CEL 51, DCCN, Monsoon 2020

Lab 4: Prototyping a Network

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Objective:

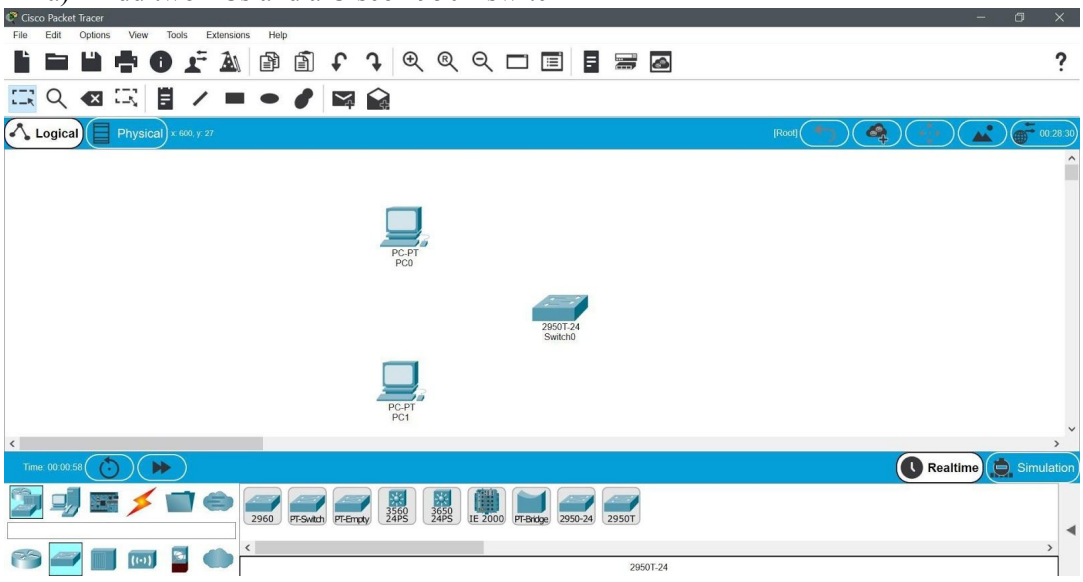
Prototype a network using Packet Tracer

Background

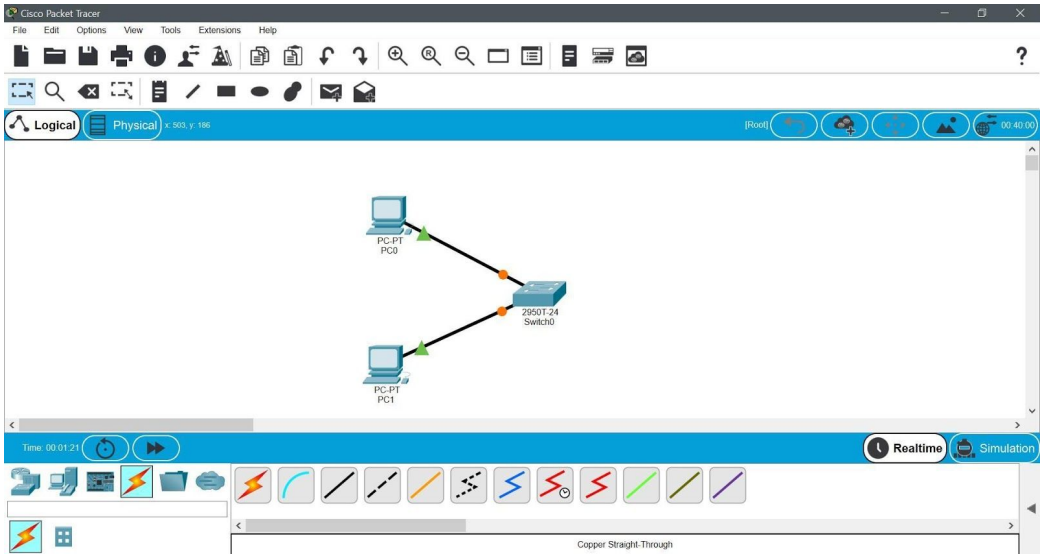
A client has requested that you set up a simple network with two PCs connected to a switch. Verify that the hardware, along with the given configurations, meet the requirements of the client.

Step 1: Set up the network topology

a) Add two PCs and a Cisco 2950T switch

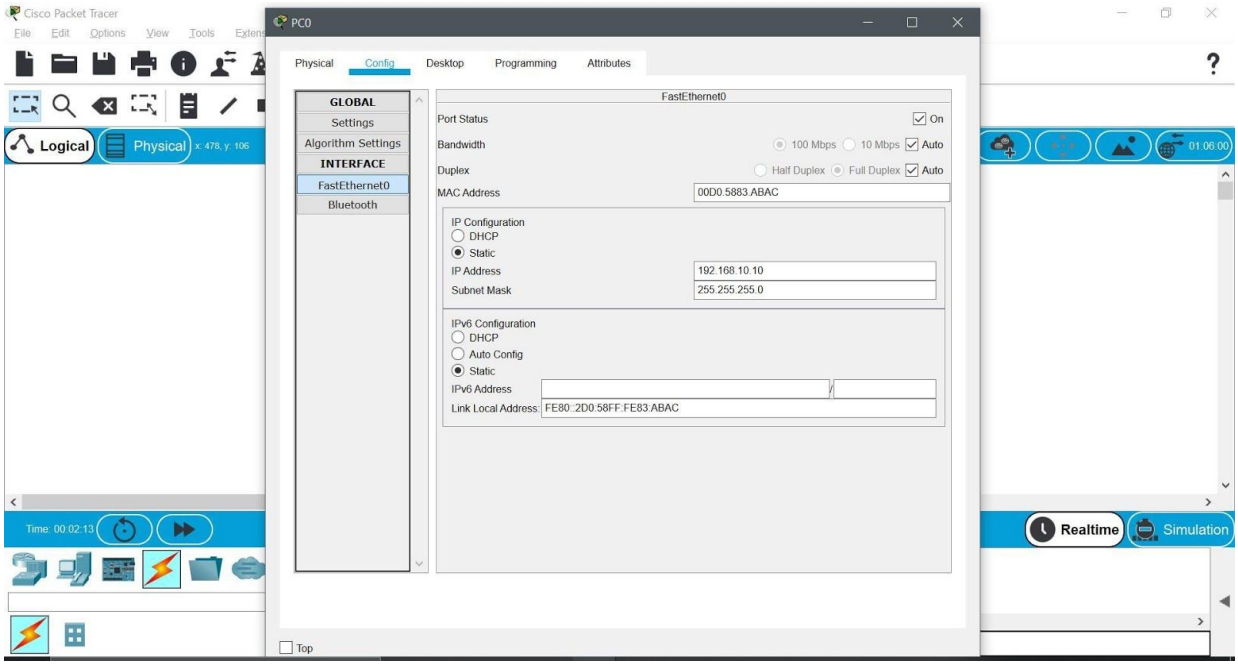


b) Using straight-through cables, connect **PC0** to interface **Fa0/1** on **Switch0** and **PC1** to interface **Fa0/2** on **Switch0**.

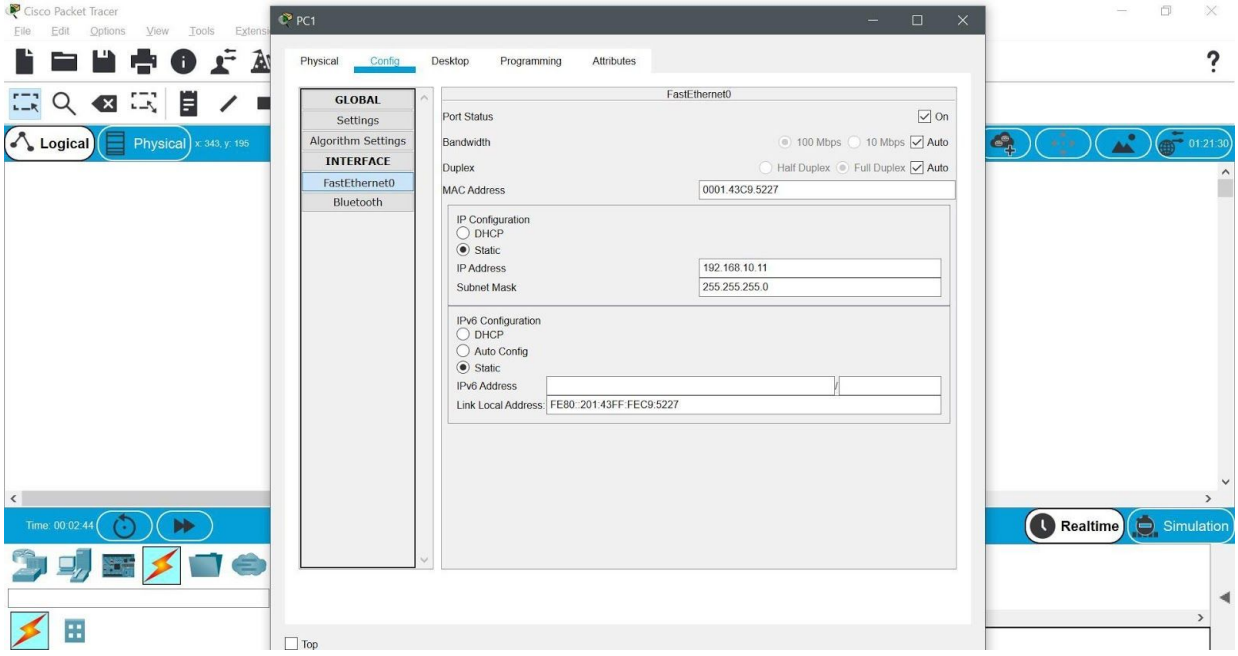


c) Configure PC0 using the **Config** tab in the PC0 configuration window:

a. IP address: 192.168.10.10
b. Subnet Mask 255.255.255.0

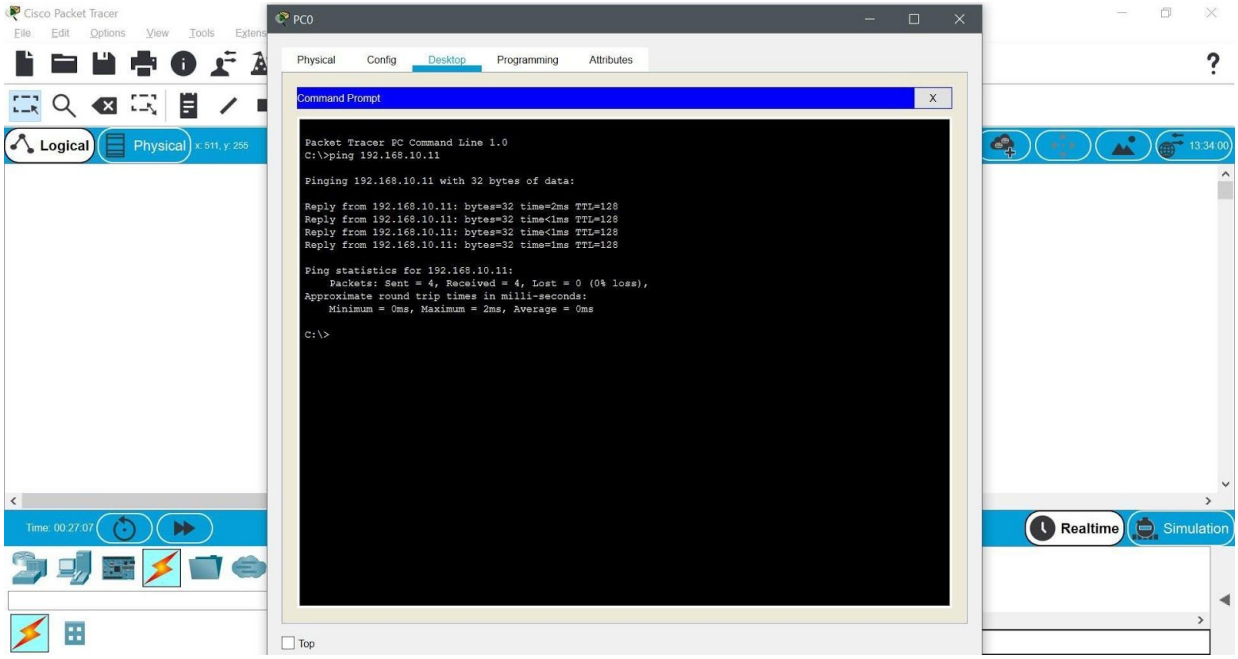


d) Configure PC1 using the **Config** tab in the PC1 configuration window a. IP address: 192.168.10.11
b. Subnet Mask 255.255.255.0



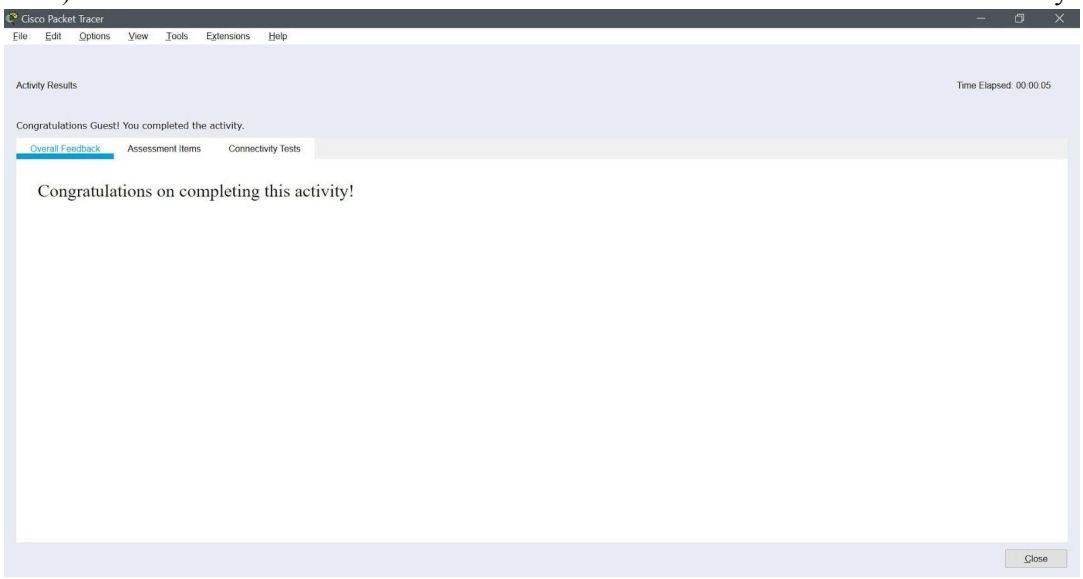
Step 2: Test connectivity from PC0 to PC1

a) Use the **ping** command to test connectivity.
    a. Click PC0.
    b. Choose the **Desktop** tab.
    c. Choose **Command Prompt**.
    d. Type: **ping 192.168.10.11** and press *enter*.



b) A successful **ping** indicates the network was configured correctly and the prototype validates the hardware and software configurations. A successful ping should resemble the below output:

c) Close the configuration window.
d) Click the **Check Results** button at the bottom of the instruction window to check your work..



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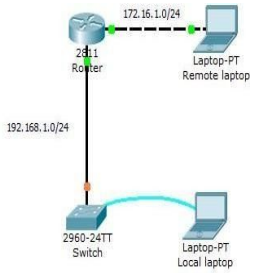
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

Objective:
This lab will test your ability to configure basic settings such as hostname, motd banner, encrypted passwords, and terminal options on a Packet Tracer 6.2 simulated Cisco Catalyst switch.



1. Use the local laptop connect to the switch console.

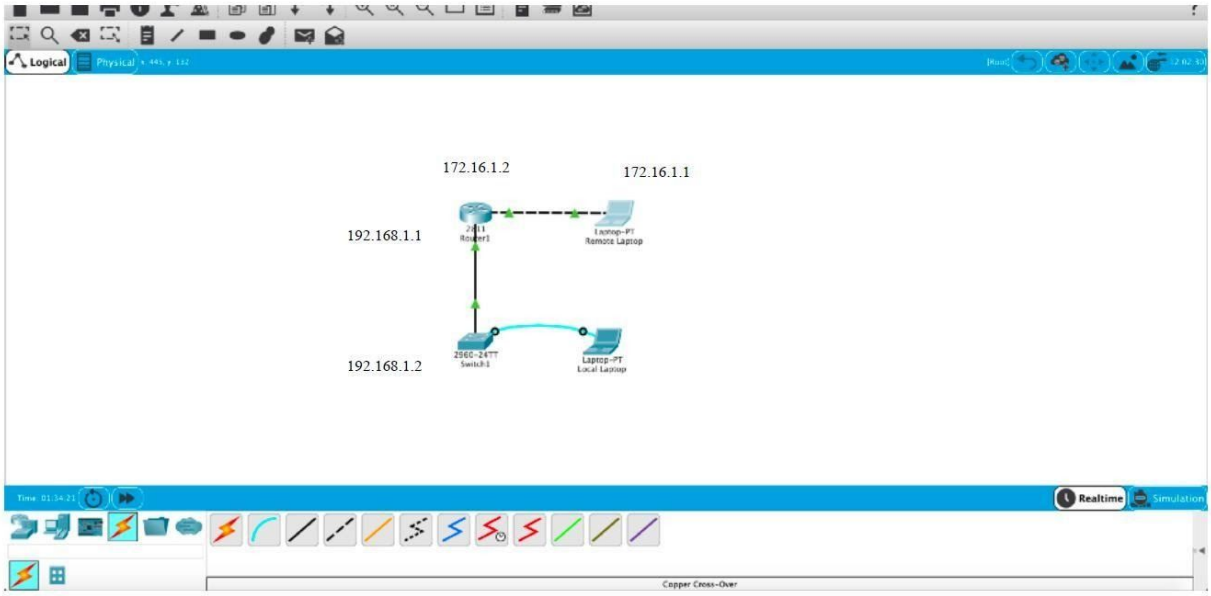


Fig 1: shows the connection. The remote laptop is connected to the router using copper cross over wire. The router is connected to the switch using a copper straight through cable. The local laptop is connected to the switch console.

2. Configure Switch hostname as LOCAL-SWITCH

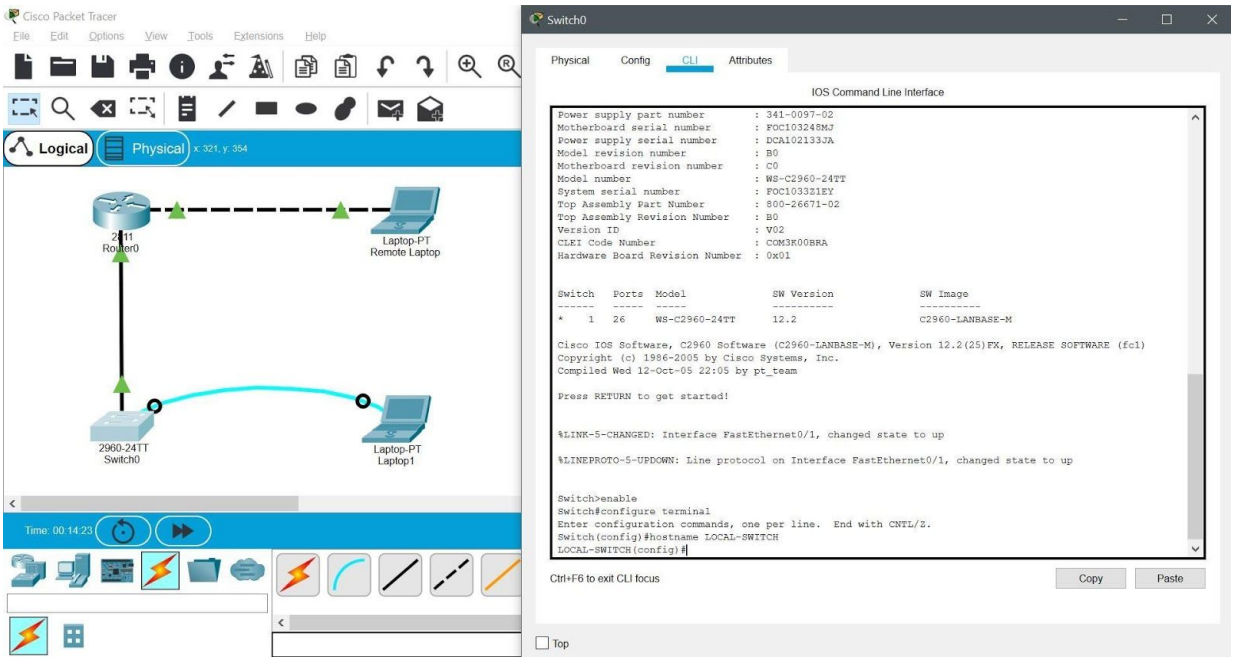


Fig 2: shows that the hostname is set to LOCAL-SWITCH.

3. Configure the message of the day as "Unauthorized access is forbidden"

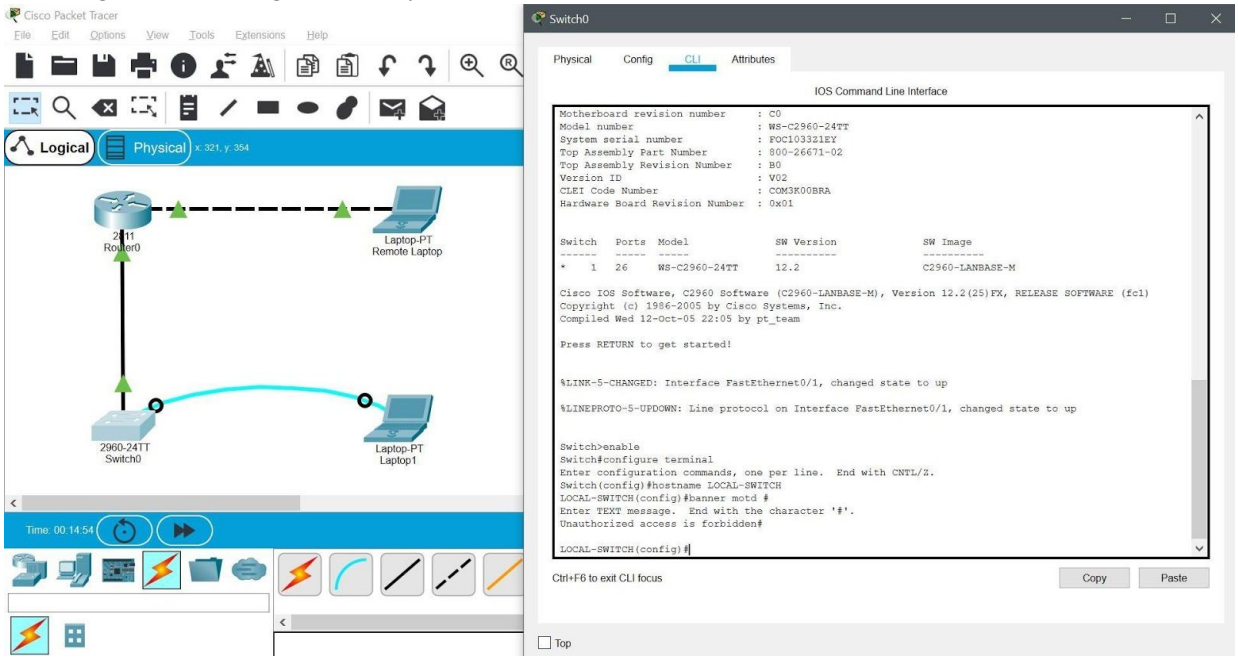


Fig 3: shows that the the message of the day is set by banner motd # command.

4. Configure the password for privileged mode access as "cisco". The password must be md5 encrypted

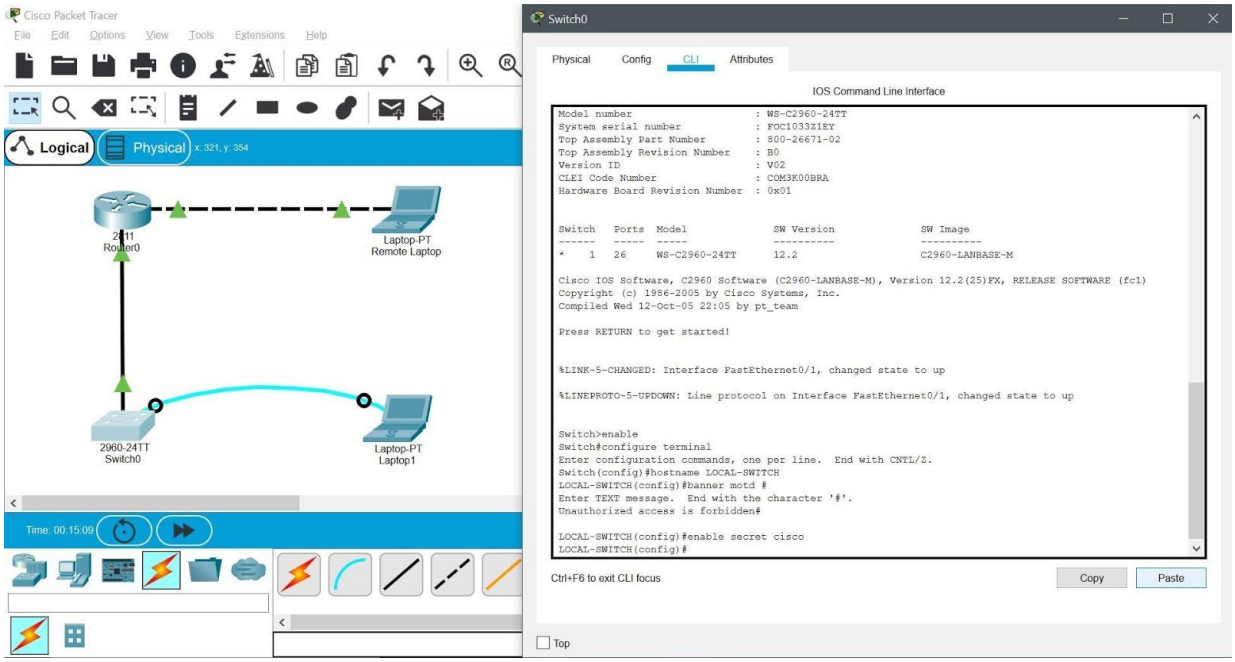


Fig 4: shows that the password is then set by enable secret and is set to cisco.

5. Configure password encryption on the switch using the global configuration command

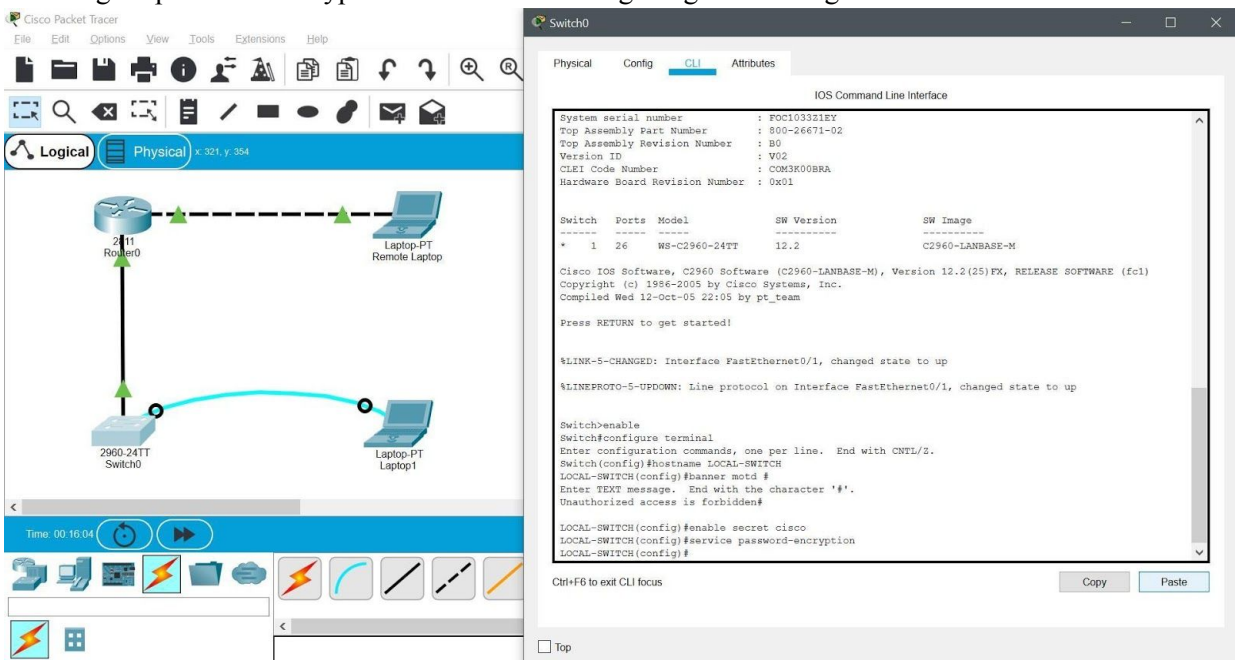


Fig 5: shows that the encryption is done by service password-encryption.

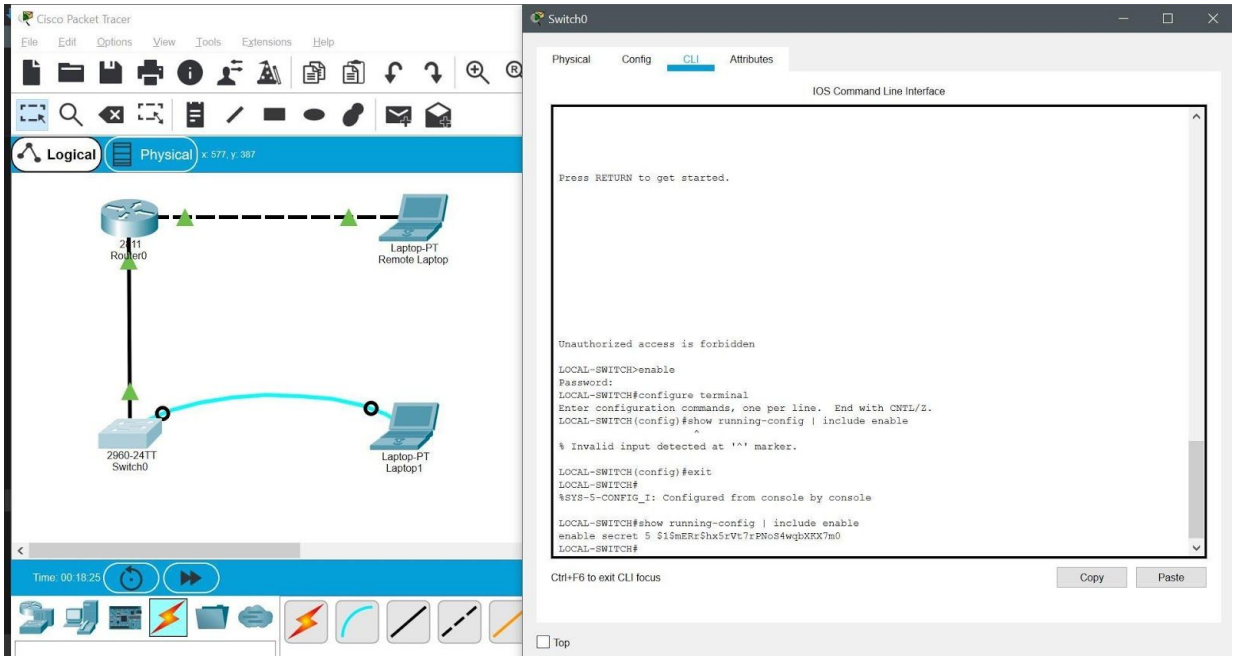


Fig 6: shows that to enable the console the password is required.

6. Configure CONSOLE access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 6'45"
- Synchronous logging

6. Configure TELNET access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 8'20"
- Synchronous logging

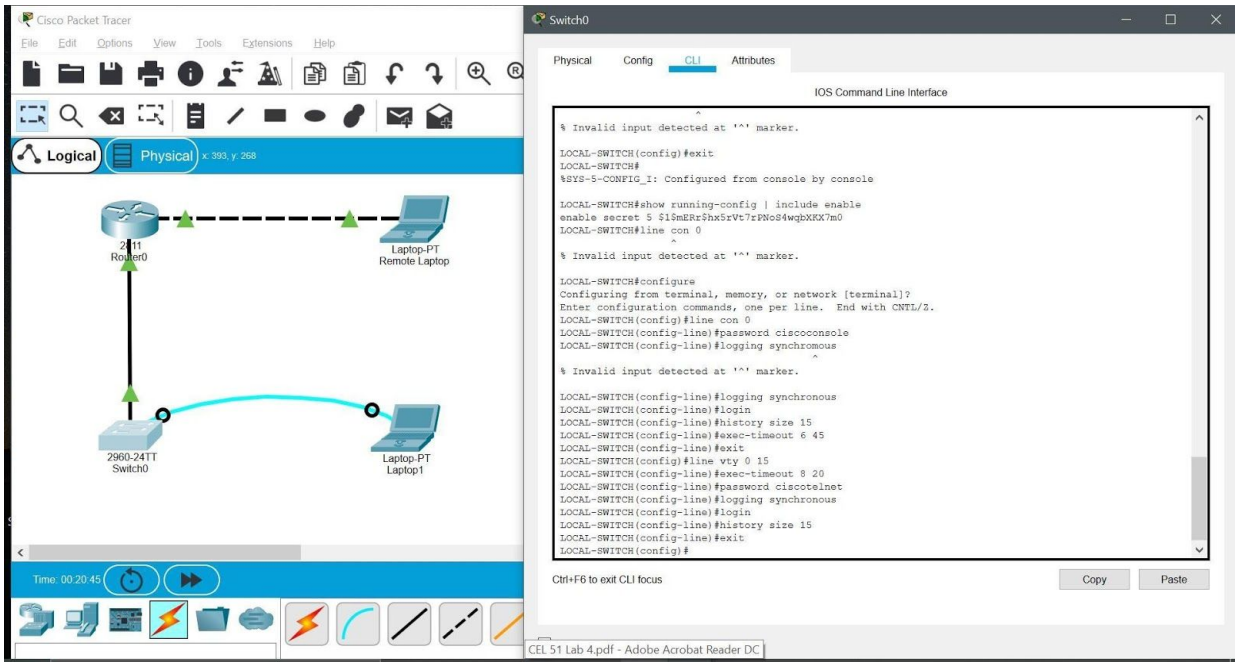


Fig 7: shows that the Console Configurations are set such as password, login, timeout(idle time until access ends), history size. Similarly, Telnet Configurations are then set.

7. Configure the IP address of the switch as 192.168.1.2/24 and it's default gateway IP (192.168.1.1).

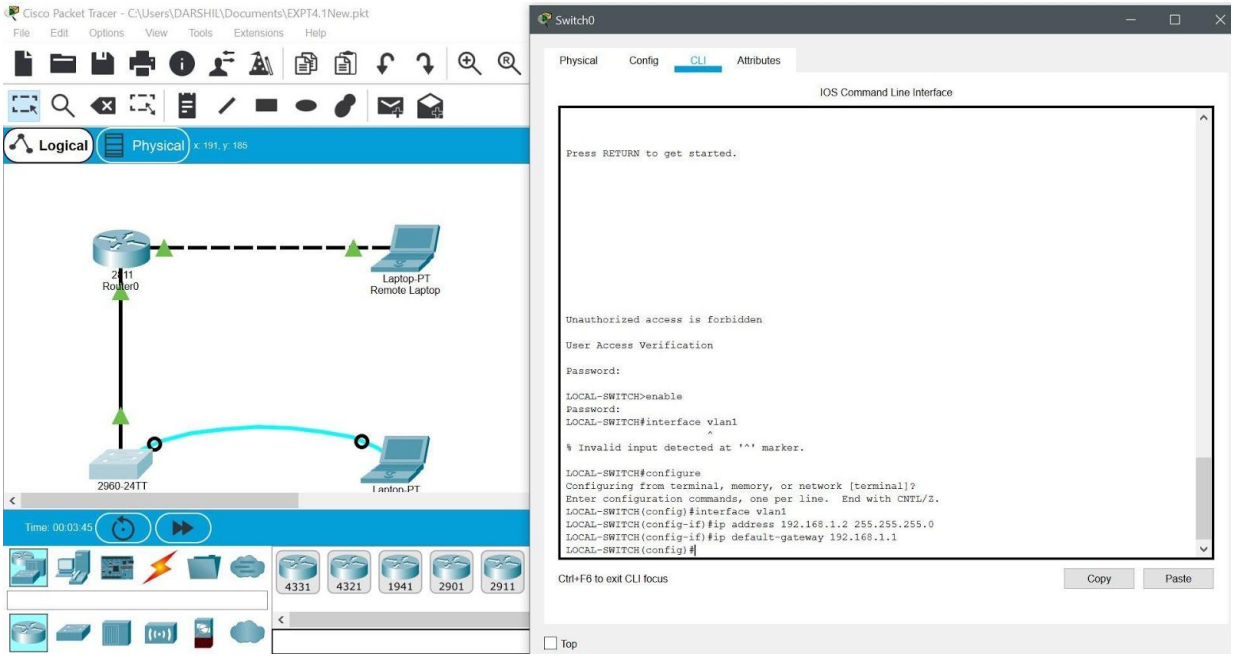


Fig 8 : Shows the configuration of switchs ip address and default gateway.

8. Test telnet connectivity from the Remote Laptop using the telnet client.

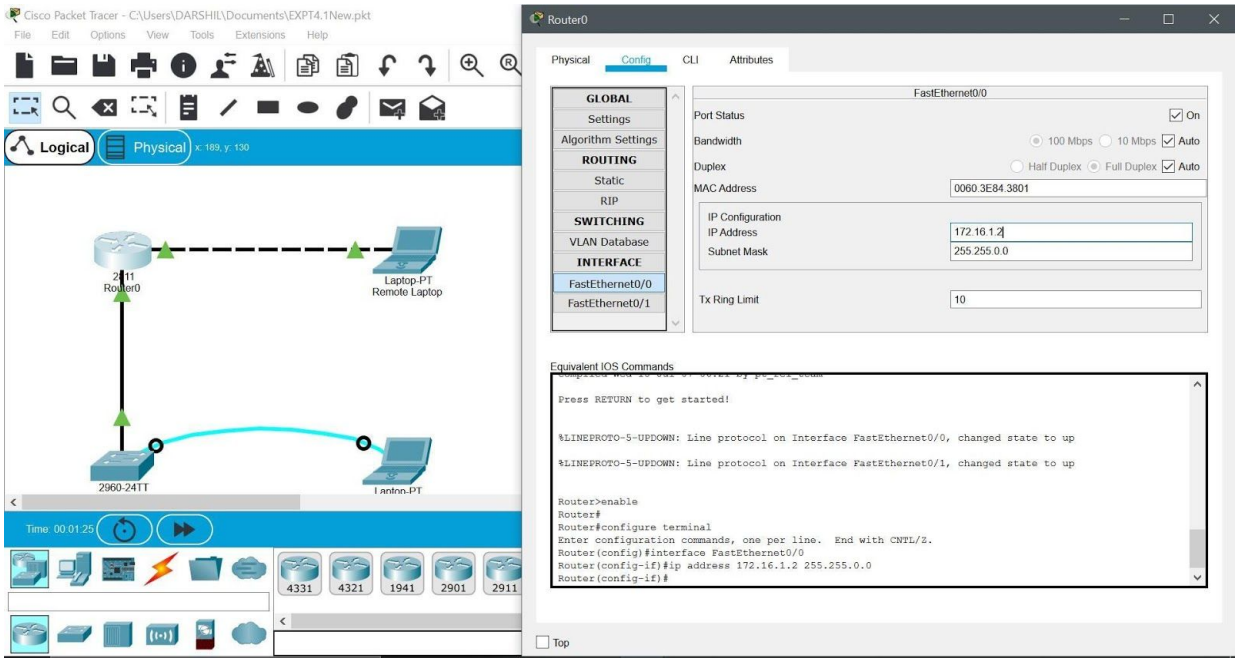


Fig 9: shows the configuration for fast ethernet 0/0 of the router. The IP address is set as 172.16.1.2 same as the gateway of the remote laptop mentioned bellowing Fig. 12

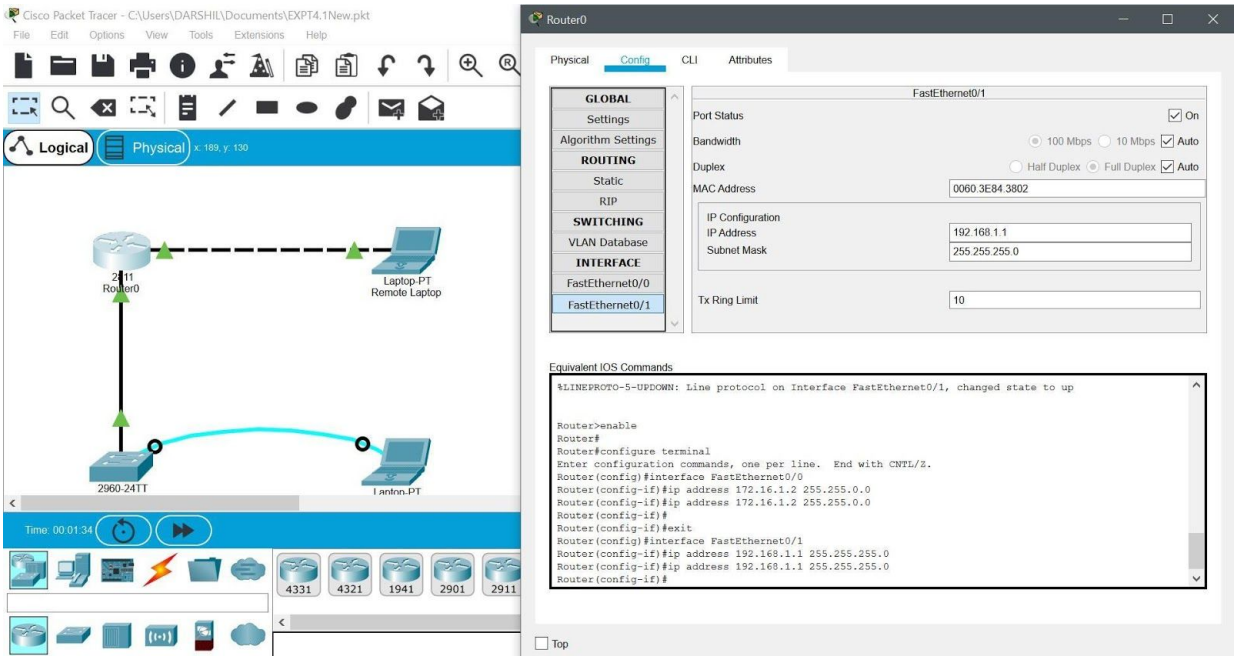


Fig 10: shows the configuration for fast ethernet 0/1 of the router. The IP address is set as 192.168.1.1

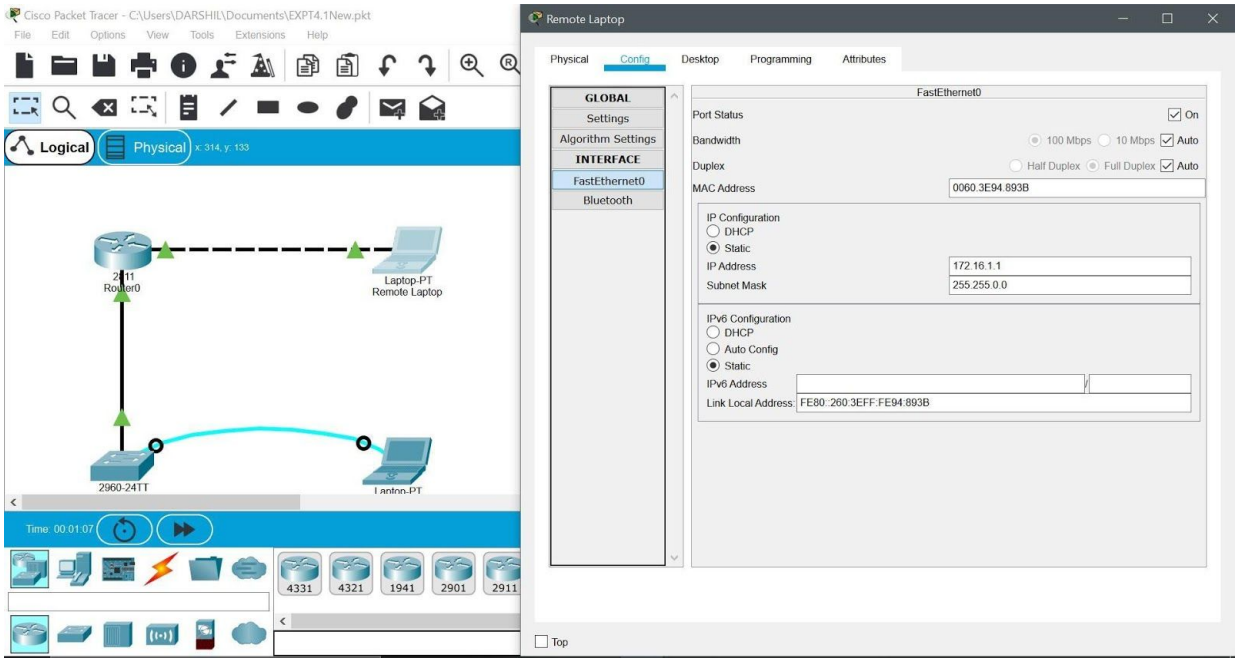


Fig 11: shows the configuration for fast ethernet 0/1 for remote laptop. The IP address is set as 172.16.1.1

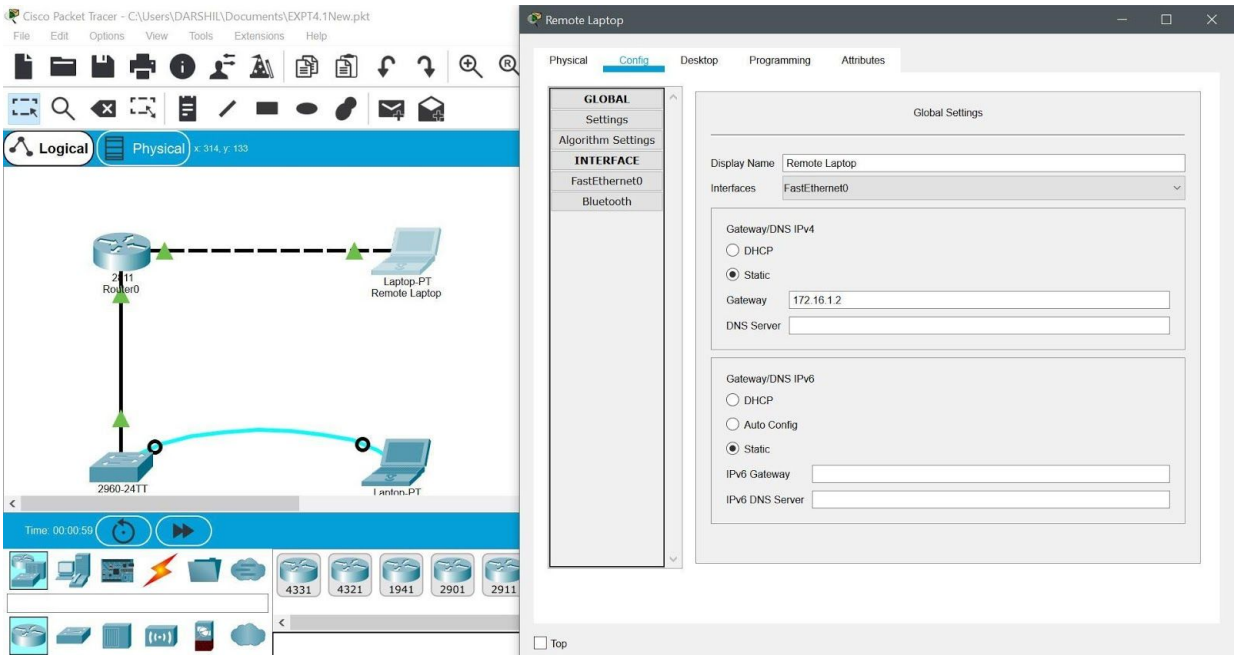


Fig 12: shows the settings for remote laptop. The ip gateway is set as 172.16.1.2 which is to be at the router port

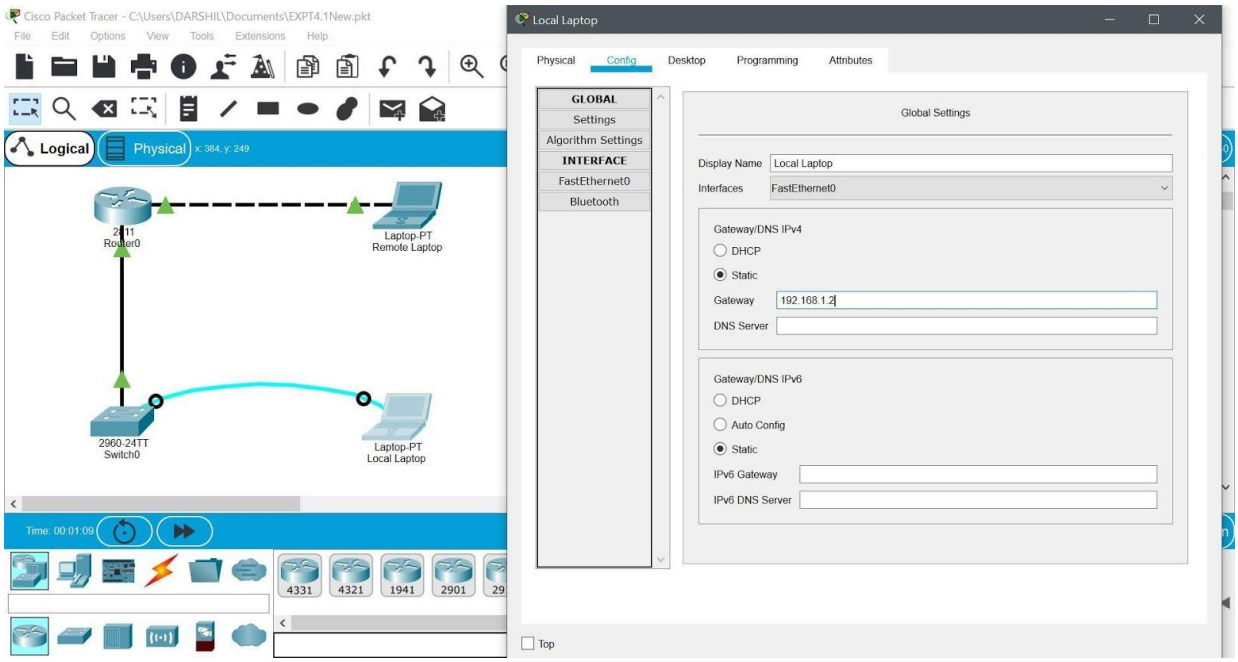


Fig 13 : Configuring the default gateway of local laptop as ip address of switch.

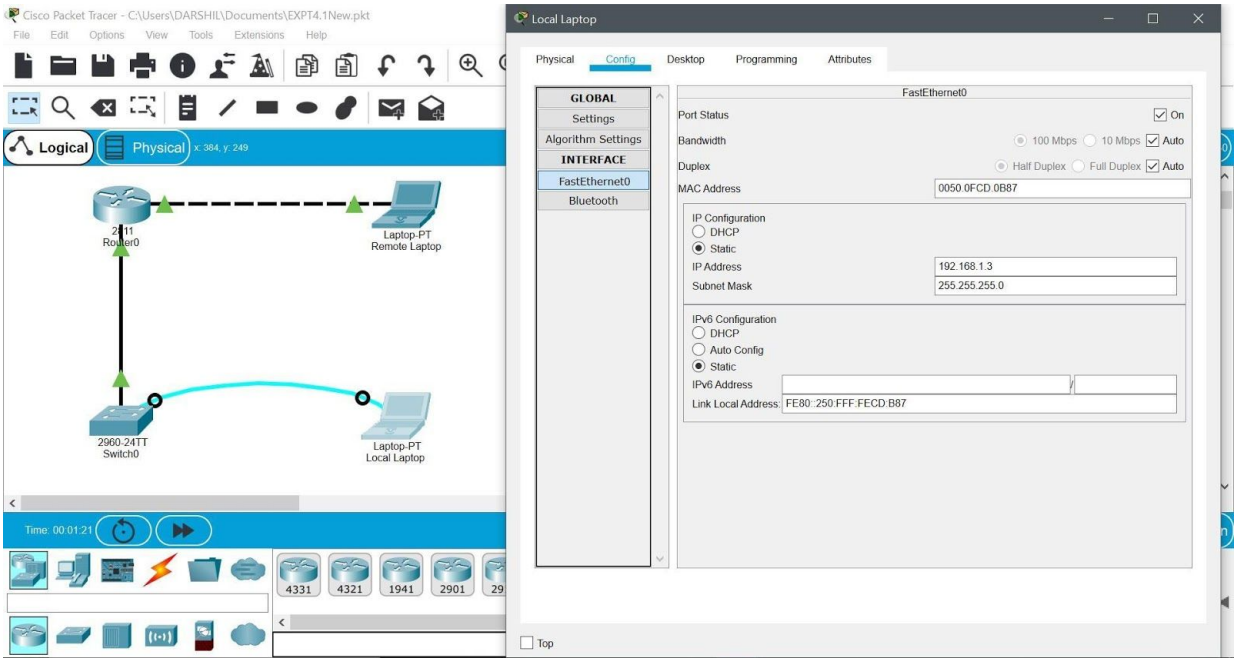


Figure 14 : Setting up the ip address of the local laptop.

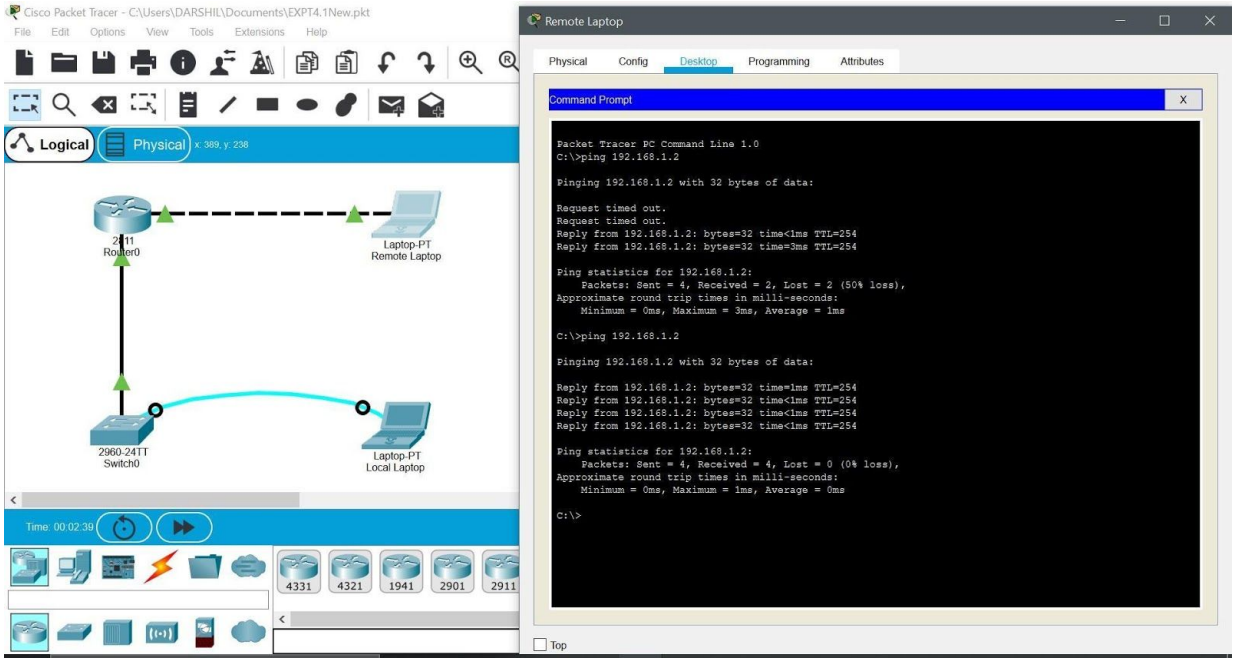


Fig 15 : Successfully Pinged the Switch. Next we test the telnet client.

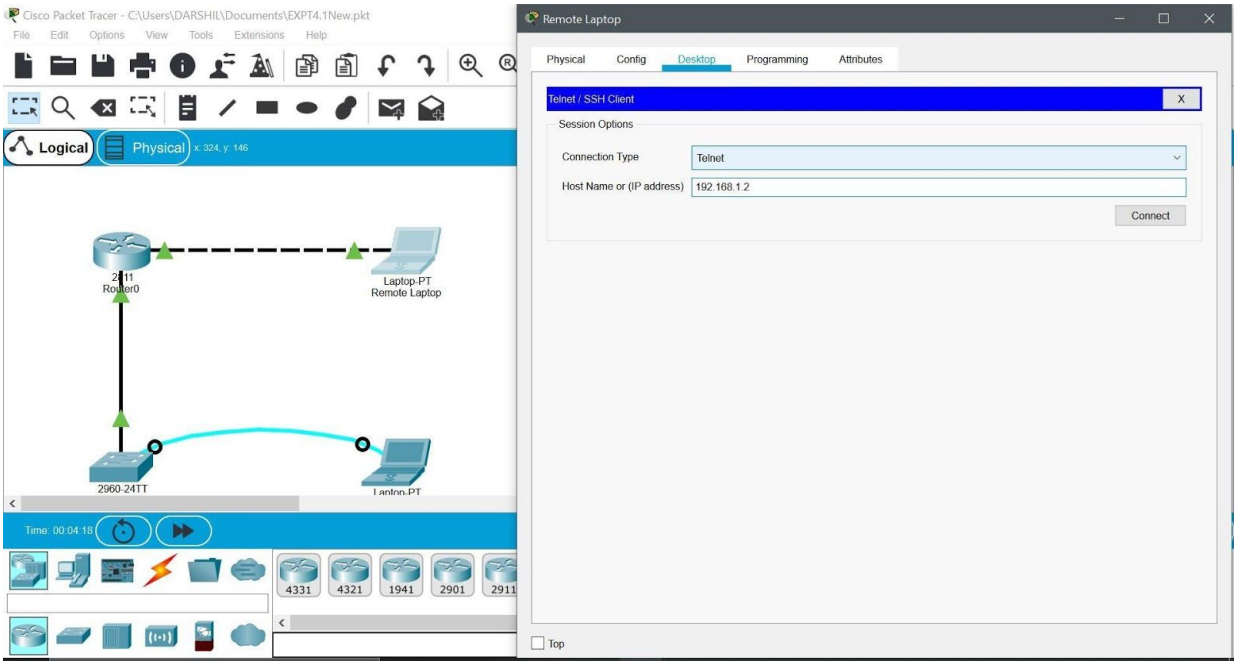


Fig 16: shows the telnet client. The IP address to connect to is 192.168.1.2 .

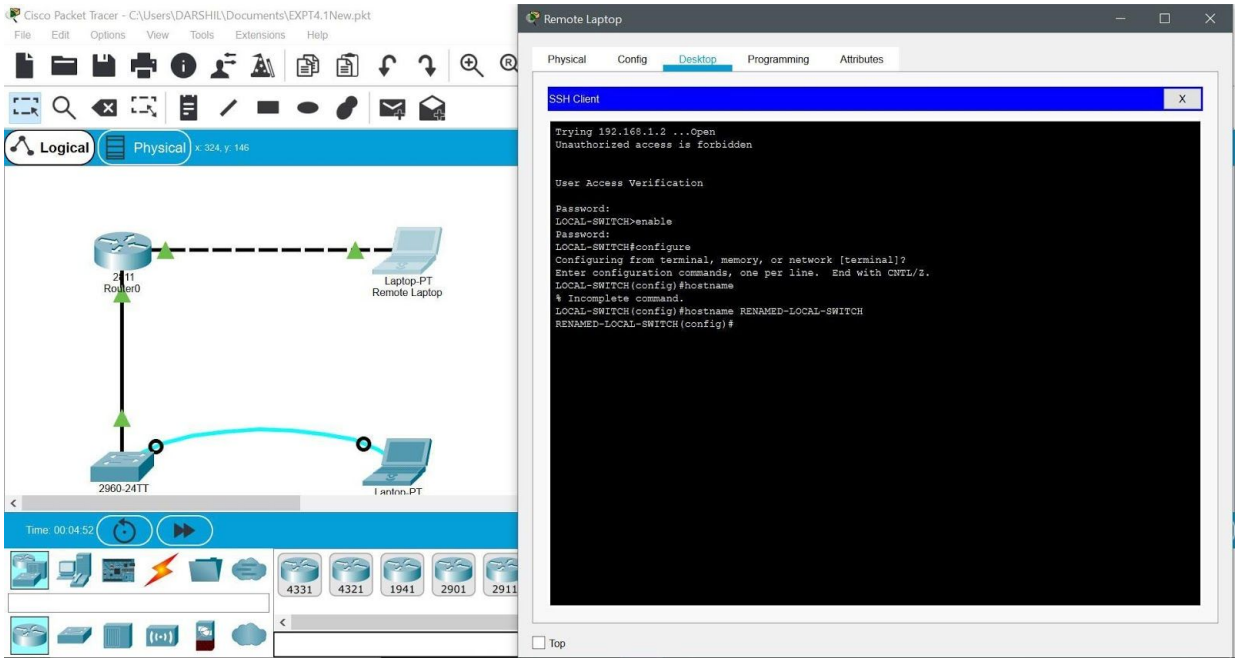


Fig 17: shows the telnet client accessing the terminal for the local switch.

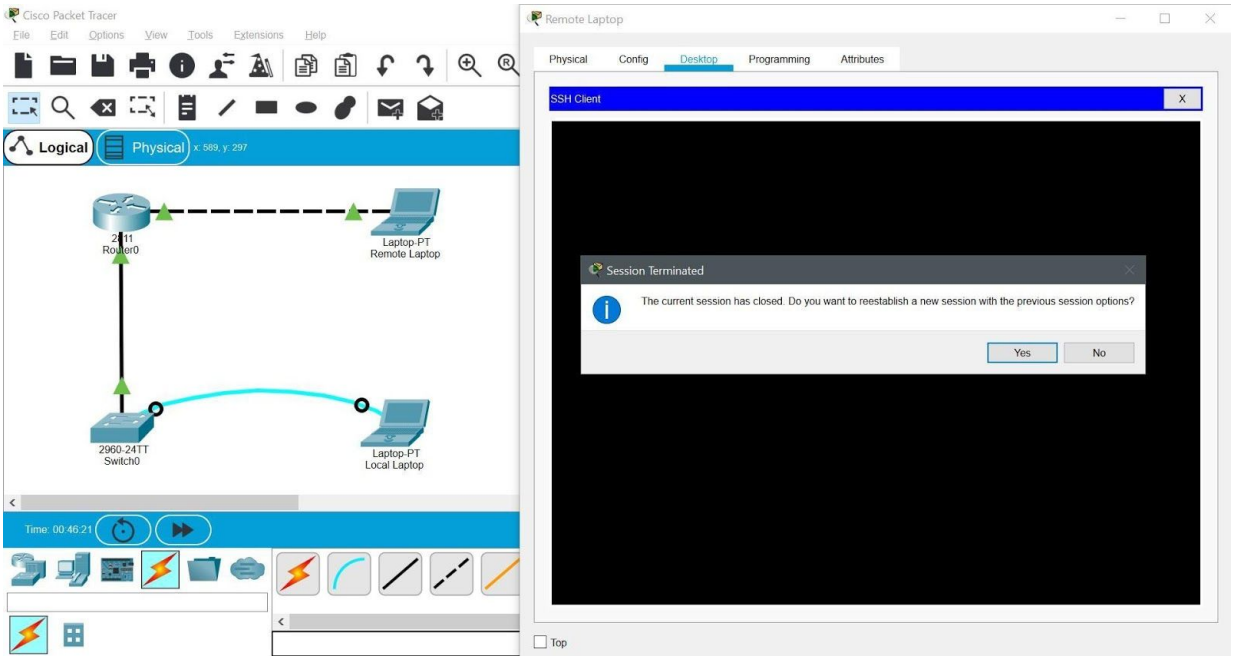


Fig 18: shows the inactivity of telnet client for 8 minutes 20 seconds after which this message is received.