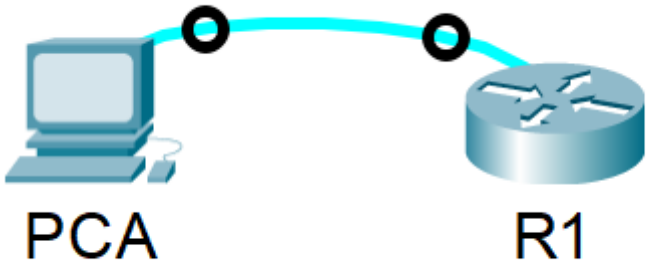
Experiment 9

Aim: To configure initial router settings.

Software Used:

Cisco Packet Tracer

Topology:



Procedure:

Part 1: Verify the Default Router Configuration

Step 1: Establish a console connection to R1.

a. Choose a **Console** cable from the available connections.

b. Click **PCA** and select **RS 232**.

c. Click **R1** and select **Console**.

d. Click **PCA** > **Desktop** tab > **Terminal**.

e. Click **OK** and press **ENTER**. You are now able to configure **R1**.

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R1
R1(config)#show running-config
```

Step 2: Enter privileged mode and examine the current configuration.

You can access all the router commands from privileged EXEC mode. However, because many of the privileged commands configure operating parameters, privileged access should be password-protected to prevent unauthorized use.

a. Enter privileged EXEC mode by entering the **enable** command.

```
Router> enable
```

Router#

Notice that the prompt changed in the configuration to reflect privileged EXEC mode.

```
Router#config t
```

b. Enter the **show running-config** command.

```
R1#show run
Building configuration...

Current configuration : 1106 bytes
!
version 15.1
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R1
!
!
!
```

Router# **show running-config**

What is the router's hostname?

Ans: R1

How many Fast Ethernet interfaces does the Router have?

Ans:4

How many Gigabit Ethernet interfaces does the Router have?

Ans:2

How many Serial interfaces does the router have?

Ans:2

What is the range of values shown for the vty lines?

Ans: 0-4

Part 2: Configure and Verify the Initial Router Configuration

To configure parameters on a router, you may be required to move between various configuration modes. Notice how the prompt changes as you navigate through the IOS configuration modes.

Step 1: Configure the initial settings on R1.

Note: If you have difficulty remembering the commands, refer to the content for this topic. The commands are the same as you configured on a switch.

a. Configure **R1** as the hostname.

b. Configure Message of the day text: **Unauthorized access is strictly prohibited.**

c. Encrypt all plain text passwords.

Use the following passwords:

1) Privileged EXEC, unencrypted: **cisco**

2) Privileged EXEC, encrypted: **itsasecret**

3) Console: **letmein**

```
R1#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#enable password cisco
R1(config)#enable secret itsasecret
R1(config)#banner motd "Unauthorised access is strictly prohibited"
R1(config)#line console 0
R1(config-line)#password letmein
R1(config-line)#login
```

Step 2: Verify the initial settings on R1.

a. Verify the initial settings by viewing the configuration for R1.

What command do you use?

Ans: show running-config

b. Exit the current console session until you see the following message:

```
R1 con0 is now available

Press RETURN to get started.
```

c. Press **ENTER**; you should see the following message:

```
Unauthorized access is strictly prohibited.

User Access Verification

Password:
```

Why should every router have a message-of-the-day (MOTD) banner?

If you are not prompted for a password before reaching the user EXEC prompt, what console line command did you forget to configure?

d. Enter the passwords necessary to return to privileged EXEC mode.

Part 3: Save the Running Configuration File

Step 1: Save the configuration file to NVRAM.

a. You have configured the initial settings for **R1**. Now back up the running configuration file to NVRAM to ensure that the changes made are not lost if the system is rebooted or loses power.

What command did you enter to save the configuration to NVRAM?

Ans: copy running-config startup-config

Step 2: Optional: Save the startup configuration file to flash.

Although you will be learning more about managing the flash storage in a router in later chapters, you may be interested to know that, as an added backup procedure, you can save your startup configuration file to flash. By default, the router still loads the startup configuration from NVRAM, but if NVRAM becomes corrupt, you can restore the startup configuration by copying it over from flash.

Complete the following steps to save the startup configuration to flash.

a. Examine the contents of flash using the **show flash** command:

```
R1# show flash
```

How many files are currently stored in flash?

Ans: 4

```
R1# copy startup-config flash
Destination filename [startup-config]
```

The router prompts you to store the file in flash using the name in brackets. If the answer is yes, then press **ENTER**; if not, type an appropriate name and press **ENTER**.

b. Use the **show flash** command to verify the startup configuration file is now stored in flash.

```
System flash directory:
File  Length   Name/status
  3   33591768 c1900-universalk9-mz.SPA.151-4.M4.bin
  2   28282    sigdef-category.xml
  1   227537   sigdef-default.xml
  4   1259     startup-config
[33848846 bytes used, 221895154 available, 255744000 total]
249856K bytes of processor board System flash (Read/Write)
```

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Packet Tracer Activity:

Conclusion:

The router was configured successfully.