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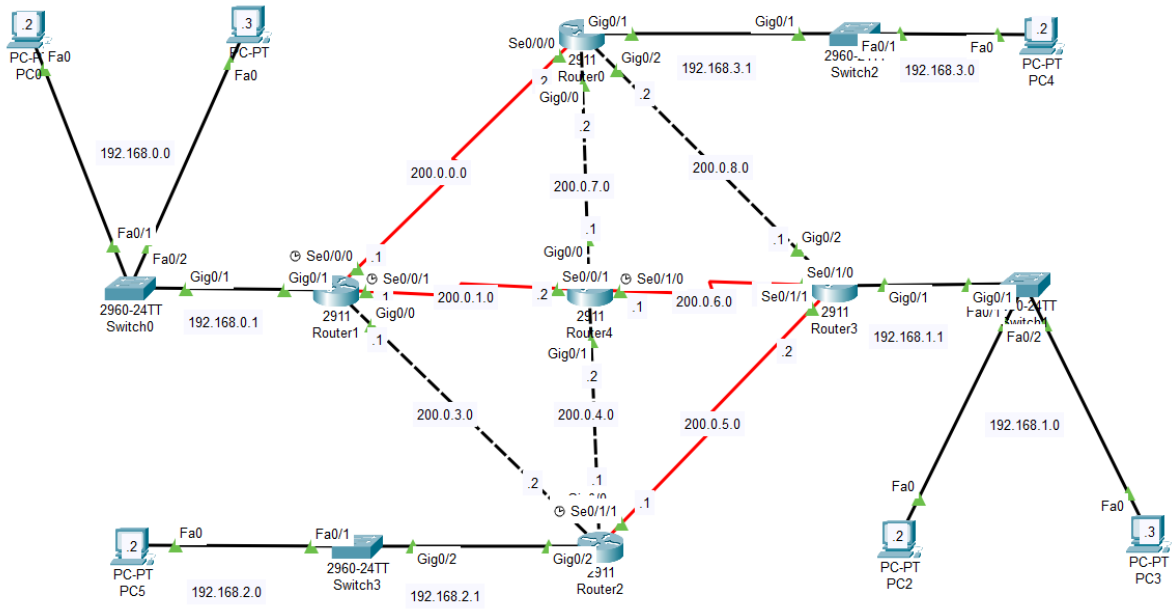
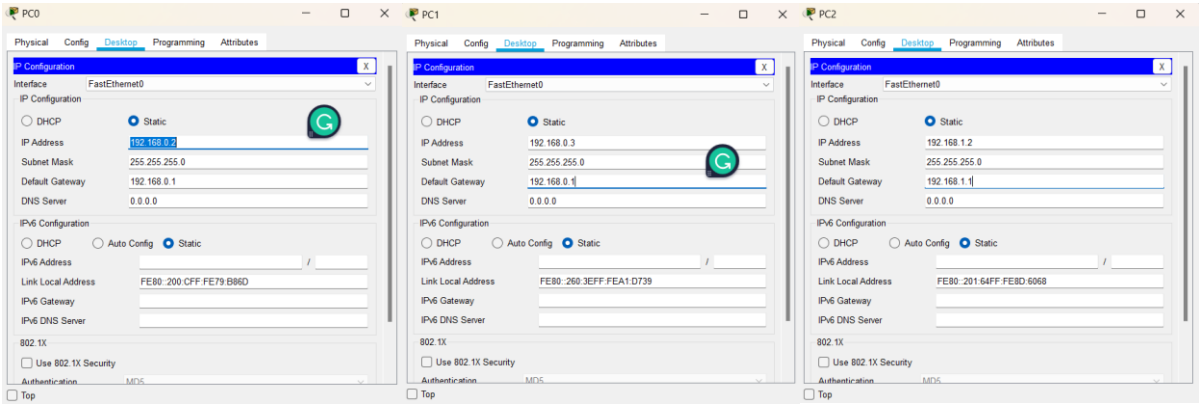
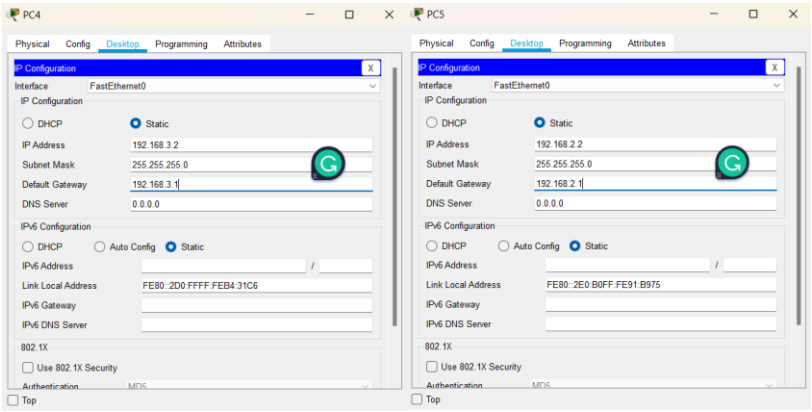
YR. & COURSE: BSCPE 3 IE

Laboratory Activity #5Dynamic Routing Protocol (OSPF)



PC Addressing





Router 1

```
Router#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     200.0.3.1       YES manual up                    up
GigabitEthernet0/1     192.168.0.1     YES manual up                    up
GigabitEthernet0/2     unassigned      YES unset  administratively down down
Serial0/0/0            200.0.0.1       YES manual up                    up
Serial0/0/1            200.0.1.1       YES manual up                    up
Serial0/1/0            unassigned      YES unset  administratively down down
Serial0/1/1            unassigned      YES unset  administratively down down
Serial0/2/0            unassigned      YES unset  administratively down down
Serial0/2/1            unassigned      YES unset  administratively down down
Serial0/3/0            unassigned      YES unset  administratively down down
Serial0/3/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
```

```
Router# show ip route
Codes: L - local, C - connected, S - static, 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

     192.168.0.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.0.0/24 is directly connected, GigabitEthernet0/1
L       192.168.0.1/32 is directly connected, GigabitEthernet0/1
O    192.168.1.0/24 [110/66] via 200.0.0.2, 00:26:50, Serial0/0/0
O    192.168.2.0/24 [110/2] via 200.0.3.2, 00:29:30, GigabitEthernet0/0
O    192.168.3.0/24 [110/65] via 200.0.0.2, 00:27:11, Serial0/0/0
     200.0.0.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.0.0/24 is directly connected, Serial0/0/0
L       200.0.0.1/32 is directly connected, Serial0/0/0
     200.0.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.1.0/24 is directly connected, Serial0/0/1
L       200.0.1.1/32 is directly connected, Serial0/0/1
     200.0.3.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.3.0/24 is directly connected, GigabitEthernet0/0
L       200.0.3.1/32 is directly connected, GigabitEthernet0/0
O    200.0.4.0/24 [110/2] via 200.0.3.2, 00:21:16, GigabitEthernet0/0
O    200.0.5.0/24 [110/65] via 200.0.3.2, 00:29:04, GigabitEthernet0/0
O    200.0.6.0/24 [110/128] via 200.0.1.2, 00:13:10, Serial0/0/1
O    200.0.7.0/24 [110/65] via 200.0.0.2, 00:13:10, Serial0/0/0
                  [110/65] via 200.0.1.2, 00:13:10, Serial0/0/1
O    200.0.8.0/24 [110/65] via 200.0.0.2, 00:26:50, Serial0/0/0
```

Router 1

```
Router#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     200.0.7.2       YES manual up                    up
GigabitEthernet0/1     192.168.3.1     YES manual up                    up
GigabitEthernet0/2     200.0.8.2       YES manual up                    up
Serial0/0/0            200.0.0.2       YES manual up                    up
Serial0/0/1            unassigned      YES unset  administratively down down
Serial0/1/0            unassigned      YES unset  administratively down down
Serial0/1/1            unassigned      YES unset  administratively down down
Serial0/2/0            unassigned      YES unset  administratively down down
Serial0/2/1            unassigned      YES unset  administratively down down
Serial0/3/0            unassigned      YES unset  administratively down down
Serial0/3/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
Router#show ip route
Codes: L - local, C - connected, S - static, 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

O    192.168.0.0/24 [110/65] via 200.0.0.1, 00:28:37, Serial0/0/0
O    192.168.1.0/24 [110/2] via 200.0.8.1, 00:28:17, GigabitEthernet0/2
O    192.168.2.0/24 [110/66] via 200.0.0.1, 00:28:37, Serial0/0/0
     192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.3.0/24 is directly connected, GigabitEthernet0/1
L       192.168.3.1/32 is directly connected, GigabitEthernet0/1
     200.0.0.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.0.0/24 is directly connected, Serial0/0/0
L       200.0.0.2/32 is directly connected, Serial0/0/0
O    200.0.1.0/24 [110/65] via 200.0.7.1, 00:14:36, GigabitEthernet0/0
O    200.0.3.0/24 [110/65] via 200.0.0.1, 00:28:37, Serial0/0/0
O    200.0.4.0/24 [110/66] via 200.0.0.1, 00:22:42, Serial0/0/0
O    200.0.5.0/24 [110/129] via 200.0.0.1, 00:28:37, Serial0/0/0
O    200.0.6.0/24 [110/65] via 200.0.8.1, 00:14:36, GigabitEthernet0/2
                  [110/65] via 200.0.7.1, 00:14:36, GigabitEthernet0/0
     200.0.7.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.7.0/24 is directly connected, GigabitEthernet0/0
L       200.0.7.2/32 is directly connected, GigabitEthernet0/0
     200.0.8.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.8.0/24 is directly connected, GigabitEthernet0/2
L       200.0.8.2/32 is directly connected, GigabitEthernet0/2
```

Router 2

```
Router#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     200.0.3.2       YES manual up                    up
GigabitEthernet0/1     200.0.4.1       YES manual up                    up
GigabitEthernet0/2     192.168.2.1     YES manual up                    up
Serial0/0/0            unassigned      YES unset  administratively down down
Serial0/0/1            unassigned      YES unset  administratively down down
Serial0/1/0            unassigned      YES unset  administratively down down
Serial0/1/1            200.0.5.1       YES manual up                    up
Serial0/2/0            unassigned      YES unset  administratively down down
Serial0/2/1            unassigned      YES unset  administratively down down
Serial0/3/0            unassigned      YES unset  administratively down down
Serial0/3/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
Router#show ip rout
Codes: L - local, C - connected, S - static, 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

O    192.168.0.0/24 [110/2] via 200.0.3.1, 00:31:43, GigabitEthernet0/0
O    192.168.1.0/24 [110/67] via 200.0.3.1, 00:29:07, GigabitEthernet0/0
     192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.2.0/24 is directly connected, GigabitEthernet0/2
L       192.168.2.1/32 is directly connected, GigabitEthernet0/2
O    192.168.3.0/24 [110/66] via 200.0.3.1, 00:29:17, GigabitEthernet0/0
O    200.0.0.0/24 [110/65] via 200.0.3.1, 00:31:43, GigabitEthernet0/0
O    200.0.1.0/24 [110/65] via 200.0.3.1, 00:24:06, GigabitEthernet0/0
     200.0.3.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.3.0/24 is directly connected, GigabitEthernet0/0
L       200.0.3.2/32 is directly connected, GigabitEthernet0/0
     200.0.4.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.4.0/24 is directly connected, GigabitEthernet0/1
L       200.0.4.1/32 is directly connected, GigabitEthernet0/1
     200.0.5.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.5.0/24 is directly connected, Serial0/1/1
L       200.0.5.1/32 is directly connected, Serial0/1/1
O    200.0.6.0/24 [110/129] via 200.0.3.1, 00:15:26, GigabitEthernet0/0
O    200.0.7.0/24 [110/66] via 200.0.3.1, 00:15:36, GigabitEthernet0/0
O    200.0.8.0/24 [110/66] via 200.0.3.1, 00:29:07, GigabitEthernet0/0
```

Router 3

```
Router#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     unassigned      YES unset  administratively down down
GigabitEthernet0/1     192.168.1.1     YES manual up                    up
GigabitEthernet0/2     200.0.8.1       YES manual up                    up
Serial0/0/0            unassigned      YES unset  administratively down down
Serial0/0/1            unassigned      YES unset  administratively down down
Serial0/1/0            200.0.6.2       YES manual up                    up
Serial0/1/1            unassigned      YES manual up                    up
Serial0/2/0            unassigned      YES unset  administratively down down
Serial0/2/1            unassigned      YES unset  administratively down down
Serial0/3/0            unassigned      YES unset  administratively down down
Serial0/3/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
Router#show ip route
Codes: L - local, C - connected, S - static, 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

O    192.168.0.0/24 [110/66] via 200.0.8.2, 00:30:16, GigabitEthernet0/2
     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.1.0/24 is directly connected, GigabitEthernet0/1
L       192.168.1.1/32 is directly connected, GigabitEthernet0/1
O    192.168.2.0/24 [110/67] via 200.0.8.2, 00:30:16, GigabitEthernet0/2
O    192.168.3.0/24 [110/2] via 200.0.8.2, 00:30:16, GigabitEthernet0/2
O    200.0.0.0/24 [110/65] via 200.0.8.2, 00:30:16, GigabitEthernet0/2
O    200.0.1.0/24 [110/66] via 200.0.8.2, 00:16:31, GigabitEthernet0/2
O    200.0.3.0/24 [110/66] via 200.0.8.2, 00:30:16, GigabitEthernet0/2
O    200.0.4.0/24 [110/67] via 200.0.8.2, 00:24:37, GigabitEthernet0/2
O    200.0.5.0/24 [110/130] via 200.0.8.2, 00:30:16, GigabitEthernet0/2
     200.0.6.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.6.0/24 is directly connected, Serial0/1/0
L       200.0.6.2/32 is directly connected, Serial0/1/0
O    200.0.7.0/24 [110/2] via 200.0.8.2, 00:16:41, GigabitEthernet0/2
     200.0.8.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.8.0/24 is directly connected, GigabitEthernet0/2
L       200.0.8.1/32 is directly connected, GigabitEthernet0/2
```

Router 4

```
Router#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     200.0.7.1       YES manual up                    up
GigabitEthernet0/1     unassigned      YES manual up                    up
GigabitEthernet0/2     unassigned      YES unset  administratively down down
Serial0/0/0            unassigned      YES unset  administratively down down
Serial0/0/1            200.0.1.2       YES manual up                    up
Serial0/1/0            200.0.6.1       YES manual up                    up
Serial0/1/1            unassigned      YES unset  administratively down down
Serial0/2/0            unassigned      YES unset  administratively down down
Serial0/2/1            unassigned      YES unset  administratively down down
Serial0/3/0            unassigned      YES unset  administratively down down
Serial0/3/1            unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
Router#show ip route
Codes: L - local, C - connected, S - static, 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

O    192.168.0.0/24 [110/65] via 200.0.1.1, 00:17:37, Serial0/0/1
O    192.168.1.0/24 [110/3] via 200.0.7.2, 00:17:47, GigabitEthernet0/0
O    192.168.2.0/24 [110/66] via 200.0.1.1, 00:17:37, Serial0/0/1
O    192.168.3.0/24 [110/2] via 200.0.7.2, 00:17:47, GigabitEthernet0/0
O    200.0.0.0/24 [110/65] via 200.0.7.2, 00:17:47, GigabitEthernet0/0
     200.0.1.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.1.0/24 is directly connected, Serial0/0/1
L       200.0.1.2/32 is directly connected, Serial0/0/1
O    200.0.3.0/24 [110/65] via 200.0.1.1, 00:17:37, Serial0/0/1
O    200.0.4.0/24 [110/66] via 200.0.1.1, 00:17:37, Serial0/0/1
O    200.0.5.0/24 [110/129] via 200.0.1.1, 00:17:37, Serial0/0/1
     200.0.6.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.6.0/24 is directly connected, Serial0/1/0
L       200.0.6.1/32 is directly connected, Serial0/1/0
     200.0.7.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.0.7.0/24 is directly connected, GigabitEthernet0/0
L       200.0.7.1/32 is directly connected, GigabitEthernet0/0
O    200.0.8.0/24 [110/2] via 200.0.7.2, 00:17:47, GigabitEthernet0/0
```