

Aim ↔ Proficiency in Cisco Packet Tracer [CPT] exploration and uses.

Objectives ↔

- Install and set up CPT software effectively.
- Familiarize with the various components, devices and functions of CPT.
- Navigate and utilize the main user interface to simulate and configure network scenarios.

Software Required ↔ Cisco Packet Tracer

Theory ↔

Cisco Packet Tracer (CPT) is a powerful network simulation tool used to design, configure, and troubleshoot network setups virtually. It allows users to create complex network topologies without the need for physical hardware, making it a valuable educational resource for anyone looking to learn about networking.

Installation and Setup ↔ To begin, you need to install Cisco Packet Tracer on your computer. The software can be downloaded from Cisco's official website. After downloading, follow the on-screen instructions to complete the installation process. Once installed, launch the software to get started.

Exploring Cisco Packet Tracer ↔ The main user interface of Cisco Packet Tracer includes several components:

- **Workspace:** This is where you design and visualize your network topology.
- **Device Selection Toolbar:** This toolbar contains various networking devices such as routers, switches, hubs, and computers that you can drag and drop into the workspace.
- **Configuration Tabs:** These tabs allow you to configure the devices by setting IP addresses, adjusting settings, and connecting devices.
- **Simulation Panel:** This panel helps simulate network traffic and analyze how data packets move through the network.

Creating a Simple Network ↔ To simulate a basic network, start by dragging two computers and a hub into the workspace. Next, connect the computers to the hub using copper straight-through cables. The final step is to configure IP addresses for each computer.

Assigning IP Addresses ↔

1. Click on the first computer, go to the Desktop tab, and select IP Configuration.

2. Assign an IP address, for example, 8.8.8.0 with a subnet mask of 255.0.0.0.
3. Repeat the process for the second computer, assigning it an IP address like 8.8.8.1 with the same subnet mask.

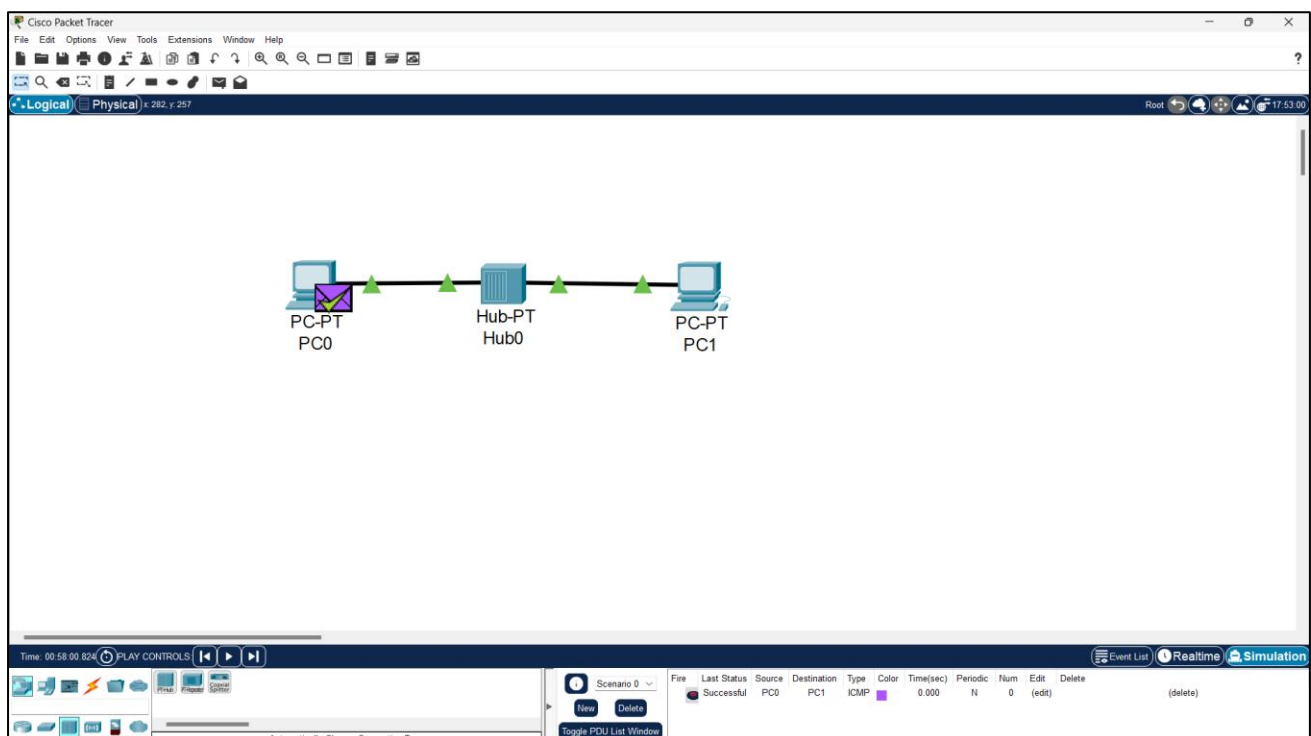
Checking Connectivity ↔ To verify the network setup, use the Simple PDU tool. This tool allows you to send a ping packet from one computer to another to test connectivity:

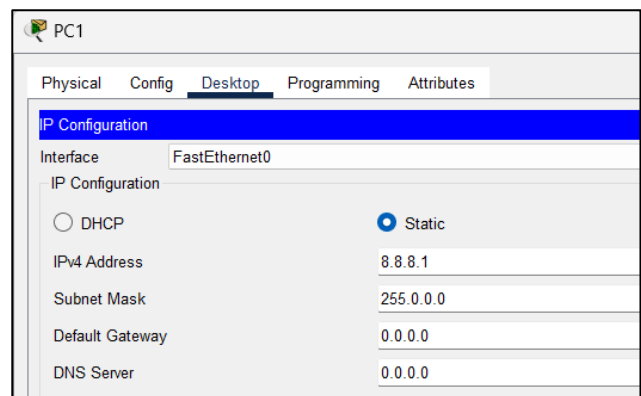
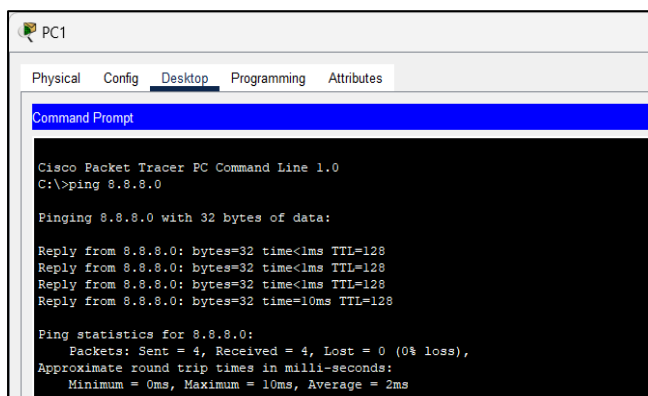
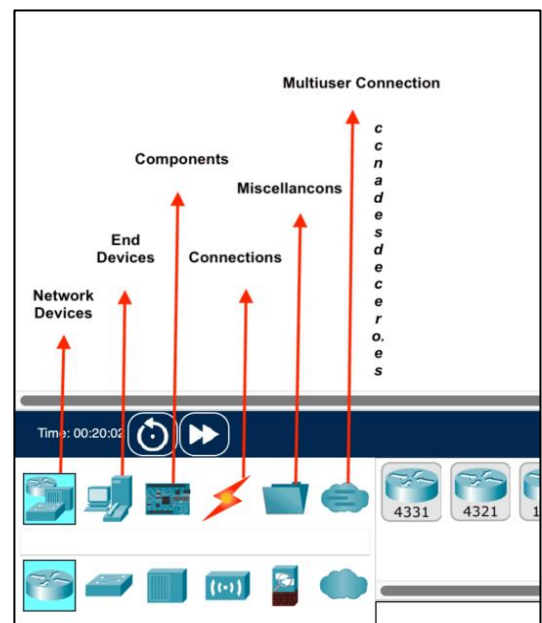
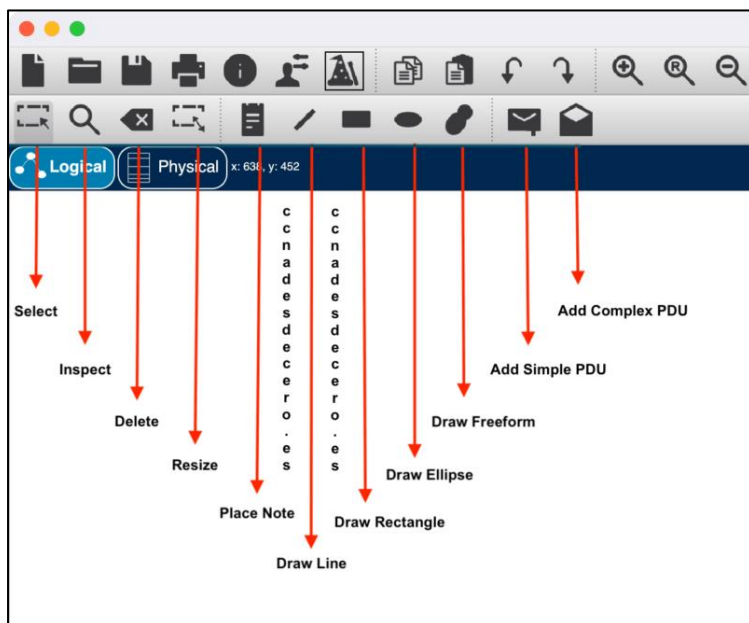
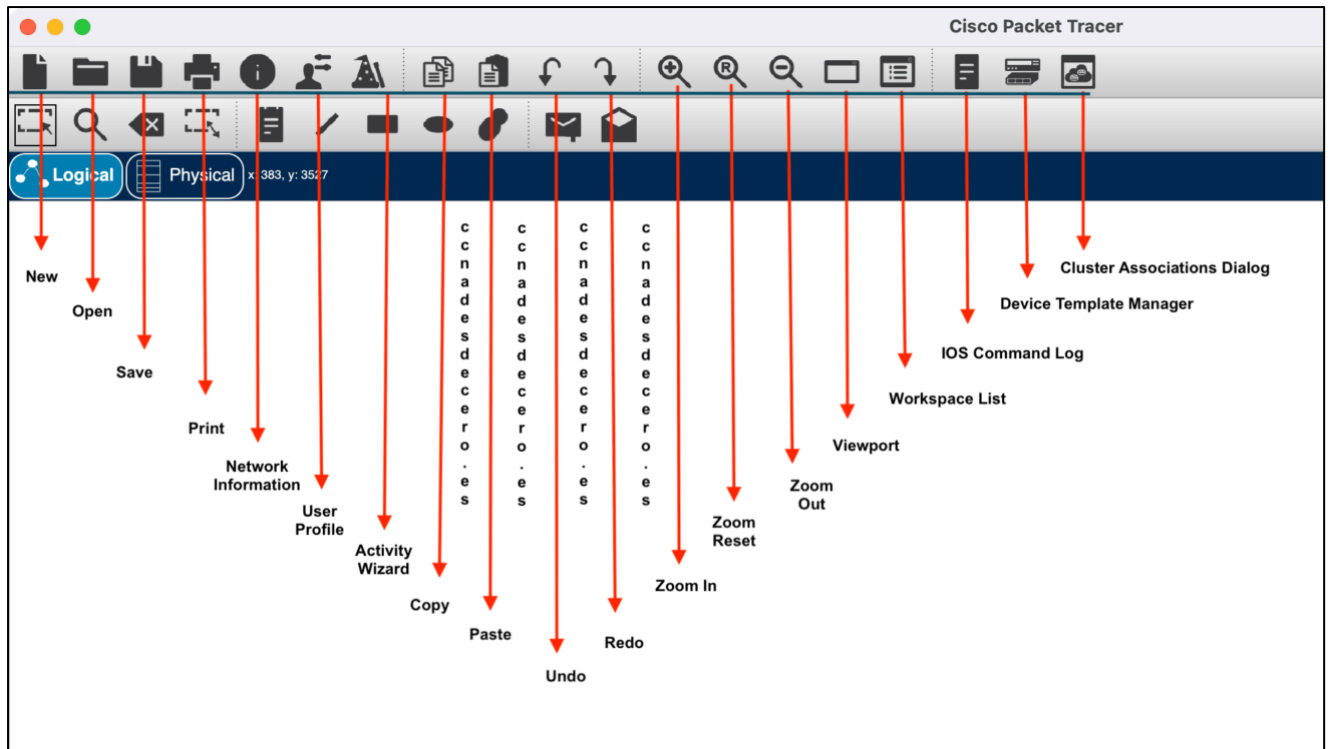
1. Click on the Simple PDU tool from the toolbar.
2. Click on the first computer, then click on the second computer.

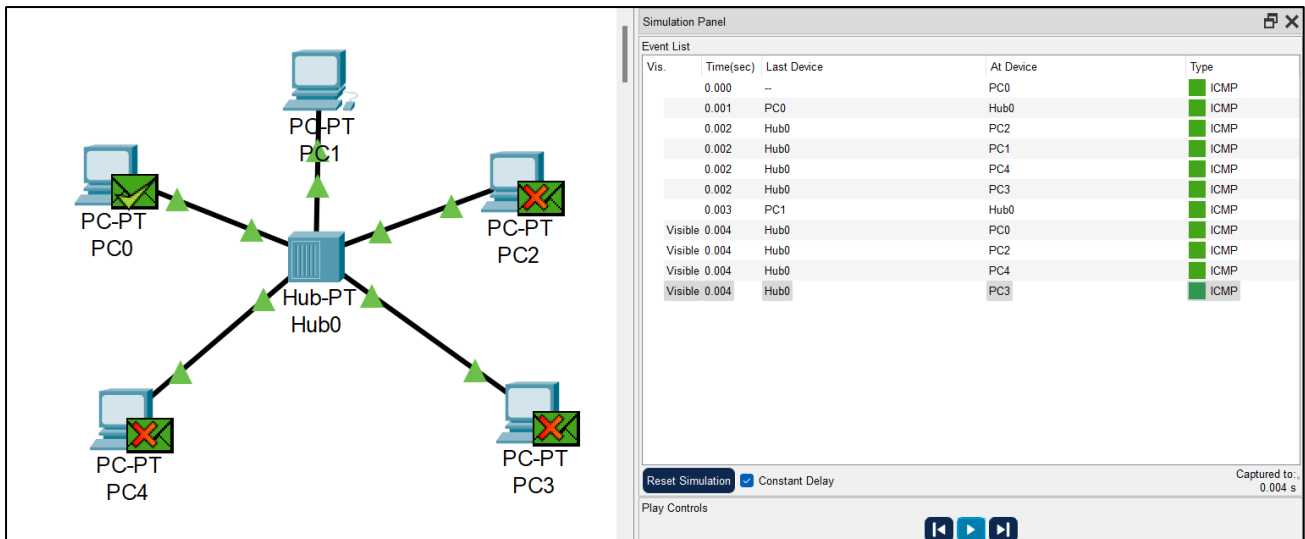
If the network is configured correctly, the Simple PDU tool will show that the ping was successful, indicating that the two computers can communicate with each other through the hub.

By following these steps, you can effectively set up a basic network in Cisco Packet Tracer, understand its components, and simulate network scenarios to learn about networking concepts and troubleshooting techniques.

Simulation ↔







Result ⇄

In this experiment, we successfully simulated a simple network consisting of two computers connected through a hub using Cisco Packet Tracer. Both computers were assigned unique IP addresses and were able to communicate with each other. The connectivity was verified using the ping command, which showed successful transmission and reception of packets between the two computers.

Conclusion ⇄

This experiment demonstrated the fundamental process of setting up a basic network in Cisco Packet Tracer. By configuring IP addresses and verifying connectivity with the ping command, we learned how devices can communicate within a network. This foundational knowledge is crucial for understanding more complex networking concepts and troubleshooting techniques in future studies.

Precautions ⇄

- Ensure each device has a unique IP address within the same subnet.
- Double-check connections and use the correct cables.
- Verify that all devices have the same subnet mask.
- Use simulation tools accurately and monitor results for errors.