

EXPERIMENT-11

Question 11:

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

Observation:

EXPERIMENT 11

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

Topology:

Procedure:

1. Create a topology as seen above. Choose the 1921 router.
2. In the switch, go to config tab and select VLAN Database.
3. Give any VLAN number say 1 here. Include any name here on add.
4. Select the interface it has (Ethernet 4/1 (near the switch from router) and make it as trunk.
5. VLAN trunking allows switches to forward frames from different VLANs over a single link called trunk.
6. Config tab of router select VLAN Database enter the number and add name of the VLAN created.
7. Go to CLI, Router (vlan) tab with ATTY completed. Exiting Router & config.

```

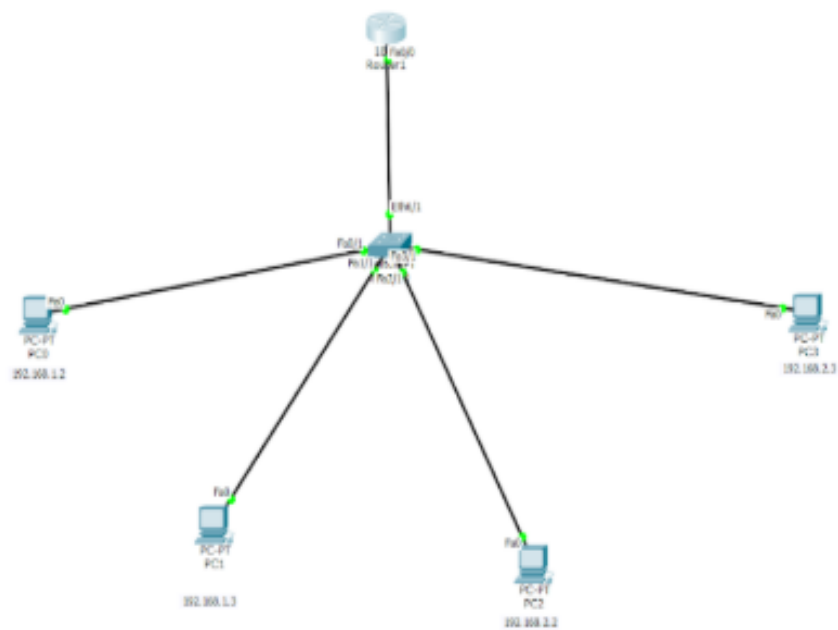
Router(config)# interface fastethernet 0/24
Router(config-if)#
Router(config-if)# encapsulation dot1q 1
Router(config-if)# ip address 192.168.2.1 255.255.255.0
Router(config-if)# no shut
Router(config-if)# exit
Router(config)# exit
    
```

Observations

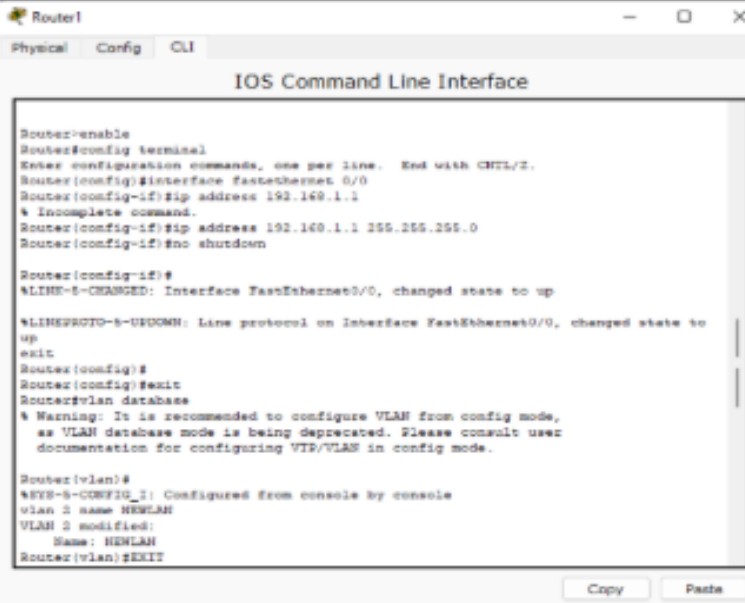
A VLAN segments a network into virtual groups. It enhances security and reduces broadcast traffic on a physical network. The PCs are able to communicate over the VLAN.

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Screenshot of the topology:



Screenshot of the output:



```
Router>enable
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet 0/0
Router(config-if)#ip address 192.168.1.1
% Incomplete command.
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%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: 1: Configured from console by console
vlan 2 name NEWLAN
VLAN 2 modified:
  Name: NEWLAN
Router(vlan)#EXIT
```

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```
PC>ping 192.168.1.3

Pinging 192.168.1.3 with 32 bytes of data:

Reply from 192.168.1.3: bytes=32 time=0ms TTL=128
Reply from 192.168.1.3: bytes=32 time=0ms TTL=128
Reply from 192.168.1.3: bytes=32 time=3ms TTL=128
Reply from 192.168.1.3: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 0ms
```