Packet Tracer - Configuring Initial Switch/Router Settings Topology

1. Objectives

Part 1: Verify the Default Switch/Router Configuration

Part 2: Configure a Basic Switch/Router Configuration

Part 3: Configure a MOTD Banner

Part 4: Save Configuration Files to NVRAM

1. Background

In this activity, you will perform basic switch/router configurations. You will secure access to the command-line interface (CLI) and console ports using encrypted and plain text passwords. You will also learn how to configure messages for users logging into the switch/router. These banners are also used to warn unauthorized users that access is prohibited.

1. Verify the Default Switch/Router Configuration
   1. Enter privileged EXEC mode.

You can access all switch/router/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.

The privileged EXEC command set includes those commands contained in user EXEC mode, as well as the **configure** command through which access to the remaining command modes are gained.

* + 1. Click **S1** and then the **CLI** tab. Press Enter.
    2. Enter privileged EXEC mode by entering the **enable** command:

Switch> **enable**

Switch#

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

* 1. Examine the current switch/router configuration.
     1. Enter the **show running-config** command.

Switch# **show running-config**

* + 1. Answer the following questions:
       1. How many FastEthernet interfaces does the switch/router have?
       2. How many Gigabit Ethernet interfaces does the switch/router have?
       3. What is the range of values shown for the vty lines?
       4. Which command will display the current contents of non-volatile random-access memory (NVRAM)?
       5. Why does the switch/router respond with startup-config is not present?

1. Create a Basic Switch/Router Configuration
   1. Assign a name to a switch/router.

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

Switch# **configure terminal**

Switch(config)# **hostname S1**

S1(config)# **exit**

S1#

* 1. Secure access to the console line.

To secure access to the console line, access config-line mode and set the console password to **letmein**.

S1# **configure terminal**

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

S1(config)# **line console 0**

S1(config-line)# **password letmein**

S1(config-line)# **login**

S1(config-line)# **exit**

S1(config)# **exit**

%SYS-5-CONFIG\_I: Configured from console by console

S1#

Why is the **login** command required?

* 1. Verify that console access is secured.

Exit privileged mode to verify that the console port password is in effect.

S1# **exit**

Switch con0 is now available

Press RETURN to get started.

User Access Verification

Password:

S1>

**Note:** If the switch/router did not prompt you for a password, then you did not configure the **login** parameter in Step 2.

* 1. Secure privileged mode access.

Set the **enable** password to **c1$c0**. This password protects access to privileged mode.

**Note:** The **0** in **c1$c0** is a zero, not a capital O. This password will not grade as correct until after you encrypt it in Step 8.

S1> **enable**

S1# **configure terminal**

S1(config)# **enable password c1$c0**

S1(config)# **exit**

%SYS-5-CONFIG\_I: Configured from console by console

S1#

* 1. Verify that privileged mode access is secure.
     1. Enter the **exit** command again to log out of the switch/router.
     2. Press **<Enter>** and you will now be asked for a password:

User Access Verification

Password:

* + 1. The first password is the console password you configured for **line con 0**. Enter this password to return to user EXEC mode.
    2. Enter the command to access privileged mode.
    3. Enter the second password you configured to protect privileged EXEC mode.
    4. Verify your configurations by examining the contents of the running-configuration file:

S1# **show running-config**

Notice how the console and enable passwords are both in plain text. This could pose a security risk if someone is looking over your shoulder.

* 1. Configure an encrypted password to secure access to privileged mode.

The **enable password** should be replaced with the newer encrypted secret password using the **enable secret** command. Set the enable secret password to **itsasecret**.

S1# **config t**

S1(config)# **enable secret itsasecret**

S1(config)# **exit**

S1#

**Note**: The **enable secret** password overrides the **enable** password. If both are configured on the switch/router, you must enter the **enable secret** password to enter privileged EXEC mode.

* 1. Verify that the enable secret password is added to the configuration file.
     1. Enter the **show running-config** command again to verify the new **enable secret** password is configured.

**Note:** You can abbreviate **show running-config** as

S1# **show run**

* + 1. What is displayed for the **enable secret** password?
    2. Why is the **enable secret** password displayed differently from what we configured?
  1. Encrypt the enable and console passwords.

As you noticed in Step 7, the **enable secret** password was encrypted, but the **enable** and **console** passwords were still in plain text. We will now encrypt these plain text passwords using the **service password-encryption** command.

S1# **config t**

S1(config)# **service password-encryption**

S1(config)# **exit**

If you configure any more passwords on the switch/router, will they be displayed in the configuration file as plain text or in encrypted form? Explain.

1. Configure a MOTD Banner
   1. Configure a message of the day (MOTD) banner.

The Cisco IOS command set includes a feature that allows you to configure messages that anyone logging onto the switch/router sees. These messages are called message of the day, or MOTD banners. Enclose the banner text in quotations or use a delimiter different from any character appearing in the MOTD string.

S1# **config t**

S1(config)# **banner motd "This is a secure system. Authorized Access Only!"**

S1(config)# **exit**

%SYS-5-CONFIG\_I: Configured from console by console

S1#

* + - 1. When will this banner be displayed?
      2. Why should every switch/router have a MOTD banner?

1. Save Configuration Files to NVRAM
   1. Verify that the configuration is accurate using the show run command.
   2. Save the configuration file.

You have completed the basic configuration of the switch/router. 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.

S1# **copy running-config startup-config**

Destination filename [startup-config]?**[Enter]**

Building configuration...

[OK]

What is the shortest, abbreviated version of the **copy running-config startup-config** command?

* 1. Examine the startup configuration file.

Which command will display the contents of NVRAM?

Are all the changes that were entered recorded in the file?