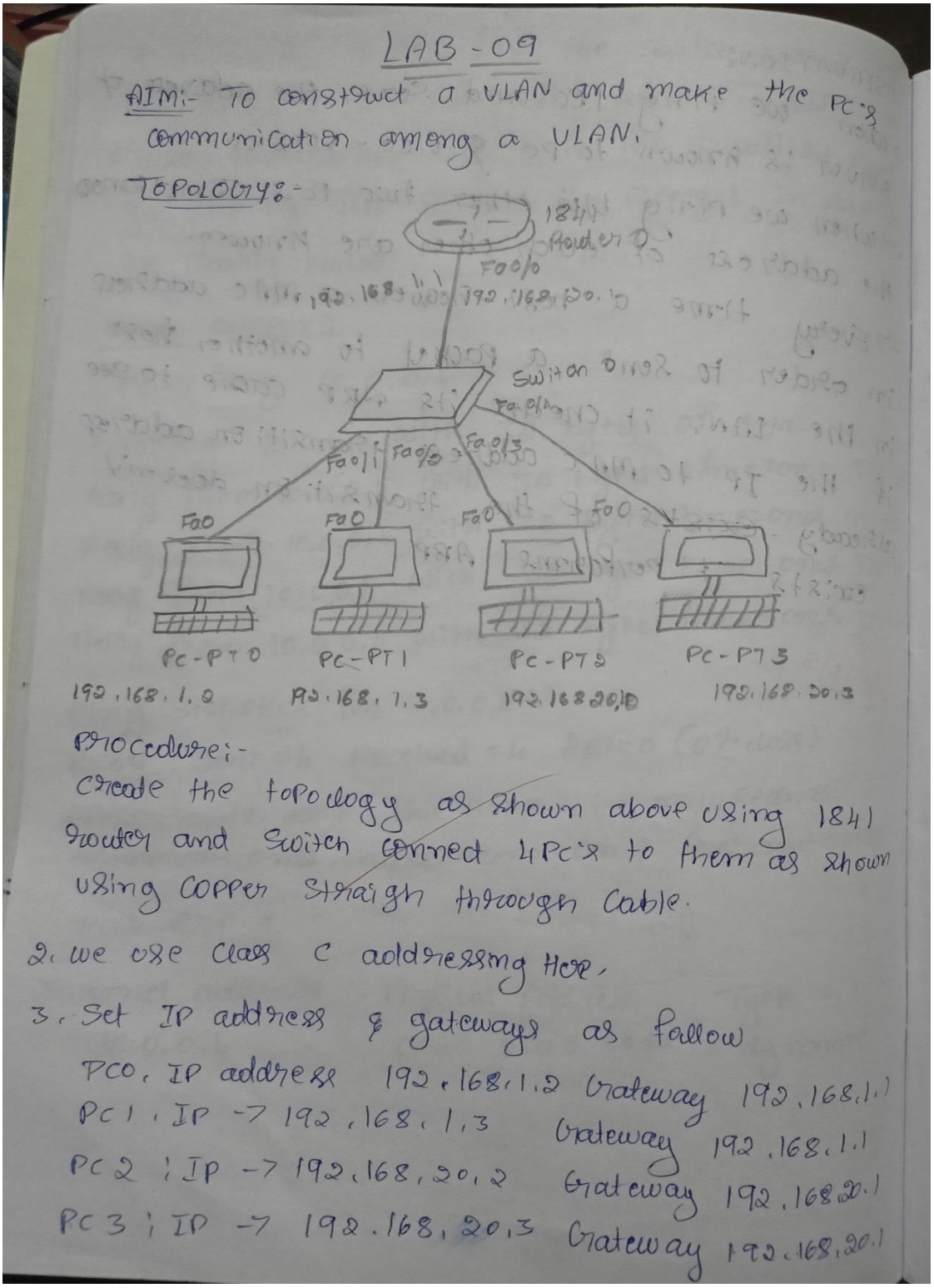
LAB 9

To construct a VLAN and make a pc communicate among VLAN.

OBSERVATION:



LAB - 09

AIM:- To construct a VLAN and make the PC's communication among a VLAN.

TOPOLOGY:-

Procedure:-

Create the topology as shown above using 1841 router and switch connect 4 PC's to them as shown using copper straight through cable.

2. We use class C addressing here.

3. Set IP address & gateways as follow

PC0, IP address 192.168.1.2 Gateway 192.168.1.1

PC1, IP -> 192.168.1.3 Gateway 192.168.1.1

PC2 ; IP -> 192.168.20.2 Gateway 192.168.20.1

PC3 ; IP -> 192.168.20.3 Gateway 192.168.20.1

4. Go to config tab of switch
   Open VLAN database
   Set VLAN Number = 20
   VLAN name = NEWVLAN
   Click on add.

5. In switch Go to FastEthernet 5/0 under that interfaces as it is connected to router
   Select Trunk and choose 20. NEWVLAN.

6. For Fa0/3 and Fa0/4 Select 20 : NEWLAN and keep access as it is.

7. Open config tab in router.
   Go to VLAN Database.
   Add VLAN Number 20
   VLAN Name : NEWVLAN

8. In Router 0 go to CLI mode.

Router (vlan) # exit
Router # config t
Router (config) # int fa 0/0
Router (config-if)# ip address 192.168.1.1 255.255.255.0
Router (config-if) # No Shut
Router (config-if) exit

Router (config) # int fa 0/0.1
Router (config-subif) # encapsulation dot1q 20
Router (config-subif) # ip address 192.168.20.1 255.255.255.0

Router (config-subif) # No Shut

Router (config-subif) # exit
Router (config) # exit.

Ping OUTPUT:-

PC > Ping 192.168.20.2
Pinging 192.168.20.2 with 32 bytes of data.
Request timed out.
Reply from 192.168.20.2 : bytes : 32 time=0 ms TTL=127
Reply from 192.168.20.2 : bytes : 32 time=0 ms TTL=127
Reply from 192.168.20.2 : bytes : 32 time=0 ms TTL=127

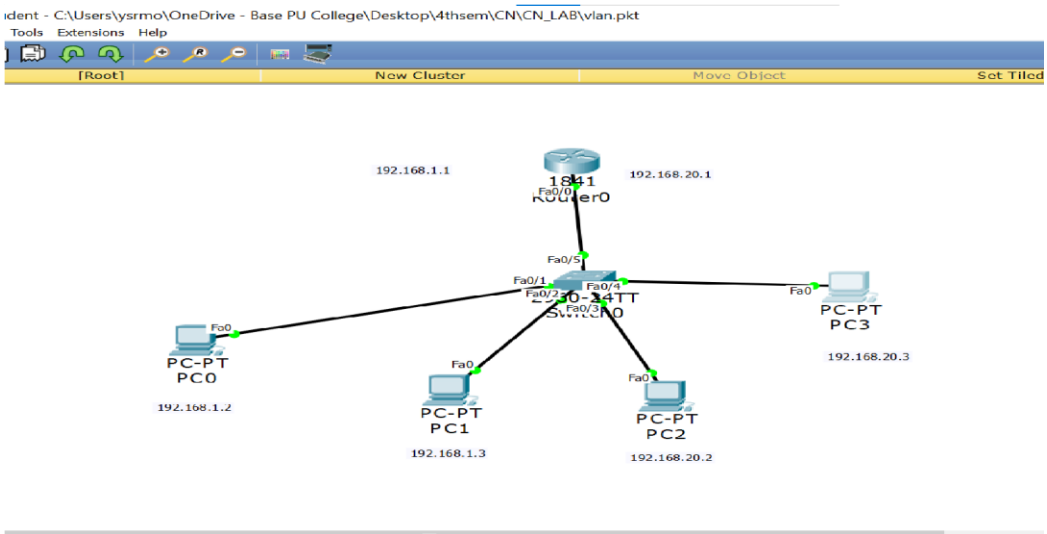
Ping statistics for 192.168.20.2
Packets: Sent = 4, Received = 3 Lost = 1 (25% loss),
Approximate round trip times in milli seconds:
Minimum = 0 ms Maximum = 1 ms, Average = 0 ms.

OBSERVATION:-

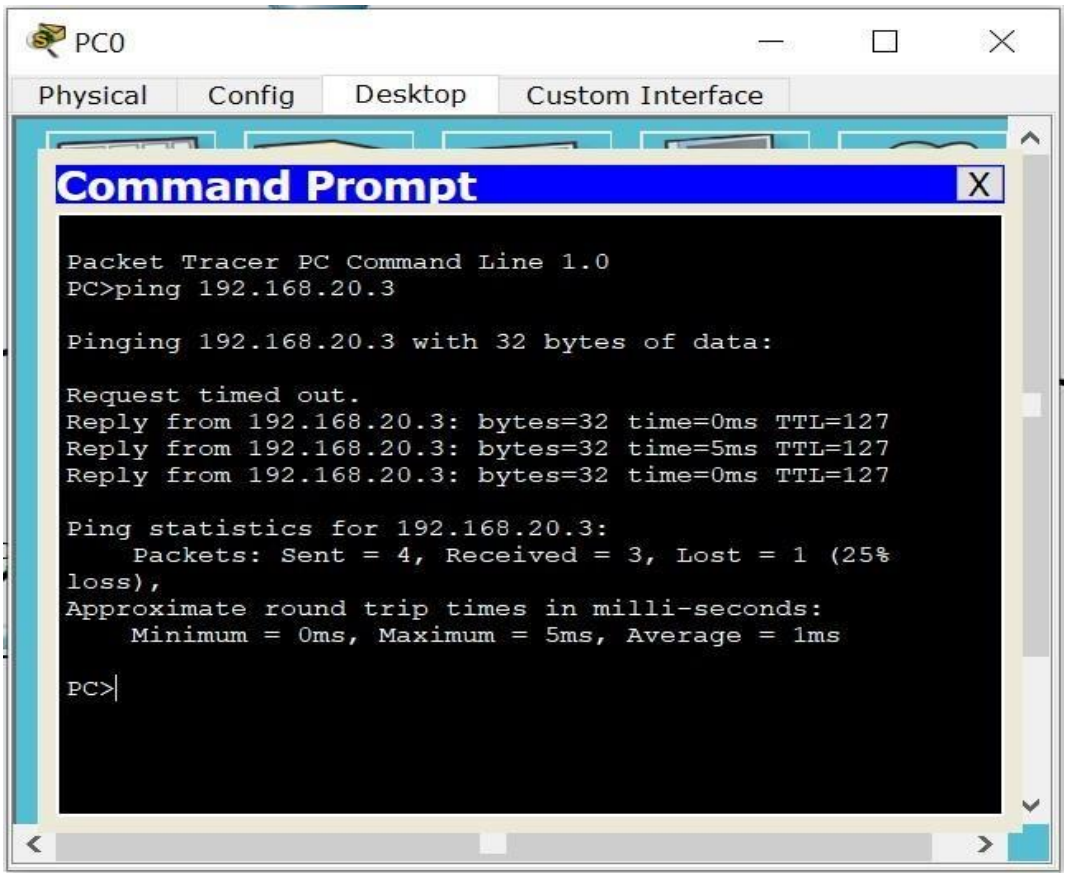
* We can observe that after VLAN is configured we can successfully ping PC2 (192.168.20.2) from PC0 (192.168.1.2)

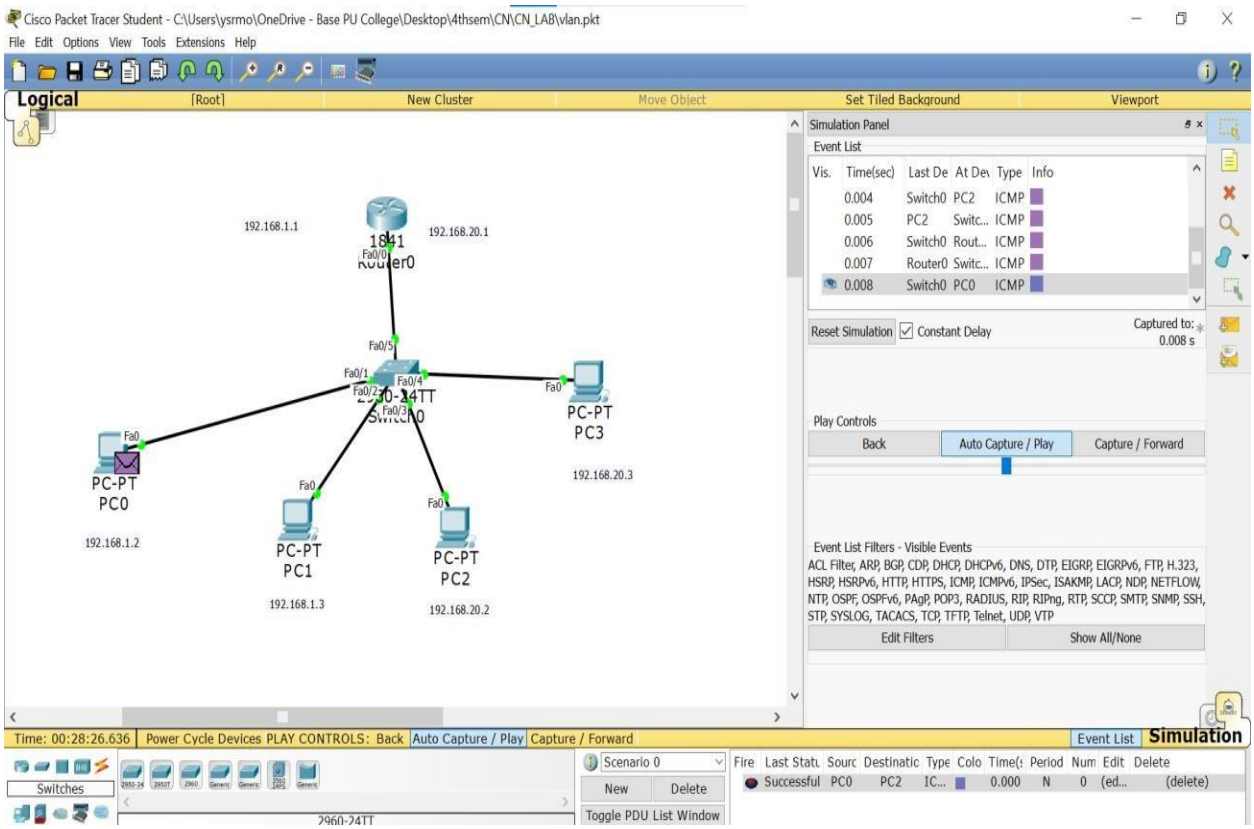
PC2 and PC3 are grouped together and communication among them is done via VLAN.

TOPOLOGY:



OUTPUT:




Cisco Packet Tracer Student - C:\Users\ysrmo\OneDrive - Base PU College\Desktop\4thsem\CN\CN_LAB\vlan.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
192.168.1.1
1841
Router0
192.168.20.1
Fa0/0
Fa0/5
Fa0/1
Fa0/2
Fa0/4
Fa0/3
2960-24TT
Switch0
Fa0
PC-PT
PC0
192.168.1.2
PC-PT
PC1
192.168.1.3
PC-PT
PC2
192.168.20.2
PC-PT
PC3
192.168.20.3
Simulation Panel
Event List
Vis. Time(sec) Last De At De Type Info
0.004 Switch0 PC2 ICMP
0.005 PC2 Switc... ICMP
0.006 Switch0 Rout... ICMP
0.007 Router0 Switc... ICMP
0.008 Switch0 PC0 ICMP
Reset Simulation
Constant Delay
Captured to:
0.008 s
Play Controls
Back
Auto Capture / Play
Capture / Forward
Event List Filters - Visible Events
ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP
Edit Filters
Show All/None
Time: 00:28:26.636
Power Cycle Devices PLAY CONTROLS: Back
Auto Capture / Play
Capture / Forward
Event List
Simulation
Switches
2960-24TT
Scenario 0
New
Delete
Toggle PDU List Window
Fire Last Statu Sourc Destinatic Type Colo Time(s Period Num Edit Delete
Successful PC0 PC2 IC... 0.000 N 0 (ed... (delete)