Show Commands

This chapter describes the Cisco NX-OS interface commands.

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
5.0(3)N2(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 matching a name. The device name can be a maximum of 256 alphanumeric characters.

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 all the entries in the CDP database:

```
switch# show cdp entry all
----------------------------------------
Device ID:savbu-qa-dist-120
System Name:
Interface address(es):
    IPv4 Address: 192.168.0.82
Platform: cisco WS-C3750E-24TD, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet1/0/13
Holdtime: 179 sec

Version:
Cisco IOS Software, C3750E Software (C3750E-UNIVERSAL-M), Version 12.2(35)SE5, RELEASE
SOFTWARE (fc1)
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Compiled Thu 19-Jul-07 16:17 by nachen

Advertisement Version: 2
Native VLAN: 16
VTP Management Domain:
Duplex: full
Mgmt address(es):
    IPv4 Address: 192.168.0.82

----------------------------------------
Device ID:swor96(SSI13110AAQ)
System Name:swor96
Interface address(es):
    IPv4 Address: 192.168.0.1
Platform: N5K-C5010P-BF, Capabilities: Switch IGMP Filtering Supports-STP-Dispute
Interface: Ethernet1/17, Port ID (outgoing port): Ethernet1/19
```

```
Holdtime: 167 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 5.0(3)N2(1)

Advertisement Version: 2
Native VLAN: 1
Duplex: full
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 192.168.0.96

----------------------------------------
Device ID:swor96(SSI13110AAQ)
System Name:swor96
Interface address(es):
    IPv4 Address: 192.168.0.1
Platform: N5K-C5010P-BF, Capabilities: Switch IGMP Filtering Supports-STP-Dispute
Interface: Ethernet1/18, Port ID (outgoing port): Ethernet1/20
Holdtime: 167 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 5.0(3)N2(1)

Advertisement Version: 2
Native VLAN: 1
Duplex: full
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 192.168.0.96

----------------------------------------
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 5.0(3)N2(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 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 5.0(3)N2(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
5.0(3)N2(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 *slot*/*port*	Specifies an Ethernet interface. The slot number is from 1 to 255 and the port number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
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(2)	Support for the QSFP+ GEM.
5.0(3)N2(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 interface, Ethernet or management.
ethernet *slot*/*port*	(Optional) Displays CDP neighbor information for an Ethernet interface. The slot number is from 1 to 255 and the port number is from 1 to 128
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
mgmt *mgmt-num*	(Optional) 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(2)	Support for the QSFP+ GEM.
5.0(3)N2(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, M - Two-port Mac Relay


Device ID              Local Intrfce   Hldtme  Capability  Platform      Port ID
savbu-qa-dist-120      mgmt0           177     S I         WS-C3750E-24T Gig1/0/13
swor96(SSI13110AAQ)    Eth1/17         165     S I s       N5K-C5010P-BF Eth1/19

swor96(SSI13110AAQ)    Eth1/18         165     S I s       N5K-C5010P-BF Eth1/20

swor95(SSI13110AAS)    Eth1/29         171     S I s       N5K-C5010P-BF Eth1/19

switch#
```

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 5.0(3)N2(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, M - Two-port Mac Relay


Device ID              Local Intrfce   Hldtme  Capability  Platform      Port ID
savbu-qa-dist-120      mgmt0           126     S I         WS-C3750E-24T Gig1/0/13

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:savbu-qa-dist-120
System Name:
Interface address(es):
    IPv4 Address: 192.168.0.82
Platform: cisco WS-C3750E-24TD, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet1/0/13
Holdtime: 179 sec

Version:
```

```
Cisco IOS Software, C3750E Software (C3750E-UNIVERSAL-M), Version 12.2(35)SE5, R
ELEASE SOFTWARE (fc1)
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Compiled Thu 19-Jul-07 16:17 by nachen

Advertisement Version: 2
Native VLAN: 16
VTP Management Domain:
Duplex: full
Mgmt address(es):
    IPv4 Address: 192.168.0.82

switch#
```

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

```
switch# show cdp neighbors detail
----------------------------------------
Device ID:savbu-qa-dist-120
System Name:
Interface address(es):
    IPv4 Address: 192.168.0.82
Platform: cisco WS-C3750E-24TD, Capabilities: Switch IGMP Filtering
Interface: mgmt0, Port ID (outgoing port): GigabitEthernet1/0/13
Holdtime: 128 sec

Version:
Cisco IOS Software, C3750E Software (C3750E-UNIVERSAL-M), Version 12.2(35)SE5, R
ELEASE SOFTWARE (fc1)
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Compiled Thu 19-Jul-07 16:17 by nachen

Advertisement Version: 2
Native VLAN: 16
VTP Management Domain:
Duplex: full
Mgmt address(es):
    IPv4 Address: 192.168.0.82

----------------------------------------
Device ID:swor96(SSI13110AAQ)
System Name:swor96
Interface address(es):
    IPv4 Address: 192.168.0.1
Platform: N5K-C5010P-BF, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/17, Port ID (outgoing port): Ethernet1/19
Holdtime: 175 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 5.0(3)N2(1)

Advertisement Version: 2
Native VLAN: 1
Duplex: full
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 192.168.0.96

----------------------------------------
Device ID:swor96(SSI13110AAQ)
System Name:swor96
Interface address(es):
    IPv4 Address: 192.168.0.1
```

```
Platform: N5K-C5010P-BF, Capabilities: Switch IGMP Filtering Supports-STP-Disput
e
Interface: Ethernet1/18, Port ID (outgoing port): Ethernet1/20
Holdtime: 175 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 5.0(3)N2(1)

Advertisement Version: 2
Native VLAN: 1
Duplex: full
Physical Location: snmplocation
Mgmt address(es):
    IPv4 Address: 192.168.0.96

----------------------------------------
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: 121 sec

Version:
Cisco Nexus Operating System (NX-OS) Software, Version 5.0(3)N2(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 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 interface, Ethernet or management.
ethernet *slot*/*port*	Displays CDP traffic statistics for an Ethernet interface. The slot number is from 1 to 255 and the port number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
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(2)	Support for the QSFP+ GEM.
5.0(3)N2(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
5.2(1)N1(1)	This command was introduced.

Examples

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

```
switch# show interface brief

--------------------------------------------------------------------------------
Ethernet      VLAN   Type Mode   Status  Reason                   Speed     Port
Interface                                                                  Ch #
--------------------------------------------------------------------------------
Eth1/1        1      eth  trunk  up      none                       10G(D) 4000
Eth1/2        1      eth  trunk  up      none                       10G(D) 4000
Eth1/3        1      eth  trunk  up      none                       10G(D) 4000
Eth1/4        1      eth  trunk  up      none                       10G(D) 4000
Eth1/5        1      eth  access down    SFP not inserted           10G(D) --
Eth1/6        1      eth  access down    SFP not inserted           10G(D) --
Eth1/7        1      eth  trunk  up      none                       10G(D) 10
Eth1/8        1      eth  trunk  up      none                       10G(D) 10
Eth1/9        1      eth  trunk  up      none                       10G(D) 10
Eth1/10       1      eth  trunk  up      none                       10G(D) 10
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 down    SFP not inserted           10G(D) --
Eth1/18       1      eth  access down    SFP not inserted           10G(D) --
Eth1/19       1      eth  access down    SFP not inserted           10G(D) --
Eth1/20       1      eth  access down    SFP not inserted           10G(D) --
Eth1/21       1      eth  access down    SFP not inserted           10G(D) --
Eth1/22       1      eth  access down    SFP not inserted           10G(D) --
Eth1/23       1      eth  access down    Link not connected         10G(D) --
Eth1/24       1      eth  access down    Link not connected         10G(D) --
Eth1/25       1      eth  access down    SFP not inserted           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    SFP not inserted            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 down    SFP not inserted            10G(D) --
Eth1/33       1      eth  access down    SFP not inserted            10G(D) --
Eth1/34       1      eth  access down    SFP not inserted            10G(D) --
Eth1/35       1      eth  access down    SFP not inserted            10G(D) --
Eth1/36       1      eth  access down    SFP not inserted            10G(D) --
Eth1/37       1      eth  access down    SFP not inserted            10G(D) --
Eth1/38       1      eth  access down    SFP not inserted            10G(D) --
Eth1/39       1      eth  access down    SFP not inserted            10G(D) --
Eth1/40       1      eth  trunk  up      none                        10G(D) --
Eth2/1        1      eth  access down    SFP not inserted            10G(D) --
Eth2/2        1      eth  access up      none                        10G(D) --
Eth2/3        1      eth  access down    SFP not inserted            10G(D) --
Eth2/4        1      eth  access up      none                        10G(D) --
Eth2/5        1      eth  access up      none                        10G(D) --
Eth2/6        1      eth  access down    SFP not inserted            10G(D) --

--------------------------------------------------------------------------------
Port-channel VLAN  Type Mode   Status  Reason                   Speed  Protocol
Interface
--------------------------------------------------------------------------------
Po10         1     eth  trunk  up      none                      a-10G(D)  lacp
Po4000       1     eth  trunk  up      none                      a-10G(D)  lacp

--------------------------------------------------------------------------------
Port   VRF          Status IP Address                              Speed    MTU
--------------------------------------------------------------------------------
mgmt0  --           up     192.168.10.37                           100      1500

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

switch#
```

This example shows how to display the summary configuration information of 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 on a switch that runs Cisco Nexus 5500 Release 5.1(3)N1(1):

```
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” indicating 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 *slot*/*port*	Specifies an Ethernet interface slot number and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM.
5.2(1)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 is displayed 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 are 10 Gigabits.

Examples

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

```
switch# show interface ethernet 1/1 capabilities
Ethernet1/1
  Model:                 N5K-C5020P-BF-XL-SU
  Type (SFP capable):    SFP-H10GB-CU1M
  Speed:                 1000,10000
  Duplex:                full
  Trunk encap. type:     802.1Q
  Channel:               yes
  Broadcast suppression: percentage(0-100)
  Flowcontrol:           rx-(off/on),tx-(off/on)
  Rate mode:             none
  QOS scheduling:        rx-(6q1t),tx-(1p6q0t)
  CoS rewrite:           no
  ToS rewrite:           no
  SPAN:                  yes
  UDLD:                  yes
  Link Debounce:         yes
```

```
  Link Debounce Time:    yes
  MDIX:                  no
  Pvlan Trunk capable:   yes
  TDR capable:           no
  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
5.2(1)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
Eth1/13       enable              100
Eth1/14       enable              100
Eth1/15       enable              100
Eth1/16       enable              100
Eth1/17       enable              100
Eth1/18       enable              100
Eth1/19       enable              100
Eth1/20       enable              100
Eth1/21       enable              100
Eth1/22       enable              100
Eth1/23       enable              100
Eth1/24       enable              100
Eth1/25       enable              100
Eth1/26       enable              100
Eth1/27       enable              100
Eth1/28       enable              100
Eth1/29       enable              100
```

```
Eth1/30       enable              100
Eth1/31       enable              100
Eth1/32       enable              100
--More--
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/*port*	Ethernet interface slot number and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
.	(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(2)	Support for the QSFP+ GEM.
5.2(1)N1(1)	This command was introduced.

Usage Guidelines

If the interface and transceiver speed is mismatched, the SFP validation failed message is displayed 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 5000 Series switch are 10 Gigabits.

Examples

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

```
switch# show interface ethernet 1/1
Ethernet1/1 is up
```

```
  Hardware: 1000/10000 Ethernet, address: 000d.ece7.df48 (bia 000d.ece7.df48)
  MTU 1500 bytes, BW 10000000 Kbit, DLY 10 usec,
     reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA
  Port mode is fex-fabric
  full-duplex, 10 Gb/s, media type is 1/10g
  Beacon is turned off
  Input flow-control is off, output flow-control is off
  Rate mode is dedicated
  Switchport monitor is off
  Last link flapped 09:03:57
  Last clearing of "show interface" counters never
  30 seconds input rate 2376 bits/sec, 0 packets/sec
  30 seconds output rate 1584 bits/sec, 0 packets/sec
  Load-Interval #2: 5 minute (300 seconds)
    input rate 1.58 Kbps, 0 pps; output rate 792 bps, 0 pps
  RX
    0 unicast packets  10440 multicast packets  0 broadcast packets
    10440 input packets  11108120 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  20241 multicast packets  105 broadcast packets
    20346 output packets  7633280 bytes
    0 jumbo packets
    0 output errors  0 collision  0 deferred  0 late collision
    0 lost carrier  0 no carrier  0 babble
    0 Tx pause
  1 interface resets

switch#
```

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

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

--------------------------------------------------------------------------------
Port                InOctets       InUcastPkts      InMcastPkts      InBcastPkts
--------------------------------------------------------------------------------
Eth1/1              17193136                 0            16159                0
--------------------------------------------------------------------------------
Port               OutOctets      OutUcastPkts     OutMcastPkts     OutBcastPkts
--------------------------------------------------------------------------------
Eth1/1           11576758                 0            28326              106
switch#
```

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

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

switch#
```

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

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

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

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

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

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

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

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

switch#
```

In the above display, the Monitor destination rate-limit field displays the rate limit configured on a switchport interface on a Cisco Nexus 5010 Series switch.

Note You can configure the monitor destination rate-limit only on a Cisco Nexus 5010 Series switch or Cisco Nexus 5020 Series 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.

Command	Description
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
5.0(3)N1(1)	This command was introduced.

Examples

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

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

switch#
```

Table 1 describes the significant fields shown in the display.

Table 1 show interface loopback Field Description

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

Table 1 show interface loopback Field Description (continued)

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

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

```
switch# show interface loopback 10 brief

--------------------------------------------------------------------------------
Interface     Status     Description
--------------------------------------------------------------------------------
loopback10    up         --
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. The *type* can be either Ethernet or EtherChannel.
slot/*port*	Ethernet interface port number and slot number. The slot number is from 1 to 255, and the port number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
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(2)	Support for the QSFP+ GEM.
5.2(1)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 on MAC addresses for the entire switch:

```
switch# show interface mac-address

--------------------------------------------------------------------------------
Interface                   Mac-Address     Burn-in Mac-Address
--------------------------------------------------------------------------------
Ethernet1/1                 0005.9b78.6e7c  0005.9b78.6e48
Ethernet1/2                 0005.9b78.6e7c  0005.9b78.6e49
Ethernet1/3                 0005.9b78.6e7c  0005.9b78.6e4a
Ethernet1/4                 0005.9b78.6e7c  0005.9b78.6e4b
Ethernet1/5                 0005.9b78.6e7c  0005.9b78.6e4c
Ethernet1/6                 0005.9b78.6e7c  0005.9b78.6e4d
Ethernet1/7                 0005.9b78.6e7c  0005.9b78.6e4e
Ethernet1/8                 0005.9b78.6e7c  0005.9b78.6e4f
Ethernet1/9                 0005.9b78.6e7c  0005.9b78.6e50
Ethernet1/10                0005.9b78.6e7c  0005.9b78.6e51
Ethernet1/11                0005.9b78.6e7c  0005.9b78.6e52
Ethernet1/12                0005.9b78.6e7c  0005.9b78.6e53
Ethernet1/13                0005.9b78.6e7c  0005.9b78.6e54
Ethernet1/14                0005.9b78.6e7c  0005.9b78.6e55
Ethernet1/15                0005.9b78.6e7c  0005.9b78.6e56
```

```
Ethernet1/16               0005.9b78.6e7c  0005.9b78.6e57
Ethernet1/17               0005.9b78.6e7c  0005.9b78.6e58
Ethernet1/18               0005.9b78.6e7c  0005.9b78.6e59
Ethernet1/19               0005.9b78.6e7c  0005.9b78.6e5a
Ethernet1/20               0005.9b78.6e7c  0005.9b78.6e5b
Ethernet1/21               0005.9b78.6e7c  0005.9b78.6e5c
Ethernet1/22               0005.9b78.6e7c  0005.9b78.6e5d
--More--
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 on 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
5.2(1)N1(1)	This command was introduced.

Examples

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

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

```
    8152267 broadcast packets 3375124199 bytes
  Tx
    7618171 output packets 7283211 unicast packets 334751 multicast packets
    209 broadcast packets 1056259251 bytes

switch#
```

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

```
switch# show interface mgmt 0 brief
```

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*
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
5.2(1)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
5.2(1)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
5.2(1)N1(1)	This command was introduced.

Usage Guidelines

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

- Cisco Nexus 5010 Series
- Cisco Nexus 5020 Series

This command does not require a license.

Examples

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

```
switch# show interface switchport
Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: 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 interfaces on a switch that runs Cisco NX-OS Release 5.0(3)N1(1):

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

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

Name: Ethernet1/3
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: trunk
  Access Mode VLAN: 700 (VLAN0700)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-795
<--snip-->
:
:
Name: port-channel4000
```

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

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

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

```
switch# show interface switchport
BEND-2(config-if)# show interface switchport
Name: Ethernet1/1
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: fex-fabric
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-800,900
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  Administrative private-vlan trunk native VLAN: none
  Administrative private-vlan trunk encapsulation: dot1q
  Administrative private-vlan trunk normal VLANs: none
  Administrative private-vlan trunk private VLANs: none
  Operational private-vlan: none
  Unknown unicast blocked: disabled
  Unknown multicast blocked: disabled

Name: Ethernet1/2
  Switchport: Enabled
  Switchport Monitor: Not enabled
  Operational Mode: trunk
  Access Mode VLAN: 1 (default)
  Trunking Native Mode VLAN: 1 (default)
  Trunking VLANs Enabled: 1,300-800
  Pruning VLANs Enabled: 2-1001
  Administrative private-vlan primary host-association: none
```

```
  Administrative private-vlan secondary host-association: none
  Administrative private-vlan primary mapping: none
  Administrative private-vlan secondary mapping: none
  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 on a switch that runs Cisco NX-OS Release 5.0(3)N2(1):

```
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
5.0(3)N2(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#
```

Table 2 describes the significant fields displayed in the output.

Table 2 show interface switchport backup Field Descriptions

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

Related Commands

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

show interface transceiver

To display 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 *slot*/*port*	Displays information about an Ethernet interface slot number and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
details	(Optional) Displays detailed information about the transceivers on an interface.

Command Default

None

Command Modes

EXEC mode

Command History

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

Usage Guidelines

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

Examples

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

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

switch#
```

Related Commands

Command	Description
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 *slot*/*port*	Displays LACP information for a specific Ethernet interface. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
neighbor	Displays information about the LACP neighbor.
port-channel	Displays information about all EtherChannels.
interface port-channel *number*	(Optional) Displays information about a specific EtherChannel. The EtherChannel number is from 1 to 4096.
system-identifier	Displays the LACP system identification. It is a combination of the port priority and the MAC address of the device.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM.
5.2(1)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
5.2(1)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
5.2(1)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*	(Optional) 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
5.2(1)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
5.2(1)N1(1)	This command was introduced.

Usage Guidelines

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

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

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

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

To get accurate results, you must do the following:

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

Examples

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

```
switch# show port-channel load-balance
Port Channel Load-Balancing Configuration:
System: source-dest-ip

Port Channel Load-Balancing Addresses Used Per-Protocol:
Non-IP: source-dest-mac
IP: source-dest-ip source-dest-mac

switch#
```

Table 3 describes the fields shown in the display.

Table 3 show port-channel load-balance Field Descriptions

Field	Description
System	The load-balancing method configured on the switch.
Non-IP	The field that will be used to calculate the hash value for non-IP traffic.
IP	The fileds 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 192.168.2.37
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 192.168.2.25 src-ip 192.168.2.10 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 192.168.2.25 src-ip 192.168.2.10 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 192.168.2.25 src-ip 192.168.2.10 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:   192.168.2.25
        src-ip:   192.168.2.10
        dst-mac:  0000.0000.0000
       src-mac:  aabb.ccdd.eeff

switch#
```

Related Commands

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

show port-channel summary

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

show port-channel summary

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Global configuration mode
EXEC mode

Command History

Release	Modification
5.2(1)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	(Optional) Displays traffic statistics for a specified interface.
port-channel *number*	(Optional) Displays information for a specified EtherChannel. The range is from 1 to 4096.
.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
5.2(1)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
5.2(1)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 *slot*/*port*	(Optional) Displays the secure address for an Ethernet interface. The slot number is from 1 to 255 and the port number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
port-channel *channel-num*	(Optional) Displays the secure address for an EtherChannel interface. The channel number 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(2)	Support for the QSFP+ GEM.
5.1(3)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	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 forwardings (VRFs) available in the system.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)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
5.2(1)N1(1)	This command was introduced.

Examples

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

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

This example shows how to display detailed information on 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
5.0(3)N2(1)	This command was introduced.

Examples

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

```
switch# show running-config backup

!Command: show running-config backup
!Time: Sun Jan  4 06:27:36 2009

version 5.0(3)N2(1)
feature flexlink

logging level Flexlink 5

interface port-channel300
  switchport backup interface port-channel301 preemption mode forced
  switchport backup interface port-channel301 multicast fast-convergence

interface port-channel500
  switchport backup interface port-channel501 preemption delay 36
  switchport backup interface port-channel501 multicast fast-convergence

interface port-channel502
  switchport backup interface port-channel503

interface port-channel504
  switchport backup interface Ethernet2/1

interface Ethernet1/2
  switchport backup interface Ethernet1/1

interface Ethernet1/20
  switchport backup interface Ethernet1/21

interface Ethernet2/2
```

```
  switchport backup interface port-channel507 preemption mode forced

switch#
```

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

```
switch# show running-config backup all

!Command: show running-config backup all
!Time: Sun Jan  4 06:28:04 2009

version 5.0(3)N2(1)
feature flexlink

logging level Flexlink 5

interface port-channel300
  switchport backup interface port-channel301 preemption mode forced
  switchport backup interface port-channel301 preemption delay 35
  switchport backup interface port-channel301 multicast fast-convergence

interface port-channel500
  switchport backup interface port-channel501 preemption mode off
  switchport backup interface port-channel501 preemption delay 36
  switchport backup interface port-channel501 multicast fast-convergence

interface port-channel502
  switchport backup interface port-channel503 preemption mode off
  switchport backup interface port-channel503 preemption delay 35

interface port-channel504
  switchport backup interface Ethernet2/1 preemption mode off
  switchport backup interface Ethernet2/1 preemption delay 35

interface Ethernet1/2
  switchport backup interface Ethernet1/1 preemption mode off
  switchport backup interface Ethernet1/1 preemption delay 35

interface Ethernet1/20
  switchport backup interface Ethernet1/21 preemption mode off
  switchport backup interface Ethernet1/21 preemption delay 35

interface Ethernet2/2
  switchport backup interface port-channel507 preemption mode forced
  switchport backup interface port-channel507 preemption delay 35

switch#
```

Related Commands

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

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

show running-config interface

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

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

Syntax Description

ethernet *slot/port*	(Optional) Displays the Ethernet interface slot number and port number. The slot number is from 1 to 255 and the port number is from 1 to 128.
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.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
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.
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(2)	Support for the QSFP+ GEM.
5.2(1)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 5.0(1)
```

```
interface port-channel10
  switchport
  switchport mode trunk

switch(config)#
```

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

```
switch# show running-config interface vethernet 10

!Command: show running-config interface Vethernet10
!Time: Fri Jan  2 01:40:37 2009

version 5.1(3)N1(1)

interface Vethernet10
  inherit port-profile ppVEth
  untagged cos 3
  switchport access vlan 101
  bind interface Ethernet1/5 channel 10

switch#
```

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

```
switch# show running-config interface vlan 5

!Command: show running-config interface Vlan5
!Time: Mon Apr  4 07:46:35 2005

version 5.1(3)N1(1)

interface Vlan5
  management

switch#
```

Related Commands

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

show startup-config

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

show startup-config

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)N1(1)	This command was introduced.

Examples

This example shows how to display information from the startup configuration file:

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

Related Commands

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

show startup-config backup

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

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

Syntax Description

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

Command Default

None

Command Modes

EXEC mode

Command History

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

Examples

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

```
switch# show startup-config backup

!Command: show startup-config backup
!Time: Sun Jan  4 06:28:43 2009
!Startup config saved at: Thu Jan  1 03:40:28 2009

version 5.0(3)N2(1)
feature flexlink

logging level Flexlink 5

interface port-channel300
  switchport backup interface port-channel301 preemption mode forced

interface port-channel500
  switchport backup interface port-channel501 preemption delay 36
  switchport backup interface port-channel501 multicast fast-convergence

interface port-channel502
  switchport backup interface port-channel503

interface port-channel504
  switchport backup interface Ethernet2/1

interface Ethernet1/2
  switchport backup interface Ethernet1/1

interface Ethernet1/20
  switchport backup interface Ethernet1/21

interface Ethernet2/2
```

```
  switchport backup interface port-channel507 preemption mode forced

switch#
```

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

```
switch# show startup-config backup all

!Command: show startup-config backup all
!Time: Sun Jan  4 06:29:17 2009
!Startup config saved at: Thu Jan  1 03:40:28 2009

version 5.0(3)N2(1)
feature flexlink

logging level Flexlink 5

interface port-channel300
  switchport backup interface port-channel301 preemption mode forced
  switchport backup interface port-channel301 preemption delay 35

interface port-channel500
  switchport backup interface port-channel501 preemption mode off
  switchport backup interface port-channel501 preemption delay 36
  switchport backup interface port-channel501 multicast fast-convergence

interface port-channel502
  switchport backup interface port-channel503 preemption mode off
  switchport backup interface port-channel503 preemption delay 35

interface port-channel504
  switchport backup interface Ethernet2/1 preemption mode off
  switchport backup interface Ethernet2/1 preemption delay 35

interface Ethernet1/2
  switchport backup interface Ethernet1/1 preemption mode off
  switchport backup interface Ethernet1/1 preemption delay 35

interface Ethernet1/20
  switchport backup interface Ethernet1/21 preemption mode off
  switchport backup interface Ethernet1/21 preemption delay 35

interface Ethernet2/2
  switchport backup interface port-channel507 preemption mode forced
  switchport backup interface port-channel507 preemption delay 35

switch#
```

Related Commands

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

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

show tech-support

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

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

Syntax Description

backup	Displays troubleshooting information about backup interfaces.
flexlink	Displays troubleshooting information about Flex Links.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.0(3)N2(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 port-channel

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

show tech-support port-channel

Syntax Description

This command has no arguments and keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)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) [Thu Jul  8 04:05:04 2010]
High Priority Pending queue: len(0), max len(32) [Thu Jul  8 04:05:04 2010]
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-balance ethernet	Configures the load-balancing method among the interfaces in the channel-group bundle.
show port-channel load-balance	Displays information on EtherChannel load balancing.

show 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 *slot/port*	Displays UDLD information for an Ethernet IEEE 802.3z interface. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
QSFP-module	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
global	Displays the UDLD global status and configuration information on all interfaces.
neighbors	Displays information about UDLD neighbor interfaces.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM.
5.2(1)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 on 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 the brief information for the specified vPC. The range is from 1 to 4096.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin

Command History

Release	Modification
5.2(1)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.

This command does not require a license.

Examples

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

```
switch(config)# show vpc brief

Legend:
                (*) - local vpc is down, forwarding via vPC peer-link

vPC domain id                   : 10
Peer status                     : peer adjacency formed ok
vPC keep-alive status           : peer is alive
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.