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CEL 51, DCCN, Monsoon 2020

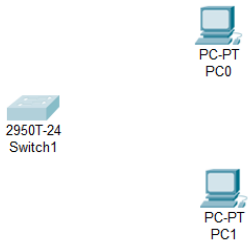
Lab 4: Prototyping a Network

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**.

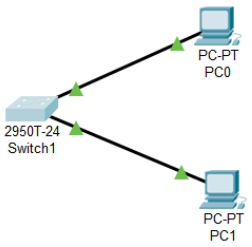


Fig 4.1 Topology.(connecting the devices and turing port status on)

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

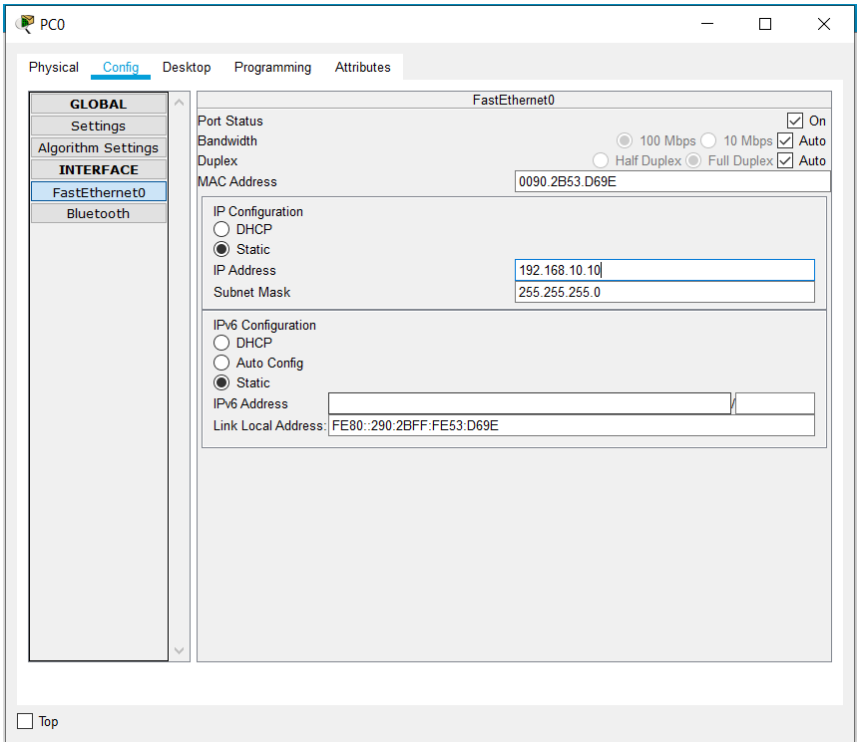


Fig 4.2 Setting Ip configuration of PC0.

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

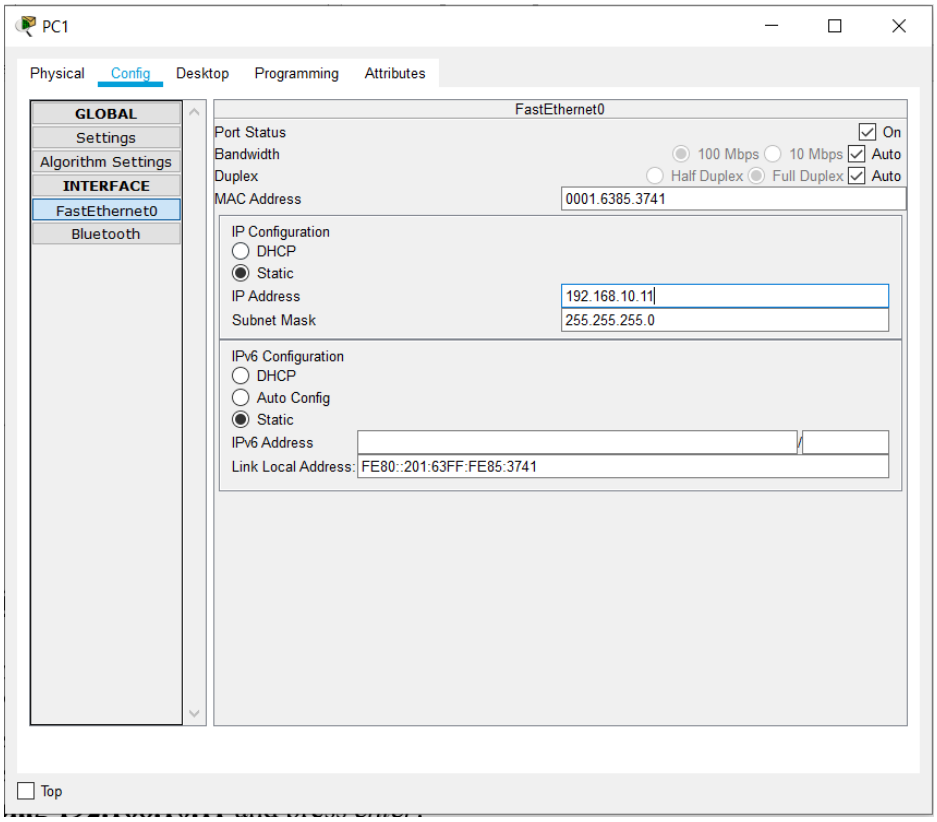


Fig 4.3 Setting IP configuration of PC1.

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:

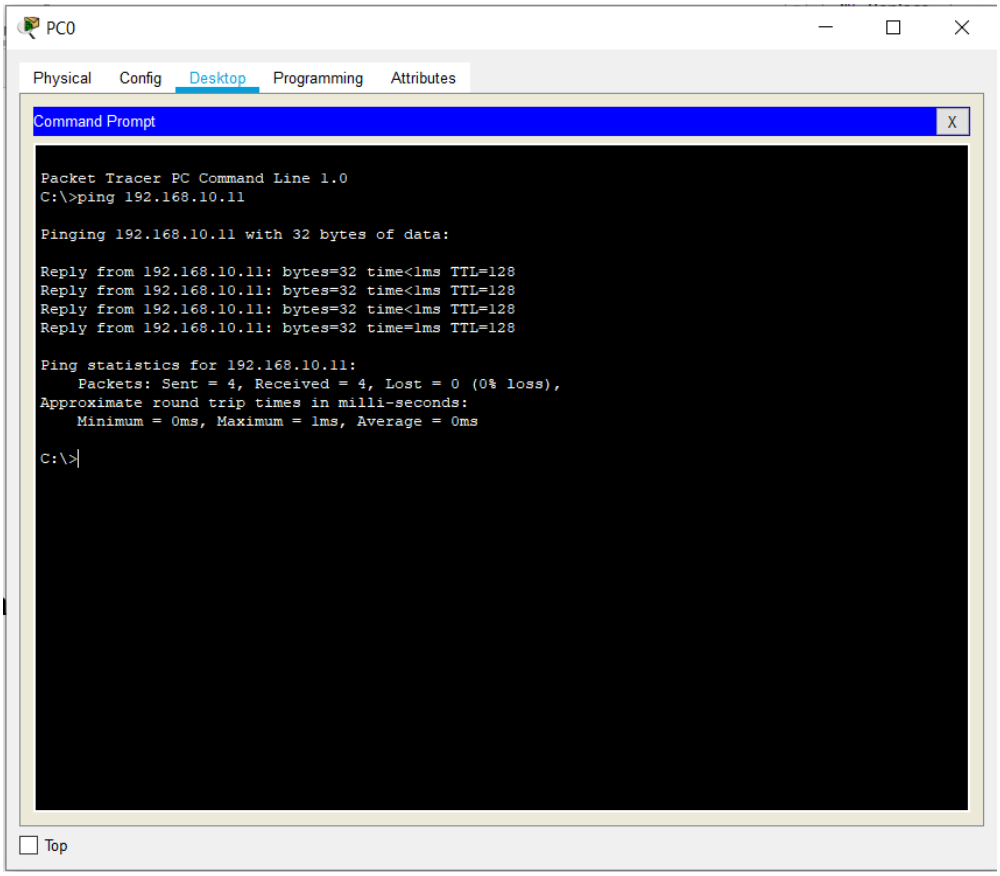


Fig 4.4 Testing the connection of PC0 to PC1.

c) Close the configuration window.

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

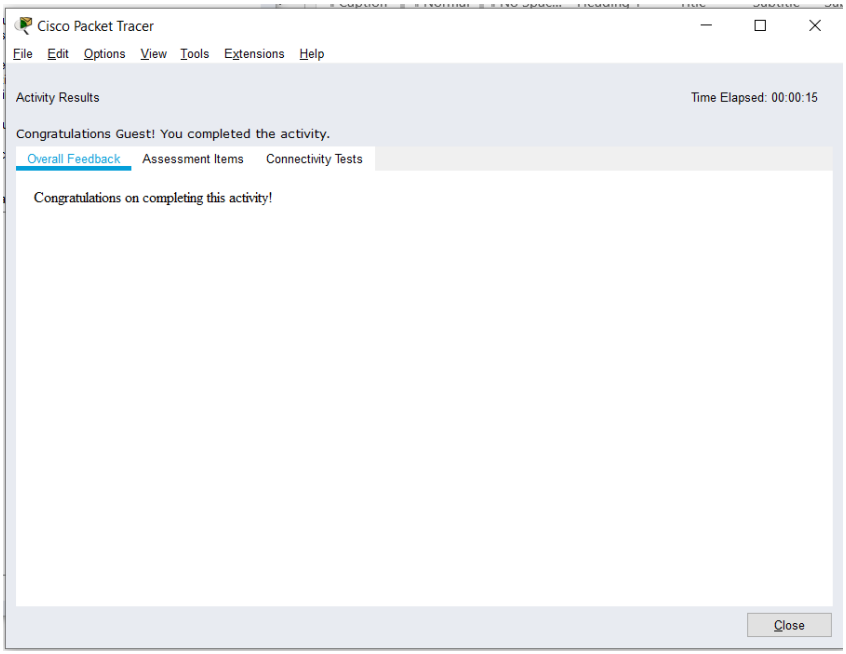


Fig 4.5 Results regarding the Network Connections.

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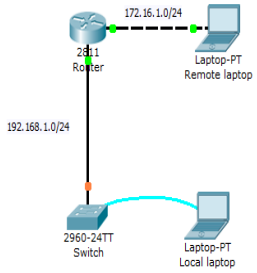
Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

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 and turned on the port status.

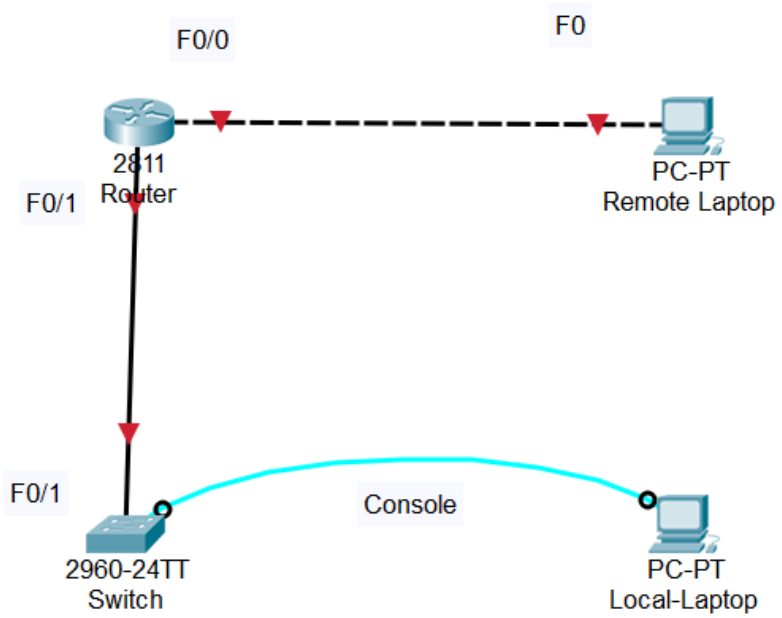


Fig 4.6 Topology before configuration.

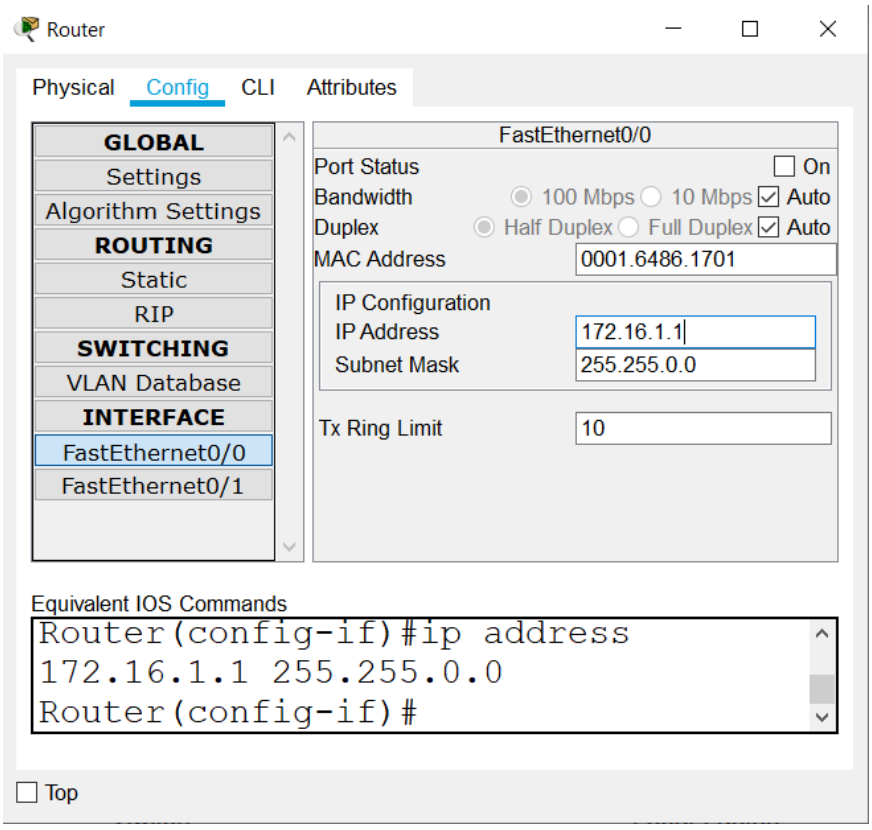


Fig 4.7 Setting IP address of Router(connection with Remote Laptop)

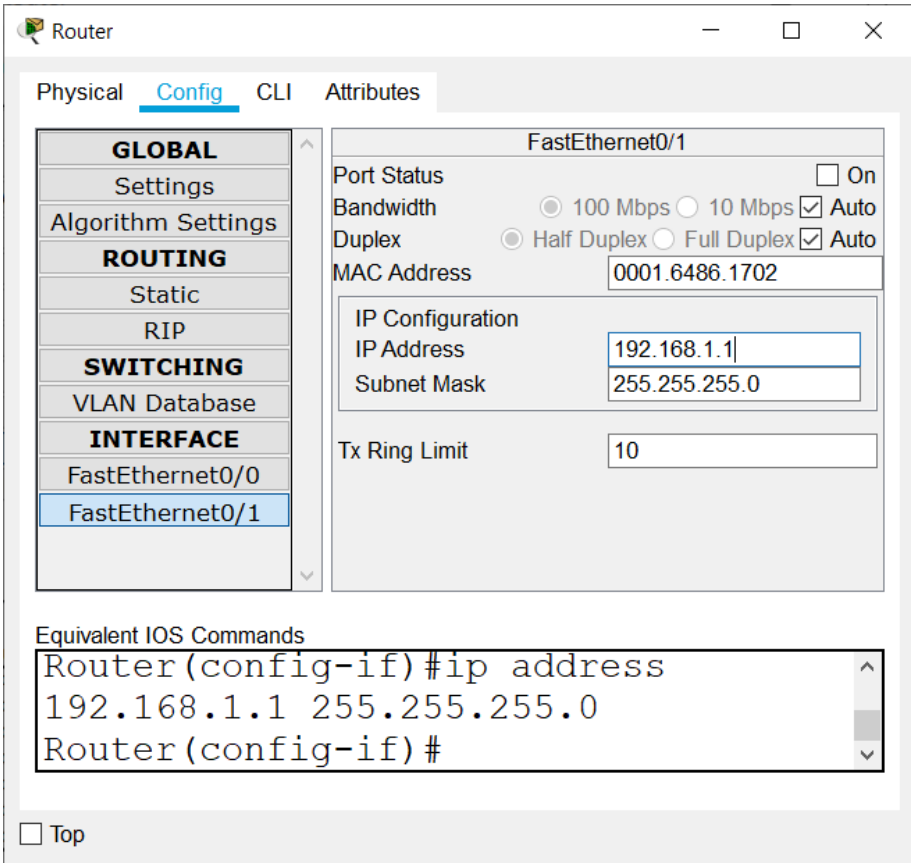


Fig 4.8 IP configuration of Router (Connection with Switch)

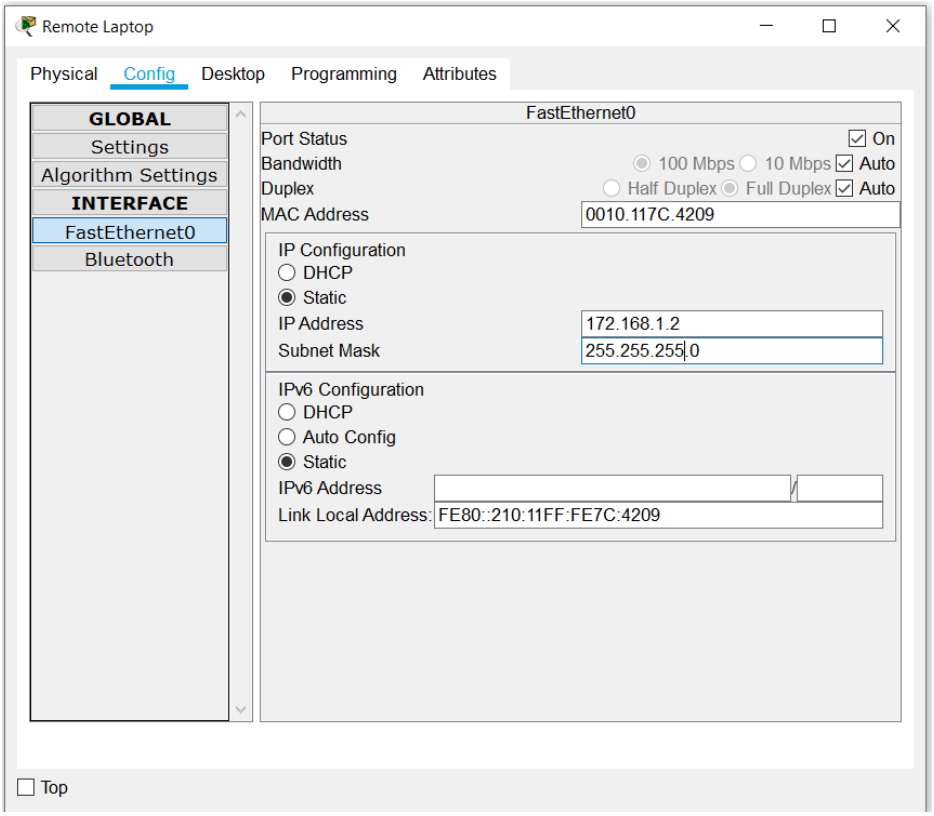


Fig 4.9 IP configuration of Remote Laptop(To the router)

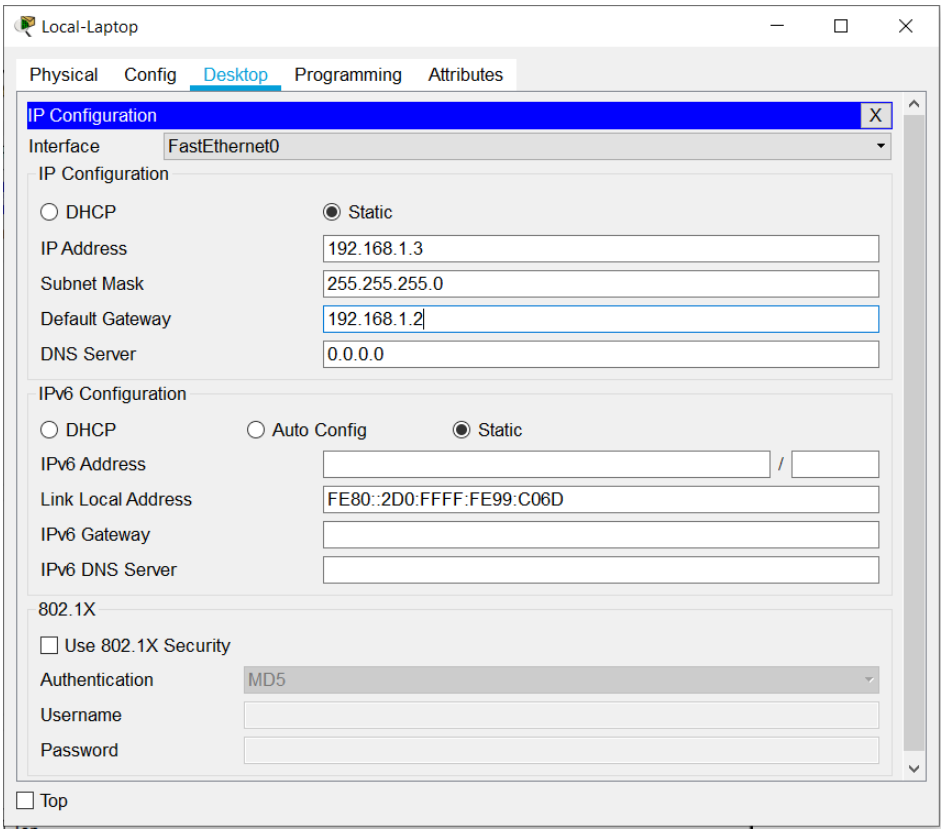


Fig 4.10 IP configuration of Local Laptop.

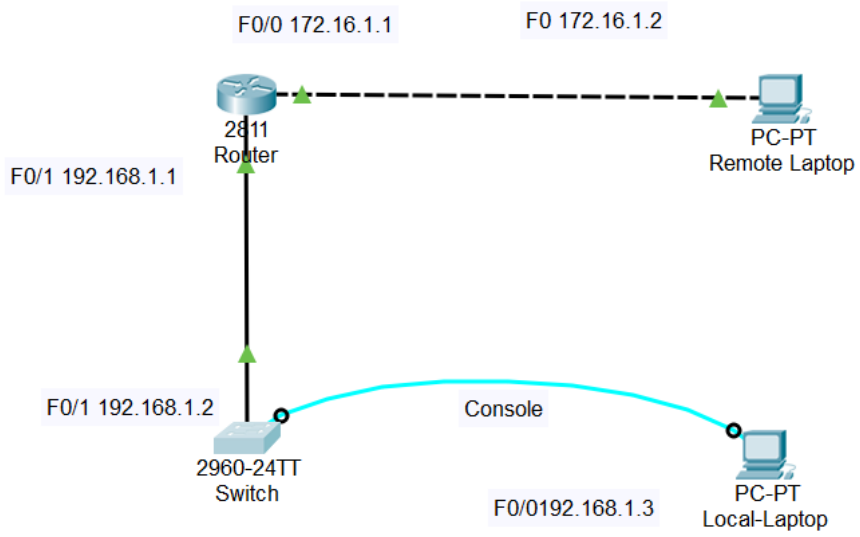


Fig 4.10.1 Final Topology after configuration of the connections.

2. Configure Switch hostname as LOCAL-SWITCH

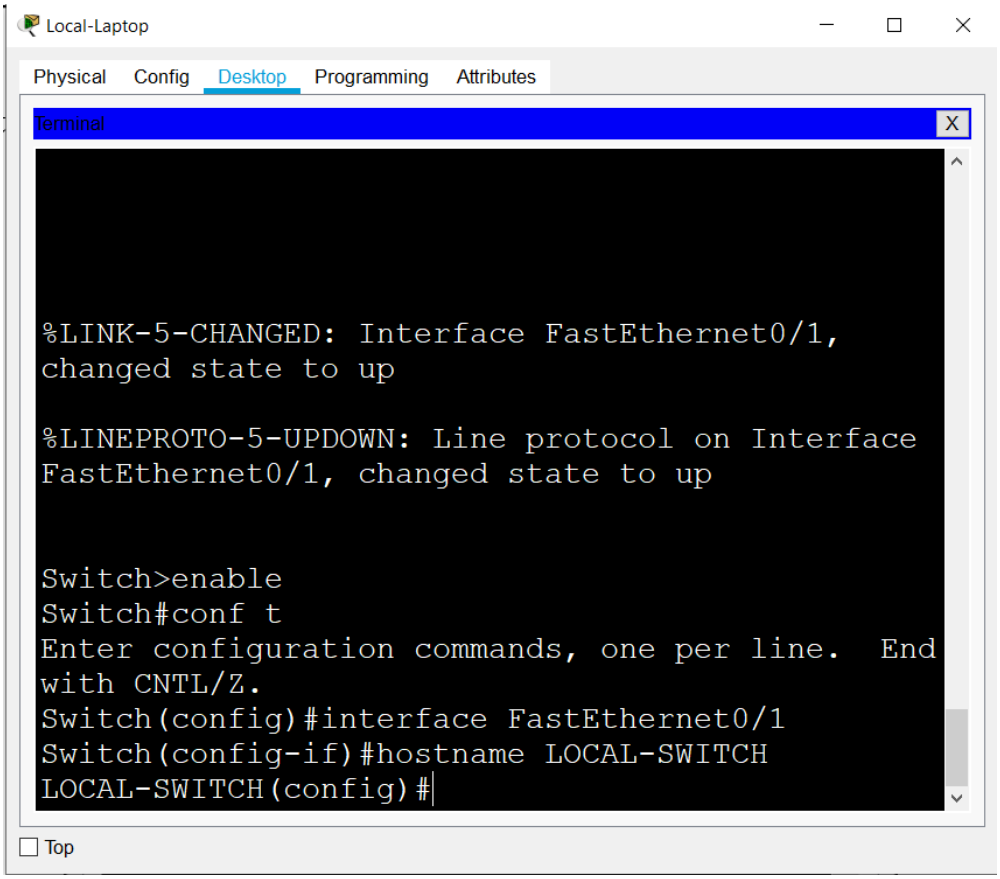


Fig 4.11 Rename Hostname aas LOCAL-SWITCH using console of Local Laptop

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

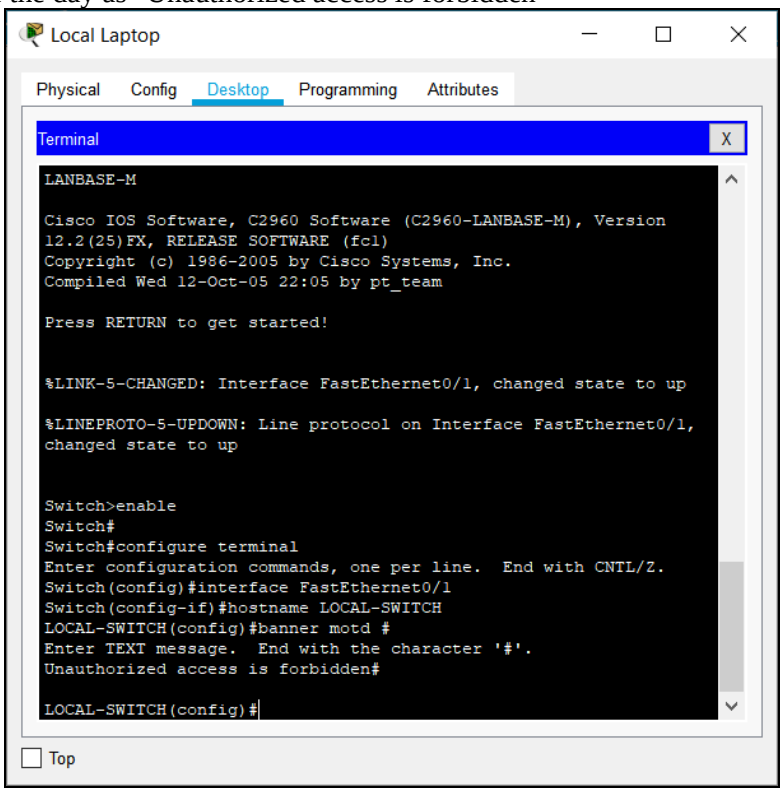


Fig 4.12 Configuring message of the day of the switch using console on Local Laptop

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

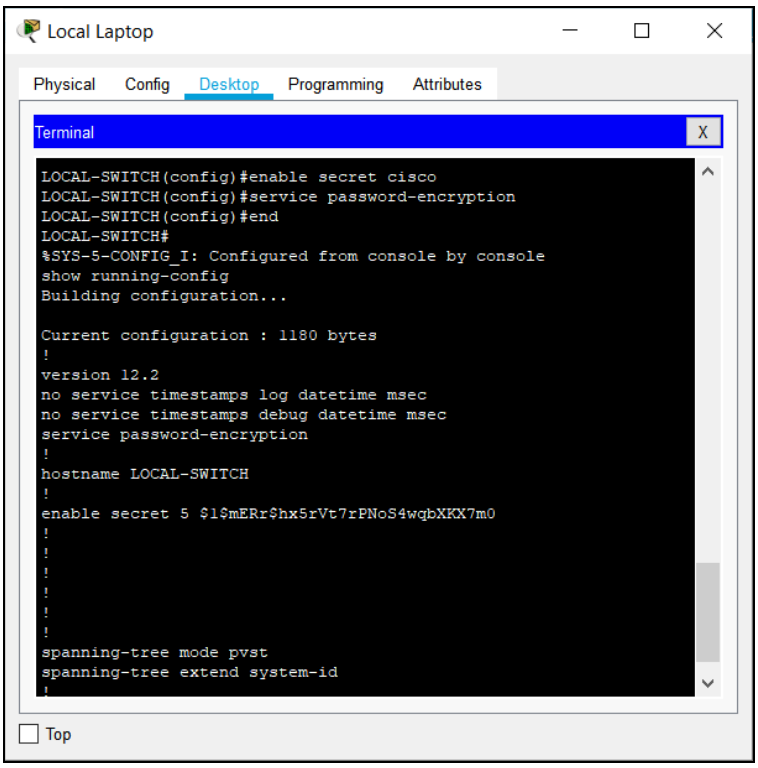
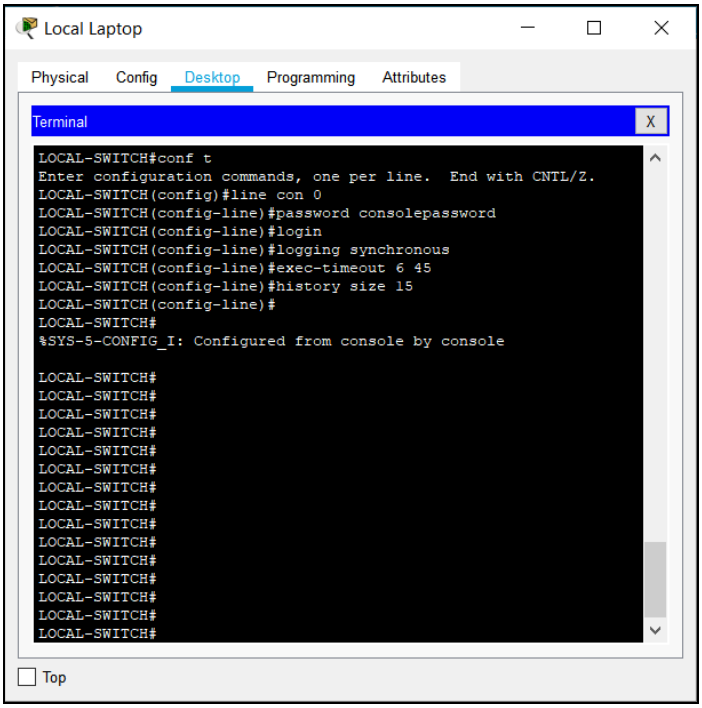


Fig 4.11 Configure password on switch through Local console.

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



4.12 Configuring CONSOLE access on the switch

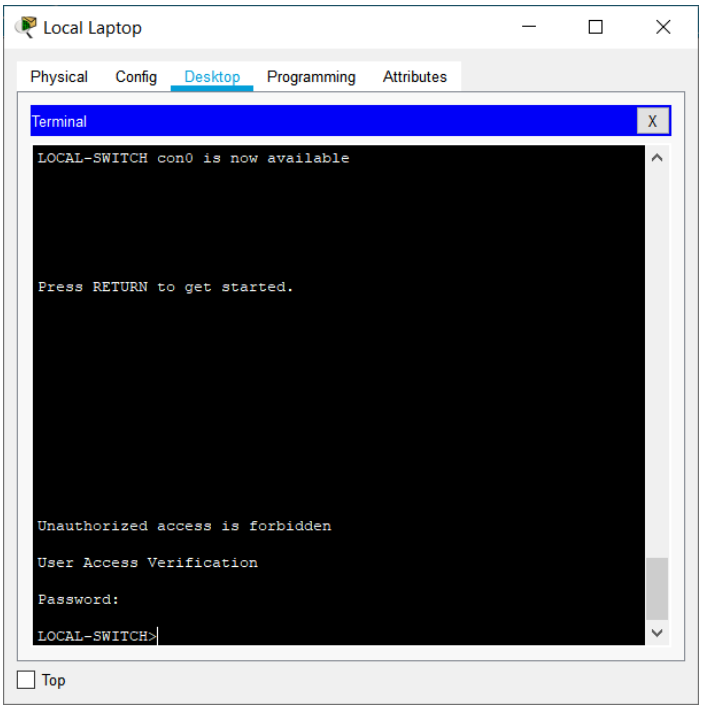


Fig 4.13 Console access is blocked without password and the message of the day is seen

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

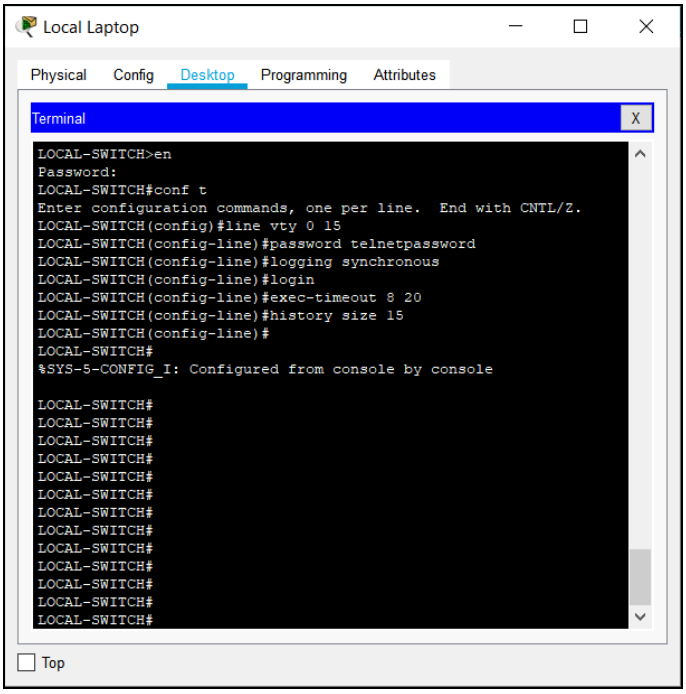


Fig4.14 Configuring TELNET access on the switch

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

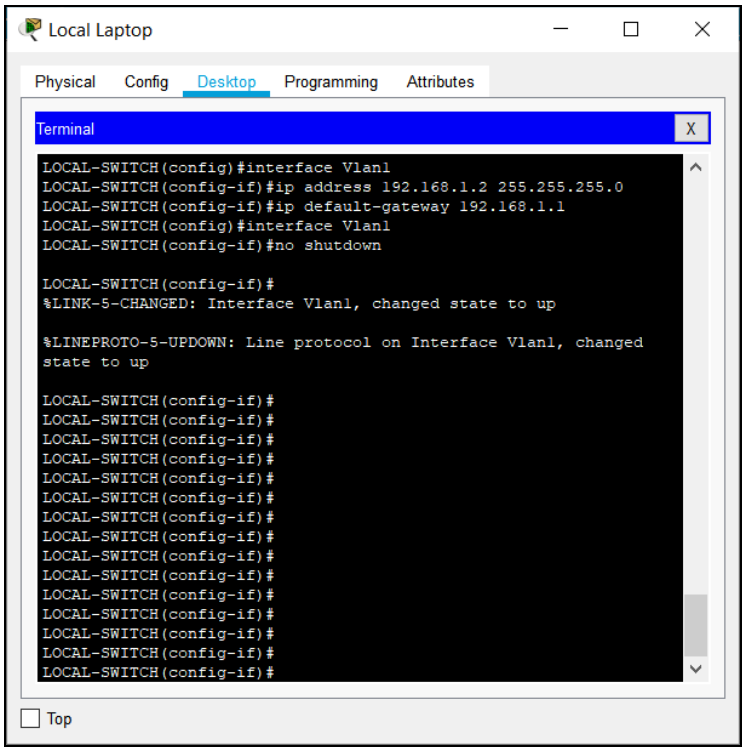


Fig 4.15 Configuring IP Address and Default Gateway of switch

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

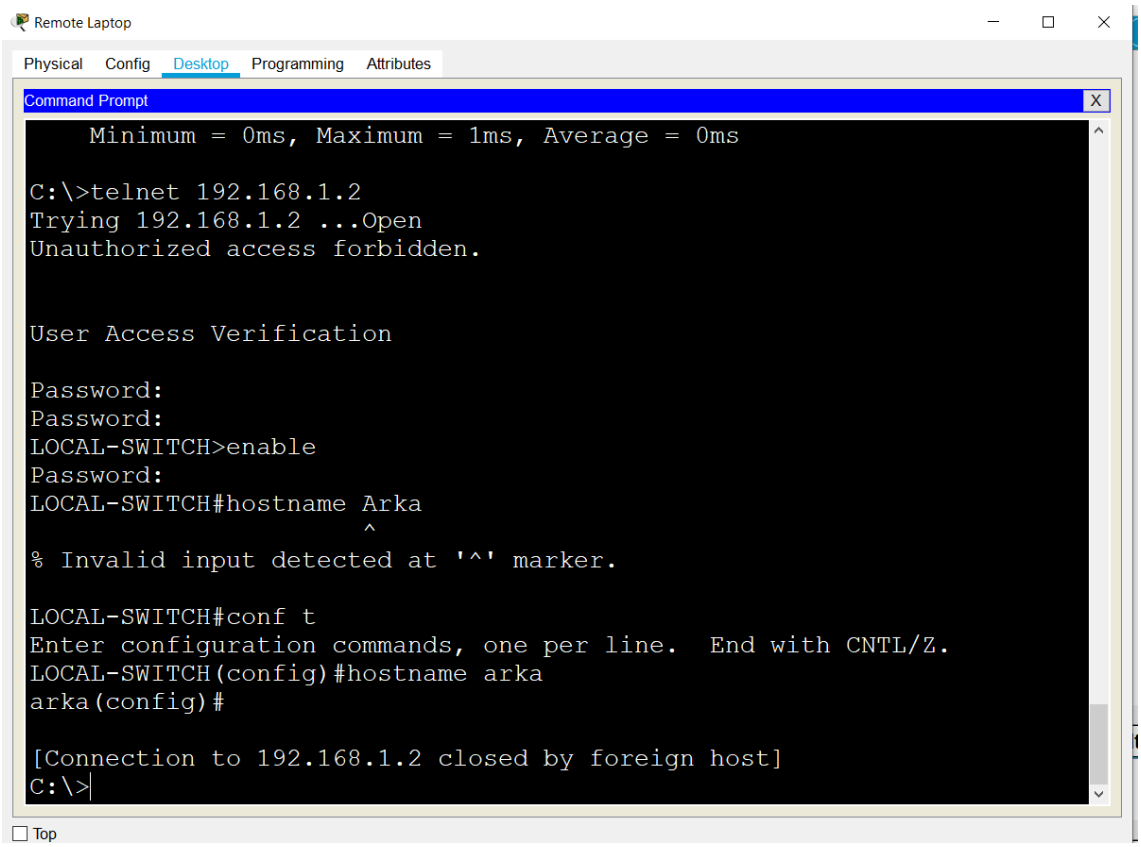


Fig 4.16 Used Telnet to connect to switch an changed the name of the switch to arka to check.

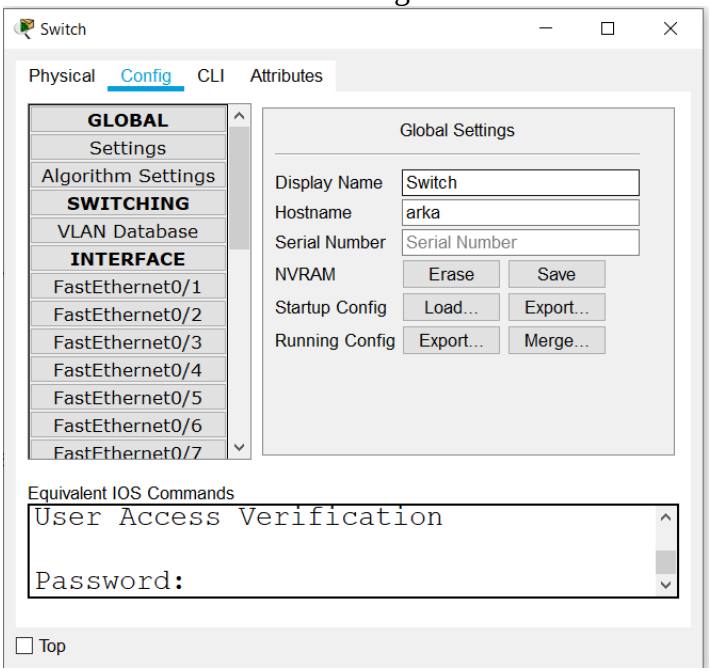


Fig 4.17 Changed Hostname via Remote PC