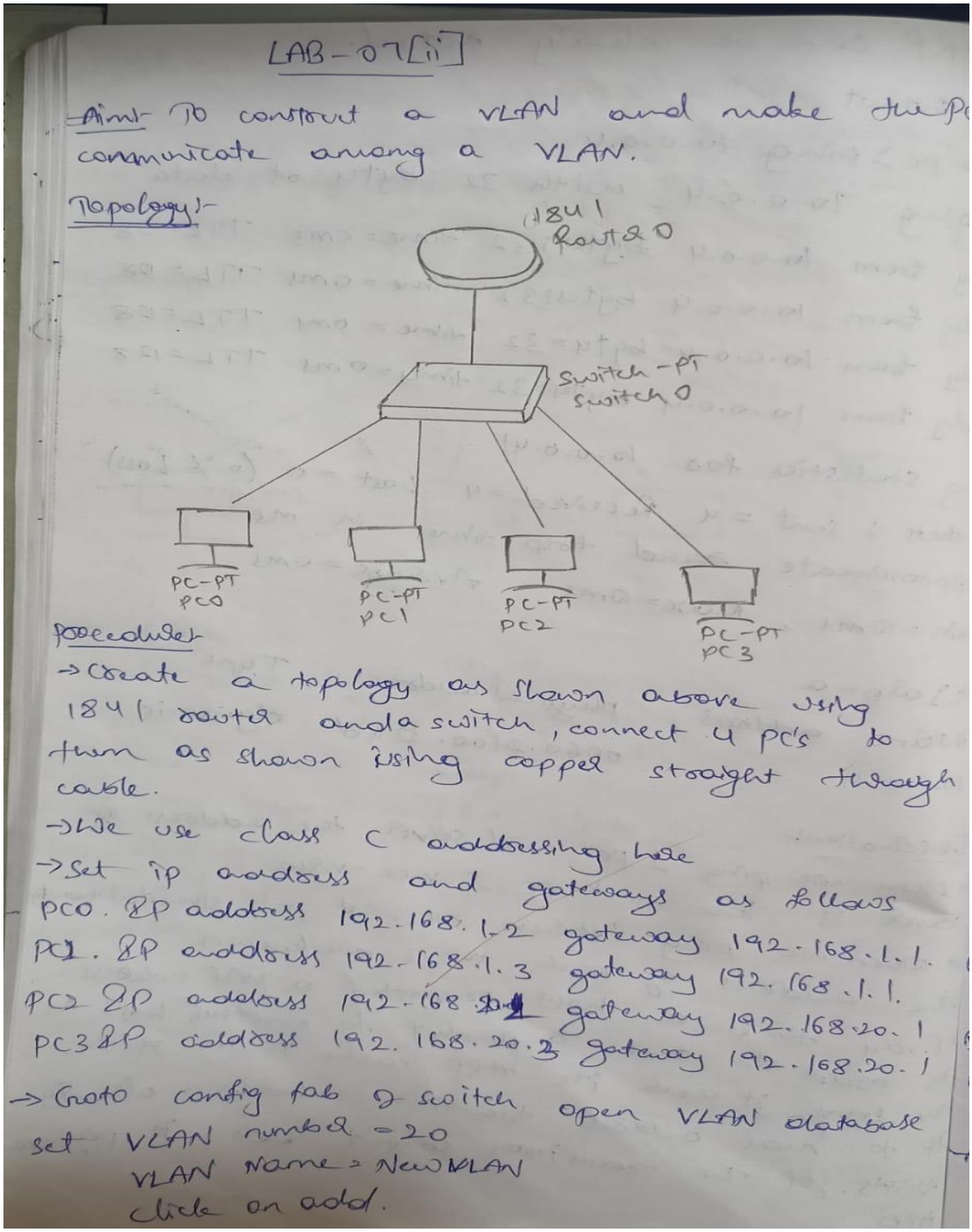
LAB 9

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

OBSERVATION:



LAB-07[ii]

Aim:- To construct a VLAN and make the PC communicate among a VLAN.

Topology:-

Procedure:-

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

→ We use class C addressing here

→ Set ip address and gateways as follows

PC0. IP address 192.168.1.2 gateway 192.168.1.1.
PC1. IP address 192.168.1.3 gateway 192.168.1.1.
PC2 IP address 192.168.20.2 gateway 192.168.20.1
PC3 IP address 192.168.20.3 gateway 192.168.20.1

→ Go to config tab of switch open VLAN database set VLAN number = 20
VLAN Name = NewVLAN
Click on add.

→ In switch go to fastethernet 5/0 and connect it to router and configure it.
select Trunk and choose 20, NewVLAN.
→ For f0/3 and f0/4 select 10 : NewLAN and keep access as it is.
→ open config table in router, go to VLAN database Add VLAN no. 10
→ In router, go to CLI mode.
fa 0/0
Router (config)# ip address 192.168.1.1 255.255.255.0
Router (config)# no shut.

Router (config)# interface fastethernet 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)# 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=0ms TTL=127
Reply from 192.168.20.2 bytes=32 time=2ms TTL=127
Reply from 192.168.20.2 bytes=32 time=1ms TTL=127

Ping statistics for 192.168.20.2
packets sent=4 Recieved=3 Lost=1 (25% loss)
Approximate round trip in ms:
min=0ms Max=2ms Average=0ms.

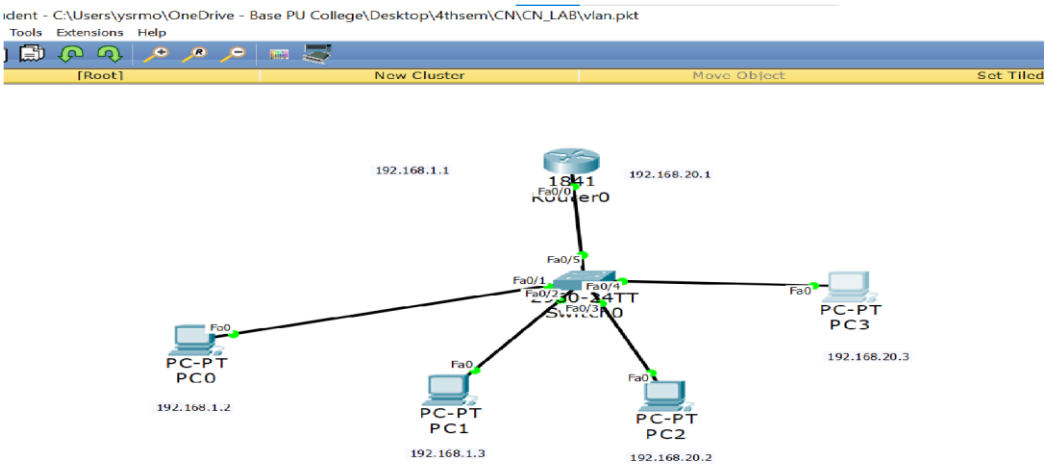
Observation:

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

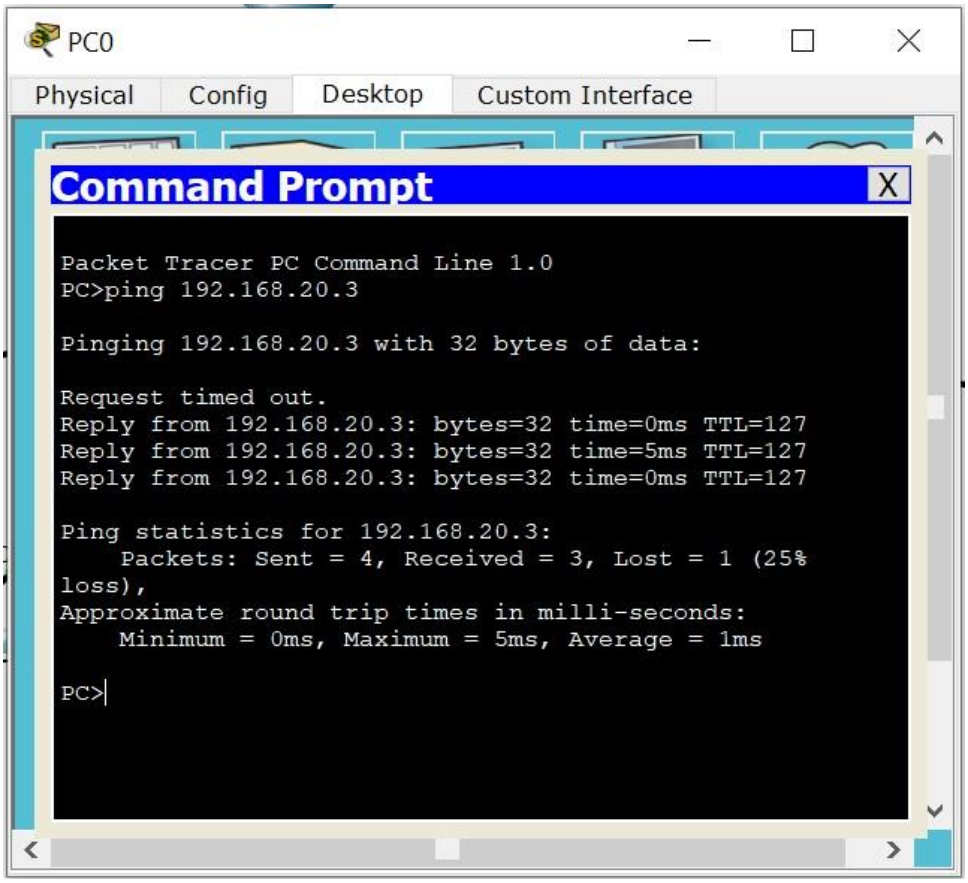
→ PC2 and PC3 are grouped together and communication among them is done via VLAN.

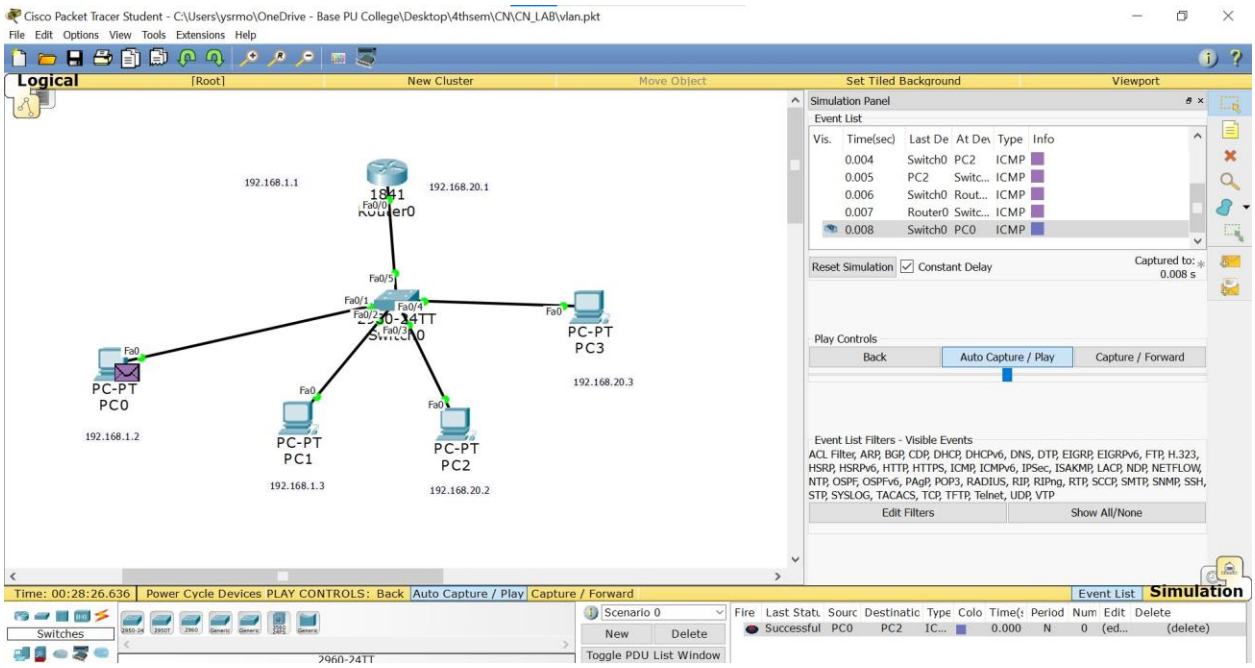
192.168.20.1 is a sub interface 0/0.1 created

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
Fa0/5
Fa0/1
Fa0/2
Fa0/3
Fa0/4
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
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)