

CEL 51, DCCN, Monsoon 2020

Lab 4: Prototyping a Network

Objective:

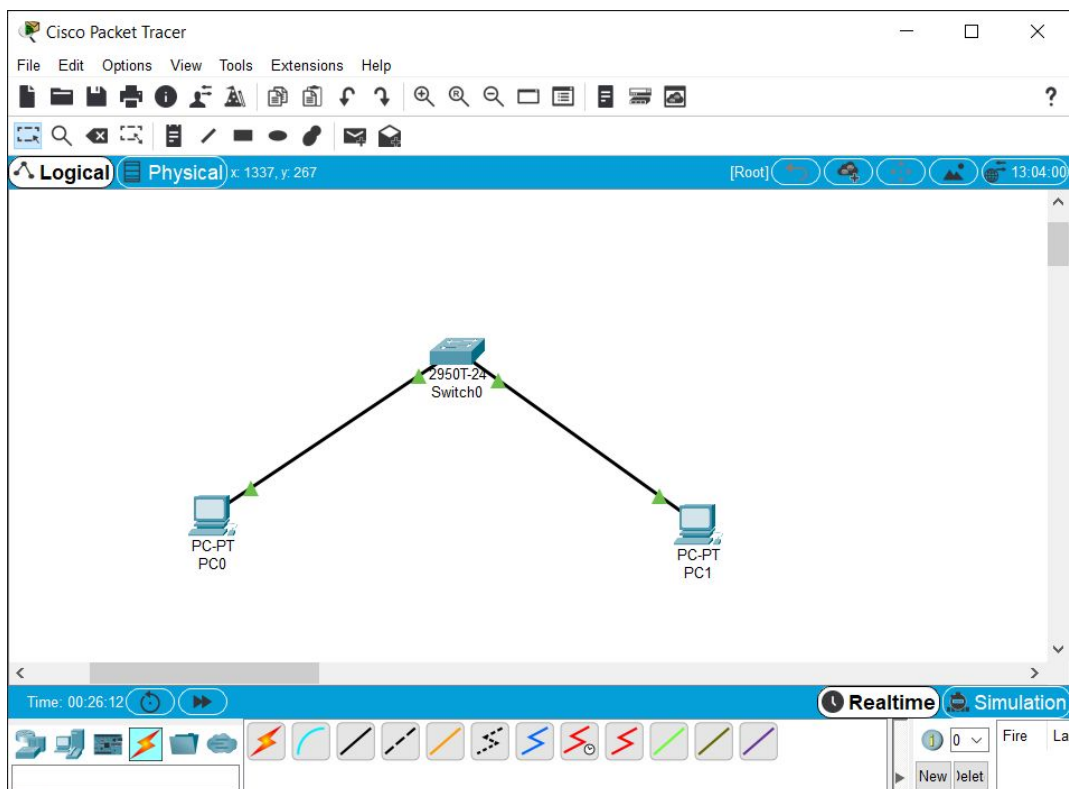
Prototype a network using Packet Tracer

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.

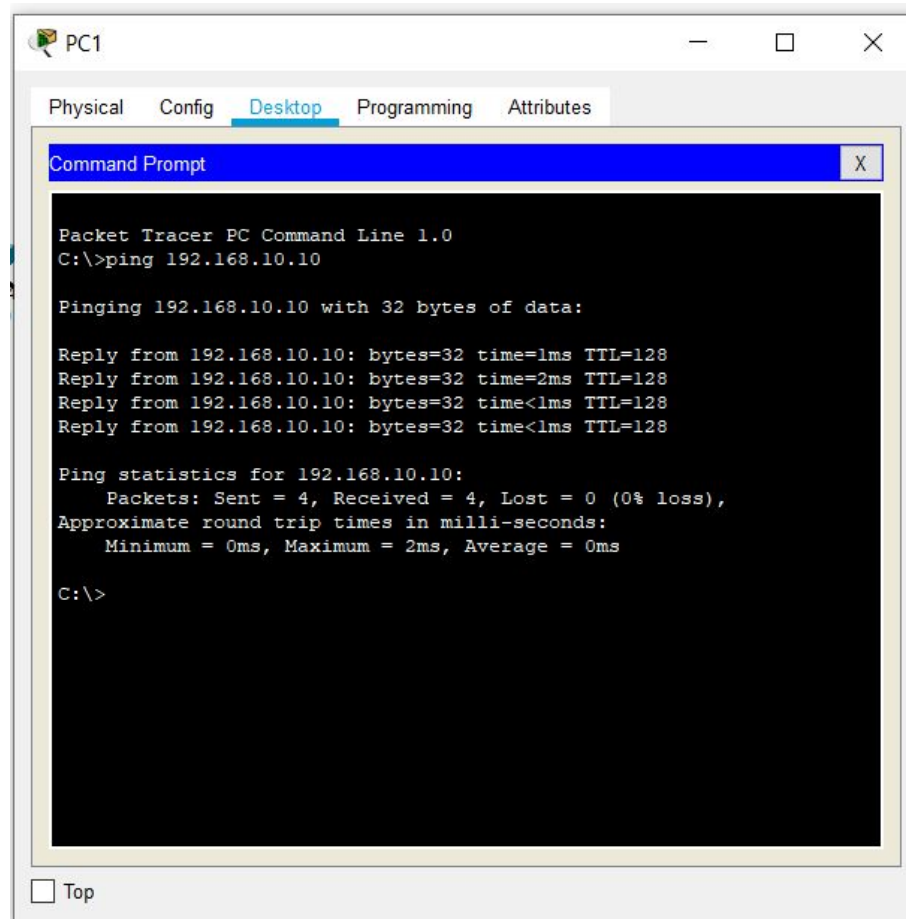
Step 1: Set up the network topology

- 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 PC1.
 - b. Choose the **Desktop** tab.
 - c. Choose **Command Prompt**.
 - d. Type: **ping 192.168.10.10** 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:



The screenshot shows a Packet Tracer window for PC1. The 'Desktop' tab is selected, and a 'Command Prompt' window is open. The command prompt displays the output of the 'ping 192.168.10.10' command, showing four successful replies with 32 bytes of data and a TTL of 128. The ping statistics show 4 packets sent, 4 received, and 0% loss.

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.10.10

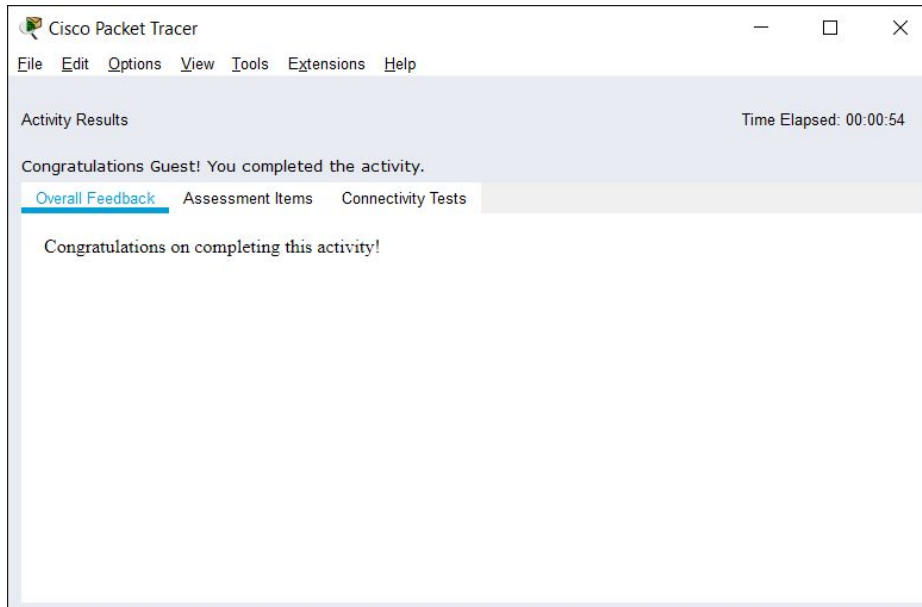
Pinging 192.168.10.10 with 32 bytes of data:

Reply from 192.168.10.10: bytes=32 time=1ms TTL=128
Reply from 192.168.10.10: bytes=32 time=2ms TTL=128
Reply from 192.168.10.10: bytes=32 time<1ms TTL=128
Reply from 192.168.10.10: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\>
```

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

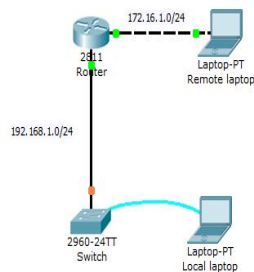


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Lab 4.1: Basic configuration - hostname, motd banner, passwd etc

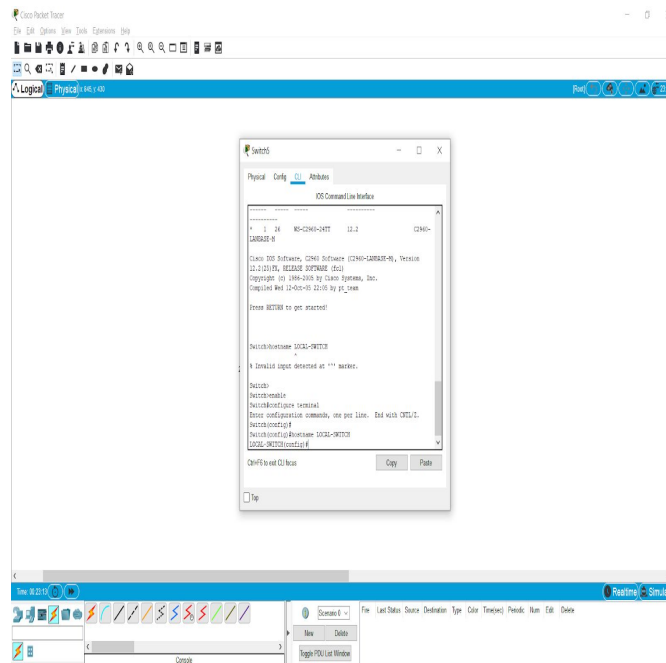
Objective:

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.

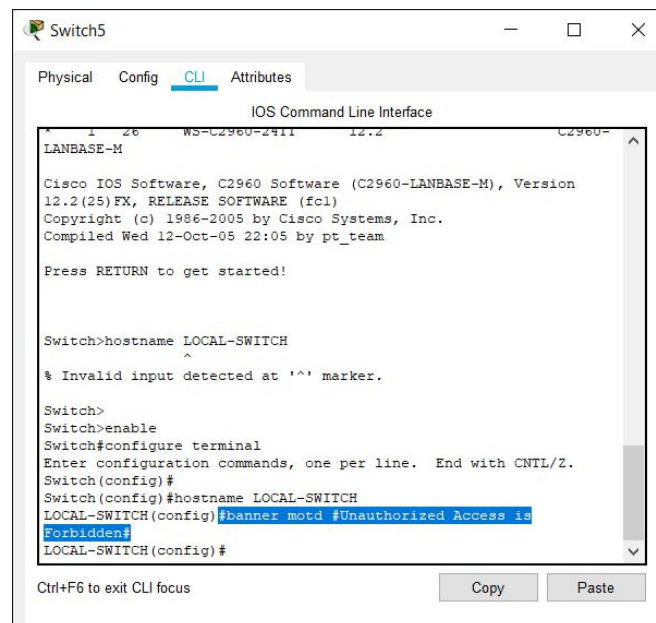


1. Use the local laptop connect to the switch console.

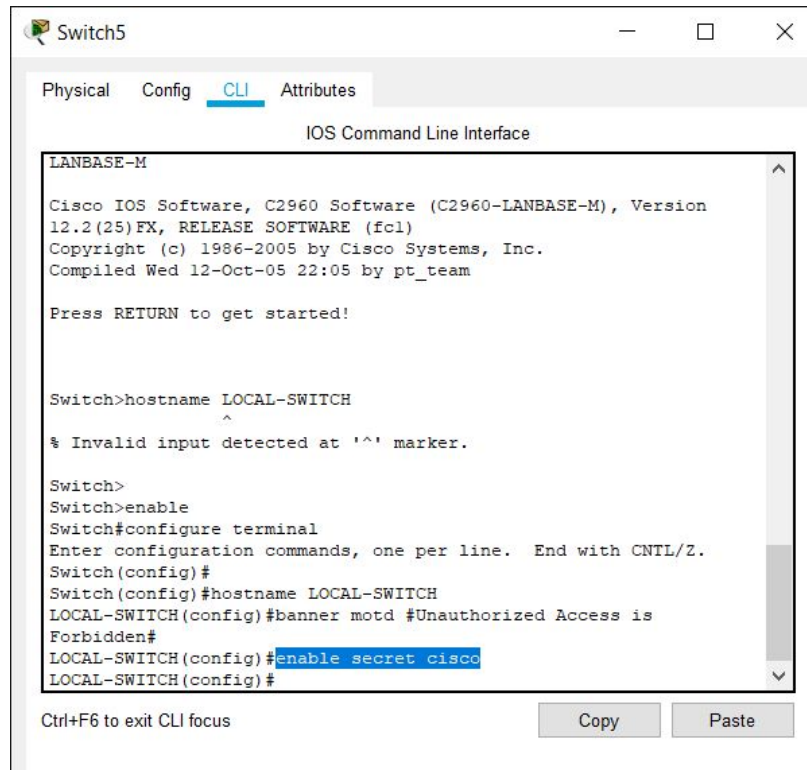
2. Configure Switch hostname as LOCAL-SWITCH



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



The screenshot shows a Cisco IOS Command Line Interface window titled "Switch5". The window has tabs for "Physical", "Config", "CLI", and "Attributes", with "CLI" selected. The main area displays the following text:

```
LANBASE-M

Cisco IOS Software, C2960 Software (C2960-LANBASE-M), Version
12.2(25)FX, RELEASE SOFTWARE (fcl)
Copyright (c) 1986-2005 by Cisco Systems, Inc.
Compiled Wed 12-Oct-05 22:05 by pt_team

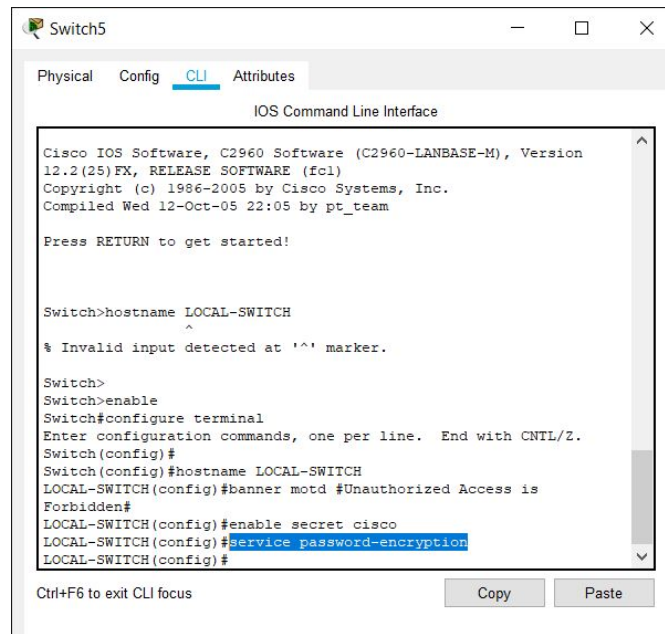
Press RETURN to get started!

Switch>hostname LOCAL-SWITCH
      ^
% Invalid input detected at '^' marker.

Switch>
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#
Switch(config)#hostname LOCAL-SWITCH
LOCAL-SWITCH(config)#banner motd #Unauthorized Access is
Forbidden#
LOCAL-SWITCH(config)#enable secret cisco
LOCAL-SWITCH(config)#
```

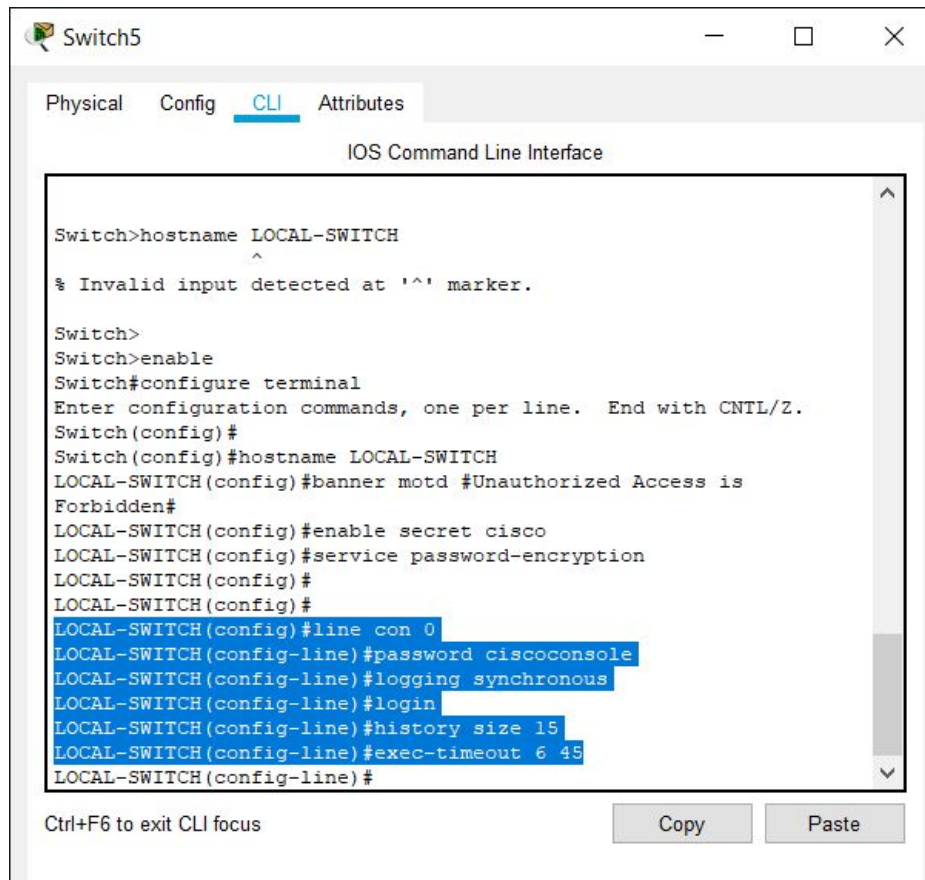
At the bottom of the window, there is a status bar with the text "Ctrl+F6 to exit CLI focus" and two buttons labeled "Copy" and "Paste".

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



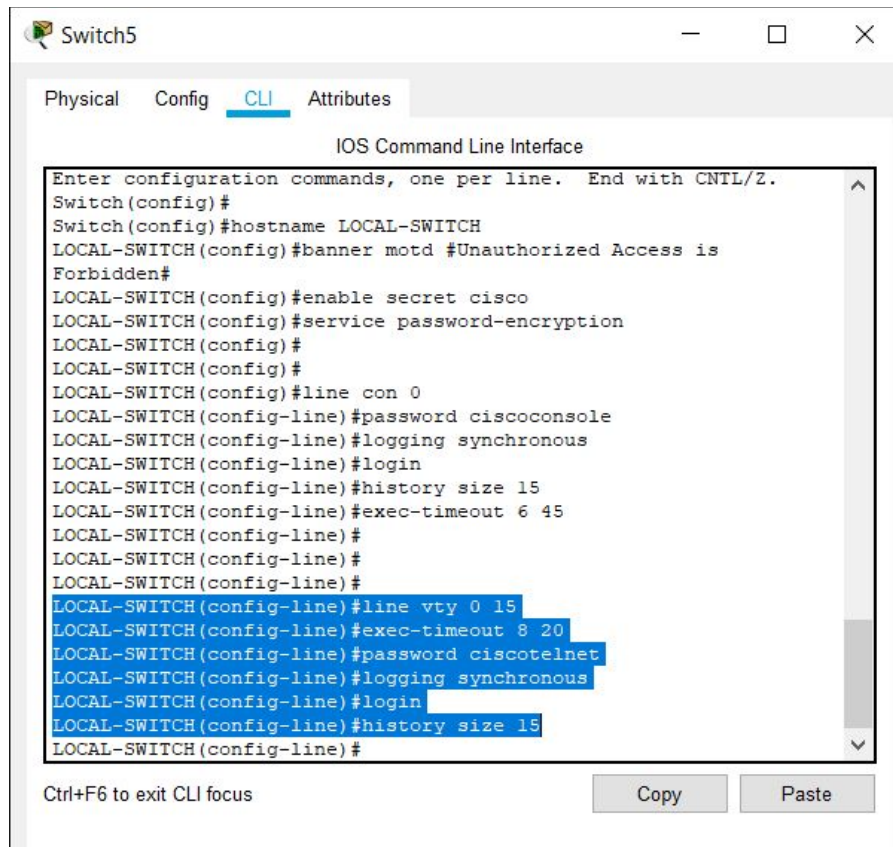
6. Configure CONSOLE access with the following settings :

- 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 its default gateway IP (192.168.1.1).
8. Test telnet connectivity from the Remote Laptop using the telnet client.