

# NET1002 – Networking Fundamentals Lab

## Lab #2 – Network Representation

### Objectives

1. Identify common components of a network
2. Explain the purpose of Networking devices.
3. Compare and Contrast LANs and WANs
4. Add devices to an existing PT topology
5. Build Simple network using Lab physical equipment

### Part 1- PT Activity

#### Instructions:

In this part you will use a ready-made network designed in Packet Tracer to answer the following questions. The network model in this activity incorporates many of the technologies that you will master in your CCNA studies. It represents a simplified version of how a small to medium-sized business network might look. Feel free to explore the network on your own. When you are ready, proceed through the following steps and answer the questions.

#### Step 1: Identify common components of a network as represented in Packet Tracer.

- a. List the intermediary device categories.  
\_\_\_\_\_
- b. Without entering into the Internet cloud or Intranet cloud, how many icons in the topology represent endpoint devices (only one connection leading to them)? \_\_\_\_\_
- c. Without counting the two clouds, how many icons in the topology represent intermediary devices (multiple connections leading to them)? \_\_\_\_\_
- d. How many end devices are **not** desktop computers? \_\_\_\_\_
- e. How many different types of media connections are used in this network topology? \_\_\_\_\_

#### Step 2: Explain the purpose of the devices.

- a. In Packet Tracer, only the Server-PT device can act as a server. Desktop or Laptop PCs cannot act as a server. Based on your studies so far, explain the client-server model.

- b. List at least two functions of intermediary devices.

**Step 3: Compare and contrast LANs and WANs.**

- a. Explain the difference between a LAN and a WAN. Give examples of each.
  
  
  
  
  
  
  
  
  
  
- b. In the Packet Tracer network, how many WANs do you see?  
\_\_\_\_\_
- c. How many LANs do you see?  
\_\_\_\_\_
- d. The Internet in this Packet Tracer network is overly simplified and does not represent the structure and form of the real Internet. Briefly describe the Internet.  
\_\_\_\_\_
- e. What are some of the common ways a home user connects to the Internet?  
\_\_\_\_\_
- f. What are some common methods that businesses use to connect to the Internet in your area?  
\_\_\_\_\_

**Step 4: Challenge**

Now that you have had an opportunity to explore the network represented in this Packet Tracer activity, add a **PC** to the **Branch** LAN and connect it to the switch with the correct media connection.

- What else does this device need to send data to other end users?

\_\_\_\_\_

- Can you provide the information? Give correct Sample values

\_\_\_\_\_

- Is there a way to verify that you correctly connected the device? explain.

\_\_\_\_\_

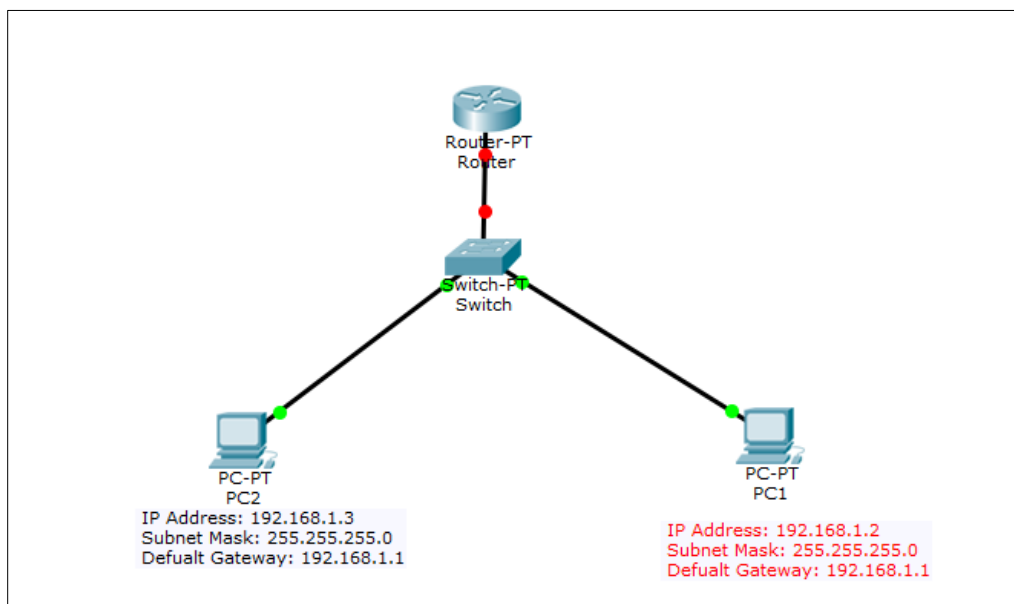
Test that the new PC can reach the Sales PC, if it successful Show your lab instructor.

**Lab Instructor Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Instructor Notes (if Any)** \_\_\_\_\_

**Part 2- Using Physical Equipment**

- Using the physical equipment in the lab, build the following topology.



- Configure the PCs as indicated in the topology
- Use the correct type of cables
- Use the needed tools/commands to test connectivity
- Show the lab instructor that the connection is successful

Note: you don't need to worry about the configuration of the router or switch at this lab.

**Lab Instructor Initials:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Instructor Notes (if Any)** \_\_\_\_\_

### Scoring Rubric

Question Location	Possible Points	Earned Points
Part 1 Step 1	5	
Part 1 Step 2	6	
Part 1 Step 3	6	
Part 1 Step 4	6	
Part 2	7	
<b>Total Score</b>	<b>30</b>	