



**PLATINUM JUBILEE**  
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**Walchand College of Engineering, Sangli**

*(Government Aided Autonomous Institute)*

**Department of Information Technology**

**Computer Networks Lab**

**EVEN SEMESTER AY 2021-22**

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# **Department of Information Technology**

2021-22

**Experiment Number:** 1

**Experiment Name:** Implement and execute VLAN 1 & 2 in CISCO packet tracer on switch to split the network and observe VLAN table.

## **Contents:**

### **Problem Statement:**

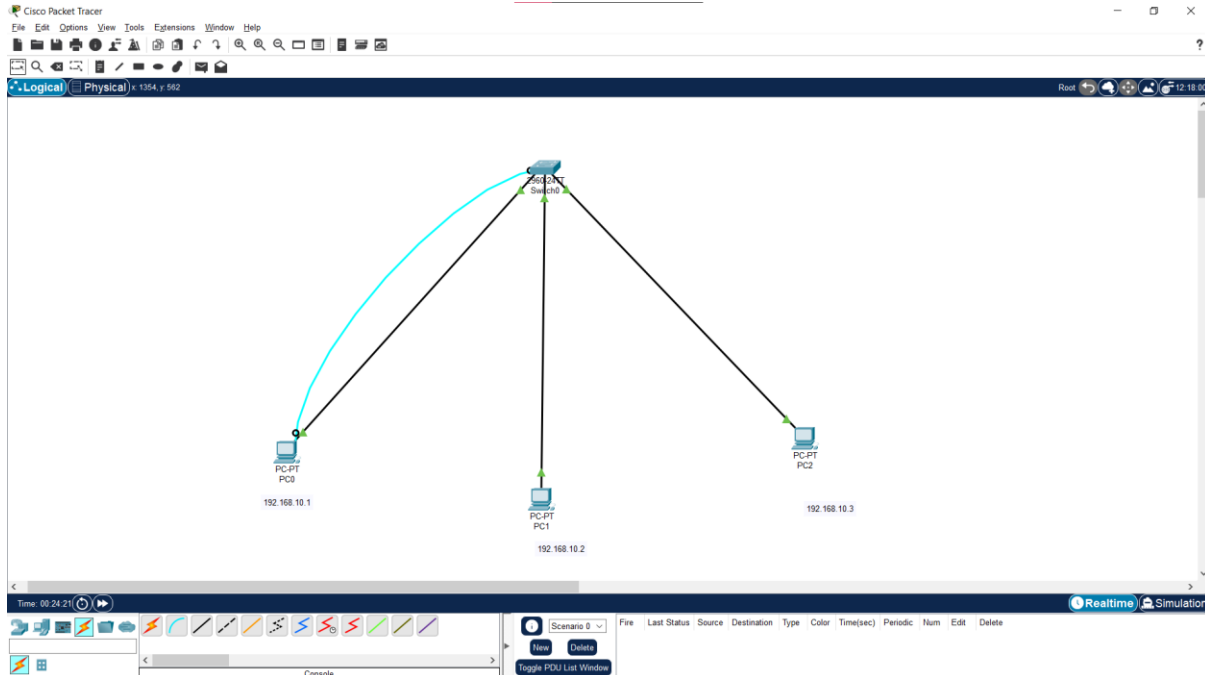
Implement and execute VLAN 1 & 2 in CISCO packet tracer on switch to split the network and observe VLAN table

**Platform:** CISCO packet tracer

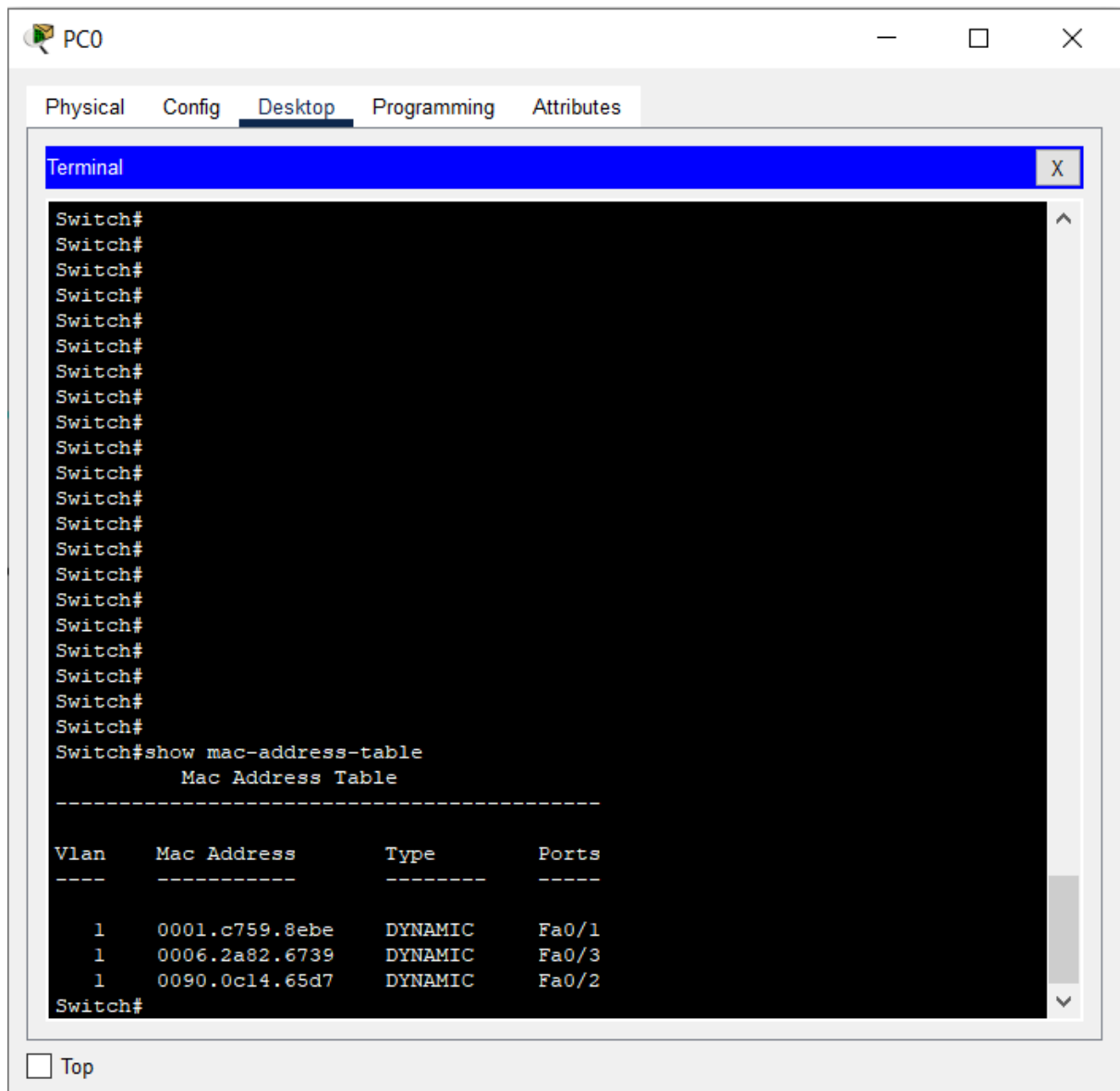
**Devices Required:** Switches, PC.

**Design:** LAN consisting of three PCs and one Switch.

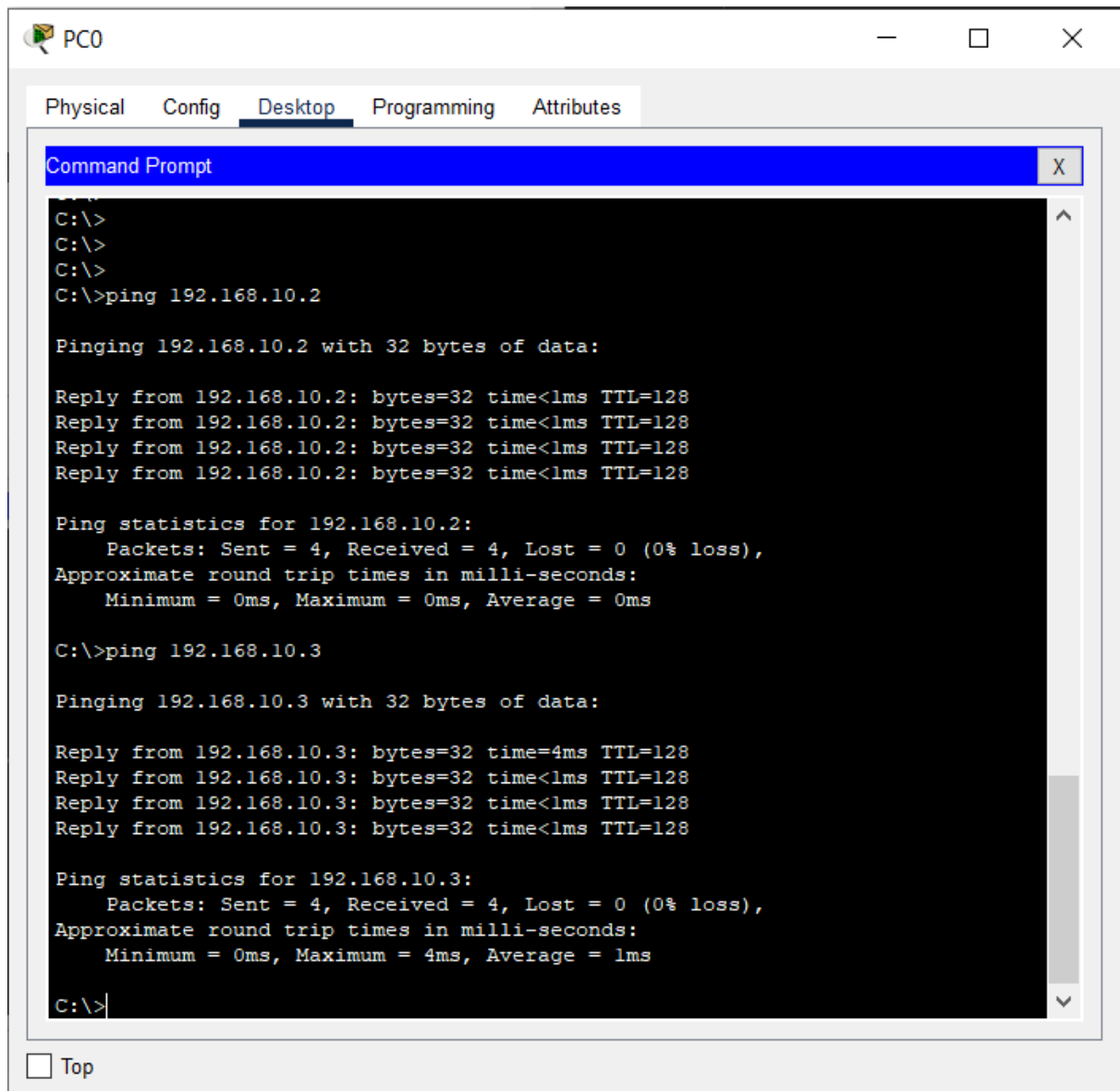
## Implementation:



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.



4. In order to check if all the PCs are connected in a VLAN we will send packets between them by using the command “ping 192.168.10.3” (i.e. IP of receiver’s PC).



The screenshot shows a window titled "PC0" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the following output:

```
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:

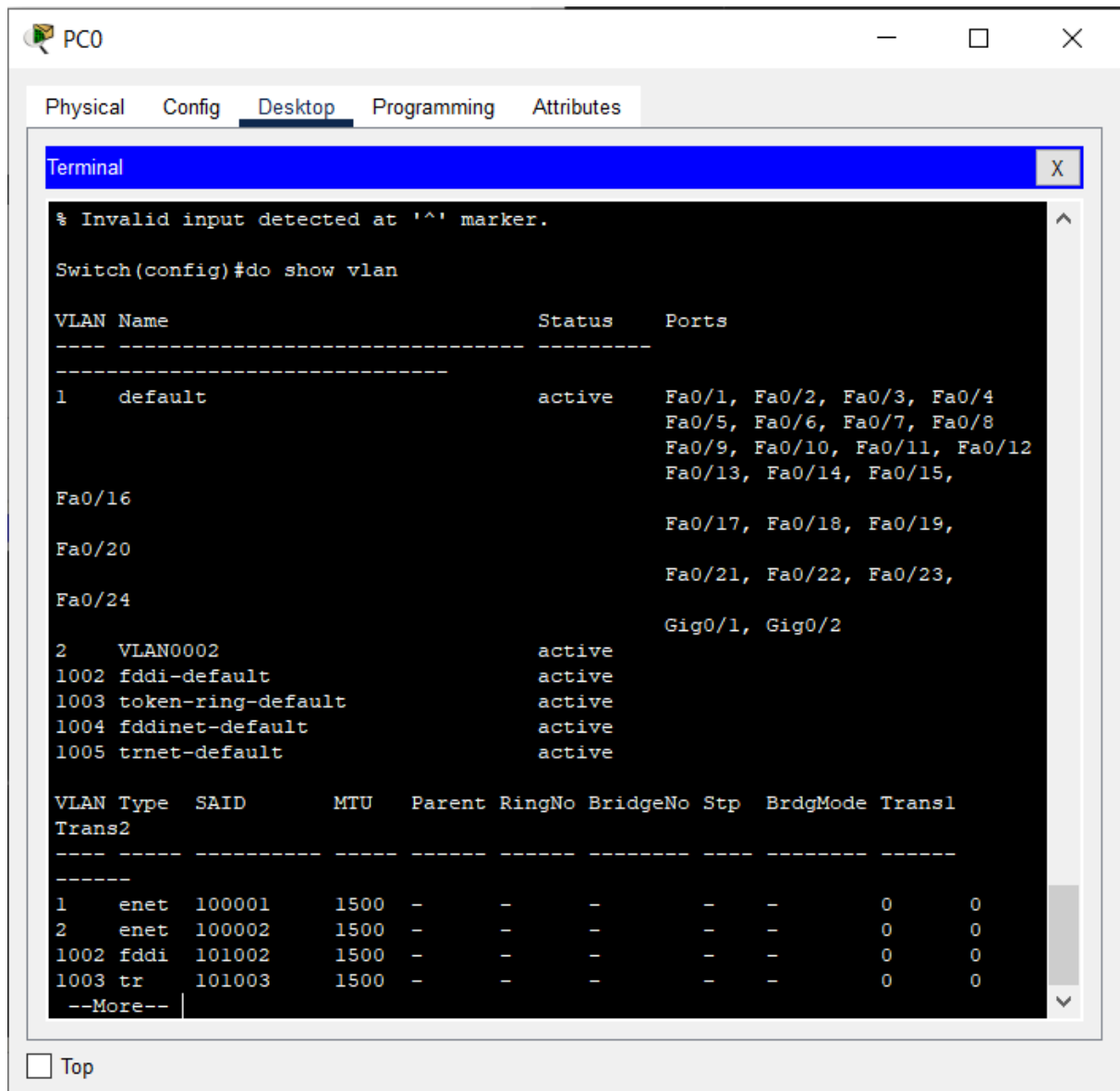
Reply from 192.168.10.3: bytes=32 time=4ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128
Reply from 192.168.10.3: bytes=32 time<1ms TTL=128

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:\>
```

At the bottom of the Command Prompt window, there is a "Top" button with a checkbox.

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

--More--

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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	

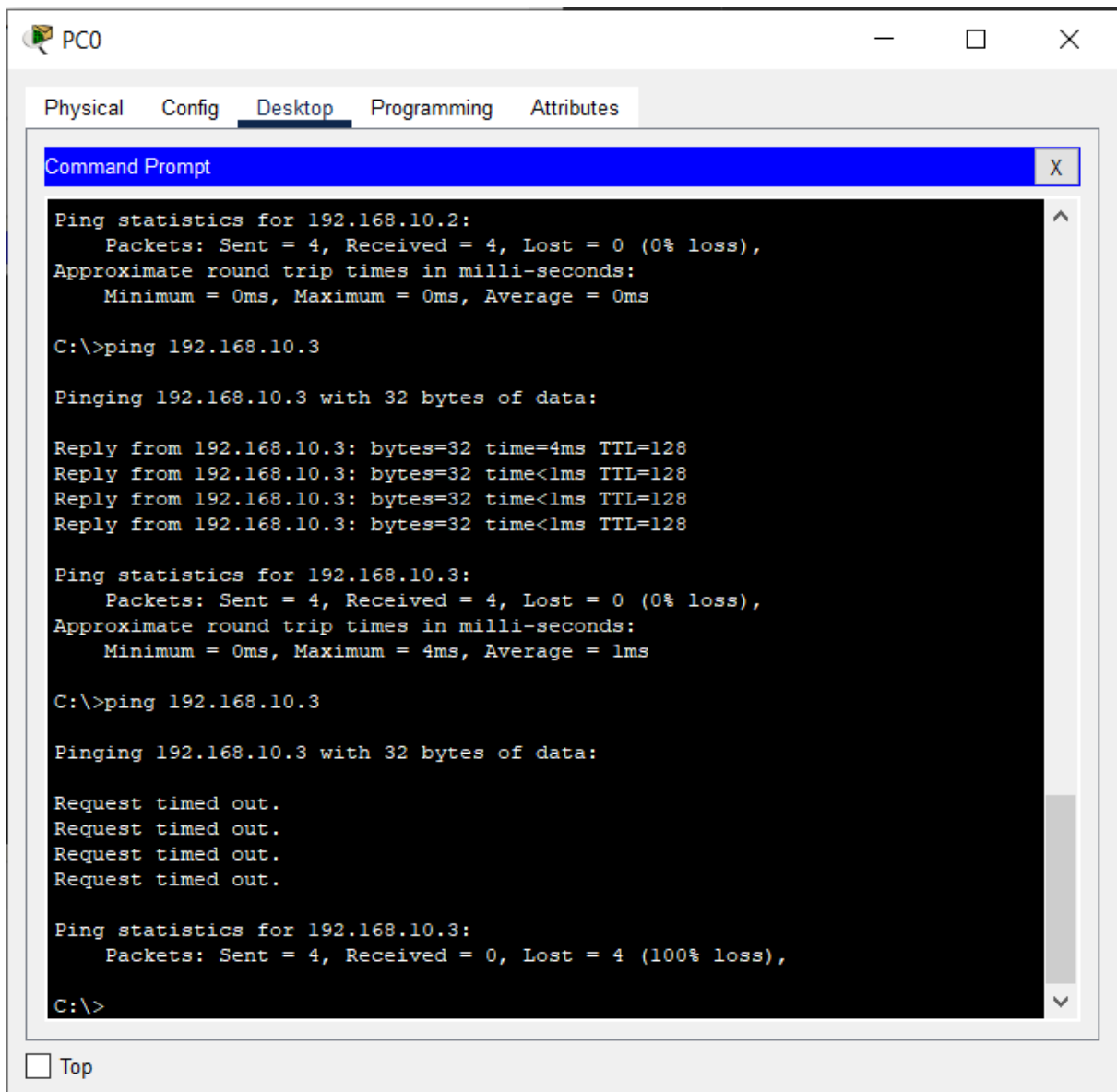
VLAN	Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1	enet	100001	1500	-	-	-	-	-	0	0
2	enet	100002	1500	-	-	-	-	-	0	0
1002	fddi	101002	1500	-	-	-	-	-	0	0
1003	tr	101003	1500	-	-	-	-	-	0	0

--More--

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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



**Results:**

VLAN between PC 1 and PC 2 is successfully created and the packet transfer between PC 1 and PC 2 is failed.

**Conclusion:**

We implemented VLAN in a switch and created a logical partition in it therefore PC's in different VLAN couldn't transfer any packet between one another.

Dr. P. K. Kharat  
(Course Teacher)