1.6.1 Packet Tracer - Implement a Small Network (Instructor Version)

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

This activity requires some knowledge of how to build topologies in Packet Tracer. You may want to quickly train students on how to do the following:

1. Select specific device models and drag devices to the work area, specifically 1941 routers and 2960 switches.
2. Select an Ethernet-straight through cable.
3. Connect devices with a Copper straight-through cable to specific device ports.
4. Change device display names by clicking on the device name in the topology and typing a new name. Whenever this is done, the device name is required to match the device name in the instructions **exactly.**

Addressing Table

Device	Interface	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**
PC-1	NIC	**Any available address in network**	255.255.255.0	**10.10.10.1**
PC-2	NIC	**Any available address in network**	255.255.255.0	**10.10.20.1**

Objectives

Part 1: Create the Network Topology

Part 2: Configure Devices and Verify Connectivity

Instructions

Part 1: Create the Network Topology

Step 1: Obtain the required devices.

a. Click the **Network Devices** icon in the bottom tool bar.

b. Click the router icon in the submenu.

c. Locate the **1941** router icon. Click and drag the icon for the 1941 router into the topology area.

d. Click the switch entry in the submenu.

e. Locate the **2960** switch icon. Click and drag the icon for the 2960 switch into the topology area.

f. Repeat the step above so that there are **two** 2960 switches in the topology area.

g. Click the **End Devices** icon.

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h. Locate the PC icon. Drag **two** PCs to the topology area.

i. Arrange the devices into a layout that you can work with by clicking and dragging.

Step 2: Name the devices.

The devices have default names that you will need to change. You will name the devices as shown in the Addressing Table. You are changing the display names of the devices. This is the text label that appears below each device. Your display names must match the information in the Addressing Table **exactly**. If a display name does not match, you will not be scored for your device configuration.

a. Click the device display name that is below the device icon. A text field should appear with a flashing insertion point. If the configuration window for the device appears, close it and try again, clicking a little further away from the device icon.

b. Replace the current display name with the appropriate display name from the Addressing Table.

c. Repeat until all devices are named.

Step 3: Connect the devices.

a. Click the orange lightning bolt connections icon in the bottom toolbar.

b. Locate the Copper Straight-Through cable icon. It looks like a solid black diagonal line.

c. To connect the device, click the Copper Straight-Through cable icon and then click the first device that you want to connect. Select the correct port and then click the second device. Select the correct port and the devices will be connected.

d. Connect the devices as specified in the table below.

From Device	Port	To Device	Port
RTA	G0/0	SW1	G0/1
	G0/1	SW2	G0/1
SW1	F0/1	PC-1	Fastethernet0
SW2	F0/1	PC-2	Fastethernet0

Part 2: Configure Devices

Record the PC addressing and gateway addresses in the addressing table. You can use any available address in the network for PC-1 and PC-2.

Step 1: Configure the router.

a. Configure basic settings.

1) Hostname as shown in the Addressing Table.

2) Configure **Ciscoenpa55** as the encrypted password.

3) Configure **Ciscolinepa55** as the password on the lines.

4) All lines should accept connections.

5) Configure an appropriate message of the day banner.

b. Configure interface settings.

1) Addressing.

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2) Descriptions on the interfaces.
3) Save your configuration.

Step 2: Configure switch SW1 and SW2.

a. Configure the default management interface so that it will accept connections over the network from local and remote hosts. Use the values in the addressing table.
b. Configure an encrypted password using the value in step 1a above.
c. Configure all lines to accept connections using the password from step 1a above.
d. Configure the switches so that they can send data to hosts on remote networks.
e. Save your configuration.

Step 3: Configure the hosts.

Configure addressing on the hosts. If your configurations are complete, you should be able to ping all devices in the topology.

Device Configurations

Router RTA

```
hostname RTA
enable secret Ciscoenpa55
interface GigabitEthernet0/0
 description Connected to SW1 port G1/1
 ip address 10.10.10.1 255.255.255.0
 no shutdown
interface GigabitEthernet0/1
 description Connected to SW2 port G1/1
 ip address 10.10.20.1 255.255.255.0
 no shutdown
banner motd ^CUnauthorized Access is Prohibited^C
line con 0
 password Ciscolinepa55
 login
line vty 0 4
 password Ciscolinepa55
 login
end
copy run start
```

Switich SW1

```
hostname SW1
enable secret Ciscoenpa55
interface Vlan1
 ip address 10.10.10.2 255.255.255.0
 no shutdown
ip default-gateway 10.10.10.1
line con 0
```

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```
 password Ciscolinepa55
 login
line vty 0 4
 password Ciscolinepa55
 login
end
copy run start
```

Switch SW2

```
hostname SW2
enable secret Ciscoenpa55
interface Vlan1
 ip address 10.10.20.2 255.255.255.0
 no shutdown
ip default-gateway 10.10.20.1
banner motd ^CUnauthorized Access Prohibited^C
line con 0
 password Ciscolinepa55
 login
line vty 0 4
 password Ciscolinepa55
 login
line vty 5 15
 login
end
copy run start
```

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