

BGP Cheat Sheet

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Cheat sheet for the Wednesday BGP exercises. All IP addresses and ASNs provided here are examples only - please do not use these in the lab, or on the real Internet.

```
ip classless
ip subnet-zero
ip bgp-community new-format
!
!-----BGP Configuration-----
router bgp 51234          ! Initial BGP config statement
                        ! defines your ASN
no bgp default ipv4-unicast  ! don't assume that all peers are
                        ! IPv4 unicast peers
!-----IPv4-----
address-family ipv4      ! jump into the IPv4 address family
no synchronization      ! Do not synchronize with the IGP
no auto-summary         ! no classfull boundaries
network 103.223.0.0 mask 255.255.0.0 ! network to announce into BGP
!-----First Peer-----
neighbor 101.98.66.11 remote-as 51357 ! peer's address and AS number
neighbor 101.98.66.11 description BigISP Transit (noc@upstream.net)
                        ! name and contact info is useful
neighbor 101.98.66.11 send-community ! Send communities to peers
neighbor 101.98.66.11 version 4      ! BGP version 4
neighbor 101.98.66.11 password <BGP-password>
                        ! password for eBGP session
neighbor 101.98.66.11 prefix-list sanity-filter in
                        ! filter all incoming announcements
                        ! against this prefix-list
neighbor 101.98.66.11 prefix-list my-routes out
                        ! filter all outgoing announcements
                        ! against this prefix-list

!-----Second Peer-----
neighbor 101.55.13.7 remote-as 53512 ! peer's address and AS number
neighbor 101.55.13.7 description SmallISP Peering (noc@smallisp.net)
                        ! name and contact info is useful
neighbor 101.55.13.7 send-community ! Send communities to peers
neighbor 101.55.13.7 version 4      ! BGP version 4
neighbor 101.55.13.7 password <BGP-password>
                        ! password for eBGP session
neighbor 101.55.13.7 prefix-list as53512-in in
                        ! filter all incoming announcements
                        ! against this prefix-list
neighbor 101.55.13.7 prefix-list my-routes out
                        ! filter all outgoing announcements
                        ! against this prefix-list

!-----Internal Peer-----
neighbor 102.108.0.1 remote-as 51234 ! iBGP (remote AS is same as local AS)
```

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neighbor 102.108.0.1 description IBGP-peer
                        ! useful info: neighbor description
neighbor 102.108.0.1 version 4      ! BGP version 4
neighbor 102.108.0.1 password <BGP-password>
                        ! password for iBGP session
neighbor 102.108.0.1 update-source loopback 0
                        ! always use loopback for iBGP
neighbor 102.108.0.1 send-community ! Send communities to internal peers

!-----IPv6-----
address-family ipv6      ! jump into the IPv6 address family
network 2134:cafe::/32   ! network to announce into BGP
!-----First Peer-----
neighbor 2008:34ce::1 remote-as 51357 ! peer's address and AS number
neighbor 2008:34ce::1 description BigISP Transit (noc@upstream.net)
                        ! name and contact info is useful
neighbor 2008:34ce::1 send-community ! Send communities to peers
neighbor 2008:34ce::1 version 4      ! BGP version 4
neighbor 2008:34ce::1 password <BGP-password>
                        ! password for eBGP session
neighbor 2008:34ce::1 prefix-list v6sanity-filter in
                        ! filter all incoming announcements
                        ! against this prefix-list
neighbor 2008:34ce::1 prefix-list my-v6routes out
                        ! filter all outgoing announcements
                        ! against this prefix-list

!-----Second Peer-----
neighbor 2001:caf::e remote-as 53512 ! peer's address and AS number
neighbor 2001:caf::e description SmallISP Peering (noc@smallisp.net)
                        ! name and contact info is useful
neighbor 2001:caf::e send-community ! Send communities to peers
neighbor 2001:caf::e version 4      ! BGP version 4
neighbor 2001:caf::e password <BGP-password>
                        ! password for eBGP session
neighbor 2001:caf::e prefix-list as53512-in in
                        ! filter all incoming announcements
                        ! against this prefix-list
neighbor 2001:caf::e prefix-list my-v6routes out
                        ! filter all outgoing announcements
                        ! against this prefix-list

!-----Internal Peer-----
neighbor 2020:ce1::9 remote-as 51234 ! iBGP (remote AS is same as local AS)
neighbor 2020:ce1::9 description IBGP-peer
                        ! useful info: neighbor description
neighbor 2020:ce1::9 version 4      ! BGP version 4
neighbor 2020:ce1::9 password <BGP-password>
                        ! password for iBGP session
neighbor 2020:ce1::9 update-source loopback 0
                        ! always use loopback for iBGP
neighbor 2020:ce1::9 send-community ! Send communities to internal peers

!

```

```
ip prefix-list my-routes description Allow my routes and deny others
ip prefix-list my-routes seq 5 permit 128.223.0.0/16
ip prefix-list my-routes seq 100 deny 0.0.0.0/0 le 32
!
ip prefix-list as53512-in description All routes for peer AS 53512
ip prefix-list as53512-in seq 5 permit 205.240.25.0/24
ip prefix-list as53512-in seq 10 permit 199.217.92.0/22
ip prefix-list as53512-in seq 15 permit 206.40.128.0/22
ip prefix-list as53512-in seq 100 deny 0.0.0.0/0 le 32
!
! prefix-list to deny some bad prefixes, permit almost everything else,
! but deny prefixes longer than /24 - see RFC3330 and Project Cymru
! (www.cymru.com/Documents) for more info
!
ip prefix-list sanity-filter description "Deny default, RFC1918, net 10"
ip prefix-list sanity-filter seq 15 deny 10.0.0.0/8 le 32
ip prefix-list sanity-filter seq 10 deny 127.0.0.0/8 le 32
ip prefix-list sanity-filter seq 20 deny 169.254.0.0/16 le 32
ip prefix-list sanity-filter seq 20 deny 172.16.0.0/12 le 32
ip prefix-list sanity-filter seq 30 deny 192.0.2.0/24 le 32
ip prefix-list sanity-filter seq 25 deny 192.168.0.0/16 le 32
ip prefix-list sanity-filter seq 50 permit 0.0.0.0/0 le 24
!
ip route 103.223.0.0 255.255.0.0 null0 250    ! pull up route for BGP network
!
!
ipv6 route 2134:cafe::/32 null 0 250        ! pull up route for BGP network
!
ipv6 prefix-list my-v6routes description Allow my IPv6 routes and deny others
ipv6 prefix-list my-v6routes seq 5 permit 2134:cafe::/32
ipv6 prefix-list my-v6routes seq 100 deny ::/0 le 128
!
ipv6 prefix-list as53512-in description All routes for peer AS 53512
ipv6 prefix-list as53512-in seq 5 permit 2005:cea::/32
ipv6 prefix-list as53512-in seq 10 permit 2001:caf::/32
ipv6 prefix-list as53512-in seq 100 deny ::/0 le 128
!
! v6 sanity filter - see Project Cymru (www.cymru.com/Bogons/ipv6.txt) for more info
!
ipv6 prefix-list v6sanity-filter description Sanity Inbound
ipv6 prefix-list v6sanity-filter deny ::/0
ipv6 prefix-list v6sanity-filter deny ::1/128
ipv6 prefix-list v6sanity-filter deny ::/128
ipv6 prefix-list v6sanity-filter deny ::/96
ipv6 prefix-list v6sanity-filter deny ::ffff:0:0/96
ipv6 prefix-list v6sanity-filter deny ::/8 le 128
ipv6 prefix-list v6sanity-filter deny fe80::/10 le 128
ipv6 prefix-list v6sanity-filter deny fec0::/10 le 128
ipv6 prefix-list v6sanity-filter deny fc00::/7 le 128
ipv6 prefix-list v6sanity-filter deny ff00::/8 le 128
ipv6 prefix-list v6sanity-filter deny 2001:db8::/32 le 128
ipv6 prefix-list v6sanity-filter permit ::/0 le 128
!
```