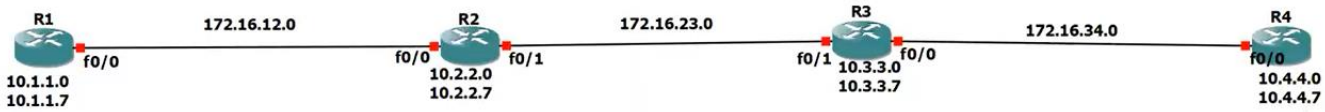
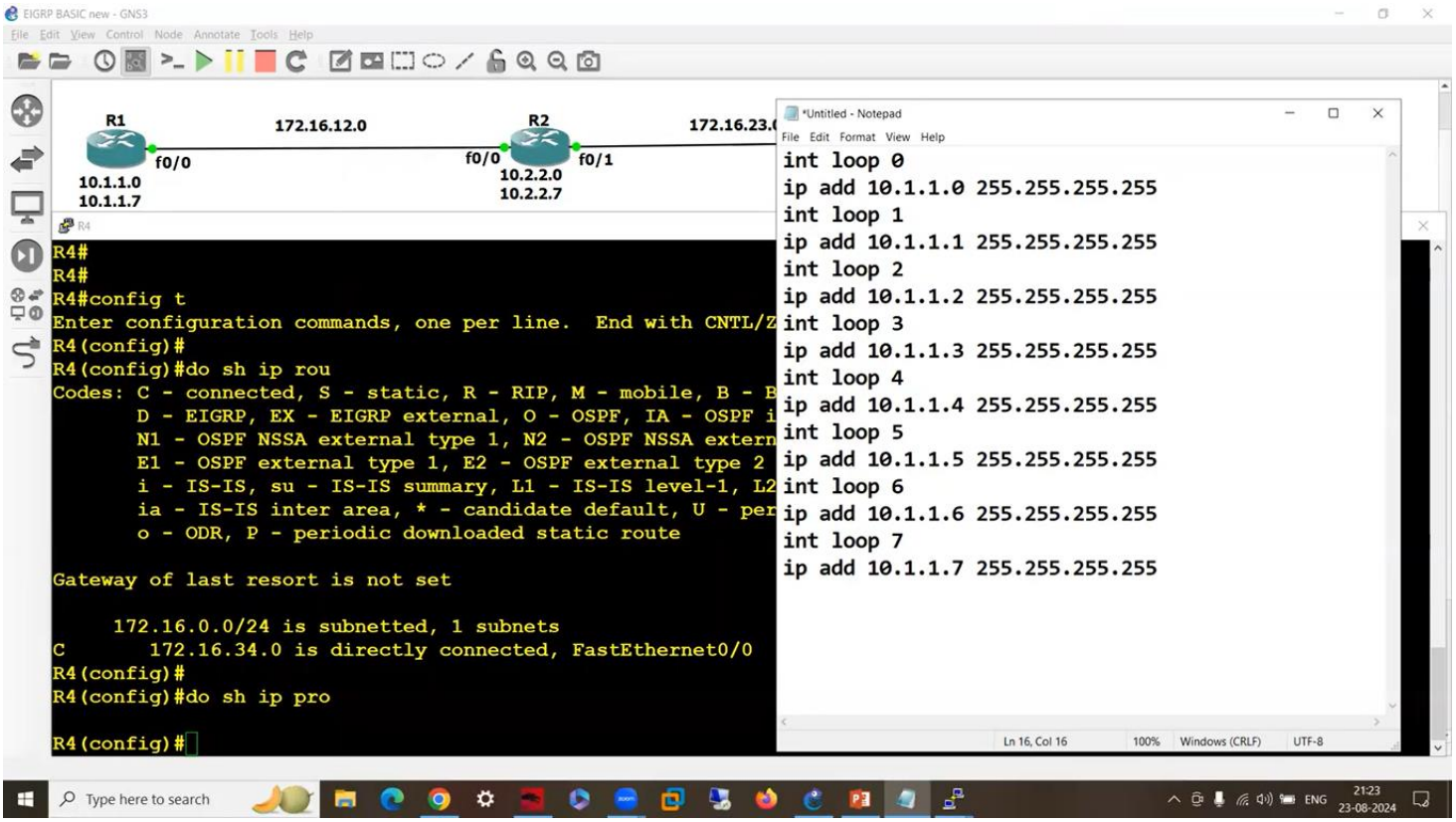
EIGRP Basic





****Config the 8 loopback address on each router**

Summarization

```
10.1.1.0   10.1.1.7  /32  255.255.255.255

10.1.1.0   255.255.255.248
            0   0   0   7
```

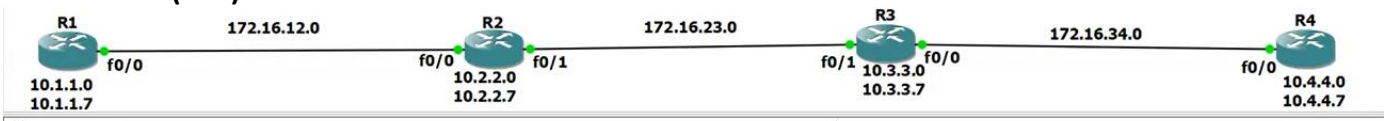
****Keeping all the routes will make burden to the router from routing table (Sol=summarization)**

```
R2(config)#
R2(config)#router eigrp 50
R2(config-router)#no au
R2(config-router)#net 172.16.12.0 0.0.0.255
R2(config-router)#
*Mar  1 00:10:01.403: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 50: Neighbor 172.16.12.1 (FastEthernet0/0) is up: new adjace
cy
R2(config-router)#do sh ip rou ei
     10.0.0.0/32 is subnetted, 16 subnets
D       10.1.1.2 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
D       10.1.1.3 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
D       10.1.1.0 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
D       10.1.1.1 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
D       10.1.1.6 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
D       10.1.1.7 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
D       10.1.1.4 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
D       10.1.1.5 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
```

**we apply summarization with one command

```
     172.16.0.0/24 is subnetted, 1 subnets
C       172.16.12.0 is directly connected, FastEthernet0/0
     10.0.0.0/32 is subnetted, 8 subnets
C       10.1.1.2 is directly connected, Loopback2
C       10.1.1.3 is directly connected, Loopback3
C       10.1.1.0 is directly connected, Loopback0
C       10.1.1.1 is directly connected, Loopback1
C       10.1.1.6 is directly connected, Loopback6
C       10.1.1.7 is directly connected, Loopback7
C       10.1.1.4 is directly connected, Loopback4
C       10.1.1.5 is directly connected, Loopback5
R1(config)#int f0/0
R1(config-if)#ip summary-address eigrp 50 10.1.1.0 255.255.255.248
R1(config-if)#router eigrp 50
R1(config-router)#no au
R1(config-router)#net 172.16.12.0 0.0.0.255
R1(config-router)#net 10.1.1.0 0.0.0.7
```

On Router 2 (#R2)




```
R2
D       10.1.1.5 [90/409600] via 172.16.12.1, 00:00:14, FastEthernet0/0
R2(config-router)#no router eigrp 50

*Mar  1 00:10:42.127: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 50: Neighbor 172.16.12.1 (FastEthernet0/0) is down: interface
 down
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#
R2(config)#int range f0/0 -1
R2(config-if-range)#ip summary-address eigrp 50 10.2.2.0 255.255.255.248
R2(config-if-range)#router eigrp 50
R2(config-router)#no au
R2(config-router)#net 172.16.12.0 0.0.0.255
R2(config-router)#
*Mar  1 00:12:55.227: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 50: Neighbor 172.16.12.1 (FastEthernet0/0) is up: new adjacen
cy
R2(config-router)#net 172.16.23.0 0.0.0.255
R2(config-router)#net 10.2.2.0 0.0.0.7
R2(config-router)#^Z
R2#
```

**Summarizaton
Int g0/0 <int (int range))>
Ip summary-address <protocol> <asn> <ip , subnet >
Ex= ip summary-address eigrp 50 10.1.1.0 255.255.255.248

#R1
en
conf t
int g0/0
ip add 172.16.12.1 255.255.255.0
no shut
int l1
ip add 10.1.1.1 255.255.255.255
no shut
int l2
ip add 10.1.1.2 255.255.255.255
int l3
ip add 10.1.1.3 255.255.255.255

```
int l4
ip add 10.1.1.4 255.255.255.255
int l5
ip add 10.1.1.5 255.255.255.255
int l6
ip add 10.1.1.6 255.255.255.255
int l7
ip add 10.1.1.7 255.255.255.255

#R2
Int g0/0
ip add 172.16.12.2 255.255.255.0
no shut
int g0/1
ip add 172.16.23.2 255.255.255.0
no shut
int l1
ip add 10.2.2.1 255.255.255.255
int l2
ip add 10.2.2.2 255.255.255.255
int l3
ip add 10.2.2.3 255.255.255.255
int l4
ip add 10.2.2.4 255.255.255.255
int l5
ip add 10.2.2.5 255.255.255.255
int l6
ip add 10.2.2.6 255.255.255.255
int l7
ip add 10.2.2.7 255.255.255.255

#R3
Int g0/0
ip add 172.16.23.3 255.255.255.0
no shut
int g0/1
ip add 172.16.34.3 255.255.255.0
no shut

int l1
ip add 10.3.3.1 255.255.255.255
int l2
ip add 10.3.3.2 255.255.255.255
int l3
ip add 10.3.3.3 255.255.255.255
int l4
ip add 10.3.3.4 255.255.255.255
int l5
ip add 10.3.3.5 255.255.255.255
int l6
ip add 10.3.3.6 255.255.255.255
int l7
ip add 10.3.3.7 255.255.255.255


#R3
```

Int g0/0
ip add 172.16.34.4 255.255.255.0
no shut

int l1
ip add 10.4.4.1 255.255.255.255
int l2
ip add 10.4.4.2 255.255.255.255
int l3
ip add 10.4.4.3 255.255.255.255
int l4
ip add 10.4.4.4 255.255.255.255
int l5
ip add 10.4.4.5 255.255.255.255
int l6
ip add 10.4.4.6 255.255.255.255
int l7
ip add 10.4.4.7 255.255.255.255