Packet Tracer - Navigating the IOS

Topology

Objectives

Part 1: Establish Basic Connections, Access the CLI, and Explore Help

Part 2: Explore EXEC Modes

Part 3: Set the Clock

Background

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

Part 1: Establish Basic Connections, Access the CLI, and Explore Help

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

Step 1: Connect PC1 to S1 using a console cable.

a. Click the **Connections** icon (the one that looks like a lightning bolt) in the lower left corner of the Packet Tracer window.

b. 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 from it.

c. Click **PC1**. A window displays an option for an RS-232 connection.

d. Drag the other end of the console connection to the S1 switch and click the switch to access the connection list.

e. Select the **Console** port to complete the connection.

Step 2: Establish a terminal session with S1.

a. Click **PC1** and then select the **Desktop** tab.

b. Click the **Terminal** application icon. Verify that the Port Configuration default settings are correct.

What is the setting for bits per second? 9500

c. Click **OK**.

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

© 2015 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public.

What is the prompt displayed on the screen? hit enter to begin

Step 3: Explore the IOS Help.

a. The IOS can provide help for commands depending on the level accessed. The prompt currently 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'? enables the user to modify switch settings

b. At the prompt, type **t** and then a question mark (**?**).

```
S1> t?
```

Which commands are displayed? enable

c. At the prompt, type **te** and then a question mark (**?**).

```
S1> te?
```

Which commands are displayed?

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

Part 2: Explore EXEC Modes

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

Step 1: Enter privileged EXEC mode.

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

```
S1> ?
```

What information is displayed that describes the **enable** command? enables the user to modify switch settings

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 of the **enable** command, the remaining portion of the command is displayed.

What would happen if you typed **te<Tab>** at the prompt?
I would get all available commands start with 'te'

c. Enter the **enable** command and press ENTER. How does the prompt change?
The prompt changes from ">" to "#", indicating we now have super user or editing permissions

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

```
S1# ?
```

© 2015 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public.

One command starts 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 commands that start with C are available. These commands include: clear, clock, configure, connect, and copy

Step 2: Enter Global Configuration mode.

a. When in privileged EXEC mode, one of the commands starting with the letter 'C' is **configure**. Type either the full command or enough of the command to make it unique. Press the <**Tab**> key to issue the command and press ENTER.

```
S1# configure
```

What is the message that is displayed?
configure from terminal, memory, or network [terminal]?

b. Press Enter to accept the default parameter that is enclosed in brackets **[terminal]**.

How does the prompt change? Swtich(config)#

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

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

Part 3: Set the Clock

Step 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?
*0:14:2.72 UTC Mon March 1 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? % Incomplete command

c. The "% Incomplete command" message is returned by the IOS. This indicates that the **clock** command needs more 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? set Set the time and date

d. Set the clock using the **clock set** command. Proceed through the command one step at a time.

```
S1# clock set ?
```

What information is being requested? time in the format: hh:mm:ss

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? % incomplete command

© 2015 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public.

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? % 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 more parameters are needed.

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

The output returns a 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
```

Step 2: Explore additional command messages.

a. The IOS provides various outputs for incorrect or incomplete commands. 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? % Ambiguous command 'cl'

```
S1# clock
```

What information was returned? % Incomplete Command

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

What information was returned?
% Invalid input detected at '^' marker

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

What information was returned?
% Invalid input detected at '^' marker

© 2015 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public.

Suggested Scoring Rubric

Activity Section	Question Location	Possible Points	Earned Points
Part 1: Establish Basic Connections, Access the CLI, and Explore Help	Step 2b	5	% incomplete command
	Step 2d	5	
	Step 3a	5	
	Step 3b	5	
	Step 3c	5	
	Part 1 Total	**25**	
Part 2: Explore EXEC Modes	Step 1a	5	
	Step 1b	5	
	Step 1c	5	
	Step 1d	5	
	Step 2a	5	
	Step 2b	5	
	Part 2 Total	**30**	
Part 3: Set the Clock	Step 1a	5	
	Step 1b	5	
	Step 1c	5	
	Step 1d	5	
	Step 2b	5	
	Part 3 Total	**25**	
	Packet Tracer Score	**20**	
	Total Score	**100**	

© 2015 Cisco and/or its affiliates. All rights reserved. This document is Cisco Public.