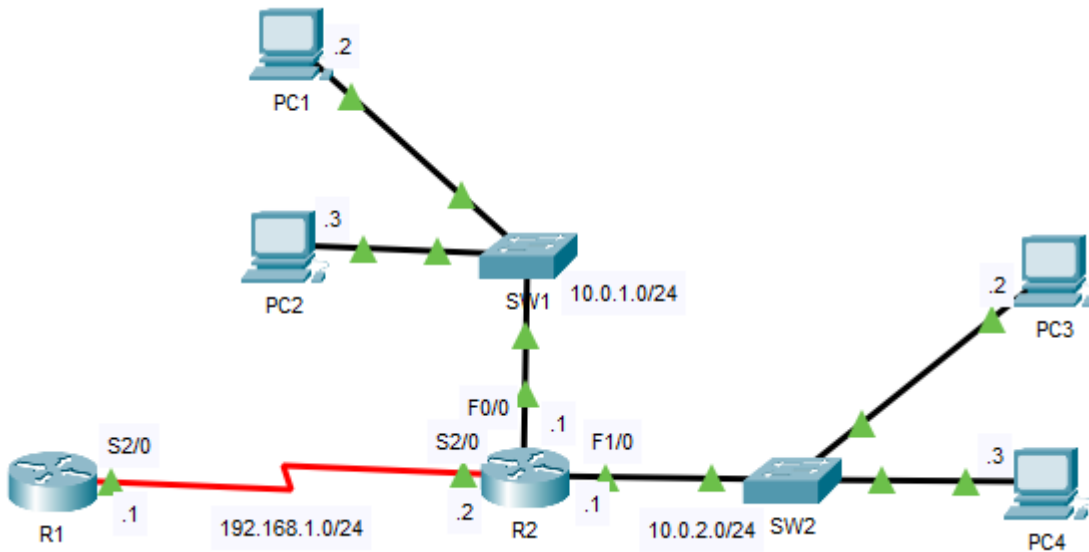


ACTIVITY 27 : RIP (Part 1)



Step 1: Configure RIP (do not enable version 2) on R1 and R2, and advertise the networks on each of their interfaces

```
R1(config)#router rip
R1(config-router)#network 192.168.1.0
```

```
R2(config)#router rip
R2(config-router)#network 192.168.1.0
R2(config-router)#network 10.0.0.0
```

Step 2: After giving time to converge, check the routing table of R1. What route has it learned?

```
R1(config-router)#do show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

R    10.0.0.0/8 [120/1] via 192.168.1.2, 00:00:20, Serial2/0
C    192.168.1.0/24 is directly connected, Serial2/0
```

Step 3: Enable RIP version 2 and disable auto-summary on R1 and R2.

```
R1(config-router)#version 2
R1(config-router)#no auto-summary
```

```
R2(config-router)#version 2
R2(config-router)#no auto-summary
```

Step 4: After time convergence, check the routing table of R1 again. What routes has it learned?

```

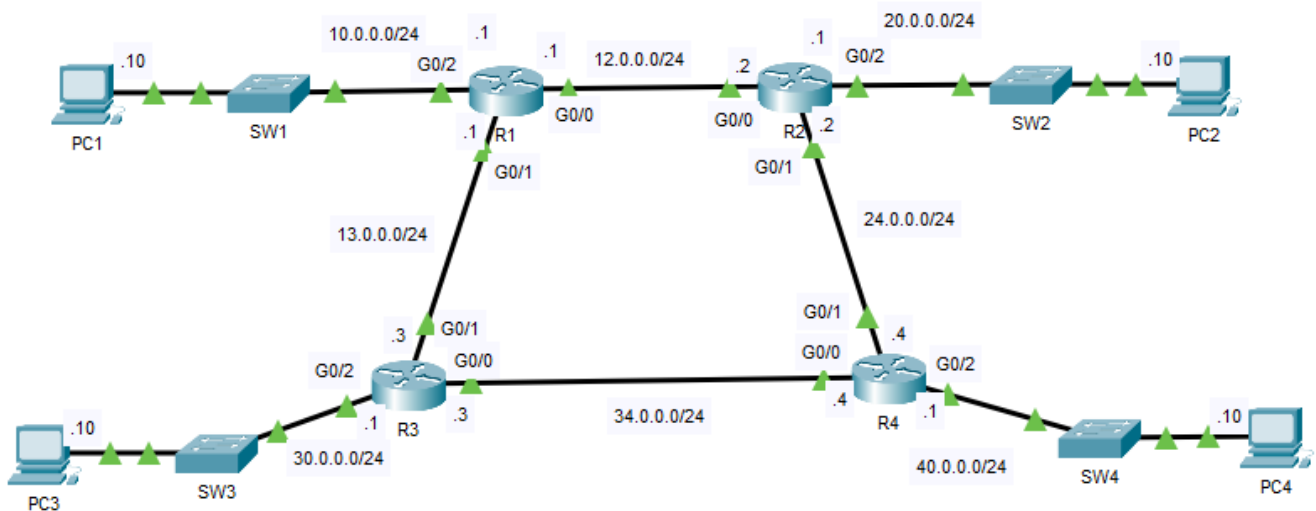
R1(config-router)#do show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

    10.0.0.0/8 is variably subnetted, 3 subnets, 2 masks
R       10.0.0.0/8 [120/1] via 192.168.1.2, 00:00:34, Serial2/0
R       10.0.1.0/24 [120/1] via 192.168.1.2, 00:00:06, Serial2/0
R       10.0.2.0/24 [120/1] via 192.168.1.2, 00:00:06, Serial2/0
C       192.168.1.0/24 is directly connected, Serial2/0

```

ACTIVITY 28 : RIP (Part 2)



- The network has been preconfigured according to the diagram.
- Configure RIPv2 on each router to allow full connectivity throughout the network.
- Disable routing updates on interfaces connected to switches.

<pre> R1(config)#router rip R1(config-router)#version 2 R1(config-router)#no auto-summary R1(config-router)#network 10.0.0.0 R1(config-router)#network 12.0.0.0 R1(config-router)#network 13.0.0.0 R1(config-router)#passive-interface g0/2 </pre>	<pre> R2(config)#router rip R2(config-router)#version 2 R2(config-router)#no auto-summary R2(config-router)#network 20.0.0.0 R2(config-router)#network 12.0.0.0 R2(config-router)#network 24.0.0.0 R2(config-router)#passive-interface g0/2 </pre>
<pre> R3(config)#router rip R3(config-router)#version 2 R3(config-router)#no auto-summary R3(config-router)#network 30.0.0.0 R3(config-router)#network 34.0.0.0 R3(config-router)#network 13.0.0.0 R3(config-router)#passive-interface g0/2 </pre>	<pre> R4(config)#router rip R4(config-router)#version 2 R4(config-router)#no auto-summary R4(config-router)#network 24.0.0.0 R4(config-router)#network 40.0.0.0 R4(config-router)#network 34.0.0.0 R4(config-router)#passive-interface g0/2 </pre>

Routing table on R1

```
Gateway of last resort is not set
```

```
10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    10.0.0.0/24 is directly connected, GigabitEthernet0/2
L    10.0.0.1/32 is directly connected, GigabitEthernet0/2
12.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    12.0.0.0/24 is directly connected, GigabitEthernet0/0
L    12.0.0.1/32 is directly connected, GigabitEthernet0/0
13.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C    13.0.0.0/24 is directly connected, GigabitEthernet0/1
L    13.0.0.1/32 is directly connected, GigabitEthernet0/1
20.0.0.0/24 is subnetted, 1 subnets
R    20.0.0.0/24 [120/1] via 12.0.0.2, 00:00:15, GigabitEthernet0/0
24.0.0.0/24 is subnetted, 1 subnets
R    24.0.0.0/24 [120/1] via 12.0.0.2, 00:00:15, GigabitEthernet0/0
30.0.0.0/24 is subnetted, 1 subnets
R    30.0.0.0/24 [120/1] via 13.0.0.3, 00:00:27, GigabitEthernet0/1
34.0.0.0/24 is subnetted, 1 subnets
R    34.0.0.0/24 [120/1] via 13.0.0.3, 00:00:27, GigabitEthernet0/1
40.0.0.0/24 is subnetted, 1 subnets
R    40.0.0.0/24 [120/2] via 12.0.0.2, 00:00:15, GigabitEthernet0/0
        [120/2] via 13.0.0.3, 00:00:27, GigabitEthernet0/1
```

```
R1(config-router)#
```

All PCs can ping one another:

- PC1 and all PCs

```
C:\>ping 20.0.0.10

Pinging 20.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 20.0.0.10: bytes=32 time=1ms TTL=126
Reply from 20.0.0.10: bytes=32 time<1ms TTL=126
Reply from 20.0.0.10: bytes=32 time<1ms TTL=126
```

```
C:\>ping 30.0.0.10

Pinging 30.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 30.0.0.10: bytes=32 time<1ms TTL=126
Reply from 30.0.0.10: bytes=32 time=1ms TTL=126
Reply from 30.0.0.10: bytes=32 time<1ms TTL=126
```

```
C:\>ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.10: bytes=32 time<1ms TTL=125
Reply from 40.0.0.10: bytes=32 time=10ms TTL=125
Reply from 40.0.0.10: bytes=32 time=1ms TTL=125
```

- PC2 can ping PC3 and PC4

```
C:\>ping 30.0.0.10

Pinging 30.0.0.10 with 32 bytes of data:

Reply from 30.0.0.10: bytes=32 time<1ms TTL=125
Reply from 30.0.0.10: bytes=32 time<1ms TTL=125
Reply from 30.0.0.10: bytes=32 time<1ms TTL=125
Reply from 30.0.0.10: bytes=32 time<1ms TTL=125
```

```
C:\>ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data:

Reply from 40.0.0.10: bytes=32 time<1ms TTL=126
Reply from 40.0.0.10: bytes=32 time<1ms TTL=126
Reply from 40.0.0.10: bytes=32 time=10ms TTL=126
Reply from 40.0.0.10: bytes=32 time<1ms TTL=126
```

- PC3 and PC4 can ping each other

```
C:\>ping 30.0.0.10

Pinging 30.0.0.10 with 32 bytes of data:

Reply from 30.0.0.10: bytes=32 time<1ms TTL=126
Reply from 30.0.0.10: bytes=32 time<1ms TTL=126
Reply from 30.0.0.10: bytes=32 time<1ms TTL=126
Reply from 30.0.0.10: bytes=32 time<1ms TTL=126
```