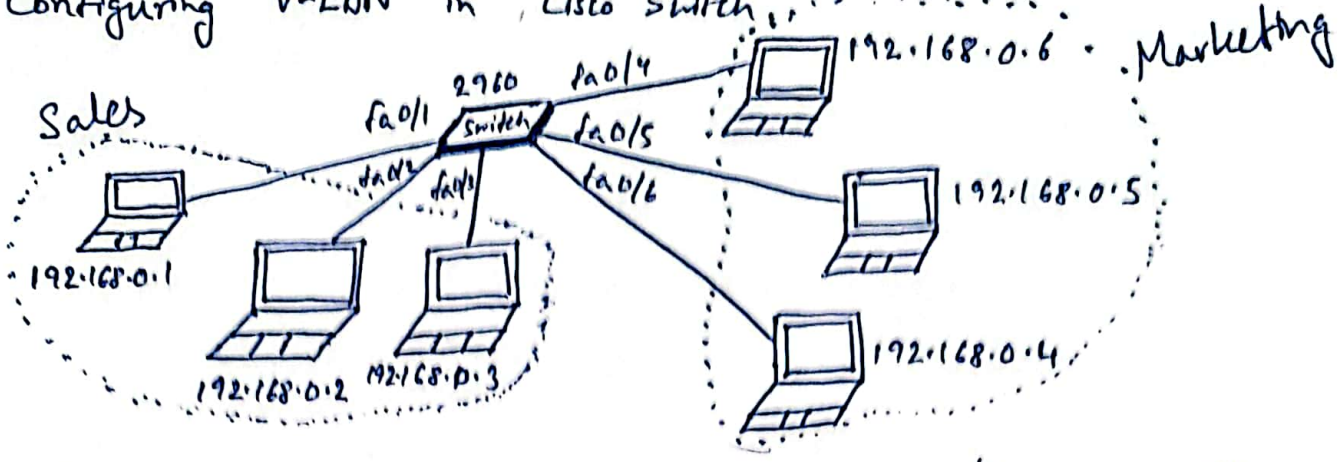
ASSIGNMENT-4

1. Configuring V-LAN in Cisco Switch.



- One switch is connected to 6 laptops/PCs with IP address 192.168.0.1 to 192.168.0.6 respectively.
- Now we have to click on CLI tab situated inside switch and we have to write some commands.

```
Switch> en
Switch# config t
Switch (config)# hostname sw1
sw1 (config)# vlan 10
sw1 (config-vlan)# name sales
sw1 (config-vlan)# vlan 20
sw1 (config-vlan)# name marketing
sw1 (config-vlan)# ^Z
sw1# sh vlan brief
```

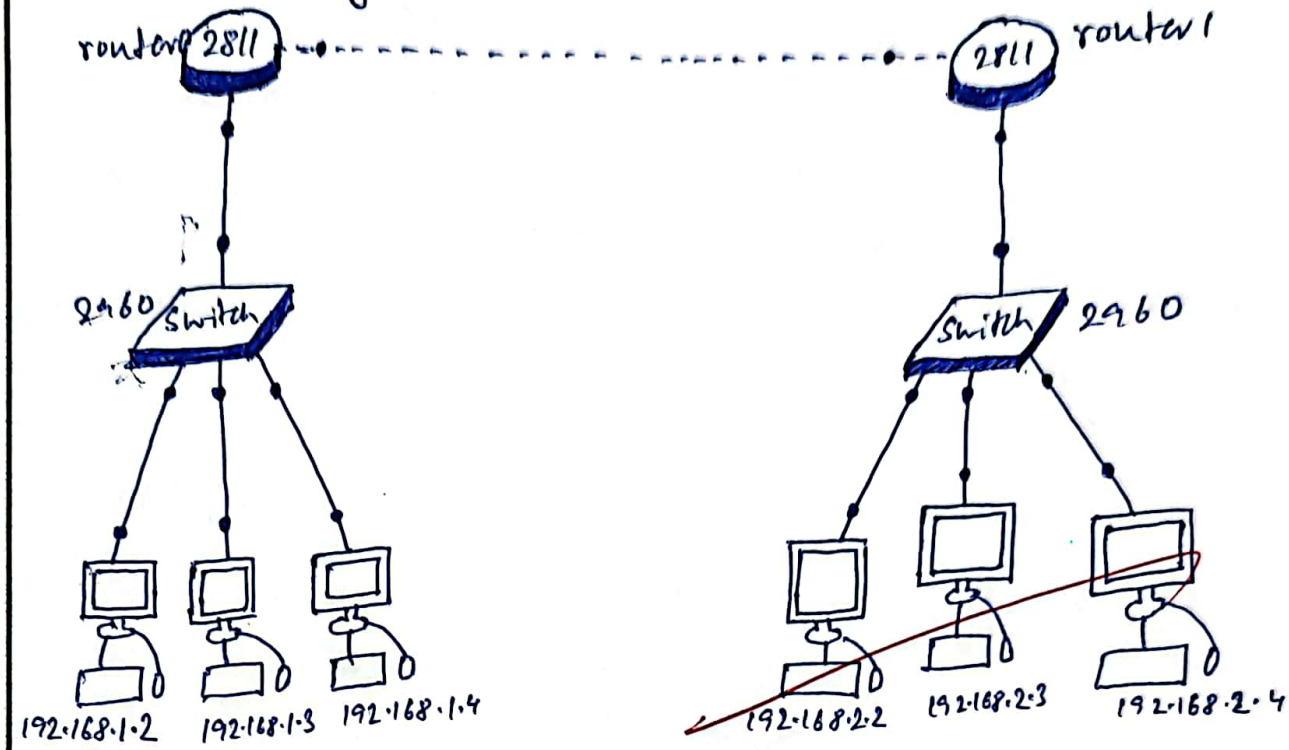
VLAN	Name	Status	Ports
1	default	active	Fa0/1, Fa0/2, Fa0/3, Fa0/4, Fa0/5, Fa0/6 Fa0/7, Fa0/8, Fa0/9, Fa0/10, Fa0/11, Fa0/12, Gig0/1, Gig0/2.
10	sales	active	
20	marketing	active	
1002	fddi-default	active	
1003	token-ring-default	active	
1004	fddinet-default	active	
1005	trnet-default	active	

```
sw1#config t
sw1(config)#int range f0/1-3
sw1(config-if-range)# switchport access vlan 10
sw1(config-if-range)# int range f0/4-6
sw1(config-if-range)#switchport access vlan 20
sw1#(config-if-range)# ^Z
sw1#sh vlan brief

VLAN  Name                Status    Ports
1     default             active    Fa0/7, Fa0/8, Fa0/9, Fa0/10, Fa0/11,
                                    Fa0/12, Gig0/1, Gig0/2.
10    sales               active    Fa0/1, Fa0/2, Fa0/3
20    marketing           active    Fa0/4, Fa0/5, Fa0/6
1002  fddi-default        active
1003  token-ring-default  active
1004  fddinet-default     active
1005  trnet-default       active

sw1#wr
Building configuration...
[OK]
```

- Now there are two VLAN ports vlan 10 as sales and vlan 20 as marketing.
- Now we can send packets only within vlan 10 (sales) which means ip addresses 192.168.0.1, 192.168.0.2 & 192.168.0.3. and another vlan 20 can send packets within themselves only, that means vlan 10 can't get connected with vlan 20 and vice versa.
- If LAPTOP/PC (192.168.0.1) want to send packets to another vlan 192.168.0.5 then output will be

Ping statistics for 192.168.0.5:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss).

2. Static routing with two routers.



- One router (2811) is connected to a switch (2960) and then the switch is connected to 3 PCs with IP address 192.168.1.2 to 192.168.1.4. Another router with same specifications is connected to another switch (2960) is connected to 3PCs with IP address 192.168.2.2 to 192.168.2.4.
- Now in order we have to click on first router0 and click CLI tab, and have to set its ip address mask and every using commands

```
Router> en
Router# config t
Router(config)# int f0/0
Router(config-if)# ip add 192.168.1.1 255.255.255.0
Router(config-if)# no sh
```

Router (config-if) # int f0/1
Router (config-if) # add 10.1.1.1 255.0.0.0
Router (config-if) # no sh
Router (config-if) ^z
Router # ip int bri

Interface	IP-Address	OK?	Method	Status	Protocol
Fast Ethernet0/0	192.168.1.1	YES	manual	up	up
Fast Ethernet0/1	10.1.1.1	YES	manual	up	up
Vlan1	unassigned	YES	administratively	down	down

Router # (config) # ip route 192.168.2.0 255.255.255.0 10.1.1.2

- Now under router0 we have to change the default getaway as router's ip address 192.168.1.1.
- Now in router1 we have to do the same things we have done in router0 on CLI command line. using the same commands changes the ip addresses.
  The ~~result~~ would be
- After that we have to set the default getaway under router1 as router's ip address 192.168.2.1
- Now we can send packets from router0's connected PC's (192.168.1.2) to router1's connected PC's (192.168.2.3)

  The output will be.
  At first try we will get 25% loss
  And at last we will get 0% loss

  Ping statistics for 192.168.2.3:
  Packets: Sent 24, Received 24, Lost 20 (0% Loss)