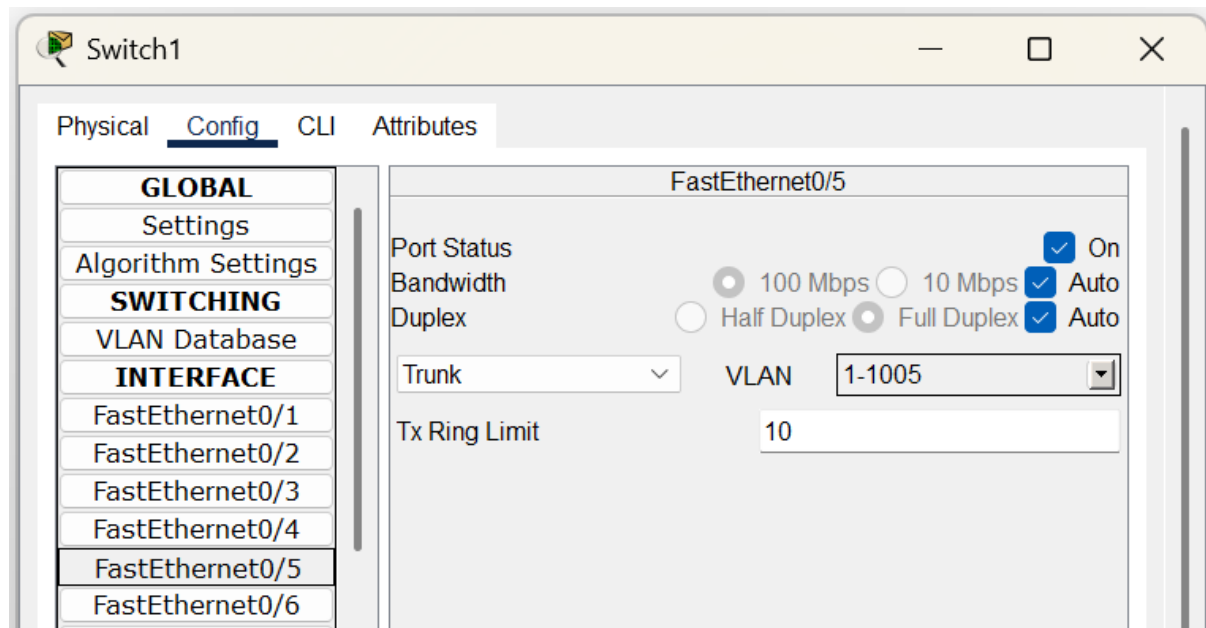
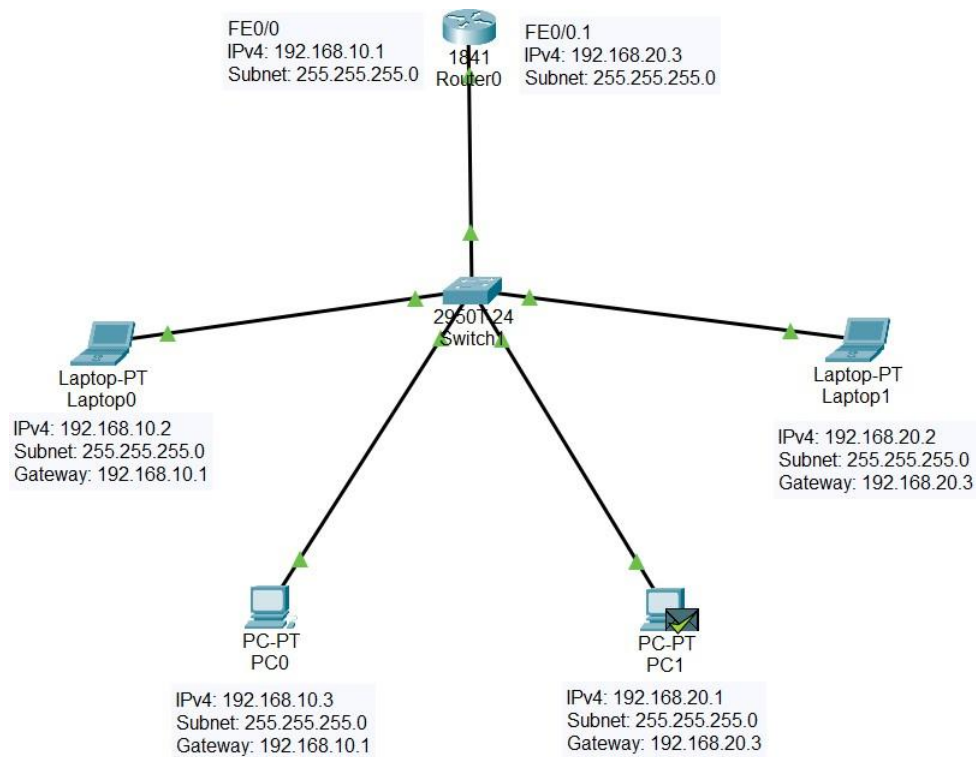
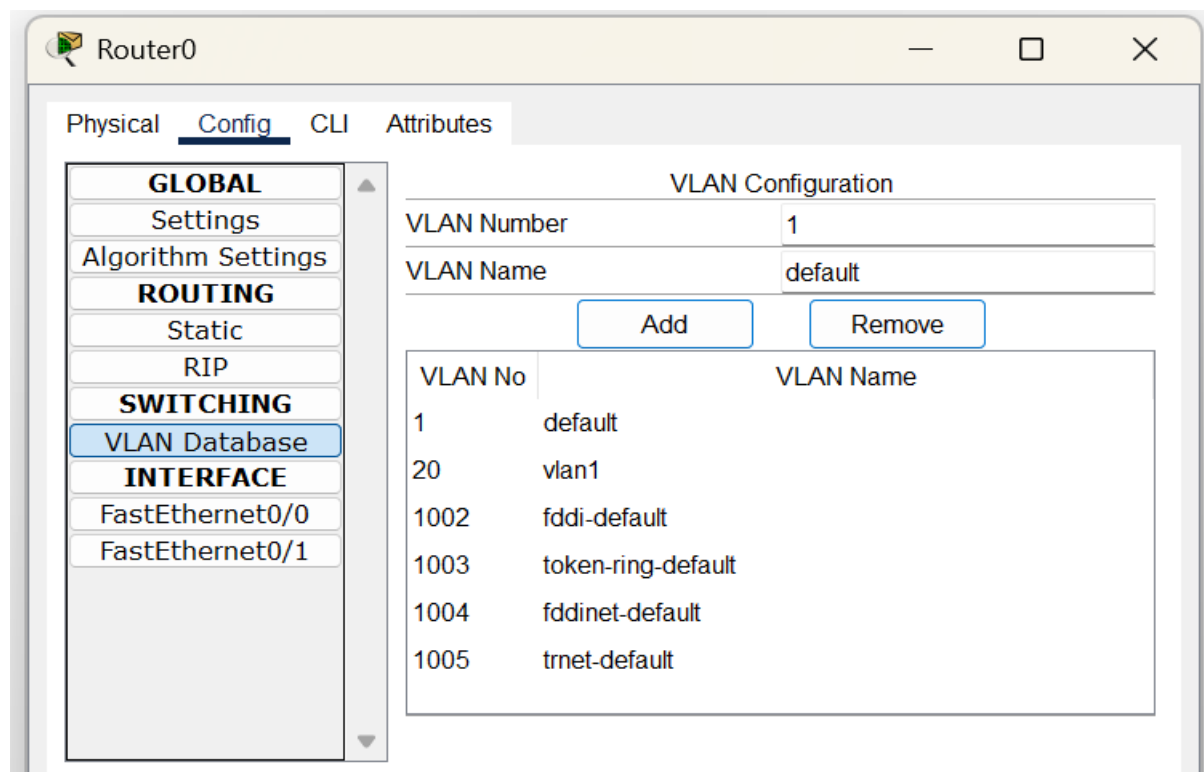
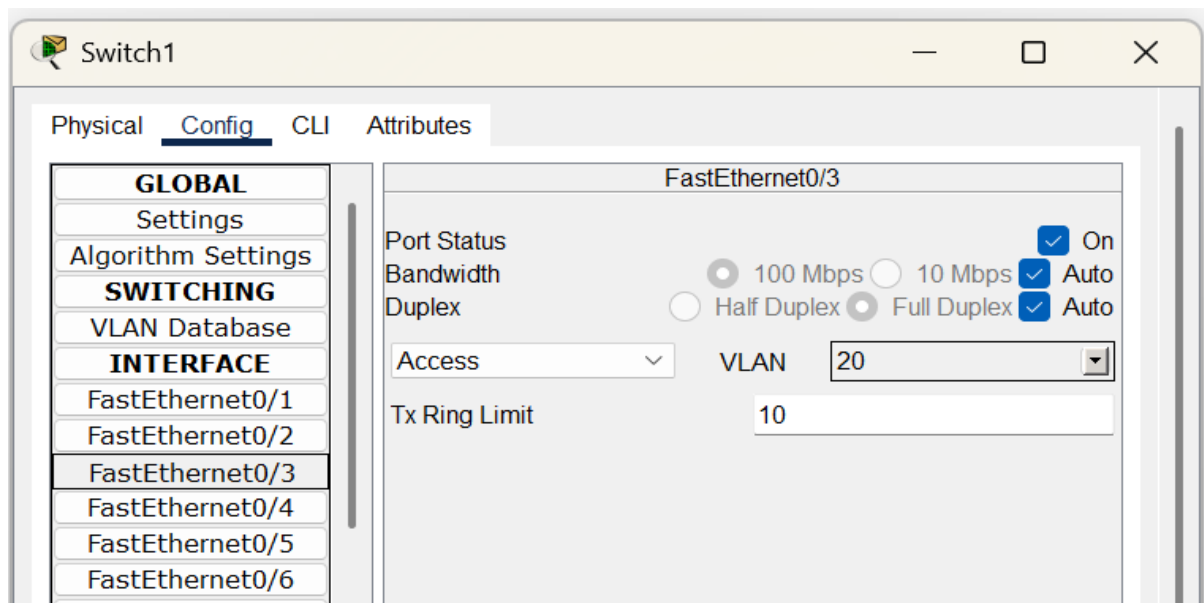




PROGRAM-11

To create a VLAN on top of the physical LAN and enable communication between physical LAN and virtual LAN.





```
Router(config)#interface FastEthernet0/0.1
Router(config-subif)#encapsulation dot1q 20
Router(config-subif)#ip address 192.168.20.3 255.255.255.0
Router(config-subif)#no shutdown
```

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC1	Router0	ICMP		0.000	N	0	(edit)	

```
C:\>ping 192.168.20.3

Pinging 192.168.20.3 with 32 bytes of data:

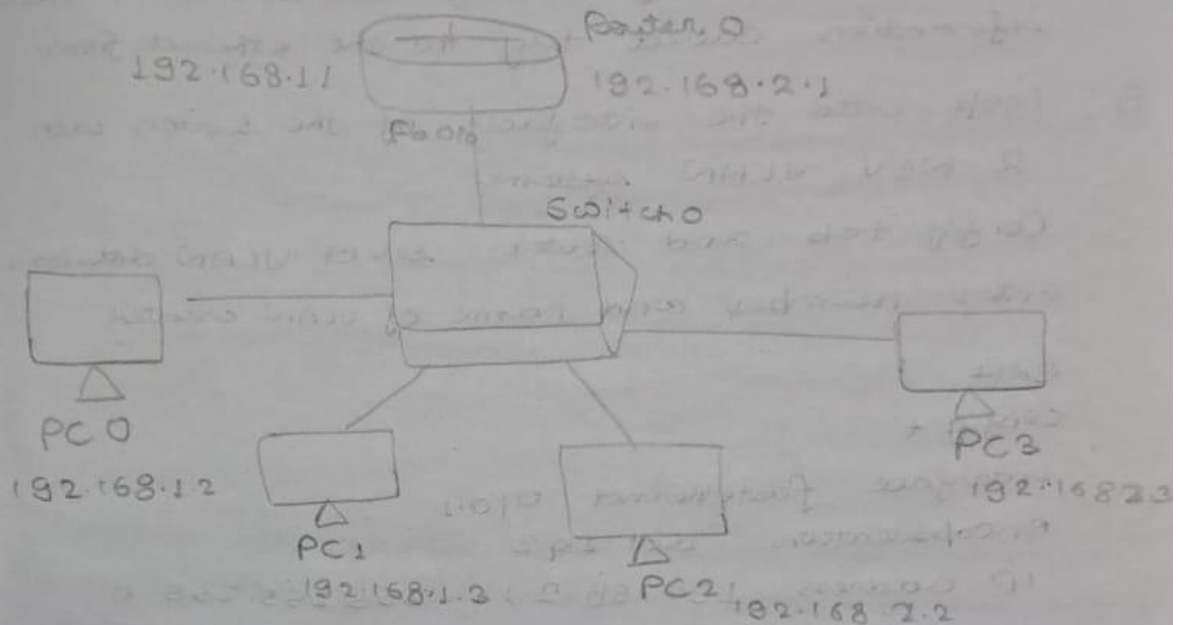
Reply from 192.168.20.3: bytes=32 time=2ms TTL=255
Reply from 192.168.20.3: bytes=32 time<1ms TTL=255
Reply from 192.168.20.3: bytes=32 time<1ms TTL=255
Reply from 192.168.20.3: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

Ques:- Construct a VLAN and enable communication between PCs among a VLAN.

Aim:- Construct a VLAN and enable communication between PCs among a VLAN.

Topology:-



Connect 4 PCs to the switch and a router as well to the switch. Assign the IP addresses to the PCs & set default gateway.

Procedure:

1. After completing the topology & assigning IP addresses & configure the router with IP address 192.168.1.1.

enable

config terminal

interface Fa0/10

ip address 192.168.1.1 255.255.255.0

no shut

2. In the switch, go to the config tab and select VLAN database.
3. Set the VLAN number and VLAN name. Select the interface i.e. fastethernet 5/1 & make it the trunk. VLAN trunking allows switches to forward.
4. This is done by adding additional header information called tag to the ethernet frame.
5. Look into the interfaces of the switch with 2 NEW VLAN systems.

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

exit

config *

interface fastethernet 0/0.1

encapsulation dot 1q2

ip address 192.168.2.1 255.255.255.0

no shut

exit

Observation

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

✓
3/1/25