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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

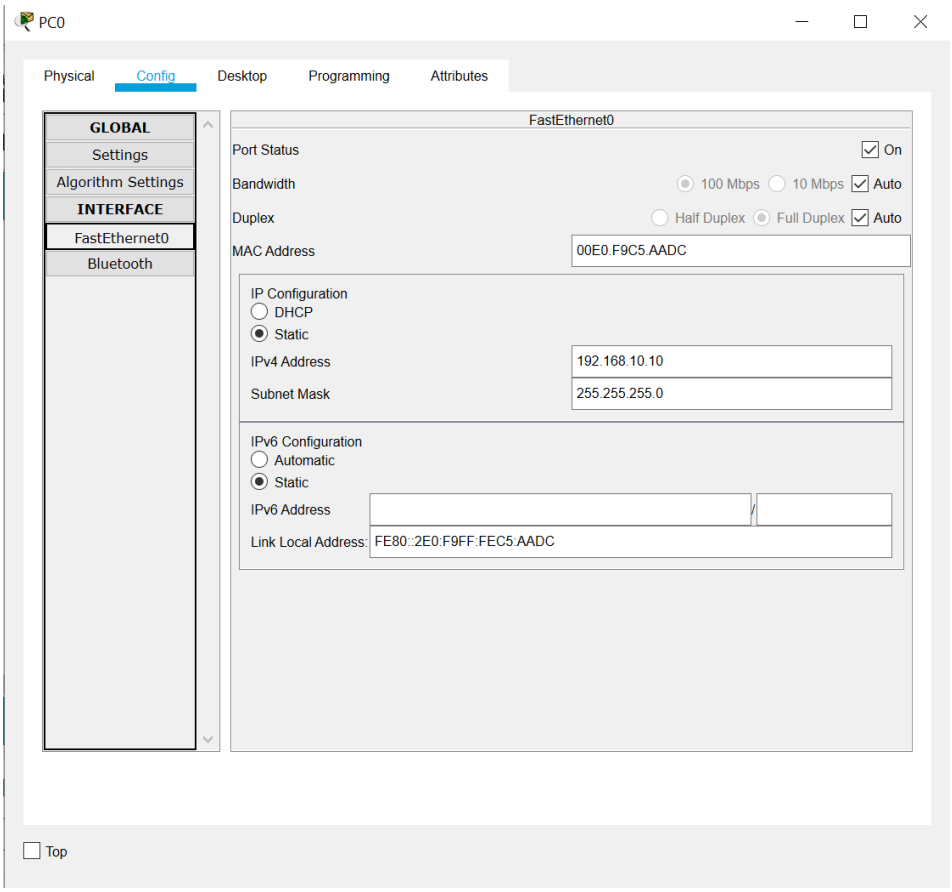

Fig 1: Config tab of PC0

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

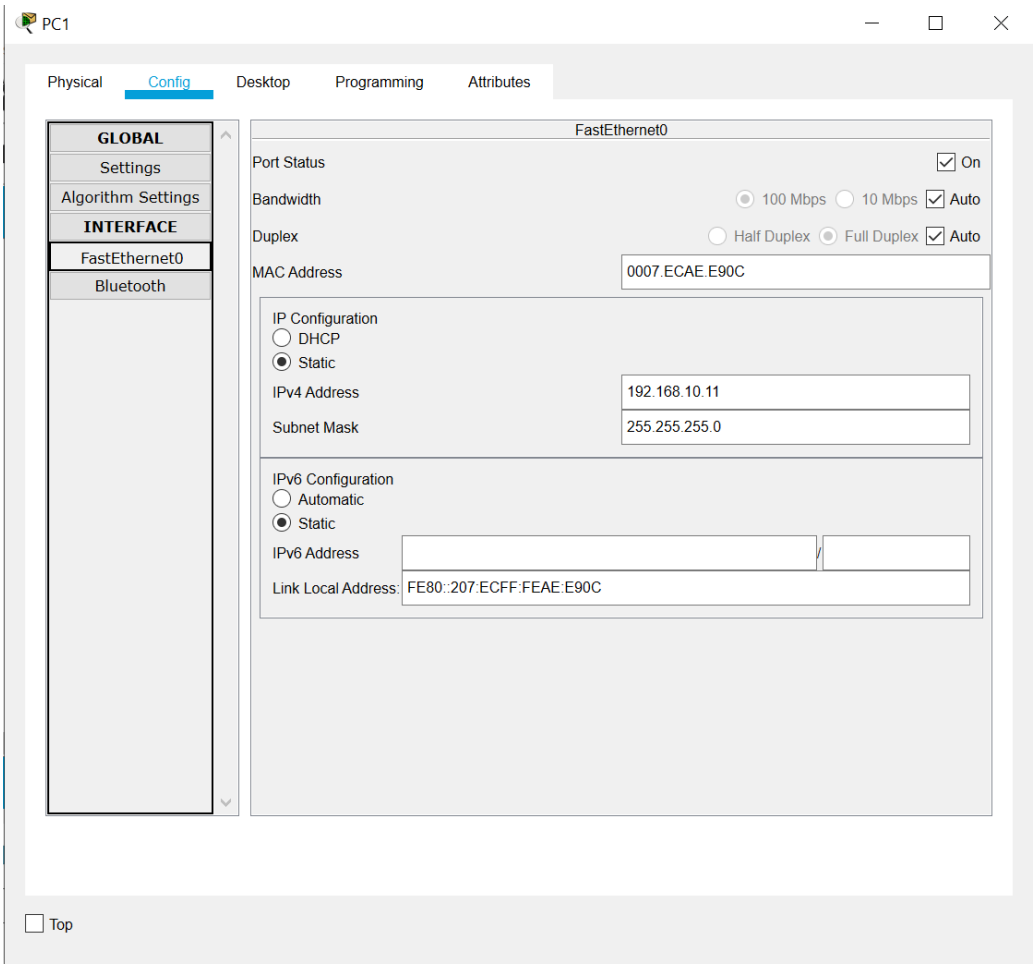

Fig 2: Config tab of PC1

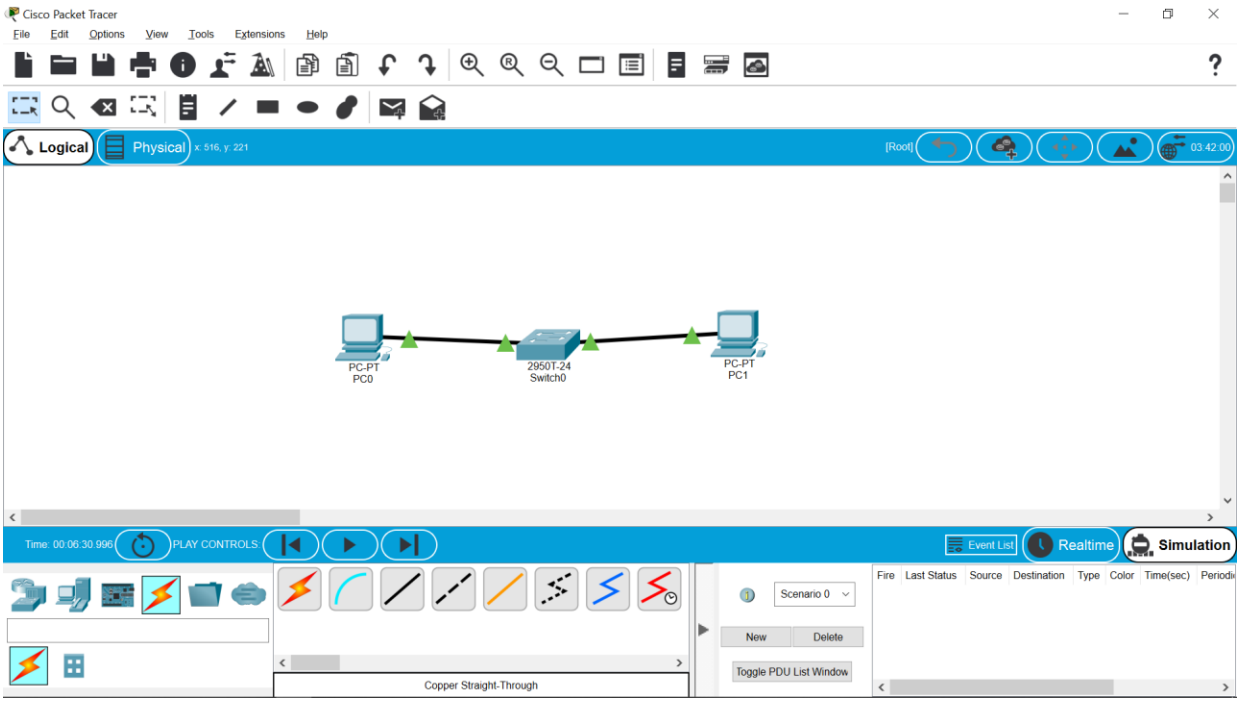

Fig 3: PC0 and PC1 connected to 2950T switch.

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:

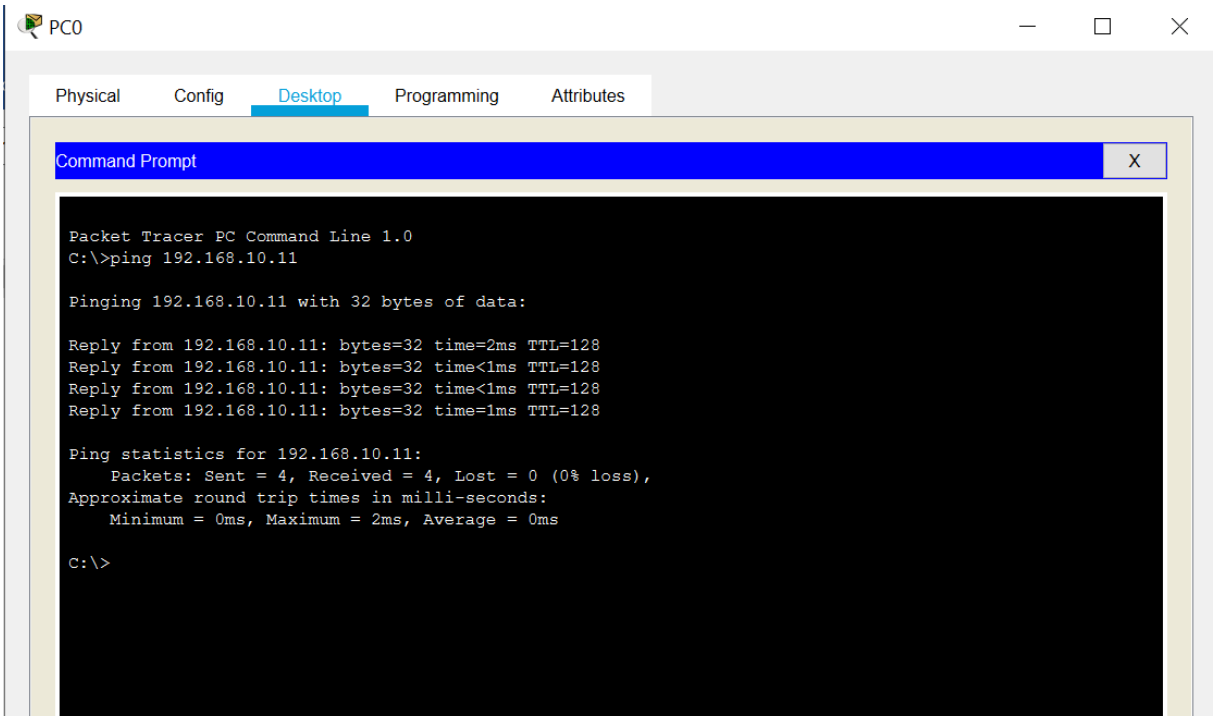

Fig 4: ping to PC1 was successful

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

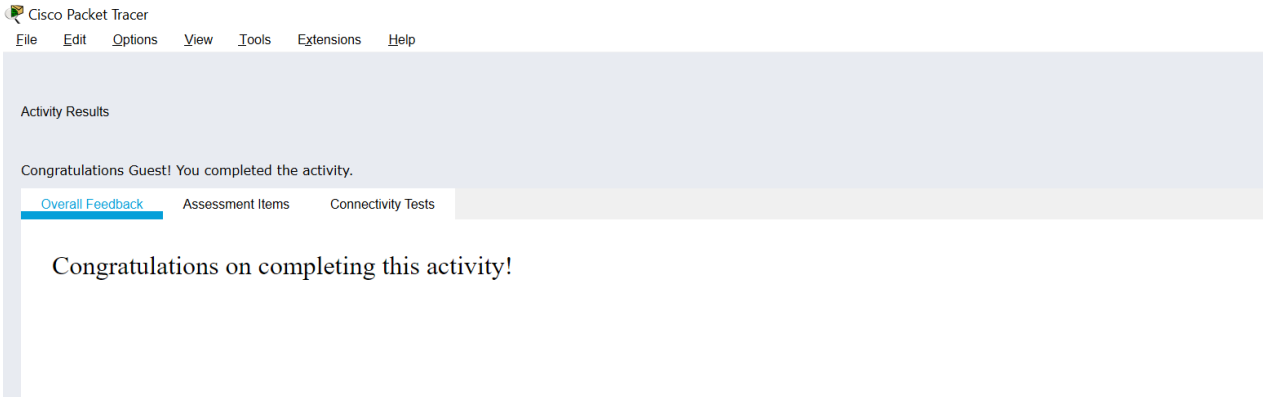

Fig 5: Activity Results

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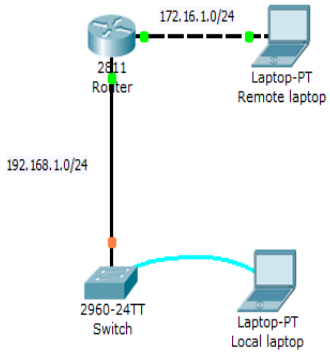
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

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

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.

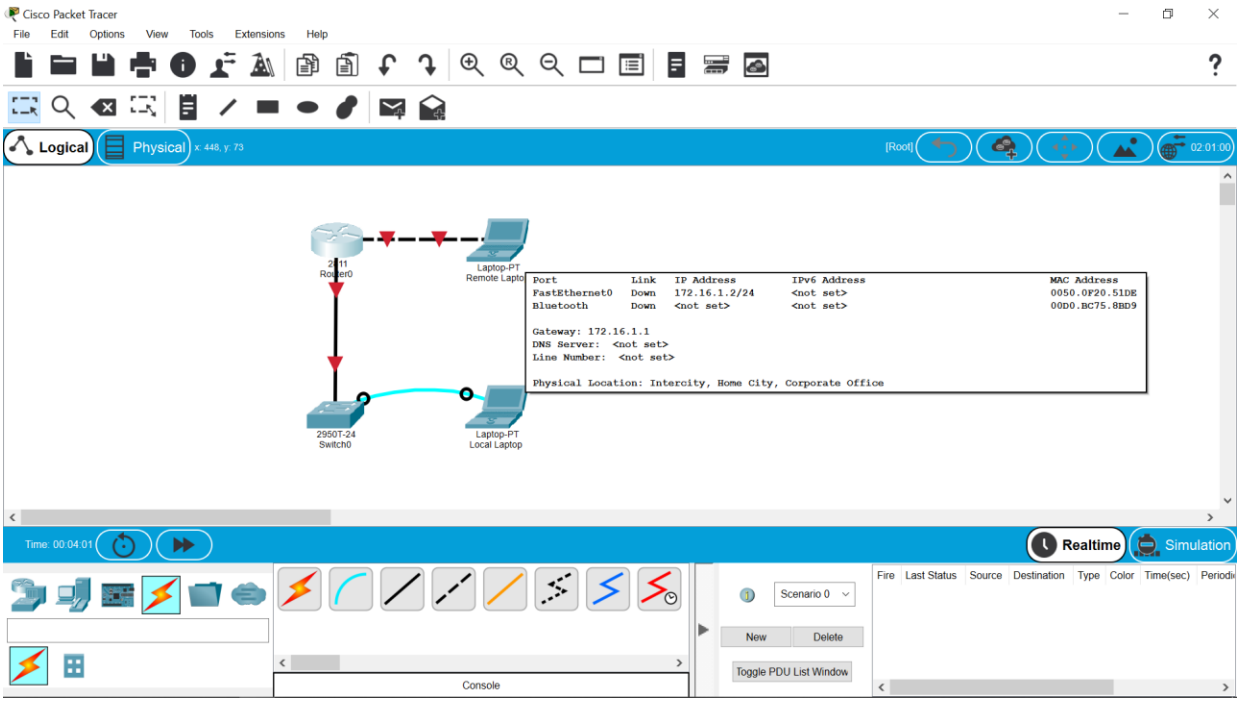


Fig 1: The network has been setup.

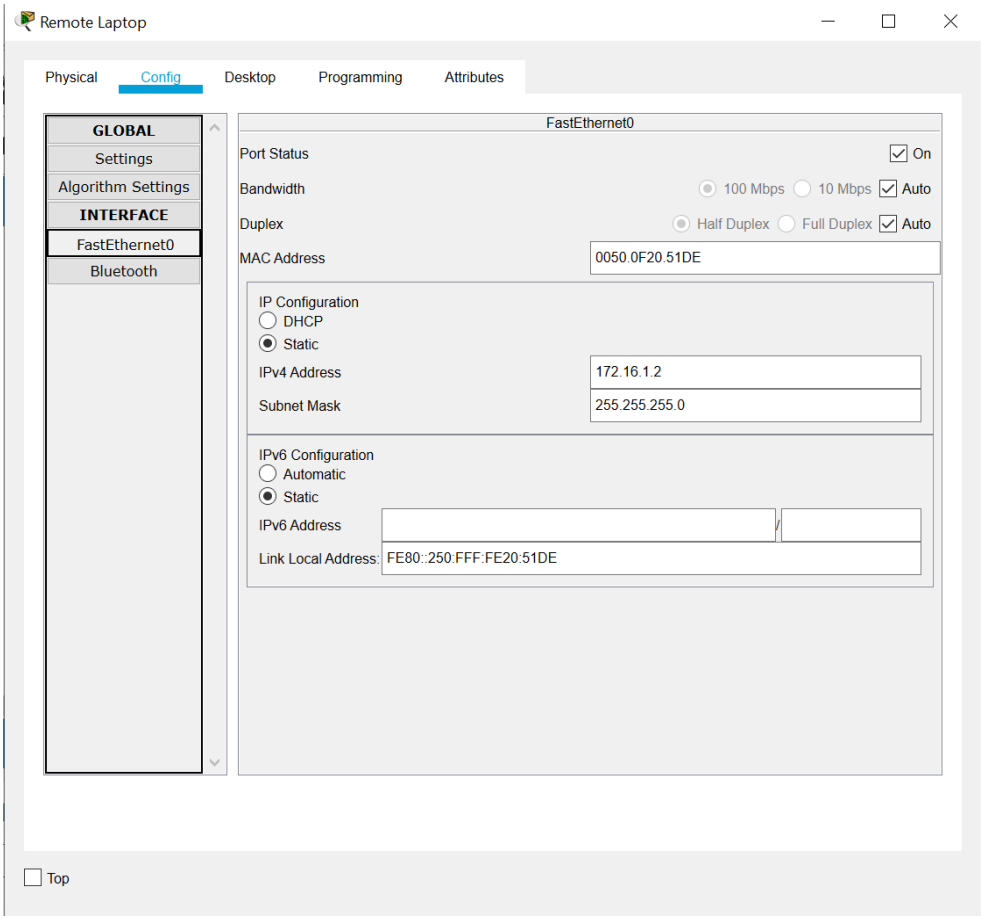


Fig 2: Config tab of remote laptop.

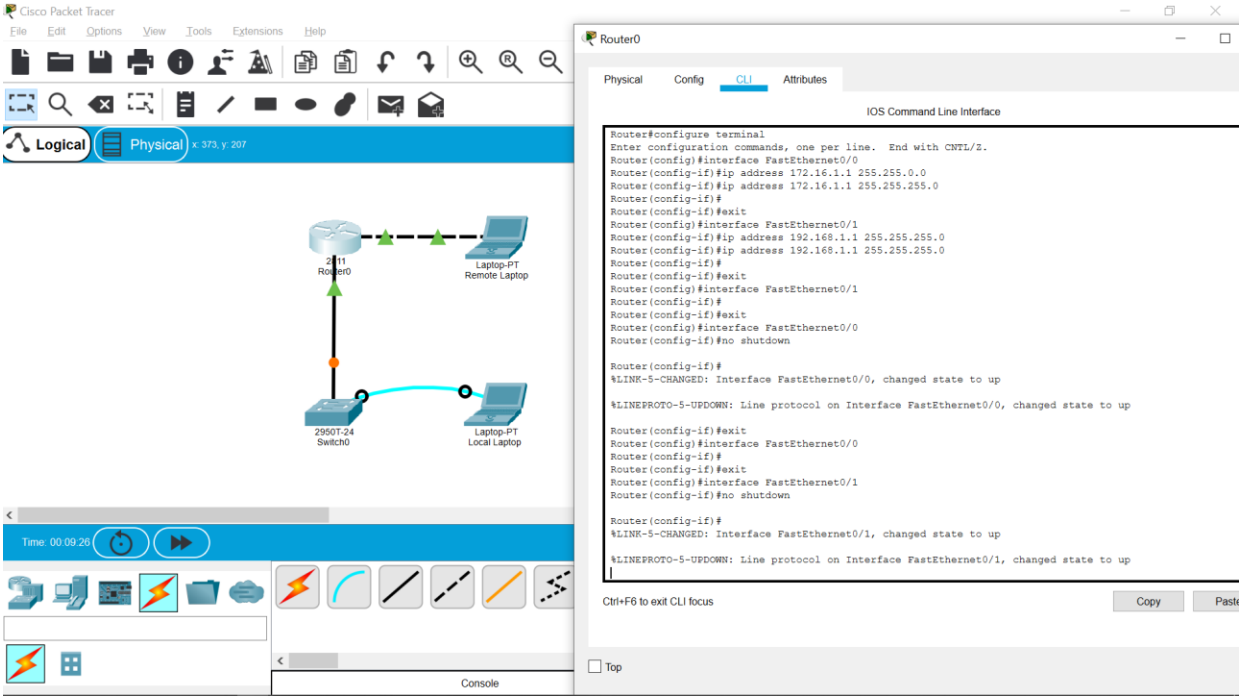


Fig 3: Router interface setup.

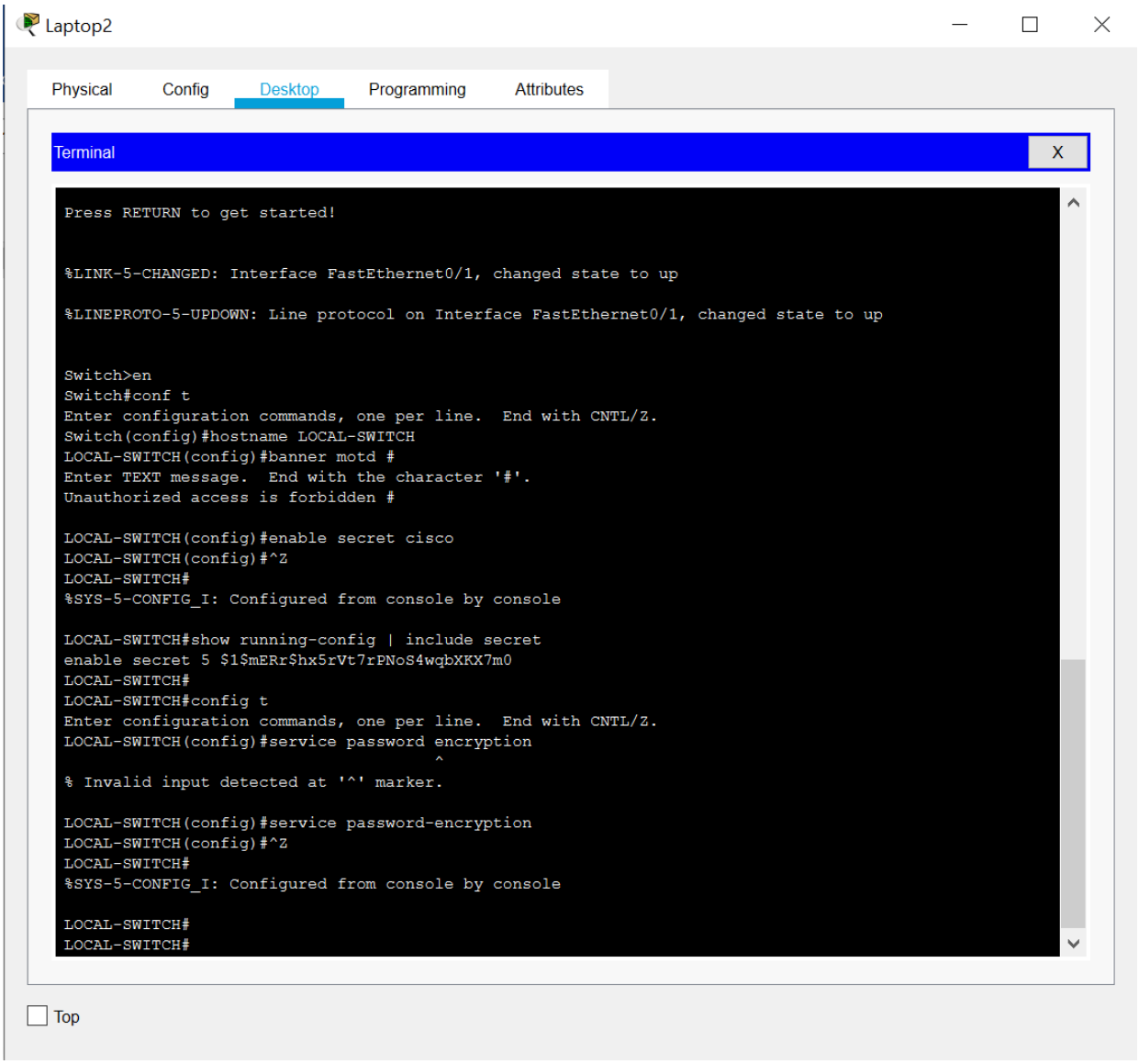


Fig 4: hostname changed, motd set, password for privileged mode is set and md5 encrypted.

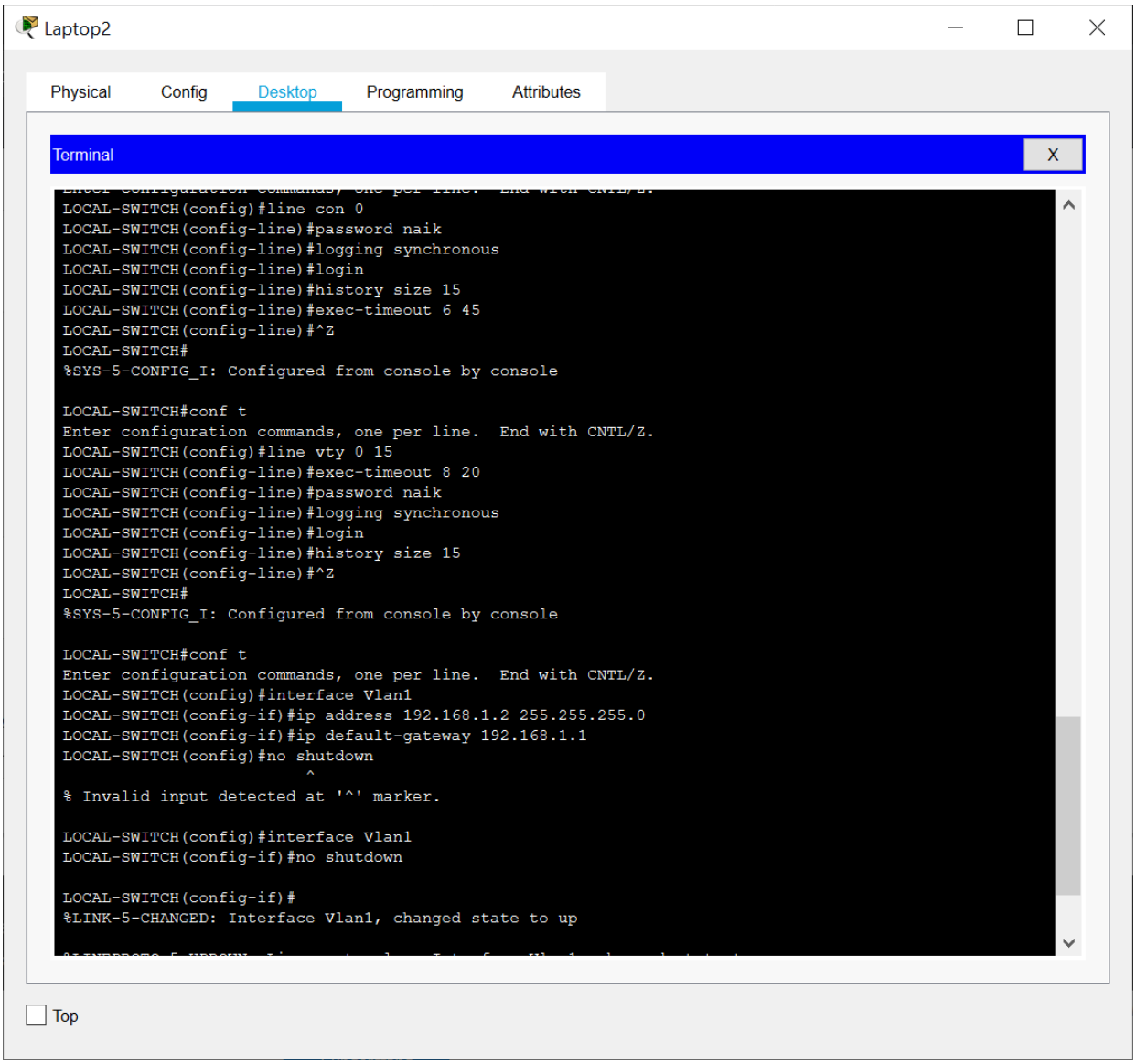


Fig 5: Configured console access, telnet access and configured the ip address of the switch.

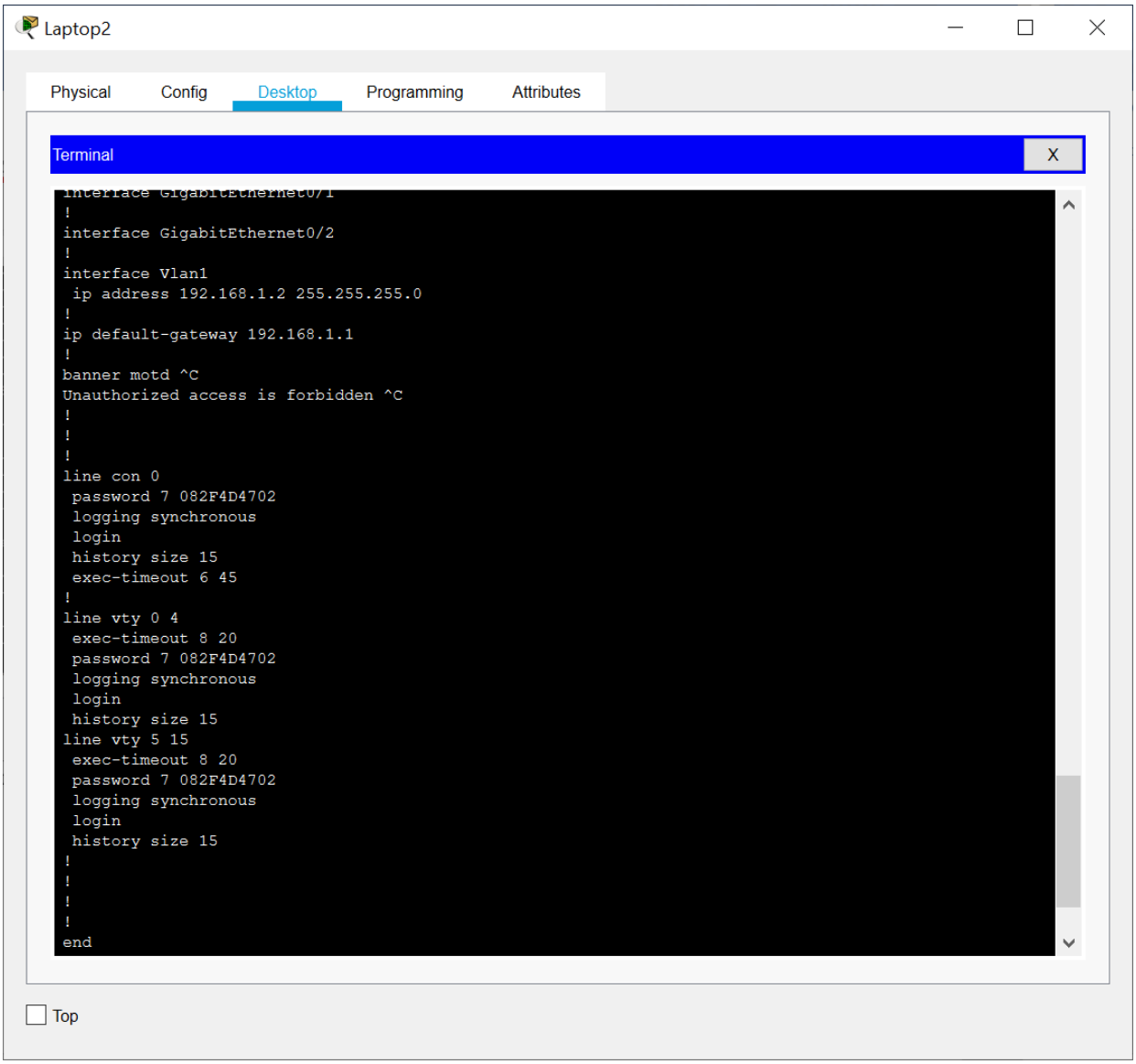


Fig 6: sh run command shows the entire config details without breaks.

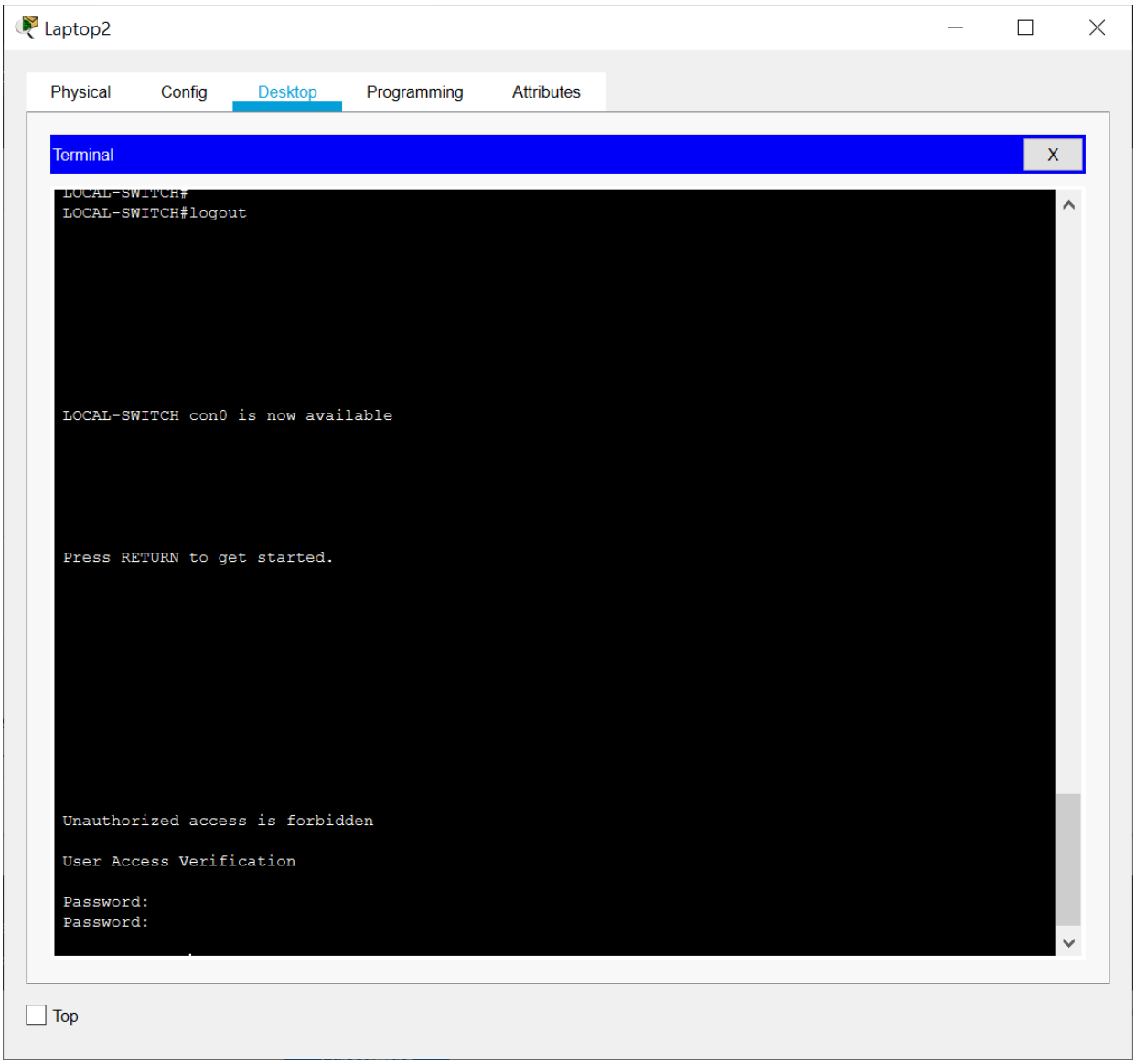


Fig 7: Shows that console access is password protected.

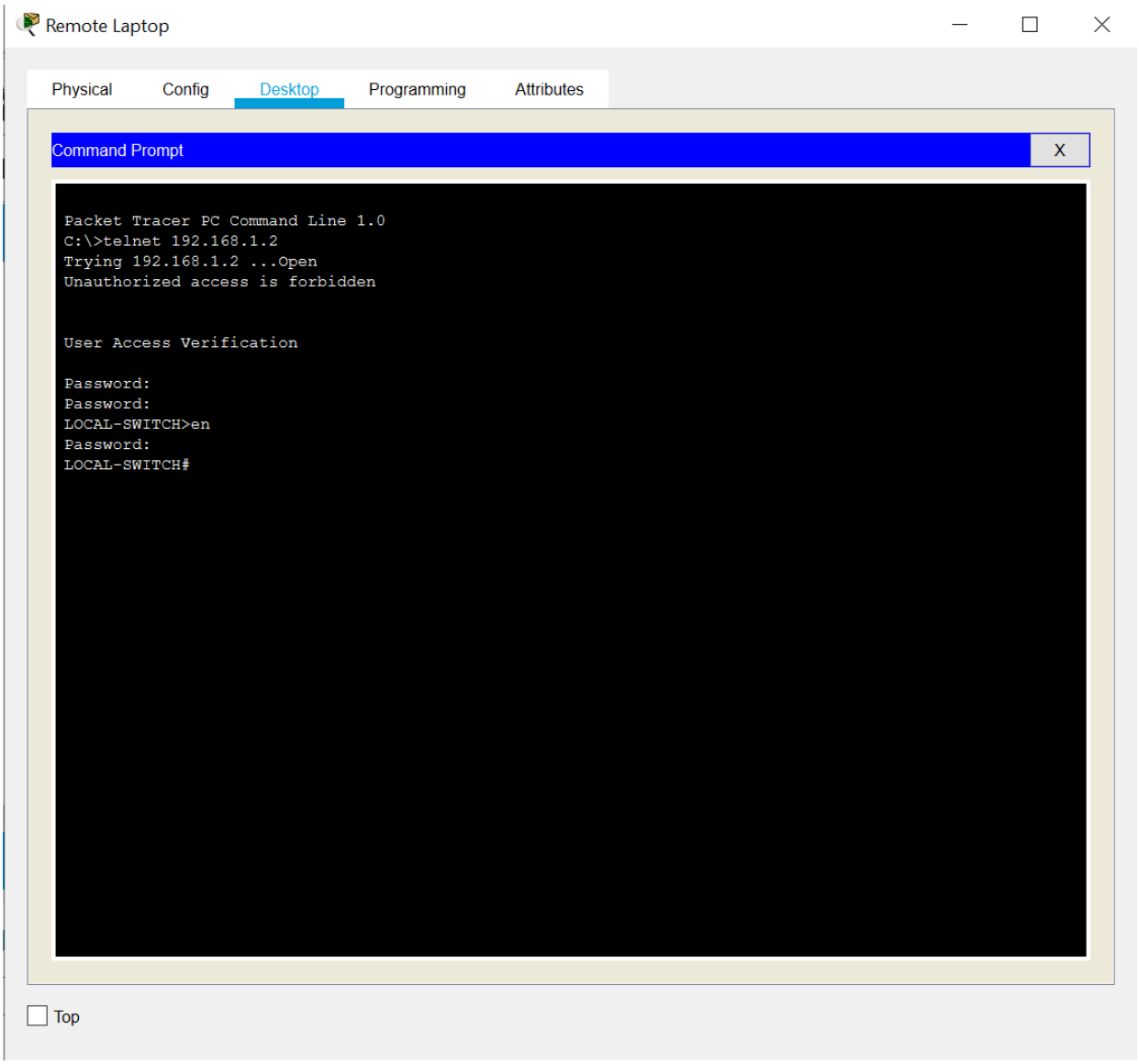


Fig 8: telnet access from remote laptop is password protected and so is priviliged access.

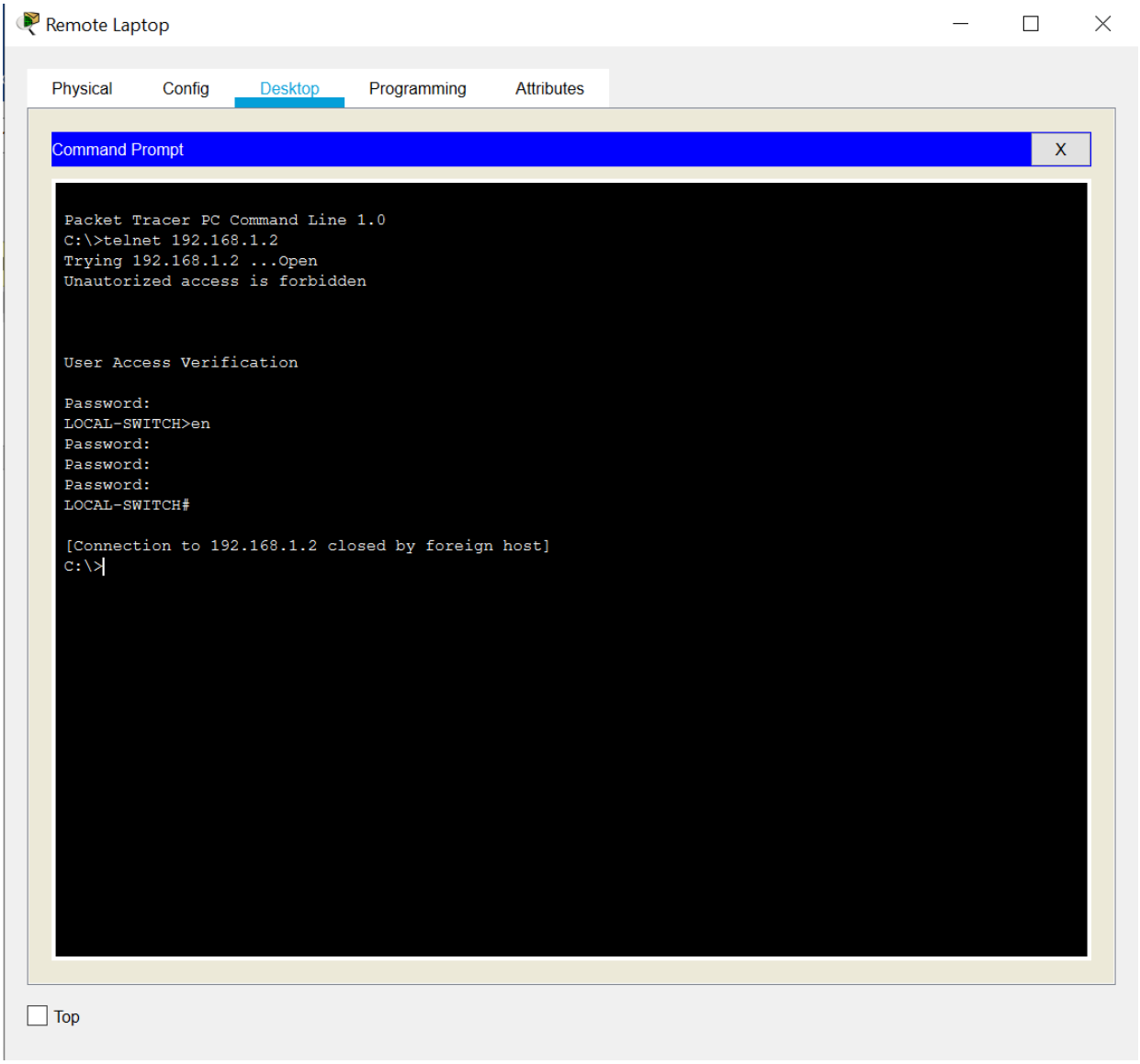


Fig 9: After waiting for timeout period the telnet connection is ended by the host.

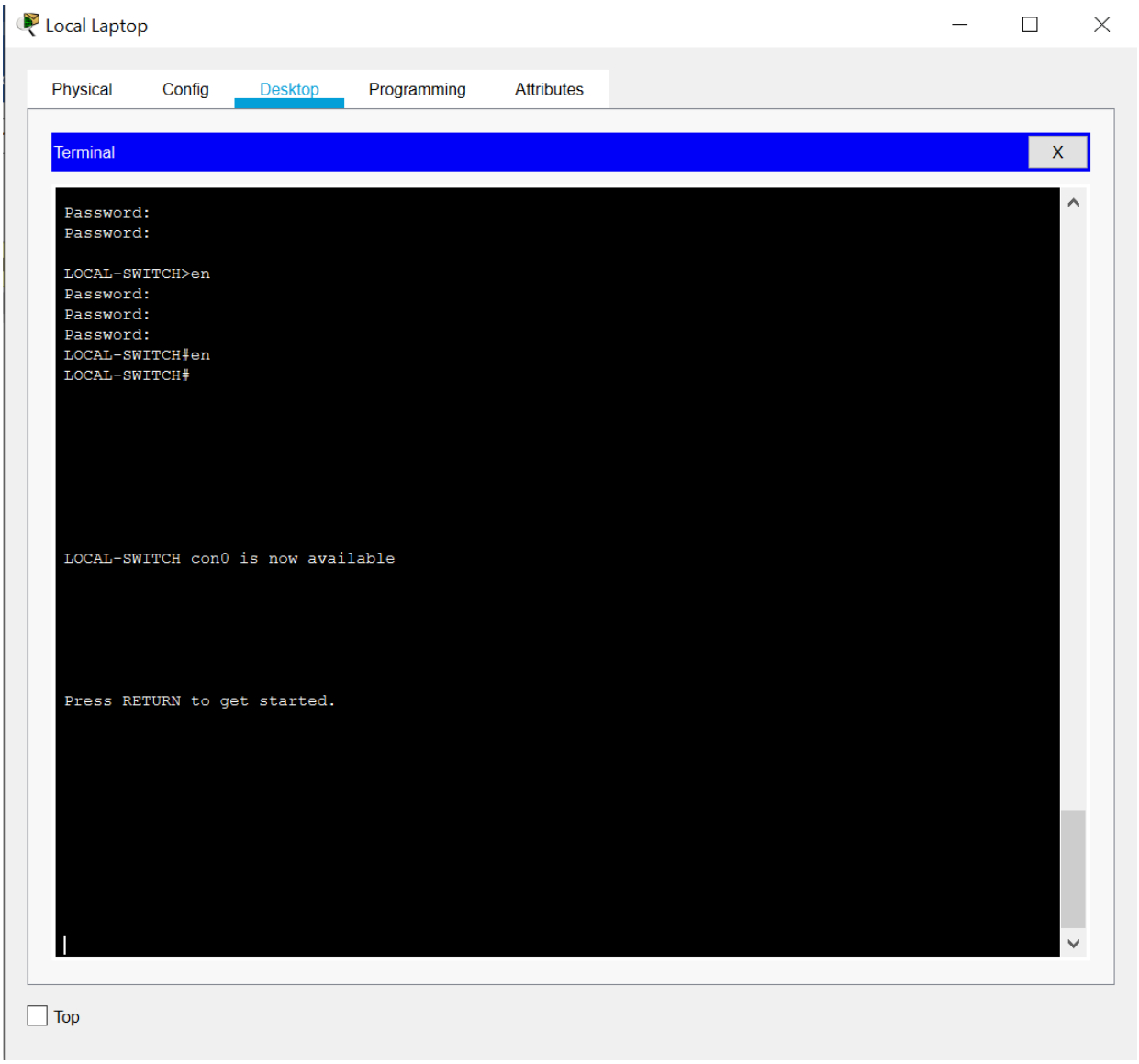


Fig 10: After waiting for timeout period the CLI closes.

Conclusion:

- In this experiment, I learned about setting up network with Router and Switch.
- I learned to configure Switch using CLI.