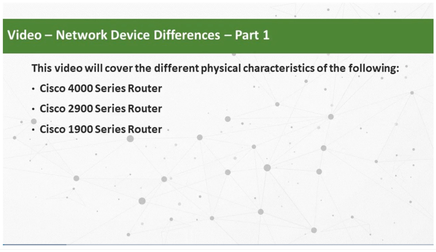
Module Practice and Quiz

10.4.1

Video - Network Device Differences: Part 1

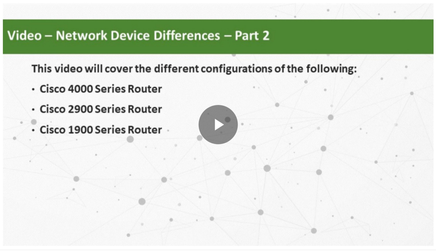
Click Play in the figure to view Part 1 of a video explaining the different router and switch devices you may experience during your Packet Tracer and Lab practices.



10.4.2

Video - Network Device Differences: Part 2

Click Play in the figure to view Part 2 of a video explaining the different router and switch devices you may experience during your Packet Tracer and Lab practices.



10.4.3

Lab - Build a Switch and Router Network

Skills Practice Opportunity

You have the opportunity to practice the following skills:

- Part 1: Set Up the Topology
- Part 2: Configure Devices and Verify Connectivity
- Part 3: Display Device Information

You can practice these skills using the Packet Tracer or lab equipment, if available.

Packet Tracer - Physical Mode (PTPM)

Build a Switch and Router Network - Physical Mode

Build a Switch and Router Network - Physical Mode

Lab Equipment

Build a Switch and Router Network

10.4.4

What did I learn in this module?

Configure Initial Router Settings

The following tasks should be completed when configuring initial settings on a router.

1. Configure the device name.
2. Secure privileged EXEC mode.
3. Secure user EXEC mode.
4. Secure remote Telnet / SSH access.
5. Secure all passwords in the config file.
6. Provide legal notification.
7. Save the configuration.

Configure Interfaces

For routers to be reachable, the router interfaces must be configured. The Cisco ISR 4321 router is equipped with two Gigabit Ethernet interfaces: GigabitEthernet 0/0/0 (G0/0/0) and GigabitEthernet 0/0/1 (G0/0/1). The tasks to configure a router interface are very similar to a management SVI on a switch. Using the **no shutdown** command activates the interface. The interface must also be connected to another device, such as a switch or a router, for the physical layer to be active. There are several commands that can be used to verify interface configuration including the **show ip interface brief** and **show ipv6 interface brief**, the **show ip route** and **show ipv6 route**, as well as **show interfaces**, **show ip interface** and **show ipv6 interface.**

Configure the Default Gateway

For an end device to communicate over the network, it must be configured with the correct IP address information, including the default gateway address. The default gateway address is generally the router interface address for the router that is attached to the local network of the host. The IP address of the host device and the router interface address must be in the same network. To connect to and manage a switch over a local IP network, it must have a switch virtual interface (SVI) configured. The SVI is configured with an IPv4 address and subnet mask on the local LAN. The switch must also have a default gateway address configured to remotely manage the switch from another network. To configure an IPv4 default gateway on a switch, use the **ip default-gateway ip-address** global configuration command. Use the IPv4 address of the local router interface that is connected to the switch.

10.4.5

Module Quiz - Basic Router Configuration

1. A router boots and enters setup mode. What is the reason for this?

- Cisco IOS is missing from flash memory.
- **The configuration file is missing from NVRAM.**
- The IOS image is corrupt.
- The POST process has detected hardware failure.

2. Which command is used to encrypt all passwords in a router configuration file?

- Router_A (config) # **enable password** <password>
- Router_A (config) # **enable secret** <password>
- **Router_A (config) # service password-encryption**
- Router_A (config) # **encrypt password**

3. Company policy requires using the most secure method to safeguard access to the privileged exec and configuration mode on the routers. The privileged exec password is trustknow1. Which of the following router commands achieves the goal of providing the highest level of security?

- **secret password trustknow1**
- **enable secret trustknow1**
- **service password-encryption**
- **enable password trustknow1**

4. What will be the response from the router after the command, "router(config)# **hostname portsmouth**" is entered?

- router(config-host)#
- ? command not recognized
router(config)#
- hostname = portsmouth
portsmouth#
- **portsmouth(config)#**
- portsmouth#
- invalid input detected

5. An administrator is configuring a new router to permit out-of-band management access. Which set of commands will allow the required login using a password of **cisco**?

- Router(config)# **line vty 0 4**
Router(config-line)# **password manage**
Router(config-line)# **exit**
Router(config)# **enable password cisco**
- **Router(config)# line console 0**
Router(config-line)# **password cisco**
Router(config-line)# **login**
- Router(config)# **line console 0**
Router(config-line)# **password cisco**
Router(config-line)# **exit**
Router(config)# **service password-encryption**
- Router(config)# **line vty 0 4**
Router(config-line)# **password cisco**
Router(config-line)# **login**

6. Which command can be used on a Cisco router to display all interfaces, the IPv4 address assigned, and the current status?

- **show ip route**
- **show interface fa0/1**
- **ping**
- **show ip interface brief**

7. Which CLI mode allows users to access all device commands, such as those used for configuration, management, and troubleshooting?

- user EXEC mode
- **privileged EXEC mode**
- global configuration mode
- interface configuration mode

8. What is the purpose of the startup configuration file on a Cisco router?

- to contain the configuration commands that the router IOS is currently using
- to facilitate the basic operation of the hardware components of a device
- to provide a limited backup version of the IOS, in case the router cannot load the full featured IOS
- **to contain the commands that are used to initially configure a router on startup**

9. Which characteristic describes the default gateway of a host computer?

- **the logical address of the router interface on the same network as the host computer**
- the physical address of the router interface on the same network as the host computer
- the logical address assigned to the switch interface connected to the router
- the physical address of the switch interface connected to the host computer

10. What is the purpose of the **banner motd** command?

- **It provides a way to make announcements to those who log in to a router.**
- It configures a message that will identify printed documents to LAN users.
- It provides an easy way of communicating with any user attached to a router's LANs.
- It is a way that routers communicate the status of their links with one another.

11. A technician is configuring a router to allow for all forms of management access. As part of each different type of access, the technician is trying to type the command **login.** Which configuration mode should be entered to do this task?

- privileged EXEC mode
- global configuration mode
- **any line configuration mode**
- user executive mode

12. What is stored in the NVRAM of a Cisco router?

- the running configuration
- **the startup configuration**
- the bootup instructions
- the Cisco IOS

13. Which statement regarding the **service password-encryption** command is true?

- To see the passwords encrypted by the **service password-encryption** command in plain text, issue the **no service password-encryption** command.
- It is configured in privileged EXEC mode.
- It encrypts only line mode passwords.
- **As soon as the service password-encryption command is entered, all currently set passwords formerly displayed in plain text are encrypted.**

Check

Show Me

Reset