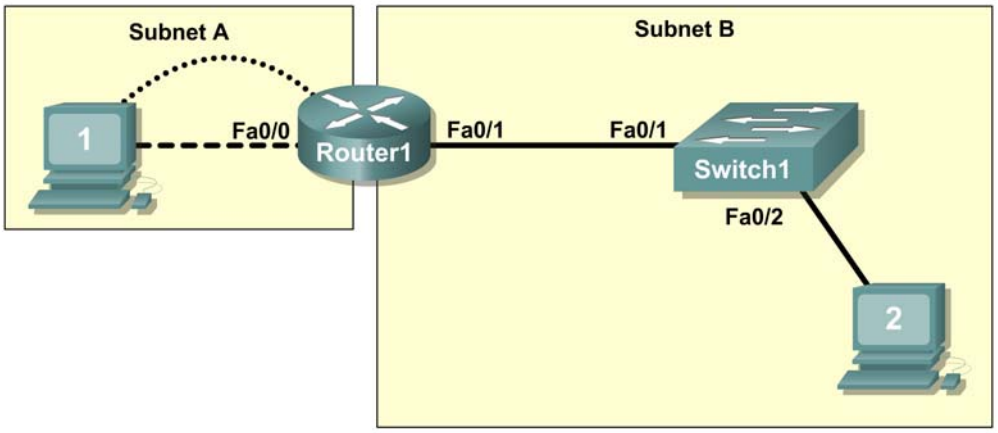
PT Activity 1.3.1: Review of Concepts from Exploration 1

Topology Diagram



NOTE TO USER: This activity is a variation of lab 1.3.1. This Packet Tracer Activity is not a companion for the above named lab. The instructions for completing this activity are found within this activity.

Learning Objectives

- Design a logical LAN topology.
- Configure the physical topology.
- Configure the logical topology.
- Verify network connectivity.
- Verify passwords.

Introduction

In this activity, you will design and configure a small routed network and verify connectivity across multiple network devices. This requires creating and assigning two subnetwork blocks, connecting hosts and network devices, and configuring host computers and one Cisco router for basic network connectivity. Switch1 has a default configuration and does not require additional configuration. You will use common commands to test and document the network. The zero subnet is used.

Task 1: Design a Logical LAN Topology

Step 1. Design an IP addressing scheme.

Given the IP address block of 192.168.7.0 /24, design an IP addressing scheme that satisfies the following requirements:

Subnet	Number of Hosts
Subnet A	**110**

Subnet	Number of Hosts
Subnet B	**54**

Subnet zero is used. No subnet calculators may be used. Create the smallest possible subnets that satisfy the requirements for hosts. Assign the first usable subnet to Subnet A.

Host computers will use the first IP address in the subnet. The network router will use the last IP address in the subnet.

Step 2. Write down the IP address information for each device.

Before proceeding, verify your IP addresses with the instructor.

Task 2: Configure the Physical Topology

Step 1. Cable the network.

- Connect Host1 to the Fa0/0 interface on Router1
- Connect a console cable between Host1 and Router1
- Connect the Fa0/1 interface on Switch1 to the Fa0/1 interface on Router1
- Connect Host2 to the Fa0/2 interface on Switch1

Step 2. Inspect the network connections.

Verify the connections visually.

Task 3: Configure the Logical Topology

Step 1. Configure the host computers.

Configure the static IP address, subnet mask, and gateway for each host computer.

Step 2. Configure Router1.

Connect to Router1 through the **Terminal** connection on Host1. Enter the following commands on the router:

Remember: Packet Tracer is case sensitive when it grades the **description** command.

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname Router1
Router1(config)#enable secret class
Router1(config)#line console 0
Router1(config-line)#password cisco
Router1(config-line)#login
Router1(config-line)#line vty 0 4
Router1(config-line)#password cisco
Router1(config-line)#login
Router1(config-line)#int fa0/0
Router1(config-if)#ip address addr sub_mask !Supply your answer from Task 1
Router1(config-if)#no shutdown
Router1(config-if)#description connection to host1
Router1(config-if)#interface fa0/1
```



```
Router1(config-if)#description connection to switch1
Router1(config-if)#ip address addr sub_mask !Supply your answer from Task 1
Router1(config-if)#no shutdown
Router1(config-if)#end
Router1#
```

Task 4: Verify Network Connectivity

Step 1. Use the ping command to verify network connectivity.

You can verify network connectivity using the **ping** command.

Step 2. Check results.

Your completion percentage should be 100%. If not, click **Check Results** to see which required components are not yet completed.

Task 5: Verify Passwords

Step 1. Telnet to the router from Host2 and verify the Telnet password.

You should be able to telnet to either Fast Ethernet interface of the router.

In a command window on Host 2, type:

```
Packet Tracer PC Command Line 1.0
PC>telnet 192.168.7.190
Trying 192.168.7.190 ...

User Access Verification

Password:
```

When you are prompted for the Telnet password, type **cisco** and press Enter.

Step 2. Verify that the enable secret password has been set.

From the Telnet session, enter privileged EXEC mode and verify it is password protected:

```
Router1>enable
```

Were you prompted for the enable secret password?

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Task 6: Reflection

How are Telnet access and console access different?

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When might it make sense to set different passwords on these two access ports?

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Why does the switch between Host2 and the router not require configuration with an IP address to forward packets?

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