Name: Ishita Badole Date: 05/09/2020
Class: T.E. Computers
Batch: A
Roll No: 3
UID No: 2018130001

CEL 51, DCCN, Monsoon 2020

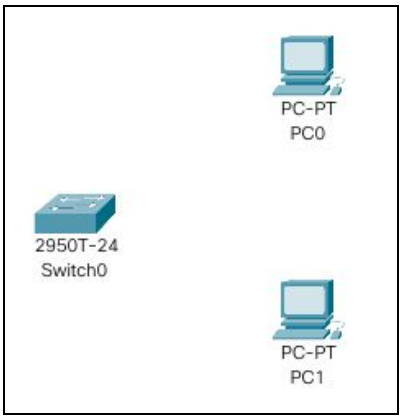
Lab 4: Prototyping a Network

Objective:
Prototype a network using Packet Tracer

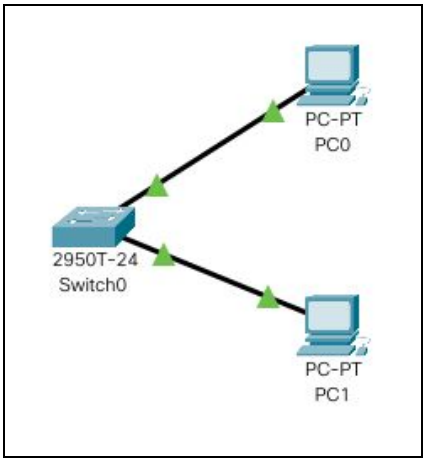
Background
A client has requested that you set up a simple network with two PCs connected to a switch. Verify that the hardware, along with the given configurations, meet the requirements of the client.

Step 1: Set up the network topology

a) Add two PCs and a Cisco 2950T switch

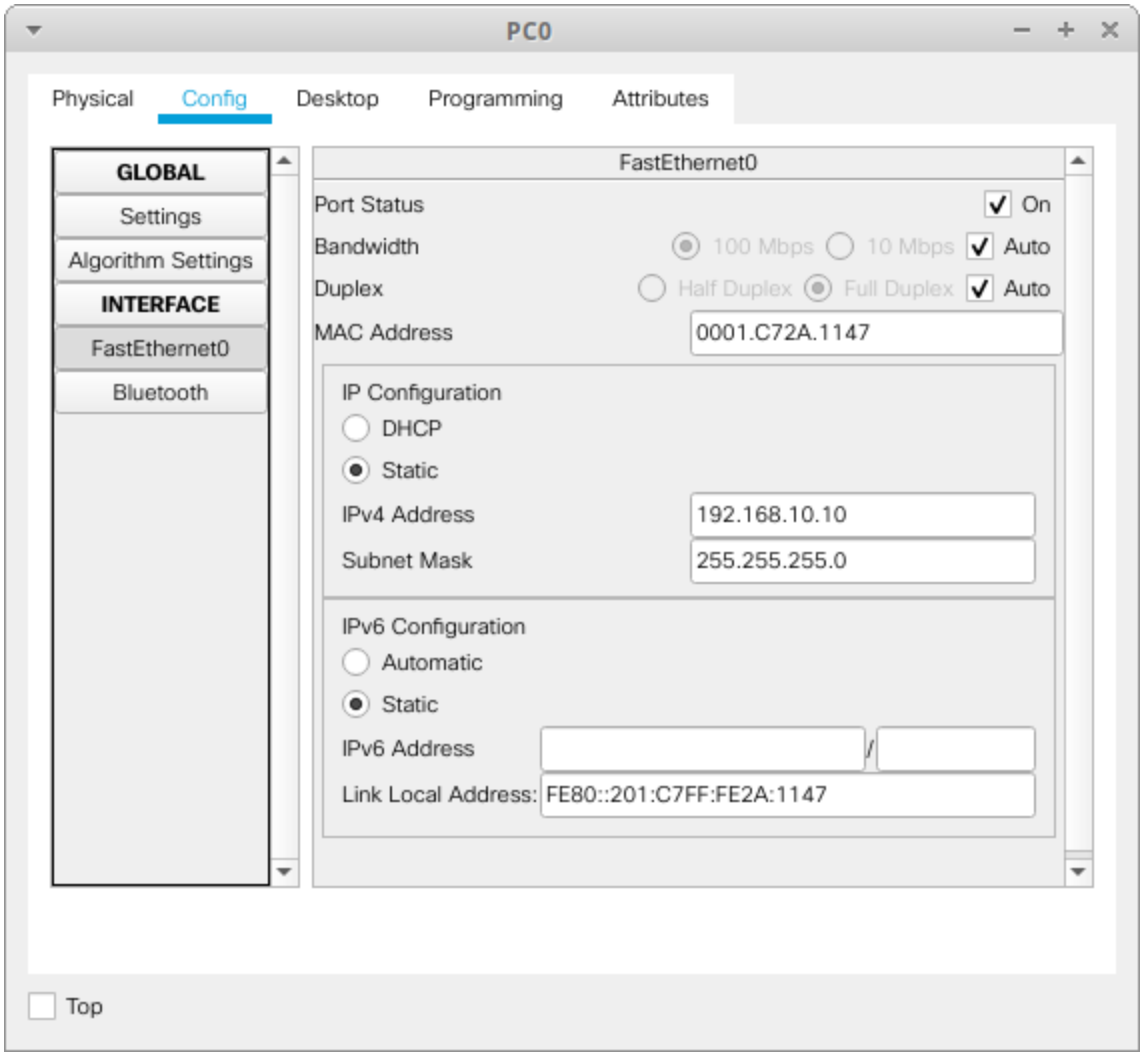


b) Using straight-through cables, connect **PC0** to interface **Fa0/1** on **Switch0** and **PC1** to interface **Fa0/2** on **Switch0**.



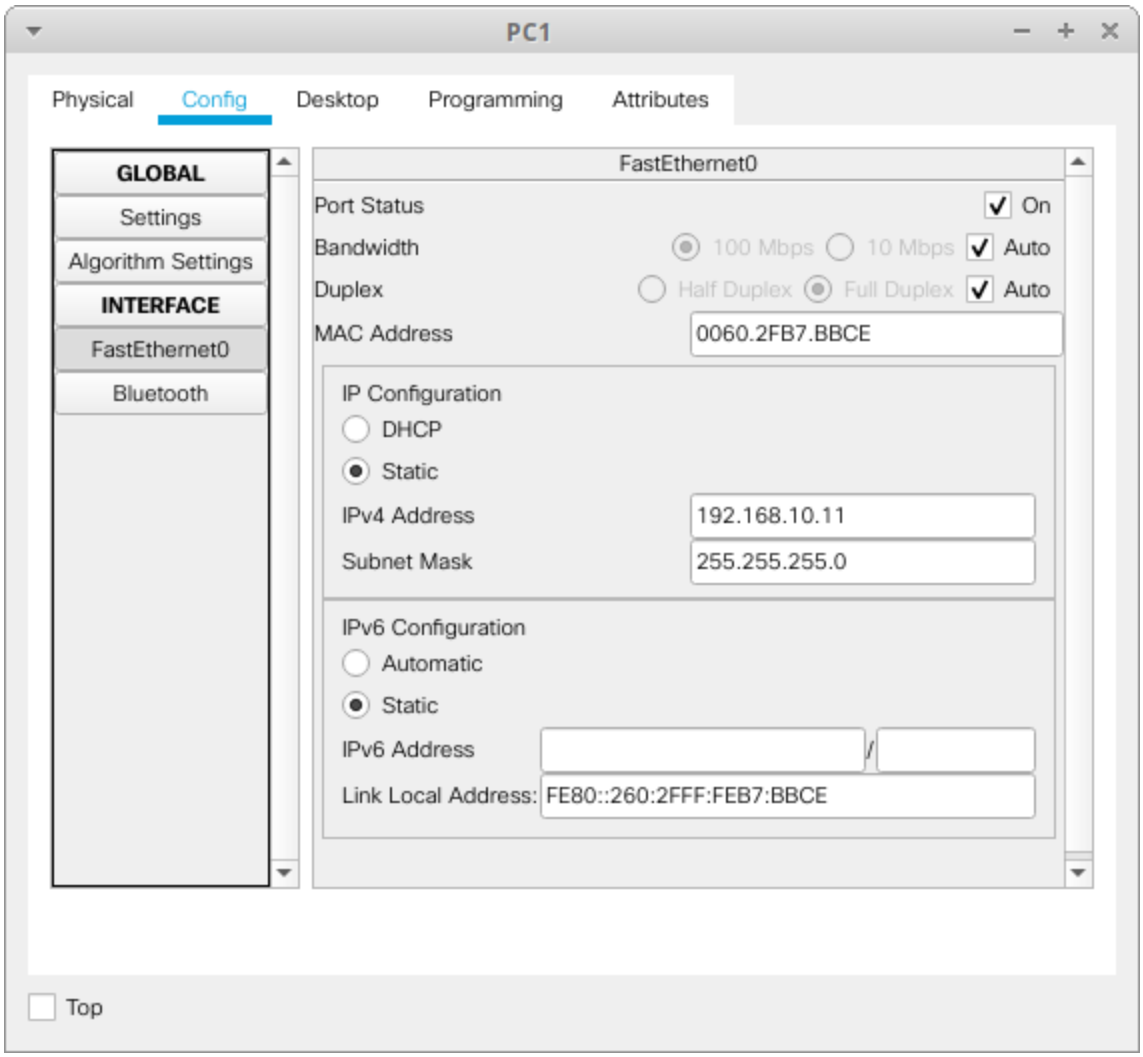
c) Configure PC0 using the **Config** tab in the PC0 configuration window:

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

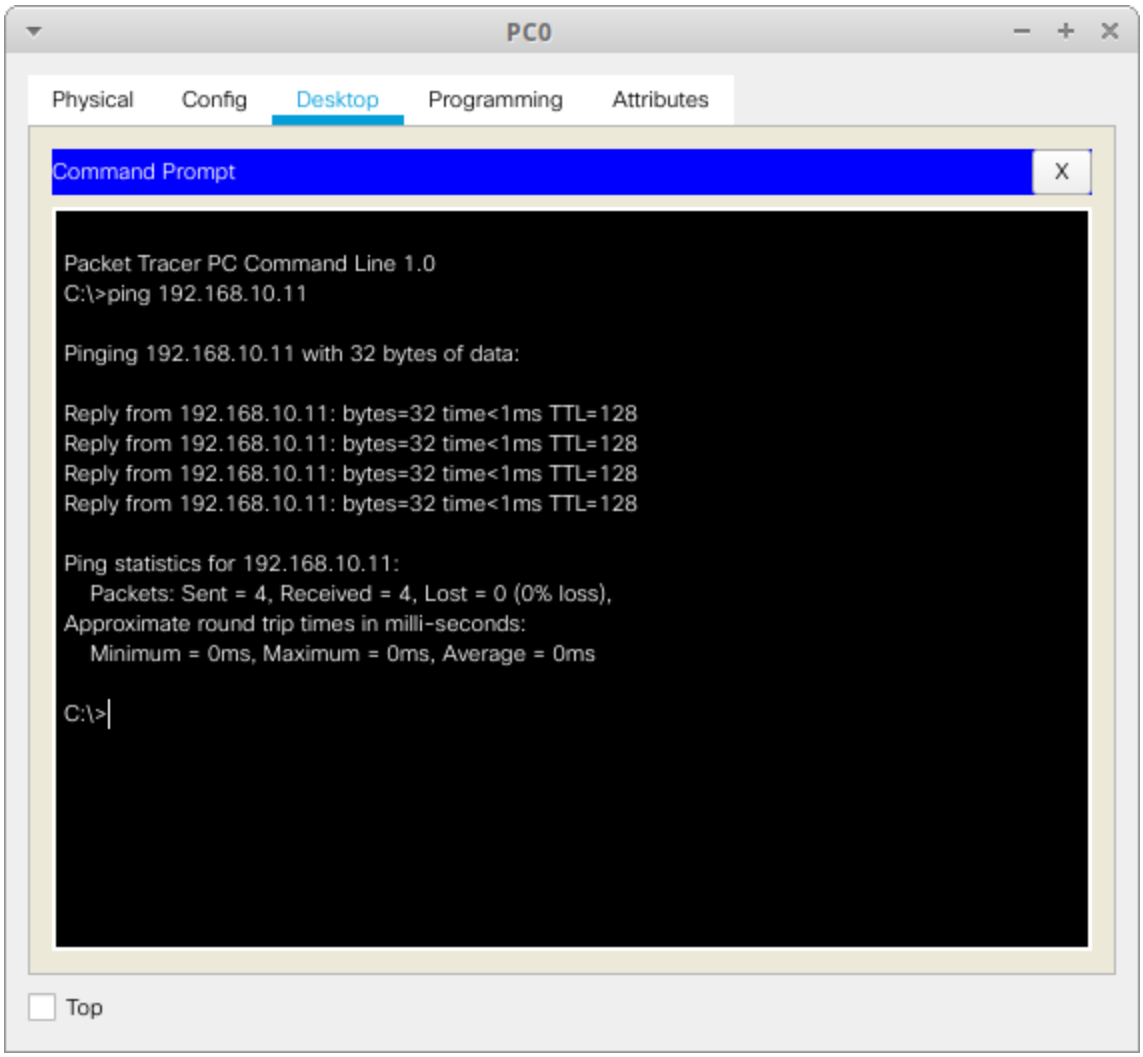
a. IP address: 192.168.10.11
b. Subnet Mask 255.255.255.0



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:

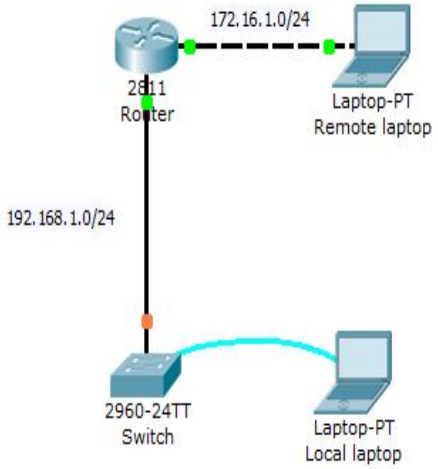


c) Close the configuration window.
d) Click the **Check Results** button at the bottom of the instruction window to check your work.

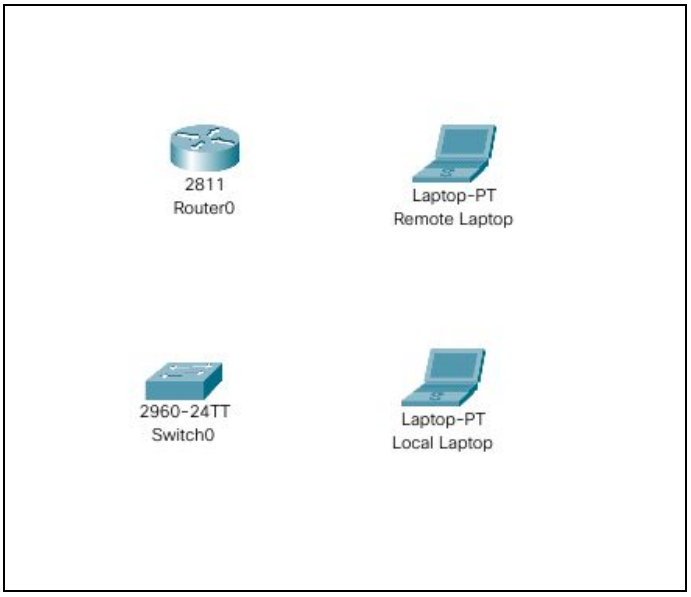
CEL51, DCCN, Monsoon 2020

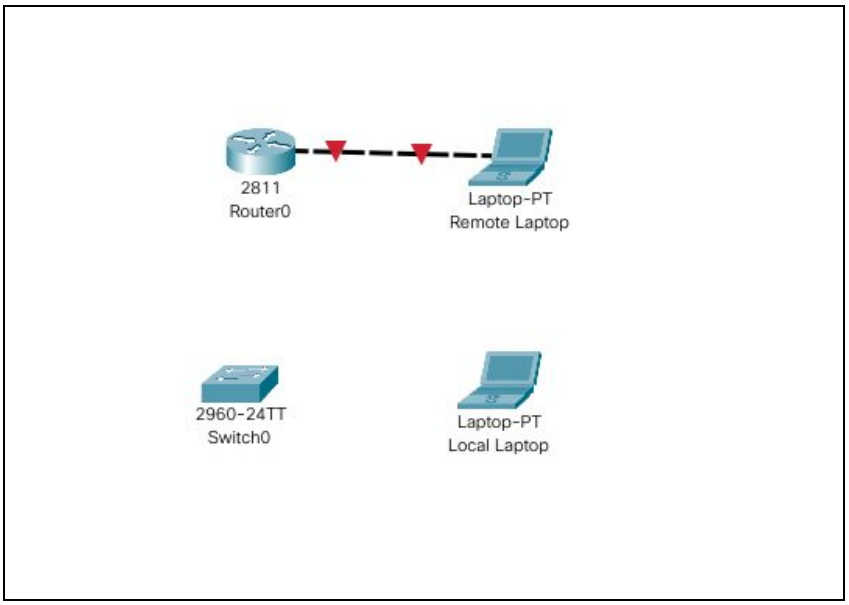
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

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.





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: 000C.CF5D.8801

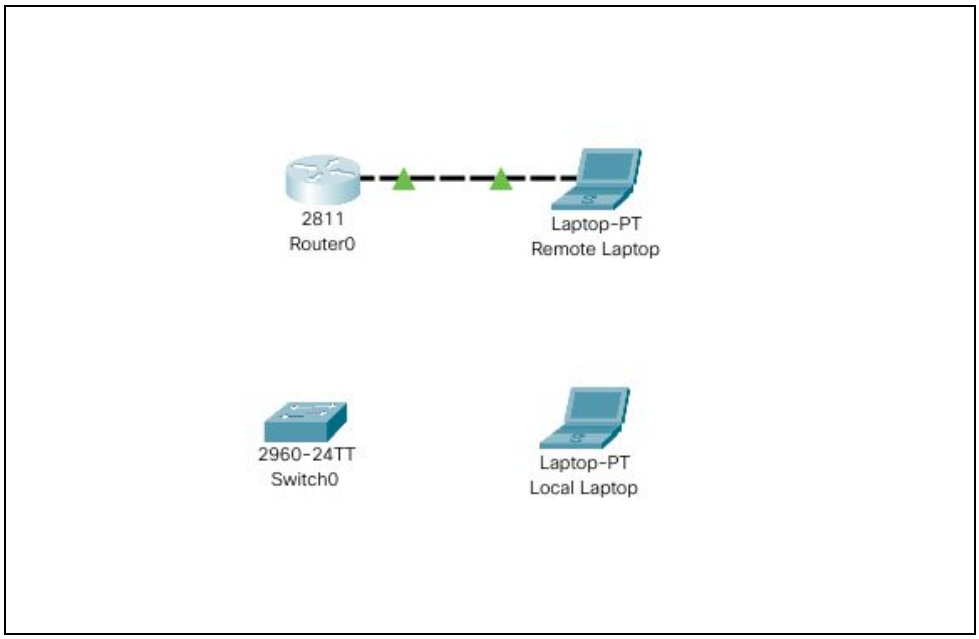
IP Configuration
IPv4 Address: 172.16.1.0
Subnet Mask: 255.255.0.0

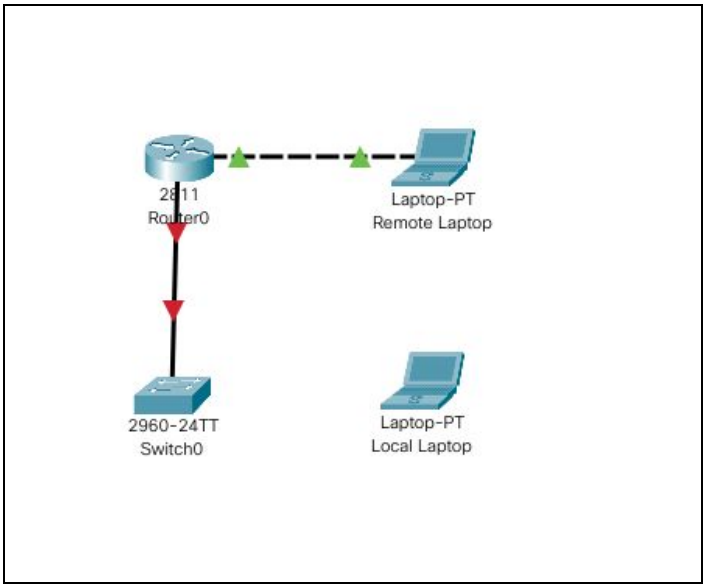
Tx Ring Limit: 10

Equivalent IOS Commands

```
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

Top


2811
Router0
Laptop-PT
Remote Laptop
2960-24TT
Switch0
Laptop-PT
Local Laptop


2811
Router0
Laptop-PT
Remote Laptop
2960-24TT
Switch0
Laptop-PT
Local Laptop

Router0

Physical | Config | CLI | Attributes

GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
FastEthernet0/0
FastEthernet0/1

FastEthernet0/1

Port Status: On
Bandwidth: 100 Mbps / 10 Mbps, Auto
Duplex: Half Duplex / Full Duplex, Auto
MAC Address: 000C.CF5D.8802

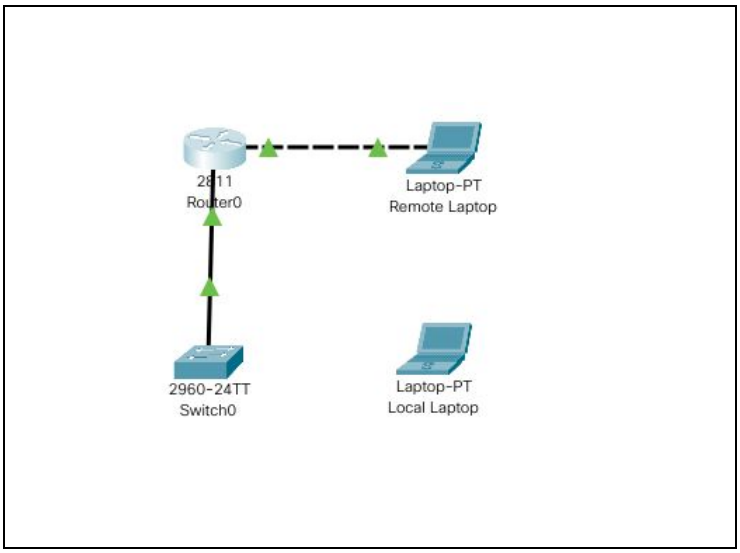
IP Configuration
IPv4 Address: 192.168.1.1
Subnet Mask: 255.255.255.0

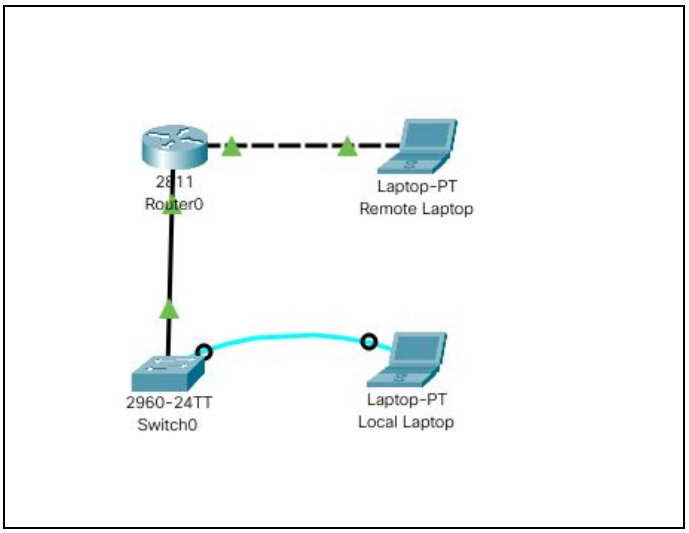
Tx Ring Limit: 10

Equivalent IOS Commands

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
ip address
% Incomplete command.
Router(config-if)#no ip address
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#
```

Top





Remote Laptop

Physical | Config | Desktop | Programming | Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

- DHCP
- Static

IPv4 Address: 172.16.1.1

Subnet Mask: 255.255.0.0

Default Gateway: 172.16.1.0

DNS Server: 0.0.0.0

IPv6 Configuration

- Automatic
- Static

IPv6 Address: /

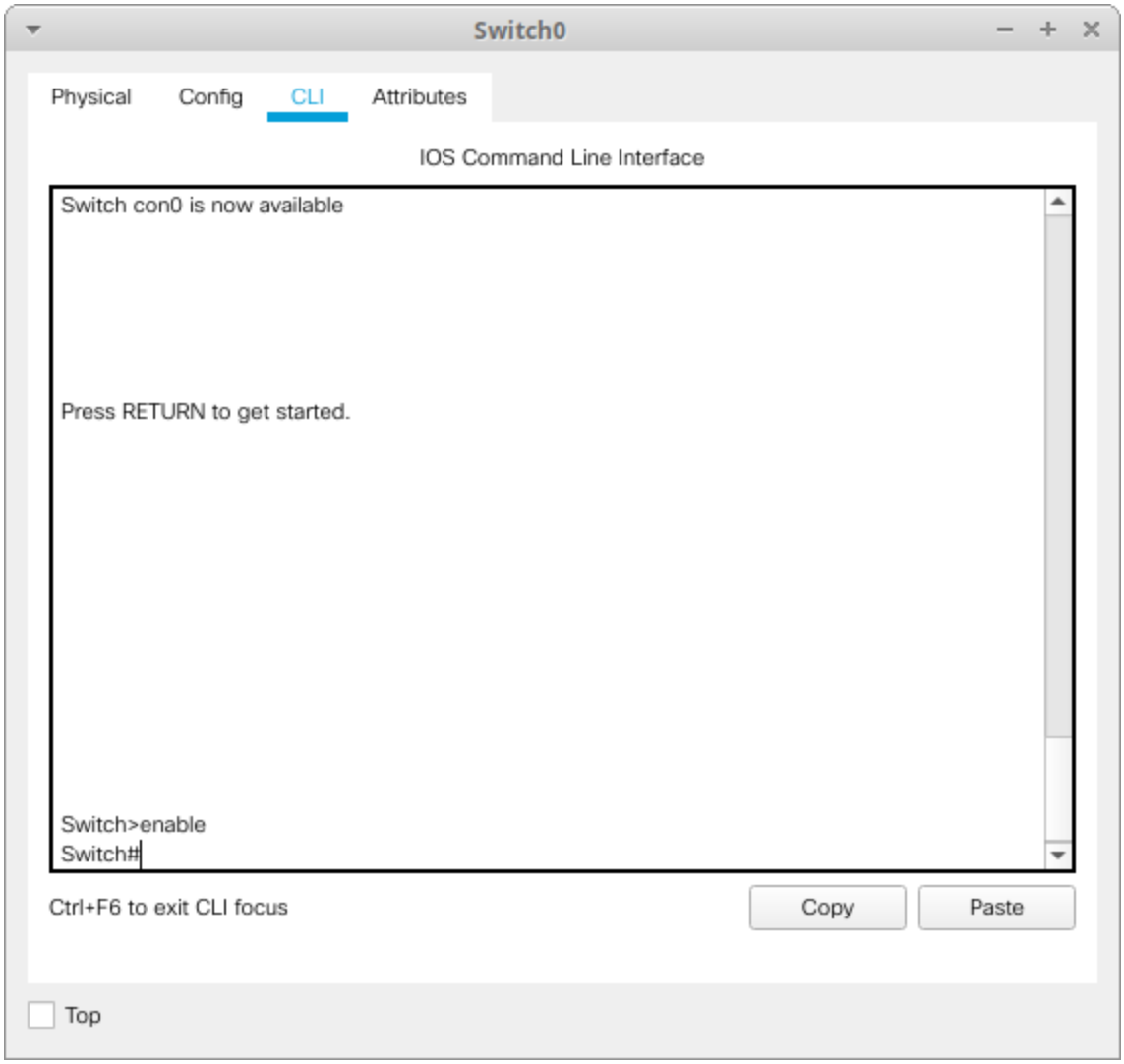
Link Local Address: FE80::240:BFF:FE70:BCBE

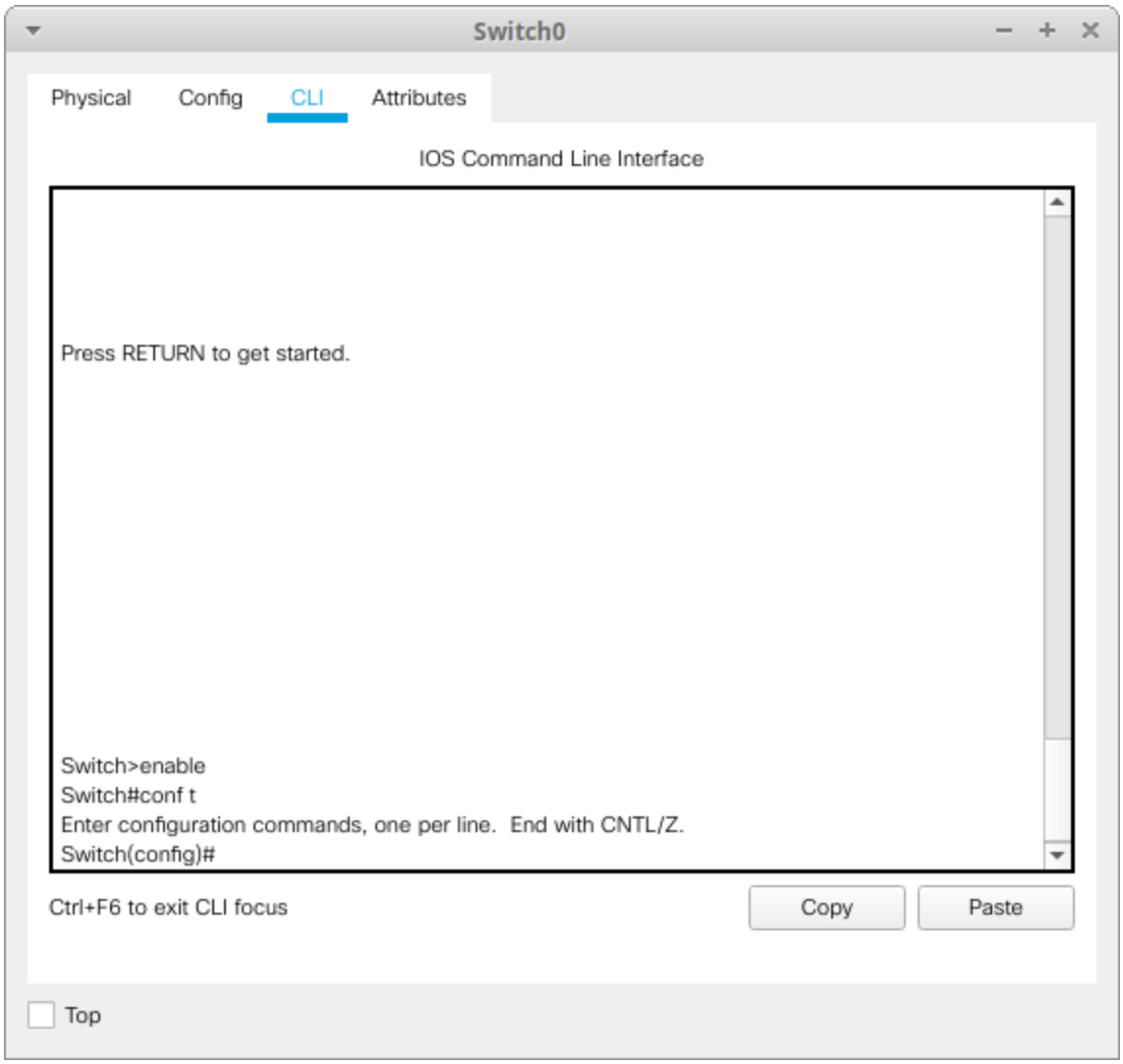
Default Gateway:

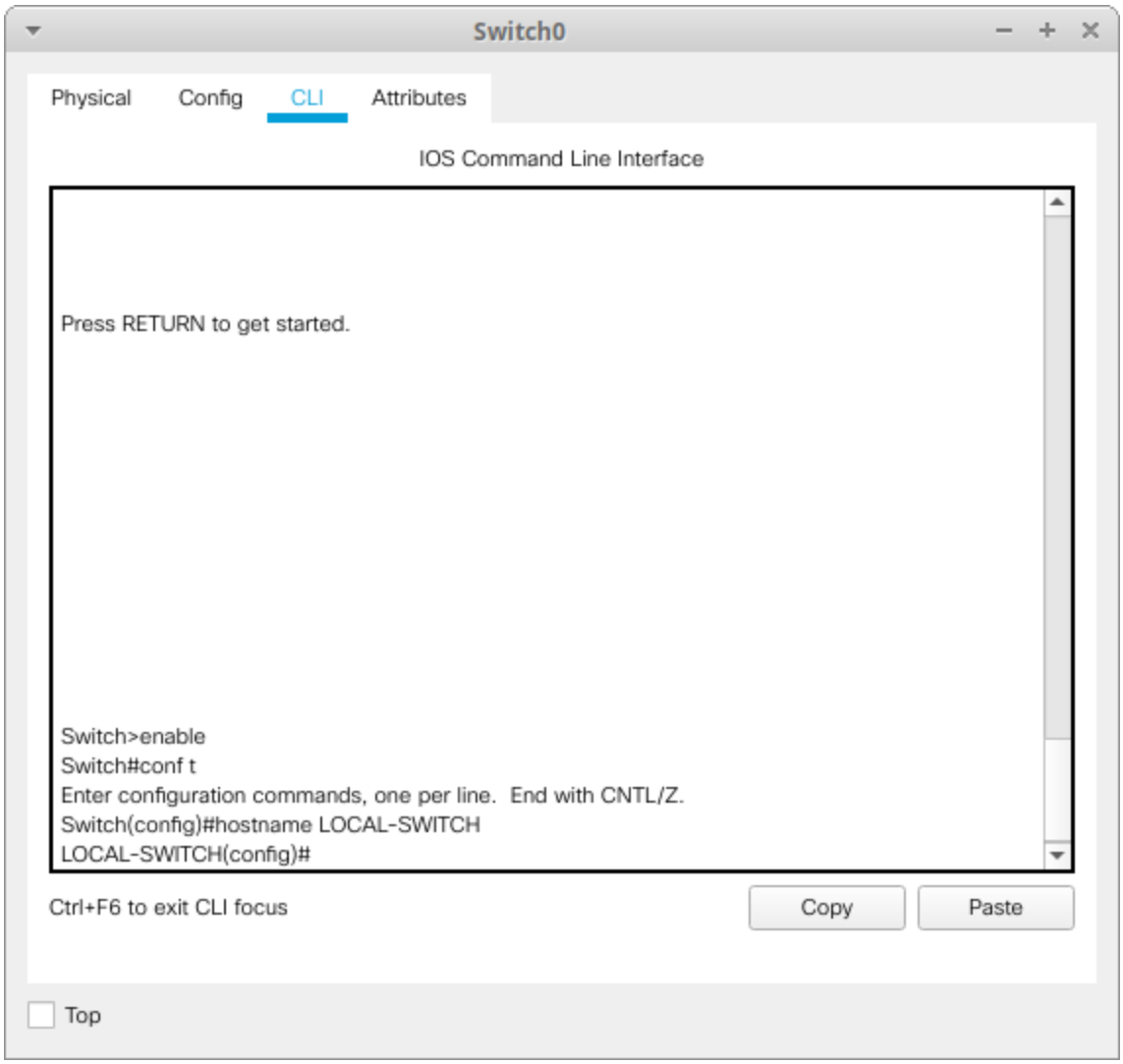
DNS Server:

Top

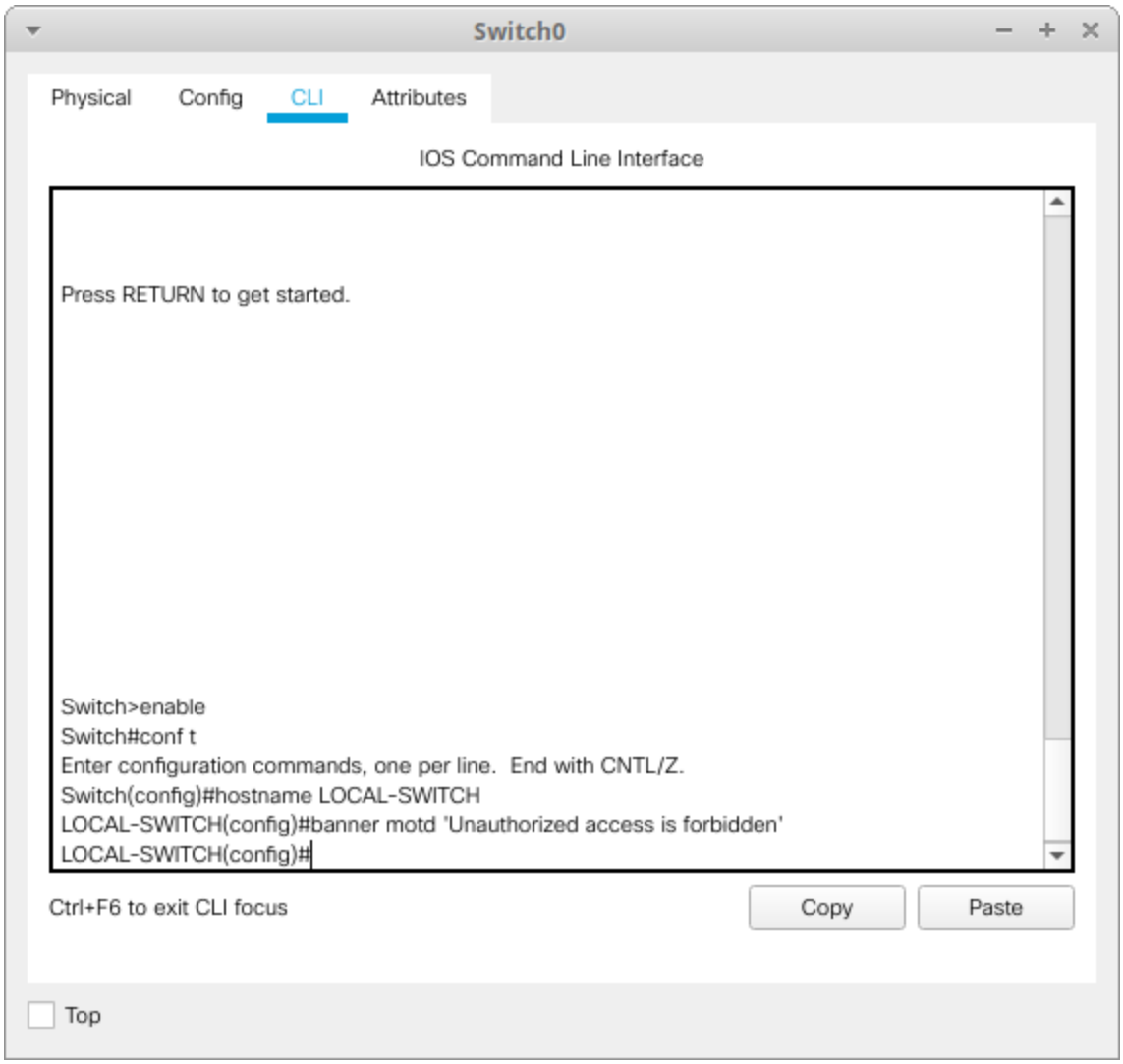
2. Configure Switch hostname as LOCAL-SWITCH

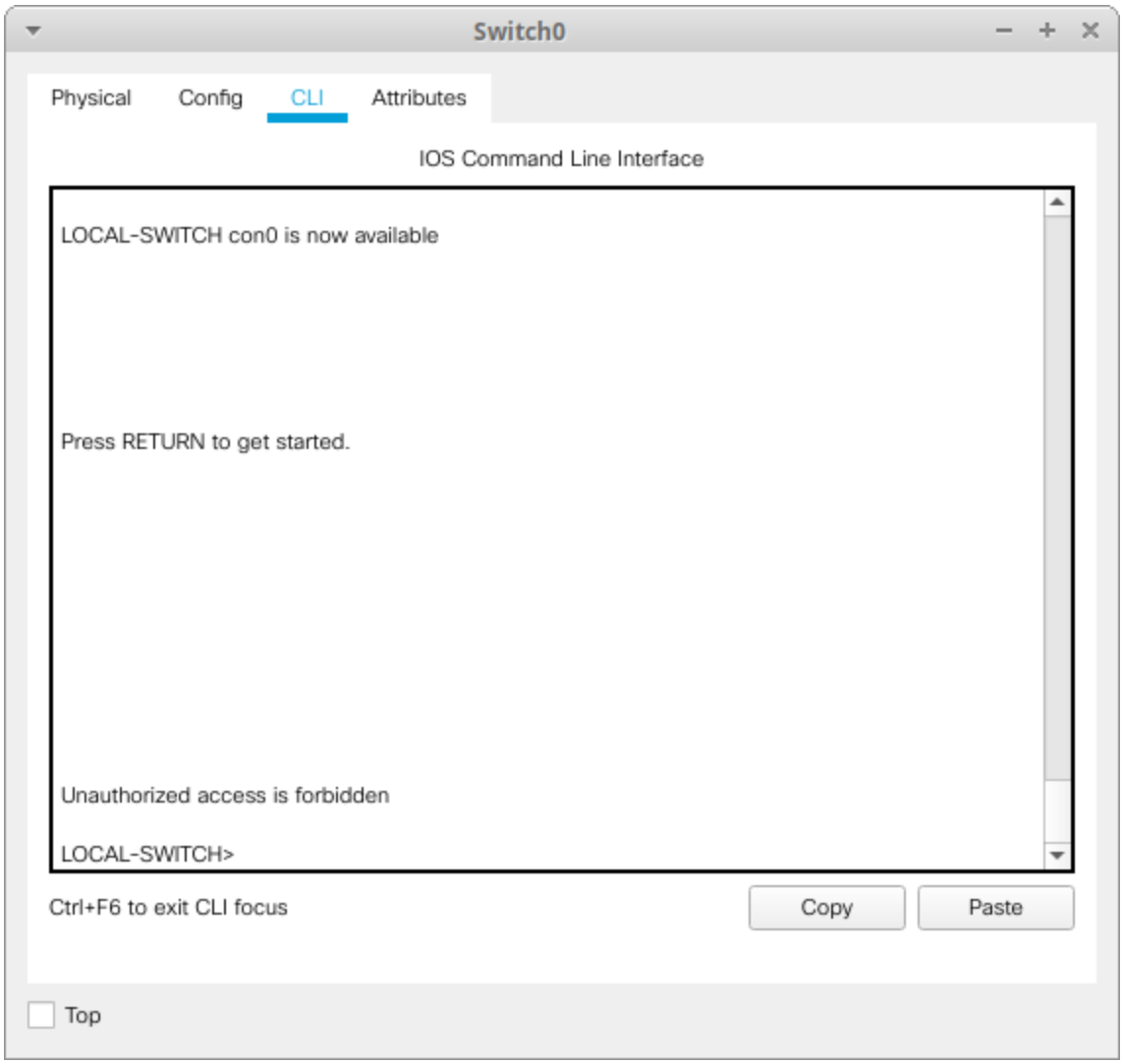



Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Press RETURN to get started.
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

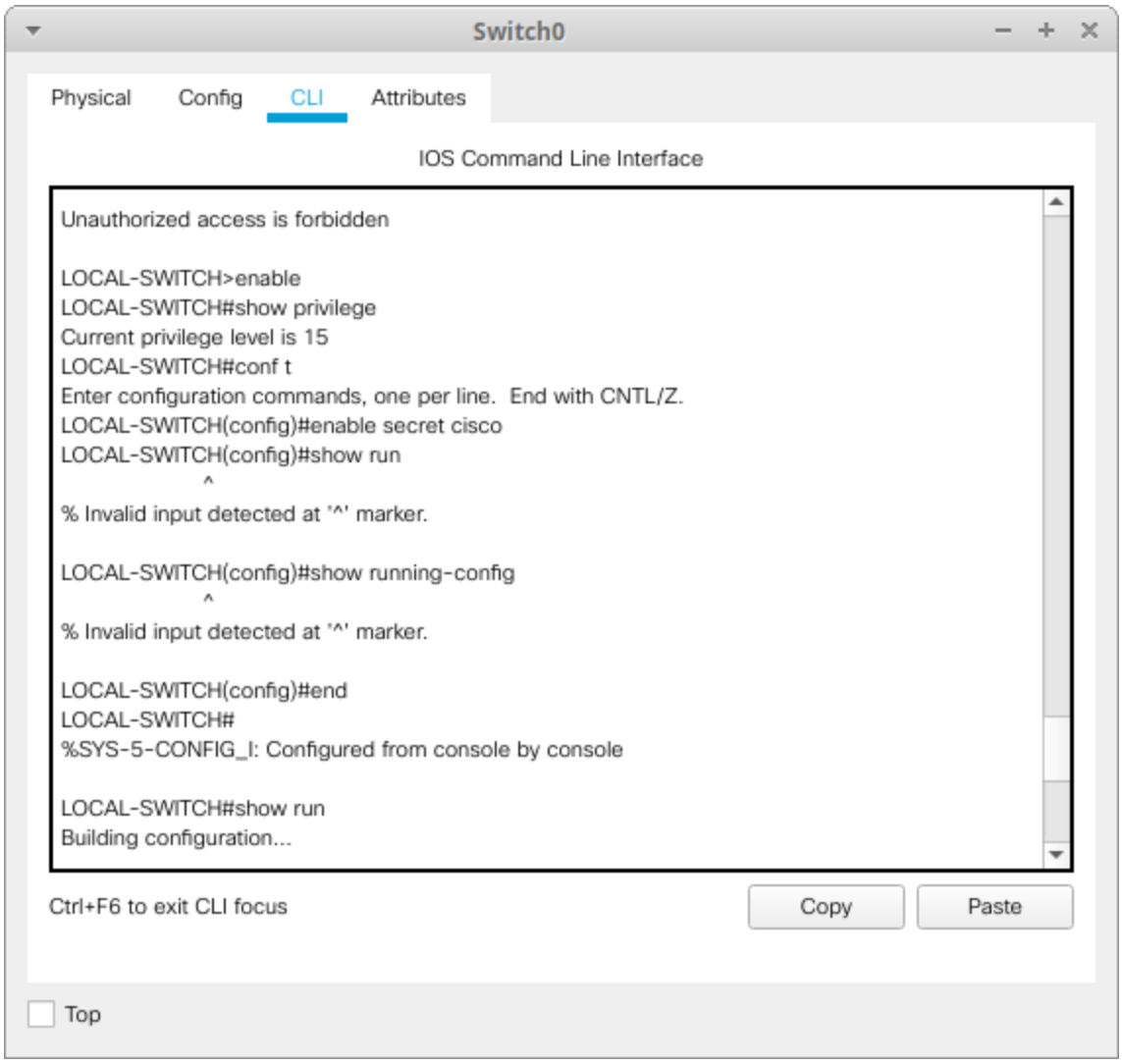


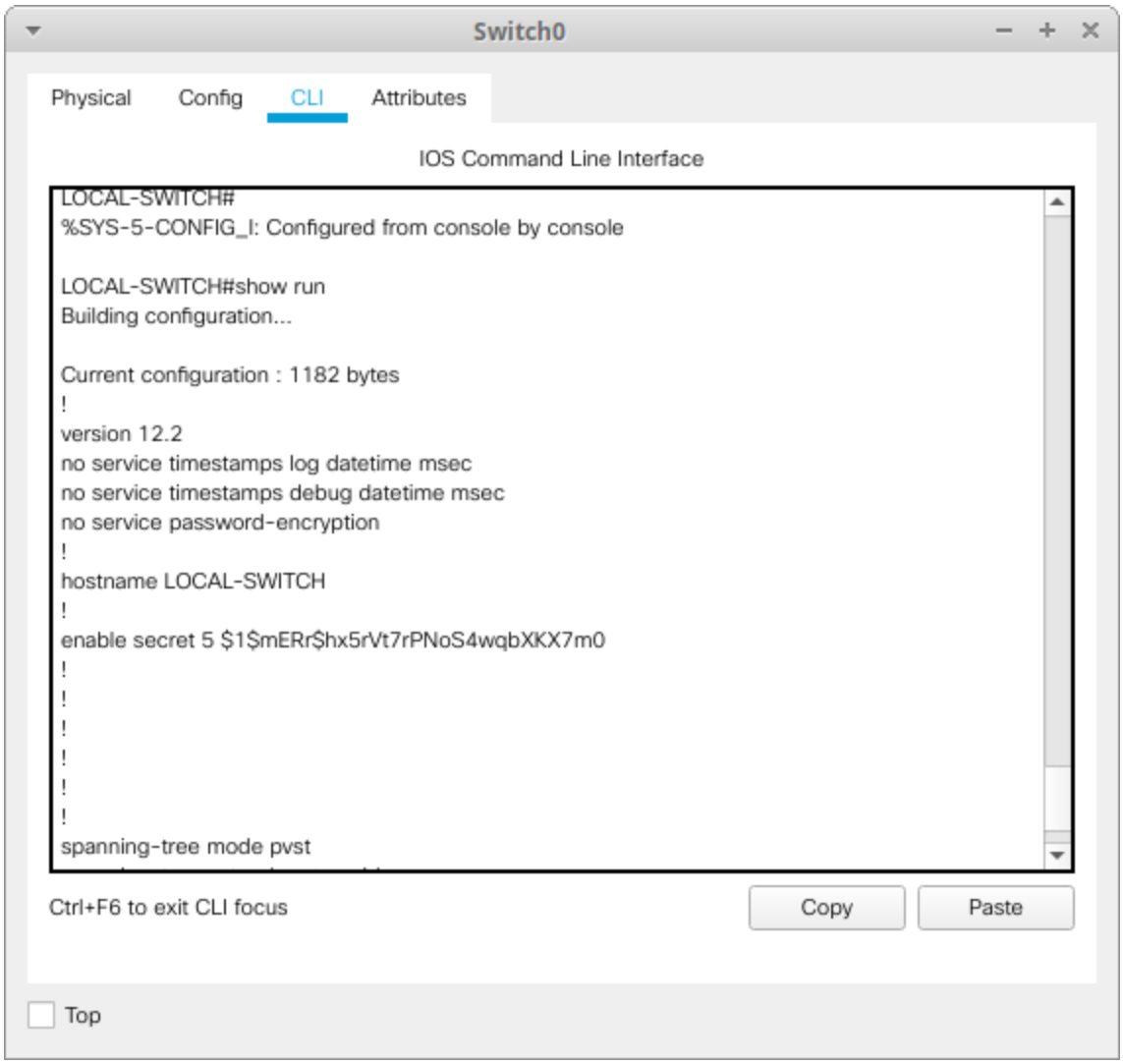
3. Configure the message of the day as "Unauthorized access is forbidden"

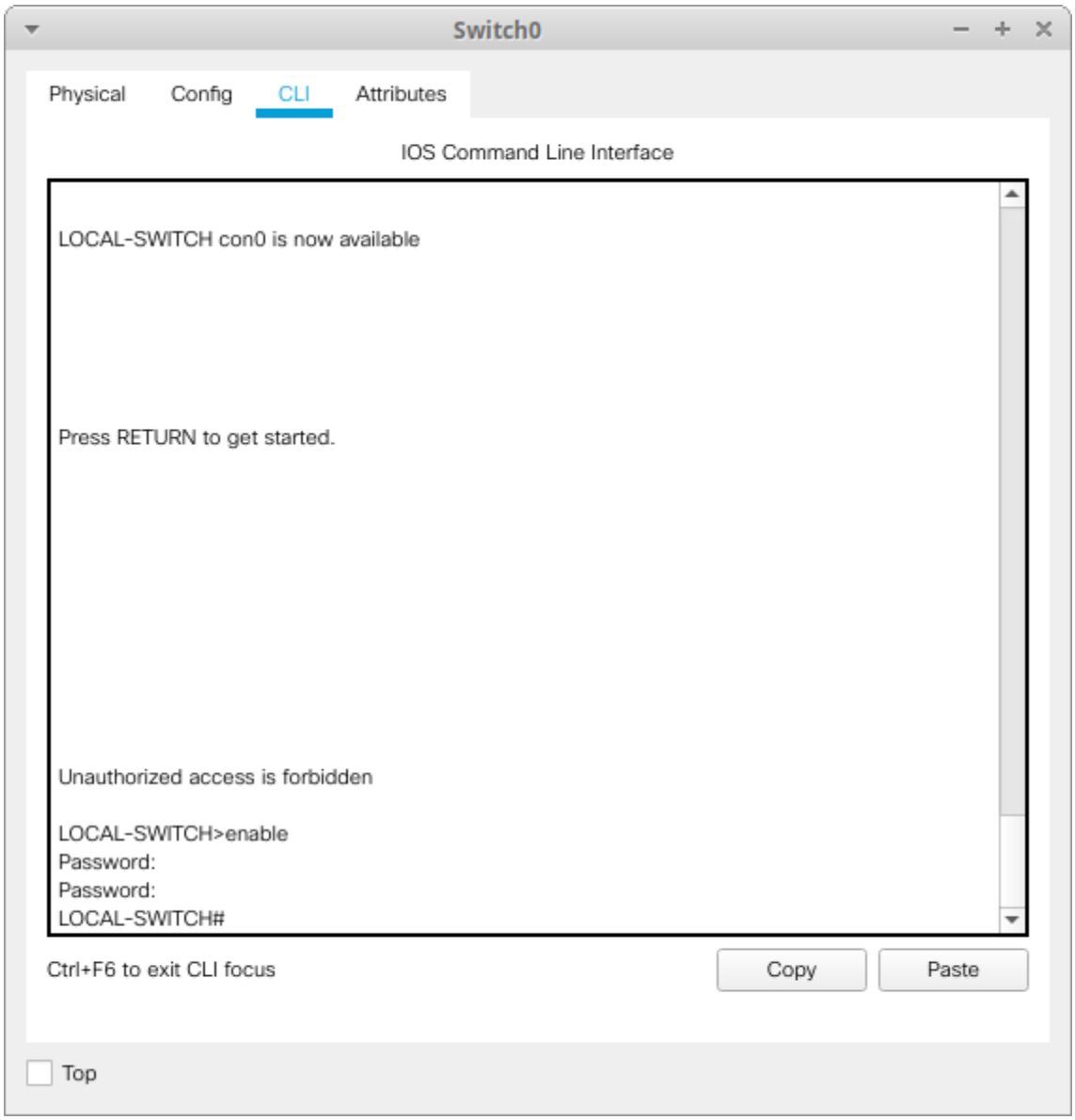

Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Press RETURN to get started.
Switch>enable
Switch#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname LOCAL-SWITCH
LOCAL-SWITCH(config)#banner motd 'Unauthorized access is forbidden'
LOCAL-SWITCH(config)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
LOCAL-SWITCH con0 is now available
Press RETURN to get started.
Unauthorized access is forbidden
LOCAL-SWITCH>
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

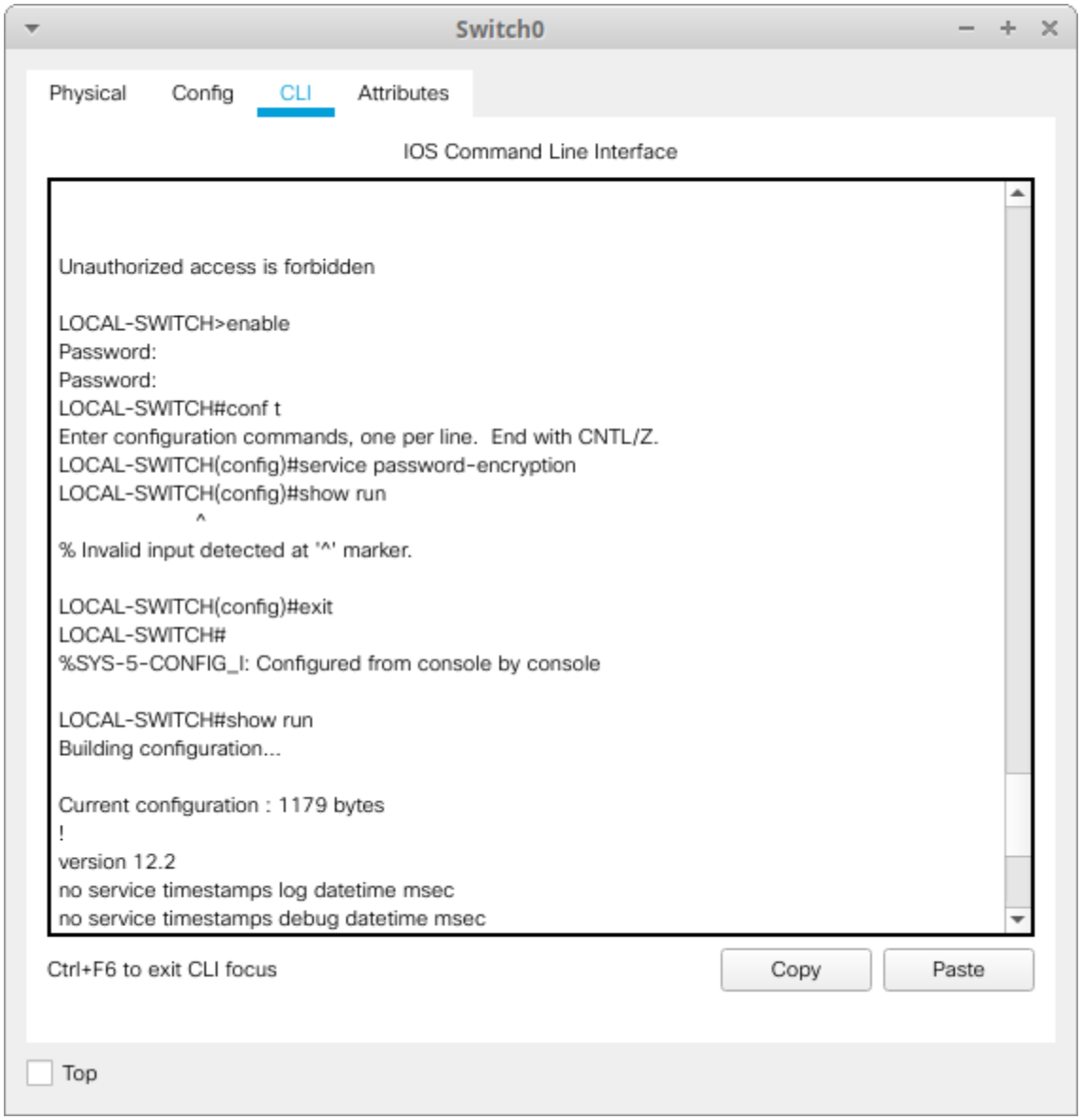
4. Configure the password for privileged mode access as "cisco". The password must be md5 encrypted

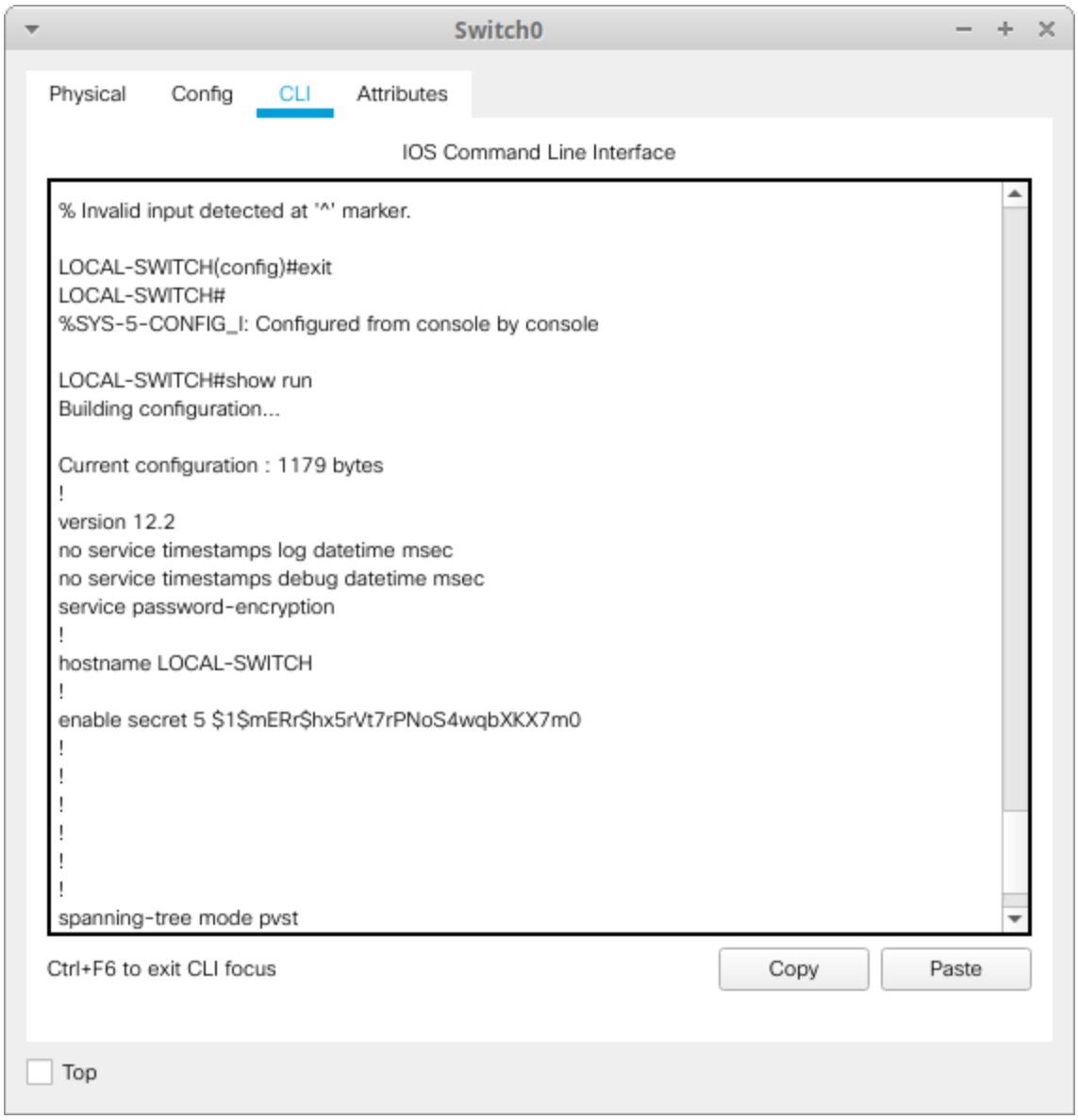



Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
LOCAL-SWITCH#
%SYS-5-CONFIG_I: Configured from console by console
LOCAL-SWITCH#show run
Building configuration...
Current configuration : 1182 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname LOCAL-SWITCH
!
enable secret 5 1mERr$hx5rVt7rPNoS4wqbXKX7m0
!
!
!
!
!
!
spanning-tree mode pvst
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

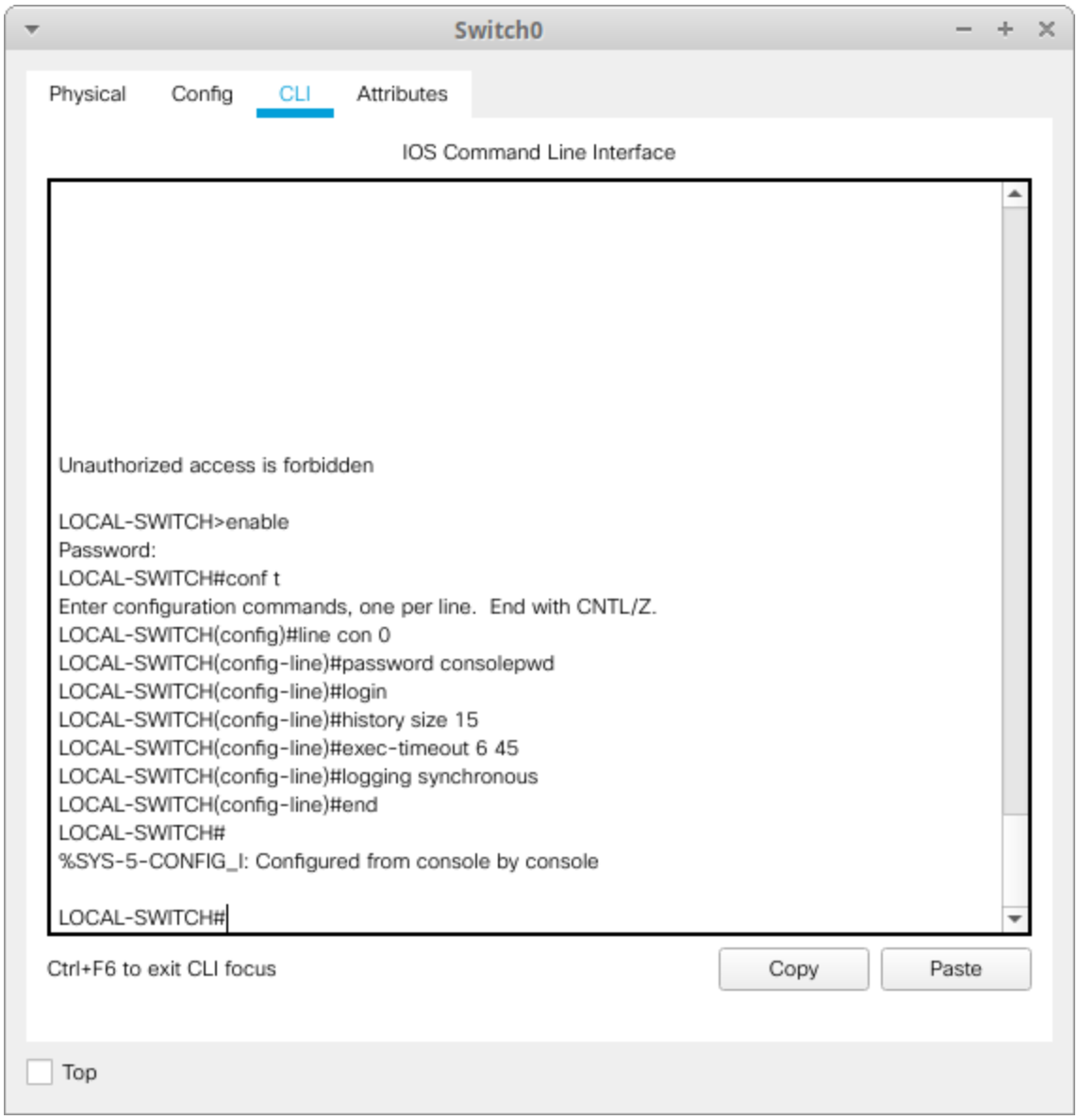

Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
LOCAL-SWITCH con0 is now available
Press RETURN to get started.
Unauthorized access is forbidden
LOCAL-SWITCH>enable
Password:
Password:
LOCAL-SWITCH#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

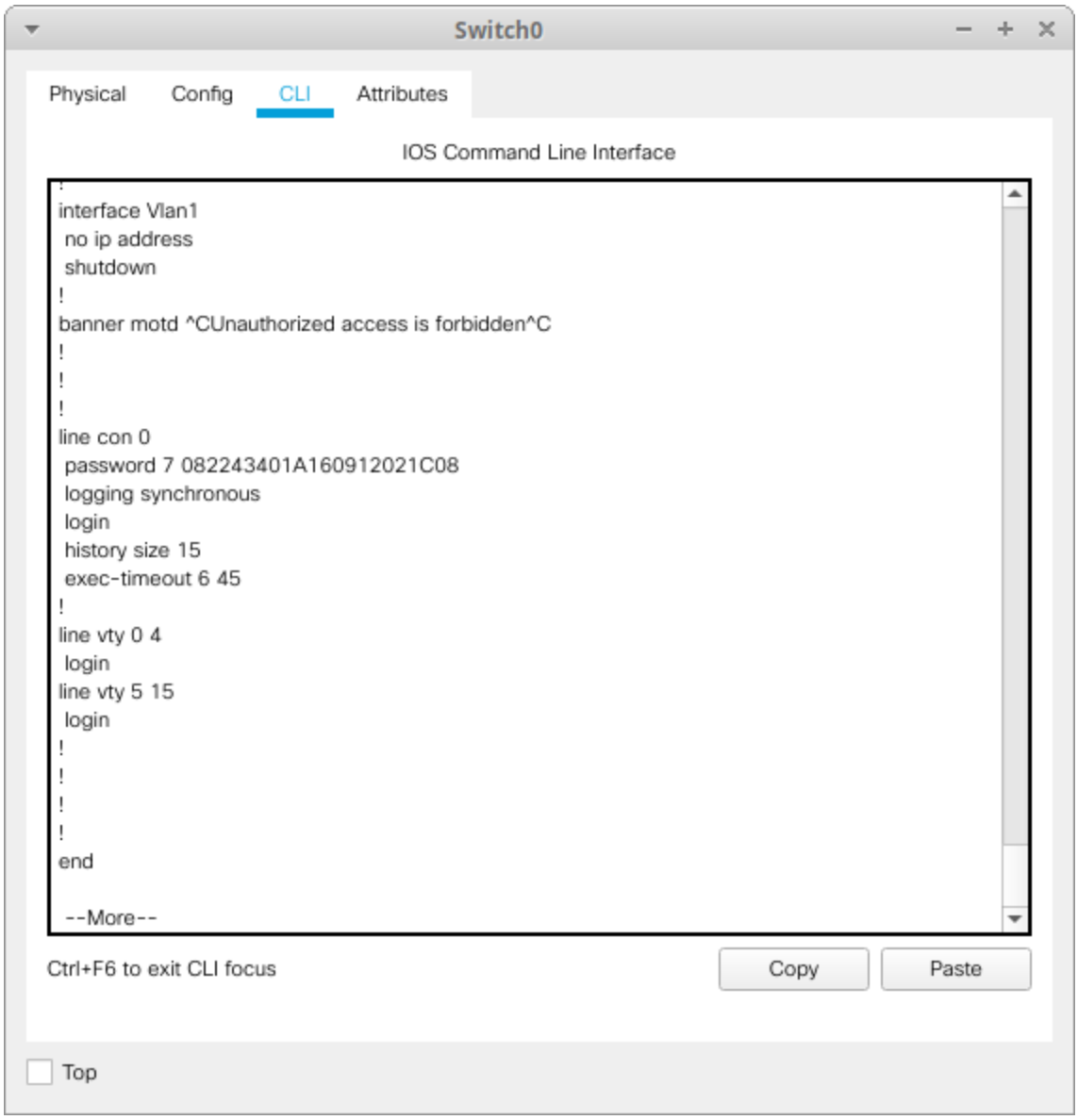
5. Configure password encryption on the switch using the global configuration command

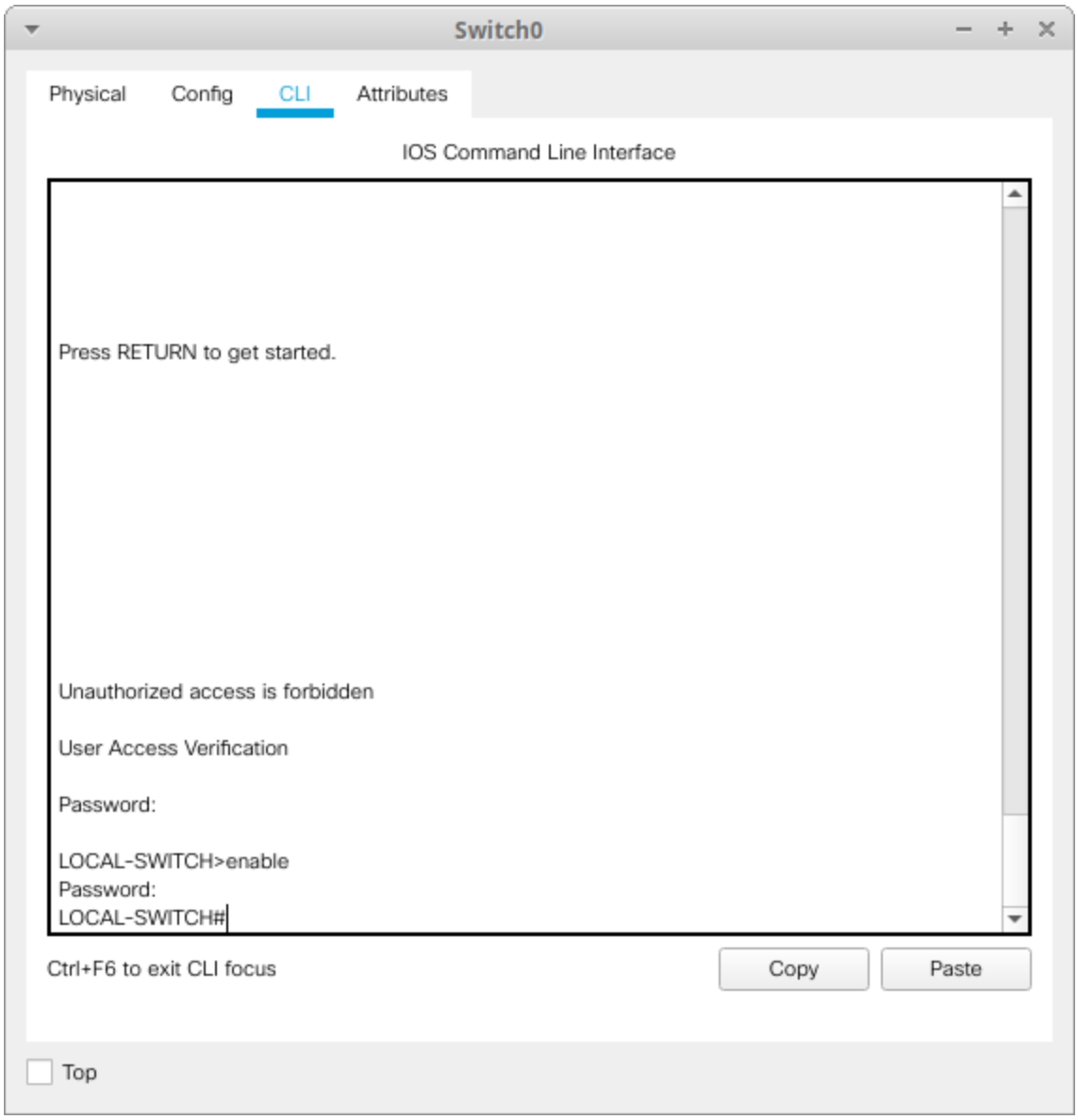




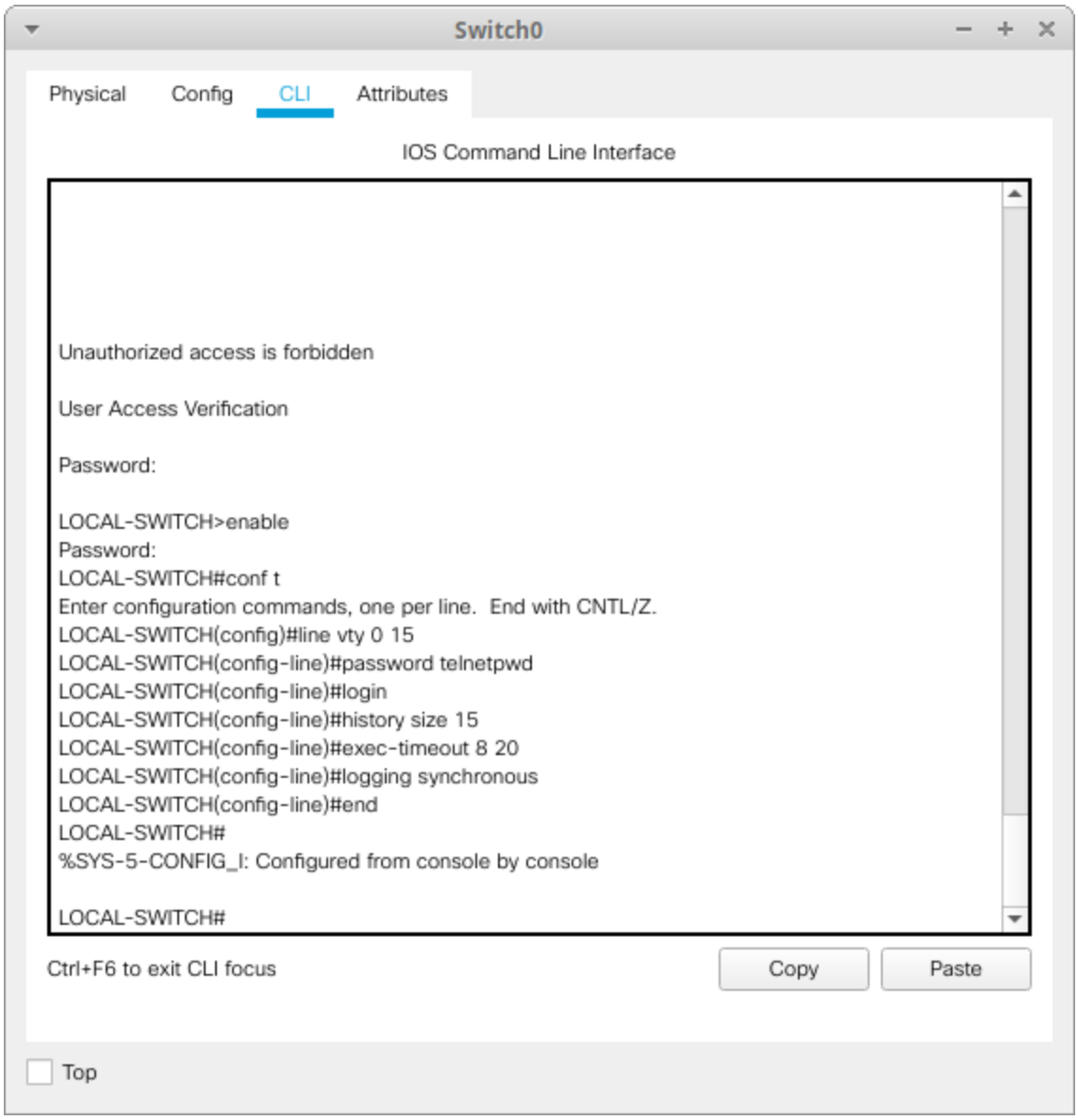
6. Configure CONSOLE access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 6'45"
- Synchronous logging

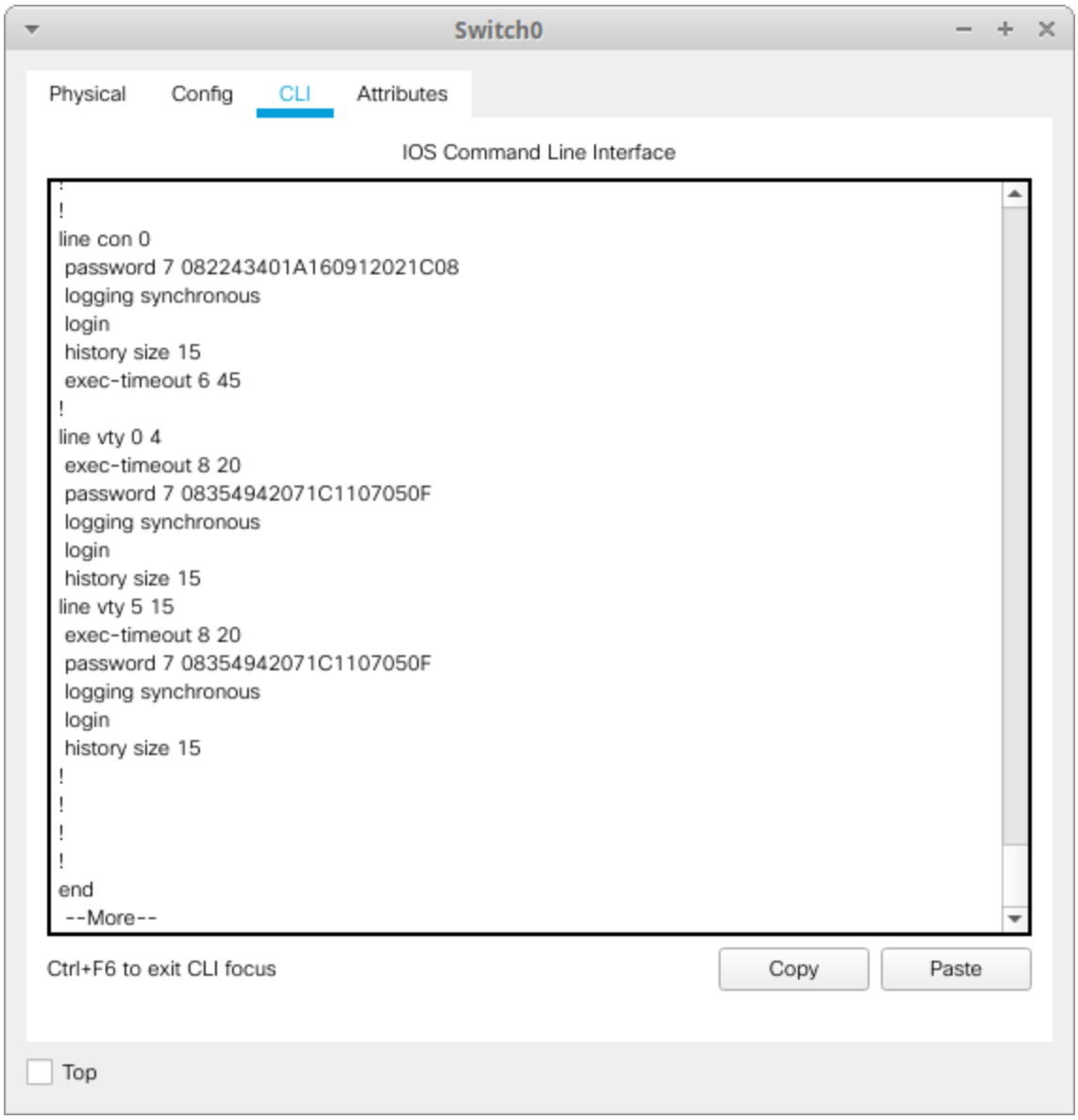

Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Unauthorized access is forbidden
LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#conf t
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#line con 0
LOCAL-SWITCH(config-line)#password consolepwd
LOCAL-SWITCH(config-line)#login
LOCAL-SWITCH(config-line)#history size 15
LOCAL-SWITCH(config-line)#exec-timeout 6 45
LOCAL-SWITCH(config-line)#logging synchronous
LOCAL-SWITCH(config-line)#end
LOCAL-SWITCH#
%SYS-5-CONFIG_I: Configured from console by console
LOCAL-SWITCH#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
interface Vlan1
 no ip address
 shutdown
!
banner motd ^CUnauthorized access is forbidden^C
!
!
!
line con 0
 password 7 082243401A160912021C08
 logging synchronous
 login
 history size 15
 exec-timeout 6 45
!
line vty 0 4
 login
line vty 5 15
 login
!
!
!
!
end
 --More--
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

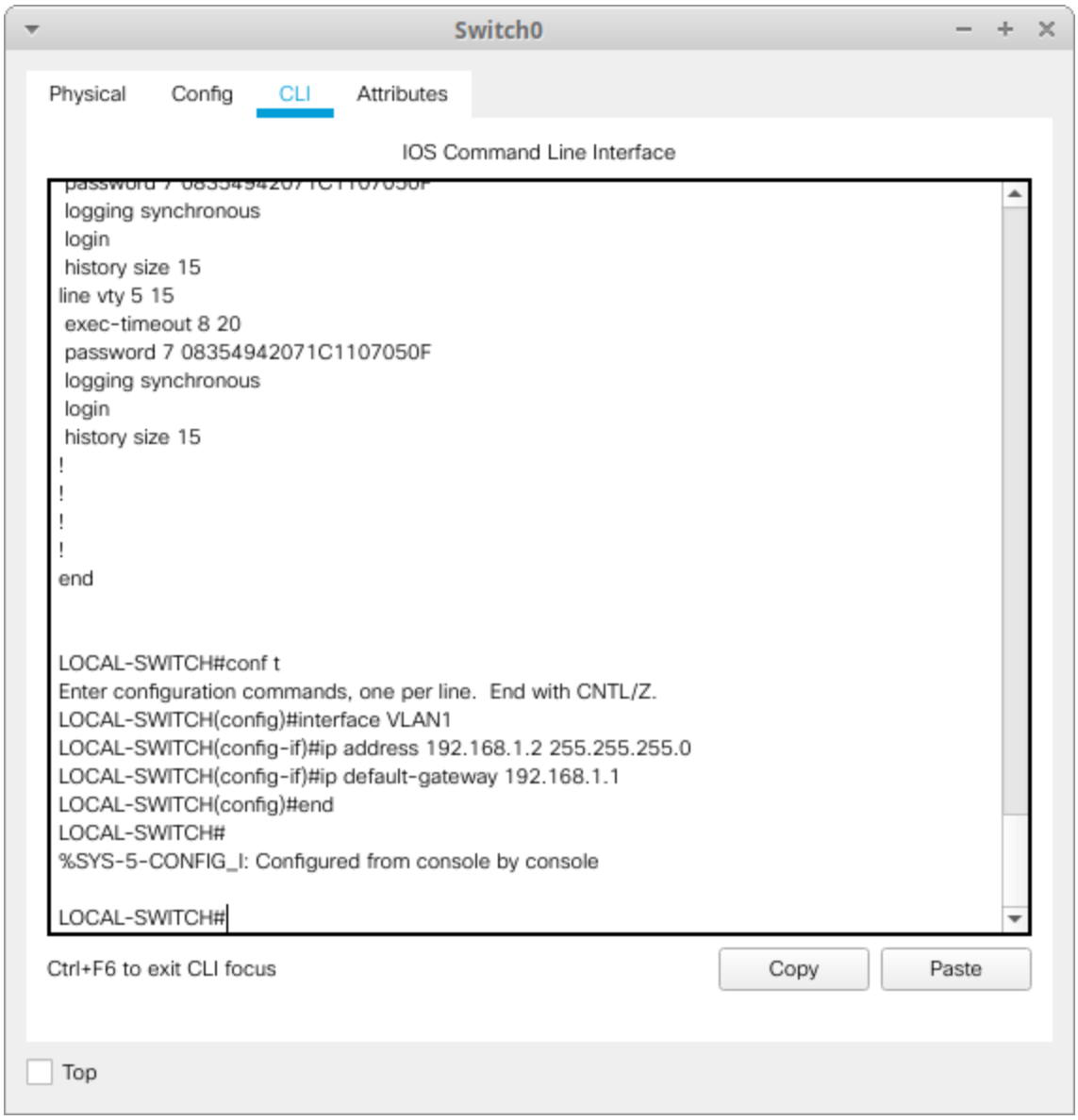


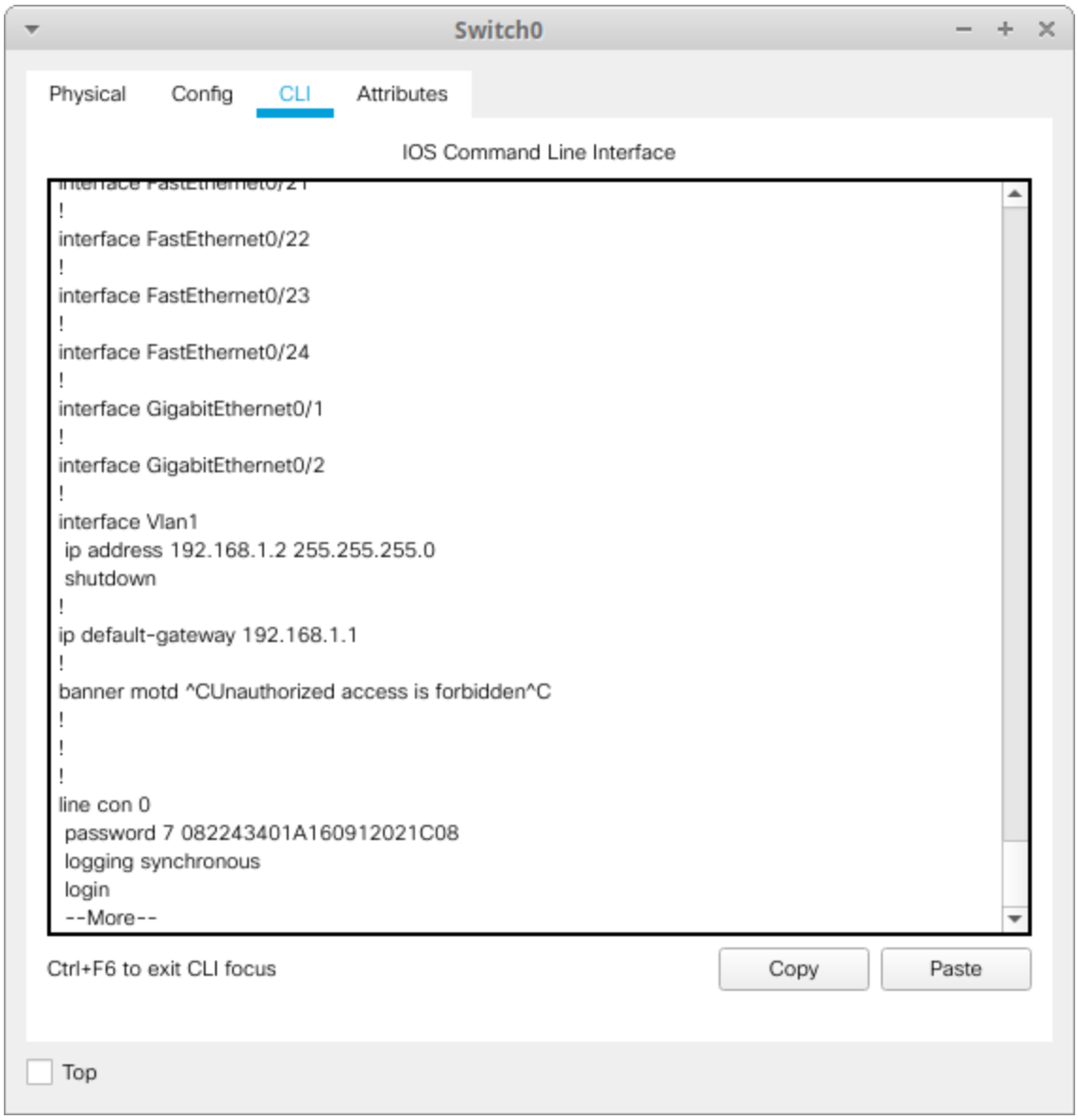
6. Configure TELNET access with the following settings :
- Login enabled
- Password: whatever you like
- History size : 15 commands
- Timeout : 8'20"
- Synchronous logging

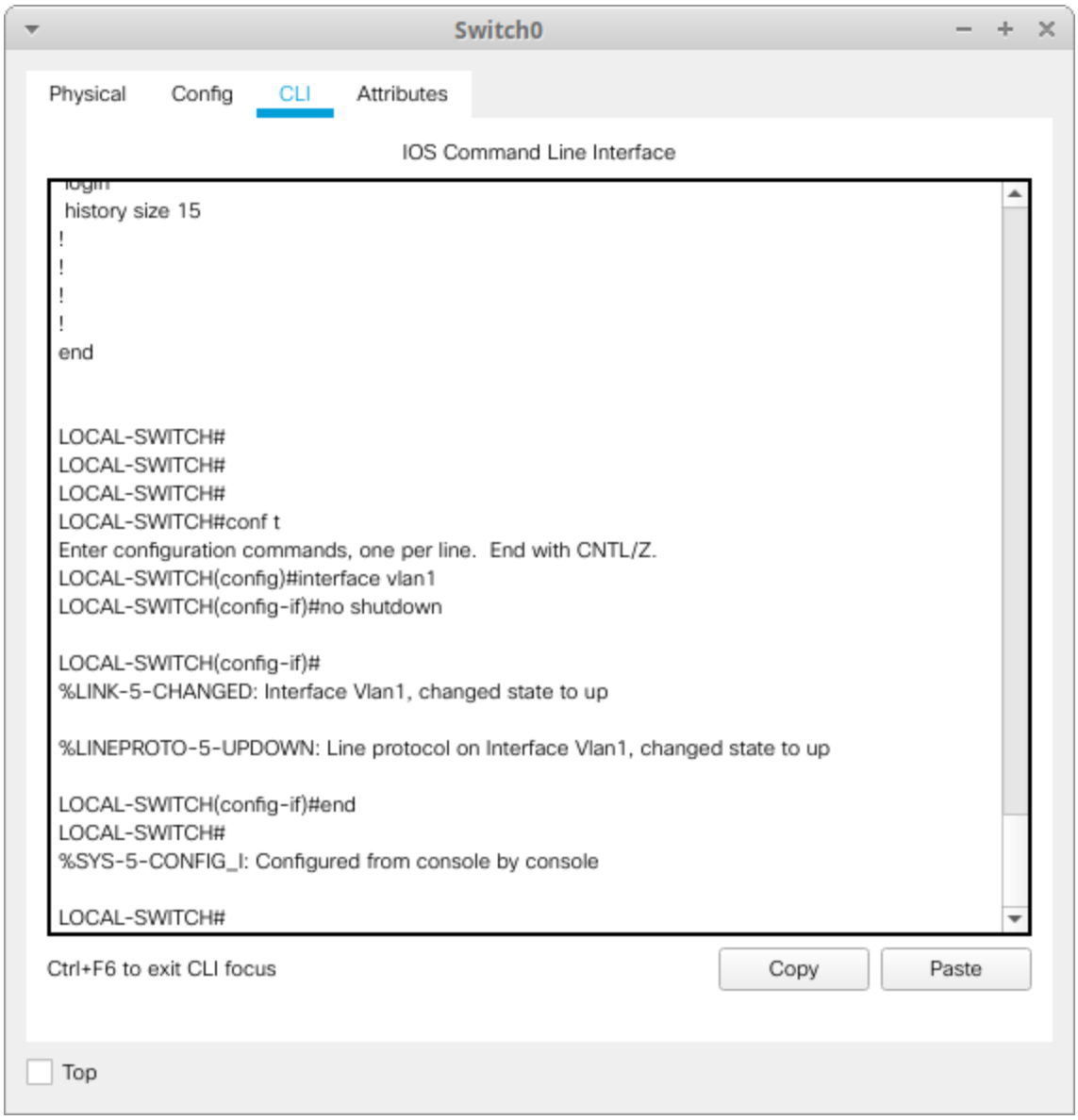

Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
Unauthorized access is forbidden
User Access Verification
Password:
LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#conf t
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#line vty 0 15
LOCAL-SWITCH(config-line)#password telnetpwd
LOCAL-SWITCH(config-line)#login
LOCAL-SWITCH(config-line)#history size 15
LOCAL-SWITCH(config-line)#exec-timeout 8 20
LOCAL-SWITCH(config-line)#logging synchronous
LOCAL-SWITCH(config-line)#end
LOCAL-SWITCH#
%SYS-5-CONFIG_I: Configured from console by console
LOCAL-SWITCH#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

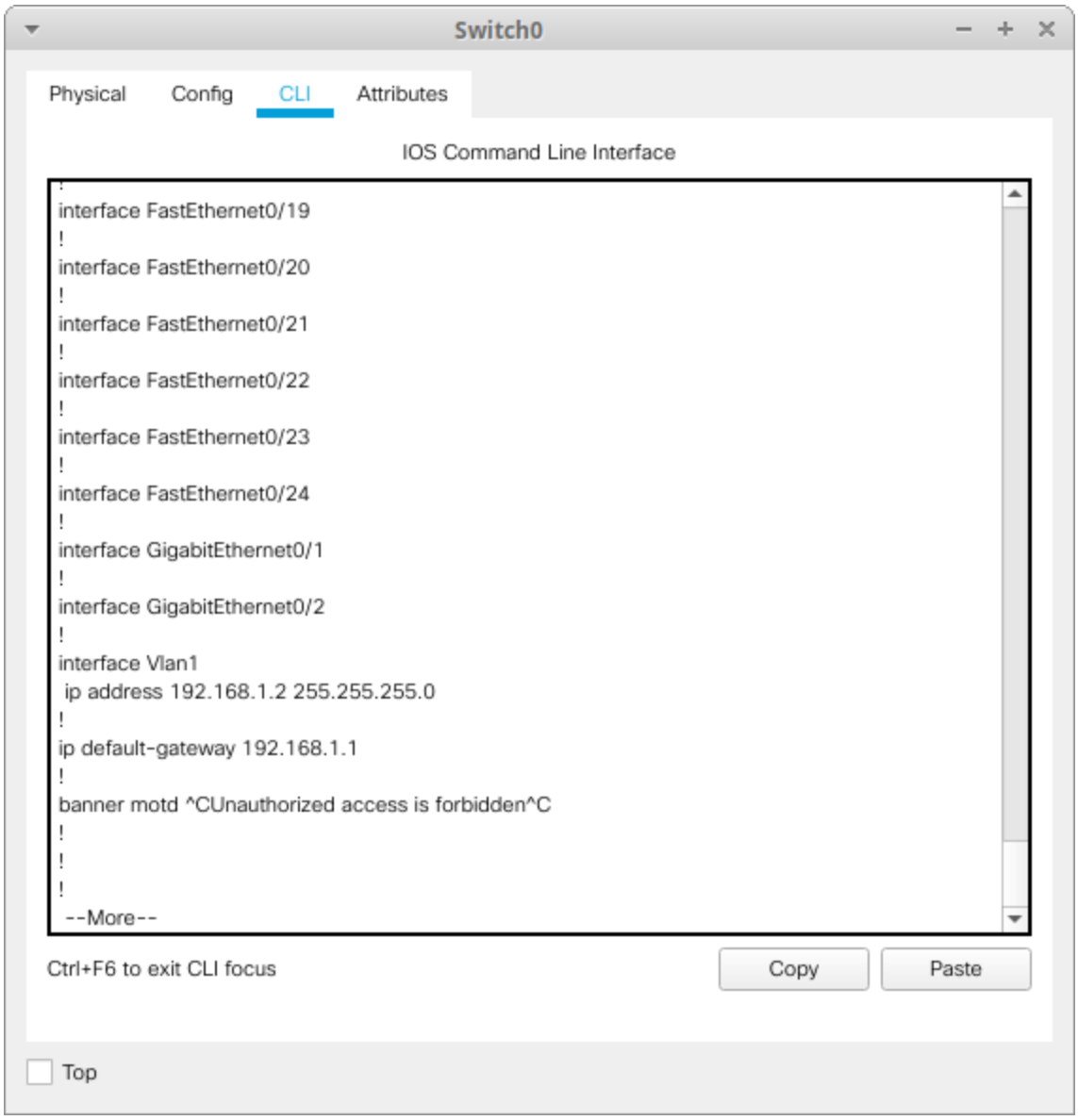


7. Configure the IP address of the switch as 192.168.1.2/24 and it's default gateway IP (192.168.1.1).

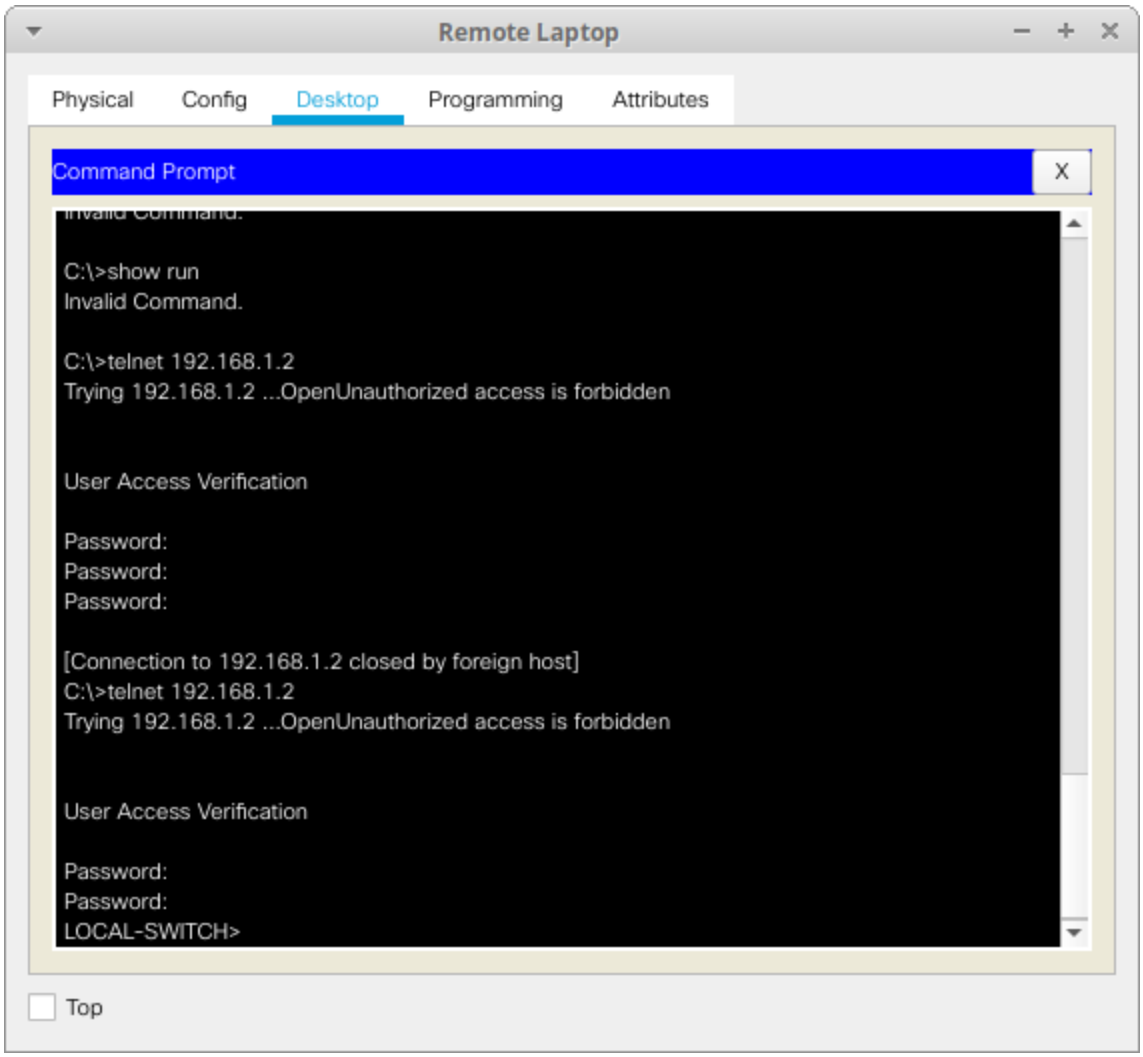

Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
password 7 08354942071C1107050F
logging synchronous
login
history size 15
line vty 5 15
exec-timeout 8 20
password 7 08354942071C1107050F
logging synchronous
login
history size 15
!
!
!
!
end
LOCAL-SWITCH#conf t
Enter configuration commands, 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
LOCAL-SWITCH(config-if)#ip default-gateway 192.168.1.1
LOCAL-SWITCH(config)#end
LOCAL-SWITCH#
%SYS-5-CONFIG_I: Configured from console by console
LOCAL-SWITCH#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

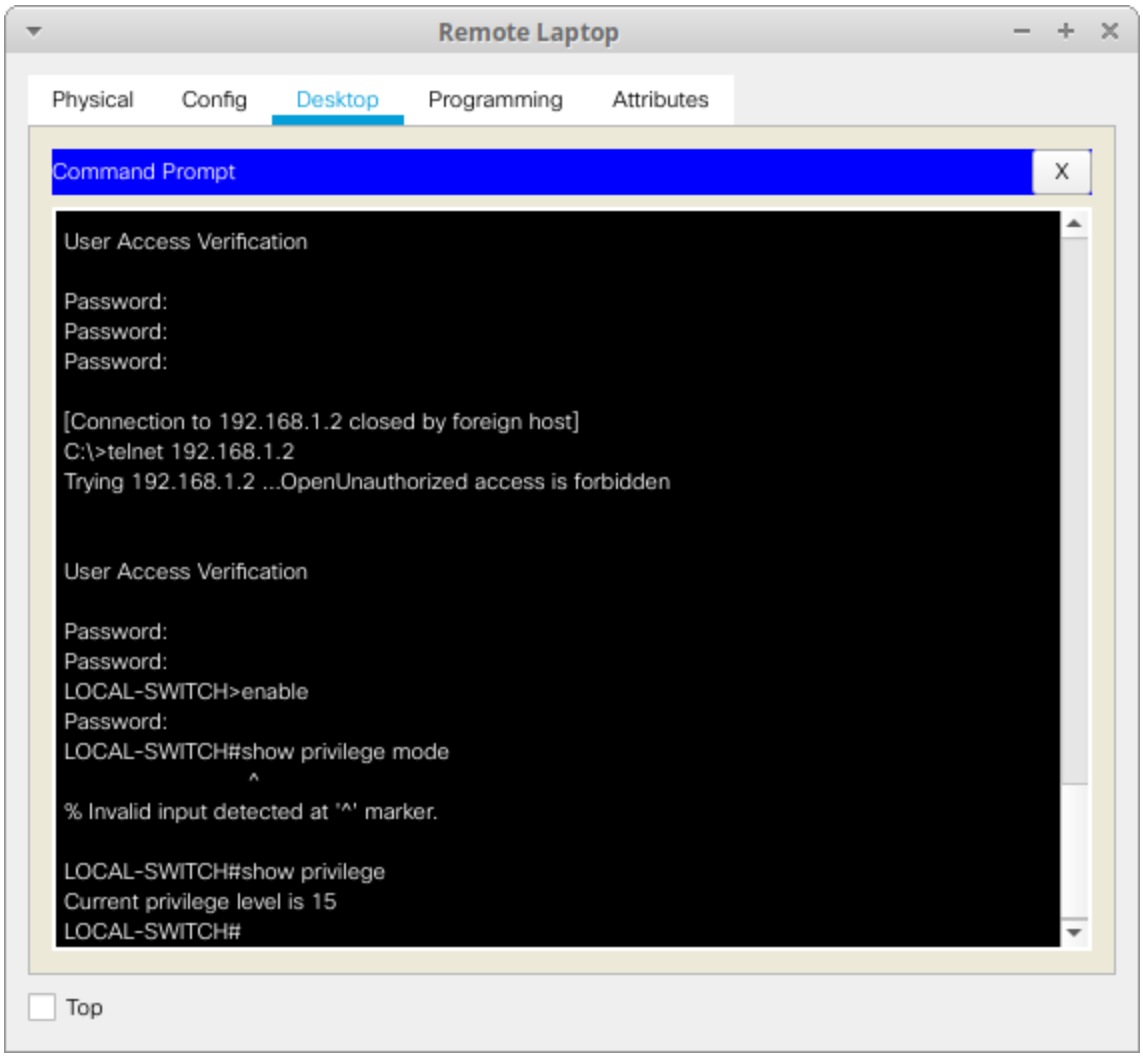

Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
ip address 192.168.1.2 255.255.255.0
shutdown
!
ip default-gateway 192.168.1.1
!
banner motd ^CUnauthorized access is forbidden^C
!
!
!
line con 0
password 7 082243401A160912021C08
logging synchronous
login
--More--
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
login
history size 15
!
!
!
!
end
LOCAL-SWITCH#
LOCAL-SWITCH#
LOCAL-SWITCH#
LOCAL-SWITCH#conf t
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#interface vlan1
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)#end
LOCAL-SWITCH#
%SYS-5-CONFIG_I: Configured from console by console
LOCAL-SWITCH#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Switch0
Physical
Config
CLI
Attributes
IOS Command Line Interface
!
interface FastEthernet0/19
!
interface FastEthernet0/20
!
interface FastEthernet0/21
!
interface FastEthernet0/22
!
interface FastEthernet0/23
!
interface FastEthernet0/24
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/2
!
interface Vlan1
ip address 192.168.1.2 255.255.255.0
!
ip default-gateway 192.168.1.1
!
banner motd ^CUnauthorized access is forbidden^C
!
!
!
--More--
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

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




Remote Laptop
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
User Access Verification
Password:
Password:
Password:
[Connection to 192.168.1.2 closed by foreign host]
C:\>telnet 192.168.1.2
Trying 192.168.1.2 ...OpenUnauthorized access is forbidden
User Access Verification
Password:
Password:
LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#show privilege mode
^
% Invalid input detected at '^' marker.
LOCAL-SWITCH#show privilege
Current privilege level is 15
LOCAL-SWITCH#
Top