

# Packet Tracer - Navigating the IOS

## Topology



## Objectives

**Part 1: Basic Connections, Accessing the CLI and Exploring Help**

**Part 2: Exploring EXEC Modes**

**Part 3: Setting the Clock**

## Background

In this activity, you will practice skills necessary for navigating the Cisco IOS, including different user access modes, various configuration modes, and common commands you use on a regular basis. You also practice accessing the context-sensitive Help by configuring the **clock** command.

## 1. Basic Connections, Accessing the CLI and Exploring Help

In Part 1 of this activity, you connect a PC to a switch using a console connection and explore various command modes and Help features.

### 1. Connect PC1 to S1 uses a console cable.

- Click the **Connections** icon (the one that looks like a lightning bolt) in the lower left corner of the Packet Tracer window.
- Select the light blue Console cable by clicking it. The mouse pointer will change to what appears to be a connector with a cable dangling off of it.
- Click **PC1**; a window displays an option for an RS-232 connection.
- Drag the other end of the console connection to the S1 switch and click the switch to bring up the connection list.
- Select the Console port to complete the connection.

### 2. Establish a terminal session with S1.

- Click **PC1** and then select the **Desktop** tab.
- Click the **Terminal** application icon; verify that the Port Configuration default settings are correct. What is the setting for bits per second?

-9600

- c. Click **OK**.
- d. The screen that appears may have several messages displayed. Somewhere on the display there should be a `Press RETURN to get started!` message. Press **ENTER**.

What is the prompt displayed on the screen?

-S1>

### 3. Explore the IOS Help.

- a. The IOS can provide help for commands depending on the level being accessed. The prompt currently being displayed is called **User EXEC** and the device is waiting for a command. The most basic form of help is to type a question mark (?) at the prompt to display a list of commands.

S1> ?

Which command begins with the letter 'C'?

-connect Opens a terminal connection

- b. At the prompt, type **t**, followed by a question mark (?).

S1> t?

Which commands are displayed?

-telnet terminal traceroute

- c. At the prompt, type **te**, followed by a question mark (?).

S1> te?

Which commands are displayed?

-telnet terminal

This type of help is known as **context-sensitive** Help, providing more information as the commands are expanded.

## 2. Exploring EXEC Modes

In Part 2 of this activity, you switch to privileged EXEC mode and issue additional commands.

### 1. Enter privileged EXEC mode.

- a. At the prompt, type the question mark (?).

S1> ?

What information is displayed that describes the **enable** command?

-Turns on privileged commands

- b. Type **en** and press the **Tab** key.

S1> en<Tab>

What displays after pressing the **Tab** key?

-enable

This is called command completion or tab completion. When part of a command is typed, the **Tab** key can be used to complete the partial command. If the characters typed are enough to make the command unique, as in the case with the **enable** command, the remaining portion is displayed.

What would happen if you were to type **te<Tab>** at the prompt?

```
S1> te
S1> te
```

- c. Enter the **enable** command and press **ENTER**. How does the prompt change?

-The prompt changed from S1> to S1#

- d. When prompted, type the question mark (?).

```
S1# ?
```

Previously there was one command that started with the letter 'C' in user EXEC mode. How many commands are displayed now that privileged EXEC mode is active? (**Hint**: you could type c? to list just the commands beginning with 'C'.)

~5; clear, clock, configure, connect, and copy;

## 2. Enter Global Configuration mode.

- a. One of the commands starting with the letter 'C' is **configure** when in Privileged EXEC mode. Type either the full command or enough of the command to make it unique along with the **<Tab>** key to issue the command and press **<ENTER>**.

```
S1# configure
```

What is the message that is displayed?

-Configuring from terminal, memory, or network [terminal]?

- b. Press the **<ENTER>** key to accept the default parameter enclosed in brackets [**terminal**].

How does the prompt change?

-Enter configuration commands, one per line. End with CNTL/Z.

```
-S1 (config) #
```

- c. This is called global configuration mode. This mode will be explored further in upcoming activities and labs. For now exit back to Privileged EXEC mode by typing **end**, **exit** or **Ctrl-Z**.

```
S1 (config) # exit
```

```
S1#
```

## 3. Setting the Clock

### 1. Use the clock command.

- a. Use the **clock** command to further explore Help and command syntax. Type **show clock** at the privileged EXEC prompt.

```
S1# show clock
```

What information is displayed? What is the year that is displayed?

```
S1# show clock
*0:20:50.18 UTC Mon Mar 1 1993
```

 ; 1993

- b. Use the context-sensitive Help and the **clock** command to set the time on the switch to the current time. Enter the command **clock** and press **ENTER**.

```
S1# clock<ENTER>
```

What information is displayed?

```
S1# clock
% Incomplete command.
```

- c. The % `Incomplete command` message is returned by the IOS indicating that the **clock** command needs further parameters. Any time more information is needed help can be provided by typing a space after the command and the question mark (?).

```
S1# clock ?
```

What information is displayed?

```
S1# clock ?
set Set the time and date
```

- d. Set the clock using the **clock set** command. Continue proceeding through the command one step at a time.

```
S1# clock set ?
```

What information is being requested?

```
S1# clock set ?
hh:mm:ss Current Time
S1# clock set |
```

What would have been displayed if only the **clock set** command had been entered and no request for help was made by using the question mark?

```
S1# clock set
% Incomplete command.
```

- e. Based on the information requested by issuing the **clock set ?** command, enter a time of 3:00 p.m. by using the 24-hour format of 15:00:00. Check to see if further parameters are needed.

```
S1# clock set 15:00:00 ?
```

The output returns the request for more information:

```
<1-31> Day of the month
MONTH Month of the year
```

- f. Attempt to set the date to 01/31/2035 using the format requested. It may be necessary to request additional help using the context-sensitive Help to complete the process. When finished, issue the **show clock** command to display the clock setting. The resulting command output should display as:

```
S1# show clock
*15:0:4.869 UTC Tue Jan 31 2035
```

- g. If you were not successful, try the following command to obtain the output above:

```
S1# clock set 15:00:00 31 Jan 2035
```

## 2. Explore additional command messages.

- a. The IOS provides various outputs for incorrect or incomplete commands as experienced in earlier sections. Continue to use the **clock** command to explore additional messages that may be encountered as you learn to use the IOS.
- b. Issue the following command and record the messages:

```
S1# cl
```

What information was returned?

```
S1# cl
% Ambiguous command: "cl"
```

```
S1# clock
```

What information was returned?

```
S1# clock
% Incomplete command.
```

```
S1# clock set 25:00:00
```

What information was returned?

```
S1# clock set 25:00:00
      ^
% Invalid input detected at '^' marker.
```

```
S1# clock set 15:00:00 32
```

What information was returned?

```
S1# clock set 15:00:00 32
      ^
% Invalid input detected at '^' marker.
```

## Suggested Scoring Rubric

Activity Section	Question Location	Possible Points	Earned Points
Part 1: Basic Connections, Accessing the CLI and Exploring Help	Step 2a	5	
	Step 2c	5	
	Step 3a	5	
	Step 3b	5	
	Step 3c	5	
<b>Part 1 Total</b>		<b>25</b>	
Part 2: Exploring EXEC Modes	Step 1a	5	
	Step 1b	5	
	Step 1c	5	
	Step 1d	5	
	Step 2a	5	
	Step 2b	5	
<b>Part 2 Total</b>		<b>30</b>	
Part 3: Setting the Clock	Step 1a	5	
	Step 1b	5	
	Step 1c	5	
	Step 1d	5	
	Step 2b	5	
<b>Part 3 Total</b>		<b>25</b>	
<b>Packet Tracer Score</b>		<b>20</b>	
<b>Total Score</b>		<b>100</b>	