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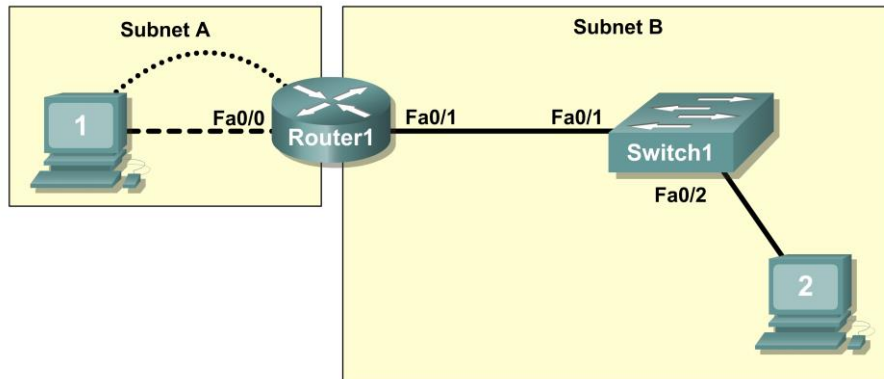
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PT Activity 1.3.2: Review of Concepts from Exploration 1 - Challenge

Topology Diagram

NOTE TO USER: This activity is a variation of lab 1.3.2. 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 **192.168.30.0 /27**, design an IP addressing scheme that satisfies the following requirements:

Subnet	Number of Hosts
Subnet A	7
Subnet B	14

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.

Subnet A:	**192.168.30.0/28**	**192.168.30.1 – 192.168.30.14**
Subnet B:	**192.168.30.16/28**	**192.168.30.17 – 192.168.30.30**

Router1:

Fa0/0	**IP: 192.168.30.14**	**SN: 255.255.255.240**	
Fa0/1	**IP: 192.168.30.30**	**SN: 255.255.255.240**	
Host1:	**IP: 192.168.30.1**	**SN: 255.255.255.240**	**DGW: 192.168.30.14**
Host2:	**IP: 192.168.30.17**	**SN: 255.255.255.240**	**DGW: 192.168.30.30**

Task 2: Configure the Physical Topology

Step 1. Cable the network.

Step 2. Inspect the network connections.

Task 3: Configure the Logical Topology

Step 1. Configure the host computers.

Step 2. Configure Router1.

Enter the following commands on the router:

- Router name **Router1**
- Secret password **class**
- Set console and VTY line passwords to **cisco**
- Interface addresses
- Interface description
    - Fa0/0 text: **connection to host1**
    - Fa0/1 text: **connection to switch1**

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.

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

Task 6: Reflection

How are Telnet access and console access different?

Console: Physischer Zugriff notwendig

Telnet: Zugriff via Netzwerk

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

Bessere Security

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

Der Switch ist nur Layer2, somit braucht er keine IP (Layer 3).