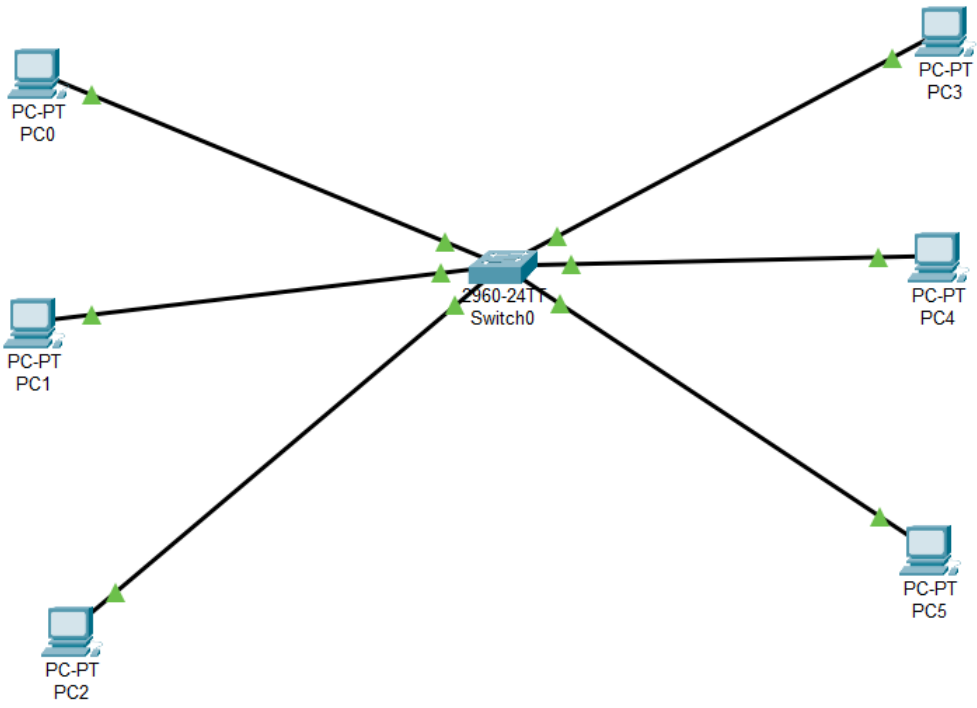
Marwadi University Marwadi Chandarana Group	**Marwadi University** **Faculty of Engineering and Technology** **Department of Information and Communication Technology**	
Subject: Computer Networks (01CT0503)	**Aim:** Simulate VLAN and verify the VLAN concepts the results.	
Experiment No: 10	**Date:**	**Enrolment No: 92301733041**

Aim:

Step 1: make physical connection of switch, and pc using straight copper cable



Step 2: assign IP add to all pc and check connectivity

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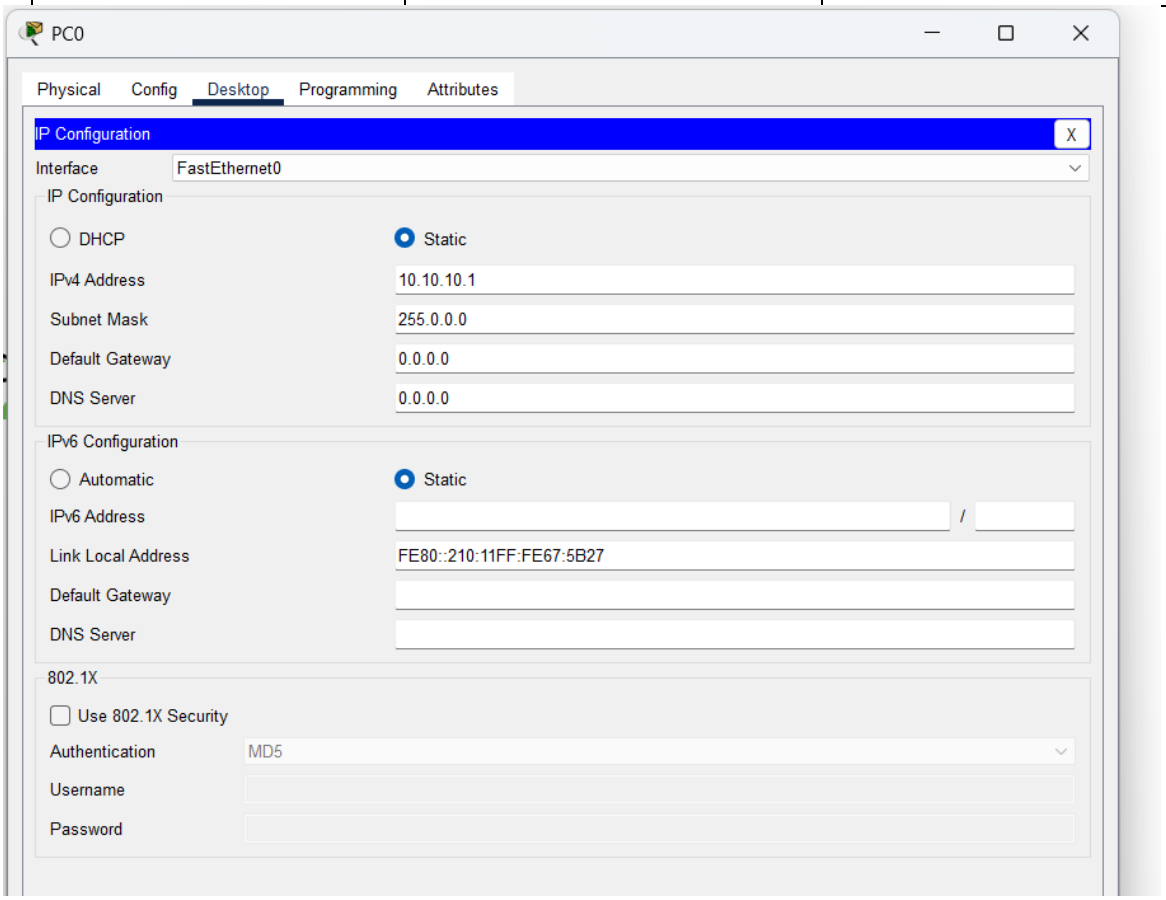

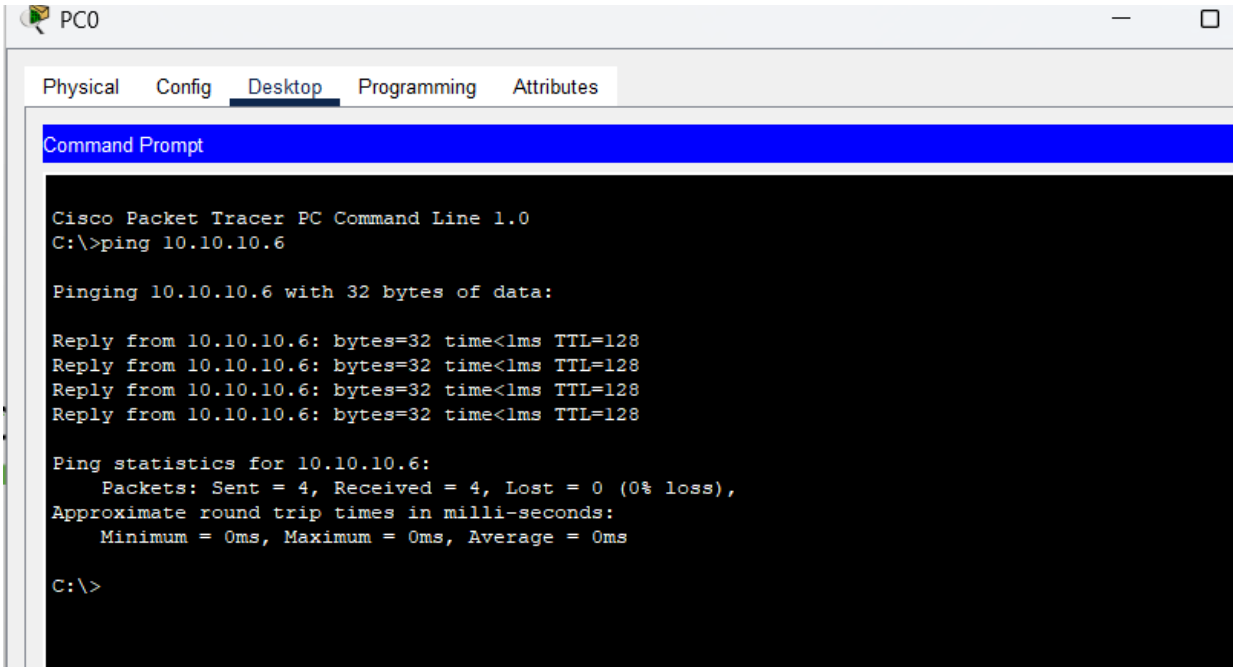

Step 3: first check default vlan status

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```
Switch#sh vlan br

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
                                                   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
1002 fddi-default                        active
1003 token-ring-default                  active
1004 fddinet-default                     active
1005 trnet-default                       active
Switch#
```

Here all the ports are in default vlan 1

Step 4: now create a new vlan 10 name student and assign ports from 1 to 10 to this vlan and another vlan 20 named faculty and assign the port to 11 to 20.

```
Switch(config)#vlan 10
Switch(config-vlan)#int range f0/2-10
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#switchport access vlan 10
Switch(config-if-range)#exit
```

```
Switch(config)#int range f0/11-20
Switch(config-if-range)#swithc
Switch(config-if-range)#switc
Switch(config-if-range)#switchport mod
Switch(config-if-range)#switchport mode ac
Switch(config-if-range)#switchport mode access
Switch(config-if-range)#swit
Switch(config-if-range)#switchport ac
Switch(config-if-range)#switchport access vlan 20
Switch(config-if-range)#ex
Switch(config-if-range)#exit
Switch(config)#do sh valn br
sh valn br
    ^
% Invalid input detected at '^' marker.

Switch(config)#do sh vlan br

VLAN Name                                Status    Ports
---- ----------------------------------- --------- -------------------------------
1    default                             active    Fa0/21, Fa0/22, Fa0/23, Fa0/24
                                                   Gig0/1, Gig0/2
10   student                             active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                   Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                                   Fa0/9, Fa0/10
20   faculty                             active    Fa0/11, Fa0/12, Fa0/13, Fa0/14
                                                   Fa0/15, Fa0/16, Fa0/17, Fa0/18
                                                   Fa0/19, Fa0/20
1002 fddi-default                        active
1003 token-ring-default                  active
1004 fddinet-default                     active
1005 trnet-default                       active
Switch(config)#
```

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Step 6: lastly check the connectivity between pc inside the Vlan nad outside the vlan or in other vlan

```
C:\>ping 10.10.10.6

Pinging 10.10.10.6 with 32 bytes of data:

Request timed out.

Ping statistics for 10.10.10.6:
    Packets: Sent = 2, Received = 0, Lost = 2 (100% loss),

Control-C
^C
C:\>ping 10.10.10.2

Pinging 10.10.10.2 with 32 bytes of data:

Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128
Reply from 10.10.10.2: bytes=32 time<1ms TTL=128

Ping statistics for 10.10.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Note: if we have to remove the ports from the vlan, command is "no switchport access vlan no."

Conclusion: In this I learnt about Vlan that is virtual LAN which divides the network into smaller isolate network. In this exp I have created 2 Vlan student and assign the port from 1 to 10 and 11 to 20 respectively. Using int range f0/1-10. And used command switchport mode access for assigning it access line(one user data on that line) and then using command "switchport access vlan 10" that for that whole vlan network we are assigning access line. After dividing into two VLan we cross check the connectivity at last so we can see that in VLan we have connectivity but not outside it.