CCIE Enterprise Infrastructure v1.0 Bootcamp Labs - BGP

1. IGP
   - 1.1. Configure OSPF Area 0 between R1, R2, R3, R4, and R5.
   - 1.2. Advertise their Loopback0 networks into Area 0.

2. IGP
   - 2.1. Configure OSPF Area 0 between R7, R8, R9, and SW6.
   - 2.2. Advertise their Loopback0 networks into Area 0.

3. IGP
   - 3.1. Configure EIGRP between R10, R11, R12, and SW1.
   - 3.2. Advertise their Loopback0 networks into the EIGRP process.

4. iBGP Peerings
   - 4.1. Configure AS 12345 between R1, R2, R3, R4, and R5.
   - 4.2. Use R1 as the central peering point.
   - 4.3. Source the iBGP sessions from the routers' Loopback0 interfaces.
   - 4.4. Advertise the Loopback0 interfaces into BGP.

5. iBGP Peerings
   - 5.1. Configure AS 789 between R7, R8, R9, and SW6.
   - 5.2. Configure a full mesh of iBGP peerings between these devices.
   - 5.3. Advertise the Loopback0 interfaces into BGP with an Origin code of Incomplete.

6. iBGP Peerings
   - 6.1. Configure AS 10.1112 between R10, R11, R12, and SW1.
   - 6.2. SW1 should be the Route Reflector for this AS.
   - 6.3. Use a template of configuration on SW1 that can be applied to future routers added to this AS.
   - 6.4. Advertise the Loopback0 interfaces into BGP.

7. Confederation
   - 7.1. Configure R13, SW2, SW3, SW4, and SW5 in Confederation.
   - 7.2. Use the public AS 13.
   - 7.3. R13 should be in sub-AS 65013.
   - 7.4. SW2 and SW3 should be in sub-AS 65023.
   - 7.5. SW4 and SW5 should be in sub-AS 65045.
   - 7.6. Peer between R13 & SW2, SW2 & SW3, SW2 & SW4, and SW4 & SW5.
   - 7.7. Advertise the Loopback0 interfaces into BGP.

9. EBGP Peerings
    9.1. R6 is in AS 6 and R14 is in AS 14.
    9.2. Peer AS 12345 to AS 6, AS 13, both connections to AS 789, and to AS 10.1112.
    9.3. Peer AS 13 to AS 10.1112.
    9.4. Peer AS 14 to AS 13 and AS 789.
    9.5. Advertise R6 and R14's Loopback0 interfaces into BGP.

10. BGP Security
    10.1. Authenticate the BGP peering between R2 and R6 with the password CISCOBGP.

11. BGP Security
    11.1. Configure R8 to only accept the peering to R14 if it is verified that R14 is only 1 hop away.

12. BGP Bestpath Selection
    12.1. Configure AS 12345 so that it prefers to use R8 as the exit point to reach AS 789.

13. BGP Bestpath Selection
    13.1. Configure AS 13 so that traffic is preferred to enter from AS 10.1112.

14. BGP Aggregation
    14.1. Configure AS 10.1112 to advertise a single route for R10, R11, and R12's Loopback0 networks.

15. BGP Aggregation Traffic Engineering
    15.1. Configure AS 10.1112 so that traffic for R12's Loopback0 prefers to enter via AS 13.
    15.2. If this peering is down traffic should still be able to enter via AS 12345.

17. BGP Conditional Advertisement
    17.1. Configure AS 14 to advertise its Loopback0 interface only to R8.
    17.2. If the peering to R8 is down, then its Loopback0 interface should be advertised to R13.

18. BGP Outbound Route Filtering
    18.1. Configure BGP ORF on R2 towards R6.
    18.2. R6 should only have specific routes to the Loopback0 networks of AS 12345.
    18.3. R6 should use a default route for all other destinations.

19. BGP Communities
    19.1. Using BGP Communities, configure AS 789 so that SW6's Loopback0 network does not get advertised beyond AS 12345.
20. IPv6 BGP
    20.1. Configure IPv6 BGP peerings within AS 12345 with R1 as the Route Reflector.
    20.2. Advertise the IPv6 Loopback0 interfaces into BGP.

21. IPv6 BGP
    21.1. Configure a full mesh of IPv6 BGP peerings within AS 789.
    21.2. Advertise the IPv6 Loopback0 interfaces into BGP.

22. IPv6 EBGP Peerings
    22.1. Peer IPv6 BGP on both links between AS 12345 and AS 789.

23. IPv6 BGP Bestpath Selection
    23.1. Configure AS 12345 so that the preferred entry and exit point for all IPv6 traffic is via R8.
    23.2. If the peering to R8 is down, traffic should reroute to the peering to R7.