



Using the Command-Line Interface

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You can use the switch command-line interface (CLI) to configure and monitor the switch features, as described in the *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide*.

This reference manual provides detailed information about the commands that have been created or changed specifically for the Catalyst 2900 XL and Catalyst 3500 XL switches. This manual also provides information about configuring the Cisco Long-Reach Ethernet (LRE) customer premises equipment (CPE) devices.



Note

This switch software release is based on Cisco IOS Release 12.0. It has been enhanced to support a set of features for the Catalyst 2900 XL and Catalyst 3500 XL switches. This reference manual does not repeat the CLI commands already documented in the Cisco IOS Release 12.0 documentation on Cisco.com.



Note

This manual describes the features for all Catalyst 2900 XL and Catalyst 3500 XL switches, including the Catalyst 2900 LRE XL switches. Cisco IOS Release 12.0(5)WC5 is *not* for the Long-Reach Ethernet (LRE) switches. Do not install Release 12.0(5)WC5 on the Catalyst 2900 LRE XL switches.

Release 12.0(5)WC6 is only for the Catalyst 2900 LRE XL switches. Do not install Release 12.0(5)WC6 on non-LRE switches.

The Cisco IOS Releases 12.0(5)WC4 and 12.0(5)WC5 software supports the hardware listed in the release notes (<http://www.cisco.com/univercd/cc/td/doc/product/lan/c2900xl/index.htm>).

Command Usage Basics

This section provides these topics:

- “Accessing Command Modes” section on page 1-2
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- “Abbreviating Commands” section on page 1-5
- “Using the No and Default Forms of Commands” section on page 1-5
- “Redisplaying a Command” section on page 1-5
- “Getting Help” section on page 1-5

For complete information about CLI usage, refer to the Cisco IOS Release 12.0 documentation on Cisco.com.

Accessing Command Modes

The CLI is divided into different modes. The commands available to you at any given time depend on which mode you are in. Entering a question mark (?) at the system prompt provides a list of commands for each command mode.

When you start a session on the switch, you begin in user mode, often called user EXEC mode. Only a limited subset of the commands are available in user EXEC mode. For example, most of the user EXEC commands are one-time commands, such as **show** commands, which show the current configuration status, and **clear** commands, which clear counters or interfaces. The user EXEC commands are not saved when the switch reboots.

To have access to all commands, you must enter privileged EXEC mode. Normally, you must enter a password to enter privileged EXEC mode. From this mode, you can enter any privileged EXEC command or enter global configuration mode.

Using the configuration modes (such as global, VLAN, and interface), you can make changes to the running configuration. If you save the configuration, these commands are stored when the switch reboots. To access the various configuration modes, you must start at global configuration mode. From global configuration mode, you can enter interface configuration mode and line configuration mode.

Table 1-1 describes the *main* command modes supported on the switch, the prompt you see in that mode, and how to exit the mode. The examples in the table use the host name *switch*.

Table 1-1 Command Modes Summary

Modes	Access Method	Prompt	Exit Method	About This Mode ¹
User EXEC	Begin a session with your switch.	switch>	Enter logout or quit .	The EXEC commands available at the user level are a subset of those available at the privileged level. Use this mode to <ul style="list-style-type: none"> • Change terminal settings. • Perform basic tests. • Display system information.
Privileged EXEC	Enter the enable command while in user EXEC mode.	switch#	Enter disable to exit.	The privileged command set includes those commands contained in user EXEC mode, as well as the configure command through which you access the remaining command modes. Because many of the privileged commands configure operating parameters, privileged access should be password-protected to prevent unauthorized use. If your system administrator has set a password, you are prompted to enter it before being granted access to privileged EXEC mode. The password does not appear on the screen and is case sensitive.
Global configuration	Enter the configure command while in privileged EXEC mode.	switch(config)#	To exit to privileged EXEC mode, enter exit or end , or press Ctrl-Z .	Use this mode to configure parameters that apply to your switch as a whole.
VLAN database	Enter the vlan database command while in privileged EXEC mode.	switch(vlan)#	To exit to privileged EXEC mode, enter exit .	Use this mode to configure VLAN-specific parameters.
Controller configuration	Enter the controller longreachethernet command (with a specific interface) while in global configuration mode.	Switch(config-controller)#	To exit to global configuration mode, enter exit . To exist to privileged EXEC mode, enter Ctrl-Z or end .	Controller configuration
Interface configuration	Enter the interface command (with a specific interface) while in global configuration mode.	Switch(config-if)#	To exit to global configuration mode, enter exit . To exist to privileged EXEC mode, enter Ctrl-Z or end .	Interface configuration

Table 1-1 Command Modes Summary (continued)

Modes	Access Method	Prompt	Exit Method	About This Mode ¹
Sequence configuration	Enter the lre sequence command while in global configuration mode.	switch(config-seq)#	To exit to global configuration mode, enter exit . To exit to privileged EXEC mode, enter Ctrl-Z or end .	Use this mode on Long-Reach Ethernet switches to configure sequences for rate selection.
Line configuration	Specify a line with the line vty or line console command while in global configuration mode.	switch(config-line)#	To exit to global configuration mode, enter exit . To exit to privileged EXEC mode, enter Ctrl-Z or end .	Use this mode to configure parameters for the terminal line.

1. For any of the modes, you can see a comprehensive list of the available commands by entering a question mark (?) at the prompt.

Specifying Ports in Interface Configuration Mode

To configure a port, you need to specify the interface type, slot, and switch-port number with the **interface** configuration command. For example, to configure port 4 on a switch, you enter:

```
switch(config)#interface fa 0/4
```

To configure port 4 on a 10/100 module in the first module slot on the switch, you enter:

```
switch(config)#interface fa 1/4
```

- Interface type—Each switch in the Catalyst 2900 series XL and Catalyst 3500 series XL platform supports different types of interfaces. To display a complete list of the interface types supported on your switch, enter the **interface ?** command from the global configuration mode. This example shows what the **interface ?** command displays on a Catalyst 2900 LRE XL switch:

```
lreswitch(config)#interface ?
FastEthernet      FastEthernet IEEE 802.3
LongReachEthernet Ethernet over VDSL
Multilink          Multilink-group interface
Port-channel      Ethernet Channel of interfaces
VLAN              Switch VLAN Virtual Interface
Virtual-TokenRing Virtual TokenRing
```



Note

The multilink, port-channel, and virtual-Token Ring interface types are not supported on the Catalyst 2900 XL and Catalyst 3500 XL switches.

- Slot number—The slot number on the switch. On the modular Catalyst 2900 XL switches, the slot number is 1 or 2. On non-modular Catalyst 2900 XL and Catalyst 3500 XL switches, the slot number is 0.
- Port number—The number of the physical port on the switch. Refer to your switch for the port numbers.

Abbreviating Commands

You only have to enter enough characters for the switch to recognize the command as unique. This example shows how to enter the **show configuration** command:

```
Switch# show conf
```

Using the No and Default Forms of Commands

Almost every configuration command has a **no** form. In general, use the **no** form to

- Disable a feature or function.
- Reset a command to its default values.
- Reverse the action of a command. For example, the **no shutdown** command reverses the shutdown of an interface.

Use the command without the **no** form to reenable a disabled feature or to reverse the action of a **no** command.

Configuration commands can also have a **default** form. The **default** form of a command returns the command setting to its default. Most commands are disabled by default, so the **default** form is the same as the **no** form. However, some commands are enabled by default and have variables set to certain default values. In these cases, the **default** command enables the command and sets variables to their default values.

Redisplaying a Command

To redisplay a command you previously entered, press the up-arrow key. You can continue to press the up-arrow key for more commands.

Getting Help

Entering a question mark (?) at the system prompt displays a list of commands for each command mode. When using context-sensitive help, the space (or lack of a space) before the question mark (?) is significant. To obtain a list of commands that begin with a particular character sequence, enter those characters followed immediately by the question mark (?). Do not include a space. This form of help is called word help, because it completes a word for you.

To list keywords or arguments, enter a question mark (?) in place of a keyword or argument. Include a space before the ?. This form of help is called command syntax help, because it reminds you which keywords or arguments are applicable based on the command, keywords, and arguments you already have entered.

You can also obtain a list of associated keywords and arguments for any command, as shown in [Table 1-2](#).

Table 1-2 Help Summary

Command	Purpose
help	Obtain a brief description of the help system in any command mode.
<i>abbreviated-command-entry?</i>	Obtain a list of commands that begin with a particular character string. For example: Switch# di? dir disable disconnect
<i>abbreviated-command-entry<Tab></i>	Complete a partial command name. For example: Switch# sh conf<tab> Switch# show configuration
?	List all commands available for a particular command mode. For example: Switch> ?
<i>command ?</i>	List the associated keywords for a command. For example: Switch> show ?
<i>command keyword ?</i>	List the associated arguments for a keyword. For example: Switch(config)# cdp holdtime ? <10-255> Length of time (in sec) that receiver must keep this packet

Command-Line Error Messages

[Table 1-3](#) lists some error messages that you might encounter while using the CLI.

Table 1-3 Common CLI Error Messages

Error Message	Meaning	How to Get Help
% Ambiguous command: "show con"	You did not enter enough characters for your switch to recognize the command.	Reenter the command followed by a space and a question mark (?). The possible keywords that you can enter with the command appear.
% Incomplete command.	You did not enter all of the keywords or values required by this command.	Reenter the command followed by a space and a question mark (?). The possible keywords that you can enter with the command appear.
% Invalid input detected at '^' marker.	You entered the command incorrectly. The caret (^) marks the point of the error.	Enter a question mark (?) to display all of the commands that are available in this command mode. The possible keywords that you can enter with the command appear.

Accessing the CLI

This procedure assumes you have already assigned IP information and password to the switch or command switch. You can assign this information to the switch in these ways:

- Using the setup program, as described in the release notes (<http://www.cisco.com/univercd/cc/td/doc/product/lan/c2900xl/index.htm>).
- Manually assigning an IP address and password, as described in the *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide*.

To access the CLI from a terminal session, follow these steps:

-
- Step 1** Start up the emulation software (such as ProComm, HyperTerminal, tip, or minicom) on the management station.
- Step 2** If necessary, reconfigure the terminal-emulation software to match the switch console port settings (default settings are 9600 baud, no parity, 8 data bits, and 1 stop bit).
- Step 3** Establish a connection with the switch by either
- Connecting the switch console port to a management station or dial-up modem. For information about connecting to the console port, refer to the switch hardware installation guide.
 - Using any Telnet TCP/IP package from a remote management station. The switch must have network connectivity with the Telnet client, and the switch must have an enable secret password configured. For information about configuring the switch for Telnet access, refer to the *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide*.
- The switch supports up to seven simultaneous Telnet sessions. Changes made by one Telnet user are reflected in all other Telnet sessions.
-

After you connect through the console port or through a Telnet session, the User EXEC prompt appears on the management station.

Accessing the CLI from a Browser

This procedure assumes you have met the software requirements, (including browser and Java plug-in configurations) and have assigned IP information and a Telnet password to the switch or command switch, as described in the release notes (<http://www.cisco.com/univercd/cc/td/doc/product/lan/c2900xl/index.htm>).



Caution

Copies of the CMS pages you display are saved in your browser memory cache until you exit the browser session. A password is not required to redisplay these pages, including the Cisco Systems Access page. You can access the CLI by clicking **Web Console - HTML access to the command line interface** from a cached copy of the Cisco Systems Access page. To prevent unauthorized access to CMS and the CLI, exit your browser to end the browser session.

To access the CLI from a web browser, follow these steps:

-
- Step 1** Start one of the supported browsers.
- Step 2** In the **URL** field, enter the IP address of the command switch.
- Step 3** When the Cisco Systems Access page appears, click **Telnet** to start a Telnet session.
- You can also access the CLI by clicking **Web Console - HTML access to the command line interface** from the Cisco Systems Access page. For information about the Cisco Systems Access page, see the *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide* and the release notes (<http://www.cisco.com/univercd/cc/td/doc/product/lan/c2900xl/index.htm>).
- Step 4** Enter the switch password.
- The User EXEC prompt appears on the management station.
-

Saving Configuration Changes

The switch Flash memory stores the IOS image, the startup configuration file (config.txt file), and helper files.

The **show** command always displays the *running configuration* of the switch. When you make a configuration change to a switch or switch cluster, the change becomes part of the running configuration. The change *does not* automatically become part of the config.txt file in Flash memory, which is the *startup configuration* used each time the switch restarts. If you do not save your changes to Flash memory, they are lost when the switch restarts.

To save all configuration changes to Flash memory, you must enter the **write memory** command in privileged EXEC mode.

**Note**

The **write memory** command does not apply to the Catalyst 1900 and Catalyst 2820 switches, which automatically save configuration changes to Flash memory as they occur.

**Tip**

As you make cluster configuration changes, make sure you periodically save the configuration. The configuration is saved on the command and member switches.

Command Summary

Table 1-4 lists and describes the IOS commands specifically created or modified for the Catalyst 2900 XL or the Catalyst 3500 XL switches. Long-Reach Ethernet (LRE) commands only apply to the Catalyst 2900 XL LRE switches. The commands are sorted by the command modes from which they are entered.

For detailed command syntax and descriptions, see [Chapter 2, “Cisco IOS Commands.”](#) For concepts and procedures, refer to the *Catalyst 2900 Series XL and Catalyst 3500 Series XL Software Configuration Guide*.

Table 1-4 Command Summary

Commands	Description
User EXEC mode	
rcommand	Executes commands on a cluster member from the command switch.
show cluster	Displays the cluster status and a summary of the cluster to which the switch belongs.
show cluster candidates	Displays switches that are not currently members of the cluster but that could be.
show cluster members	Displays information about all members in a cluster.
show errdisable detect	Displays error-disable detection status.
show errdisable recovery	Displays the error-disable recovery timer information.
show diags	Displays the state of a port or all ports on the switch.
show mac-address-table	Displays the MAC address table.
show remote ethernet-statistics	Displays the statistics for the Ethernet ports on the LRE CPE devices connected to the switch LRE ports.
show remote interfaces status	Displays the speed, duplex mode, and link status of the Ethernet ports on the LRE CPE devices connected to the switch LRE ports.
show rps	Displays the status of the Cisco Redundant Power System (RPS).
show spanning-tree	Displays STP information.
show tacacs	Displays various Terminal Access Controller Access Control System Plus (TACACS+) server statistics.
show udld	Displays UDLD status information for all ports or the specified port.
show version	Displays the firmware version for the switch or the module.
show vlan	Displays information about a VLAN.
show vmps	Displays the VLAN Query Protocol (VQP) version, the reconfirmation interval, the retry count, the VLAN Membership Policy Server (VMPS) IP addresses, and the current and primary servers.
show vtp	Displays general information about the VTP management domain, status, and counters.
Privileged EXEC mode	
clear cgmp	Deletes the multicast addresses and router ports maintained by CGMP.
clear controllers ethernet-controller	Deletes the Ethernet link transmit and receive statistics on a switch port and on an LRE CPE (if one is connected to a switch LRE port).

Table 1-4 Command Summary (continued)

Commands	Description
clear controllers lre log	Deletes the history of link, configuration, and timer events for a specific switch LRE port or all LRE ports on the switch.
clear lre rate selection	Resets the current rate selection setting and restarts rate selection for a specific Long-Reach Ethernet (LRE) port or for all switch LRE ports.
clear mac-address-table	Deletes the IP address without disabling the IP processing.
clear mac-address-table	Deletes all addresses in the MAC address table.
clear mac-address-table notification	Deletes entries from the MAC address notification table.
clear vmps statistics	Clears the statistics maintained by the VLAN Query Protocol (VQP) client.
clear vtp counters	Clears the VTP counters.
debug lre	Enables debugging of LRE-related events.
delete	Deletes a file from the file system.
hw-module slot module-slot # upgrade lre	Performs system-wide software upgrades.
session	Logs into an ATM module.
show cgmp	Displays the current state of the CGMP-learned multicast groups and routers.
show controllers ethernet-controller	Displays the Ethernet link transmit and receive statistics on a Fast Ethernet or switch LRE port.
show controllers lre cpe info	Displays the model numbers of the LRE CPE devices connected to the LRE switch and shows whether or not the connected CPEs meet the minimum requirements to be managed by the LRE switch.
show controllers lre interface-id actual	Displays the actual values of the LRE link on a specific switch LRE port.
show controllers lre interface-id admin	Displays the administrative settings of the LRE link on a specific switch LRE port.
show controllers lre log	Displays the history of link, configuration, and timer events for a specific switch LRE port or all LRE ports on the switch.
show controllers lre log level	Displays information about the LRE event log level.
show controllers lre profile	Displays information about the LRE profiles available on the switch and how they are assigned to the switch LRE ports.
show controllers lre sequence	Displays information about the LRE port and global sequences.
show controllers lre status	Displays the LRE link statistics and profile information on a switch LRE port, including link state, link duration, data rates, power levels, sequence and signal-to-noise ratio (SNR) error information. It also displays the Reed-Solomon error information and other line characteristics.
show controllers lre version	Displays the version numbers of the various components (hardware, firmware, patch software, and bootloader firmware and application firmware) that make up the switch LRE interface and the CPE LRE interface.
show controllers lre version mfg	Displays the revision and serial numbers of the connected LRE CPE board, assembly, and system.
show diags	Displays the current state of a port or all ports on the switch.

Table 1-4 Command Summary (continued)

Commands	Description
show env	Displays the status of the Catalyst 3524-PWR XL switch fans and temperature.
show file systems	Displays information about local and remote file systems.
show interface	Displays the administrative and operational status of a switch port.
show ip igmp profile	Displays the details of an IGMP profile entry.
show local ethernet-statistics	Displays the details of the local VDSL chipset.
show lre upgrade binaries	Displays the LRE binaries present on the system Flash memory.
show lre upgrade status	Displays the upgrade status on all ports in the switch.
show lre upgrade version	Displays the version of binaries on local and remote ports in the switch.
show mac-address-table notification	Displays the global parameters for the MAC address table notification feature.
show mvr	Displays the current multicast VLAN registration (MVR) global parameter values, including whether or not MVR is enabled, the maximum query response time, the maximum number of multicast entries, and the multicast VLAN number.
show mvr interface	Displays the MVR receiver and source ports. Use the command with keywords to display MVR parameters for a specific receiver port.
show mvr members	Displays all receiver ports that are members of an IP multicast group.
show port block	Displays the blocking of unicast and multicast filtering for the port.
show port group	Displays the ports that are assigned to groups.
show port monitor	Displays the ports that have port monitoring enabled.
show port network	Displays the network ports on the switch.
show port protected	Displays the ports that are port protected mode.
show port security	Displays the ports that have port security enabled.
show port storm-control	Displays the setting of broadcast-storm control.
show power inline	Displays the power status for the specified port or all ports on the 3524-PWR-XL switch.
show tech-support	Displays general switch information for determining the nature of a switch error or for providing to a Cisco technical support representative.
show vmps statistics	Displays the VQP client-side statistics.
udld reset	Resets all ports that have been shut down by UDLD.
vlan database	Enters VLAN database mode.
vmps reconfirm	Sends VQP queries to reconfirm all dynamic VLAN assignments with the VLAN Membership Policy Server (VMPS).
Global configuration mode	
cgmp	Enables CGMP and other CGMP options.
cluster commander-address	Automatically provides the command switch MAC address to member switches. This command is automatically issued.
cluster discovery hop-count	Sets the hop-count limit for extended discovery of cluster candidates.
cluster enable	Enables the cluster command switch and names the cluster.

Table 1-4 Command Summary (continued)

Commands	Description
cluster holdtime	Sets the timer that determines when a command switch declares the other switch down after not receiving a heartbeat message. Used with the cluster timer command.
cluster management-vlan	Changes the management VLAN for the entire cluster.
cluster member	Adds members to the cluster.
cluster run	Enables clustering on a switch.
cluster standby-group	Enables command switch redundancy by binding an HSRP standby group to the cluster.
cluster timer	Specifies the interval between heartbeat messages between the command and member switches. Used with the cluster holdtime command.
controller LongReachEthernet	Enters controller configuration mode.
errdisable detect cause	Enables error disable detection for a cause.
errdisable recovery	Configures the recovery mechanism variables.
interface	Selects an interface to configure. Creates a new management VLAN interface.
ip igmp profile	Defines a new profile for IGMP filtering or deletes an existing IGMP filtering profile.
lre patchfile	Specifies the LRE patch file used when the switch starts up.
lre profile global	Assigns a public profile to all switch LRE ports.
lre rate selection sequence	Assigns the rate selection sequence for the entire switch.
lre sequence	Defines a new sequence and also enters sequence configuration mode.
lre upgrade default family device-family binary	Defines a default mapping between an LRE device type and an LRE binary.
mac-address-table aging-time	Specifies the length of time that a dynamic entry remains in the MAC address table.
mac-address-table dynamic	Adds a dynamic address entry to the MAC address table.
mac-address-table notification	Enables the MAC address table notification feature on the switch.
mac-address-table secure	Adds a secure address entry to the MAC address table.
mac-address-table static	Adds a static address entry to the address table.
mvr (global configuration)	Enables the Multicast VLAN Registration (MVR) feature on the switch.
ntp max-associations	Specifies the maximum number of NTP associations that are allowed on a server.
ntp source	Uses a particular source address in NTP packets.
shutdown vlan	Shuts down local traffic on the specified VLAN.
snmp-server enable traps mac-notification	Enables SNMP notification for MAC address notification.
snmp-server enable traps vlan-membership	Enables SNMP notification for VMPS changes.
snmp-server enable traps vtp	Enables SNMP notification for VTP changes.
snmp-server host	Specifies the host that receives SNMP traps.
spanning-tree	Enables a spanning-tree instance.

Table 1-4 Command Summary (continued)

Commands	Description
spanning-tree forward-time	Specifies the forward delay interval for the switch.
spanning-tree hello-time	Specifies the interval between hello Bridge Protocol Data Units (BPDUs).
spanning-tree max-age	Changes the interval the switch waits to receive BPDUs from the root switch.
spanning-tree portfast bpduguard	Enables the BPDU guard feature on the switch.
spanning-tree priority	Configures the bridge priority for the specified spanning-tree instance.
spanning-tree protocol	Defines the type of STP.
spanning-tree uplinkfast	Accelerates the choice of a new root port when a link or switch fails or when STP reconfigures itself.
tacacs-server attempts	Controls the number of login attempts that can be made on a line configured for TACACS, Extended TACACS, or TACACS+ verification.
tacacs-server dns-alias-lookup	Enables IP Domain Name System alias lookup for TACACS+.
udld enable	Enables UDLD on all switch ports.
vmmps reconfirm	Changes the reconfirmation interval for the VQP client.
vmmps retry	Configures the per-server retry count for the VQP client.
vmmps server	Configures the primary VMPS and up to three secondary servers.
vtp file	Modifies the VTP configuration storage filename.
VLAN database mode	
abort	Abandons the proposed VLAN database and returns to privileged EXEC mode.
apply	Implements the proposed VLAN database, propagates it throughout the administrative domain, and remains in VLAN database mode.
exit	Implements the proposed VLAN database, propagates it throughout the administrative domain, and returns to privileged EXEC mode.
reset	Abandons the proposed VLAN database and remains in VLAN database mode.
show changes	Displays the differences between the current VLAN database on the switch and the proposed VLAN database.
show current	Displays the current VLAN database on the switch or a single selected VLAN from it.
show proposed	Displays the proposed VLAN database or a single selected VLAN from it.
vlan	Configures a VLAN by its VLAN ID.
vtp	Configures the VTP mode.
vtp domain	Configures the VTP administrative domain.
vtp password	Configures the VTP password.
vtp pruning	Enables pruning in the VTP administrative domain.
vtp v2-mode	Enables VTP version 2 mode in the administrative domain.
Controller configuration mode	
upgrade binary	Configures a Long-Reach Ethernet (LRE) controller upgrade.
upgrade preserve	Prevents an upgrade from taking place on a controller in a Long-Reach Ethernet (LRE) switch and on all the devices that are remotely connected to it.

Table 1-4 Command Summary (continued)

Commands	Description
Interface configuration mode	
duplex	Specifies the duplex mode of operation for a port.
flowcontrol	Controls traffic rates during congestion.
ip address	Specifies a primary or secondary IP address of a VLAN interface.
ip igmp filter	Applies a specific IGMP filtering profile to an interface.
ip igmp max-groups	Specifies the maximum number of IGMP profiles that can be active on a port.
lre log	Specify the logging mode for LRE events.
lre persistence	Sets the amount of delay before the link reports a link failure.
lre profile	Assigns a private profile to a specific switch LRE port.
lre reset	Resets the switch LRE interface or the CPE LRE interface.
lre shutdown	Disables the LRE interface transmitter of a switch LRE port that is not being used.
management	Shuts down the management VLAN interface.
margin	Specifies the margin value used to determine link quality during Long-Reach Ethernet (LRE) rate selection.
mvr (interface configuration)	Configures a port as an MVR receiver or source port, specifies the Immediate-Leave feature, and configures the port threshold.
ntp broadcast client	Allows the system to receive NTP broadcast packets on a port.
ntp broadcast destination	Configures an NTP server or peer to restrict broadcast of NTP frames to the IP address of a designated client or a peer.
ntp broadcast key	Configures an NTP server or peer to broadcast NTP frames with the authentication key embedded in the NTP packet.
ntp broadcast version	Specifies a port to send NTP broadcast packets.
port block	Prevents the flooding of unknown destination MAC addresses and multicast addresses on this port.
port group	Places a port into a port aggregation group.
port monitor	Implements port monitoring on this port.
port network	Enables a port as the network port for a VLAN.
port protected	Isolates unicast, multicast, and broadcast traffic at Layer 2 from other protected ports on the same switch.
port security	Enables port security on a port, sets the aging time for dynamic and static secure address entries, and restricts the use of the port to a user-defined group of stations.
port storm-control	Disables broadcast, multicast, or unicast traffic if too many packets are seen on this port.
power inline	Specifies how inline power is applied to the device on the specified Fast Ethernet port of the Catalyst 3524-PWR XL switch.
rate selection	Enables rate selection on a port.
rate selection profile lock	Locks a profile in a port that is enabled for rate selection.
rate selection sequence	Assigns a sequence to a port and to start rate selection.
rmon collection stats	Collects Ethernet group statistics.

Table 1-4 Command Summary (continued)

Commands	Description
shutdown	Disables a switch port, including the Ethernet ports on the LRE CPE connected to a switch LRE port.
snmp trap mac-notification	Enables or disables the MAC notification feature on a specific port.
spanning-tree cost	Specifies a different path cost.
spanning-tree portfast	Enables the Port Fast option on the switch.
spanning-tree port-priority	Configures the STP priority of a port.
spanning-tree rootguard	Enables the root guard feature for all the VLANs associated with the specified port. Controls which ports can be STP root ports.
spanning-tree stack-port	Enables cross-stack UplinkFast (CSUF) on an interface and accelerates the choice of a new root port when a link or switch fails or when STP reconfigures itself.
speed	Specifies the speed of a port.
switchport access	Configures a port as an access or dynamic VLAN port.
switchport mode	Configures the VLAN membership mode of a port.
switchport multi	Configures a port to be a multi-VLAN port.
switchport priority	Configures a port priority for untagged (native Ethernet) frames to provide quality of service (QoS). Also sets the priority of frames received by the appliance connected to the specified port.
switchport trunk allowed vlan	Controls which VLANs can receive and send traffic on the trunk.
switchport trunk encapsulation	Sets the encapsulation format on the trunk.
switchport trunk native	Sets the native VLAN for untagged traffic when in IEEE 802.1Q trunking mode.
switchport trunk pruning	Sets the list of VLANs enabled for VTP pruning when the port is in trunking mode.
switchport voice vlan	Sets the voice VLAN on the port.
udld	Enables or disables UDLD on a port.
Line configuration mode	
login local	Changes a login username.
login tacacs	Configures the switch to use TACACS user authentication.
Sequence mode	
profile	Adds a Long-Reach Ethernet (LRE) profile to a rate selection sequence.

