8/8/23

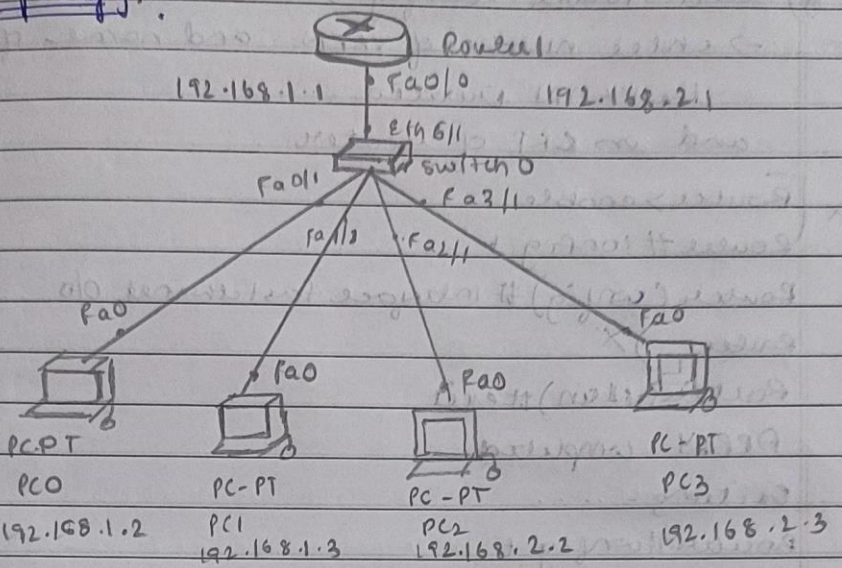
Bafna Gold
Date: Page:

Experiment -9

Aim:

To construct a VLAN and make the PC's communicate among a VLAN.

Topology:



Procedure:

1) Take a router, a switch, four PCs and drop them in the workspace. Choose 1841 router.
2) Use copper straight through connection to connect all four PCs to the switch and connect the switch to the Router
3) Set the IP addresses and gateway for all PCs.
4) In the switch → config → select VLAN database, give the VLAN Number as 20 and VLAN Name as NEWVLAN. Select add.
5) Select interface fastethernet 0/1 (near

the switch from router and make it as the trunk).

*) Select the switch → config → set VLAN no in fastethernet 2/1 as 20 and fastethernet 3/1 as 20.

*) select router → config → VLAN database → enter number of VLAN and name of the VLAN created... and an IP of router.

Router > enable
Router # config t
Router (config) # interface fastethernet 0/0
Router)#
Router (vlan) # exit
APPLY completed.
Exiting....
Router # config t
Router (config) # interface fastethernet 0/0
Router (config-if) # ip address 192.168.1.1 255.255.255.0
Router (config-if) # no shut
Router (config-if) # Interface fastethernet 0/0.1
Router (config-subif) # encapsulation dot1q 20
Router (config-subif) # ipe address 192.168.20.1 255.255.255.0
Router (config-subif) # no shut
Router (config-subif) # exit

Observation:
virtual local area network → broadcast domain that is partitioned and isolated in computer network at data link layer. The pc's in different VLANs communicate through a switch or LAN.

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Result: (in PC0)

PC > ping 192.168.20.3

pinging 192.168.20.3 with 32 bytes of data

Reply from 192.168.20.3: bytes = 32 time=1ms TTL=128

Reply from 192.168.20.3: bytes = 32 time=0ms TTL=128

Reply from 192.168.20.3: bytes = 32 time=0ms TTL=128

Reply from 192.168.20.3: bytes = 32 time=0ms TTL=128

ping statistics for 192.168.1.3:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 1ms, Average = 0ms

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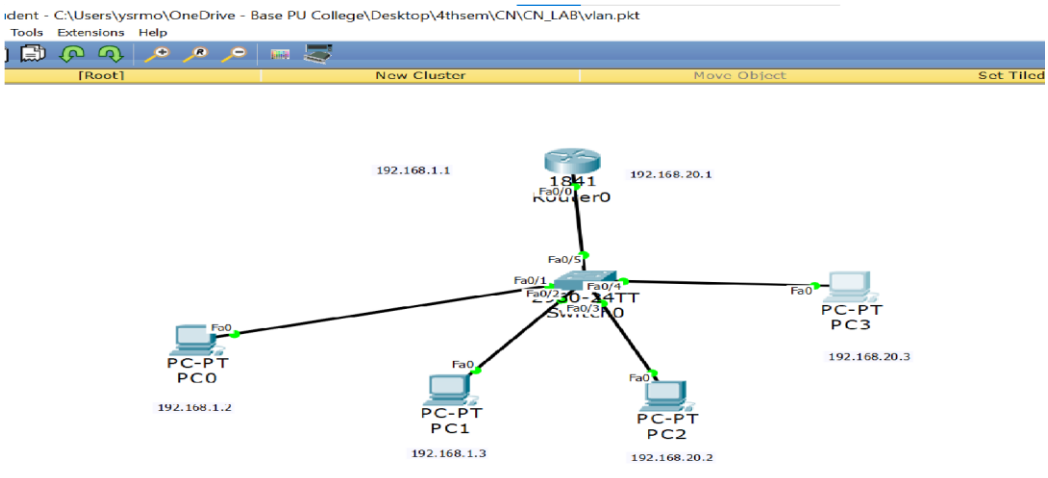
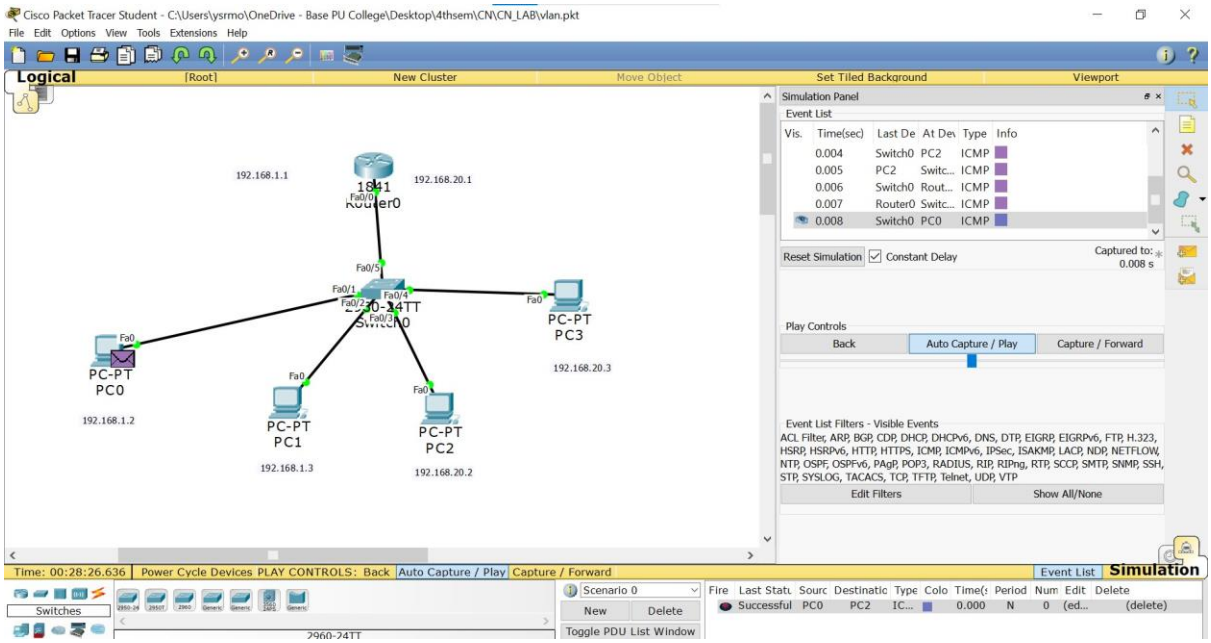
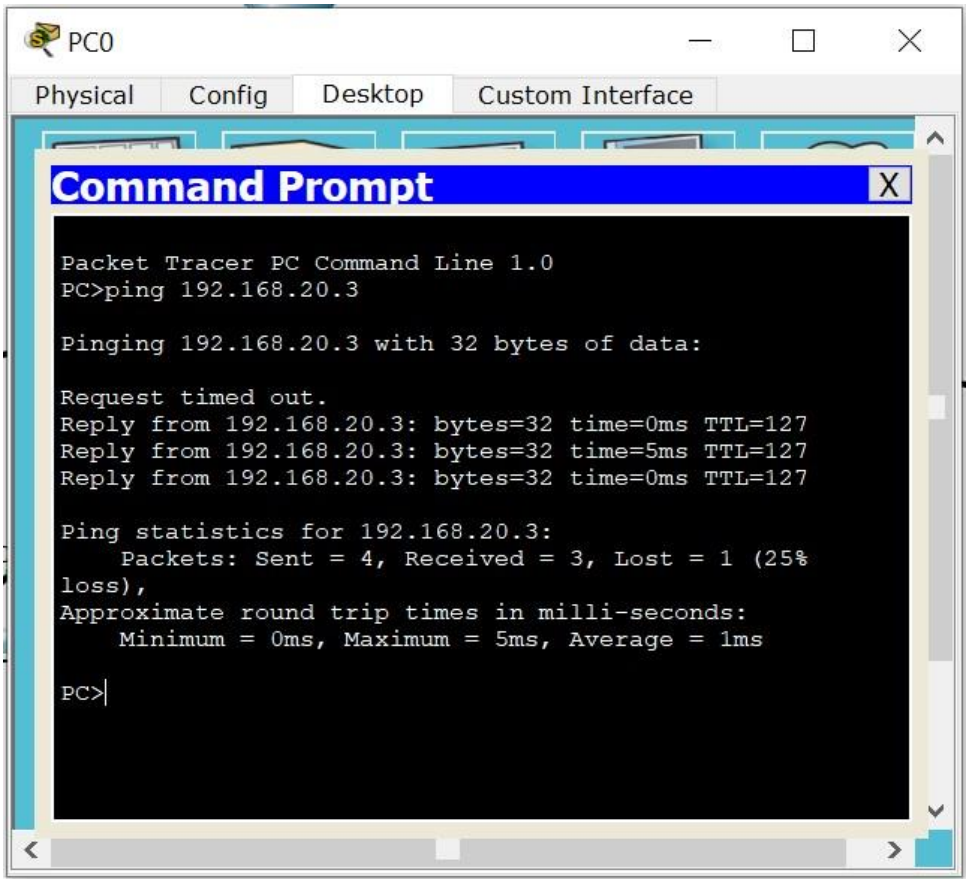



Cisco Packet Tracer Student - C:\Users\ysrmo\OneDrive - Base PU College\Desktop\4thsem\CN\CN_LAB\vlan.pkt
File Edit Options View Tools Extensions Help
Logical
[Root]
New Cluster
Move Object
Set Tiled Background
Viewport
192.168.1.1
1841
Router0
192.168.20.1
Fa0/5
Fa0/1
Fa0/4
Fa0/2
Fa0/3
2960-24TT
Switch0
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
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)


PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
Packet Tracer PC Command Line 1.0
PC>ping 192.168.20.3
Pinging 192.168.20.3 with 32 bytes of data:
Request timed out.
Reply from 192.168.20.3: bytes=32 time=0ms TTL=127
Reply from 192.168.20.3: bytes=32 time=5ms TTL=127
Reply from 192.168.20.3: bytes=32 time=0ms TTL=127
Ping statistics for 192.168.20.3:
Packets: Sent = 4, Received = 3, Lost = 1 (25%
loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 5ms, Average = 1ms
PC>