

Interface Commands

This chapter displays the following commands:

• client vlan, page 3

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- 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 21
- show CAPWAP summary, page 22
- show env, page 23
- show errdisable detect, page 25
- show errdisable recovery, page 26
- show interfaces, page 27
- show interfaces counters, page 31
- show location, page 33
- show mgmt-infra trace messages ilpower-ha, page 35
- show network-policy profile, page 36
- show nmsp, page 37

- show platform CAPWAP summary, page 40
- show network-policy profile, page 41
- show wireless interface summary, page 42
- system mtu, page 43
- wireless ap-manager interface, page 44
- wireless exclusionlist, page 45
- wireless linktest, page 46
- wireless management interface, page 47
- wireless peer-blocking forward-upstream, page 48

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 interface-name	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 configu 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	l only on PoE-capable switches.
	When you enable debugging on a switch stack, it is enabled only on the stack master. To enable debugg on a stack member, you can start a session from the stack master by using the session <i>switch-number</i> EX command. Then enter the debug command at the command-line prompt of the stack member. You also use the remote command <i>stack-member-number LINE</i> EXEC command on the stack master switch to endebugging 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	interface-id	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 interface-number	Displays debug messages for null interfaces. The interface number is always 0 .	
	port-channel port-channel-number	Displays debug messages for the specified EtherChannel port-channel interface. The <i>port-channel-number</i> range is 1 to 48.	
	vlan vlan-id	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 IIdp 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.	
		(Optional) Displays failoack offaging manager foury messages.	
	rpc {events messages}	(Optional) Displays fallback bridging debugging information. The keywords have these meanings:	
		• 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 key	word, all fallback bridging manager debug messages appear.	
	The undebug platform fallback-bridging command is the same as the no debug platform fallback-bridgin 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 <i>switch-number</i> EX command. Then enter the debug command at the command-line prompt of the stack member. You also c use the remote command <i>stack-member-number</i> LINE EXEC command on the stack master switch to ena 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.		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.



Changing the interface speed and duplex mode configuration might shut down and reenable 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 Port-channel interface numberPort-channel interface number TenGigabit Ethernet interface number Tunnel interface number Vlan interface number}

Syntax Description	Auto-Template Auto-template interface-number	Enables you to configure auto-template interface. Values range from 1 to 999.
	Capwap Capwap interface number	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 Group VI interface number	Enables you to configure the internal interface. Values range from 0 to 9.
	Internal Interface Internal Interface	Enables you to configure internal interface.
	Loopback Loopback Interface number	Enables you to configure loopback interface. Values range from 0 to 2147483647.
	Null Null interface number	Enables you to configure null interface. Value is 0.
	Port-channel interface number	Enables you to configure Ethernet channel interfaces. Values range from 1 to 128.
	TenGigabitEthernet interface number	Enables you to configure a 10-Gigabit Ethernet interface. Values range from 0 to 9.
	Tunnel interface number	Enables you to configure the tunnel interface. Values range from 0 to 2147483647.
	Vlan interface number	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	1.
Examples	This example shows how you can configure int Controller# interface Tunnel 15	erface:

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	D. 11.1		
	Disabled		
Command Modes	Global configuration mode		
Command History	Release	Modification	
	Cisco IOS XE 3.2SE	This command was introduced.	

This example shows how to configure interface auto-template:

interface auto-template

Examples

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 interface-number	Configures the Gigabit Ethernet IEEE 802.3z interface. Values range from 1 to 9.		
	Loopback interface-number	Configures the loopback interface. Values range from 0 to 2147483647.		
	Port-Channel interface-number	Configures 10-Gigabit Ethernet channel of interfaces. Values range from 1 to 128.		
	TenGigabit Ethernet interface-number	Configures 10-Gigabit Ethernet interfaces. Values range from 0 to 9.		
	Tunnel interface-number	Configures the tunnel interface. Values range from 0 to 2147483647.		
	VLAN interface-number	Configures the switch VLAN interfaces. Values range from 1 to 4095.		
	Macro WORD	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 configu			
	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.

location {admin-tag string | civic-location identifier {host | id} | elin-location string identifier id | geo-location identifier {host | id} }

no location {admin-tag *string*| civic-location identifier {host| *id*}| elin-location *string* identifier *id*| geo-location identifier {host| *id*}}

Syntax Description	admin-tag	Configures administrative tag or site information.			
	string	Site or location information in alphanumeric format.			
	civic-location	Configures civic location information.			
	identifier	Specifies the name of the civic location, emergency, or geographical location.			
	host	Defines the host civic or geo-spatial location. Name of the civic, emergency, or geographical location.			
	id				
		Note The identifier for the civic location in the LLDP-MED controller TLV is limited to 250 bytes or less. To avoid error messages about available buffer space during controller configuration, be sure that the total length of all civic-location information specified for each civic-location identifier does not exceed 250 bytes.			
	elin-location	Configures emergency location information (ELIN).			
	geo-location	Configures geo-spatial location information.			
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.

The host identifier configures the host civic or geo-spatial location. If the identifier is not a host, the identifier only defines a civic location or geo-spatial template that can be referenced on the interface.

The **host** keyword defines the device location. The civic location options available for configuration using the **identifier** and the **host** keyword are the same. You can specify the following civic location options in civic location configuration mode:

- additional-code—Sets an additional civic location code.
- additional-location-information-Sets additional civic location information.
- branch-road-name—Sets the branch road name.
- building—Sets building information.
- city—Sets the city name.
- country—Sets the two-letter ISO 3166 country code.
- county—Sets the county name.
- default—Sets a command to its defaults.
- division—Sets the city division name.
- exit—Exits from the civic location configuration mode.
- floor—Sets the floor number.
- landmark—Sets landmark information.
- leading-street-dir—Sets the leading street direction.
- name—Sets the resident name.
- neighborhood—Sets neighborhood information.
- no-Negates the specified civic location data and sets the default value.
- number—Sets the street number.
- post-office-box—Sets the post office box.
- **postal-code**—Sets the postal code.
- postal-community-name—Sets the postal community name.
- primary-road-name—Sets the primary road name.
- road-section—Sets the road section.
- room—Sets room information.
- seat—Sets seat information.
- state—Sets the state name.

- street-group—Sets the street group.
- street-name-postmodifier—Sets the street name postmodifier.
- street-name-premodifier—Sets the street name premodifier.
- street-number-suffix—Sets the street number suffix.
- street-suffix—Sets the street suffix.
- sub-branch-road-name—Sets the sub-branch road name.
- trailing-street-suffix—Sets the trailing street suffix.
- type-of-place—Sets the type of place.
- unit—Sets the unit.

You can specify the following geo-spatial location information in geo-location configuration mode:

- altitude—Sets altitude information in units of floor, meters, or feet.
- **latitude**—Sets latitude information in degrees, minutes, and seconds. The range is from -90 degrees to 90 degrees. Positive numbers indicate locations north of the equator.
- **longitude**—Sets longitude information in degrees, minutes, and seconds. The range is from -180 degrees to 180 degrees. Positive numbers indicate locations east of the prime meridian.
- **resolution**—Sets the resolution for latitude and longitude. If the resolution value is not specified, default value of 10 meters is applied to latitude and longitude resolution parameters. For latitude and longitude, the resolution unit is measured in meters. The resolution value can also be a fraction.
- default—Sets the geographical location to its default attribute.
- exit-Exits from geographical location configuration mode.
- no-Negates the specified geographical parameters and sets the default value.

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

ExamplesThis example shows how to configure civic location information on the controller: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) # torus for C6
Controller (config-civic) # county "Santa Clara"
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:
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:

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 -
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. Displays the switch fan status.				
	fan					
	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 . (Optional) Displays the status of the internal power supplies for each switch in the stack or for the specified switch. 				
	switch					
		This keyword is available only on stacking-capable switches.				
	stack-member-number	(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 dete	ct
----------------------	----

- **Syntax Description** This command has no arguments or keywords.
- **Command Default** None

Command ModesUser EXECPrivileged 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						
	interface-id	(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 vlan-id	(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 octe				
		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.				
	module number	(Optional) Displays capabilities of all interfaces on the switch or specified stack member.				
		 module, and port number) and port channels. The port channel range is 1 to 48. (Optional) VLAN identification. The range is 1 to 4094. (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. (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. (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. (Optional) Displays the administrative status and description set for an interface. (Optional) Displays interface EtherChannel information. (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. (Optional) Displays trunk VTP pruning information for the interface. 				
	description					
	etherchannel	(Optional) Displays interface EtherChannel information.				
	flowcontrol	(Optional) Displays interface flow control information.				
	private-vlan mapping	VLAN switch virtual interfaces (SVIs). This keyword is not				
	pruning					
	stats	(Optional) Displays the input and output packets by switching the path for the interface.				

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	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		d-line help strings, the crb , fair-queue , irb , mac-accounting , precedence , nd 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 capabili	ties command with different keywords has these results:
		apabilities module <i>number</i> command to display the capabilities of all interfaces k. If there is no switch with that module number in the stack, there is no output.
	• Use the show interfaces	<i>interface-id</i> capabilities to display the capabilities of the specified interface.
	• Use the show interfaces of all interfaces in the sta	capabilities (with no module number or interface ID) to display the capabilities ack.
Examples	This is an example of output f	rom the show interfaces command for an interface on stack member 3:
	Hardware is Gigabit Eth MTU 1500 bytes, BW 1000 reliability 255/255, Encapsulation ARPA, loo Keepalive set (10 sec) Auto-duplex, Auto-speed input flow-control is o ARP type: ARPA, ARP Tim Last input never, outpu Last clearing of "show	own, line protocol is down (notconnect) ernet, address is 2037.064d.4381 (bia 2037.064d.4381) 000 Kbit/sec, DLY 10 usec, txload 1/255, rxload 1/255 pback not set , media type is 10/100/1000BaseTX ff, output flow-control is unsupported

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 interface** *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 descr	iption
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:

Controller# show interfaces etherchannel Port-channel34: Age of the Port-channel = 28d:18h:51m:46s Logical slot/port = 12/34 = 12/34 Number of ports = 0 = 0x00000000 HotStandBy port = null GC = Passive port list Port state = Port-channel L3-Ag Ag-Not-Inuse Protocol = Port security = Disabled

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:

Controlle	er# show	interfaces	status				
Port	Name		Status	Vlan	Duplex	Speed	Туре
Gi1/0/1			notconnect	1	auto	auto	10/100/1000Ba
seTX							
Gi1/0/2			notconnect	1	auto	100	10/100/1000Ba
seTX							
Gi1/0/3			notconnect	1	auto	1000	10/100/1000Ba
seTX							

Gil/0/4 seTX	notconnect	1	auto	auto 10/100/1000Ba
Gi1/0/5	notconnect	1	auto	auto 10/100/1000Ba
seTX Gi1/0/6	notconnect	1	auto	10 10/100/1000Ba
seTX Gi1/0/7	notconnect	1	auto	auto 10/100/1000Ba
seTX Gi1/0/8	notconnect	1	auto	auto 10/100/1000Ba
seTX		-		
Gi1/0/9 seTX	notconnect	1	auto	auto 10/100/1000Ba
Gil/0/10 seTX	notconnect	1	auto	auto 10/100/1000Ba

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	gigabitethe	rnet1/0/22	status	
Port	Name	Status	Vlan	Duplex	Speed	Type
Gi1/0/22		connect	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	gigabiteth	ernet1/0/20	status	
Port Gi1/0/20	Name	Status connect		Duplex a-full	Speed a-100	Type 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:

Controlle	r# show	interfaces	status	err-disabled
Port	Name	Status		Reason
Gi1/0/2		err-dis	sabled	gbic-invalid
Gi2/0/3		err-dis	sabled	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# Port Gi1/0/1	show interfaces Mode on		1/0/1 trunk Status other	Native vlan 10
Port Gi1/0/1	Vlans allowed on none	trunk		
Port Gil/0/1	Vlans allowed an none	d active in mana	agement domain	
Port Gil/0/1	Vlans in spannin none	g tree forwardin	ng state and n	ot pruned

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 men (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	(Optional) Displays counters for the specified stack member.			
	stack-member-number	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.			



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

Command	Def	้อม	lt
oommania	DCI	uu	

Command Modes Privileged EXEC

None

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 modul	le 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
Gi1/0/4		0 0 0	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 string	Specifies the ID for the civic location or the ELIN location. The range is 1 to 4095.
	interface interface-id	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

Cisco IOS XE 3.2SE

This command was introduced.

Modification

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

Controller# show location civic-location static Civic location information Identifier : 1 County : Santa Clara Street number : 3550 Building : 19 : C6 Room : Cisco Way Primary road name City : San Jose : CA State : US Country : Gi2/0/1 Ports _____ 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 civic-location** command that displays all the civic location information:

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]

	switch stack-member-number	(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	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 succ essfully.

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	profile-number	(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 ou Controller# show net	Itput from the show network-policy profile command:
	Network Policy Profi voice vlan 17 cos Interface: none Network Policy Profi voice vlan 30 cos Interface: none Network Policy Profi voice vlan 4 cos Interface: Interface_id	4 le 30 5 le 36

show nmsp

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

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

Syntax Description		
eynax beeenprion	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 nmsp attachment suppress interface command:
	Controller# show nmsp attachm NMSP Attachment Suppression I	nterfaces
	GigabitEthernet1/0/1	

GigabitEthernet1/0/3

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

Controller# sho Service	w nmsp capabilit Subservice	У	
RSSI Info Statistics Attachment Location AP Monitor IDS Services	Mobile Station, Mobile Station, Mired Station Subscription Subscription WIPS	Rogue	Rogue

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

```
Controller# show nmsp notification interval
NMSP Notification Intervals
RSSI Interval:
 Client
                   : 2 sec
 RFID
                   : 2 sec
 Rogue AP
 Rogue Client
                  : 2 sec
                   : 2 sec
Attachment Interval : 30 sec
Location Interval
                   : 30 sec
```

This is an example of output from the **show nmsp statistics summary** command:

```
Controller# show nmsp statistics summary
NMSP Global Counters
Client measure send fail
                                           : 0
Send RSSI with no entry
                                           : 0
Application message too big
                                           : 0
Failed select on accept socket
                                           : 0
Failed SSL write
                                           : 0
                                          : 0
Partial SSL write
SSL write returned zero
                                           : 0
SSL write attempts to want read
                                          : 0
SSL write attempts to want write
                                          : 0
SSL write got default error
                                           : 0
SSL write max data length sent
                                          : 0
SSL write max attempts to write in loop
                                           : 0
SSL read returned zero
                                           : 0
SSL read attempts to want read
                                           : 0
SSL read attempts to want write
                                           : 0
                                          : 0
SSL read got default error
Failed SSL read - con rx buf freed
                                           : 0
Failed SSL read - con/SSL freed
                                          : 0
Max records read before exiting SSL read
                                          : 0
Highest priority tx queue full
                                           : 0
                                           : 0
Normal priority tx queue full
Highest priority tx queue count
Normal priority tx queue count
                                          : 0
                                           : 0
APP sent message to highest priority queue : 0
Max measure notify message
                                           : 0
Max info notify message
                                           : 0
                                          : 0
Max highest priority tx queue count
Max normal priority tx queue count
                                          : 0
Max receive queue count
                                          : 3
Max info notify queue count
                                           : 0
                                          : 0
Max client info notify delay
Max rogue AP info notify delay
                                          : 0
Max rogue client info notify delay
                                          : 0
Max client measure notify delay
                                          : 0
Max tag measure notify delay
                                           : 0
Max roque AP measure notify delay
                                          : 0
Max rogue client measure notify delay
                                           : 0
                                           : 0
Max client stats notify delay
```

Max RFID stats notify delay RFID measurement periodic RFID measurement immediate SSL handshake failed	: 0 : 0 : 0 : 0
NMSP rx detected connection failure	: 0
NMSP tx detected connection failure	: 0
NMSP tx buf size exceeded	: 0
Reconnect before connection Timeout	: 0

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:

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	profile-number	(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 o	butput from the show network-policy profile command:
LXampies	-	<pre>twork-policy profile ile 10 s 4 ile 30 s 5 ile 36</pre>

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 byte	S.
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 sho	w 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-managerinterface {TenGigabitEthernet interface-number| Vlan interface-number}

Syntax Description	TenGigabitEthernet interface-name	Configures 10-Gigabit Ethernet interface. Values range from 0 to 9.
	Vlan interface-name	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 Controller# wireless ap-manager int <1-4095> Vlan interface number	-
	This example shows how to configure the Controller# #wireless ap-manager in	-

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	mac-addr	The MAC address of the local excluded entry.
	description description	Specifies the description for an exclusion-list entry.
Command Default	None	
Command Modes	Global configuration	
Command History		
oonnana motory	Release	Modification
	Cisco IOS XE 3.2SE	This command was introduced.
Examples	This example shows how to create	e a local exclusion list entry for the MAC address xxx.xxx.xxx:
	Controller# wireless exclusion	-
	This example shows how to create xxx.xxx.xxx:	e a description for the local exclusion list entry for the MAC address
	Controller# wireless exclusion	onlist 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 size	Specifies the link test frame size for each packet. The values range from 1 to 1400.
	number-of-frames value	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 con	nfigure the link test frame size of each frame as 10:
	Controllor#	act from cito 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	interface-name	The interface number.
	TenGigabitEthernet interface-name	The 10-Gigabit Ethernet interface number. The values range from 0 to 9.
	Vlan interface-name	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	e 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 interface	The Gigabit Ethernet interface number. Values range from 0 to 9.
	TenGigabitEthernet interface	The 10-Gigabit Ethernet interface number. Values range from 0 to 9.
mmand Default	None	
ommand Modes	Global configuration	
ommand Modes ommand History	Global configuration	Modification

ExamplesThis 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