

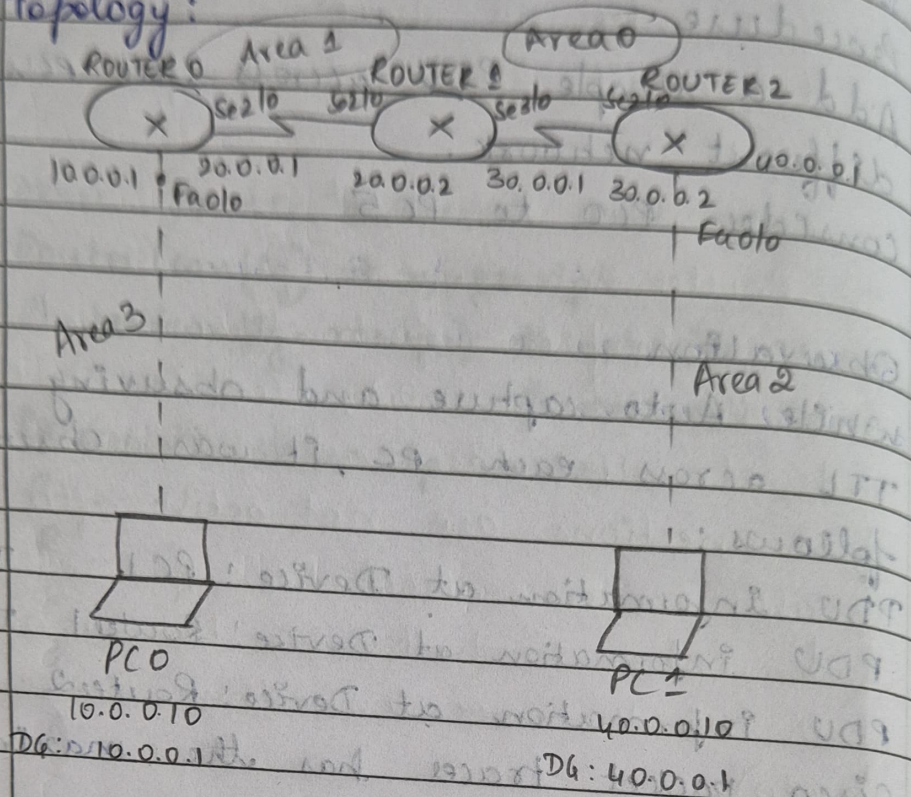
23.11.24

## Experiment - 8

Date  
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Aim: Configure OSPF routing protocol

Topology:



Procedure

Step 1: Create topology like the above diagram with IP address and default gateway for Fa0/0 and S2/10 and S2/10.

Step 2: Configure the IP address to all interfaces.

R0: ip address 10.0.0.1 255.0.0.0 (Fa0/0)

R0: ip address 20.0.0.1 255.0.0.0 (S2/10)

encapsulation ppp.

In router R1

R1: ip address 30.0.0.1/255.0.0.0

clock rate 64000

no shutdown

exit



```

In Router 1
# interface serial 2/0
# ip address 20.0.0.2 255.0.0.0
# encapsulation ppp
# no shutdown
exit
# interface serial 3/0
# ip address 30.0.0.1 255.0.0.0
# encapsulation ppp
# clockrate 64000
# no shutdown
# exit

```

```

In Router 2
# interface fastethernet 0/0
# ip address 40.0.0.1 255.0.0.0
# no shut
# exit
# interface serial 2/0
# ip address 30.0.0.2 255.0.0.0
# encapsulation ppp
# no shutdown
# exit

```

```

In Router 0
# router ospf 1
# router-id 1.1.1.1
# network 10.0.0.0 0.255.255.255 area 3
# network 20.0.0.0 0.255.255.255 area 1
# exit

```

```

In Router 1
# router ospf 1

```



# router-id 2.2.2.2

# network 20.0.0.0 0.255.255.255

# network 30.0.0.0 0.255.255.255

# exit

In router 2

# router ospf 1

# router-id 3.3.3.3

# network 30.0.0.0 0.255.255.255

# network 40.0.0.0 0.255.255.255

# exit

In R1, # show ip route

C

C

O

O

Loopback

In Router R0

# interface loopback 0

# ip add 172.16.1.252 255.255.0.0

# no shutdown

In Router R1

# interface loopback 0

# ip add 172.16.1.253 255.255.0.0

# no shutdown

In Router R2

# interface loopback 0

# ip add 172.16.1.254 255.255.0.0

# no shutdown



```
In router R2
# show ip route
O ...
C ...
C ...
```

Step 4 Create a virtual link between R1, R2

```
In Router R1
# router ospf 1
# area 1 virtual-link 2.2.2.2
```

```
In Router R2
# area 1 virtual-link 1.1.1.1
# exit
```

```
In Router R3
# show ip route
O
C
O
C
```

### Observation

Check connectivity between host 10.0.0.10 to 40.0.0.10

PC > ping 40.0.0.10 (In IP of PC0)

Packets: sent = 4, Received = 4, lost = 0  
(0% loss)

PC > ping 10.0.0.10 (In IP of PC1)  
Packets: sent = 4, Received = 4, lost = 0  
(0% loss)