



Interface Commands

This chapter displays the following commands:

-
- [client vlan](#) , page 3
- [clear nmsp statistics](#), page 4
- [debug ilpower](#), page 5
- [debug interface](#), page 6
- [debug lldp packets](#), page 8
- [debug platform fallback-bridging](#), page 9
- [duplex](#), page 11
- [interface](#), page 13
- [interface auto-template](#), page 15
- [interface range](#), page 16
- [location](#), page 17
- [logging event power-inline-status](#), page 18
- [show CAPWAP summary](#), page 19
- [show env](#), page 20
- [show errdisable detect](#), page 22
- [show errdisable recovery](#), page 23
- [show interfaces](#), page 24
- [show interfaces counters](#), page 28
- [show location](#), page 30
- [show mgmt-infra trace messages ilpower-ha](#), page 32
- [show network-policy profile](#), page 33
- [show nmsp](#), page 34

- [show platform CAPWAP summary, page 35](#)
- [show network-policy profile, page 36](#)
- [show wireless interface summary, page 37](#)
- [system mtu, page 38](#)
- [wireless ap-manager interface, page 39](#)
- [wireless exclusionlist, page 40](#)
- [wireless linktest, page 41](#)
- [wireless management interface, page 42](#)
- [wireless peer-blocking forward-upstream, page 43](#)

client vlan

To configure a wireless LAN interface, use the **client vlan** command. To remove a wireless LAN interface, use the **no** form of the command.

client vlan *interface-name*

no client vlan

Syntax Description

| | |
|-----------------------------------|--------------------------------------|
| vlan <i>interface-name</i> | Specifies the name of the interface. |
|-----------------------------------|--------------------------------------|

Command Default

Disabled

Command Modes

Configuration mode

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how to configure vlan10 on an interface:

```
Controller# client vlan vlan10
```

clear nmsp statistics

To clear the Network Mobility Services Protocol (NMSP) statistics, use the **clear nmsp statistics** command in privileged EXEC mode.

clear nmsp statistics

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Privileged EXEC

| Command History | Release | Modification |
|-----------------|--------------------|------------------------------|
| | Cisco IOS XE 3.2SE | This command was introduced. |

Examples This example shows how to clear NMSP statistics:

```
Controller# clear nmsp statistics
```

You can verify that information was deleted by entering the **show nmsp statistics** privileged EXEC command.

debug ilpower

To enable debugging of the power controller and Power over Ethernet (PoE) system, use the **debug ilpower** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

debug ilpower {**cdp**| **controller**| **event**| **ha**| **port**| **powerman**| **registries**| **scp** | **sense**}

no debug ilpower {**cdp**| **controller**| **event**| **ha**| **port**| **powerman**| **registries**| **scp** | **sense**}

Syntax Description

| | |
|-------------------|---|
| cdp | Displays PoE Cisco Discovery Protocol (CDP) debug messages. |
| controller | Displays PoE controller debug messages. |
| event | Displays PoE event debug messages. |
| ha | Displays PoE high-availability messages. |
| port | Displays PoE port manager debug messages. |
| powerman | Displays PoE power management debug messages. |
| registries | Displays PoE registries debug messages. |
| scp | Displays PoE SCP debug messages. |
| sense | Displays PoE sense debug messages. |

Command Default

Debugging is disabled.

Command Modes

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

This command is supported only on PoE-capable switches.

When you enable debugging on a switch stack, it is enabled only on the stack master. To enable debugging on a stack member, you can start a session from the stack master by using the **session** *switch-number* EXEC command. Then enter the **debug** command at the command-line prompt of the stack member. You also can use the **remote command** *stack-member-number* *LINE* EXEC command on the stack master switch to enable debugging on a member switch without first starting a session.

debug interface

To enable debugging of interface-related activities, use the **debug interface** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

debug interface *{interface-id}* **counters** *{exceptions| protocol memory}* | **null** *interface-number* | **port-channel** *port-channel-number* | **states** | **vlan** *vlan-id*}

no debug interface *{interface-id}* **counters** *{exceptions| protocol memory}* | **null** *interface-number* | **port-channel** *port-channel-number* | **states** | **vlan** *vlan-id*}

Syntax Description

| | |
|--|---|
| <i>interface-id</i> | ID of the physical interface. Displays debug messages for the specified physical port, identified by type switch number/module number/port, for example, gigabitethernet 1/0/2. |
| null <i>interface-number</i> | Displays debug messages for null interfaces. The interface number is always 0 . |
| port-channel <i>port-channel-number</i> | Displays debug messages for the specified EtherChannel port-channel interface. The <i>port-channel-number</i> range is 1 to 48. |
| vlan <i>vlan-id</i> | Displays debug messages for the specified VLAN. The vlan range is 1 to 4094. |
| counters | Displays counters debugging information. |
| exceptions | Displays debug messages when a recoverable exceptional condition occurs during the computation of the interface packet and data rate statistics. |
| protocol memory | Displays debug messages for memory operations of protocol counters. |
| states | Displays intermediary debug messages when an interface's state transitions. |

Command Default

Debugging is disabled.

Command Modes

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

If you do not specify a keyword, all debug messages appear.

The **undebug interface** command is the same as the **no debug interface** command.

When you enable debugging on a switch stack, it is enabled only on the stack master. To enable debugging on a stack member, you can start a session from the stack master by using the **session** *switch-number* EXEC command. Then enter the **debug** command at the command-line prompt of the stack member. You also can use the **remote command** *stack-member-number* *LINE* EXEC command on the stack master switch to enable debugging on a member switch without first starting a session.

debug lldp packets

To enable debugging of Link Layer Discovery Protocol (LLDP) packets, use the **debug lldp packets** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

debug lldp packets

no debug lldp packets

Syntax Description This command has no arguments or keywords.

Command Default Debugging is disabled.

Command Modes Privileged EXEC

| Command History | Release | Modification |
|-----------------|--------------------|------------------------------|
| | Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines The **undebug lldp packets** command is the same as the **no debug lldp packets** command. When you enable debugging on a switch stack, it is enabled only on the . To enable debugging on a stack member, you can start a session from the by using the **session *switch-number*** EXEC command.

debug platform fallback-bridging

To enable debugging of the platform-dependent fallback bridging manager, use the **debug platform fallback-bridging** command in EXEC mode. To disable debugging, use the **no** form of this command.

debug platform fallback-bridging [**error**| **retry**| **rpc** {**events**| **messages**}]

no debug platform fallback-bridging [**error**| **retry**| **rpc** {**events**| **messages**}]

Syntax Description

| | |
|--|--|
| error | (Optional) Displays fallback bridging manager error condition messages. |
| retry | (Optional) Displays fallback bridging manager retry messages. |
| rpc { events messages } | (Optional) Displays fallback bridging debugging information. The keywords have these meanings: <ul style="list-style-type: none"> • events—Displays remote procedure call (RPC) events. • messages —Displays RPC messages. |

Command Default

Debugging is disabled.

Command Modes

User EXEC

Privileged EXEC

Command History

| Release | Modification |
|---------|------------------------------|
| 15.0 | This command was introduced. |

Usage Guidelines

If you do not specify a keyword, all fallback bridging manager debug messages appear.

The **undebug platform fallback-bridging** command is the same as the **no debug platform fallback-bridging** command.

When you enable debugging on a switch stack, it is enabled only on the stack master. To enable debugging on a stack member, you can start a session from the stack master by using the **session** *switch-number* EXEC command. Then enter the **debug** command at the command-line prompt of the stack member. You also can use the **remote command** *stack-member-number* *LINE* EXEC command on the stack master switch to enable debugging on a member switch without first starting a session.

Related Commands

| Command | Description |
|----------------|---|
| show debugging | Displays information about the types of debugging that are enabled. |

duplex

To specify the duplex mode of operation for a port, use the **duplex** command in interface configuration mode. To return to the default value, use the **no** form of this command.

duplex {**auto**| **full**| **half**}

no duplex {**auto**| **full**| **half**}

Syntax Description

| | |
|-------------|--|
| auto | Enables automatic duplex configuration. The port automatically detects whether it should run in full- or half-duplex mode, depending on the attached device mode. |
| full | Enables full-duplex mode. |
| half | Enables half-duplex mode (only for interfaces operating at 10 or 100 Mb/s). You cannot configure half-duplex mode for interfaces operating at 1000 or 10,000 Mb/s. |

Command Default

The default is **auto** for Gigabit Ethernet ports.

Duplex options are not supported on the 1000BASE-*x* or 10GBASE-*x* (where *x* is -BX, -CWDM, -LX, -SX, or -ZX) small form-factor pluggable (SFP) modules.

Command Modes

Interface configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

For Gigabit Ethernet ports, setting the port to **auto** has the same effect as specifying **full** if the attached device does not autonegotiate the duplex parameter.



Note

Half-duplex mode is supported on Gigabit Ethernet interfaces if the duplex mode is **auto** and the connected device is operating at half duplex. However, you cannot configure these interfaces to operate in half-duplex mode.

Certain ports can be configured to be either full duplex or half duplex. How this command is applied depends on the device to which the switch is attached.

If both ends of the line support autonegotiation, we highly recommend using the default autonegotiation settings. If one interface supports autonegotiation and the other end does not, configure duplex and speed on both interfaces, and use the **auto** setting on the supported side.

If the speed is set to **auto**, the switch negotiates with the device at the other end of the link for the speed setting and then forces the speed setting to the negotiated value. The duplex setting remains as configured on each end of the link, which could result in a duplex setting mismatch.

You can configure the duplex setting when the speed is set to **auto**.

**Caution**

Changing the interface speed and duplex mode configuration might shut down and reenables the interface during the reconfiguration.

You can verify your setting by entering the **show interfaces** privileged EXEC command.

Examples

This example shows how to configure an interface for full-duplex operation:

```
Controller(config)# interface gigabitethernet1/0/1
Controller(config-if)# duplex full
```

interface

To configure an interface, use the **interface** command.

interface {**Auto-Template** *Auto-Template interface-number* | **Capwap** *Capwap interface-number* | **Gigabit Ethernet** *Gigabit Ethernet interface number* | **Group VI** *Group VI interface number* **Internal Interface** *Internal Interface number* **Loopback** *Loopback interface number* **Null** *Null interface number* **Port-channel** *interface number* **Port-channel** *interface number* **TenGigabit Ethernet** *interface number* **Tunnel** *interface number* **Vlan** *interface number*}

Syntax Description

| | |
|---|--|
| Auto-Template <i>Auto-template interface-number</i> | Enables you to configure auto-template interface. Values range from 1 to 999. |
| Capwap <i>Capwap interface number</i> | Enables you to configure CAPWAP tunnel interface. Values range from 0 to 2147483647. |
| GigabitEthernet <i>Gigabit Ethernet interface number</i> | Enables you to configure Gigabit Ethernet IEEE 802.3z interface. Values range from 0 to 9. |
| Group VI <i>Group VI interface number</i> | Enables you to configure the internal interface. Values range from 0 to 9. |
| Internal Interface <i>Internal Interface</i> | Enables you to configure internal interface. |
| Loopback <i>Loopback Interface number</i> | Enables you to configure loopback interface. Values range from 0 to 2147483647. |
| Null <i>Null interface number</i> | Enables you to configure null interface. Value is 0. |
| Port-channel <i>interface number</i> | Enables you to configure Ethernet channel interfaces. Values range from 1 to 128. |
| TenGigabitEthernet <i>interface number</i> | Enables you to configure a 10-Gigabit Ethernet interface. Values range from 0 to 9. |
| Tunnel <i>interface number</i> | Enables you to configure the tunnel interface. Values range from 0 to 2147483647. |
| Vlan <i>interface number</i> | Enables you to configure switch VLAN interfaces. Values range from 0 to 4098. |

Command Default None

Command Modes Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

You can not use the "no" form of this command.

Examples

This example shows how you can configure interface:

```
Controller# interface Tunnel 15
```

interface auto-template

To configure an auto-template interface, use the **interface auto-template** command.

```
interface auto-template interface-name
```

Syntax Description

| | |
|-----------------------|---------------------------------|
| <i>interface-name</i> | Specifies the interface number. |
|-----------------------|---------------------------------|

Command Default

Disabled

Command Modes

Global configuration mode

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how to configure interface auto-template:

```
# interface auto-template
```

interface range

To configure an interface range, use the **interface range** command.

interface range {**Gigabit Ethernet** *interface-number* | **Loopback** *interface-number* | **Port Channel** *interface-number* | **TenGigabit Ethernet** *interface-number* **Tunnel** *interface-number* **Vlan** *interface-number* **Macro** *WORD*}

Syntax Description

| | |
|--|---|
| GigabitEthernet <i>interface-number</i> | Configures the Gigabit Ethernet IEEE 802.3z interface. Values range from 1 to 9. |
| Loopback <i>interface-number</i> | Configures the loopback interface. Values range from 0 to 2147483647. |
| Port-Channel <i>interface-number</i> | Configures 10-Gigabit Ethernet channel of interfaces. Values range from 1 to 128. |
| TenGigabit Ethernet <i>interface-number</i> | Configures 10-Gigabit Ethernet interfaces. Values range from 0 to 9. |
| Tunnel <i>interface-number</i> | Configures the tunnel interface. Values range from 0 to 2147483647. |
| VLAN <i>interface-number</i> | Configures the switch VLAN interfaces. Values range from 1 to 4095. |
| Macro <i>WORD</i> | Configures the keywords to interfaces. Support up to 32 characters. |

Command Default

None

Command Modes

Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how you can configure interface range:

```
Controller(config)# interface range vlan 1
```


location

To configure location information for an endpoint, use the **location** command in global configuration mode. To remove the location information, use the **no** form of this command.

Command Default

None

Command Modes

Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

After entering the **location civic-location identifier** global configuration command, you enter civic location configuration mode. After entering the **location geo-location identifier** global configuration command, you enter geo location configuration mode.

The civic-location identifier must not exceed 250 bytes.

Use the **no lldp med-tlv-select location information** interface configuration command to disable the location TLV. The location TLV is enabled by default.

Examples

This example shows how to configure civic location information on the :

```
Controller(config)# location civic-location identifier 1
Controller(config-civic)# number 3550
Controller(config-civic)# primary-road-name "Cisco Way"
Controller(config-civic)# city "San Jose"
Controller(config-civic)# state CA
Controller(config-civic)# building 19
Controller(config-civic)# room C6
Controller(config-civic)# county "Santa Clara"
Controller(config-civic)# country US
Controller(config-civic)# end
```

You can verify your settings by entering the **show location civic-location** privileged EXEC command.

This example shows how to configure the emergency location information on the :

```
Controller(config)# location elin-location 14085553881 identifier 1
```

You can verify your settings by entering the **show location elin** privileged EXEC command.

The following example shows how to configure geo-spatial location information on the :

```
Controller(config)# location geo-location identifier host
Controller(config-geo)# latitude 12.34
Controller(config-geo)# longitude 37.23
Controller(config-geo)# altitude 5 floor
Controller(config-geo)# resolution 12.34
```

You can use the **show location geo-location identifier** command to display the configured geo-spatial location details.

logging event power-inline-status

To enable the logging of Power over Ethernet (PoE) events, use the **logging event power-inline-status** command in interface configuration mode. To disable the logging of PoE status events, use the **no** form of this command.

logging event power-inline-status

no logging event power-inline-status

Syntax Description This command has no arguments or keywords.

Command Default Logging of PoE events is enabled.

Command Modes Interface configuration

| Command History | Release | Modification |
|-----------------|--------------------|------------------------------|
| | Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines The **no** form of this command does not disable PoE error events.

Examples This example shows how to enable logging of PoE events on a port:

```
Controller(config-if) # interface gigabitethernet1/0/1
Controller(config-if) # logging event power-inline-status
Controller(config-if) #
```

show CAPWAP summary

To display all the CAPWAP tunnels established by the controller to access points and other mobility controllers use the **show CAPWAP summary** command.

show CAPWAP summary

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration

| Command History | Release | Modification |
|-----------------|--------------------|------------------------------|
| | Cisco IOS XE 3.2SE | This command was introduced. |

Examples This example shows how to display CAPWAP tunnels established by the controllers to the access points and other controllers.

```

Controller# show capwap summary
CAPWAP Tunnels General Statistics:
Number of Capwap Data Tunnels = 8
Number of Capwap Mobility Tunnels = 0
Number of Capwap Multicast Tunnels = 0
Name APName Type PhyPortIf Mode McastIf
-----
Ca4 AP-Behind-Router data - unicast -
Ca0 AP1142-kat data - unicast -
Ca5 APRFCHAMBER2-EDISON data - unicast -
Ca6 KATANA_2_RF data - unicast -
Ca1 AP-1040-RF data - unicast -
Ca7 KATANA_1_RF data - unicast -
Ca2 AP3500-2027 data - unicast -
Ca3 AP-1040-out data - unicast -

```

show env

To display fan, temperature, and power information, use the **show env** command in EXEC mode.

show env {**all**|**fan**|**power** [**all**|**switch** [*stack-member-number*]]|**stack** [*stack-member-number*]|**temperature** [**status**]}

Syntax Description

| | |
|----------------------------|--|
| all | Displays the fan and temperature environmental status and the status of the internal power supplies. |
| fan | Displays the switch fan status. |
| power | Displays the internal power status of the active switch. |
| all | (Optional) Displays the status of all the internal power supplies in a standalone switch when the command is entered on the switch, or in all the stack members when the command is entered on the . |
| switch | (Optional) Displays the status of the internal power supplies for each switch in the stack or for the specified switch. This keyword is available only on stacking-capable switches. |
| <i>stack-member-number</i> | (Optional) Number of the stack member for which to display the status of the internal power supplies or the environmental status. |
| stack | Displays all environmental status for each switch in the stack or for the specified switch. This keyword is available only on stacking-capable switches. |
| temperature | Displays the switch temperature status. |
| status | (Optional) Displays the switch internal temperature (not the external temperature) and the threshold values. |

Command Default

None

Command Modes

User EXEC
Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

Use the **show env EXEC** command to display the information for the switch being accessed—a standalone switch or the . Use this command with the **stack** and **switch** keywords to display all information for the stack or for the specified stack member.

If you enter the **show env temperature status** command, the command output shows the switch temperature state and the threshold level.

You can also use the **show env temperature** command to display the switch temperature status. The command output shows the green and yellow states as *OK* and the red state as *FAULTY*. If you enter the **show env all** command, the command output is the same as the **show env temperature status** command output.

Examples

This is an example of output from the **show env all** command:

This is an example of output from the **show env fan** command:

This is an example of output from the **show env power all** command on the :

This is an example of output from the **show env stack** command on the :

This example shows how to display the temperature value, state, and the threshold values on a standalone switch. The table describes the temperature states in the command output.

Table 1: States in the show env temperature status Command Output

| State | Description |
|--------|---|
| Green | The switch temperature is in the <i>normal</i> operating range. |
| Yellow | The temperature is in the <i>warning</i> range. You should check the external temperature around the switch. |
| Red | The temperature is in the <i>critical</i> range. The switch might not run properly if the temperature is in this range. |

show errdisable detect

To display error-disabled detection status, use the **show errdisable detect** command in EXEC mode.

show errdisable detect

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes User EXEC
Privileged EXEC

| Command History | Release | Modification |
|-----------------|--------------------|------------------------------|
| | Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines A gbic-invalid error reason refers to an invalid small form-factor pluggable (SFP) module. The error-disable reasons in the command output are listed in alphabetical order. The mode column shows how error-disable is configured for each feature.

You can configure error-disabled detection in these modes:

- port mode—The entire physical port is error-disabled if a violation occurs.
- vlan mode—The VLAN is error-disabled if a violation occurs.
- port/vlan mode—The entire physical port is error-disabled on some ports and is per-VLAN error-disabled on other ports.

Examples This is an example of output from the **show errdisable detect** command:

show errdisable recovery

To display the error-disabled recovery timer information, use the **show errdisable recovery** command in EXEC mode.

show errdisable recovery

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes User EXEC
Privileged EXEC

| Command History | Release | Modification |
|-----------------|--------------------|------------------------------|
| | Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines A gbic-invalid error-disable reason refers to an invalid small form-factor pluggable (SFP) module interface.



Note

Though visible in the output, the unicast-flood field is not valid.

Examples This is an example of output from the **show errdisable recovery** command:

show interfaces

To display the administrative and operational status of all interfaces or for a specified interface, use the **show interfaces** command in privileged EXEC mode.

show interfaces [*interface-id*] **vlan** *vlan-id*] [**accounting**] **capabilities** [*module number*] **debounce** **description** **etherchannel** **flowcontrol** **private-vlan mapping** **pruning** **stats** **status** [**err-disabled**] **trunk**

Syntax Description

| | |
|-----------------------------|--|
| <i>interface-id</i> | (Optional) ID of the interface. Valid interfaces include physical ports (including type, stack member for stacking-capable switches, module, and port number) and port channels. The port channel range is 1 to 48. |
| vlan <i>vlan-id</i> | (Optional) VLAN identification. The range is 1 to 4094. |
| accounting | (Optional) Displays accounting information on the interface, including active protocols and input and output packets and octets. Note The display shows only packets processed in software; hardware-switched packets do not appear. |
| capabilities | (Optional) Displays the capabilities of all interfaces or the specified interface, including the features and options that you can configure on the interface. Though visible in the command line help, this option is not available for VLAN IDs. |
| <i>module number</i> | (Optional) Displays capabilities of all interfaces on the switch or specified stack member. This option is not available if you entered a specific interface ID. |
| description | (Optional) Displays the administrative status and description set for an interface. |
| etherchannel | (Optional) Displays interface EtherChannel information. |
| flowcontrol | (Optional) Displays interface flow control information. |
| private-vlan mapping | (Optional) Displays private-VLAN mapping information for the VLAN switch virtual interfaces (SVIs). This keyword is not available if the switch is running the LAN base feature set. |
| pruning | (Optional) Displays trunk VTP pruning information for the interface. |
| stats | (Optional) Displays the input and output packets by switching the path for the interface. |

| | |
|---------------------|--|
| status | (Optional) Displays the status of the interface. A status of unsupported in the Type field means that a non-Cisco small form-factor pluggable (SFP) module is inserted in the module slot. |
| err-disabled | (Optional) Displays interfaces in an error-disabled state. |
| trunk | (Optional) Displays interface trunk information. If you do not specify an interface, only information for active trunking ports appears. |



Note Though visible in the command-line help strings, the **crb**, **fair-queue**, **irb**, **mac-accounting**, **precedence**, **random-detect**, **rate-limit**, and **shape** keywords are not supported.

Command Default

None

Command Modes

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

The **show interfaces capabilities** command with different keywords has these results:

- Use the **show interface capabilities module number** command to display the capabilities of all interfaces on that switch in the stack. If there is no switch with that module number in the stack, there is no output.
- Use the **show interfaces interface-id capabilities** to display the capabilities of the specified interface.
- Use the **show interfaces capabilities** (with no module number or interface ID) to display the capabilities of all interfaces in the stack.

Examples

This is an example of output from the **show interfaces** command for an interface on stack member 3:

```
Controller# show interfaces gigabitethernet3/0/2
GigabitEthernet3/0/2 is down, line protocol is down (notconnect)
  Hardware is Gigabit Ethernet, address is 2037.064d.4381 (bia 2037.064d.4381)
  MTU 1500 bytes, BW 1000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100/1000BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/2000/0/0 (size/max/drops/flushes); Total output drops: 0
```

```

Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 unknown protocol drops
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 pause output
  0 output buffer failures, 0 output buffers swapped out

```

This is an example of output from the **show interfaces accounting** command:

This is an example of output from the **show interfaces capabilities** command for an interface:

This is an example of output from the **show interfaces interface description** command when the interface has been described as *Connects to Marketing* by using the **description** interface configuration command:

```

Controller# show interfaces gigabitethernet1/0/2 description
Interface          Status      Protocol Description
Gi1/0/2            up          down      Connects to Marketing

```

This is an example of output from the **show interfaces etherchannel** command when port channels are configured on the switch:

This is an example of output from the **show interfaces interface-id pruning** command when pruning is enabled in the VTP domain:

```

Controller# show interfaces gigabitethernet1/0/2 pruning
Port      Vlans pruned for lack of request by neighbor
Gi1/0/2   3,4

Port      Vlans traffic requested of neighbor
Gi1/0/2   1-3

```

This is an example of output from the **show interfaces stats** command for a specified VLAN interface:

```

Controller# show interfaces vlan 1 stats
Switching path  Pkts In   Chars In   Pkts Out   Chars Out
  Processor    1165354   136205310  570800     91731594
  Route cache   0         0          0          0
  Total        1165354   136205310  570800     91731594

```

This is an example of partial output from the **show interfaces status** command. It displays the status of all interfaces:

These are examples of output from the **show interfaces status** command for a specific interface when private VLANs are configured. Port 22 is configured as a private-VLAN host port. It is associated with primary VLAN 20 and secondary VLAN 25:

```

Controller# show interfaces gigabitethernet1/0/22 status
Port      Name      Status      Vlan      Duplex      Speed      Type
Gi1/0/22          connected   20,25      a-full    a-100      10/100BaseTX

```

In this example, port 20 is configured as a private-VLAN promiscuous port. The display shows only the primary VLAN 20:

```

Controller# show interfaces gigabitethernet1/0/20 status
Port      Name      Status      Vlan      Duplex      Speed      Type
Gi1/0/20          connected   20         a-full    a-100      10/100BaseTX

```

This is an example of output from the **show interfaces status err-disabled** command. It displays the status of interfaces in the error-disabled state:

```
Controller# show interfaces status err-disabled
Port      Name      Status      Reason
Gi1/0/2   Name      err-disabled gbic-invalid
Gi2/0/3   Name      err-disabled dtp-flap
```

This is an example of output from the **show interfaces interface-id pruning** command:

```
Controller# show interfaces gigabitethernet1/0/2 pruning
Port Vlans pruned for lack of request by neighbor
```

This is an example of output from the **show interfaces interface-id trunk** command. It displays trunking information for the port.

```
Controller# show interfaces gigabitethernet1/0/1 trunk
Port      Mode      Encapsulation  Status      Native vlan
Gi1/0/1   on        802.1q         other       10

Port      Vlans allowed on trunk
Gi1/0/1   none

Port      Vlans allowed and active in management domain
Gi1/0/1   none

Port      Vlans in spanning tree forwarding state and not pruned
Gi1/0/1   none
```

show interfaces counters

To display various counters for the switch or for a specific interface, use the **show interfaces counters** command in privileged EXEC mode.

show interfaces [*interface-id*] **counters** [**errors**] **etherchannel** | **module** *stack-member-number* | **protocol status** | **trunk**]

Syntax Description

| | |
|---|--|
| <i>interface-id</i> | (Optional) ID of the physical interface, including type, stack member (stacking-capable switches only) module, and port number. |
| errors | (Optional) Displays error counters. |
| etherchannel | (Optional) Displays EtherChannel counters, including octets, broadcast packets, multicast packets, and unicast packets received and sent. |
| module <i>stack-member-number</i> | (Optional) Displays counters for the specified stack member. Note In this command, the module keyword refers to the stack member number. The module number that is part of the interface ID is always zero. |
| protocol status | (Optional) Displays the status of protocols enabled on interfaces. |
| trunk | (Optional) Displays trunk counters. |



Note

Though visible in the command-line help string, the **vlan** *vlan-id* keyword is not supported.

Command Default

None

Command Modes

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

If you do not enter any keywords, all counters for all interfaces are included.

Examples

This is an example of partial output from the **show interfaces counters** command. It displays all counters for the switch.

```
Controller# show interfaces counters
Port          InOctets      InUcastPkts   InMcastPkts   InBcastPkts
Gi1/0/1       0              0              0              0
Gi1/0/2       0              0              0              0
Gi1/0/3       95285341      43115         1178430       1950
Gi1/0/4       0              0              0              0
```

<output truncated>

This is an example of partial output from the **show interfaces counters module** command for stack member 2. It displays all counters for the specified switch in the stack.

```
Controller# show interfaces counters module 2
Port          InOctets      InUcastPkts   InMcastPkts   InBcastPkts
Gi1/0/1       520           2              0              0
Gi1/0/2       520           2              0              0
Gi1/0/3       520           2              0              0
Gi1/0/4       520           2              0              0
```

<output truncated>

This is an example of partial output from the **show interfaces counters protocol status** command for all interfaces:

```
Controller# show interfaces counters protocol status
Protocols allocated:
Vlan1: Other, IP
Vlan20: Other, IP, ARP
Vlan30: Other, IP, ARP
Vlan40: Other, IP, ARP
Vlan50: Other, IP, ARP
Vlan60: Other, IP, ARP
Vlan70: Other, IP, ARP
Vlan80: Other, IP, ARP
Vlan90: Other, IP, ARP
Vlan900: Other, IP, ARP
Vlan3000: Other, IP
Vlan3500: Other, IP
GigabitEthernet1/0/1: Other, IP, ARP, CDP
GigabitEthernet1/0/2: Other, IP
GigabitEthernet1/0/3: Other, IP
GigabitEthernet1/0/4: Other, IP
GigabitEthernet1/0/5: Other, IP
GigabitEthernet1/0/6: Other, IP
GigabitEthernet1/0/7: Other, IP
GigabitEthernet1/0/8: Other, IP
GigabitEthernet1/0/9: Other, IP
GigabitEthernet1/0/10: Other, IP, CDP
```

<output truncated>

This is an example of output from the **show interfaces counters trunk** command. It displays trunk counters for all interfaces.

```
Controller# show interfaces counters trunk
Port          TrunkFramesTx  TrunkFramesRx  WrongEncap
Gi1/0/1       0              0              0
Gi1/0/2       0              0              0
Gi1/0/3       80678          0              0
Gi1/0/4       82320          0              0
Gi1/0/5       0              0              0
```

<output truncated>

show location

To display location information for an endpoint, use the **show location** command in EXEC mode.

show location admin-tag

show location civic-location identifier *string* interface *interface-id* static

show location elin-location identifier *string* interface *interface-id* static

Syntax Description

| | |
|--------------------------------------|---|
| admin-tag | Displays administrative tag or site information. |
| civic-location | Displays civic location information. |
| elin-location | Displays emergency location information (ELIN). |
| identifier <i>string</i> | Specifies the ID for the civic location or the ELIN location. The range is 1 to 4095. |
| interface <i>interface-id</i> | Displays location information for the specified interface or all interfaces. Valid interfaces include physical ports. |
| static | Displays static configuration information. |

Command Modes

User EXEC

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This is an example of output from the **show location civic-location** command that displays location information for an interface:

```

Controller# show location civic-location interface gigabitethernet2/0/1
Civic location information
-----
Identifier           : 1
County               : Santa Clara
Street number        : 3550
Building             : 19
Room                 : C6
Primary road name    : Cisco Way
City                 : San Jose
State                : CA
Country              : US
  
```

This is an example of output from the **show location civic-location** command that displays all the civic location information:

```

Controller# show location civic-location static
Civic location information
-----
Identifier           : 1
County              : Santa Clara
Street number       : 3550
Building            : 19
Room                : C6
Primary road name   : Cisco Way
City                : San Jose
State               : CA
Country             : US
Ports               : Gi2/0/1
-----
Identifier           : 2
Street number       : 24568
Street number suffix : West
Landmark            : Golden Gate Bridge
Primary road name   : 19th Ave
City                : San Francisco
Country             : US
-----

```

This is an example of output from the **show location elin-location** command that displays the emergency location information:

```

Controller# show location elin-location identifier 1
Elin location information
-----
Identifier : 1
Elin      : 14085553881
Ports     : Gi2/0/2

```

This is an example of output from the **show location elin-location static** command that displays all emergency location information:

```

Controller# show location elin-location static
Elin location information
-----
Identifier : 1
Elin      : 14085553881
Ports     : Gi2/0/2
-----
Identifier : 2
Elin      : 18002228999
-----

```

show mgmt-infra trace messages ilpower-ha

To display inline power high availability messages within a trace buffer, use the **show mgmt-infra trace messages ilpower-ha** command in privileged EXEC mode.

show mgmt-infra trace messages ilpower-ha [*switch stack-member-number*]

| Syntax Description | switch <i>stack-member-number</i> (Optional) Specifies the stack member number for which to display inline power messages within a trace buffer. | | | | |
|---------------------------|--|---------|--------------|--------------------|------------------------------|
| Command Default | None | | | | |
| Command Modes | Privileged EXEC | | | | |
| Command History | <table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco IOS XE 3.2SE</td> <td>This command was introduced.</td> </tr> </tbody> </table> | Release | Modification | Cisco IOS XE 3.2SE | This command was introduced. |
| Release | Modification | | | | |
| Cisco IOS XE 3.2SE | This command was introduced. | | | | |

Examples

This is an output example from the **show mgmt-infra trace messages ilpower-ha** command:

```
Controller# show mgmt-infra trace messages ilpower-ha
[10/23/12 14:04:48.087 UTC 1 3] NG3K_ILPOWER_HA: Created NGWC ILP CF client successfully.
```


show network-policy profile

To display the network-policy profiles, use the **show network policy profile** command in privileged EXEC mode.

show network-policy profile [*profile-number*] [**detail**]

Syntax Description

| | |
|-----------------------|--|
| <i>profile-number</i> | (Optional) Displays the network-policy profile number. If no profile is entered, all network-policy profiles appear. |
| detail | (Optional) Displays detailed status and statistics information. |

Command Default

None

Command Modes

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This is an example of output from the **show network-policy profile** command:

```
Controller# show network-policy profile
Network Policy Profile 10
  voice vlan 17 cos 4
  Interface:
  none
Network Policy Profile 30
  voice vlan 30 cos 5
  Interface:
  none
Network Policy Profile 36
  voice vlan 4 cos 3
  Interface:
  Interface_id
```

show nmosp

To display the Network Mobility Services Protocol (NMSP) information for the switch, use the **show nmosp** command in privileged EXEC mode.

show nmosp {**attachment suppress interface**| **capability**| **notification interval**| **statistics** {**connection**| **summary**}}| **status**| **subscription** {**detail**| **summary**}}

Syntax Description

| | |
|--------------------------------------|--|
| attachment suppress interface | Displays attachment suppress interfaces. |
| capability | Displays switch capabilities including the supported services and subservices. |
| notification interval | Displays the notification intervals of the supported services. |
| statistics | Displays the NMSP statistics information. |
| connection | Displays the message counters on each connection. |
| summary | Displays the global counters. |
| status | Displays information about the NMSP connections. |
| subscription | Displays the subscription information on each NMSP connection. |
| detail | Displays all services and subservices subscribed on each connection. |
| summary | Displays all services subscribed on each connection. |

Command Default

None

Command Modes

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This is an example of output from the **show nmosp attachment suppress interface** command:

This is an example of output from the **show nmosp capability** command:

This is an example of output from the **show nmosp notification interval** command:

show platform CAPWAP summary

To display the tunnel identifier and the type all the CAPWAP tunnels established by the controller to the access points and other mobility controllers, use the **show platform CAPWAP summary** command.

show platform CAPWAP summary

Syntax Description This command has no arguments or keywords.

Command Default

Command Modes Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example displays the tunnel identifier and details:

```
Controller# show platform capwap summary
Tunnel ID | Type | Src IP | Dst IP | SPrt | DPrt | S | A
-----
0x0088498000000983 data 9.6.44.61 9.12.138.101 5247 41894 1 1
0x00966dc000000010 data 9.6.44.61 9.6.47.101 5247 62526 1 2
0x00938e800000095b data 9.6.44.61 9.12.138.100 5247 45697 1 1
0x00ab1a8000000bd1 data 9.6.44.61 9.12.139.101 5247 38906 1 0
0x00896e40000000bd data 9.6.44.61 9.12.136.100 5247 1836 1 1
```

show network-policy profile

To display the network-policy profiles, use the **show network policy profile** command in privileged EXEC mode.

show network-policy profile [*profile-number*] [**detail**]

Syntax Description

| | |
|-----------------------|--|
| <i>profile-number</i> | (Optional) Displays the network-policy profile number. If no profile is entered, all network-policy profiles appear. |
| detail | (Optional) Displays detailed status and statistics information. |

Command Default

None

Command Modes

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This is an example of output from the **show network-policy profile** command:

```
Controller# show network-policy profile
Network Policy Profile 10
  voice vlan 17 cos 4
  Interface:
  none
Network Policy Profile 30
  voice vlan 30 cos 5
  Interface:
  none
Network Policy Profile 36
  voice vlan 4 cos 3
  Interface:
  Interface_id
```

show wireless interface summary

To display the wireless interface status and configuration, use the **show wireless interface summary** command.

The command displays the total number of packets that are sent or received by the controllers.

show wireless interface summary

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how to display the summary of wireless interfaces.

```
Controller# show wireless interface summary
```

```
Interface Name Interface Type VLAN ID IP Address IP Netmask MAC Address
-----
```

```
Vlan10 Management 10 3.1.1.1 255.255.255.0 0006.f6b9.b5c6
Controller#
```

system mtu

Syntax Description

bytes

Command Default

The default MTU size for all ports is 1500 bytes.

Command Modes

Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Usage Guidelines

You can verify your setting by entering the **show system mtu** privileged EXEC command.

The switch does not support the MTU on a per-interface basis.

If you enter a value that is outside the allowed range for the specific type of interface, the value is not accepted.

wireless ap-manager interface

To configure the wireless AP-manager interface, use the **wireless ap-manager interface** command.

wireless ap-manager interface {**TenGigabitEthernet** *interface-number*| **Vlan** *interface-number*}

| Syntax Description | | |
|---|--|---|
| TenGigabitEthernet <i>interface-name</i> | | Configures 10-Gigabit Ethernet interface. Values range from 0 to 9. |
| Vlan <i>interface-name</i> | | Configures VLANs. Values range from 1 to 4095. |

Command Default None

Command Modes Global configuration

| Command History | Release | Modification |
|-----------------|--------------------|------------------------------|
| | Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how to configure the wireless AP-manager:

```
Controller# wireless ap-manager interface vlan
<1-4095> Vlan interface number
```

This example shows how to configure the wireless AP-manager:

```
Controller# #wireless ap-manager interface vlan 10
```

wireless exclusionlist

To manage exclusion list entries, use the **wireless exclusionlist** global configuration command. To remove the exclusion list entries, use the **no** form of the command.

wireless exclusionlist *mac-addr* **description** *description*

no wireless exclusionlist *mac-addr*

Syntax Description

| | |
|---------------------------------------|--|
| <i>mac-addr</i> | The MAC address of the local excluded entry. |
| description <i>description</i> | Specifies the description for an exclusion-list entry. |

Command Default

None

Command Modes

Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how to create a local exclusion list entry for the MAC address xxx.xxx.xxx:

```
Controller# wireless exclusionlist xxx.xxx.xxx
```

This example shows how to create a description for the local exclusion list entry for the MAC address xxx.xxx.xxx:

```
Controller# wireless exclusionlist xxx.xxx.xxx description sample
```


wireless linktest

To configure linktest frame size and number of frames to send, use the **wireless linktest** command.

wireless linktest {**frame-size** *size*| **number-of-frames** *value*}

Syntax Description

| | |
|--------------------------------------|--|
| frame-size <i>size</i> | Specifies the link test frame size for each packet. The values range from 1 to 1400. |
| number-of-frames <i>value</i> | Specifies the number of frames to be sent for the link test. The values range from 1 to 100. |

Command Default

None

Command Modes

Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how to configure the link test frame size of each frame as 10:

```
Controller# wireless linktest frame-size 10
```

wireless management interface

To configure wireless management parameters on an interface, use the **wireless management interface** global configuration command. To remove a wireless management parameters on an interface, use the **no** form of the command.

wireless management interface *interface-name* {**TenGigabitEthernet** *interface-name*| **Vlan** *interface-name*}

no wireless management interface

Syntax Description

| | |
|---|---|
| <i>interface-name</i> | The interface number. |
| TenGigabitEthernet <i>interface-name</i> | The 10-Gigabit Ethernet interface number. The values range from 0 to 9. |
| Vlan <i>interface-name</i> | The VLAN interface number. The values range from 1 to 4095. |

Command Default

None

Command Modes

Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how to configure VLAN 10 on the wireless interface:

```
Controller# wireless management interface Vlan 10
```

wireless peer-blocking forward-upstream

To configure peer-to-peer blocking for forward upstream, use the **wireless peer-blocking forward-upstream** command. To remove a peer-to-peer blocking, use the **no** form of the command.

wireless peer-blocking forward-upstream *interface* {**GigabitEthernet** *interface-number* **TenGigabitEthernet** *interface-number*}

no wireless peer-blocking forward-upstream {**GigabitEthernet** *interface-number* **TenGigabitEthernet** *interface-number*}

Syntax Description

| | |
|--|---|
| GigabitEthernet <i>interface</i> | The Gigabit Ethernet interface number. Values range from 0 to 9. |
| TenGigabitEthernet <i>interface</i> | The 10-Gigabit Ethernet interface number. Values range from 0 to 9. |

Command Default

None

Command Modes

Global configuration

Command History

| Release | Modification |
|--------------------|------------------------------|
| Cisco IOS XE 3.2SE | This command was introduced. |

Examples

This example shows how to configure peer-to-peer blocking for interface 10-gigabit ethernet interface:

```
Controller(config)# wireless peer-blocking forward-upstream TenGigabitEthernet 1/1/4
```

wireless peer-blocking forward-upstream