# CSE 320 - Computer Networks

## LAB Session 1

28.02.2024

**Packet Tracer:**
https://www.packettracernetwork.com/download/download-packet-tracer.html
https://skillsforall.com/resources/lab-downloads?courseLang=en-US

**Packet Tracer Everywhere:** https://github.com/PTAnywhere/ptAnywhere-installation

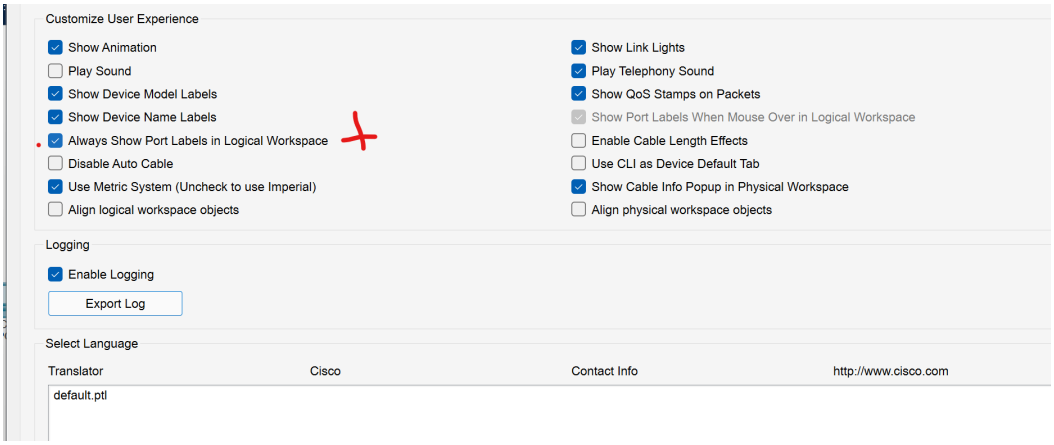
## 1. Launch and Getting to Know

a. ***Launch a new workspace:***
File/New

b. ***Different Workspaces:***
The **Logical Workspace** allows you to build a logical network topology without regard to its physical scale and arrangement. The **Physical Workspace** also allows you to create a topology and, at the same time, arrange devices physically in cities, buildings, and wiring closets.

c. ***Tool Box at the bottom section:***
There are Networking Devices(Routers, Switches, Hubs, Wireless Devices etc), End Devices (Pc/Laptop/Server/etc, Smart Home appliances, Smart City related devices such as CO detectors, batteries, etc, Industrial automation devices, Power Grid devices), Useful Components for Automation (Actuators, sensors,boards), Connections(Types of Cables, Cabling structures), Misc.

d. ***Additional Tip:*** From Options/Preferences make sure the following section is checked. This will allow you to see where the cable is connected.




## 2. Setting Up Devices:

**Add Devices:** Click on the "Devices" icon in the bottom left corner. Select and drag a switch (e.g., 2960) and two PCs to the logical workspace.

## 3. Connecting Devices:

a. ***Choose a Cable:*** Click on the "Connections" icon (looks like a lightning bolt) in the bottom left corner.

b. ***Connect Devices:*** For PCs to switch connections, use a straight-through cable (usually copper). Click on the cable, then click on a PC, select FastEthernet0, then click on the switch, and choose an available port (e.g., FastEthernet0/1).

c. ***Repeat*** the process for the other PC, connecting it to a different port on the switch.

## 4. Configuring the Devices:

*a. Configuring PC IP Addresses:*

- **Configure PC IP Settings: Click on a PC, go to the "Desktop" tab, and then click on "IP Configuration". Enter an IP address (e.g., 192.168.1.2), subnet mask (usually 255.255.255.0), and default gateway (optional for this setup).**
- **Repeat for the other PC with a different IP address (e.g., 192.168.1.3).**

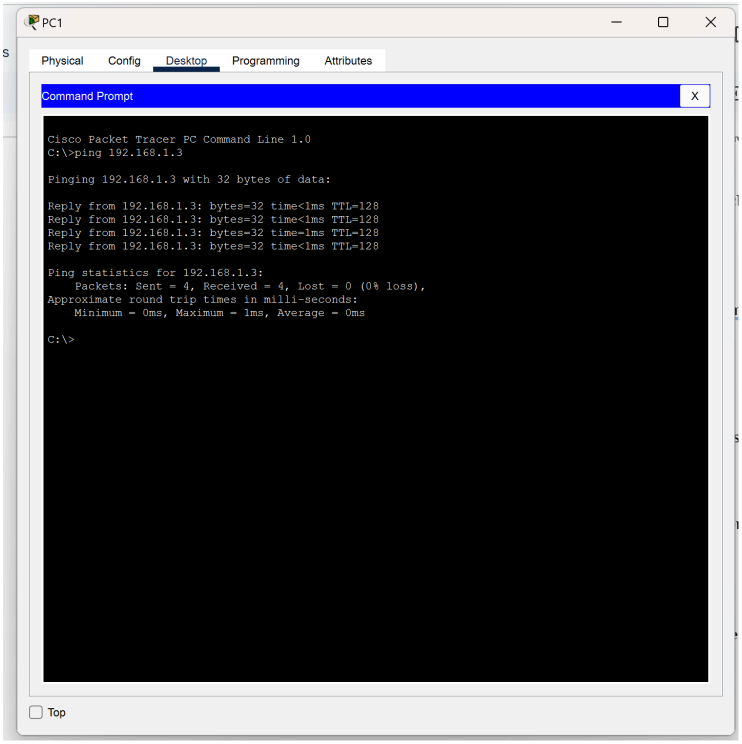
*b. Basic Switch Configuration*

- **Access Switch CLI: Click on the switch, go to the "CLI" tab, press "Enter" to access the command-line interface.**
- **Enter Global Configuration Mode: Type "`enable`" and press Enter. Then type "`configure terminal`" and press Enter.**
- **Assign Hostname (Optional): Type "`hostname Switch1`" to name your switch (or any name you prefer).**

## 5. Testing the Network:

*a. Open Command Prompt on PC:* **Go back to one of the PCs, open the "Command Prompt" from the Desktop tab.**

*b. Ping the Other PC:* **Type "`ping 192.168.1.3`" (or the IP of the other PC) and press Enter. You should see replies if everything is set up correctly.**




### 6. Save the Project:

Go to "File" > "Save As" to save your Packet Tracer file for future reference or further experimentation.

## Take Home:

**Assume you will have a game working on your local area network. You only have four players on a game server without an internet connection. You will not need a DHCP server or its configurations. The router is not necessary. Please explain your implementation and ping results in a single page of PDF with the smallest font size of 10 with Times New Roman and/or Consolas fonts. (Any extra page will cost you -20 points). You do not need to upload anything else. Few explanations are enough.**

**Deadline: 05/03/2024 23:59**