CEL 51, DCCN, Monsoon 2020

Lab 4: Prototyping a Network

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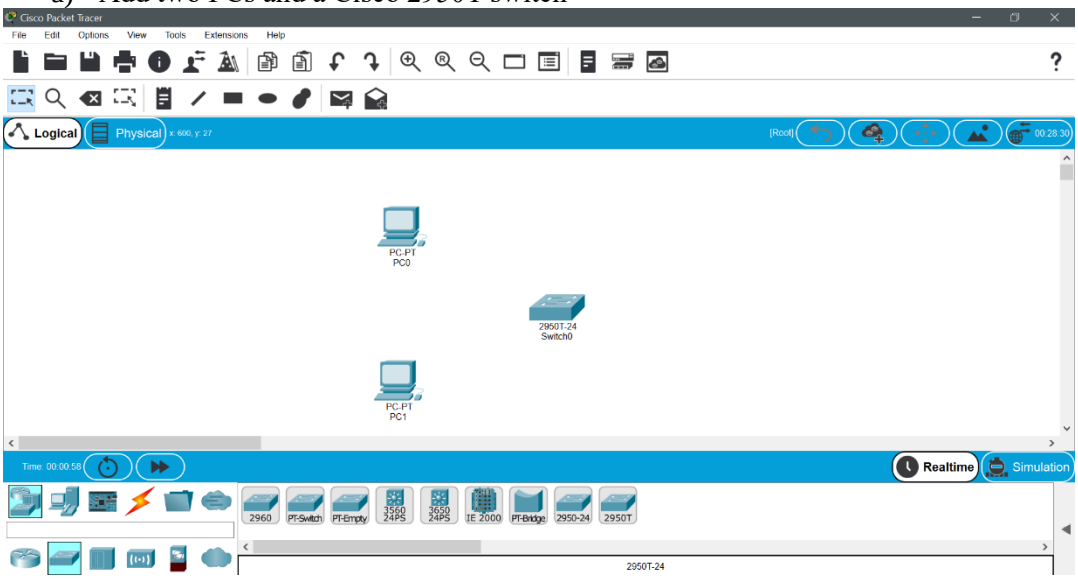
Objective:
Prototype a network using Packet Tracer

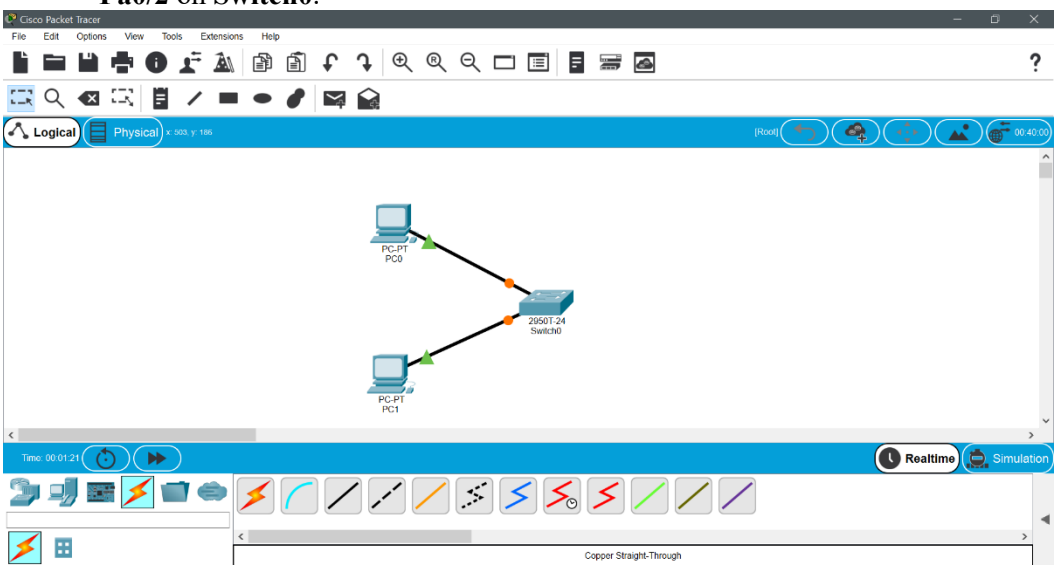
Background
A client has requested that you set up a simple network with two PCs connected to a switch. Verify that the hardware, along with the given configurations, meet the requirements of the client.

Step 1: Set up the network topology

a) Add two PCs and a Cisco 2950T switch

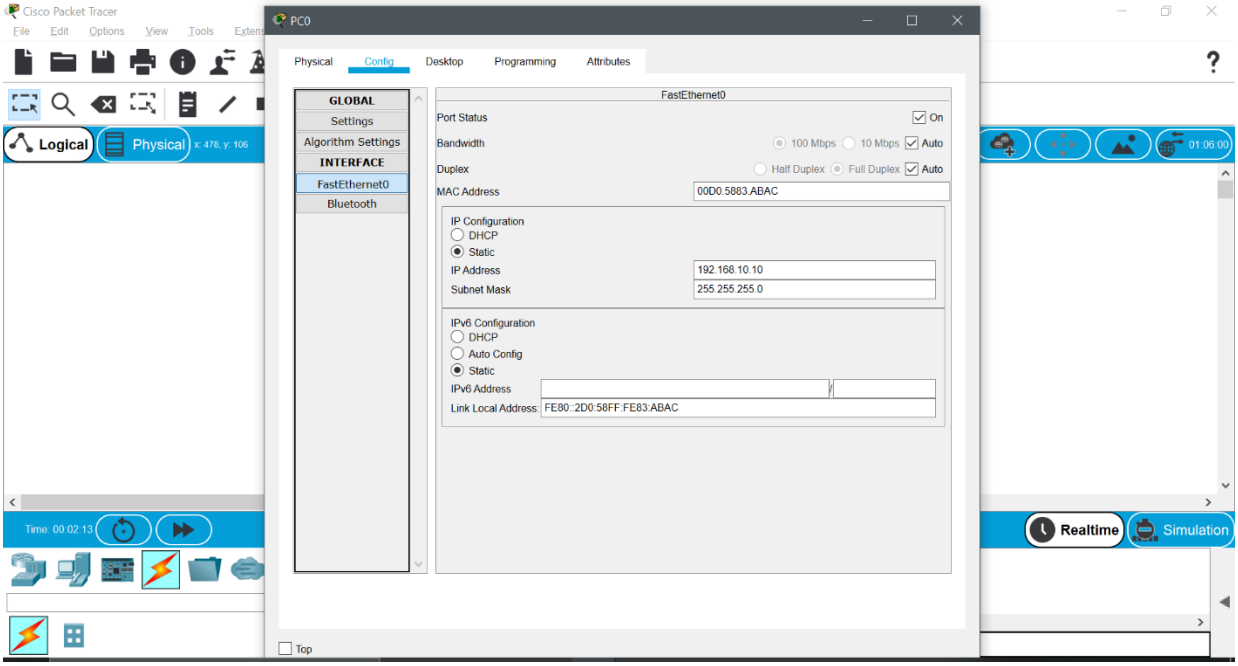


b) Using straight-through cables, connect **PC0** to interface **Fa0/1** on **Switch0** and **PC1** to interface **Fa0/2** on **Switch0**.



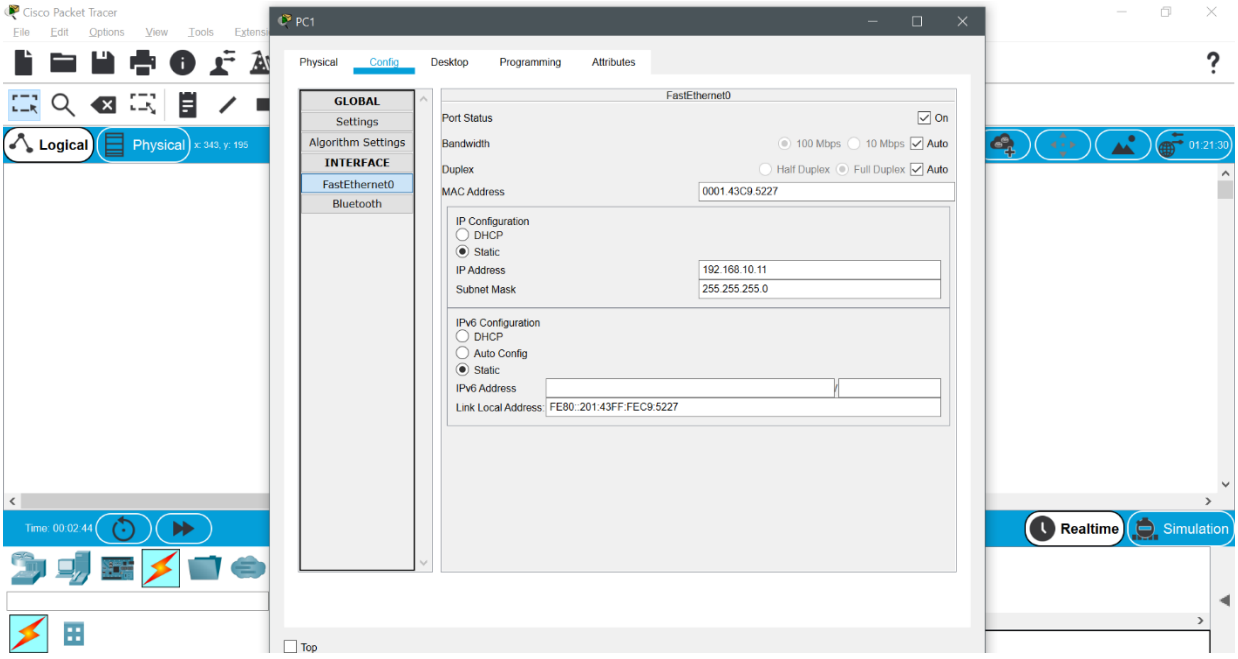
c) Configure PC0 using the **Config** tab in the PC0 configuration window:

a. IP address: 192.168.10.10
b. Subnet Mask 255.255.255.0



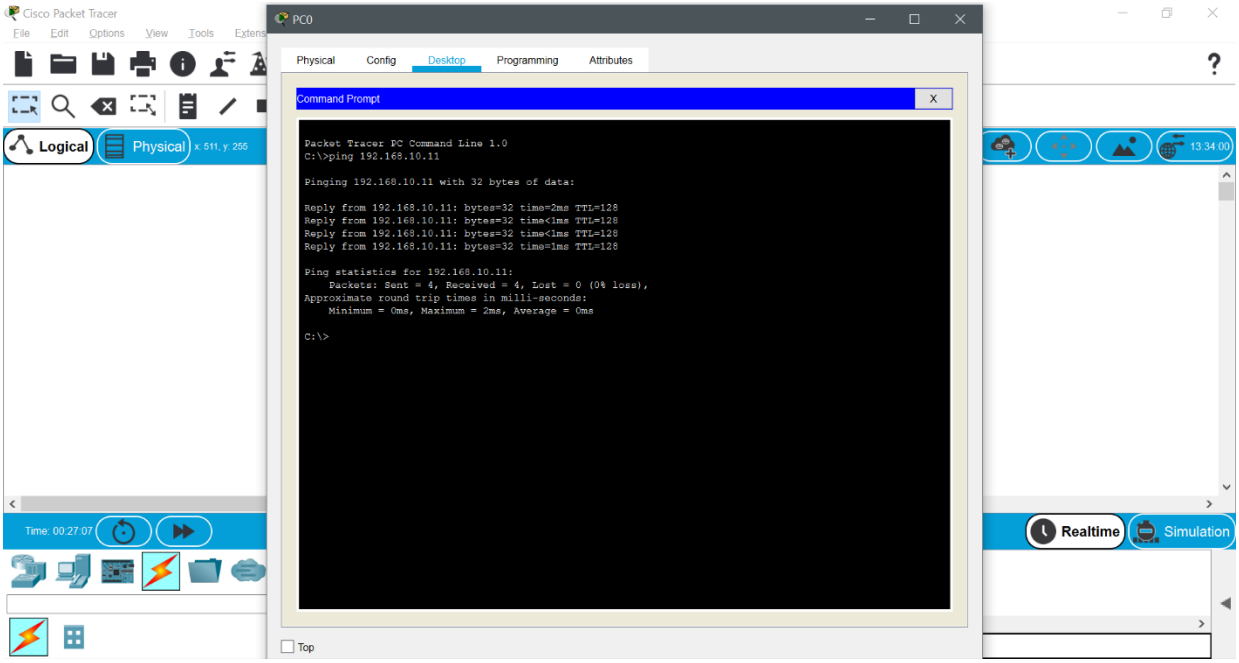
d) Configure PC1 using the **Config** tab in the PC1 configuration window

a. IP address: 192.168.10.11
b. Subnet Mask 255.255.255.0



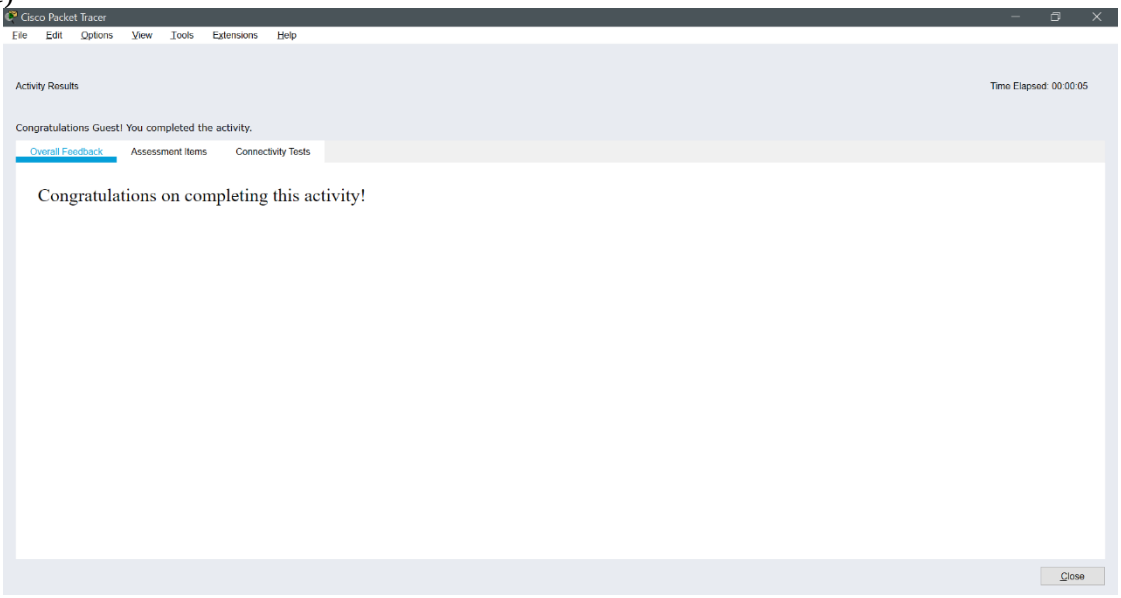
Step 2: Test connectivity from PC0 to PC1

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*
   e.



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.
e)



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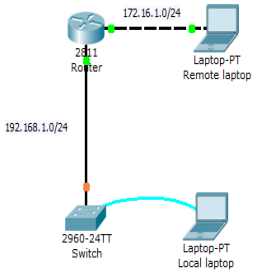
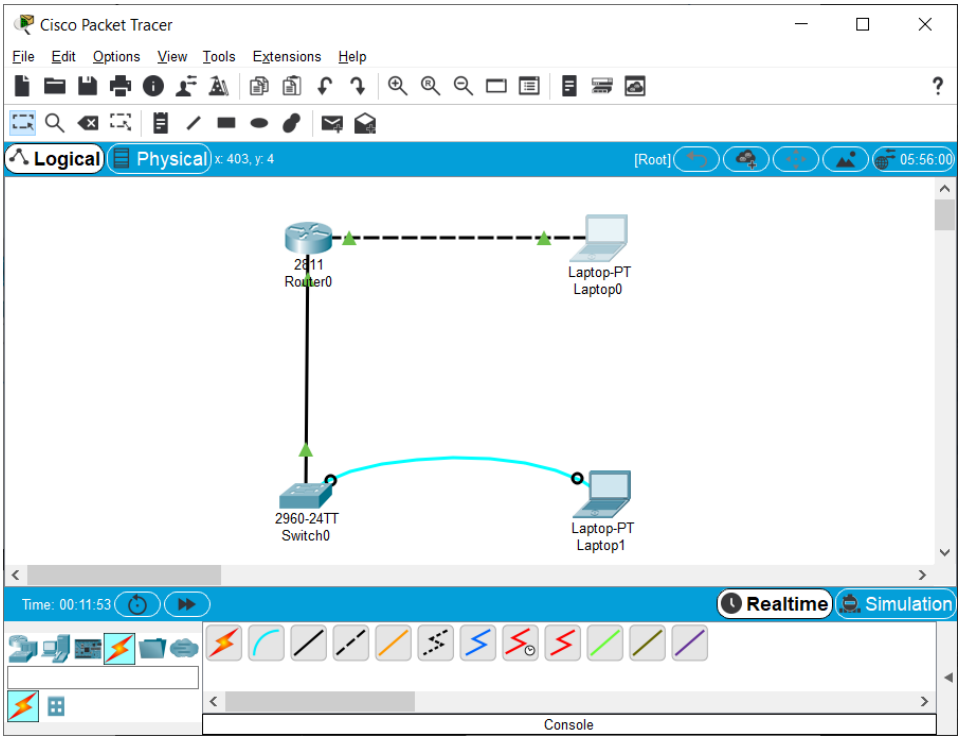
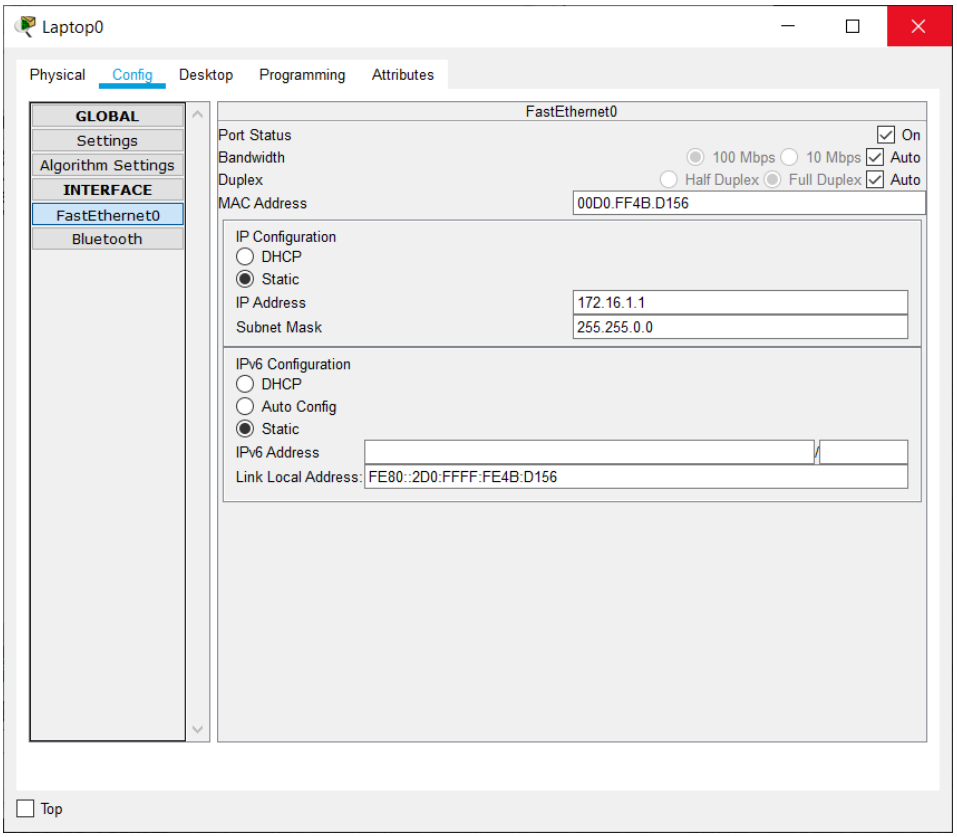
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

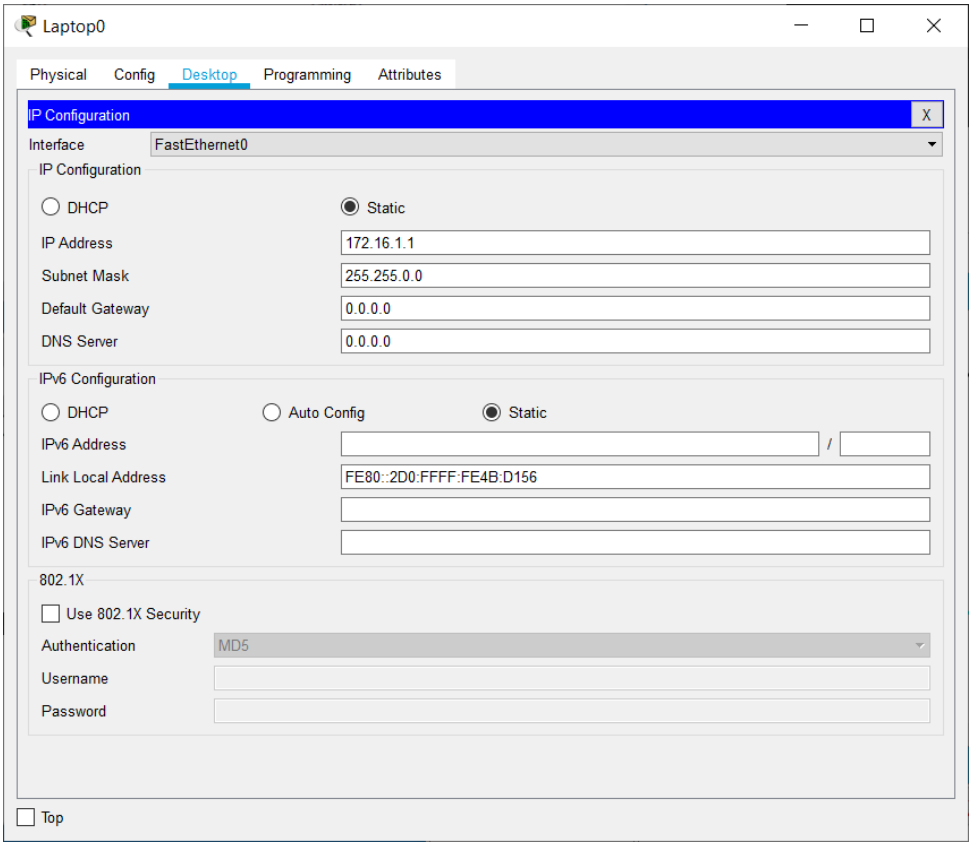
Objective:
This lab will test your ability to configure basic settings such as hostname, motd banner, encrypted passwords, and terminal options on a Packet Tracer 6.2 simulated Cisco Catalyst switch.

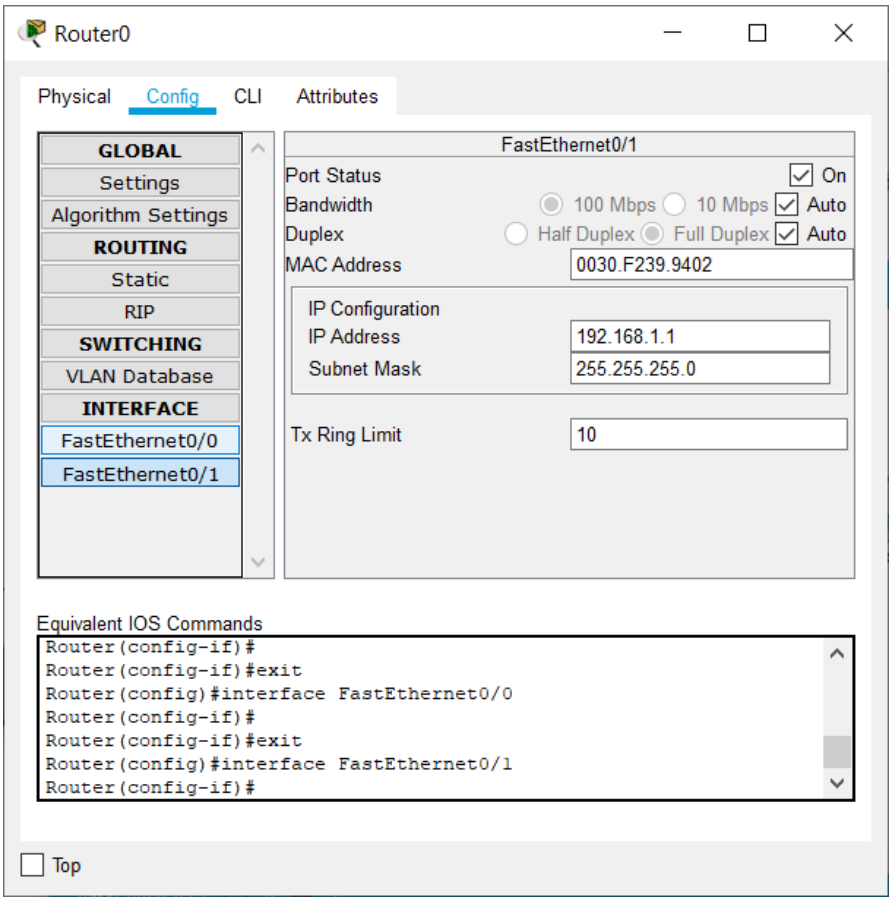


1. Use the local laptop connect to the switch console.

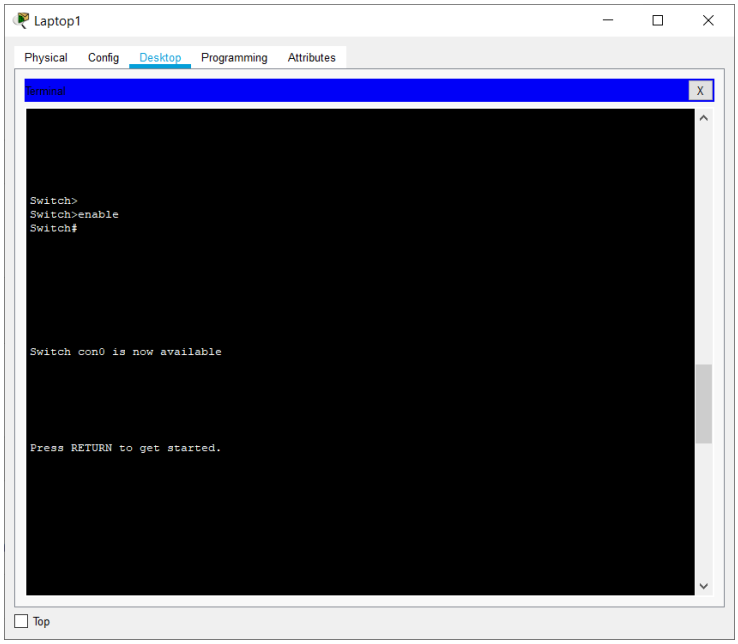


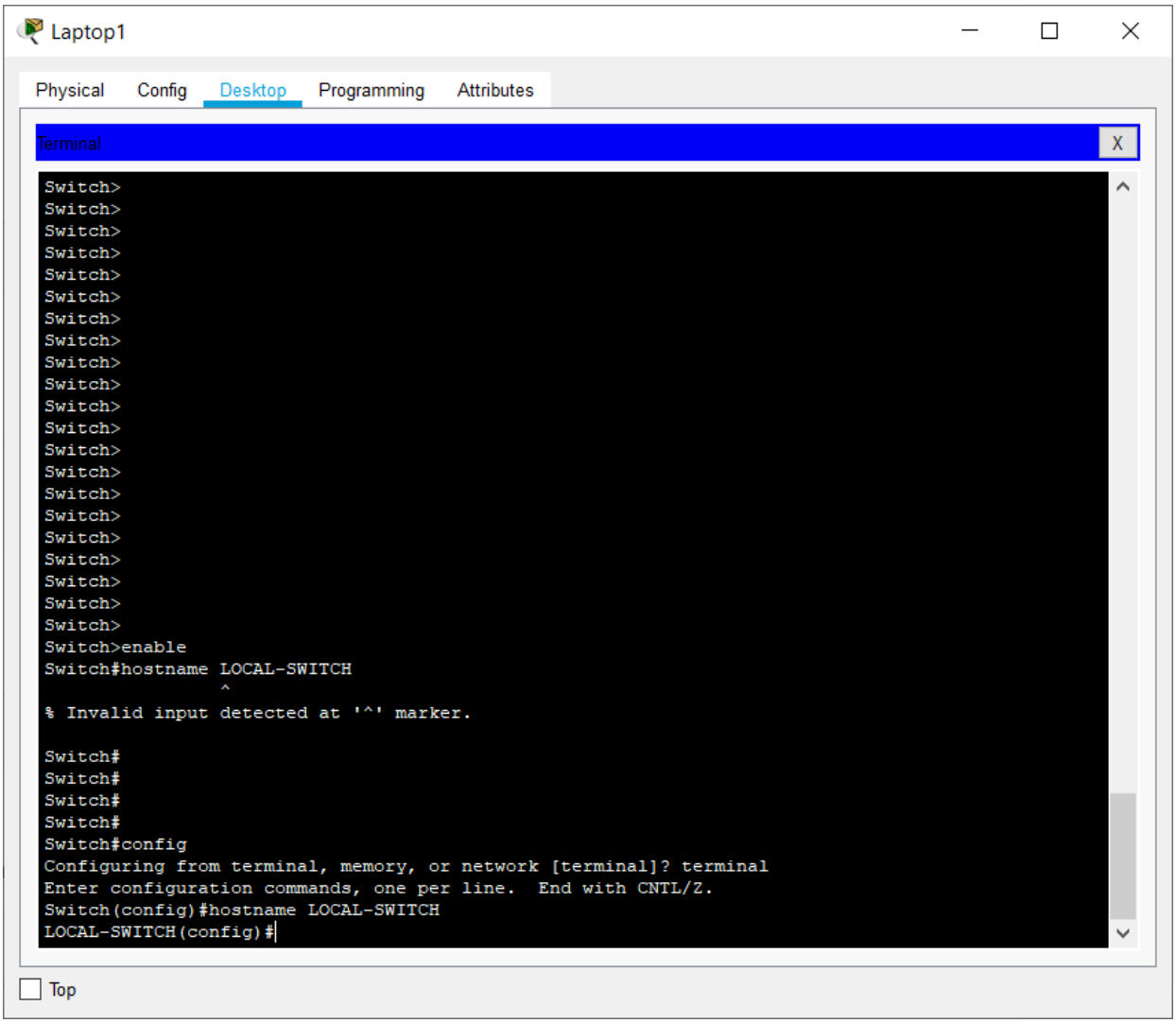

Laptop0
Physical
Config
Desktop
Programming
Attributes
GLOBAL
Settings
Algorithm Settings
INTERFACE
FastEthernet0
Bluetooth
FastEthernet0
Port Status
On
Bandwidth
100 Mbps
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
MAC Address
00D0.FF4B.D156
IP Configuration
DHCP
Static
IP Address
172.16.1.1
Subnet Mask
255.255.0.0
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address:
FE80::2D0:FFFF:FE4B:D156
Top


Laptop0
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IP Address
172.16.1.1
Subnet Mask
255.255.0.0
Default Gateway
0.0.0.0
DNS Server
0.0.0.0
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::2D0:FFFF:FE4B:D156
IPv6 Gateway
IPv6 DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top

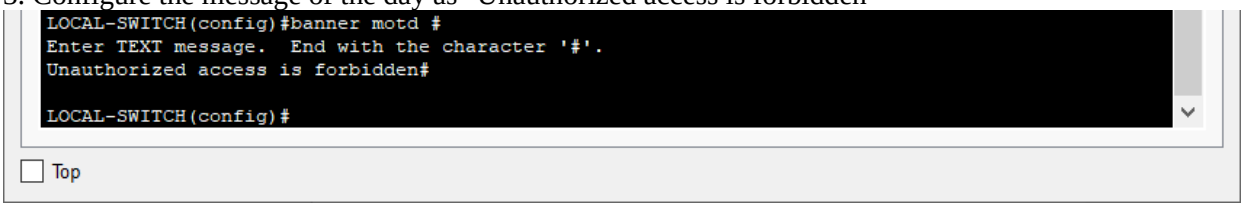


2. Configure Switch hostname as LOCAL-SWITCH





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

```
LOCAL-SWITCH(config)#service password-encryption
LOCAL-SWITCH(config)#
```

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

```
LOCAL-SWITCH(config)#service password-encryption
LOCAL-SWITCH(config)#line con 0
LOCAL-SWITCH(config-line)#password cisco
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)#
```

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

```
LOCAL-SWITCH(config-line)#line vty 0 15
LOCAL-SWITCH(config-line)#exec-timeout 8 20
LOCAL-SWITCH(config-line)#password cisco
LOCAL-SWITCH(config-line)#logging synchronous
LOCAL-SWITCH(config-line)#login
LOCAL-SWITCH(config-line)#history size 15
LOCAL-SWITCH(config-line)#
```

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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-SWITCH(config-line)#interface Vlan1
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
```

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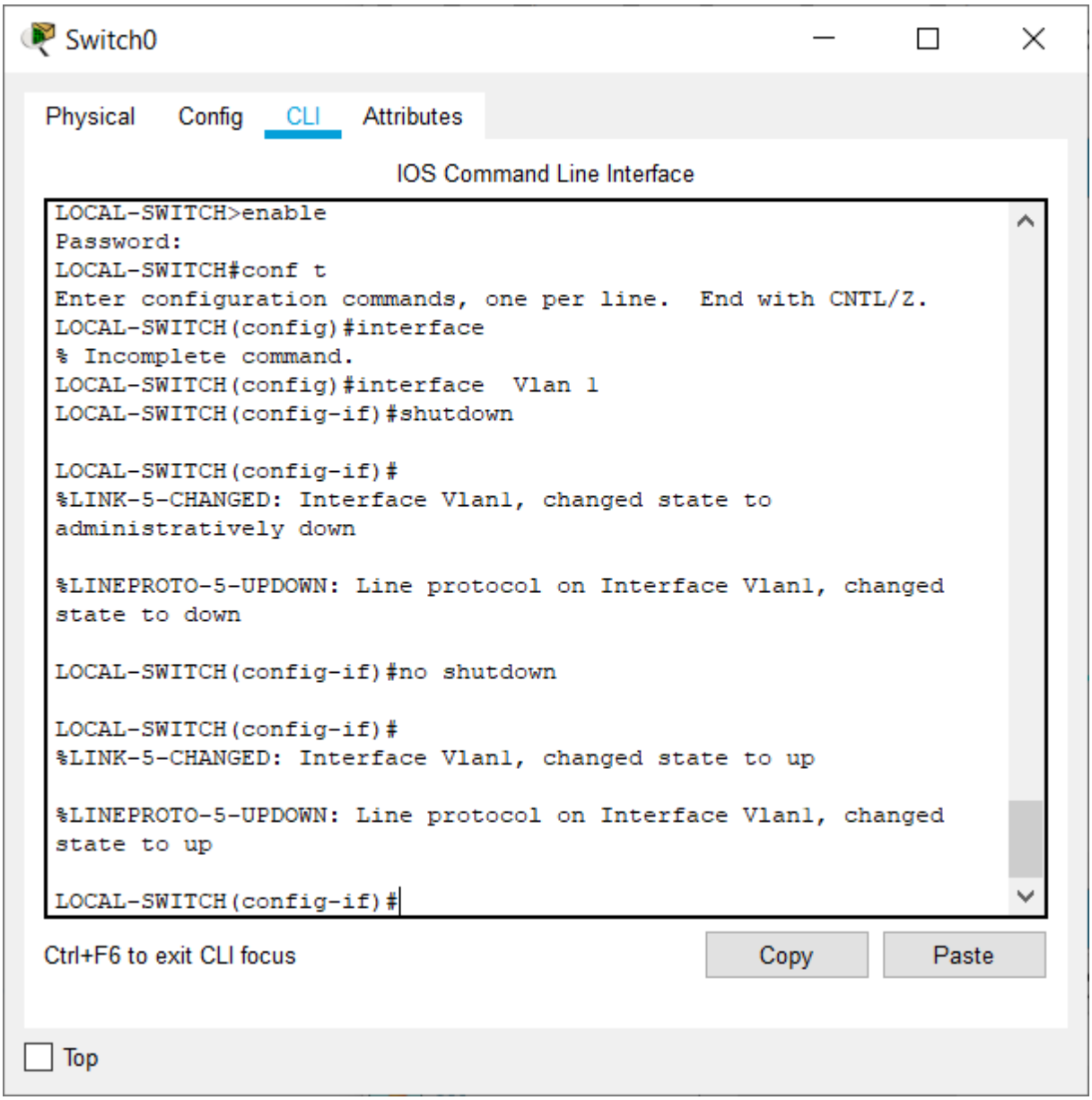
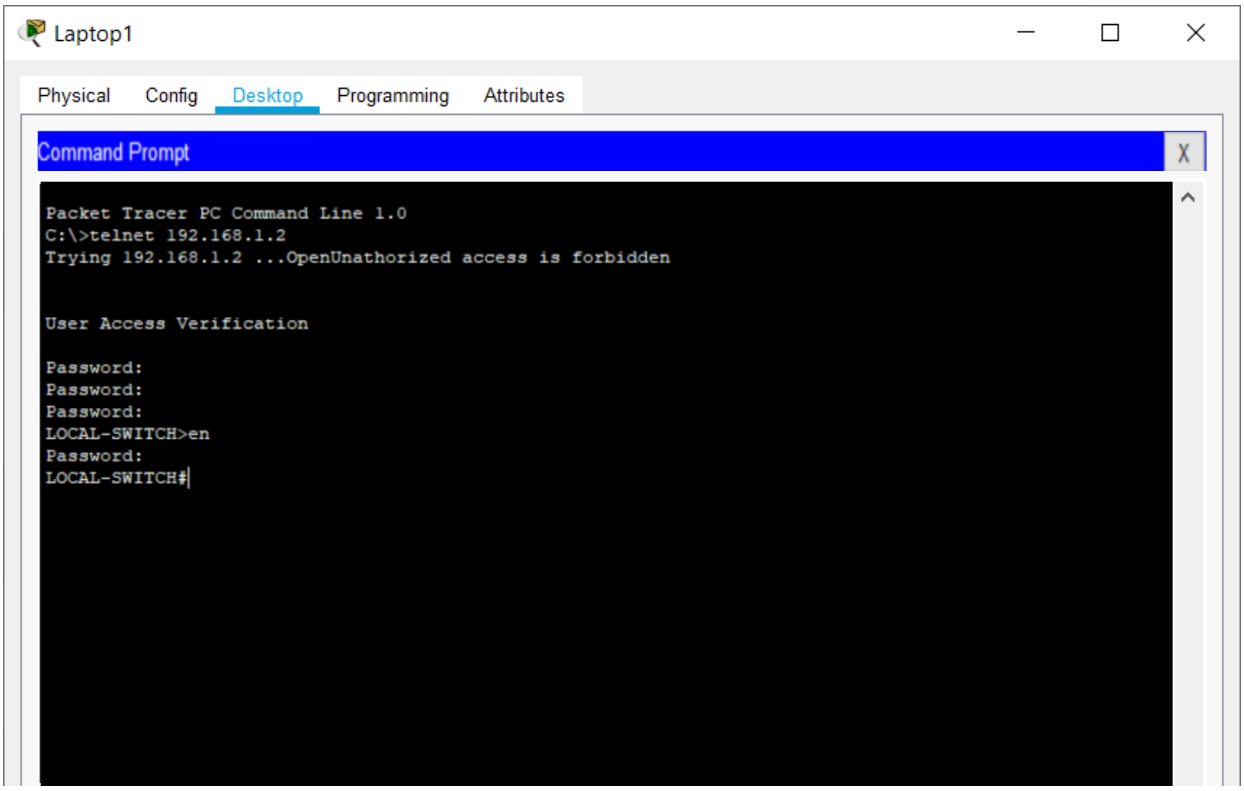
8. Test telnet connectivity from the Remote Laptop using the telnet client.


Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#conf t
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#interface
% Incomplete command.
LOCAL-SWITCH(config)#interface Vlan 1
LOCAL-SWITCH(config-if)#shutdown
LOCAL-SWITCH(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to
administratively down
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed
state to down
LOCAL-SWITCH(config-if)#no shutdown
LOCAL-SWITCH(config-if)#
%LINK-5-CHANGED: Interface Vlan1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed
state to up
LOCAL-SWITCH(config-if)#
Ctrl+F6 to exit CLI focus
Copy
Paste
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.