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**Welcome
To
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EIGRP Modes**



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EIGRP Modes:

- Since IOS 15, EIGRP has a **new method of configuration called named mode EIGRP**. With the “classic” version of EIGRP that we used before IOS 15
- We configured EIGRP globally and some other things (like authentication) on the interfaces. **With named mode EIGRP, we do everything globally**
- There are two ways of configuring EIGRP. The classic way, called EIGRP AS mode.
- EIGRP classic mode you typed router eigrp and then picked a number for the AS Number
- EIGRP classic version of EIGRP that we used before IOS 15 we configured EIGRP globally.
- Classic EIGRP, which is also referred to as EIGRP Autonomous System (AS) mode as well.
- Classic mode is original way of configuring Enhanced Interior Gateway Routing Protocol.
- In classic mode, EIGRP configurations are scattered across the Router and interfaces.
- Since the IOS 15, EIGRP has a new method of configuration called named mode EIGRP.
- Introduced in IOS release 15, **new the EIGRP Named Mode, also known as multi-af mode.**
- EIGRP Named mode opposed of Classic Mode or Numbered Mode is latest implementation.
- EIGRP Named Mode or Multi-AF Mode is new development in EIGRP starting in Version 15.
- EIGRP Named Mode reason for being is to simplify the EIGRP configuration into one place.
- Streamlined the configuration of EIGRP as opposed to the old way of EIGRP configuring it.
- The new multi-af (named) mode is fully compatible with the classic mode configuration.
- The EIGRP using named mode configuration gathers all EIGRP options and parameters.

Address-Family:

- Address-Family is to configure networks, EIGRP neighbor, EIGRP Router-id, metric etc.
- You can issue the address-family command to enter address family configuration mode.

Address-Family-Interface:

- Configure all interface specific commands that were previously configured on an interface.
- In EIGRP Named Mode, Address-Family-Interface moves them into the EIGRP configuration.
- For instance, EIGRP **authentication, split-horizon, summary-address configuration** etc.
- From within address family configuration mode, you can issue the af-interface command.

Address-Family-Topology:

- Address-Family-Topology Provide several options which operates on EIGRP topology table.
- Example of the Address-Family-Topology, **redistribution, distance, offset list, variance** etc.
- Issue topology command from within address family configuration mode to access them.
- This mode enables to configure topology specific EIGRP parameters such as redistribution.

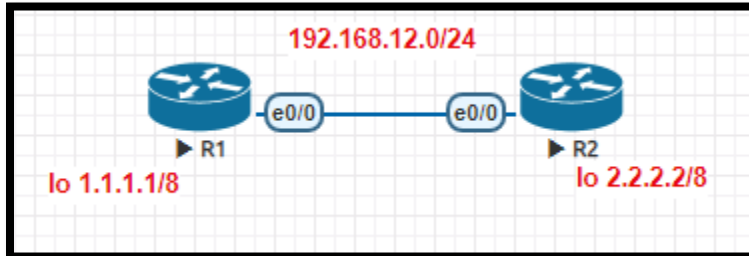
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Lab:



R1 Classic EIGRP Configuration:	R2 Named EIGRP Configuration:
<pre> en config t hostname R1 int e0/0 ip add 192.168.12.1 255.255.255.0 no sh int lo 0 ip add 1.1.1.1 255.0.0.0 router eigrp 1 network 192.168.12.0 network 1.0.0.0 </pre>	<pre> en config t hostname R2 int e0/0 ip add 192.168.12.2 255.255.255.0 no sh int lo 0 ip add 2.2.2.2 255.0.0.0 router eigrp abc address-family ipv4 autonomous-system 1 network 192.168.12.0 network 2.0.0.0 no sh </pre>

```

R2#sh ip eigrp neighbors
EIGRP-IPv4 VR(abc) Address-Family Neighbors for AS(1)
H   Address                Interface           Hold Uptime   SRTT   RTO   Q   Seq
                               (sec)          (ms)          Cnt  Num
0   192.168.12.1            Et0/0              14 00:00:14   14   100  0   9
  
```

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```
R2#sh ip eigrp topology
EIGRP-IPv4 VR(abc) Topology Table for AS(1)/ID(2.2.2.2)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

P 192.168.12.0/24, 1 successors, FD is 131072000
   via Connected, Ethernet0/0
P 2.0.0.0/8, 1 successors, FD is 163840
   via Connected, Loopback0
P 1.0.0.0/8, 1 successors, FD is 458752000
   via 192.168.12.1 (458752000/327761920), Ethernet0/0
```

```
R2#sh ip route eigrp
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
       a - application route
       + - replicated route, % - next hop override

Gateway of last resort is not set

D    1.0.0.0/8 [90/3584000] via 192.168.12.1, 00:00:10, Ethernet0/0
R2#sh ip r
```

Let see How to do Authentication in Classic and Named mode:

Authentication in Classic mode	Authentication in Named mode
<pre>key chain cisco key 1 key-string cisco1 exit exit int e0/0 ip authentication mode eigrp 1 md5 ip authentication key-chain eigrp 1 cisco</pre>	<pre>key chain cisco key 1 key-string cisco1 exit exit router eigrp abc address-family ipv4 autonomous-system 1 af-interface e0/0 authentication mode md5 authentication key-chain cisco</pre>

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