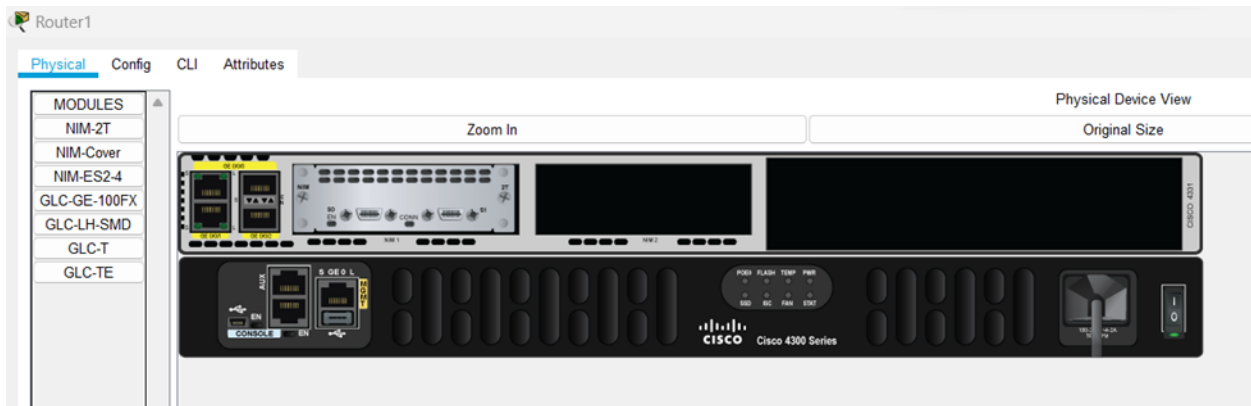**National University of Computer & Emerging Sciences, Karachi**

**Spring -2023**
**CL3001-Computer Networks**
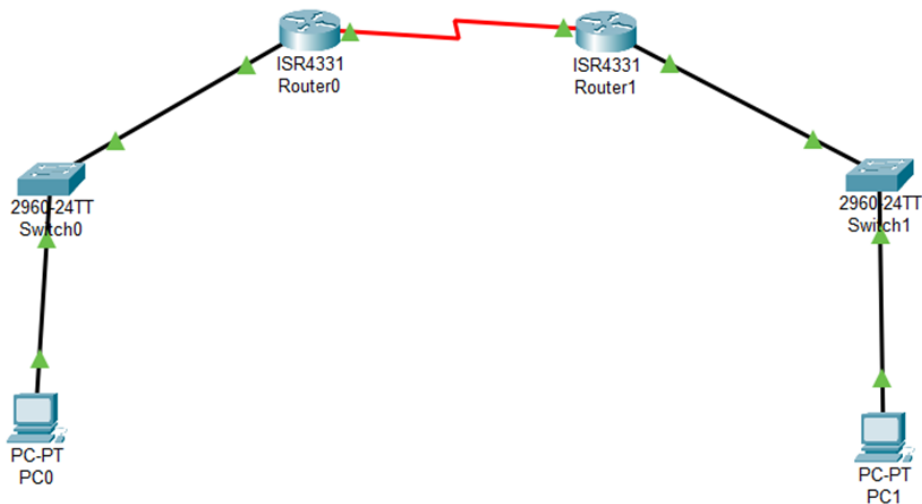**Lab 08**

**Roll No#20K-0190**                                   **Name: Mohamamd Usama**

**Subnetting:**

**Topology:**



**Configuration of Routers:**

**Router 0**

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface s0/1/0
Router(config-if)#ip address 192.168.1.33 255.255.255.224
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/1/0, changed state to down
Router(config-if)#no ip address
Router(config-if)#exit
Router(config)#interface g0/0/0
Router(config-if)#192.168.1.33 255.255.255.224
            ^
% Invalid input detected at '^' marker.

Router(config-if)#ip address 192.168.1.33 255.255.255.224
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed
state to up

Router(config-if)#interface s0/1/0
Router(config-if)#ip address 192.168.1.65 255.255.255.244
Bad mask 0xFFFFFFF4 for address 192.168.1.65
Router(config-if)#ip address 192.168.1.65 255.255.255.224
Router(config-if)#no shutdown
```

**Router 1**

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface s0/1/0
Router(config-if)#ip address 192.168.1.66 255.255.255.224
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to
up

Router(config-if)#interface g0/0/0
Router(config-if)#ip address 192.168.1.97 255.255.255.224
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed
state to up
```

**Subnetting mask to PC-0**

| Interface | FastEthernet0 |
|---|---|
| IP Configuration | |
| ○ DHCP | ◉ Static |
| IPv4 Address | 192.168.1.34 |
| Subnet Mask | 255.255.255.224 |
| Default Gateway | 192.168.1.33 |
| DNS Server | 0.0.0.0 |

**Configuration of PCs:**

**PC-1**

| Interface | FastEthernet0 |
| --- | --- |

IP Configuration

○ DHCP          ● Static

| IPv4 Address | 192.168.1.98 |
| --- | --- |
| Subnet Mask | 255.255.255.224 |
| Default Gateway | 192.168.1.97 |
| DNS Server | 0.0.0.0 |

IPv6 Configuration

**Static route router 0:**

Network Address

192.168.1.96/27 via 192.168.1.66

**Static route router 1:**

Network Address

192.168.1.32/27 via 192.168.1.65

**Ping:**

```
C:\>ping 192.168.1.98

Pinging 192.168.1.98 with 32 bytes of data:

Request timed out.
Reply from 192.168.1.98: bytes=32 time=1ms TTL=126
Reply from 192.168.1.98: bytes=32 time=25ms TTL=126
Reply from 192.168.1.98: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.1.98:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 25ms, Average = 9ms
```