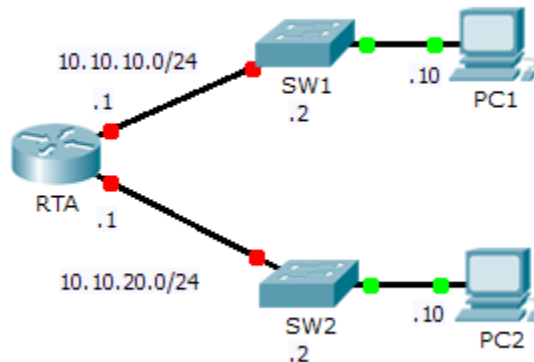


Packet Tracer - Configuring and Verifying a Small Network (Instructor Version)

Instructor Note: Red font color or Gray highlights indicate text that appears in the instructor copy only.

Topology



Addressing Table

Device	Interface	IP Address	Subnet Mask	Default Gateway
RTA	G0/0	10.10.10.1	255.255.255.0	N/A
	G0/1	10.10.20.1	255.255.255.0	N/A
SW1	VLAN1	10.10.10.2	255.255.255.0	10.10.10.1
SW2	VLAN1	10.10.20.2	255.255.255.0	10.10.20.1
PC1	NIC	10.10.10.10	255.255.255.0	10.10.10.1
PC2	NIC	10.10.20.10	255.255.255.0	10.10.20.1

Objectives

Part 1: Configure Devices and Verify Connectivity

Part 2: Gather Information with Show Commands

Background

In this activity, you will configure **RTA** with basic settings, including IP addressing. You will also configure **SW1** for remote management and configure the PCs. Once you have successfully verified connectivity, you will use **show** commands to gather information about the network.

Note: The user EXEC password is **cisco**. The privileged EXEC password is **class**.

Part 1: Configure Devices and Verify Connectivity

Step 1: Apply basic configurations to RTA.

- a. Using the following information and the **Addressing Table**, configure RTA:
 - Hostname and banner
 - Line passwords set to **cisco**; encrypted password set to **class**
 - IP addressing and descriptions on LAN interfaces
- b. Save the configuration.

Step 2: Configure addressing on PC1 and PC2.

- a. Using the **Addressing Table**, configure IP addressing for PC1 and PC2.
- b. Test connectivity between **PC1** and **PC2**. Troubleshoot as necessary.

Step 3: Configure SW1 for remote management.

- a. Using the **Addressing Table**, configure the management interface for SW1.
- b. Configure the default gateway address.
- c. Save the configuration.

Part 2: Gather Information with Show Commands

Step 1: Gather information from show interface command output.

Issue each of the following commands and then answer the related questions:

```
show ip interface brief
show interfaces
show ip interface
```

Which commands display the status of the port? `show ip interface brief`, `show interfaces`, `show ip interface`

Which command shows only the IP address (no subnet mask or prefix)? `show ip interface brief`

Which command displays the description configured on the interface? `show interfaces`

Which command displays the IP broadcast address? `show ip interface`

Which command displays the MAC address of the interface? `show interface`

Step 2: Gather information from show ip route command output.

Issue each of the following commands and then answer the related questions:

```
show ip route
show ip route connected
```

How many networks are known by the router based on the output of the **show ip route** command? `2 – 10.10.10.0/24 & 10.10.20.0/24`

What does the **L** at the beginning of the lines within the routing table represent? `Local connection`

What does the `/32` prefix listed in the route table indicate? `The host address of the interface`

Step 3: Gather information after an interface state is changed.

- a. On **RTA**, shut down the Gigabit Ethernet 0/0 interface and issue the **show ip route** command. How many networks are displayed in the routing table now? **1 – 10.10.20.0/24**
- b. Attempt to ping PC1. Was the ping successful? **No**
- c. Issue the **show ip interface brief** command. What is the status of the Gigabit Ethernet 0/0 interface? **administratively down**
- d. Reactivate the Gigabit Ethernet 0/0 interface. Issue the **show ip route** command. Did the routing table repopulate? **Yes**

What can be inferred about the interface status of routes that appear in the routing table? **Interfaces must be active in order to be listed in the routing table.**

Suggested Scoring Rubric

Activity Section	Question Location	Possible Points	Earned Points
Part 2: Gather Information with Show Commands	Step 1	15	
	Step 2	10	
	Step 3	15	
Part 2 Total		40	
Packet Tracer Score		60	
Total Score		100	