

The LOCAL_PREF Attribute

Commands References

```
admin@XorPlus# set protocols bgp local-preference <0- 4294967295>
```

Note: This command is to set the value of local-preference. It also affects the BGP decision process. If multiple paths for the same prefix are available, the path with the larger local preference value is preferred. LOCAL_PREF is an AS-wide attribute at the highest level of the BGP decision process. It is considered before the AS path length. A longer path with a larger local preference is preferred over a shorter path with a smaller local preference.

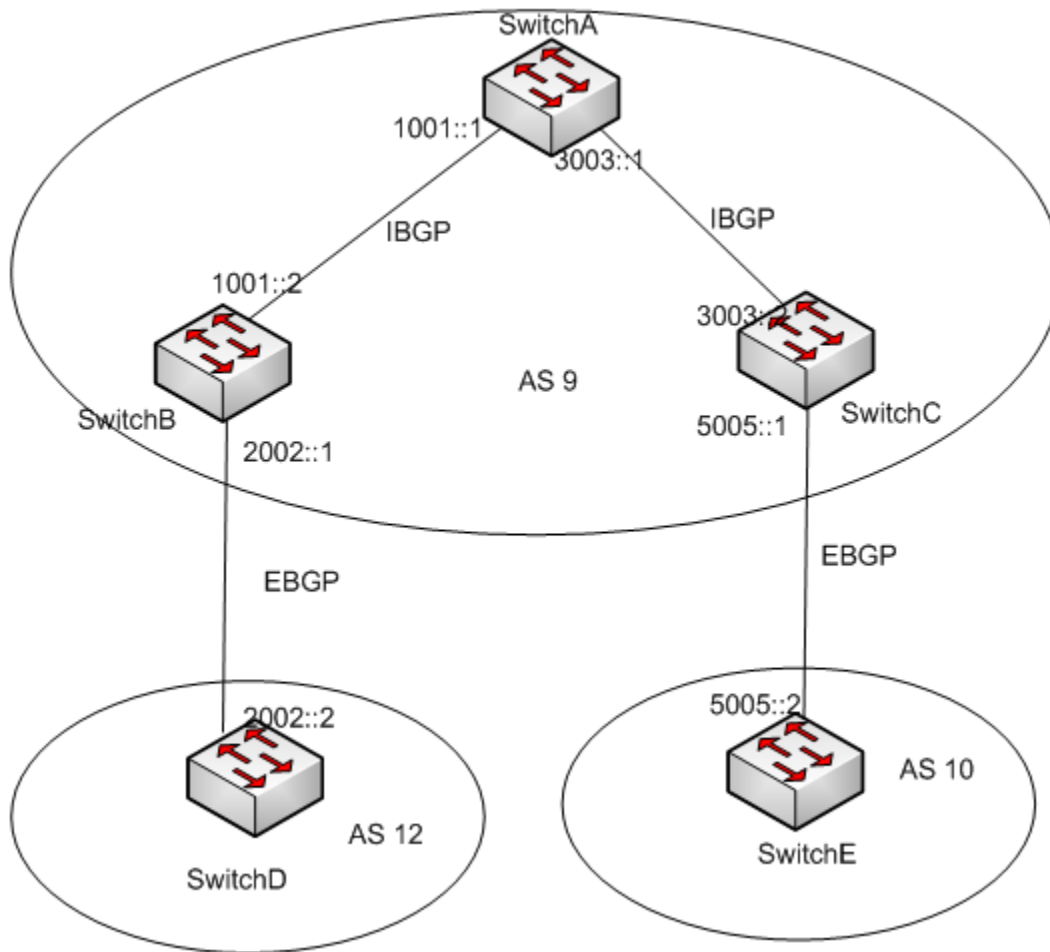


Figure 1-17

Step 1: Configure BGP as TOPO displayed

Switch A:

```
admin@XorPlus# set protocols bgp bgp-id 6.6.6.6
admin@XorPlus# set protocols bgp local-as 9
admin@XorPlus# set protocols bgp peer 1001::2 local-ip "1001::1"
admin@XorPlus# set protocols bgp peer 1001::2 as "9"
admin@XorPlus# set protocols bgp peer 1001::2 ipv6-unicast true
admin@XorPlus# set protocols bgp peer 3003::2 local-ip "3003::1"
admin@XorPlus# set protocols bgp peer 3003::2 as "9"
admin@XorPlus# set protocols bgp peer 3003::2 ipv6-unicast true
```

Switch B:

```

admin@XorPlus# set protocols bgp bgp-id 26.26.26.26
admin@XorPlus# set protocols bgp local-as "9"
admin@XorPlus# set protocols bgp peer 1001::1 local-ip "1001::2"
admin@XorPlus# set protocols bgp peer 1001::1 as 9
admin@XorPlus# set protocols bgp peer 1001::1 next-hop-self true
admin@XorPlus# set protocols bgp peer 1001::1 ipv6-unicast true
admin@XorPlus# set protocols bgp peer 2002::2 local-ip "2002::1"
admin@XorPlus# set protocols bgp peer 2002::2 as "12"
admin@XorPlus# set protocols bgp peer 2002::2 ipv6-unicast true

```

Switch C:

```

admin@XorPlus# set protocols bgp bgp-id 9.9.9.9
admin@XorPlus# set protocols bgp local-as "9"
admin@XorPlus# set protocols bgp peer 3003::1 local-ip "3003::2"
admin@XorPlus# set protocols bgp peer 3003::1 as 9
admin@XorPlus# set protocols bgp peer 3003::1 next-hop-self true
admin@XorPlus# set protocols bgp peer 3003::1 ipv6-unicast true
admin@XorPlus# set protocols bgp peer 5005::2 local-ip "5005::1"
admin@XorPlus# set protocols bgp peer 5005::2 as "10"
admin@XorPlus# set protocols bgp peer 5005::2 ipv6-unicast true

```

Switch D:

```

admin@XorPlus# set protocols bgp bgp-id 44.44.44.44
admin@XorPlus# set protocols bgp local-as 12
admin@XorPlus# set protocols bgp peer 2002::1 local-ip "2002::2"
admin@XorPlus# set protocols bgp peer 2002::1 as 9
admin@XorPlus# set protocols bgp peer 2002::1 ipv6-unicast true

```

Switch E:

```

admin@XorPlus# set protocols bgp bgp-id 33.33.33.33
admin@XorPlus# set protocols bgp local-as 10
admin@XorPlus# set protocols bgp peer 5005::1 local-ip "5005::2"
admin@XorPlus# set protocols bgp peer 5005::1 as 9
admin@XorPlus# set protocols bgp peer 5005::1 ipv6-unicast true

```

Step 2: Switch D and Switch E propagate BGP route entry 9999::/64 to Switch B and Switch C

Note: check the BGP route table on Switch A.

Switch B:

```

admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete

  Prefix                               Nexthop                               Peer                               AS Path
  -----                               -
*> 9999::/64                           2002::2                               44.44.44.44                       12 i

```

Switch C:

```
admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete
```

Prefix	NextHop	Peer	AS Path
*> 9999::/64	5005::2	33.33.33.33	10 i

Switch A:

```
admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete
```

Prefix	NextHop	Peer	AS Path
* 9999::/64	1001::2	26.26.26.26	12 i
*> 9999::/64	3003::2	9.9.9.9	10 i

```
admin@XorPlus# run show bgp routes ipv6 detail
9999::/64
```

```
  From peer: 9.9.9.9
  Route: Winner
  Origin: IGP
  AS Path: 10
  NextHop: 3003::2
  Local Preference: 100
```

```
9999::/64
```

```
  From peer: 26.26.26.26
  Route: Not Used
  Origin: IGP
  AS Path: 12
  NextHop: 1001::2
  Local Preference: 100
```

```
admin@XorPlus#
```

Note: The Local-Preference all is 100 the two BGP route entry.

Step 3: Modify the Local-Preference value on Switch B

Switch B:

```
admin@XorPlus# set protocols bgp local-preference 200
```

Switch A:

```

admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete

  Prefix                Nexthop                Peer                AS Path
  -----                -
* 9999::/64             3003::2               9.9.9.9            10 i
*> 9999::/64           1001::2               26.26.26.26       12 i
admin@XorPlus# run show bgp routes ipv6 detail
9999::/64
  From peer: 9.9.9.9
  Route: Not Used
  Origin: IGP
  AS Path: 10
  Nexthop: 3003::2
  Local Preference: 100
9999::/64
  From peer: 26.26.26.26
  Route: Winner
  Origin: IGP
  AS Path: 12
  Nexthop: 1001::2
  Local Preference: 200
admin@XorPlus#

```

Note: The best route is coming from Switch B, as the BGP route entry from Switch B has a larger Local-Preference value. It will select the BGP route entry with smaller Local-Preference value if other attributes all have the same priority.

Step 4: Modify the Local-Preference larger than Switch B on Switch C

Switch C:

```

admin@XorPlus# set protocols bgp local-preference 300

```

Switch A:

```

admin@XorPlus# run show bgp routes ipv6
Status Codes: * valid route, > best route
Origin Codes: i IGP, e EGP, ? incomplete

  Prefix                Nexthop                Peer                AS Path
  -----                -
* 9999::/64             1001::2               26.26.26.26       12 i
*> 9999::/64           3003::2               9.9.9.9            10 i
admin@XorPlus# run show bgp routes ipv6 detail
9999::/64
  From peer: 9.9.9.9
  Route: Winner
  Origin: IGP
  AS Path: 10
  Nexthop: 3003::2
  Local Preference: 300
9999::/64
  From peer: 26.26.26.26
  Route: Not Used
  Origin: IGP
  AS Path: 12
  Nexthop: 1001::2
  Local Preference: 200
admin@XorPlus#

```

Note: The BGP speaker selects the BGP route entry with larger Local-Preference.