Networking Academy

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LAB 1:
2.3.7: Packet Tracer - Navigate the IOS

Objectives

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

Part 2: Explore EXEC Modes

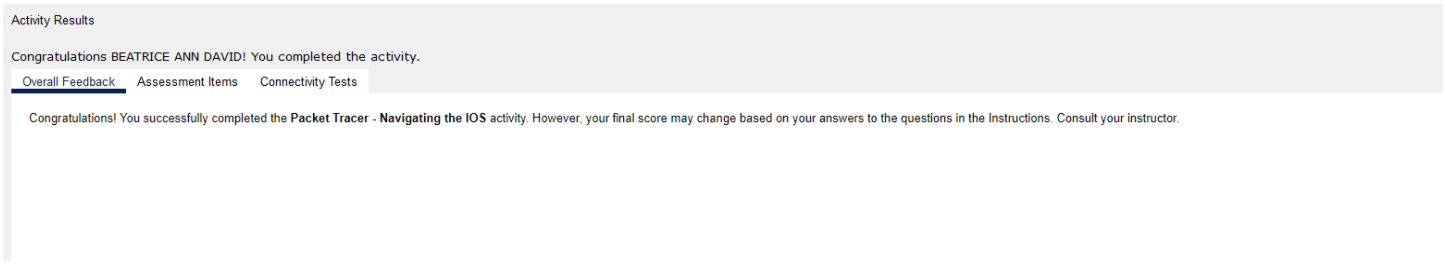
Part 3: Set the Clock

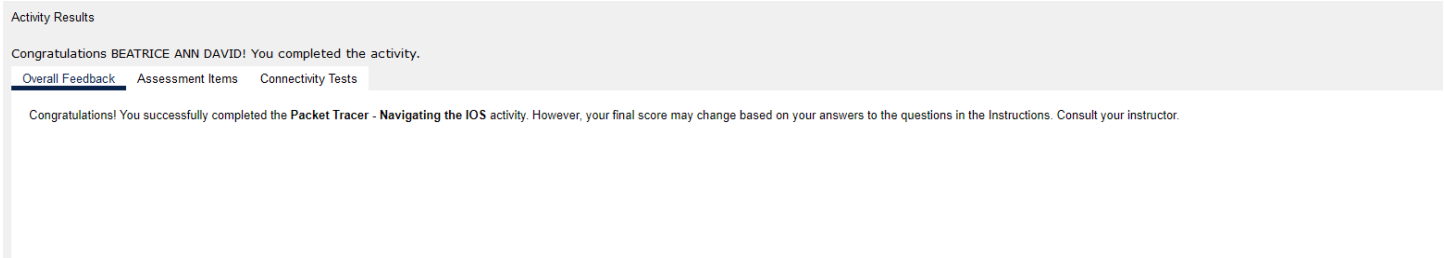
Background / Scenario

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

Screenshots:

A. Results:

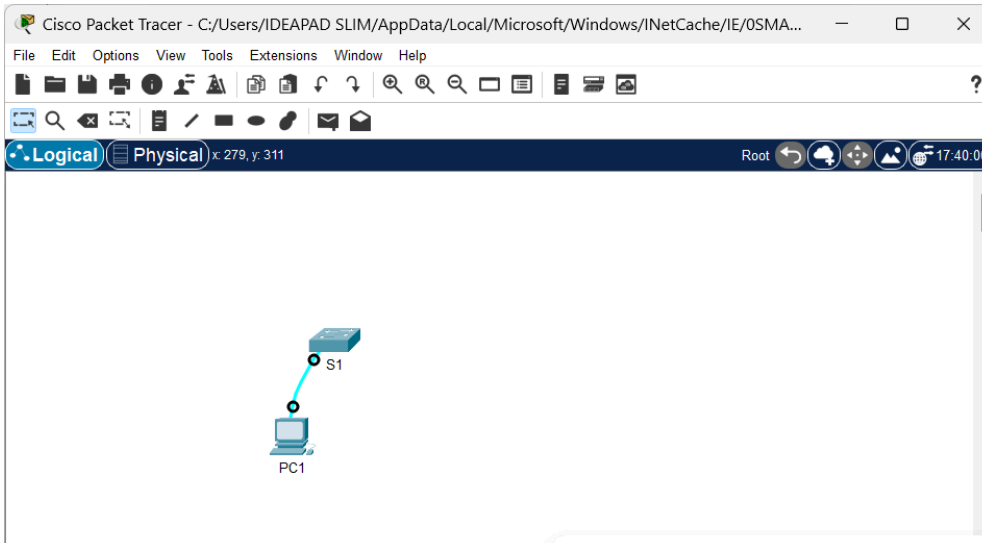




B. Working:

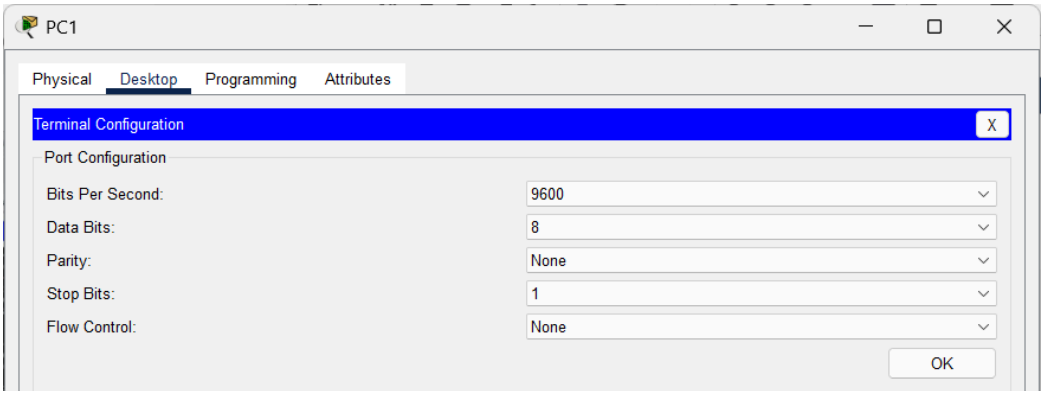
Part 1: Establish Basic Connections, Access the CLI, and Explore Help

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



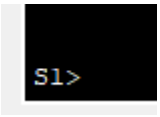
Step 2: Establish a terminal session with S1.

b. Click the **Terminal** application icon. Verify that the Port Configuration default settings are correct. What is the setting for bits per second?



a. 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.

What is the prompt displayed on the screen?



S1>

Step 3: Explore the IOS Help.

b. S1> **?**

Which command begins with the letter ‘C’?

```
S1>?
Exec commands:
  connect     Open a terminal connection
  disable     Turn off privileged commands
  disconnect  Disconnect an existing network connection
  enable      Turn on privileged commands
  exit        Exit from the EXEC
  logout      Exit from the EXEC
  ping        Send echo messages
  resume      Resume an active network connection
  show        Show running system information
  ssh         Open a secure shell client connection
  telnet      Open a telnet connection
  terminal    Set terminal line parameters
  traceroute  Trace route to destination
S1>
```

Connect

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

S1> **t?**

Which commands are displayed?

```
S1>t?
telnet  terminal  traceroute
S1>t
```

telnet, terminal, traceroute

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

S1> **te?**

Which commands are displayed?

```
telnet  terminal
S1>te?
telnet  terminal
```

telnet, terminal

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 for the **enable** command?

Turn off privileged commands

```
S1>?
Exec commands:
  connect     Open a terminal connection
  disable     Turn off privileged commands
  disconnect  Disconnect an existing network connection
  enable      Turn on privileged commands
  exit        Exit from the EXEC
  logout      Exit from the EXEC
  ping        Send echo messages
  resume      Resume an active network connection
  show        Show running system information
  ssh         Open a secure shell client connection
  telnet      Open a telnet connection
  terminal    Set terminal line parameters
  traceroute  Trace route to destination
S1>
```

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

`S1>` **en<Tab>**

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

```
S1>enable
```

enable

What would happen if you typed **te<Tab>** at the prompt?

```
S1#te
S1#te
S1#te
```

It does not complete the code

c. Enter the **enable** command and press

ENTER. How does the prompt change?

```
S1>enable
S1#
```

It will change into privileged exec mode

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

`S1# ?`

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’.)

```
S1#?
Exec commands:
  clear       Reset functions
  clock       Manage the system clock
  configure   Enter configuration mode
  connect     Open a terminal connection
  copy        Copy from one file to another
  debug       Debugging functions (see also 'undebug')
  delete      Delete a file
  dir         List files on a filesystem
  disable     Turn off privileged commands
  disconnect  Disconnect an existing network connection
  enable      Turn on privileged commands
  erase       Erase a filesystem
  exit        Exit from the EXEC
  logout      Exit from the EXEC
  more        Display the contents of a file
  no          Disable debugging informations
  ping        Send echo messages
  reload      Halt and perform a cold restart
  resume      Resume an active network connection
  setup       Run the SETUP command facility
  show        Show running system information
 --More--
```

```
S1#c?
clear  clock  configure  connect  copy
S1#c
```

clear, clock, configure, connect, 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?

```
S1# configure
Configuring 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?

```
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, return to privileged EXEC mode by typing **end**, **exit**, or **Ctrl-Z**.

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

```
S1(config)#^Z
S1#
%SYS-5-CONFIG_I: Configured from console by console

S1#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
S1(config)#e?
enable  end  exit
S1(config)#eexit
          ^
% Invalid input detected at '^' marker.

S1(config)#exit
S1#
%SYS-5-CONFIG_I: Configured from console by console

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?

```
S1#show clock
*13:45:31.301 UTC Mon Mar 1 1993
S1#
```

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.
S1#
```

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?

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

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?

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

Current Time

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.
S1#
```

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
```

```
S1#clock set 15:00:00 ?
  <1-31>  Day of the month
  MONTH   Month of the year
S1#clock set 15:00:00
```

f. Attempt to set the date to 01/31/2035 using the format requested. It may be necessary to request additional help using 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
```

```
S1#clock set
% Incomplete command.
S1#clock set 15:00:00 ?
  <1-31>  Day of the month
  MONTH   Month of the year
S1#clock set 15:00:00 01 ?
  MONTH  Month of the year
S1#clock set 15:00:00 01 31 ?
% Unrecognized command
S1#clock set 15:00:00 01 31 Jan
                            ^
% Invalid input detected at '^' marker.

S1#clock set 15:00:00 01 31 Jan ?
% Unrecognized command
S1#clock set 15:00:00 31 Jan ?
  <1993-2035>  Year
S1#clock set 15:00:00 31 Jan 2035 ?
  <cr>
S1#clock set 15:00:00 31 Jan 2035
S1#sh
% Incomplete command.
S1#s?
setup  show  ssh
S1#s?
setup  show  ssh
S1#show clock
15:0:50.133 UTC Wed Jan 31 2035
S1#
```

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

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

`Successfully`

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 commands and record the messages:

`S1#` **`cl<tab>`**

What information was returned?

```
S1#cl
S1#cl
S1#cl
S1#cl
```

Not completing

`S1# clock`

What information was returned?

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

Incomplete command

`S1# clock set 25:00:00`

What information was returned?

```
S1# clock set ?
  hh:mm:ss  Current Time
S1# clock set clock set 25:00:00
              ^
% Invalid input detected at '^' marker.

S1#
```

Invalid Input

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

What information was returned?

```
S1#clock set 15:00:00 32 ?
% Unrecognized command
S1#clock set 15:00:00
```

Unrecognised Command