

## EXPERIMENT-9

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

LAB-8

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Aim: To configure VLAN Database

Topology:

The diagram illustrates a network topology. At the top, a Router is connected to a Switch. The Router's IP address is 192.168.1.1, and the Switch's IP address is 192.168.20.1. The Switch is connected to four PCs: PC0, PC1, PC2, and PC3. PC0 and PC1 are connected to the left side of the Switch, while PC2 and PC3 are connected to the right side. The IP addresses for the PCs are 192.168.1.2, 192.168.1.3, 192.168.20.2, and 192.168.20.3 respectively.

Procedure:

- 1) Comment 4 PC's with a switch and also comment a router (1841) 6
- 2) Ensure PC0 and PC1 are set as 192.168.1.2 and 192.168.1.3 and are placed towards the left side end of the switch and the router IP is set as 192.168.1.1
- 3) The PC2 and PC3 IP's are set as 192.168.20.2 and 192.168.20.3 and are placed at the right most end of switch.
- 4) Select switch and go to config t and select a VLAN database
- 5) Enter the new VLAN number as 203 and name as VLAN and add it to the database
- 6) Select the interface means to the fast Ethernet i.e. 4/0 and select trunk.



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- 7) Now add the new VLAN database to the trunk option
- 8) Go to router and select the VLAN database and enter the same VLAN No and the VLAN name.
- 9) Now go to CLI of router and enter the following.
  - Router(VLAN) # exit
  - Router # config t
  - Router(config) # interface fa 0/0.1
  - Router(config-subif) #
  - Router(config-subif) # encapsulation dot1q 301
  - Router(config-subif) # ip address 192.168.20.1 255.255.255.0
  - Router(config-subif) # no shut
  - Router(config-subif) # exit
- 10) Ensure all the Database are selected then Ping from PC0 to PC3

Output:

PC&gt; Ping 192.168.20.2

Pinging 192.168.20.2 with 32 byte of data:  
Request timed out

Reply from 192.168.20.2: bytes=32 time=0 TTL=128

" " " " " " " " " " " "

Ping Statistics for 192.168.20.2

Packets: Sent=4, received=3, lost=1 (25% loss)

App



# TOPOLOGY & OUTPUT

**Logical View** [Root] New Cluster Move Object Set Tiled Background Viewport

**Simulation Panel**

Event List

Vis.	Time(sec)	Last De	At Dev	Type	Info
	0.001	---	PC0	ICMP	
	0.002	PC0	Switch...	ICMP	
	0.002	Switch0	Rout...	ICMP	
	0.003	Switch0	Rout...	ICMP	
	0.003	Router0	Switch...	ICMP	

Reset Simulation ☒ Constant Delay Captured to: 0.003 s

Play Controls: Back Auto Capture / Play Capture / Forward

Event List Filters - Visible Events: ACL Filter, ARP, BGP, CD, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPSec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAg, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP

Edit Filters Show All/None

Time: 00:01:09.907 Power Cycle Devices PLAY CONTROLS: Back Auto Capture / Play Capture / Forward Event List Simulation

Scenario 0

Fire	Last Statu	Sourc	Destinatio	Type	Colo	Time(s)	Period	Num	Edit	Delete
	In Progt...	PC0	Router0	IC...		0.000	N	0	(ed...	(delete)
	In Progt...	PC0	PC3	IC...		0.000	N	1	(ed...	(delete)

Toggle PDU List Window

**Logical View** [Root] New Cluster Move Object Set Tiled Background Viewport

**PC0 Command Prompt**

```

Packet Tracer PC Command Line 1.0
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=2ms TTL=127
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 = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 5ms, Average = 1ms
PC>
  
```

Time: 00:01:19 Power Cycle Devices Fast Forward Time Realtime

Scenario 0

Fire	Last Statu	Sourc	Destinatio	Type	Colo	Time(s)	Period	Num	Edit	Delete
	Successful	PC0	Router0	IC...		0.000	N	0	(ed...	(delete)
	Successful	PC0	PC3	IC...		0.000	N	1	(ed...	(delete)

Toggle PDU List Window