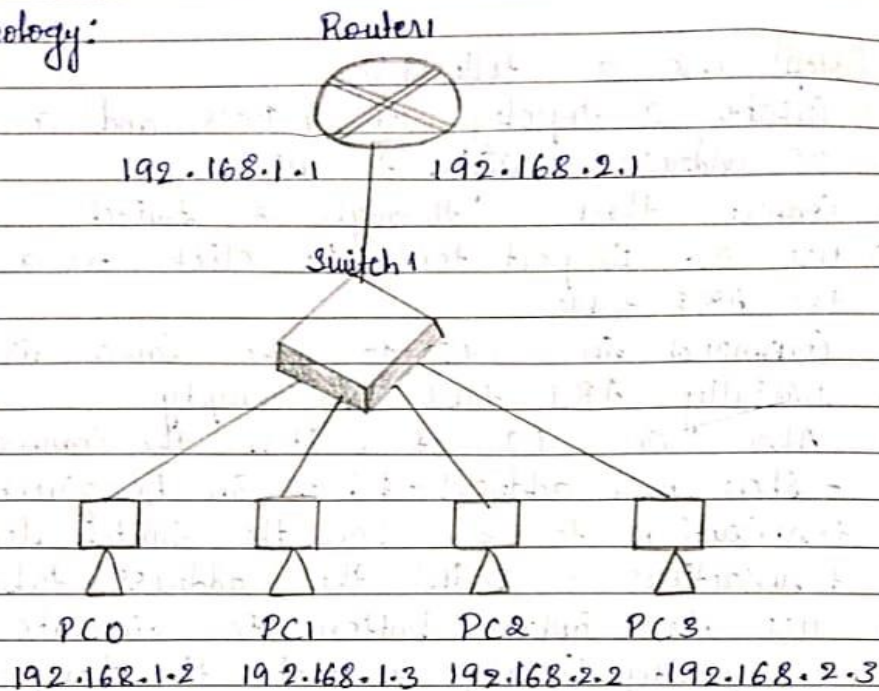


To construct a VLAN and make the PC's communicate among a VLAN.

LAB-

- 2) AIM: To Construct a VLAN and make the PC's Communication among a VLAN.

Topology:



Steps:

- 1) To Create a new VLAN, we use 6 Class C type addresses.
- 2) Create a topology as seen below
Choose the 1841 router.
- 3) In the Switch, go to Config tab and Select VLAN database.
- 4) Give any VLAN number say 2 here. Include any name say Add.
- 5) Select the interface is fastethernet 4/1 (near the Switch from router) and make it the trunk.
- 6) VLAN trunking allows switches to forward frames from different VLAN's over a single link called trunk.

→ This is done by adding an additional header information called tag to the Ethernet frame. The process of adding this small header is called VLAN tagging.

8) hook into the interfaces of the switches with the 2 NEW VLAN Systems.

• This makes the switch understand NEWVLAN.

Next the router is to understand the NEWVLAN

9) Config tab of router select VLAN DATABASE enter the number & name of the Vlan created.

Go to CLI, & Run the following

→ Config t

→ interface fastEthernet 0/0.1

→ encapsulation dot1q

→ ip address 192.168.2.1 255.255.255.0

→ no shut

→ exit

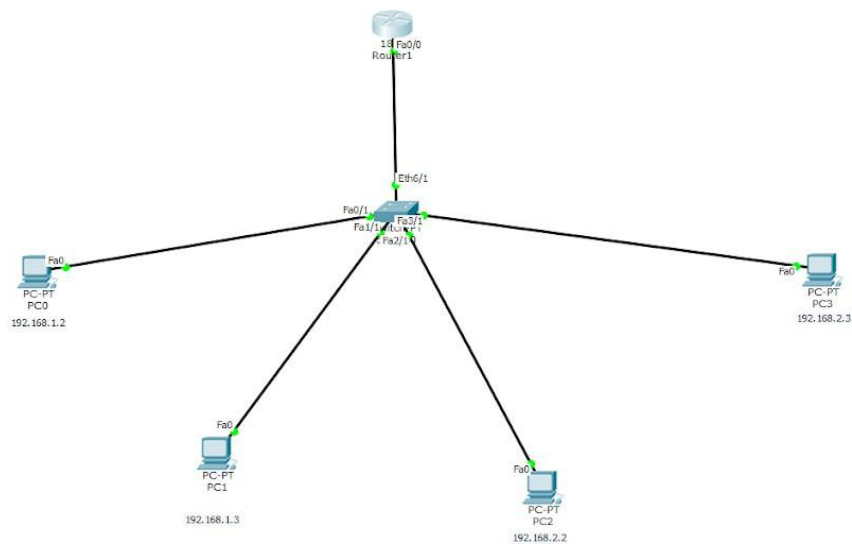
Observation:

1) VLANs are used to logically segment a network, devices in the same VLAN to communicate directly while isolating traffic from other VLANs.

2) Switches must be configured to create VLANs, assign VLAN IDs, & allocate ports to specific VLANs.

④ 10/11/24

TOPOLOGY:



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-S-CHANGED: Interface FastEthernet0/0.1, changed state to up

%LINEPROTO-S-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
```


Switch0

Physical Config CLI

Ethernet5/1

Port Status ☒ On

Bandwidth ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☐ Full Duplex ☒ Auto

Trunk VLAN

Tx Ring Limit

Equivalent IOS Commands

```
Switch(config-if)#
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)#
```

Router0

Physical Config CLI

VLAN Configuration

VLAN Number

VLAN Name

VLAN No	VLAN Name
1	default
2	NEWLAN
1002	fddi-default
1003	token-ring-default
1004	fddinet-default
1005	trnet-default

Equivalent IOS Commands

```
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 VIP/VLAN in config mode.
Router(vlan)#
Router(vlan)#
```

```
%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 VIP/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
```

