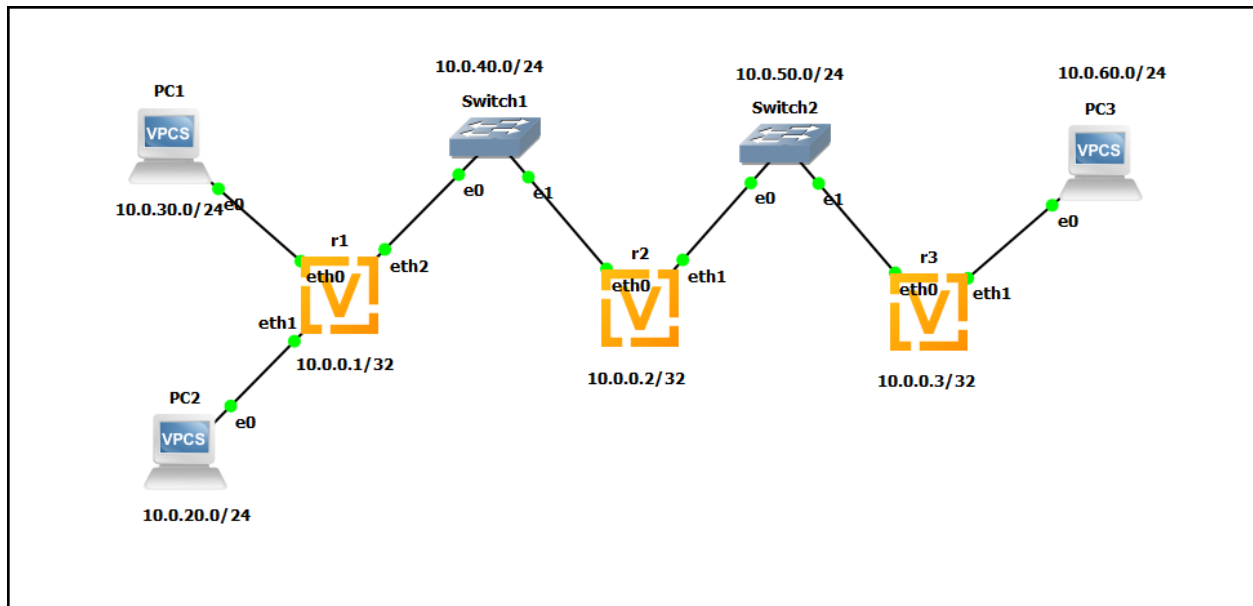


Lab 05: Dynamic Routing via OSPF (Open Shortest Path First)

Part 1: Topology Setup

!/? Question 1 - Submit a screenshot of your topology in your answer document.



Part 2: Setting Interface IP addresses

!/? Question 2 - Submit a screenshot of Router 1's `show interface` report while in operation mode.

```
vyos@vyos:~$ show interface
Codes: S - State, L - Link, u - Up, D - Down, A - Admin Down
Interface      IP Address      S/L  Description
-----
eth0           10.0.30.1/24    u/u
eth1           10.0.20.1/24    u/u
eth2           10.0.40.1/24    u/u
lo             127.0.0.1/8     u/u
              10.0.0.1/32
              ::1/128
vyos@vyos:~$
```

!/? Question 3 - Submit a screenshot of Router 2's `show interface` report while in operation mode.

```
vyos@vyos:~$ show interface
Codes: S - State, L - Link, u - Up, D - Down, A - Admin Down
Interface      IP Address      S/L  Description
-----
eth0           10.0.50.1/24    u/u
eth1           10.0.40.2/24    u/u
eth2           -               u/D
lo             127.0.0.1/8     u/u
              10.0.0.2/32
              ::1/128
vyos@vyos:~$
```

!/? Question 4 - Submit a screenshot of Router 3's `show interface` report while in operation mode.

```
vyos@vyos:~$ show interface
Codes: S - State, L - Link, u - Up, D - Down, A - Admin Down
Interface      IP Address      S/L  Description
-----
eth0           10.0.60.1/24    u/u
eth1           10.0.50.2/24    u/u
eth2           -               u/D
lo             127.0.0.1/8     u/u
              10.0.0.3/32
              ::1/128
vyos@vyos:~$
```

Part 3: OSPF Setup

!? Question 5 - Submit a screenshot of Router 1's `show ip route` routing table while in operation mode.

```
C>* 10.0.0.1/32 is directly connected, lo
O>* 10.0.0.2/32 [110/20] via 10.0.40.2, eth2, 00:00:57
O>* 10.0.0.3/32 [110/20] via 10.0.40.2, eth2, 00:00:14
C>* 10.0.20.0/24 is directly connected, eth1
C>* 10.0.30.0/24 is directly connected, eth0
O 10.0.40.0/24 [110/10] is directly connected, eth2, 00:04:09
C>* 10.0.40.0/24 is directly connected, eth2
O>* 10.0.50.0/24 [110/20] via 10.0.40.2, eth2, 00:00:58
O>* 10.0.60.0/24 [110/20] via 10.0.40.2, eth2, 00:00:14
C>* 127.0.0.0/8 is directly connected, lo
vyos@vyos:~$
```

!? Question 6 - Submit a screenshot of Router 2's `show ip route` routing table while in operation mode.

```
Codes: K - kernel route, C - connected, S - static, R - RIP, O - OSPF
       I - ISIS, B - BGP, > - selected route, * - FIB route

O>* 10.0.0.1/32 [110/20] via 10.0.40.1, eth1, 00:01:07
C>* 10.0.0.2/32 is directly connected, lo
O>* 10.0.0.3/32 [110/20] via 10.0.50.2, eth0, 00:00:24
O>* 10.0.20.0/24 [110/20] via 10.0.40.1, eth1, 00:01:07
O>* 10.0.30.0/24 [110/20] via 10.0.40.1, eth1, 00:01:07
O 10.0.40.0/24 [110/10] is directly connected, eth1, 00:01:21
C>* 10.0.40.0/24 is directly connected, eth1
O 10.0.50.0/24 [110/10] is directly connected, eth0, 00:01:21
C>* 10.0.50.0/24 is directly connected, eth0
O>* 10.0.60.0/24 [110/20] via 10.0.50.2, eth0, 00:00:24
C>* 127.0.0.0/8 is directly connected, lo
vyos@vyos:~$
```

!? Question 7 - Submit a screenshot of Router 3's `show ip route` routing table while in operation mode.

```

Codes: K - kernel route, C - connected, S - static, R - RIP, O - OSPF
      I - ISIS, B - BGP, > - selected route, * - FIB route

O>* 10.0.0.1/32 [110/20] via 10.0.50.1, eth1, 00:01:12
O>* 10.0.0.2/32 [110/20] via 10.0.50.1, eth1, 00:01:12
C>* 10.0.0.3/32 is directly connected, lo
O>* 10.0.20.0/24 [110/20] via 10.0.50.1, eth1, 00:01:12
O>* 10.0.30.0/24 [110/20] via 10.0.50.1, eth1, 00:01:12
O>* 10.0.40.0/24 [110/20] via 10.0.50.1, eth1, 00:01:13
O  10.0.50.0/24 [110/10] is directly connected, eth1, 00:01:23
C>* 10.0.50.0/24 is directly connected, eth1
C>* 10.0.60.0/24 is directly connected, eth0
C>* 127.0.0.0/8 is directly connected, lo
vyos@vyos:~$ ping 10.0.2.1

```

Part 4: Confirming OSPF Configuration

!? Question 8 - Submit a screenshot of Router 3's successful ping response to address 10.0.2.1.

```

C>* 127.0.0.0/8 is directly connected, lo
vyos@vyos:~$ ping 10.0.2.1
connect: Network is unreachable
vyos@vyos:~$ ping 10.0.20.1
PING 10.0.20.1 (10.0.20.1) 56(84) bytes of data.
64 bytes from 10.0.20.1: icmp_req=1 ttl=63 time=1.80 ms
64 bytes from 10.0.20.1: icmp_req=2 ttl=63 time=1.14 ms
64 bytes from 10.0.20.1: icmp_req=3 ttl=63 time=1.38 ms
64 bytes from 10.0.20.1: icmp_req=4 ttl=63 time=1.29 ms
64 bytes from 10.0.20.1: icmp_req=5 ttl=63 time=1.37 ms
64 bytes from 10.0.20.1: icmp_req=6 ttl=63 time=1.41 ms
64 bytes from 10.0.20.1: icmp_req=7 ttl=63 time=1.22 ms
64 bytes from 10.0.20.1: icmp_req=8 ttl=63 time=1.30 ms
^C
--- 10.0.20.1 ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 7013ms

```

Part 5: Submission

Convert your answer document into a .PDF and upload a single `lastname_lab5.pdf` answer document containing all of your answers to the lab questions to Brightspace through the attachment uploads option.