Name: Shivangi Kochrekar
Batch: B
Roll No.: 23

CEL 51, DCCN, Monsoon 2020

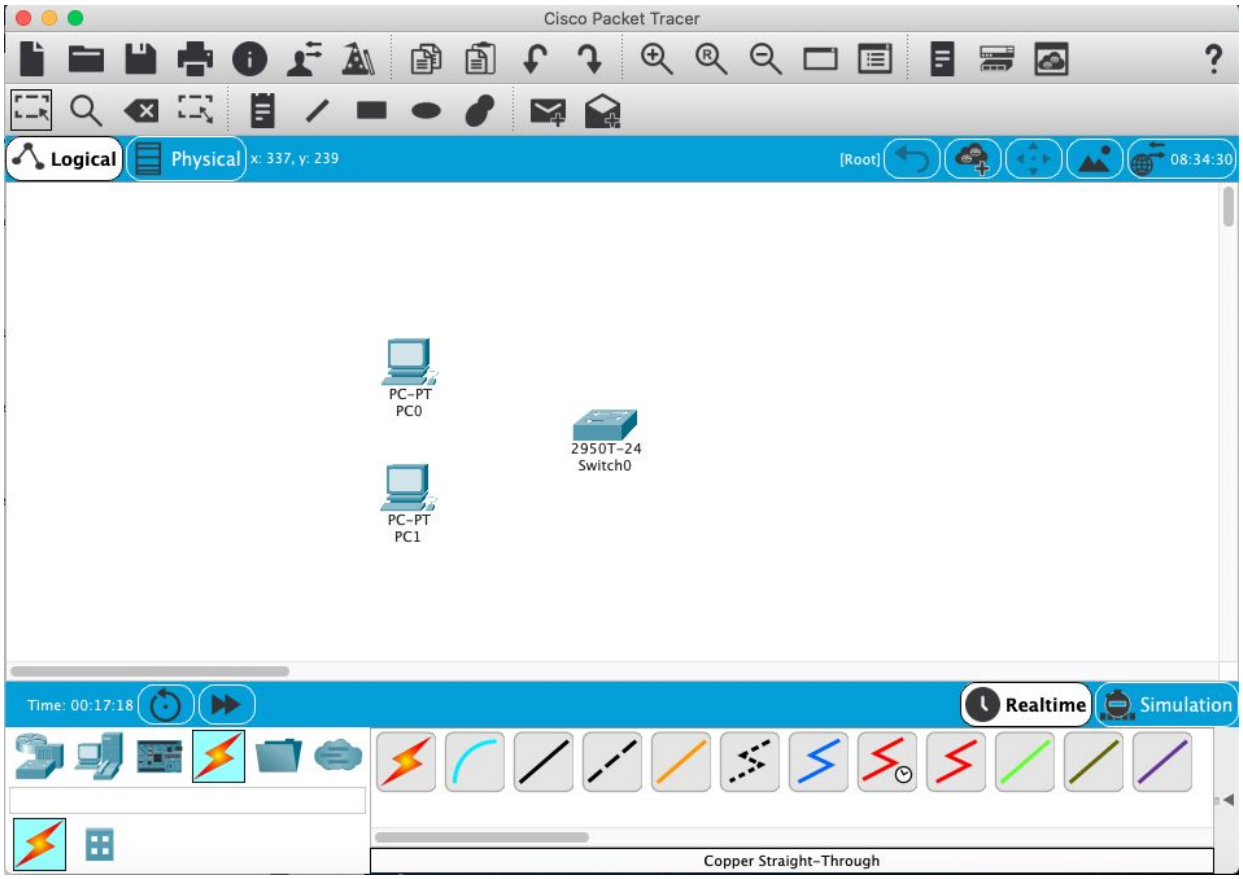
Lab 4: Prototyping a Network

Objective:
Prototype a network using Packet Tracer

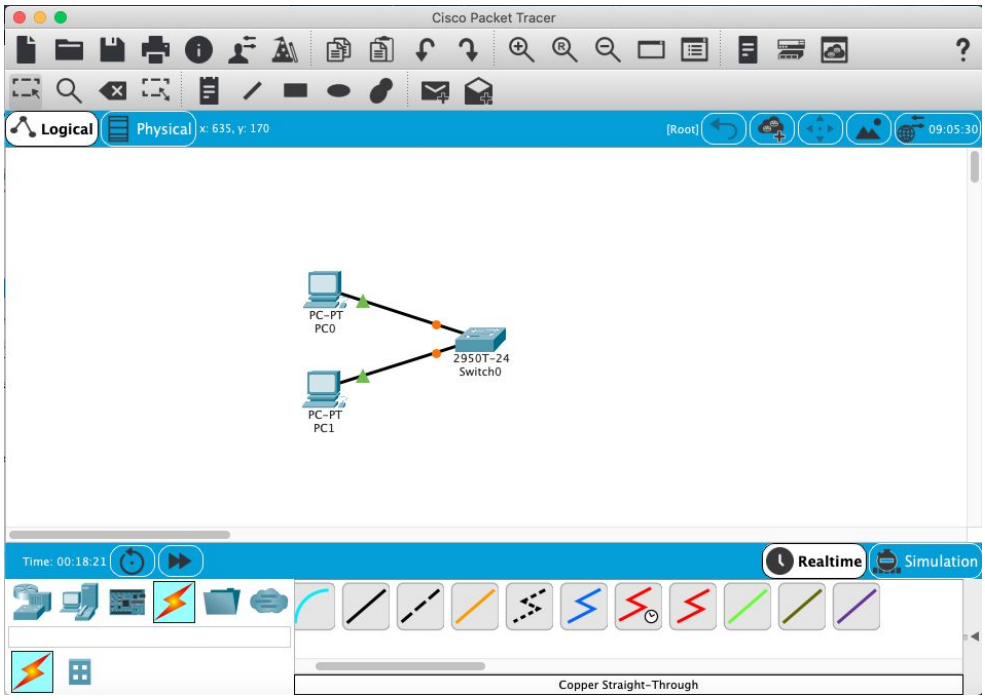
Background
A client has requested that you set up a simple network with two PCs connected to a switch. Verify that the hardware, along with the given configurations, meet the requirements of the client.

Step 1: Set up the network topology

a) Add two PCs and a Cisco 2950T switch



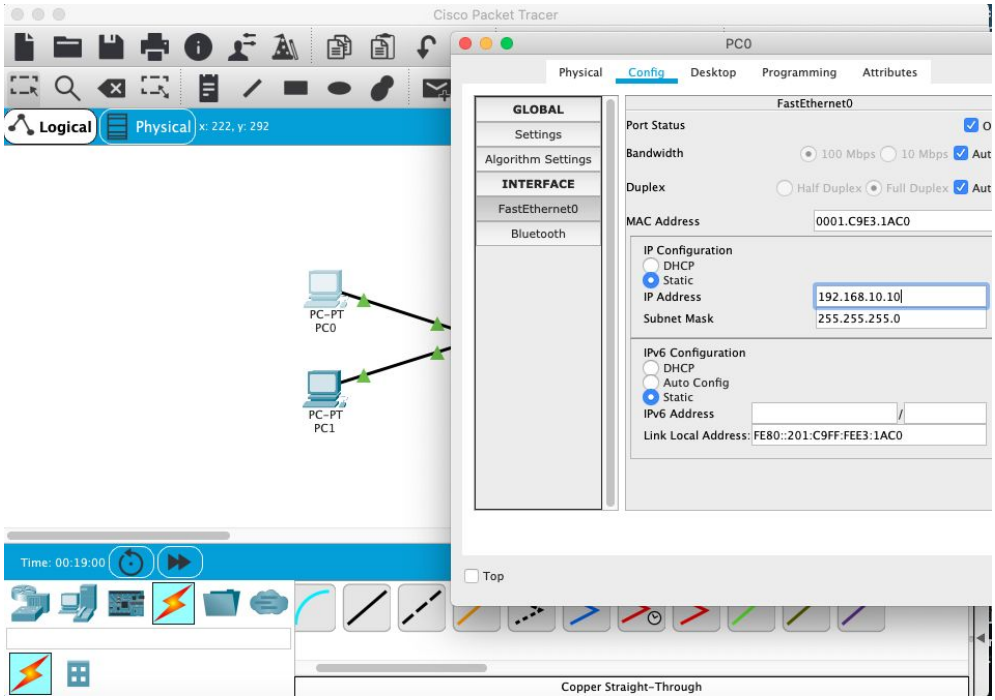
b) Using straight-through cables, connect **PC0** to interface **Fa0/1** on **Switch0** and **PC1** to interface **Fa0/2** on **Switch0**.



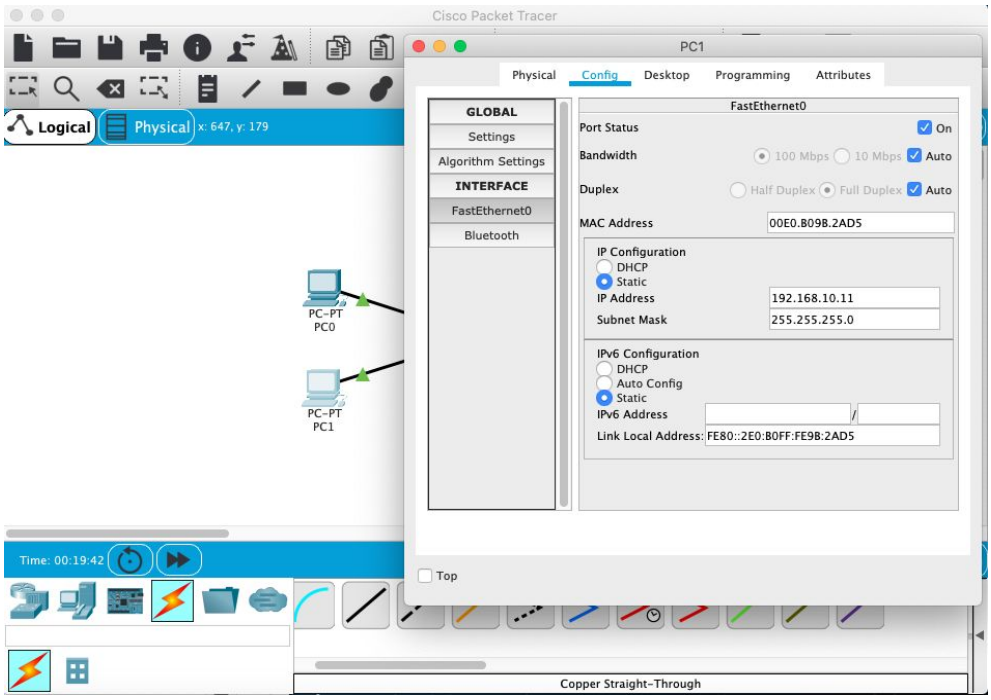
c) Configure PC0 using the **Config** tab in the PC0 configuration window:

a. IP address: 192.168.10.10

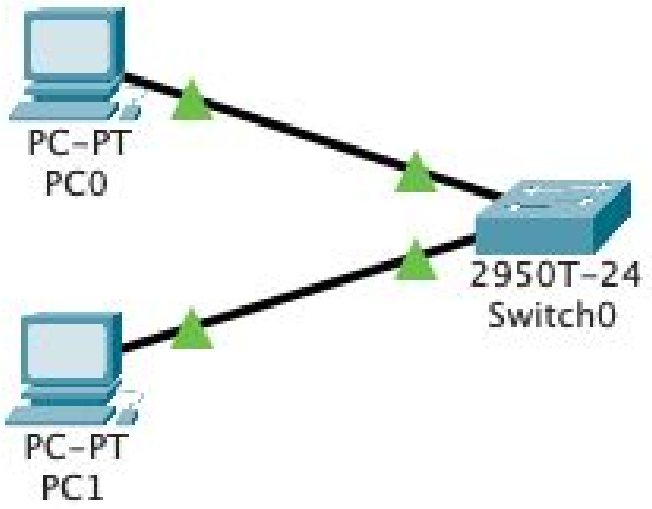
b. Subnet Mask 255.255.255.0



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



192.168.10.10

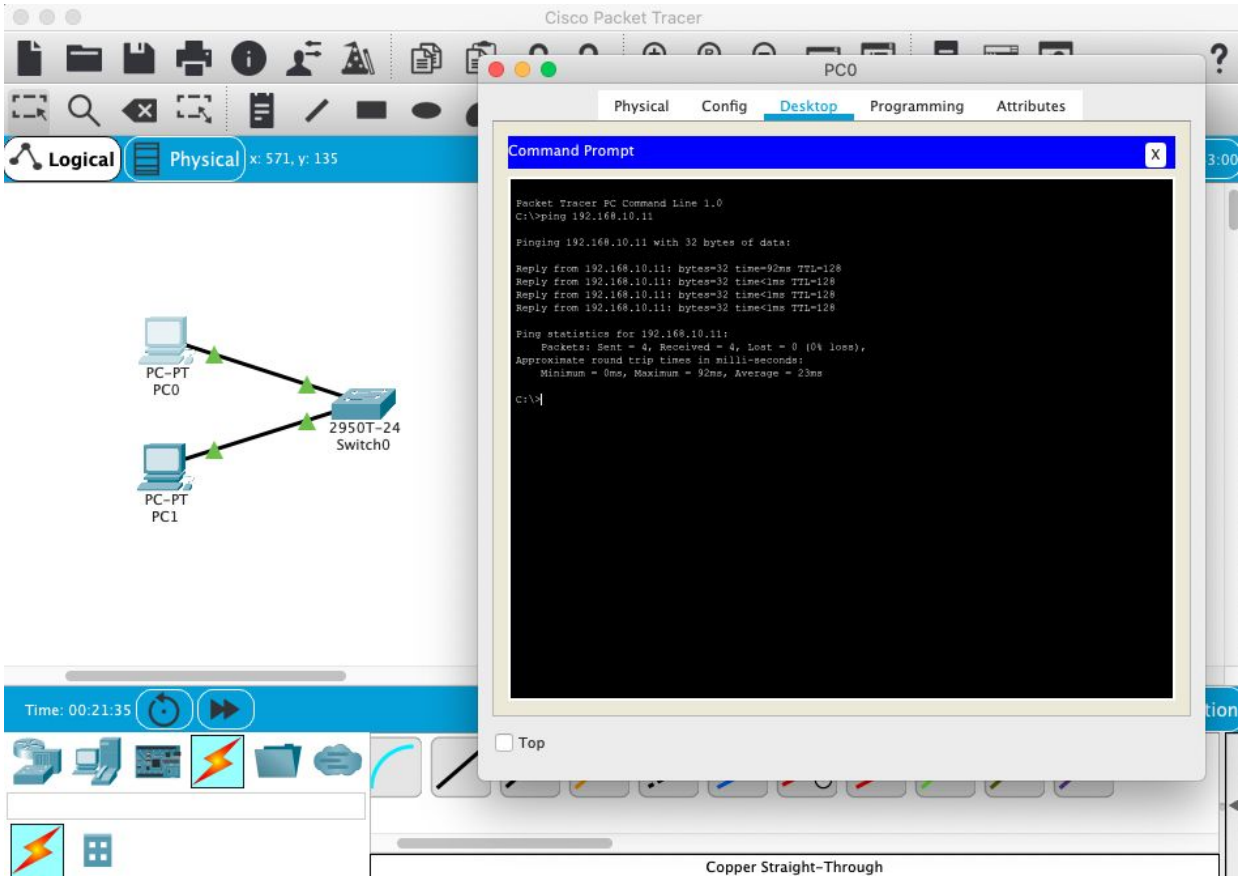


192.168.10.11

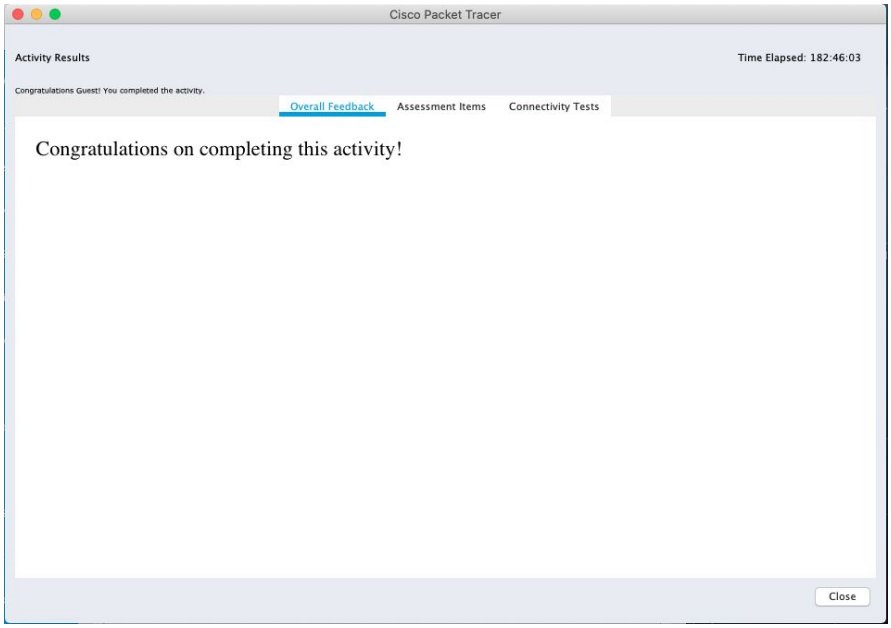
Step 2: Test connectivity from PC0 to PC1

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..

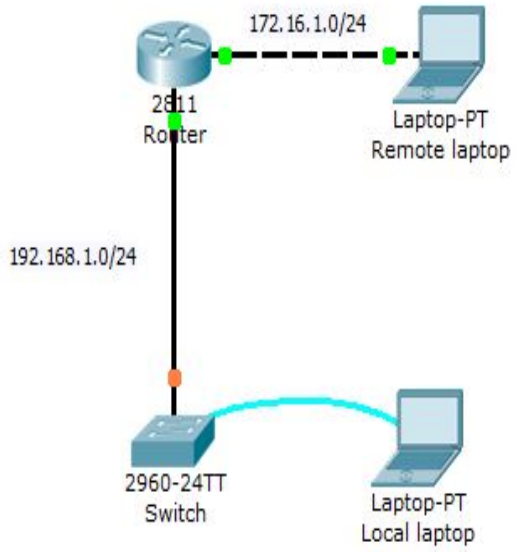


CEL51, DCCN, Monsoon 2020

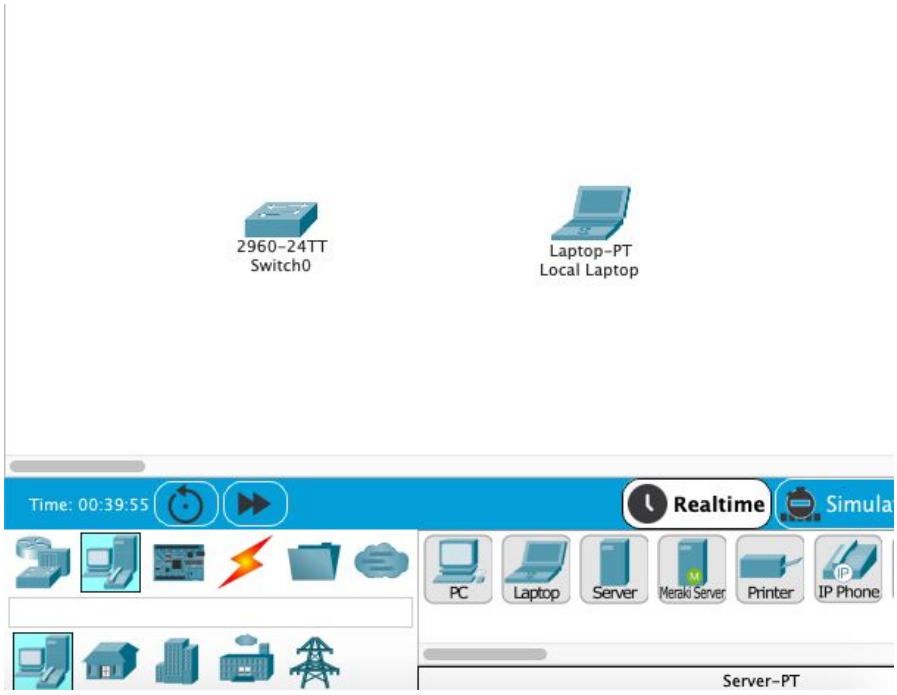
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

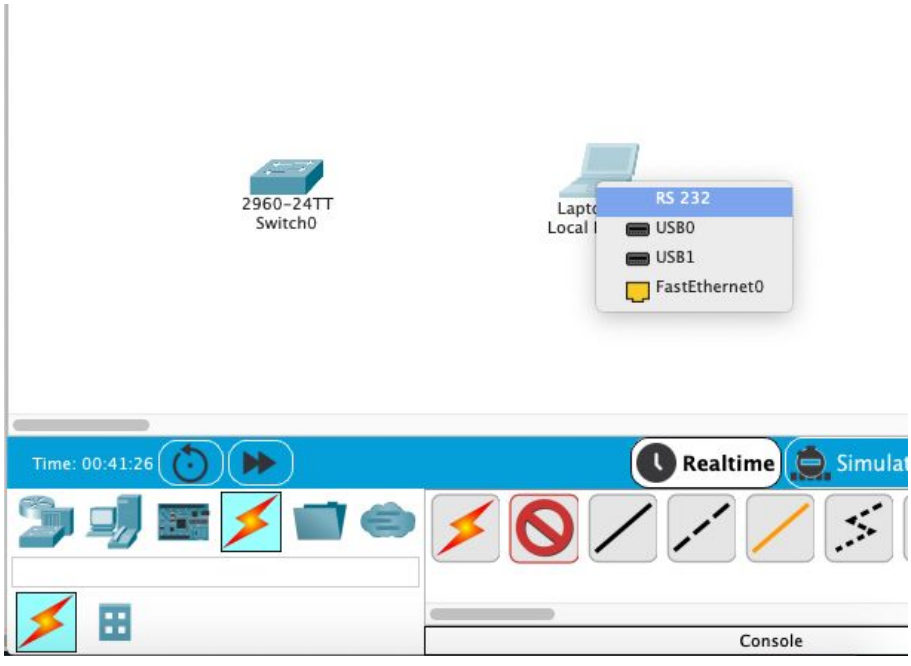
Objective:

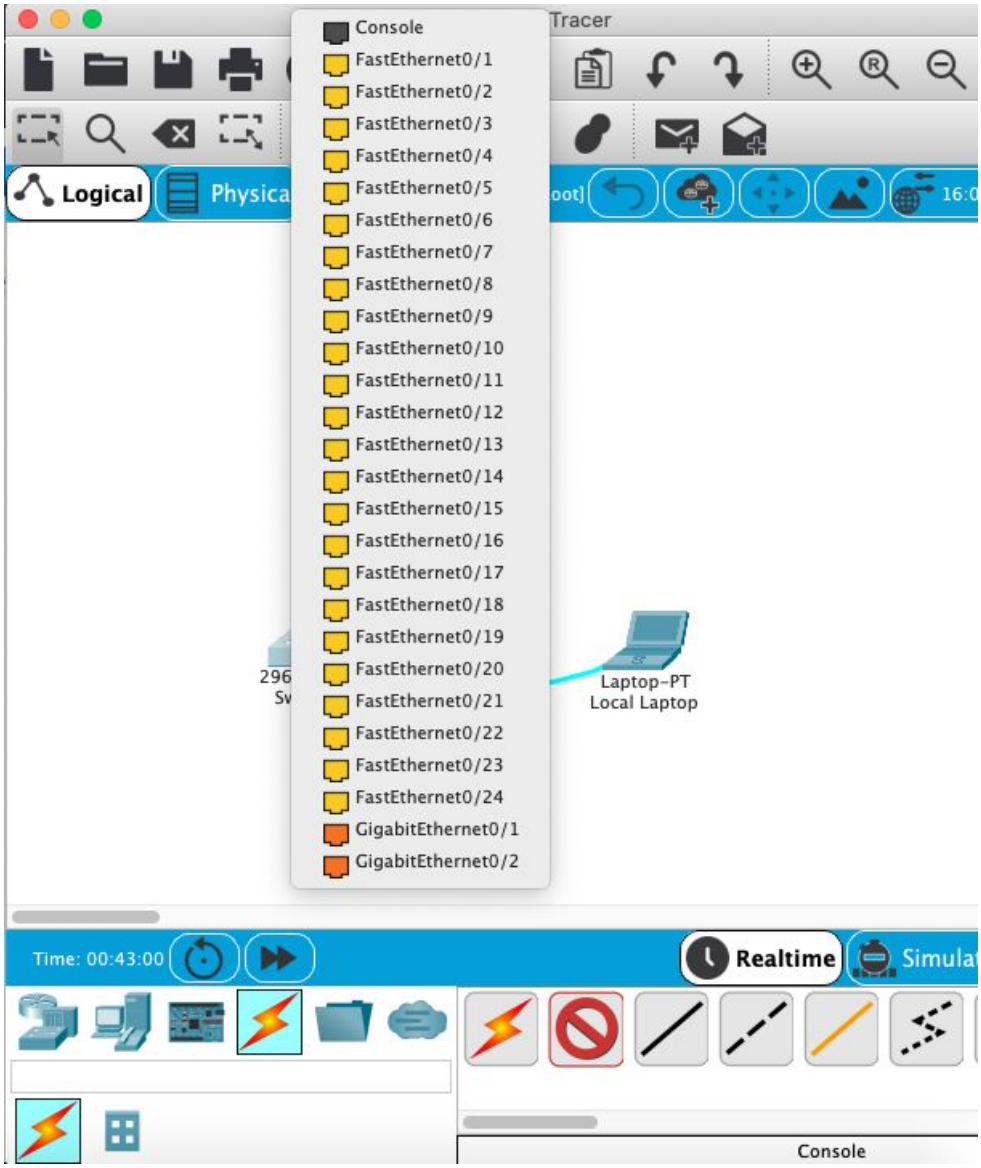
This lab will test your ability to configure basic settings such as hostname, motd banner, encrypted passwords, and terminal options on a Packet Tracer 6.2 simulated Cisco Catalyst switch.



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

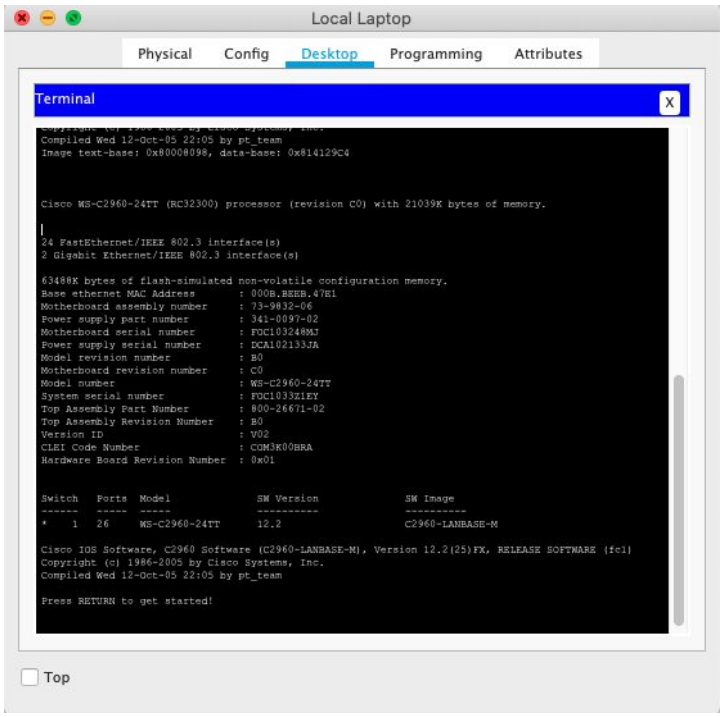




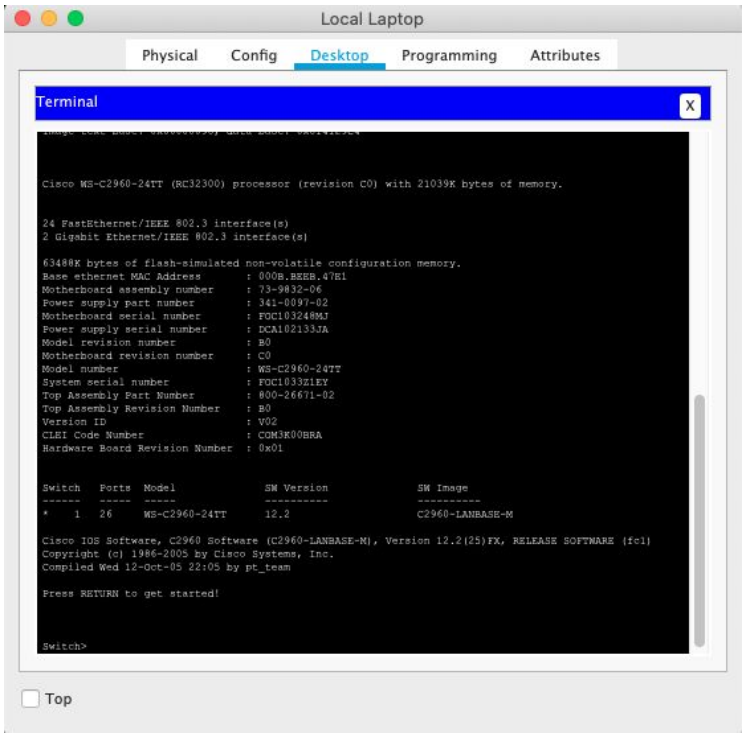

Tracer
Logical
Physica
Console
FastEthernet0/1
FastEthernet0/2
FastEthernet0/3
FastEthernet0/4
FastEthernet0/5
FastEthernet0/6
FastEthernet0/7
FastEthernet0/8
FastEthernet0/9
FastEthernet0/10
FastEthernet0/11
FastEthernet0/12
FastEthernet0/13
FastEthernet0/14
FastEthernet0/15
FastEthernet0/16
FastEthernet0/17
FastEthernet0/18
FastEthernet0/19
FastEthernet0/20
FastEthernet0/21
FastEthernet0/22
FastEthernet0/23
FastEthernet0/24
GigabitEthernet0/1
GigabitEthernet0/2
Laptop-PT
Local Laptop
Time: 00:43:00
Realtime
Console


Switch0
Laptop-PT
Local Laptop

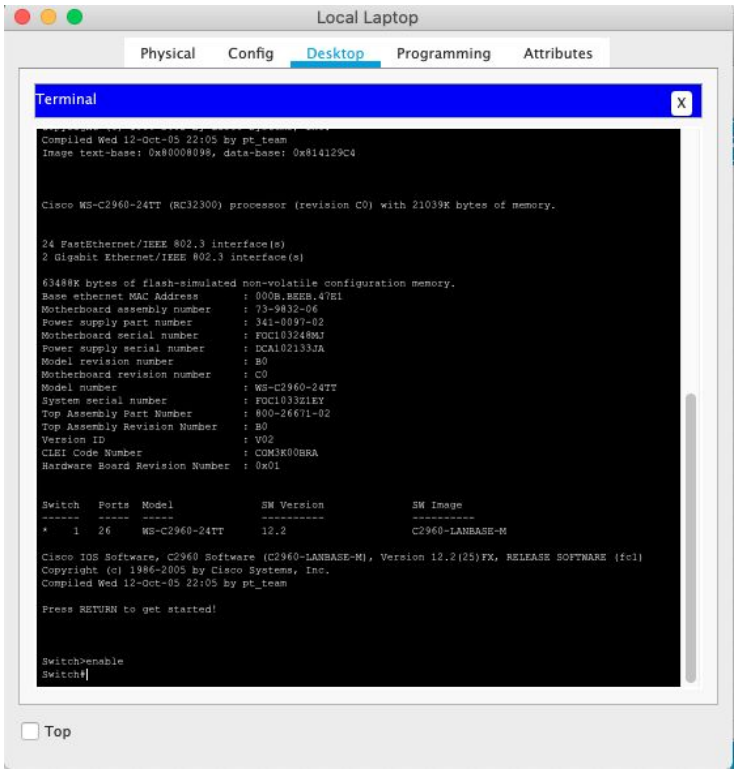
2. Configure Switch hostname as LOCAL-SWITCH
Open terminal of local laptop

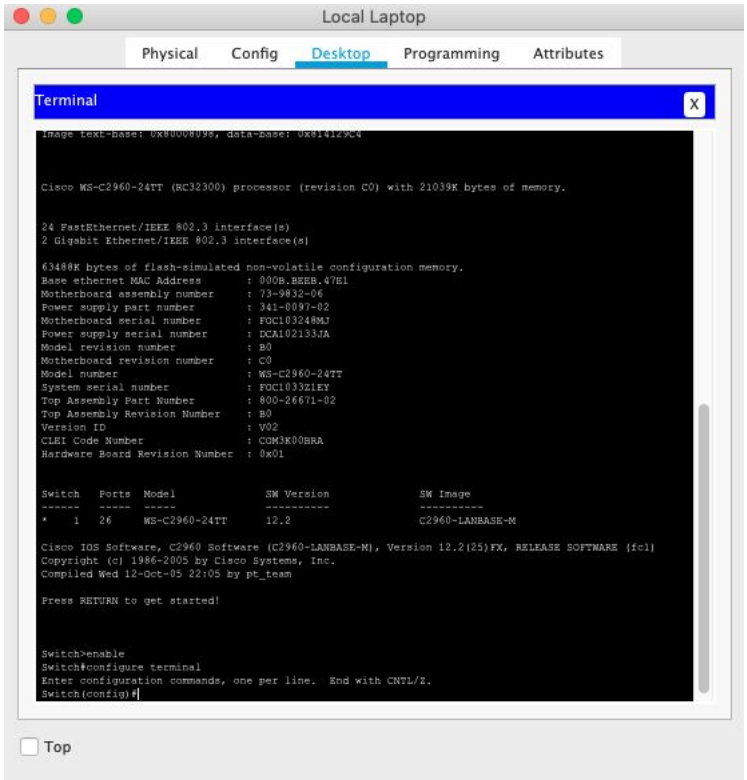


Enable command - To enter in privilege exec mode

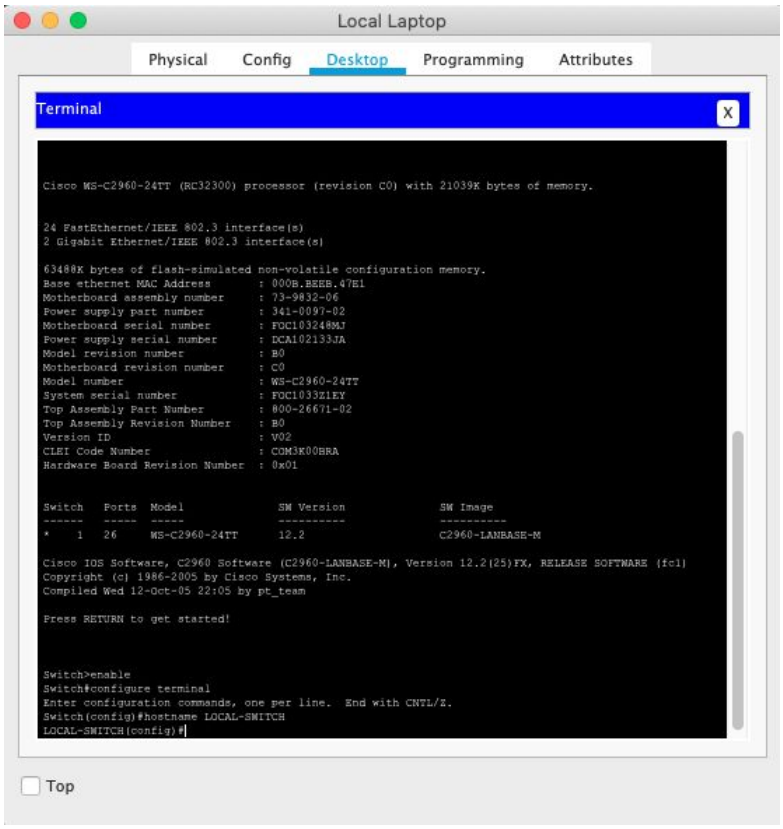


Enter configuration mode Use the configure privileged EXEC command to enter global configuration mode.

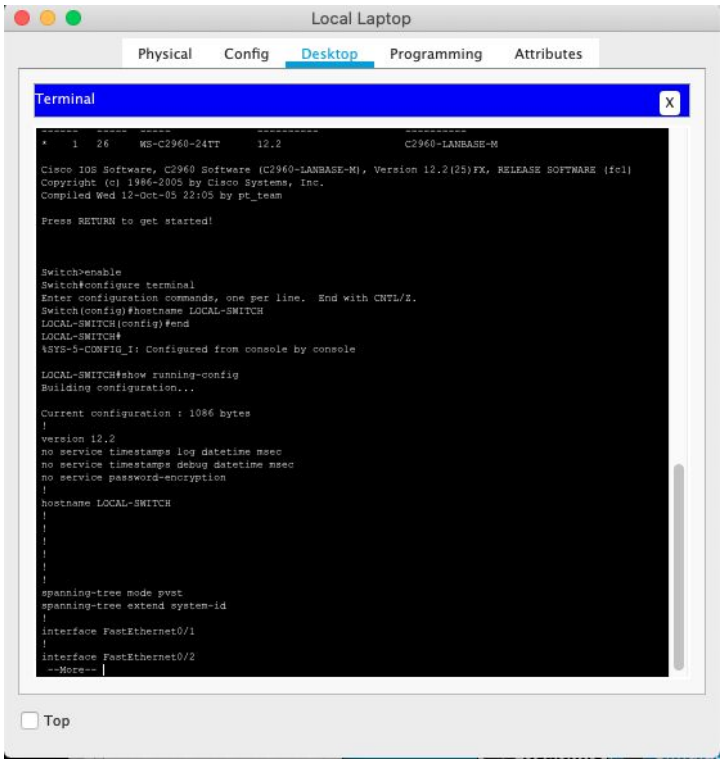




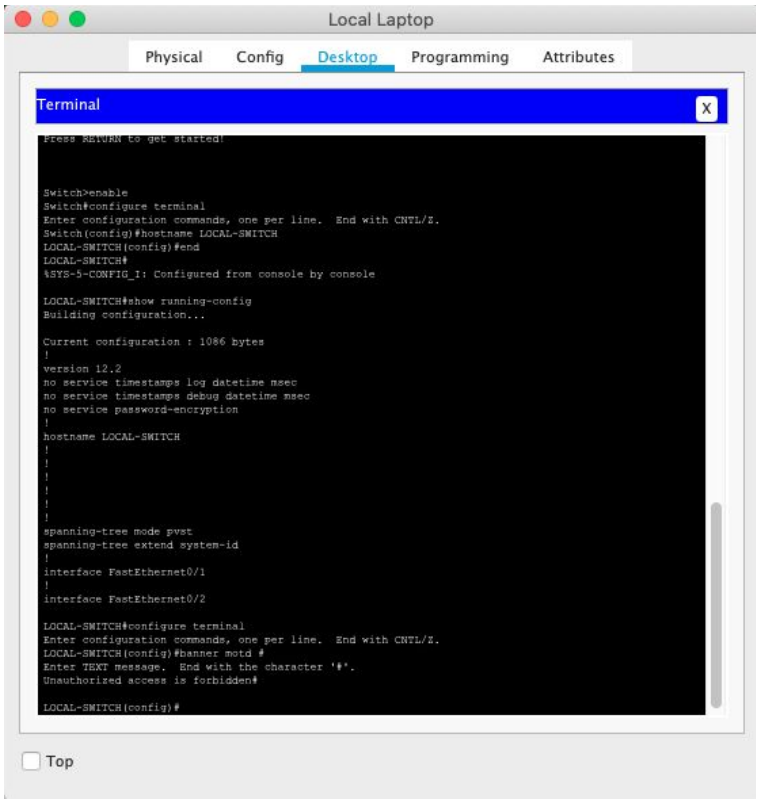
Set hostname as LOCAL-SWITCH using hostname LOCAL-SWITCH command



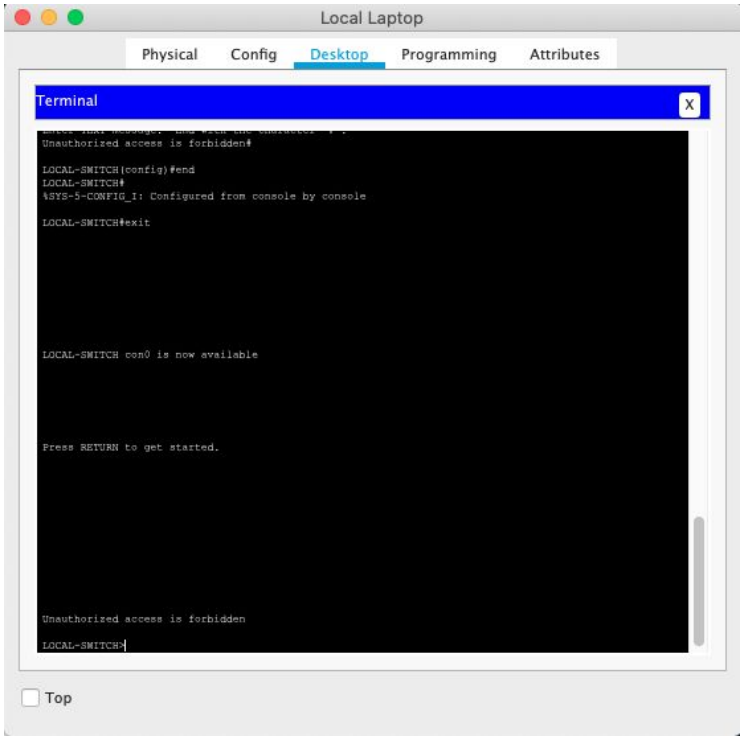
Run show running-config command to check the hostname



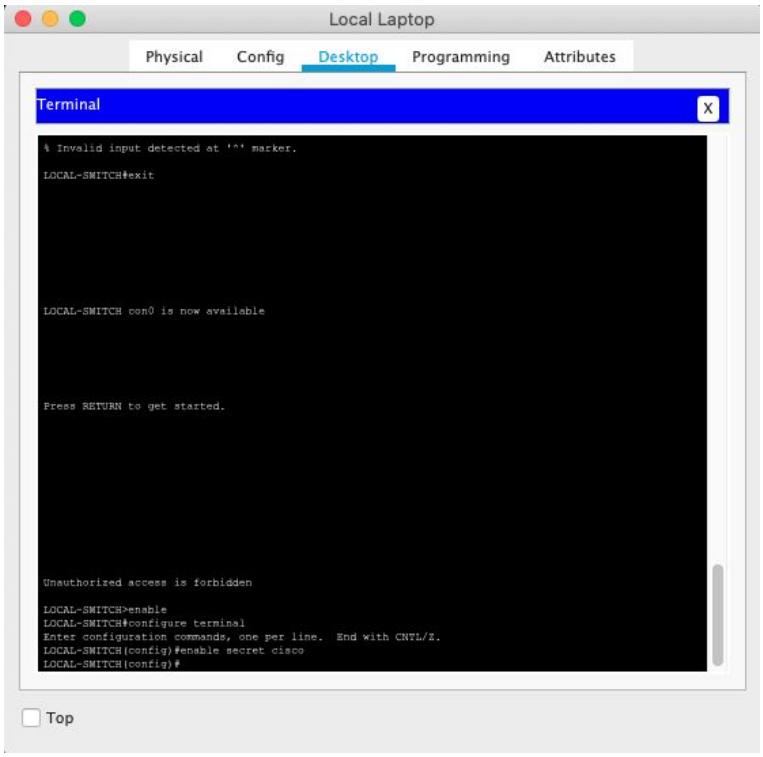
3. Configure the message of the day as "Unauthorized access is forbidden"
Use command banner motd #
Type the message and add # at the end.



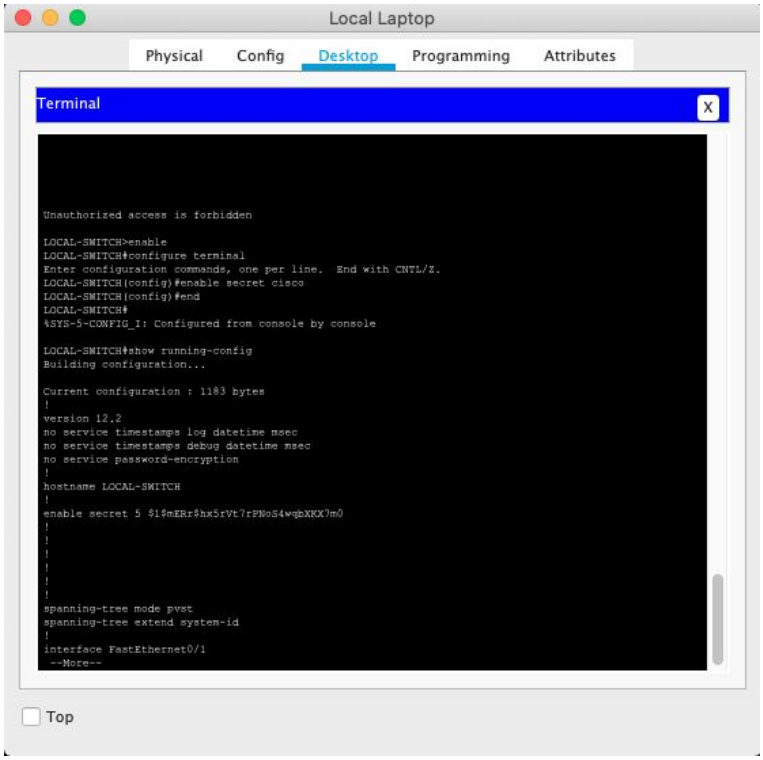
You can check the message of the day when you open the terminal for accessing switch again.



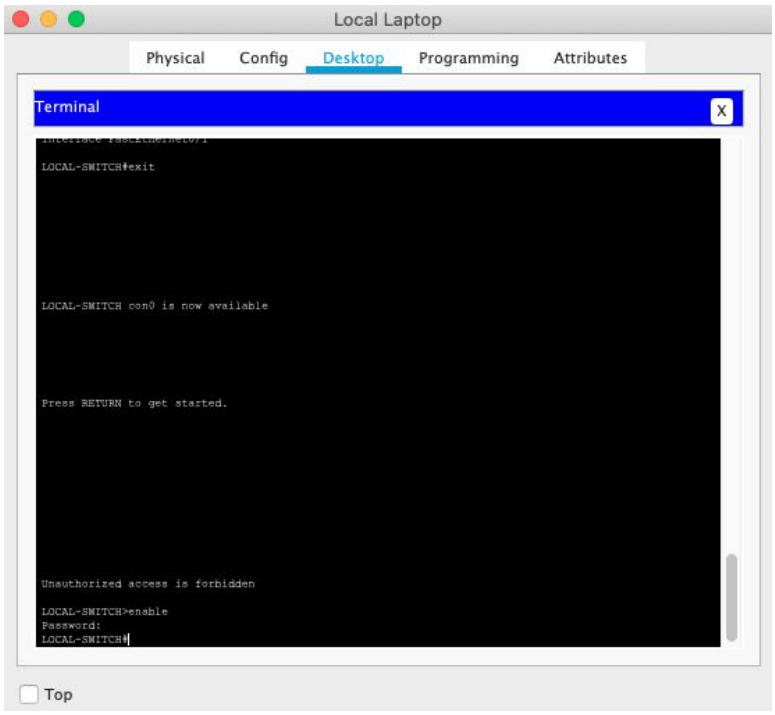
4. Configure the password for privileged mode access as "cisco". The password must be md5 encrypted
Use command enable secret cisco

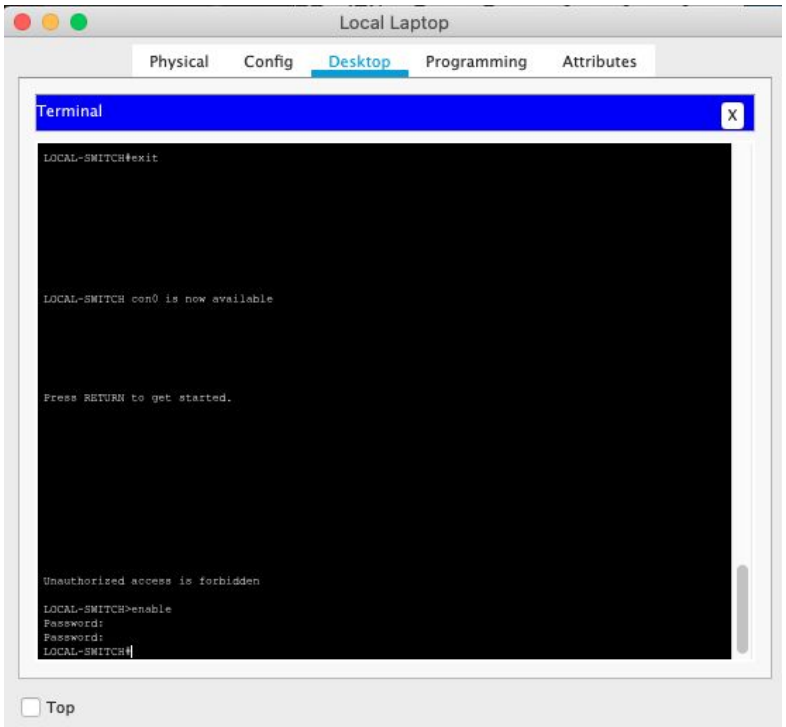


In running-config it displays as enable secret.

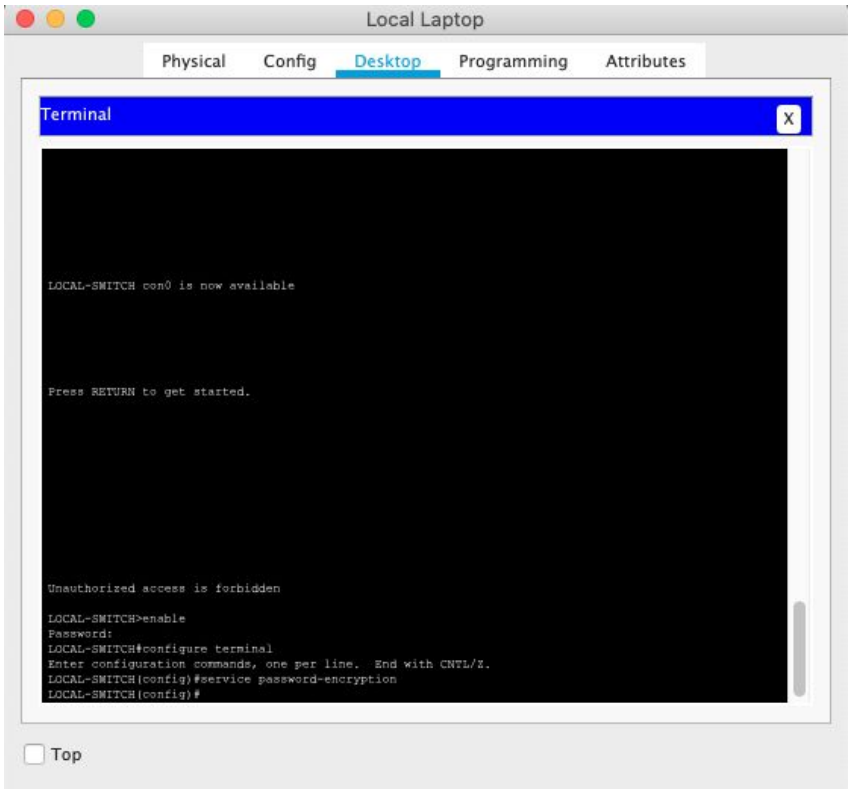


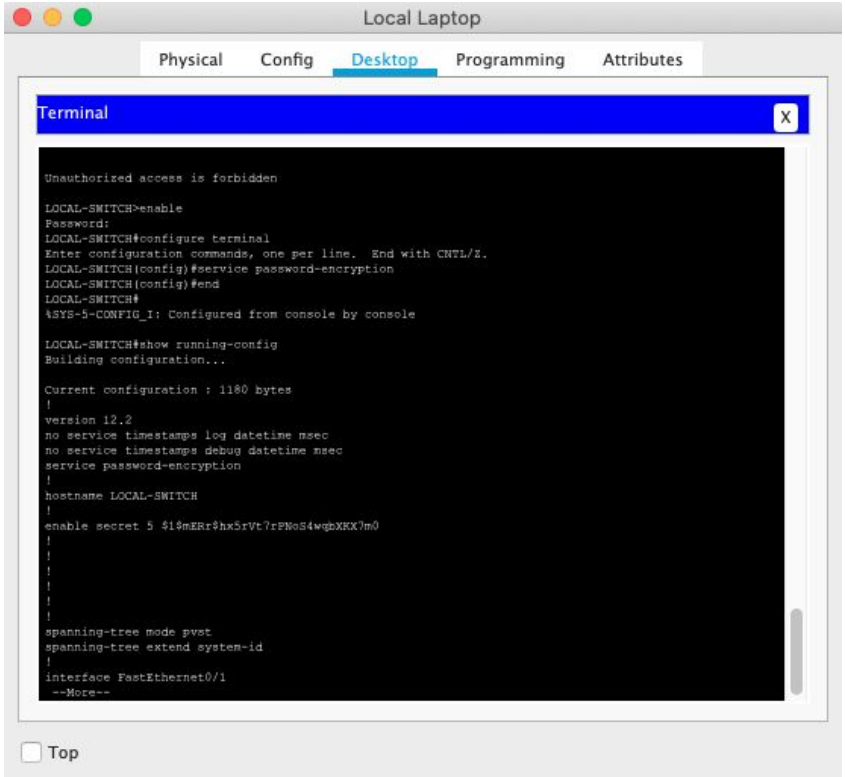
When we try to enable switch again, it will ask for password.



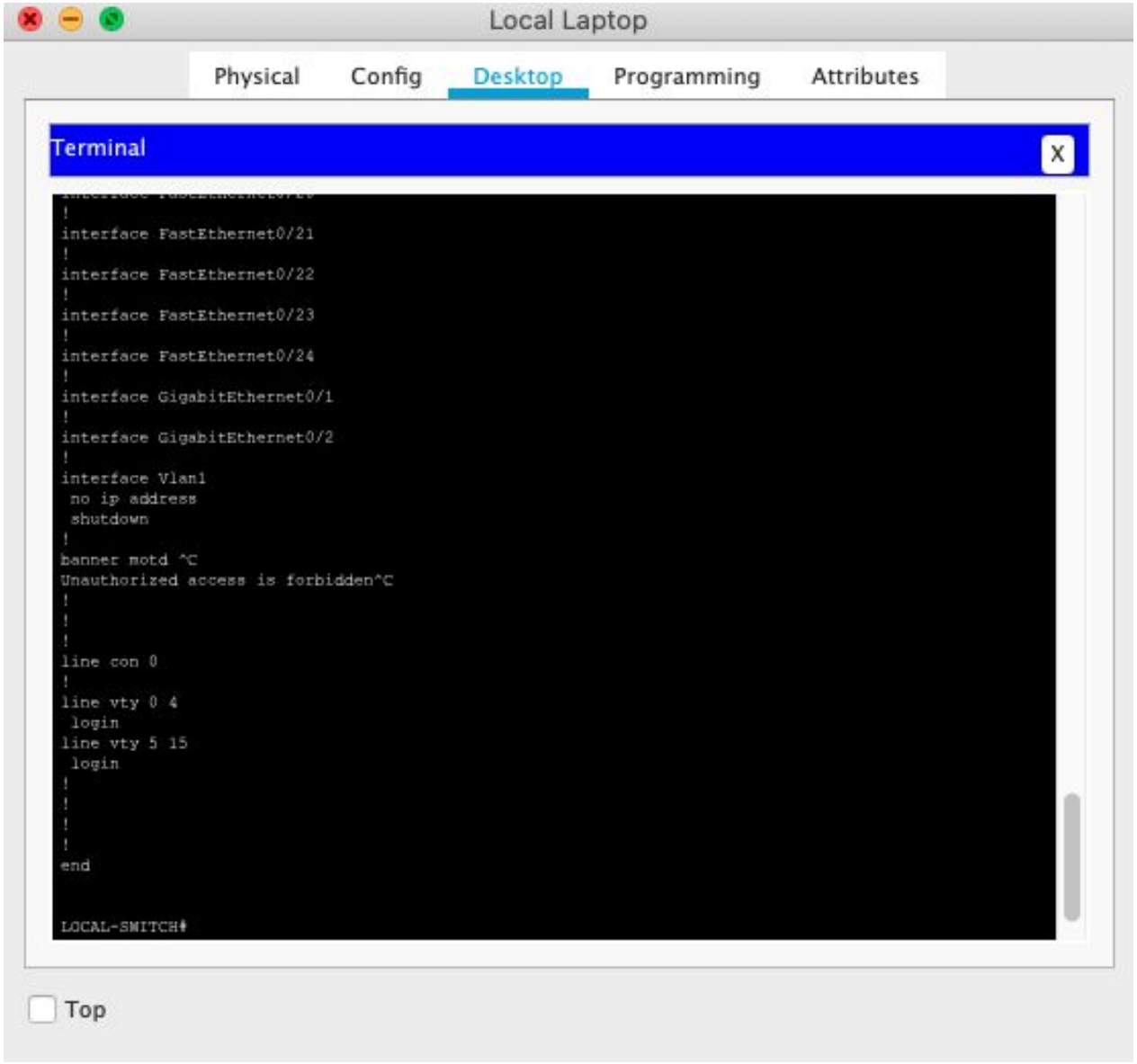


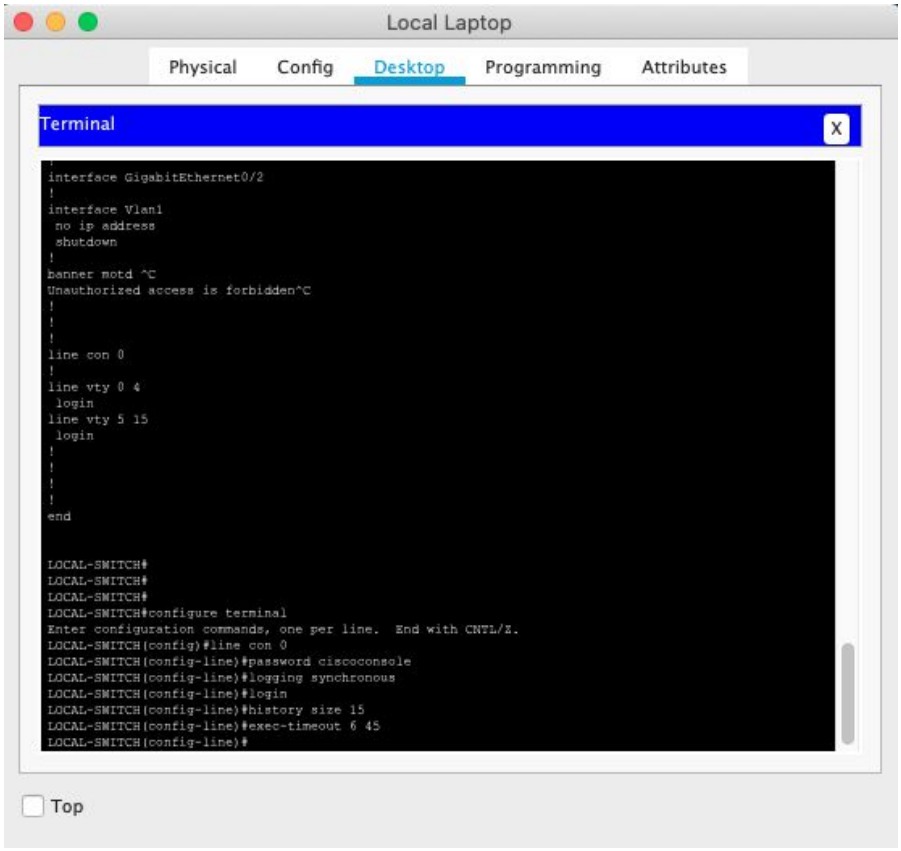
5. Configure password encryption on the switch using the global configuration command

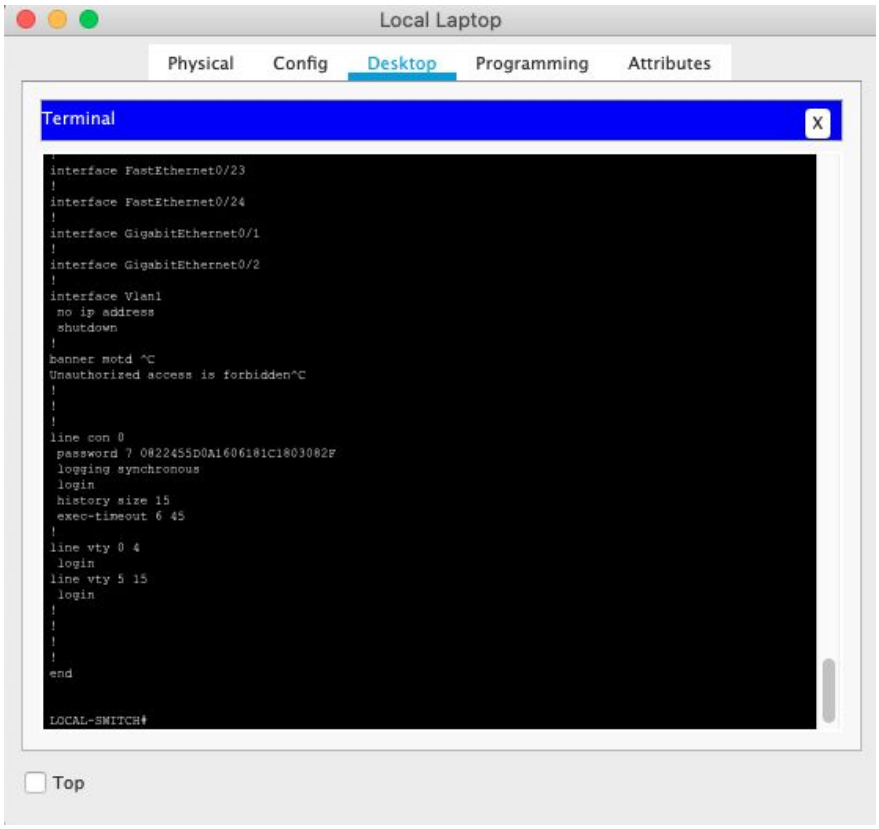




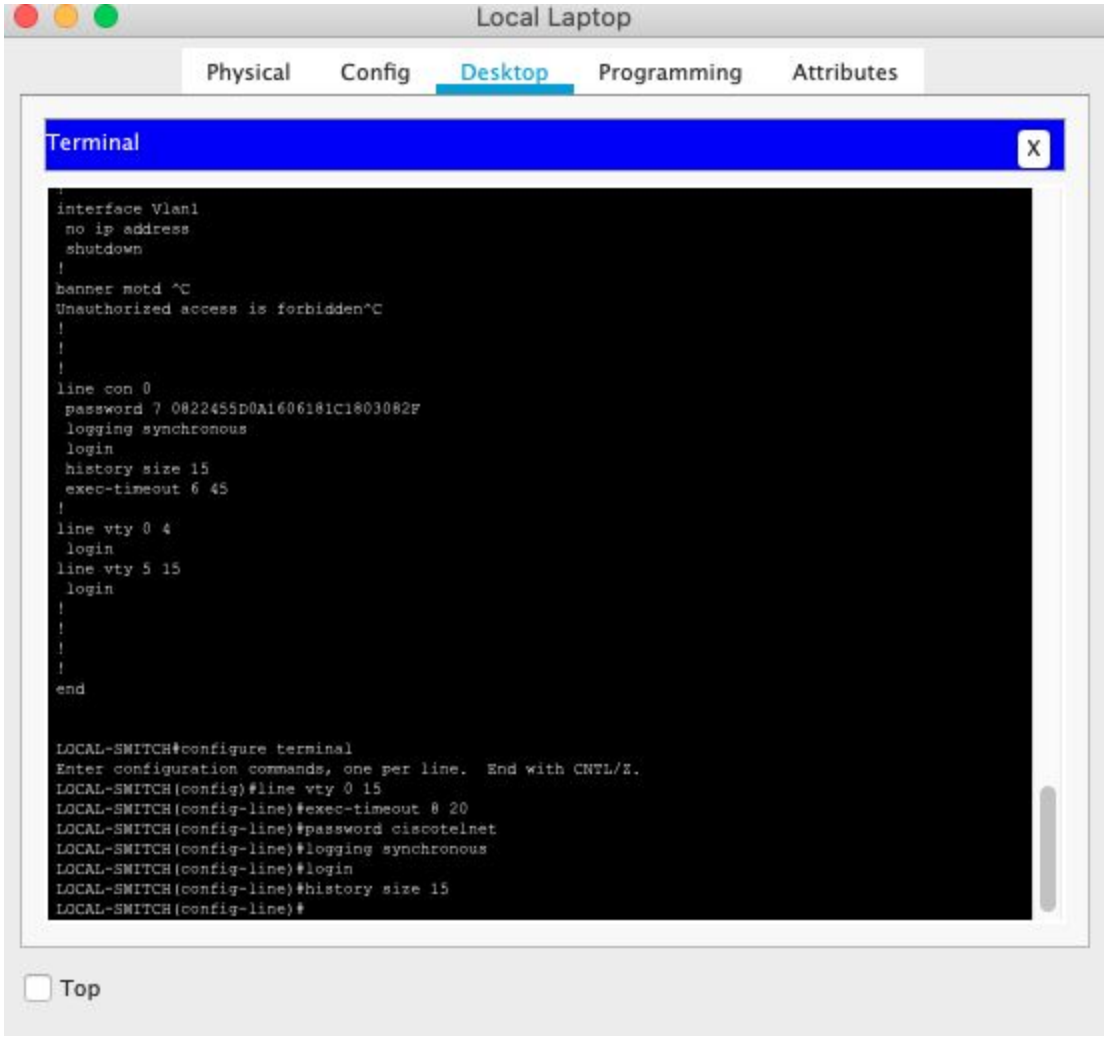
6. Configure CONSOLE access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 6'45"
- Synchronous logging

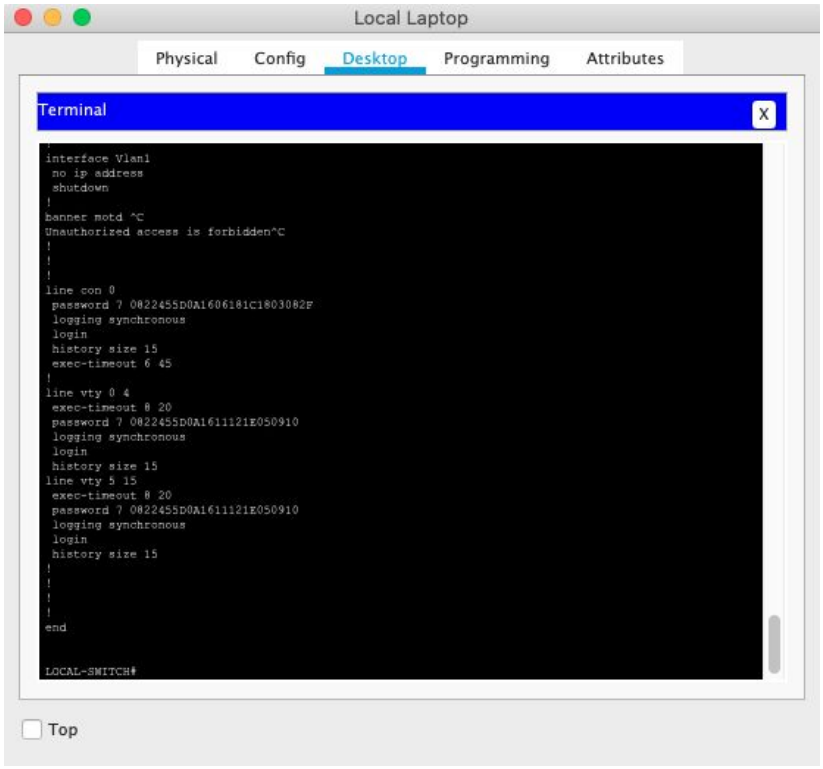



Local Laptop
Physical
Config
Desktop
Programming
Attributes
Terminal
X
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
banner motd ^C
Unauthorized access is forbidden^C
!
!
!
line con 0
!
line vty 0 4
 login
line vty 5 15
 login
!
!
!
!
end
LOCAL-SWITCH#
LOCAL-SWITCH#
LOCAL-SWITCH#
LOCAL-SWITCH#configure 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
LOCAL-SWITCH(config-line)#login
LOCAL-SWITCH(config-line)#history size 15
LOCAL-SWITCH(config-line)#exec-timeout 6 45
LOCAL-SWITCH(config-line)#
Top

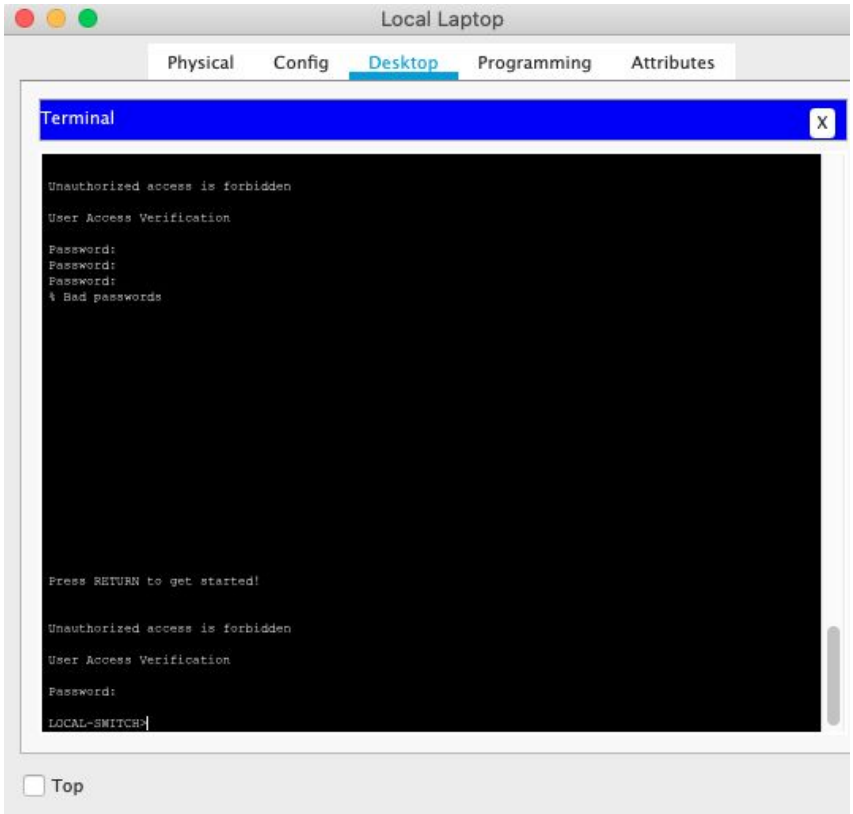

Local Laptop
Physical
Config
Desktop
Programming
Attributes
Terminal
X
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
 no ip address
 shutdown
!
banner motd ^C
Unauthorized access is forbidden^C
!
!
!
line con 0
 password 7 0822455D0A1606181C1803082F
 logging synchronous
 login
 history size 15
 exec-timeout 6 45
!
line vty 0 4
 login
line vty 5 15
 login
!
!
!
!
end
LOCAL-SWITCH#
Top

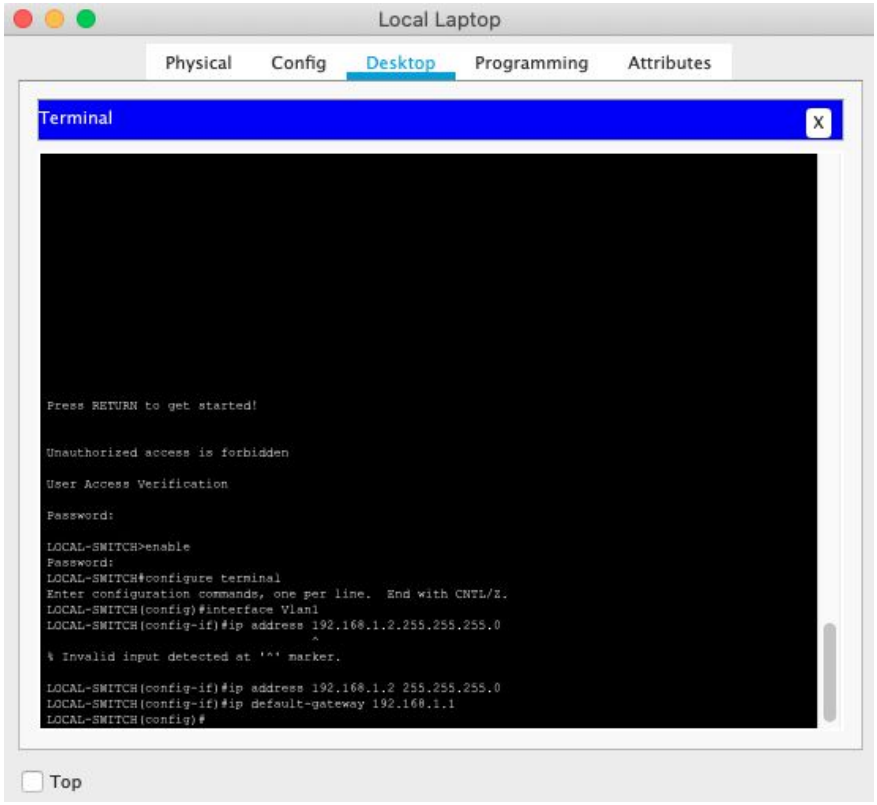
6. Configure TELNET access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 8'20"
- Synchronous logging

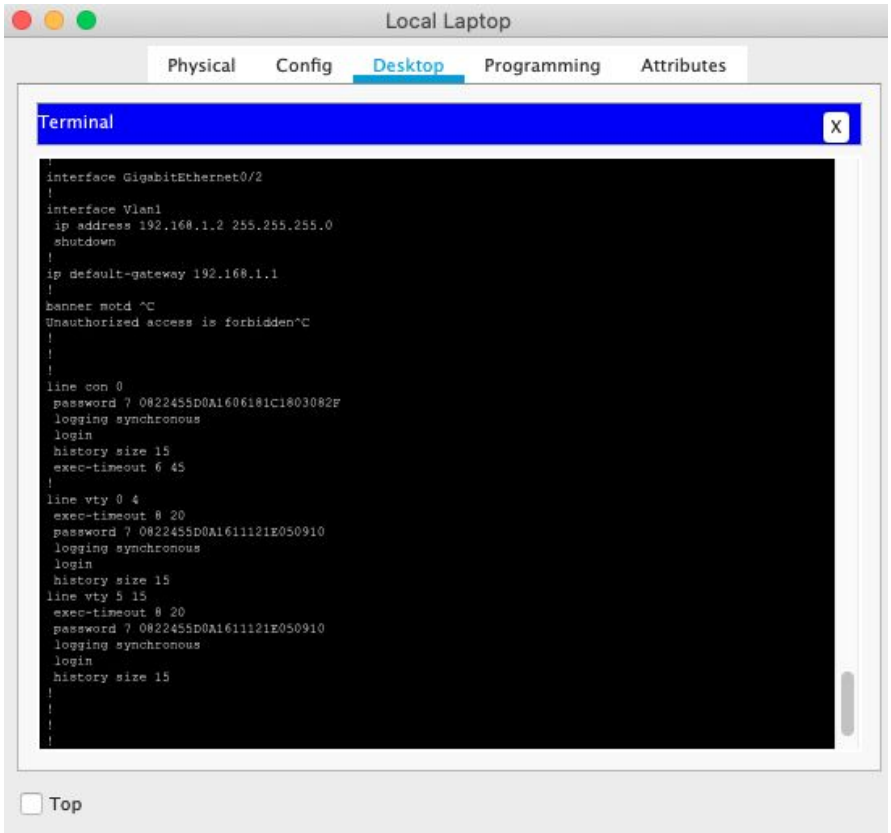


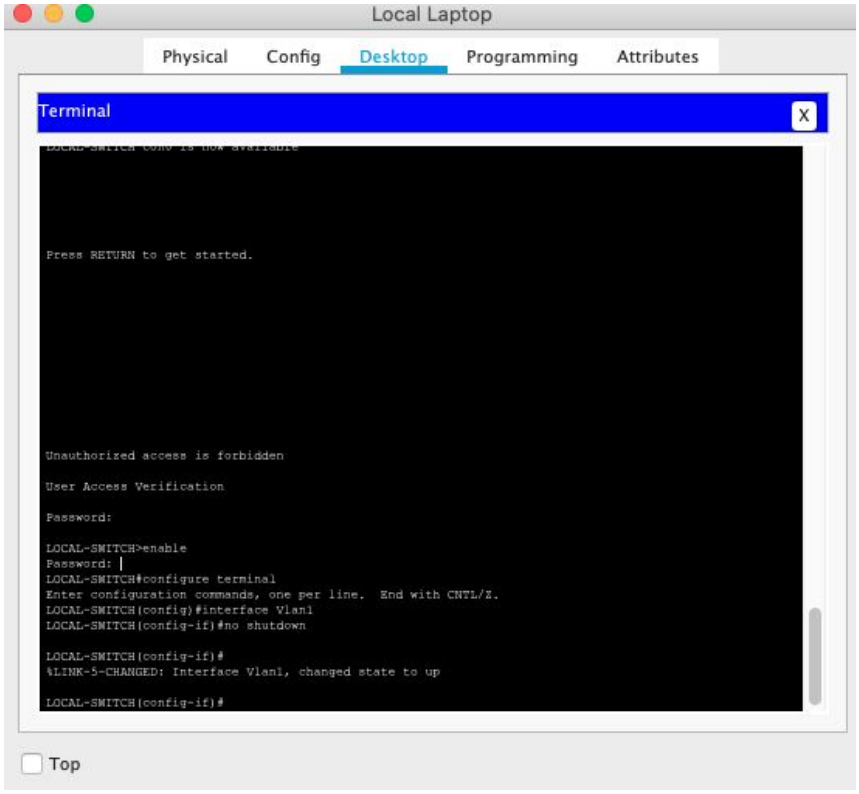


7. Configure the IP address of the switch as 192.168.1.2/24 and it's default gateway IP (192.168.1.1).

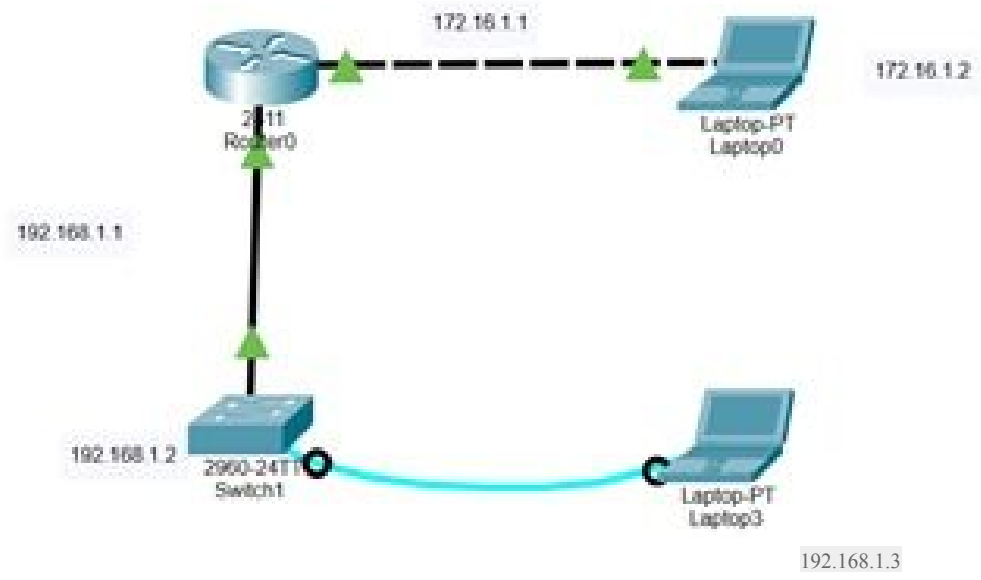



Local Laptop
Physical
Config
Desktop
Programming
Attributes
Terminal
X
Press RETURN to get started!
Unauthorized access is forbidden
User Access Verification
Password:
LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#interface Vlan1
LOCAL-SWITCH(config-if)#ip address 192.168.1.2.255.255.255.0
^
% Invalid input detected at '^' marker.
LOCAL-SWITCH(config-if)#ip address 192.168.1.2 255.255.255.0
LOCAL-SWITCH(config-if)#ip default-gateway 192.168.1.1
LOCAL-SWITCH(config)#
Top

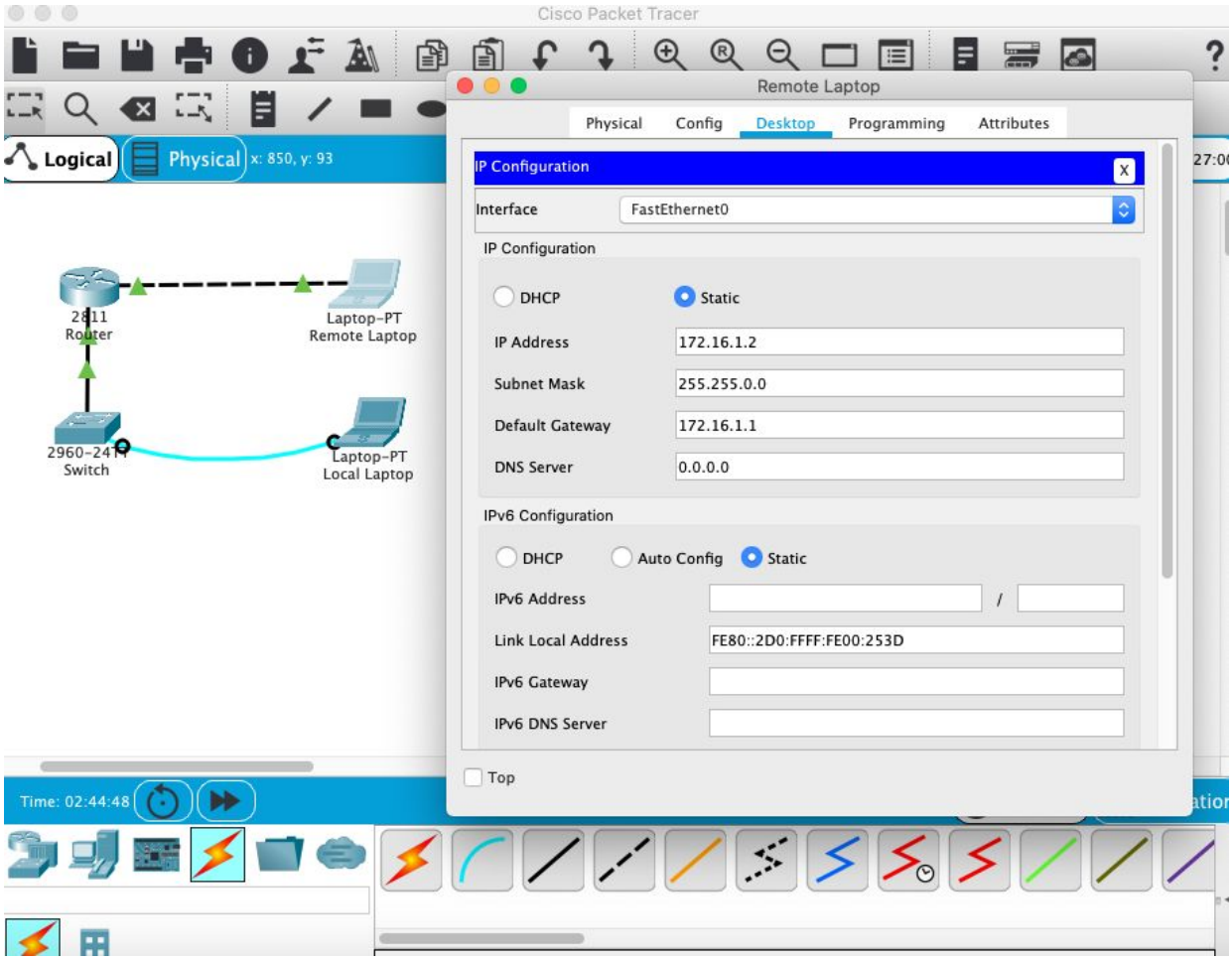

Local Laptop
Physical
Config
Desktop
Programming
Attributes
Terminal
X
!
interface GigabitEthernet0/2
!
interface Vlan1
ip address 192.168.1.2 255.255.255.0
shutdown
!
ip default-gateway 192.168.1.1
!
banner motd ^C
Unauthorized access is forbidden^C
!
!
!
line con 0
password 7 0822455D0A1606181C1803082F
logging synchronous
login
history size 15
exec-timeout 6 45
!
line vty 0 4
exec-timeout 8 20
password 7 0822455D0A1611121E050910
logging synchronous
login
history size 15
line vty 5 15
exec-timeout 8 20
password 7 0822455D0A1611121E050910
logging synchronous
login
history size 15
!
!
!
Top



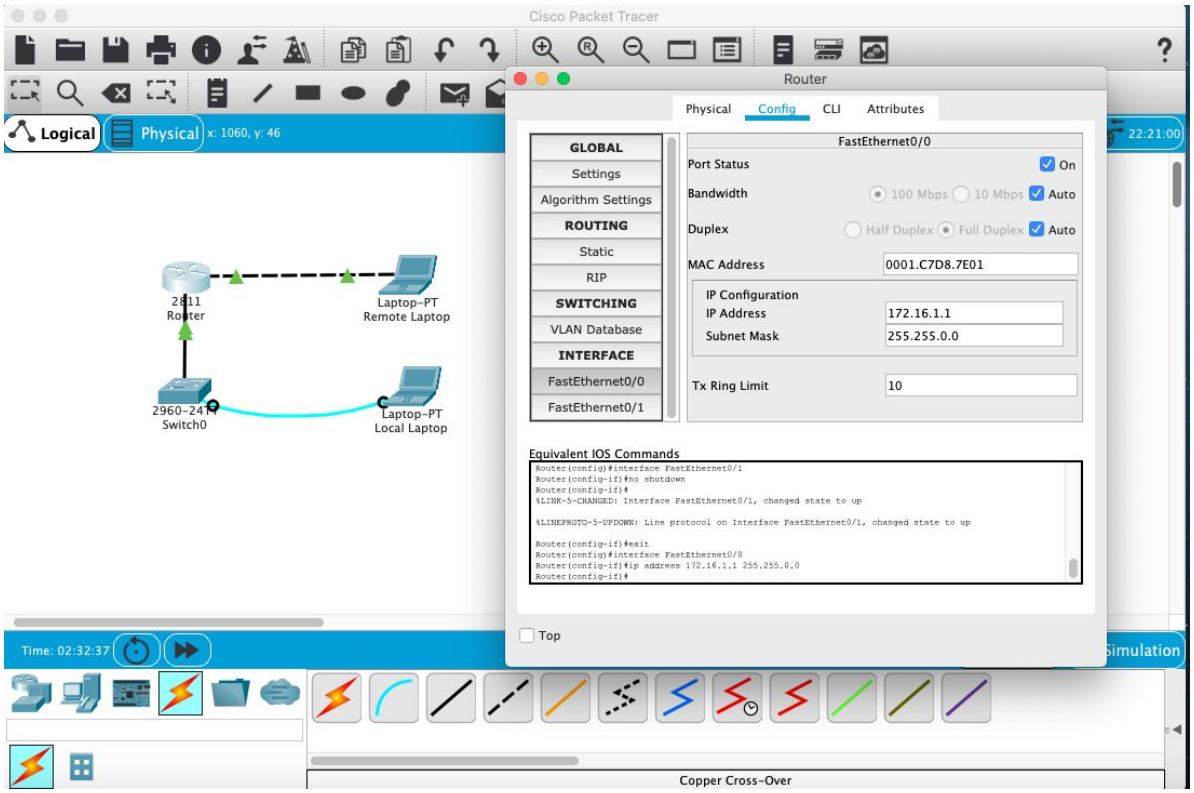
8. Test telnet connectivity from the Remote Laptop using the telnet client.

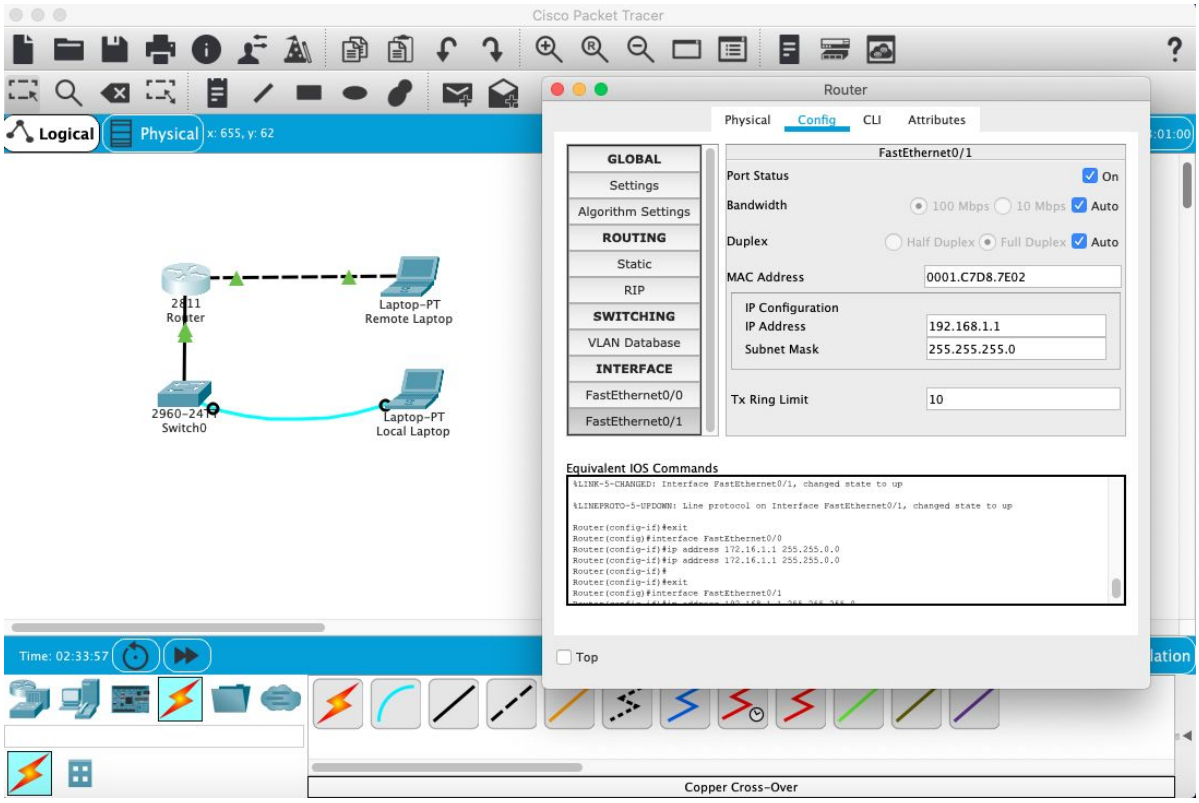


Configuration of Remote laptop

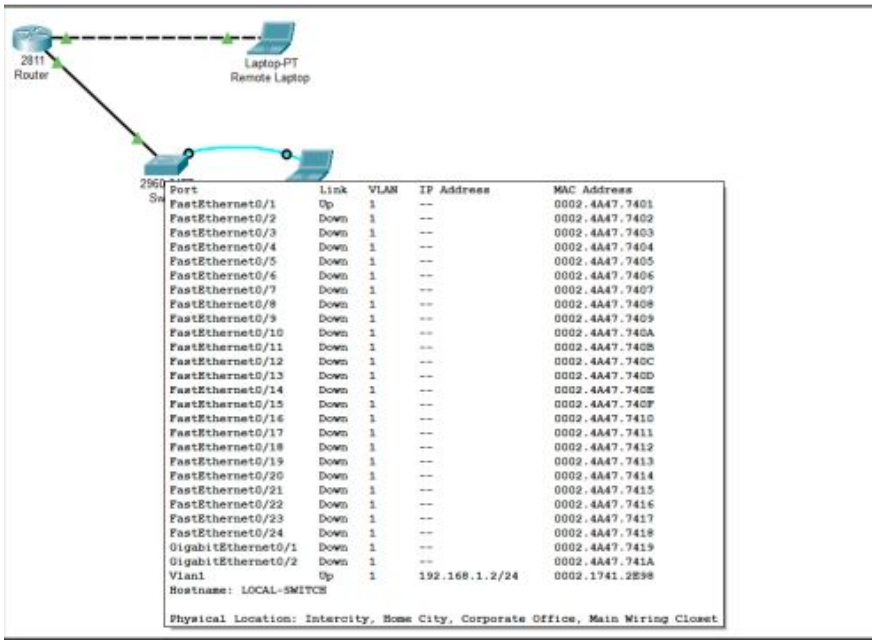


Configuration of Router

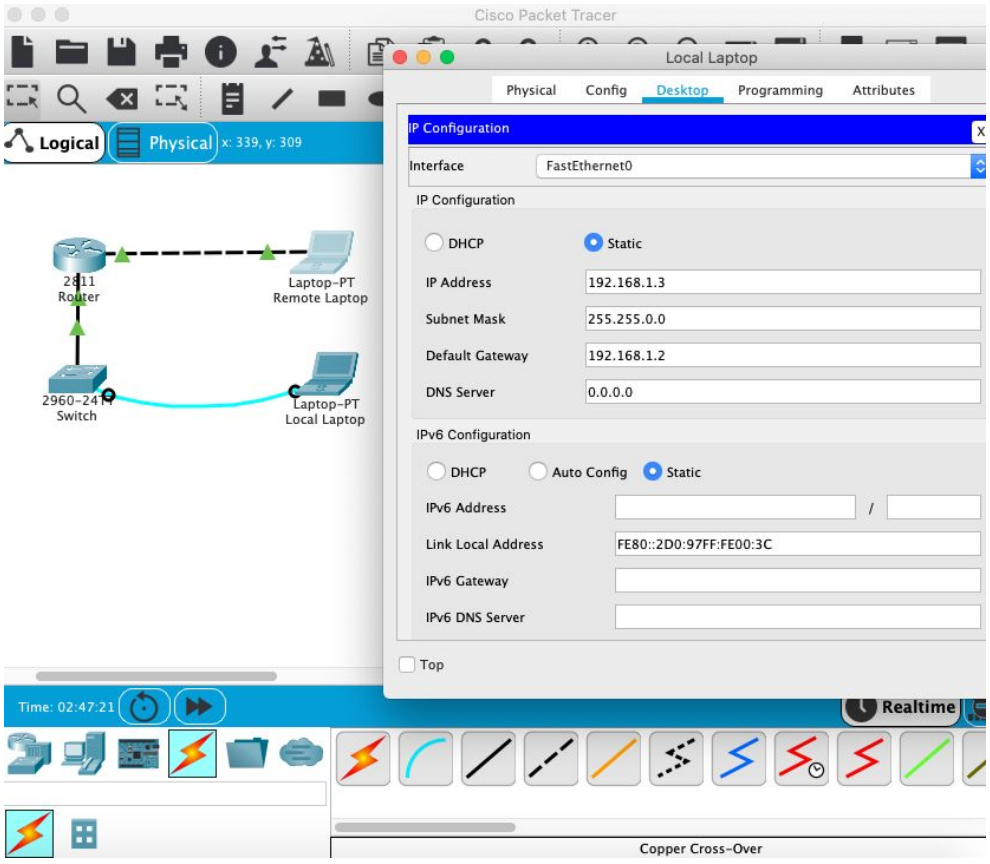




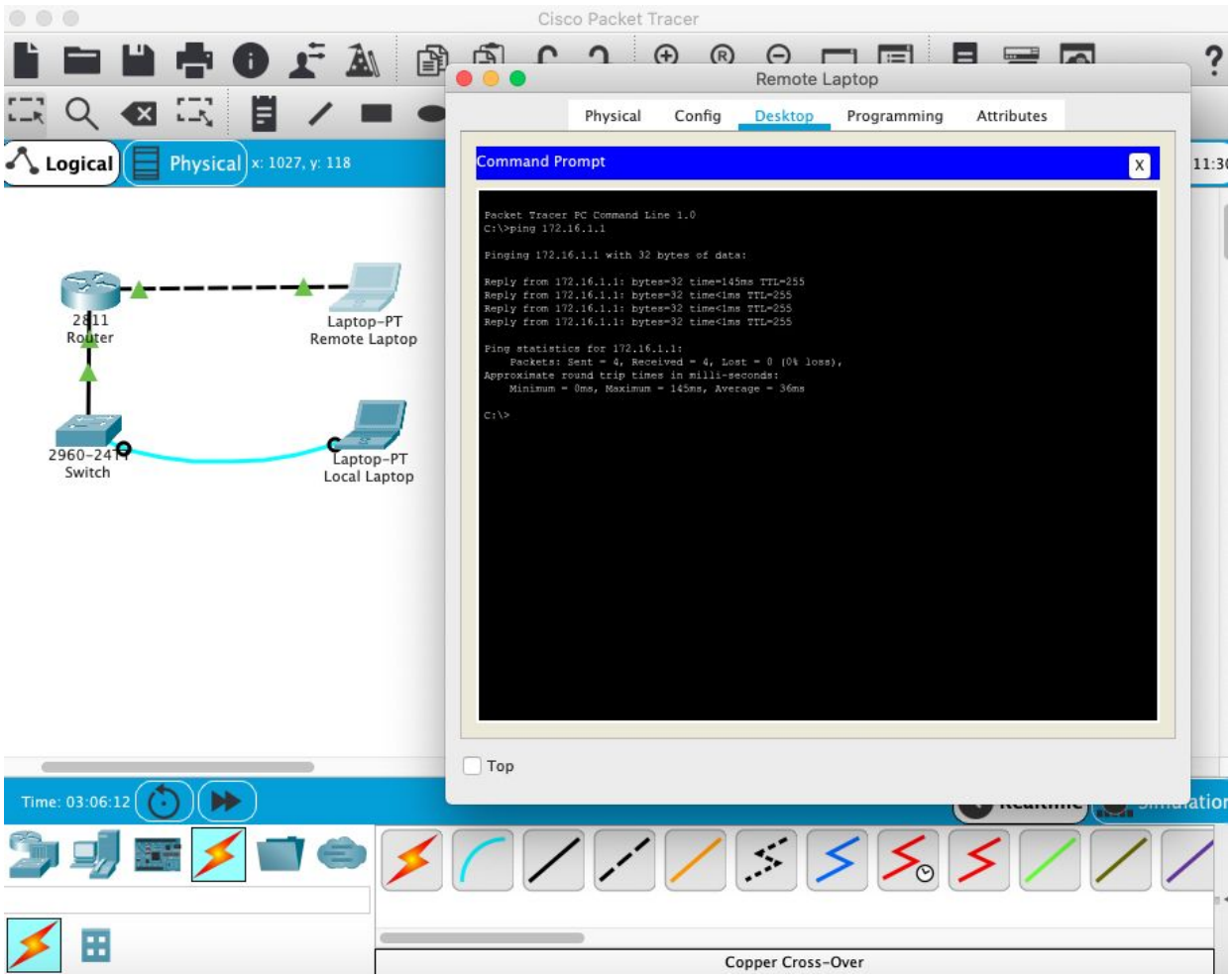
Configuration of Switch

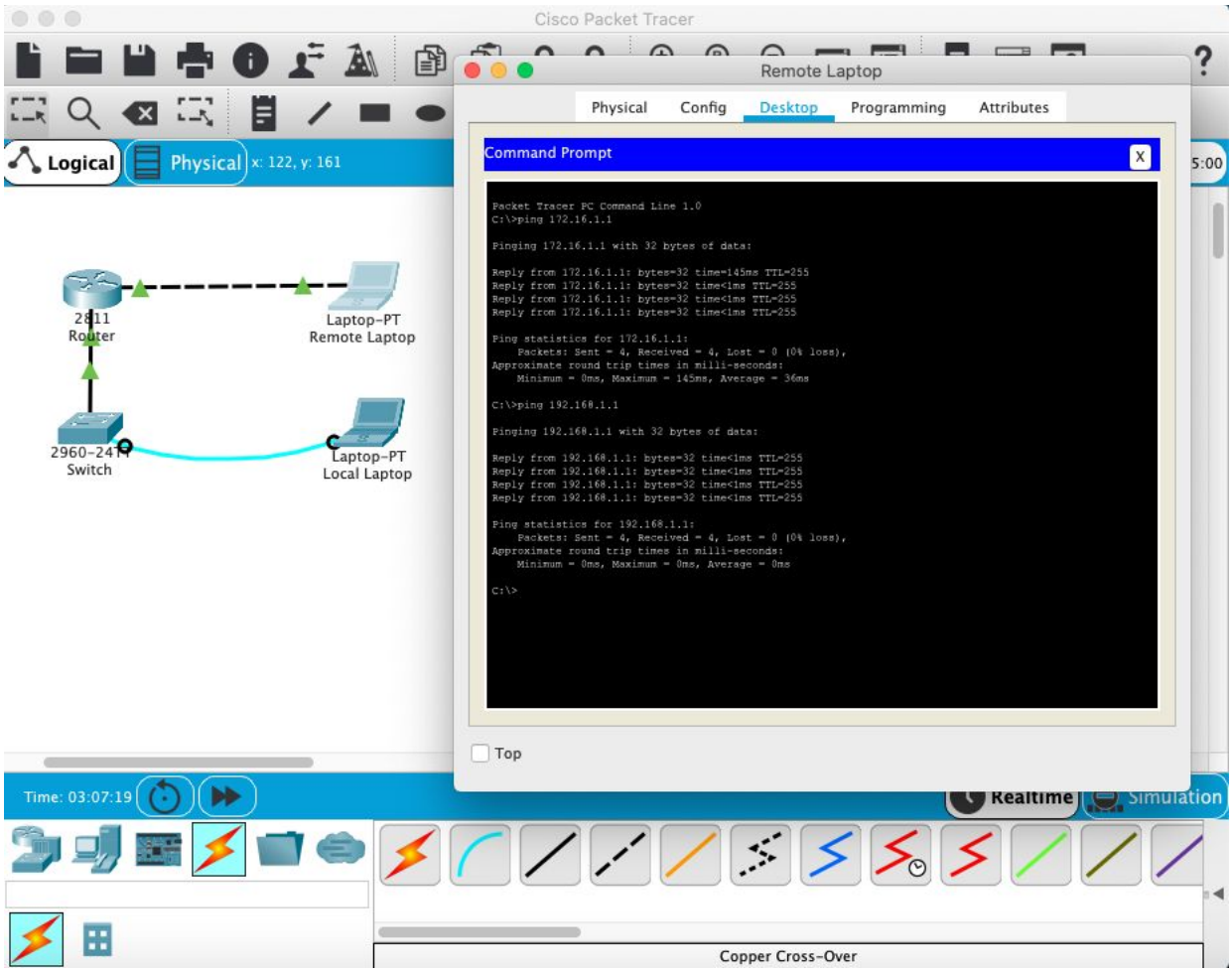


Configuration of Remote Laptop

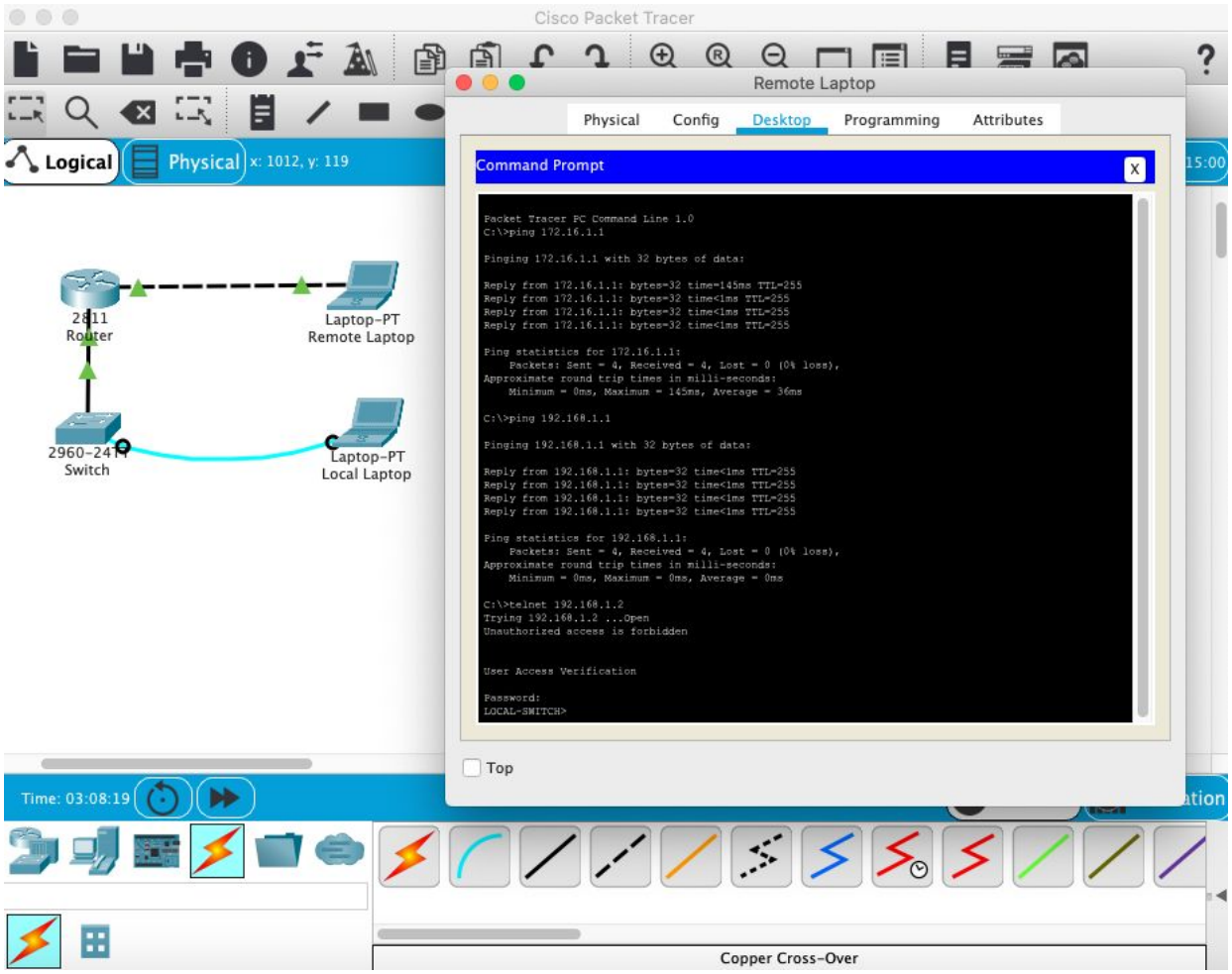


Pinging Router from Remote Laptop

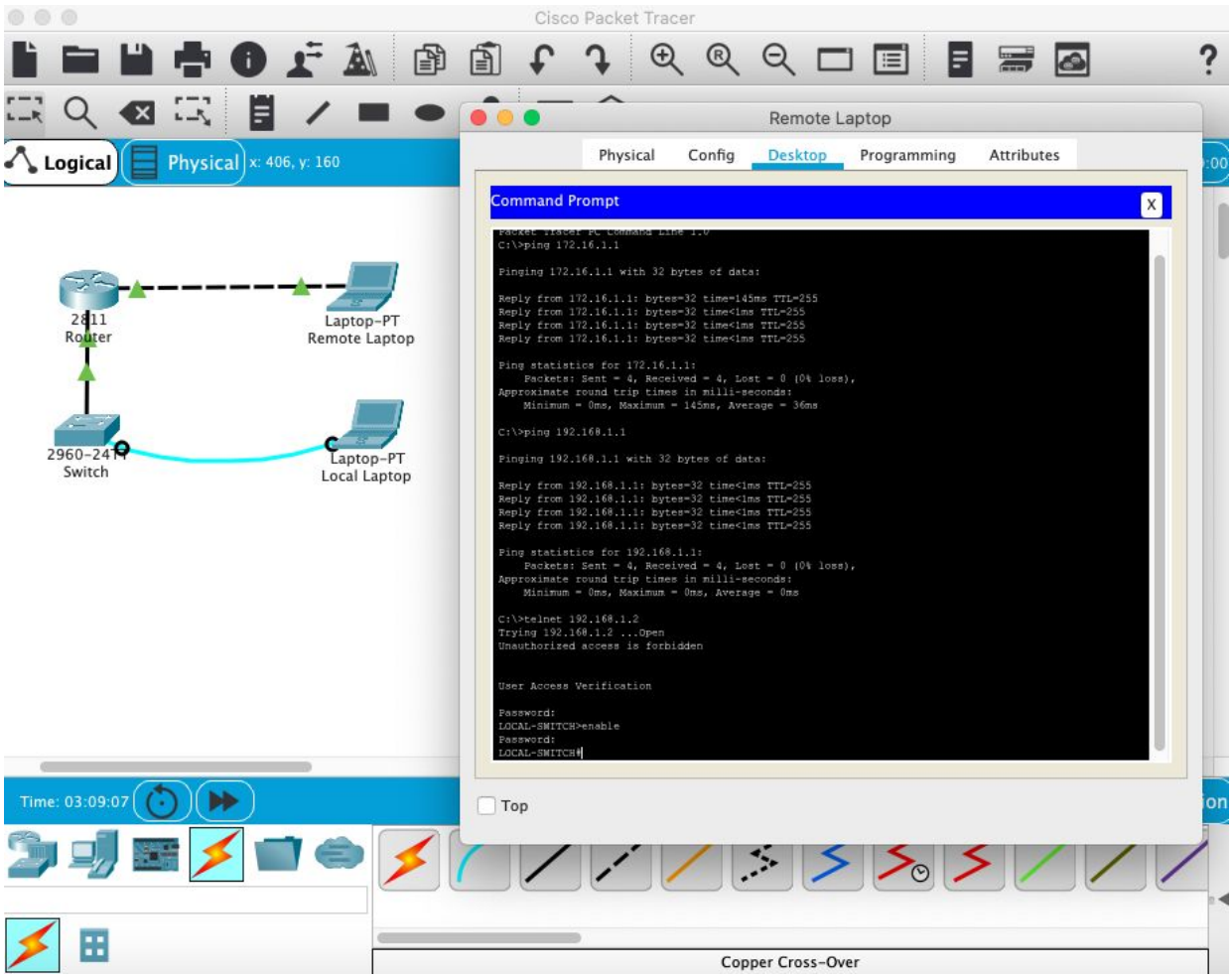



Cisco Packet Tracer
Logical
Physical
x: 122, y: 161
2811
Router
Laptop-PT
Remote Laptop
2960-24TT
Switch
Laptop-PT
Local Laptop
Time: 03:07:19
Realtime
Simulation
Copper Cross-Over
Remote Laptop
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>ping 172.16.1.1
Pinging 172.16.1.1 with 32 bytes of data:
Reply from 172.16.1.1: bytes=32 time=145ms TTL=255
Reply from 172.16.1.1: bytes=32 time<1ms TTL=255
Reply from 172.16.1.1: bytes=32 time<1ms TTL=255
Reply from 172.16.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 172.16.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 145ms, Average = 36ms
C:\>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Ping statistics for 192.168.1.1:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
Top

Telnet Switch from Remote Laptop



Enabling switch from Remote Laptop



Conclusion:

1. In this experiment, I learned about setting up a network with Router and Switch.
2. I learned to configure Switch using the console. I understood how to configure the terminal.
3. I configured telnet for switch and checked its connectivity from remote laptop.