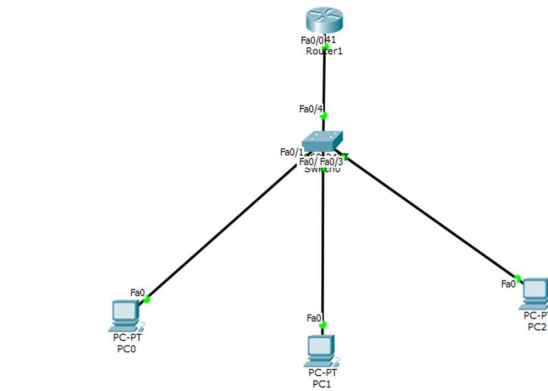


## LAB-7(30-08-2023)

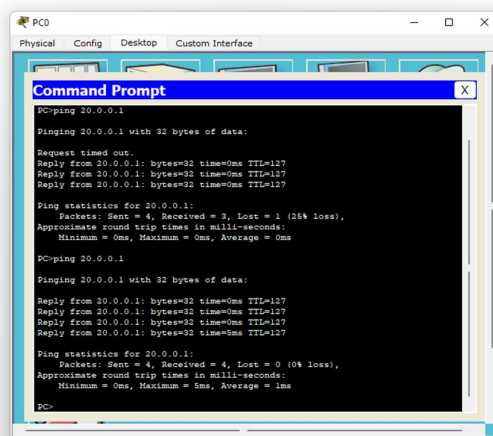
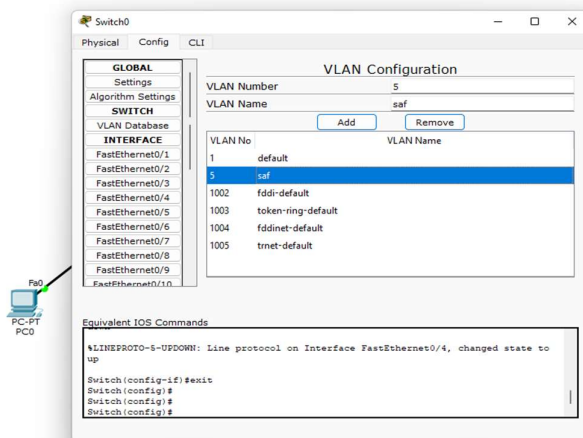
-1BM21CS209

10. To construct a VLAN and make the PC communicate a VLAN.



```
Router1
Physical Config CLI
IOS Command Line Interface
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)#
VLAN 5 CONFIG-I: Configured from console by console
VLAN 5 name saf
VLAN 5 modified:
Name: saf
Router(vlan)#exit
Router(config)#
Router(config)#t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa0/0.1
Router(config-subif)#
VLINE-S-CHANGED: Interface FastEthernet0/0.1, changed state to up
VLINEPROTO-S-UPDOWN: Line protocol on Interface FastEthernet0/0.1, changed state
to up
Router(config-subif)#encapsulation dot1q 5
Router(config-subif)#ip address 20.0.0.2 255.0.0.0
Router(config-subif)#no shut
Router(config-subif)#exit
Router(config)#
```

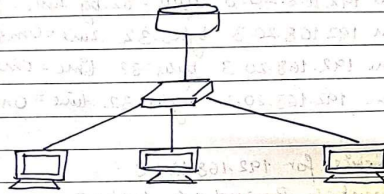
```
Switch0
Physical Config CLI
FastEthernet0/4
Port Status
Bandwidth
Duplex
Trunk
VLAN 1-1005
Tx Ring Limit 10
Equivalent IOS Commands
Switch(config)#
Switch(config)#
Switch(config)#
Switch(config)#interface FastEthernet0/3
Switch(config-if)#
Switch(config-if)#exit
Switch(config)#interface FastEthernet0/4
Switch(config-if)#
```



10. To construct a VLAN and make the PC communicate a VLAN

→

Topology:



In Router,

# config t

# interface fastEthernet 0/0

# ip address 192.168.1.1 255.255.255.0

# no shut

# interface fastEthernet 0/0

# encapsulation dot1q 20

# ip address 192.168.20.1 255.255.255.0

# no shut

# exit

Result:

PC> ping 192.168.20.3

Pinging 192.168.20.3: bytes : 32 bytes of data

Reply from 192.168.20.3 bytes: 32 time: 1ms TTL=128

Reply from 192.168.20.3 bytes: 32 time=0ms TTL=128

Reply from 192.168.20.3 bytes: 32 time=0ms TTL=128

Reply from 192.168.20.3 bytes: 32 time=0ms TTL=128

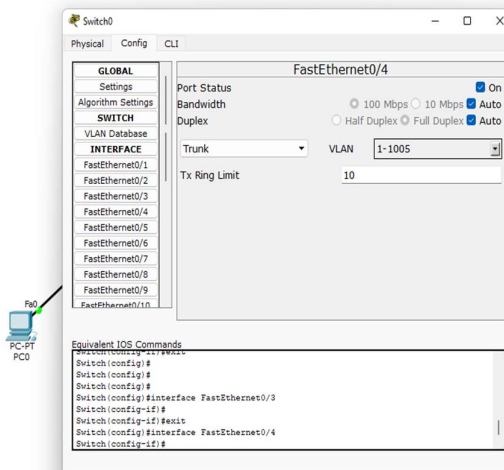
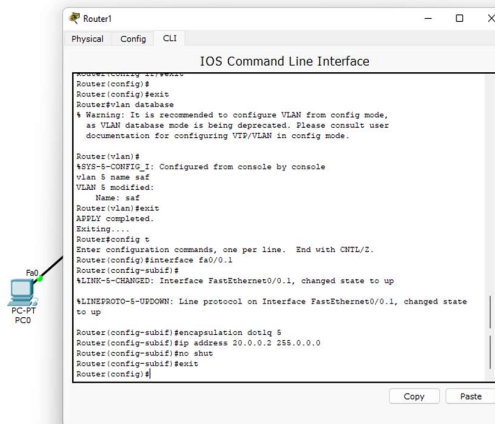
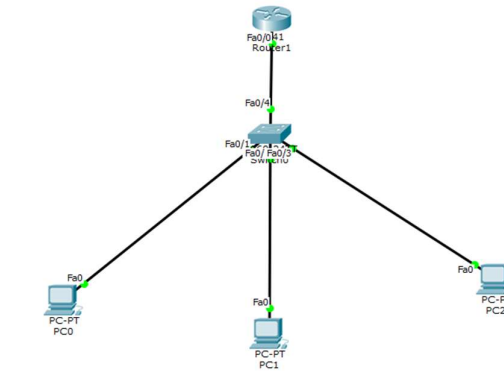
Ping statistics for 192.168.20.3

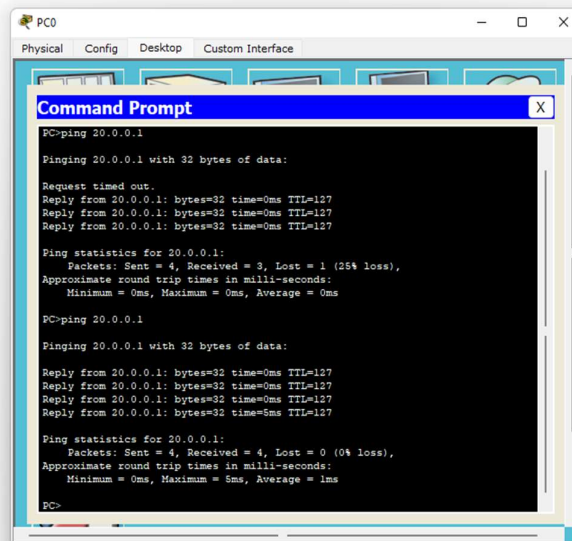
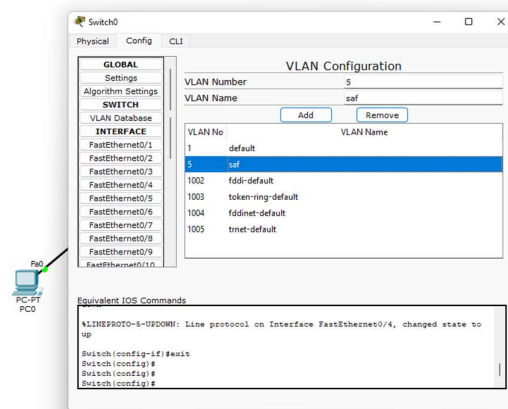
Packets sent=4 Received=4 Lost=0

Approximate round trip times in milliseconds

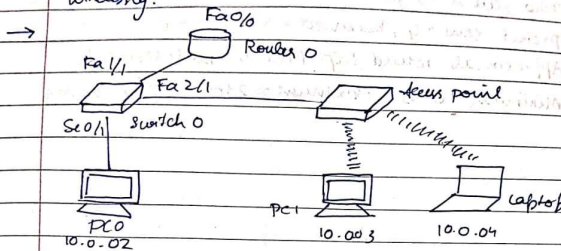
Minimum=0ms Maximum=1ms Average=0ms

11. To construct a WLAN and make the nodes communicate wirelessly.





12. To construct a WLAN and make the nodes communicate wirelessly.



In router,  
# config +  
# interface fast Ethernet 0/0  
# ip address 10.0.0.10 255.0.0.0  
# no shut

In PC0 (10.0.0.2)

PC > ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data

Reply from 10.0.0.3 bytes = 32 time = 1ms TTL = 128

Reply from 10.0.0.3 bytes = 32 time = 13ms TTL = 128

Reply from 10.0.0.3 bytes = 32 time = 6ms TTL = 128

Reply from 10.0.0.3 bytes = 32 time = 0ms TTL = 128

Ping slo

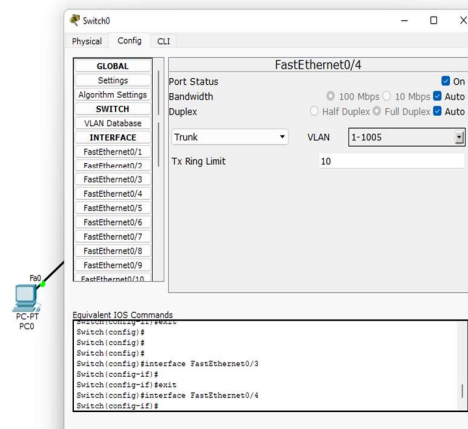
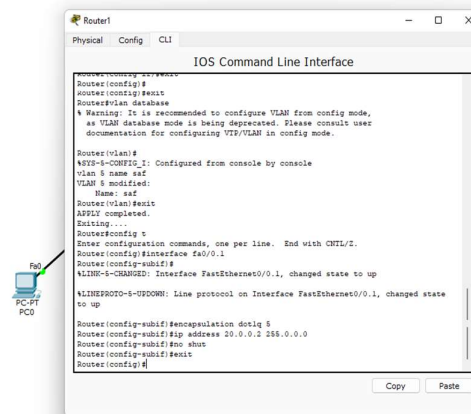
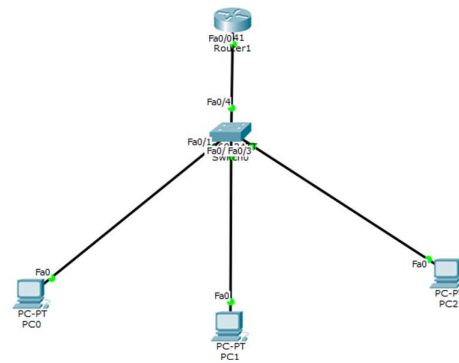
Ping statistics for 10.0.0.2

Packet sent = 4, Received = 4, Lost = 0

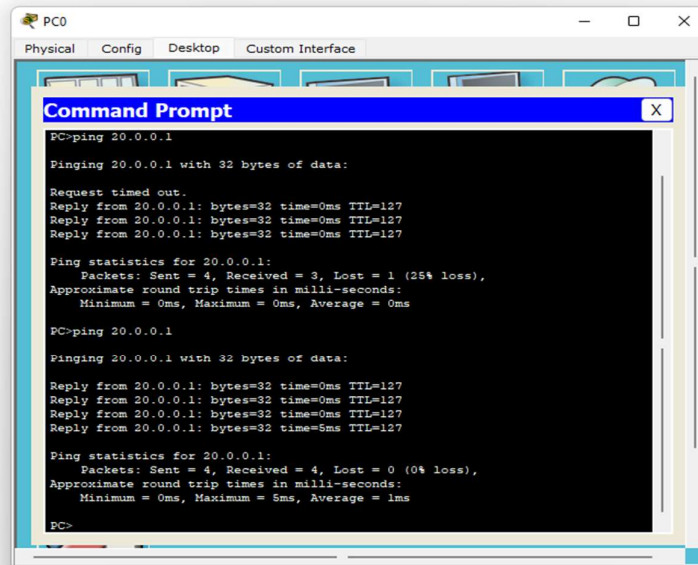
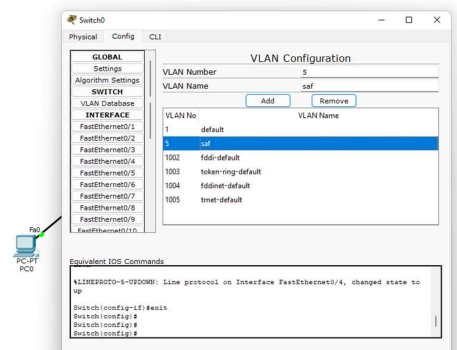
Approximate round trip time in milliseconds

Minimum = 6ms, Maximum = 21ms, Avg = 12ms.

## 12. Demonstrate TTL / life of packet.



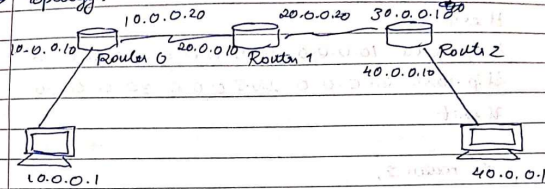






12. Demonstrate the TTL/ life of a packet

→ Topology:



In router 0,

```

#config t
#interface fastEthernet 0/0
#ip address 10.0.0.10 255.0.0.0
#no shut
#exit
#ip route 30.0.0.0 255.0.0.0 20.0.0.20
#ip route 40.0.0.0 255.0.0.0 20.0.0.20
#exit
  
```

In Router 1,

```

#config t
#interface fastEthernet 2/0
#ip address 20.0.0.20 255.0.0.0
#no shut
#exit
  
```

```

#interface serial 3/0
#ip address 30.0.0.10 255.0.0.0
#no shut
#exit
#ip route 10.0.0.0 255.0.0.0 20.0.0.10
#ip route 40.0.0.0 255.0.0.0 30.0.0.20
#exit
  
```

In router 2,

```

#config t
#interface serial 2/0
#ip address 30.0.0.20 255.0.0.0
#no shut
#exit
#interface fastEthernet 0/0
#no shut
#exit
#ip route 10.0.0.0 255.0.0.0 30.0.0.10
#ip route 20.0.0.0 255.0.0.0 30.0.0.10
  
```

Result:

PDU information at device : PC0

Out bound PDU details

TTL: 255

PDU information at device : PC0

Inbound PDU details

TTL: 255

Outbound PDU details

TTL: 255

PDU information at device router 1

Inbound PDU details

TTL: 254

Outbound PDU details

TTL: 253

PDU information at device router 2

Inbound PDU details

TTL: 253

Outbound PDU details

TTL: 252

PDU information at device PC1

Inbound PDU details

TTL: 252