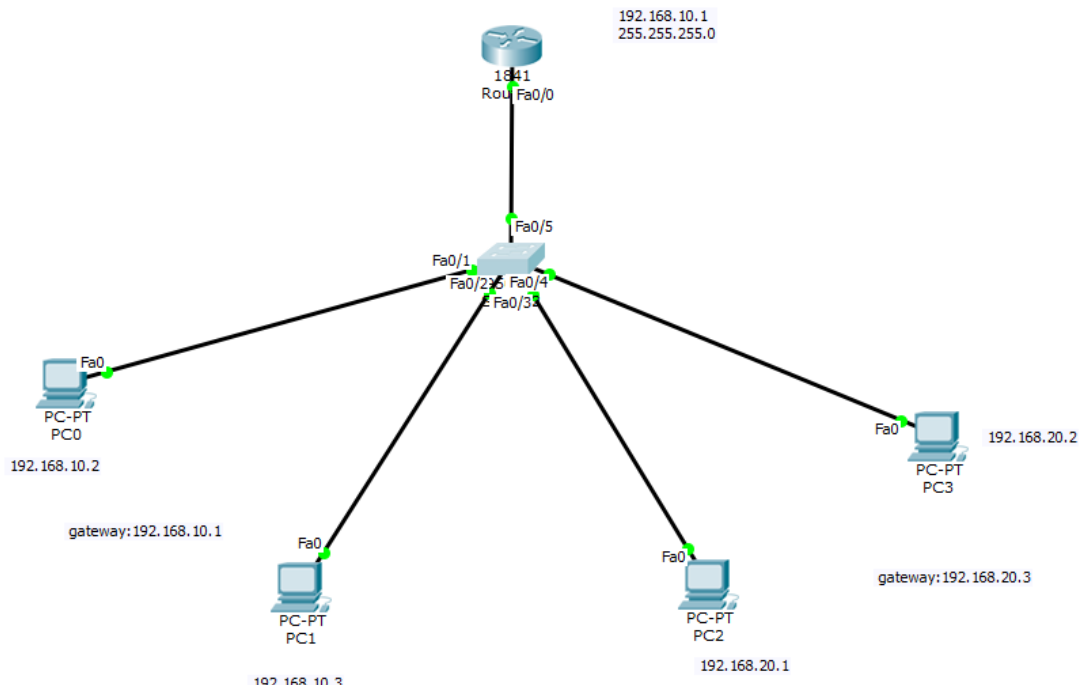


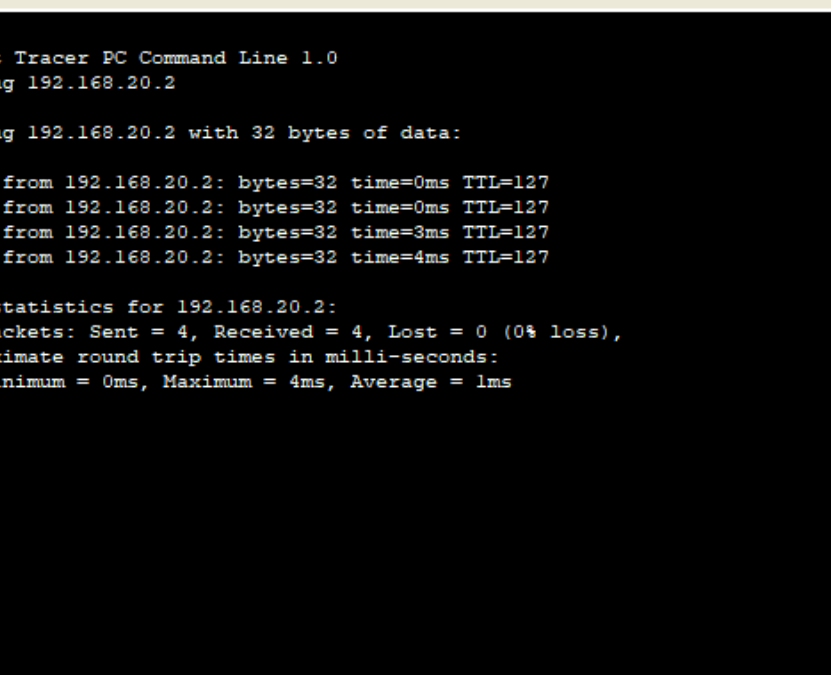
Experiment 11

Aim: To create a virtual Lan on top of the physical Lan and enable communication between physical Lan and virtual Lan

Topology:



Output:



The screenshot shows a 'Command Prompt' window with a blue title bar and a close button. The background is black with white text. The text displays the execution of a ping command from a PC to the IP address 192.168.20.2. The output shows four successful replies with 0ms response times and a TTL of 127. Ping statistics indicate 4 packets sent, 4 received, and 0% loss, with round trip times of 0ms, 4ms, and 1ms.

```

Packet Tracer PC Command Line 1.0
PC>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

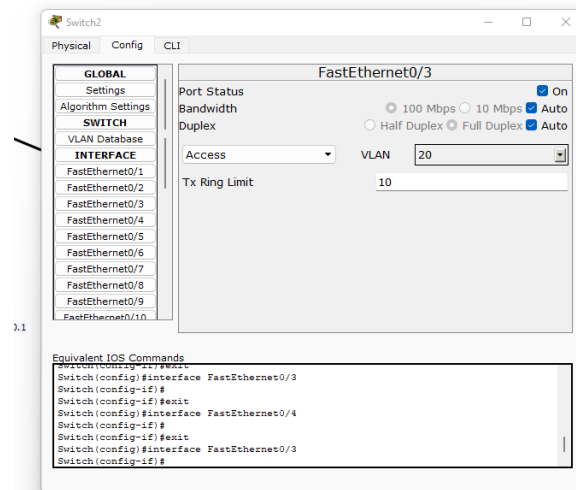
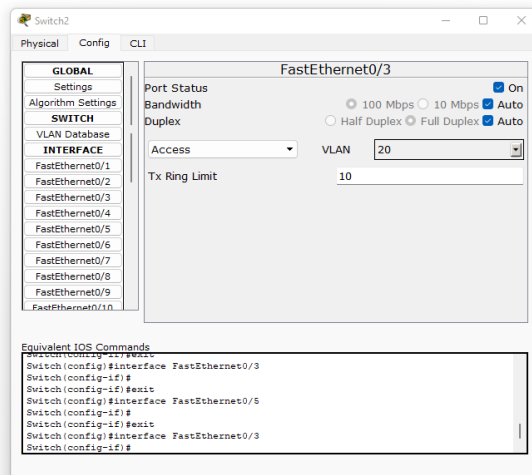
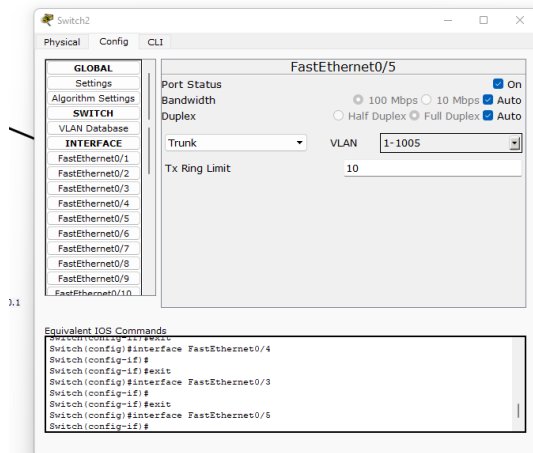
Reply from 192.168.20.2: bytes=32 time=0ms TTL=127
Reply from 192.168.20.2: bytes=32 time=0ms TTL=127
Reply from 192.168.20.2: bytes=32 time=3ms TTL=127
Reply from 192.168.20.2: bytes=32 time=4ms TTL=127

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 4ms, Average = 1ms

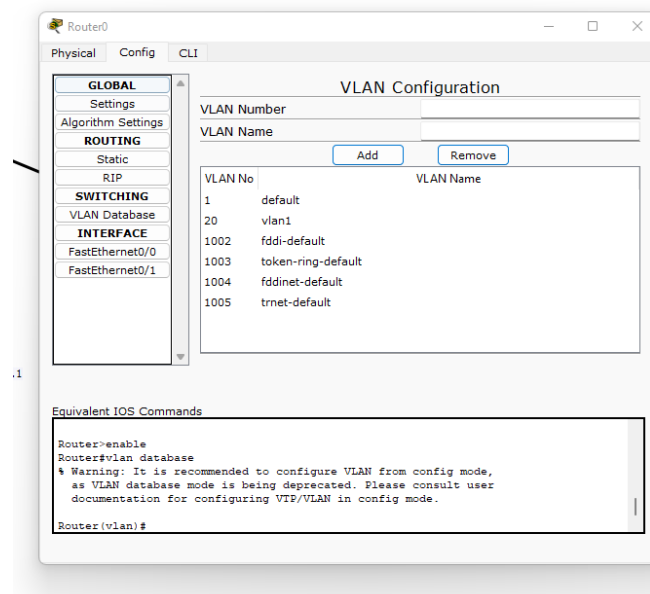
PC>
  
```

Configuration:

1) switch configuration:



2)router configuration:



Observation:

Date _____
Page _____

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Experiment - 11

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

switch interface connecting to the router = trunk interface

TOPOLOGY:

The diagram illustrates a network topology. At the top, a router (labeled 'Router') has a Fa0/0 interface with IP 192.168.10.1 and a Fa0/5 interface. Below the router is a switch (labeled 'Switch 2') with a Fa0/5 interface (2950T-24) and four other interfaces: Fa0/1, Fa0/2, Fa0/3, and Fa0/4. Four PCs are connected to the switch: PC0 (192.168.10.2) to Fa0/1, PC1 (192.168.10.3) to Fa0/2, PC2 (192.168.20.1) to Fa0/3, and PC3 (192.168.20.3) to Fa0/4. A gateway is indicated as 192.168.10.1.

Configuration:

- (i) Place 4 PC-PT and one 2950T-24 switch, 1841 Router
- (ii) Configure the router with IP address 192.168.10.1 with subnetmask 255.255.255.0
- (iii) Configure PC0 and PC1 with IP address 192.168.10.2 and 192.168.10.3 with subnetmask respectively.
- (iv) On the switch go to FastEthernet 0/5 and change the access to trunk
- (v) In the same switch under VLAN database add a new VLAN config with VLAN number as 20 and VLAN name as vlen2.

(vi) Now under router FastEthernet 0/3 and 0/4 change the VLAN no 20.

(vii) Configure the PC 2 and PC 3 with IP address 192.168.20.1 and 192.168.20.2.

(viii) Set the gateway as 192.168.20.3.

(ix) Now in the router under VLAN database add the same vlan configuration

(x) Now under CLI carry out the following commands
Router>enable

Router#config

Router(config)#interface fastEthernet 0/0.1

Router(config-subif)#IP address 192.168.20.3 255.255.255.0

Router(config-subif)#no shutdown

Router(config)#exit

(xi) Carry out the VLAN config. and then carry out the following commands.

Router(vlan)#exit

Router#config

Router(config)#interface FastEthernet 0/0.1

Router(config-subif)# encapsulation dot1q 20

Router(config-subif)# no shutdown

Router(config-subif)# exit.

(xii) Carry out Ping command across all the devices.

(If Request timed out → Try assigning the IP address to the FastEthernet 0/0.1 again after encapsulation dot1q 20 command)

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OBSERVATION:

By creating a virtual LAN on top physical LAN we are able to communicate within the different devices in the diff. LAN's.

