

## CCIE Enterprise Infrastructure v1.0 Bootcamp Labs - DMVPN

1. IGP
  - 1.1. Configure EIGRP AS 1 on all physical interfaces of all routers, plus the SVIs of the switches.
  - 1.2. Advertise their Loopback0 networks into EIGRP.
2. DMVPN
  - 2.1. Configure a DMVPN tunnel with R7 and R8 as the hubs, and R10, R11, R12, and R13 as the spokes.
  - 2.2. Use the following Phase 1 IPsec parameters:
    - 2.2.1. Authentication: Pre-Share
    - 2.2.2. Encryption: AES
    - 2.2.3. Group: 14
    - 2.2.4. Hash: SHA
  - 2.3. Use a single authentication key for all of the peers.
  - 2.4. Use the following Phase 2 IPsec parameters:
    - 2.4.1. Encryption: AES
    - 2.4.2. Hash: SHA
  - 2.5. Do not add an additional IP header for the IPsec tunnel.
  - 2.6. Use the subnet 192.168.100.0/24 for IP addressing.
3. OSPF over DMVPN
  - 3.1. Configure OSPF Area 0 over the DMVPN tunnel, and advertise the Loopback1 interfaces into OSPF.
  - 3.2. There should not be an OSPF DR/BDR election on the tunnel.
  - 3.3. Configure the tunnel so that the spokes can route directly to each other without having to send their traffic to the hub.
4. EIGRP over DMVPN
  - 4.1. Set the Administrative Distance of OSPF to 255 so its routes are no longer installed.
  - 4.2. Configure an EIGRP process named DMVPN over the DMVPN tunnel, and advertise the Loopback1 interfaces into EIGRP.
  - 4.3. The Hubs should advertise only a default route to the spokes through EIGRP.
  - 4.4. Configure the tunnel so that the spokes can route directly to each other without having to send their traffic to the hub.

6. BGP over DMVPN

- 6.1. Set the Administrative Distance of both the OSPF and EIGRP processes to 255 so that their routes are no longer installed over the DMVPN.
- 6.2. Configure BGP AS 100 on the DMVPN hub and spokes.
- 6.3. Configure the Hubs in a way that they do not need specific neighbor statements pointing to the Spokes.
- 6.4. Configure the Spokes to peer BGP with the Hubs.
- 6.5. Advertise the Loopback1 interfaces into BGP.
- 6.6. Configure the tunnel so that the spokes can route directly to each other without having to send their traffic to the hub.

7. IPv6 over DMVPN

- 7.1. Configure the IPv6 subnet 2001:192:168:100::/64 over the DMVPN tunnel.
- 7.2. Peer IPv6 BGP from the Spokes to the Hub.
- 7.3. Advertise the IPv6 Loopback0 network into the BGP process.
- 7.4. Once complete you should have IPv6 reachability to the Loopback0 networks, and dynamic spoke to spoke tunnels should be supported.