

Labák 4

<https://www.cisco.com/c/en/us/support/docs/ip/border-gateway-protocol-bgp/13751-23.html>

5. Overte vytvorenie aktívneho susedstva zobrazením BGP susedov, resp. sumarizovaných informácií.

V prípade problémov overte pomocou ping, či viete komunikovať s Router ID suseda. Tiež skontrolujte z akej IP adresy posielate BGP informácie susedom.

```
R1(config)#router bgp 100
R1(config-router)#bgp router-id 1.1.1.1
//R1(config-router)#neighbor 2.2.2.2 remote-as 200
//R1(config-router)#neighbor 2.2.2.2 update-source loop0
R1(config-router)#neighbor 3.3.3.3 remote-as 300
R1(config-router)#neighbor 3.3.3.3 update-source loop0
//R1(config-router)#neighbor 4.4.4.4 remote-as 400
//R1(config-router)#neighbor 4.4.4.4 update-source loop0

//R1(config-router)#neighbor 2.2.2.2 ebgp-multihop 3
//R1(config-router)#neighbor 4.4.4.4 ebgp-multihop 3
R1(config-router)#neighbor 3.3.3.3 ebgp-multihop 2
R1(config)#ip route 3.3.3.3 255.255.255.255 13.13.13.2
//R1(config)#ip route 4.4.4.4 255.255.255.255 13.13.13.2
//R1(config)#ip route 2.2.2.2 255.255.255.255 13.13.13.2

R2(config)#router bgp 200
R2(config-router)#bgp router-id 2.2.2.2
//R2(config-router)#neighbor 1.1.1.1 remote-as 100
//R2(config-router)#neighbor 1.1.1.1 update-source loop0
R2(config-router)#neighbor 3.3.3.3 remote-as 300
R2(config-router)#neighbor 3.3.3.3 update-source loop0
//R2(config-router)#neighbor 4.4.4.4 remote-as 400
//R2(config-router)#neighbor 4.4.4.4 update-source loop0

R2(config)#router bgp 200
//R2(config-router)#neighbor 1.1.1.1 ebgp-multihop 3
R2(config-router)#neighbor 3.3.3.3 ebgp-multihop 2
//R2(config-router)#neighbor 4.4.4.4 ebgp-multihop 3
//R2(config)#ip route 1.1.1.1 255.255.255.255 3.3.3.3
//R2(config)#ip route 4.4.4.4 255.255.255.255 3.3.3.3
R2(config)#ip route 3.3.3.3 255.255.255.255 23.23.23.2

R3(config)#router bgp 300
R3(config-router)#bgp router-id 3.3.3.3
R3(config-router)#neighbor 1.1.1.1 remote-as 100
R3(config-router)#neighbor 1.1.1.1 remote-as 100
R3(config-router)#neighbor 1.1.1.1 update-source loop0
```

```

R3(config-router)#neighbor 2.2.2.2 remote-as 200
R3(config-router)#neighbor 2.2.2.2 update-source loop0
R3(config-router)#neighbor 4.4.4.4 remote-as 400
R3(config-router)#neighbor 4.4.4.4 update-source loop0

R3(config-router)#neighbor 1.1.1.1 ebgp-multihop 2
R3(config-router)#neighbor 2.2.2.2 ebgp-multihop 2
R3(config-router)#neighbor 4.4.4.4 ebgp-multihop 2
R3(config)#ip route 1.1.1.1 255.255.255.255 13.13.13.1
R3(config)#ip route 2.2.2.2 255.255.255.255 23.23.23.1
R3(config)#ip route 4.4.4.4 255.255.255.255 34.34.34.2

//podobne netreba susedov medzi R4->R2 a R4->R1
R4(config)#router bgp 400
R4(config-router)#bgp router-id 4.4.4.4
R4(config-router)#neighbor 1.1.1.1 remote-as 100
R4(config-router)#neighbor 1.1.1.1 update-source loop0
R4(config-router)#neighbor 2.2.2.2 remote-as 200
R4(config-router)#neighbor 2.2.2.2 update-source loop0
R4(config-router)#neighbor 3.3.3.3 remote-as 300

R4(config-router)#neighbor 1.1.1.1 ebgp-multihop 3
R4(config-router)#neighbor 2.2.2.2 ebgp-multihop 3
R4(config-router)#neighbor 3.3.3.3 ebgp-multihop 2
R4(config)#ip route 1.1.1.1 255.255.255.255 3.3.3.3
R4(config)#ip route 2.2.2.2 255.255.255.255 3.3.3.3
R4(config)#ip route 3.3.3.3 255.255.255.255 34.34.34.1

```

7. Na R3 nakonfigurujte vBGP sumárnu sieť (sumarizujte naučené loopback siete na čo najväčší prefix). Overte, či sa R4 naučil sumárnu sieť. Viete prečo sa naučil aj špecifickejšie siete?

```

R3(config-router)#aggregate-address 10.10.10.0 255.255.255.0

```

<https://www.theroutingtable.com/bgp-aggregation-and-suppress-maps/>

<https://ipwithease.com/understanding-bgp-suppress-map-and-attribute-map/>

8. Pomocou prefix-listov a smerovacej mapy na R3 potlačte (suppress-map) samostatné oznamovanie prefixu 10.10.10.0 /26 (R4 nech do danej siete smeruje cez sumárny prefix). Overte zmenu v BGP databáze na R4. Nezabudnite na reset BGP (clear ip bgp *).

```

R3(config)#ip prefix-list r3pref permit 10.10.10.0/26
R3(config)#route-map mapa permit
R3(config-route-map)#match ip address prefix-list r3pref
R3(config-route-map)#exit

```

```
R3(config)#router bgp 300
R3(config-router)#aggregate-address 10.10.10.0 255.255.255.0 suppress-map mapa
```

9. **(10)** Na R3 zabezpečte, aby ohlasovanie sumárnej siete zahŕňalo AS zosumarizovaných prefixov. Overte zmenu na R1 aj R4.

```
R3(config-router)#aggregate-address 10.10.10.0 255.255.255.0 set-as suppress-map mapa
```

11. Pomocou advertise-map na R3 zabezpečte, aby R4 nevidel v AS_PATH sumárneho prefixu AS

```
//picovina nefunguje
```

12. Pomocou attribute-map zase zabezpečte, aby sumárny prefix bol oznamovaný akoby bol zdroj neznámy (nastavujete atribút origin). Overte zmenu v BGP databáze na R4.

https://s3-us-west-2.amazonaws.com/secure.notion-static.com/e8612534-264b-44dd-a2a2-368ee456bca0/5_11-14.pdf