Q6) Configure a management VLAN and assign an IP address for remote access. Test SSH or Telnet access to the switch
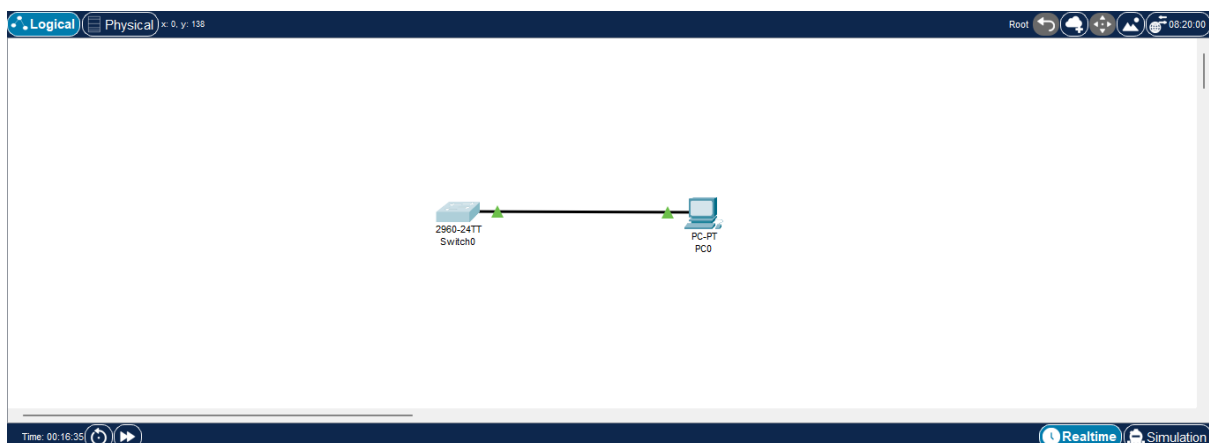
Management VLAN:

A **Management VLAN** is a **dedicated VLAN** used exclusively for **remote administration** of network devices like **switches, routers, and access points**. It allows administrators to securely manage devices without exposing control traffic to regular data VLANs.

Why Use a Management VLAN?

1. **Security:** Keeps management traffic isolated from user data, preventing unauthorized access.
2. **Network Stability:** Prevents congestion or interference from regular data traffic.
3. **Remote Access:** Enables administrators to configure and monitor switches using **SSH, Telnet, SNMP, or HTTP(S)**.'

Network Setup:

Configuring a Management VLAN:

Physical   Config   CLI   Attributes

IOS Command Line Interface

```
   General Purpose Keys. Choosing a key modulus greater than 512 may take
   a few minutes.

How many bits in the modulus [512]: 1024
% Generating 1024 bit RSA keys, keys will be non-exportable...[OK]

Switch1(config)#username admin privilege 15 secret Cisco@123
*Mar 1 0:5:2.69: %SSH-5-ENABLED: SSH 1.99 has been enabled
Switch1(config)#line vty 0 4
Switch1(config-line)#transport input ssh
Switch1(config-line)#login local
Switch1(config-line)#exit
Switch1(config)# ip ssh version 2
Switch1(config)#line vty 0 4
Switch1(config-line)#transport input telnet
Switch1(config-line)#login local
Switch1(config-line)#exit
Switch1(config)#show vlan brief
                    ^
% Invalid input detected at '^' marker.

Switch1(config)#exit
Switch1#
%SYS-5-CONFIG_I: Configured from console by console

Switch1#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/2, Fa0/3, Fa0/4, Fa0/5
                                                Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                Fa0/22, Fa0/23, Fa0/24, Gig0/1
                                                Gig0/2
99   Management                       active    Fa0/1
1002 fddi-default                     active
```

Copy   Paste

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Physical   Config   CLI   Attributes

IOS Command Line Interface

```
Switch1(config)#show vlan brief
                    ^
% Invalid input detected at '^' marker.

Switch1(config)#exit
Switch1#
%SYS-5-CONFIG_I: Configured from console by console

Switch1#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/2, Fa0/3, Fa0/4, Fa0/5
                                                Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                Fa0/22, Fa0/23, Fa0/24, Gig0/1
                                                Gig0/2
99   Management                       active    Fa0/1
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Switch1# show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/1        unassigned      YES manual up                    up
FastEthernet0/2        unassigned      YES manual down                  down
FastEthernet0/3        unassigned      YES manual down                  down
FastEthernet0/4        unassigned      YES manual down                  down
FastEthernet0/5        unassigned      YES manual down                  down
FastEthernet0/6        unassigned      YES manual down                  down
FastEthernet0/7        unassigned      YES manual down                  down
FastEthernet0/8        unassigned      YES manual down                  down
FastEthernet0/9        unassigned      YES manual down                  down
FastEthernet0/10       unassigned      YES manual down                  down
FastEthernet0/11       unassigned      YES manual down                  down
FastEthernet0/12       unassigned      YES manual down                  down
```

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Physical   Config   CLI   Attributes

IOS Command Line Interface

```
FastEthernet0/13       unassigned      YES manual down                  down
FastEthernet0/14       unassigned      YES manual down                  down
FastEthernet0/15       unassigned      YES manual down                  down
FastEthernet0/16       unassigned      YES manual down                  down
FastEthernet0/17       unassigned      YES manual down                  down
FastEthernet0/18       unassigned      YES manual down                  down
FastEthernet0/19       unassigned      YES manual down                  down
FastEthernet0/20       unassigned      YES manual down                  down
FastEthernet0/21       unassigned      YES manual down                  down
FastEthernet0/22       unassigned      YES manual down                  down
FastEthernet0/23       unassigned      YES manual down                  down
FastEthernet0/24       unassigned      YES manual down                  down
GigabitEthernet0/1     unassigned      YES manual down                  down
GigabitEthernet0/2     unassigned      YES manual down                  down
Vlan1                  unassigned      YES manual administratively down down
Vlan99                 192.168.1.100   YES manual up                    up
Switch1# show running-config
Building configuration...

Current configuration : 1352 bytes
!
version 15.0
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Switch1
!
!
!
ip ssh version 2
ip domain-name vlan.com
!
username admin secret 5 $1$mERr$gjNBRlu.Is9z7oaYvbvh//
!
!
!
spanning-tree mode pvst
```
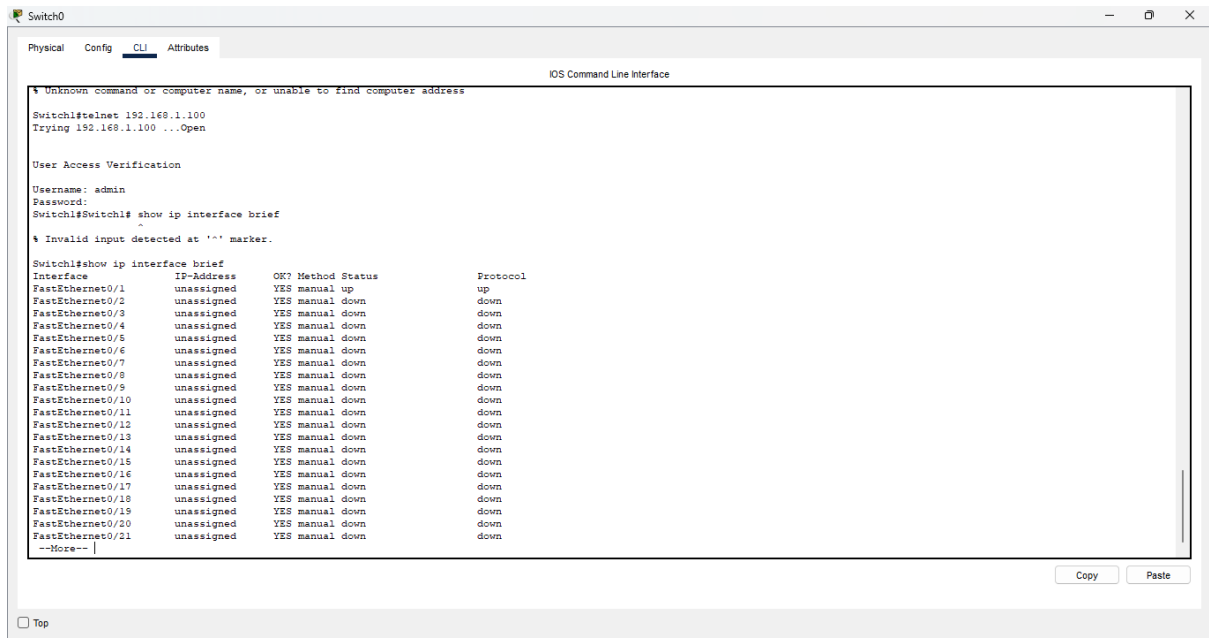
Copy   Paste

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Testing:

IOS Command Line Interface

```
% Unknown command or computer name, or unable to find computer address

Switch1#telnet 192.168.1.100
Trying 192.168.1.100 ...Open


User Access Verification

Username: admin
Password:
Switch1#Switch1# show ip interface brief
                 ^
% Invalid input detected at '^' marker.

Switch1#show ip interface brief
Interface          IP-Address      OK? Method Status                Protocol
FastEthernet0/1    unassigned      YES manual up                    up
FastEthernet0/2    unassigned      YES manual down                  down
FastEthernet0/3    unassigned      YES manual down                  down
FastEthernet0/4    unassigned      YES manual down                  down
FastEthernet0/5    unassigned      YES manual down                  down
FastEthernet0/6    unassigned      YES manual down                  down
FastEthernet0/7    unassigned      YES manual down                  down
FastEthernet0/8    unassigned      YES manual down                  down
FastEthernet0/9    unassigned      YES manual down                  down
FastEthernet0/10   unassigned      YES manual down                  down
FastEthernet0/11   unassigned      YES manual down                  down
FastEthernet0/12   unassigned      YES manual down                  down
FastEthernet0/13   unassigned      YES manual down                  down
FastEthernet0/14   unassigned      YES manual down                  down
FastEthernet0/15   unassigned      YES manual down                  down
FastEthernet0/16   unassigned      YES manual down                  down
FastEthernet0/17   unassigned      YES manual down                  down
FastEthernet0/18   unassigned      YES manual down                  down
FastEthernet0/19   unassigned      YES manual down                  down
FastEthernet0/20   unassigned      YES manual down                  down
FastEthernet0/21   unassigned      YES manual down                  down
 --More--
```