LOYALIST COLLEGE
IN TORONTO

Packet Tracer lab 2: Interfaces configuration

Course Code: CLOD1001

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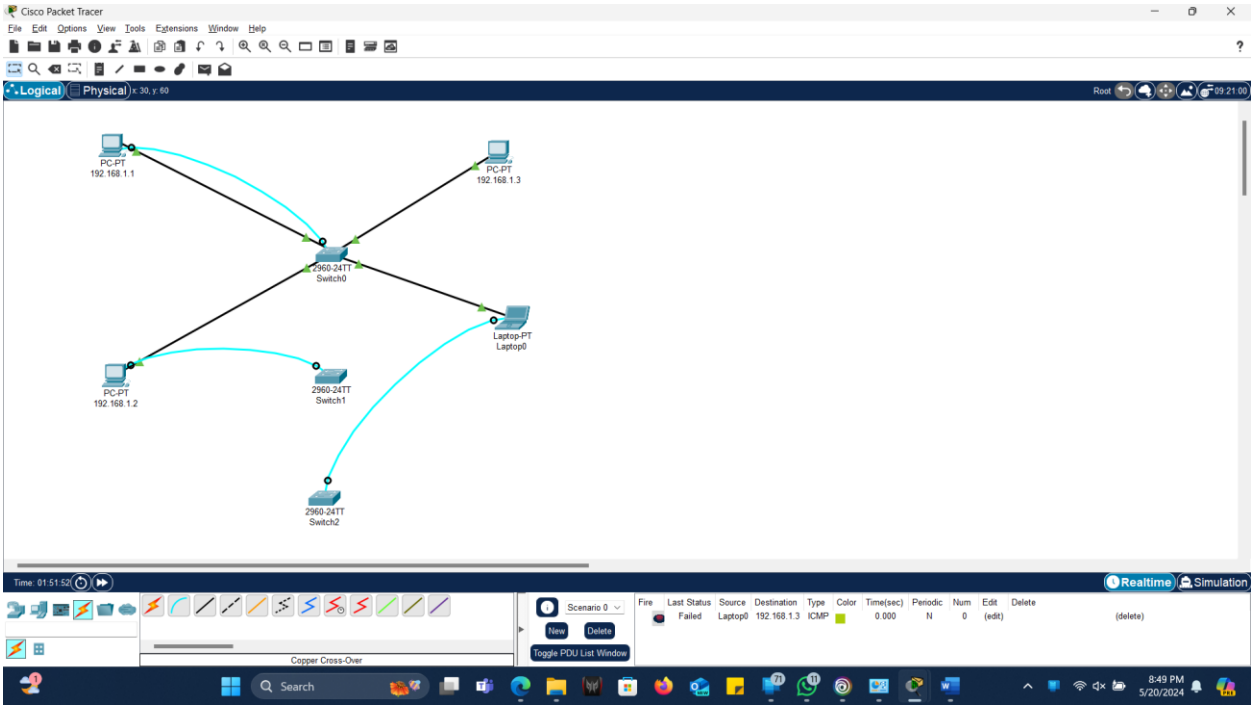
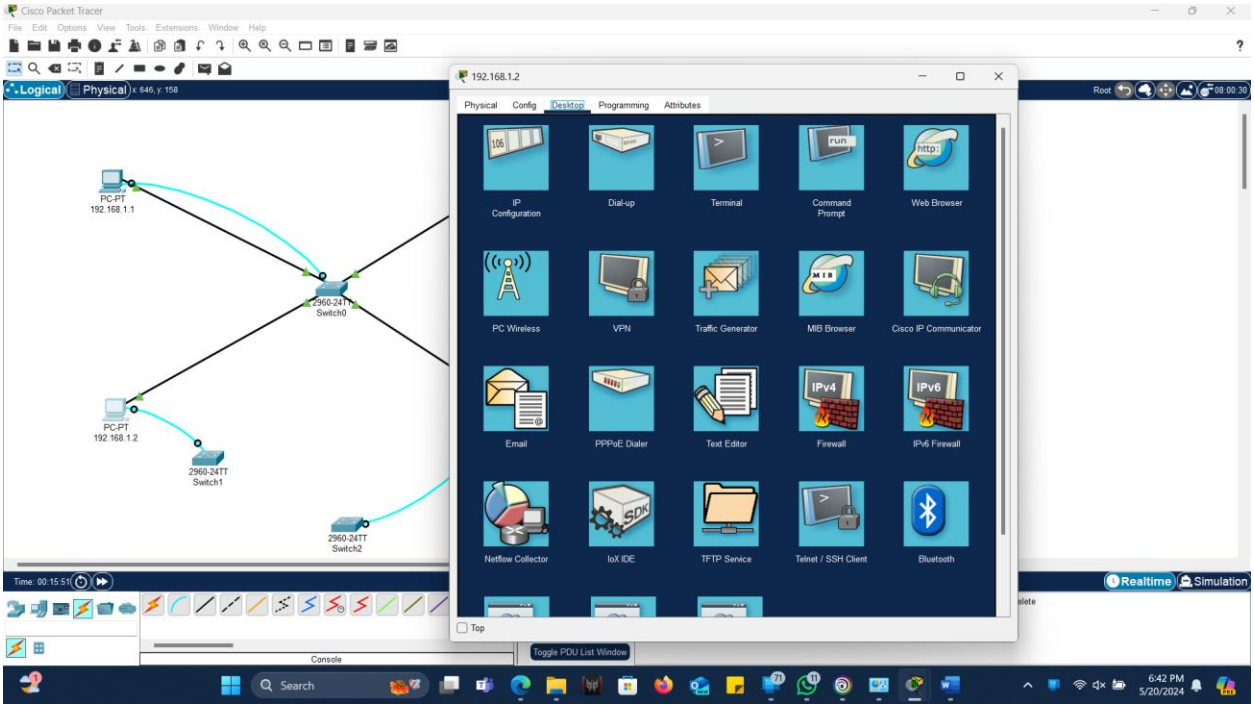
Configure Packet Tracer according to Question.



3 PCs with a laptop and 3 switches connected to the console to 2 PCs and 1 laptop as the question shows.

Setting up IPv4



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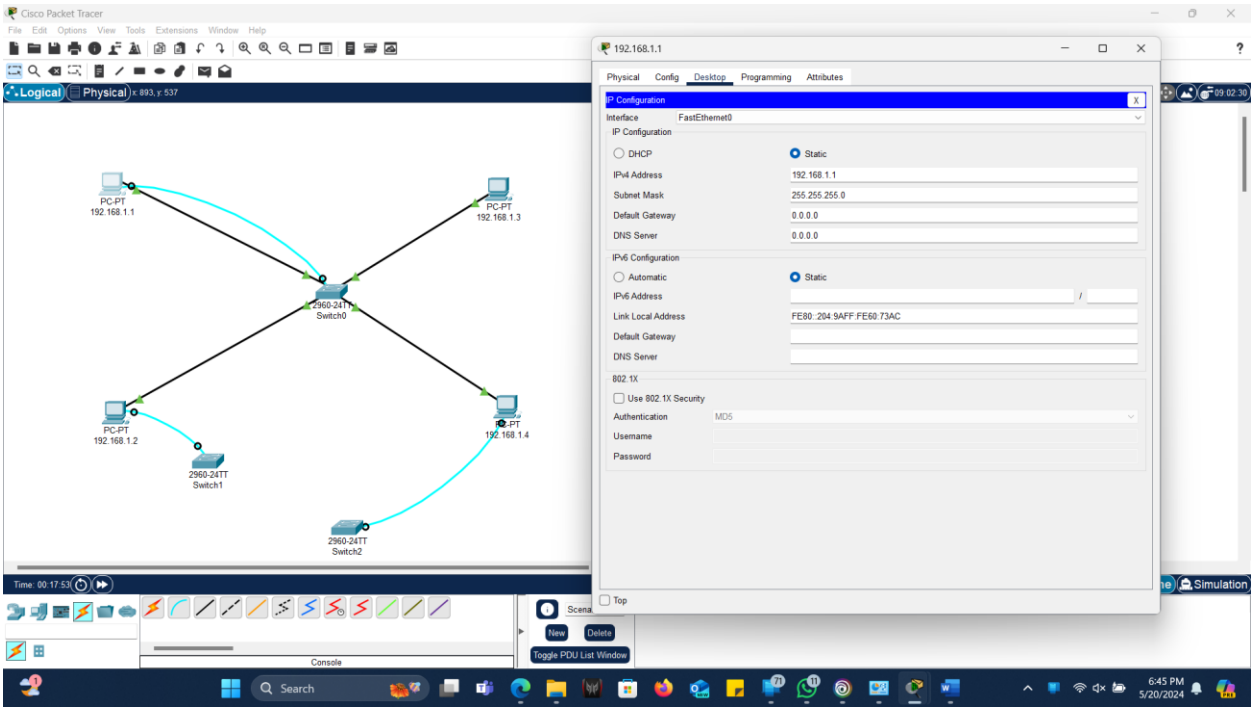
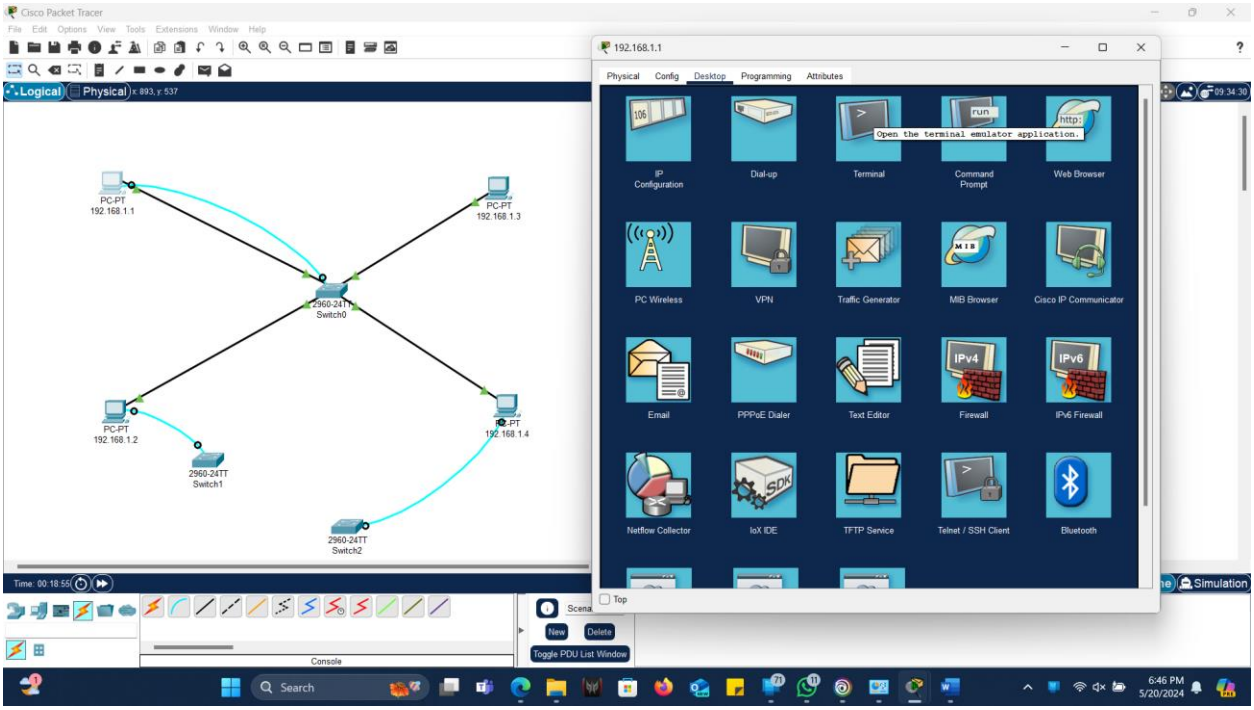
To set up the IP address click on one PC/laptop on the desktop tab and click IP configuration

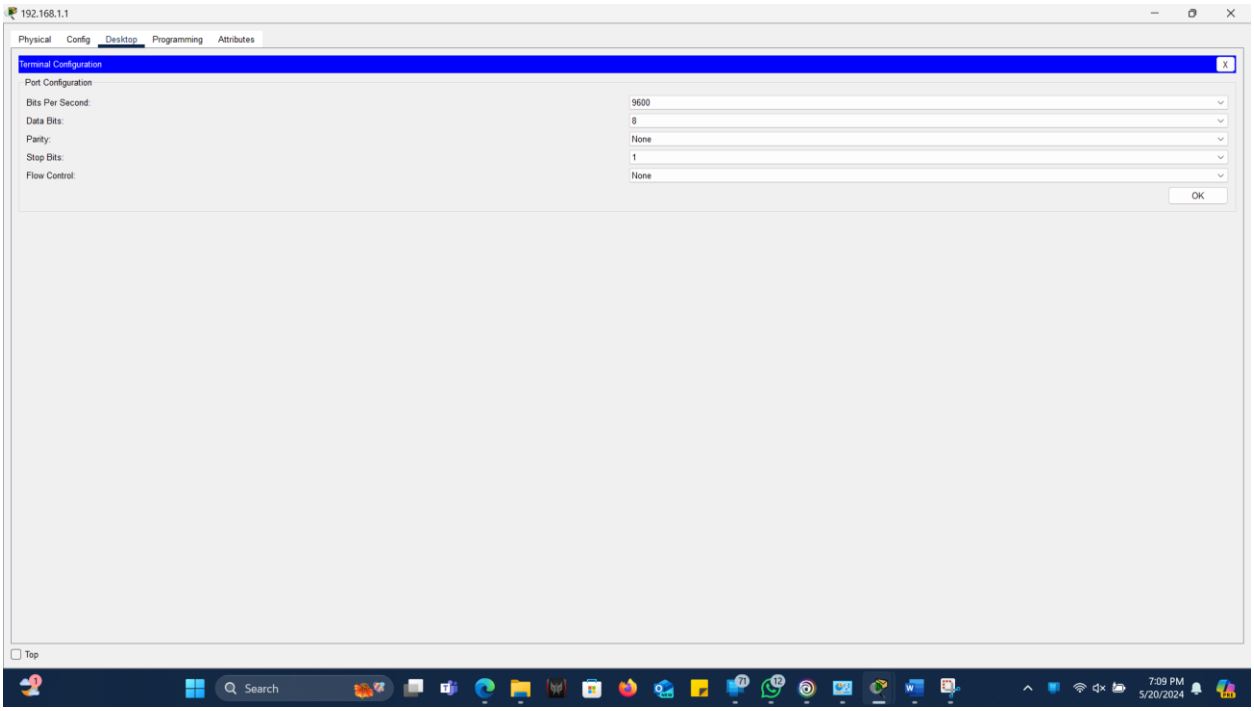


Then set the IP address and subnet. For all endpoint devices

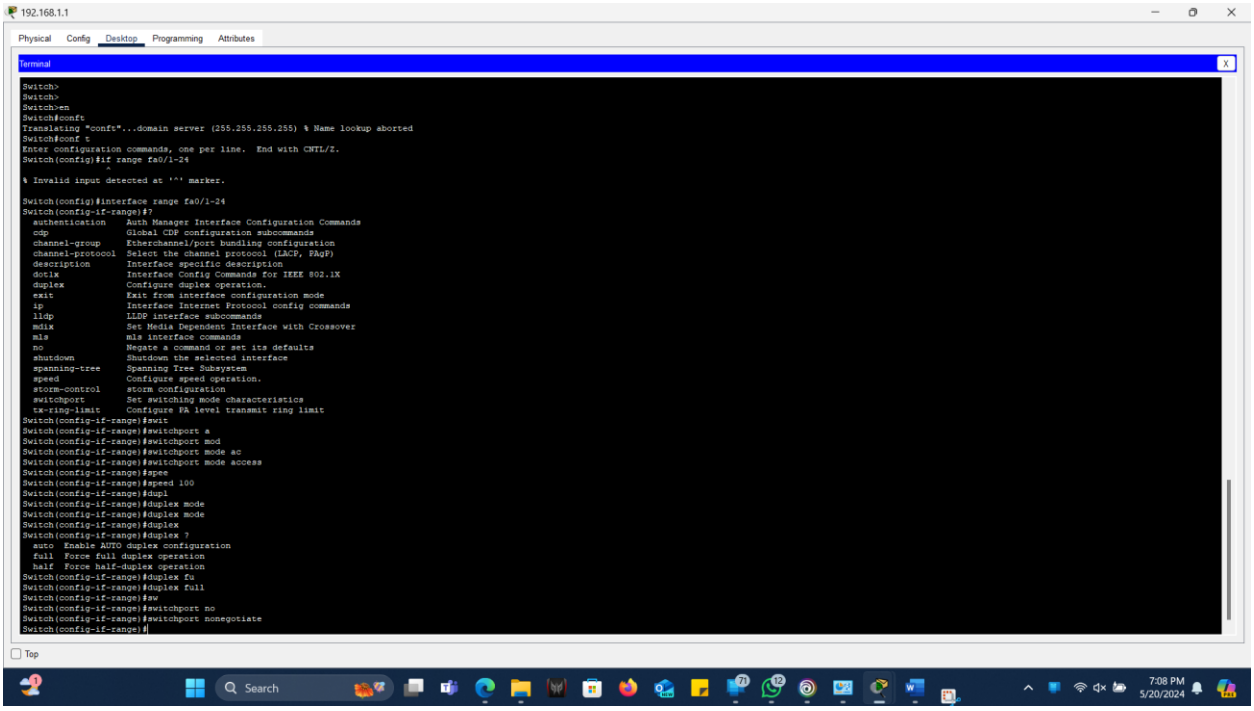
TASK 1: Setup switch 0



To access the switch 0 console, we go to pc 1 desktop and click on the terminal



Click ok to connect to the switch console.



To access the interface configuration mode we need to change from User Mode**(enable)**>Privileged Mode **(Configure terminal)**>Configure Mode. (I used the short word method which Cisco routers recognize).

```
Switch>en
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
```

Now to access the interface configuration we can use **interface fastEthernet 0/1** but since we need to access all the ports we can use (I used the short word method which Cisco routers recognize.)

```
Switch(config)#in range fa0/1-24
Switch(config-if-range)#
```

This will make changes to all 24 ports

1. To set port to access port.

   ```
   Switch(config-if-range) #switchport mode access
   ```

2. To set the port speed to 100Mbits/s

   ```
   Switch(config-if-range) #speed 100
   ```

3. To set the duplex mode to full

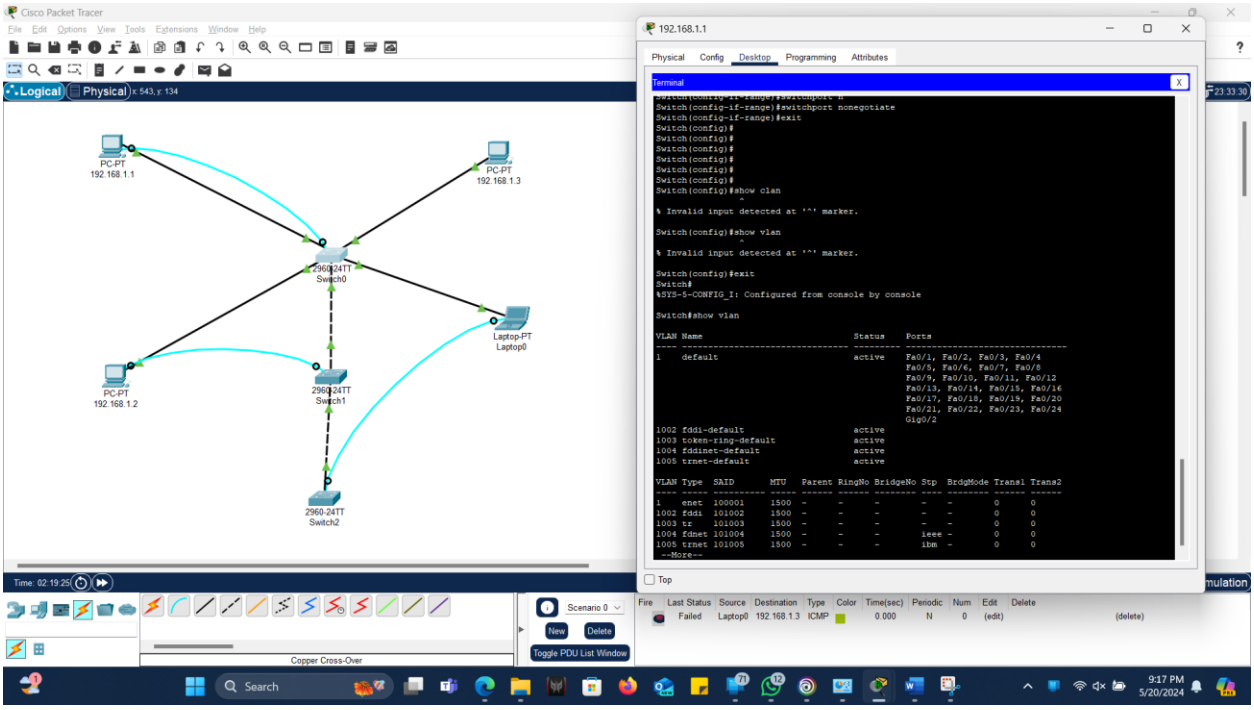
   ```
   Switch(config-if-range) #duplex full
   ```

4. To Disable Auto Negotiation (Even though these settings are disabled automatically as we change the bandwidth speed and Duplex mode-using this we make sure to stop dynamic trunking)

   ```
   Switch(config-if-range) #switchport nonegotiate
   ```

TASK 2: Identify why Laptop (PC4) can’t communicate with other devices

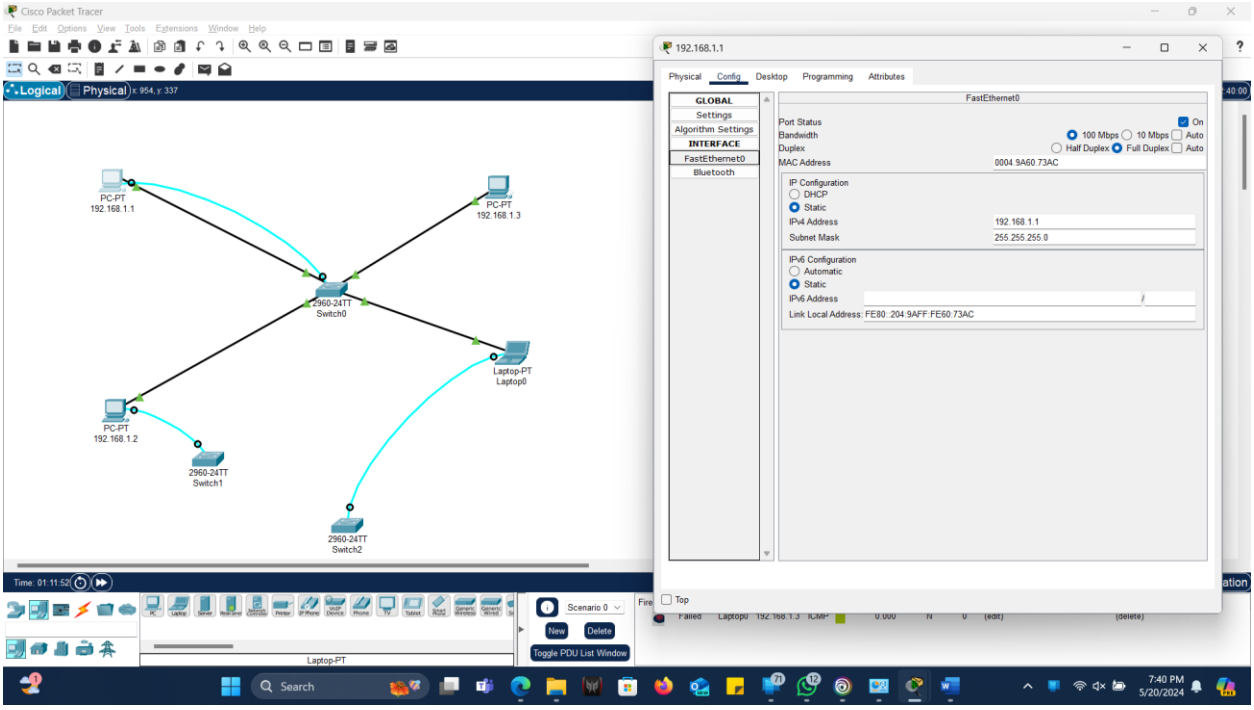
So to find out why the Laptop can’t communicate with other systems we need to first check the VLANS and its associated ports that we use we check if they are in the same vVlan because switch has broadcast domain and when I looked in to the ports assigned to Vlan 1 even fastEthernet 0/4 is still available in the Vlan 1 that when I came to conclusion that there was so many broadcast messages which is called broadcast storm then it will shut down the last port



But after you do manual negotiations like setting up the Bandwidth and Duplex settings, we must be able to connect it back as we stop auto negotiations.

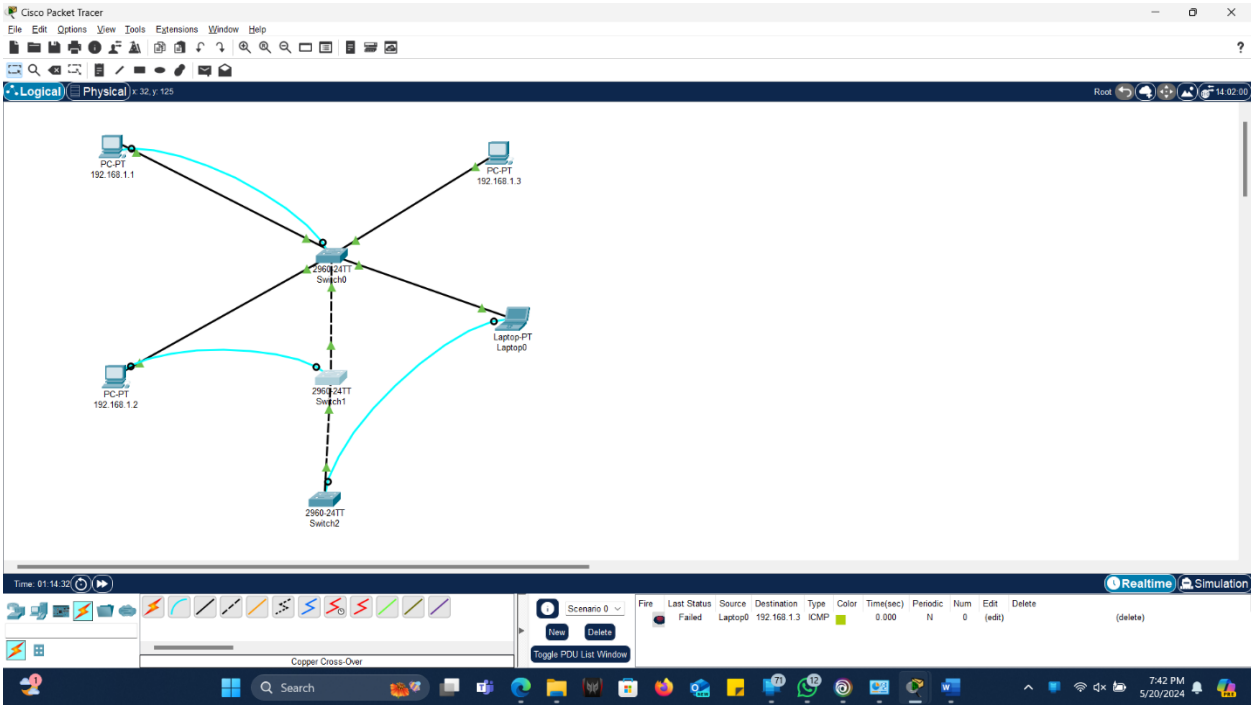
The configuration was successful because we set the switch to non-negotiate mode and manually specified the speed and duplex settings. Since auto-negotiation is disabled, the endpoint device will not receive any information about the speed and duplex settings from the switch.

This means that the switch port is configured with a fixed speed of 100 Mbit/s and full duplex mode, and it will not attempt to negotiate these settings with the connected device. The connected device must be manually configured to match these settings for the connection to work properly.



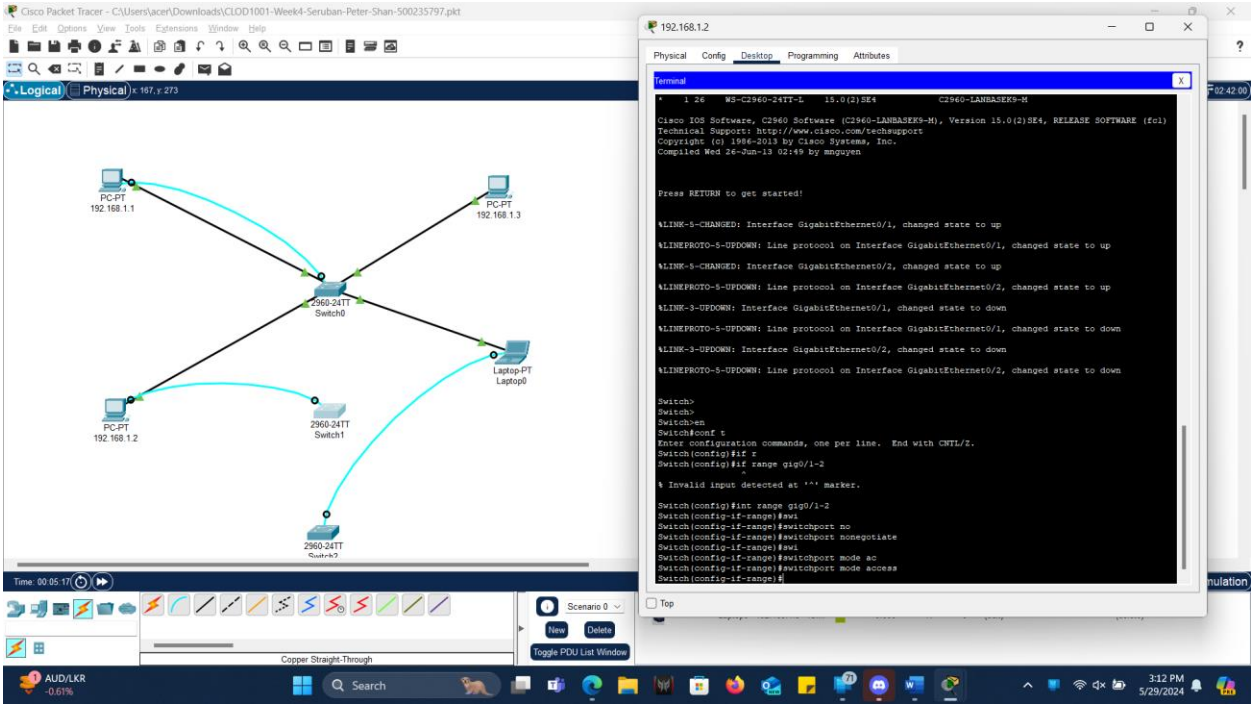
TASK 3: Connect all switches with the appropriate Cabel type

The cable I chose is crossover cable the reason I chose crossover cable, two same devices may have the same receiving and transmitting pins which will make the data to collide and create a data loss so in that case it's better to cross over cables to prevent this issue with same device connections

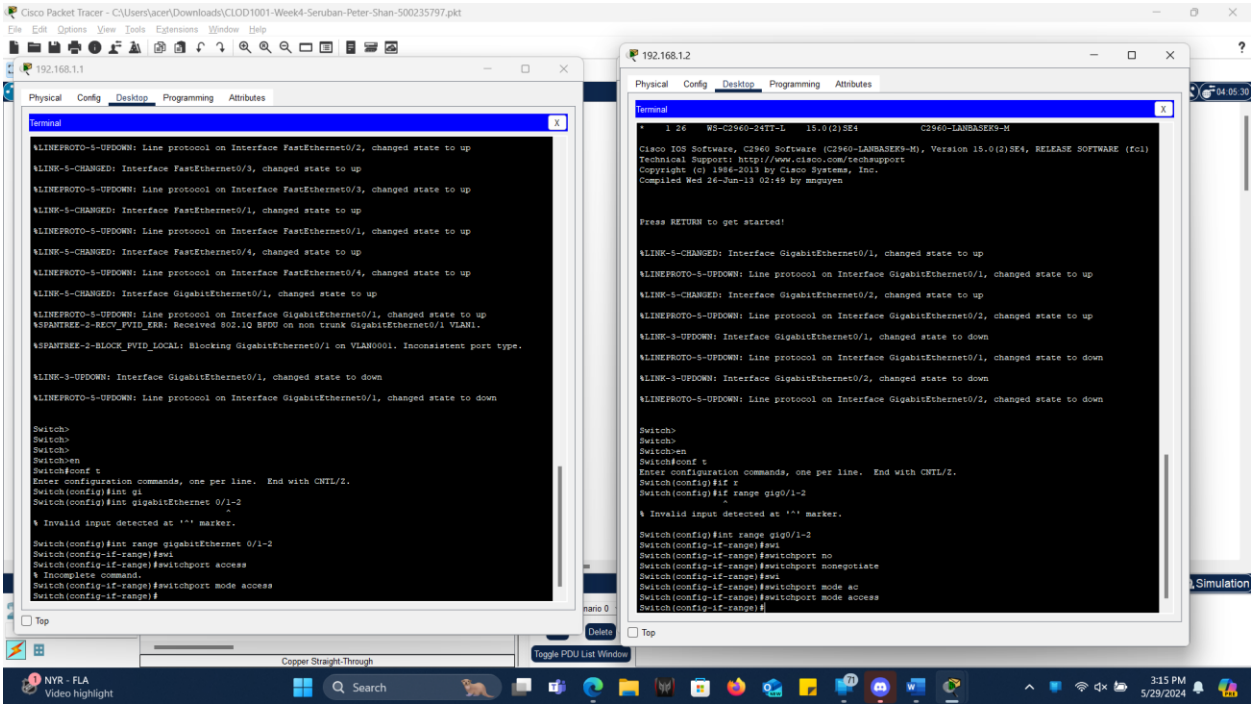


TASK 4:Setting Gigabit cable to Trunk with no negotiation

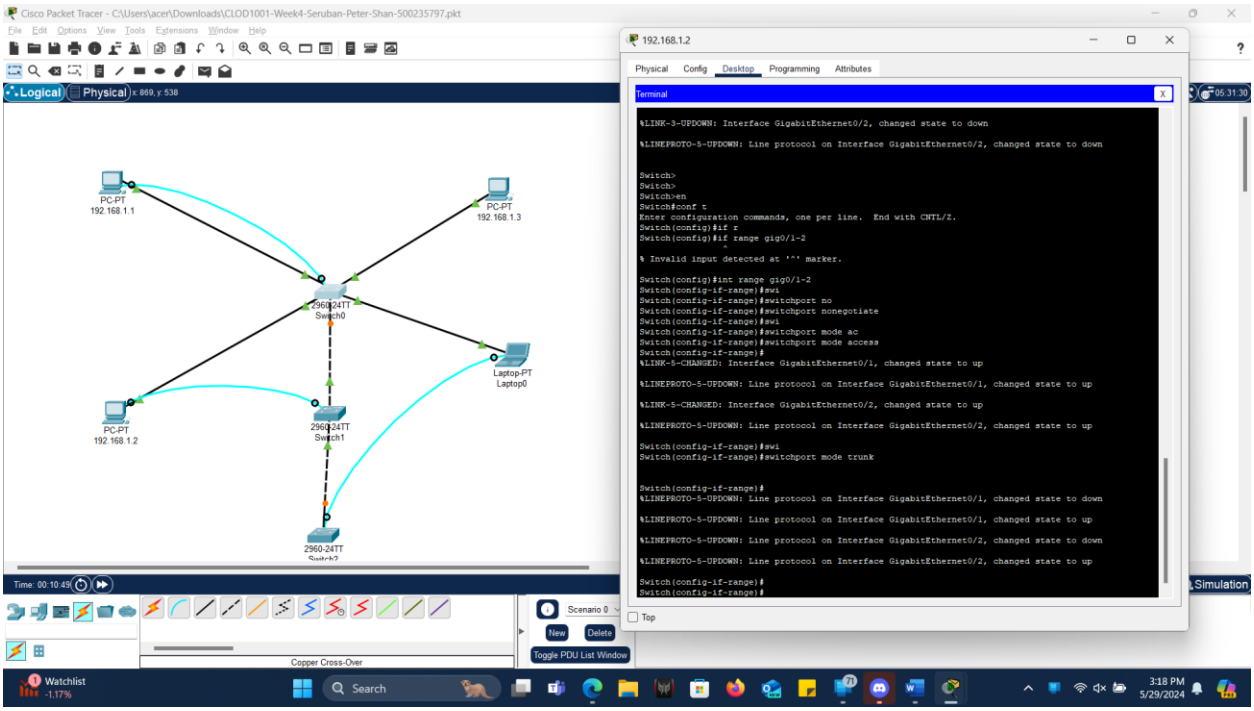
When we do this, I remove my Switch Gigabit cables as we need to disable negotiation. Later I configure switch 1 pc 2(192.168.1.2) to nonegotiate for both gigabit ports and change the port mode to access.



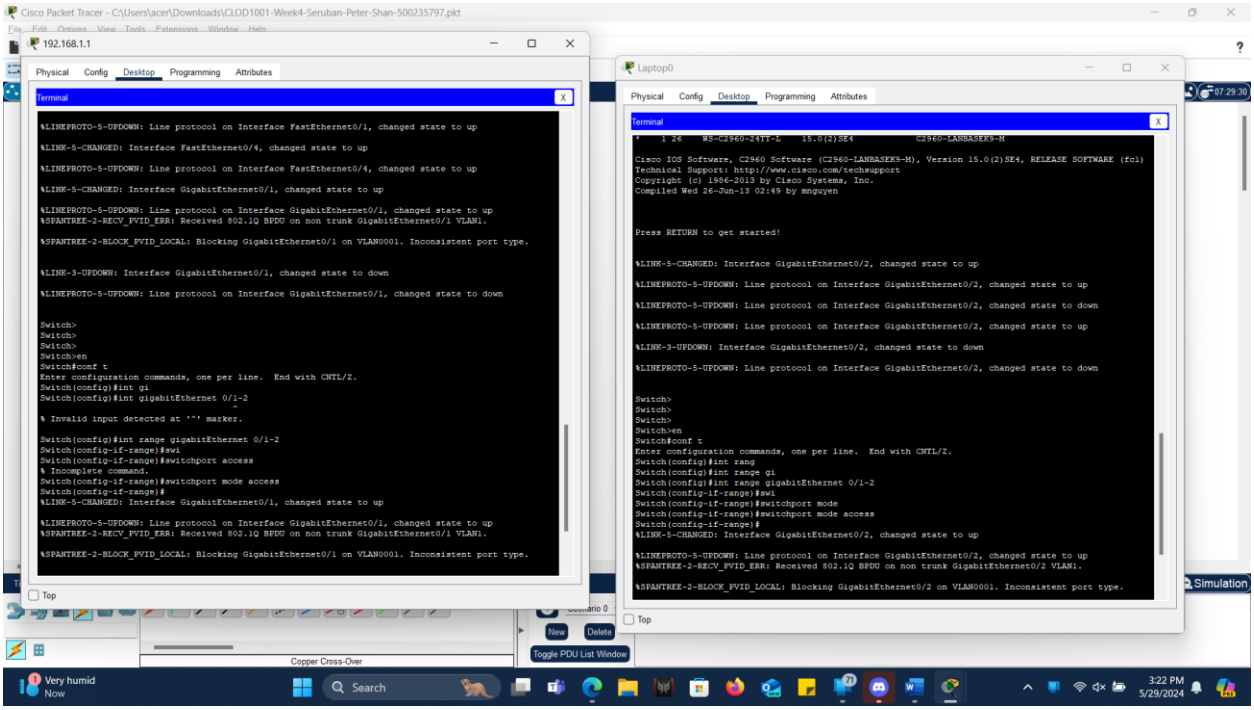
I made sure that the other switch is also in access mode as I made changes to it before I wrote this document to check if my code was working.



Now we can connect them and change them to trunk mode, but the connection won't be fulfilled as the other connections are in access mode which confirms that auto negotiation is not working



So, you will get a message as given below to prove if you have disabled negotiation



After changing the connection for both other switches the connection will go up and both gigabit connections will work. (see below image)