

- BGP LAB 1.1 configlerine dönülecek.
- ✓ R13 default route anons edecek.
- ✓ R01 default route için R07 yi seçecek.
- ✓ R02 default route için R06 yı seçecek.

Not: Tablolar içerisinde sıralama değişiklik gösterebilir ve Tablolar en son durum çıktılarını göstermektedir.

```
R01#show ip route 0.0.0.0
Routing entry for 0.0.0.0/0, supernet
  Known via "bgp 100", distance 20, metric 0, candidate default path
  Tag 102, type external
  Redistributing via ospf 1
  Last update from 192.168.17.7 00:00:10 ago
  Routing Descriptor Blocks:
  * 192.168.17.7, from 192.168.17.7, 00:00:10 ago
    Route metric is 0, traffic share count is 1
    AS Hops 3
    Route tag 102
    MPLS label: none
R01#
```

```
R01#show ip bgp 0.0.0.0
BGP routing table entry for 0.0.0.0/0, version 37
Paths: (2 available, best #1, table default)
  Advertised to update-groups:
    1
  Refresh Epoch 2
  102 103 105
    192.168.17.7 from 192.168.17.7 (7.7.7.7)
      Origin IGP, localpref 100, weight 10, valid, external, best
      rx pathid: 0, tx pathid: 0x0
  Refresh Epoch 2
  101 104 105
    192.168.16.6 from 192.168.16.6 (6.6.6.6)
      Origin IGP, localpref 100, valid, external
      rx pathid: 0, tx pathid: 0
R01#
```

```
R02#show ip route 0.0.0.0
Routing entry for 0.0.0.0/0, supernet
  Known via "bgp 100", distance 20, metric 0, candidate default path
  Tag 101, type external
  Redistributing via ospf 1
  Last update from 192.168.26.6 00:00:01 ago
  Routing Descriptor Blocks:
  * 192.168.26.6, from 192.168.26.6, 00:00:01 ago
    Route metric is 0, traffic share count is 1
    AS Hops 3
    Route tag 101
    MPLS label: none
R02#
```

```

R02#show ip bgp 0.0.0.0
BGP routing table entry for 0.0.0.0/0, version 42
Paths: (2 available, best #2, table default)
  Advertised to update-groups:
    1
  Refresh Epoch 2
  102 103 105
    192.168.27.7 from 192.168.27.7 (7.7.7.7)
      Origin IGP, localpref 100, valid, external
      rx pathid: 0, tx pathid: 0
  Refresh Epoch 2
  101 104 105
    192.168.26.6 from 192.168.26.6 (6.6.6.6)
      Origin IGP, localpref 100, weight 10, valid, external, best
      rx pathid: 0, tx pathid: 0x0
R02#

```

✓ BGP AS 103 /32 ler için birincil çıkış Router'ı olarak R11'i ikincil olarak R08'i seçecek.

```

R10#sh ip bgp ipv4 unicast
BGP table version is 315, local router ID is 10.10.10.10
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
               x best-external, a additional-path, c RIB-compressed,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

   Network          Next Hop          Metric LocPrf Weight Path
*>i 0.0.0.0          11.11.11.11       0      150      0 105 i
*>i 1.1.1.1/32       11.11.11.11       0      150      0 105 104 101 100 i
*>i 2.2.2.2/32       11.11.11.11       0      150      0 105 104 101 100 i
*>i 3.3.3.3/32       11.11.11.11       0      150      0 105 104 101 100 ?
*>i 4.4.4.4/32       11.11.11.11       0      150      0 105 104 101 100 ?
*>i 5.5.5.5/32       11.11.11.11       0      150      0 105 104 101 100 ?
*>i 6.6.6.6/32       11.11.11.11       0      150      0 105 104 101 i
*>i 7.7.7.7/32       8.8.8.8           17     130      0 102 i
r>i 8.8.8.8/32       8.8.8.8           0      130      0 i
r>i 9.9.9.9/32       9.9.9.9           0      120      0 i
*> 10.10.10.10/32   0.0.0.0           0                          32768 i
r>i 11.11.11.11/32   11.11.11.11       0      150      0 i
*>i 12.12.12.12/32   11.11.11.11       0      150      0 105 104 i
*>i 13.13.13.13/32   11.11.11.11       0      150      0 105 i
*>i 172.16.10.10/32  11.11.11.11       0      150      0 105 104 101 100 ?
*>i 172.16.11.11/32  11.11.11.11       0      150      0 105 104 101 100 ?
*>i 172.16.12.12/32  11.11.11.11       0      150      0 105 104 101 100 ?
*>i 172.16.13.13/32  11.11.11.11       0      150      0 105 104 101 100 ?
*>i 172.16.14.14/32  11.11.11.11       0      150      0 105 104 101 100 i
*>i 172.16.40.40/32  11.11.11.11       0      150      0 105 i
*>i 172.16.41.41/32  11.11.11.11       0      150      0 105 i
*>i 172.16.42.42/32  11.11.11.11       0      150      0 105 i
*>i 172.16.43.43/32  11.11.11.11       0      150      0 105 ?
*>i 172.16.44.44/32  11.11.11.11       0      150      0 105 ?
*>i 192.168.12.0     8.8.8.8           17     130      0 102 100 ?

```

```
*>i 192.168.13.0      8.8.8.8          17    130      0 102 100 ?
*>i 192.168.14.0      8.8.8.8          17    130      0 102 100 ?
*>i 192.168.23.0      8.8.8.8          17    130      0 102 100 ?
*>i 192.168.24.0      8.8.8.8          17    130      0 102 100 ?
*>i 192.168.35.0      8.8.8.8          17    130      0 102 100 ?
*>i 192.168.45.0      8.8.8.8          17    130      0 102 100 ?
R10#
```

✓ R13, sadece AS 102 de üretilmiş BGP anonsları için R11'e weight 150 verecek.

```
R13#show ip bgp regexp _102$
BGP table version is 90, local router ID is 13.13.13.13
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
               x best-external, a additional-path, c RIB-compressed,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

   Network          Next Hop           Metric LocPrf Weight Path
*>  7.7.7.7/32      192.168.113.11    0      0      150 103 102 i
*   7.7.7.7/32      192.168.93.9      0      0      0   103 102 i
R13#
```

✓ R12, AS 103 de üretilmiş BGP anonsları için R06'yı tercih etsin.

```
R12#show ip bgp regexp _103$
BGP table version is 72, local router ID is 12.12.12.12
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
               x best-external, a additional-path, c RIB-compressed,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

   Network          Next Hop           Metric LocPrf Weight Path
*>  8.8.8.8/32      192.168.126.6     0      0      0   101 100 102 103 i
*   8.8.8.8/32      192.168.123.13    0      0      0  104 104 104 105 103i
*>  9.9.9.9/32      192.168.126.6     0      0      0   101 100 102 103 i
*   9.9.9.9/32      192.168.123.13    0      0      0  104 104 104 105 103i
*> 10.10.10.10/32   192.168.126.6     0      0      0   101 100 102 103 i
*  10.10.10.10/32   192.168.123.13    0      0      0  104 104 104 105 103i
*> 11.11.11.11/32   192.168.126.6     0      0      0   101 100 102 103 i
*  11.11.11.11/32   192.168.123.13    0      0      0  104 104 104 105 103i
R12#
```

- ✓ R06, AS 100 den gelen anonslar içinde sadece 5.5.5.5 networkü için R02'yi tercih etsin. Diğerleri için R01 seçilsin.

```
R06#show ip bgp ipv4 unicast
BGP table version is 59, local router ID is 6.6.6.6
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
               x best-external, a additional-path, c RIB-compressed,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

   Network          Next Hop           Metric LocPrf Weight Path
*    0.0.0.0         192.168.26.2       100          0 100 102 103 105 i
*>   0.0.0.0         192.168.16.1          0          0 100 102 103 105 i
*>   1.1.1.1/32      192.168.16.1          0          0 100 i
*    1.1.1.1/32      192.168.26.2       100          0 100 ?
*    2.2.2.2/32      192.168.16.1        65          0 100 ?
*>   2.2.2.2/32      192.168.26.2       100          0 100 i
*>   3.3.3.3/32      192.168.16.1        65          0 100 ?
*    3.3.3.3/32      192.168.26.2       100          0 100 ?
*>   4.4.4.4/32      192.168.16.1        65          0 100 ?
*    4.4.4.4/32      192.168.26.2       100          0 100 ?
*    5.5.5.5/32      192.168.16.1        75          0 100 ?
*>   5.5.5.5/32      192.168.16.1        75          0 100 ?
*>   6.6.6.6/32      0.0.0.0              0          32768 i
*    7.7.7.7/32      192.168.26.2       100          0 100 102 i
*>   7.7.7.7/32      192.168.16.1          1          0 100 ?
*    8.8.8.8/32      192.168.26.2       100          0 100 102 103 i
*>   8.8.8.8/32      192.168.16.1          1          0 100 102 103 i
*    9.9.9.9/32      192.168.26.2       100          0 100 102 103 i
*>   9.9.9.9/32      192.168.16.1          1          0 100 102 103 i
*   10.10.10.10/32   192.168.26.2       100          0 100 102 103 i
*>   10.10.10.10/32  192.168.16.1          1          0 100 102 103 i
*   11.11.11.11/32   192.168.26.2       100          0 100 102 103 i
*>   11.11.11.11/32  192.168.16.1          1          0 100 102 103 i
*>   12.12.12.12/32  192.168.126.12        0          0 104 i
*   13.13.13.13/32   192.168.26.2       100          0 100 102 103 105 i
*>   13.13.13.13/32  192.168.16.1          1          0 100 102 103 105 i
*>   172.16.10.10/32  192.168.16.1        75          0 100 ?
*    172.16.10.10/32  192.168.26.2       100          0 100 ?
*>   172.16.11.11/32  192.168.16.1        75          0 100 ?
*    172.16.11.11/32  192.168.26.2       100          0 100 ?
*>   172.16.12.12/32  192.168.16.1        75          0 100 ?
*    172.16.12.12/32  192.168.26.2       100          0 100 ?
*>   172.16.13.13/32  192.168.16.1        75          0 100 ?
*    172.16.13.13/32  192.168.26.2       100          0 100 ?
*>   172.16.14.14/32  192.168.16.1        75          0 100 ?
*    172.16.14.14/32  192.168.26.2       100          0 100 ?
*   172.16.40.40/32   192.168.26.2       100          0 100 102 103 105 i
*>   172.16.40.40/32  192.168.16.1          1          0 100 102 103 105 i
*   172.16.41.41/32   192.168.26.2       100          0 100 102 103 105 i
*>   172.16.41.41/32  192.168.16.1          1          0 100 102 103 105 i
*   172.16.42.42/32   192.168.26.2       100          0 100 102 103 105 i
*>   172.16.42.42/32  192.168.16.1          1          0 100 102 103 105 i
```

```

* 172.16.43.43/32 192.168.26.2 100 0 100 102 103 105 ?
*> 192.168.16.1 0 100 102 103 105 ?
* 172.16.44.44/32 192.168.26.2 100 0 100 102 103 105 ?
*> 192.168.16.1 0 100 102 103 105 ?
*> 192.168.12.0 192.168.16.1 0 0 100 ?
* 192.168.26.2 100 0 100 ?
*> 192.168.13.0 192.168.16.1 0 0 100 ?
* 192.168.26.2 100 0 100 ?
*> 192.168.14.0 192.168.16.1 0 0 100 ?
* 192.168.26.2 100 0 100 ?
* 192.168.23.0 192.168.16.1 128 0 100 ?
*> 192.168.26.2 100 0 100 ?
* 192.168.24.0 192.168.16.1 128 0 100 ?
*> 192.168.26.2 100 0 100 ?
*> 192.168.35.0 192.168.16.1 74 0 100 ?
* 192.168.26.2 100 0 100 ?
*> 192.168.45.0 192.168.16.1 74 0 100 ?
* 192.168.26.2 100 0 100 ?
R06#

```

- ✓ R07, AS 100 den gelen anonsların içinden sadece /32 olanları R08'e anons etmeyecek. Geriye kalanları da metric 17 yaparak gönderecek.

```

R08#show ip bgp ipv4 unicast
BGP table version is 117, local router ID is 8.8.8.8
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
               x best-external, a additional-path, c RIB-compressed,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

   Network          Next Hop          Metric LocPrf Weight Path
*>i 0.0.0.0          11.11.11.11       0      150      0 105 i
*>i 1.1.1.1/32      11.11.11.11       0      150      0 105 104 101 100 i
*>i 2.2.2.2/32      11.11.11.11       0      150      0 105 104 101 100 i
*>i 3.3.3.3/32      11.11.11.11       0      150      0 105 104 101 100 ?
*>i 4.4.4.4/32      11.11.11.11       0      150      0 105 104 101 100 ?
*>i 5.5.5.5/32      11.11.11.11       0      150      0 105 104 101 100 ?
*>i 6.6.6.6/32      11.11.11.11       0      150      0 105 104 101 i
*                   192.168.78.7      17              0 102 100 101 i
*> 7.7.7.7/32      192.168.78.7      17              0 102 i
*> 8.8.8.8/32      0.0.0.0           0              32768 i
r>i 9.9.9.9/32      9.9.9.9           0      120      0 i
r>i 10.10.10.10/32  10.10.10.10       0      100      0 i
r>i 11.11.11.11/32  11.11.11.11       0      150      0 i
*>i 12.12.12.12/32  11.11.11.11       0      150      0 105 104 i
*                   192.168.78.7      17              0 102 100 101 104 i
*>i 13.13.13.13/32  11.11.11.11       0      150      0 105 i
*>i 172.16.10.10/32  11.11.11.11       0      150      0 105 104 101 100 ?
*>i 172.16.11.11/32  11.11.11.11       0      150      0 105 104 101 100 ?
*>i 172.16.12.12/32  11.11.11.11       0      150      0 105 104 101 100 ?
*>i 172.16.13.13/32  11.11.11.11       0      150      0 105 104 101 100 ?
*>i 172.16.14.14/32  11.11.11.11       0      150      0 105 104 101 100 i

```

```

*>i 172.16.40.40/32 11.11.11.11 0 150 0 105 i
*>i 172.16.41.41/32 11.11.11.11 0 150 0 105 i
*>i 172.16.42.42/32 11.11.11.11 0 150 0 105 i
*>i 172.16.43.43/32 11.11.11.11 0 150 0 105 ?
*>i 172.16.44.44/32 11.11.11.11 0 150 0 105 ?
*> 192.168.12.0 192.168.78.7 17 0 102 100 ?
*> 192.168.13.0 192.168.78.7 17 0 102 100 ?
*> 192.168.14.0 192.168.78.7 17 0 102 100 ?
*> 192.168.23.0 192.168.78.7 17 0 102 100 ?
*> 192.168.24.0 192.168.78.7 17 0 102 100 ?
*> 192.168.35.0 192.168.78.7 17 0 102 100 ?
*> 192.168.45.0 192.168.78.7 17 0 102 100 ?
R08#

```

✓ R06, AS 100 den gelen anonsların içindeki sadece 172.16.14.14/32 prefixinin origin kodunu "i" yaparak anons etsin.

```

R12#show ip bgp regexp _100$
BGP table version is 145, local router ID is 12.12.12.12
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
               x best-external, a additional-path, c RIB-compressed,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

   Network                Next Hop           Metric LocPrf Weight Path
*>  1.1.1.1/32            192.168.126.6          0 101 100 i
*>  2.2.2.2/32            192.168.126.6          0 101 100 i
*>  3.3.3.3/32            192.168.126.6          0 101 100 ?
*>  4.4.4.4/32            192.168.126.6          0 101 100 ?
*>  5.5.5.5/32            192.168.126.6          0 101 100 ?
*>  7.7.7.7/32            192.168.126.6          0 101 100 ?
*> 172.16.10.10/32        192.168.126.6          0 101 100 ?
*> 172.16.11.11/32        192.168.126.6          0 101 100 ?
*> 172.16.12.12/32        192.168.126.6          0 101 100 ?
*> 172.16.13.13/32        192.168.126.6          0 101 100 ?
*> 172.16.14.14/32 192.168.126.6 0 101 100 i
*> 192.168.12.0           192.168.126.6          0 101 100 ?
*                          192.168.123.13         0 105 103 102 100 ?
*> 192.168.13.0           192.168.126.6          0 101 100 ?
*                          192.168.123.13         0 105 103 102 100 ?
*> 192.168.14.0           192.168.126.6          0 101 100 ?
*                          192.168.123.13         0 105 103 102 100 ?
*> 192.168.23.0           192.168.126.6          0 101 100 ?
*                          192.168.123.13         0 105 103 102 100 ?
*> 192.168.24.0           192.168.126.6          0 101 100 ?
*                          192.168.123.13         0 105 103 102 100 ?
*> 192.168.35.0           192.168.126.6          0 101 100 ?
*                          192.168.123.13         0 105 103 102 100 ?
*> 192.168.45.0           192.168.126.6          0 101 100 ?
*                          192.168.123.13         0 105 103 102 100
?R12#

```

- ✓ R01, eBGP den giden anonslar için 100:1 community değerini set edip anons etsin.

```
R06#show ip bgp ipv4 unicast 1.1.1.1/32
BGP routing table entry for 1.1.1.1/32, version 44
Paths: (2 available, best #2, table default)
  Advertised to update-groups:
    1          5
  Refresh Epoch 3
  100
    192.168.26.2 from 192.168.26.2 (2.2.2.2)
      Origin incomplete, metric 100, localpref 100, valid, external
      rx pathid: 0, tx pathid: 0
  Refresh Epoch 3
  100
    192.168.16.1 from 192.168.16.1 (1.1.1.1)
      Origin IGP, metric 0, localpref 100, valid, external, best
      Community: 100:1
      rx pathid: 0, tx pathid: 0x0
R06#
```

```
R07#show ip bgp ipv4 unicast 1.1.1.1/32
BGP routing table entry for 1.1.1.1/32, version 47
Paths: (3 available, best #3, table default)
  Advertised to update-groups:
    1
  Refresh Epoch 4
  103 105 104 101 100
    192.168.78.8 from 192.168.78.8 (8.8.8.8)
      Origin IGP, localpref 100, valid, external
      rx pathid: 0, tx pathid: 0
  Refresh Epoch 5
  100
    192.168.27.2 from 192.168.27.2 (2.2.2.2)
      Origin incomplete, metric 65, localpref 100, valid, external
      rx pathid: 0, tx pathid: 0
  Refresh Epoch 4
  100
    192.168.17.1 from 192.168.17.1 (1.1.1.1)
      Origin IGP, metric 0, localpref 100, valid, external, best
      Community: 100:1
      rx pathid: 0, tx pathid: 0x0
R07#
```

✓ R10'da aşağıdaki çıktı alınsın.

```
R10#show ip bgp ipv4 unicast neighbors 8.8.8.8 received-routes
BGP table version is 458, local router ID is 10.10.10.10
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
               x best-external, a additional-path, c RIB-compressed,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

   Network          Next Hop           Metric LocPrf Weight Path
*>i 7.7.7.7/32      8.8.8.8             17     130     0 102 i
r>i 8.8.8.8/32      8.8.8.8             0      130     0 i
*>i 192.168.12.0    8.8.8.8             17     130     0 102 100 ?
*>i 192.168.13.0    8.8.8.8             17     130     0 102 100 ?
*>i 192.168.14.0    8.8.8.8             17     130     0 102 100 ?
*>i 192.168.23.0    8.8.8.8             17     130     0 102 100 ?
*>i 192.168.24.0    8.8.8.8             17     130     0 102 100 ?
*>i 192.168.35.0    8.8.8.8             17     130     0 102 100 ?
*>i 192.168.45.0    8.8.8.8             17     130     0 102 100 ?

Total number of prefixes 9
R10#
```