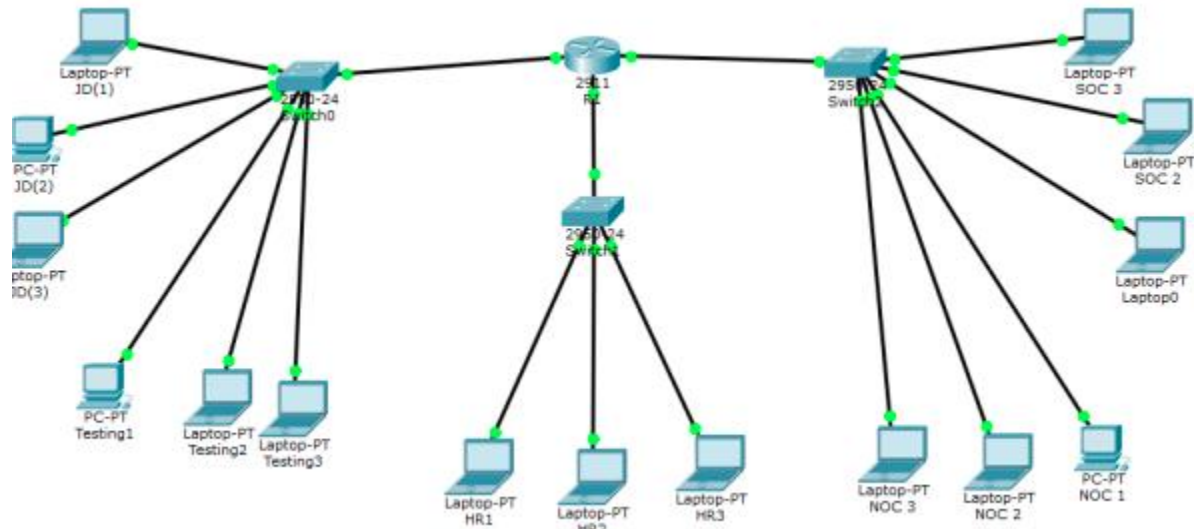# LAB-12

Rao Nauman

P19-0073

Topology:

Subnet for Java Developers and Software testers:

```
Router>en
Router#conf ter
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname R1
R1(config)#int g0/0
R1(config-if)#ip add 192.168.10.1 255.255.255.192
R1(config-if)#no shut

R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

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

R1(config-if)#ex
R1(config)#ip dhcp pool net1
R1(dhcp-config)#network 192.168.10.0 255.255.255.192
R1(dhcp-config)#default-router 192.168.10.1
R1(dhcp-config)#dns-server 192.168.10.1
R1(dhcp-config)#ex
R1(config)#
```

Subnet for the Human Resource Department:

```
R1(config)#int g0/1
R1(config-if)#ip add 192.168.10.65 255.255.255.192
R1(config-if)#no shut

R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state
to up

R1(config-if)#ex
R1(config)#ip dhcp pool p2
R1(dhcp-config)#network 192.168.10.64 255.255.255.192
R1(dhcp-config)#default-router 192.168.10.65
R1(dhcp-config)#dns-server 192.168.10.65
R1(dhcp-config)#ex
R1(config)#
```

Subnet for the Human Resource Department:

```
R1(config)#int g0/2
R1(config-if)#ip add 192.168.10.129 255.255.255.192
R1(config-if)#no shut

R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state
to up

R1(config-if)#ex
R1(config)#ip dhcp pool p3
R1(dhcp-config)#network 192.168.10.128 255.255.255.192
R1(dhcp-config)#default-router 192.168.10.129
R1(dhcp-config)#dns-server 192.168.10.129
R1(dhcp-config)#ex
R1(config)#
```
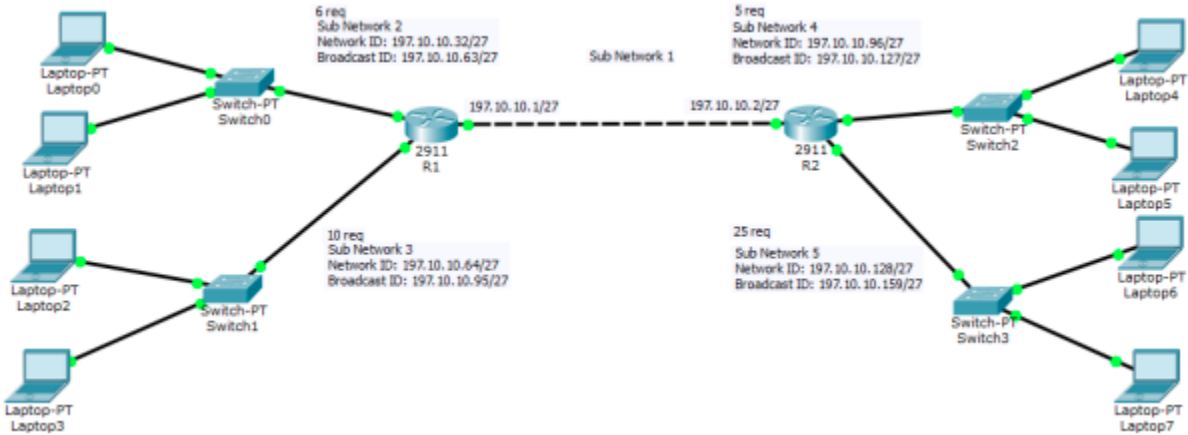
Sending a Packet from Subnet 1 to Subnet 2:

Topology 2:

6 req
Sub Network 2
Network ID: 197.10.10.32/27
Broadcast ID: 197.10.10.63/27

5 req
Sub Network 4
Network ID: 197.10.10.96/27
Broadcast ID: 197.10.10.127/27

Sub Network 1

197.10.10.1/27   197.10.10.2/27

10 req
Sub Network 3
Network ID: 197.10.10.64/27
Broadcast ID: 197.10.10.95/27

25 req
Sub Network 5
Network ID: 197.10.10.128/27
Broadcast ID: 197.10.10.159/27

IP Configuration for R1:

```
R1(config)#int g0/0
R1(config-if)#ip add 197.10.10.1 255.255.255.224
R1(config-if)#no shut

R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

R1(config-if)#ex
R1(config)#int g0/1
R1(config-if)#ip add 197.10.10.33 255.255.255.224
R1(config-if)#no shut

R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state
to up

R1(config-if)#ex
R1(config)#int g0/2
R1(config-if)#ip add 197.10.10.65 255.255.255.224
R1(config-if)#no shut

R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state
to up

R1(config-if)#
```

IP Configuration for R2:

```
R2(config)#int g0/0
R2(config-if)#ip add 197.10.10.2 255.255.255.224
R2(config-if)#no shut

R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

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

R2(config-if)#ex
R2(config)#int g0/1
R2(config-if)#ip add 197.10.10.97 255.255.255.224
R2(config-if)#no shut

R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state
to up

R2(config-if)#ex
R2(config)#int g0/2
R2(config-if)#ip add 197.10.10.129 255.255.255.224
R2(config-if)#no shut

R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state
to up

R2(config-if)#
```

Subnetting for R1:

```
R1(config)#ip dhcp pool subnet2
R1(dhcp-config)#network 197.10.10.32 255.255.255.224
R1(dhcp-config)#default-router 197.10.10.33
R1(dhcp-config)#dns-server 197.10.10.33
R1(dhcp-config)#ex
R1(config)#ip dhcp pool subnet3
R1(dhcp-config)#network 197.10.10.64 255.255.255.224
R1(dhcp-config)#default-router 197.10.10.65
R1(dhcp-config)#dns-server 197.10.10.65
R1(dhcp-config)#ex
R1(config)#
```

Subnetting for R2:

```
R2(config)#ip dhcp pool subnet4
R2(dhcp-config)#network 197.10.10.96 255.255.255.224
R2(dhcp-config)#default-router 197.10.10.97
R2(dhcp-config)#dns-server 197.10.10.97
R2(dhcp-config)#ex
R2(config)#ip dhcp pool subnet5
R2(dhcp-config)#network 197.10.10.128 255.255.255.224
R2(dhcp-config)#default-router 197.10.10.129
R2(dhcp-config)#dns-server 197.10.10.129
R2(dhcp-config)#ex
R2(config)#
```

Static Routing for R1:

```
R1(config)#ip route 197.10.10.96 255.255.255.224 197.10.10.2
R1(config)#ip route 197.10.10.128 255.255.255.224 197.10.10.2
R1(config)#
```

Static Routing for R2:

```
R2(config)#ip route 197.10.10.32 255.255.255.224 197.10.10.1
R2(config)#ip route 197.10.10.64 255.255.255.224 197.10.10.1
R2(config)#
```

Sending packets from Subnet3 to Subnet5 and from Subnet2 to Subnet4: