Lab07 Part2 - Building a Switch and Router Network (Tasks 2-3)

Task2: Configure Devices and Verify Connectivity

Step1: Configure the router.

a. Console into the router and enable privileged EXEC mode.

b. Enter configuration mode.

c. Assign a device name to the router.

d. Disable DNS lookup to prevent the router from attempting to translate incorrectly entered commands as though they were host names.

e. Assign **class** as the privileged EXEC encrypted password.

f. Assign **cisco** as the console password and enable login.

g. Assign **cisco** as the VTY password and enable login.

h. Encrypt the clear text passwords.

i. Create a banner that warns anyone accessing the device that unauthorized access is prohibited.

j. Configure and activate both interfaces on the router.

k. Configure an interface description for each interface indicating which device is connected to it.

l. Save the running configuration to the startup configuration file.

m. Set the clock on the router.

Note: Use the question mark (**?**) to help with the correct sequence of parameters needed to execute this command.

n. Ping PC-B from a command prompt window on PC-A.

Were the pings successful? Why?

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Task3: Display Device Information

In Part 3, you will use **show** commands to retrieve information from the router and switch.

Step 2: Retrieve hardware and software information from the network devices.

a. Use the **show version** command to answer the following questions about the router.

What is the name of the IOS image that the router is running?

_____

_____

_____

How much DRAM memory does the router have?

How much NVRAM memory does the router have?

How much Flash memory does the router have?

b. Use the **show version** command to answer the following questions about the switch.

What is the name of the IOS image that the switch is running?

How much dynamic random access memory (DRAM) does the switch have?

How much nonvolatile random-access memory (NVRAM) does the switch have?

What is the model number of the switch?

Step 3: Display the routing table on the router.

Use the **show ip route** command on the router to answer the following questions.

What code is used in the routing table to indicate a directly connected network?

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How many route entries are coded with a C code in the routing table?

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What interface types are associated to the C coded routes?

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Step 4: Display interface information on the router.

Use the **show interface g0/1** to answer the following questions.

What is the operational status of the G0/1 interface?

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What is the Media Access Control (MAC) address of the G0/1 interface?

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How is the Internet address displayed in this command?

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Step 5: Display a summary list of the interfaces on the router and switch.

There are several commands that can be used to verify an interface configuration. One of the most useful of these is the **show ip interface brief** command. The command output displays a summary list of the interfaces on the device and provides immediate feedback to the status of each interface.

a. Enter the **show ip interface brief** command on the router.

```
R1# show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol
Embedded-Service-Engine0/0 unassigned      YES unset  administratively down down
GigabitEthernet0/0         192.168.0.1     YES manual up                    up
GigabitEthernet0/1         192.168.1.1     YES manual up                    up
Serial0/0/0                unassigned      YES unset  administratively down down
Serial0/0/1                unassigned      YES unset  administratively down down
R1#
```

b. Enter the **show ip interface brief** command on the switch.

```
Switch# show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
Vlan1                  unassigned      YES manual up                    up
FastEthernet0/1        unassigned      YES unset  down                  down
FastEthernet0/2        unassigned      YES unset  down                  down
FastEthernet0/3        unassigned      YES unset  down                  down
FastEthernet0/4        unassigned      YES unset  down                  down
FastEthernet0/5        unassigned      YES unset  up                    up
FastEthernet0/6        unassigned      YES unset  up                    up
FastEthernet0/7        unassigned      YES unset  down                  down
FastEthernet0/8        unassigned      YES unset  down                  down
FastEthernet0/9        unassigned      YES unset  down                  down
FastEthernet0/10       unassigned      YES unset  down                  down
FastEthernet0/11       unassigned      YES unset  down                  down
FastEthernet0/12       unassigned      YES unset  down                  down
FastEthernet0/13       unassigned      YES unset  down                  down
FastEthernet0/14       unassigned      YES unset  down                  down
FastEthernet0/15       unassigned      YES unset  down                  down
FastEthernet0/16       unassigned      YES unset  down                  down
FastEthernet0/17       unassigned      YES unset  down                  down
FastEthernet0/18       unassigned      YES unset  down                  down
FastEthernet0/19       unassigned      YES unset  down                  down
FastEthernet0/20       unassigned      YES unset  down                  down
FastEthernet0/21       unassigned      YES unset  down                  down
FastEthernet0/22       unassigned      YES unset  down                  down
FastEthernet0/23       unassigned      YES unset  down                  down
FastEthernet0/24       unassigned      YES unset  down                  down
GigabitEthernet0/1     unassigned      YES unset  down                  down
GigabitEthernet0/2     unassigned      YES unset  down                  down
Switch#
```

Extra Questions

1. If the G0/1 interface showed administratively down, what interface configuration command would you use to turn the interface up?

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2. What would happen if you had incorrectly configured interface G0/1 on the router with an IP address of 192.168.1.2?

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