Assignment 2

VLAN CONFIGURATION

Course: HUAWEI DATACOM

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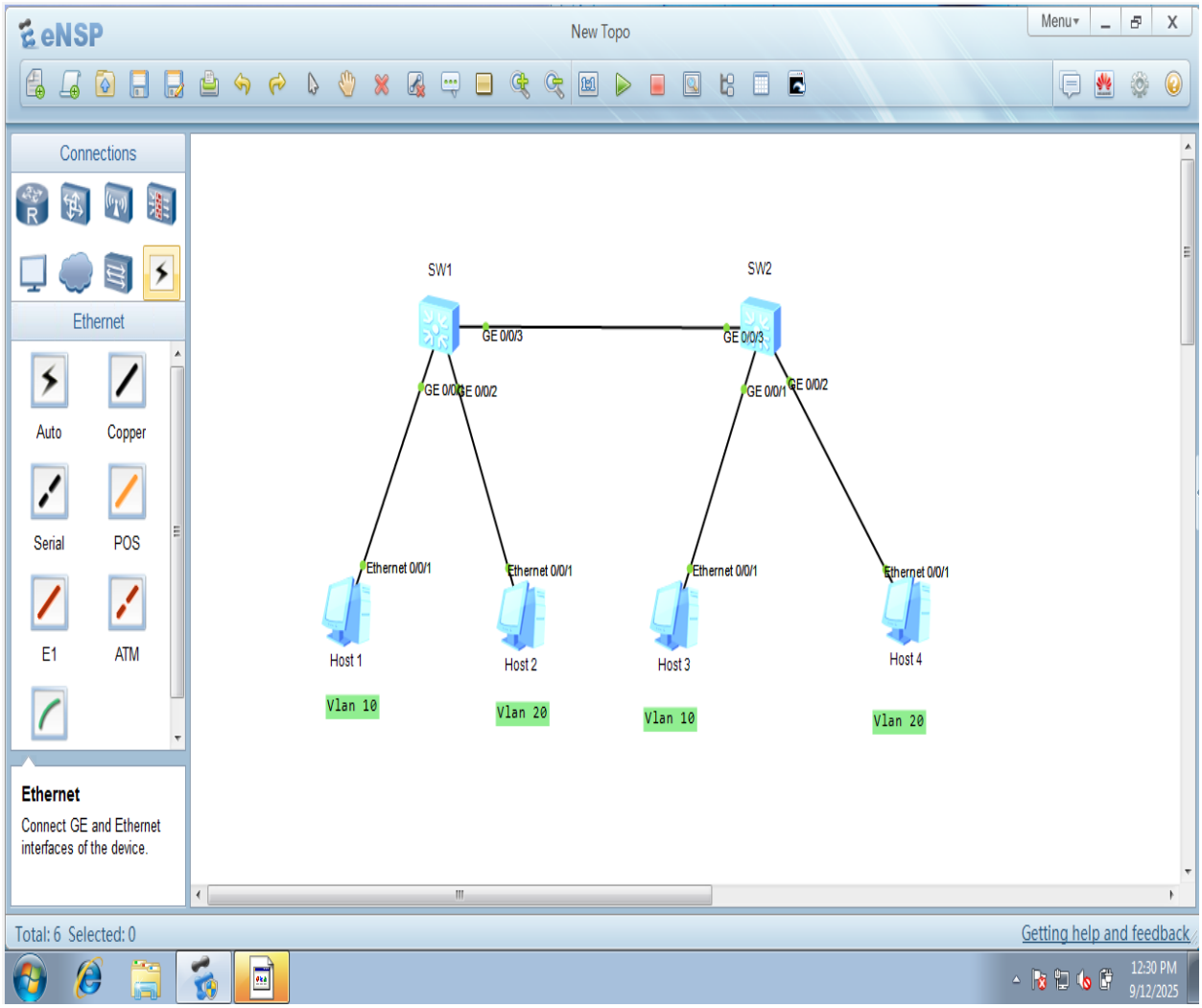
1) Objective

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

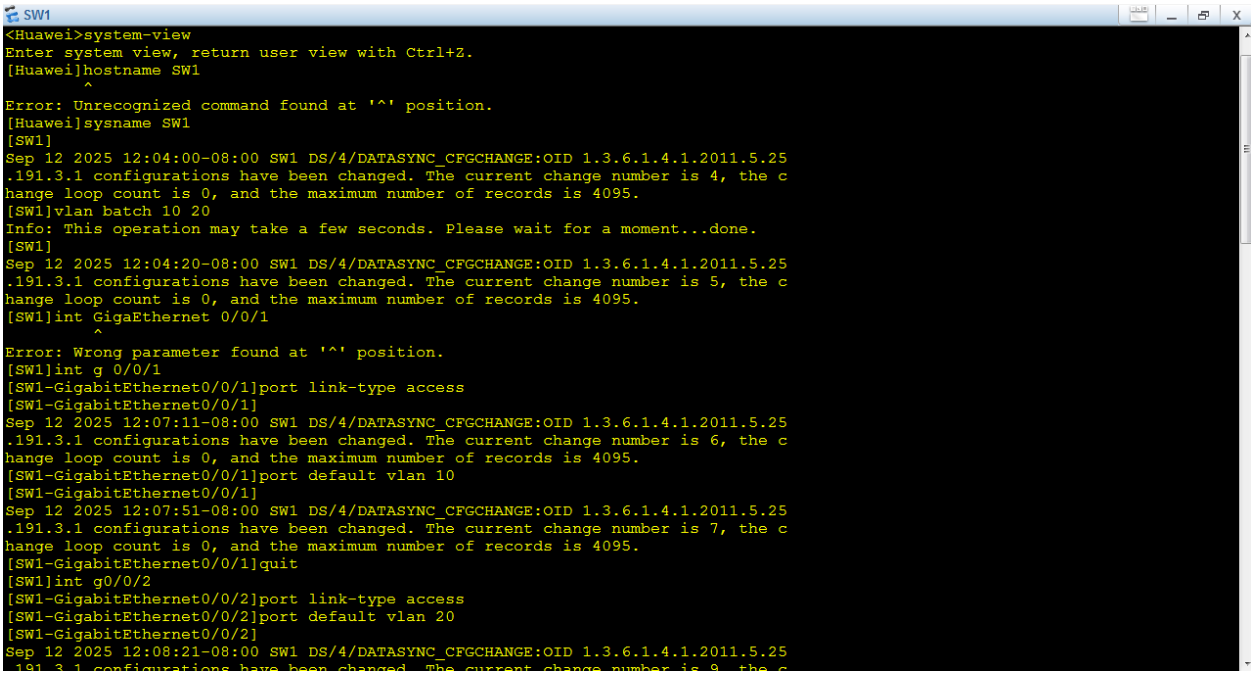


3) Host IP Configuration

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



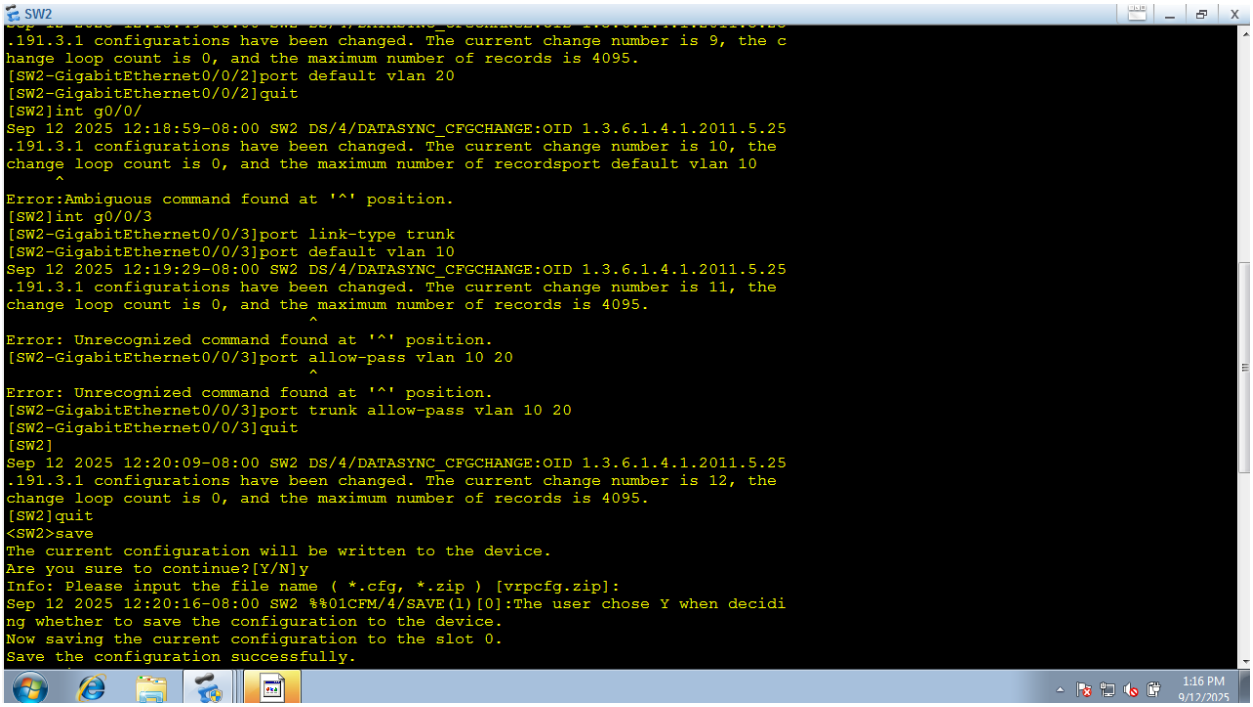
SW1

```
.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(l)[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.
```

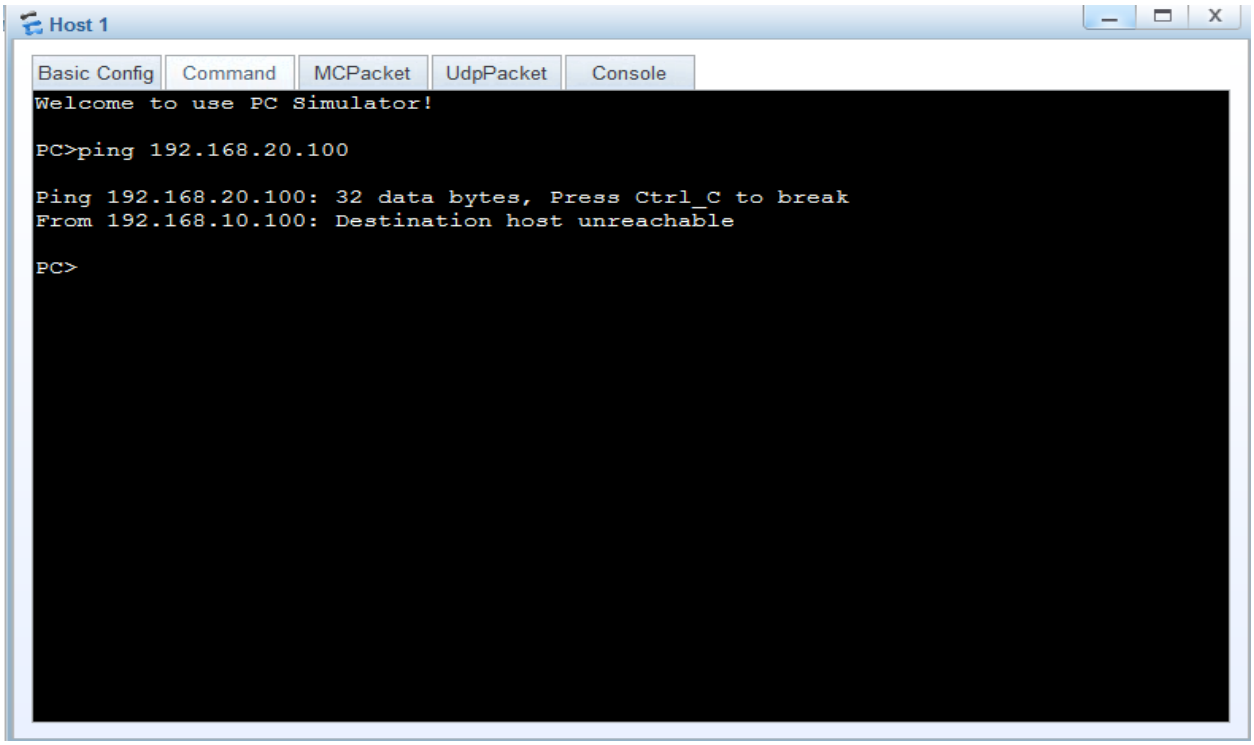
- SW2

SW2

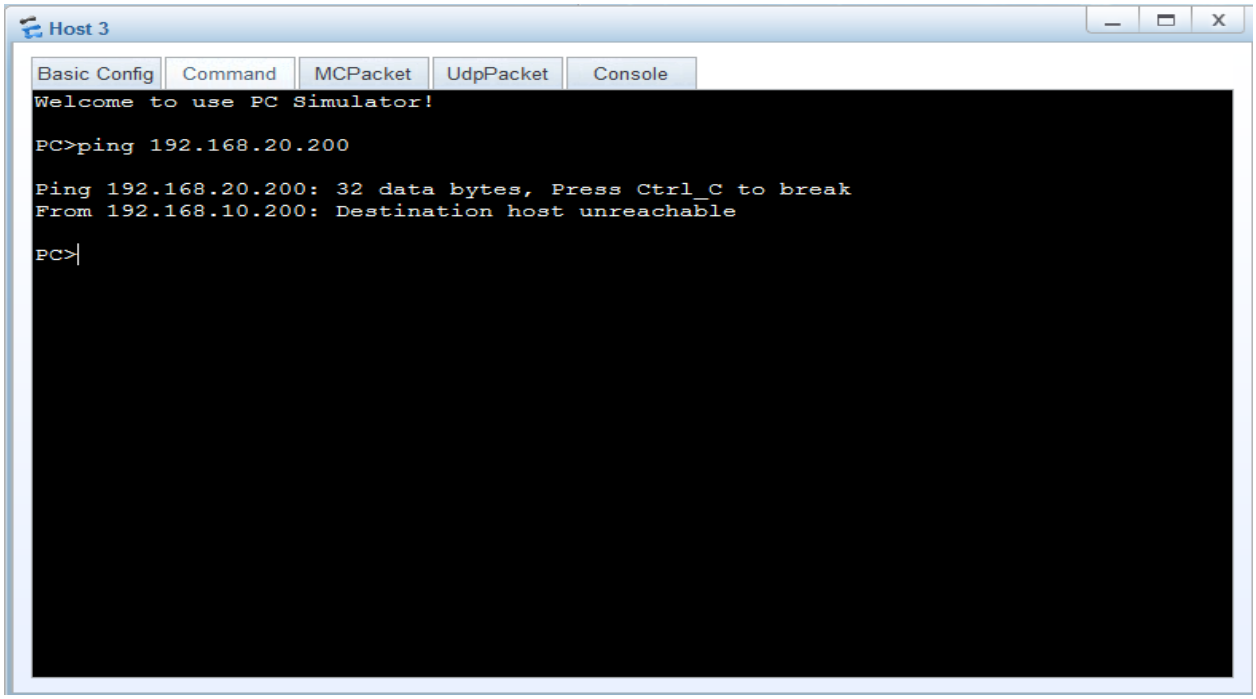
```
<Huawei>system-view
Enter system view, return user view with Ctrl+Z.
[Huawei]sysname SW2
[SW2]
Sep 12 2025 12:17:39-08:00 SW2 DS/4/DATASYNC_CFGCHANGE:OID 1.3.6.1.4.1.2011.5.25
.191.3.1 configurations have been changed. The current change number is 4, the c
hange loop count is 0, and the maximum number 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
```



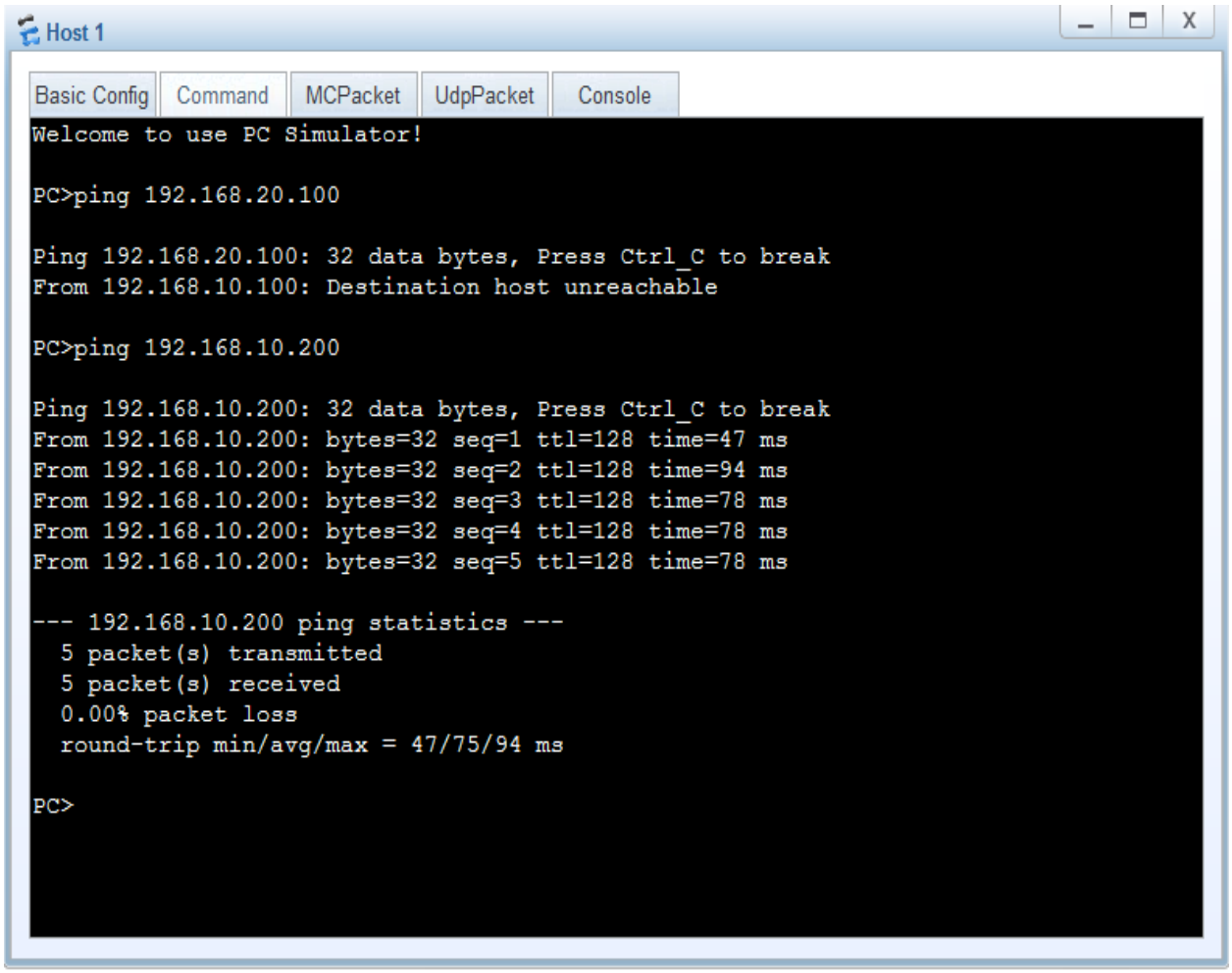
5) Test Results



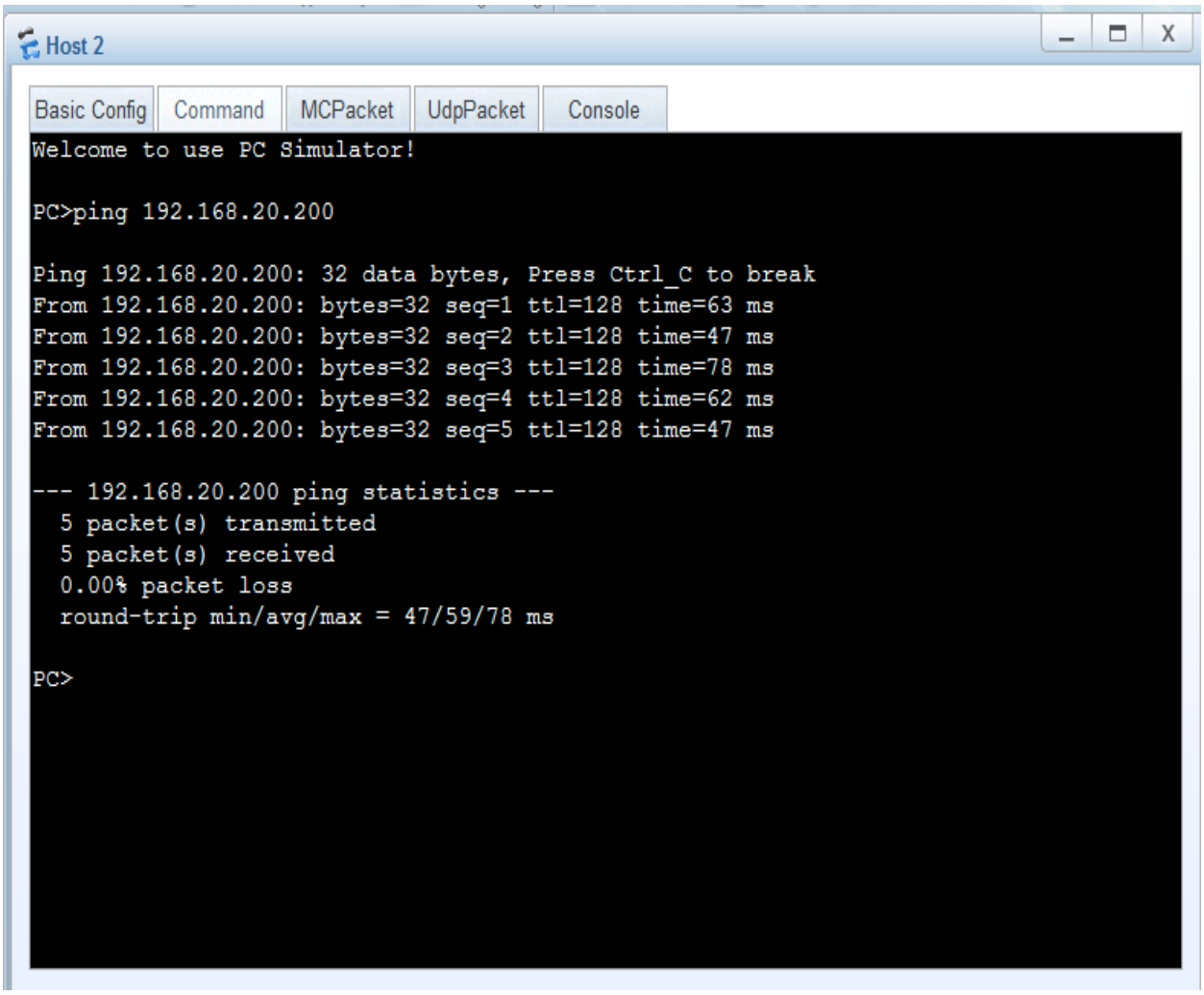
Comment: Ping failed: Host1 and Host2 are on the same switch but in different VLANs (10 and 20). Inter-VLAN communication is not possible without a router or SVI.



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.



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.



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.

```
<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.