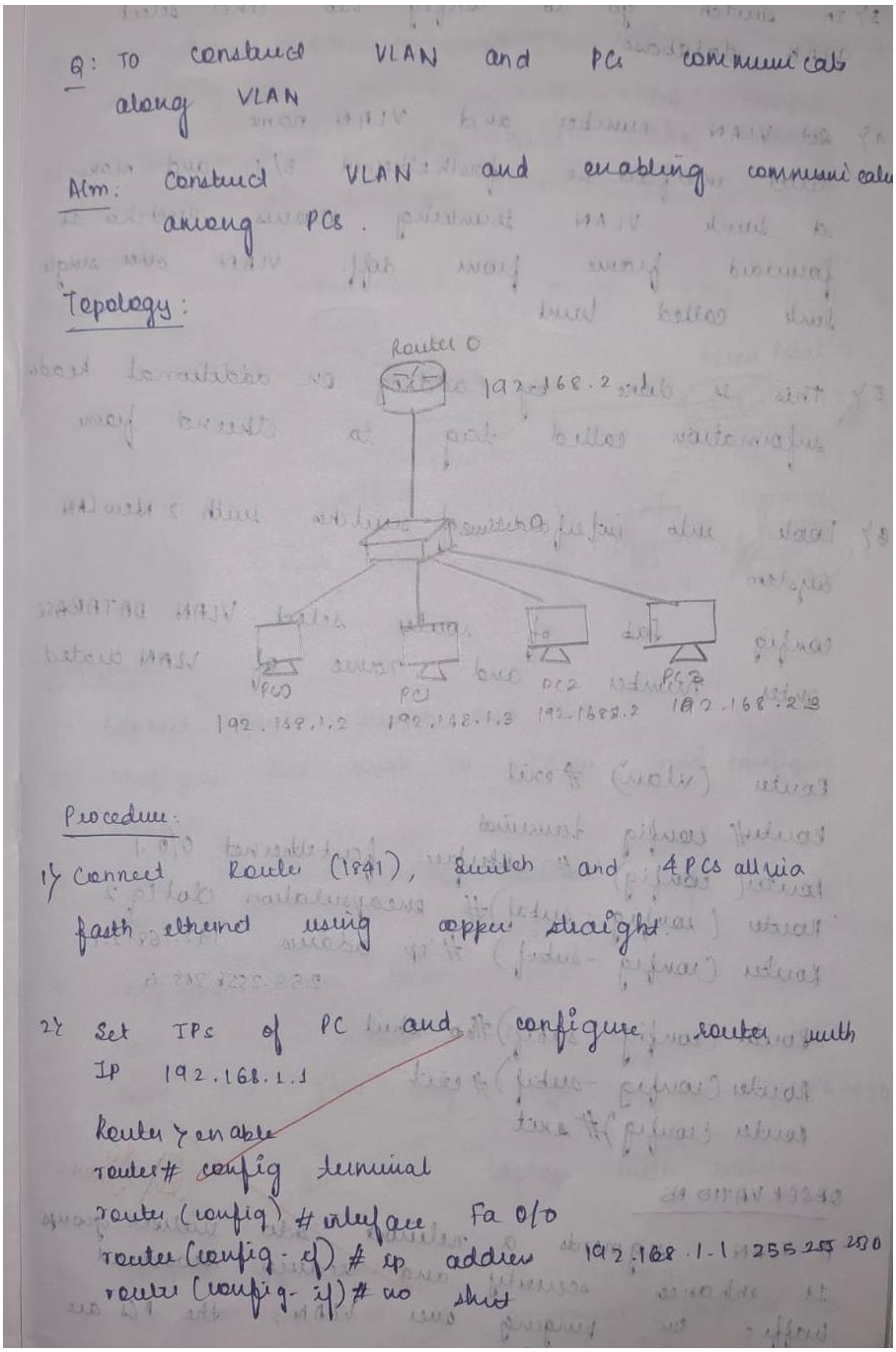
18|12|2024 Experiment 11(VLAN)

Observation:



3) In switch go to config tab and select VLAN database

4) Set VLAN number and VLAN name
Select interface i.e fastethernet 5/5 and make it trunk. VLAN trunking allows switches to forward frame from diff. VLAN over single link called trunk.

5) This is done by adding on additional header information called tag to ethernet frame

6) Look into interface of switches with 2 New LAN System

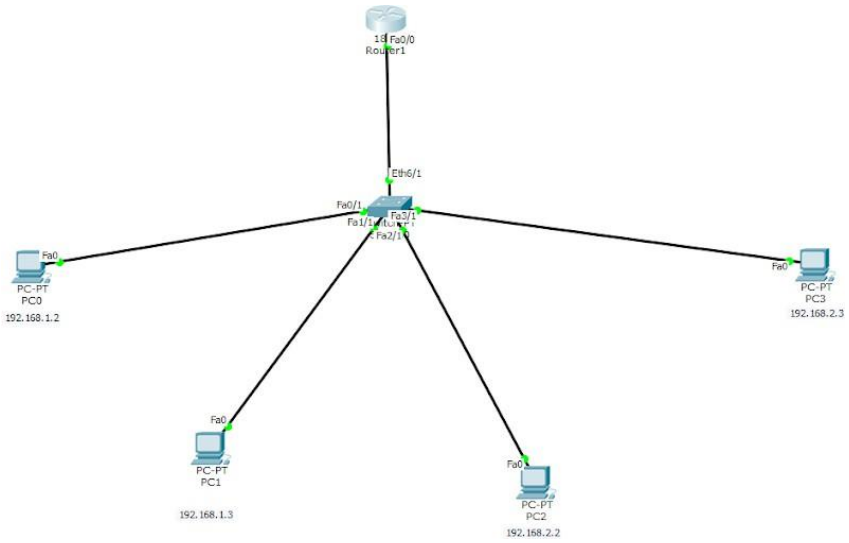
config tab of router select VLAN DATABASE
enter number and name of VLAN created

Router (vlan) #exit
Router# config terminal
Router(config) # interface fastethernet 0/0.1
Router (config-subif)# encapsulation dot1q 2
Router (config-subif) # ip address 192.168.2.1
255.255.255.0
Router (config-subif) #no shut
Router (config-subif) #exit
Router (config)# exit

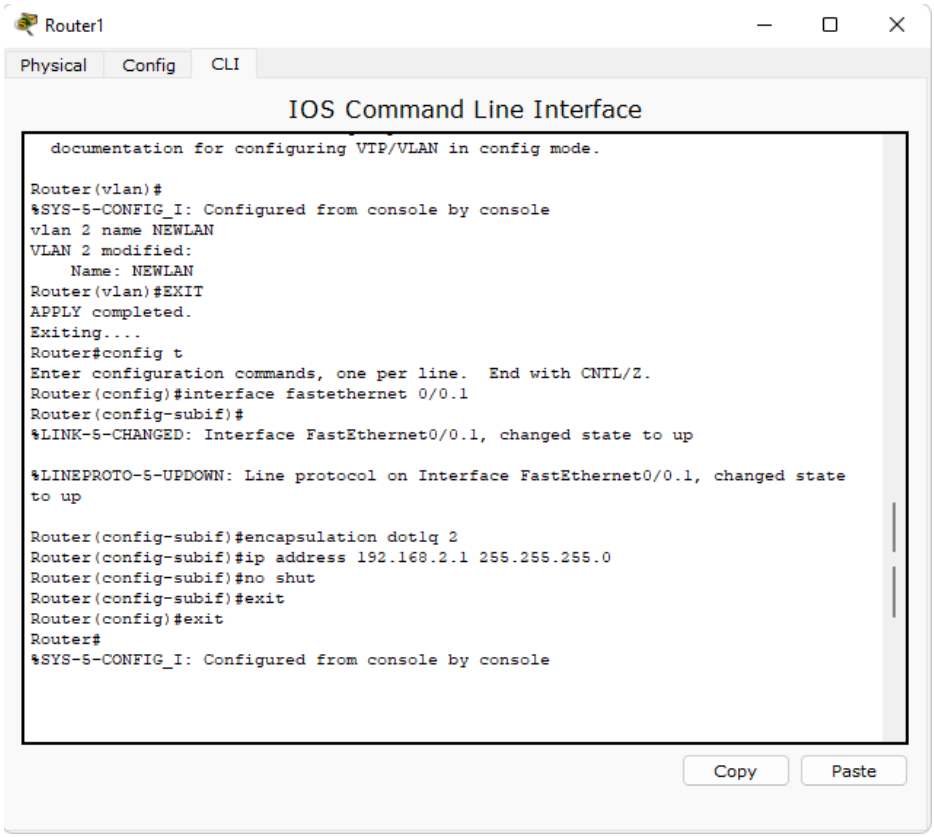
OBSERVATIONS

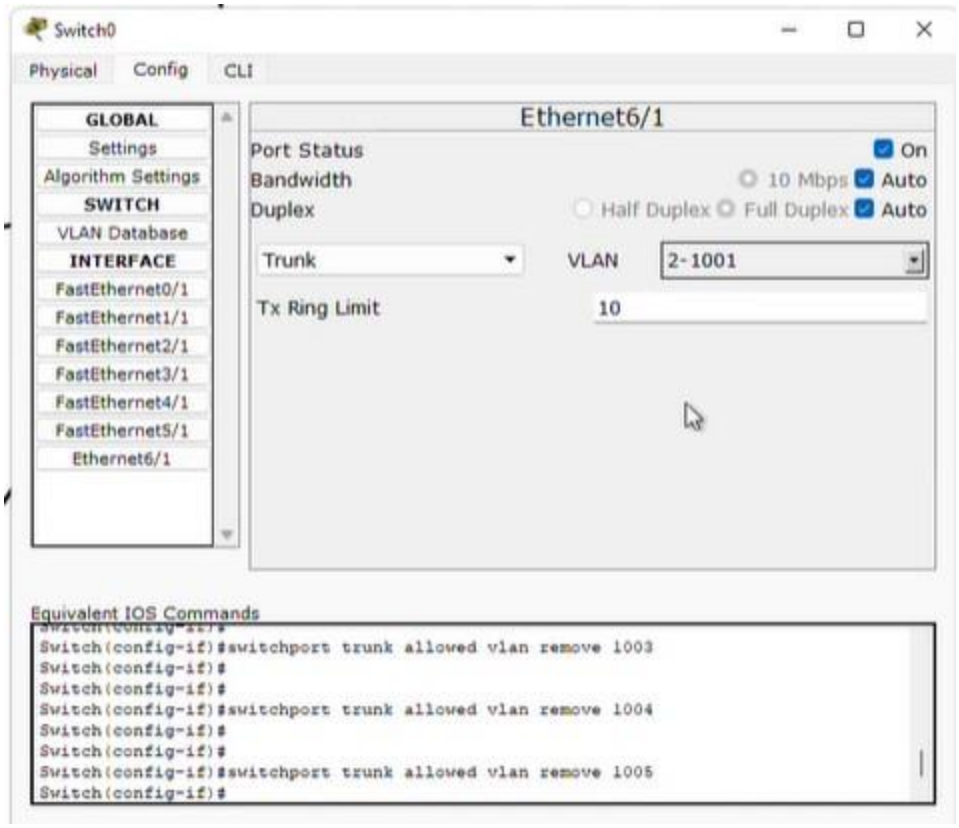
A VLAN segments a network into virtual groups It enhances security and reduces broadcast traffic. On pinging over VLAN, the PCs are able to communicate

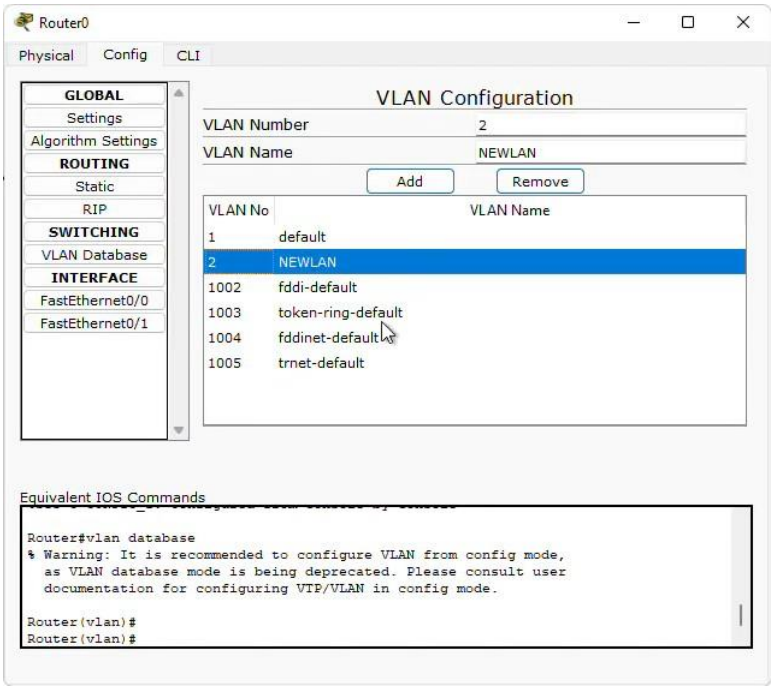
Topology:


Fa0/0
Router1
Eth6/1
Fa0/1
Fa3/1
Fa2/1
Fa0
PC-PT
PC0
192.168.1.2
Fa0
PC-PT
PC3
192.168.2.3
Fa0
PC-PT
PC1
192.168.1.3
Fa0
PC-PT
PC2
192.168.2.2

Output:


Router1
Physical
Config
CLI
IOS Command Line Interface
documentation for configuring VTP/VLAN in config mode.
Router(vlan)#
%SYS-5-CONFIG_I: Configured from console by console
vlan 2 name NEWLAN
VLAN 2 modified:
Name: NEWLAN
Router(vlan)#EXIT
APPLY completed.
Exiting....
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastethernet 0/0.1
Router(config-subif)#
%LINK-5-CHANGED: Interface FastEthernet0/0.1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0.1, changed state to up
Router(config-subif)#encapsulation dot1q 2
Router(config-subif)#ip address 192.168.2.1 255.255.255.0
Router(config-subif)#no shut
Router(config-subif)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
Copy
Paste


Switch0
Physical
Config
CLI
GLOBAL
Settings
Algorithm Settings
SWITCH
VLAN Database
INTERFACE
FastEthernet0/1
FastEthernet1/1
FastEthernet2/1
FastEthernet3/1
FastEthernet4/1
FastEthernet5/1
Ethernet6/1
Ethernet6/1
Port Status
On
Bandwidth
10 Mbps
Auto
Duplex
Half Duplex
Full Duplex
Auto
Trunk
VLAN
2-1001
Tx Ring Limit
10
Equivalent IOS Commands
Switch(config-if)#switchport trunk allowed vlan remove 1003
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport trunk allowed vlan remove 1004
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport trunk allowed vlan remove 1005
Switch(config-if)#




```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to
up
exit
Router(config)#
Router(config)#exit
Router#vlan database
% Warning: It is recommended to configure VLAN from config mode,
  as VLAN database mode is being deprecated. Please consult user
  documentation for configuring VTP/VLAN in config mode.

Router(vlan)#
%SYS-5-CONFIG_I: Configured from console by console
vlan 2 name NEWLAN
VLAN 2 modified:
    Name: NEWLAN
Router(vlan)#EXIT
```