

LAB12: Named EIGRP – IPv4

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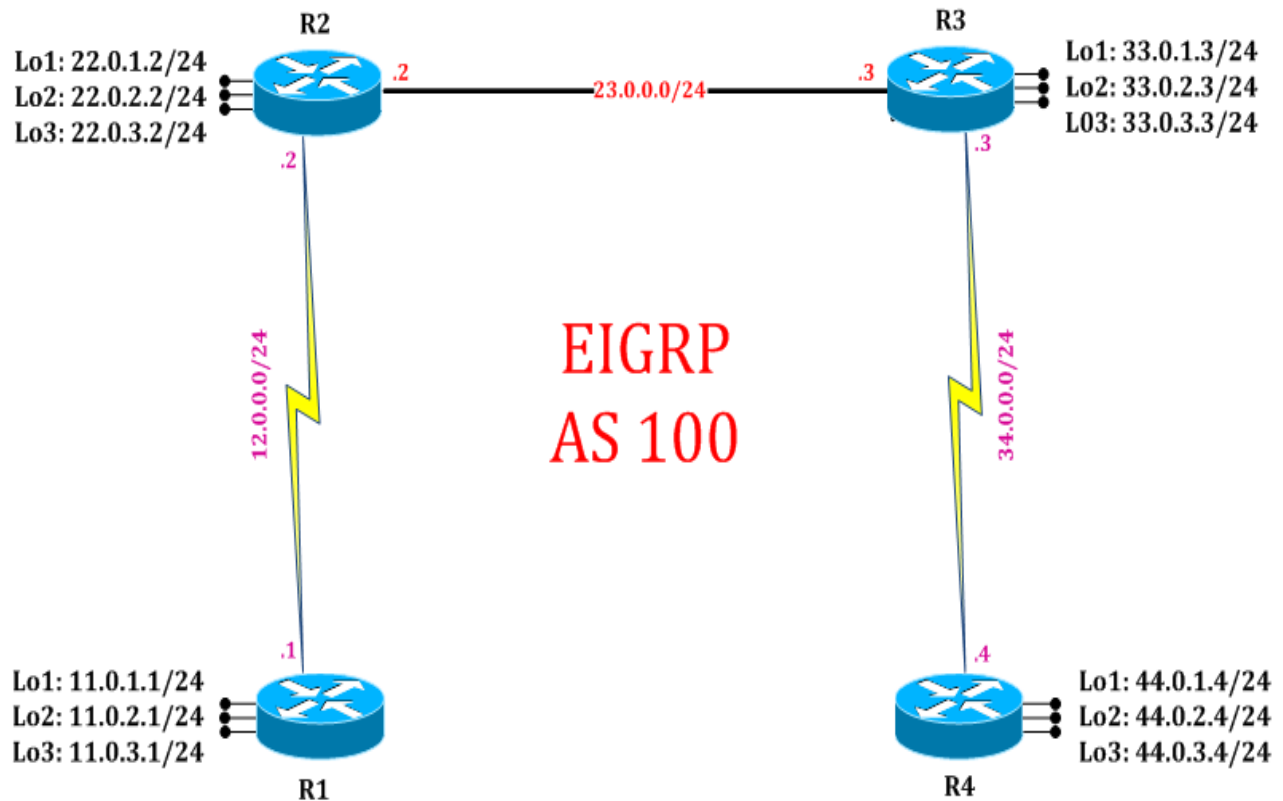
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EIGRP: Stub

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LAB 12: Diagram

Note: This Lab was developed on Cisco IOS Version 15.2(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