- Advanced OSPF Lab -

**Configuring OSPF Routing – Advanced Lab**

![Diagram of OSPF network with areas and interfaces](image)

**Basic Objectives:**

1. Configure and cable the Serial and Ethernet interfaces as indicated in the above diagram.

2. Configure IP addresses between the routers using the following 192.168.YY.x/24 scheme:

   - Router 1 – 3 = 192.168.13.x
   - Router 2 – 3 = 192.168.23.x
   - Router 3 – 4 = 192.168.34.x
   - Router 4 – 5 = 192.168.45.x
   - Router 4 – 7 = 192.168.47.x
   - Router 5 – 6 = 192.168.56.x
   - Router 7 – 8 = 192.168.78.x
   - Router 7 – 9 = 192.168.79.x
   - Router 9 – 10 = 192.168.109.x
   - Router 9 - 11 = 192.168.119.x

3. Configure a loopback interface on each router. The interface should have an address using the following scheme: Y.Y.Y.Y/24. For example, Router 4’s loopback should be 4.4.4.4/24.
**OSPF Objectives:**

4. Configure OSPF on all routers. Use whatever process ID you wish.

5. Manually set the OSPF router-ID on your router to your loopback IP.

6. Place each interface on your router into the Area specified by the diagram. Place loopback interfaces in whatever area is easiest.
Configuring OSPF Routing – Advanced Lab (continued)

OSPF Objectives:

7. Configure OSPF md5 authentication throughout your OSPF domain. Use a key of “CISCO” between all neighbors.

8. Area 123 and Area 8 should not accept Type 3, 4, or 5 LSAs. Area 56 and Area 1011 should not accept Type 4 or 5 LSAs. However, all areas should accept Type 7 LSA’s.
**Configuring OSPF Routing – Advanced Lab (continued)**

**OSPF Objectives:**

9. Ensure that all networks are reachable.

10. On each router, create a loopback interface with the following address 66.XX.1.1/16, where XX is your router number.

11. Create static routes on each router to the following networks, and set a next hop of 66.XX.1.2:

   77.XX.0.0/24, 77.XX.1.0/24, 77.XX.2.0/24, 77.XX.3.0/24
Configuring OSPF Routing – Advanced Lab (continued)

OSPF Objectives:

12. Distribute these static routes into the OSPF process. Check your routing tables to ensure these routes have propagated.

13. Configure OSPF to summarize these redistributed routes into a single route. However, you still want the 77.XX.1.0 network to be advertised individually.

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