

```
R1
conf t
int e0/0
Desc conn to R2
ip add 192.168.12.1 255.255.255.0
no sh
int lo0
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
exit
```

```
Router eigrp 100
net 0.0.0.0
exit
```

```
R2
conf t
int e0/0
Desc conn to Eigrp 100
ip add 192.168.12.2 255.255.255.0
no sh
int e0/1
Desc conn to R3
ip add 10.23.1.2 255.255.255.0
no sh
int lo 0
ip add 172.16.2.2 255.255.255.0
ip ospf network point-to-point
int lo 1
ip add 172.16.3.3 255.255.255.0
ip ospf network point-to-point
exit
```

```
router eigrp 100
network 192.168.12.2 0.0.0.0
redistribute ospf 1 metric 10000 1000 255 1 1500
exit
```

```
router ospf 1
router-id 2.2.2.2
redistribute eigrp 100 subnets
network 10.23.1.2 0.0.0.0 area 0
network 172.16.0.0 0.0.255.255 area 0
exit
```

```
R3:
conf t
int e0/0
Desc conn to R2
ip add 10.23.1.3 255.255.255.0
no sh
```

```
int e0/1
Desc conn to R4-ABR
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
ip add 10.34.1.4 255.255.255.0
no sh
int e0/1
Desc conn to R5
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 a 0
net 10.45.1.4 0.0.0.0 a 1
exit
```

```
R5:Area 1
conf t
int e0/1
Desc conn to R6
ip add 10.56.1.5 255.255.255.0
no sh
int e0/0
Desc conn to R4
ip add 10.45.1.5 255.255.255.0
no sh
exit
```

```
Router ospf 1
router-id 5.5.5.5
exit
```

```
int range e0/0-1
ip ospf 1 area 1
exit
```

```
R6:
conf t
int e0/0
```

```
Desc conn to R6
ip add 10.56.1.6 255.255.255.0
no sh
exit
```

```
Router ospf 1
router-id 6.6.6.6
net 10.56.1.0 255.255.255.0 area 1
exit
```

=====

OSPF filtering:

1.Passive interface

```
R6:
Router ospf 1
passive-interface e0/0
exit
```

ACL to block ospf (Protocol number 89)

```
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
```

=====

Ospf Route Filtering:

=====

1.Intra Area route filtering

R3:ACL/Distribute-list

Block 172.16.2.0/24 coming from R2 in same area (area 0)

```
Access-list 1 deny 172.16.2.0 0.0.0.255
Access-list 1 permit any
exit
```

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

Route will be blocked from entering the RIB, but LSA's cannot be blocked within the area.

R2:prefix-list/Distribute-list

R2: Block 10.34.1.0 from R3 (same area)

```
ip prefix-list abc deny 10.34.1.0/24
ip prefix-list abc permit 0.0.0.0/0 le 32
```

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

=====

```
R3:
Gateway/Distribute-list
```

Block all ospf routes from neig R2 (10.23.1.2)

```
ip prefix-list GW deny 10.23.1.2/32
ip prefix-list GW permit 0.0.0.0/0 le 32
```

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

=====

```
Inter area Filtering
```

ACL/Route-Map/Distribute-list combination to blk inter area route

```
R5:Area 1
Task blk 10.23.1.0 from area 0.
```

```
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
```

```
R4:ABR
Task block 172.16.2.0 from area 0 entering into area 1.
```

```
Filter-list on ABR only
Filter list works with prefix list
Can be applied in both directions
Blocks LSA's/ routes .
```

```
ip prefix-list abc seq 5 deny 172.16.2.0/24
ip prefix-list abc seq 10 permit 0.0.0.0/0 le 32
```

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

OR

```
ip prefix-list abc seq 5 deny 172.16.2.0/24
```

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

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

```
=====
```

Distance

```
R5:ALL routes  
Router ospf 1  
Distance 255  
exit
```

Blocks all ospf routes from entering RIB
LSA's cannot be blocked.

R3: Block routes from R4
Gateway

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

R3:Block 172.16.3.0 from R2 intra area route

```
access-list 1 permit 172.16.3.0 0.0.0.255
```

```
Router ospf 1  
distance 255 2.2.2.2 0.0.0.0 1  
exit
```

```
Router ospf 1  
distance ospf inter-area 255  
distance ospf external 255  
distance ospf intra-area 255  
exit
```

```
=====
```

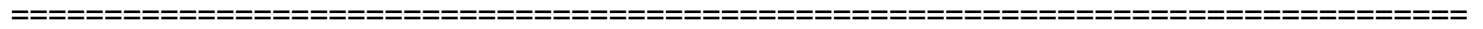
ABR
using Range command blk LSA's/Routes

```
R4:  
router ospf 1  
area 0 range 172.16.2.0 255.255.255.0 not-advertise  
exit
```

R2:
ASBR filtering
using Summary command

```
Router ospf 1  
summary-address 20.1.1.0 255.255.255.0 not-advertise
```

exit



ipv6

OSPFv3

