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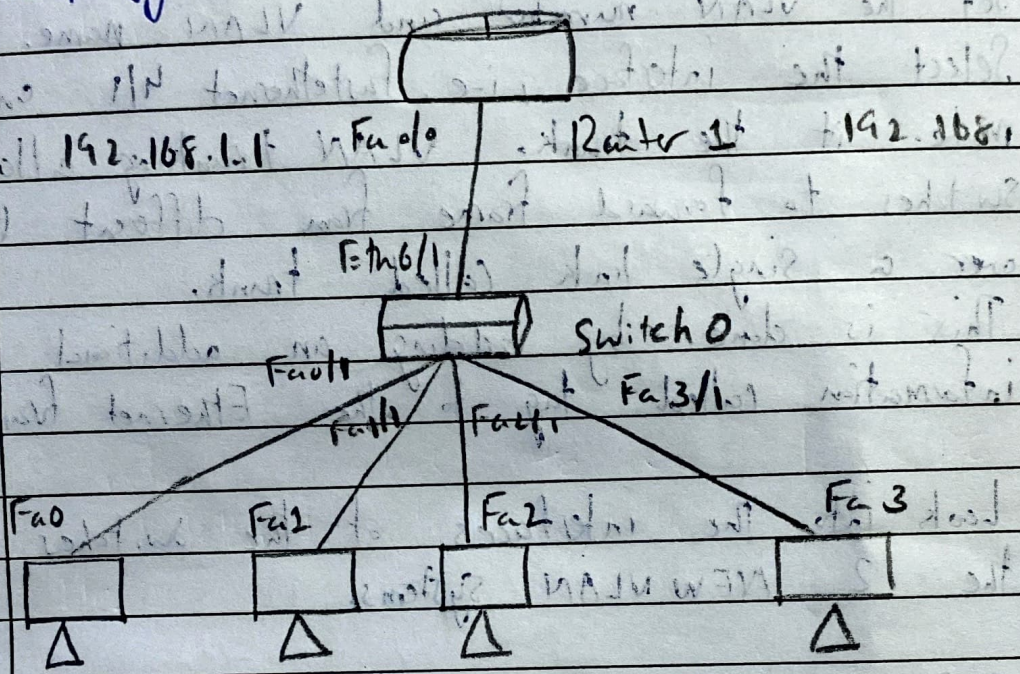
Experiment 10 - To construct VLAN and the PC's communicate among a VLAN.

Aim - Construct a VLAN and enable communication between PC's among a VLAN.

Topology



Procedure

- Choose the 1841 router and connect to a switch and 4 PC's via ethernet interface and fastethernet interface respectively.
- Set the IP addresses of the PC's and configure the Router with IP address 192.168.1.1

```
Router > enable
Router # config terminal
Router (config) # interface Fa0/0
```

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Router (config-if) # ip address 192.168.1.1 255.0.0.0 255.255.255.0

Router (config-if) # no shut

- In the Switch, go to Config tab and select VLAN Database.
- Set the VLAN number and VLAN name. Select the interface, i.e, fastethernet 4/1 and make it the trunk. VLAN trunking allows switches to forward frame from different VLAN over a single link called trunk.
- This is done by adding an additional header information called tag to the Ethernet frame.

- Looks into the interfaces of the switches with the 2 NEW VLAN systems.

Config tab of router select VLAN DATABASE. enter number and name of vlan created.

Router (vlan) # exit
Router # config t
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

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Observation

- On pinging over the VLAN, the PC's are able to communicate.
- The physical LAN has been divided into a VLAN with the help of VLAN database and using a 1841 router.