

```
R1:
conf t
int e0/0
ip add 192.168.12.1 255.255.255.0
no sh
int lo 0
ip add 20.1.1.1 255.255.255.0
int lo 1
ip add 20.1.2.2 255.255.255.0
int lo 2
ip add 20.1.3.3 255.255.255.0

router eigrp 1
net 0.0.0.0
exit
```

```
R2:
conf t
int e0/0
Desc conn to Eigrp
ip add 192.168.12.2 255.255.255.0
no sh
int e0/1
Desc conn to R3 in area 0
ip add 10.23.1.2 255.255.255.0
no sh
exit
int lo 0
ip add 172.16.2.1 255.255.255.0
ip ospf network point-to-point
int lo 1
ip add 172.16.3.1 255.255.255.0
ip ospf network point-to-point
exit
```

```
router eigrp 1
net 192.168.12.0
exit
```

```
router ospf 1
router-id 2.2.2.2
net 10.23.1.2 0.0.0.0 a 0
net 172.16.0.0 0.0.255.255 area 0
redistribute eigrp 1 subnets
```

```
R3:
conf t
int e0/0
Desc conn to R2 in area 0
ip add 10.23.1.3 255.255.255.0
no sh
int e0/1
Desc conn to R2 in area 0
ip add 10.34.1.3 255.255.255.0
no sh
exit
```

```
router ospf 1
router-id 3.3.3.3
net 10.0.0.0 0.255.255.255 area 0
exit
```

```
R4: ABR
conf t
int e0/0
Desc conn to R3 in area 0
ip add 10.34.1.4 255.255.255.0
no sh
int e0/1
Desc conn to R5 in area 1
ip add 10.45.1.4 255.255.255.0
no sh
exit
```

```
router ospf 1
router-id 4.4.4.4
net 10.34.1.4 0.0.0.0 area 0
net 10.45.1.4 0.0.0.0 area 1
exit
```

```
R5
conf t
int e0/0
Desc conn to R4 in area 1
ip add 10.45.1.5 255.255.255.0
no sh
int e0/1
Desc conn to R5 in area 1
ip add 10.56.1.5 255.255.255.0
no sh
exit
```

```
router ospf 1
router-id 5.5.5.5
net 10.56.1.5 0.0.0.0 area 0
net 10.45.1.5 0.0.0.0 area 1
exit
```

```
R6:
conf t
int e0/0
Desc conn to R5 in area 1
ip add 10.56.1.6 255.255.255.0
no sh
```

```
router ospf 1
router-id 6.6.6.6
exit
```

```
int e0/0
ip ospf 1 a 1
exit
```

```
=====
OSPF filtering
```

Passive interfaces

```
R6
router ospf 1
passive-interface e0/0
exit
```

```
ACL:
ip access-list extended ospf-blk
deny ospf host 10.56.1.5 any
permit ip any any
exit
```

```
int e0/0
ip access-group ospf-blk in
exit
```

Route filtering in OSPF

Intra area routes:

```
-----
R3:ACL/Distribute list
Access-list 1 deny 172.16.2.0 0.0.0.255
Access-list 1 permit any
```

```
Router ospf 1
distribute-list 1 in
exit
```

```
R2: Prefix list/Distribute list
ip prefix-list abc seq 5 deny 10.34.1.0/24
ip prefix-list abc seq 10 permit 0.0.0.0/0 le 32
```

```
router ospf 1
distribute-list prefix abc in
exit
```

R3: Gateway

```
ip prefix-list abc seq 5 deny 10.23.1.2/32
ip prefix-list abc seq 10 permit 0.0.0.0/0 le 32
```

```
router ospf 1
distribute-list gateway R2 in
exit
```

Inter Area Filtering:

```
-----
R5
Access-list 1 permit 10.23.1.0 0.0.0.255
```

```
route-map RM deny 10
```

```
match ip add 1
route-map RM permit 20
exit
```

```
router ospf 1
distribute-list route-map RM in
exit
```

Filter-list/prefix list on ABR:

R4

```
ip prefix-list abc deny 172.16.2.0/24
ip prefix-list abc permit 0.0.0.0/0 le 32
```

```
Router ospf 1
area 0 filter-list prefix abc out
```

OR

```
Router ospf 1
area 1 filter-list prefix abc in
```

Distance :

1.ospf process

```
Router ospf 1
distance 255
exit
```

2.Gateway

```
router ospf 1
distance 255 4.4.4.4 0.0.0.0
exit
```

3.Specific route

```
access-list 2 permit 172.16.2.0 0.0.0.255
```

```
router ospf 1
distance 255 2.2.2.2 0.0.0.0 2
exit
```

Filtering with Summary range command

```
Router ospf 1
area 0 range 172.16.0.0 255.255.0.0 not-advertise
area 0 range 10.23.1.0 255.255.255.0 not-advertise
```

ASBR filtering

```
Router ospf 1
summary-address 20.1.2.0 255.255.255.0 not-advertise
exit
```

