LAB5: EIGRP – IPv4

Disclaimer

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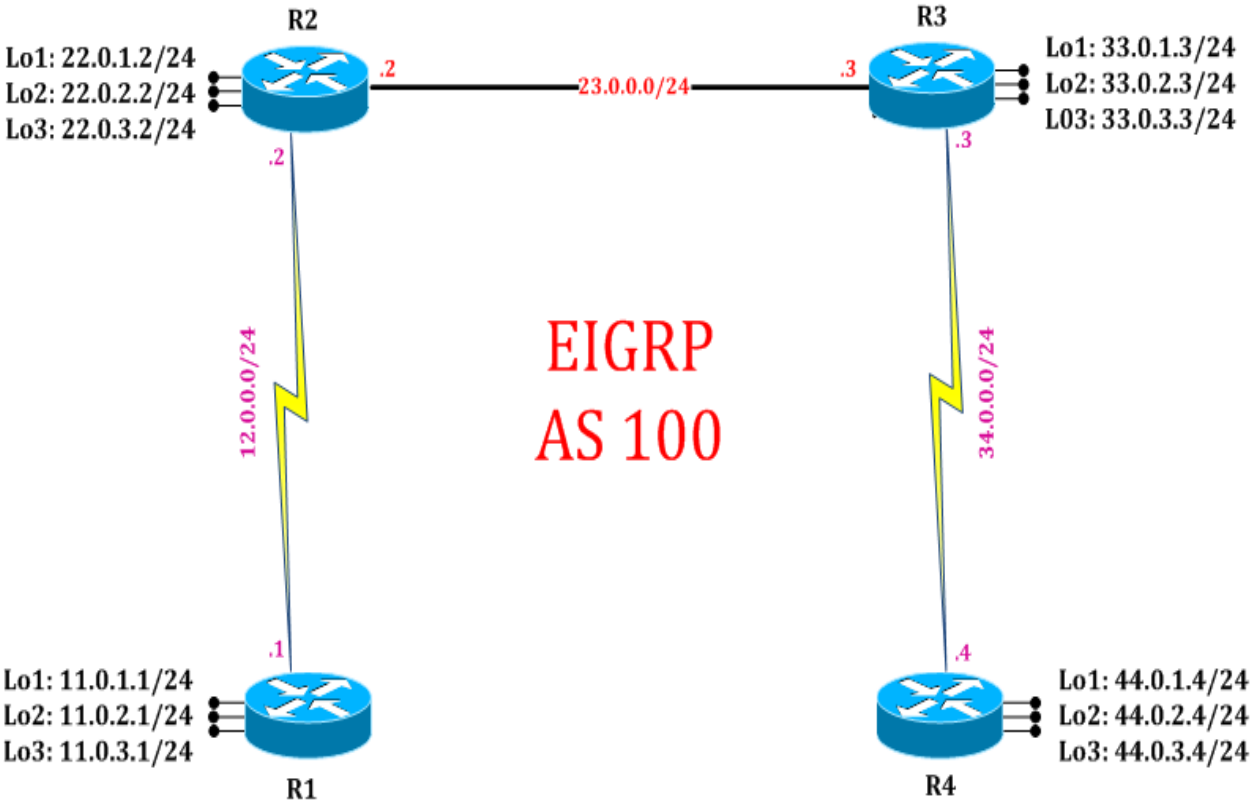
LAB 5: Diagram

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



LAB 5: EIGRP Authentication

Task 1: Configure IPv4 EIGRP Authentication

Step 1 In the configuration mode of router configure create Key chain and assign key

R1:

```
key chain akbar          ! (Creating a key chain with name akbar)
key 1                    ! (Selecting a key 1)
key-string cisco         ! (Assigning a key-string by which it will authenticate with
exit                     neighbor, which should be same on both the side)
```

Step 2 Enter the interface where authentication is required and select the encryption mode

R1:

```
interface serial 2/0
ip authentication mode eigrp 100 md5          ! (Selecting encryption mode MD5)
ip authentication key-chain eigrp 100 akbar   ! (selecting key-chain in which key1 is
                                              selected by  which it will authenticate)
```

Step 3 Enable EIGRP authentication on both the neighbors

R2:

```
key chain birbal
key 1
key-string cisco
exit
interface serial 2/0
ip authentication mode eigrp 100 md5
ip authentication key-chain eigrp 100 birbal
exit
```

Task 2: Verification:

Step 1 Verification of authentication by following command:

```
R1#show  running-config
! (To display the contents of the currently running configuration file or the configuration for a specific class map, interface, map class, policy map, or virtual circuit (VC) class, use the show running-config command in privileged EXEC mode.)

key chain akbar
key 1
key-string cisco
!
interface Serial2/0
ip address 12.0.0.1 255.255.255.0
ip authentication mode eigrp 100 md5
ip authentication key-chain eigrp 100 akbar

R2#show running-config

key chain birbal
key 1
key-string cisco
!
!
interface Serial2/0
ip address 12.0.0.2 255.255.255.0
ip authentication mode eigrp 100 md5
ip authentication key-chain eigrp 100 birbal
 serial restart-delay 0
!
```

Step 2 Verify EIGRP neighborship by following command:

```
R1#clear ip eigrp neighbors
R2#clear ip eigrp neighbors
! (Will flush current OSPF process and initiate fresh OSPF process.)

R1#show ip eigrp neighbors
! (Gives details and list of EIGRP neighbors)

EIGRP-IPv4 Neighbors for AS(100)
H   Address          Interface      Hold   Uptime  SRTT  RTO  Q   Seq
                                    (sec)          (ms)      Cnt  Num
0   12.0.0.2           Se2/0         14    00:00:17  14    100  0    16
```

```
R2#show ip eigrp neighbors
```
! (Gives details and list of EIGRP neighbors)

EIGRP-IPv4 Neighbors for AS(100)

H	Address	Interface	Hold (sec)	Uptime	SRTT (ms)	RTO	Q Cnt	Seq Num
1	23.0.0.3	Et0/0	12	00:00:57	9	100	0	9
0	12.0.0.1	Se2/0	12	00:00:43	17	102	0	13

(EIGRP neighbors will authenticate with key and if key matches, EIGRP neighborship will be formed. Fresh EIGRP neighborship can be verified in EIGRP neighbor table.)