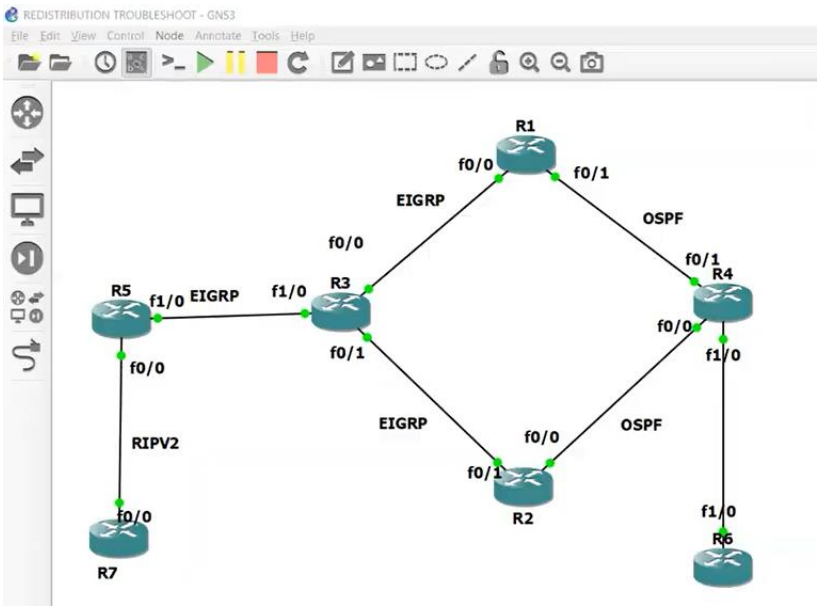


R3

```
config t
int f0/0
ip add 172.16.13.3 255.255.255.0
no shut
int f0/1
ip add 172.16.23.3 255.255.255.0
no shut
int f1/0
ip add 172.16.35.3 255.255.255.0
no shut
int loop 1
ip add 10.3.3.3 255.255.255.255
router eigrp 100
no au
net 0.0.0.0 0.0.0.0
exit
```

R4

```
config t
int f0/0
ip add 172.16.24.4 255.255.255.0
no shut
int f0/1
ip add 172.16.14.4 255.255.255.0
no shut
int f1/0
ip add 172.16.46.4 255.255.255.0
no shut
int loop 1
ip add 10.4.4.4 255.255.255.255
router ospf 10
net 0.0.0.0 255.255.255.255
exit
```

R6

```
R6(config-if)#ip add 10.6.6.6 255.255.255.255
R6(config-if)#router ospf 10
R6(config-router)#net 0.0.0.0 255.255.255.255 area 0
R6(config-router)#^Z
R6#
```

R7

```
R7(config-if)#ip add 7.7.7.7 255.255.255.255
R7(config-if)#router rip
R7(config-router)#ver 2
R7(config-router)#no au
R7(config-router)#net 172.16.57.0
R7(config-router)#net 7.7.7.7
R7(config-router)#^Z
```

R1

```
config t
int f0/0
ip add 172.16.13.1 255.255.255.0
no shut
int f0/1
ip add 172.16.14.1 255.255.255.0
no shut
int loop 1
ip add 10.1.1.1.1 255.255.255.255
int loop 2
ip add 10.11.11.11 255.255.255.255
router ospf 10
router-id 10.11.11.11
net 172.16.14.0 0.0.0.255 area 0
net 10.11.11.11 0.0.0.0 area 0
router eigrp 100
no au
net 172.16.13.0 0.0.0.255
net 10.1.1.1 0.0.0.0
exit
```

R2

```
int f0/0
ip add 172.16.24.2 255.255.255.0
no shut
int f0/1
ip add 172.16.23.2 255.255.255.0
no shut
int loop 1
ip add 10.2.2.2 255.255.255.255
int loop 2
ip add 10.22.22.22 255.255.255.255
router ospf 10
router-id 10.22.22.22
net 172.16.24.0 0.0.0.255 area 0
net 10.22.22.22 0.0.0.0 area 0
router eigrp 100
no au
net 172.16.23.0 0.0.0.255
net 10.2.2.2 0.0.0.0
exit
```

R5

```
config t
int f0/0
ip add 172.16.57.5 255.255.255.0
no shut
int f1/0
ip add 172.16.35.5 255.255.255.0
no shut
int loop 1
ip add 5.5.5.5 255.255.255.255
int loop 2
ip add 55.55.55.55 255.255.255.255
router rip
ver 2
no au
net 172.16.57.0
net 5.5.5.5
router eigrp 100
no au
net 172.16.35.0 0.0.0.255
net 55.55.55.55 0.0.0.0
exit
```

**Redistribution

#R5

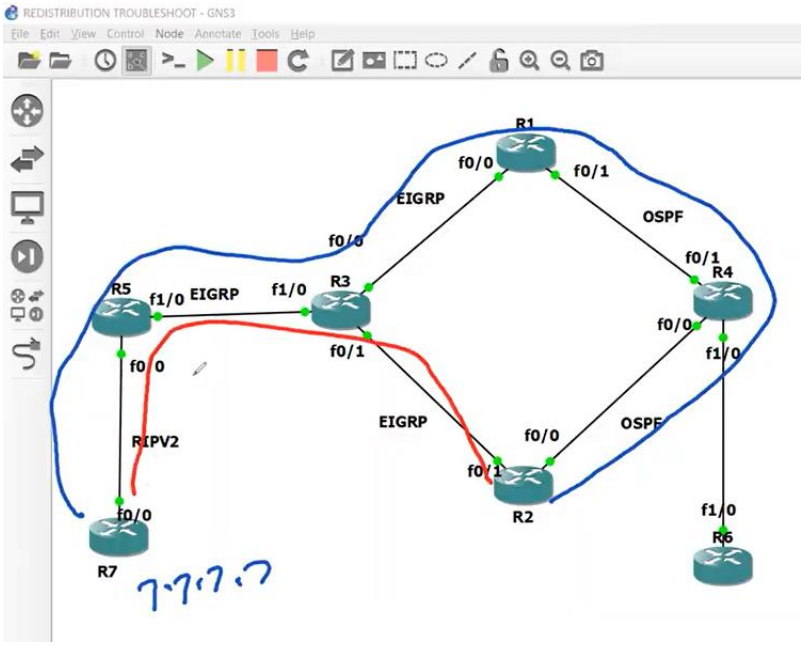
```
R5(config)#router eigrp 100
R5(config-router)#redistribute rip metric 10000 100 255 1 1500
R5(config-router)#router rip
R5(config-router)#ver 2
R5(config-router)#redistribute eigrp 100 metric 5
R5(config-router)#^Z
R5#
```

Same on R1 and R2

```
R1(config)#do sh run | sec eigrp
router eigrp 100
 network 10.1.1.1 0.0.0.0
 network 172.16.13.0 0.0.0.255
 no auto-summary
R1(config)#do sh run | sec ospf
router ospf 10
 router-id 10.11.11.11
 log-adjacency-changes
 network 10.11.11.11 0.0.0.0 area 0
 network 172.16.14.0 0.0.0.255 area 0
R1(config)#
R1(config)#router eigrp 100
R1(config-router)#redistribute ospf 10 metric 10000 100 255 1 1500
R1(config-router)#router ospf 10
R1(config-router)#redistribute eigrp 100 subnets
R1(config-router)#do sh h
```

Result

```
O        10.4.4.4 [110/2] via 172.16.46.4, 00:09:09, FastEthernet1/0
O        10.22.22.22 [110/12] via 172.16.46.4, 00:02:55, FastEthernet1/0
R6#sh ip rou os
     55.0.0.0/32 is subnetted, 1 subnets
O E2     55.55.55.55 [110/20] via 172.16.46.4, 00:00:06, FastEthernet1/0
     5.0.0.0/32 is subnetted, 1 subnets
O E2     5.5.5.5 [110/20] via 172.16.46.4, 00:00:24, FastEthernet1/0
     172.16.0.0/24 is subnetted, 7 subnets
O E2     172.16.57.0 [110/20] via 172.16.46.4, 00:00:24, FastEthernet1/0
O E2     172.16.35.0 [110/20] via 172.16.46.4, 00:00:06, FastEthernet1/0
O        172.16.24.0 [110/11] via 172.16.46.4, 00:14:15, FastEthernet1/0
O E2     172.16.23.0 [110/20] via 172.16.46.4, 00:00:06, FastEthernet1/0
O E2     172.16.13.0 [110/20] via 172.16.46.4, 00:00:06, FastEthernet1/0
O        172.16.14.0 [110/11] via 172.16.46.4, 00:14:15, FastEthernet1/0
     7.0.0.0/32 is subnetted, 1 subnets
O E2     7.7.7.7 [110/20] via 172.16.46.4, 00:00:24, FastEthernet1/0
     10.0.0.0/32 is subnetted, 7 subnets
O        10.11.11.11 [110/12] via 172.16.46.4, 00:10:51, FastEthernet1/0
O E2     10.2.2.2 [110/20] via 172.16.46.4, 00:00:06, FastEthernet1/0
O E2     10.3.3.3 [110/20] via 172.16.46.4, 00:00:08, FastEthernet1/0
O E2     10.1.1.1 [110/20] via 172.16.46.4, 00:00:08, FastEthernet1/0
O        10.4.4.4 [110/2] via 172.16.46.4, 00:14:17, FastEthernet1/0
O        10.22.22.22 [110/12] via 172.16.46.4, 00:08:04, FastEthernet1/0
R6#
```



Trouble = when we trace 7.7.7.7 it flows r4>r1>r3>r5

****ospf ad value is 110 and external eigrp has 170 so it will prefer only that way**

```
R2(config)#router eigrp 100
R2(config-router)#distance eigrp ?
  <1-255>  Distance for internal routes

R2(config-router)#distance eigrp 90 ?
  <1-255>  Distance for external routes

R2(config-router)#distance eigrp 90 109
R2(config-router)#
```

** we change the distance of the eigrp less than the ospf like 109
After 15 seconds it will change the route

```
*Mar  1 00:24:51.051: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 100: Neighbor 172.16.23.3 (
FastEthernet0/1) is down: route configuration changed
R2(config-router)#
*Mar  1 00:24:54.295: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 100: Neighbor 172.16.23.3 (
FastEthernet0/1) is up: new adjacency
R2(config-router)#do trace 7.7.7.7

Type escape sequence to abort.
Tracing the route to 7.7.7.7

  1 172.16.23.3 12 msec 32 msec 36 msec
  2 172.16.35.5 56 msec 64 msec 64 msec
  3 172.16.57.7 92 msec 88 msec 96 msec
R2(config-router)#
```

**neighborship down and it will up and changes the path