

Sem 2v2

Chapter 3 Using the Router

Cisco Networking Academy



Understand the Basics of Router's Command Line Interface.

Demonstrate How to Log into the Router.

Demonstrate How to Enter Router Modes.

Demonstrate Ability to Discern Different Router Modes and Commands

Summarize the basic features of a router.

You can use the router to do the following:

- Log in with the user password.
- Enter privileged mode with the enable password.
- Disable or quit.

You can use the following advanced help features:

- command completion and prompting
- syntax checking

You can also use the following advanced editing features:

- automatic line scrolling
- cursor controls
- history buffer with command recall
- copy and paste, which are available on most laptop computers

Overview of the User Interface

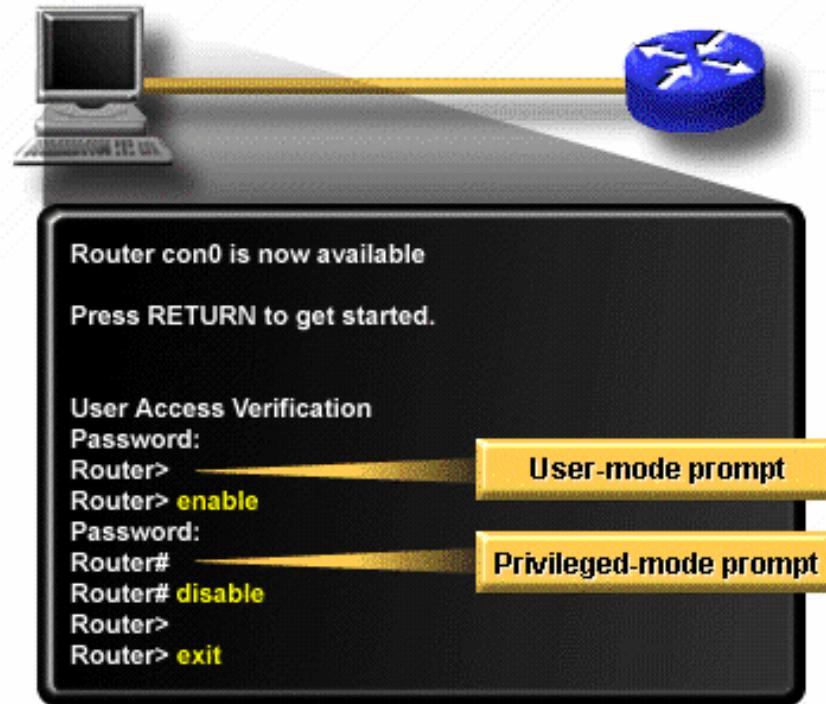


To configure Cisco routers you must use the user interface on the **router console or terminal**

For security purposes, the router has two levels of access to commands:

- *user mode*—Typical tasks include those that check the router status. In this mode, router configuration changes are not allowed.
- *privileged mode*—Typical tasks include those that change the router configuration.

Logging In to the Router: Cisco IOS



When you first log in to a router, you see a user mode prompt. These are a subset of the commands available at the privileged level. These commands allow you to display information without changing router configuration settings.

Privileged level you can also access the global configuration mode and the other configuration modes

- *interface*
- *subinterface*
- *line*
- *router*
- *route-map*
- *several additional configuration modes*

At the ">" prompt, type "enable". At the "password" prompt, enter "enable secret password".

Once you have completed these steps, your prompt will change to a # (pound sign)

To log out of the router, type exit.

User-Mode Command List

```
Router> ?  
Exec commands:  
access-enable  Create a temporary Access-List entry  
atmsig         Execute Atm Signalling Commands  
cd             Change current device  
clear          Reset functions  
connect        Open a terminal connection  
dir            List files on given device  
disable        Turn off privileged commands  
disconnect     Disconnect an existing network connection  
enable         Turn on privileged commands  
exit           Exit from EXEC  
help           Description of the interactive help system  
lat            Open a lat connection  
lock           Lock the terminal  
login          Log in as a particular user  
logout         Exit from EXEC  
mrinfo        Request neighbor and version information from a multicast router  
  
-- More --
```

More-- you can continue viewing onto the next available screen by pressing the space bar

Typing a question mark (?) displays a handy list of commonly used commands.

Privileged-Mode Command List

```
Router> ena
Password:
Router# ?
Exec commands:
access-enable      Create a temporary Access-List entry
access-template    Create a temporary Access-List entry
appn                Send a command to the APPN subsystem
atmsg               Execute Atm Signalling Commands
bfe                 For manual emergency modes setting
calendar            Manage the hardware calendar
cd                  Change current device
clear               Reset functions
clock               Manage the system clock
cmt                 Start or stop FDDI Connection Management functions
configure           Enter configuration mode
connect             Open a terminal connection
copy                Copy configuration or image data
debug               Debugging functions (see also 'undebug')
delete              Delete a file
dir                 List files on given device
```

-- More --

To access privileged mode, type **enable** (or the abbreviation **ena**) . You will be prompted for a password.

Privileged-Mode Command List (cont.)

```
disable            Turn off privileged commands
disconnect         Disconnect an existing network connection
enable             Trun on privileged commands
erase              Erase flash or configuration memory
exit               Exit from the EXEC
format             Fromat a device
help               Description of the interactive help system
lat                Open a lat connection
lock               Lock the terminal
login              Log in as a particular user
logout             Exit from the EXEC
logon              Log in as a particular user
logoff             Exit from the EXEC
mbranch            Trace multicast route down tree branch
mrbranch           Trace reverse multicast route up tree branch
mrmfio             Request neighbor and version information from a multicast router
mstat              Show statistics after multiple multicast traceroutes
mtrace            Trace reverse multicast path from destination to source
name-connection   Name an existing network connection
ncia               Start/Stop NCIA Server
```

-- More --

Privileged-Mode Command List (cont.)

```
no                Disable debugging functions
pad                Open a X.29 PAD connection
ping              Send echo messages
ppp               Start IETF Point-to-Point Protocol (PPP)
pwd               Display current device
reload            Halt and perform a cold restart
resume            Resume an active network connection
rlogin            Open an rlogin connection
rsh               Execute a remote command
rdlc              Send SDLC test frames
send              Send a message other tty lines
setup             Run the SETUP command facility
show              Show running system information
slip              Start Serial-Line IP (SLIP)
squeeze           Squeeze a device
start-chat         Start a chat-script on a line
systat            Display information about terminal lines
tarp              TARP (Target ID Resolution Protocol) commands
telnet            Open a telnet connection
```

-- More --

Privileged-Mode Command List (cont.)

```
terminal          Set terminal line paramiters
test              Test subsystems, memory and interfaces
tn3270            Open a tn3270 connection
traceroute        Trace route to destination
tunnel            Open a tunnel connection
undebug           Disable debugging functions (see also'debug')
undelete          Undelete a file
verify            Verify checksum of a Flash file
where             List active connections
which-route       Do OSI route table lookup and display results
write             Write running configuration to memory, network or terminal
x3                Set X.3 parameters on PAD
xremote           Enter XRemote mode
Router#
```

Help Functions

```
Router# clock
Translating "CLOCK"
% Unknown command or computer name, or unable to find computer address

Router# cl?
clear  clock

Router# clock
% Incomplete command.

Router# clock ?
set      Set the time and date

Router# clock set
% Incomplete command

Router# clock set ?
Current Time ( hh : mm : ss )

Router# clock set 19:56:00
% Incomplete command.

Router# clock set 19:56:00 ?
<1-31>   Day of the month
MONTH    Month of the year

Router# clock set 19:56:00 04 8
.
% Invalid input detected at the '^' marker

Router# clock set 19:56:00 04 August
% Incomplete command.

Router# clock set 19:56:00 04 August ?
<1993-2035> Year
```

- Symbolic translation
- Keyword completion
- Last command recall <Ctrl P>

- Command prompting
- Syntax checking

Use help to check the syntax for setting the clock. The help output shows that the set keyword is required

Press *Ctrl-P* (or the up arrow key) to repeat the previous command entry automatically.

The caret symbol (^) and help response indicate an error. To list the correct syntax

Using Editing Commands

```
Router> $ value for our customers, employees, investors and partners.
```

Automatic scrolling of long lines.

Ctrl-A Move to the beginning of the command line.

Ctrl-E Move to the end of the command line.

Esc-B Move back one word.

Ctrl-F Move forward one character.

Ctrl-B Move back one character.

Esc-F Move forward one word.

Although enhanced editing mode is automatically enabled with the current software release, you can disable it

The dollar sign (\$) indicates that the line has been scrolled to the left. Each time the cursor reaches the end of the line, the line is again shifted 10 spaces to the left.

Reviewing Command History

Ctrl-P	or Up arrow	Last (previous) command recall
Ctrl-N	or Down arrow	More recent command recall
Router> show history		Show command buffer
Router> terminal history size (number of lines)*		Set command buffer size
Router> no terminal editing		Disable advanced editing features
Router> terminal editing		Reenable advanced editing
<Tab>		Entry completion

* The number will vary depending on what is displayed on the user's screen.

The user interface provides a history of commands that you have entered. This feature is useful for recalling long or complex commands or entries.

Set the command history buffer size.

Recall commands.

Disable the command history feature.

The maximum number of commands is 256 the default is set to 10.

You can use *Ctrl-Z* to back out of configuration mode