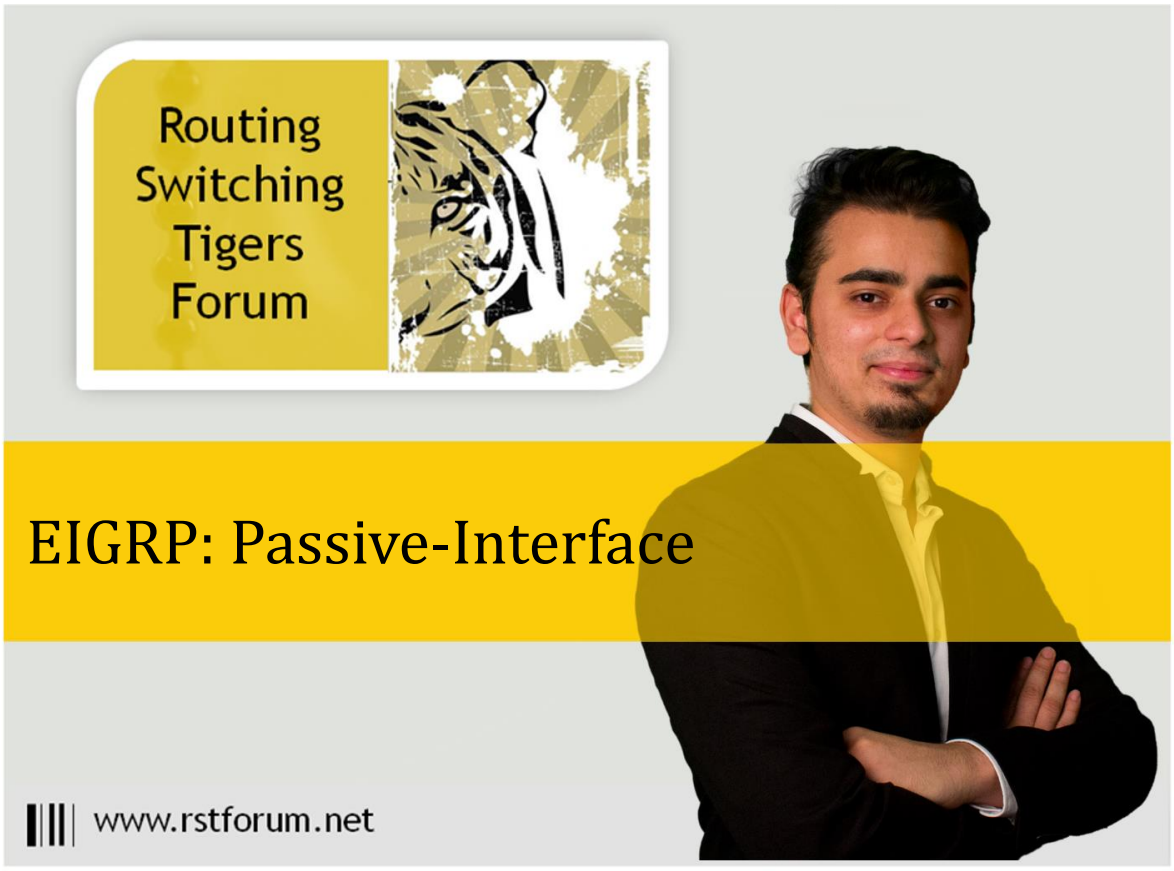
LAB18: EIGRP – IPv6

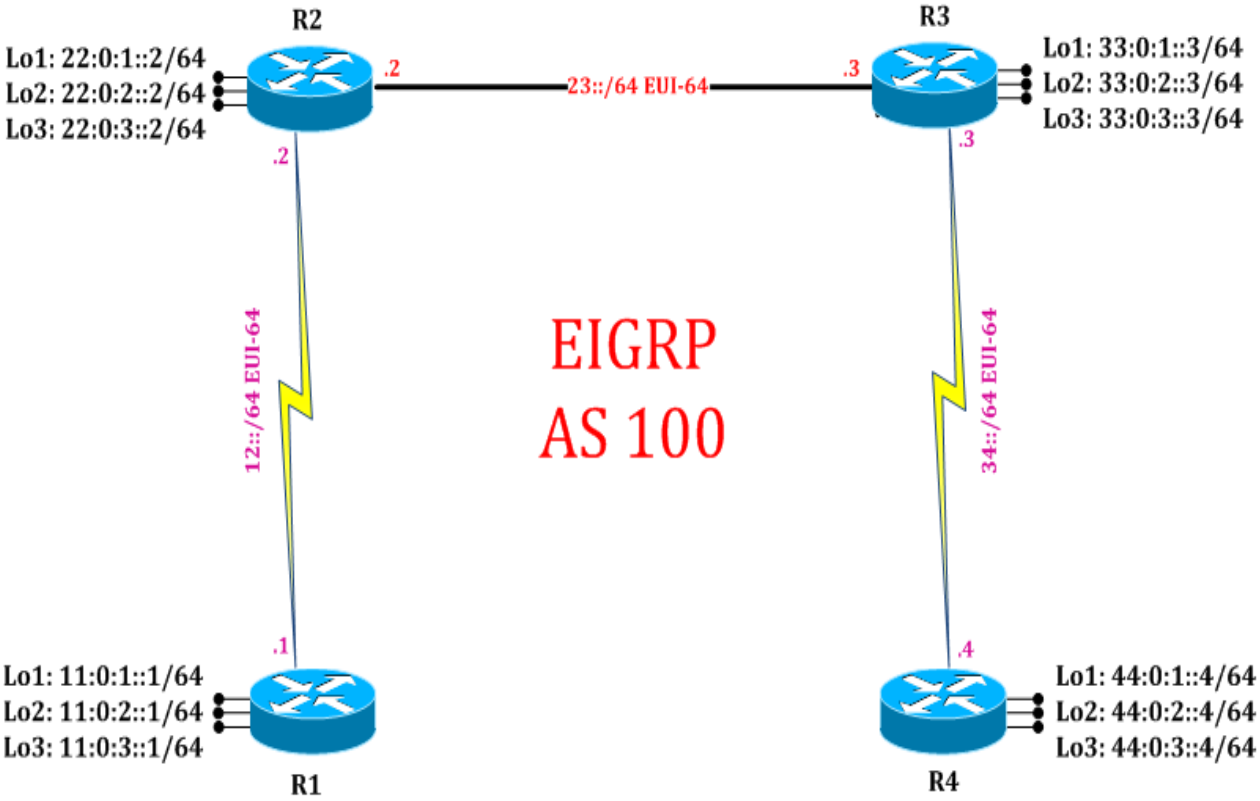
Disclaimer

This Configuration Guide is designed to assist members to enhance their skills in respective technology area. While every effort has been made to ensure that all material is as complete and accurate as possible, the enclosed material is presented on an "as is" basis. Neither the authors nor Forum assume any liability or responsibility to any person or entity with respect to loss or damages incurred from the information contained in this guide. This Lab Guide was developed by RSTForum. Any similarities between material presented in this configuration guide and any other material is completely coincidental.



LAB 18: Diagram

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



LAB 18: IPv6 EIGRP Passive-interface

Task 1: Configure IPv6 EIGRP process with Passive interface

Step 1 In the configuration mode of router configure IPv6 EIGRP process on interfaces to send EIGRP updates by following command:

R2:
```
ipv6 unicast-routing
ipv6 router eigrp 100
interface serial 2/0
ipv6 eigrp 100
exit
interface ethernet 2/0
ipv6 eigrp 100
exit
interface loopback 1
ipv6 eigrp 100
interface loopback 2
ipv6 eigrp 100
interface loopback 3
ipv6 eigrp 100
exit
```

Step 2 Suppress IPv6 EIGRP updates using "passive-interface" command and "passive-interface default" command

R2:
```
ipv6 router eigrp 100
passive-interface loopback 3
exit
```

(After suppressing IPv6 EIGRP updates by using passive-interface loopback 3 command, loopback 3 interface is suppressed and not been seen.)

R2#show ipv6 eigrp interface

EIGRP-IPv6 Interfaces for AS(100)

Interface	Peers	Xmit Queue Un/Reliable	PeerQ Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer	Pending Routes
Se2/0	1	0/0	0/0	10	0/16	52	0
Et0/0	1	0/0	0/0	9	0/2	50	0
Lo1	0	0/0	0/0	0	0/0	0	0
Lo2	0	0/0	0/0	0	0/0	0	0

R2:
ipv6 router eigrp 100
passive-interface default
exit

(After suppressing IPv6 EIGRP updates by using passive-interface default command, all interface is suppressed and not been seen.)

R2#show ipv6 eigrp interfaces

EIGRP-IPv6 Interfaces for AS(100)

Interface	Peers	Xmit Queue Un/Reliable	PeerQ Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer	Pending Routes

Step 3 Un-suppress IPv6 EIGRP updates using "no passive-interface" command

R2:
ipv6 router eigrp 100
no passive-interface default
exit

(After un-suppressing IPv6 EIGRP updates using no passive-interface default command, all interfaces are un-suppress and are seen in IPv6 EIGRP interface table.)

R2#show ipv6 eigrp interfaces

EIGRP-IPv6 Interfaces for AS(100)

Interface	Peers	Xmit Queue Un/Reliable	PeerQ Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer	Pending Routes
Se2/0	1	0/0	0/0	12	0/16	68	0
Et0/0	1	0/0	0/0	5	0/2	50	0
Lo1	0	0/0	0/0	0	0/0	0	0
Lo2	0	0/0	0/0	0	0/0	0	0
Lo3	0	0/0	0/0	0	0/0	0	0

Task 2: Verification:

Step 1 Verify IPv6 EIGRP neighborship by following command:

```
R2#show ipv6 eigrp neighbors

EIGRP-IPv6 Neighbors for AS(100)
H   Address                 Interface       Hold Uptime   SRTT   RTO  Q  Seq
                                            (sec)         (ms)       Cnt Num
1   Link-local address:     Se2/0            12  00:03:13   16     100  0    9
    FE80::A8BB:CCFF:FE00:100
0   Link-local address:     Et0/0            13  00:03:13   9      100  0    13
    FE80::A8BB:CCFF:FE00:300
```

Step 2 Verify routing table and IPv6 EIGRP routes by following command:

```
R2#show ipv6 route

IPv6 Routing Table - default - 21 entries
Codes: C - Connected, L - Local, S - Static, U - Per-user Static route
       B - BGP, HA - Home Agent, MR - Mobile Router, R - RIP
       O - OSPF Intra, OI - OSPF Inter, OE1 - OSPF ext 1, OE2 - OSPF ext 2
       ON1 - OSPF NSSA ext 1, ON2 - OSPF NSSA ext 2, l - LISP
D   11:0:1::/64 [90/2297856]
     via FE80::A8BB:CCFF:FE00:100, Serial2/0
D   11:0:2::/64 [90/2297856]
     via FE80::A8BB:CCFF:FE00:100, Serial2/0
D   11:0:3::/64 [90/2297856]
     via FE80::A8BB:CCFF:FE00:100, Serial2/0
C   12::/64 [0/0]
     via Serial2/0, directly connected
L   12::A8BB:CCFF:FE00:200/128 [0/0]
     via Serial2/0, receive
C   22:0:1::/64 [0/0]
     via Loopback1, directly connected
L   22:0:1::2/128 [0/0]
     via Loopback1, receive
C   22:0:2::/64 [0/0]
     via Loopback2, directly connected
L   22:0:2::2/128 [0/0]
     via Loopback2, receive
C   22:0:3::/64 [0/0]
     via Loopback3, directly connected
L   22:0:3::2/128 [0/0]
     via Loopback3, receive
C   23::/64 [0/0]
     via Ethernet0/0, directly connected
L   23::A8BB:CCFF:FE00:200/128 [0/0]
```

```
   via Ethernet0/0, receive
D   33:0:1::/64 [90/409600]
   via FE80::A8BB:CCFF:FE00:300, Ethernet0/0
D   33:0:2::/64 [90/409600]
   via FE80::A8BB:CCFF:FE00:300, Ethernet0/0
D   33:0:3::/64 [90/409600]
   via FE80::A8BB:CCFF:FE00:300, Ethernet0/0
D   34::/64 [90/2195456]
   via FE80::A8BB:CCFF:FE00:300, Ethernet0/0
D   44:0:1::/64 [90/2323456]
   via FE80::A8BB:CCFF:FE00:300, Ethernet0/0
D   44:0:2::/64 [90/2323456]
   via FE80::A8BB:CCFF:FE00:300, Ethernet0/0
D   44:0:3::/64 [90/2323456]
   via FE80::A8BB:CCFF:FE00:300, Ethernet0/0
L   FF00::/8 [0/0]
   via Null0, receive
```