CHAPTER 2

Using the Command-Line Interface

This chapter describes the Cisco IOS command-line interface (CLI) and how to use it to configure your Catalyst 3560 switch. It contains these sections:

Understanding Command Modes

The Cisco IOS user interface is divided into many different modes. The commands available to you depend on which mode you are currently in. Enter a question mark (?) at the system prompt to obtain a list of commands available 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 (global, interface, and line), you can make changes to the running configuration. If you save the configuration, these commands are stored and used 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.

Switch

Table 2-1 Command Mode Summary

Mode	Access Method	Prompt	Exit Method	About This Mode
	Begin a session with your switch.	`Switch>`	**logout** **quit**	Perform basic tests. Display system information.
Privileged EXEC	While in user EXEC mode, enter the **enable**	`Switch#`	**disable**	
Global configuration	While in privileged EXEC mode, enter the **configure**	`Switch(config)#`	**exit** **end** **Ctrl-Z**	
	vlan *vlan-id*	`Switch(config-vlan)#`		VLAN parameters. When VTP mode is transparent, you can create extended-range VLANs (VLAN IDs greater than 1005) and save configurations in the switch startup configuration file.
VLAN configuration	While in privileged EXEC mode, enter the **vlan database**		**exit**	

Command Mode Summary (continued)

Interface configuration	While in global configuration mode, enter the command (with a specific interface).		To exit to global configuration mode, enter . To return to privileged EXEC mode, press or enter .	Use this mode to configure parameters for the Ethernet ports. For information about defining interfaces, see the "Using Interface Configuration Mode" section on page 11-10. To configure multiple interfaces with the same parameters, see the "Configuring a Range of Interfaces" section on page 11-11.
Line configuration	While in global configuration mode, specify a line with the **line vty** or **line console** command.	`Switch(config-line)#`		

Understanding the Help System

You can enter a question mark (?) at the system prompt to display a list of commands available for each command mode. You can also obtain a list of associated keywords and arguments for any command, as shown in Table 2-2.

Table 2-2 Help Summary

Command	Purpose
help	
*abbreviated-command-entry***?**	`Switch# di?` `dir disable disconnect`

<Tab>	Complete a partial command name.
	For example:
	`sh conf<tab>`
	`Switch# show configuration`

command keyword	**cdp holdtime ?** <10-255> Length of time (in sec) that receiver must keep this packet

Understanding Abbreviated Commands

You need to enter only enough characters for the switch to recognize the command as unique.

This example shows how to enter the privileged EXEC command in an abbreviated form:

Understanding no and default Forms of Commands

Understanding CLI Error Messages

Table 2-3 Common CLI Error Messages

Error Message	Meaning	How to Get Help
`% Ambiguous command: "show con"`		
`% Incomplete command.`		
`% Invalid input detected at '^' marker.`	incorrectly. The caret (^) marks the point of the error.	Enter a question mark (?) to display all the commands that are available in this command mode. The possible keywords that you can enter with the command appear.

Using Configuration Logging

Configuration Change Notification and Logging

http://www.cisco.com/en/US/products/sw/iosswrel/ps5207/products_feature_guide09186a00801d1e81.html

Note

Using Command History

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Changing the Command History Buffer Size

terminal history [**size** *number-of-lines*]

The range is from 0 to 256.

Beginning in line configuration mode, enter this command to configure the number of command lines the switch records for all sessions on a particular line:

[*number-of-lines*]

The range is from 0 to 256.

Recalling Commands

Table 2-4 Recalling Commands

[1]	**Result**
Press **Ctrl-P**	
Ctrl-N	**Ctrl-P**
show history	While in privileged EXEC mode, list the last several commands that you just entered. The number of commands that appear is controlled by the setting of the **terminal history** **history**

1. The arrow keys function only on ANSI-compatible terminals such as VT100s.

Disabling the Command History Feature

Using Editing Features

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- Editing Commands through Keystrokes, page 2-7 (optional)
- Editing Command Lines that Wrap, page 2-9 (optional)

Enabling and Disabling Editing Features

Editing Commands through Keystrokes

Table 2-5 Editing Commands through Keystrokes

Capability	Keystroke[1]	Purpose
	Ctrl-B	

	Ctrl-F	
	Ctrl-A	
	Ctrl-E	
	Esc B	
	Esc F	
	Ctrl-T	
	Ctrl-Y.	
	Esc Y	**Esc Y**
	Delete **Backspace**	
	Ctrl-D	
	Ctrl-K	
	Ctrl-U **Ctrl-X**	
	Ctrl-W	
	Esc D	
	Esc C	
	Esc L	
	Esc U	
	Ctrl-V **Esc Q**	

	Return	
Space		
	Space	
	Ctrl-L Ctrl-R.	

Editing Command Lines that Wrap

sign ($) shows that the line has been scrolled to the left. Each time the cursor reaches the end of the line, the line is again shifted ten spaces to the left.

```
                access-list 101 permit tcp 131.108.2.5 255.255.255.0 131.108.1
Switch(config)# $ 101 permit tcp 131.108.2.5 255.255.255.0 131.108.1.20 255.25
Switch(config)# $t tcp 131.108.2.5 255.255.255.0 131.108.1.20 255.255.255.0 eq
                 108.2.5 255.255.255.0 131.108.1.20 255.255.255.0 eq 45
```

Return

```
                access-list 101 permit tcp 131.108.2.5 255.255.255.0 131.108.1$
```

Searching and Filtering Output of show and more Commands

pipe character (|), one of the keywords , , or , and an expression that you want to search for or filter out:

| { | | } *regular-expression*

output

Output

protocol

```
show interfaces | include protocol
Vlan1 is up, line protocol is up
Vlan10 is up, line protocol is down
GigabitEthernet0/1 is up, line protocol is down
GigabitEthernet0/2 is up, line protocol is up
```

Accessing the CLI through a Console Connection or through Telnet

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