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CEL 51, DCCN, Monsoon 2020

Lab 4: Prototyping a Network

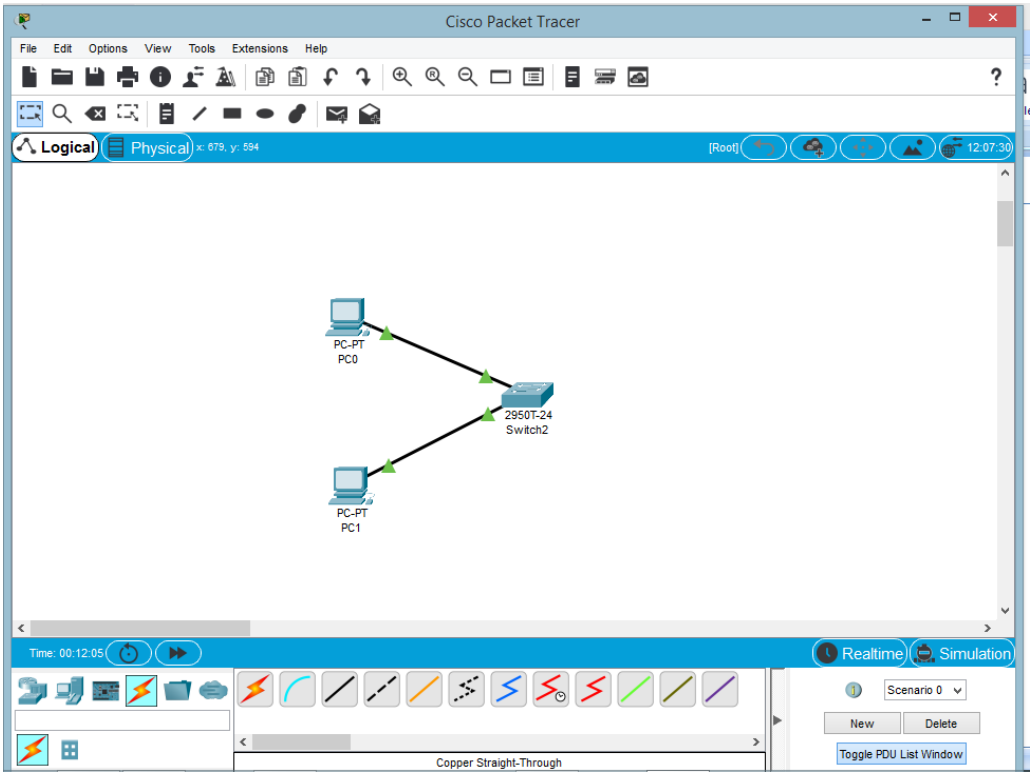
Objective:
Prototype a network using Packet Tracer

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.

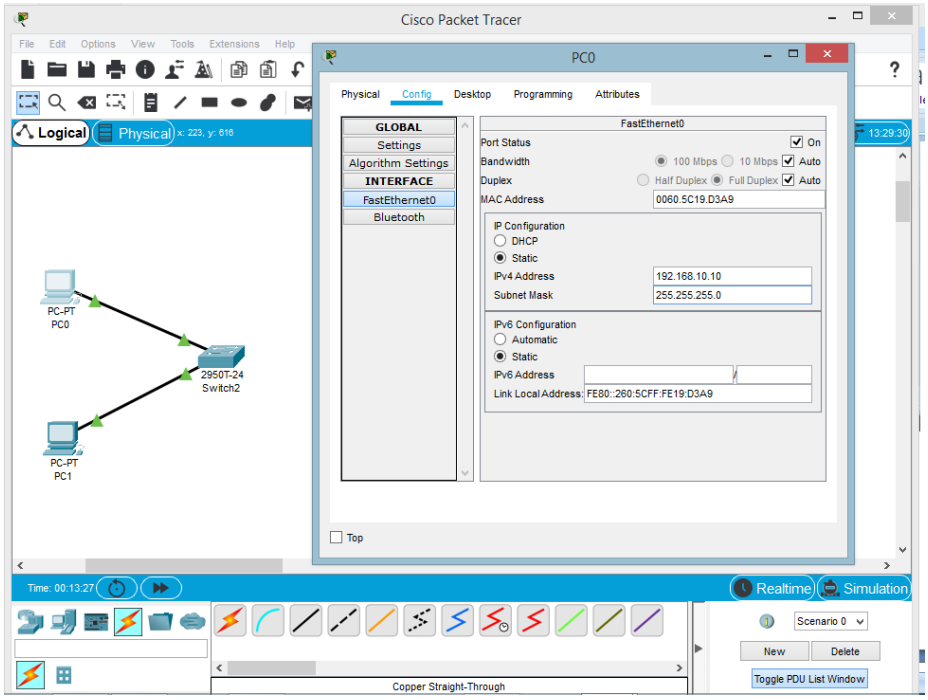
Step 1: Set up the network topology

a) Add two PCs and a Cisco 2950T switch

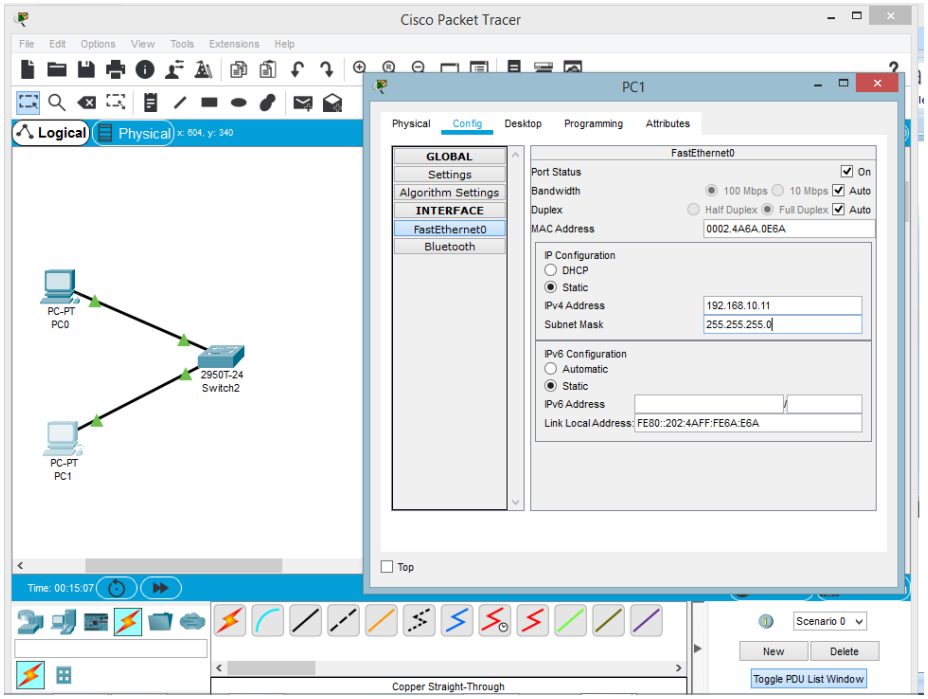
b) Using straight-through cables, connect **PC0** to interface **Fa0/1** on **Switch0** and **PC1** to interface **Fa0/2** on **Switch0**.



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

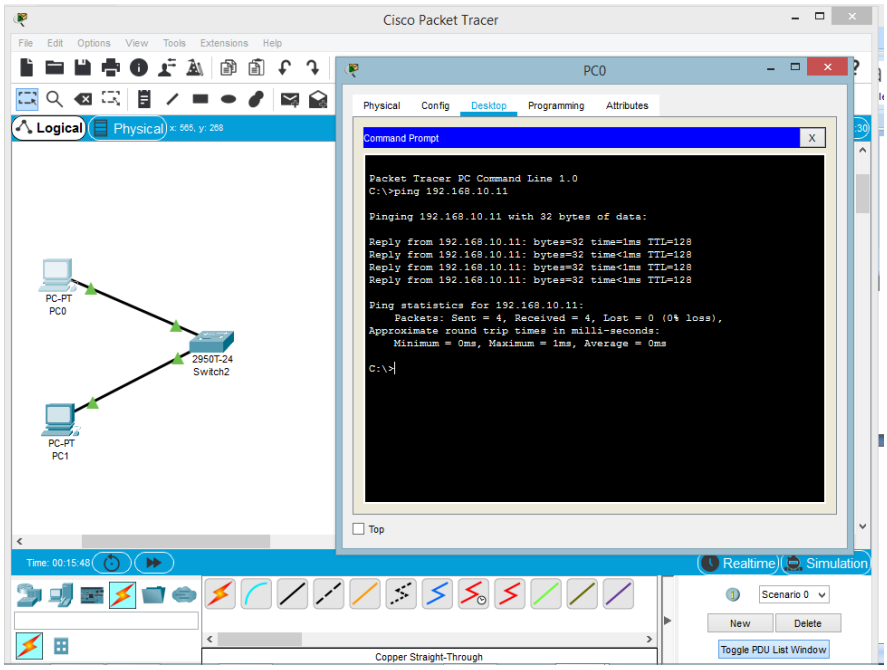


Step 2: Test connectivity from PC0 to PC1

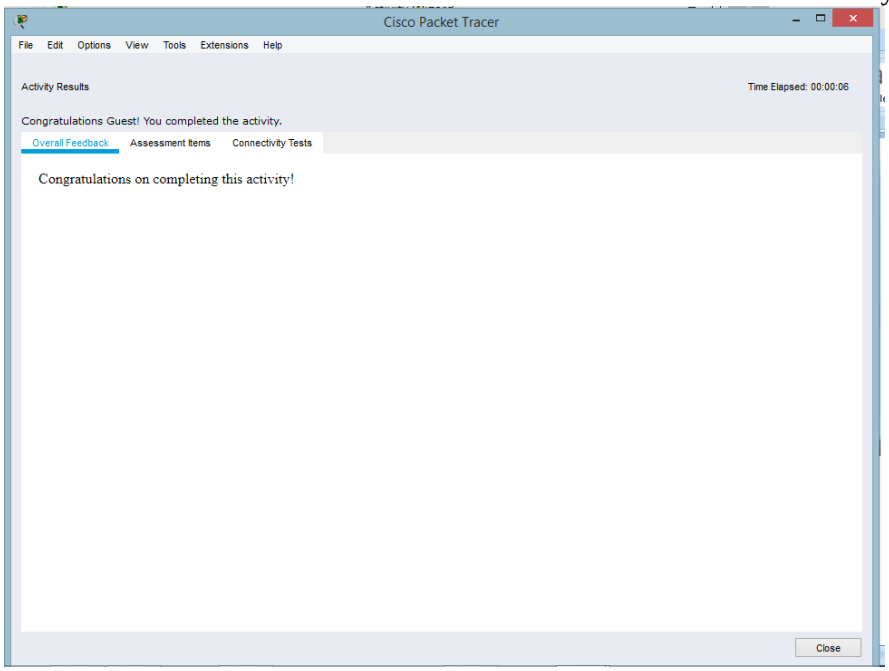
a) Use the **ping** command to test connectivity.

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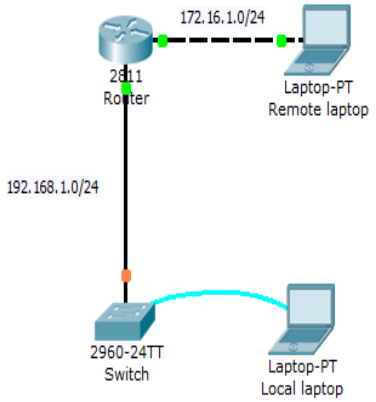
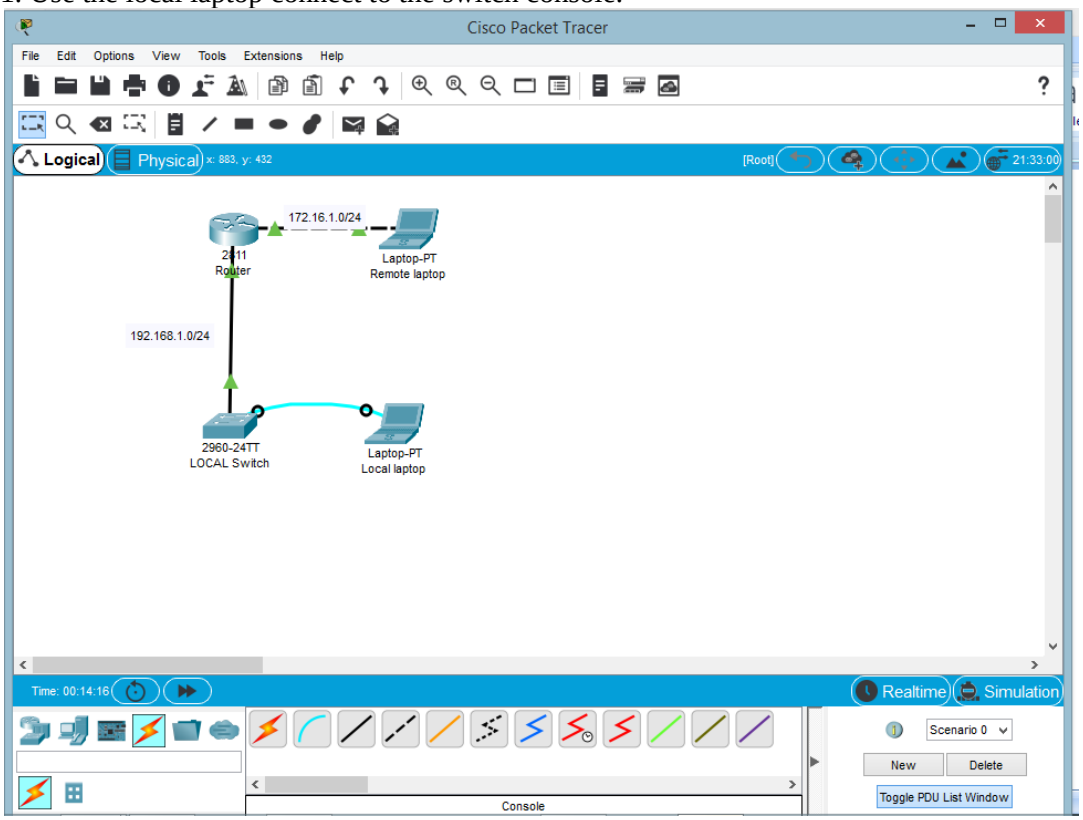
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

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.

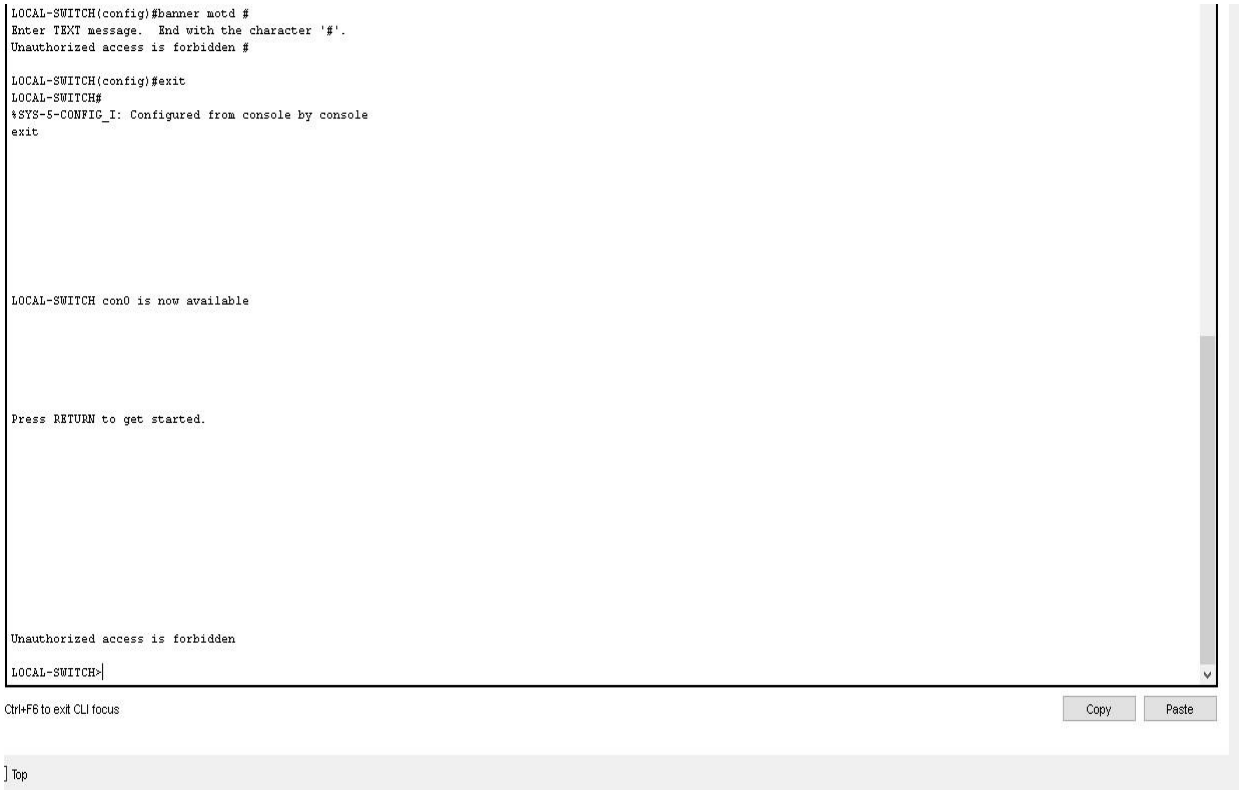


2. Configure Switch hostname as LOCAL-SWITCH

```
Unauthorized access is forbidden

LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
LOCAL-SWITCH(config)#hostname LOCAL-SWITCH
LOCAL-SWITCH(config)#
```

Ctrl+F6 to exit CLI focus

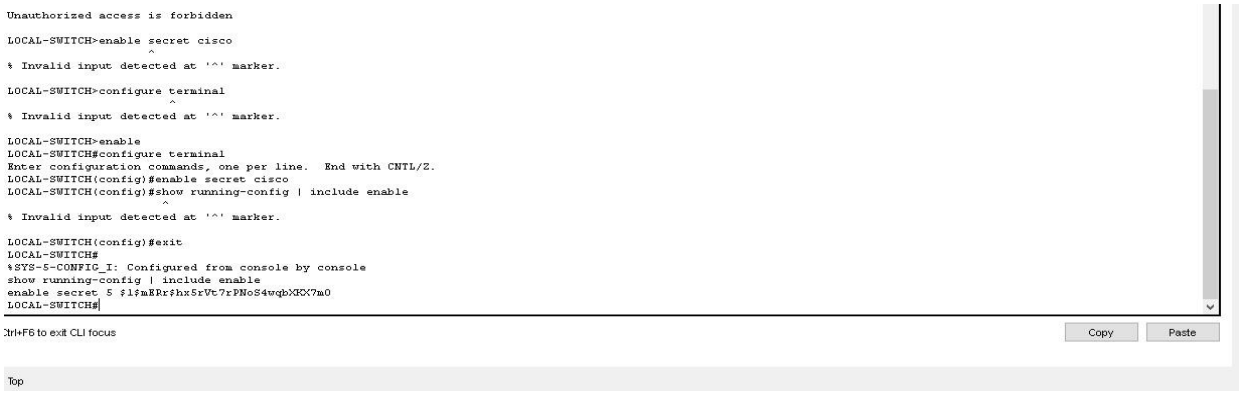
3. Configure the message of the day as "Unauthorized access is forbidden"



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

```
LOCAL-SWITCH con0 is now available



Press RETURN to get started.



Unauthorized access is forbidden

User Access Verification

Password:

LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#configure terminal
```

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-SWITCH(config)#line con 0
LOCAL-SWITCH(config-line)#password ciscol
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)#end
LOCAL-SWITCH#
%SYS-5-CONFIG_I: Configured from console by console

LOCAL-SWITCH#
```

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

```
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#line vty 0 15
Switch(config-line)#password shyam
Switch(config-line)#login
Switch(config-line)#history size 15
Switch(config-line)#exec-timeout 8 20
Switch(config-line)#logging synchronous
Switch(config-line)#exit
Switch(config)#exit
Switch#
%SYS-5-CONFIG_I: Configured from console by console

Switch#
```

Ctrl+F6 to exit CLI focus Copy Paste

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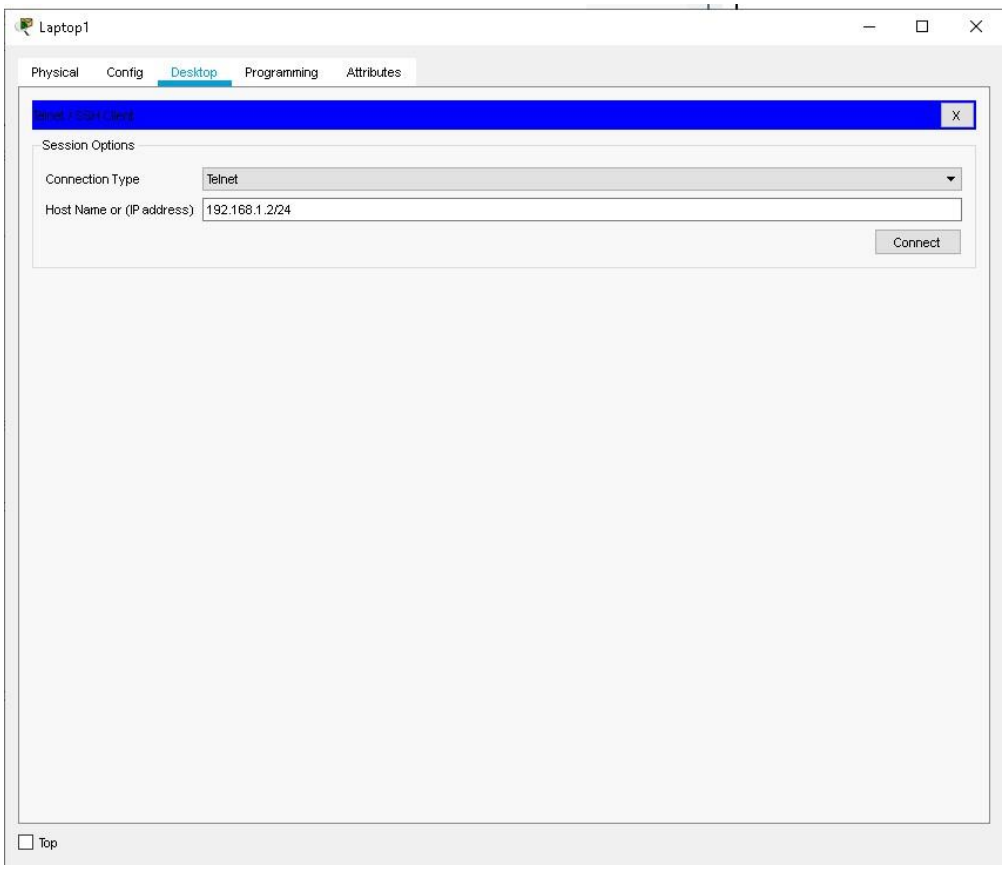
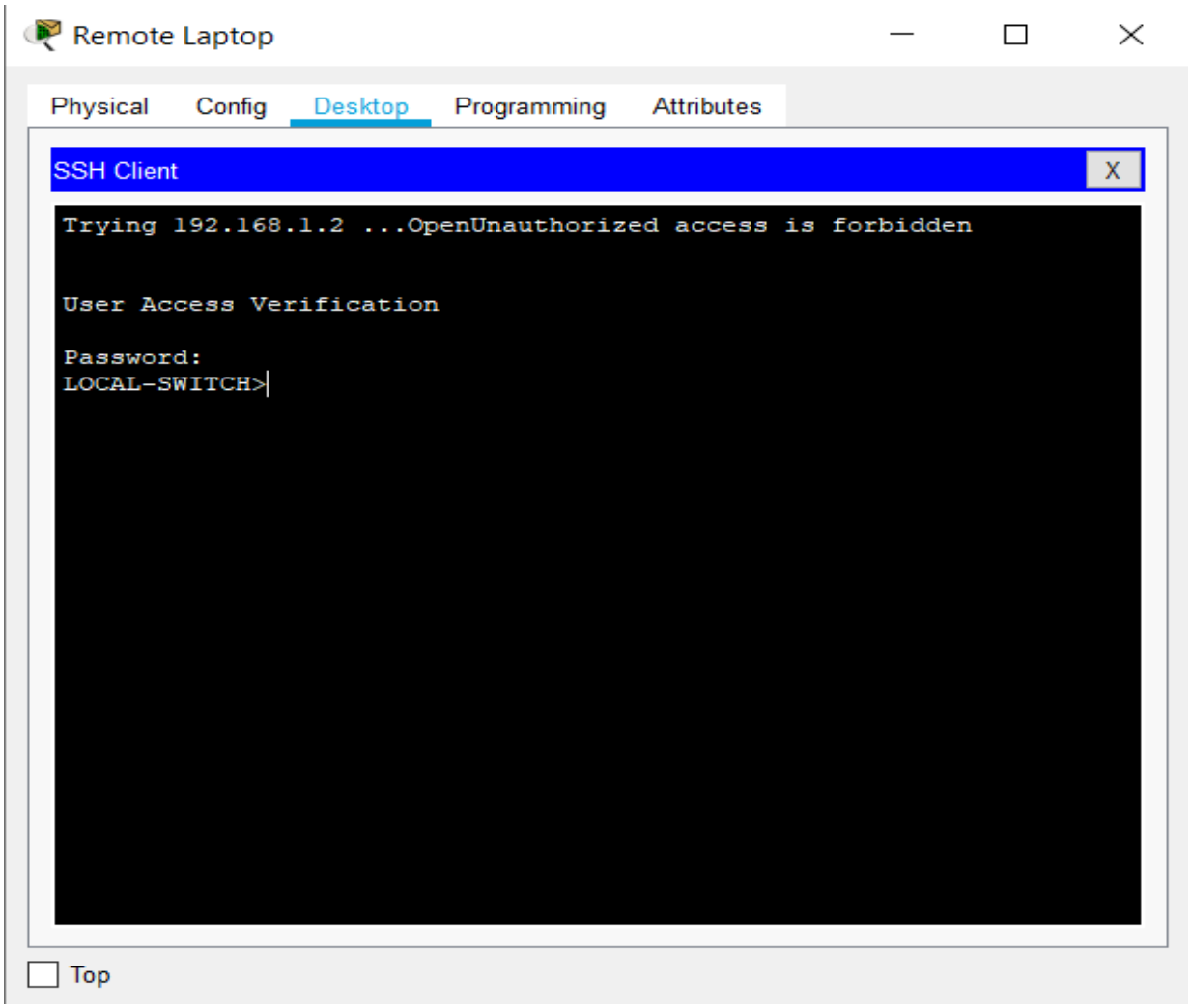
7. Configure the IP address of the switch as 192.168.1.2/24 and it's default gateway IP (192.168.1.1).

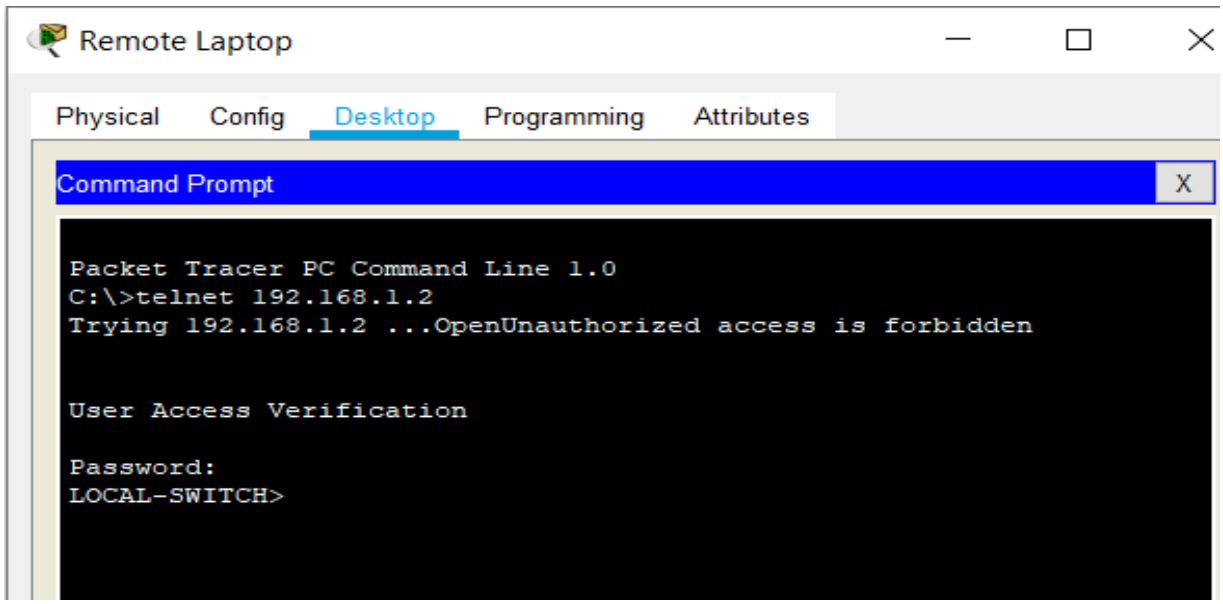
```
LOCAL-SWITCH#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
LOCAL-SWITCH(config)#interface vlan1
LOCAL-SWITCH(config-if)#ip address 192.168.1.2 255.255.255.0
LOCAL-SWITCH(config-if)#ip defaut-gateway 192.168.1.1
                       ^
% Invalid input detected at '^' marker.

LOCAL-SWITCH(config-if)#ip default-gateway 192.168.1.1
LOCAL-SWITCH(config)#exit
LOCAL-SWITCH#
%SYS-5-CONFIG_I: Configured from console by console

LOCAL-SWITCH#
```

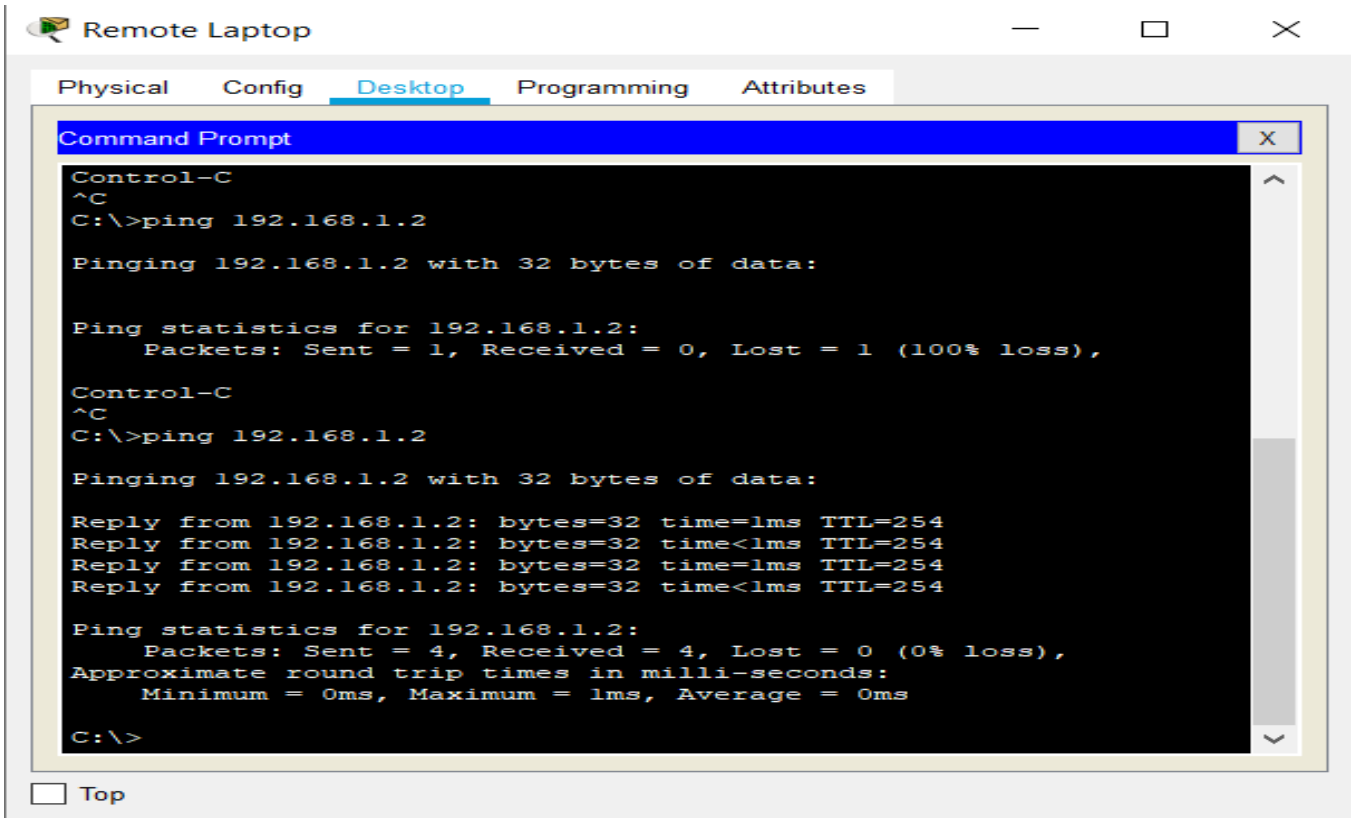
Ctrl+F6 to exit CLI focus Copy Paste

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




Remote Laptop
Physical
Config
Desktop
Programming
Attributes
SSH Client
X
Trying 192.168.1.2 ...OpenUnauthorized access is forbidden
User Access Verification
Password:
LOCAL-SWITCH>
Top


Remote Laptop
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>telnet 192.168.1.2
Trying 192.168.1.2 ...OpenUnauthorized access is forbidden
User Access Verification
Password:
LOCAL-SWITCH>


Remote Laptop
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Control-C
^C
C:\>ping 192.168.1.2
Pinging 192.168.1.2 with 32 bytes of data:
Ping statistics for 192.168.1.2:
Packets: Sent = 1, Received = 0, Lost = 1 (100% loss),
Control-C
^C
C:\>ping 192.168.1.2
Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time=1ms TTL=254
Reply from 192.168.1.2: bytes=32 time<1ms TTL=254
Reply from 192.168.1.2: bytes=32 time=1ms TTL=254
Reply from 192.168.1.2: bytes=32 time<1ms TTL=254
Ping statistics for 192.168.1.2:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>
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