

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

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

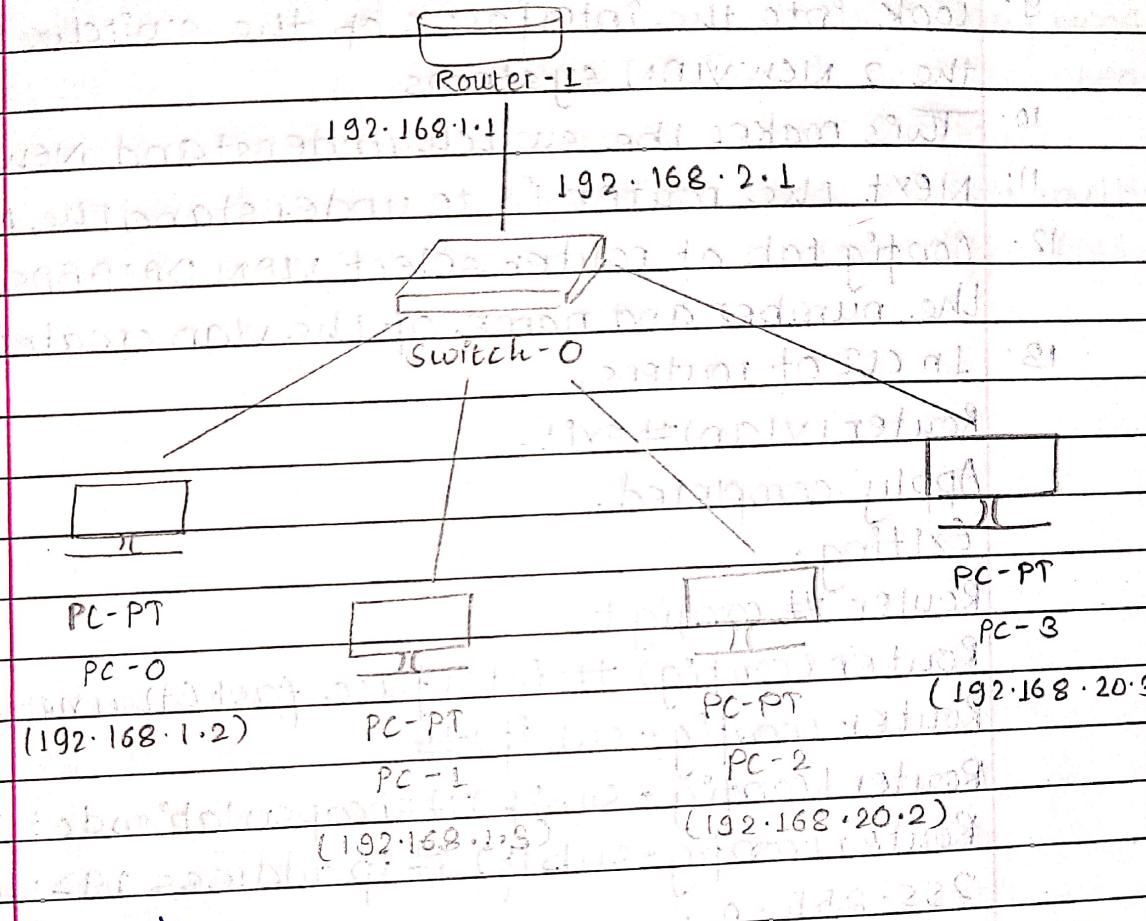
TL=128

TL=128

=128

=128

(SS)



### Procedure.

1. Create a topology as shown above. (Choose 1891rou).
2. Add an extra port to the switch as it's needed.
3. Use copper st. through wire set the IP address of gateway.
4. In switch go to config tab and select VLAN database.
5. Give any VLAN number say 2 here. Include any name (say Add).
6. Select add, select the interface i.e. fastethernet 4/1 (near the switch from router) & make it the trunk.
7. VLAN trunking allows switches to forwards frames from diff. VLAN's over a single link called trunk.

8. This is done by adding an additional header info. called tag to the ethernet frame. The process of adding this small header is called VLAN tagging.
9. Look into the interfaces of the switcher with the 2 NEWVLAN systems
10. This makes the switch understand NEWVLAN.
11. Next the router is to understand the NEWVLAN
12. Config tab of router select VLAN DATABASE enter the number and name of the vlan created
13. In CLI of routers,

Router (vlan) # exit.

Apply completed.

Exiting.

Router # config

Router (config) # interface fast Ethernet 0/0.1

Router (config-subif) #

Router (config-subif) # encapsulation dot1q 2.

Router (config-subif) # ip address 192.168.2.1  
255.255.0.

Router (config-subif) # no shutdown

Router (config-subif) # exit

Router (config) # exit

Result (in PC0)

PC > ping 192.168.20.3

Pinging 192.168.20.3 with 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

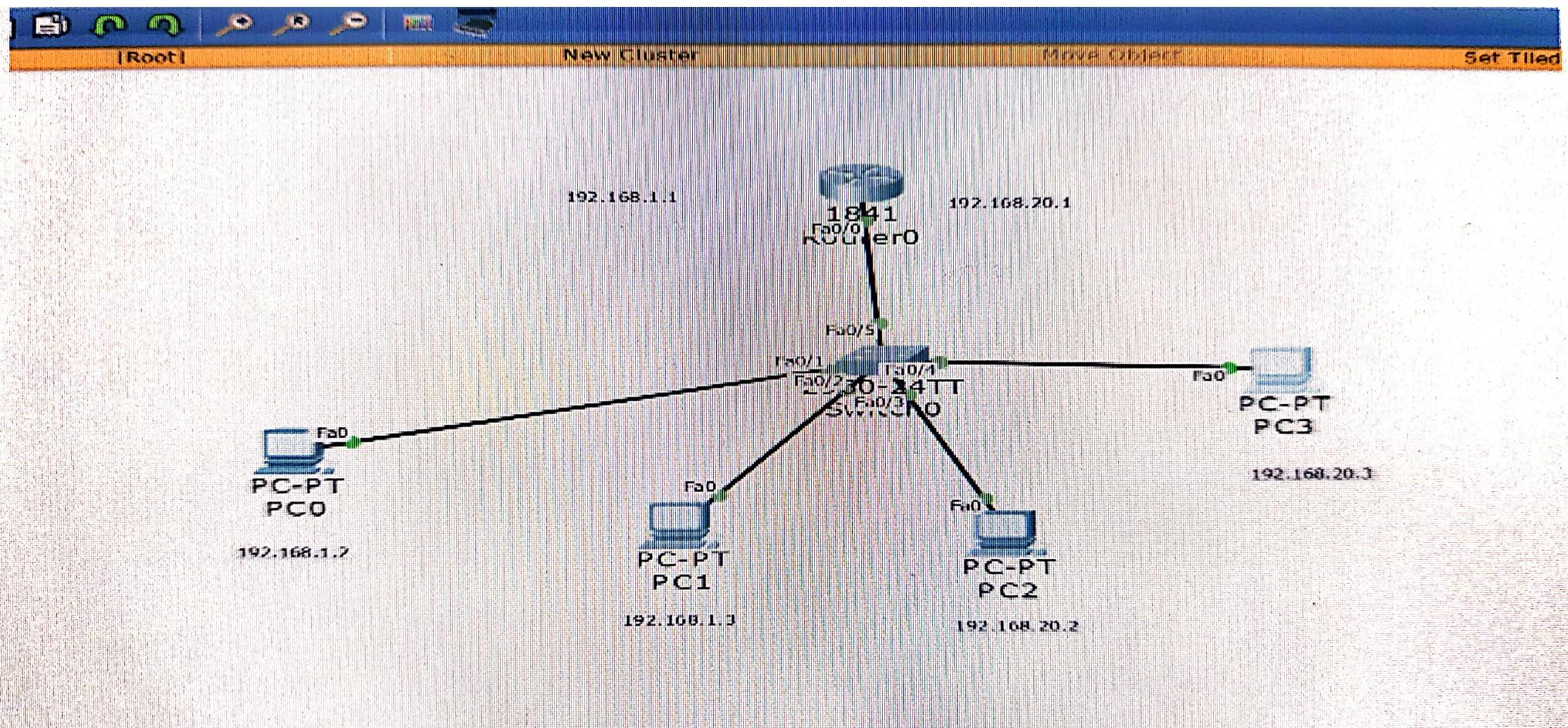
Ping statistics for 192.168.20.3

Packet sent = 4, received = 4, lost = 0 (0% loss)

Approximate round trip times in milliseconds  
minimum = 0ms, maximum = 1ms, Average = 0ms.

### Observation

- (i) VLAN - virtual local area network is any broadcast domain that is partitioned and isolated in a computer network at the datalink layer.
- (ii) It is virtualized connection that connects multiple devices and network nodes from diff. LANs into one logical network.



# Command Prompt

Packet Tracer PC Command Line 1.0  
PC>ping 192.168.20.3

Pinging 192.168.20.3 with 32 bytes of data:

Request timed out.

Reply from 192.168.20.3: bytes=32 time=0ms TTL=127

Reply from 192.168.20.3: bytes=32 time=5ms TTL=127

Reply from 192.168.20.3: bytes=32 time=0ms TTL=127

Ping statistics for 192.168.20.3:

Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 5ms, Average = 1ms

PC>