

# 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

- Add two PCs and a Cisco 2950T switch
- Using straight-through cables, connect **PC0** to interface **Fa0/1** on **Switch0** and **PC1** to interface **Fa0/2** on **Switch0**.

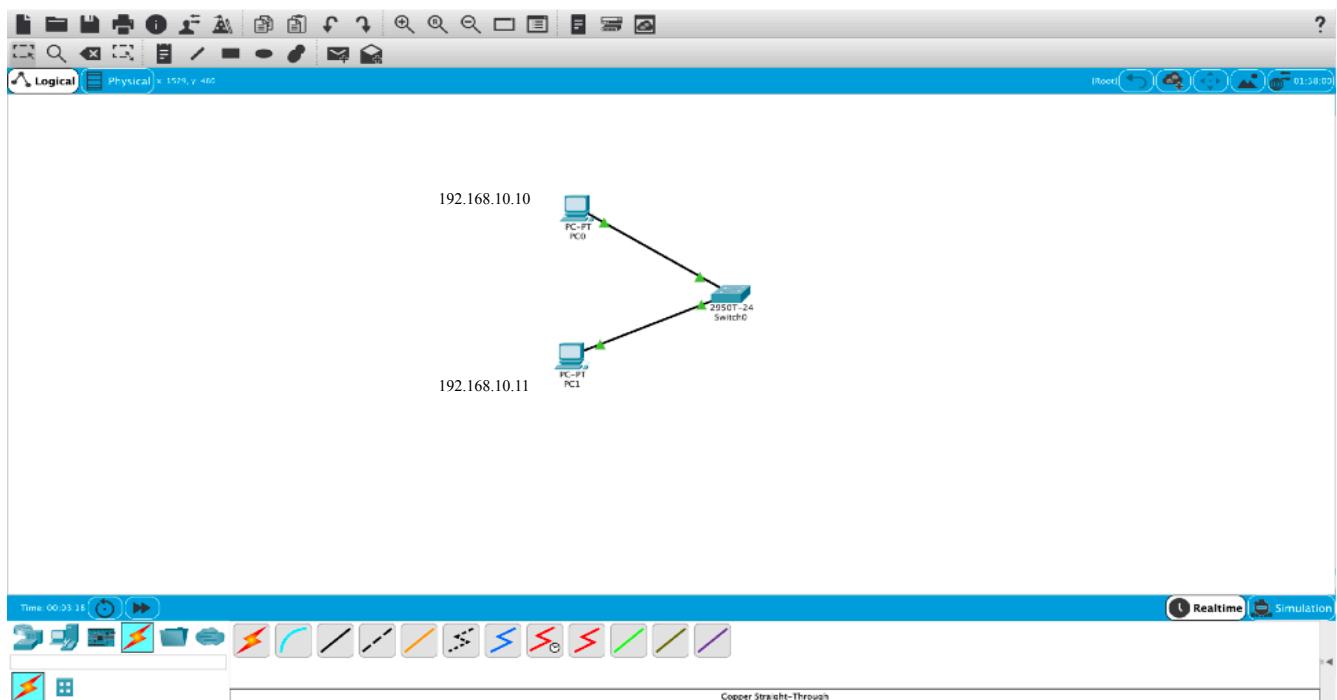


Fig 1: shows the connection. Two PC's connected to a switch using copper straight through cable.

- Configure PC0 using the **Config** tab in the PC0 configuration window:
  - IP address: 192.168.10.10
  - Subnet Mask 255.255.255.0

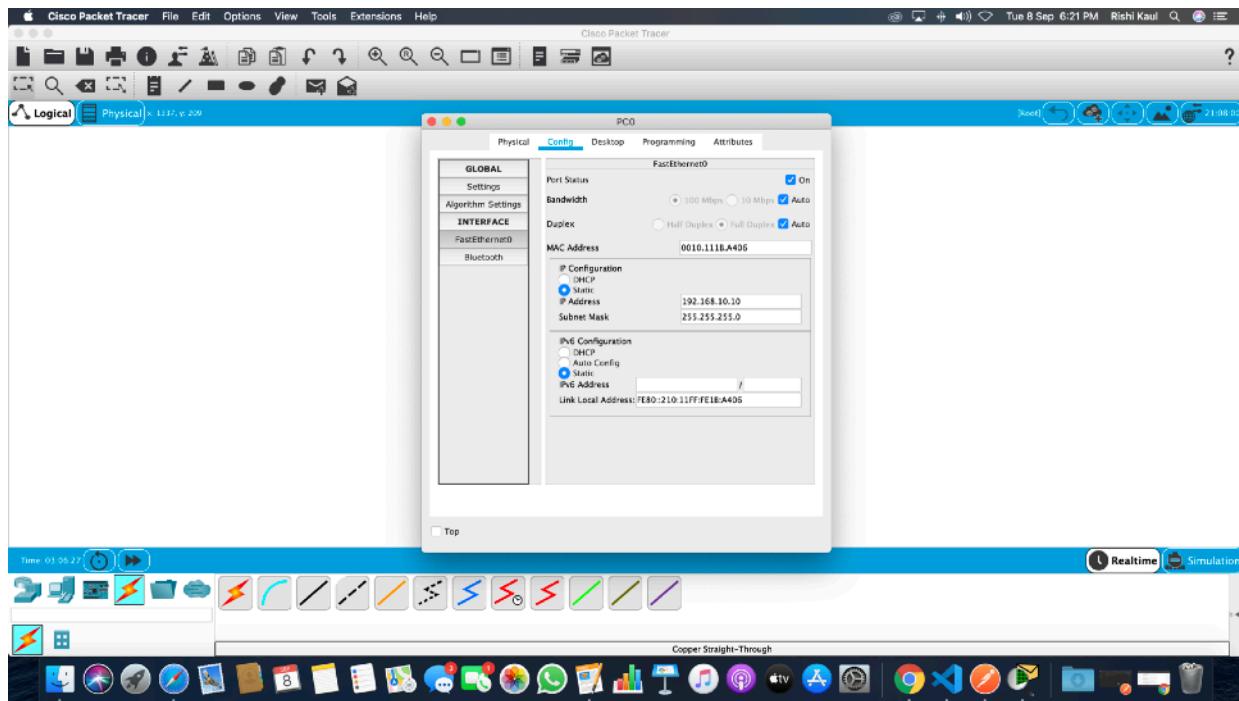


Fig 2: shows the config tab for PC0. The IP address and subnet mask are set as 192.168.10.10 and 255.255.255.0 respectively.

d) Configure PC1 using the **Config** tab in the PC1 configuration window

- IP address: 192.168.10.11
- Subnet Mask 255.255.255.0

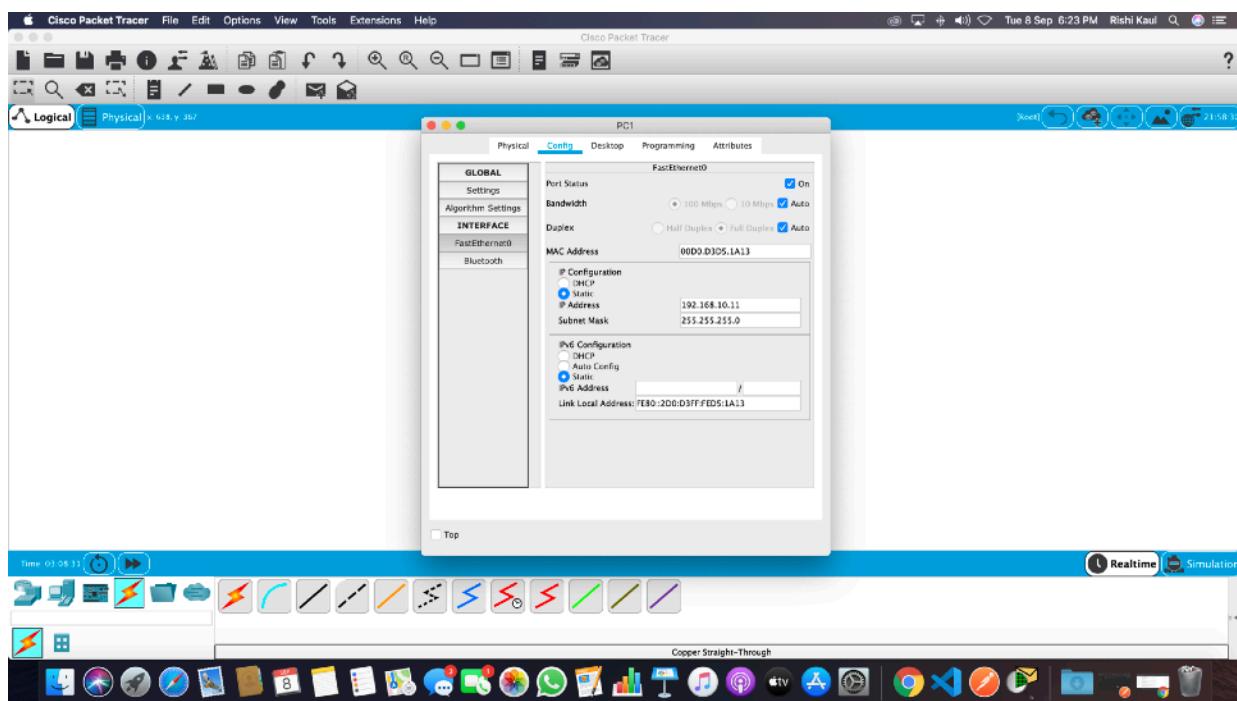


Fig 3: shows the config tab for PC1. The IP address and subnet mask are set as 192.168.10.11 and 255.255.255.0 respectively.

## **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:

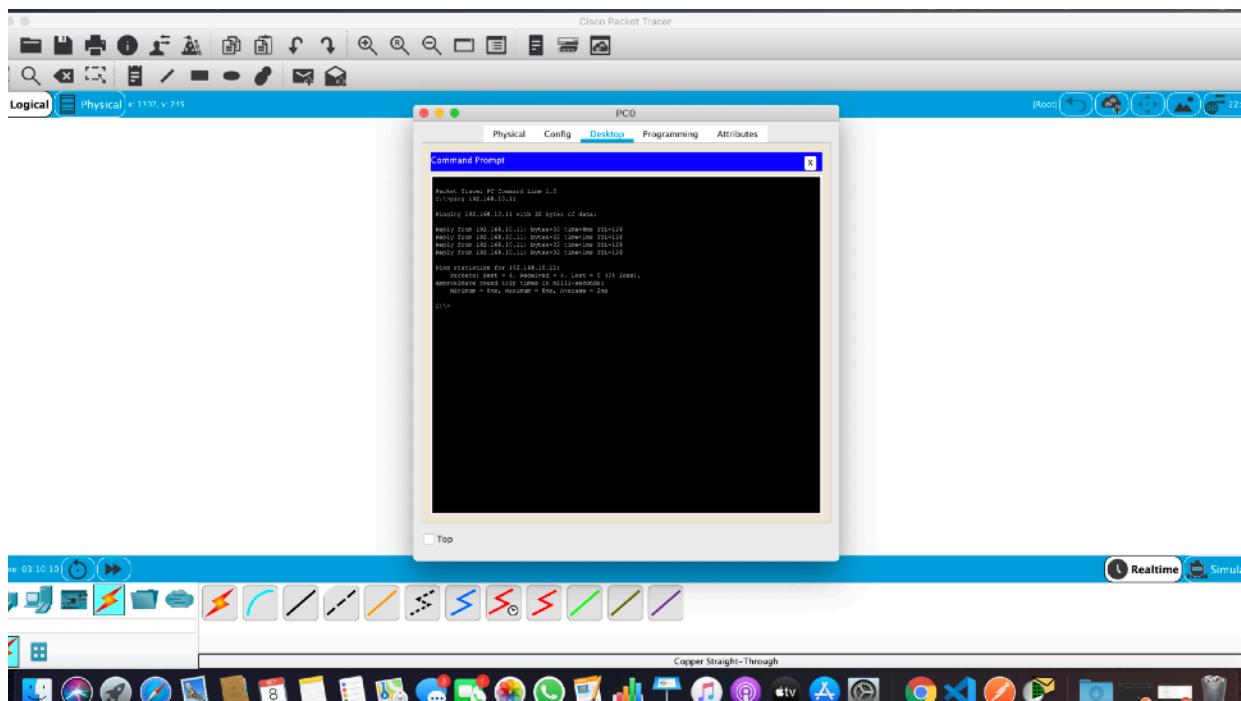


Fig 4: shows the command prompt for PC0. I have ran the ping command for PC1.

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

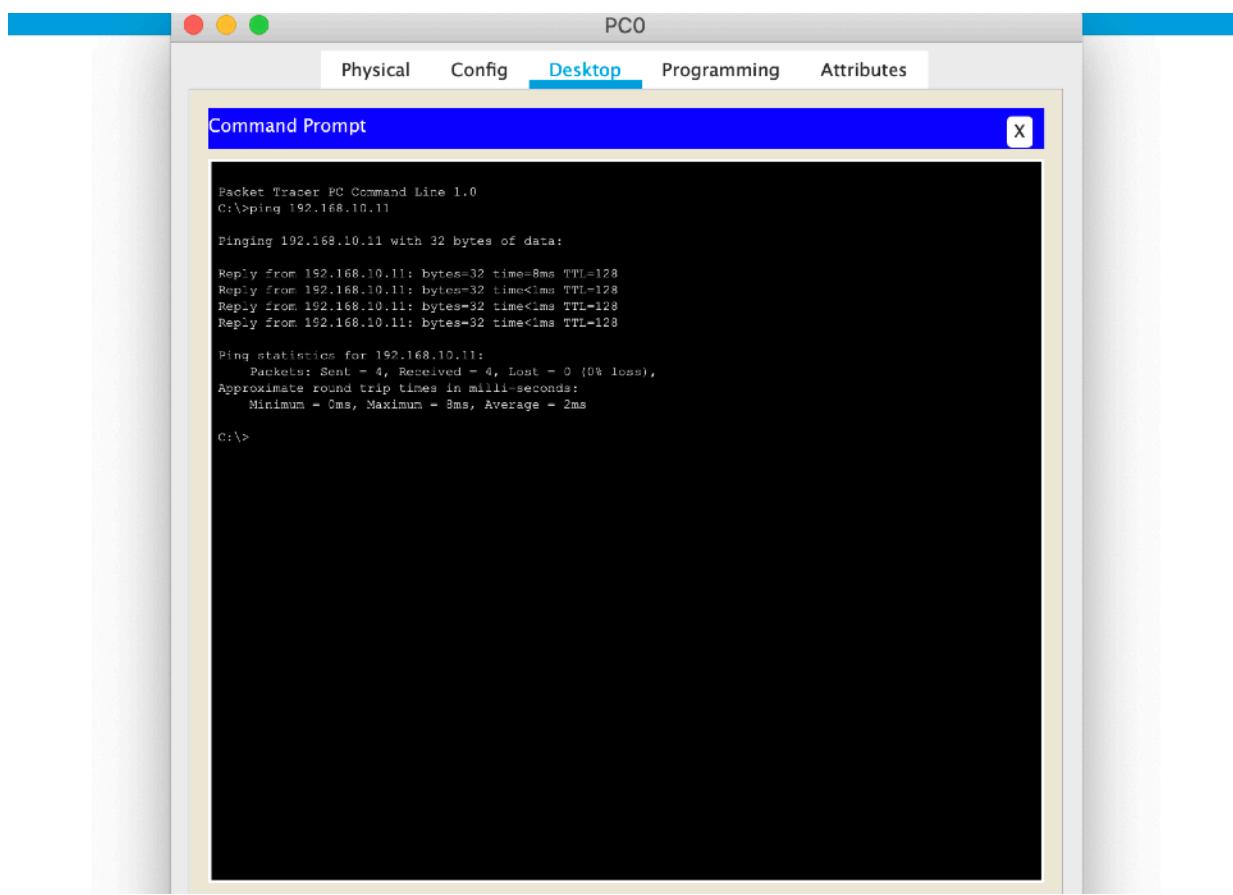


Fig 5: shows the command prompt for PC0(Zoomed). I have ran the ping command for PC1.

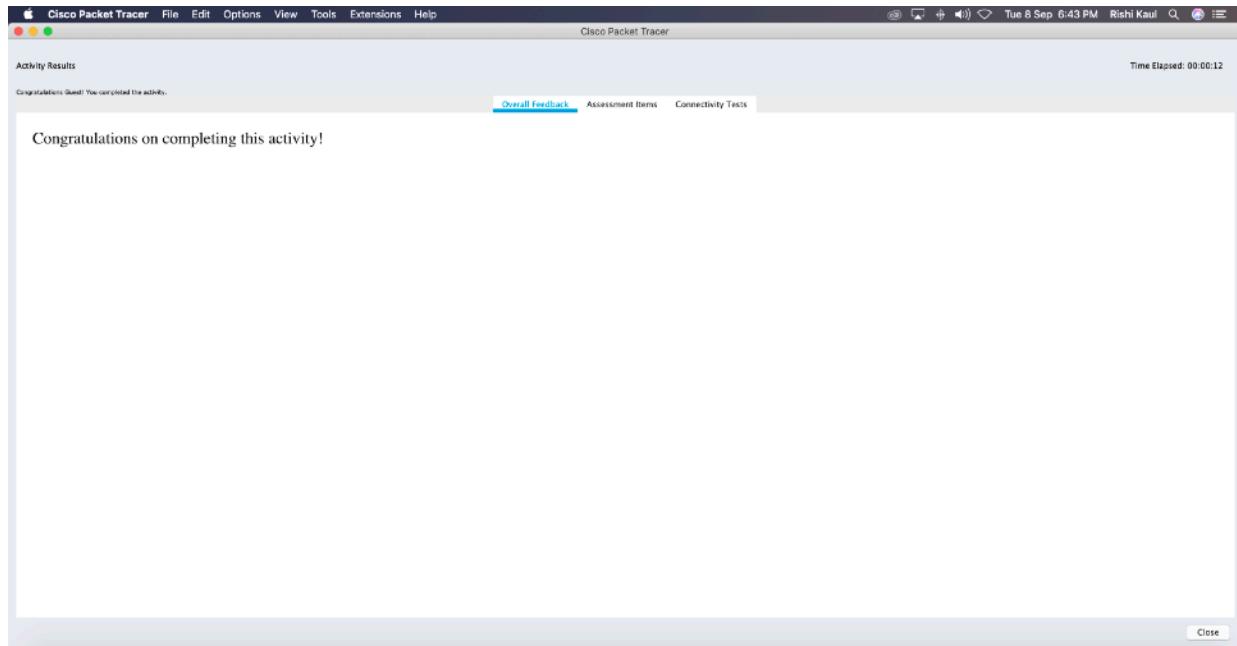


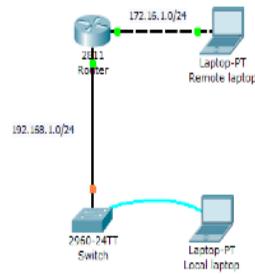
Fig 6: shows that the activity was successfully completed.

# 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.

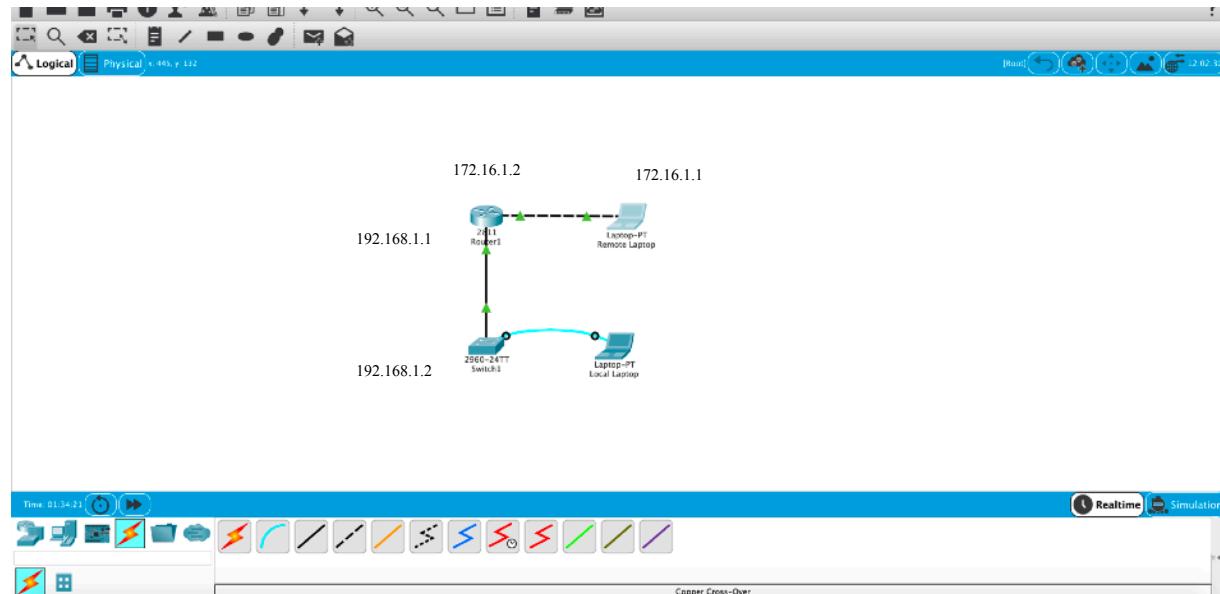


Fig 1: shows the connection. The remote laptop is connected to the router using copper cross over wire. The router is connected to the switch using a copper straight through cable. The local laptop is connected to the switch console.

## 2. Configure Switch hostname as LOCAL-SWITCH

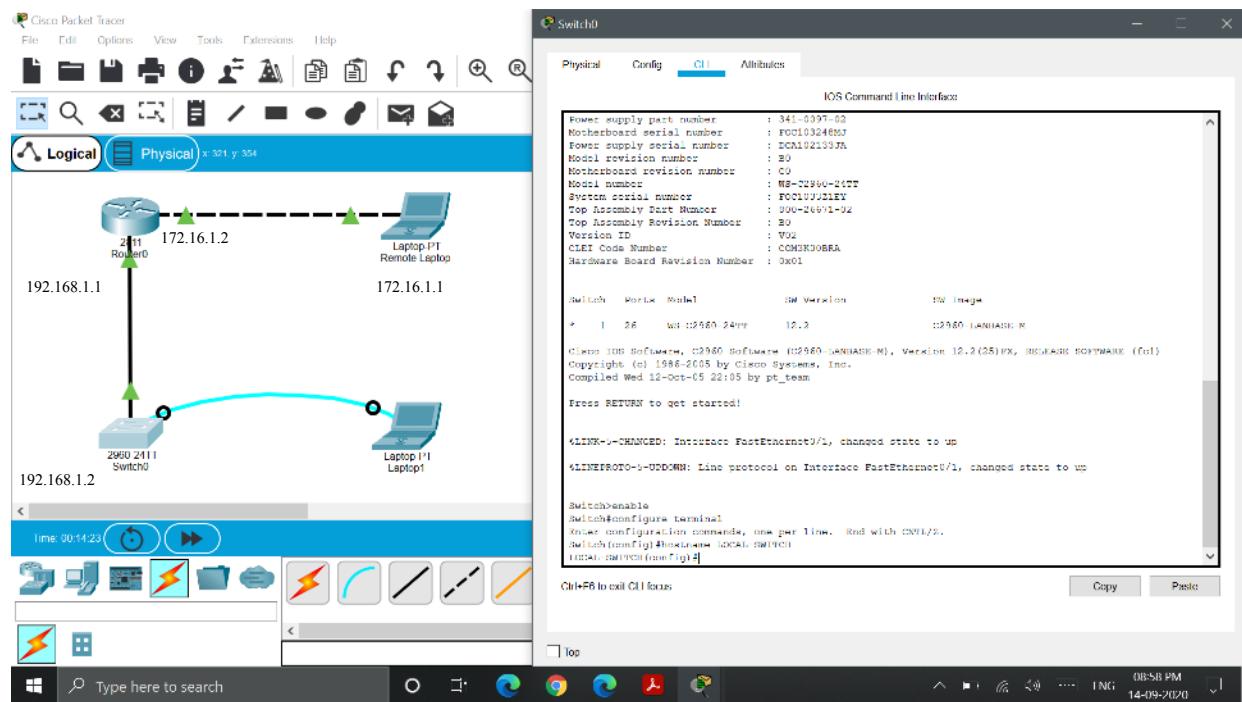


Fig 2: shows that the hostname is set to LOCAL-SWITCH.

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

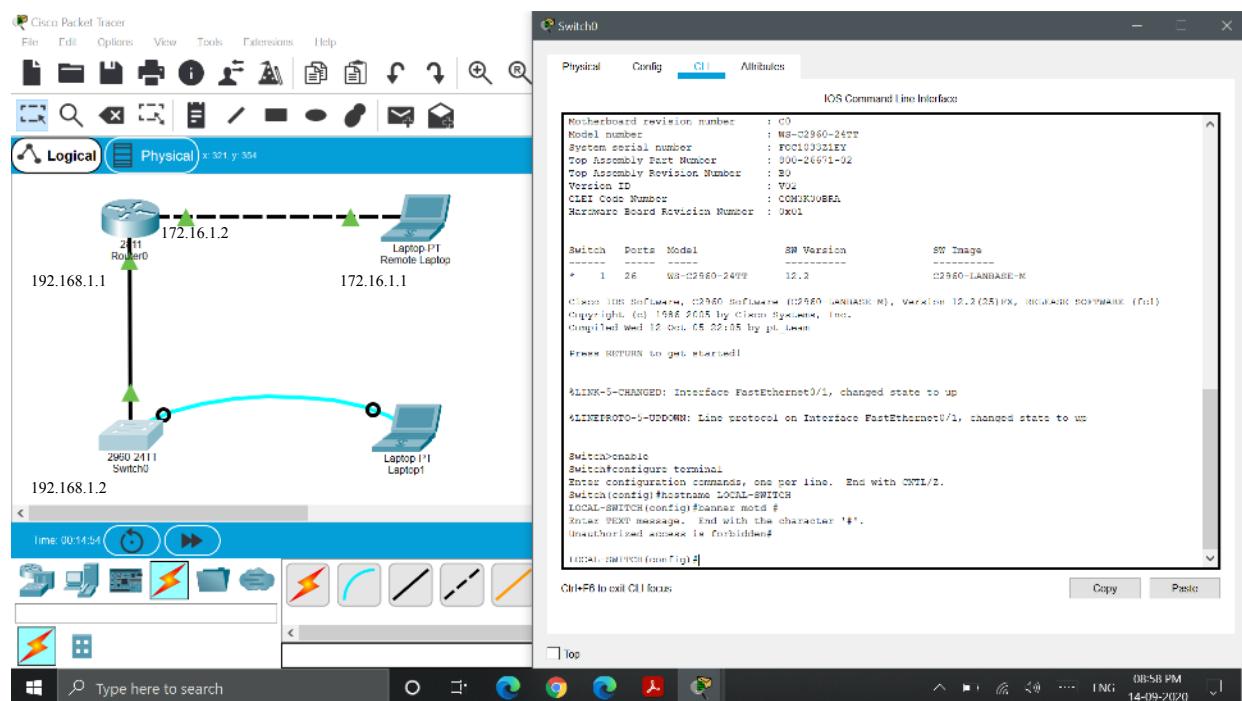


Fig 3: shows that the the message of the day is set by banner motd # command.

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

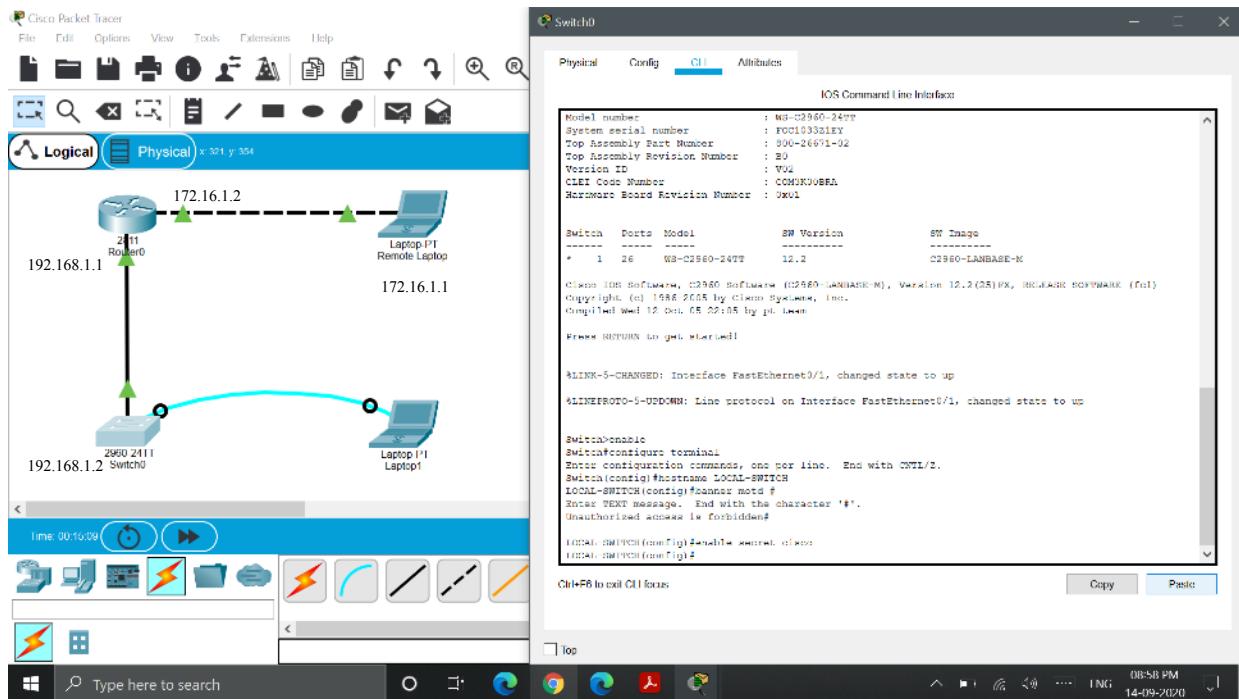


Fig 4: shows that the password is then set by enable secret and is set to cisco.

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

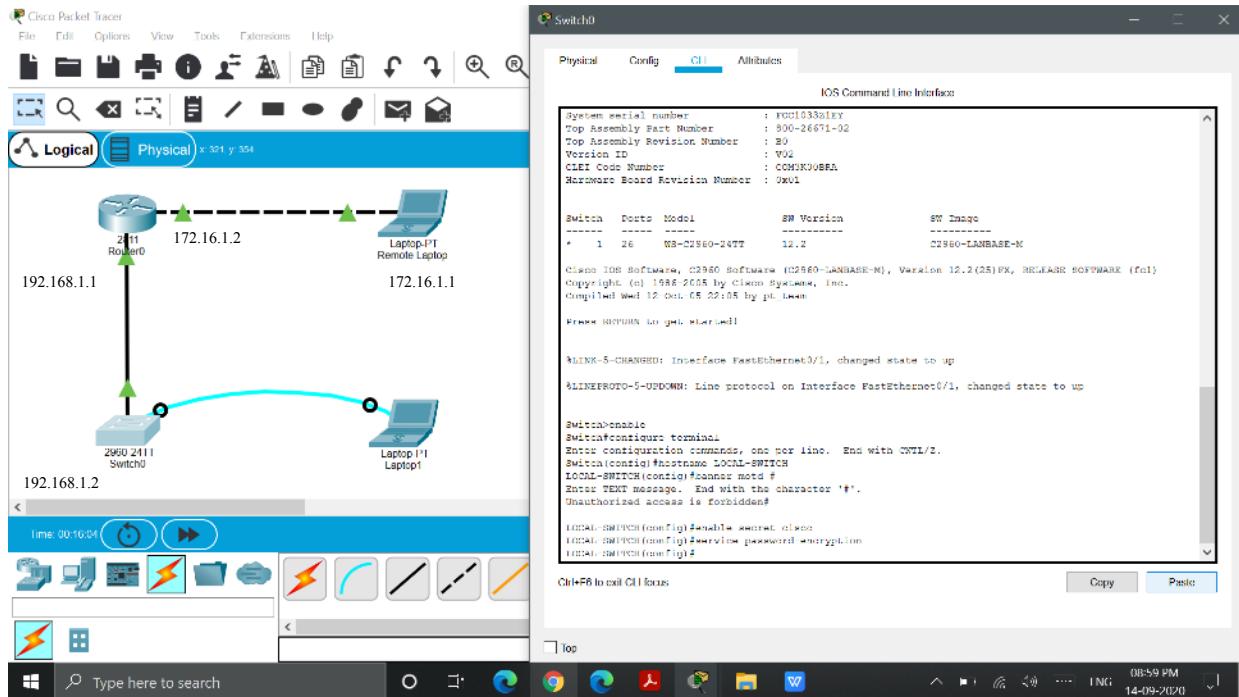


Fig 5: shows that the encryption is done by service password-encryption.

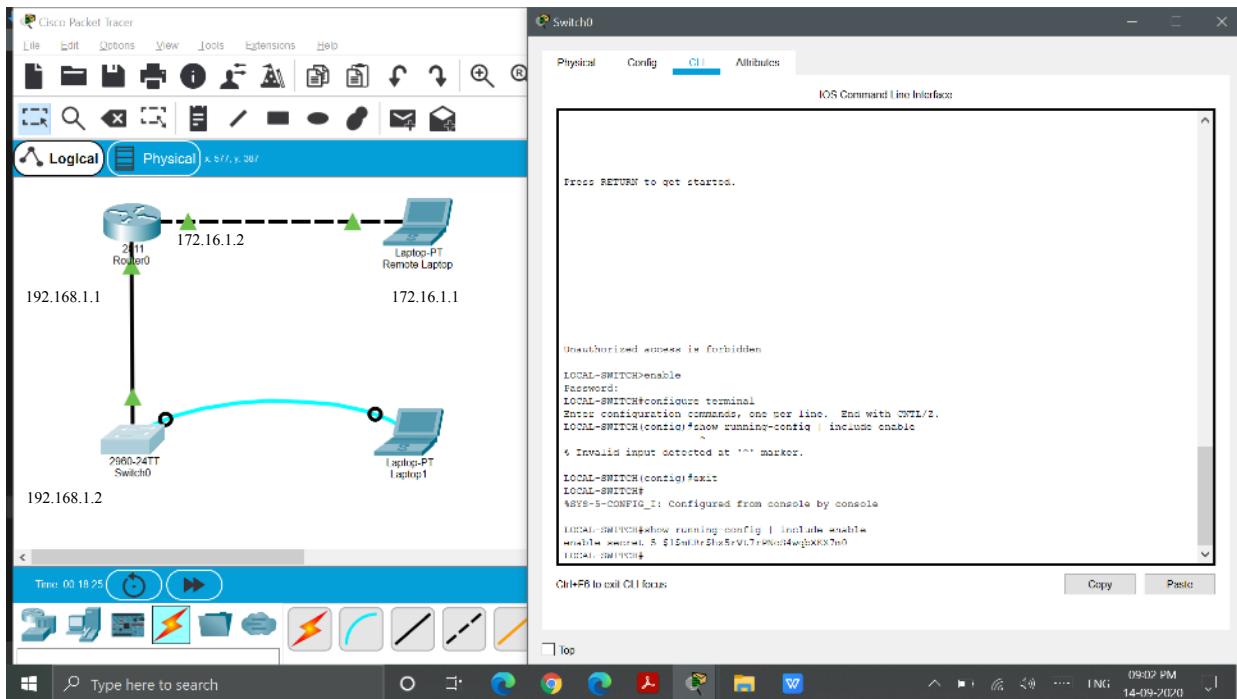


Fig 6: shows that to enable the console the password is required.

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

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

```

LOCAL-SWITCH#configure
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#line con 0
LOCAL-SWITCH(config-line)#password ciscoconsole
LOCAL-SWITCH(config-line)#logging synchronous
^
% Invalid input detected at '^' marker.

LOCAL-SWITCH(config-line)#logging synchronous
LOCAL-SWITCH(config-line)#login
LOCAL-SWITCH(config-line)#history size 15
LOCAL-SWITCH(config-line)#exec-timeout 6 45
LOCAL-SWITCH(config-line)#exit
LOCAL-SWITCH(config)#line vty 0 15
LOCAL-SWITCH(config-line)#exec-timeout 8 20
LOCAL-SWITCH(config-line)#password ciscotelnet
LOCAL-SWITCH(config-line)#logging synchronous
LOCAL-SWITCH(config-line)#login
LOCAL-SWITCH(config-line)#history size 15
LOCAL-SWITCH(config-line)#exit

```

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.

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

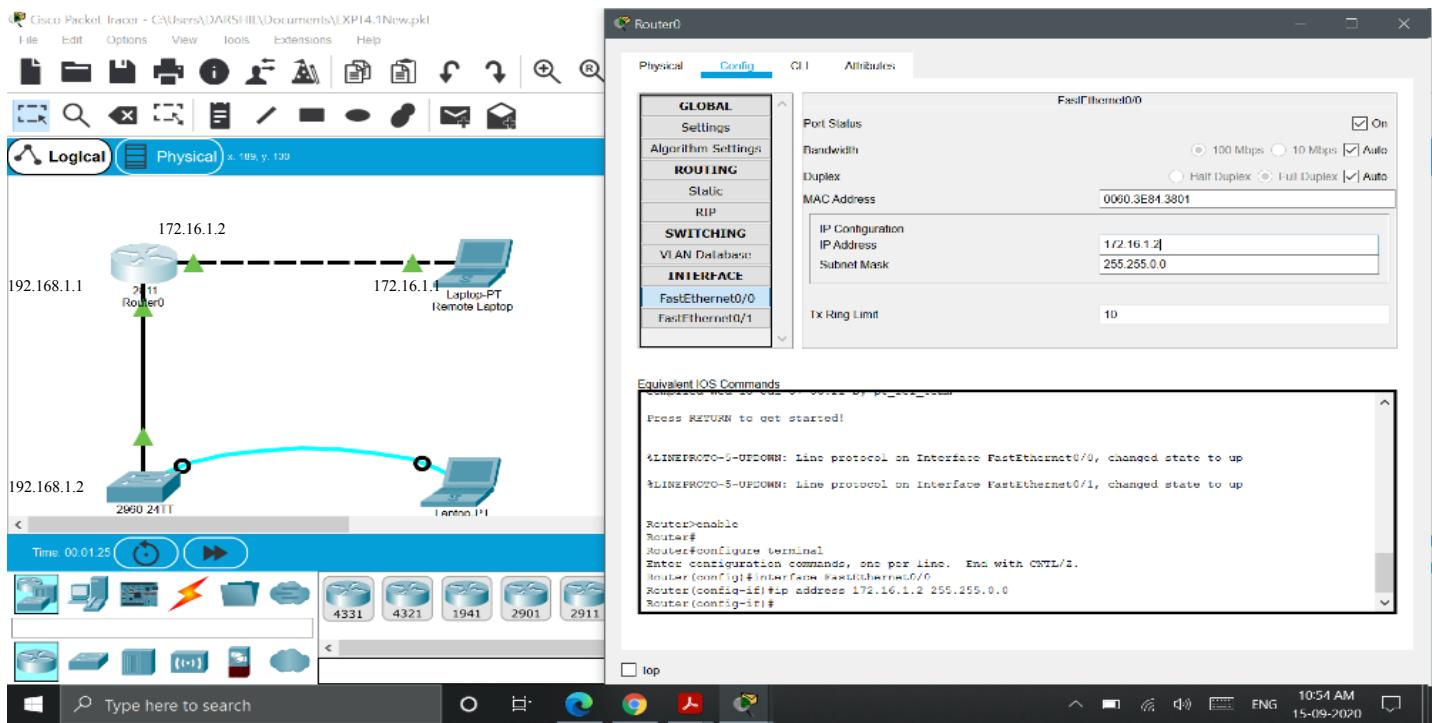


Fig 8: shows the configuration for fast ethernet 0/0 of the router. The IP address is set as 172.16.1.2 same as the gateway of the remote laptop mentioned bellowing Fig. 11

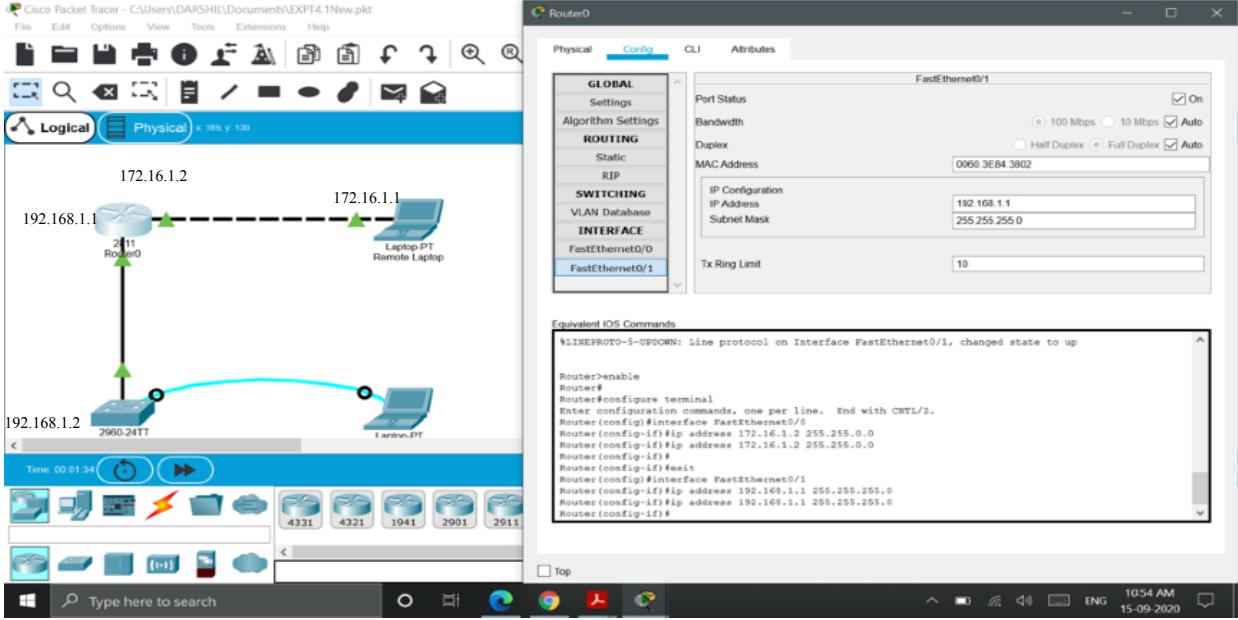


Fig 9: shows the configuration for fast ethernet 0/1 of the router. The IP address is set as 192.168.1.1

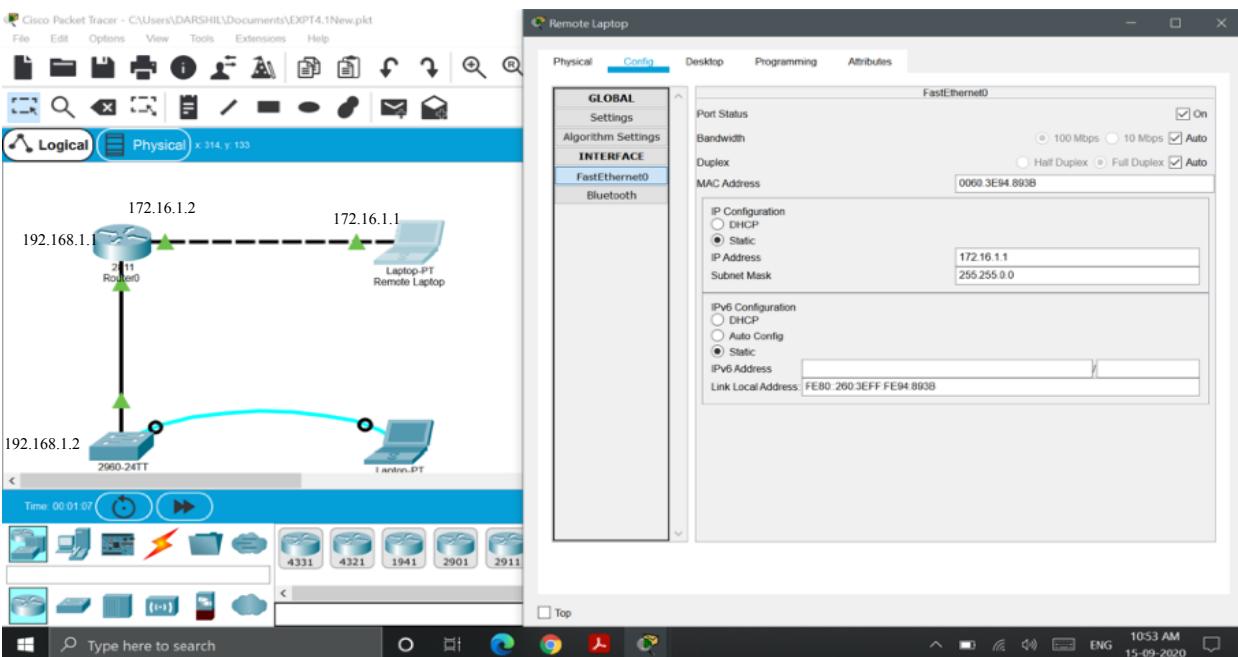


Fig 10: shows the configuration for fast ethernet 0/1 for remote laptop. The IP address is set as 172.16.1.1

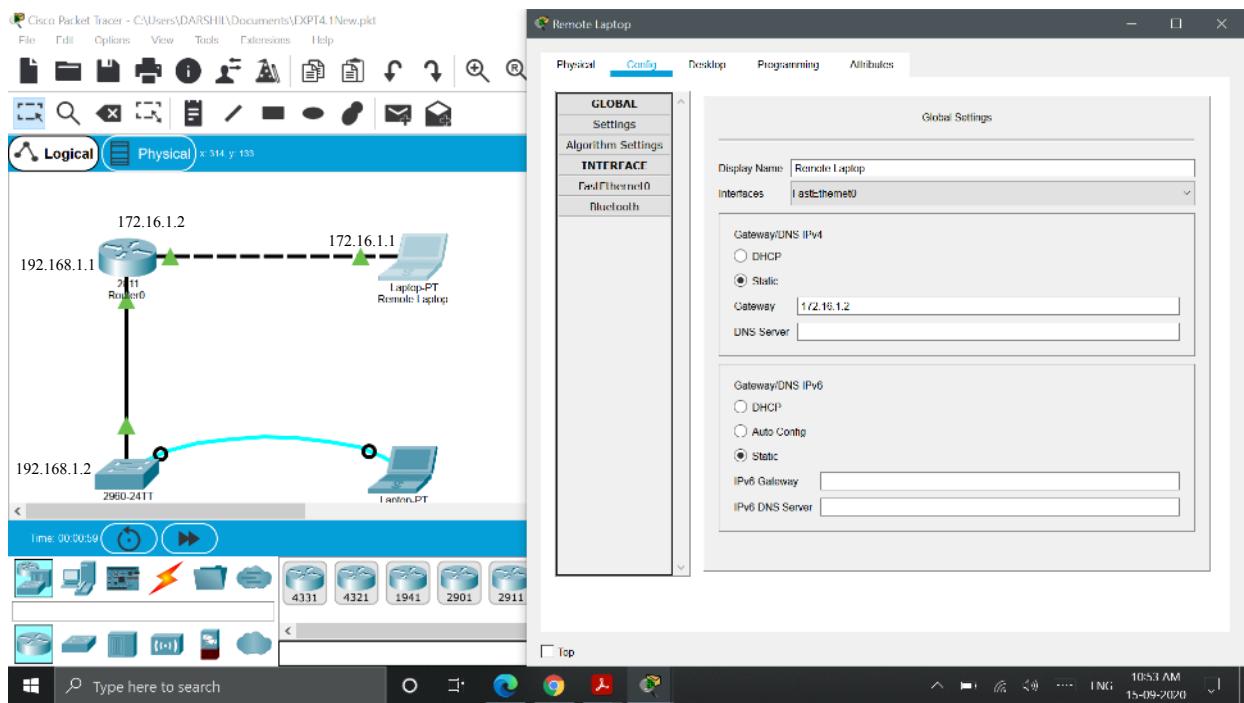


Fig 11: shows the settings for remote laptop. The ip gateway is set as 172.16.1.2 which is to be at the router port

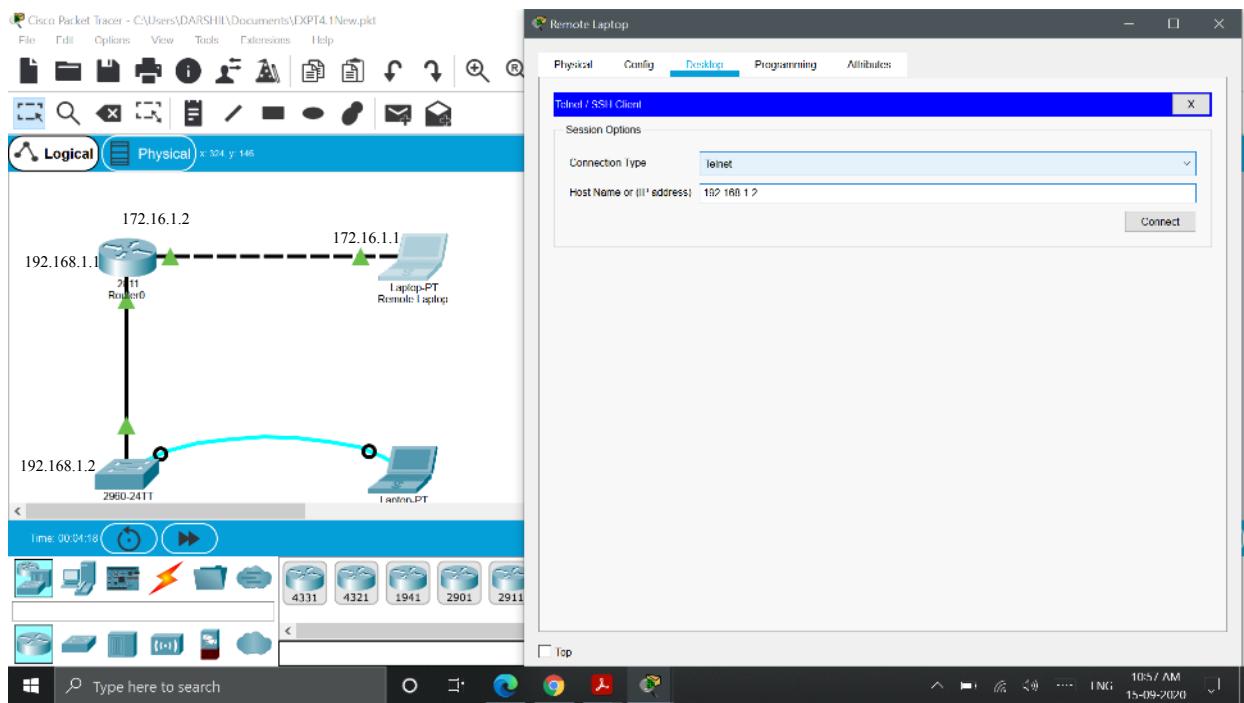


Fig 12: shows the telnet client. The IP address to connect to is 192.168.1.2 .

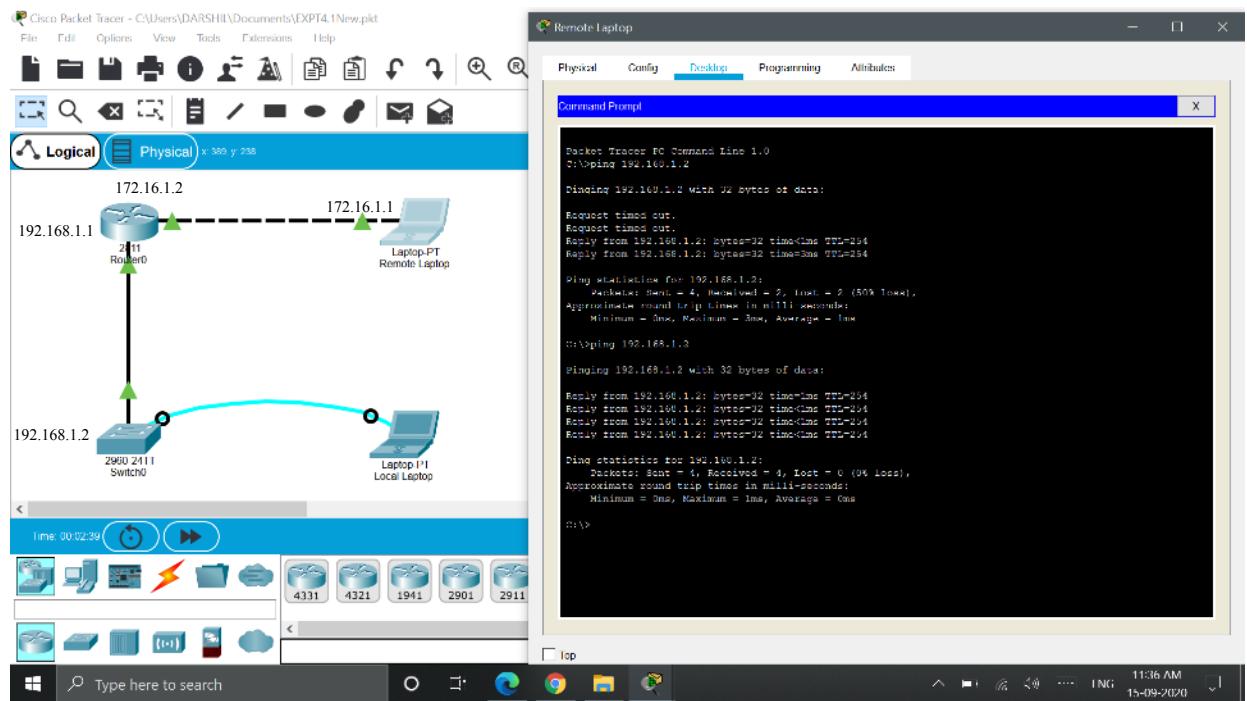


Fig 13 Successfully Pinged the Switch. Next we test the telnet client.

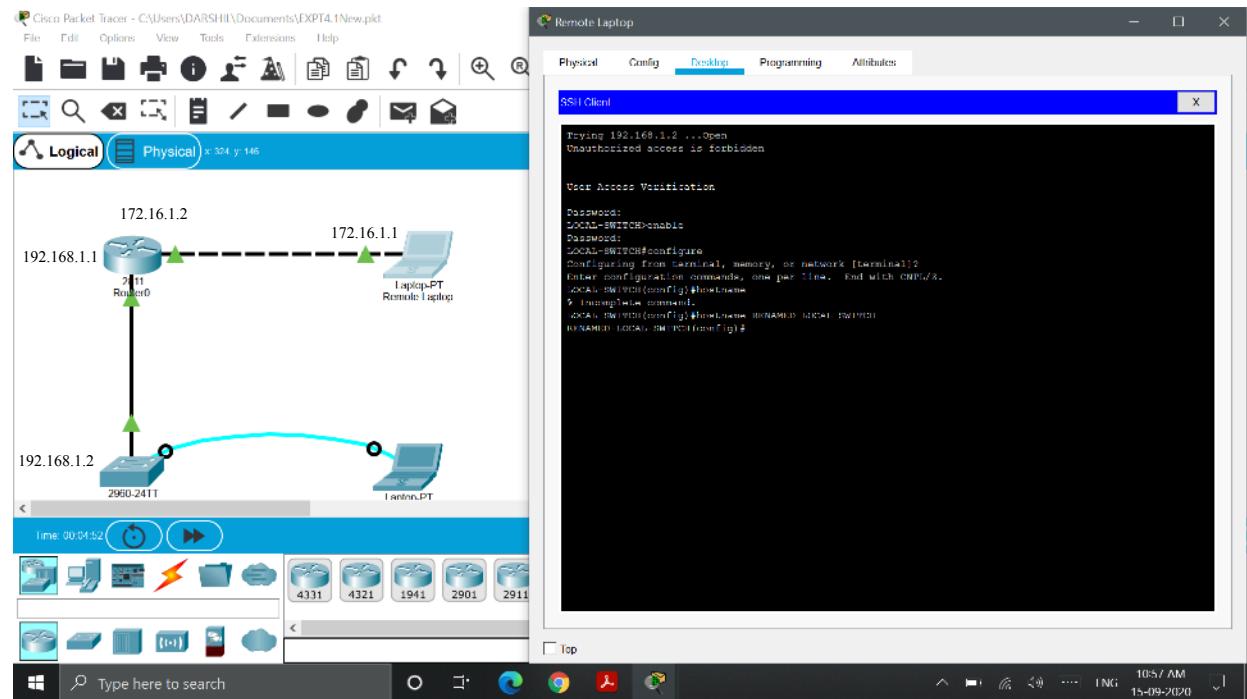


Fig 14: shows the telnet client accessing the terminal for the local switch. Fig 10 below shows a zoomed view.

```

Trying 192.168.1.2 ...Open
Unauthorized access is forbidden

User Access Verification

Password:
LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#configure
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#hostname
% Incomplete command.
LOCAL-SWITCH(config)#hostname RENAMED-LOCAL-SWITCH
RENAME-LOCAL-SWITCH(config)#

```

Fig 15: shows the zoomed view of fig 9. The message of the day is displayed on the establishment of the telnet connection. The password is entered and a hostname is reconfigured to RENAMED-LOCAL-SWITCH.

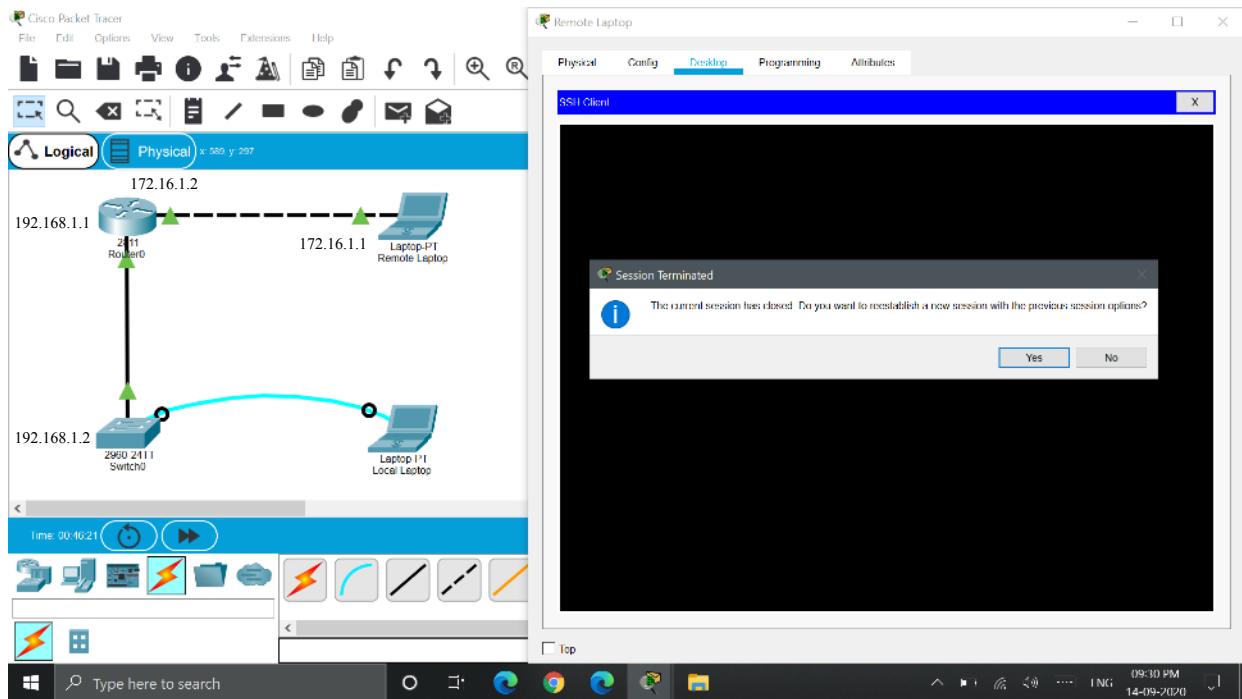


Fig 16: shows the inactivity of telnet client for 8 minutes 20 seconds after which this message is received.

