NET 1002 Lab #7: Building a Switch & Router Network

Date: _____Lab Section_____ Table #_____

Student 1 Name: _____Student 2 Name: _____

Objectives

- Set Up the Topology that includes, a Router, switch and Hosts
- Do the Basic Devices Configuration for Networking Devices
- Do the Interface Configuration for Routers and check their status
- Check the Interfaces status and the Routing table
- Display Network Devices Information

General Instructions:

- This lab is a group work of two students. You will start from her and then you will use a printed lab from Cisco for Parts 2-3.
- By the end pf the lab you have to hand your lab report over to your lab instructor and reset all devices to its original state. Cleanup your table before you leave.
- In this lab you are strongly encourages to previous labs, appendixes, PT activities you have done and the online curriculum as a reference to remind you with the needed commands.

Scenario

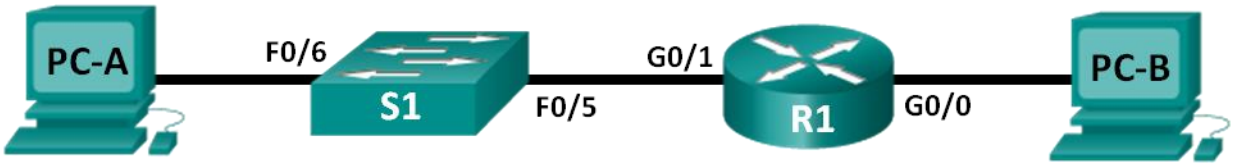
In this lab, you will cable the equipment as shown in the topology diagram. You will then configure the devices to match the addressing table. After the configurations have been saved, you will verify your configurations by testing for network connectivity. After the devices have been configured and network connectivity has been verified, you will use IOS commands to retrieve information from the devices to answer questions about your network equipment.

Task 1: Create a directly-connected network of two PCs using static addressing

1.1 Disable any Wireless Interfaces if using a mobile computer. Your only network connection must be via the Wired (Ethernet) interface.

1.2 Using the correct cables and the jack colours specified by your instructor, directly connect the **topology** show below. As you notice in the addressing table we have two different networks.

Topology



Topology (Ref.: Cisco NetAcad Contents)

Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	G0/0	192.168.0.X	/24	N/A
	G0/1	172.16.31.X	/24	N/A
PC-A	NIC	172.16.31.Y	/24	172.16.31.X
PC-B	NIC	192.168.0.Y	/24	192.168.0.X

1.3 In every network, give the router interface IP address the first address (.1). Regarding PCs, give the PC address by replacing the Y host portion with the host part is replaced by X and the PC interface IP address host part is replaced by Y. Fill these addresses as following:

- Give the router the first IP address in that network (.1)
- Give the PC IP address by replacing the host part Y with the jack number.
- Assign static IP addresses to each both PCs

Note that subnet mask /24 means 255.255.255.0.

Example: If PC-A is connected to jack number 25, the IP address for PC-A will be 172.16.31.25. If PC-B is connected to jack number 26, the IP address for PC-B would be 192.168.0.126.

1.4 Ensure that the routers and switches have been erased and have no start-up configurations. Refer to lab03 and erase the configuration on the switch and the router.

1.5 In this lab, you may refer to previous labs at any time for previous contents like how to ipconfig, ping, set static IP address, etc.

Note: you may need to **Disable the Windows Firewall** (Start -> Control Panel -> Windows Firewall -> Turn Windows Firewall on or off). For ping to work.

Lab Instructor Signature: _____

Task 2-3: Complete Tasks 2 & 3 from Lab07Part2 Document. Answer questions as they arise.

Hint: To achieve the mentioned tasks you may refer to textbook chapters 2 & 6. and previous lab material done in configuring the switch. Most of the commands to configure the router are the same.

Task 4: Clean-up

After you are sure that everything is working and you answered all the questions, restore the PC, the switch and the router to its original state. Handover your lab report to your lab instructor

Well Done ☺