

```
R1: Eigrp
conf t
int e0/0
ip add 192.168.12.1 255.255.255.0
no sh
int lo0
ip add 200.1.1.1 255.255.255.0
int lo 1
ip add 100.1.1.1 255.255.255.0
exit
```

```
router eigrp 1
net 0.0.0.0
exit
```

```
R2:
conf t
int e0/0
Desc conn to Eigrp NW
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
```

```
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 area 0
redistribute eigrp 1 subnets route-map RM
exit
```

```
Access-list 1 permit 200.1.1.0 0.0.0.255
```

```
route-map RM permit 10
match ip add 1
set metric-type type-1
route-map RM permit 20
exit
```

```
R3: backbone router
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 R4 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: Internal router
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 R6 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
exit
```

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

```
R6:ASBR
conf t
int e0/0
Desc conn to R5 in area 1
ip add 10.56.1.6 255.255.255.0
no shut
int e0/1
Desc conn to external Ripv2
ip add 192.168.67.6 255.255.255.0
no sh
exit
```

```
router ospf 1
router-id 6.6.6.6
net 10.56.1.6 0.0.0.0 area 1
redistribute rip 1 subnets route-map RM
exit
```

```
Access-list 1 permit 222.222.222.0 0.0.0.255
```

```
route-map RM permit 10
match ip add 1
set metric-type type-1
route-map RM permit 20
exit
```

```
R7: RIPv2
conf t
int e0/0
ip add 192.168.67.7 255.255.255.0
no sh
int lo 0
ip add 222.222.222.222 255.255.255.0
int lo 1
ip add 111.111.111.111 255.255.255.0
```

```
router rip
ver 2
no au
net 192.168.67.0
net 222.222.222.0
net 111.111.111.0
exit
```

```
=====
NSSA
```

```
Area 0 cannot be NSSA
ABR blocks LSA type 4,5
Allows LSA type 3 , 7
NSSA area loses connectivity with other ASBR
ABR translates type 7 to Type 5 and send to other areas
```

```
NSSA Area
R4 ABR
R5,R6 Area 1
```

```
on Routers in area 1 (NSSA area)
```

```
R4,R5,R6
router ospf 1
area 1 NSSA
exit
```

```
R4:ABR
router ospf 1
area 1 nssa default-information-originate
```

Total NSSA:

-----

ABR blocks LSA type 3,4,5  
Allows LSA type 1,2, 3 (Default route 0\*IA),LSA type 7  
exit

ABR  
router ospf 1  
no area 1 nssa default-information-originate  
area 1 nssa no-summary  
exit

=====  
P=0

R1 Area 0  
conf t  
int e0/0  
ip add 1.1.1.1 255.255.255.0  
no sh  
ip ospf 1 area 0  
exit

R3: Area 1 NSSA  
conf t  
int e0/0  
ip add 3.3.3.3 255.255.255.0  
no sh  
exit

router ospf 1  
net 3.3.3.3 0.0.0.0 area 1  
area 1 nssa  
exit

R4: Eigrp  
conf t  
int e0/0  
ip add 4.4.4.4 255.255.255.0  
no sh  
exit

router eigrp 1  
net 0.0.0.0  
exit

R2:ABR,ASBR,NSSA  
conf t  
int e0/0  
Desc conn to Area 0  
ip add 1.1.1.2 255.255.255.0  
no sh  
int e0/1  
Desc conn to Area 1  
ip add 3.3.3.2 255.255.255.0

```
no sh
int e0/2
Desc conn to eigrp
ip add 4.4.4.2 255.255.255.0
no sh
exit
```

```
router ospf 1
net 1.1.1.2 0.0.0.0 area 0
net 3.3.3.2 0.0.0.0 area 1
area 1 nssa
redistribute eigrp 1 subnets
exit
```

```
=====
Forward Address:
```

```
-----
R1
conf t
int e0/0
Desc conn to R2 ABR-1
ip add 10.12.1.1 255.255.255.0
no sh
int e0/1
Desc conn to R3 ABR-2
ip add 10.13.1.1 255.255.255.0
no sh
int lo 0
ip add 1.1.1.1 255.255.255.0
```

```
router ospf 1
net 0.0.0.0 255.255.255.255 area 0
exit
```

```
R2:ABR-1
conf t
int e0/0
Desc conn to R1
ip add 10.12.1.2 255.255.255.0
no sh
int e0/1
Desc conn to R4 ASBR
ip add 10.24.1.2 255.255.255.0
no sh
EXIT
```

```
router ospf 1
router-id 2.2.2.2
net 10.12.1.2 0.0.0.0 area 0
net 10.24.1.2 0.0.0.0 area 1
area 1 nssa
exit
```

```
R3
conf t
int e0/0
```

```
Desc conn to R1
ip add 10.13.1.3 255.255.255.0
no sh
int e0/1
Desc conn to R4 ASBR
ip add 10.34.1.3 255.255.255.0
no sh
EXIT
```

```
router ospf 1
router-id 3.3.3.3
net 10.13.1.3 0.0.0.0 area 0
net 10.34.1.3 0.0.0.0 area 1
area 1 nssa
exit
```

```
R4:ASBR
conf t
int e0/0
Desc conn to R2
ip add 10.24.1.4 255.255.255.0
no sh
int e0/1
Desc conn to R3
ip add 10.34.1.4 255.255.255.0
no sh
int lo 0
ip add 100.1.1.1 255.255.255.0
int lo 1
ip add 200.1.1.1 255.255.255.0
```

```
router eigrp 1
net 200.1.1.0
net 100.1.1.1 0.0.0.0
exit
```

```
router ospf 1
router-id 4.4.4.4
net 10.0.0.0 0.255.255.255 area 1
area 1 nssa
redistribute eigrp 1 route-map RM
exit
```

```
Access-list 1 permit 200.1.1.0 0.0.0.255
```

```
Route-map RM permit 10
match ip add 1
set metric-type type 1
```

