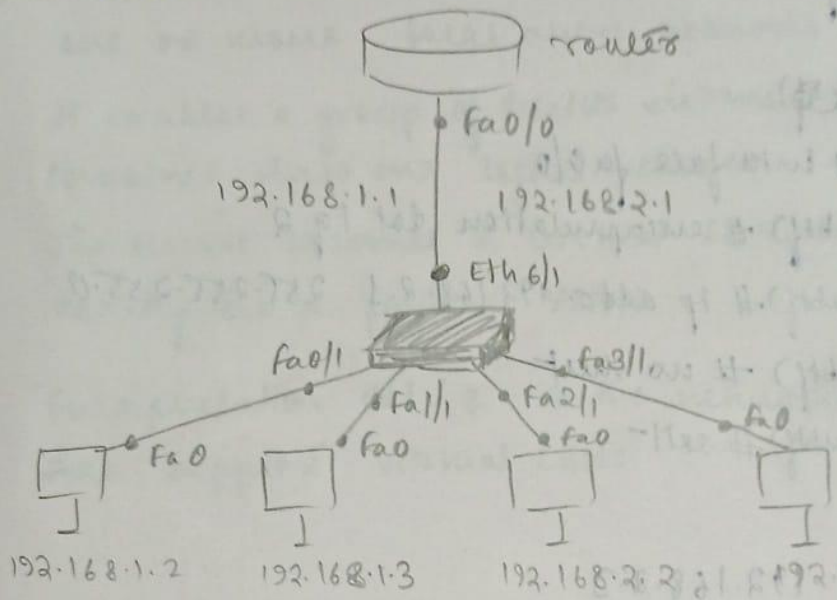
Experiment 11

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

TOPOLOGY :



Procedures :

(1) Create the topology above as shown in figure with 4 PCs, a switch & 1891 router.

(2) Add an extra port in the switch to connect to Router.

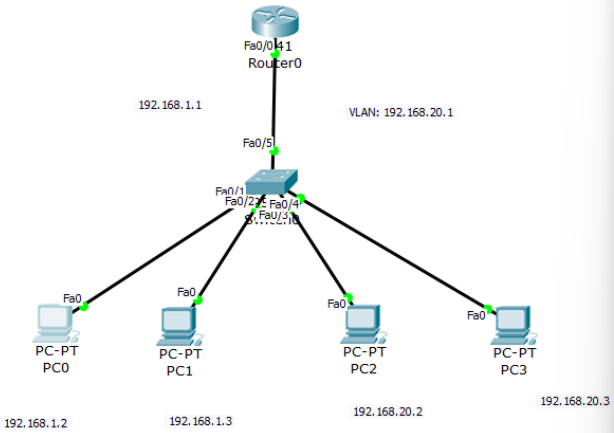
(3) Set the IP address & gateway.

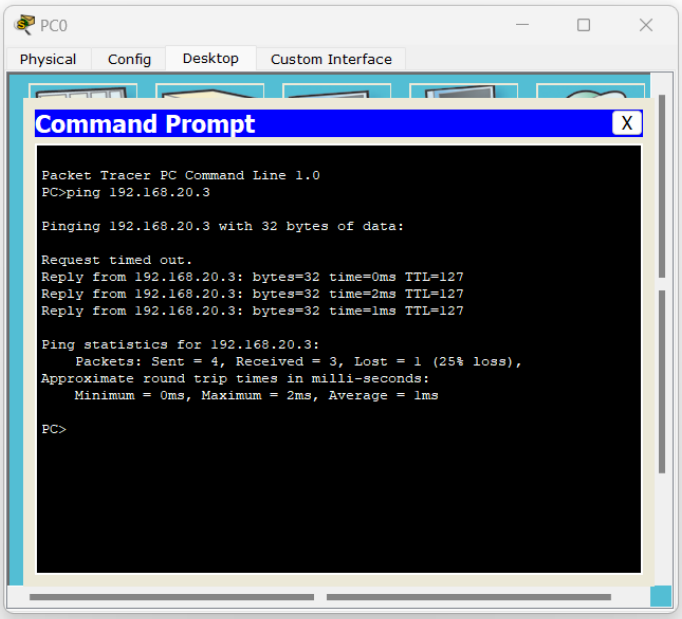
(4) Set up the VLAN database in switch.
Config → VLAN database, give the name & number.
Select add.

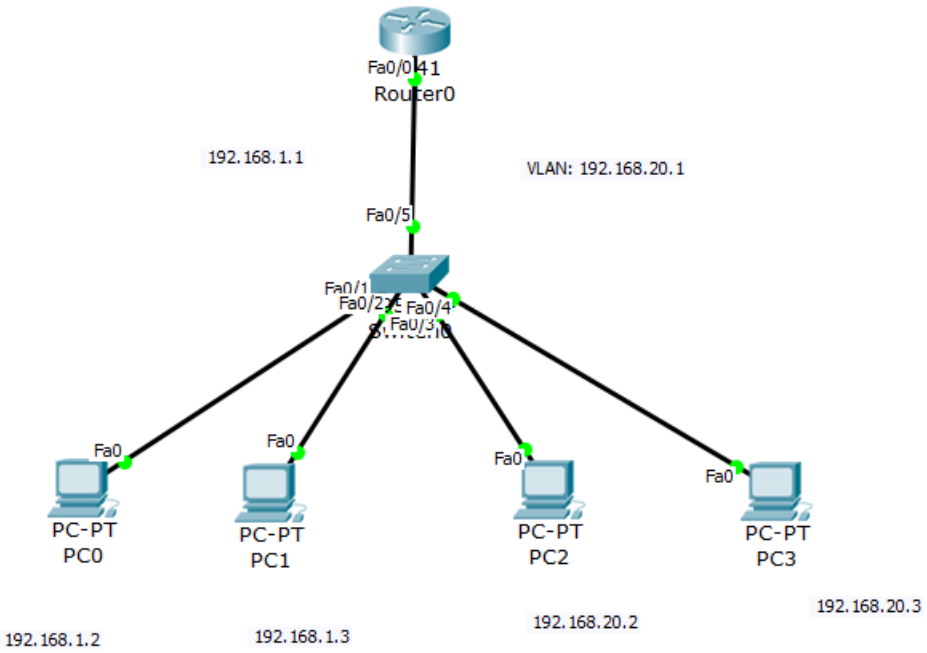
(5) In Routers settings, pick VLAN database for the connecting port, and use the reqd. CLI commands

(6) Ping between the PCs.

OUTPUT :


Fa0/0
Router0
192.168.1.1
VLAN: 192.168.20.1
Fa0/5
Fa0/1
Fa0/2
Fa0/4
Fa0/3
Fa0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
PC-PT
PC3
192.168.1.2
192.168.1.3
192.168.20.2
192.168.20.3


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=2ms TTL=127
Reply from 192.168.20.3: bytes=32 time=1ms 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 = 2ms, Average = 1ms
PC>


Fa0/0
Router0
192.168.1.1
VLAN: 192.168.20.1
Fa0/5
Fa0/1
Fa0/4
Fa0
PC-PT
PC0
PC-PT
PC1
PC-PT
PC2
PC-PT
PC3
192.168.1.2
192.168.1.3
192.168.20.2
192.168.20.3

OBSERVATION:

Observation

(i) VLAN: Virtual Local Area Network is any broadcast domains that is isolated in a computer network at the data-link layer

(ii) VLAN is a customer network which is created from one or more local area networks (LANs).
It enables a group of devices in multiple ~~devices~~ networks, to be combined into one logical network.
The result becomes a virtual LAN, that is administered exactly like a physical VLAN.

(iii) ~~Encapsulation~~ dot1q is the networking standard that supports virtual LANs