1.3 – ITN - PacketKnows – Connect a Router to a LAN

Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
R1	fa0/0	192.168.10.1	255.255.255.0	N/A
	fa0/1	192.168.11.1	255.255.255.0	N/A
	S0/0	209.165.200.225	255.255.255.252	N/A
R2	fa0/0	10.1.1.1	255.255.255.0	N/A
	fa0/1	10.1.2.1	255.255.255.0	N/A
	S0/0	209.165.200.226	255.255.255.252	N/A
PC1	E0	192.168.10.10	255.255.255.0	192.168.10.1
PC2	E0	192.168.11.10	255.255.255.0	192.168.11.1
PC3	E0	10.1.1.10	255.255.255.0	10.1.1.1
PC4	E0	10.1.2.10	255.255.255.0	10.1.2.1

Objectives

Part 1: Display Router Information

Part 2: Configure Router Interfaces

Part 3: Configure OSPF

Part 4: Verify the Configuration

NOTE

- **Power all the devices first by clicking the triangle button on the upper navbar.**

- **Right click the device then click the web console first to configure on the device**
- **Always type "save" when configuring IP addresses of PC's**

Background

In this activity, you will use various show commands to display the current state of the router. You will then use the Addressing Table to configure router Ethernet interfaces. Finally, you will use commands to verify and test your configurations.

Part 1: Display Router Information

Step 1: Display a summary list of the interfaces on R1.

a. Which command displays a brief summary of the current interfaces, statuses, and IP addresses assigned to them?

R1#show ip interface brief

Step 2: Display the routing table on R1.

a. What command displays the content of the routing table?

R1#show ip route

Part 2: Configure Router Interfaces

Step 1: Configure the fa0/0 interface on R1.

a. Enter the following commands to address and activate the fa0/0 interface on **R1**:

b. It is good practice to configure a description for each interface to help document the network information. Configure an interface description indicating to which device it is connected.

c. **R1** should now be able to ping PC1.

Step 2: Configure the remaining Fash Ethernet Interfaces on R1 and R2.

a. Use the information in the Addressing Table to finish the interface configurations for **R1** and **R2**. For each interface, do the following:

1. Enter the IP address and activate the interface.

2. Configure an appropriate description.

Step 3: Back up the configurations to NVRAM.

Save the configuration files on both routers to NVRAM.

Step 1: Use verification commands to check your interface configurations.

a. Use the show ip interface brief command on both **R1** and **R2** to quickly verify that the interfaces are configured with the correct IP address and active.

Step 2: Test end-to-end connectivity across the network.

You should now be able to ping from any PC to any other PC on the network. In addition, you should be able to ping the active interfaces on the routers. For example, the following should tests should be successful:

- From the command line on PC1, ping PC4.
- From the command line on R2, ping PC2.

Note: For simplicity in this activity, the switches are not configured; you will not be able to ping them.