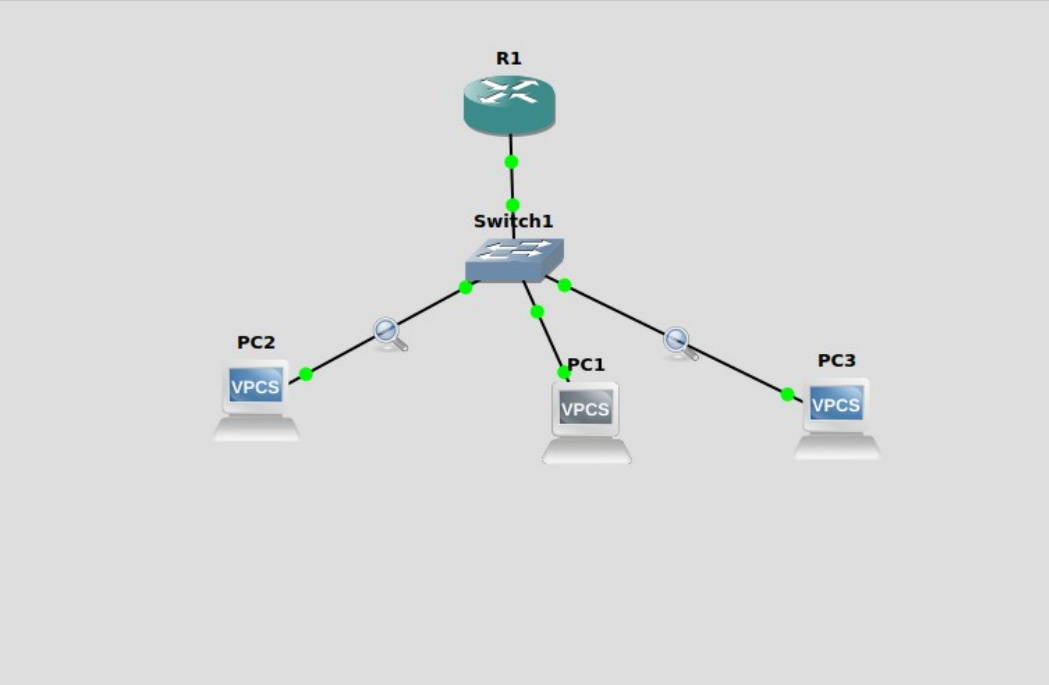
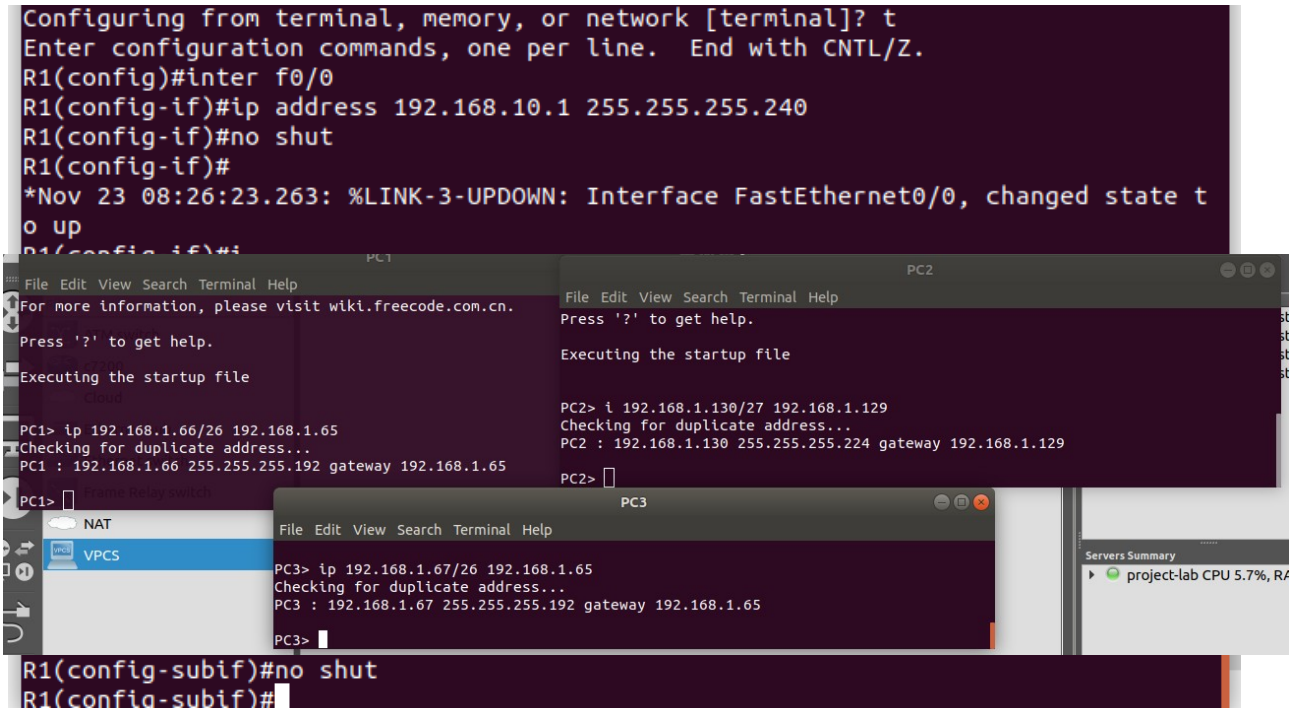
CN Lab7

Rhea Adhikari
190905156
Roll No:23
CSE-D1

Q)



Router R1 configured to have sub interfaces for acccepting multiple VLAN packets on 1 interface itself.
PC1 and PC3 are in VLAN 2
PC2 is in VLAN 3



Successfully pinged the default gateway for PC1:

```
PC1> ping 192.168.1.65

84 bytes from 192.168.1.65 icmp_seq=1 ttl=255 time=30.240 ms
84 bytes from 192.168.1.65 icmp_seq=2 ttl=255 time=4.682 ms
84 bytes from 192.168.1.65 icmp_seq=3 ttl=255 time=9.148 ms
84 bytes from 192.168.1.65 icmp_seq=4 ttl=255 time=9.199 ms
84 bytes from 192.168.1.65 icmp_seq=5 ttl=255 time=9.849 ms

PC1>
```

Successfully pinged PC3 which is in the same VLAN id 2:

```
PC1> ping 192.168.1.67

84 bytes from 192.168.1.67 icmp_seq=1 ttl=64 time=0.941 ms
84 bytes from 192.168.1.67 icmp_seq=2 ttl=64 time=0.647 ms
84 bytes from 192.168.1.67 icmp_seq=3 ttl=64 time=0.916 ms
84 bytes from 192.168.1.67 icmp_seq=4 ttl=64 time=0.956 ms
84 bytes from 192.168.1.67 icmp_seq=5 ttl=64 time=0.862 ms

PC1>
```

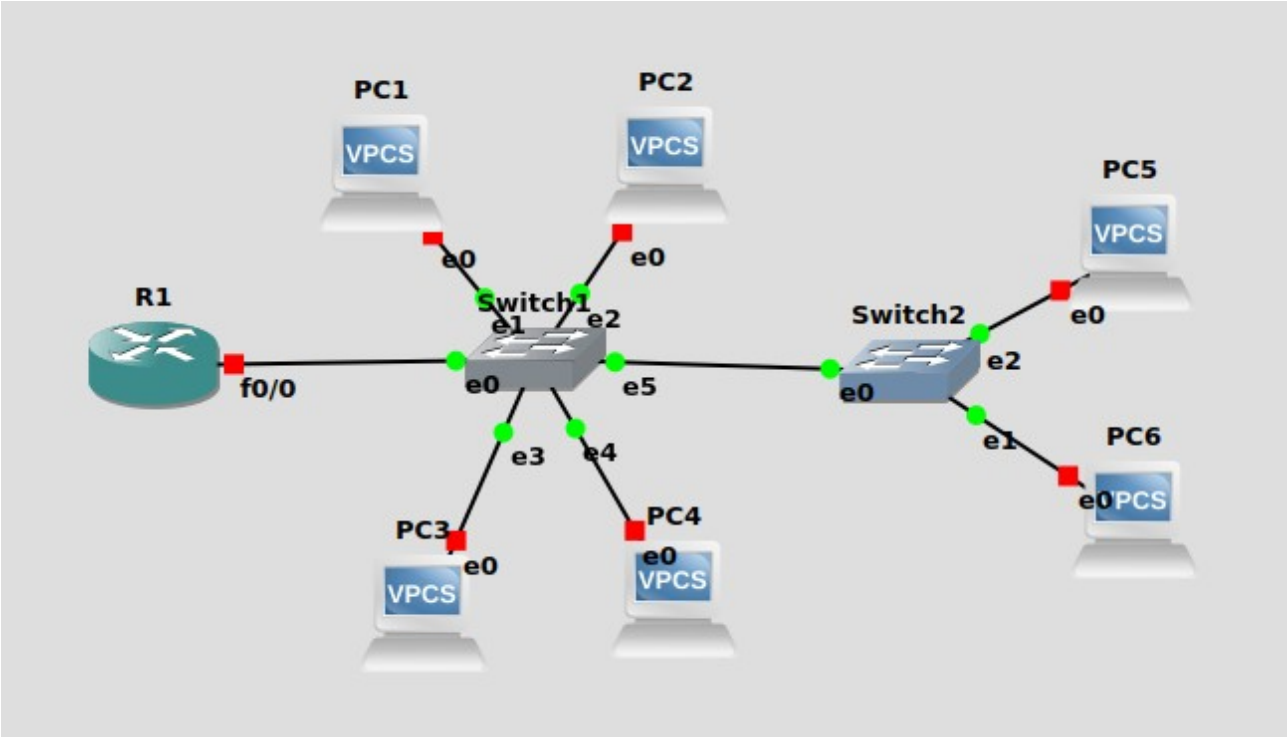
Successfully pinged PC2 from PC1 which is in a different VLAN id

```
PC1> ping 192.168.1.130

192.168.1.130 icmp_seq=1 timeout
84 bytes from 192.168.1.130 icmp_seq=2 ttl=63 time=20.213 ms
84 bytes from 192.168.1.130 icmp_seq=3 ttl=63 time=19.617 ms
84 bytes from 192.168.1.130 icmp_seq=4 ttl=63 time=20.030 ms
84 bytes from 192.168.1.130 icmp_seq=5 ttl=63 time=19.486 ms

PC1>
```

ADDITIONAL EXERCISE (Next Page)



First we configure the switches so that PC1 and PC2 are in VLAN with id 2, PC3 and PC4 are in VLAN with id 10.

```
R1#
R1#config t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int f0/0
R1(config-if)#ip address 192.168.10.1 255.255.255.240
R1(config-if)#no shut
R1(config-if)#
*Nov 23 09:10:53.331: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state t
o up
R1(config-if)#
*Nov 23 09:10:53.331: %ENTITY_ALARM-6-INFO: CLEAR INFO Fa0/0 Physical Port Admin
istrative State Down
*Nov 23 09:10:54.331: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthern
et0/0, changed state to up
R1(config-if)#
```

Configuring the router R1 to have sub interfaces :

```
R1(config-if)#int f0/0.2
R1(config-subif)#encapsulation dot1q 2
R1(config-subif)#ip address 192.168.1.65 255.255.255.192
R1(config-subif)#no shut
R1(config-subif)#int f0/0.3
R1(config-subif)#encapsulation dot1q 3
R1(config-subif)#ip address 192.168.1.129 255.255.255.224
R1(config-subif)#no shut
R1(config-subif)#int f0/0.4
R1(config-subif)#encapsulation dot1q 4
R1(config-subif)#ip address 192.168.1.193 255.255.255.240
R1(config-subif)#no shut
R1(config-subif)#
R1(config-subif)#
```

2 Trunk ports:

We connect the 2 switches using the port 5 in Switch1 and port 0 in Switch2.

This connection acts as the trunk line to allow Switch2’s traffic to reach the router located on Switch1.

Next we configure the router’s port f0/0 to be a trunk port for the 2 VLANs.

From PC1 to PC2 - same VLAN
From PC1 to PC3 - separate VLAN but connected through the same switch
From PC1 to PC5 - separate VLAN, connected through a different switch