

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

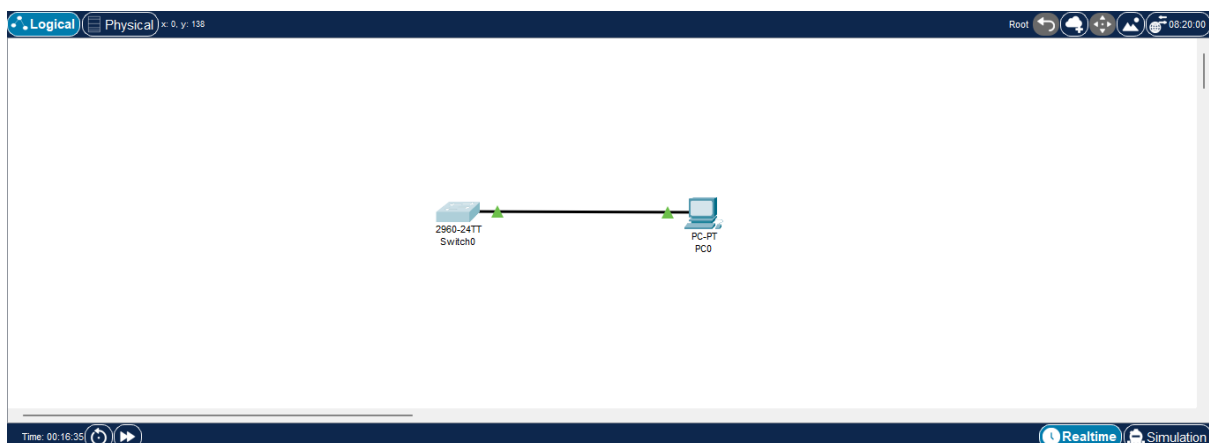
Management VLAN:

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:

```
Switch0
Physical Config CLI Attributes
IOS Command Line Interface

Switch>enable
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#vlan 99
Switch(config-vlan)#name Management
Switch(config-vlan)#exit
Switch(config)#interface Vlan 99
Switch(config-if)#
%LINK-6-CHANGED: Interface Vlan99, changed state to up
Switch(config-if)#ip address 192.168.1.100 255.255.255.0
Switch(config-if)#no shutdown
Switch(config-if)#exit
Switch(config)#ip default-gateway 192.168.1.1
Switch(config)#
% Invalid input detected at '^' marker.

Switch(config)#ip default-gateway 192.168.1.1
Switch(config)#interface FastEthernet 0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 99
Switch(config-if)#
%LINKPROTO-5-UPDOWN: Line protocol on Interface Vlan99, changed state to up
Switch(config-if)#exit
Switch(config)#hostname Switch1
Switch1(config)#ip domain-name vlan.com
Switch1(config)#crypto key generate rsa
The name for the keys will be: Switch1.vlan.com
Choose the size of the key modulus in the range of 360 to 4096 for your
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
User: admin - OK. SSH-2.0-SSH-1.99 has been enabled
```

Switch0

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 00:52:29: %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
1004 fdmi-default        active
1005 trnet-default        active
```

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Switch0

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```
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 fdmi-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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Switch0

Physical Config CLI Attributes

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```
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
Vlan1             unassigned   YES manual administratively down down
Vlan99            192.168.1.100 YES manual up        up

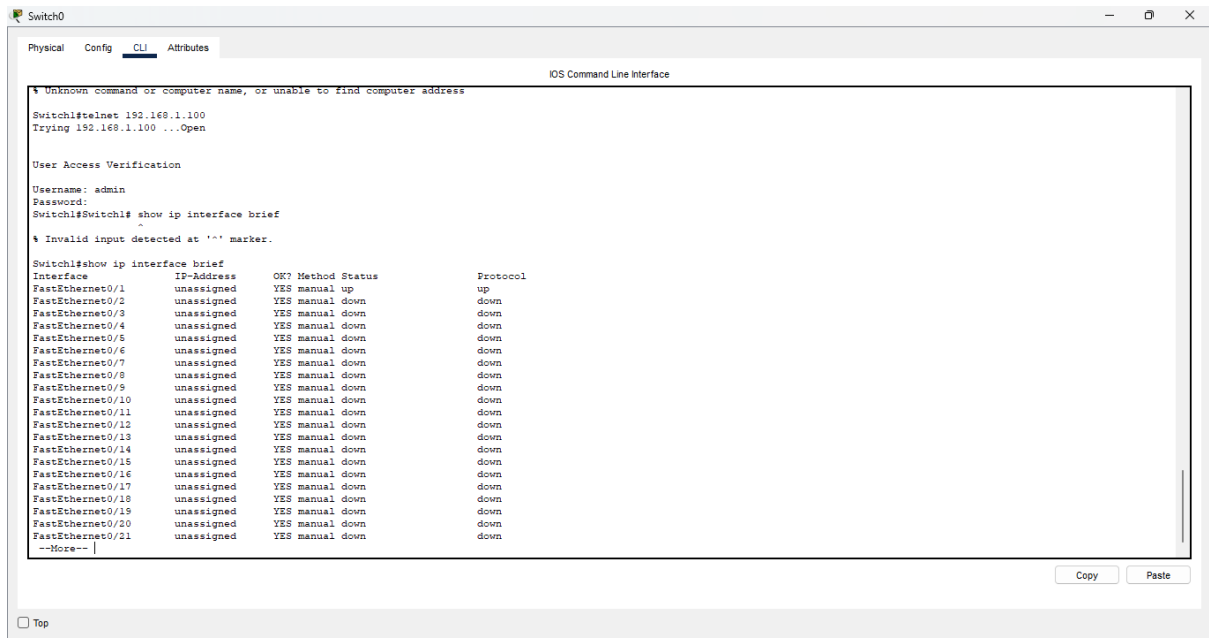
Switch1# show running-config
Building configuration...

Current configuration : 1362 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 $1$mRt9gJNBR1u.1s9z7oaYvbnv//
!
!
spanning-tree mode pvst
```

Copy Paste

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Testing:



The screenshot shows a Cisco IOS Command Line Interface (CLI) window titled "Switch0". The window has tabs for "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is active, displaying the following text:

```
Switch0#telnet 192.168.1.100
Trying 192.168.1.100 ...Open

User Access Verification
Username: admin
Password:
Switch0#Switch0# show ip interface brief
^
% Invalid input detected at '^' marker.

Switch0#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-- |
```

At the bottom of the window, there are "Copy" and "Paste" buttons, and a "Top" button with a checkbox next to it.