

773777

Packet Tracer - Basic Device Configuration

Topology

You will receive one of three possible topologies.

Addressing Table

| Device | Interface | IP Address | Default Gateway |
|---------------|-----------|-----------------------|-----------------|
| Floor - 14 | G0/0 | 172.14.5.1/24 | N/A |
| | | 2001:DB8:CAFE:1::1/64 | |
| | | FE80::1 | |
| | G0/1 | 172.14.10.1/24 | N/A |
| | | 2001:DB8:CAFE:2::/64 | |
| | | | |
| Room - 145 | VLAN 1 | | 172.14.5.1 |
| Room - 146 | VLAN 1 | 172.14.10.254 | 172.14.10.1 |
| Manager - A | NIC | 172.14.5.50/24 | 172.14.5.1 |
| | | 2001:DB8:CAFE:1::2/64 | FE80::1 |
| Reception - A | NIC | 172.14.5.60/24 | 172.14.5.1 |
| | | 2001:DB8:CAFE:1::3/64 | FE80::1 |
| Manager - B | NIC | 172.14.10.50/24 | 172.14.10.1 |
| | | 2001:DB8:CAFE:2::2/64 | FE80::1 |
| Reception - B | NIC | 172.14.10.60/24 | 172.14.10.1 |
| | | 2001:DB8:CAFE:2::3/64 | FE80::1 |

Objectives

- Complete the network documentation.
- Perform basic device configurations on a router and a switch.
- Verify connectivity and troubleshoot any issues.

Scenario

Your network manager is impressed with your performance in your job as a LAN technician. She would like you to demonstrate your ability to configure a router that connects two LANs. Your tasks include configuring

Packet Tracer - Basic Device Configuration

basic settings on a router and a switch using the Cisco IOS. You will also configure IPv6 addresses on network devices and hosts. You will then verify the configurations by testing end-to-end connectivity. Your goal is to establish connectivity between all devices.

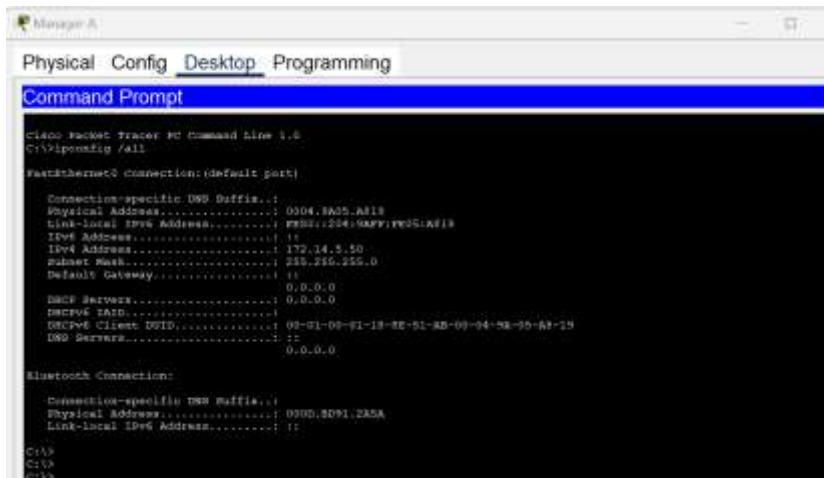
Note: The VLAN1 interface on _____ will not be reachable over IPv6.

In this activity you will configure the _____ router, _____ switch, and the **PC hosts**.

Note: Packet Tracer will not score some configured values, however these values are required to accomplish full connectivity in the network.

Requirements

- Provide the missing information in the Addressing Table.



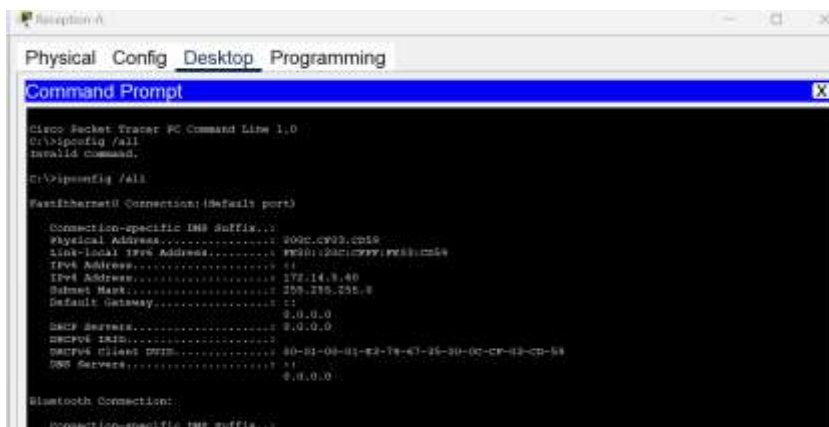
Management
Physical Config Desktop Programming

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig /all

FastEthernet0 Connection: (default port)
Connection-specific DNS Suffix...: 
Physical Address. . . . .: 0004:8A25:A518
Link-local IPv6 Address . . . . .: FE80::204:8AFF:FE80:A518
IPv6 Address. . . . .: ::
IPv4 Address. . . . .: 172.14.5.50
Subnet Mask . . . . .: 255.255.255.0
Default Gateway . . . . .: ::
DHCP Servers . . . . .: 0.0.0.0
DHCPv6 IAID. . . . .: 0.0.0.0
DHCPv6 Client DUID. . . . .: 00-01-00-01-18-EE-01-AB-00-04-5A-35-A3-19
DNS Servers . . . . .: ::
0.0.0.0

Bluetooth Connection:
Connection-specific DNS Suffix...: 
Physical Address. . . . .: 000D:8091:2A5A
Link-local IPv6 Address . . . . .: ::
C:\>
C:\>
```



Management
Physical Config Desktop Programming

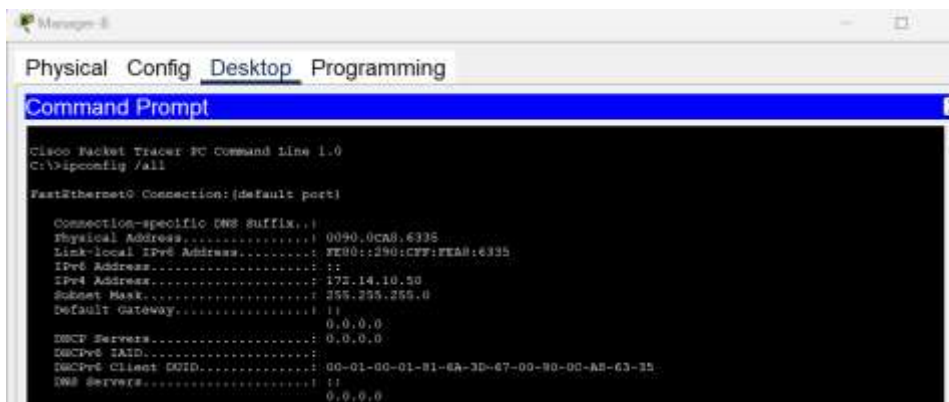
Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig /all
Invalid Command.

C:\>ipconfig /all

FastEthernet0 Connection: (default port)
Connection-specific DNS Suffix...: 
Physical Address. . . . .: 000C:CF03:CD10
Link-local IPv6 Address . . . . .: FE80::2A0C:CF0F:FE80:CD10
IPv6 Address. . . . .: ::
IPv4 Address. . . . .: 172.14.3.40
Subnet Mask . . . . .: 255.255.255.0
Default Gateway . . . . .: ::
DHCP Servers . . . . .: 0.0.0.0
DHCPv6 IAID. . . . .: 0.0.0.0
DHCPv6 Client DUID. . . . .: 00-01-00-01-E2-78-07-26-00-0C-CF-03-CD-10
DNS Servers . . . . .: 0.0.0.0
0.0.0.0

Bluetooth Connection:
Connection-specific DNS Suffix...: 
Physical Address. . . . .: 
Link-local IPv6 Address . . . . .: 
C:\>
C:\>
```



Management
Physical Config Desktop Programming

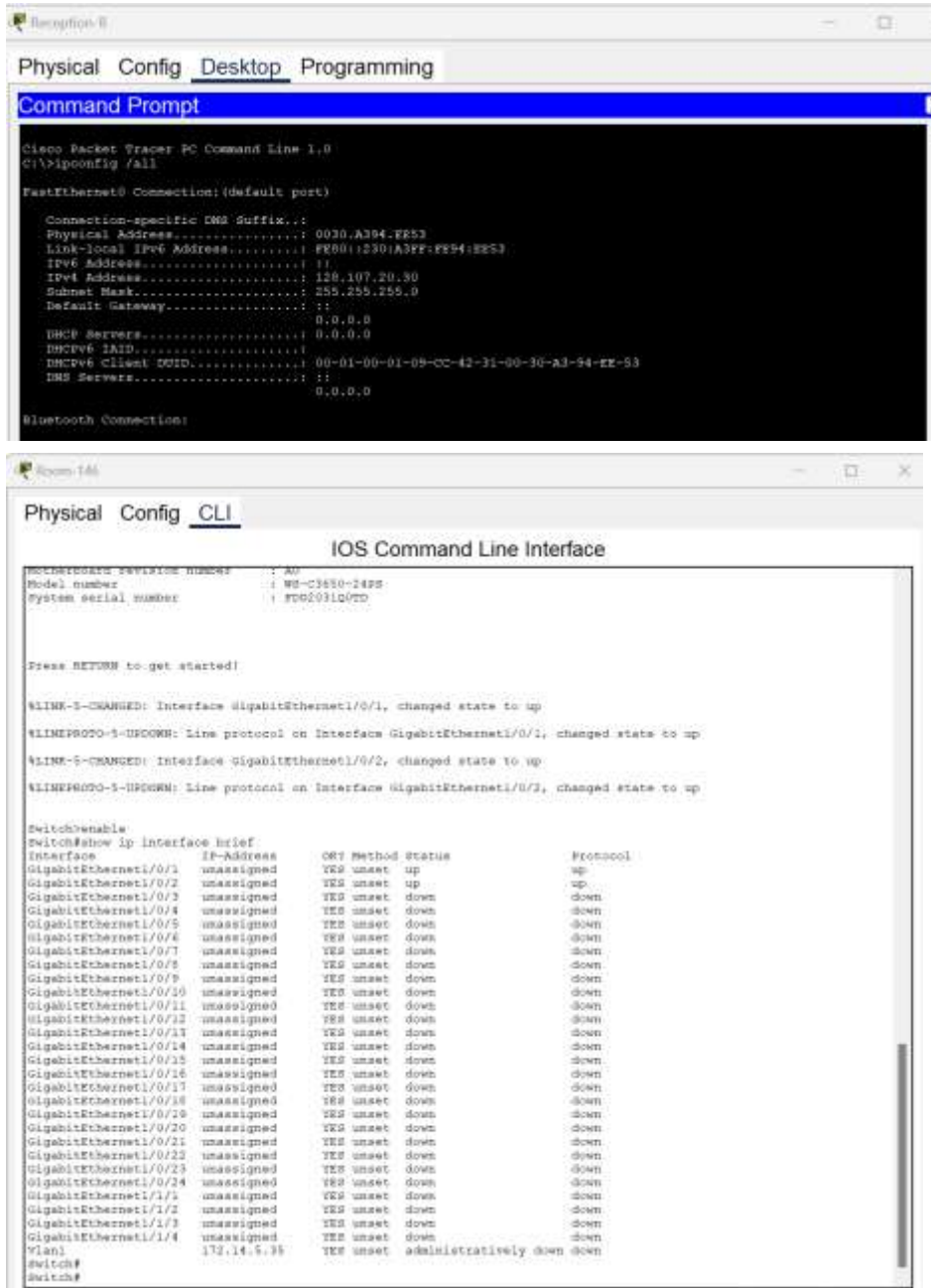
Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ipconfig /all

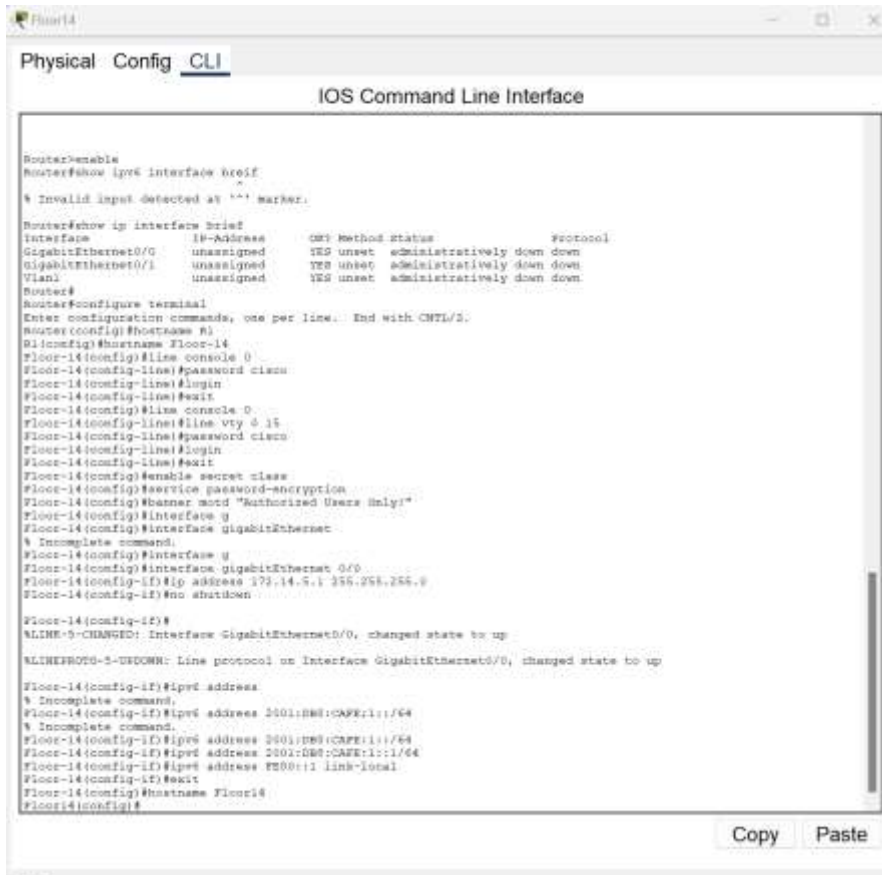
FastEthernet0 Connection: (default port)
Connection-specific DNS Suffix...: 
Physical Address. . . . .: 0090:0CAB:6335
Link-local IPv6 Address . . . . .: FE80::290:CAF:FE80:6335
IPv6 Address. . . . .: ::
IPv4 Address. . . . .: 172.14.10.50
Subnet Mask . . . . .: 255.255.255.0
Default Gateway . . . . .: ::
DHCP Servers . . . . .: 0.0.0.0
DHCPv6 IAID. . . . .: 0.0.0.0
DHCPv6 Client DUID. . . . .: 00-01-00-01-81-6A-3D-67-00-00-0C-AB-63-15
DNS Servers . . . . .: ::
0.0.0.0

Bluetooth Connection:
Connection-specific DNS Suffix...: 
Physical Address. . . . .: 
Link-local IPv6 Address . . . . .: 
C:\>
C:\>
```

Packet Tracer - Basic Device Configuration



- Name the router and the second switch switch. . You will not be able to access the switch.

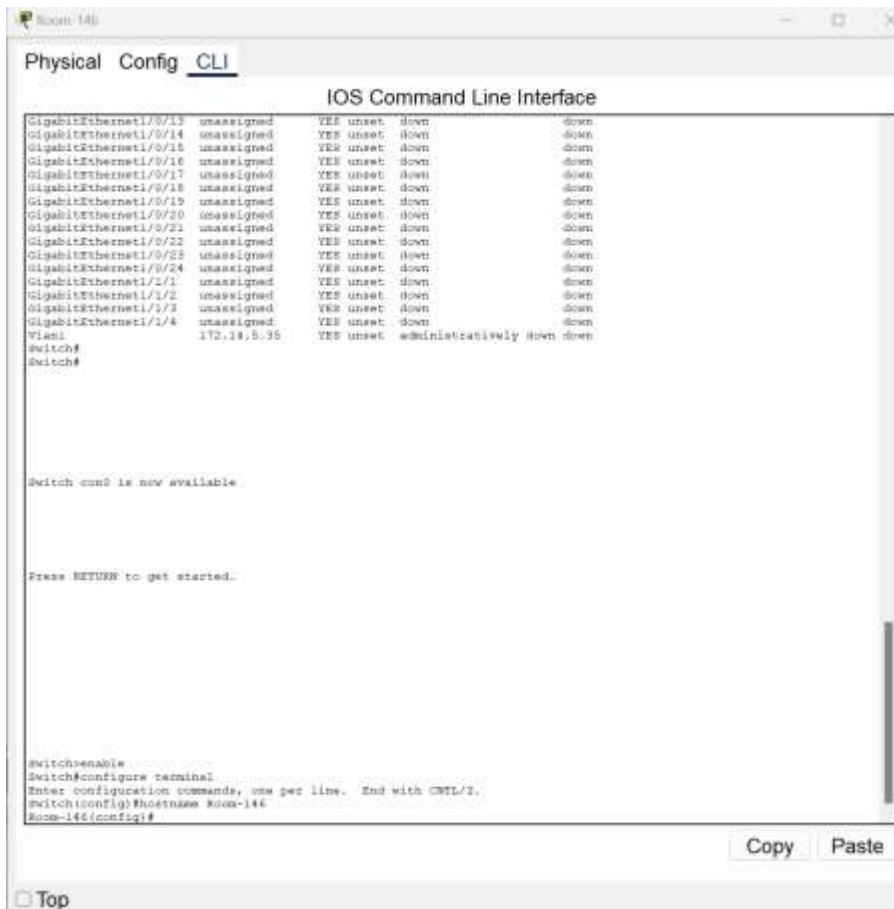


```
Router>enable
Router#show ip interface brief
% Invalid input detected at '^' marker.

Router#show ip interface brief
Interface      IP-Address      OMT Method Status      Protocol
GigabitEthernet0/0    unassigned      YES unset      administratively down down
GigabitEthernet0/1    unassigned      YES unset      administratively down down
Vlan1           unassigned      YES unset      administratively down down
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R1
R1(config)#hostname Floor-14
Floor-14(config)#line console 0
Floor-14(config-line)#password cisco
Floor-14(config-line)#login
Floor-14(config-line)#exit
Floor-14(config)#line console 0
Floor-14(config-line)#line vty 0 15
Floor-14(config-line)#password cisco
Floor-14(config-line)#login
Floor-14(config-line)#exit
Floor-14(config)#enable secret class
Floor-14(config)#service password-encryption
Floor-14(config)#banner motd "Authorized Users Only!"
Floor-14(config)#interface g
Floor-14(config)#interface gigabitEthernet
% Incomplete command.
Floor-14(config)#interface g
Floor-14(config)#interface gigabitEthernet 0/0
Floor-14(config-if)#ip address 173.14.5.1 255.255.255.0
Floor-14(config-if)#no shutdown

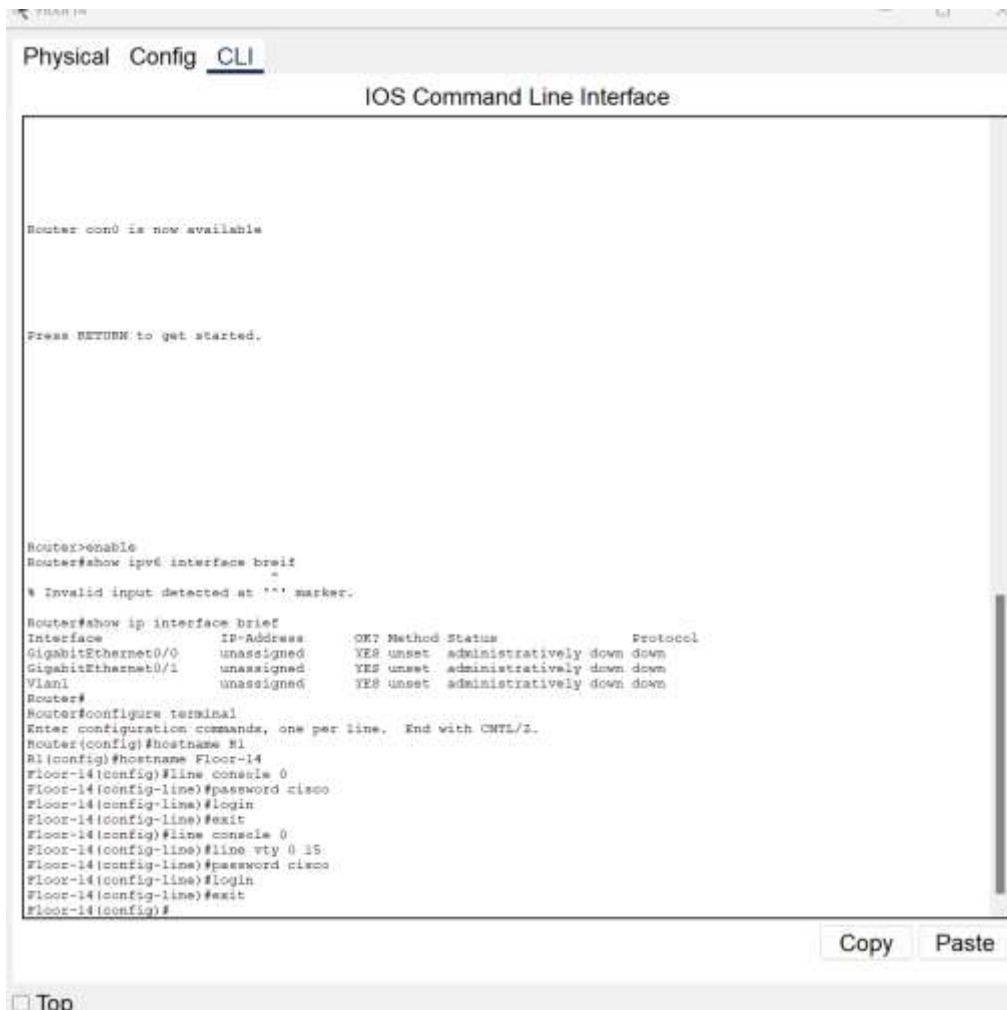
Floor-14(config-if)#
%LINE-5-CHANGED: Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

Floor-14(config-if)#ip address
% Incomplete command.
Floor-14(config-if)#ip address 2001:DB8:CAFE::1::64
% Incomplete command.
Floor-14(config-if)#ip address 2001:DB8:CAFE::1::64
Floor-14(config-if)#ip address 2001:DB8:CAFE::1::64
Floor-14(config-if)#ip address FE80::1 link-local
Floor-14(config-if)#exit
Floor-14(config)#hostname Floor14
Floor14(config)#
```



- Use **cisco** as the user EXEC password for all lines.





Room 146

Physical Config CLI

IOS Command Line Interface

| | | | | | |
|-----------------------|-------------|-----|-------|-----------------------|------|
| GigabitEthernet1/0/1 | unassigned | YES | unset | down | down |
| GigabitEthernet1/0/18 | unassigned | YES | unset | down | down |
| GigabitEthernet1/0/19 | unassigned | YES | unset | down | down |
| GigabitEthernet1/0/20 | unassigned | YES | unset | down | down |
| GigabitEthernet1/0/21 | unassigned | YES | unset | down | down |
| GigabitEthernet1/0/22 | unassigned | YES | unset | down | down |
| GigabitEthernet1/0/23 | unassigned | YES | unset | down | down |
| GigabitEthernet1/0/24 | unassigned | YES | unset | down | down |
| GigabitEthernet1/1/1 | unassigned | YES | unset | down | down |
| GigabitEthernet1/1/2 | unassigned | YES | unset | down | down |
| GigabitEthernet1/1/3 | unassigned | YES | unset | down | down |
| GigabitEthernet1/1/4 | unassigned | YES | unset | down | down |
| Vlan1 | 172.14.6.25 | YES | unset | administratively down | down |

Switch#
Switch#

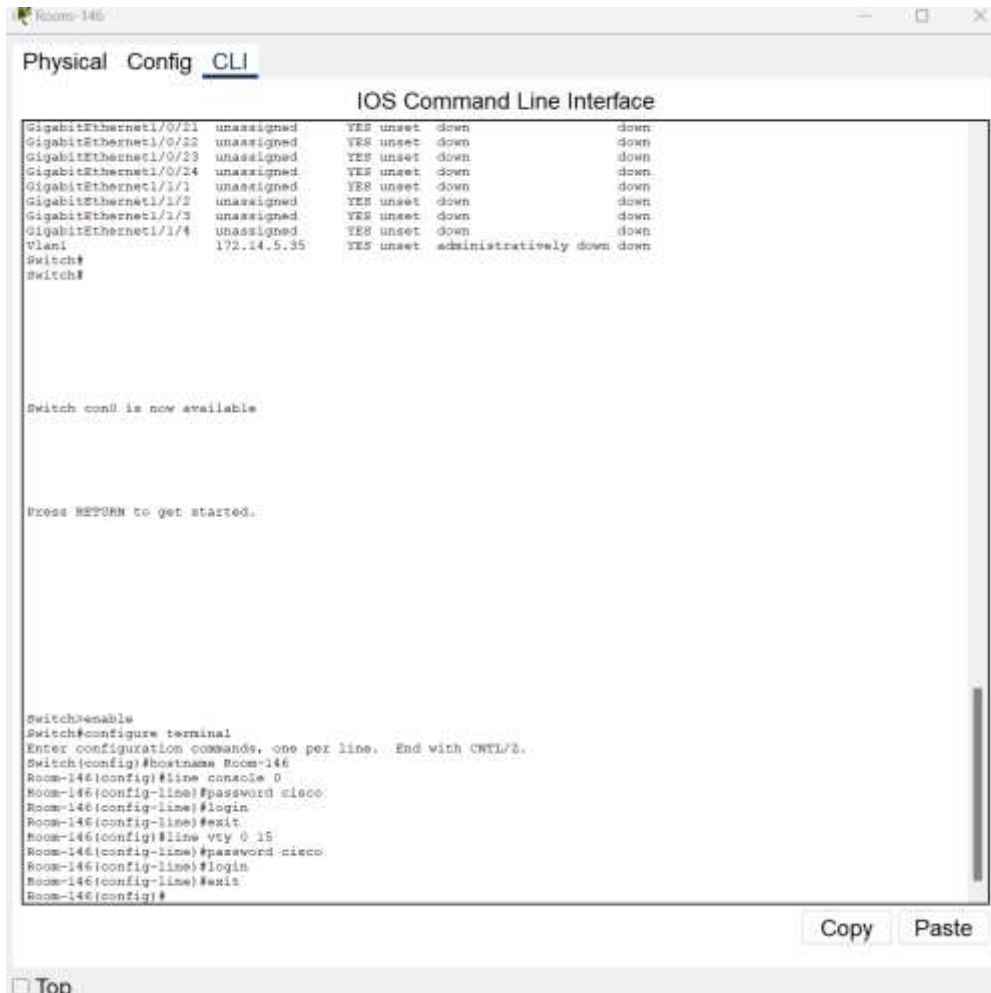
Switch con0 is now available.

Press RETURN to get started.

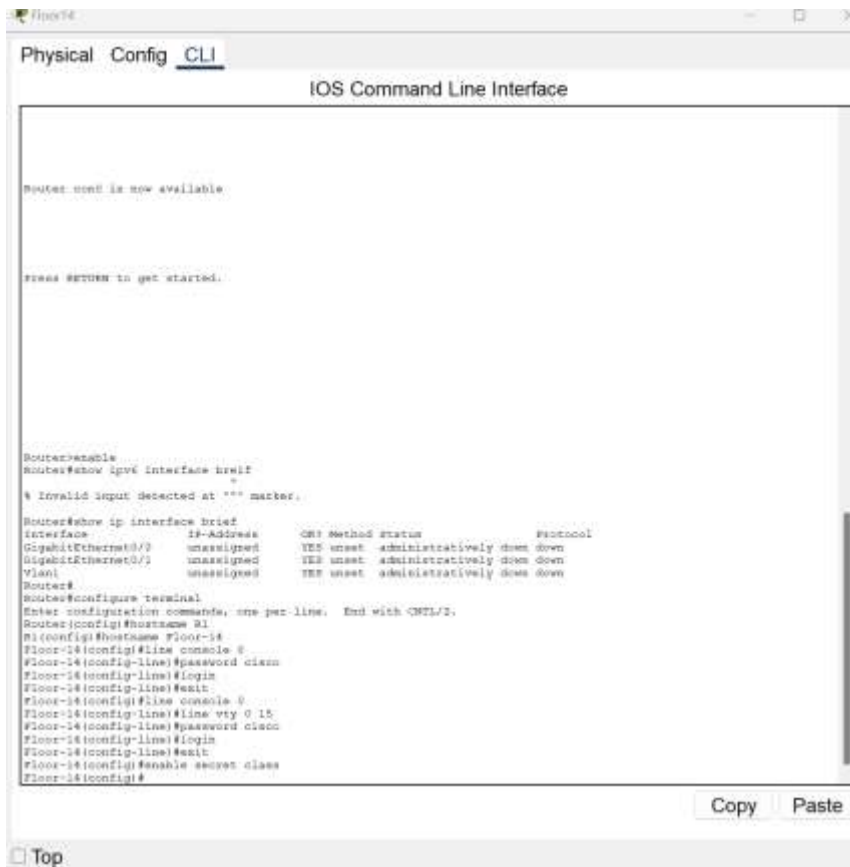
Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname Room-146
Room-146(config)#line console 0
Room-146(config-line)#password class
Room-146(config-line)#login
Room-146(config-line)#exit
Room-146(config)#line vty 0 15

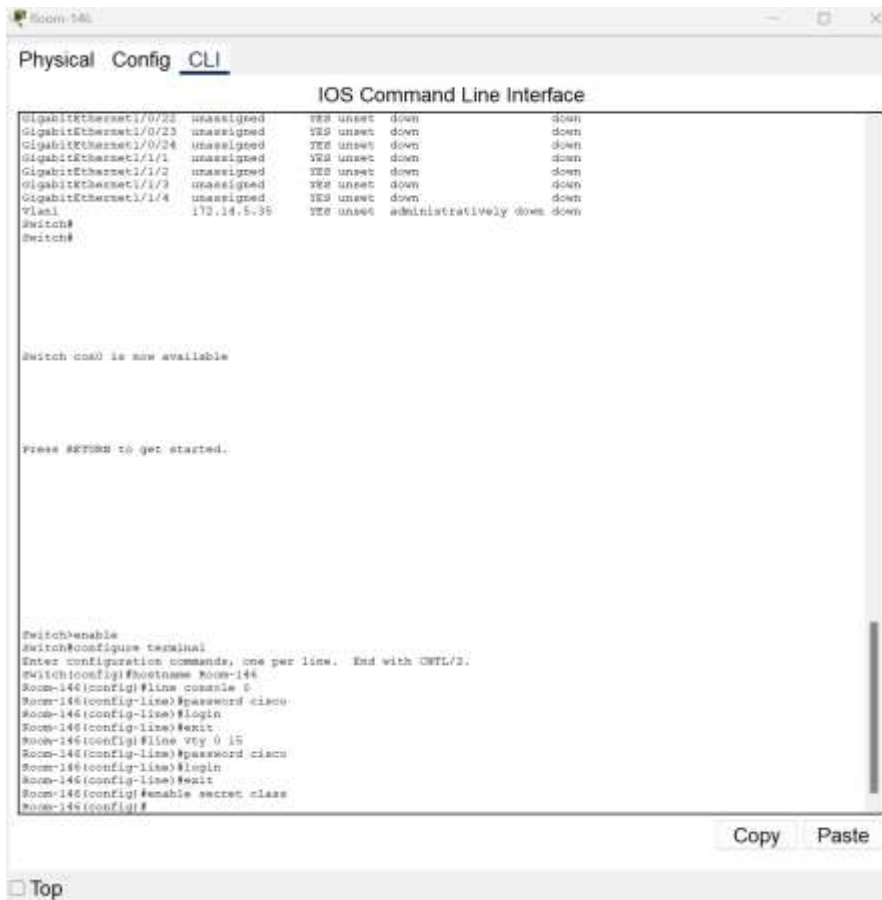
Copy Paste

Top



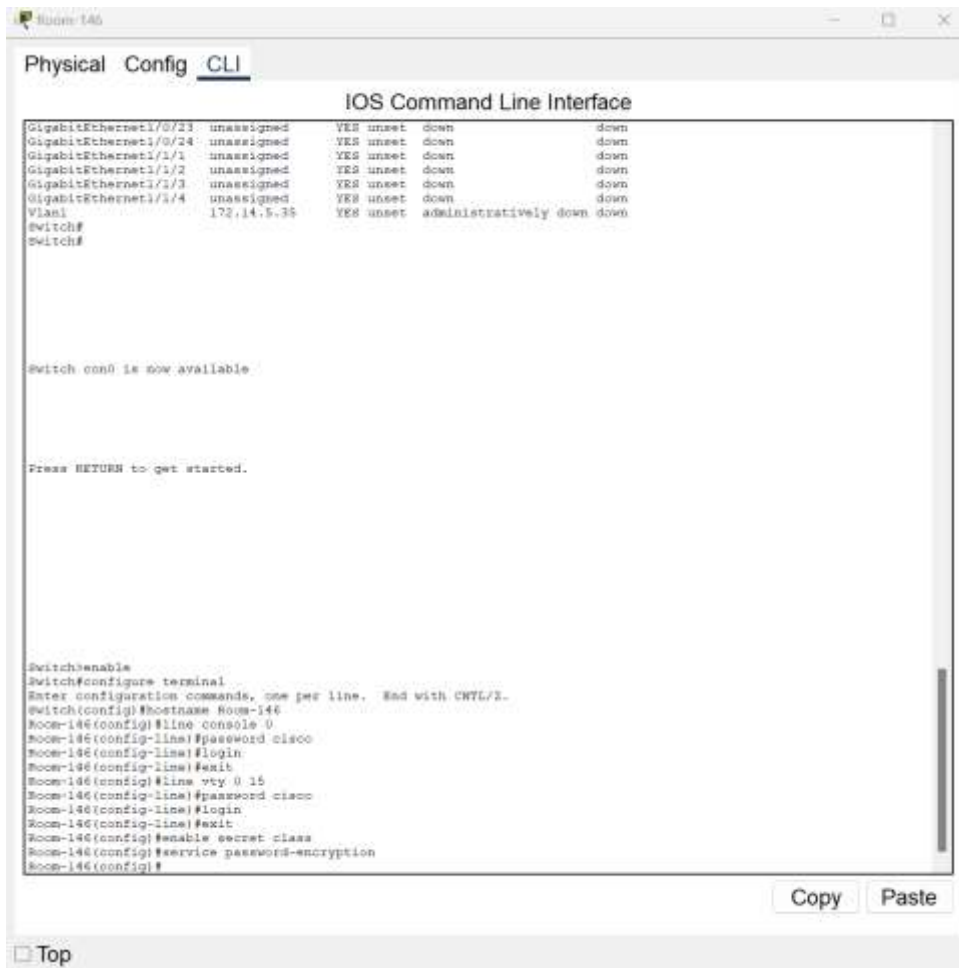
- Use **class** as the encrypted privileged EXEC password.



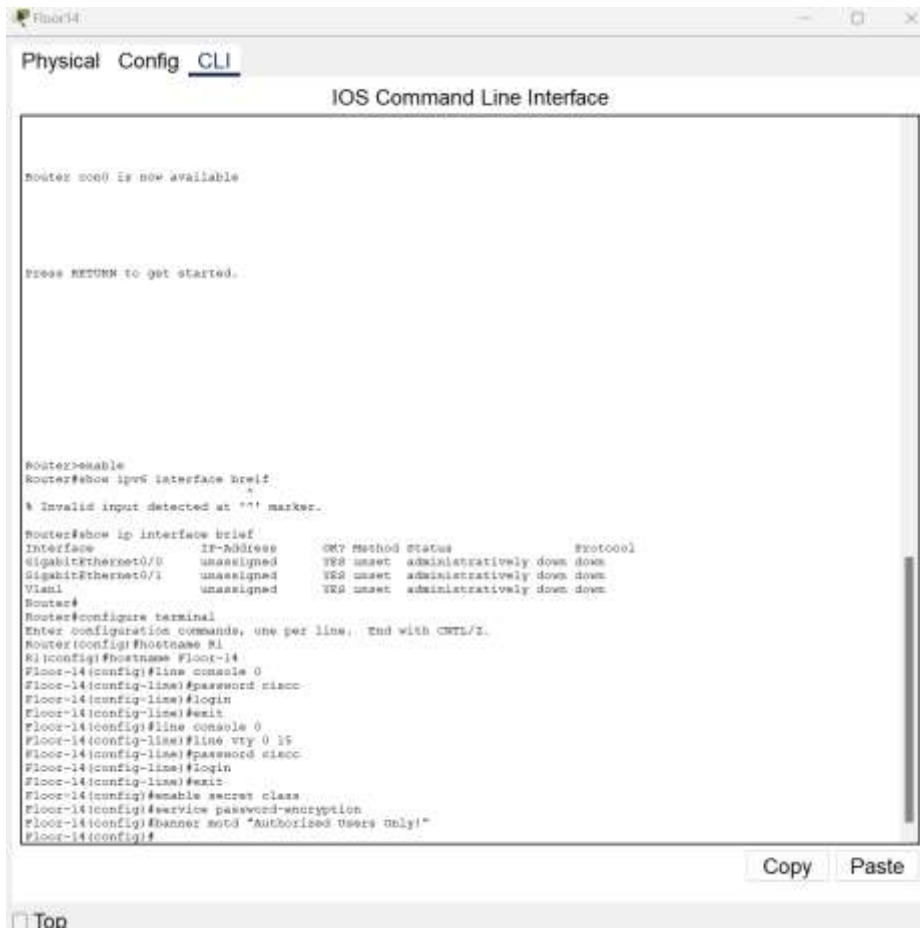


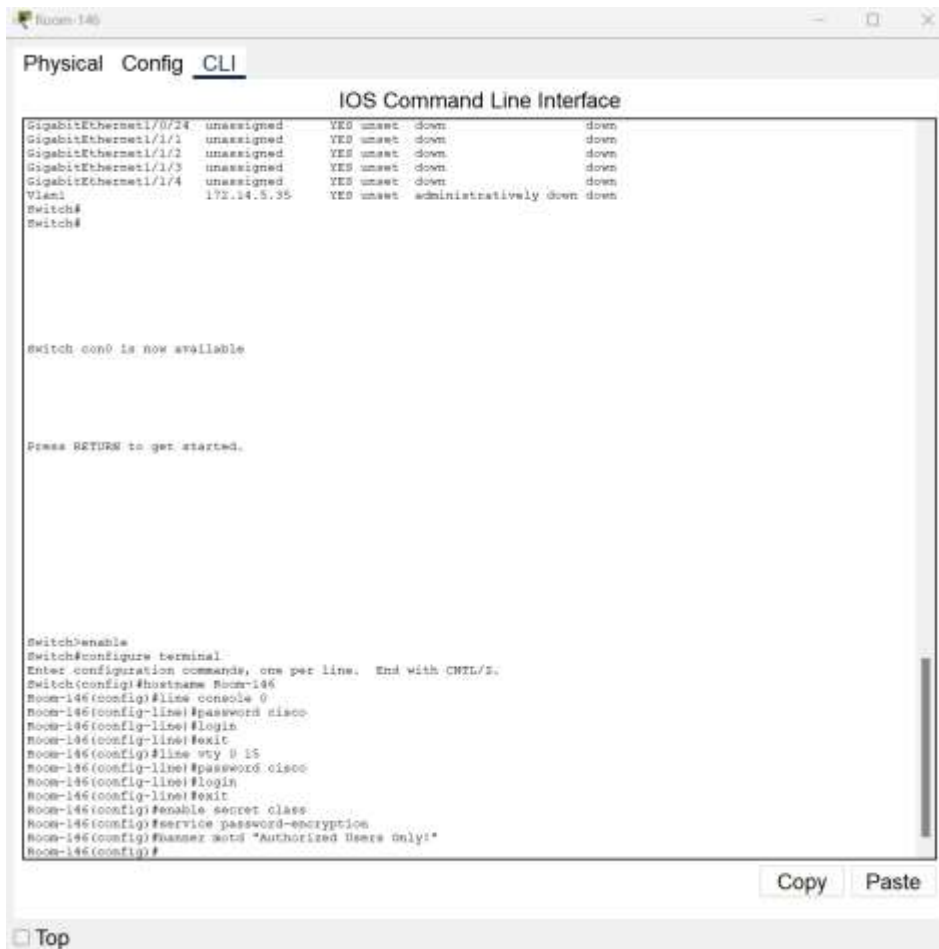
- Encrypt all plaintext passwords.



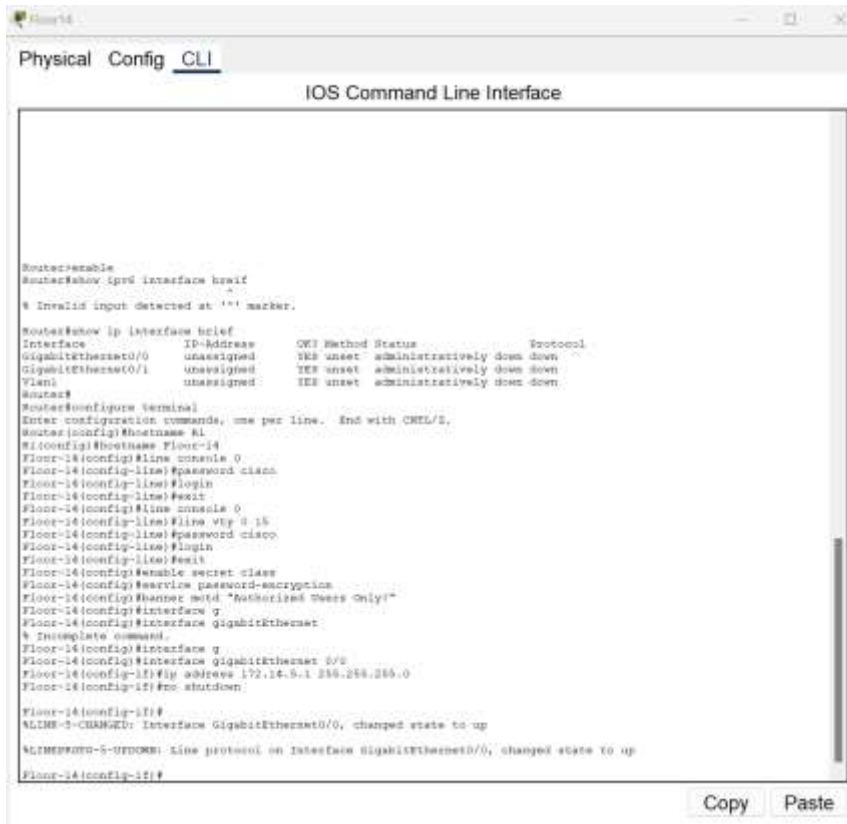


- Configure an appropriate banner.





- Configure IPv4 and IPv6 addressing for the switch according to the Addressing Table.



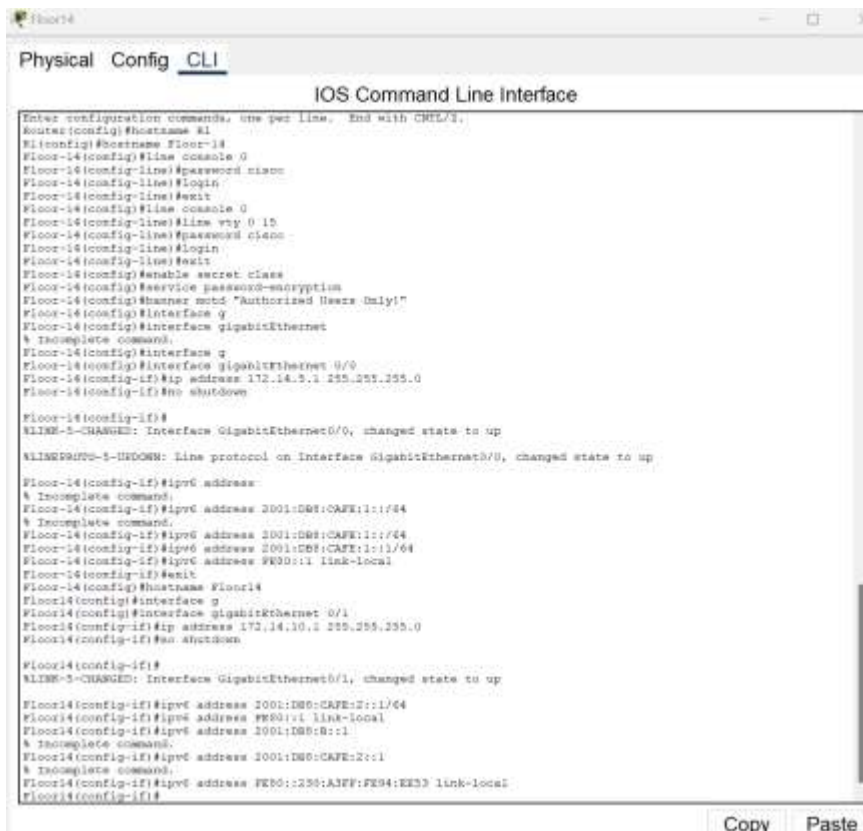
```
Physical Config CLI
IOS Command Line Interface

Router#enable
Router#show ip interface brief
% Invalid input detected at '^' marker.

Router#show ip interface brief
Interface      IP-Address      CMT Method Status      Protocol
GigabitEthernet0/0  unassigned      YES unset    administratively down down
GigabitEthernet0/1  unassigned      YES unset    administratively down down
Vlan1          unassigned      YES unset    administratively down down
Router#

Router#configure terminal
Enter configuration commands, one per line. End with CTRL/Z.
Router(config)#hostname R1
R1(config)#hostname Floor-14
Floor-14(config)#line console 0
Floor-14(config-line)#password class
Floor-14(config-line)#login
Floor-14(config-line)#exit
Floor-14(config)#line vty 0 15
Floor-14(config-line)#password class
Floor-14(config-line)#login
Floor-14(config-line)#exit
Floor-14(config)#enable secret class
Floor-14(config)#service password-encryption
Floor-14(config)#banner motd "Authorized Users Only!"
Floor-14(config)#interface g
Floor-14(config)#interface GigabitEthernet
% Incomplete command.
Floor-14(config)#interface g
Floor-14(config)#interface GigabitEthernet 0/0
Floor-14(config-if)#ip address 172.16.5.1 255.255.255.0
Floor-14(config-if)#no shutdown

Floor-14(config-if)#
%LINE5-CHANGED: Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
Floor-14(config-if)#
```



```
Physical Config CLI
IOS Command Line Interface

Enter configuration commands, one per line. End with CTRL/Z.
R1(config)#hostname R1
R1(config)#hostname Floor-14
Floor-14(config)#line console 0
Floor-14(config-line)#password class
Floor-14(config-line)#login
Floor-14(config-line)#exit
Floor-14(config)#line vty 0 15
Floor-14(config-line)#password class
Floor-14(config-line)#login
Floor-14(config-line)#exit
Floor-14(config)#enable secret class
Floor-14(config)#service password-encryption
Floor-14(config)#banner motd "Authorized Users Only!"
Floor-14(config)#interface g
Floor-14(config)#interface GigabitEthernet
% Incomplete command.
Floor-14(config)#interface g
Floor-14(config)#interface GigabitEthernet 0/0
Floor-14(config-if)#ip address 172.16.5.1 255.255.255.0
Floor-14(config-if)#no shutdown

Floor-14(config-if)#
%LINE5-CHANGED: Interface GigabitEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

Floor-14(config-if)#ipv6 address
% Incomplete command.
Floor-14(config-if)#ipv6 address 2001:DB8:CAFE::1::/64
% Incomplete command.
Floor-14(config-if)#ipv6 address 2001:DB8:CAFE::1::/64
Floor-14(config-if)#ipv6 address FE80::1 link-local
Floor-14(config-if)#exit
Floor-14(config)#hostname Floor14
Floor14(config)#interface g
Floor14(config)#interface GigabitEthernet 0/1
Floor14(config-if)#ip address 172.16.10.1 255.255.255.0
Floor14(config-if)#no shutdown

Floor14(config-if)#
%LINE5-CHANGED: Interface GigabitEthernet0/1, changed state to up

Floor14(config-if)#ipv6 address 2001:DB8:CAFE::2::1/64
Floor14(config-if)#ipv6 address FE80::1 link-local
Floor14(config-if)#ipv6 address 2001:DB8:::1
% Incomplete command.
Floor14(config-if)#ipv6 address 2001:DB8:CAFE:::1
% Incomplete command.
Floor14(config-if)#ipv6 address FE80::255:A3FF:FE94:EE3 link-local
Floor14(config-if)#
```

- Configure IPv4 and IPv6 addressing for the switch according to the Addressing Table.

- The hosts are partially configured. Complete the IPv4 addressing, and fully configure the IPv6 addresses according to the Addressing Table.

The screenshot shows the 'IP Configuration' window for a Cisco router interface named 'FastEthernet0'. The window is divided into two main sections: 'IP Configuration' and 'IPv6 Configuration'. In the 'IP Configuration' section, the 'Static' radio button is selected, and the fields are filled with the following values: IPv4 Address: 172.14.5.50, Subnet Mask: 255.255.255.0, Default Gateway: 172.14.5.1, and DNS Server: 0.0.0.0. In the 'IPv6 Configuration' section, the 'Static' radio button is also selected, and the fields are filled with: IPv6 Address: 2001:DB8:CAFE:1::2 / 64, Link Local Address: FE80::204:9AFF:FE05:A819, Default Gateway: FE80::1, and DNS Server: (empty). Below these sections, there is a section for '802.1X' configuration, which is currently unchecked. The 'Authentication' dropdown is set to 'MD5', and the 'Username' and 'Password' fields are empty. A 'Top' button is located at the bottom left of the window.

| Interface | FastEthernet0 |
|--|---|
| IP Configuration | |
| <input type="radio"/> DHCP | <input checked="" type="radio"/> Static |
| IPv4 Address | 172.14.5.50 |
| Subnet Mask | 255.255.255.0 |
| Default Gateway | 172.14.5.1 |
| DNS Server | 0.0.0.0 |
| IPv6 Configuration | |
| <input type="radio"/> Automatic | <input checked="" type="radio"/> Static |
| IPv6 Address | 2001:DB8:CAFE:1::2 / 64 |
| Link Local Address | FE80::204:9AFF:FE05:A819 |
| Default Gateway | FE80::1 |
| DNS Server | |
| 802.1X | |
| <input type="checkbox"/> Use 802.1X Security | |
| Authentication | MD5 |
| Username | |
| Password | |

Packet Tracer A

Physical Config Desktop Programming

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 172.14.5.60

Subnet Mask 255.255.255.0

Default Gateway 172.14.5.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address 2001:DB8:CAFE:1::3 / 64

Link Local Address FE80::20C:CFFF:FE03:CD59

Default Gateway FE80::1

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Manage-8

Physical Config Desktop Programming

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 172.14.10.50

Subnet Mask 255.255.255.0

Default Gateway 172.14.10.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address 2001:DB8:CAFE:2::2 / 64

Link Local Address FE80::290:CFF:FEA8:6335

Default Gateway FE80::1

DNS Server

802.1X

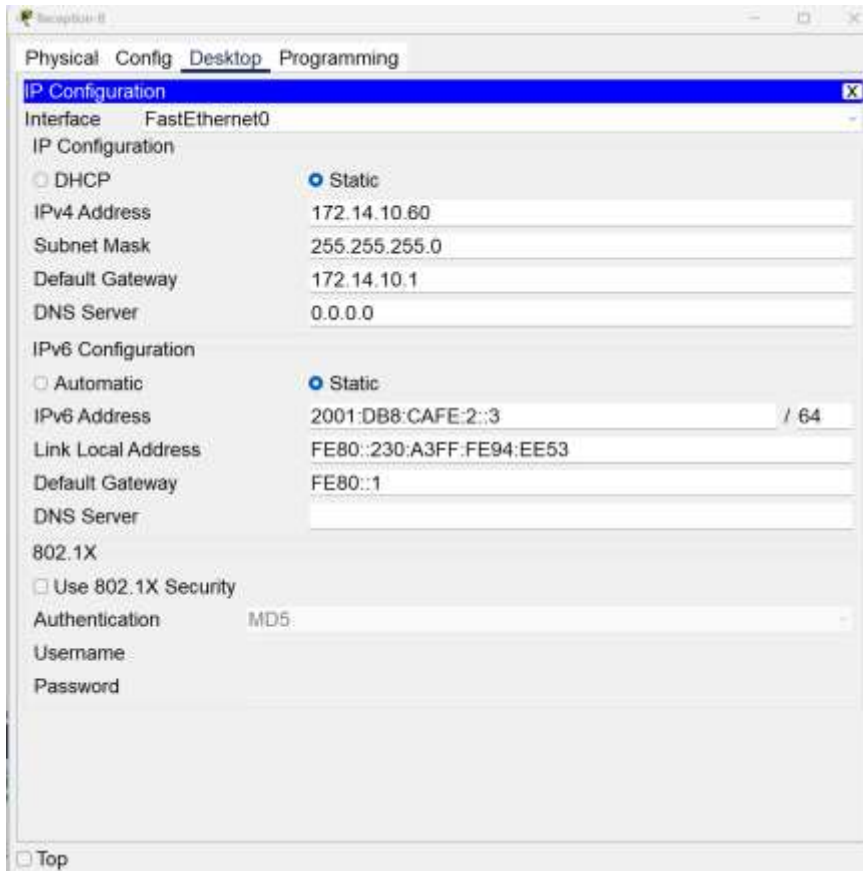
☐ Use 802.1X Security

Authentication MD5

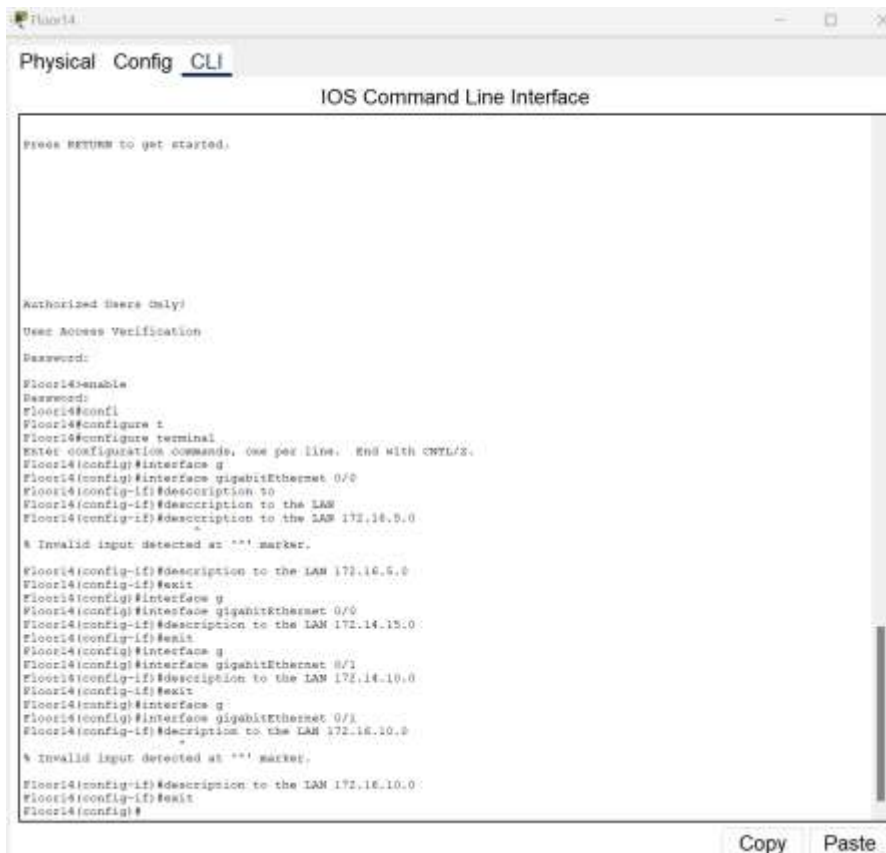
Username

Password

☐ Top



- Document interfaces with descriptions, including the VLAN 1 interface.



```
Physical Config CLI

IOS Command Line Interface

Press RETURN to get started.

Authorized Users Only
User Access Verification
Password:

Floor14>enable
Password:
Floor14#conf t
Floor14(config)#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Floor14(config)#interface g
Floor14(config)#interface gigabitEthernet 0/0
Floor14(config-if)#description to
Floor14(config-if)#description to the LAN 172.16.5.0
Floor14(config-if)#
% Invalid input detected at '^' marker.
Floor14(config-if)#description to the LAN 172.16.5.0
Floor14(config-if)#exit
Floor14(config)#interface g
Floor14(config)#interface gigabitEthernet 0/0
Floor14(config-if)#description to the LAN 172.14.15.0
Floor14(config-if)#exit
Floor14(config)#interface g
Floor14(config)#interface gigabitEthernet 0/1
Floor14(config-if)#description to the LAN 172.14.10.0
Floor14(config-if)#exit
Floor14(config)#interface g
Floor14(config)#interface gigabitEthernet 0/1
Floor14(config-if)#description to the LAN 172.16.10.0
Floor14(config-if)#
% Invalid input detected at '^' marker.
Floor14(config-if)#description to the LAN 172.16.10.0
Floor14(config-if)#exit
Floor14(config)#
```

- Save your configurations.





```
Physical Config CLI
IOS Command Line Interface

4194304K bytes of physical memory.
250456K bytes of Crash Files at crashinfo : .
1609212K bytes of Flash at flash : .
0K bytes of  at webui : .

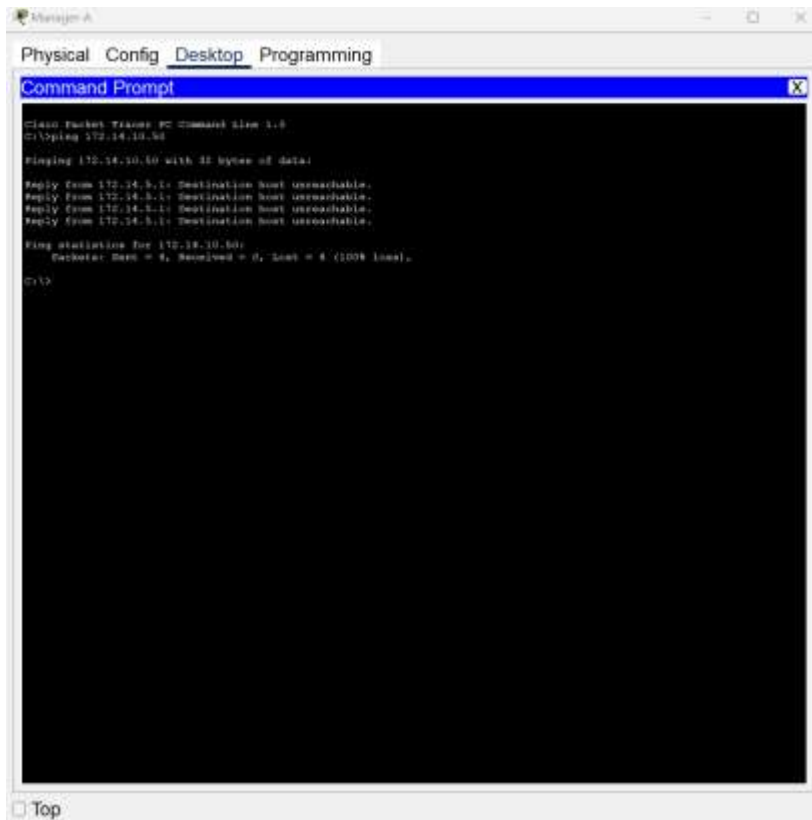
Base ethernet MAC Address       : 9C:0F:7C:04:87:6A
Motherboard assembly number     : 73-15095-06
Motherboard serial number       : FD020312RNP
Model revision number           : 80
Motherboard revision number     : A0
Model number                    : W8-C3K65-24P8
System serial number            : FD020312QTD

Press RETURN to get started!

%LINK-5-CHANGED: Interface GigabitEthernet1/0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/1, changed state to up
%LINK-5-CHANGED: Interface GigabitEthernet1/0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/2, changed state to up
Authorized Users Only!
User Access Verification
Password:
Router-146>enable
Password:
Router-146#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router-146(config)#
Router-146(config)#interface vlan 1
Router-146(config-if)#description to Switch 2
Router-146(config-if)#exit
Router-146(config)#copy running-config startup-config
~
% Invalid input detected at '^' marker.
Router-146(config)#exit
Router-146#
%SYS-5-CONFIG_I: Configured from console by console

Router-146#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router-146#
```

- Verify connectivity between all devices. All devices should be able to ping all other devices with IPv4 and IPv6.



Somehow the Switch was disconnected from the Router, but they were initially connected and I don't know the solution. It says the disconnection is locked.



- Troubleshoot and document any issues.



```
Floor14
Physical Config CLI
IOS Command Line Interface

1536 bytes of non-volatile configuration memory.
349568 bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: line protocol on interface GigabitEthernet0/0, changed state to up
Authorized Users Only!

User Access Verification

Password:
Floor14>enable
Password:
Password:
Floor14#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Floor14#ip interface brief

% Invalid input detected at '^' marker.

Floor14#ip
Floor14#show ip interface brief
Interface      IP-Address      OK? Method Status      Protocol
GigabitEthernet0/0  172.14.1.1      YES manual up          up
GigabitEthernet0/1  172.14.10.1     YES manual up          down
Vlan0000000000  unassigned      YES unset administratively down down

Floor14#config t
Floor14(config)#terminal
Enter configuration commands, one per line. End with CNTL/Z.
Floor14(config)#interface g
Floor14(config)#interface gigabitEthernet 0/1
% Invalid input detected at '^' marker.

Floor14(config)#interface g
Floor14(config)#interface gigabitEthernet 0/1
Floor14(config-if)#ip address 172.14.1.1 link-local
Floor14(config-if)#
Floor14(config-if)#exit
Floor14(config)#ip vrf vrf1
Floor14(config)#ip vrf vrf1 unicast-routing
Floor14(config)#interface g
Floor14(config)#interface gigabitEthernet 0/0
Floor14(config-if)#ip address 2001:DB8:A::1/64
% Invalid input detected at '^' marker.

Floor14(config-if)#ip vrf vrf1 address 2001:DB8:A::1/64
Floor14(config-if)#
```

- Implement the solutions necessary to enable and verify full end-to-end connectivity.

Note: Click **Check Results** button to see your progress. Click the **Reset Activity** button to generate a new set of requirements.