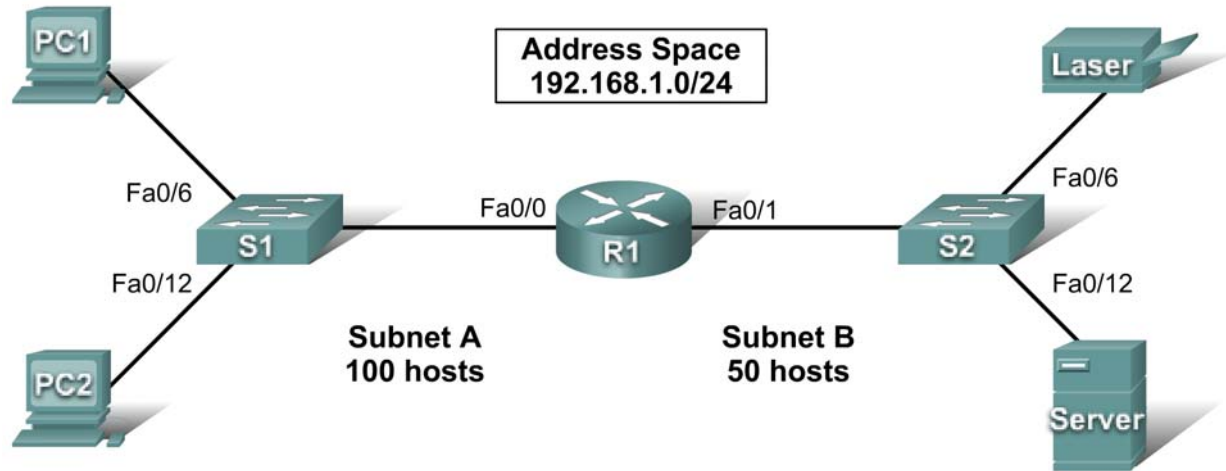


## PT Activity 1.4.1: Packet Tracer Skills Integration Challenge

### Topology Diagram



### Addressing Table

| Device | Interface | IP Address | Subnet Mask | Default Gateway |
|--------|-----------|------------|-------------|-----------------|
| R1     | Fa0/0     |            |             | N/A             |
|        | Fa0/1     |            |             | N/A             |
| PC1    | NIC       |            |             |                 |
| PC2    | NIC       |            |             |                 |
| Laser  | NIC       |            |             |                 |
| Server | NIC       |            |             |                 |

### Learning Objectives

- Design the network.
- Build the network.
- Apply a basic configuration.
- Test connectivity.

### Introduction

This activity reviews the skills you acquired in the Exploration: Network Fundamentals course. The skills include subnetting, building a network, applying an addressing scheme, and testing connectivity. You should review those skills before proceeding. In addition, this activity reviews the basics of using the Packet Tracer program. Packet Tracer is integrated throughout this course. You must know how to

navigate the Packet Tracer environment to complete this course. Use the tutorials if you need a review of Packet Tracer fundamentals. The tutorials are located in the Packet Tracer **Help** menu.

## Task 1: Design and Document an Addressing Scheme

### Step 1. Design an addressing scheme.

Using the 192.168.1.0/24 address space, design an addressing scheme according to the following requirements:

#### Subnet A

- Subnet the address space to provide for 100 hosts.
- Assign the Fa0/0 interface the first useable IP address.
- Assign PC1 the second useable IP address.
- Assign PC2 the last useable IP address in the subnet.

#### Subnet B

- Subnet the remaining address space to provide for 50 hosts.
- Assign the Fa0/1 interface the first useable IP address.
- Assign the laser printer the second useable IP address.
- Assign the server the last useable IP address in the subnet.

### Step 2. Document the addressing scheme.

Complete an addressing table for the router and each end device in the network.

## Task 2: Add and Connect the Devices

### Step 1. Add the necessary equipment.

Add the following devices to the network. For placement of these devices, refer to the topology diagram.

- Two 2960-24TT switches
- One 1841 router
- Two generic PCs
- One generic server
- One generic printer

### Step 2. Name the devices.

Change the **Display Name** and **Hostname** to match the device names shown in the topology diagram. Device names are case-sensitive.

### Step 3. Connect the devices.

Use the following specifications for the connections between the devices:

- S1 Fa0/1 to R1 Fa0/0
- S1 Fa0/6 to PC1
- S1 Fa0/12 to PC2
- S2 Fa0/1 to R1 Fa0/1

- S2 Fa0/6 to Laser
- S2 Fa0/12 to Server

#### Step 4. Check results.

Your completion percentage should be 52%. If not, click **Check Results** to see which required components are not yet completed.

### Task 3: Apply Basic Configurations

#### Step 1. Configure the router.

- The privileged EXEC secret password is **class**.
- The banner is **Authorized Access Only**.
- The line password is **cisco** for console and telnet.
- Configure the appropriate interfaces. Use the following descriptions:
  - **Link to PC LAN**
  - **Link to Server & Printer**

**Note:** Remember that the banner and descriptions are case-sensitive. Do not forget to activate the interfaces.

#### Step 2. Configure the end devices.

#### Step 3. Check results.

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

### Task 4: Test Connectivity and Examine the Configuration

You should now have end-to-end connectivity, which means every end device should be reachable from any other end device. From PC1 and PC2, ping all end devices on the network. If you get an error, try pinging again to make sure ARP tables are updated. If you still receive an error, check your subnetting, the cables, and the IP addresses. Isolate problems and implement solutions.