LAB12: Named EIGRP – IPv4
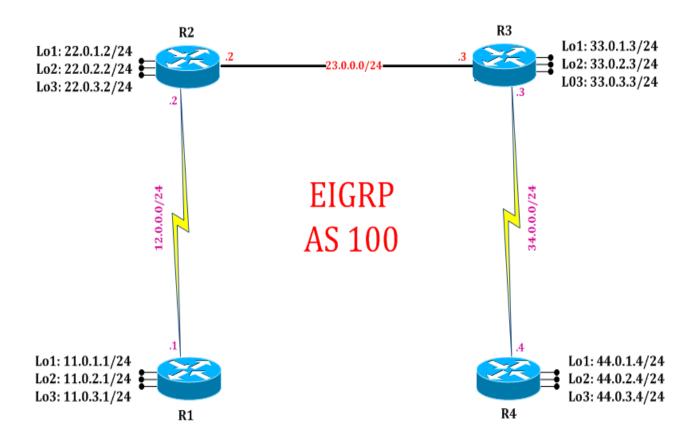
Disclaimer

LAB 12: Diagram

Note: This Lab was developed on Cisco IOS Version15.2(4) M1 ADVENTERPRISEK9-M.

LAB 12: EIGRP Stub using named configuration

Task 1: Configure EIGRP Stub using named configuration

Step 1 In the configuration mode of router configure IPv4 EIGRP process with a name & enter address-family interface mode

R1:
router eigrp cisco
address-family ipv4 autonomous-system 100
network 12.0.0.1 255.255.255.0
network 11.0.1.1 255.255.255.0
network 11.0.2.1 255.255.255.0
network 11.0.3.1 255.255.255.0

R2:
router eigrp cisco
address-family ipv4 autonomous-system 100
network 12.0.0.2 255.255.255.0
network 23.0.0.2 255.255.255.0
network 22.0.1.2 255.255.255.0
network 22.0.2.2 255.255.255.0
network 22.0.3.2 255.255.255.0
exit

R3:
router eigrp cisco
address-family ipv4 autonomous-system 100
network 34.0.0.3 255.255.255.0
network 23.0.0.3 255.255.255.0
network 33.0.1.3 255.255.255.0
network 33.0.2.3 255.255.255.0
network 33.0.3.3 255.255.255.0
exit

R4:
router eigrp cisco
address-family ipv4 autonomous-system 100
network 34.0.0.4 255.255.255.0
network 44.0.1.4 255.255.255.0
network 44.0.2.4 255.255.255.0
network 44.0.3.4 255.255.255.0
exit

Step 2   Configure EIGRP stub with connected option

R1:
router eigrp cisco
address-family ipv4 autonomous-system 100
eigrp stub ?
connected   Do advertise connected routes
leak-map   Allow dynamic prefixes based on the leak-map
receive-only   Set receive only neighbor
redistributed   Do advertise redistributed routes
static   Do advertise static routes
summary   Do advertise summary routes

eigrp stub connected
exit

Step 3   Configure EIGRP stub with connected static option

R1:
router eigrp cisco
address-family ipv4 autonomous-system 100
eigrp stub static
exit

Step 4   Configure EIGRP stub with receive only option

R1:
router eigrp cisco
address-family ipv4 autonomous-system 100
eigrp stub receive-only
exit

Task 2: Verification:

Step 1   Verify route in neighbors router routing table by following command:

R2#show ip route

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
    D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
    N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
    E1 - OSPF external type 1, E2 - OSPF external type 2
    i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
    ia - IS-IS inter area, * - candidate default, U - per-user static route
    o - ODR, P - periodic downloaded static route, H - NHRP, l - LISP
    + - replicated route, % - next hop override

Gateway of last resort is not set

```
        12.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       12.0.0.0/24 is directly connected, Serial2/0
L       12.0.0.2/32 is directly connected, Serial2/0
        22.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
C       22.0.1.0/24 is directly connected, Loopback1
L       22.0.1.2/32 is directly connected, Loopback1
C       22.0.2.0/24 is directly connected, Loopback2
L       22.0.2.2/32 is directly connected, Loopback2
C       22.0.3.0/24 is directly connected, Loopback3
L       22.0.3.2/32 is directly connected, Loopback3
        23.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       23.0.0.0/24 is directly connected, Ethernet0/0
L       23.0.0.2/32 is directly connected, Ethernet0/0
        33.0.0.0/24 is subnetted, 3 subnets
D       33.0.1.0 [90/1024640] via 23.0.0.3, 00:11:22, Ethernet0/0
D       33.0.2.0 [90/1024640] via 23.0.0.3, 00:11:22, Ethernet0/0
D       33.0.3.0 [90/1024640] via 23.0.0.3, 00:11:22, Ethernet0/0
        34.0.0.0/24 is subnetted, 1 subnets
D       34.0.0.0 [90/14068062] via 23.0.0.3, 00:11:22, Ethernet0/0
        44.0.0.0/24 is subnetted, 3 subnets
D       44.0.1.0 [90/14068702] via 23.0.0.3, 00:11:22, Ethernet0/0
D       44.0.2.0 [90/14068702] via 23.0.0.3, 00:11:22, Ethernet0/0
D       44.0.3.0 [90/14068702] via 23.0.0.3, 00:11:22, Ethernet0/0
```

Step 2   Configure no auto summary

R1:
```
router eigrp cisco
address-family ipv4 autonomous-system 100
topology base
no auto-summary
```

Step 3   Verify routes on neighbor router routing table

R2#show ip route

```
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       o - ODR, P - periodic downloaded static route, H - NHRP, l - LISP
       + - replicated route, % - next hop override

Gateway of last resort is not set
```

```
        12.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       12.0.0.0/24 is directly connected, Serial2/0
L       12.0.0.2/32 is directly connected, Serial2/0
        22.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
C       22.0.1.0/24 is directly connected, Loopback1
L       22.0.1.2/32 is directly connected, Loopback1
C       22.0.2.0/24 is directly connected, Loopback2
L       22.0.2.2/32 is directly connected, Loopback2
C       22.0.3.0/24 is directly connected, Loopback3
L       22.0.3.2/32 is directly connected, Loopback3
        23.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       23.0.0.0/24 is directly connected, Ethernet0/0
L       23.0.0.2/32 is directly connected, Ethernet0/0
        33.0.0.0/24 is subnetted, 3 subnets
D       33.0.1.0 [90/1024640] via 23.0.0.3, 00:00:58, Ethernet0/0
D       33.0.2.0 [90/1024640] via 23.0.0.3, 00:00:58, Ethernet0/0
D       33.0.3.0 [90/1024640] via 23.0.0.3, 00:00:58, Ethernet0/0
        34.0.0.0/24 is subnetted, 1 subnets
D       34.0.0.0 [90/14068062] via 23.0.0.3, 00:00:58, Ethernet0/0
        44.0.0.0/24 is subnetted, 3 subnets
D       44.0.1.0 [90/14068702] via 23.0.0.3, 00:00:58, Ethernet0/0
D       44.0.2.0 [90/14068702] via 23.0.0.3, 00:00:58, Ethernet0/0
D       44.0.3.0 [90/14068702] via 23.0.0.3, 00:00:58, Ethernet0/0
```