

```
R2:RR-Non Client
conf t
int e0/0
Desc conn to R1
ip add 10.12.1.2 255.255.255.0
no sh
int lo 0
ip add 2.2.2.2 255.255.255.255
int lo 1
Desc LAN
ip add 192.168.2.2 255.255.255.0
exit
```

```
int r e0/0, lo0
ip ospf 1 a 0
exit
```

```
router bgp 100
bgp router-id 2.2.2.2
neig 1.1.1.1 remote-as 100
neig 1.1.1.1 update-source lo0
neig 1.1.1.1 password CISCOBGP
net 192.168.2.0 mask 255.255.255.0
exit
```


```
R3:RR-Non Client
conf t
int e0/0
Desc conn to R1
ip add 10.13.1.3 255.255.255.0
no sh
int lo 0
ip add 3.3.3.3 255.255.255.255
int lo 1
Desc LAN
ip add 192.168.3.3 255.255.255.0
exit
```

```
int r e0/0, lo0
ip ospf 1 a 0
exit
```

```
router bgp 100
bgp router-id 3.3.3.3
neig 1.1.1.1 remote-as 100
neig 1.1.1.1 update-source lo0
neig 1.1.1.1 password CISCOBGP
net 192.168.3.0 mask 255.255.255.0
exit
```

```
R4: RR-Client
conf t
int e0/0
Desc conn to R1
ip add 10.14.1.4 255.255.255.0
no sh
int lo 0
ip add 4.4.4.4 255.255.255.255
```

```
int lo 1
Desc LAN
ip add 192.168.4.4 255.255.255.0
exit
```

```
int r e0/0, lo0
ip ospf 1 a 0
exit
```

```
router bgp 100
bgp router-id 4.4.4.4
neig 1.1.1.1 remote-as 100
neig 1.1.1.1 update-source lo0
neig 1.1.1.1 password CISCOBGP
net 192.168.4.0 mask 255.255.255.0
exit
```

R5:RR-Client

```
conf t
int e0/0
Desc conn to R1
ip add 10.15.1.5 255.255.255.0
no sh
int e0/1
Desc conn to R7
ip add 10.57.1.5 255.255.255.0
no sh
int lo 0
ip add 5.5.5.5 255.255.255.255
int lo 1
Desc LAN
ip add 192.168.5.5 255.255.255.0
exit
```

```
int r e0/0-1, lo0
ip ospf 1 a 0
exit
```

```
router bgp 100
bgp router-id 5.5.5.5
neig 1.1.1.1 remote-as 100
neig 1.1.1.1 update-source lo0
neig 1.1.1.1 password CISCOBGP
neig 7.7.7.7 remote-as 100
neig 7.7.7.7 update-source lo0
neig 7.7.7.7 password CISCOBGP
net 192.168.5.0 mask 255.255.255.0
exit
```

R6:Ebgp Neig

```
conf t
int e0/0
ip add 10.16.1.6 255.255.255.0
no sh
int lo 0
ip add 200.200.200.200 255.255.255.255
```

```
router bgp 200
neig 10.16.1.1 remote-as 100
net 200.200.200.200 mask 255.255.255.255
exit
```

```
R1:RR-server-1
conf t
int e0/0
Desc conn to R2-RR-NC
ip add 10.12.1.1 255.255.255.0
no sh
int e0/1
Desc conn to R3-RR-NC
ip add 10.13.1.1 255.255.255.0
no sh
int e0/2
Desc conn to R4-RR-C
ip add 10.14.1.1 255.255.255.0
no sh
int e0/3
Desc conn to R5-RR-C
ip add 10.15.1.1 255.255.255.0
no sh
int e1/0
Desc conn to ebgp neig
ip add 10.16.1.1 255.255.255.0
no sh
int lo0
ip add 1.1.1.1 255.255.255.255
int lo 1
Desc LAN
ip add 192.168.1.1 255.255.255.0
int e1/1
Desc conn to RR-server-2
ip add 10.17.1.1 255.255.255.0
no sh
exit
```

```
router ospf 1
router-id 1.1.1.1
net 1.1.1.1 0.0.0.0
net 10.0.0.0 0.255.255.255 area 0
exit
```

```
router bgp 100
bgp cluster-id 1.1.1.1
bgp log-neighbor-changes
network 192.168.1.0
neighbor RR-Client peer-group
neighbor RR-Client remote-as 100
neighbor RR-Client password CISCOBGP
neighbor RR-Client update-source Loopback0
neighbor RR-Client timers 30 100
neighbor RR-Client route-reflector-client
neighbor RR-Client next-hop-self
neighbor Non-RR-Clients peer-group
neighbor Non-RR-Clients remote-as 100
```

```
neighbor Non-RR-Clients password CISCOBGP
neighbor Non-RR-Clients update-source Loopback0
neighbor Non-RR-Clients timers 30 100
neighbor Non-RR-Clients next-hop-self
neighbor 2.2.2.2 peer-group Non-RR-Clients
neighbor 3.3.3.3 peer-group Non-RR-Clients
neighbor 4.4.4.4 peer-group RR-Client
neighbor 5.5.5.5 peer-group RR-Client
neighbor 7.7.7.7 peer-group RR-Client
neighbor 10.16.1.6 remote-as 200
exit
```

R8:RR-Client-Server2

```
conf t
int e0/0
Desc conn to R7
ip add 10.78.1.8 255.255.255.0
no sh
int lo 0
ip add 8.8.8.8 255.255.255.255
int lo 1
Desc LAN
ip add 192.168.8.8 255.255.255.0
exit
```

```
int r e0/0, lo0
ip ospf 1 a 0
exit
```

```
router bgp 100
bgp router-id 8.8.8.8
neig 7.7.7.7 remote-as 100
neig 7.7.7.7 update-source lo0
neig 7.7.7.7 password CISCOBGP
net 192.168.8.0 mask 255.255.255.0
exit
```

R7:

```
conf t
int e0/0
Desc conn to RR-server-R1
ip add 10.17.1.7 255.255.255.0
no sh
int e0/1
Desc conn to R8
ip add 10.78.1.7 255.255.255.0
no sh
int e0/2
Desc conn to R5
ip add 10.57.1.5 255.255.255.0
no sh
int lo 0
ip add 7.7.7.7 255.255.255.255
int lo 1
ip add 192.168.7.7 255.255.255.0
exit
```

```
int r e0/0-2, lo0
ip ospf 1 area 0
exit
```

```
router bgp 100
  bgp router-id 7.7.7.7
  bgp log-neighbor-changes
  network 192.168.7.0
  neighbor ibgp-peers peer-group
  neighbor ibgp-peers remote-as 100
  neighbor ibgp-peers password CISCOBGP
  neighbor ibgp-peers update-source Loopback0
  neighbor ibgp-peers route-reflector-client
  neighbor 1.1.1.1 peer-group ibgp-peers
  neighbor 5.5.5.5 peer-group ibgp-peers
  neighbor 8.8.8.8 peer-group ibgp-peers
```