Packet Tracer - Configure Initial Router Settings

# Objectives

Part 1: Verify the Default Router Configuration

Part 2: Configure and Verify the Initial Router Configuration

Part 3: Save the Running Configuration File

# Background

In this activity, you will perform basic router configuration tasks. You will secure access to the CLI and console port using encrypted and plain-text passwords. You will also configure messages for users who are logging into the router. These banners warn unauthorized users that access is prohibited. Finally, you will verify and save your running configuration.

# Instructions

## Verify the Default Router Configuration

### Establish a console connection to R1.

* + - 1. Choose a **Console** cable from the available connections.
      2. Click **PCA** and select **RS 232**.
      3. Click **R1** and select **Console**.
      4. Click **PCA** > **Desktop** tab > **Terminal**.
      5. Click **OK** and press **ENTER**. You are now able to configure **R1**.

### 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.

* + - 1. Enter privileged EXEC mode by entering the **enable** command.

Open a configuration window

Router> **enable**

Router#

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

* + - 1. Enter the **show running-config** command.

Router# **show running-config**

#### Questions:

What is the router’s hostname?

The hostname is Router.

How many Fast Ethernet interfaces does the Router have?

There are 4 Fast Ethernet interfaces on the Router.

How many Gigabit Ethernet interfaces does the Router have?

2 Gigabit Ethernet interfaces on the Router.

How many Serial interfaces does the router have?

2 Serial interfaces on the Router.

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

The range of values shown for the vty is 0 – 4 lines.

* + - 1. Display the current contents of NVRAM.

Router# **show startup-config**

startup-config is not present

#### Question:

Why does the router respond with the **startup-config is not present** message?

***Because it haven’t save yet on the NVRAM and its currently located in RAM.***

Close a configuration window

## 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.

### 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.

Open a configuration window

* + 1. Configure **R1** as the hostname.
    2. Configure Message of the day text: **Unauthorized access is strictly prohibited.**
    3. Encrypt all plain text passwords.

Use the following passwords:

* + - 1. Privileged EXEC, unencrypted: **cisco**
      2. Privileged EXEC, encrypted: **itsasecret**
      3. Console: **letmein**

### Verify the initial settings on R1.

Open a configuration window

* + - 1. Verify the initial settings by viewing the configuration for R1.

#### Question:

What command do you use?

By using the command “show running-config” to verify the configuration is correct.

* + - 1. Exit the current console session until you see the following message:

R1 con0 is now available

Press RETURN to get started.

* + - 1. Press **ENTER**; you should see the following message:

Unauthorized access is strictly prohibited.

User Access Verification

Password:

#### Questions:

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

To warn and inform the user about this device to be configured.

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

The “login” command on the config-line.

* + - 1. Enter the passwords necessary to return to privileged EXEC mode.

#### Questions:

Why would the **enable secret** password allow access to the privileged EXEC mode and **the enable password** no longer be valid?

If both passwords are set, the router will require the enable secret password to access privileged EXEC mode, since it overrides the enable password.

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

No, if the service password-encryption command is declared, all the future password configured are in encrypted form.

Close a configuration window

## Save the Running Configuration File

### Save the configuration file to NVRAM.

* + - 1. 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.

Open a configuration window

#### Questions:

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

The command is “copy running-config startup-config”.

What is the shortest, unambiguous version of this command?

From what I discovered the shortest version of this command is “cop r st”. are recorded. If not, analyze the output and determine which commands were not executed or were entered incorrectly. You can also click Check Results in the instruction window.

### 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.

Open a configuration window

* + - 1. Examine the contents of flash using the **show flash** command:

R1# **show flash**

#### Questions:

How many files are currently stored in flash?

There are 3 files currently stored in flash.

Which of these files would you guess is the IOS image?

The c1900-universalk9-mz.SPA.151-4.M4.bin.

Why do you think this file is the IOS image?

I believe this file is the IOS image because BIN files often store firmware or system software, such as the IOS for Cisco devices. The IOS image is typically in a binary format, allowing the device to read and execute it directly. XML files, on the other hand, usually store configuration data, not system images. The two files are XML files, which are used to store saved data or configuration information in a structured, human-readable format. The BIN file, based on my research, stores data in binary format, allowing machines to read and execute the information it contains.

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**.

* + - 1. Use the **show flash** command to verify the startup configuration file is now stored in flash.

Close a configuration window

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