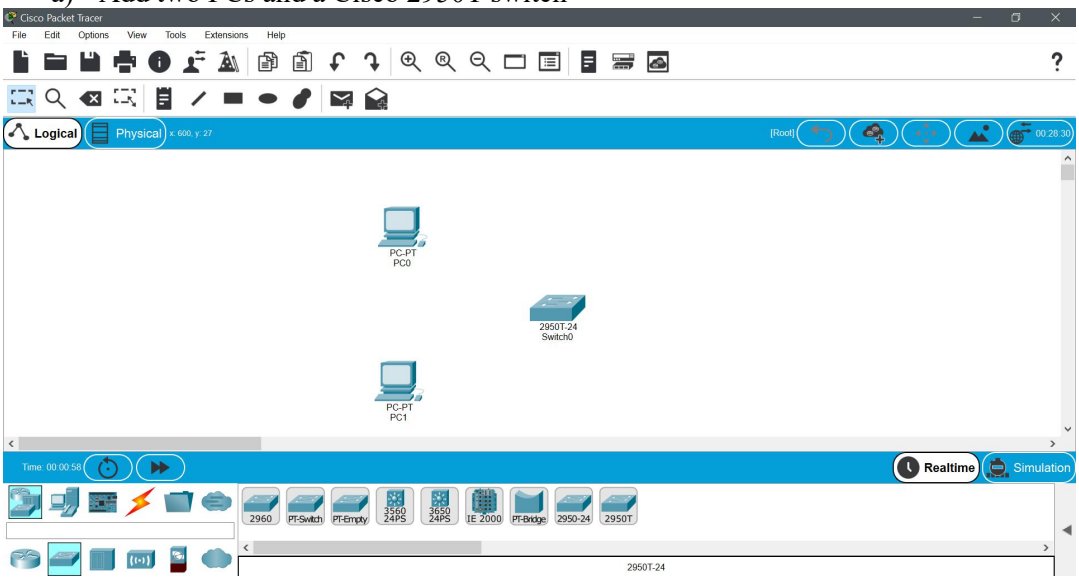
CEL 51, DCCN, Monsoon 2020
Lab 4: Prototyping a Network

Objective:
Prototype a network using Packet Tracer

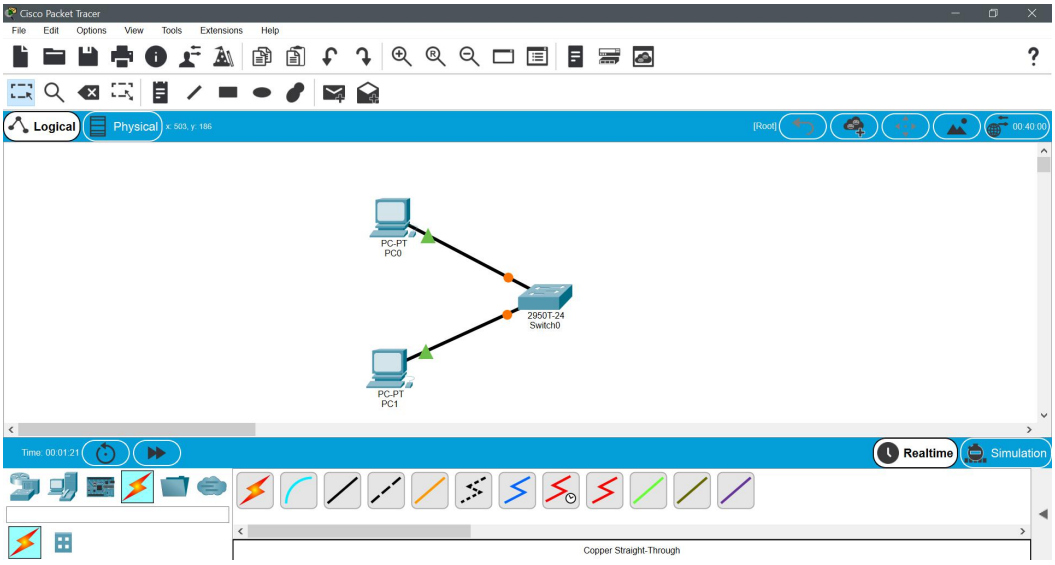
Background
A client has requested that you set up a simple network with two PCs connected to a switch. Verify that the hardware, along with the given configurations, meet the requirements of the client.

Step 1: Set up the network topology

a) Add two PCs and a Cisco 2950T switch

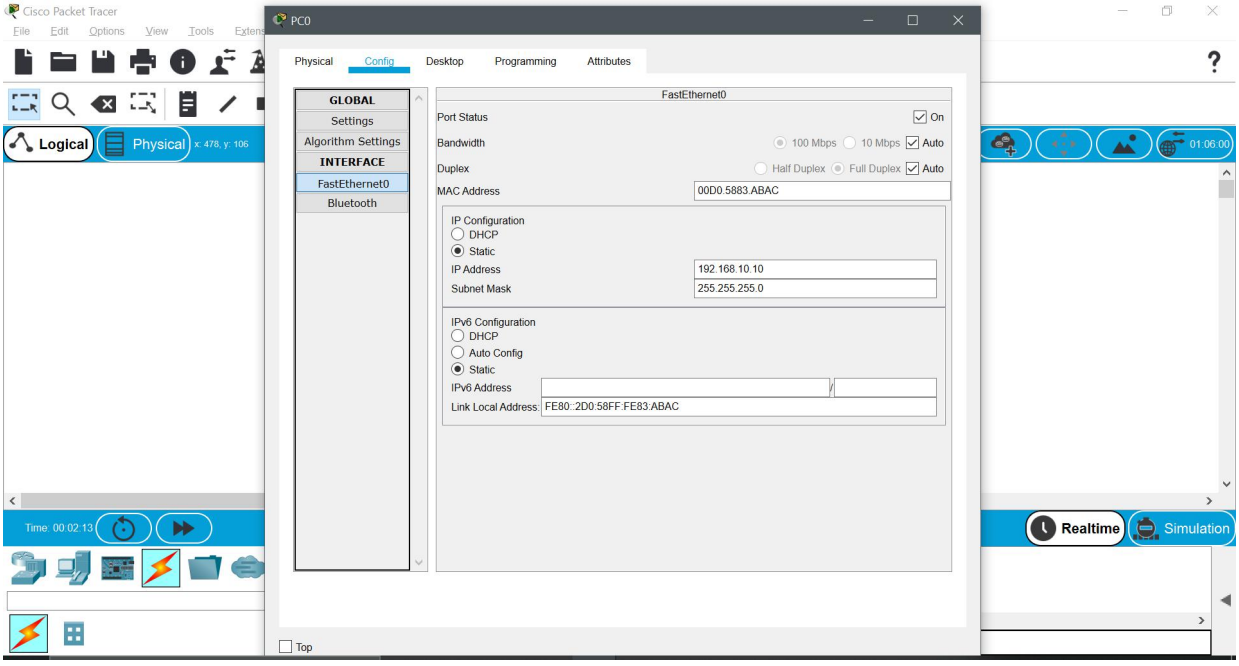


b) Using straight-through cables, connect **PC0** to interface **Fa0/1** on **Switch0** and **PC1** to interface **Fa0/2** on **Switch0**.



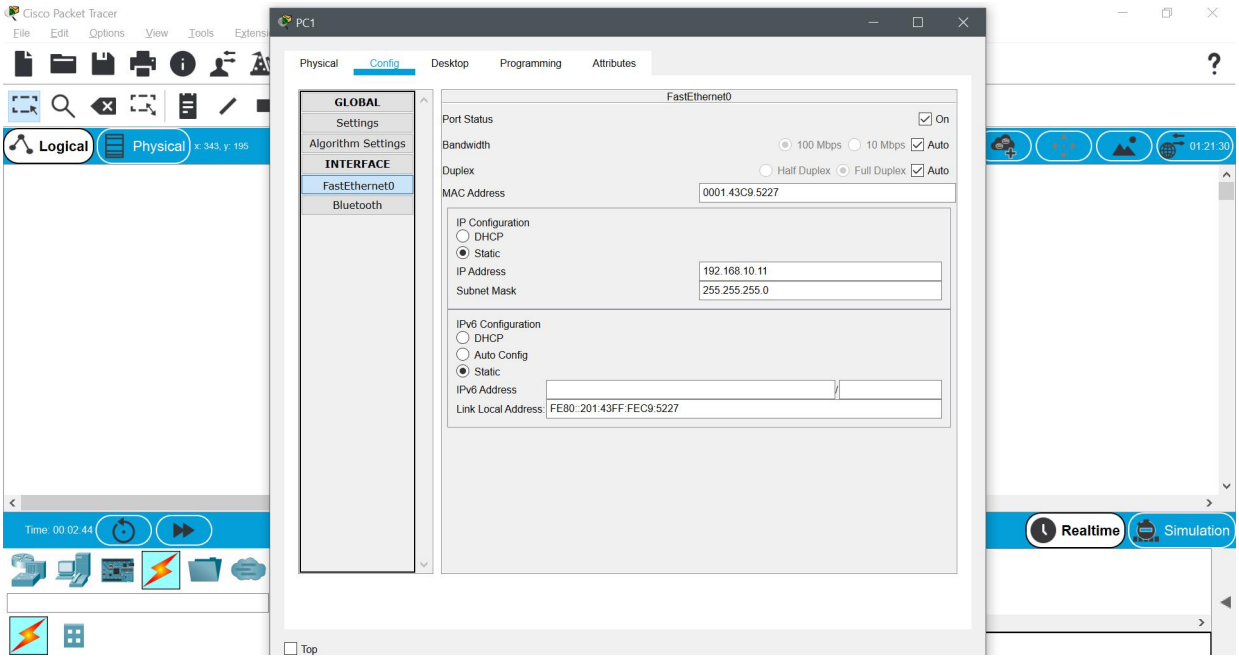
c) Configure PC0 using the **Config** tab in the PC0 configuration window:

a. IP address: 192.168.10.10
b. Subnet Mask 255.255.255.0



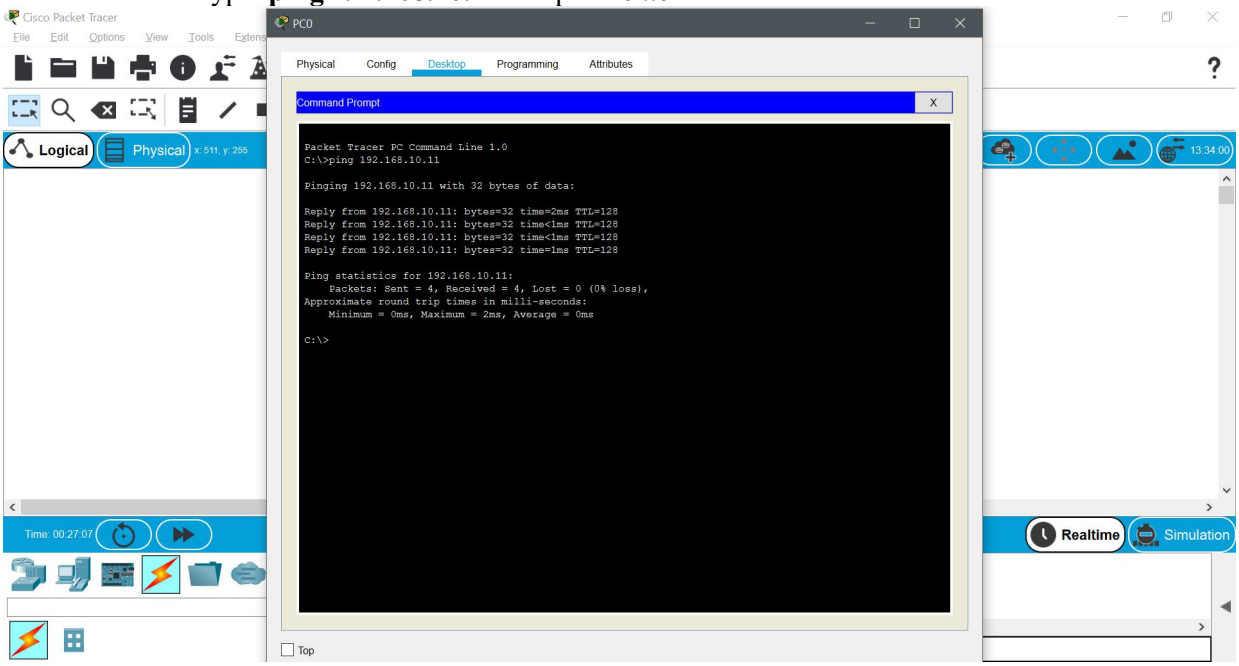
d) Configure PC1 using the **Config** tab in the PC1 configuration window

a. IP address: 192.168.10.11
b. Subnet Mask 255.255.255.0



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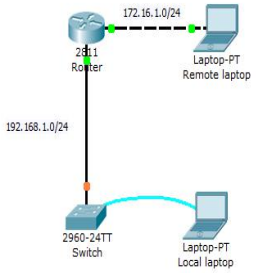
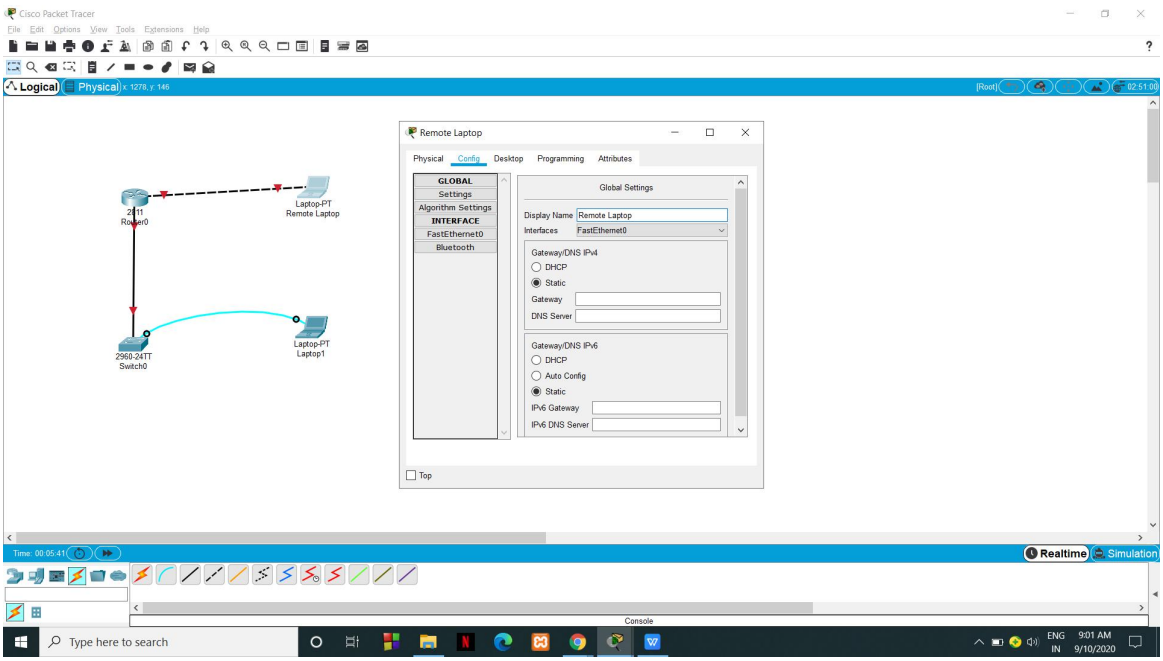
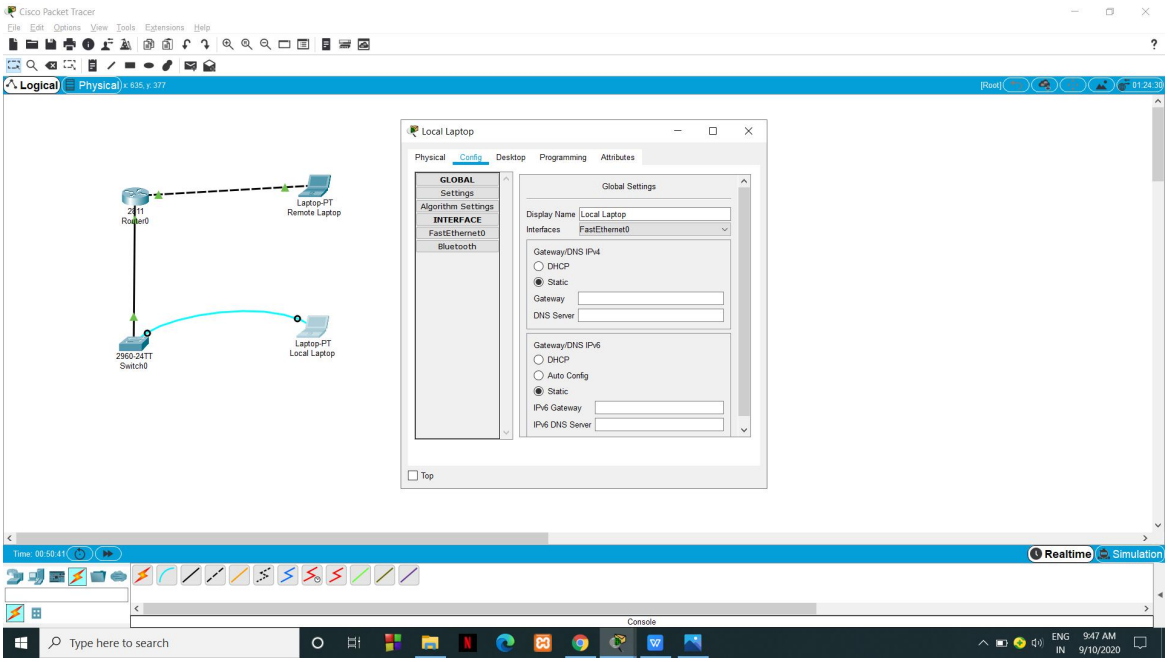
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

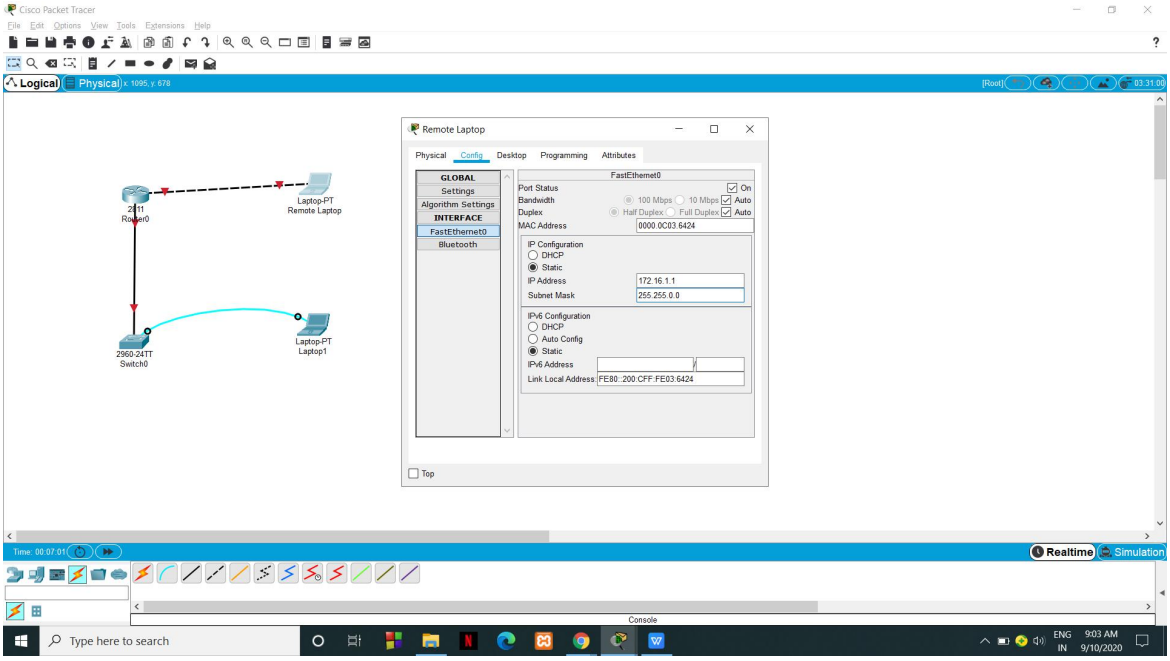
Objective:
This lab will test your ability to configure basic settings such as hostname, motd banner, encrypted passwords, and terminal options on a Packet Tracer 6.2 simulated Cisco Catalyst switch.

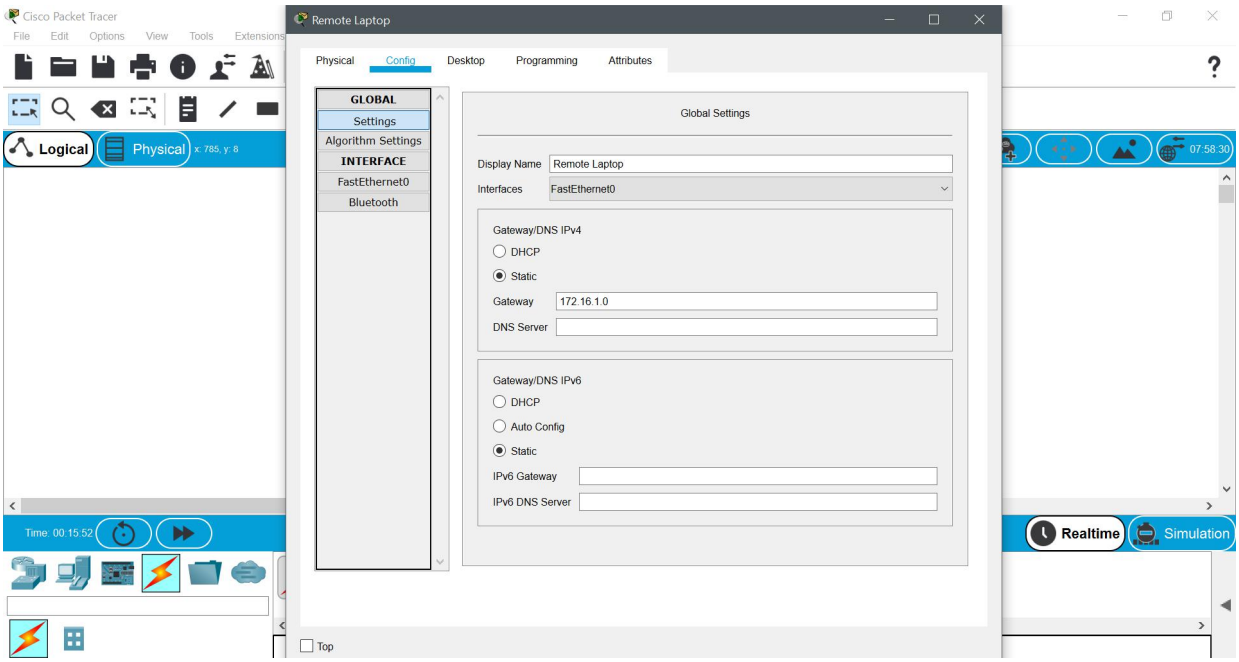


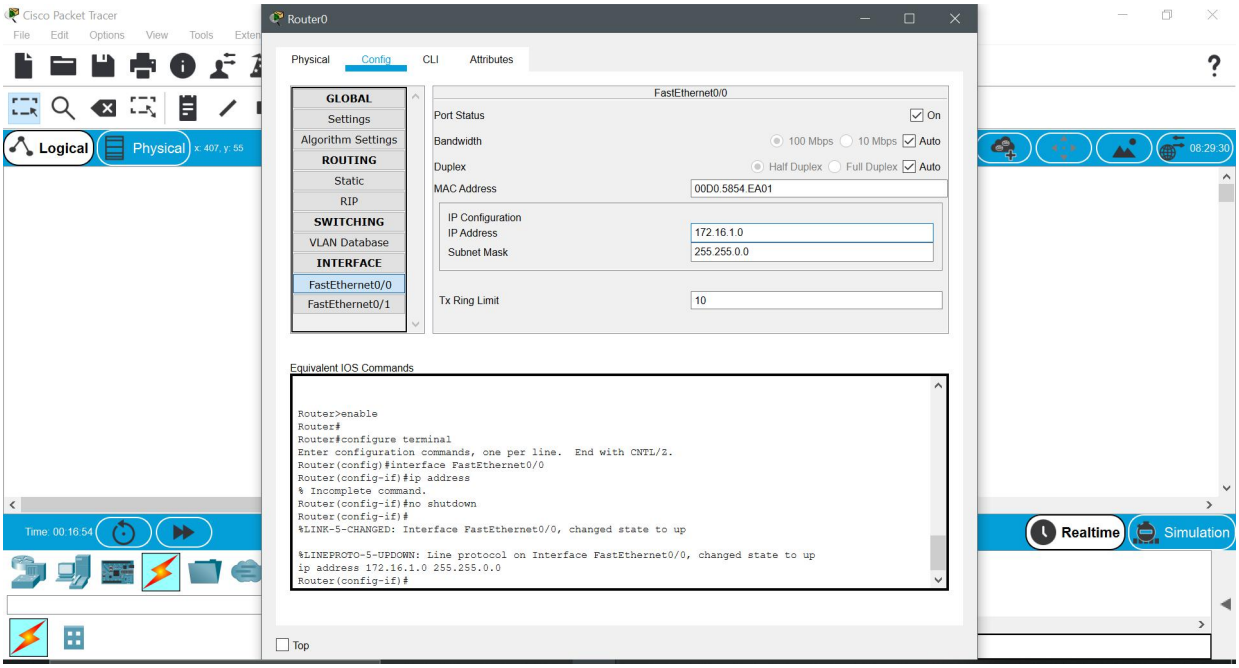
1. Use the local laptop connect to the switch console.

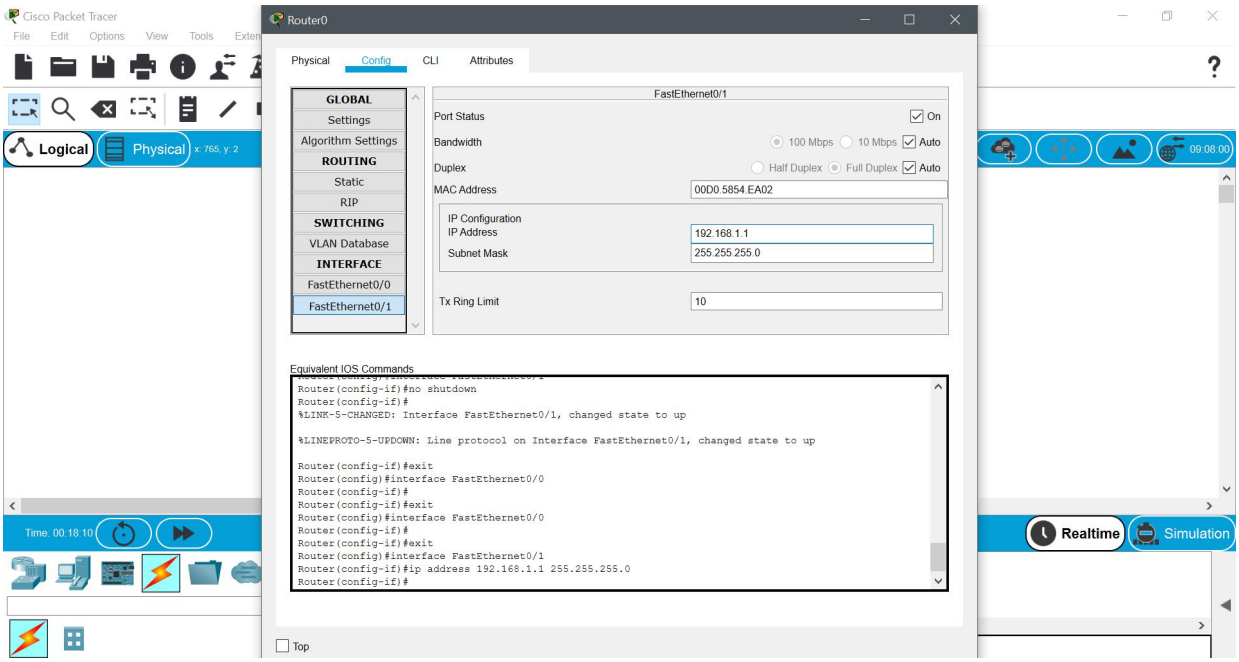



Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical Physical
Local Laptop
Physical Config Desktop Programming Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
Global Settings
Display Name Local Laptop
Interfaces FastEthernet0
Gateway/DNS IPv4
DHCP
Static
Gateway
DNS Server
Gateway/DNS IPv6
DHCP
Auto Config
Static
IPv6 Gateway
IPv6 DNS Server
Top
2811 Router0
Laptop-PT Remote Laptop
2960-24TT Switch0
Laptop-PT Local Laptop
Realtime Simulation
Console
Type here to search
ENG IN 9:47 AM 9/10/2020

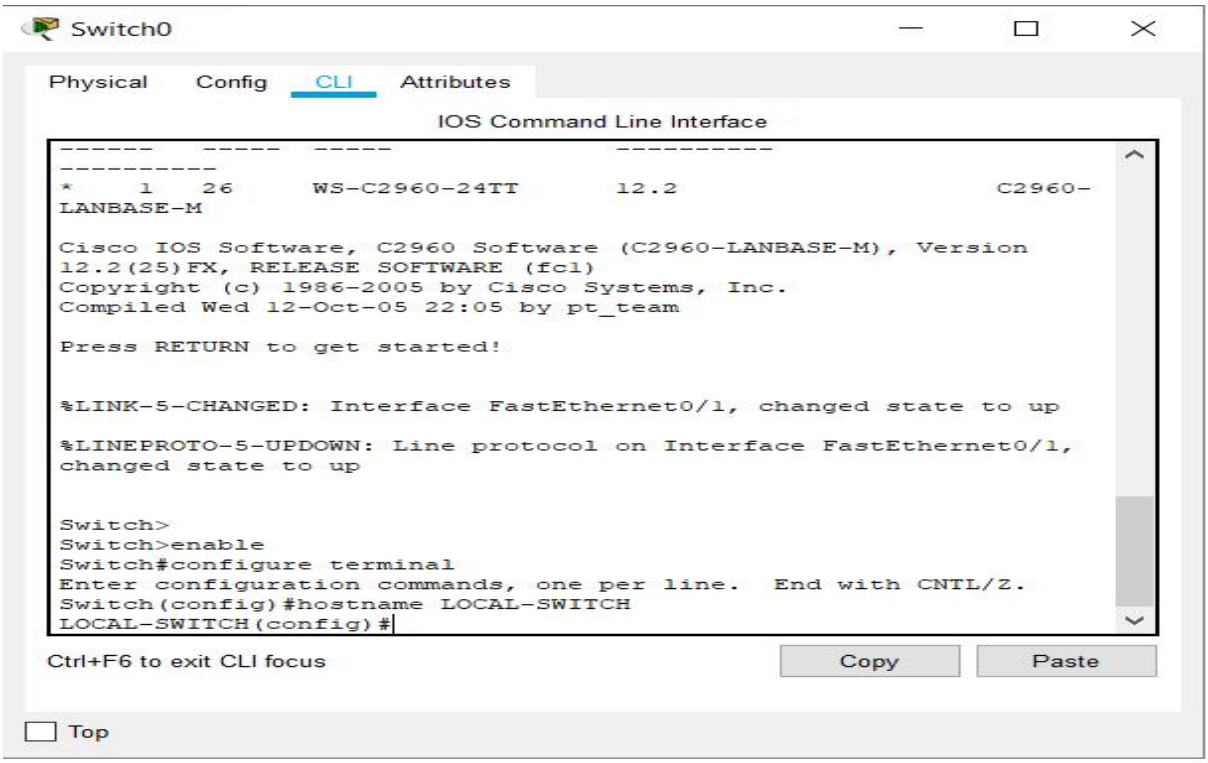

Cisco Packet Tracer
File Edit Options View Tools Extensions Help
Logical Physical
Remote Laptop
Physical Config Desktop Programming Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
FastEthernet0
Port Status On
Bandwidth 100 Mbps 10 Mbps Auto
Duplex Half Duplex Full Duplex Auto
MAC Address 0000.0C03.6424
IP Configuration
DHCP
Static
IP Address 172.16.1.1
Subnet Mask 255.255.0.0
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address FE80::200:CFF:FE03:6424
Top
2811 Router0
Laptop-PT Remote Laptop
2960-24TT Switch0
Laptop-PT Laptop1
Realtime Simulation
Console
Type here to search
ENG IN 9:03 AM 9/10/2020


Cisco Packet Tracer
File Edit Options View Tools Extensions
Logical Physical x: 785, y: 8
07:58:30
Time: 00:15:52
Realtime Simulation
Remote Laptop
Physical Config Desktop Programming Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
Global Settings
Display Name Remote Laptop
Interfaces FastEthernet0
Gateway/DNS IPv4
DHCP
Static
Gateway 172.16.1.0
DNS Server
Gateway/DNS IPv6
DHCP
Auto Config
Static
IPv6 Gateway
IPv6 DNS Server
Top

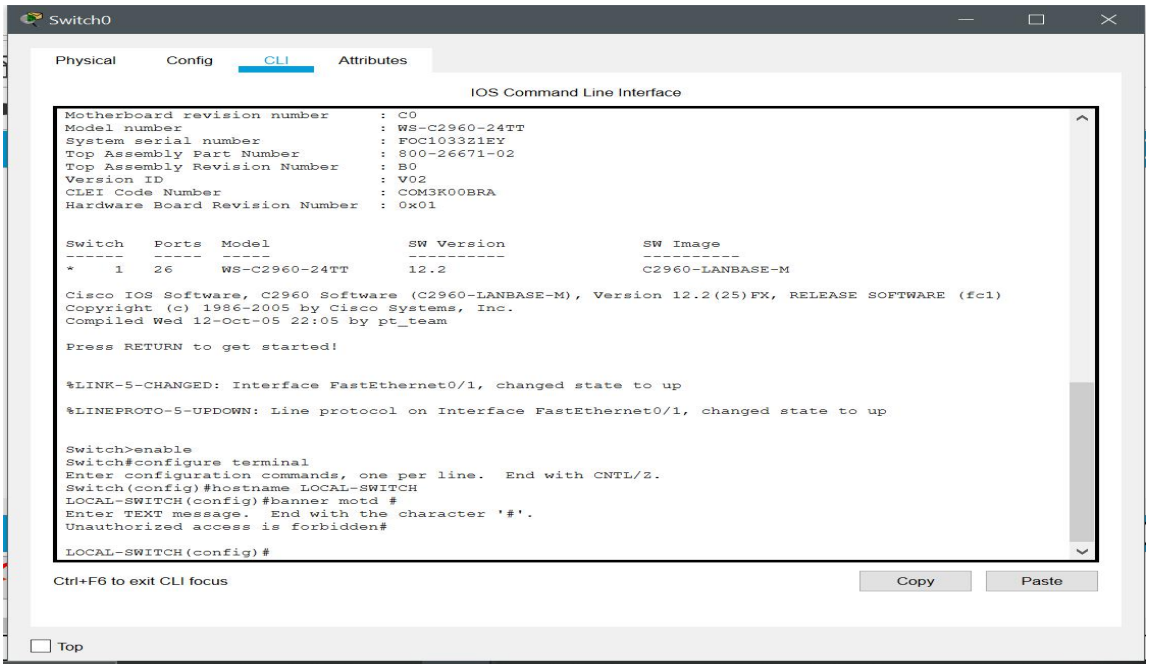

Cisco Packet Tracer
File Edit Options View Tools
Logical Physical x: 407, y: 55
08:29:30
Time: 00:16:54
Realtime Simulation
Router0
Physical Config CLI Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1
FastEthernet0/0
Port Status On
Bandwidth 100 Mbps 10 Mbps Auto
Duplex Half Duplex Full Duplex Auto
MAC Address 00D0.5854.EA01
IP Configuration
IP Address 172.16.1.0
Subnet Mask 255.255.0.0
Tx Ring Limit 10
Equivalent IOS Commands
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address
% Incomplete command.
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
ip address 172.16.1.0 255.255.0.0
Router(config-if)#
Top



2. Configure Switch hostname as LOCAL-SWITCH



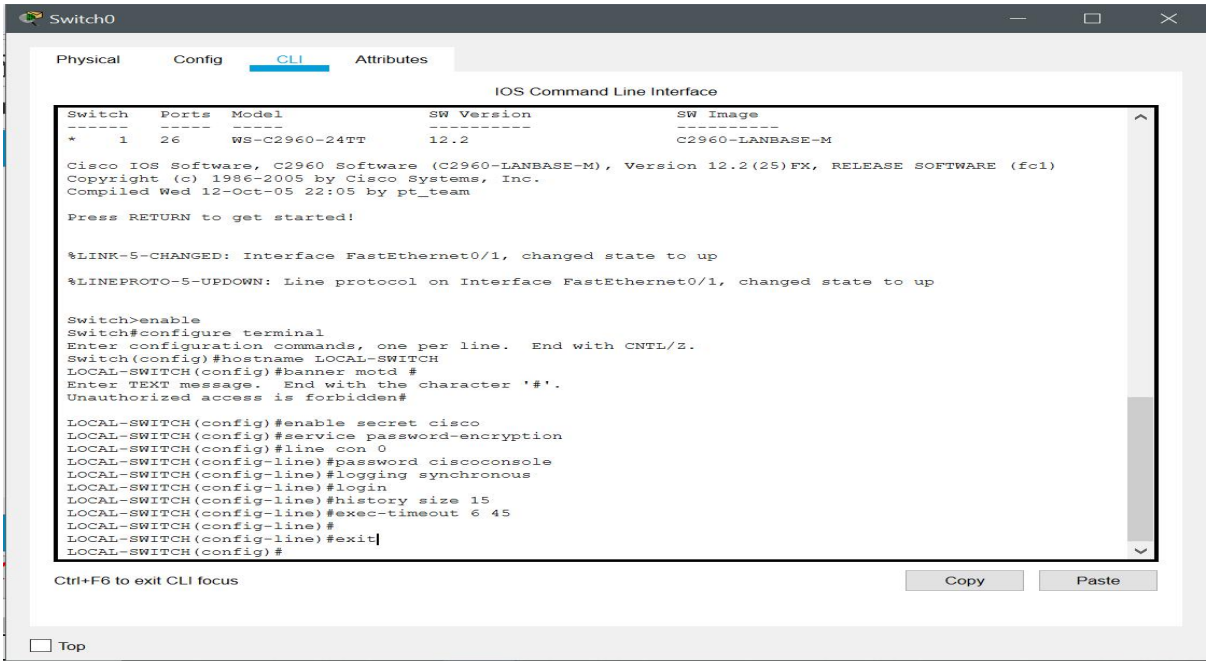
3. Configure the message of the day as "Unauthorized access is forbidden"



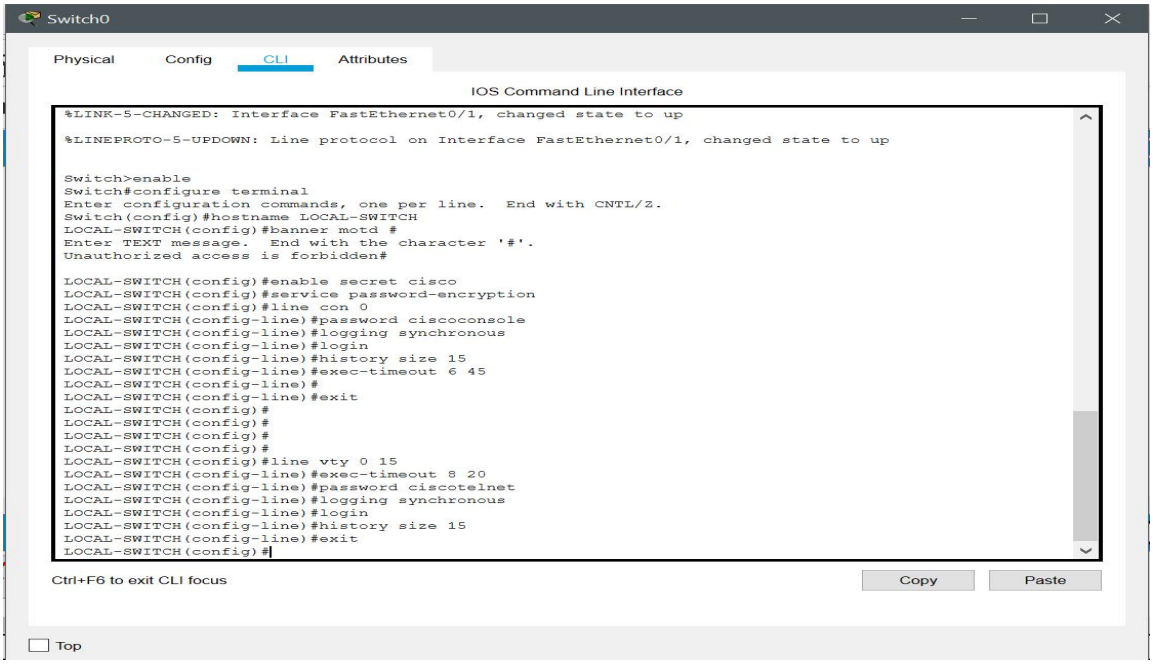
4. Configure the password for privileged mode access as "cisco". The password must be md5 encrypted

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

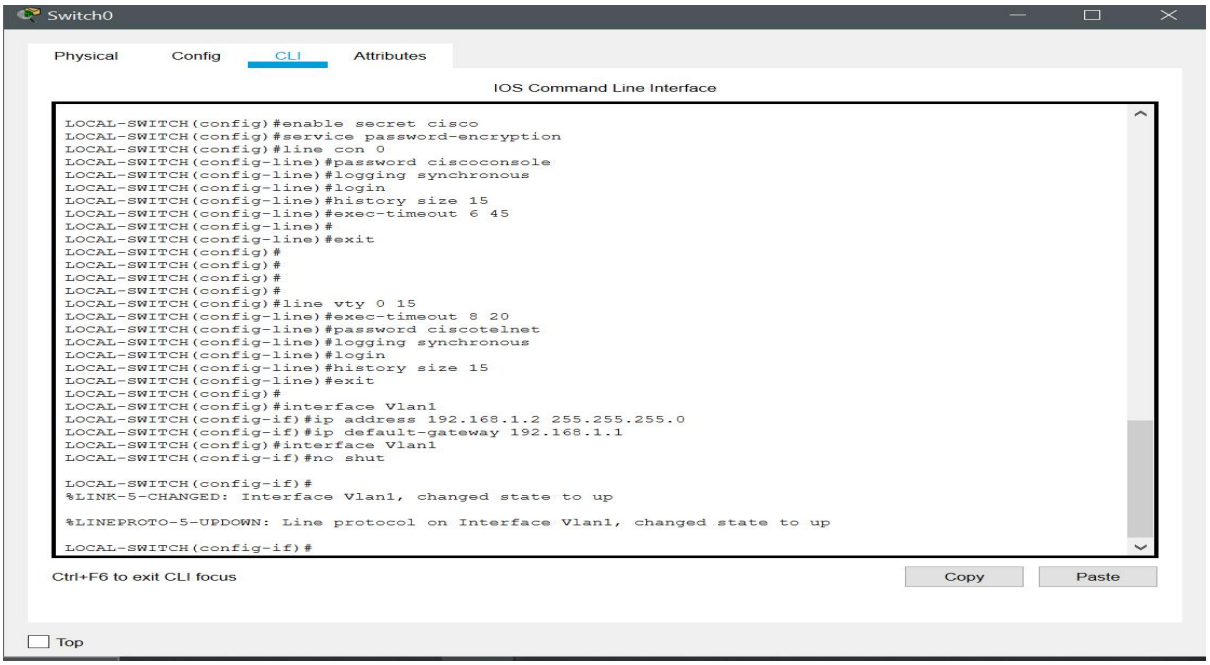
6. Configure CONSOLE access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 6'45"
- Synchronous logging



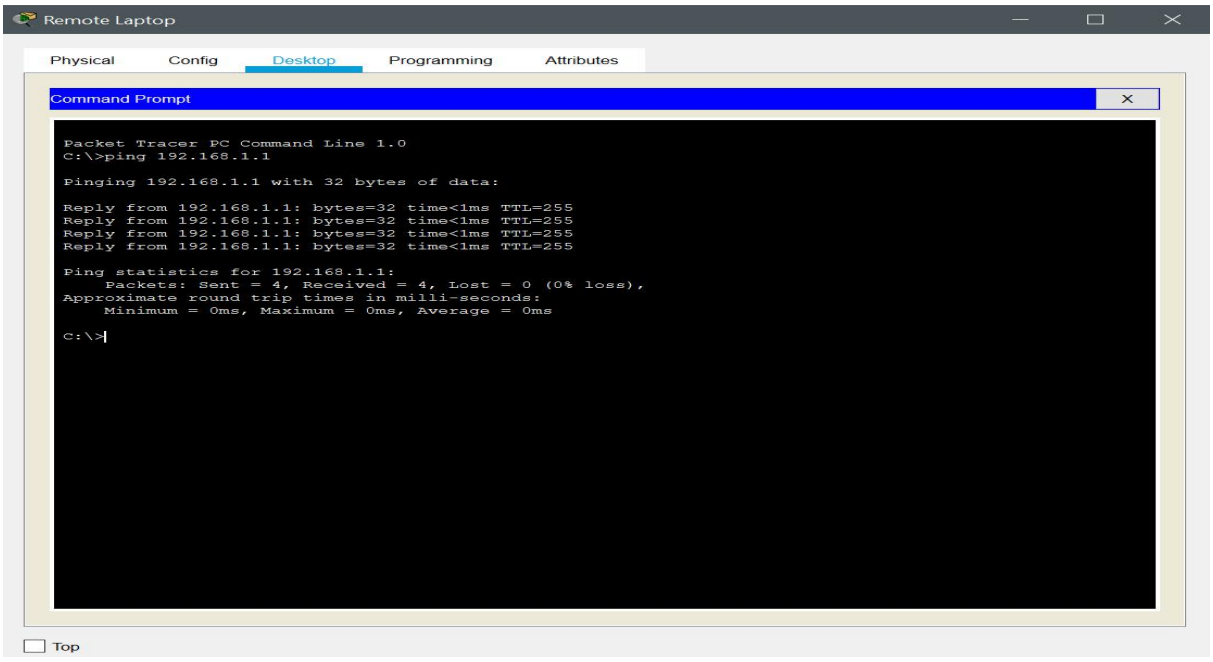
6. Configure TELNET access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 8'20"
- Synchronous logging

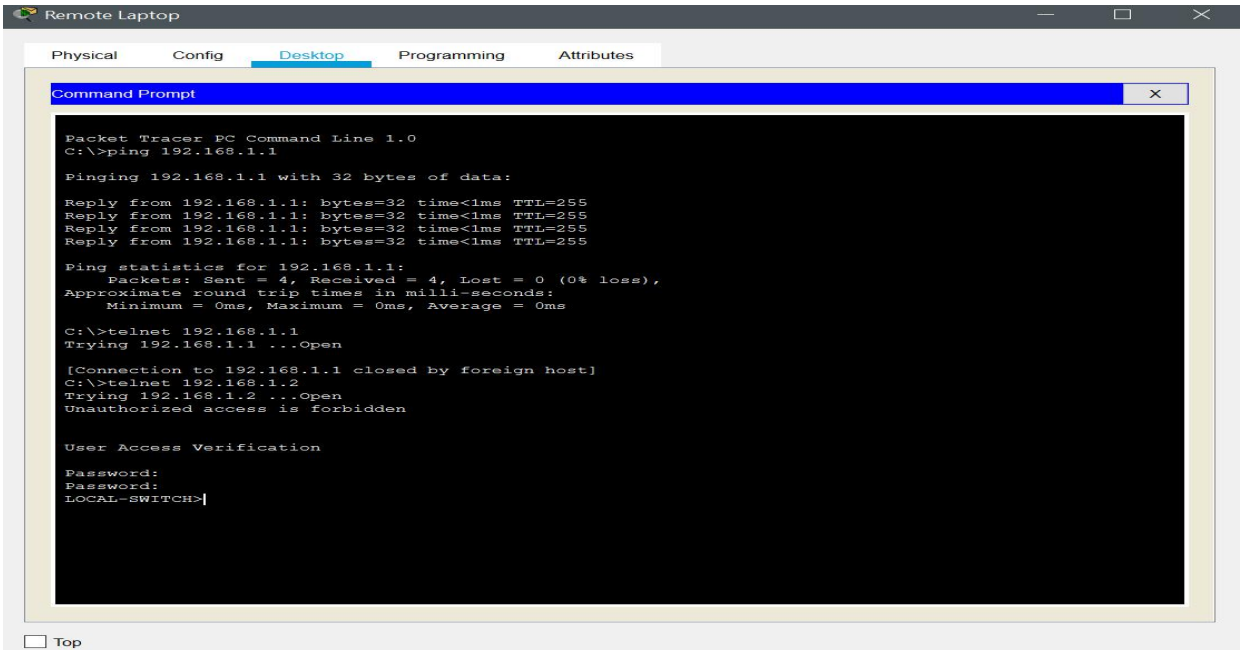


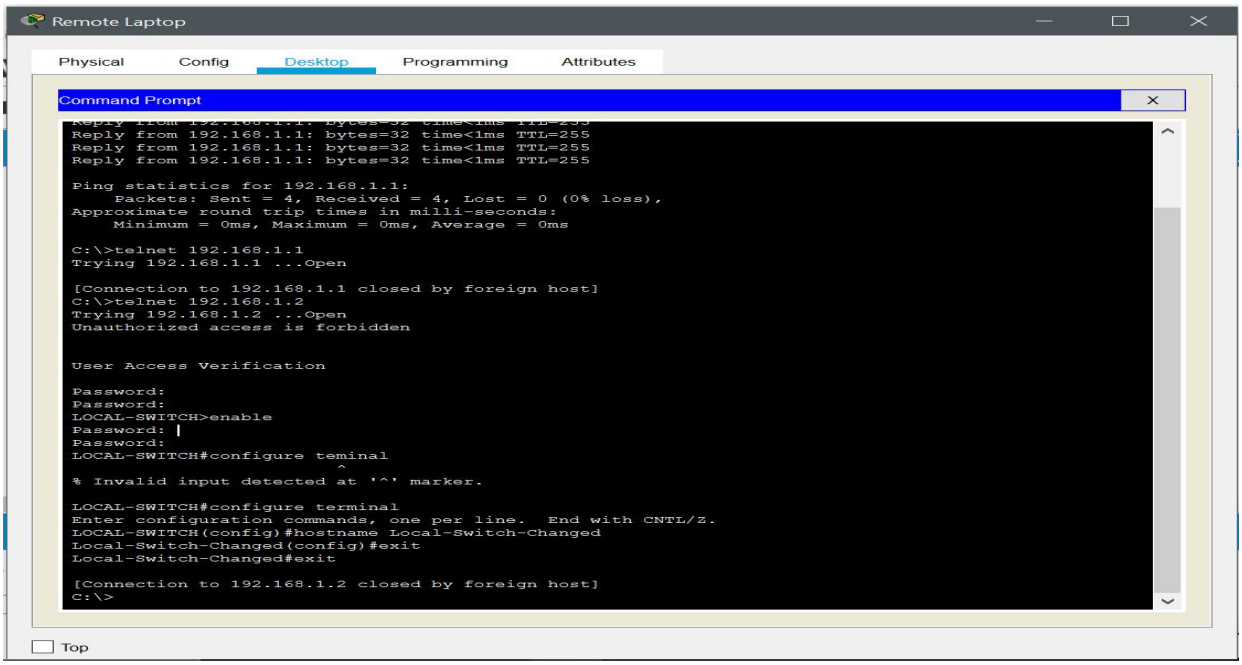
7. Configure the IP address of the switch as 192.168.1.2/24 and it's default gateway IP (192.168.1.1).

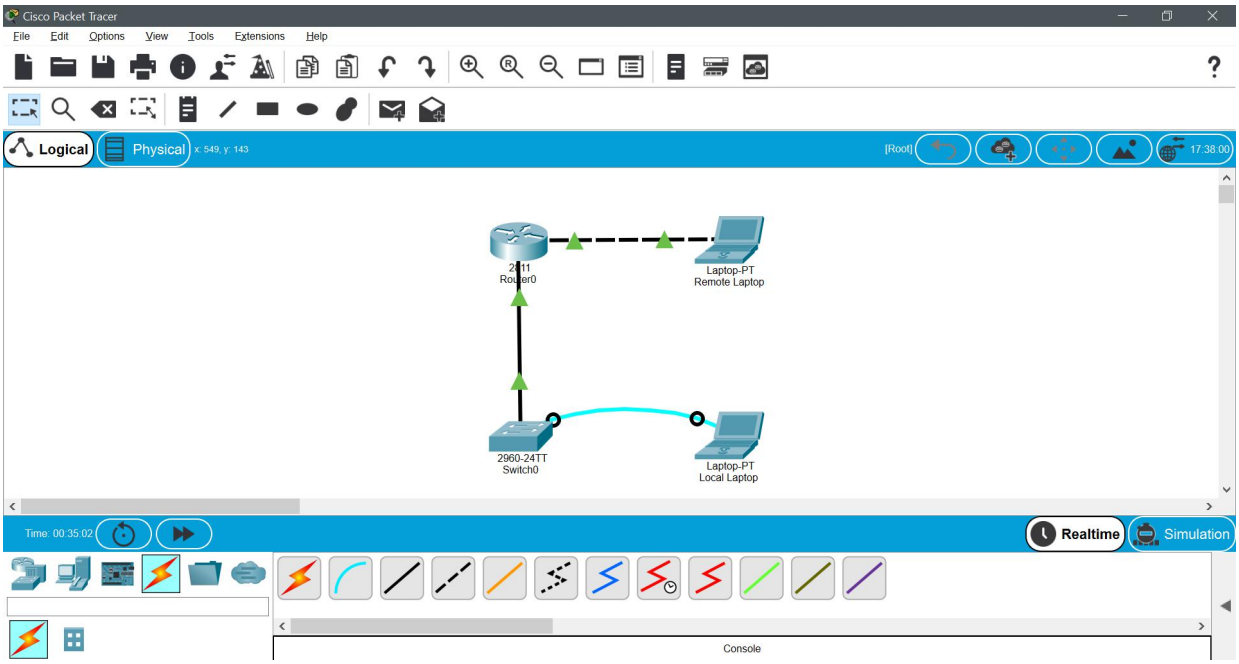


8. Test telnet connectivity from the Remote Laptop using the telnet client.




Remote Laptop
Physical
Config
Desktop
Programming
Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
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:\>telnet 192.168.1.1
Trying 192.168.1.1 ...Open
[Connection to 192.168.1.1 closed by foreign host]
C:\>telnet 192.168.1.2
Trying 192.168.1.2 ...Open
Unauthorized access is forbidden
User Access Verification
Password:
Password:
LOCAL-SWITCH>
Top


Remote Laptop
Physical
Config
Desktop
Programming
Attributes
Command Prompt
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:\>telnet 192.168.1.1
Trying 192.168.1.1 ...Open
[Connection to 192.168.1.1 closed by foreign host]
C:\>telnet 192.168.1.2
Trying 192.168.1.2 ...Open
Unauthorized access is forbidden
User Access Verification
Password:
Password:
LOCAL-SWITCH>enable
Password:
Password:
LOCAL-SWITCH#configure teminal
^
% Invalid input detected at '^' marker.
LOCAL-SWITCH#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#hostname Local-Switch-Changed
Local-Switch-Changed(config)#exit
Local-Switch-Changed#exit
[Connection to 192.168.1.2 closed by foreign host]
C:\>
Top



Conclusion:
From this experiment I found out how to configure a cisco catalyst switch and make a motd , change hostname , password of a switch using the command line.