Name: Karan Shah
Class: TE Comps
UID: 2018130048
Roll no: 54
Batch: D

CEL 51, DCCN, Monsoon 2020

Lab 4: Prototyping a Network

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**.

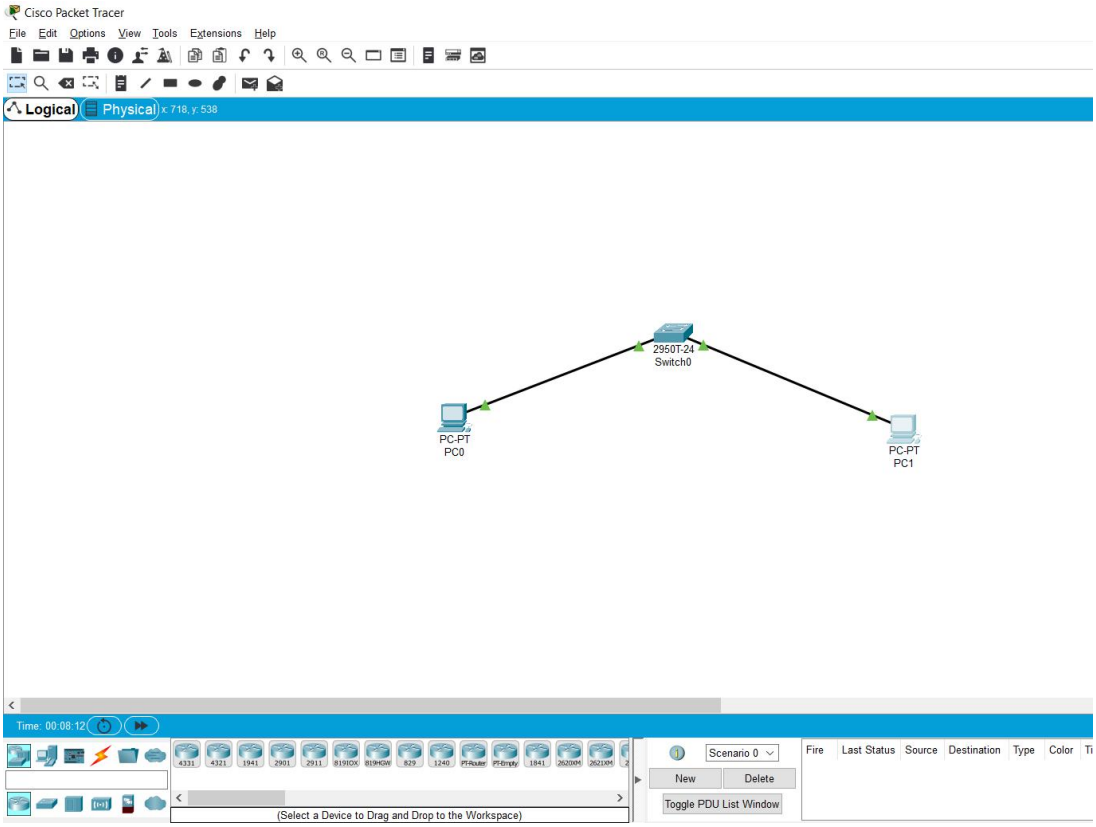


Fig4.1 Shows 2 PC's i.e. PC-1 and PC-2 connected to switch via copper straight-cable

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

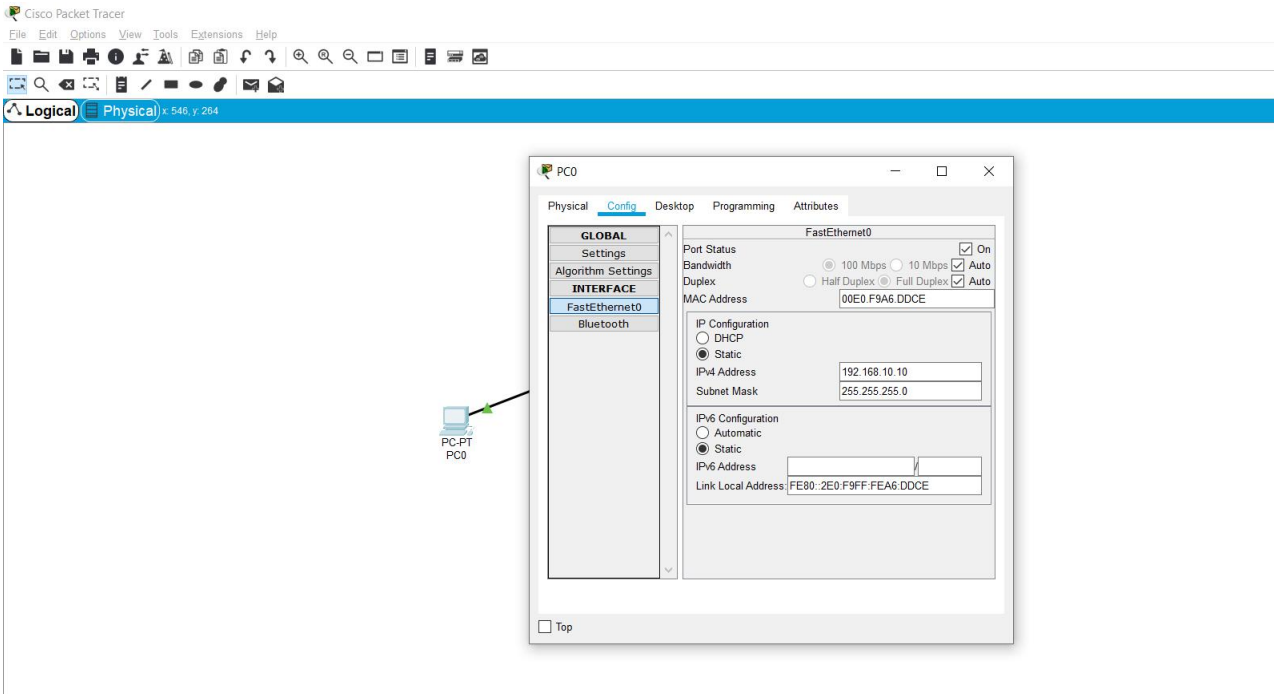


Fig 4.2 shows the config tab of PC-0 with fast ethernet settings.The ip address and subnet mask have been added as 192.168.10.10 and 255.255.255.0 respectively

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

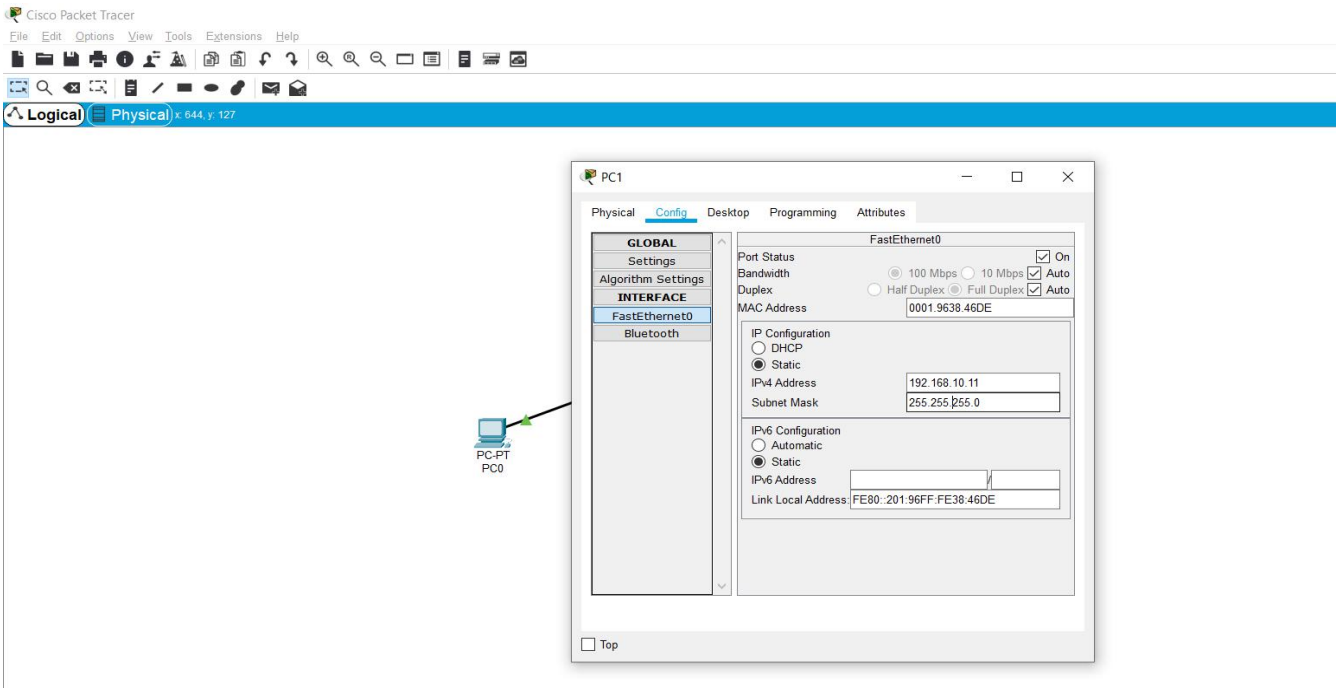


Fig 4.3 shows the config tab of PC-1 with fast ethernet settings.The ip address and subnet mask have been added as 192.168.10.11 and 255.255.255.0 respectively

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*.

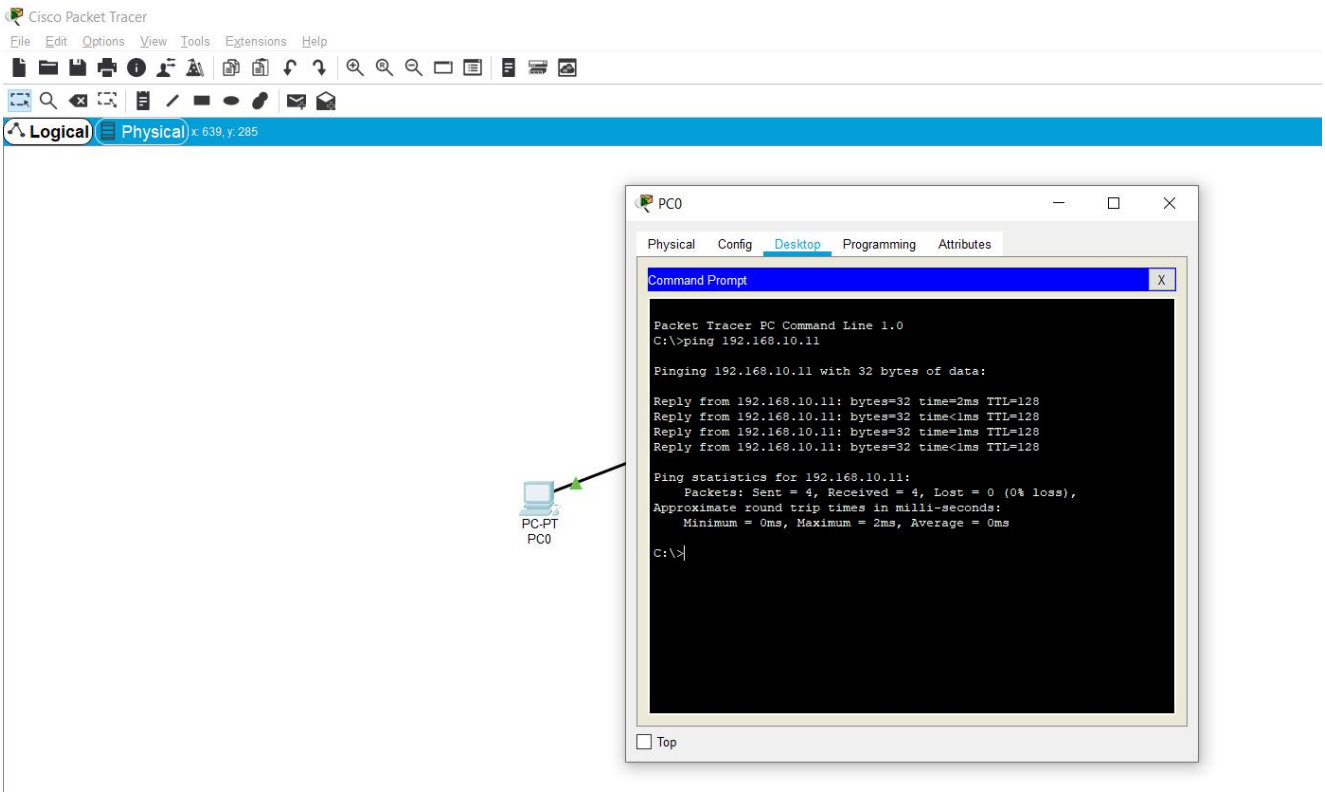


Fig 4.4 Shows the ping command on ip address 192.168.10.11

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:

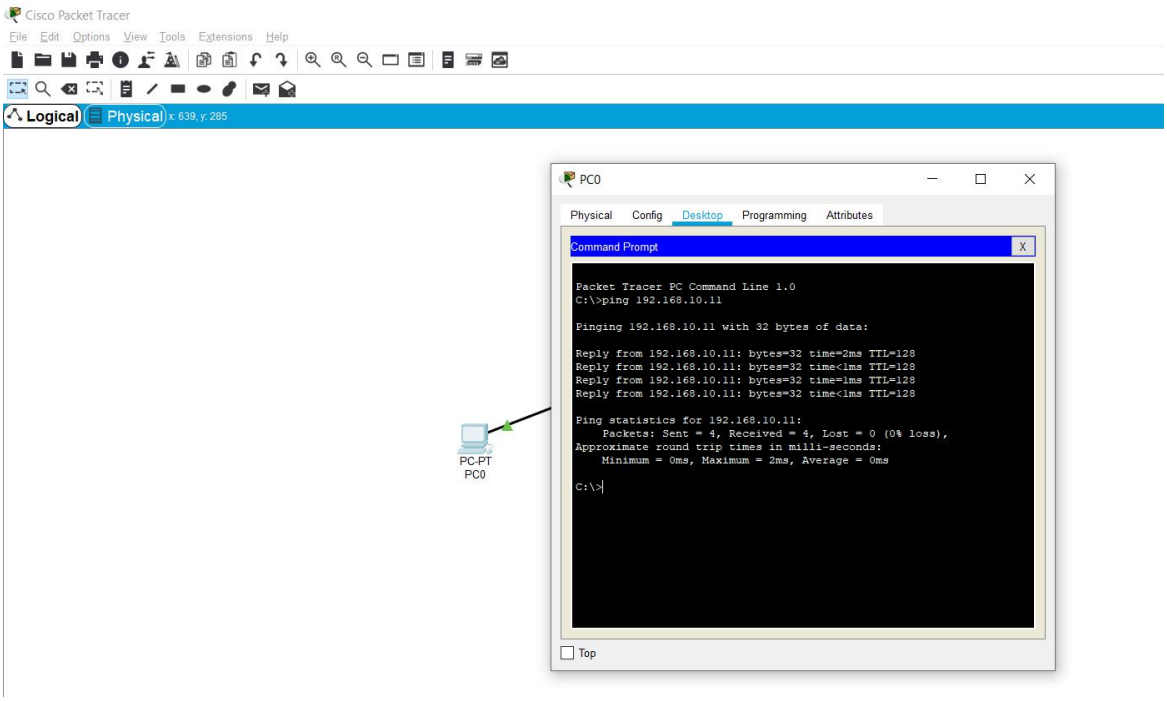


Fig 4.5 Shows the successful ping result on ip address 192.168.10.11

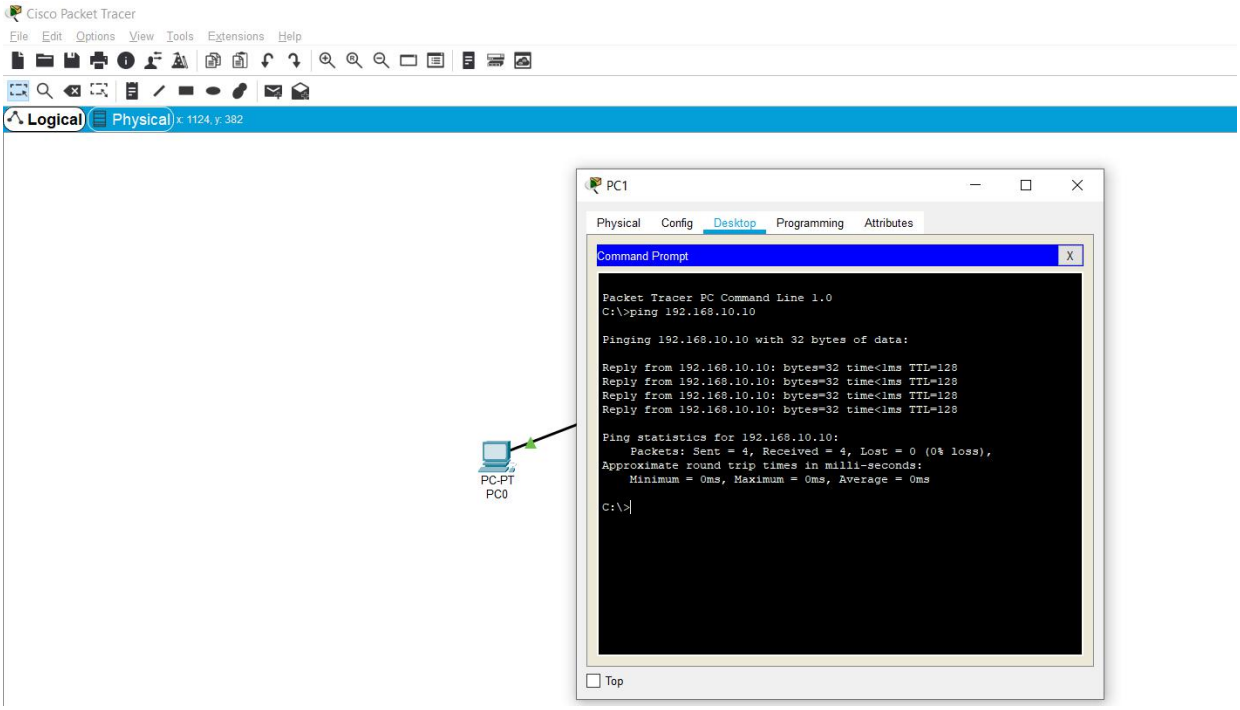


Fig 4.6 Shows the successful ping result on ip address 192.168.10.10

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

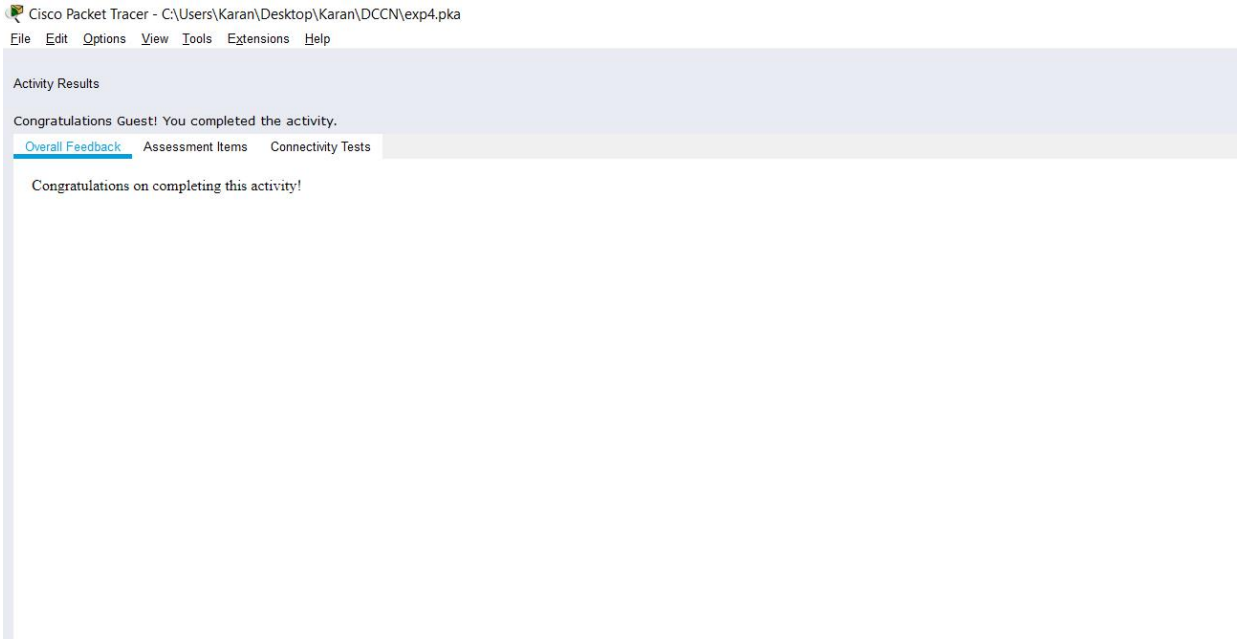
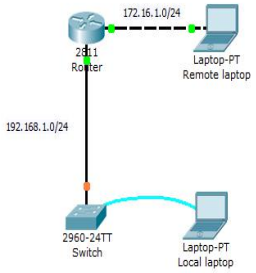


Fig 4.7 Shows the check result tab to check our work

CEL51, DCCN, Monsoon 2020

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.

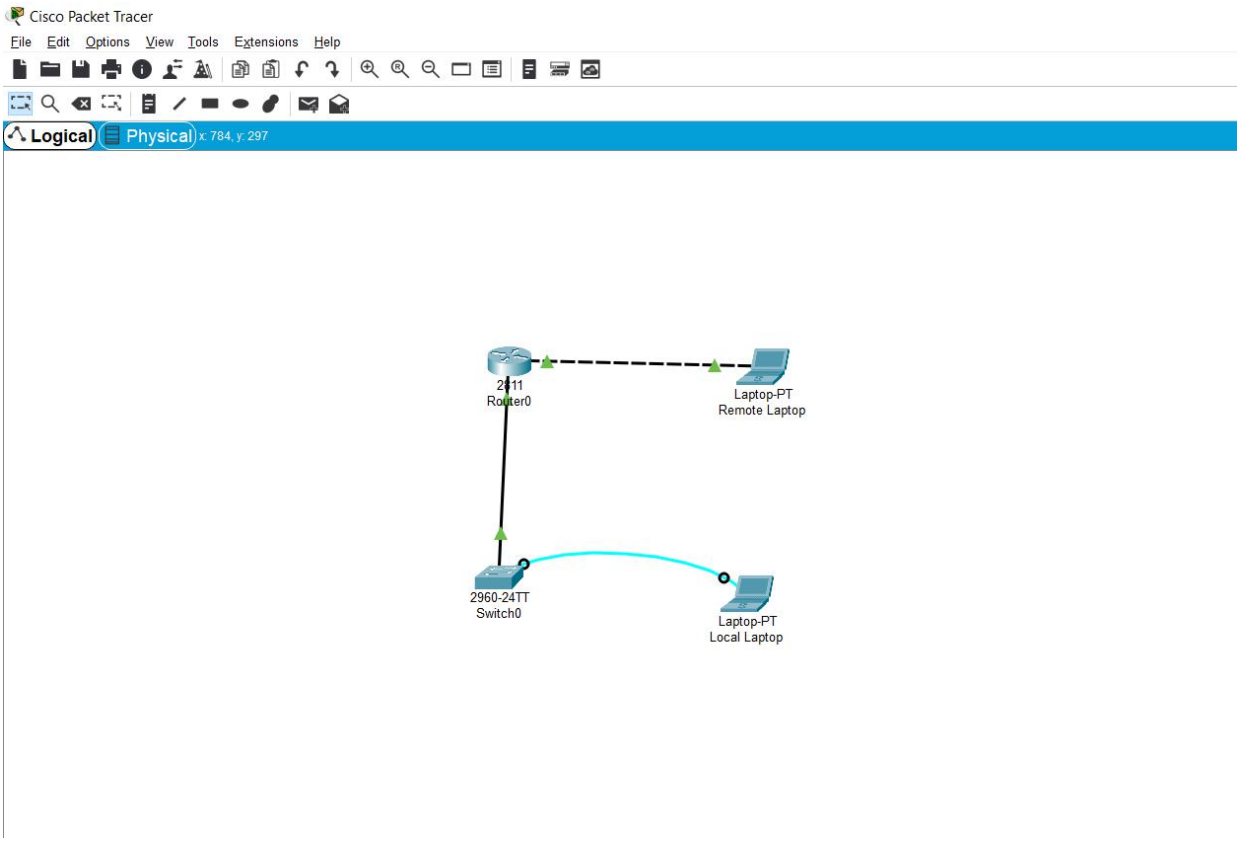


Fig 4.1.1 Shows 2 Laptops ,Remote Laptop connected to router via copper cross-over wire ,Local Laptop connnected to Switch via console and router is connected to switch via copper straight wire

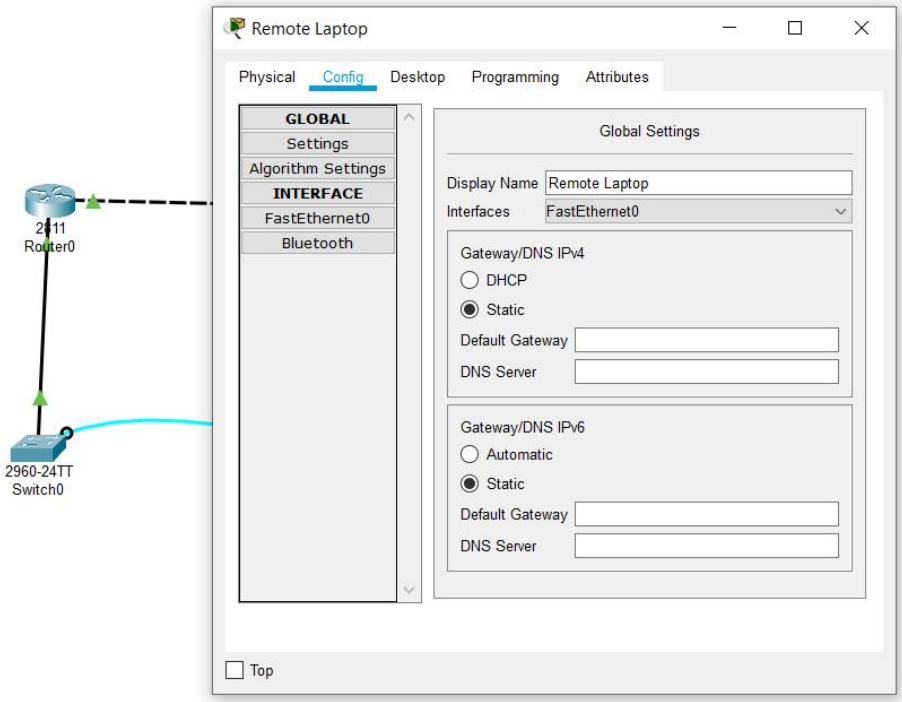


Fig 4.1.2 Shows the config tab of Remote Laptop

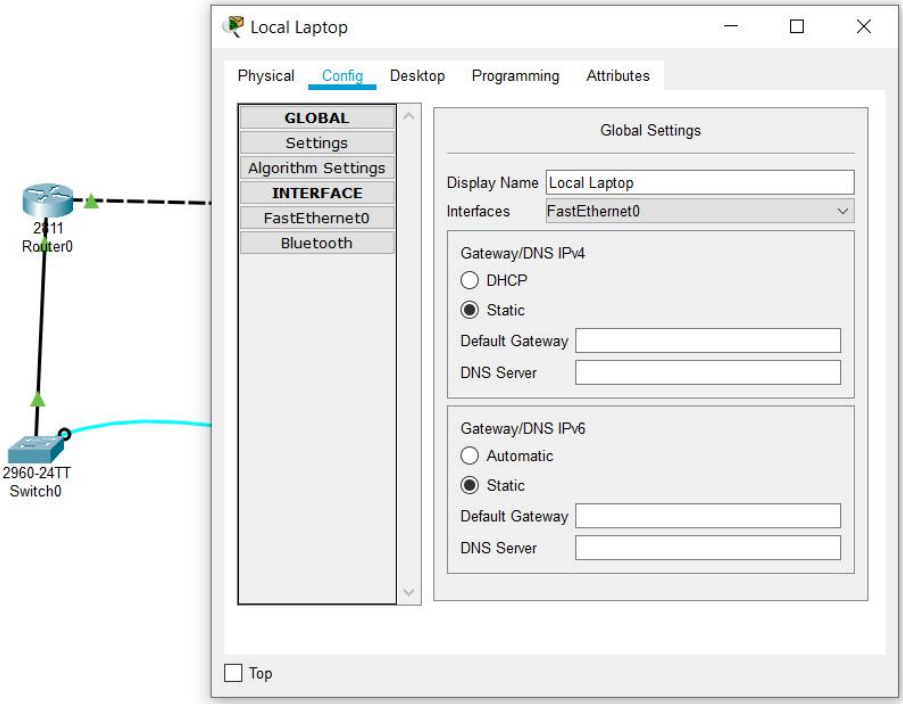


Fig 4.1.3 Shows the config tab of Local Laptop

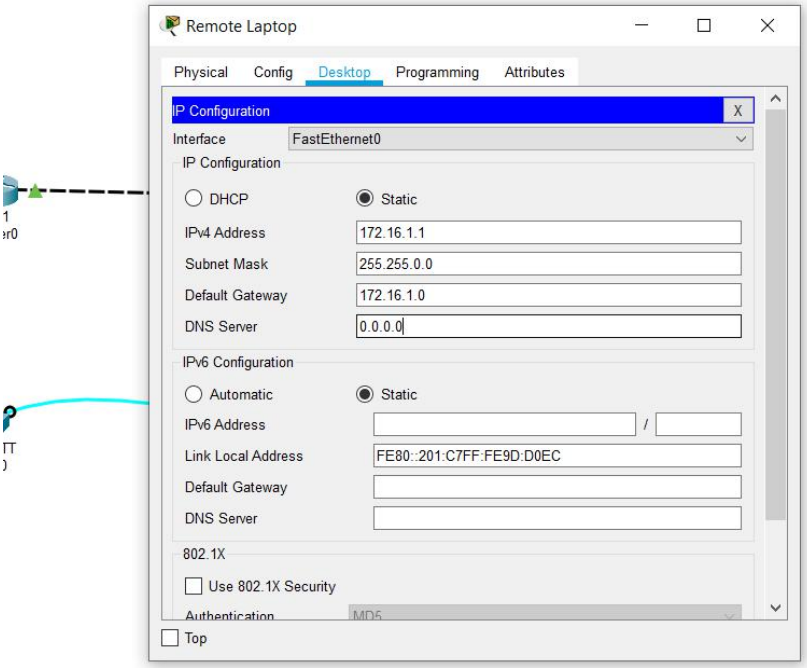


Fig 4.1.4 Shows the IP configuration of remote laptop where IP address is 172.16.1.1 and Default Gateway is 172.16.1.0

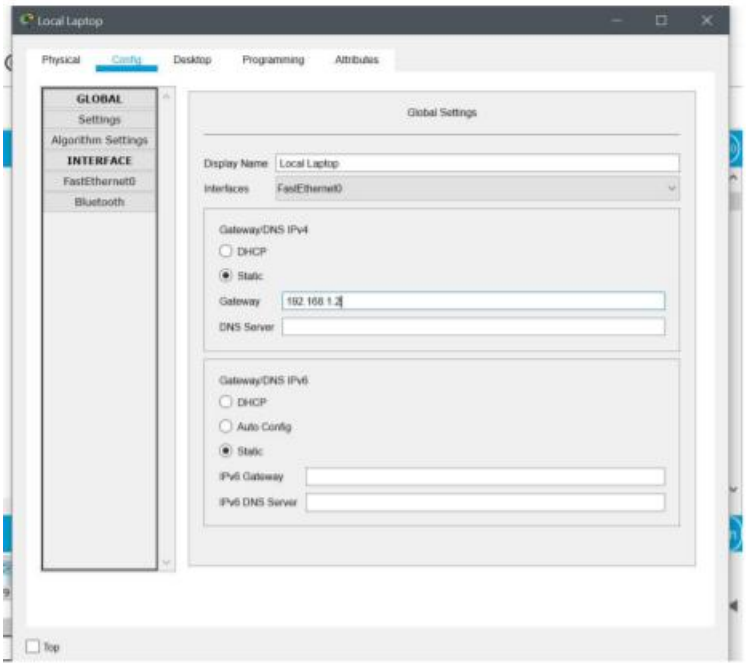


Fig 4.1.5 : Configuring the default gateway of local laptop as ip address of switch.

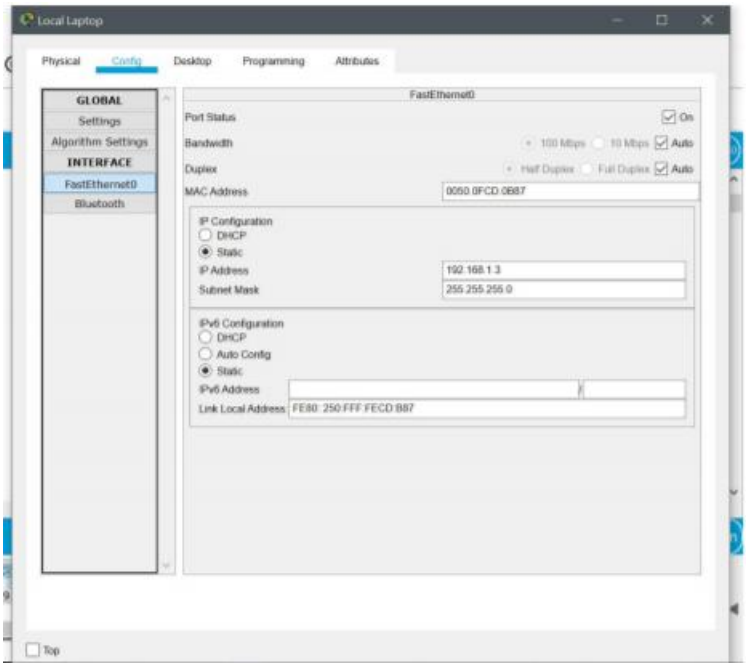


Figure 4.1.6 : Setting up the ip address of the local laptop

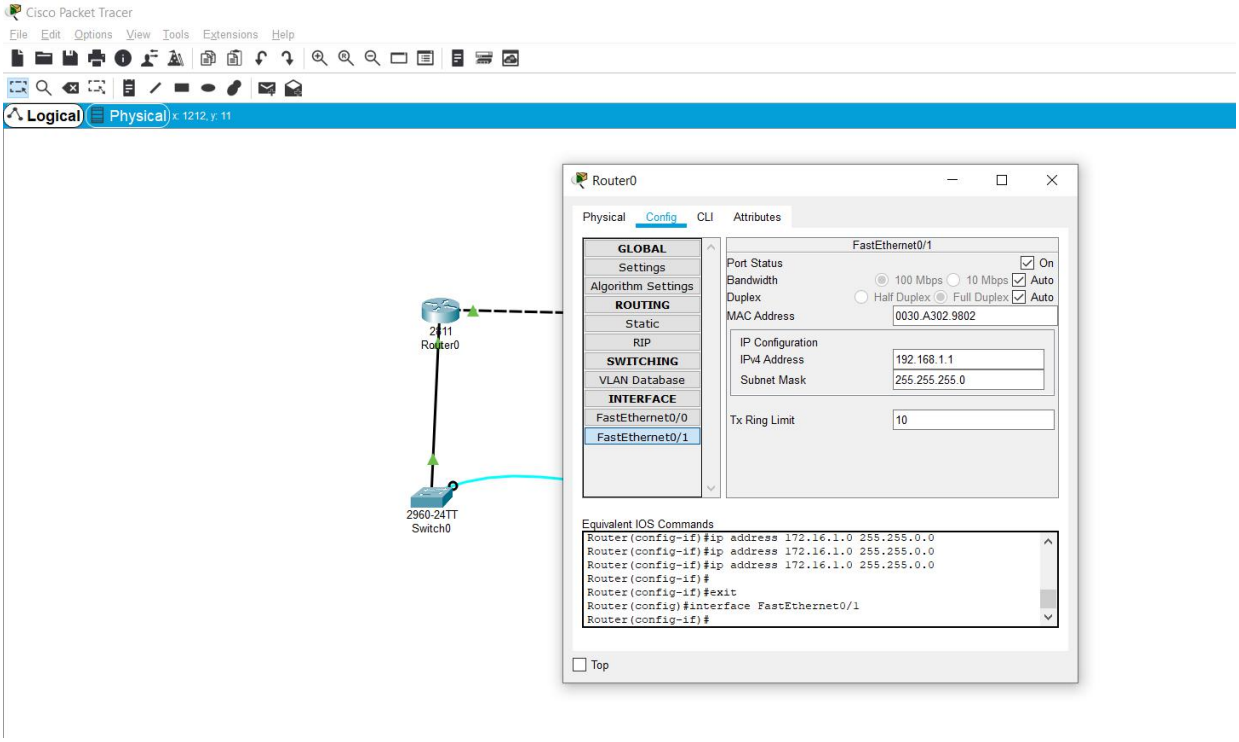


Fig 4.1.7 Shows the Fast ethernet Settings of Router connecting the switch where we turn the Port Status to ON

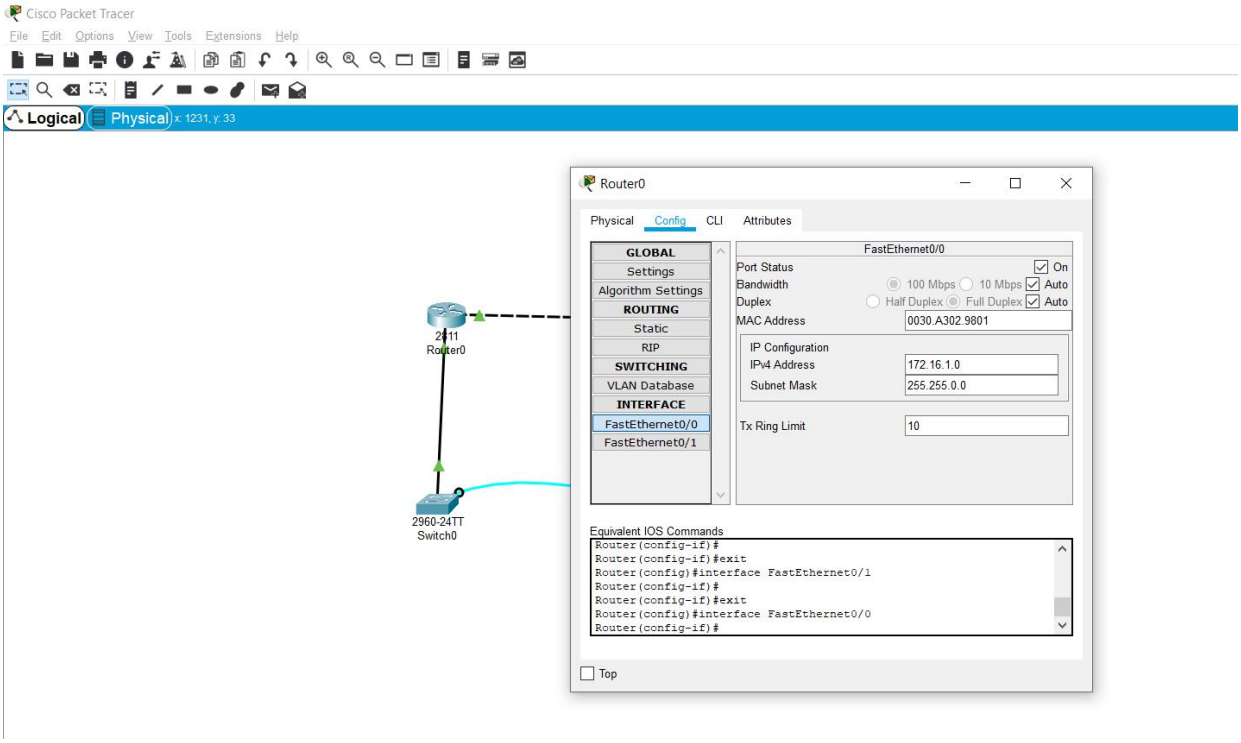


Fig 4.1.8 Shows the Fast ethernet Settings of Router connecting the remote laptop where we turn the Port Status to ON

2. Configure Switch hostname as LOCAL-SWITCH

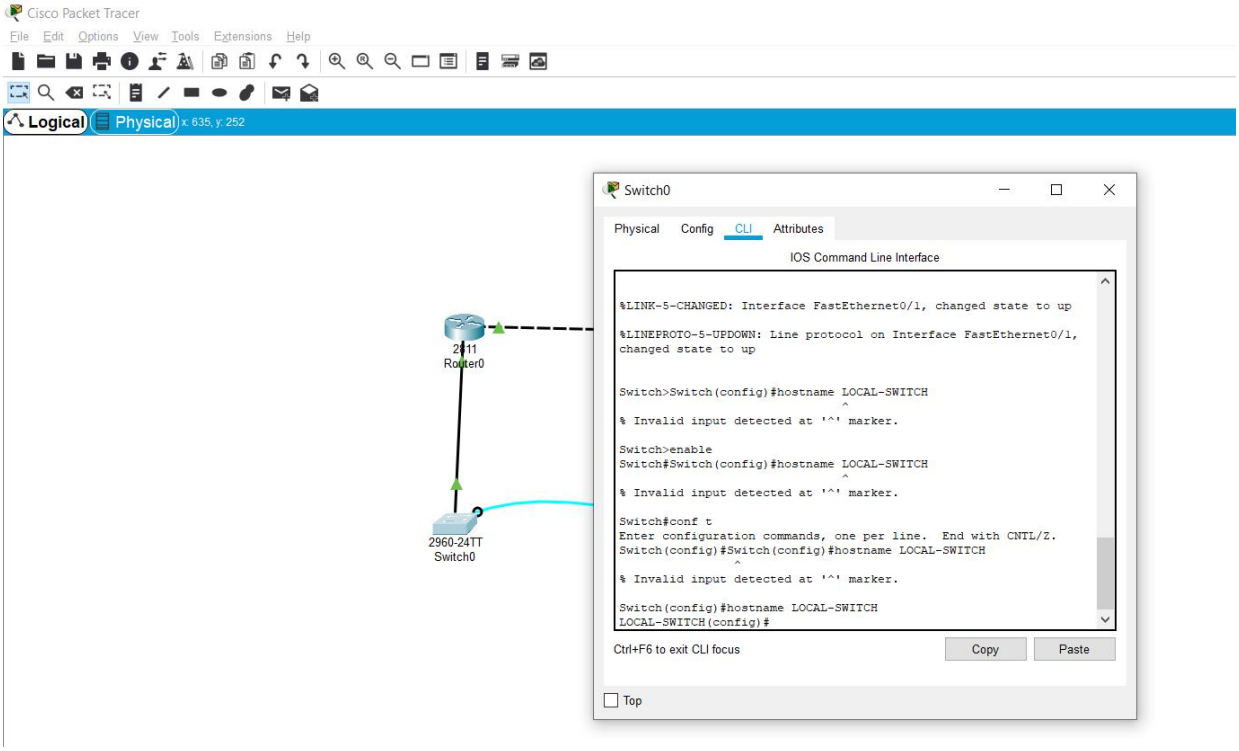


Fig 4.1.9 Shows the CLI of switch where we configure switch hostname as LOCAL-SWITCH

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

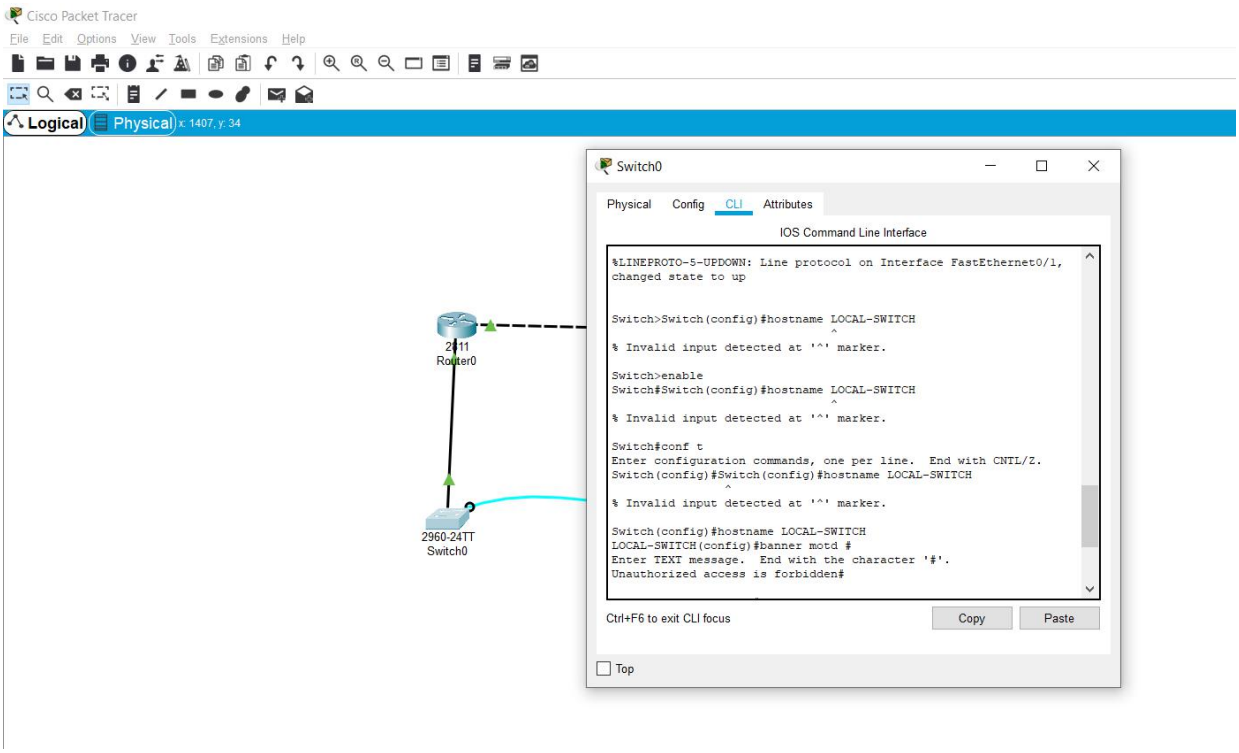


Fig 4.1.10 Shows the CLI of switch to configure the message of the day as Unauthorized access is forbidden

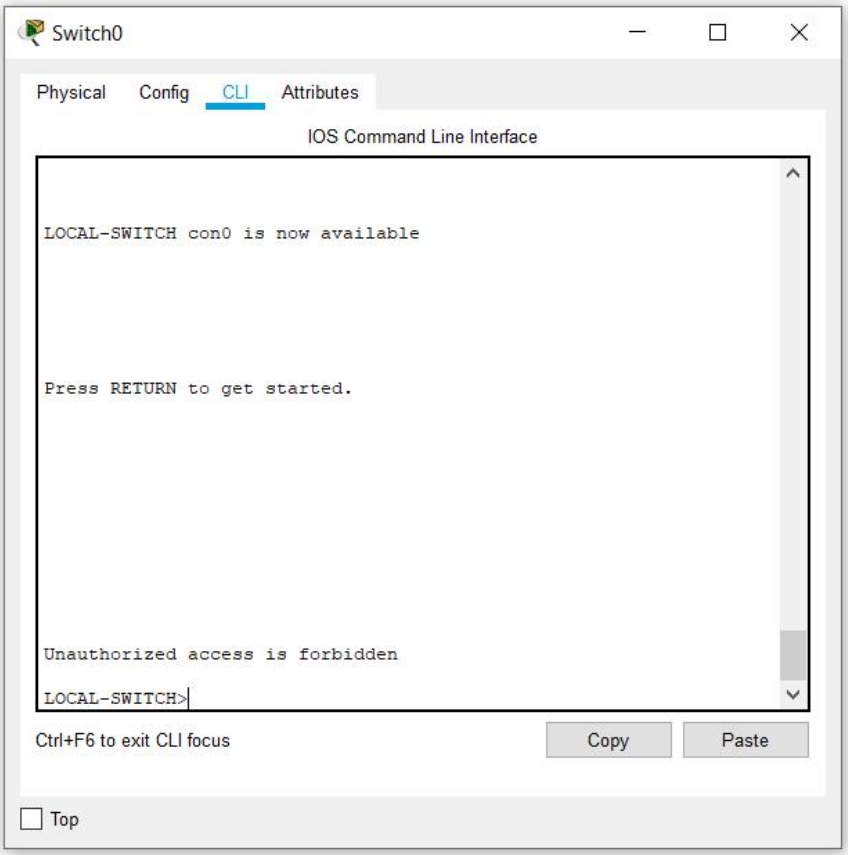


Fig 4.1.11 Shows the Banner Message

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

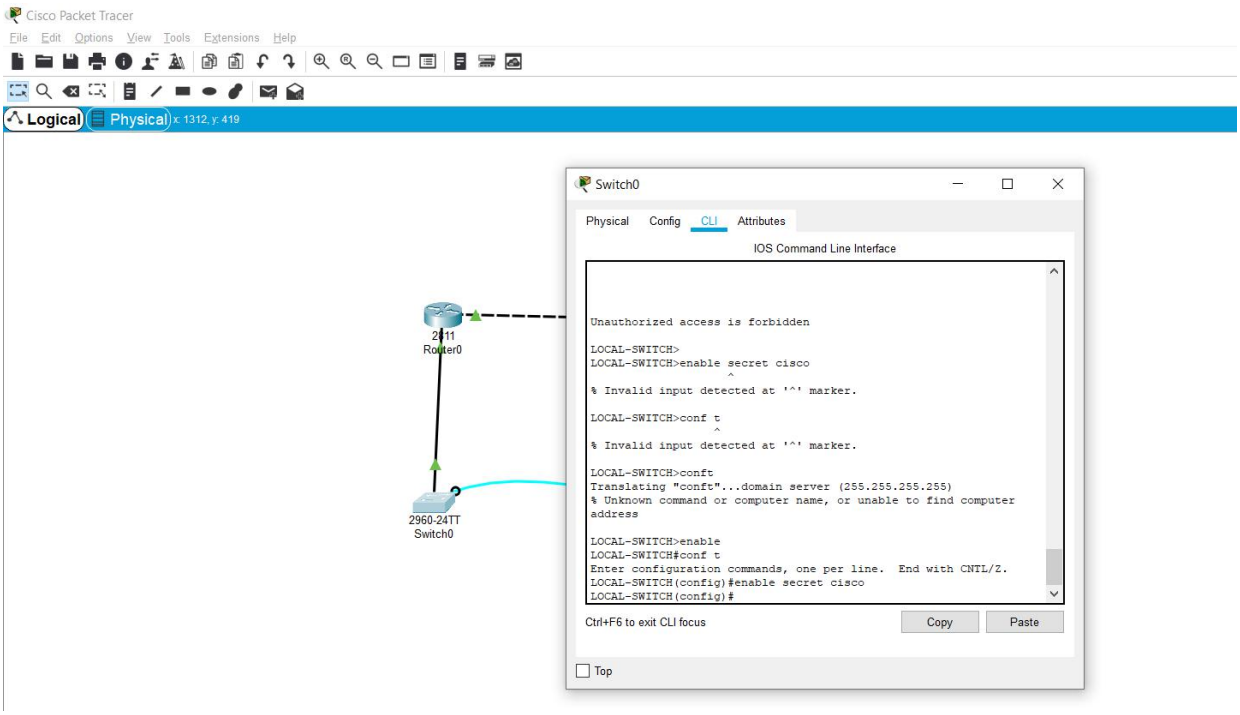


Fig 4.1.12 Shows the CLI to configure the password for privileged mode access as cisco

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

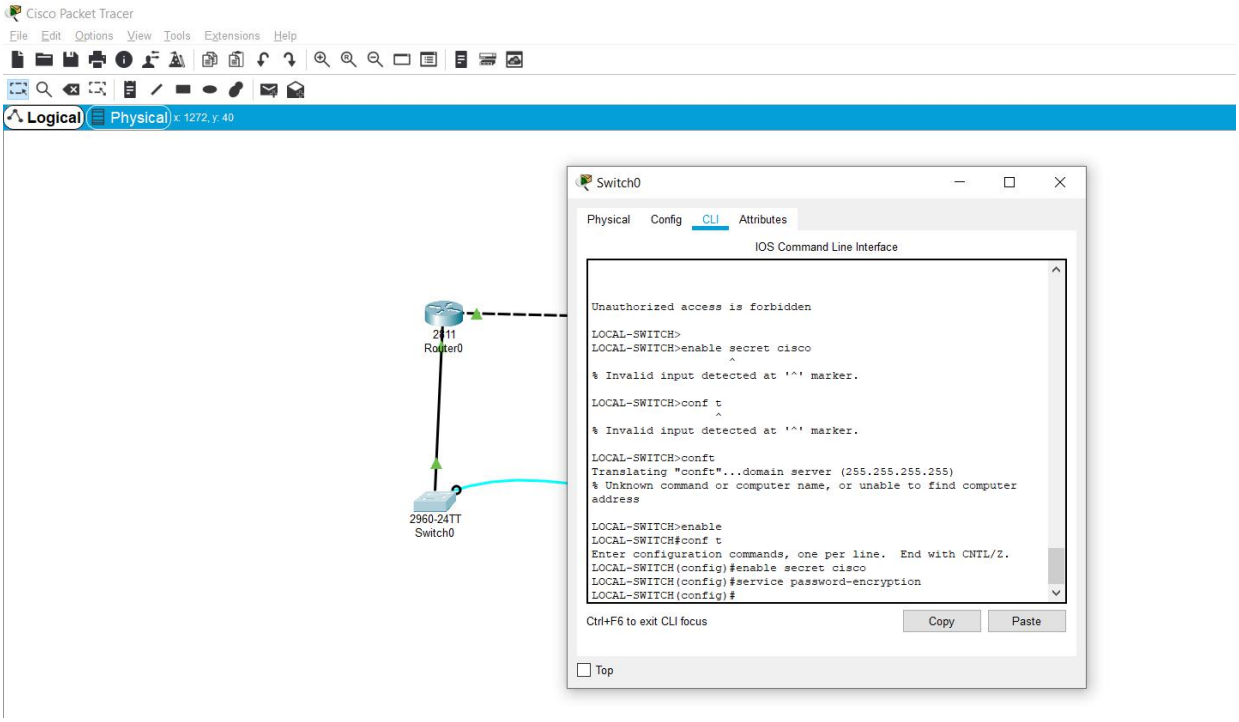


Fig 4.1.13 Shows the CLI to configure password encryption on the switch

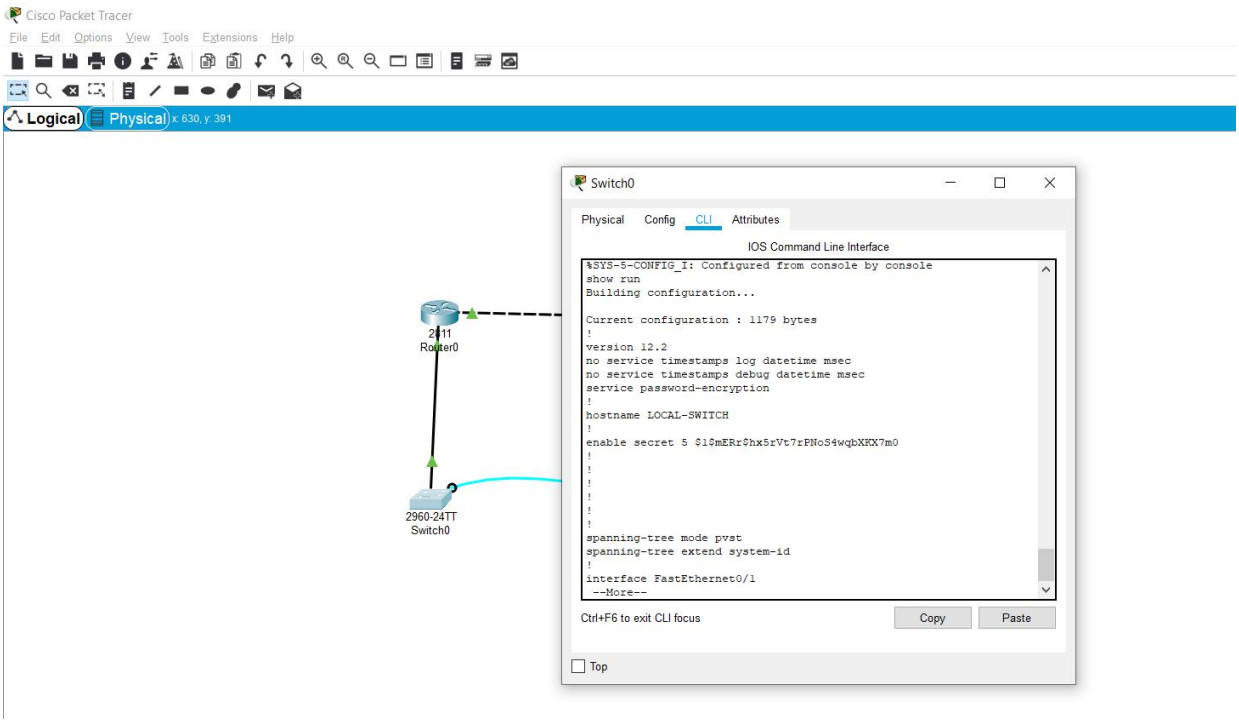


Fig 4.1.14 Shows the encrypted password when I use the show run command

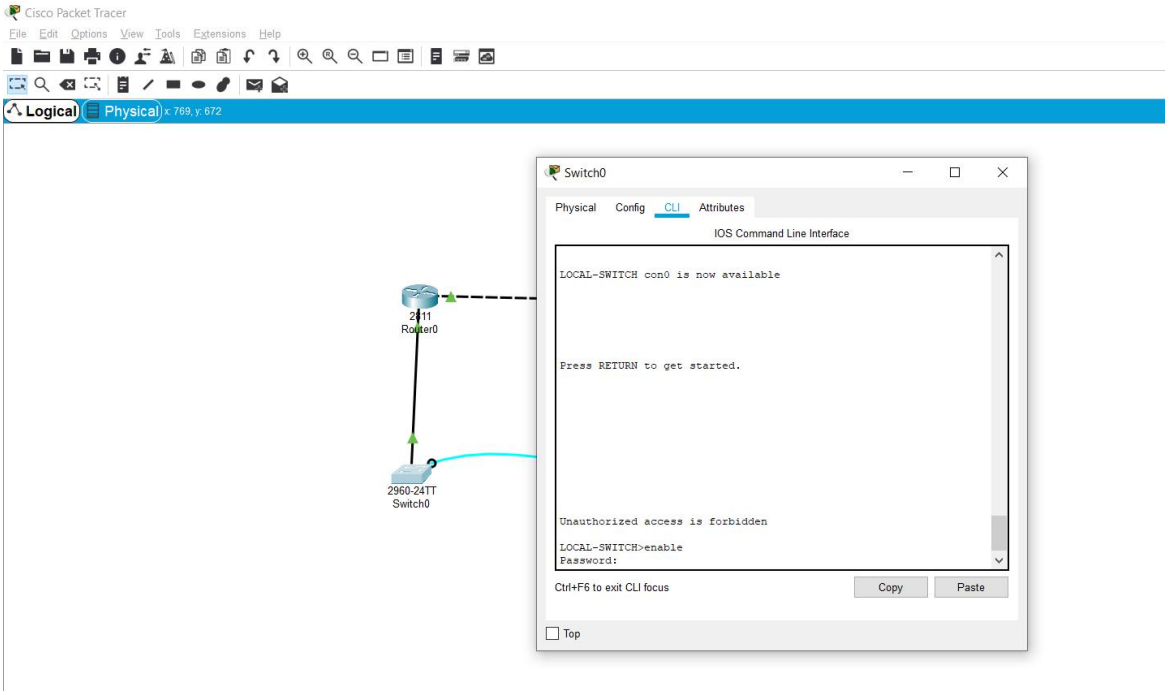


Fig 4.1.15 Shows that the CLI asks for password when I try to go to privileged mode

6. Configure CONSOLE access with the following settings :

- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 6'45"
- Synchronous logging

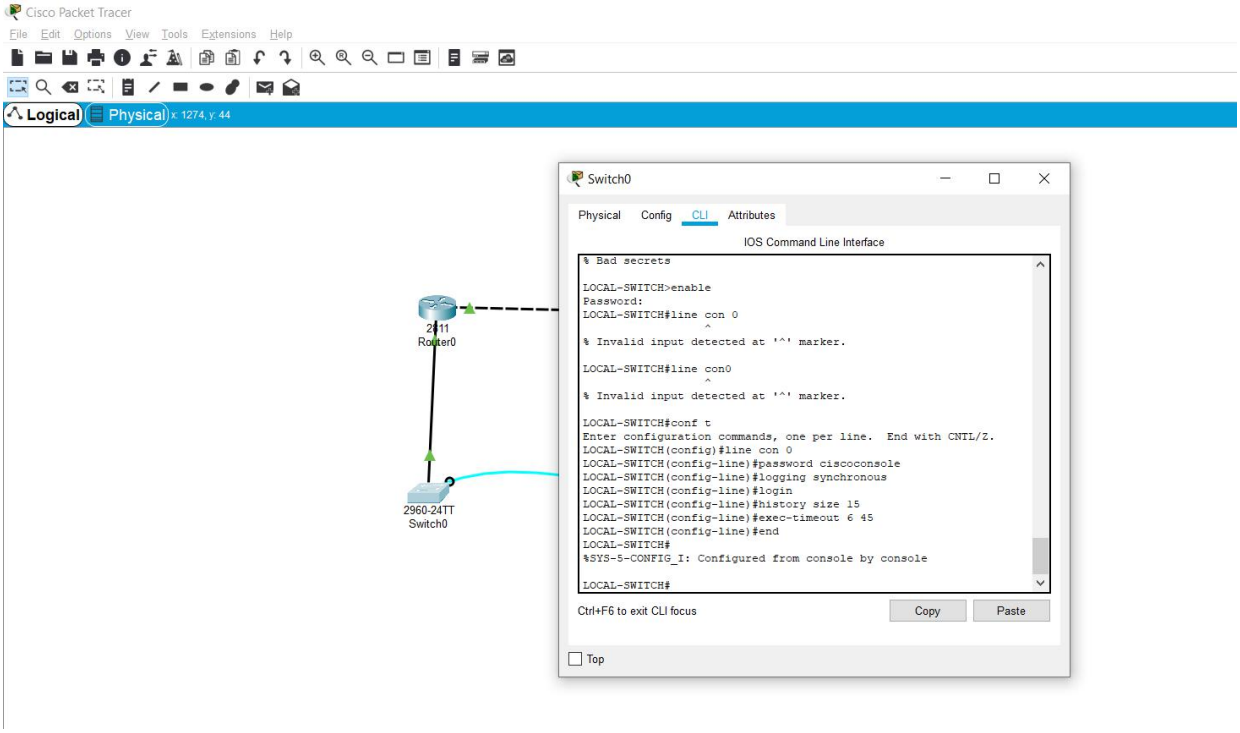


Fig 4.1.16 Configuring the console

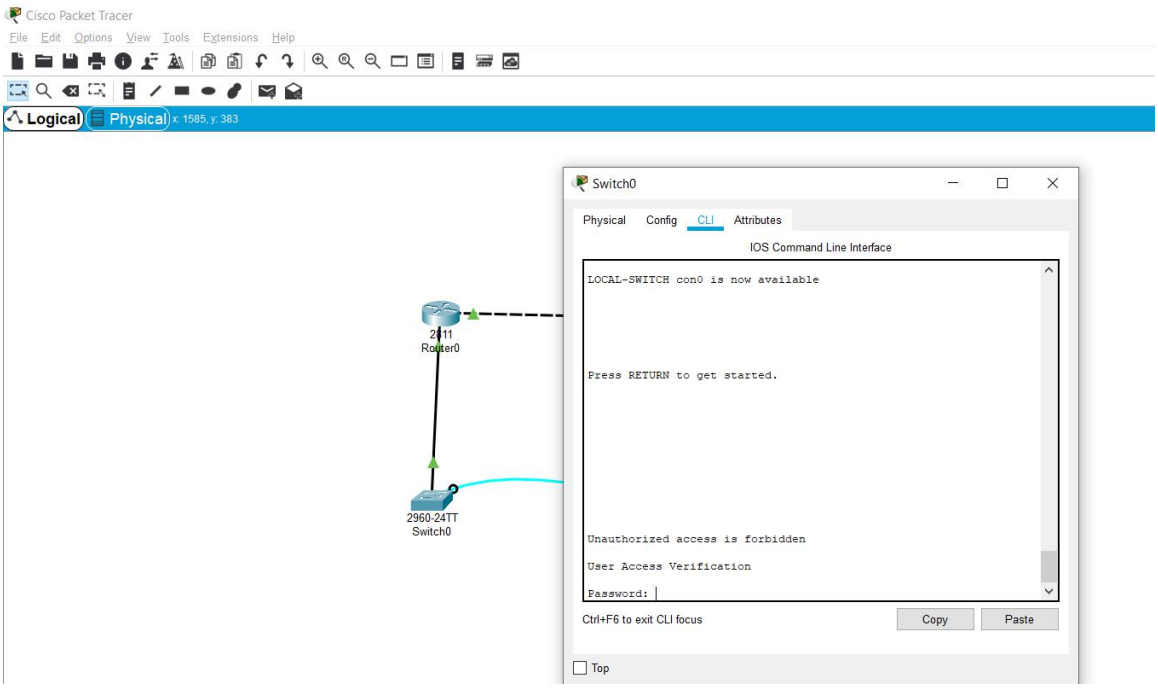


Fig 4.1.17 Password set in previous step is required for verification

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

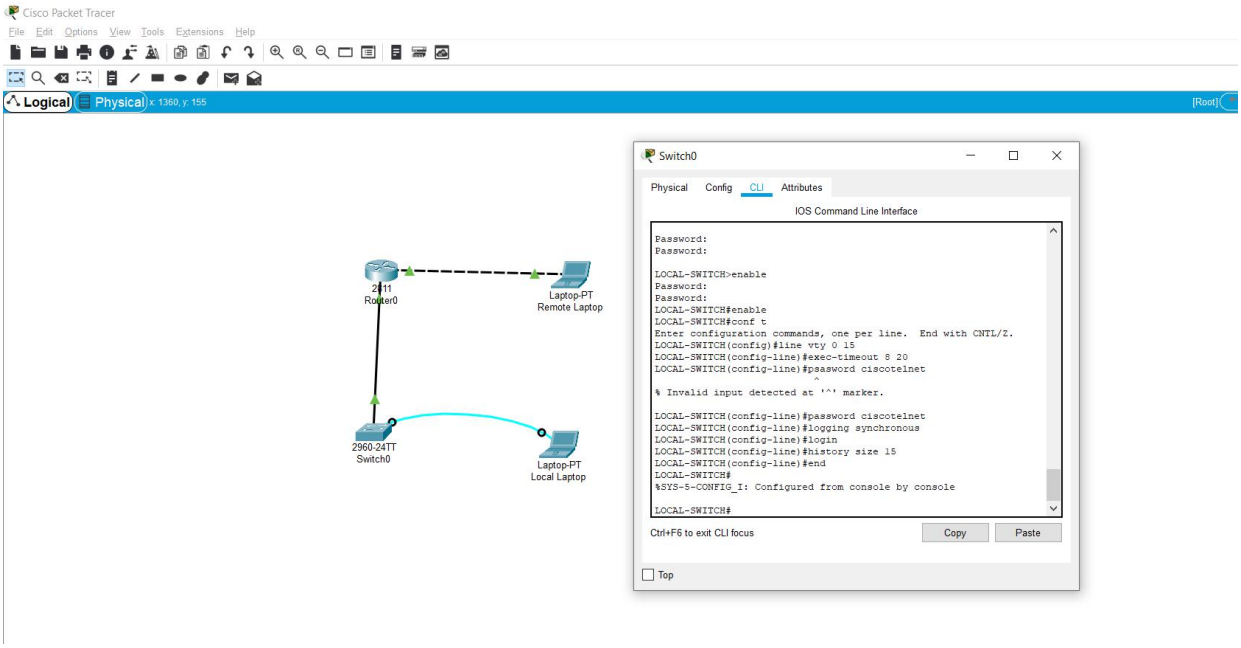


Fig 4.1.18 Configuring telnet

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

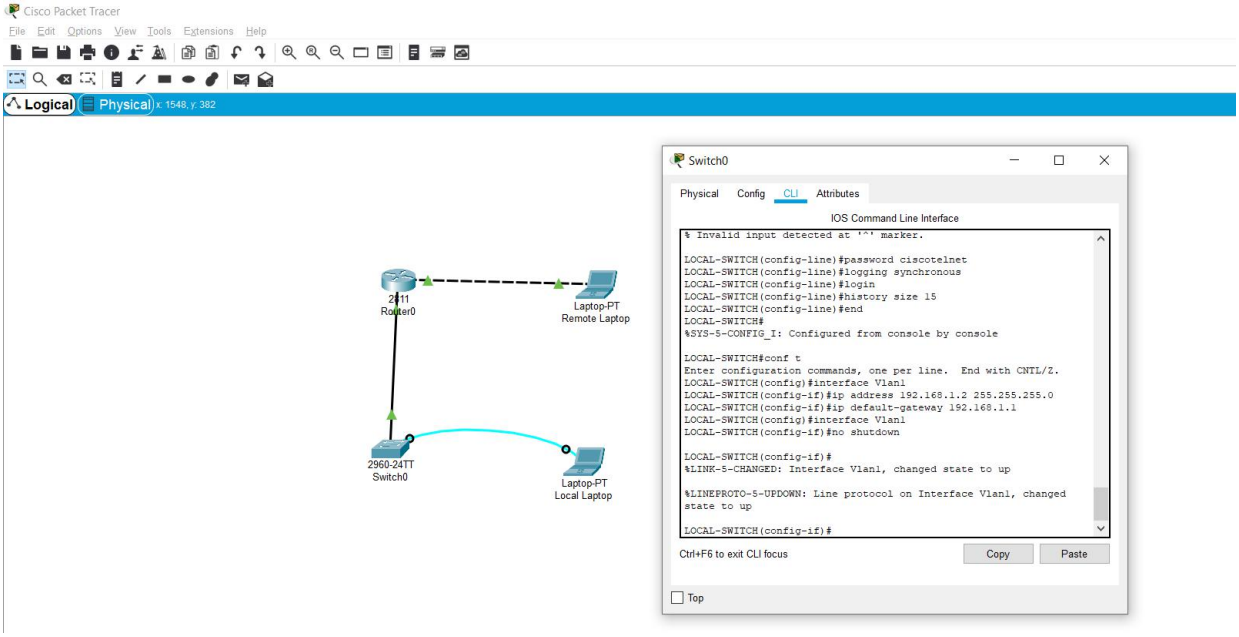


Fig 4.1.19 Shows the CLI to configure the IP address of the switch as 192.168.1.2/24 and it's default gateway IP (192.168.1.1).

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

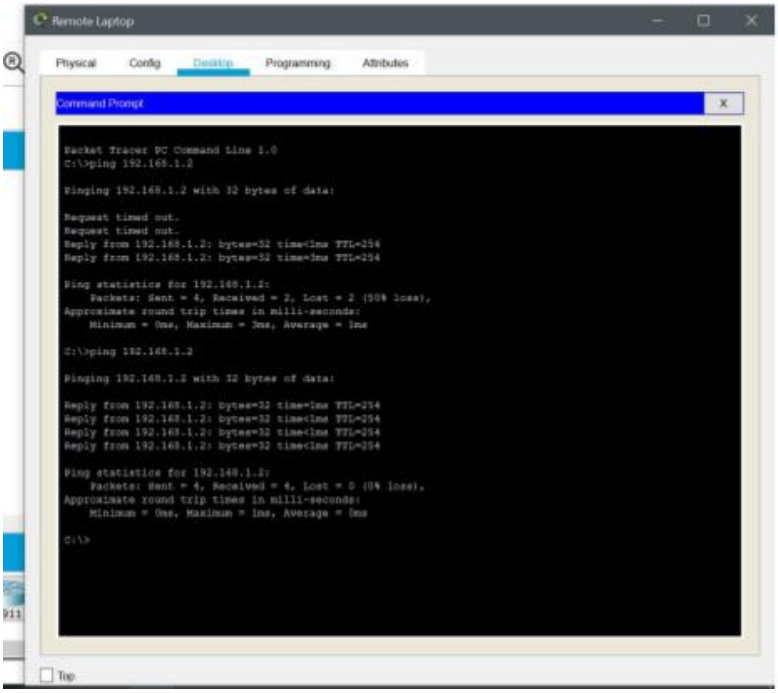


Fig 4.1.20 : Successfully Pinged the Switch

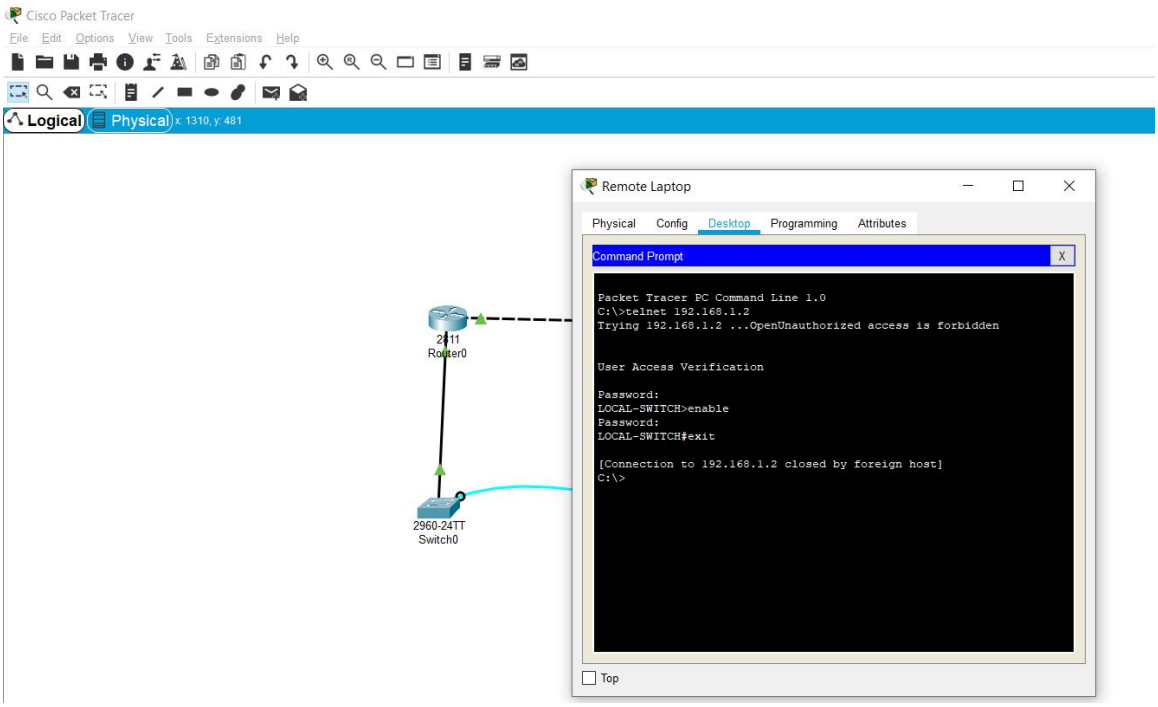


Fig 4.1.21 Shows the CLI to test telnet connectivity

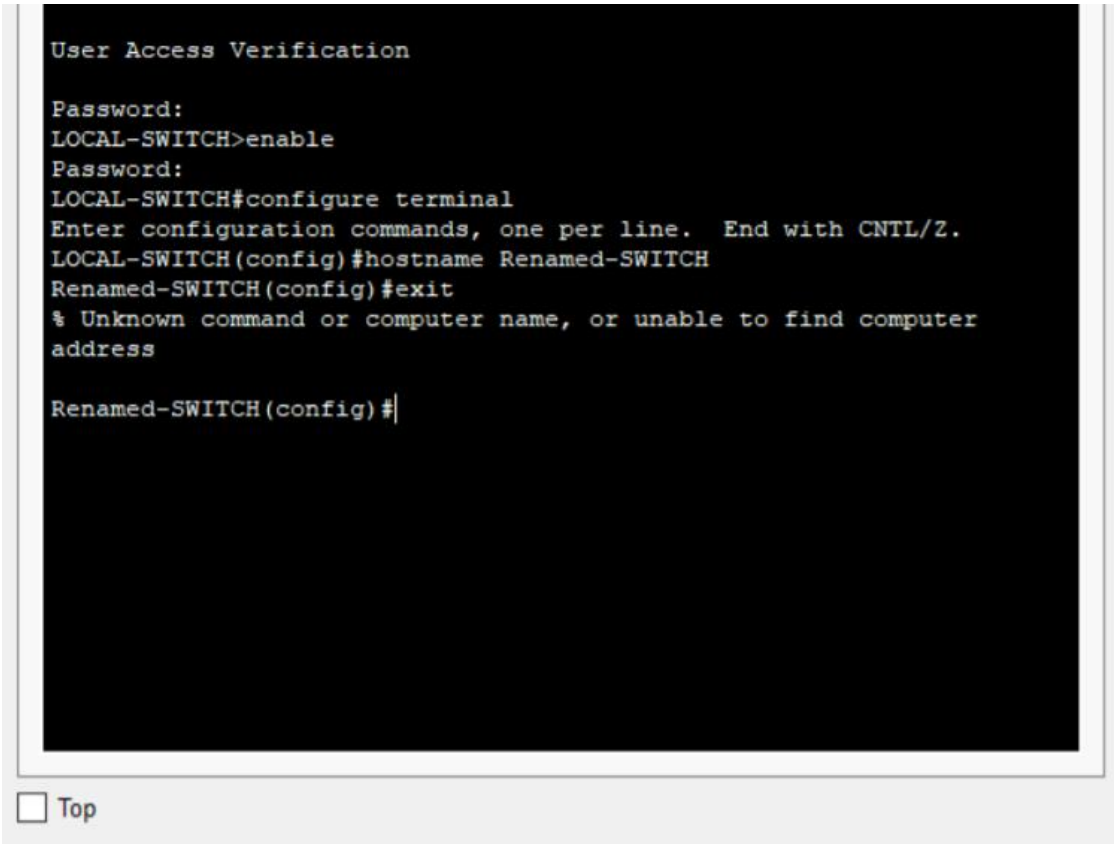


Fig 4.1.22 Shows how we can change switch configuration from the remote laptop

terminal.

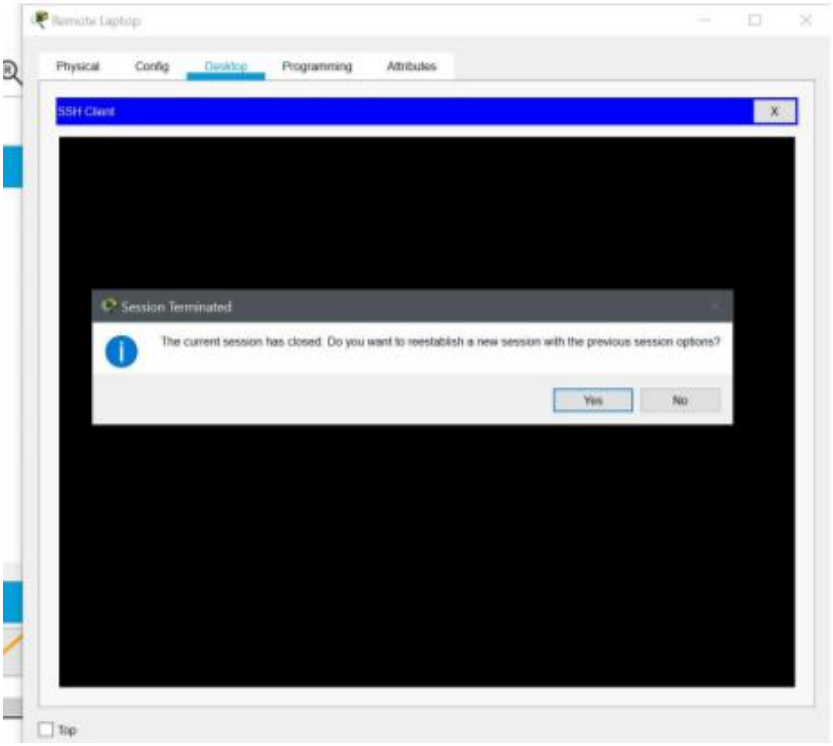


Fig 4.1.23: shows the inactivity of telnet client for 8 minutes 20 seconds after which this message is received.

Conclusion:

I learnt how to configure a router and switch and how to implement telnet command to access the switch from a remote laptop.

References:

1)https://www.packettracernetwork.com/labs/lab1-basicswitchsetup.html
2)https://community.cisco.com/t5/other-network-architecture/quot-no-keepalive-quot-and-quot-no-shutdown-quot-command-on/td-p/501769#:~:text=no%20shutdown%3A%2D%20This%20command,9%20Helpful