



# **Assignment 2**

## **VLAN CONFIGURATION**

**Course:** HUAWEI DATACOM

**Instructor:** Eng. Samah Eisa

**By:** Mennat Allah Kamal Kamel Abdallah

# Table of Contents

## 1)Objective

## 2)Topology

## 3)Host IP Configuration

## 4)Switch Configuration

- SW1
- SW2

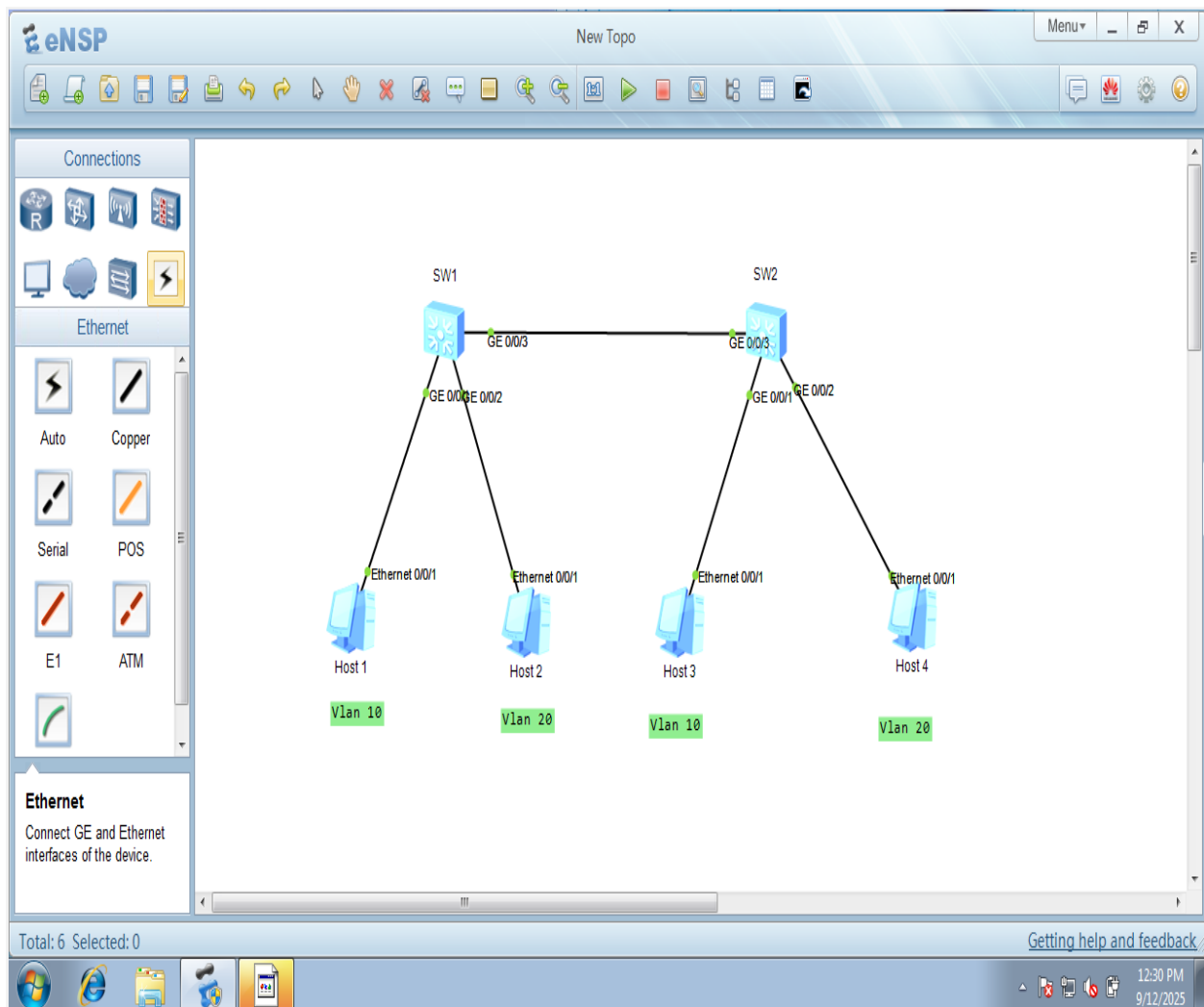
## 5)Test Results

## 6)Conclusion

# 1) Objective

To configure interface-based VLAN assignment on two switches so that users of the same service (same VLAN) can communicate with each other across switches, while preventing communication between different VLANs even on the same switch.

## 2) Topology



### 3) Host IP Configuration

HOST	IP Address	Subnet Mask	VLAN
Host 1	192.168.10.100	255.255.255.0	10
Host 2	192.168.20.100	255.255.255.0	20
Host 3	192.168.10.200	255.255.255.0	10
Host 4	192.168.20.200	255.255.255.0	20

### 4) Switch Configuration

- SW1

```
SW1
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]hostname SW1
^
Error: Unrecognized command found at '^' position.
[Huawei]sysname SW1
[SW1]
Sep 12 2025 12:04:00-08:00 SW1 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 4, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW1]vlan batch 10 20
Info: This operation may take a few seconds. Please wait for a moment...done.
[SW1]
Sep 12 2025 12:04:20-08:00 SW1 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 5, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW1]int GigabitEthernet 0/0/1
^
Error: Wrong parameter found at '^' position.
[SW1]int g 0/0/1
[SW1-GigabitEthernet0/0/1]port link-type access
[SW1-GigabitEthernet0/0/1]
Sep 12 2025 12:07:11-08:00 SW1 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 6, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW1-GigabitEthernet0/0/1]port default vlan 10
[SW1-GigabitEthernet0/0/1]
Sep 12 2025 12:07:51-08:00 SW1 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 7, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW1-GigabitEthernet0/0/1]quit
[SW1]int g0/0/2
[SW1-GigabitEthernet0/0/2]port link-type access
[SW1-GigabitEthernet0/0/2]port default vlan 20
[SW1-GigabitEthernet0/0/2]
Sep 12 2025 12:08:21-08:00 SW1 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 8, the c
```

```
SW1
.191.3.1 configurations have been changed. The current change number is 10, the
change loop count is 0, and the maximum number of records is 4095.
^
Error: Unrecognized command found at '^' position.
[SW1-GigabitEthernet0/0/3]port trunk permit vlan 10 20
^
Error: Unrecognized command found at '^' position.
[SW1-GigabitEthernet0/0/3]port trunk?
trunk
[SW1-GigabitEthernet0/0/3]port trunk ?
allow-pass Allowed vlan
pvid Specify current port's PVID VLAN characteristics

[SW1-GigabitEthernet0/0/3]port trunk allow-pass vlan 10 20
[SW1-GigabitEthernet0/0/3]
Sep 12 2025 12:10:01-08:00 SW1 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 11, the
change loop count is 0, and the maximum number of records is 4095.
[SW1-GigabitEthernet0/0/3]quit
[SW1]save force
^
Error: Unrecognized command found at '^' position.
[SW1]quit
<SW1>save force
Error: Invalid file name or Invalid extension ( *.cfg, *.zip ).
<SW1>save
The current configuration will be written to the device.
Are you sure to continue?[Y/N]y
Info: Please input the file name ( *.cfg, *.zip ) [vrpcfg.zip]:
Sep 12 2025 12:11:01-08:00 SW1 %01CFM/4/SAVE(1)[0]:The user chose Y when decidi
ng whether to save the configuration to the device.
Now saving the current configuration to the slot 0.
Save the configuration successfully.
```

- SW2

```
SW2
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]sysname SW2
[SW2]
Sep 12 2025 12:17:39-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 4, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW2]vlan batch 10 20
Info: This operation may take a few seconds. Please wait for a moment...done.
[SW2]
Sep 12 2025 12:17:49-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 5, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW2]int g0/0/1
[SW2-GigabitEthernet0/0/1]port link-type access
[SW2-GigabitEthernet0/0/1]port default
Sep 12 2025 12:18:09-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 6, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW2-port-group-default]quit
[SW2]
Sep 12 2025 12:18:19-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 7, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW2]int g0/0/1
[SW2-GigabitEthernet0/0/1]port link-type access
[SW2-GigabitEthernet0/0/1]port default vlan 10
[SW2-GigabitEthernet0/0/1]quit
[SW2]int g0/0/2
[SW2-GigabitEthernet0/0/2]
Sep 12 2025 12:18:39-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 8, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW2-GigabitEthernet0/0/2]port link-type access
[SW2-GigabitEthernet0/0/2]port default vlan 20
Sep 12 2025 12:18:49-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 9, the c
hange loop count is 0, and the maximum number of records is 4095.
```

```
SW2
Sep 12 2025 12:18:17: SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 9, the c
hange loop count is 0, and the maximum number of records is 4095.
[SW2-GigabitEthernet0/0/2]port default vlan 20
[SW2-GigabitEthernet0/0/2]quit
[SW2]int g0/0/
Sep 12 2025 12:18:59-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 10, the
change loop count is 0, and the maximum number of records is 4095.
^
Error: Ambiguous command found at '^' position.
[SW2]int g0/0/3
[SW2-GigabitEthernet0/0/3]port link-type trunk
[SW2-GigabitEthernet0/0/3]port default vlan 10
Sep 12 2025 12:19:29-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 11, the
change loop count is 0, and the maximum number of records is 4095.
^
Error: Unrecognized command found at '^' position.
[SW2-GigabitEthernet0/0/3]port allow-pass vlan 10 20
^
Error: Unrecognized command found at '^' position.
[SW2-GigabitEthernet0/0/3]port trunk allow-pass vlan 10 20
[SW2-GigabitEthernet0/0/3]quit
[SW2]
Sep 12 2025 12:20:09-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 12, the
change loop count is 0, and the maximum number of records is 4095.
[SW2]quit
<SW2>save
The current configuration will be written to the device.
Are you sure to continue?[Y/N]y
Info: Please input the file name ( *.cfg, *.zip ) [vrpcfg.zip]:
Sep 12 2025 12:20:16-08:00 SW2 %01CFM/4/SAVE(1)[0]:The user chose Y when decidi
ng whether to save the configuration to the device.
Now saving the current configuration to the slot 0.
Save the configuration successfully.
```

## 5) Test Results

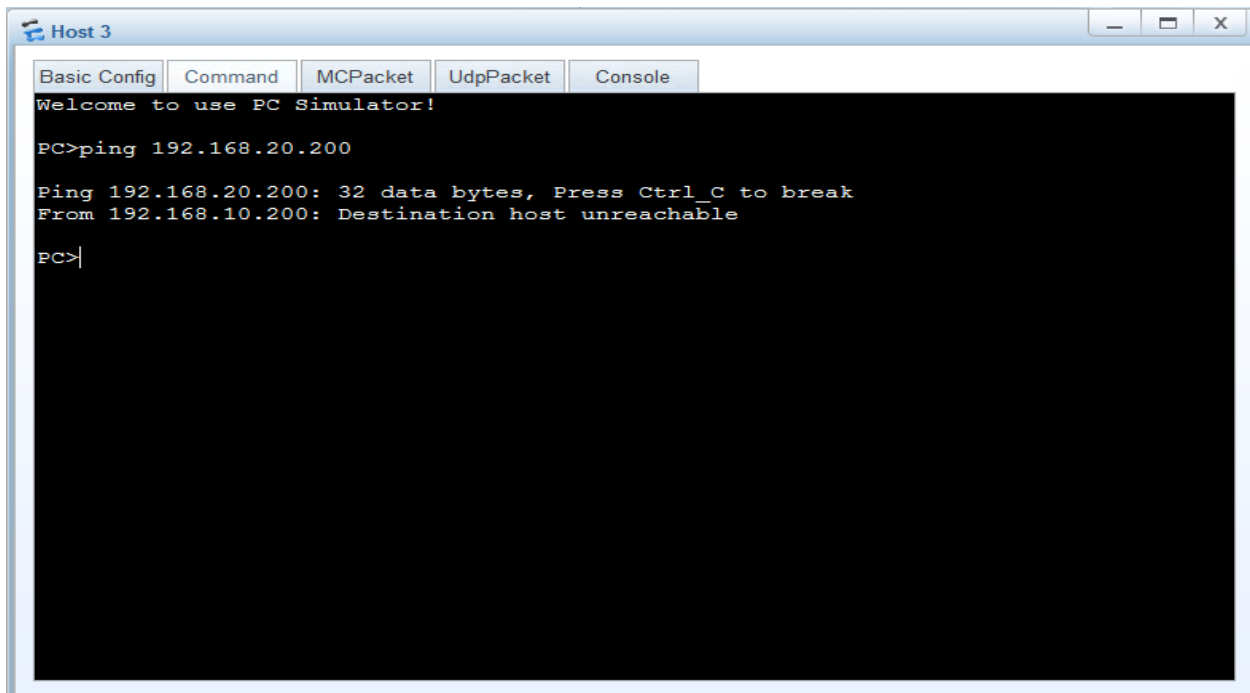
```
Host 1
Basic Config Command MCPacket UdpPacket Console
Welcome to use PC Simulator!

PC>ping 192.168.20.100

Ping 192.168.20.100: 32 data bytes, Press Ctrl_C to break
From 192.168.10.100: Destination host unreachable

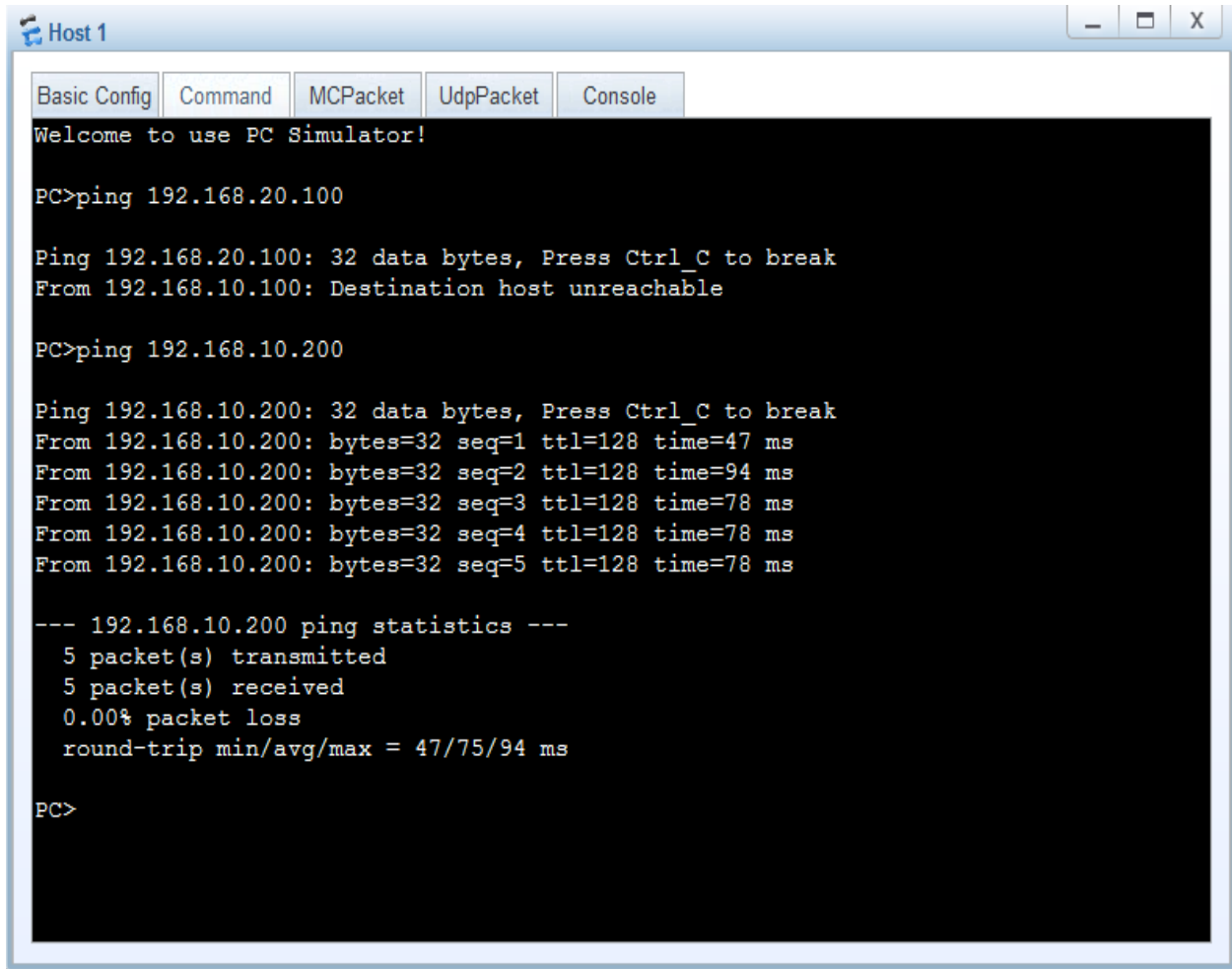
PC>
```

**Comment:** Ping failed: Host1 and Host2 are on the same switch but in different VLANs (10 and 20). Inter-VLAN communication is not possible without a router or SVI.



```
Host 3
Basic Config Command MCPacket UdpPacket Console
Welcome to use PC Simulator!
PC>ping 192.168.20.200
Ping 192.168.20.200: 32 data bytes, Press Ctrl_C to break
From 192.168.10.200: Destination host unreachable
PC>
```

**Comment:** Ping failed: Host3 and Host4 are on the same switch but in different VLANs (10 and 20). Inter-VLAN communication is not possible without a router or SVI.



```
Host 1
Basic Config Command MCPacket UdpPacket Console
Welcome to use PC Simulator!

PC>ping 192.168.20.100

Ping 192.168.20.100: 32 data bytes, Press Ctrl_C to break
From 192.168.10.100: Destination host unreachable

PC>ping 192.168.10.200

Ping 192.168.10.200: 32 data bytes, Press Ctrl_C to break
From 192.168.10.200: bytes=32 seq=1 ttl=128 time=47 ms
From 192.168.10.200: bytes=32 seq=2 ttl=128 time=94 ms
From 192.168.10.200: bytes=32 seq=3 ttl=128 time=78 ms
From 192.168.10.200: bytes=32 seq=4 ttl=128 time=78 ms
From 192.168.10.200: bytes=32 seq=5 ttl=128 time=78 ms

--- 192.168.10.200 ping statistics ---
 5 packet(s) transmitted
 5 packet(s) received
 0.00% packet loss
 round-trip min/avg/max = 47/75/94 ms

PC>
```

**Comment:** Ping successful: Host1 and Host3 are in the same VLAN (10), and because the trunk link between SW1 and SW2 carries VLAN 10 traffic, communication is successful.



```
Host 2
Basic Config | Command | MCPacket | UdpPacket | Console
Welcome to use PC Simulator!
PC>ping 192.168.20.200

Ping 192.168.20.200: 32 data bytes, Press Ctrl_C to break
From 192.168.20.200: bytes=32 seq=1 ttl=128 time=63 ms
From 192.168.20.200: bytes=32 seq=2 ttl=128 time=47 ms
From 192.168.20.200: bytes=32 seq=3 ttl=128 time=78 ms
From 192.168.20.200: bytes=32 seq=4 ttl=128 time=62 ms
From 192.168.20.200: bytes=32 seq=5 ttl=128 time=47 ms

--- 192.168.20.200 ping statistics ---
 5 packet(s) transmitted
 5 packet(s) received
 0.00% packet loss
 round-trip min/avg/max = 47/59/78 ms

PC>
```

**Comment:** Ping successful: Host2 and Host4 are in the same VLAN (20), and because the trunk link between SW1 and SW2 carries VLAN 20 traffic, communication is successful.

Save the configuration successfully.

<SW1>display vlan

The total number of vlans is : 3

-----  
U: Up;           D: Down;           TG: Tagged;        UT: Untagged;  
MP: Vlan-mapping;       ST: Vlan-stacking;  
#: ProtocolTransparent-vlan;   \*: Management-vlan;  
-----

VID   Type    Ports

-----  
1    common   UT:GE0/0/3(U)   GE0/0/4(D)   GE0/0/5(D)   GE0/0/6(D)  
              GE0/0/7(D)   GE0/0/8(D)   GE0/0/9(D)   GE0/0/10(D)  
              GE0/0/11(D)   GE0/0/12(D)   GE0/0/13(D)   GE0/0/14(D)  
              GE0/0/15(D)   GE0/0/16(D)   GE0/0/17(D)   GE0/0/18(D)  
              GE0/0/19(D)   GE0/0/20(D)   GE0/0/21(D)   GE0/0/22(D)  
              GE0/0/23(D)   GE0/0/24(D)

10   common   UT:GE0/0/1(U)  
              TG:GE0/0/3(U)

20   common   UT:GE0/0/2(U)  
              TG:GE0/0/3(U)

VID   Status   Property    MAC-LRN   Statistics   Description

-----  
1    enable   default    enable   disable   VLAN 0001  
10   enable   default    enable   disable   VLAN 0010  
20   enable   default    enable   disable   VLAN 0020

<SW2>display vlan

The total number of vlans is : 3

-----  
U: Up;           D: Down;           TG: Tagged;        UT: Untagged;  
MP: Vlan-mapping;       ST: Vlan-stacking;  
#: ProtocolTransparent-vlan;   \*: Management-vlan;  
-----

VID   Type    Ports

-----  
1    common   UT:GE0/0/3(U)   GE0/0/4(D)   GE0/0/5(D)   GE0/0/6(D)  
              GE0/0/7(D)   GE0/0/8(D)   GE0/0/9(D)   GE0/0/10(D)  
              GE0/0/11(D)   GE0/0/12(D)   GE0/0/13(D)   GE0/0/14(D)  
              GE0/0/15(D)   GE0/0/16(D)   GE0/0/17(D)   GE0/0/18(D)  
              GE0/0/19(D)   GE0/0/20(D)   GE0/0/21(D)   GE0/0/22(D)  
              GE0/0/23(D)   GE0/0/24(D)

10   common   UT:GE0/0/1(U)  
              TG:GE0/0/3(U)

20   common   UT:GE0/0/2(U)  
              TG:GE0/0/3(U)

VID   Status   Property    MAC-LRN   Statistics   Description

-----  
1    enable   default    enable   disable   VLAN 0001  
10   enable   default    enable   disable   VLAN 0010  
20   enable   default    enable   disable   VLAN 0020

## 6) Conclusion

The lab demonstrates that:

- VLANs isolate traffic at Layer 2, blocking communication between different VLANs without routing.
- Same VLAN members can communicate across multiple switches when VLANs are properly configured on access ports and trunk links.