

Walchand College of Engineering, Sangli

(An Autonomous Institute)

Department of Information Technology

Name: Om Vivek Gcharge

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Batch: S2

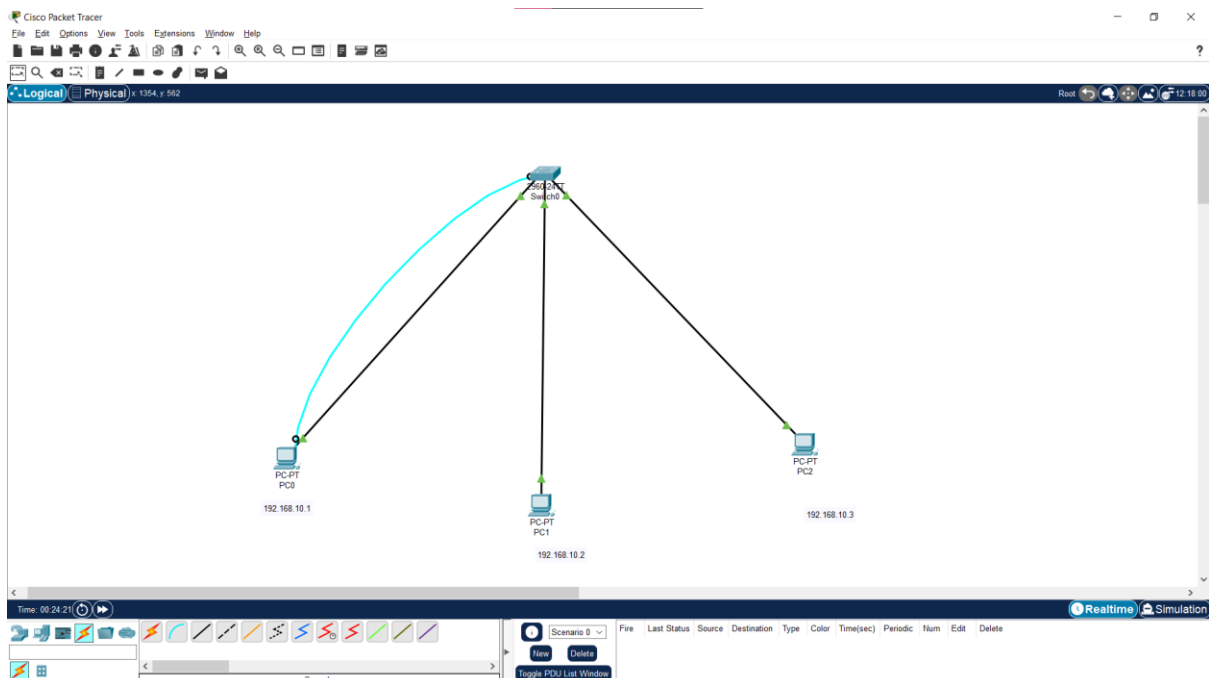
Subject: Computer Networking

Experiment No: 1

Title: To implement a VLAN in a switch and splitting the network

Devices: Switch, PC

Topology Design:



Procedure:

1. Connect the devices as shown in above diagram.
2. Assign IP address to each PC.
3. Open terminal and enable switch and use command “show mac-address-table” to see all the connected PCs with the switch.


```
PC0
Physical Config Desktop Programming Attributes
Command Prompt
C:\>
C:\>
C:\>
C:\>ping 192.168.10.2

Pinging 192.168.10.2 with 32 bytes of data:

Reply from 192.168.10.2: bytes=32 time<1ms TTL=128
Reply from 192.168.10.2: bytes=32 time<1ms TTL=128
Reply from 192.168.10.2: bytes=32 time<1ms TTL=128
Reply from 192.168.10.2: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.10.3

Pinging 192.168.10.3 with 32 bytes of data:

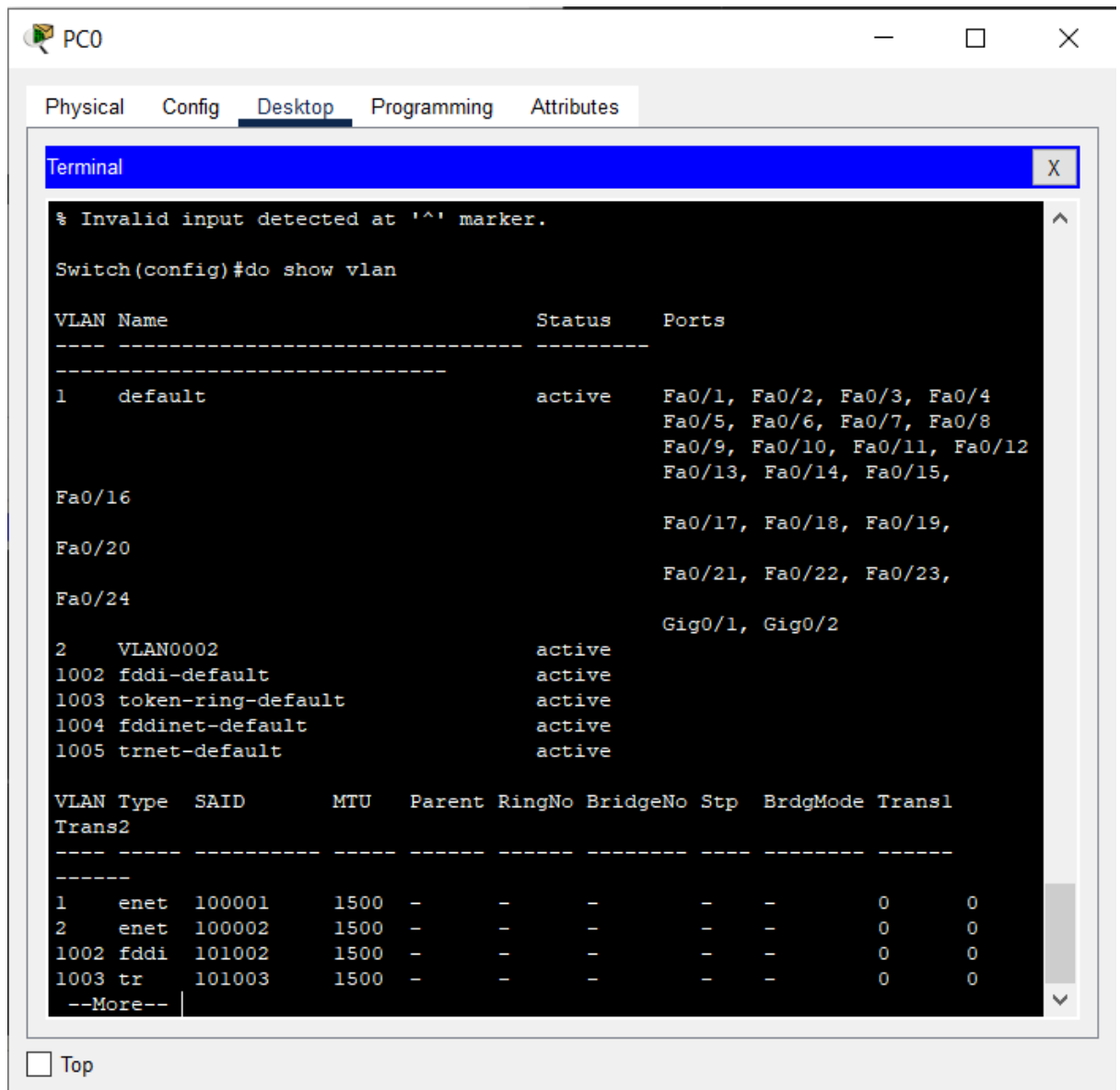
Reply from 192.168.10.3: bytes=32 time=4ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.10.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 4ms, Average = 1ms

C:\>
```

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5. The packet has been transferred successfully via switch
6. Go to terminal and configure the switch using command “config t”
7. Use command “do show vlan” to see how many VLAN are present.



8. We have only one VLAN
9. Configure terminal and use “vlan 2” command to create a VLAN.
10. Exit and use command “do show vlan” to see newly

created VLAN.

PC0

Physical Config **Desktop** Programming Attributes

Terminal

```
Switch(config)#vlan 2
Switch(config-vlan)#exit
Switch(config)#do show vlan
```

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
2 VLAN0002	active	
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	0	0

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11. Add the host connected to Fa 0/3 to VLAN 2 .

PC0

Physical Config Desktop Programming Attributes

Terminal

```
Switch(config-if)#exit
Switch(config)#do show vlan
```

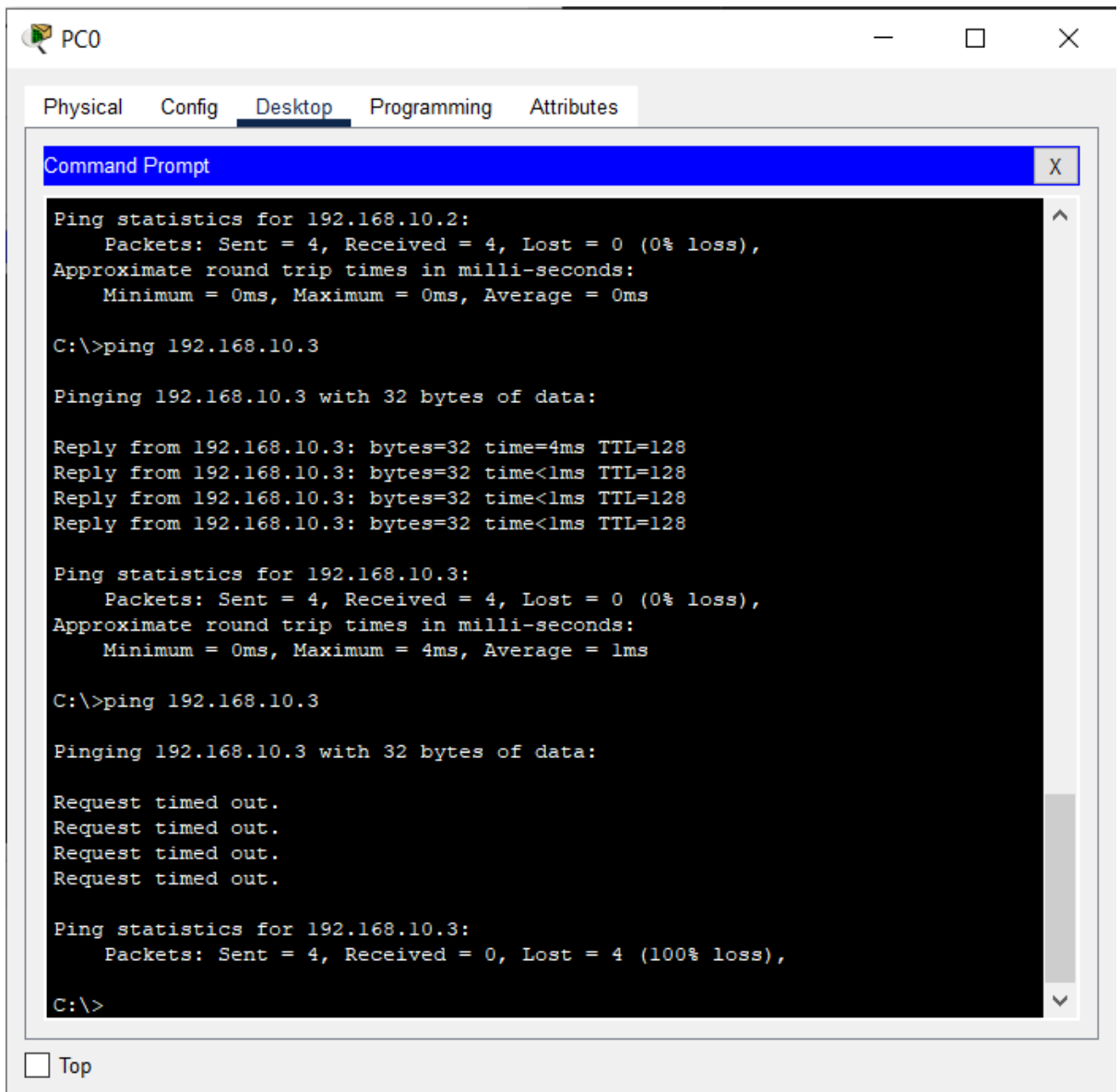
VLAN Name	Status	Ports
1 default	active	Fa0/1, Fa0/2, Fa0/4, Fa0/5 Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/10, Fa0/11, Fa0/12, Fa0/13 Fa0/14, Fa0/15, Fa0/16, Fa0/17 Fa0/18, Fa0/19, Fa0/20, Fa0/21 Fa0/22, Fa0/23, Fa0/24, Gig0/1 Gig0/2
2 VLAN0002	active	Fa0/3
1002 fddi-default	active	
1003 token-ring-default	active	
1004 fddinet-default	active	
1005 trnet-default	active	

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Transl
1	enet	100001	1500	-	-	-	-	0
2	enet	100002	1500	-	-	-	-	0
1002	fddi	101002	1500	-	-	-	-	0
1003	tr	101003	1500	-	-	-	-	0

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12. After adding host to VLAN 2 , try sending data packet from host in VLAN 1 to host in VLAN 2, it will fail



Conclusion:

We implemented VLAN in a switch and created a logical partition in it.