CHAPTER 3

Ethernet Show Commands

This chapter describes the Cisco NX-OS Ethernet **show** commands available on Cisco Nexus 5000 Series switches.

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
4.0(0)N1(1a)	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#
```

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*/*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.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

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

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
4.0(0)N1(1a)	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
```

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```
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*/*port* [**counters** | **description** | **status**]

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.
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.

Command Default   Displays all information for the interface.

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

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#
```

Related Commands	Command	Description
	interface ethernet	Configures an Ethernet IEEE 802.3 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
4.0(0)N1(1a)	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 mac-address

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

show interface [*type slot/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.	
portchannel-no	EtherChannel number. The EtherChannel number is from 1 to 4096.	

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	4.0(0)N1(1a)	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 private-vlan mapping

To display information about private VLAN mapping for primary VLAN interfaces, use the **show interface private-vlan mapping** command.

show interface private-vlan mapping

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   Before you can configure private VLANs, you must enable them by using the **feature private-vlan** command. The commands for configuring private VLANs are not visible until you enable private VLANs.

This command displays the mapping information between the primary and secondary VLANs that allows both VLANs to share the VLAN interface of the primary VLAN.

Examples   This example shows how to display information about primary and secondary private VLAN mapping:

```
switch# show interface private-vlan mapping
```

Related Commands

Command	Description
feature private-vlan	Enables private VLANs.
show interface switchport	Displays information about the ports, including those in private VLANs.
show vlan	Displays summary information for all VLANs.
show vlan private-vlan	Displays information for all private VLANs on the device.

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
4.2(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 errror disabled (err-disabled) detection.
	errdisable recovery cause	Enables errror 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
4.0(0)N1(1a)	This command was introduced.

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#
```

Related Commands

Command	Description
switchport access vlan	Sets the access VLAN when the interface is in access mode.

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*/*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.
	details	(Optional) Displays detailed information about the transceivers on an interface.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	4.0(0)N1(1a)	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#
```

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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.

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show interface vlan

To display brief descriptive information about specified VLANs, use the **show interface vlan** command.

show interface vlan *vlan-id* [**brief** | **private-vlan mapping**]

Syntax Description

vlan-id	Number of the VLAN. The range is from 1 to 4094.
brief	(Optional) Displays a summary information for the specified VLAN.
private-vlan mapping	(Optional) Displays the private VLAN mapping information, if any, for the specified VLAN.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   You must enable interface VLANs by using the **feature interface-vlan** or the **svi enable** command. The commands for configuring interface VLANs are not visible until you enable this feature.

This command displays descriptive information for the specified VLAN, including private VLANs.

The switch displays output for the **show interface vlan** *vlan-id* **private-vlan mapping** command only when you specify a primary private VLAN. If you specify a secondary private VLAN, the output is blank.

Examples   This example shows how to display information about the specified VLAN:

```
switch# show interface vlan 10
Vlan10 is up, line protocol is up
  Hardware is EtherSVI, address is  0005.9b78.6e7c
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,

switch#
```

This example shows how to display a brief description for the specified VLAN:

```
switch# show interface vlan 10 brief

--------------------------------------------------------------------
Interface Secondary VLAN(Type)                    Status Reason
--------------------------------------------------------------------
Vlan10    --                                      up     --
switch#
```

This example shows how to display the private VLAN mapping information, if any, for the VLAN:

```
switch# show interface vlan 10 private-vlan mapping
```

When you specify a primary VLAN, the switch displays all secondary VLANs mapped to that primary VLAN.

Related Commands

Command	Description
show interface switchport	Displays information about the ports, including those in private VLANs.
show vlan	Displays summary information for all VLANs.
show vlan private-vlan	Displays summary information for all private VLANs.

show ip igmp snooping

To display the Internet Group Management Protocol (IGMP) snooping configuration of the switch, use the **show ip igmp snooping** command.

> **show ip igmp snooping** [**explicit-tracking vlan** *vlan-id* | **groups** [**detail** | **vlan** *vlan-id*] | **mrouter** [**vlan** *vlan-id*] | **querier** [**vlan** *vlan-id*] | **vlan** *vlan-id*]

Syntax Description		
explicit-tracking	(Optional) Displays information about the explicit host-tracking status for IGMPv3 hosts. If you provide this keyword, you must specify a VLAN.	
vlan *vlan-id*	(Optional) Specifies a VLAN. The VLAN ID range is from1 to 4094.	
groups	(Optional) Displays information for the IGMP group address.	
detail	(Optional) Displays detailed information for the group.	
mrouter	(Optional) Displays information about dynamically detected multicast routers.	
querier	(Optional) Displays information about the snooping querier if defined.	

Command Default None

Command Modes EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples This example shows how to display the IGMP snooping configuration of the switch:

```
switch# show ip igmp snooping
Global IGMP Snooping Information:
  IGMP Snooping enabled
  IGMPv1/v2 Report Suppression enabled
  IGMPv3 Report Suppression disabled
  Link Local Groups Suppression enabled

IGMP Snooping information for vlan 1
  IGMP snooping enabled
  IGMP querier none
  Switch-querier disabled
  IGMPv3 Explicit tracking enabled
  IGMPv2 Fast leave disabled
  IGMPv1/v2 Report suppression enabled
  IGMPv3 Report suppression disabled
  Link Local Groups suppression enabled
  Router port detection using PIM Hellos, IGMP Queries
  Number of router-ports: 1
  Number of groups: 0
  VLAN vPC function enabled
  Active ports:
```

```
      Po19        Po400   Eth170/1/17      Eth171/1/7
      Eth171/1/8  Eth198/1/11     Eth199/1/13
IGMP Snooping information for vlan 300
  IGMP snooping enabled
  IGMP querier none
  Switch-querier disabled
  IGMPv3 Explicit tracking enabled
--More--
switch#
```

Related Commands

Command	Description
ip igmp snooping (EXEC)	Globally enables IGMP snooping. IGMP snooping must be globally enabled in order to be enabled on a VLAN.
ip igmp snooping (VLAN)	Enables IGMP snooping on the VLAN interface.

show lacp

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

show lacp {**counters** | **interface ethernet** *slot*/*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.
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
4.0(0)N1(1a)	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
	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 mac address-table aging-time

To display information about the time-out values for the MAC address table, use the **show mac address-table aging-time** command.

show mac address-table aging-time [**vlan** *vlan-id*]

Syntax Description

vlan *vlan-id*	(Optional) Displays information for a specific VLAN. The VLAN ID range is from 1 to 4094.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.
4.2(1)N1(1)	The command syntax is changed to **show mac address-table aging-time**.

Examples   This example shows how to display MAC address aging times:

```
switch# show mac address-table aging-time
Vlan  Aging Time
----- ----------
2023  300
2022  300
2021  300
2020  300
2019  300
2018  300
2017  300
2016  300
2015  300
2014  300
2013  300
2012  300
2011  300
2010  300
2009  300
2008  300
2007  300
2006  300
2005  300
2004  300
2003  300
--More--
switch#
```

Related Commands

Command	Description
mac address-table aging-time	Configures the aging time for entries in the MAC address table.
show mac address-table	Displays information about the MAC address table.

show mac address-table count

To display the number of entries currently in the MAC address table, use the **show mac address-table count** command.

> **show mac address-table count** [**address** *EEEE.EEEE.EEEE*] [**dynamic** | **static**] [**interface** {**ethernet** *slot*/*port* | **port-channel** *number*}] [**vlan** *vlan-id*]

Syntax Description

address *EEEE.EEEE.EEEE*	(Optional) Displays a count of the MAC address table entries for a specific address.
dynamic	(Optional) Displays a count of the dynamic MAC addresses.
static	(Optional) Displays a count of the static MAC addresses.
interface	(Optional) Specifies the interface. The interface can be Ethernet or EtherChannel.
ethernet *slot*/*port*	(Optional) Specifies 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.
port-channel *number*	(Optional) Specifies the EtherChannel interface. The EtherChannel number is from 1 to 4096.
vlan *vlan-id*	(Optional) Displays information for a specific VLAN. The range is from 1 to 4094.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.
4.2(1)N1(1)	The command syntax is changed to **show mac address-table count**.

Examples   This example shows how to display the number of dynamic entries currently in the MAC address table:

```
switch# show mac address-table count dynamic
MAC Entries for all vlans:
Total MAC Addresses in Use: 7
switch#
```

Related Commands

Command	Description
show mac address-table	Displays information about the MAC address table.

show mac address-table notification

To display notifications about the MAC address table, use the **show mac address-table notification** command.

show mac address-table notification {**mac-move** | **threshold**}

Syntax Description

mac-move	Displays notification messages about MAC addresses that were moved.
threshold	Displays notification messages sent when the MAC address table threshold was exceeded.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.
4.2(1)N1(1)	The command syntax is changed to **show mac address-table notification**.

Examples   This example shows how to display MAC address move notifications:

```
switch# show mac address-table notification mac-move
MAC Move Notify : disabled
switch#
```

Related Commands

Command	Description
show mac address-table	Displays information about the MAC address table.

show mac address-table

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

show mac address-table [**address** *mac-address*] [**dynamic** | **multicast** | **static**] [**interface** {**ethernet** *slot/port* | **port-channel** *number*}] [**vlan** *vlan-id*]

Syntax Description

address *mac-address*	(Optional) Displays information about a specific MAC address.
dynamic	(Optional) Displays information about the dynamic MAC address table entries only.
interface	(Optional) Specifies the interface. The interface can be either Ethernet or EtherChannel.
ethernet *slot/port*	(Optional) Specifies 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.
port-channel *number*	(Optional) Specifies the EtherChannel interface. The EtherChannel number is from 1 to 4096.
multicast	(Optional) Displays information about the multicast MAC address table entries only.
static	(Optional) Displays information about the static MAC address table entries only.
vlan *vlan-id*	(Optional) Displays information for a specific VLAN. The VLAN ID range is from 1 to 4094.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.
4.2(1)N1(1)	The command syntax is changed to **show mac address-table**.

Usage Guidelines   The switch maintains static MAC address entries that are saved in its startup configuration across reboots and flushes the dynamic entries.

Examples   This example shows how to display information about the entries for the MAC address table:

```
switch# show mac address-table
Legend:
        * - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
        age - seconds since last seen,+ - primary entry using vPC Peer-Link
   VLAN     MAC Address     Type      age     Secure NTFY     Ports
---------+----------------+--------+---------+------+----+------------------
```

```
+ 100     0000.0001.0003    dynamic   0          F    F   Po1
+ 100     0000.0001.0004    dynamic   0          F    F   Po1
+ 100     0000.0001.0009    dynamic   0          F    F   Po1
+ 100     0000.0001.0010    dynamic   0          F    F   Po1
* 1       001d.7172.6c40    dynamic   300        F    F   Eth100/1/20
switch#
```

This example shows how to display information about the entries for the MAC address table for a specific MAC address:

```
switch# show mac address-table address 0018.bad8.3fbd
```

This example shows how to display information about the dynamic entries for the MAC address table:

```
switch# show mac address-table dynamic
Legend:
        * - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
        age - seconds since last seen,+ - primary entry using vPC Peer-Link
   VLAN     MAC Address      Type      age       Secure NTFY     Ports
---------+----------------+--------+---------+------+----+------------------
+ 100     0000.0001.0003    dynamic   0          F    F   Po1
+ 100     0000.0001.0004    dynamic   0          F    F   Po1
+ 100     0000.0001.0009    dynamic   0          F    F   Po1
+ 100     0000.0001.0010    dynamic   0          F    F   Po1
* 1       001d.7172.6c40    dynamic   300        F    F   Eth100/1/20
switch#
```

This example shows how to display information about the MAC address table for a specific interface:

```
switch# show mac address-table interface ethernet 1/3
```

This example shows how to display static entries in the MAC address table:

```
switch# show mac address-table static
```

This example shows how to display entries in the MAC address table for a specific VLAN:

```
switch# show mac address-table vlan 1
Legend:
        * - primary entry, G - Gateway MAC, (R) - Routed MAC, O - Overlay MAC
        age - seconds since last seen,+ - primary entry using vPC Peer-Link
   VLAN     MAC Address      Type      age       Secure NTFY     Ports
---------+----------------+--------+---------+------+----+------------------
* 1       001d.7172.6c40    dynamic   60         F    F   Eth100/1/20
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 aging-time	Displays information about the time-out values for the MAC address table.
	show mac address-table count	Displays the number of entries currently in the MAC address table.
	show mac address-table notifications	Displays information about notifications for the MAC address table.

show monitor session

To display information about the Switched Port Analyzer (SPAN) sessions, use the **show monitor session** command.

show monitor session [*session* | **all** [**brief**] | **range** *range* [**brief**] | **status**]

Syntax Description

session	(Optional) Number of the session. The range is from 1 to 18.
all	(Optional) Displays all sessions.
brief	(Optional) Displays a brief summary of the information.
range *range*	(Optional) Displays a range of sessions. The range is from 1 to 18.
status	(Optional) Displays the operational state of all sessions.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples   This example shows how to display information about SPAN session 1:

```
switch# show monitor session 1
```

This example shows how to display a range of SPAN sessions:

```
switch# show monitor session range 1-4
```

Related Commands

Command	Description
monitor session	Displays the contents of the startup configuration file.

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
4.0(0)N1(1a)	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
4.0(0)N1(1a)	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
	4.0(0)N1(1a)	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
4.0(0)N1(1a)	This command was introduced.
4.2(1)N1(1)	The **vlan** keyword was added.

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 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 balance 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 3-1 describes the fields shown in the display:

Table 3-1   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 balance 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 balance 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 balance 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 balance 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
4.0(0)N1(1a)	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 stattistics 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
4.0(0)N1(1a)	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
4.0(0)N1(1a)	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 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
	4.0(0)N1(1a)	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
4.0(0)N1(1a)	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 spanning-tree

To display the running configuration for the Spanning Tree Protocol (STP), use the **show running-config spanning-tree** command.

show running-config spanning-tree [**all**]

Syntax Description	**all**	(Optional) Displays current STP operating information including default settings.

Command Default	None

Command Modes	EXEC mode

Command History	**Release**	**Modification**
	4.0(0)N1(1a)	This command was introduced.

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

```
switch# show running-config spanning-tree
```

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

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

✎
Note   Display output differs slightly depending on whether you are running Rapid Per VLAN Spanning Tree Plus (Rapid PVST+) or Multiple Spanning Tree (MST).

Related Commands	**Command**	**Description**
	show spanning-tree	Displays information about STP.

show running-config vlan

To display the running configuration for a specified VLAN, use the **show running-config vlan** command.

show running-config vlan *vlan-id*

Syntax Description	*vlan-id*	Number of VLAN or range of VLANs. Valid numbers are from 1 to 4096.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   This command provides information on the specified VLAN, including private VLANs.

The display varies with your configuration. If you have configured the VLAN name, shutdown status, or suspended status, these are also displayed.

Examples   This example shows how to display the running configuration for VLAN 5:

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

Related Commands	Command	Description
	show vlan	Displays information about all the VLANs on the switch.

show spanning-tree

To display information about the Spanning Tree Protocol (STP), use the **show spanning-tree** command.

show spanning-tree [**blockedports** | **inconsistentports** | **pathcost method**]

Syntax Description

blockedports	(Optional) Displays the alternate ports blocked by STP.
inconsistentports	(Optional) Displays the ports that are in an inconsistent STP state.
pathcost method	(Optional) Displays whether short or long path cost method is used. The method differs for Rapid Per VLAN Spanning Tree Plus (Rapid PVST+) (configurable, default is short) and Multiple Spanning Tree (MST) (nonconfigurable, operational value is always long).

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   The STP port type displays only when you have configured the port as either an STP edge port or an STP network port. If you have not configured the STP port type, no port type displays.

Table 3-2 describes the fields that are displayed in the output of **show spanning-tree** commands.

Table 3-2   show spanning-tree Command Output Fields

Field	Definition
Role	Current port STP role. Valid values are as follows: • Desg (designated) • Root • Altn (alternate) • Back (backup)

Table 3-2   show spanning-tree Command Output Fields (continued)

Field	Definition
Sts	Current port STP state. Valid values are as follows: • BLK (blocking) • DIS (disabled) • LRN (learning) • FWD (forwarding)
Type	Status information. Valid values are as follows: • P2p/Shr—The interface is considered as a point-to-point (shared) interface by the spanning tree. • Edge—The port is configured as an STP edge port (either globally using the **default** command or directly on the interface) and no BPDU has been received. • Network—The port is configured as an STP network port (either globally using the **default** command or directly on the interface). • *ROOT_Inc, *LOOP_Inc, *PVID_Inc, *BA_Inc, and *TYPE_Inc—The port is in a broken state (BKN*) for an inconsistency. The broken states are Root inconsistent, Loopguard inconsistent, PVID inconsistent, Bridge Assurance inconsistent, or Type inconsistent.

Note   Display output differs slightly depending on whether you are running Rapid Per VLAN Spanning Tree Plus (Rapid PVST+) or Multiple Spanning Tree (MST).

Examples   This example shows how to display spanning tree information:

```
switch# show spanning-tree

VLAN0001
  Spanning tree enabled protocol rstp
  Root ID    Priority    1
             Address     000d.ecb0.fdbc
             Cost        2
             Port        4096 (port-channel1)
             Hello Time  2  sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    61441  (priority 61440 sys-id-ext 1)
             Address     0005.9b78.6e7c
             Hello Time  2  sec  Max Age 20 sec  Forward Delay 15 sec

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po1              Root FWD 1         128.4096 (vPC peer-link) Network P2p
Po3              Root FWD 1         128.4098 (vPC) P2p
Po123            Desg FWD 4         128.4218 Edge P2p
Eth1/11          Desg BKN*2         128.139  P2p *TYPE_Inc
Eth1/12          Desg BKN*2         128.140  P2p *TYPE_Inc
Eth1/15          Desg BKN*2         128.143  P2p *TYPE_Inc
Eth1/16          Desg BKN*2         128.144  P2p *TYPE_Inc
Eth1/33          Desg FWD 2         128.161  Edge P2p
Eth1/35          Desg FWD 2         128.163  Edge P2p
```

```
Eth1/36          Desg FWD 2          128.164  Edge P2p
Eth1/38          Desg FWD 2          128.166  Edge P2p
Eth100/1/1       Desg FWD 1          128.1025 (vPC) Edge P2p
Eth100/1/2       Desg FWD 1          128.1026 (vPC) Edge P2p
Eth100/1/3       Desg FWD 1          128.1027 (vPC) Edge P2p
Eth100/1/4       Desg FWD 1          128.1028 (vPC) Edge P2p
--More--
switch#
```

This example shows how to display the blocked ports in spanning tree:

```
switch(config)# show spanning-tree blockedports

Name                Blocked Interfaces List
------------------- -----------------------------------
VLAN0001            Eth1/11, Eth1/12, Eth1/15, Eth1/16


Number of blocked ports (segments) in the system : 4

switch#
```

This example shows how to determine if any ports are in any STP-inconsistent state:

```
switch# show spanning-tree inconsistentports

Name                Interface             Inconsistency
------------------- --------------------- ------------------
VLAN0001            Eth1/11               Port Type Inconsistent
VLAN0001            Eth1/12               Port Type Inconsistent
VLAN0001            Eth1/15               Port Type Inconsistent
VLAN0001            Eth1/16               Port Type Inconsistent


Number of inconsistent ports (segments) in the system : 4

switch#
```

This example shows how to display the path cost method:

```
switch(config)# show spanning-tree pathcost method
Spanning tree default pathcost method used is short
switch#
```

Related Commands	Command	Description
	show spanning-tree active	Displays information about STP active interfaces only.
	show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.
	show spanning-tree brief	Displays a brief summary about STP.
	show spanning-tree detail	Displays detailed information about STP.
	show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
	show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.

Command	Description
show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
show spanning-tree summary	Displays summary information about STP.
show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree active

To display Spanning Tree Protocol (STP) information on STP-active interfaces only, use the **show spanning-tree active** command.

show spanning-tree active [**brief** | **detail**]

Syntax Description	brief	(Optional) Displays a brief summary of STP interface information.
	detail	(Optional) Displays a detailed summary of STP interface information.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.

Examples   This example shows how to display STP information on the STP-active interfaces:

```
switch# show spanning-tree active
```

Related Commands	Command	Description
	show spanning-tree	Displays information about STP.
	show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.
	show spanning-tree brief	Displays a brief summary about STP.
	show spanning-tree detail	Displays detailed information about STP.
	show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
	show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.
	show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
	show spanning-tree summary	Displays summary information about STP.
	show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree bridge

To display the status and configuration of the local Spanning Tree Protocol (STP) bridge, use the **show spanning-tree bridge** command.

> **show spanning-tree bridge** [**address** | **brief** | **detail** | **forward-time** | **hello-time** | **id** | **max-age** | **priority** [**system-id**] | **protocol**]

Syntax Description

address	(Optional) Displays the MAC address for the STP local bridge.
brief	(Optional) Displays a brief summary of the status and configuration for the STP bridge.
detail	(Optional) Displays a detailed summary of the status and configuration for the STP bridge.
forward-time	(Optional) Displays the STP forward delay interval for the bridge.
hello-time	(Optional) Displays the STP hello time for the bridge.
id	(Optional) Displays the STP bridge identifier for the bridge.
max-age	(Optional) Displays the STP maximum-aging time for the bridge.
priority	(Optional) Displays the bridge priority for this bridge.
system-id	(Optional) Displays the bridge priority with the system ID extension for this bridge.
protocol	(Optional) Displays whether the Rapid Per VLAN Spanning Tree Plus (Rapid PVST+) or Multiple Spanning Tree (MST) protocol is active.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples   This example shows how to display STP information for the bridge:

```
switch# show spanning-tree bridge
```

Related Commands

Command	Description
show spanning-tree	Displays information about STP.
show spanning-tree active	Displays information about STP active interfaces only.

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Command	Description
show spanning-tree brief	Displays a brief summary about STP.
show spanning-tree detail	Displays detailed information about STP.
show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.
show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
show spanning-tree summary	Displays summary information about STP.
show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree brief

To display a brief summary of the Spanning Tree Protocol (STP) status and configuration on the switch, use the **show spanning-tree brief** command.

> **show spanning-tree brief** [**active**]

Syntax Description	active	(Optional) Displays information about STP active interfaces only.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples   This example shows how to display a brief summary of STP information:

```
switch(config)# show spanning-tree brief

VLAN0001
  Spanning tree enabled protocol rstp
  Root ID    Priority   32769
             Address    000d.ecb0.fc7c
             Cost       1
             Port       4495 (port-channel400)
             Hello Time  2  sec  Max Age 20 sec  Forward Delay 15 sec

   Bridge ID  Priority   32769  (priority 32768 sys-id-ext 1)
             Address    000d.ece7.df7c
             Hello Time  2  sec  Max Age 20 sec  Forward Delay 15 sec

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Po19             Desg FWD 1         128.4114 Edge P2p
Po400            Root FWD 1         128.4495 (vPC peer-link) Network P2p
Eth170/1/17      Desg FWD 2         128.3857 Edge P2p
Eth171/1/7       Desg FWD 1         128.3975 (vPC) Edge P2p
Eth171/1/8       Desg FWD 1         128.3976 (vPC) Edge P2p
Eth198/1/11      Desg FWD 1         128.1291 (vPC) Edge P2p
Eth199/1/13      Desg FWD 2         128.1677 Edge P2p


VLAN0300
  Spanning tree enabled protocol rstp
  Root ID    Priority   4396
--More--
switch#
```

Related Commands

Command	Description
show spanning-tree	Displays information about STP.
show spanning-tree active	Displays information about STP active interfaces only.
show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.
show spanning-tree detail	Displays detailed information about STP.
show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.
show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
show spanning-tree summary	Displays summary information about STP.
show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree detail

To display detailed information on the Spanning Tree Protocol (STP) status and configuration on the switch, use the **show spanning-tree detail** command.

show spanning-tree detail [**active**]

Syntax Description	active	(Optional) Displays information about STP active interfaces only.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples

This example shows how to display detailed information on the STP configuration:

```
switch(config)# show spanning-tree detail
```

Related Commands

Command	Description
show spanning-tree	Displays information about STP.
show spanning-tree active	Displays information about STP active interfaces only.
show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.
show spanning-tree brief	Displays a brief summary about STP.
show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.
show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
show spanning-tree summary	Displays summary information about STP.
show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree interface

To display information on the Spanning Tree Protocol (STP) interface status and configuration of specified interfaces, use the **show spanning-tree interface** command.

show spanning-tree interface {**ethernet** *slot*/*port* | **port-channel** *number*} [**active** [**brief** | **detail**] | **brief** [**active**] | **cost** | **detail** [**active**] | **edge** | **inconsistency** | **priority** | **rootcost** | **state**]

Syntax Description

interface	Specifies the interface. The interface can be Ethernet or EtherChannel.
ethernet *slot*/*port*	Specifies 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.
port-channel *number*	Specifies the EtherChannel interface and number. The EtherChannel number is from 1 to 4096.
active	(Optional) Displays information about STP active interfaces only on the specified interfaces.
brief	(Optional) Displays brief summary of STP information on the specified interfaces.
detail	(Optional) Displays detailed STP information about the specified interfaces.
cost	(Optional) Displays the STP path cost for the specified interfaces.
edge	(Optional) Displays the STP-type edge port information for the specified interfaces.
inconsistency	(Optional) Displays the port STP inconsistency state for the specified interfaces.
priority	(Optional) Displays the STP port priority for the specified interfaces.
rootcost	(Optional) Displays the path cost to the root for specified interfaces.
state	(Optional) Displays the current port STP state.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   The STP port type displays only when you have configured the port as either an STP edge port or an STP network port. If you have not configured the STP port type, no port type displays.

If you specify an interface that is not running STP, the switch returns an error message.

When you are running Multiple Spanning Tree (MST), this command displays the Per VLAN Spanning Tree (PVST) simulation setting.

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Note If you are running Multiple Spanning Tree (MST), use the **show spanning-tree mst** command to show more detail on the specified interfaces.

Examples This example shows how to display STP information on a specified interface:

```
switch(config)# show spanning-tree interface ethernet 1/3
```

This example shows how to display detailed STP information on a specified interface:

```
switch(config)# show spanning-tree interface ethernet 1/3 detail
```

Related Commands

Command	Description
show spanning-tree	Displays information about STP.
show spanning-tree active	Displays information about STP active interfaces only.
show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.
show spanning-tree brief	Displays a brief summary about STP.
show spanning-tree detail	Displays detailed information about STP.
show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.
show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
show spanning-tree summary	Displays summary information about STP.
show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree mst

To display information on Multiple Spanning Tree (MST) status and configuration, use the **show spanning-tree mst** command.

> **show spanning-tree mst** [*instance-id* [**detail** | **interface** {**ethernet** *slot*/*port* | **port-channel** *number*} [**detail**]]

> **show spanning-tree mst** [**configuration** [**digest**]]

> **show spanning-tree mst** [**detail** | **interface** {**ethernet** *slot*/*port* | **port-channel** *number*} [**detail**]]

Syntax Description

instance-id	(Optional) Multiple Spanning Tree (MST) instance range that you want to display. For example, 0 to 3, 5, 7 to 9.
detail	(Optional) Displays detailed Multiple Spanning Tree (MST) information.
interface	(Optional) Specifies the interface. The interface can be Ethernet or EtherChannel.
ethernet *slot*/*port*	(Optional) Specifies the Ethernet interface and its slot number and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
port-channel *number*	(Optional) Specifies the EtherChannel interface and number. The EtherChannel number is from 1 to 4096.
configuration	(Optional) Displays current Multiple Spanning Tree (MST) regional information including the VLAN-to-instance mapping of all VLANs.
digest	(Optional) Displays information about the MD5 digest.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   If the switch is not running in STP Multiple Spanning Tree (MST) mode when you enter this command, it returns the following message:

```
ERROR: Switch is not in mst mode
```

Examples   This example shows how to display STP information about Multiple Spanning Tree (MST) instance information for the VLAN ports that are currently active:

```
switch# show spanning-tree mst
```

This example shows how to display STP information about a specific Multiple Spanning Tree (MST) instance:

```
switch)# show spanning-tree mst 0
```

This example shows how to display detailed STP information about the Multiple Spanning Tree (MST) protocol:

```
switch)# show spanning-tree mst detail
```

This example shows how to display STP information about specified Multiple Spanning Tree (MST) interfaces:

```
switch)# show spanning-tree mst interface ethernet 8/2
```

This example shows how to display information about the Multiple Spanning Tree (MST) configuration:

```
switch)# show spanning-tree mst configuration
```

This example shows how to display the MD5 digest included in the current Multiple Spanning Tree (MST) configuration:

```
switch)# show spanning-tree mst configuration digest
```

See Table 3-2 on page 3-52 for descriptions of the fields that are displayed in the output of the **show spanning-tree** commands.

Related Commands	Command	Description
	show spanning-tree	Displays information about STP.
	show spanning-tree active	Displays information about STP active interfaces only.
	show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.
	show spanning-tree brief	Displays a brief summary about STP.
	show spanning-tree detail	Displays detailed information about STP.
	show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
	show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
	show spanning-tree summary	Displays summary information about STP.
	show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree root

To display the status and configuration of the Spanning Tree Protocol (STP) root bridge, use the **show spanning-tree root** command.

show spanning-tree root [**address** | **brief** | **cost** | **detail** | **forward-time** | **hello-time** | **id** | **max-age** | **port** | **priority** [**system-id**]]

Syntax Description		
	address	(Optional) Displays the MAC address for the STP root bridge.
	brief	(Optional) Displays a brief summary of the status and configuration for the the root bridge.
	cost	(Optional) Displays the path cost from the root to this bridge.
	detail	(Optional) Displays detailed information on the status and configuration for the root bridge.
	forward-time	(Optional) Displays the STP forward delay interval for the root bridge.
	hello-time	(Optional) Displays the STP hello time for the root bridge.
	id	(Optional) Displays the STP bridge identifier for the root bridge.
	max-age	(Optional) Displays the STP maximum-aging time for the root bridge.
	port	(Optional) Displays which port is the root port.
	priority	(Optional) Displays the bridge priority for the root bridge.
	system-id	(Optional) Displays the bridge identifier with the system ID extension for the root bridge.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.

Examples   This example shows how to display information for the root bridge:

```
switch(config)# show spanning-tree root
```

Related Commands	Command	Description
	show spanning-tree	Displays information about STP.
	show spanning-tree active	Displays information about STP active interfaces only.

Command	Description
show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.
show spanning-tree brief	Displays a brief summary of STP information.
show spanning-tree detail	Displays detailed information about STP.
show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.
show spanning-tree summary	Displays summary information about STP.
show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree summary

To display summary Spanning Tree Protocol (STP) information on the switch, use the **show spanning-tree summary** command.

show spanning-tree summary [**totals**]

Syntax Description

totals	(Optional) Displays totals only of STP information.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   The display output for this command differs when you are running Rapid Per VLAN Spanning Tree Plus (Rapid PVST+) or Multiple Spanning Tree (MST).

Examples   This example shows how to display a summary of STP information on the switch:

```
switch(config)# show spanning-tree summary
```

Related Commands

Command	Description
show spanning-tree	Displays information about STP.
show spanning-tree active	Displays information about STP active interfaces only.
show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.
show spanning-tree detail	Displays detailed information about STP.
show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.
show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
show spanning-tree vlan	Displays STP information for specified VLANs.

show spanning-tree vlan

To display Spanning Tree Protocol (STP) information for specified VLANs, use the **show spanning-tree vlan** command.

> **show spanning-tree vlan** {*vlan-id*} [**active** [**brief** | **detail**]]
>
> **show spanning-tree vlan** {*vlan-id*} [**blockedports**]
>
> **show spanning-tree vlan** {*vlan-id*} [**bridge** [**address**] | **brief** | **detail** | **forward-time** | **hello-time** | **id** | **max-age** | **priority** [**system-id**] | **protocol**]
>
> **show spanning-tree vlan** {*vlan-id*} [**brief** [**active**]]
>
> **show spanning-tree vlan** {*vlan-id*} [**detail** [**active**]]
>
> **show spanning-tree vlan** {*vlan-id*} [**inconsistentports**]
>
> **show spanning-tree vlan** {*vlan-id*} [**interface** {**ethernet** *slot*/*port* | **port-channel** *number*} [**active** [**brief** | **detail**]] | **brief** [**active**] | **cost** | **detail** [**active**] | **edge** | **inconsistency** | **priority** | **rootcost** | **state**]]
>
> **show spanning-tree vlan** {*vlan-id*} [**root** [**address** | **brief** | **cost** | **detail** | **forward-time** | **hello-time** | **id** | **max-age** | **port** | **priority** [**system-id**]]]
>
> **show spanning-tree vlan** {*vlan-id*} [**summary**]

Syntax Description		
vlan-id	VLAN or range of VLANs that you want to display.	
active	(Optional) Displays information about STP VLANs and active ports.	
brief	(Optional) Displays a brief summary of STP information for the specified VLANs.	
detail	(Optional) Displays detailed STP information for the specified VLANs.	
blockedports	(Optional) Displays the STP alternate ports in the blocked state for the specified VLANs.	
bridge	(Optional) Displays the status and configuration of the bridge for the specified VLANs.	
address	(Optional) Displays the MAC address for the specified STP bridge for the specified VLANs.	
forward-time	(Optional) Displays the STP forward delay interval for the bridge for the specified VLANs.	
hello-time	(Optional) Displays the STP hello time for the bridge for the specified VLANs.	
id	(Optional) Displays the STP bridge identifier for the specified VLANs.	
max-age	(Optional) Displays the STP maximum-aging time for the specified VLANs.	
priority	(Optional) Displays the STP priority for the specified VLANs.	
system-id	(Optional) Displays the bridge identification with the system ID added for the specified VLANs.	
protocol	(Optional) Displays which STP protocol is active on the switch.	

inconsistentports	(Optional) Displays the ports that are in an inconsistent STP state for specified VLANs.
interface	(Optional) Specifies the interface. The interface can be Ethernet or EtherChannel.
ethernet *slot*/*port*	(Optional) Specifies the Ethernet interface and its slot number and port number. The *slot* number is from 1 to 255, and the *port* number is from 1 to 128.
port-channel *number*	(Optional) Specifies the EtherChannel interface and number. The EtherChannel number is from 1 to 4096.
cost	(Optional) Displays the STP path cost for the specified VLANs.
edge	(Optional) Displays the STP-type edge port information for the specified interface for the specified VLANs.
inconsistency	(Optional) Displays the STP port inconsistency state for the specified interface for the specified VLANs.
priority	(Optional) Displays the STP priority for the specified VLANs.
rootcost	(Optional) Displays the path cost to the root for specified interfaces for the specified VLANs.
state	(Optional) Displays the current port STP state. Valid values are blocking, disabled, learning, and forwarding.
port	(Optional) Displays information about the root port for the specified VLANs.
summary	(Optional) Displays summary STP information on the specified VLANs.

Command Default None

Command Modes EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples This example shows how to display STP information on VLAN 1:

```
switch# show spanning-tree vlan 1
```

Related Commands

Command	Description
show spanning-tree	Displays information about STP.
show spanning-tree active	Displays information about STP active interfaces only.
show spanning-tree bridge	Displays the bridge ID, timers, and protocol for the local bridge on the switch.

Command	Description
show spanning-tree brief	Displays a brief summary about STP.
show spanning-tree detail	Displays detailed information about STP.
show spanning-tree interface	Displays the STP interface status and configuration of specified interfaces.
show spanning-tree mst	Displays information about Multiple Spanning Tree (MST) STP.
show spanning-tree root	Displays the status and configuration of the root bridge for the STP instance to which this switch belongs.
show spanning-tree summary	Displays summary information about STP.

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
4.0(0)N1(1a)	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 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
4.0(0)N1(1a)	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*/*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.
	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
	4.0(1a)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 vlan

To display VLAN information, use the **show vlan** command.

show vlan [**brief** | **name** {*name*} | **summary**]

Syntax Description	brief	(Optional) Displays only a single line for each VLAN, naming the VLAN, status, and ports.
	name *name*	(Optional) Displays information about a single VLAN that is identified by the VLAN name.
	summary	(Optional) Displays the number of existing VLANs on the switch.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   This command displays information for all VLANs, including private VLANs, on the switch.

Each access port can belong to only one VLAN. Trunk ports can be on multiple VLANs.

> **Note**   Although a port can be associated with a VLAN as an access VLAN, a native VLAN, or one of the trunk allowed ports, only access VLANs are shown under Ports in the display.

If you shut down a VLAN using the **state suspend** or the **state active** command, these values appear in the Status field:

- suspended—VLAN is suspended.
- active—VLAN is active.

If you shut down a VLAN using the **shutdown** command, these values appear in the Status field:

- act/lshut—VLAN status is active but shut down locally.
- sus/lshut—VLAN status is suspended but shut down locally.

If a VLAN is shut down internally, these values appear in the Status field:

- act/ishut—VLAN status is active but shut down internally.
- sus/ishut—VLAN status is suspended but shut down internally.

If a VLAN is shut down locally and internally, the value that is displayed in the Status field is act/ishut or sus/ishut. If a VLAN is shut down locally only, the value that is displayed in the Status field is act/lshut or sus/lshut.

Examples   This example shows how to display information for all VLANs on the switch:

switch# **show vlan**

This example shows how to display the VLAN name, status, and associated ports only:

switch# **show vlan brief**

This example shows how to display the VLAN information for a specific VLAN by name:

switch# **show vlan name test**

This example shows how to display information about the number of VLANs configured on the switch:

switch# **show vlan summary**

Related Commands

Command	Description
show interface switchport	Displays information about the ports, including those in private VLANs.
show vlan private-vlan	Displays private VLAN information.

show vlan dot1Q tag native

To display the status of tagging on the native VLANs, use the **show vlan dot1Q tag native** command.

show vlan dot1Q tag native

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples   This example shows how to display the status of 802.1Q tagging on the native VLANs:

```
switch# show vlan dot1Q tag native
vlan dot1q native tag is enabled
switch#
```

Related Commands

Command	Description
vlan dot1q tag nativet	Enables dot1q (IEEE 802.1Q) tagging for all native VLANs on all trunked ports on the switch.

show vlan id

To display information and statistics for an individual VLAN or a range of VLANs, use the **show vlan id** command.

> **show vlan id** {*vlan-id*}

Syntax Description	*vlan-id*	VLAN or range of VLANs that you want to display.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	4.0(0)N1(1a)	This command was introduced.

Usage Guidelines   Use this command to display information and statistics on an individual VLAN or a range of VLANs, including private VLANs.

Note   You can also display information about individual VLANs using the **show vlan name** command.

Examples   This example shows how to display information for the individual VLAN 5:

```
switch# show vlan id 5
```

Related Commands	Command	Description
	show vlan	Displays information about VLANs on the switch.

show vlan private-vlan

To display private VLAN information, use the **show vlan private-vlan** command.

show vlan [**id** {*vlan-id*}] **private-vlan** [**type**]

Syntax Description

id *vlan-id*	(Optional) Displays private VLAN information for the specified VLAN.
type	(Optional) Displays the private VLAN type (primary, isolated, or community).

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.0(0)N1(1a)	This command was introduced.

Examples

This example shows how to display information on all private VLANs on the switch:

```
switch(config)# show vlan private-vlan
```

This example shows how to display information for a specific private VLAN:

```
switch(config)# show vlan id 42 private-vlan
```

This example shows how to display information on the types of all private VLANs on the switch:

```
switch(config)# show vlan private-vlan type
```

This example shows how to display information on the type for the specified private VLAN:

```
switch(config)# show vlan id 42 private-vlan type
```

Related Commands

Command	Description
show interface private-vlan mapping	Displays information about the private VLAN mapping between the primary and secondary VLANs so that both VLANs share the same primary VLAN interface.
show interface switchport	Displays information about the ports, including those in private VLANs.
show vlan	Displays information about all the VLANs on the switch.

show vtp status

To display the VLAN Trunking Protocol (VTP) domain status information, use the **show vtp status** command.

show vtp status

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
4.2(1)N1(1)	This command was introduced.

Usage Guidelines   Before you use this command, you must enable VTP on the switch by using the **feature vtp** command.

Examples   This example shows how to display the VTP domain status:

```
switch# show vtp status
VTP Version                   : 1
Configuration Revision        : 0
Maximum VLANs supported locally : 1005
VTP Operating Mode            : Transparent
VTP Domain Name               :
VTP Pruning Mode              : Disabled
VTP V2 Mode                   : Disabled
VTP Traps Generation          : Disabled
switch#
```

Related Commands

Command	Description
feature vtp	Enables VTP on the switch.
vtp domain	Configures the VTP domain.
vtp mode	Configures the VTP device mode.
vtp version	Configures the VTP version.

Send comments to nx5000-docfeedback@cisco.com