OSPF ADVANCED LAB

Redistributed External Routes
100.10.1.0/24
100.10.2.0/24
100.10.3.0/24
100.10.4.0/24

R11 Area 40 Loopbacks
172.16.0.0/24
172.16.1.0/24
172.16.2.0/24
172.16.3.0/24

OSPF Network Types:
Area 0 : Non-Broadcast
Area 57 : Point-to-Point
Area 68 : Hybrid Area
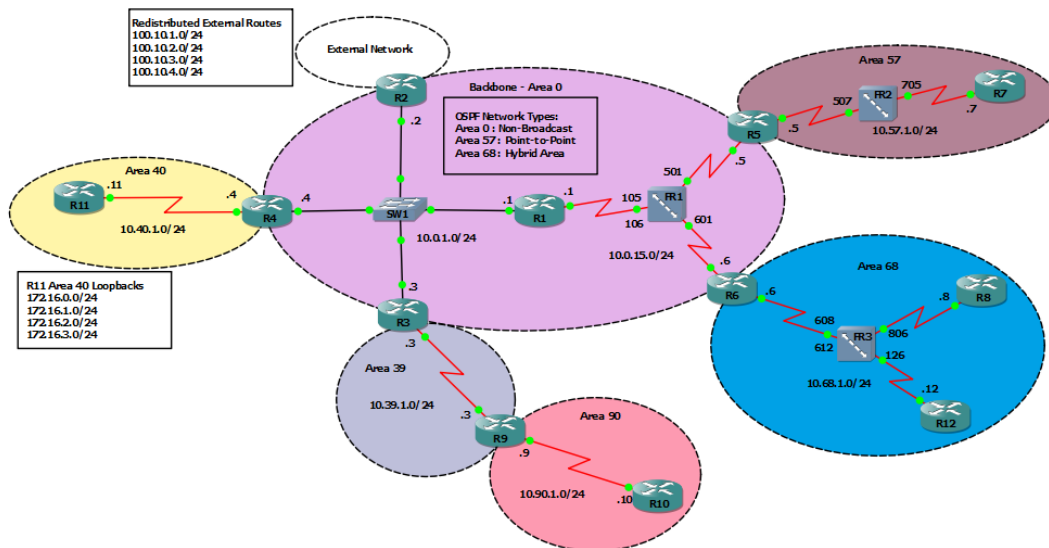
1. Configure OSPF for Area 0 on Router 1 - 4 and advertise the loopback addresses into OSPF

2. Make sure all routers should have Loopback 0 addresses to be selected as Router ID.

3. OSPF should never form neighbour relationship on any interface where other OSPF Network do not exist.

4. Make sure OSPF Area 0 uses MD5 Authentication for Neighbor Relationship.

5. Router 2 will act as an ASBR by redistributing series of Static routes into OSPF. Make sure that these routes should not increment their metric as they pass through the routers and also that they have the initial Cost of 250.

6. Make sure R1 will become DR for the Ethernet segment and R2 will become the BDR. R3 and R4 should never become the DR or BDR.

7. Implement summarization at the ASBR in the network to make routing table as efficient as possible.

8. Make sure that OSPF should accurately measure the metric when the network will be upgraded to the Gigabit Ethernet in Future.

9. Now Configure OSPF for rest of the routers in Area 0 (Router R1, R5 and R6) being Default OSPF Network Type and Area 57 using the Point-to-Point Network Type.

10. Configure Router R6 interface towards Area 68 for RFC standard Point-to-Multipoint mode. R8 and R12 must use default OSPF Mode.

11. Make sure you advertise Loopback 0 interface in OSPF in Area 0, Area 57 and Area 68.

12. Make sure appropriate DR and BDR must be selected throughout the Network.

13. So far you should have full connectivity between Area 0, Area 57 and Area 68.

14. Implement OSPF on Area 40 and advertised the required loopback addresses into OSPF

15. Implement Summary Route at ABR for Area 40 to make routing table as efficient as possible.

16. Make sure Area 57 should not receive routes for network outside OSPF System. They should be able to reach rest of OSPF Network using Default Route.

17. Area 40 should not receive any Type 3, 4 or 5 LSA from rest of the OSPF network.

18. You should be able to have connectivity throughout the domain including Router in Area 90.

19. Create another Loopback on R2:
    Loopback 10: 172.16.10.1/24

20. You are not allowed to advertise this Loopback in OSPF or by Redistribution. You need to make sure that all other router can reach this Network

===