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

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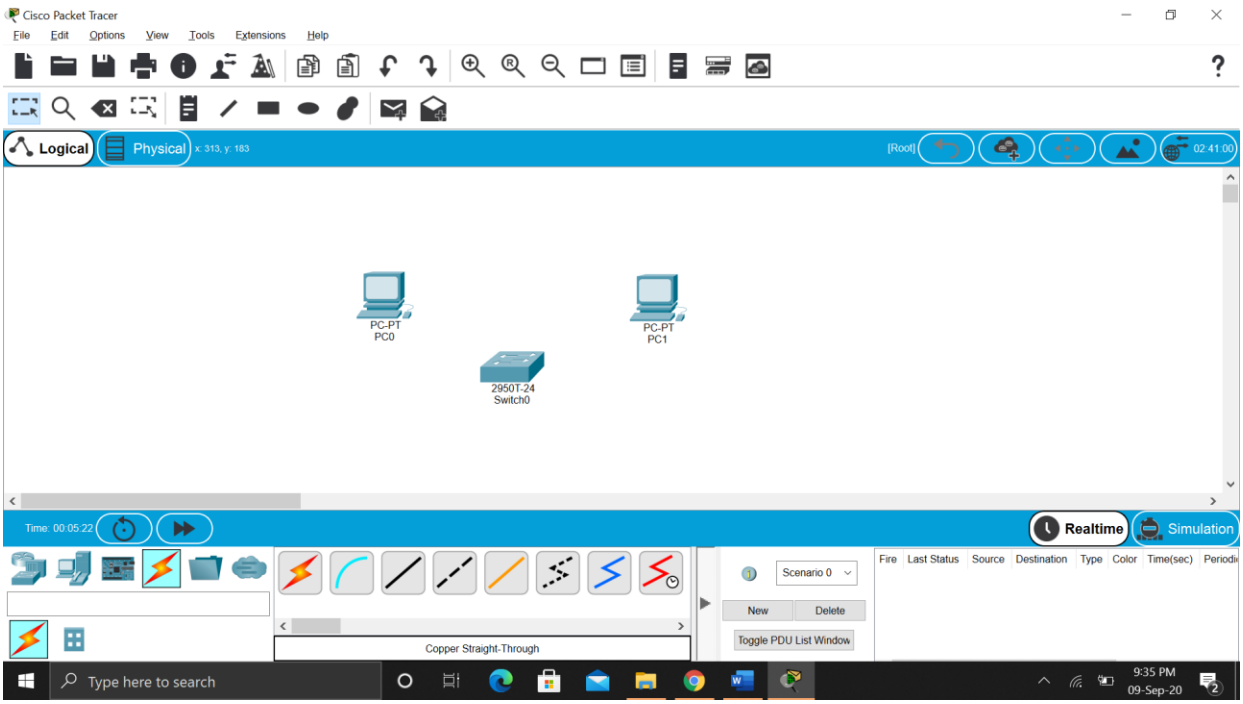
Objective:
Prototype a network using Packet Tracer

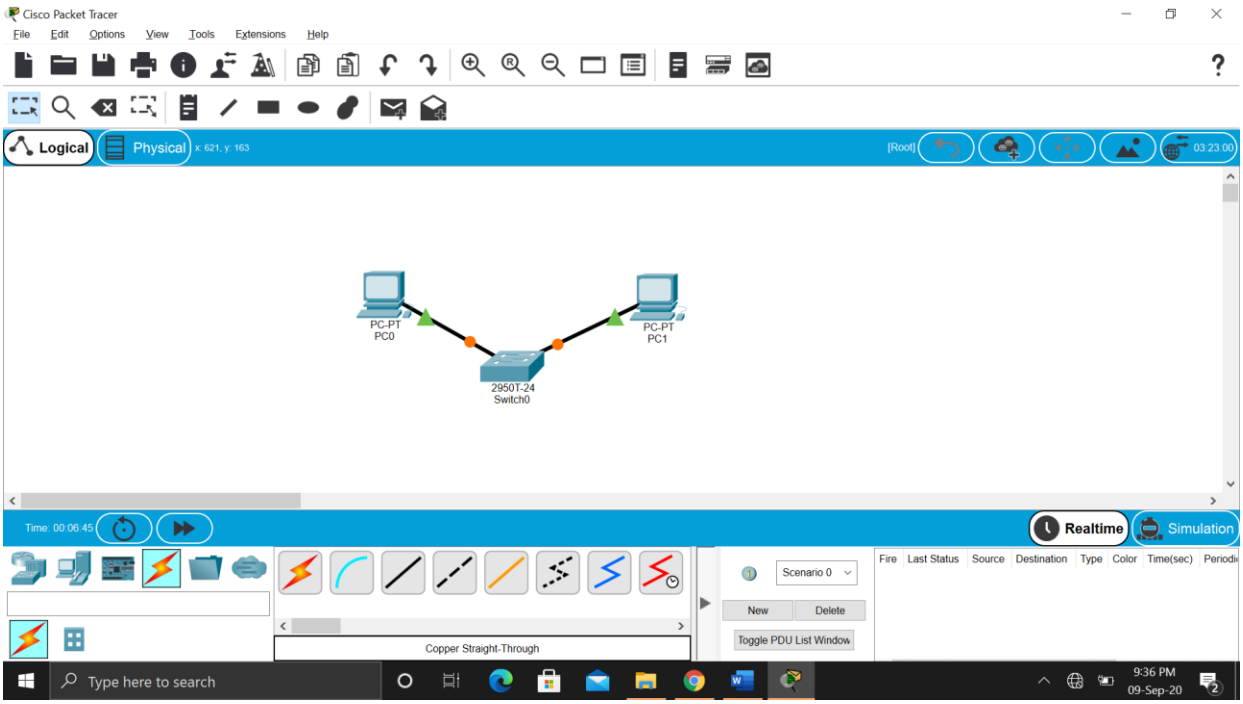
Background
A client has requested that you set up a simple network with two PCs connected to a switch. Verify that the hardware, along with the given configurations, meet the requirements of the client.

Step 1: Set up the network topology

a) Add two PCs and a Cisco 2950T switch

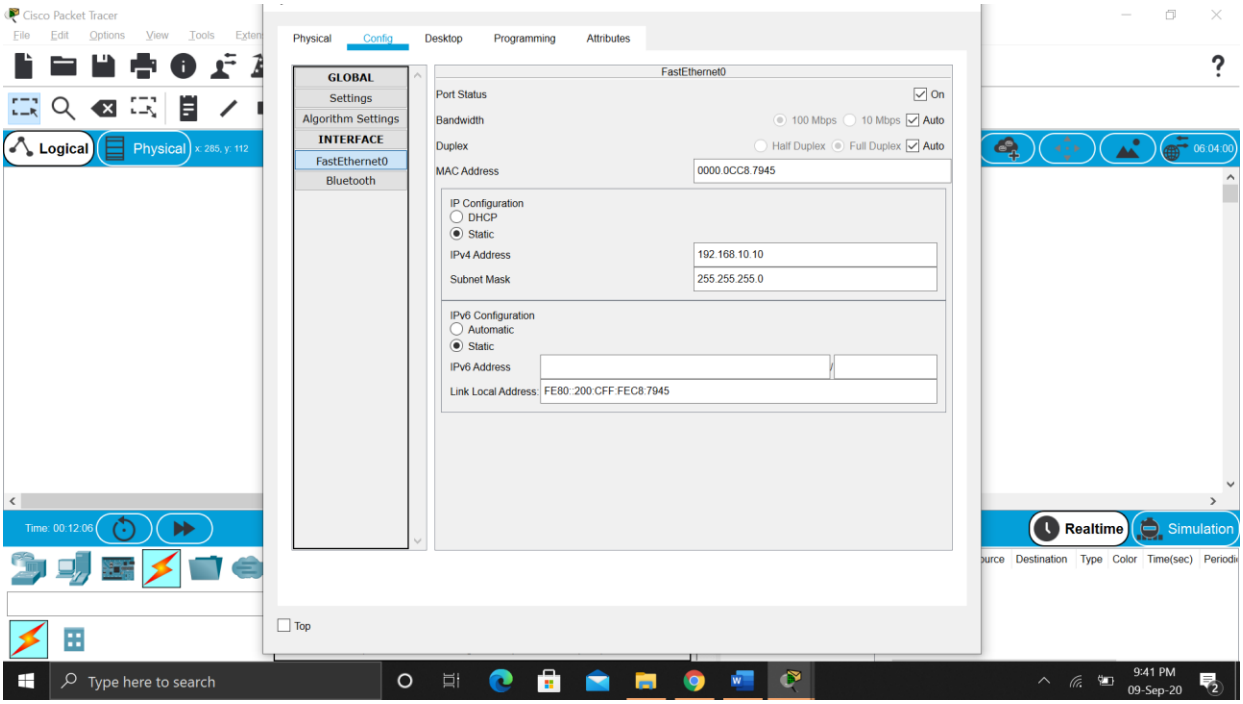


b) Using straight-through cables, connect **PC0** to interface **Fa0/1** on **Switch0** and **PC1** to interface **Fa0/2** on **Switch0**.



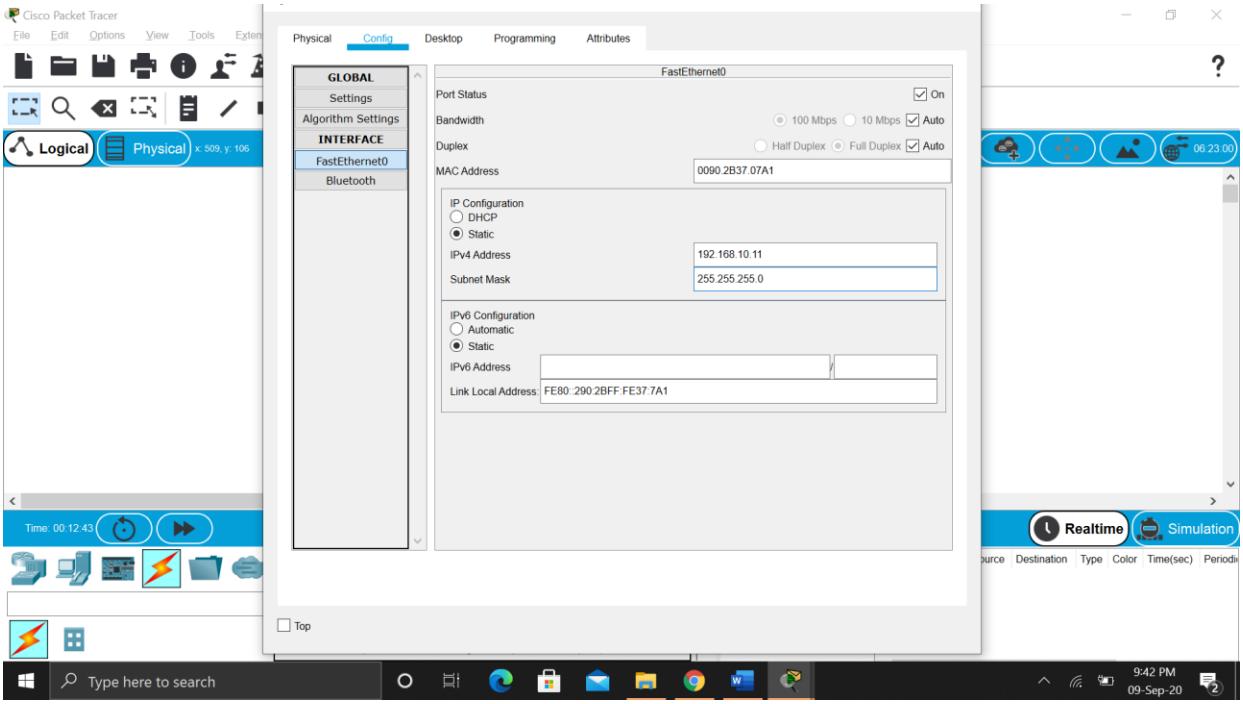
c) Configure PC0 using the **Config** tab in the PC0 configuration window:

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

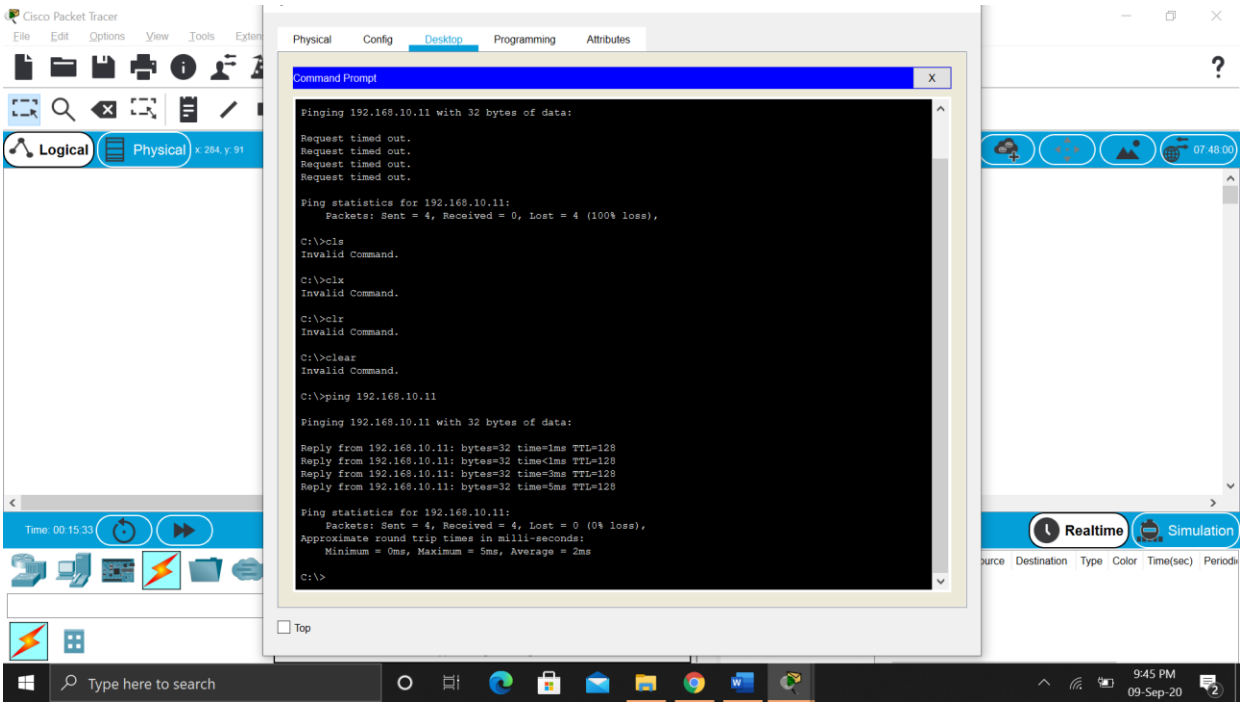
a. IP address: 192.168.10.11
b. Subnet Mask 255.255.255.0



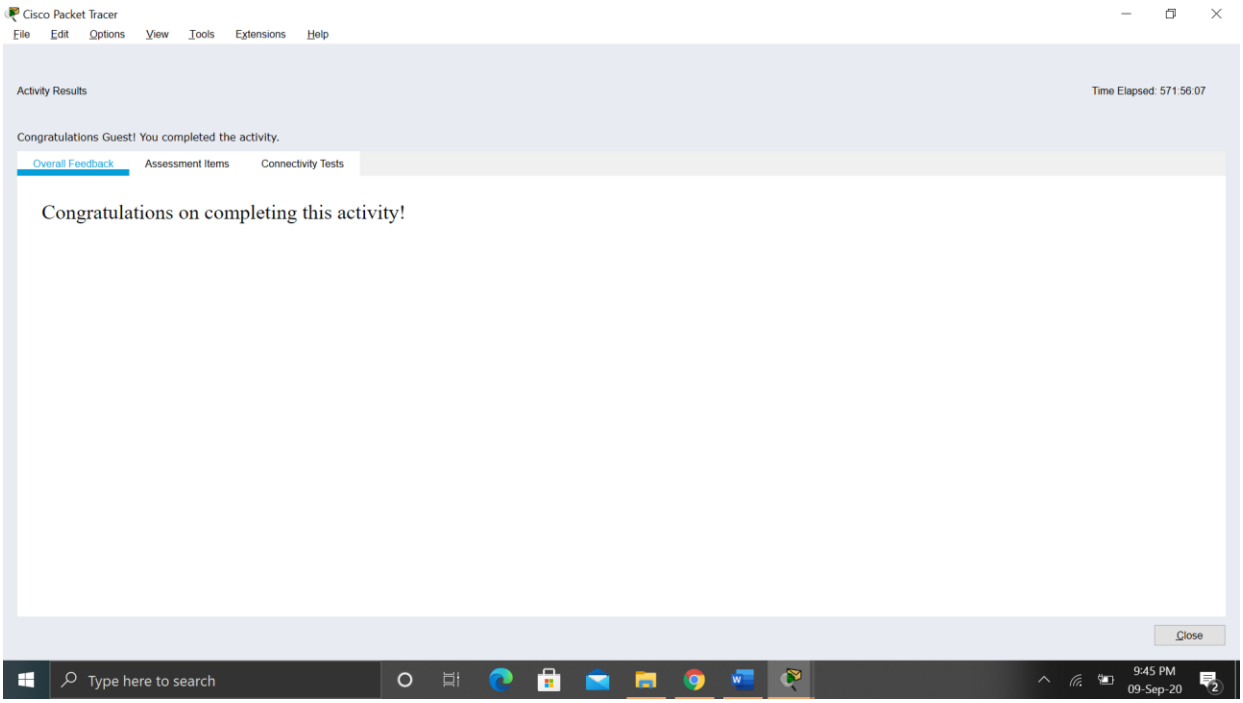
Step 2: Test connectivity from PC0 to PC1

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*.

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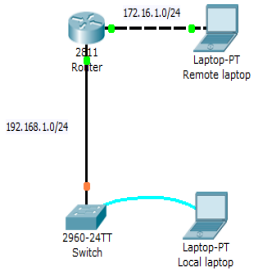
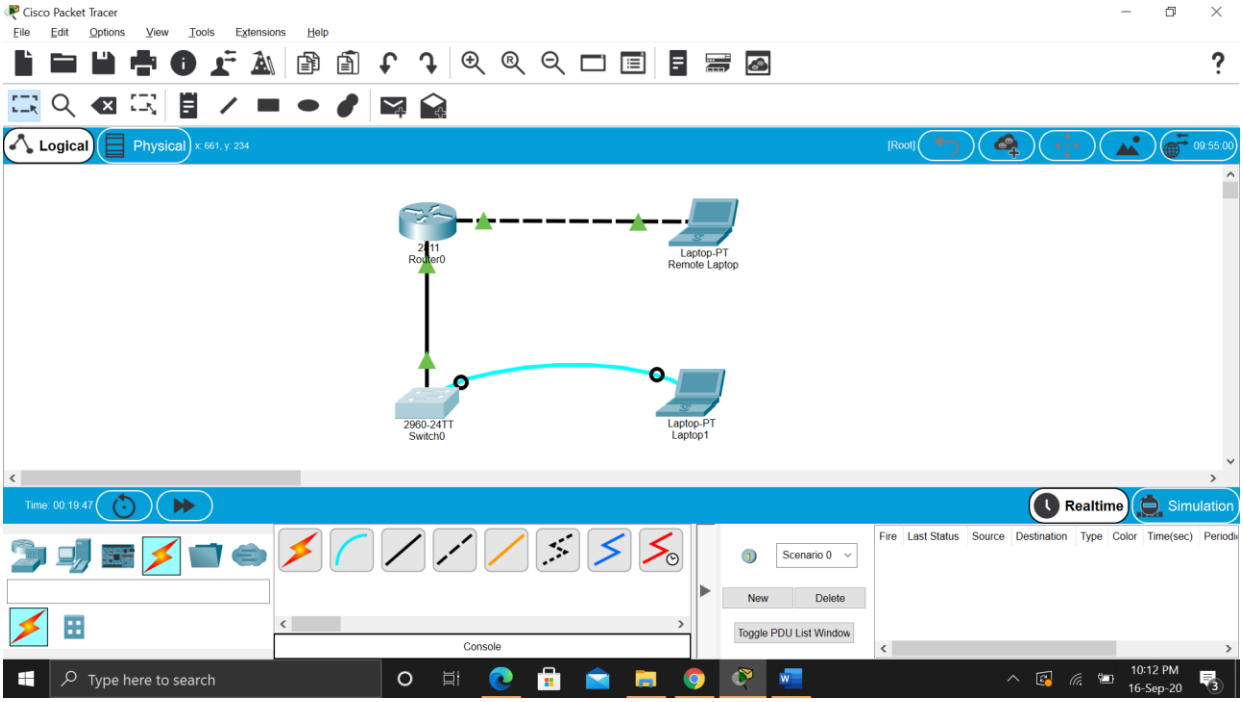
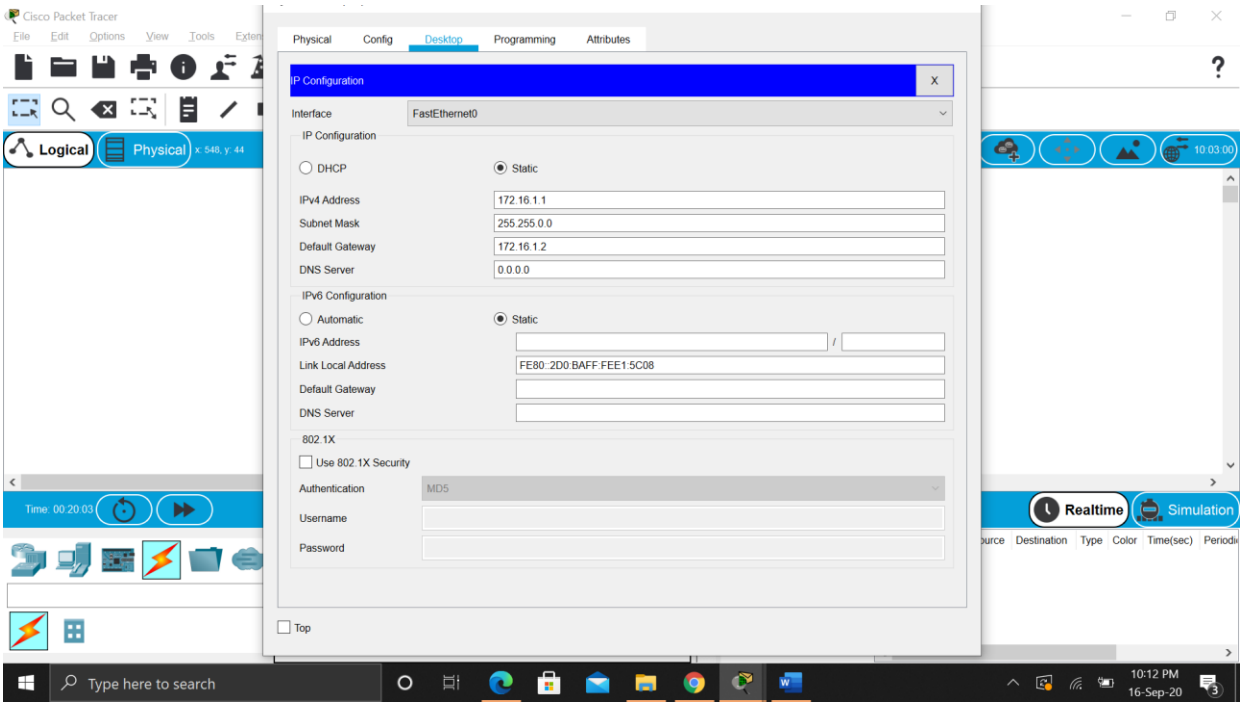
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

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.

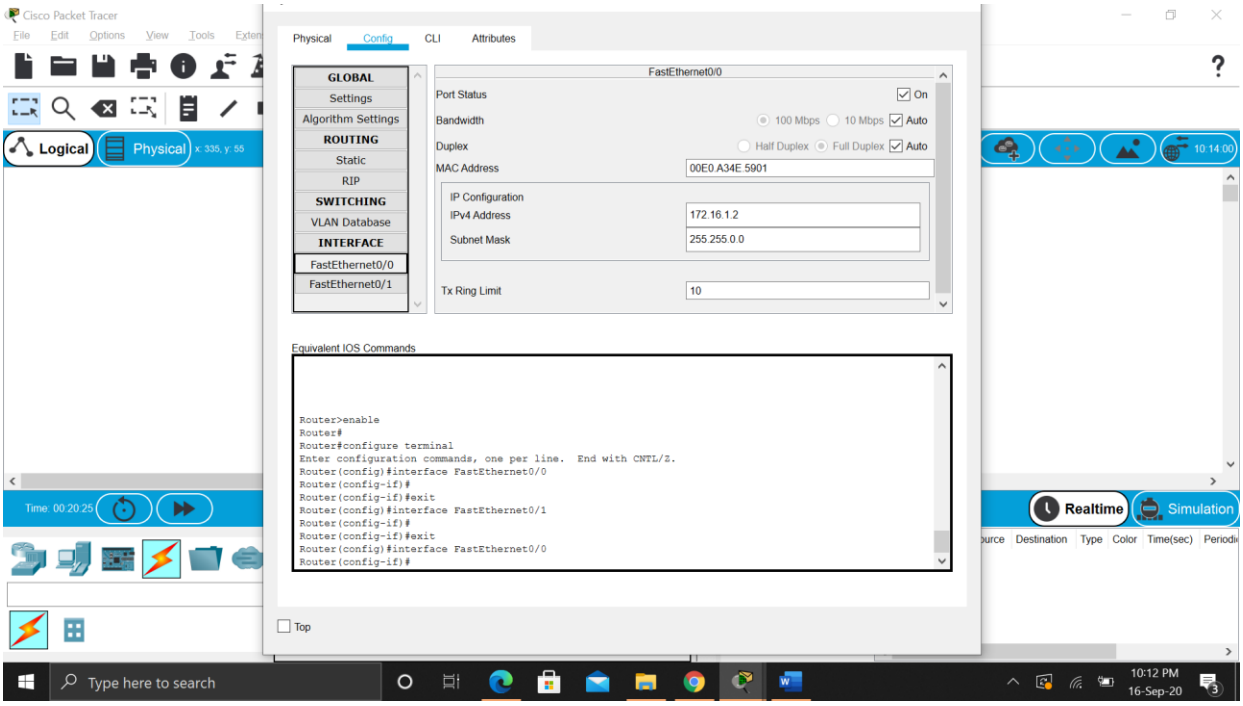


1. Use the local laptop connect to the switch console.

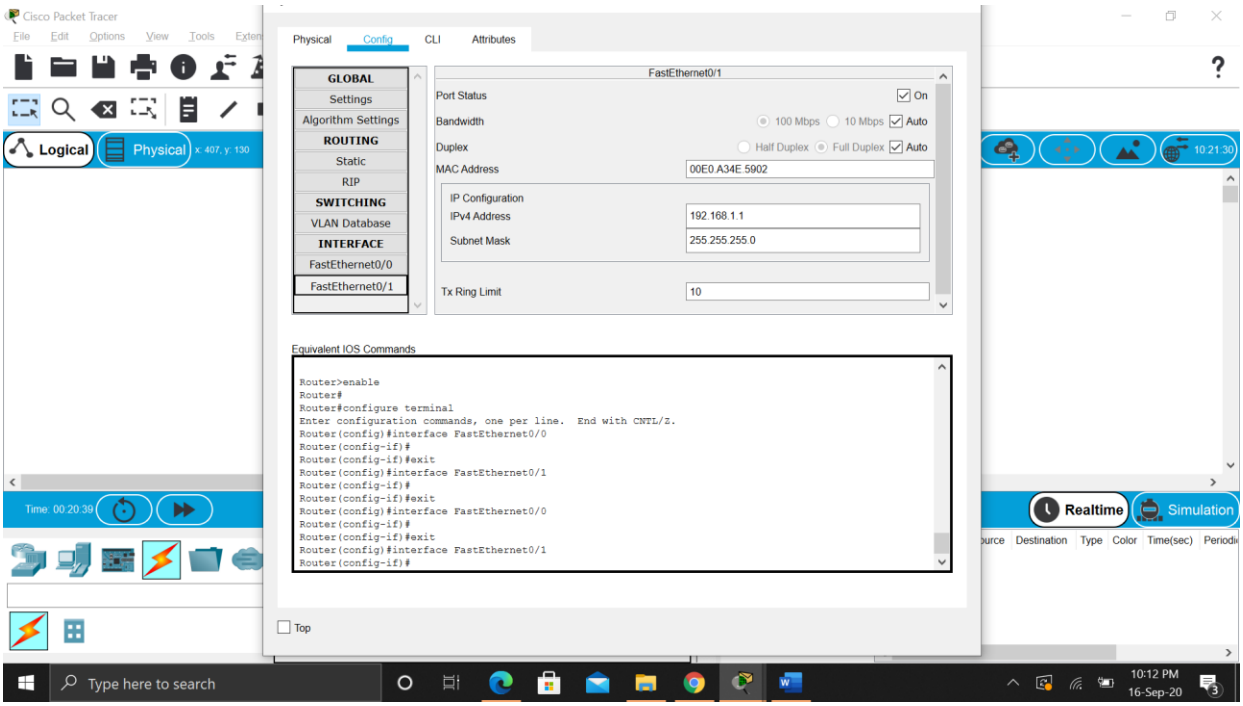




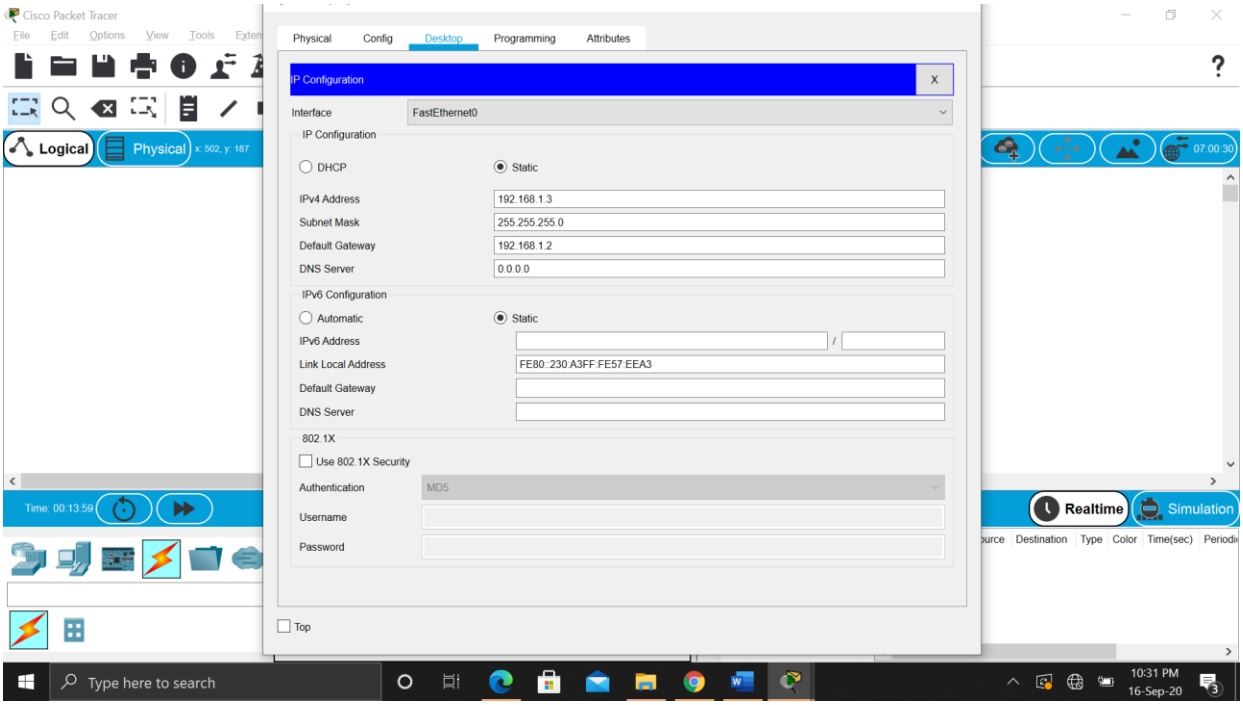
Config Tab of Remote Laptop



Config tab of Router

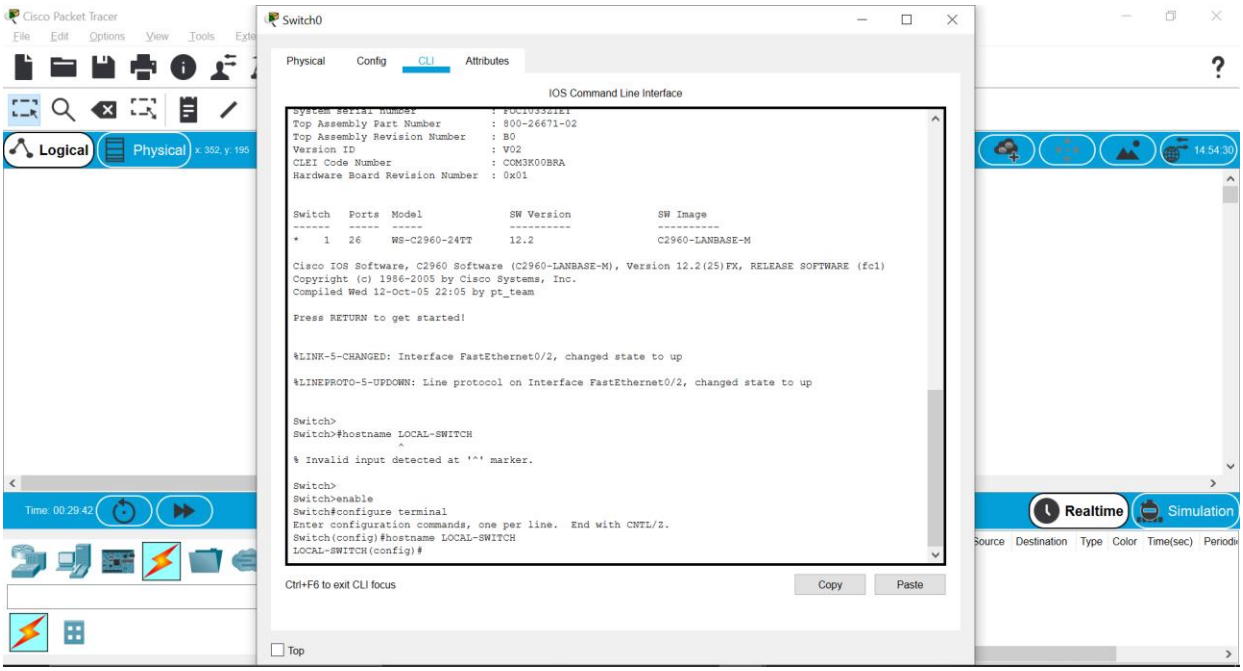


Config tab of Router

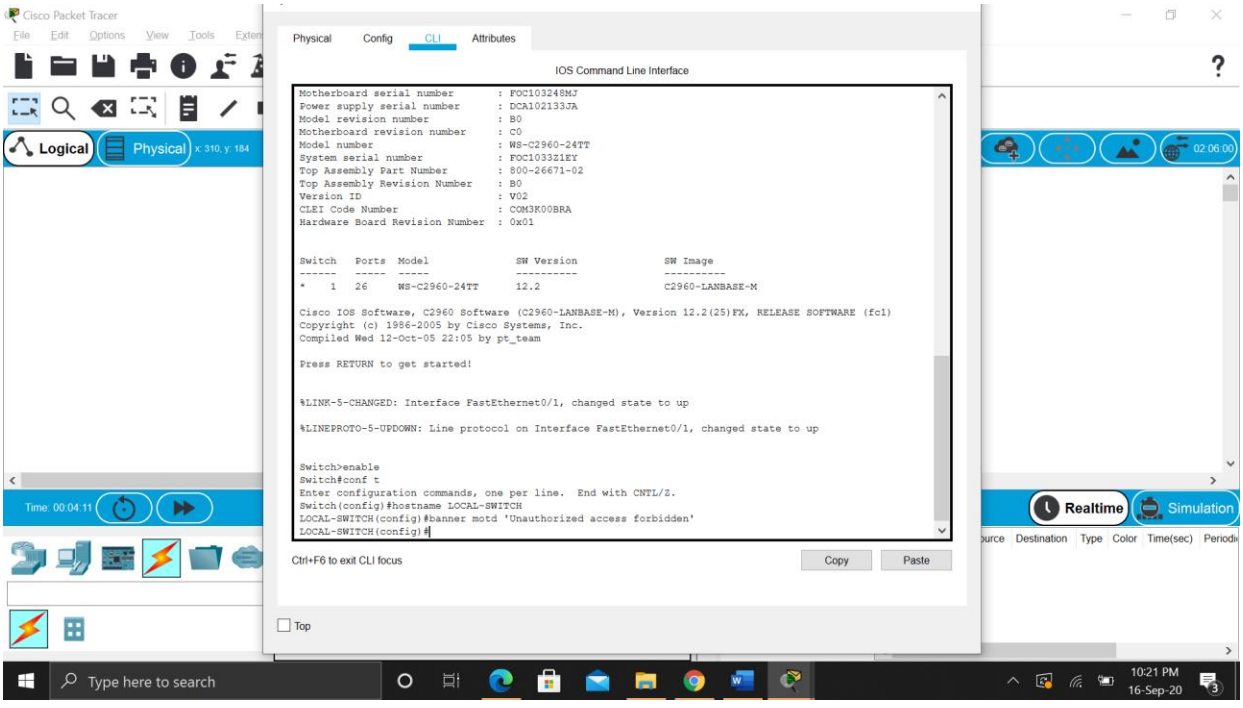


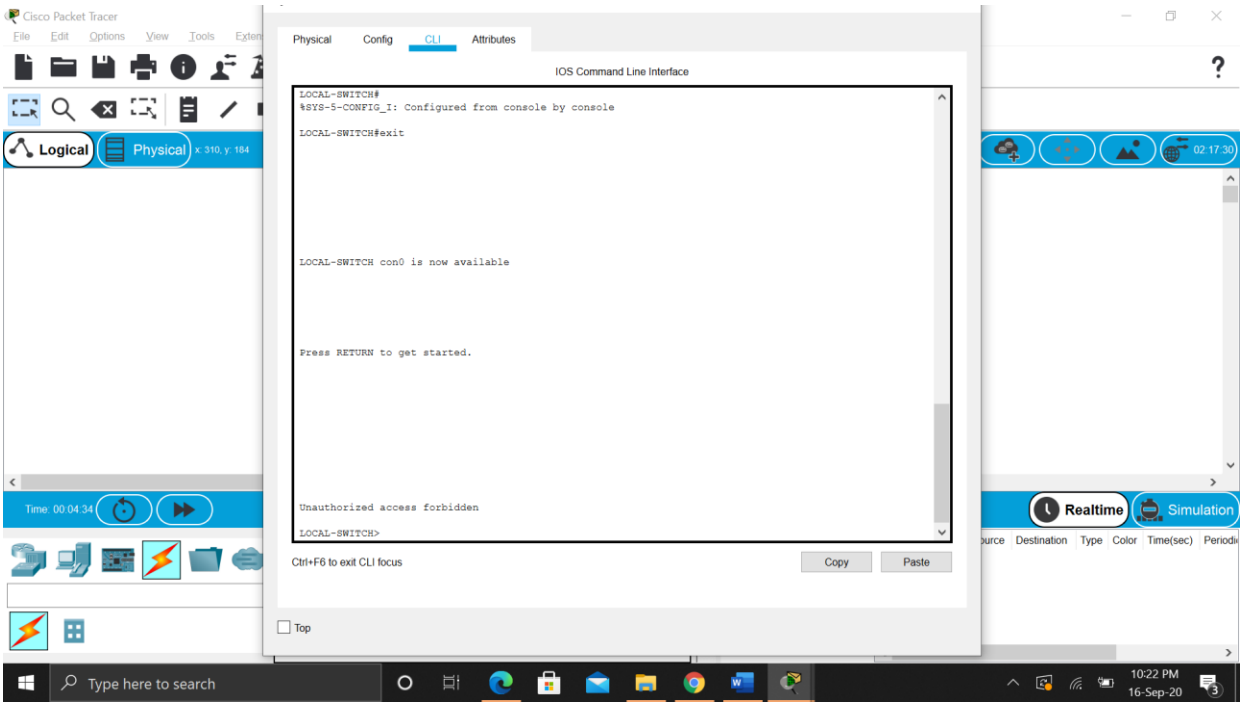
Config tab of local laptop

2. Configure Switch hostname as LOCAL-SWITCH

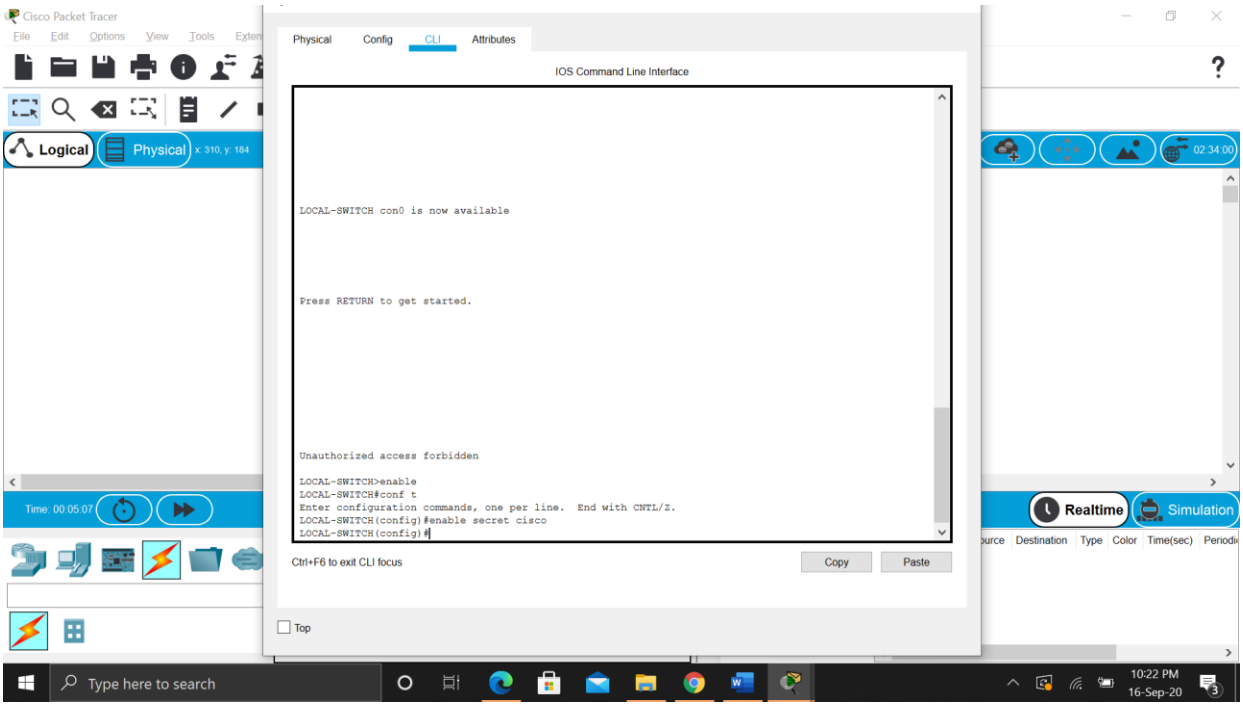


3. Configure the message of the day as "Unauthorized access is forbidden"

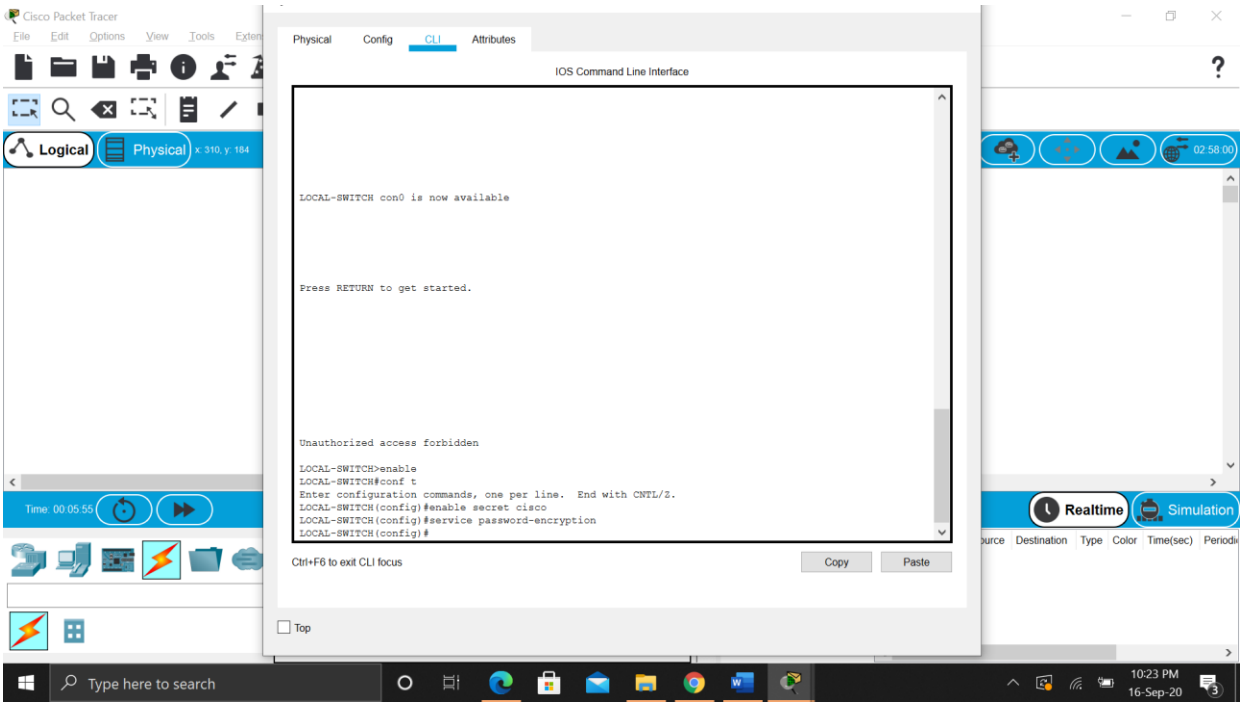


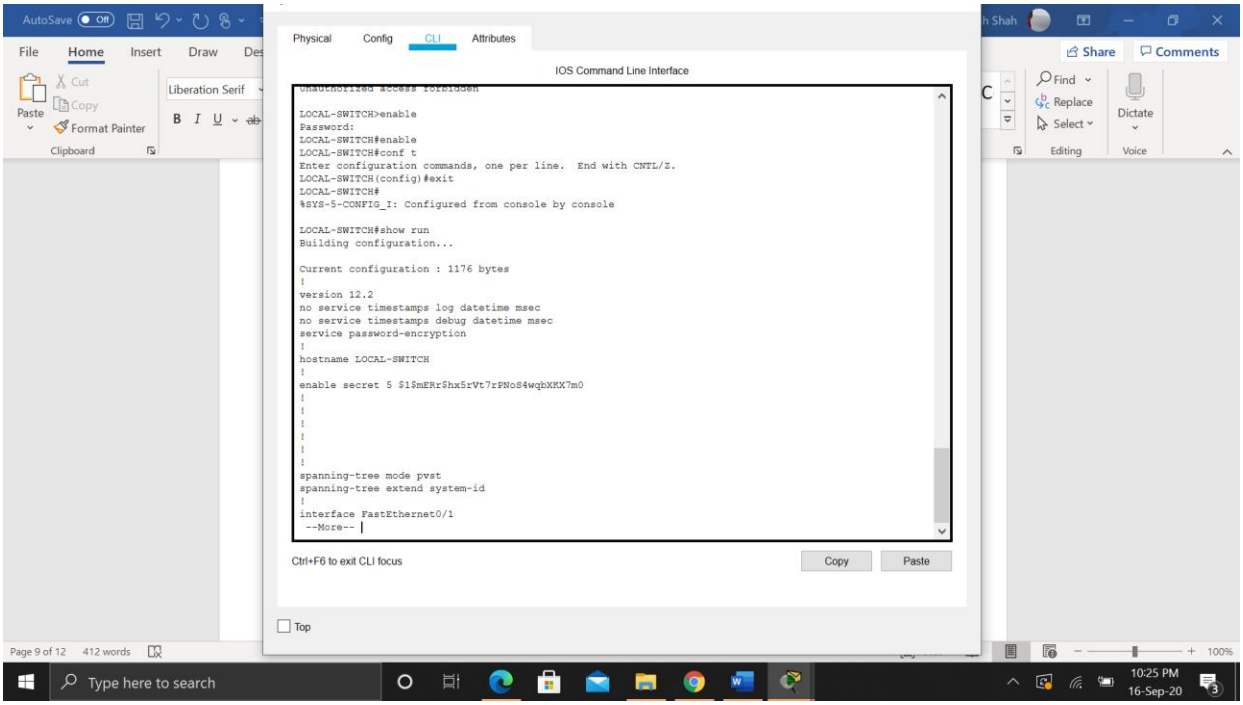


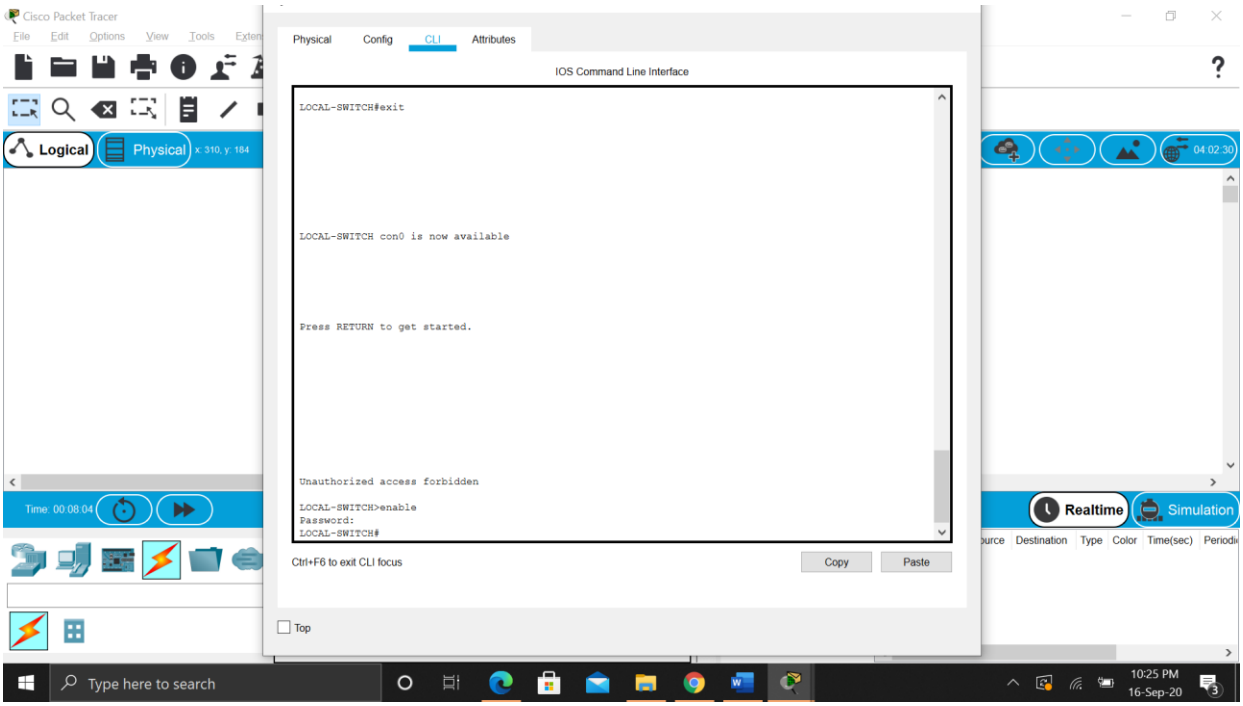
4. Configure the password for privileged mode access as "cisco". The password must be md5 encrypted



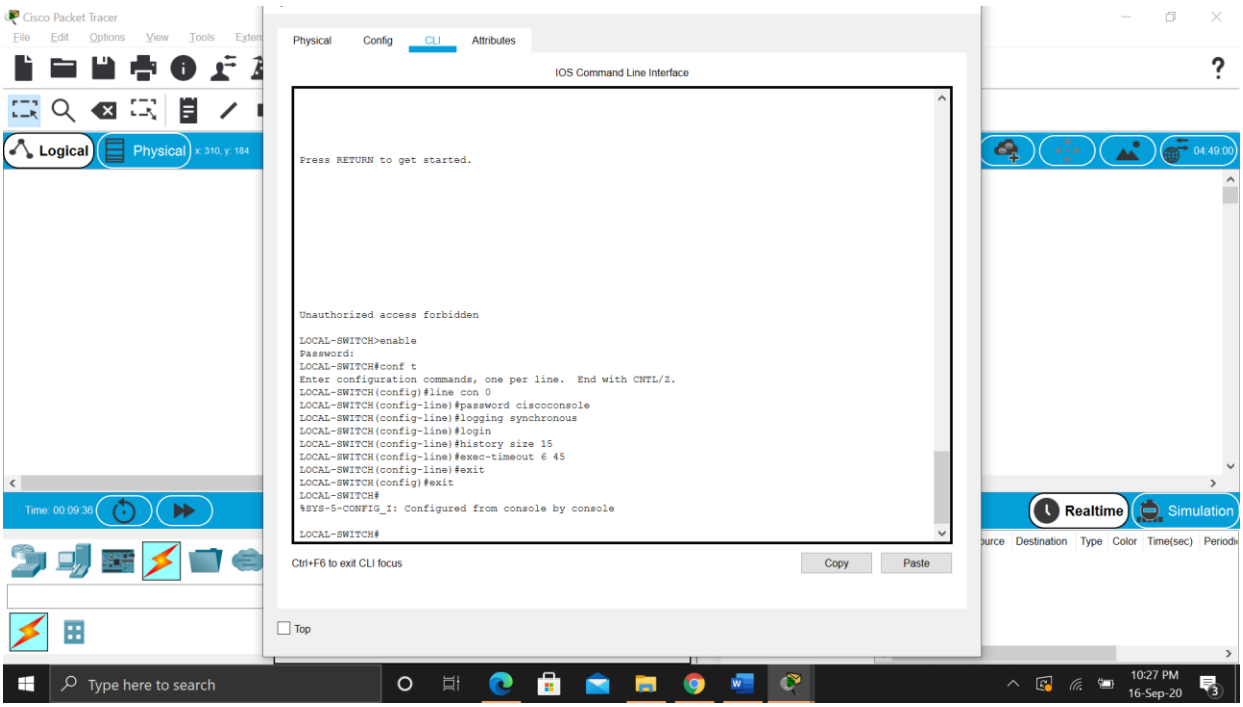
5. Configure password encryption on the switch using the global configuration command

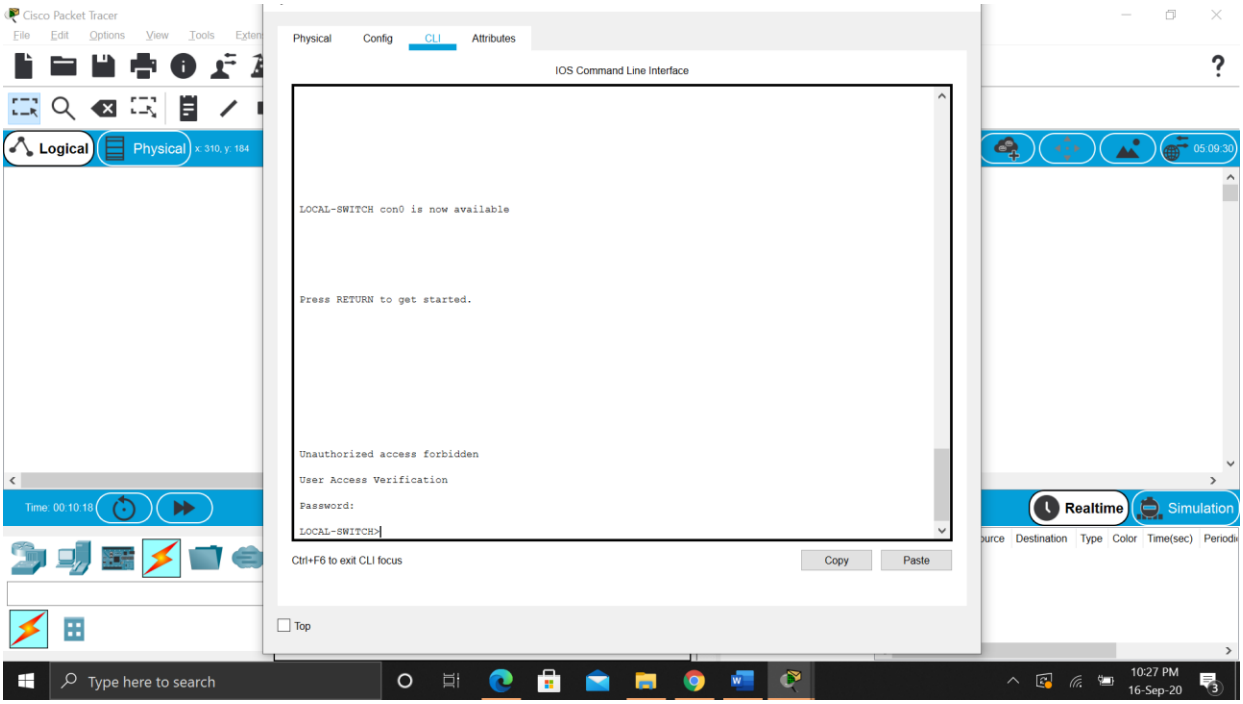

Physical
Config
CLI
Attributes
IOS Command Line Interface
LOCAL-SWITCH con0 is now available
Press RETURN to get started.
Unauthorized access forbidden
LOCAL-SWITCH>enable
LOCAL-SWITCH#conf t
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#enable secret cisco
LOCAL-SWITCH(config)#service password-encryption
LOCAL-SWITCH(config)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Physical
Config
CLI
Attributes
IOS Command Line Interface
LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#enable
LOCAL-SWITCH#conf t
Enter configuration commands, one per line. End with CNTL/Z.
LOCAL-SWITCH(config)#exit
LOCAL-SWITCH#
%SYS-5-CONFIG_I: Configured from console by console
LOCAL-SWITCH#show run
Building configuration...
Current configuration : 1176 bytes
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
service password-encryption
hostname LOCAL-SWITCH
enable secret 5 1mERr$hx5rVt7rPNoS4wqbXKX7m0
spanning-tree mode pvst
spanning-tree extend system-id
interface FastEthernet0/1
--More--
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

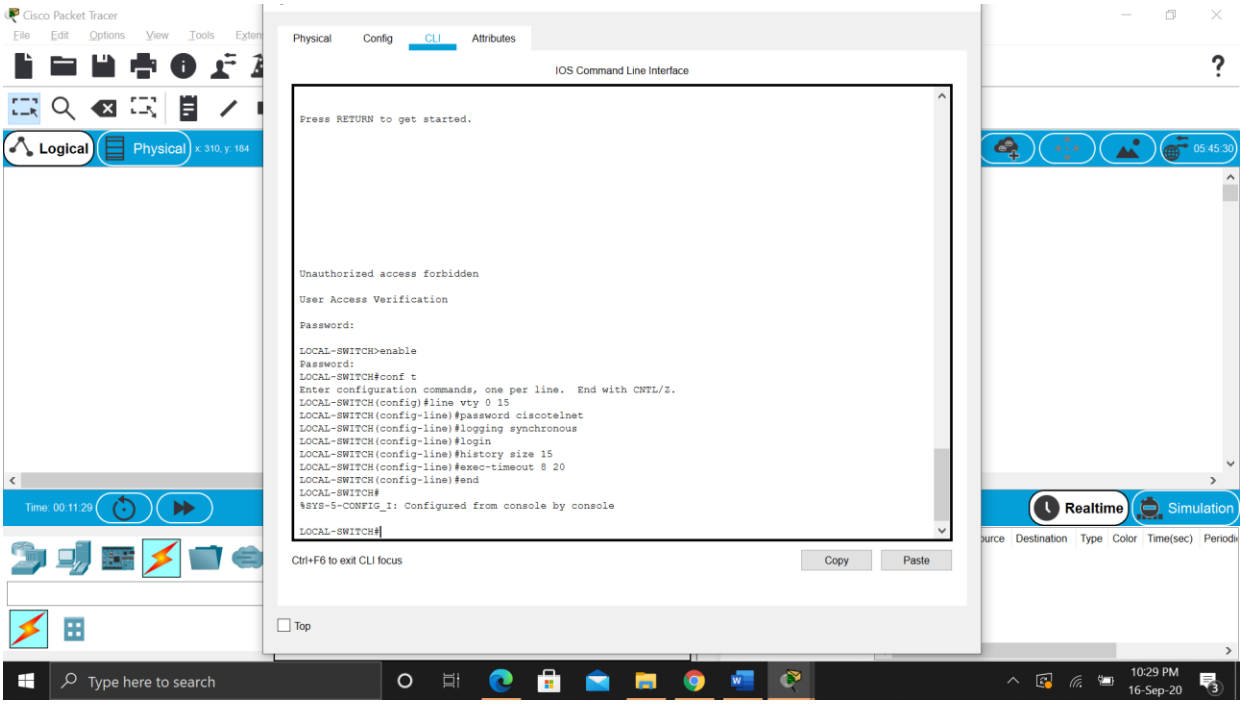


6. Configure CONSOLE access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 6'45"
- Synchronous logging

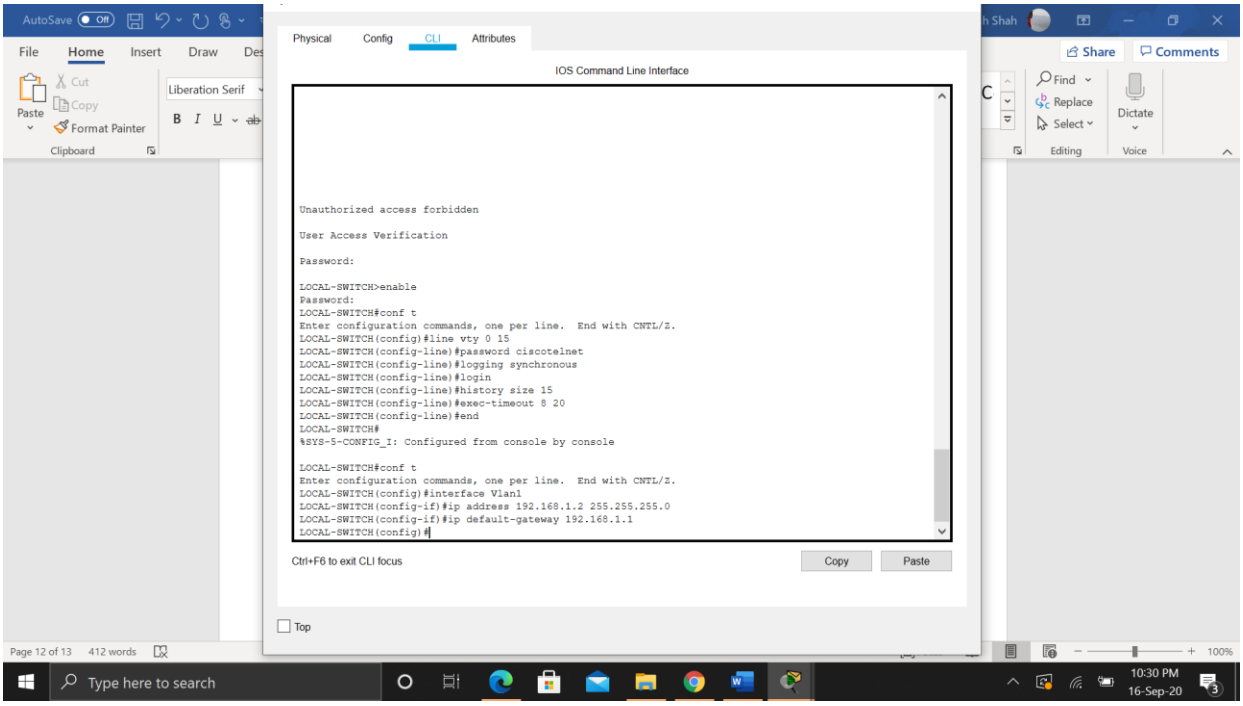




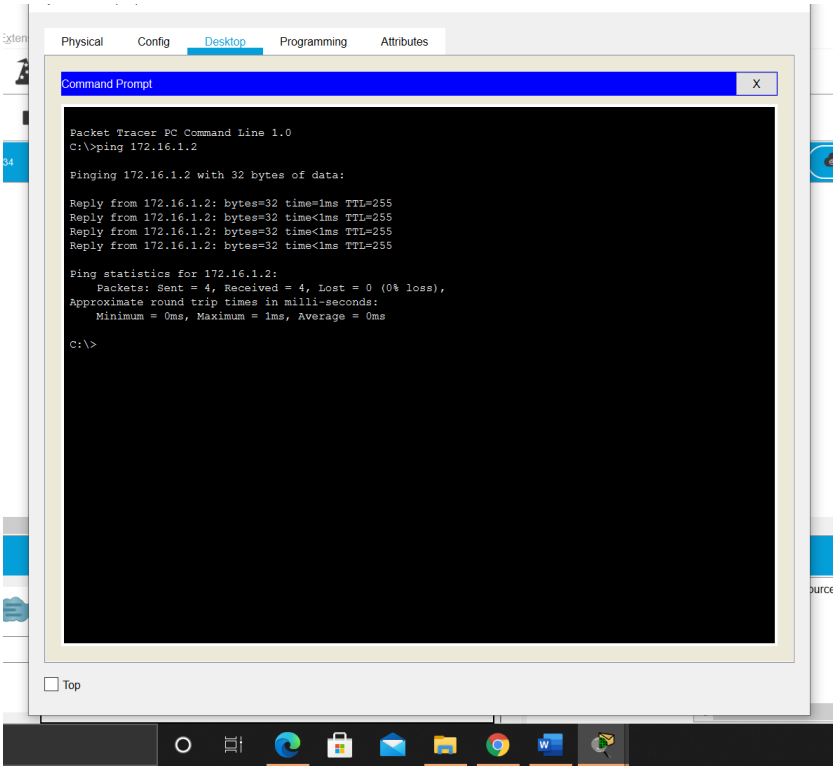
6. Configure TELNET access with the following settings :
- Login enabled
- Password : whatever you like
- History size : 15 commands
- Timeout : 8'20"
- Synchronous logging



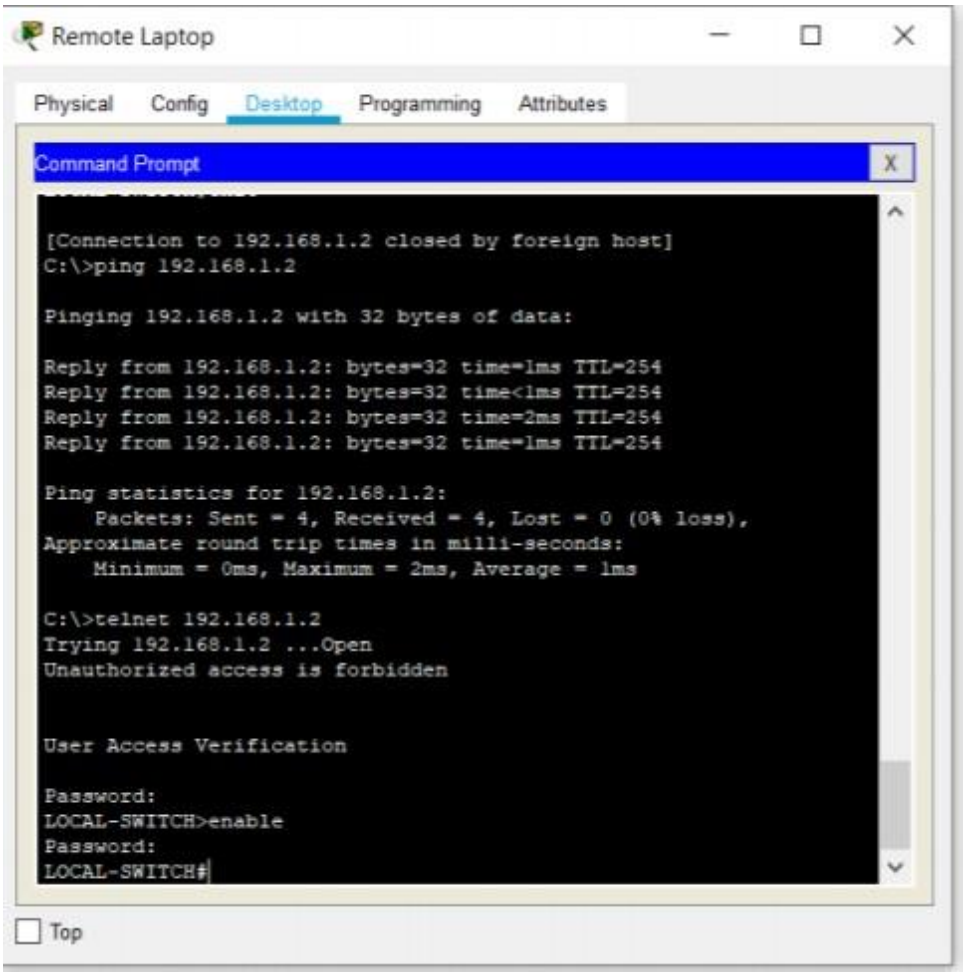
7. Configure the IP address of the switch as 192.168.1.2/24 and it's default gateway IP (192.168.1.1).

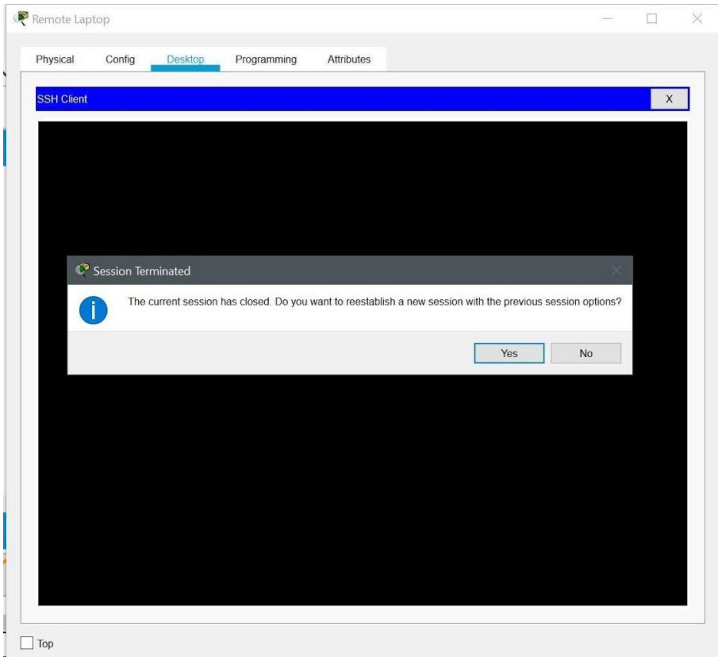


8. Test telnet connectivity from the Remote Laptop using the telnet client.



Pinging router from remote laptop


Remote Laptop
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
[Connection to 192.168.1.2 closed by foreign host]
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=2ms 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 = 2ms, Average = 1ms
C:\>telnet 192.168.1.2
Trying 192.168.1.2 ...Open
Unauthorized access is forbidden
User Access Verification
Password:
LOCAL-SWITCH>enable
Password:
LOCAL-SWITCH#
Top


Remote Laptop
Physical
Config
Desktop
Programming
Attributes
SSH Client
X
Session Terminated
The current session has closed. Do you want to reestablish a new session with the previous session options?
Yes
No
Top

CONCLUSION: In this experiment, I learned about setting up network with Router and Switch. I learned to configure Switch using CLI. I understood how to configure terminal. I configured telnet for switch and checked its connectivity from remote laptop