Sarika Singh
2018130053
Batch D
Roll no.59

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**.

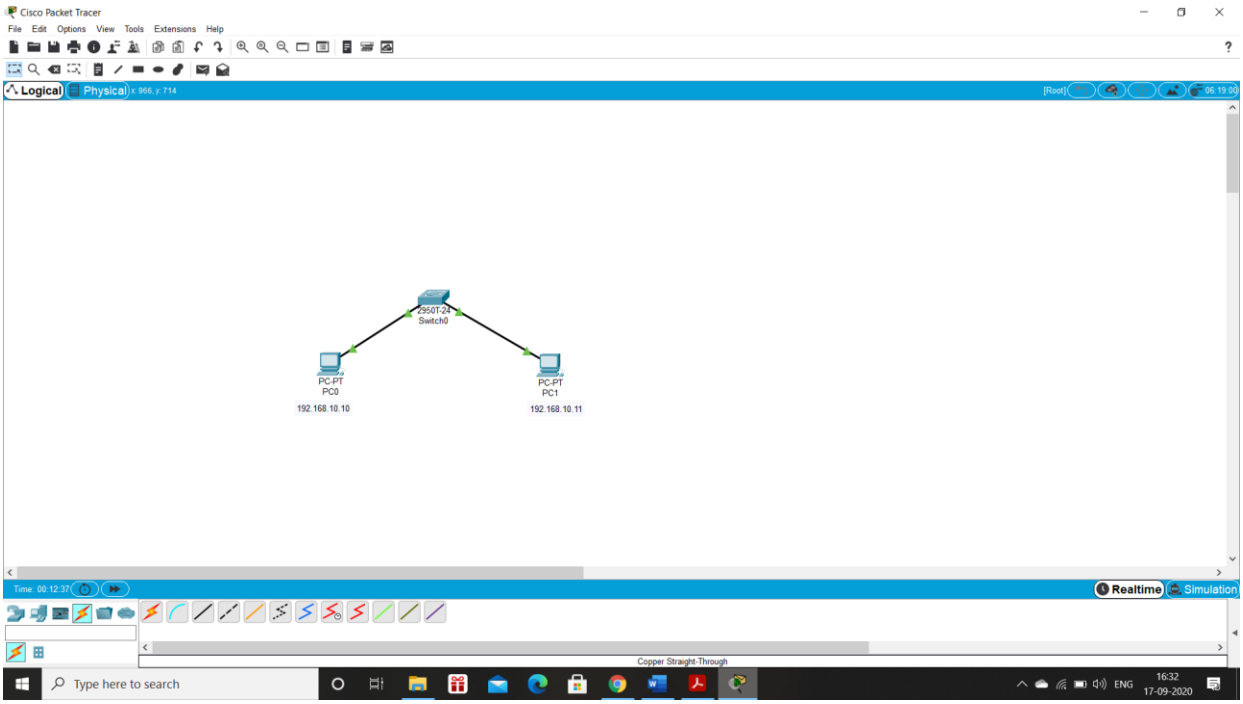


Fig 1. Shows 2 PC's i.e. PC-1 and PC-2 connected to switch via copper straight-cable

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

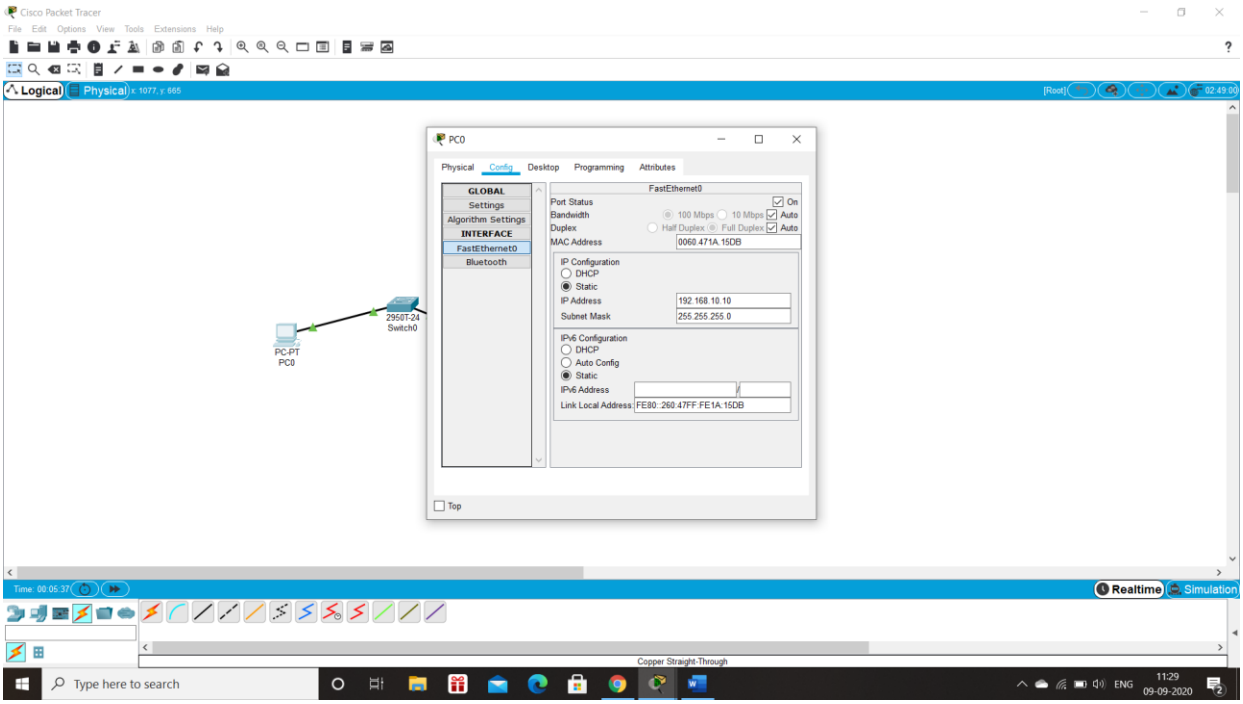


Fig 2. Shows the config tab of PC-0 with fast ethernet settings.The ip address and subnet mask have been added as 192.168.10.10 and 255.255.255.0 respectively

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

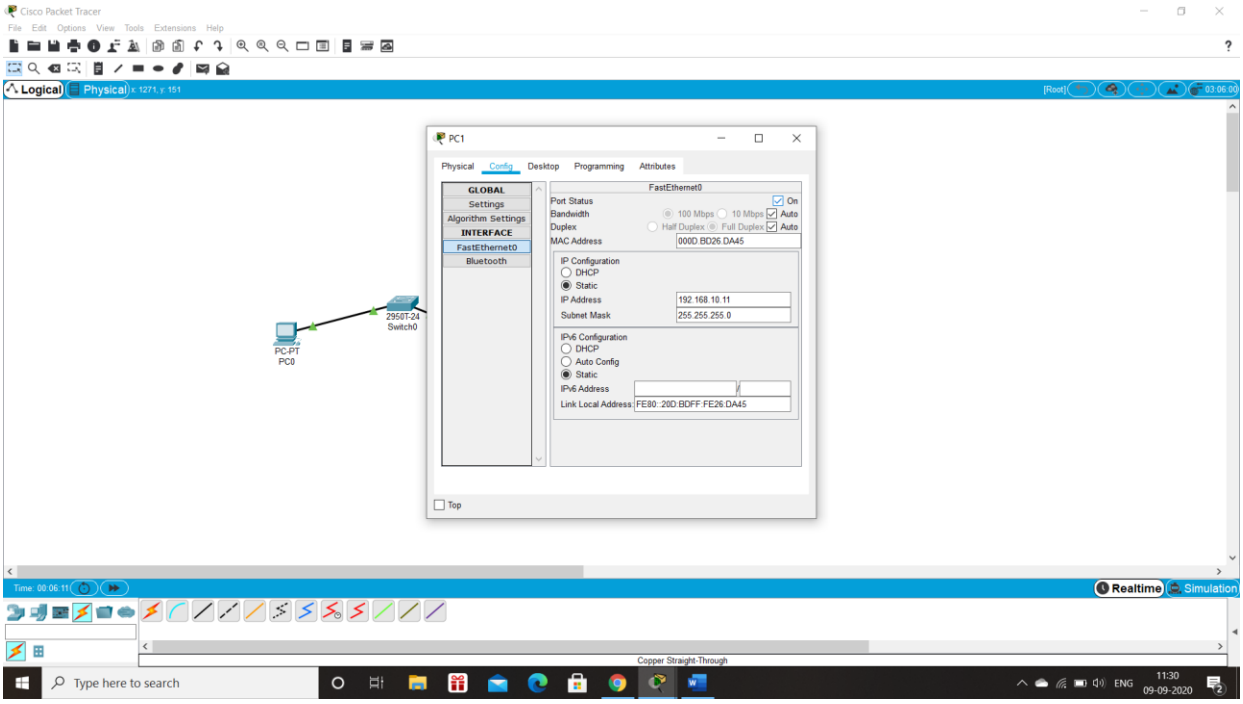


Fig 3. shows the config tab of PC-1 with fast ethernet settings.The ip address and subnet mask have been added as 192.168.10.11 and 255.255.255.0 respectively

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*.

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:

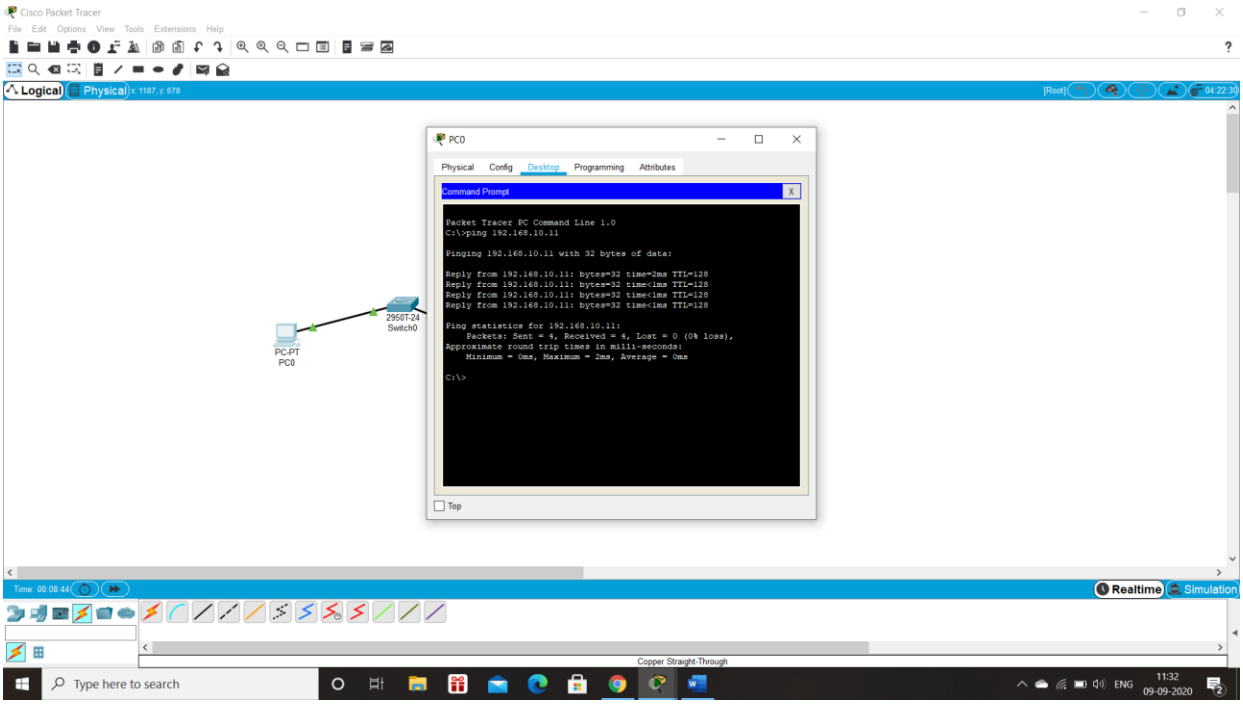


Fig 4. Shows the ping command on ip address 192.168.10.11

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

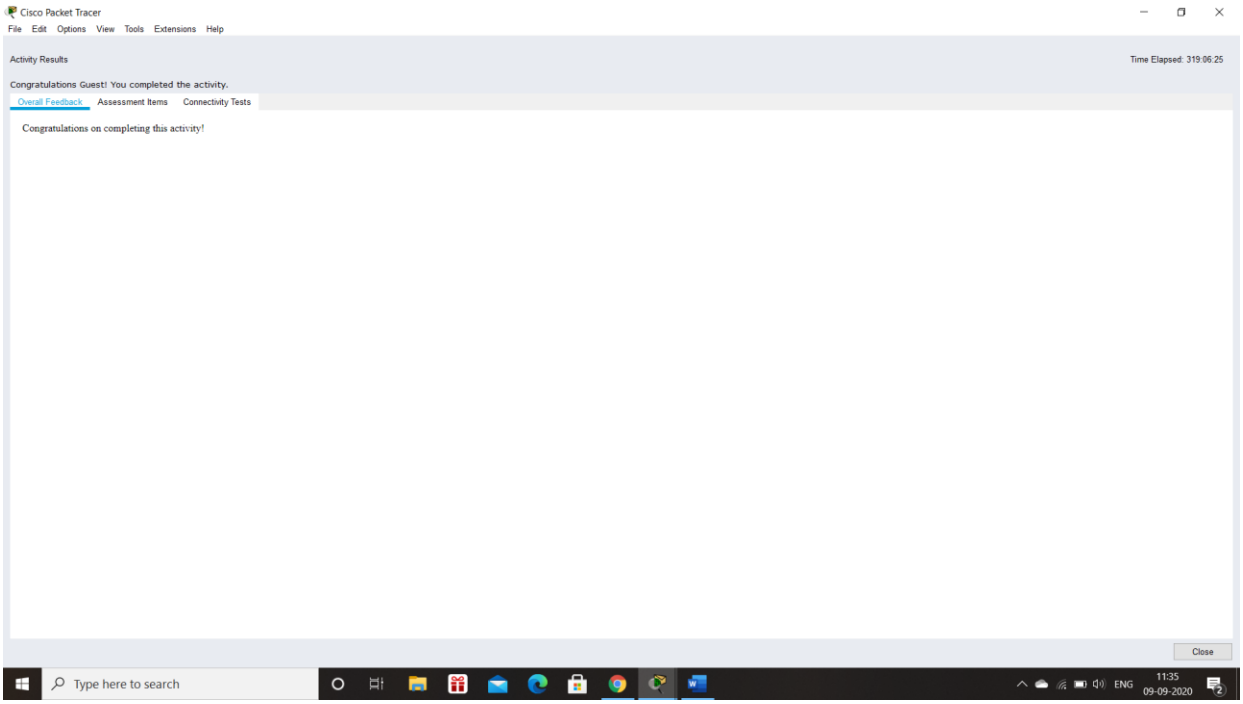
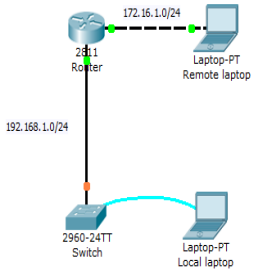


Fig 5. Shows the check result tab to check our work

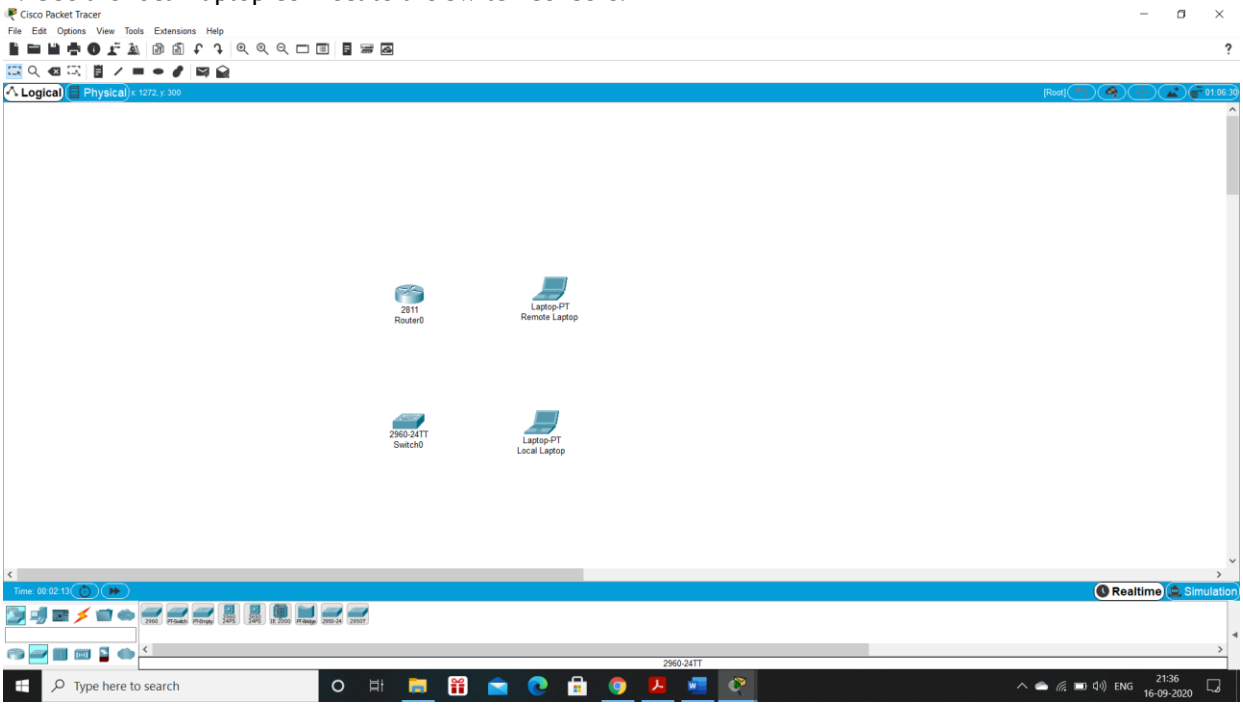
CEL51, DCCN, Monsoon 2020

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.



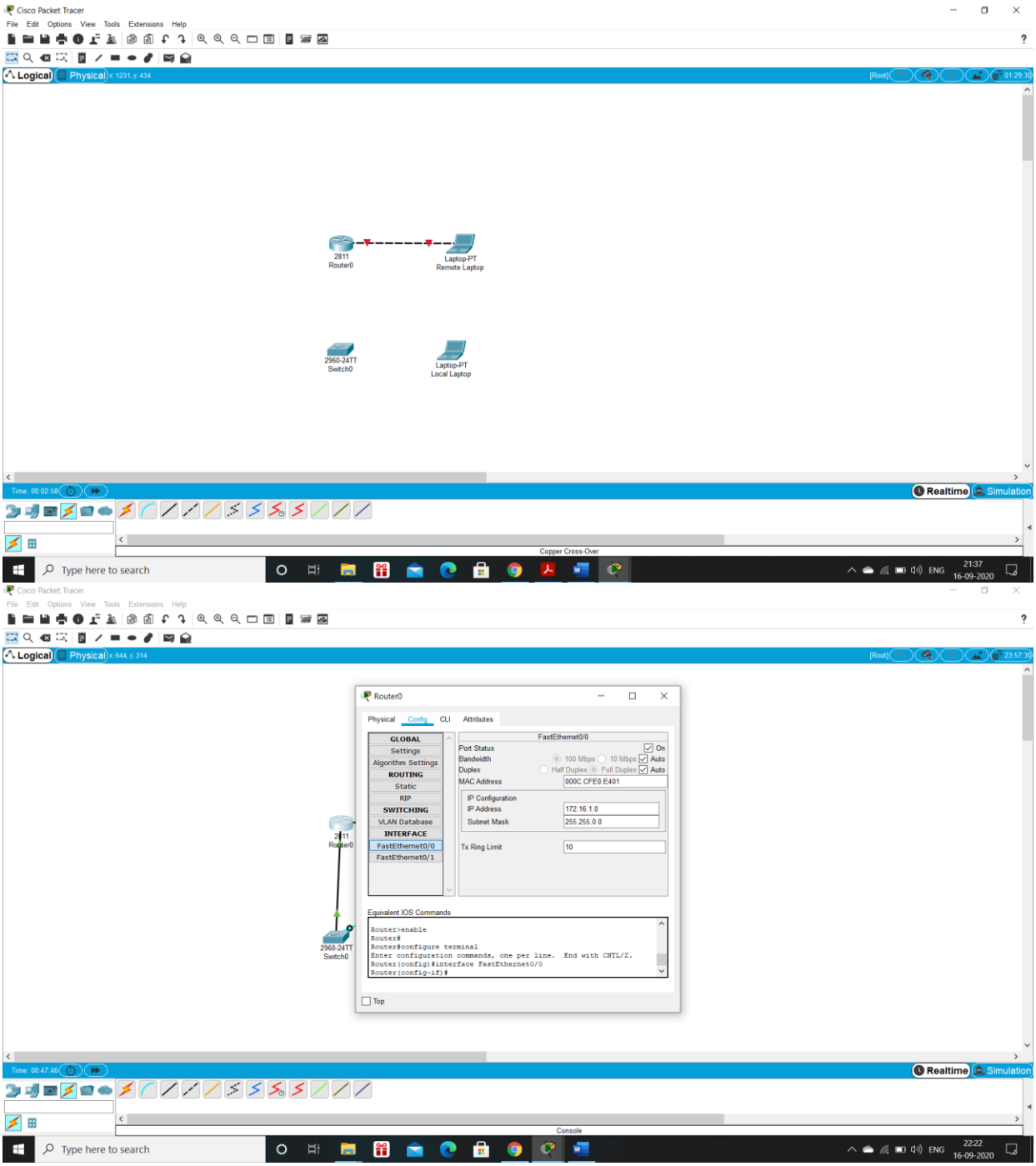


Fig 4.1.1 Shows the Fast ethernet Settings of Router connecting the Remote Laptop where we turn the Post Status to ON

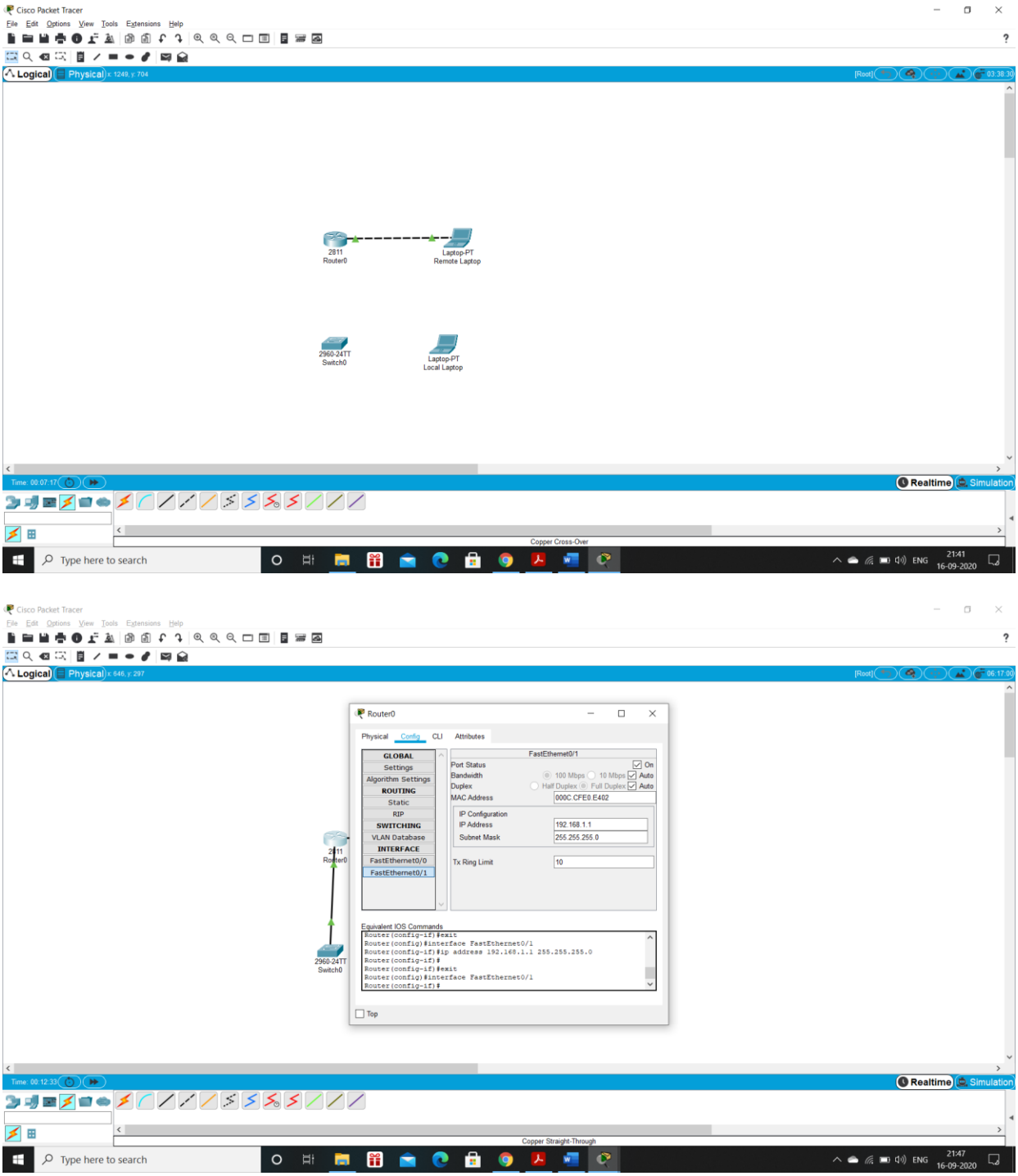


Fig 4.1.2 Shows the Fast ethernet Settings of Router connecting the switch where we turn the Post Status to ON

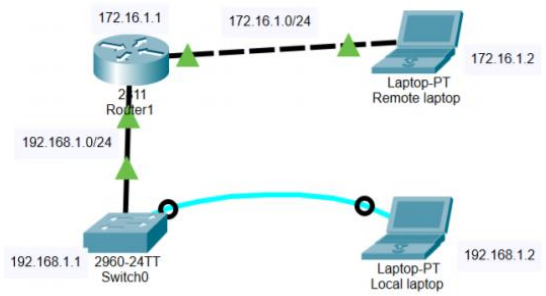


Fig 4.1.1 Shows 2 Laptops ,Remote Laptop connected to router via copper cross-over wire ,Local Laptop connnected to Switch via console and router is connected to switch via copper straight wire

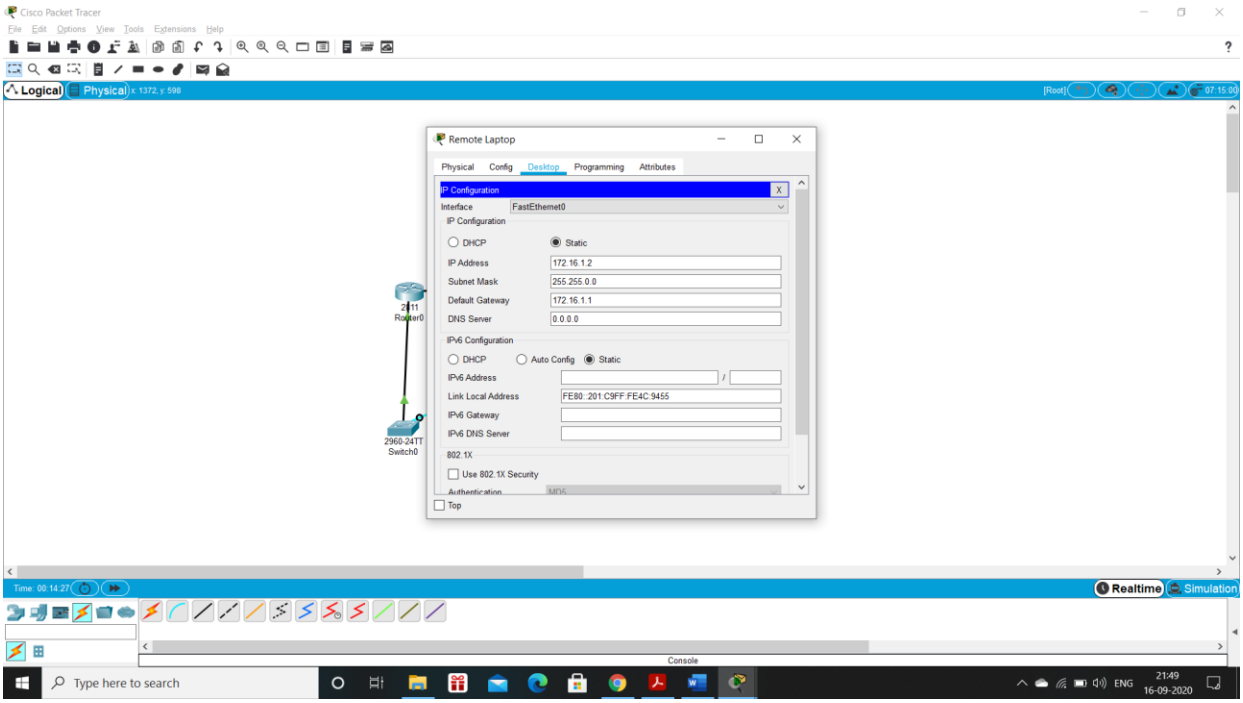


Fig 4.1.4 Shows the IP configuration of remote laptop where IP address is 172.16.1.2 and Default Gateway is 172.16.1.1

2. Configure Switch hostname as LOCAL-SWITCH

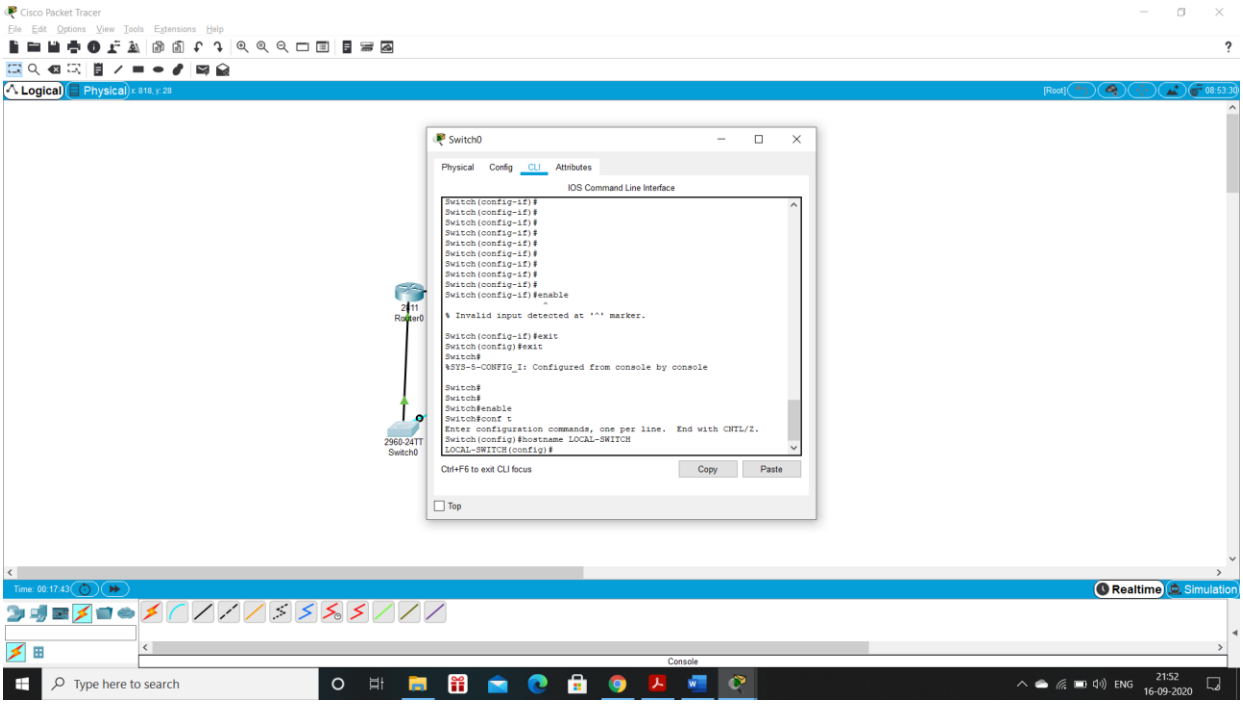


Fig 4.1.5 Shows the CLI of switch where we configure switch hostname as LOCAL-SWITCH

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

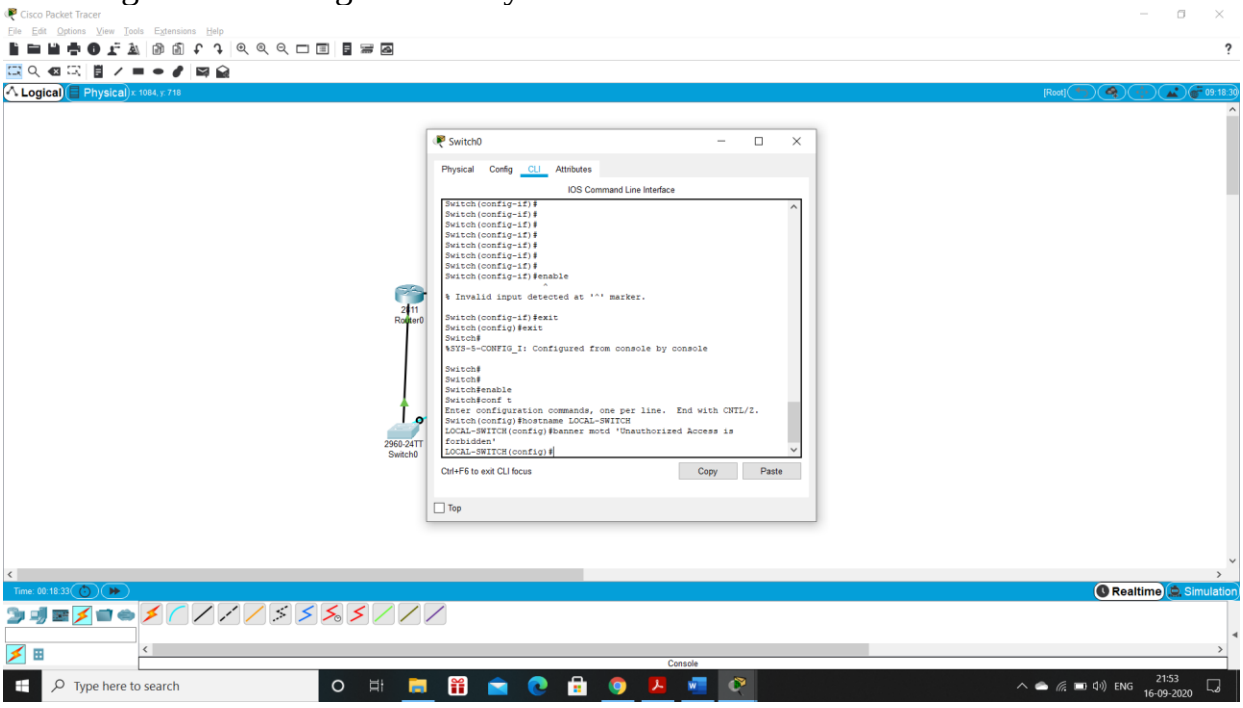


Fig 4.1.6 Shows the CLI of switch to configure the message of the day as Unauthorized access is forbidden

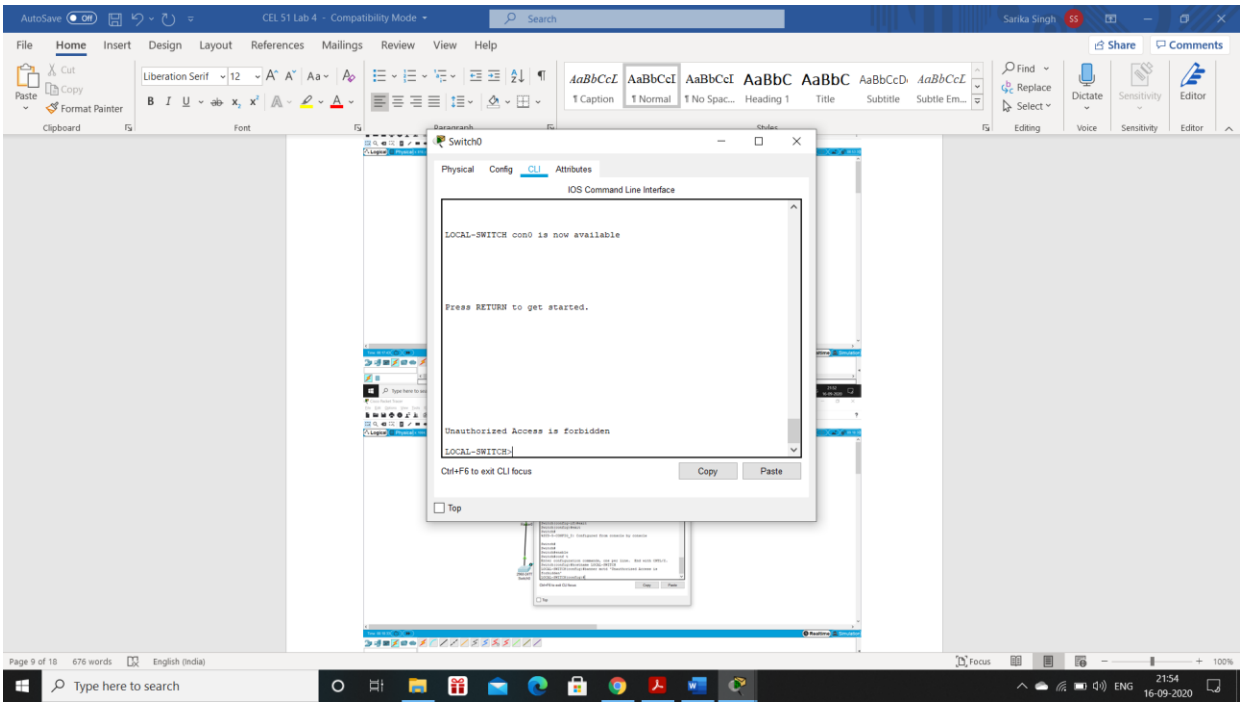


Fig 4.1.7 Shows the Message on using the show run command

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

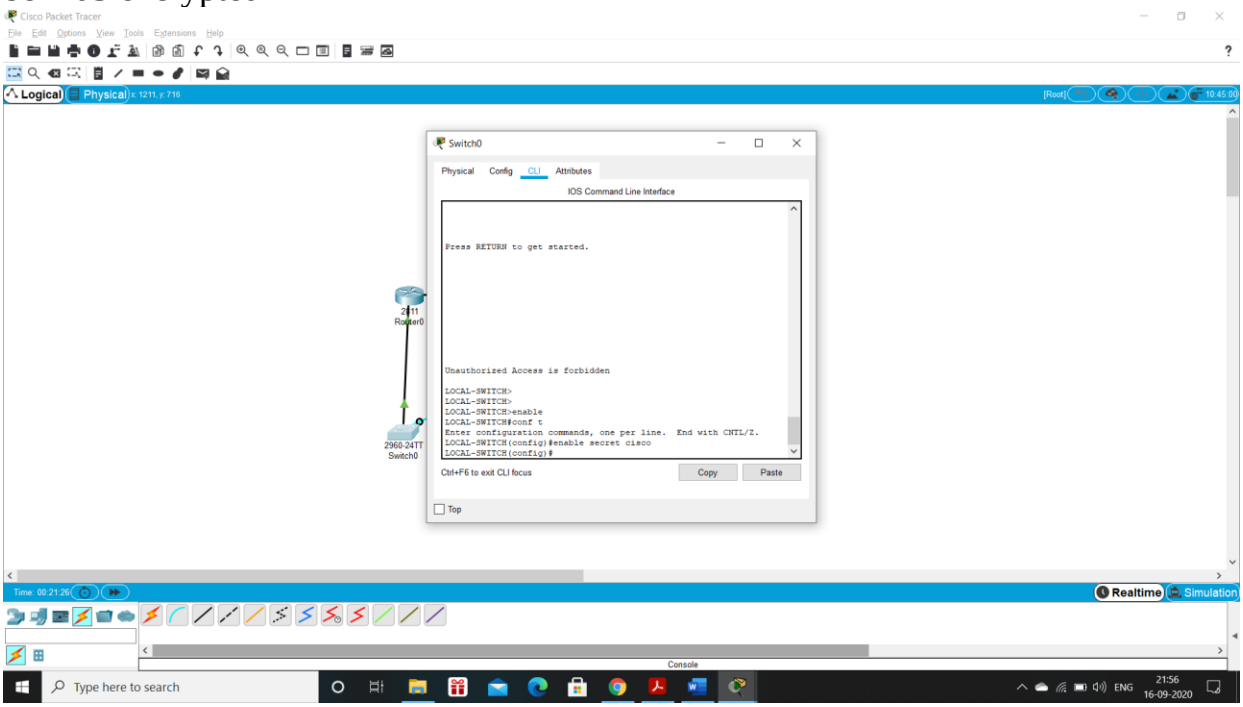


Fig 4.1.8 Shows the CLI to configure the password for privileged mode access as cisco

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

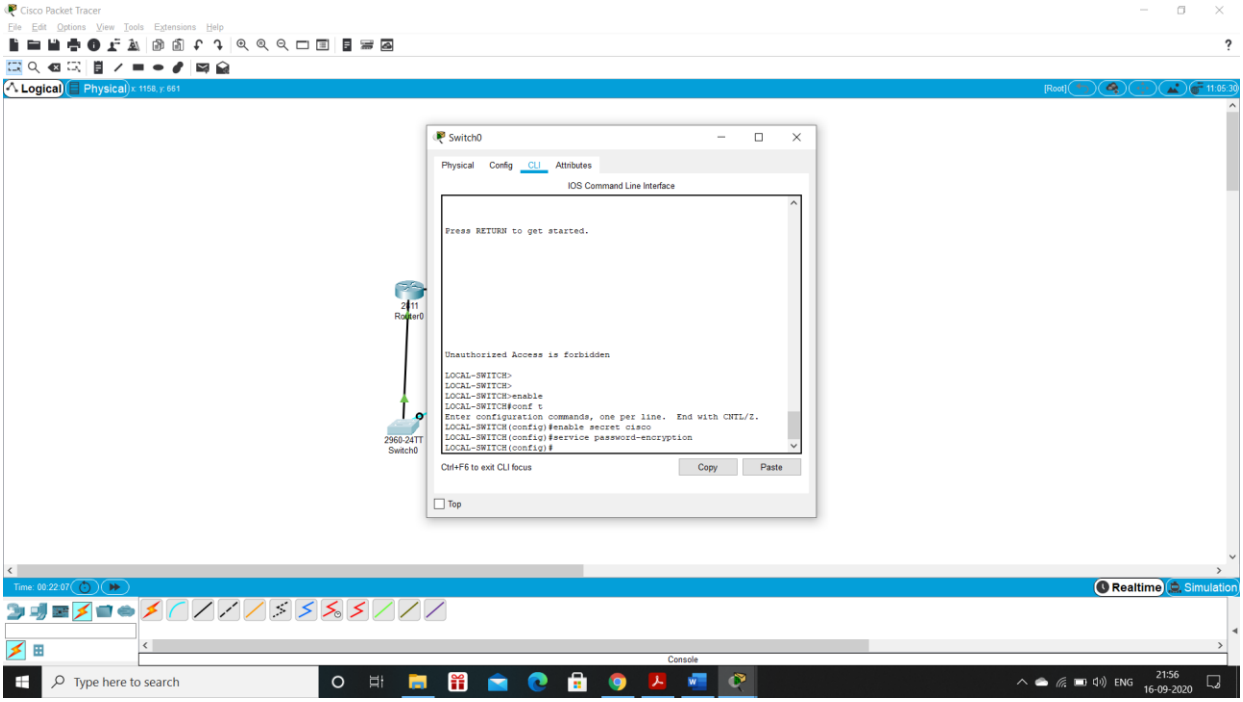


Fig 4.1.9 Shows the CLI to configure password encryption on the switch

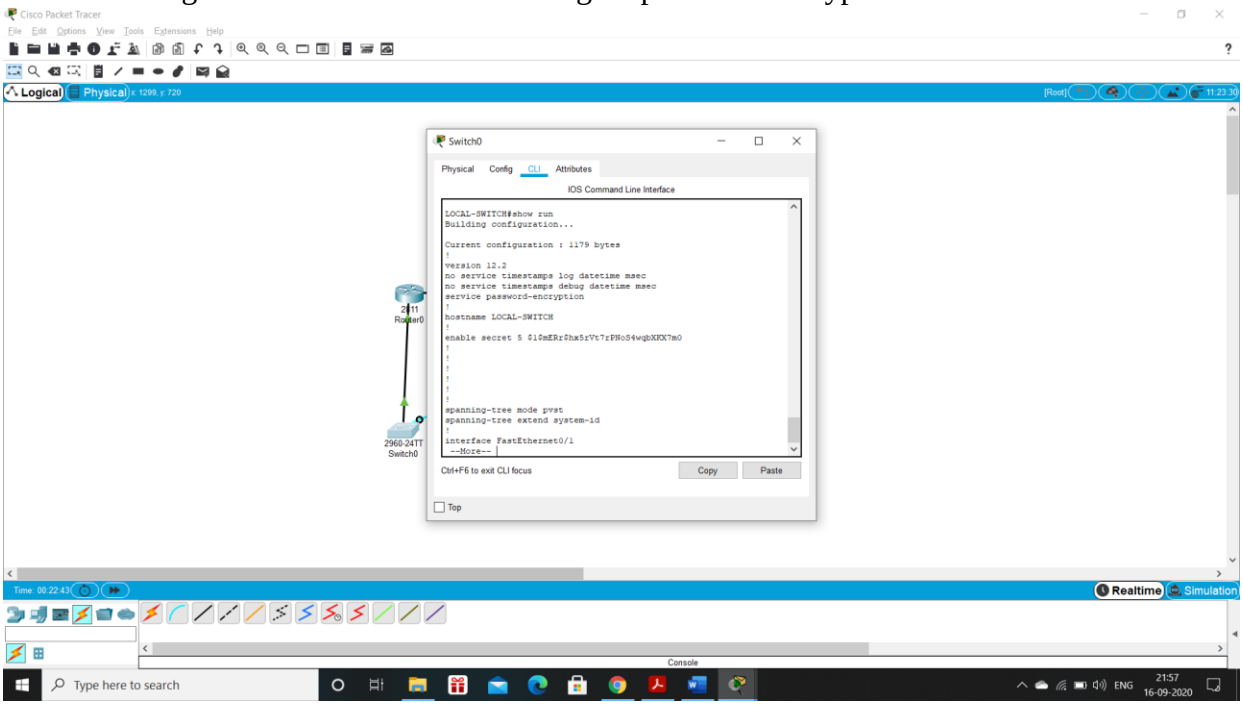


Fig 4.1.10 Shows the encrypted password when I use the show run command

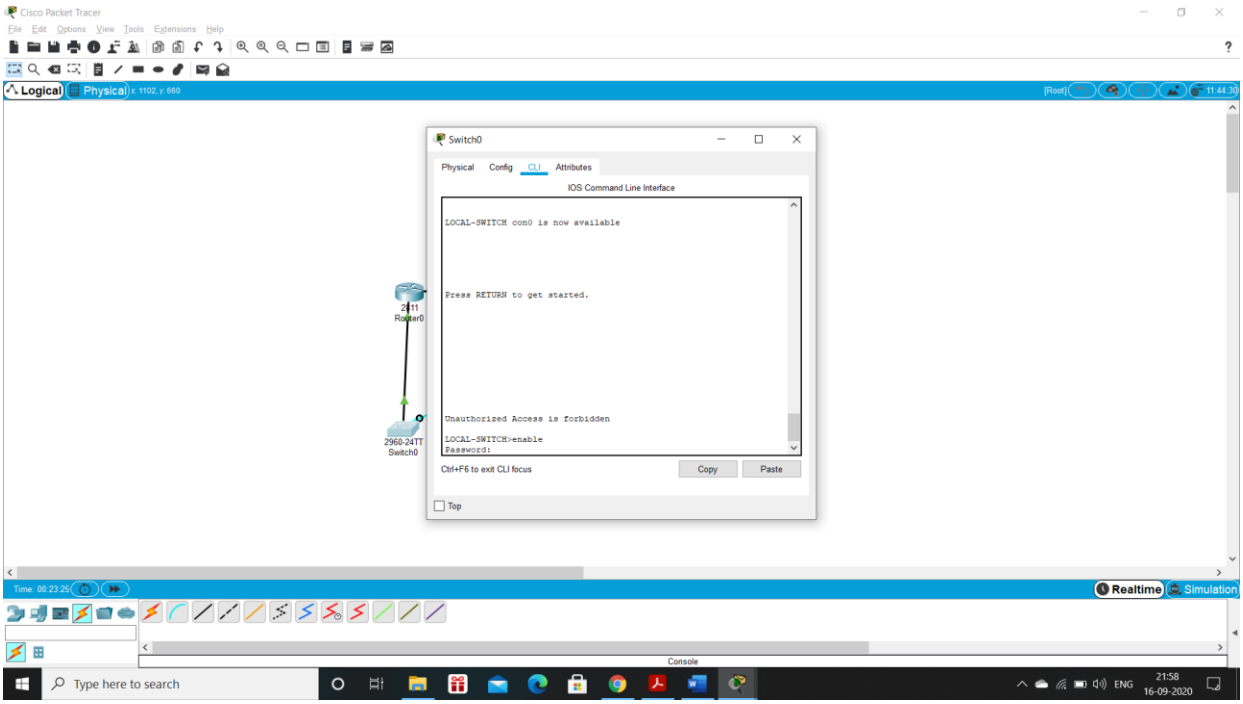


Fig 4.1.11 Shows that the CLI asks for password when I try to go to privileged mode

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

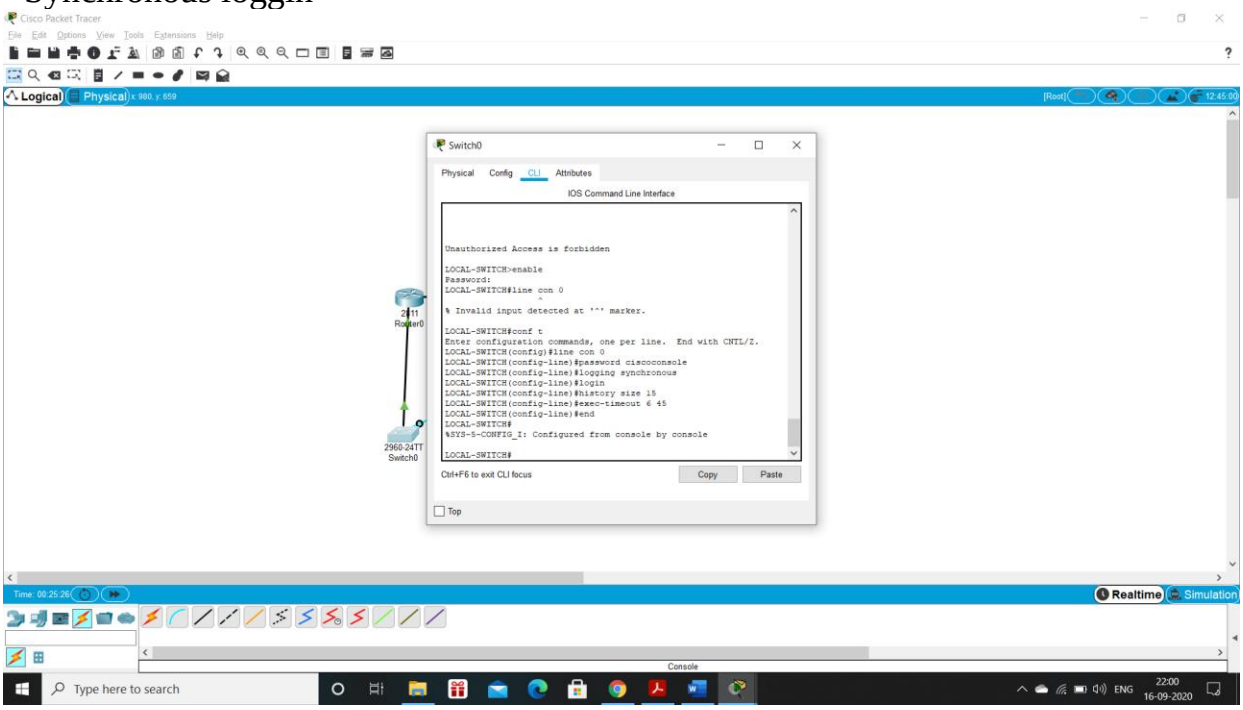


Fig 4.1.12 Shows to configure console access with following settings- Login enabled, Password : whatever you like,History size : 15 commands,Timeout : 6'45",Synchronous logging

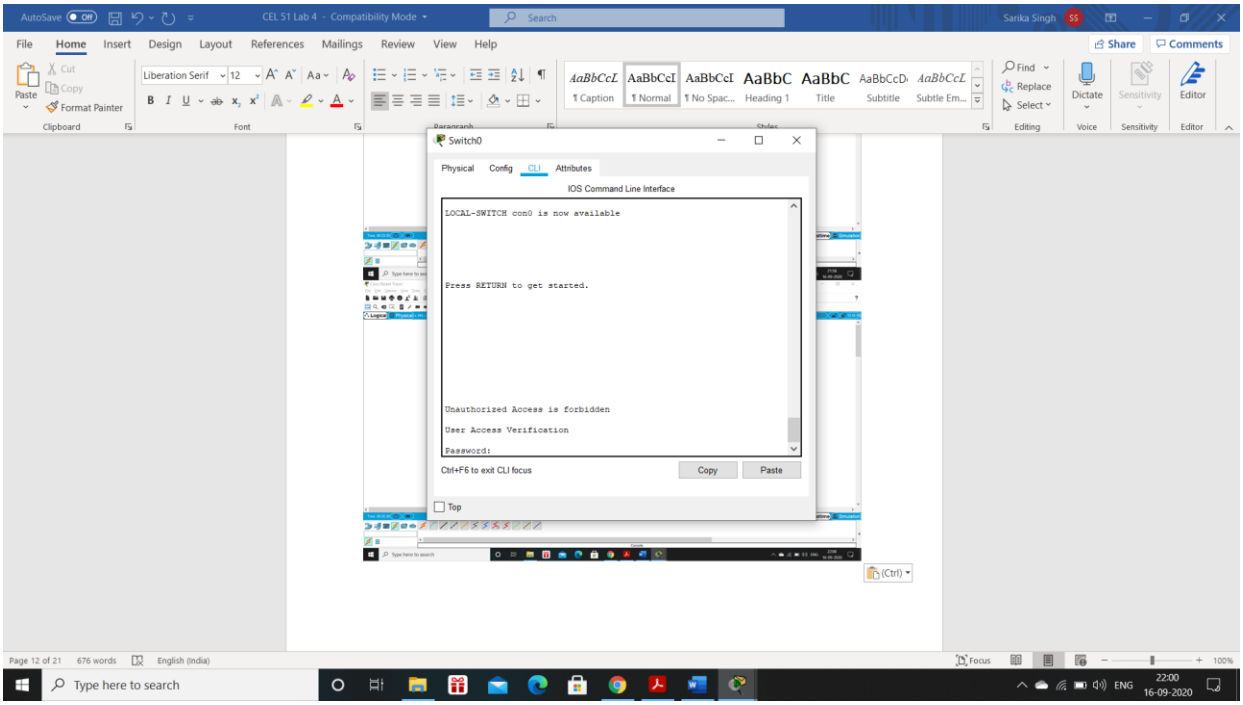


Fig 4.1.13 Shows that the CLI asks for password before it goes to console

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

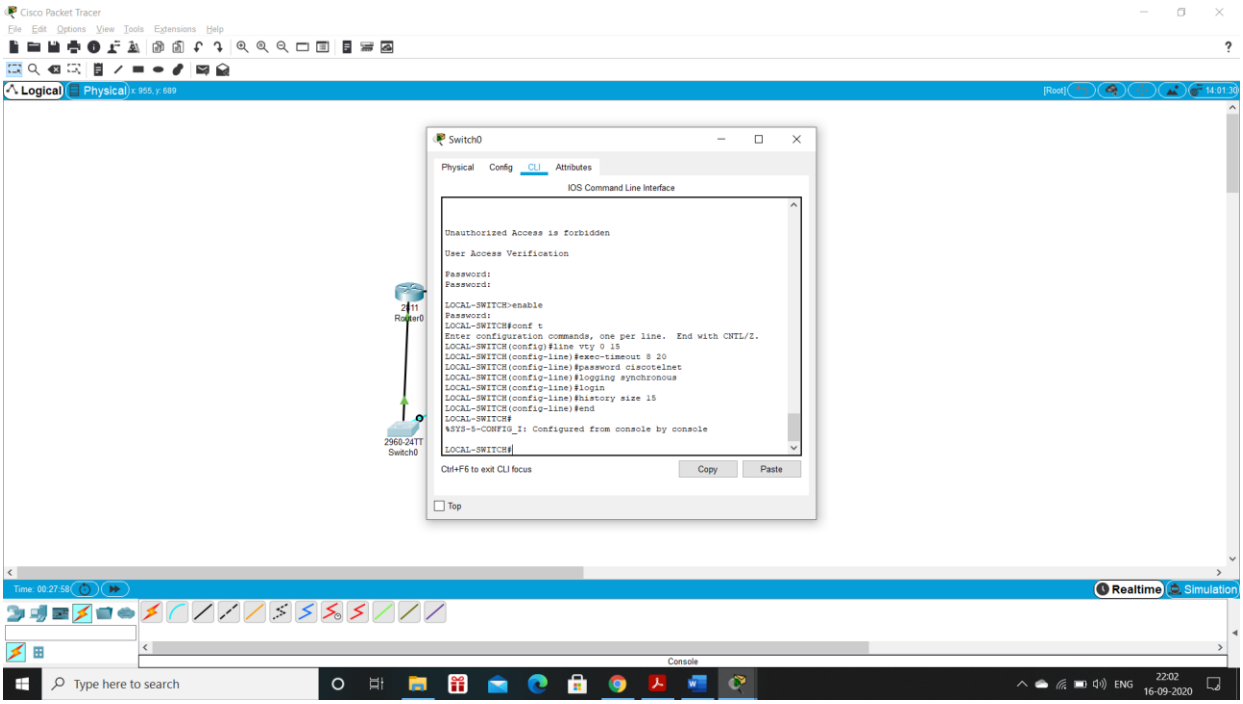


Fig 4.1.14 Shows to configure Telnet access with following settings- Login enabled, Password : whatever you like, History size : 15 commands, Timeout : 8'20",Synchronous logging

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

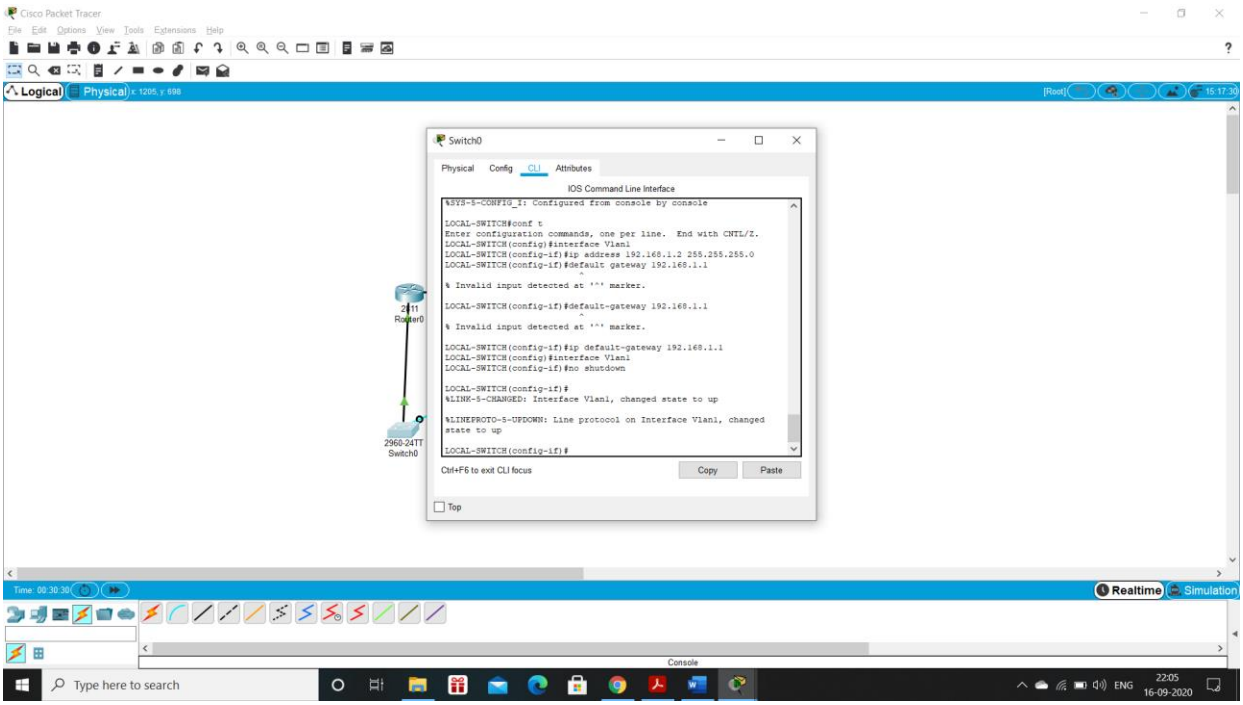


Fig 4.1.15 Shows the CLI to configure the IP address of the switch as 192.168.1.2/24 and it's

default gateway IP (192.168.1.1).

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

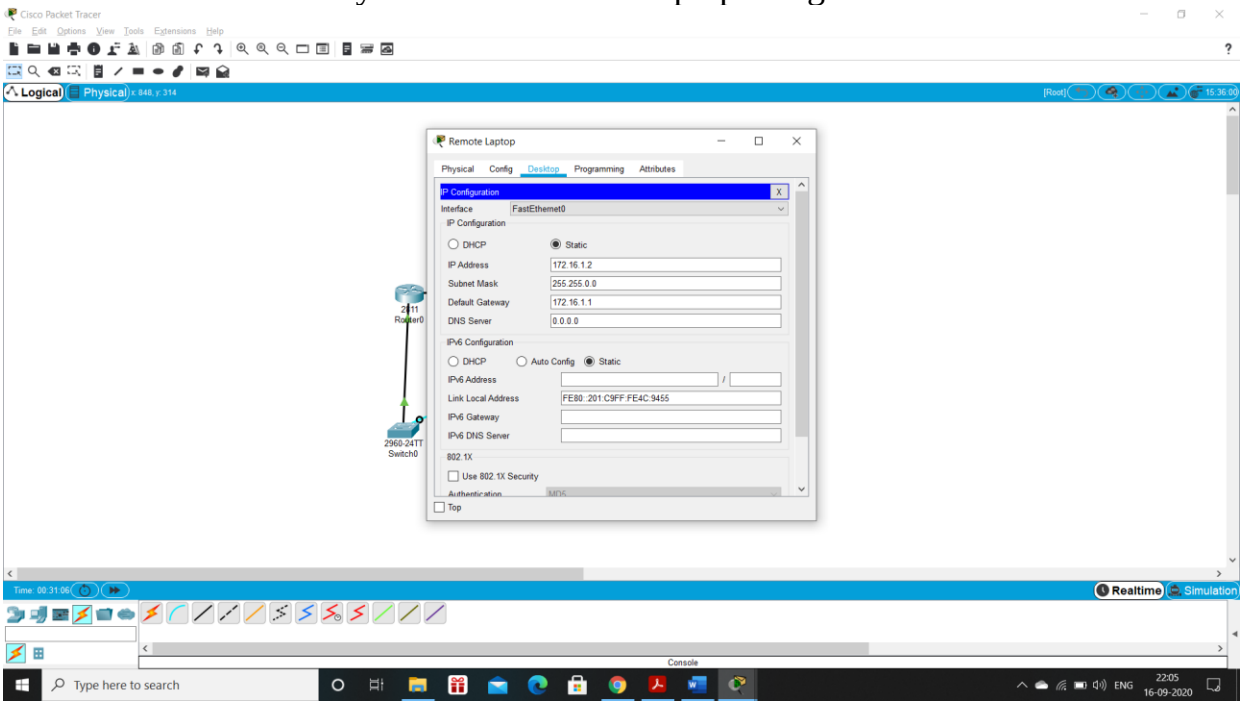


Fig 4.1.16 Shows configuration of Remote Laptop

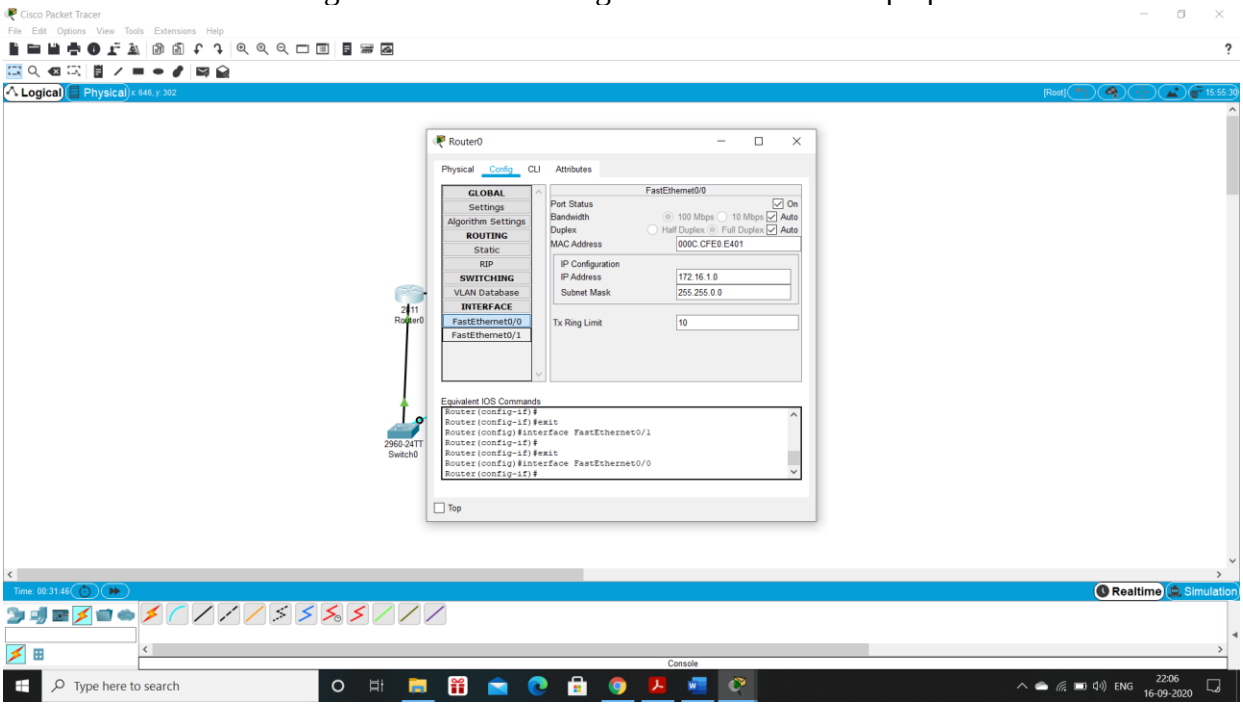


Fig 4.1.17 Shows Configuration of Router

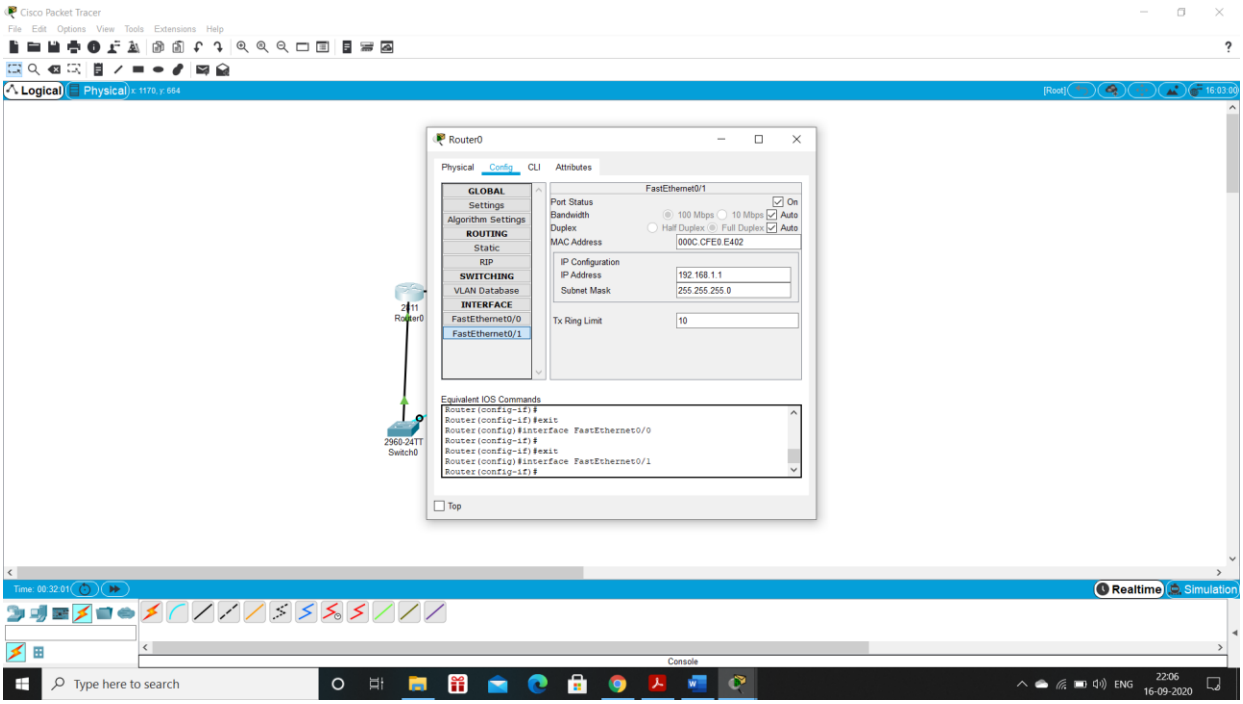


Fig 4.1.18 Shows Configuration of Router

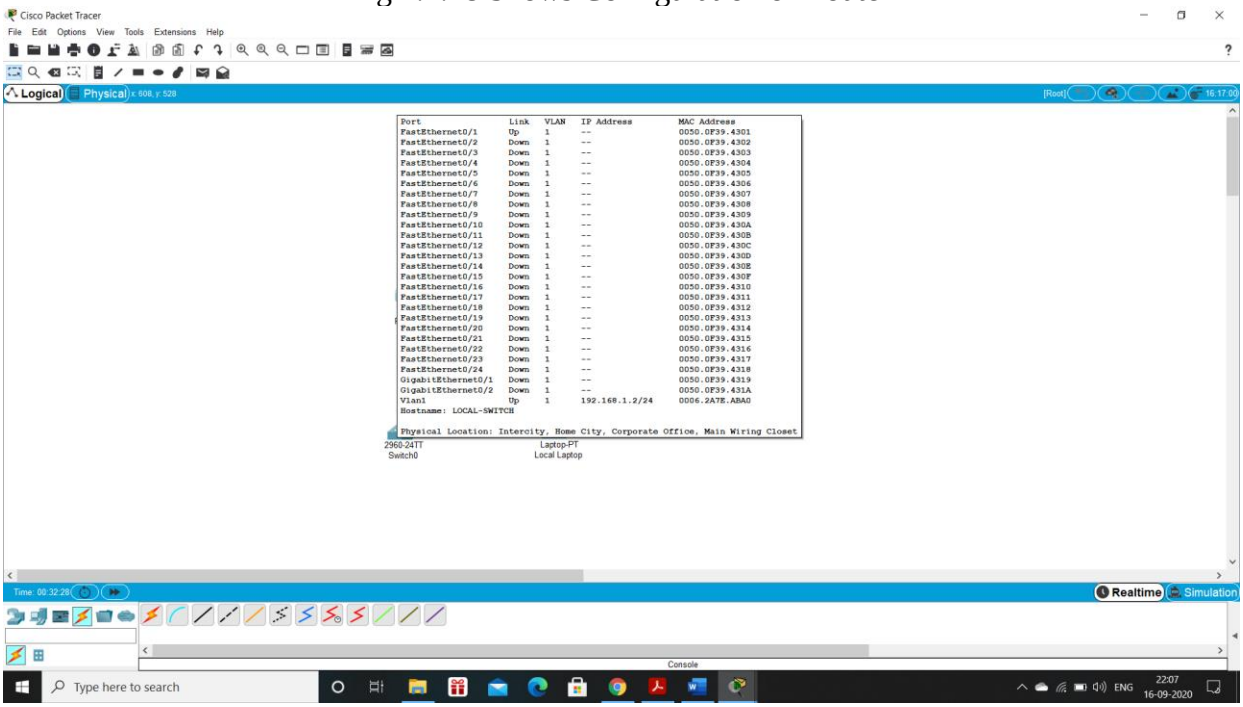


Fig 4.1.19 Shows Configuration of Switch

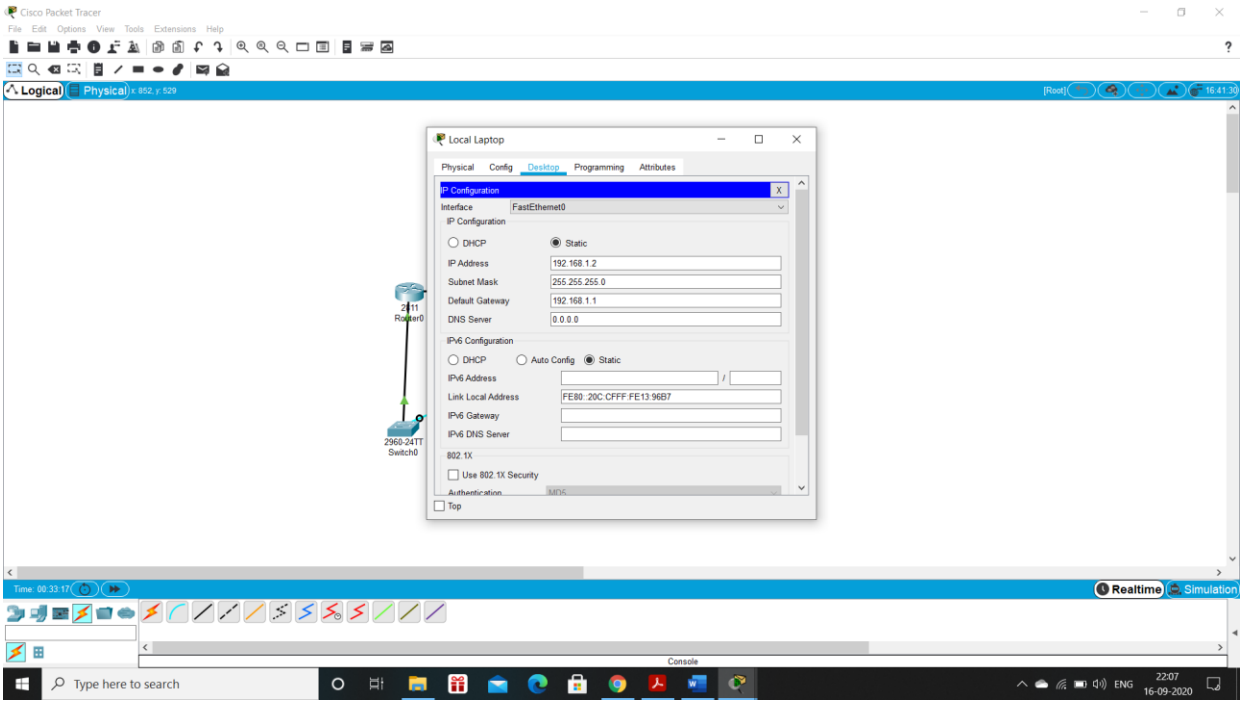


Fig 4.1.20 Shows Configuration of Local Laptop

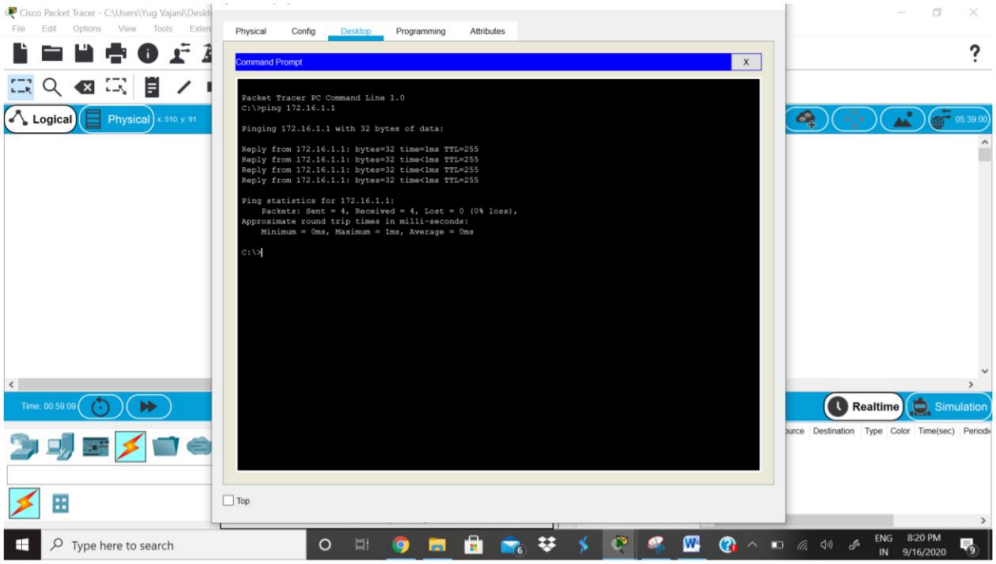


Fig 4.1.21 Shows Pinging Router from Remote Laptop

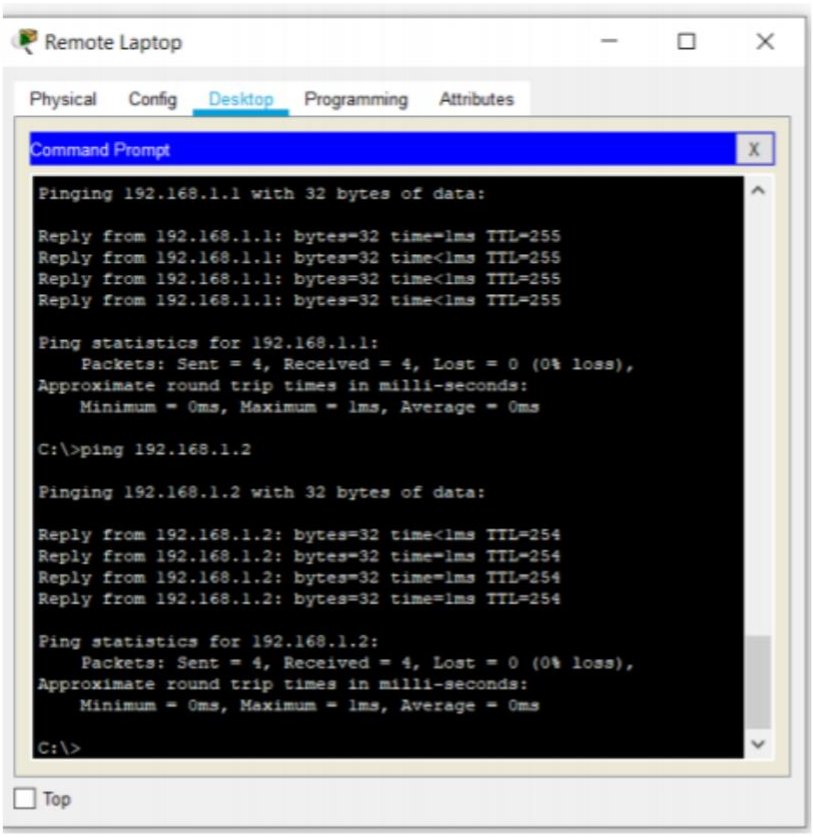


Fig 4.1.22 Shows Pinging Switch from Remote Laptop

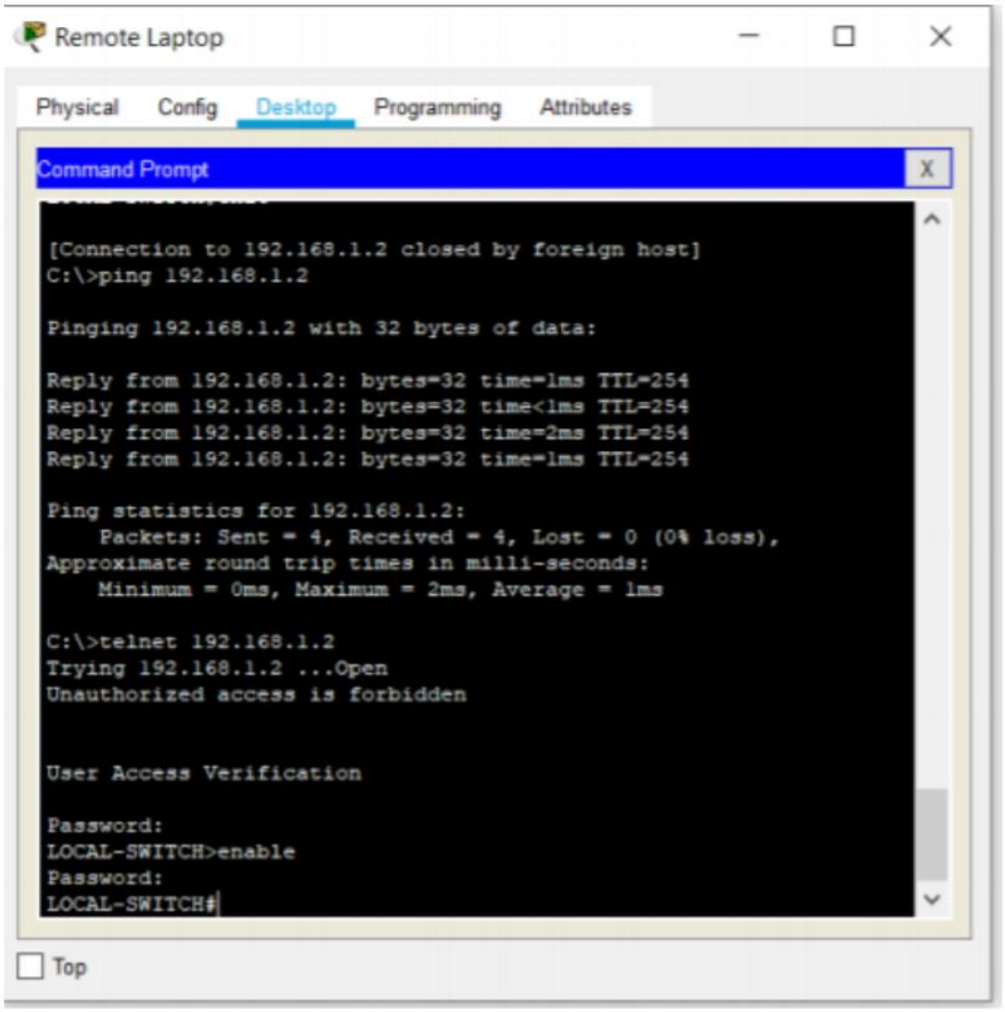


Fig 4.1.23 Telnet Switch from Remote Laptop after entering the password for telnet and enabling switch from Remote Laptop

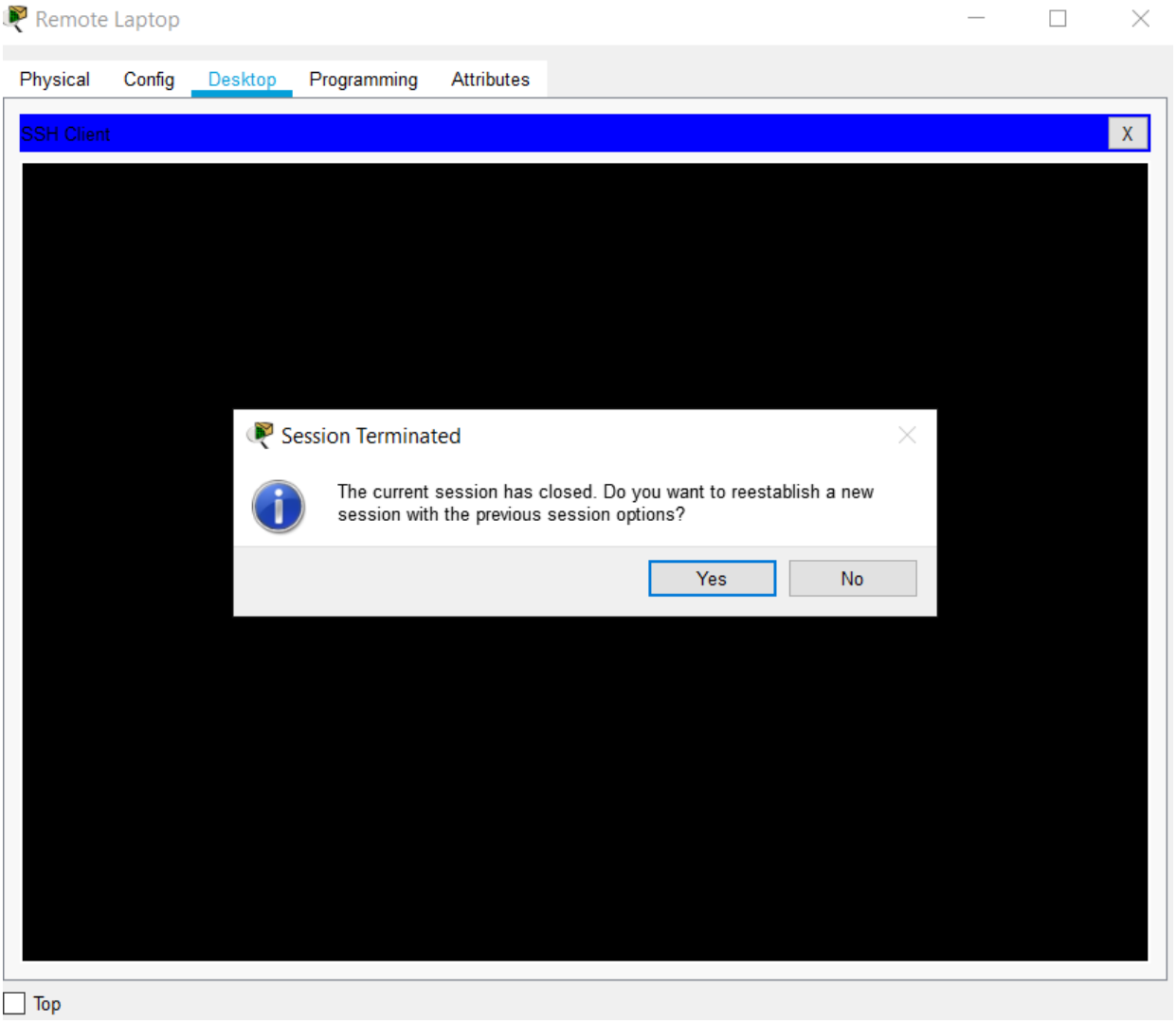


Fig. 4.1.24 - Timeout

CONCLUSION: In this experiment, I learned about setting up network with Router and Switch. I learned to configure Switch using CLI. I understood how to configure terminal. I configured telnet for switch and checked its connectivity from remote laptop