ethernet101/1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: access
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795,900,1002-1005
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
<--Output truncated-->
switch#
```

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

```
switch# show interface switchport
BEND-2(config-if)# show interface switchport
Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: fex-fabric
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-800,900
  Pruning VLANs Enabled: 2-1001
```

```
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled

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

Name: Ethernet1/3
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: trunk
  Access Mode VLAN: 700 (VLAN0700)
  Trunking Native Mode VLAN: 1 (default)
<--Output truncated-->
switch #
```

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

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

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

switch#
```

Related Commands

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

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

Examples

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

```
switch# show interface switchport backup

Switch Backup Interface Pairs:

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

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

```
switch# show interface switchport backup detail

Switch Backup Interface Pairs:

Active Interface        Backup Interface        State
------------------------------------------------------------------------
Ethernet1/2             Ethernet1/1             Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : Off
        Bandwidth : 1000000 Kbit (Ethernet1/2), 10000000 Kbit (Ethernet1/1)

Ethernet1/20            Ethernet1/21            Active Down/Backup Down
        Preemption Mode  : off
```

```
        Multicast Fast Convergence  : Off
        Bandwidth : 10000000 Kbit (Ethernet1/20), 10000000 Kbit (Ethernet1/21)

port-channel300         port-channel301         Active Up/Backup Down
        Preemption Mode  : forced
        Preemption Delay : 35 seconds (default)
        Multicast Fast Convergence  : On
        Bandwidth : 20000000 Kbit (port-channel300), 10000000 Kbit (port-channel
301)

port-channel500         port-channel501         Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : On
        Bandwidth : 100000 Kbit (port-channel500), 100000 Kbit (port-channel501)

port-channel502         port-channel503         Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : Off
        Bandwidth : 100000 Kbit (port-channel502), 100000 Kbit (port-channel503)

port-channel504         Ethernet2/1             Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : Off
        Bandwidth : 100000 Kbit (port-channel504), 0 Kbit (Ethernet2/1)
switch#
```

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

Table 4: show interface switchport backup Field Descriptions

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

Related Commands

Command	Description
switchport backup interface	Configures Flex Links.
show running-config backup	Displays the running configuration information for backup interfaces.

Command	Description
show running-config flexlink	Displays the running configuration information for Flex Links.

show interface transceiver

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

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

Syntax Description

ethernet	Displays information about an Ethernet interface slot number and port number.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
transceiver	Displays information about interfaces connected to transceiver modules.
port	The port number is from 1 to 128.
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(1)	This command was introduced.
5.2(1)N(1)	This command was introduced

Usage Guidelines

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

Examples

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

```
switch# show interface ethernet 1/1 transceiver
Ethernet1/1
    transceiver is present
    type is SFP-H10GB-CU1M
    name is CISCO-MOLEX
    part number is 74752-9044
    revision is 07
    serial number is MOC14081360
    nominal bitrate is 10300 MBit/sec
    Link length supported for copper is 1 m
    cisco id is --
    cisco extended id number is 4

switch#
```

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 -40dBm), 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.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	The port number is from 1 to 128.
neighbor	Displays information about the LACP neighbor.
interface port-channel *number*	(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.

* 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 *number*	Displays aggregation information for a specific EtherChannel interface. The *number* range is from 1 to 4096.
.*subinterface-number*	(Optional) Subinterface number. Use the EtherChannel number followed by a dot (.) indicator and the subinterface number. The format is *portchannel-number***.***subinterface-number*.

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.
number	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 *portchannel-number .subinterface-number* .
vlan	(Optional) Identifies the VLAN for hardware hashing.
vlan_ID	VLAN ID. The range is from 1 to 3967 and 4048 to 4093.
dst-ip	(Optional) Displays the load distribution on the destination IP address.
ipv4-addr	IPv4 address to specify a source or destination IP address. The format is *A .B .C .D* .
dst-ipv6	(Optional) Displays the load distribution on the destination IPv6 address.
ipv6-addr	IPv6 address to specify a source or destination IP address. The format is *A :B ::C :D* .
dst-mac	(Optional) Displays the load distribution on the destination MAC address.
dst-mac-addr	Destination MAC address. The format is *AAAA :BBBB :CCCC* .
l4-dst-port	(Optional) Displays the load distribution on the destination port.
dst-port	Destination port number. The range is from 0 to 65535.

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

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#
```

The following table describes the fields shown in the display.

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

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

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

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

Missing params will be substituted by 0's.
Load-balance Algorithm on FEX: source-dest-ip
crc8_hash: Not Used     Outgoing port id: Ethernet133/1/3
Param(s) used to calculate load-balance (Unknown unicast, multicast and broadcas
t 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
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 modeEXEC mode

Command History

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

Usage Guidelines

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

Examples

This example shows how to display summary information about EtherChannels:

```
switch# show port-channel summary
Flags:  D - Down        P - Up in port-channel (members)
        I - Individual  H - Hot-standby (LACP only)
        s - Suspended   r - Module-removed
        S - Switched    R - Routed
        U - Up (port-channel)
--------------------------------------------------------------------------------
Group Port-       Type     Protocol  Member Ports
      Channel
--------------------------------------------------------------------------------
1     Po1(SU)     Eth      LACP      Eth1/1(P)    Eth1/2(P)    Eth1/3(P)
                                     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)
                                     Eth105/1/30(P)  Eth105/1/31(P)  Eth105/1/32
(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 *number*	(Optional) Displays traffic statistics for a specified interface. The range is from 1 to 4096.
.subinterface-number	(Optional) Subinterface number. Use the EtherChannel number followed by a dot (.) indicator and the subinterface number. The format is *portchannel-number.subinterface-number*.

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#
```

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.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	The port number is from 1 to 128.
port-channel *channel-num*	(Optional) Displays the secure address for an EtherChannel interface. The *channel-num* 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

resource	(Optional) Resource name, which can be one of the following: • **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.
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.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	The port number is from 1 to 128.
fc *slot /port*	(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 *number*	(Optional) Displays the number of the loopback interface. The range of values is from 1 to 4096.
mgmt *0*	(Optional) Displays the configuration information of the management interface.
port-channel *channel-number*	(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.
tunnel *number*	Displays the number of the tunnel interface. The range of values is from 0 to 65535.
vethernet *veth-id*	(Optional) Displays the configuration information of the virtual Ethernet interface. The range is from 1 to 1048575.
vlan *vlan-id*	(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 running-config poe

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

show running-config poe [all]

Syntax Description

all	(Optional) Displays backup interface information including default settings.

Command Default

None

Command Modes

EXEC mode

Command History

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

Examples

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

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

Related Commands

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

show startup-config

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

show startup-config

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 running configuration for PoE ports:

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

Related Commands

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

show startup-config backup

Is this command supported?

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

show startup-config backup [all]

Syntax Description

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.
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
itialize done

::3::[Thu Jan  1 00:01:21 2009 594946 usecs] flexlink_mts_queue_initialize: mts
bind for flexlink_q_mts(7) successful

::4::[Thu Jan  1 00:01:21 2009 595015 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SDWRAP_DEBUG_DUMP(1530) with flexlink_q_mts

::5::[Thu Jan  1 00:01:21 2009 595064 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSLOG_FACILITY_OPR(185) with flexlink_q_mts

::6::[Thu Jan  1 00:01:21 2009 595113 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSMGR_CFG_ACTION(1360) with flexlink_q_mts

::7::[Thu Jan  1 00:01:21 2009 595161 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSMGR_CFG_SAVED(1361) with flexlink_q_mts

::8::[Thu Jan  1 00:01:21 2009 595209 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_VSH_CMD_TLV(7679) with flexlink_q_mts

::9::[Thu Jan  1 00:01:21 2009 595257 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_VSH_CMD_TLV_SYNC(7682) with flexlink_q_mts

::10::[Thu Jan  1 00:01:21 2009 595304 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_FM_SRV_ENABLE_FEATURE(8925) with flexlink_q_mts

::11::[Thu Jan  1 00:01:21 2009 595351 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_FM_SRV_DISABLE_FEATURE(8926) with flexlink_q_mts

::12::[Thu Jan  1 00:01:21 2009 595400 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_IM_IF_CREATED(62467) with flexlink_q_mts

::13::[Thu Jan  1 00:01:21 2009 595448 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_IM_IF_REMOVED(62468) with flexlink_q_mts

::14::[Thu Jan  1 00:01:21 2009 595495 usecs] flexlink_mts_queue_initialize: reg
<--Output truncated-->
switch#
```

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

```
switch# show tech-support flexlink
`show interface switchport backup detail`


Switch Backup Interface Pairs:

Active Interface        Backup Interface        State
```

```
--------------------------------------------------------------------------------
Ethernet1/2             Ethernet1/1             Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : Off
        Bandwidth : 1000000 Kbit (Ethernet1/2), 10000000 Kbit (Ethernet1/1)

Ethernet1/20            Ethernet1/21            Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : Off
        Bandwidth : 10000000 Kbit (Ethernet1/20), 10000000 Kbit (Ethernet1/21)

port-channel300         port-channel301         Active Up/Backup Down
        Preemption Mode  : forced
        Preemption Delay : 35 seconds (default)
        Multicast Fast Convergence  : On
        Bandwidth : 20000000 Kbit (port-channel300), 10000000 Kbit (port-channel
301)

port-channel500         port-channel501         Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : On
        Bandwidth : 100000 Kbit (port-channel500), 100000 Kbit (port-channel501)

port-channel502         port-channel503         Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : Off
        Bandwidth : 100000 Kbit (port-channel502), 100000 Kbit (port-channel503)

port-channel504         Ethernet2/1             Active Down/Backup Down
        Preemption Mode  : off
        Multicast Fast Convergence  : Off
        Bandwidth : 100000 Kbit (port-channel504), 0 Kbit (Ethernet2/1)
`show platform backup internal trace`
FLEXLINK Trace Dump in FIFO order
================================
Trace Buffer Size: 5 MB; Num of times buffer wrapped 0; Max Rec-Size 156; Rec_id
 for next Msg 6225
================================================================================

::0::[Thu Jan  1 00:01:21 2009 594649 usecs] flexlink_db_initialize: timer libra
ry initialization successful

::1::[Thu Jan  1 00:01:21 2009 594702 usecs] flexlink_db_initialize: starting VD
C 1

::2::[Thu Jan  1 00:01:21 2009 594752 usecs] flexlink_initialize: flexlink_db_in
itialize done

::3::[Thu Jan  1 00:01:21 2009 594946 usecs] flexlink_mts_queue_initialize: mts
bind for flexlink_q_mts(7) successful

::4::[Thu Jan  1 00:01:21 2009 595015 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SDWRAP_DEBUG_DUMP(1530) with flexlink_q_mts

::5::[Thu Jan  1 00:01:21 2009 595064 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSLOG_FACILITY_OPR(185) with flexlink_q_mts

::6::[Thu Jan  1 00:01:21 2009 595113 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSMGR_CFG_ACTION(1360) with flexlink_q_mts

::7::[Thu Jan  1 00:01:21 2009 595161 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_SYSMGR_CFG_SAVED(1361) with flexlink_q_mts

::8::[Thu Jan  1 00:01:21 2009 595209 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_VSH_CMD_TLV(7679) with flexlink_q_mts

::9::[Thu Jan  1 00:01:21 2009 595257 usecs] flexlink_mts_queue_initialize: regi
stered MTS_OPC_VSH_CMD_TLV_SYNC(7682) with flexlink_q_mts

::10::[Thu Jan  1 00:01:21 2009 595304 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_FM_SRV_ENABLE_FEATURE(8925) with flexlink_q_mts

::11::[Thu Jan  1 00:01:21 2009 595351 usecs] flexlink_mts_queue_initialize: reg
```

```
istered MTS_OPC_FM_SRV_DISABLE_FEATURE(8926) with flexlink_q_mts

::12::[Thu Jan  1 00:01:21 2009 595400 usecs] flexlink_mts_queue_initialize: reg
istered MTS_OPC_IM_IF_CREATED(62467) with flexlink_q_mts
<--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 poe

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

show tech-support poe

Syntax Description

This command has no keywords or arguments.

Command Default

None

Command Modes

EXEC mode

Command History

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

Examples

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

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

Related Commands

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

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 keywords or arguments.

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
ltl:            : 0
lif:            : 0
iod:            : 43
global id       : 1
flag            : 0
--More--
```

```
<---output truncated--->
switch#
```

Related Commands

Command	Description
port-channel load-balanceethernet	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 udld

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

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

Syntax Description

ethernet	(Optional) Displays UDLD information for an Ethernet IEEE 802.3z interface.
slot	The slot number is from 1 to 255.
QSFP-module	(Optional) Quad Small Form-Factor Pluggable (QSFP) transceiver module. The range is from 1 to 199.
port	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 udld

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

        Entry 1
```

```
        ----------------
        Expiration time: 41
        Cache Device index: 1
        Current neighbor state: bidirectional
        Device ID: FLC12280095
        Port ID: Ethernet1/1
        Neighbor echo 1 devices: SSI130205RT
        Neighbor echo 1 port: Ethernet1/1
        Message interval: 15
        Timeout interval: 5
        CDP Device name: N5Kswitch-2(FLC12280095)


Interface Ethernet1/2
--------------------------------
Port enable administrative configuration setting: device-default
Port enable operational state: enabled
Current bidirectional state: bidirectional
Current operational state:  advertisement - Single neighbor detected
Message interval: 15
Timeout interval: 5

        Entry 1
        ----------------
--More--
switch#
```

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

```
switch# show udld ethernet 1/1

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

        Entry 1
        ----------------
        Expiration time: 41
        Cache Device index: 1
        Current neighbor state: bidirectional
        Device ID: FLC12280095
        Port ID: Ethernet1/1
        Neighbor echo 1 devices: SSI130205RT
        Neighbor echo 1 port: Ethernet1/1
        Message interval: 15
        Timeout interval: 5
        CDP Device name: N5Kswitch-2(FLC12280095)
switch#
```

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

```
switch# show udld global

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

This example shows how to display the UDLD neighbor interfaces:

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

```
Ethernet1/10     JAF1346000C    1           Ethernet1/10    bidirectional

switch#
```

Related Commands

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.

Command Default

None

Command Modes

Any command mode

network-admin

Command History

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

Usage Guidelines

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

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

You can display the track object, if you have configured a tracked object for running vPCs on a single module under the vpc-domain configuration mode.

Examples

This example shows how to display brief information about the vPCs:

```
switch(config)# show vpc brief
Legend:
                (*) - local vpc is down, forwarding via vPC peer-link
vPC domain id                     : 10
Peer status                       : peer adjacency formed ok
vPC keep-alive status             : peer is alive
Configuration consistency status: success
vPC role                          : primary
Number of vPC configured          : 1

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

vPC status
----------------------------------------------------------------------
```

```
id   Port   Status Consistency Reason                     Active vlans
--   ----   ------ ----------- -------------------------- ------------
20   Po20   up     success     success                    1-100
```

This example also shows how to display brief information about the vPCs. In this example, the port channel failed the consistency check, and the device displays the reason for the failure:

```
switch(config)# show vpc brief
Legend:
                (*) - local vpc is down, forwarding via vPC peer-link

vPC domain id                   : 10
Peer status                     : peer adjacency formed ok
vPC keep-alive status           : peer is alive
Configuration consistency status: failed
Configuration consistency reason: vPC type-1 configuration incompatible - STP interface
port type inconsistent
vPC role                        : secondary
Number of vPC configured        : 1

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

vPC status
----------------------------------------------------------------------------
id   Port   Status Consistency Reason                     Active vlans
--   ----   ------ ----------- -------------------------- ------------
20   Po20   up     failed      vPC type-1 configuration   -
                               incompatible - STP
                               interface port type
                               inconsistent
```

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

```
switch(config)# show vpc brief
Legend:
                (*) - local vpc is down, forwarding via vPC peer-link
vPC domain id                   : 1
Peer status                     : peer adjacency formed ok
vPC keep-alive status           : peer is alive
Configuration consistency status: success
vPC role                        : secondary
Number of vPC configured        : 3
Track object                    : 12

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

Related Commands

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