



## S Commands

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This chapter describes the Cisco NX-OS Border Gateway Protocol (BGP) commands that begin with S.

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# send-community

To send the Border Gateway Protocol (BGP) community attribute to a peer, use the **send-community** command. To revert to the defaults, use the **no** form of this command.

**send-community** [extended]

**no send-community** [extended]

|                           |                                                                  |
|---------------------------|------------------------------------------------------------------|
| <b>Syntax Description</b> | <b>extended</b> (Optional) Specifies the BGP extended community. |
|---------------------------|------------------------------------------------------------------|

|                        |                                               |
|------------------------|-----------------------------------------------|
| <b>Command Default</b> | No community attributes are sent to the peer. |
|------------------------|-----------------------------------------------|

|                      |                                                |
|----------------------|------------------------------------------------|
| <b>Command Modes</b> | BGP neighbor address-family configuration mode |
|----------------------|------------------------------------------------|

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 6.0(2)N1(1)    | This command was introduced. |

|                         |                                                                                                         |
|-------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Usage Guidelines</b> | Before you use this command, you must configure BGP communities using the <b>set community</b> command. |
|-------------------------|---------------------------------------------------------------------------------------------------------|

This command requires the LAN Enterprise Services license.

|                 |                                                                                                             |
|-----------------|-------------------------------------------------------------------------------------------------------------|
| <b>Examples</b> | This example shows how to configure the router to send the community attribute to the neighbor 192.168.1.3: |
|-----------------|-------------------------------------------------------------------------------------------------------------|

```
switch# configure terminal
switch(config)# router bgp 102
switch(config-router)# neighbor 192.168.1.3 remote-as 64497
switch(config-router-neighbor)# address-family ipv4 multicast
switch(config-router-neighbor-af)# send-community
switch(config-router-neighbor-af)#
```

| <b>Related Commands</b> | <b>Command</b>       | <b>Description</b>                          |
|-------------------------|----------------------|---------------------------------------------|
|                         | <b>set community</b> | Defines the BGP community attributes.       |
|                         | <b>show ip bgp</b>   | Displays the BGP configuration information. |

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# set as-path

To modify an autonomous system path (as-path) for BGP routes, use the **set as-path** command. To not modify the autonomous system (AS) path, use the **no** form of this command.

```
set as-path { tag | { prepend as-num[...as-num] | last-as num } }
```

```
no as-path { tag | { prepend as-num[...as-num] | last-as num } }
```

| Syntax Description           |  |                                                                                                                                                                                                                                 |
|------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>tag</b>                   |  | Converts the tag of a route into an autonomous system path. Applies only when redistributing routes into Border Gateway Protocol (BGP).                                                                                         |
| <b>prepend</b> <i>as-num</i> |  | Appends the specified AS number to the autonomous system path of the route that is matched by the route map. Applies to both inbound and outbound BGP route maps. Range: 1 to 65535. You can configure more than one AS number. |
| <b>last-as</b> <i>num</i>    |  | Prepends the last AS numbers to the as-path. Range: 1 to 10.                                                                                                                                                                    |

|                        |                                         |
|------------------------|-----------------------------------------|
| <b>Command Default</b> | Autonomous system path is not modified. |
|------------------------|-----------------------------------------|

|                      |                              |
|----------------------|------------------------------|
| <b>Command Modes</b> | Route-map configuration mode |
|----------------------|------------------------------|

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 6.0(2)N1(1) | This command was introduced. |

**Usage Guidelines**

Once you enter route-map configuration mode, you can enter the **set** command.

The only global BGP metric available to influence the best path selection is the autonomous system path length. By varying the length of the autonomous system path, a BGP speaker can influence the best-path selection by a peer further away.

By allowing you to convert the tag into an autonomous system path, the **set as-path tag** variation of this command modifies the autonomous system length. The **set as-path prepend** variation allows you to prepend an arbitrary autonomous system path string to BGP routes. Usually, the local autonomous system number is prepended multiple times, increasing the autonomous system path length.

|                 |                                                                                                    |
|-----------------|----------------------------------------------------------------------------------------------------|
| <b>Examples</b> | This example shows how to convert the tag of a redistributed route into an autonomous system path: |
|-----------------|----------------------------------------------------------------------------------------------------|

```
switch(config)# route-map test1
switch(config-route-map)# set as-path tag
```

This example shows how to prepend 100 to all the routes advertised to 10.108.1.1:

```
switch(config)# route-map test1
switch(config-route-map)# match as-path 1
switch(config-route-map)# set as-path prepend 100
```

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```

switch(config)# router bgp 64496
switch(config-router)# neighbor 10.108.1.1 remote-as 64497
switch(config-router-neighbor)# address-family ipv4 unicast
switch(config-router-neighbor-af)# route-map set-as-path test1 out

```

| Related Commands | Command                      | Description                                                                                                                |
|------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|                  | <b>match as-path</b>         | Matches a BGP autonomous system path access list.                                                                          |
|                  | <b>match community</b>       | Matches a BGP community.                                                                                                   |
|                  | <b>match ip next-hop</b>     | Redistributes any routes that have a next-hop router address passed by one of the access lists specified.                  |
|                  | <b>match ip route-source</b> | Redistributes routes that have been advertised by routers and access servers at the address specified by the access lists. |
|                  | <b>match metric</b>          | Redistributes routes with the metric specified.                                                                            |
|                  | <b>match tag</b>             | Redistributes routes in the routing table that match the specified tags.                                                   |
|                  | <b>route-map (IP)</b>        | Defines the conditions for redistributing routes from one routing protocol into another.                                   |
|                  | <b>set as-path</b>           | Modifies an autonomous system path for BGP routes.                                                                         |
|                  | <b>set community</b>         | Sets the BGP communities attribute.                                                                                        |
|                  | <b>set level</b>             | Indicates where to import routes.                                                                                          |
|                  | <b>set local-preference</b>  | Specifies a preference value for the autonomous system path.                                                               |
|                  | <b>set metric</b>            | Sets the metric value for a routing protocol.                                                                              |
|                  | <b>set metric-type</b>       | Sets the metric type for the destination routing protocol.                                                                 |
|                  | <b>set next-hop</b>          | Specifies the address of the next hop.                                                                                     |
|                  | <b>set tag</b>               | Sets a tag value of the destination routing protocol.                                                                      |
|                  | <b>set weight</b>            | Specifies the BGP weight for the routing table.                                                                            |

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## set comm-list delete

To remove communities from the community attribute of an inbound or outbound update, use the **set comm-list delete** command. To remove a previous **set comm-list delete** command, use the **no** form of this command.

**set comm-list** *community-list-name* **delete**

**no set comm-list**

### Syntax Description

|                            |                                                                                                    |
|----------------------------|----------------------------------------------------------------------------------------------------|
| <i>community-list-name</i> | Standard or expanded community list name. The name is any alphanumeric string up to 63 characters. |
|----------------------------|----------------------------------------------------------------------------------------------------|

### Command Default

No communities are removed.

### Command Modes

Route-map configuration mode

### Command History

| Release     | Modification                 |
|-------------|------------------------------|
| 6.0(2)N1(1) | This command was introduced. |

### Usage Guidelines

This **set** route-map configuration command removes communities from the community attribute of an inbound or outbound update using a route map to filter and determine the communities to be deleted. Depending upon whether the route map is applied to the inbound or outbound update for a neighbor, each community that passes the route map **permit** clause and matches the given community list is removed from the community attribute being received from or sent to the Border Gateway Protocol (BGP) neighbor.

Each entry of a standard community list should list only one community when used with the **set comm-list delete** command. For example, in order to be able to delete communities 10:10 and 10:20, you must use the following format to create the entries:

```
switch(config)# ip community-list 500 permit 10:10
switch(config)# ip community-list 500 permit 10:20
```

The following format for a community list entry, while acceptable otherwise, does not work with the **set comm-list delete** command:

```
switch(config)# ip community-list 500 permit 10:10 10:20
```

When both the **set community** *community-number* and **set comm-list delete** commands are configured in the same sequence of a route map attribute, the deletion operation (**set comm-list delete**) is performed before the set operation (**set community** *community-number*).

### Examples

This example shows how to remove communities from the community attribute of an inbound or outbound update:

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```

switch(config)# route-map test1
switch(config-route-map)# match as-path 1
switch(config-route-map)# set comm-list list1 delete

```

| Related Commands | Command                      | Description                                                                                                                |
|------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------|
|                  | <b>match as-path</b>         | Matches a BGP autonomous system path access list.                                                                          |
|                  | <b>match community</b>       | Matches a BGP community.                                                                                                   |
|                  | <b>match ip next-hop</b>     | Redistributes any routes that have a next-hop router address passed by one of the access lists specified.                  |
|                  | <b>match ip route-source</b> | Redistributes routes that have been advertised by routers and access servers at the address specified by the access lists. |
|                  | <b>match metric</b>          | Redistributes routes with the metric specified.                                                                            |
|                  | <b>match tag</b>             | Redistributes routes in the routing table that match the specified tags.                                                   |
|                  | <b>route-map (IP)</b>        | Defines the conditions for redistributing routes from one routing protocol into another.                                   |
|                  | <b>set as-path</b>           | Modifies an autonomous system path for BGP routes.                                                                         |
|                  | <b>set community</b>         | Sets the BGP communities attribute.                                                                                        |
|                  | <b>set level</b>             | Indicates where to import routes.                                                                                          |
|                  | <b>set local-preference</b>  | Specifies a preference value for the autonomous system path.                                                               |
|                  | <b>set metric</b>            | Sets the metric value for a routing protocol.                                                                              |
|                  | <b>set metric-type</b>       | Sets the metric type for the destination routing protocol.                                                                 |
|                  | <b>set next-hop</b>          | Specifies the address of the next hop.                                                                                     |
|                  | <b>set tag</b>               | Sets a tag value of the destination routing protocol.                                                                      |
|                  | <b>set weight</b>            | Specifies the BGP weight for the routing table.                                                                            |

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# set community

To set the Border Gateway Protocol (BGP) communities attribute, use the **set community** command. To delete the entry, use the **no** form of this command.

**set community** { **none** | { *aa:nn* [...*aa:nn*] | **additive** | **local-as** | **no-advertise** | **no-export** } }

**no set community** { **none** | { *aa:nn* | **additive** | **local-as** | **no-advertise** | **no-export** } }

| Syntax              | Description                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>none</b>         | Specifies the no community attribute.<br>You cannot configure any other keyword if you configure the <b>none</b> keyword.                                                                                                                                                                                                                                                                                                       |
| <i>aa:nn</i>        | Autonomous system (AS) number and network number entered in the 4-byte new community format. This value is configured with two 2-byte numbers separated by a colon. A number from 1 to 65535 can be entered as each 2-byte number. A single community can be entered or multiple communities can be entered, each separated by a space.<br>You can configure one or more AS numbers.<br>You can configure one or more keywords. |
| <b>additive</b>     | Adds to existing community.<br>You can configure one or more keywords.                                                                                                                                                                                                                                                                                                                                                          |
| <b>local-as</b>     | Specifies the local-as community (well-known community). Routes with community are advertised to only peers that are part of the local autonomous system or to only peers within a subautonomous system of a confederation. These routes are not advertised to external peers or to other subautonomous systems within a confederation.<br>You can configure one or more keywords.                                              |
| <b>no-advertise</b> | Specifies the no-advertise community (well-known community). Routes with this community are not advertised to any peer (internal or external).<br>You can configure one or more keywords.                                                                                                                                                                                                                                       |
| <b>no-export</b>    | Specifies the no-export community (well-known community). Routes with this community are advertised to only peers in the same autonomous system or to only other subautonomous systems within a confederation. These routes are not advertised to external peers.<br>You can configure one or more keywords.                                                                                                                    |

**Command Default** No BGP communities attributes exist.

**Command Modes** Route-map configuration mode

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 6.0(2)N1(1) | This command was introduced. |

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You must have a match clause (even if it points to a “permit everything” list) if you want to set tags.

Use the **route-map** global configuration command and the **match** and **set** route map configuration commands to define the conditions for redistributing routes from one routing protocol into another. Each **route-map** command has a list of **match** and **set** commands associated with it. The **match** commands specify the match criteria—the conditions under which redistribution is allowed for the current **route-map** command. The **set** commands specify the set actions—the particular redistribution actions to perform if the criteria enforced by the **match** commands are met. The **no route-map** command deletes the route map.

The **set** route map configuration commands specify the redistribution set actions to be performed when all of the match criteria of a route map are met. When all match criteria are met, all set actions are performed.

**Examples**

This example shows how to configure the routes that pass the autonomous system path access list 1 to have the community set to 109:02 and 33:40. Routes that pass the autonomous system path access list 2 have the community set to no-export (these routes are not advertised to any external BGP [eBGP] peers).

```
switch(config)# route-map test1 10 permit
switch(config-route-map)# match as-path 1
switch(config-route-map)# set community 109:02 33:40
switch(config-route-map)# exit
switch(config)# route-map test1 20 permit
switch(config-route-map)# match as-path 2
switch(config-route-map)# set community no-export
```

This example shows how to configure the routes that pass the autonomous system path access list 1 to have the community set to 109:30. Routes that pass the autonomous system path access list 2 have the community set to local-as (the router does not advertise this route to peers outside the local autonomous system).

```
switch(config)# route-map test1 10 permit
switch(config-route-map)# match as-path 1
switch(config-route-map)# set community 109:30 additive
switch(config-route-map)# exit
switch(config)# route-map test1 20 permit
switch(config-route-map)# match as-path 2
switch(config-route-map)# set community local-as
```

**Related Commands**

| Command                      | Description                                                                              |
|------------------------------|------------------------------------------------------------------------------------------|
| <b>ip community-list</b>     | Creates a community list for BGP and control access to it.                               |
| <b>match community</b>       | Matches a BGP community.                                                                 |
| <b>route-map (IP)</b>        | Defines the conditions for redistributing routes from one routing protocol into another. |
| <b>set comm-list delete</b>  | Removes communities from the community attribute of an inbound or outbound update.       |
| <b>show ip bgp community</b> | Displays routes that belong to specified BGP communities.                                |

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# set dampening

To set the Border Gateway Protocol (BGP) route dampening factors, use the **set dampening** command. To disable this function, use the **no** form of this command.

**set dampening** *half-life reuse suppress max-suppress-time*

**no set dampening**

| Syntax Description       |  |                                                                                                                                                                                                                                                                                                               |
|--------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>half-life</i>         |  | Time (in minutes) after which a penalty is decreased. Once the route has been assigned a penalty, the penalty is decreased by half after the half life period (which is 15 minutes by default). The process of reducing the penalty occurs every 5 seconds. The range is from 1 to 45, and the default is 15. |
| <i>reuse</i>             |  | Route that is unsuppressed if the penalty for a flapping route decreases enough to fall below this value. The process of unsuppressing routes occurs at 10-second increments. Range: 1 to 20000. Default: 750.                                                                                                |
| <i>suppress</i>          |  | Route that is suppressed when its penalty exceeds this limit. The range is from 1 to 20000, and the default is 2000.                                                                                                                                                                                          |
| <i>max-suppress-time</i> |  | Maximum time (in minutes) that a route can be suppressed. The range is from 1 to 255, and the default is four times the <i>half-life</i> value. If the default <i>half-life</i> value is used, the maximum suppress time defaults to 60 minutes.                                                              |

**Command Default** Disabled

**Command Modes** Route-map configuration mode

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 6.0(2)N1(1) | This command was introduced. |

**Usage Guidelines** Use the **route-map** global configuration command and the **match** and **set** route-map configuration commands to define the conditions for redistributing routes from one routing protocol into another. Each **route-map** command has a list of **match** and **set** commands associated with it. The **match** commands specify the match criteria—the conditions under which redistribution is allowed for the current **route-map** command. The **set** commands specify the set actions—the particular redistribution actions to perform if the criteria enforced by the **match** commands are met. The **no route-map** command deletes the route map.

When a BGP peer is reset, the route is withdrawn and the flap statistics cleared. In this instance, the withdrawal does not incur a penalty even though route flap dampening is enabled.

**Examples** This example sets the half life to 30 minutes, the reuse value to 1500, the suppress value to 10000, and the maximum suppress time to 120 minutes:

```
switch(config)# route-map test1 10 permit
```

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```
switch(config-route-map)# set dampening 30 1500 10000 120
```

**Related Commands**

| Command                      | Description                                                                                                                |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>match as-path</b>         | Matches a BGP autonomous system path access list.                                                                          |
| <b>match community</b>       | Matches a BGP community.                                                                                                   |
| <b>match ip next-hop</b>     | Redistributes any routes that have a next-hop router address passed by one of the access lists specified.                  |
| <b>match ip route-source</b> | Redistributes routes that have been advertised by routers and access servers at the address specified by the access lists. |
| <b>match metric</b>          | Redistributes routes with the metric specified.                                                                            |
| <b>match tag</b>             | Redistributes routes in the routing table that match the specified tags.                                                   |
| <b>route-map (IP)</b>        | Defines the conditions for redistributing routes from one routing protocol into another.                                   |
| <b>set as-path</b>           | Modifies an autonomous system path for BGP routes.                                                                         |
| <b>set community</b>         | Sets the BGP communities attribute.                                                                                        |
| <b>set level</b>             | Indicates where to import routes.                                                                                          |
| <b>set local-preference</b>  | Specifies a preference value for the autonomous system path.                                                               |
| <b>set metric</b>            | Sets the metric value for a routing protocol.                                                                              |
| <b>set metric-type</b>       | Sets the metric type for the destination routing protocol.                                                                 |
| <b>set next-hop</b>          | Specifies the address of the next hop.                                                                                     |
| <b>set tag</b>               | Sets a tag value of the destination routing protocol.                                                                      |
| <b>set weight</b>            | Specifies the BGP weight for the routing table.                                                                            |

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# set etxcommunity

To set the Border Gateway Protocol (BGP) extended communities attribute, use the **set etxcommunity** command. To delete the entry, use the **no** form of this command.

```
set etxcommunity { none | { generic { transitive | nontransitive } aa4:nn [...aa4:nn] } | additive }

no set etxcommunity { none | { generic { transitive | nontransitive } aa4:nn [...aa4:nn] } | additive }
```

**Syntax Description**

|                      |                                                                                                                                                                                                                                                                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>none</b>          | Specifies the no community attribute.                                                                                                                                                                                                                                                                                                                         |
| <b>generic</b>       | Specifies the generic specific extended community type.                                                                                                                                                                                                                                                                                                       |
| <b>transitive</b>    | Configures BGP to propagate the extended community attributes to other autonomous systems.                                                                                                                                                                                                                                                                    |
| <b>nontransitive</b> | Configures BGP to propagate the extended community attributes to other autonomous systems.                                                                                                                                                                                                                                                                    |
| <i>aa4:nn</i>        | Autonomous system number and network number. This value is configured with a 4-byte AS number and a 2-byte network number separated by a colon. The 4-byte AS number range is from 1 to 4294967295 in plaintext notation, or from 1.0 to 56636.65535 in AS.dot notation. You can enter a single community or multiple communities, each separated by a space. |
| <b>additive</b>      | Adds to existing community.                                                                                                                                                                                                                                                                                                                                   |

**Command Default**

No BGP communities attributes exist.

**Command Modes**

Route-map configuration mode

**Command History**

| Release     | Modification                 |
|-------------|------------------------------|
| 6.0(2)N1(1) | This command was introduced. |

**Usage Guidelines**

Use the **set etxcommunity** command in a route map to set the extended community attribute in a BGP route.

You must have a match clause in a route map (even if it points to a “permit everything” list) if you want to use **set** commands.

The **set** commands specify the set actions to be performed when all of the match criteria of a route map are met. When all match criteria are met, all set actions are performed.

**Examples**

This example shows how to configure a route map that sets the extended community to 1.5:

```
switch(config)# route-map test1 10 permit
switch(config-route-map)# match as-path 1
switch(config-route-map)# set etxcommunity generic transitive 1.5
```

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```
switch(config-route-map)# exit
```

**Related Commands**

| Command                     | Description                                                                              |
|-----------------------------|------------------------------------------------------------------------------------------|
| <b>ip extcommunity-list</b> | Creates a community list for BGP and controls access to it.                              |
| <b>match extcommunity</b>   | Matches an extended community in a route map.                                            |
| <b>route-map</b>            | Defines the conditions for redistributing routes from one routing protocol into another. |
| <b>send-community</b>       | Configures BGP to propagate community attributes to BGP peers.                           |

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# set extcomm-list delete

To remove extended communities from the extended community attribute of an inbound or outbound Border Gateway Protocol (BGP) update, use the **set extcomm-list delete** command. To remove a previous **set extcomm-list delete** command, use the **no** form of this command.

**set extcomm-list** *community-list-name* **delete**

**no set extcomm-list**

|                           |                            |                                                                                                             |
|---------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Syntax Description</b> | <i>community-list-name</i> | Standard or expanded extended community list name. The name is any alphanumeric string up to 63 characters. |
|---------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------|

|                        |                             |
|------------------------|-----------------------------|
| <b>Command Default</b> | No communities are removed. |
|------------------------|-----------------------------|

|                      |                              |
|----------------------|------------------------------|
| <b>Command Modes</b> | Route-map configuration mode |
|----------------------|------------------------------|

|                        |                |                              |
|------------------------|----------------|------------------------------|
| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|                        | 6.0(2)N1(1)    | This command was introduced. |

|                         |                                                                                                                                                                                                                                                                                                                              |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Usage Guidelines</b> | Use the <b>set extcomm-list delete</b> command in a route map to delete the extended community attribute in a BGP route.                                                                                                                                                                                                     |
|                         | You must have a match clause in a route map (even if it points to a “permit everything” list) if you want to use <b>set</b> commands.                                                                                                                                                                                        |
|                         | The <b>set</b> commands specify the set actions to be performed when all of the match criteria of a route map are met. When all match criteria are met, all set actions are performed.                                                                                                                                       |
|                         | When you configure both the <b>set extcommunity</b> <i>community-number</i> and <b>set ext comm-list delete</b> commands in the same sequence of a route map attribute, the deletion operation ( <b>set extcomm-list delete</b> ) is performed before the set operation ( <b>set extcommunity</b> <i>community-number</i> ). |

|                 |                                                                                                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Examples</b> | This example shows how to remove extended communities from the extended community attribute of an inbound or outbound update:                                                                     |
|                 | <pre>switch# configure terminal switch(config)# route-map test1 switch(config-route-map)# match as-path 1 switch(config-route-map)# set extcomm-list list1 delete switch(config-route-map)#</pre> |

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| Related Commands | Command                   | Description                                       |
|------------------|---------------------------|---------------------------------------------------|
|                  | <b>match as-path</b>      | Matches a BGP autonomous system path access list. |
|                  | <b>match extcommunity</b> | Matches a BGP extended community.                 |
|                  | <b>set extcommunity</b>   | Sets the BGP extended communities attribute.      |
|                  | <b>show route-map</b>     | Displays information about a route map.           |

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# set local-preference

To specify a preference value for the autonomous system path, use the **set local-preference** command. To delete an entry, use the **no** form of this command.

**set local-preference** *number-value*

**no set local-preference** *number-value*

| Syntax Description | <i>number-value</i> | Preference value. Range: 0 to 4294967295. Default: 100. |
|--------------------|---------------------|---------------------------------------------------------|
|--------------------|---------------------|---------------------------------------------------------|

| Command Default | Preference value of 100 by default. |
|-----------------|-------------------------------------|
|-----------------|-------------------------------------|

| Command Modes | Route-map configuration mode |
|---------------|------------------------------|
|---------------|------------------------------|

| Command History | Release     | Modification                 |
|-----------------|-------------|------------------------------|
|                 | 6.0(2)N1(1) | This command was introduced. |

| Usage Guidelines | <p>The preference is sent only to all routers in the local autonomous system.</p> <p>You must have a match clause (even if it points to a “permit everything” list) if you want to set tags.</p> <p>Use the <b>route-map</b> global configuration command and the <b>match</b> and <b>set</b> route-map configuration commands to define the conditions for redistributing routes from one routing protocol into another. Each <b>route-map</b> command has a list of <b>match</b> and <b>set</b> commands associated with it. The <b>match</b> commands specify the match criteria—the conditions under which redistribution is allowed for the current <b>route-map</b> command. The <b>set</b> commands specify the set actions—the particular redistribution actions to perform if the criteria enforced by the <b>match</b> commands are met. The <b>no route-map</b> command deletes the route map.</p> <p>The <b>set</b> route-map configuration commands specify the redistribution set actions to be performed when all the match criteria of a route map are met. When all match criteria are met, all set actions are performed.</p> <p>You can change the default preference value with the <b>bgp default local-preference</b> command.</p> |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Examples | <p>This example shows how to set the local preference to 100 for all routes that are included in access list 1:</p> <pre>switch# configure terminal switch(config)# route-map test1 switch(config-router)# route-map map-preference switch(config-route-map)# match as-path 1 switch(config-route-map)# set local-preference 100 switch(config-route-map)#</pre> |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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| Related Commands | Command               | Description                                                                              |
|------------------|-----------------------|------------------------------------------------------------------------------------------|
|                  | <b>match as-path</b>  | Matches a BGP autonomous system path access list.                                        |
|                  | <b>route-map</b>      | Defines the conditions for redistributing routes from one routing protocol into another. |
|                  | <b>show route-map</b> | Displays information about a route map.                                                  |

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# set metric

To set the metric value for a routing protocol, use the **set metric** command. To return to the default metric value, use the **no** form of this command.

**set metric** [+ | -] *bandwidth-metric*

**set metric** *bandwidth-metric* [*delay-metric* *reliability-metric* *load-metric* *mtu*]

**no set metric**

**Syntax Description**

|                           |                                                                                                                               |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>+</b>                  | (Optional) Adds to the existing delay metric value.                                                                           |
| <b>-</b>                  | (Optional) Subtracts from the existing delay metric value.                                                                    |
| <i>bandwidth-metric</i>   | Interior Gateway Routing Protocol (IGRP) bandwidth metric, in Kb/s. The range is from 0 to 4294967295.                        |
| <i>delay-metric</i>       | (Optional) Interior Gateway Routing Protocol (IGRP) delay metric, in 10 microsecond units. The range is from 1 to 4294967295. |
| <i>reliability-metric</i> | (Optional) IGRP reliability metric. The range is from 0 to 255.                                                               |
| <i>load-metric</i>        | (Optional) IGRP load metric. The range is from 1 to 255.                                                                      |
| <i>mtu</i>                | (Optional) IGRP maximum transmission unit (MTU) of the path. The range is from 1 to 4294967295.                               |

**Command Default**

None

**Command Modes**

Route-map configuration mode

**Command History**

| Release     | Modification                 |
|-------------|------------------------------|
| 6.0(2)N1(1) | This command was introduced. |

**Usage Guidelines**

Use the **set metric** command to modify the IGRP metric values.

**Note**

We recommend that you consult your Cisco technical support representative before changing the default value.

When you configure the *reliability-metric* and the *load-metric* arguments, 255 means 100 percent reliability.

Use the **+** or **-** keywords to modify the existing delay metric value. You can modify only the delay metric with these keywords.

Use the **route-map** global configuration command and the **match** and **set** route-map configuration command to define the conditions for redistributing routes from one routing protocol into another. Each **route-map** command has a list of **match** and **set** commands associated with it. The **match** commands

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specify the match criteria—the conditions under which redistribution is allowed for the current **route-map** command. The **set** commands specify the set actions—the particular redistribution actions to perform if the criteria enforced by the **match** commands are met. The **no route-map** command deletes the route map.

The **set** route-map configuration commands specify the redistribution set actions to be performed when all the match criteria of a route map are met. When all match criteria are met, all set actions are performed.

### Examples

This example shows how to set the bandwidth metric value for the routing protocol to 100:

```
switch# configure terminal
switch(config)# route-map set-metric
switch(config-route-map)# set metric 100
switch(config-route-map)#
```

This example shows how to increase the bandwidth metric value for the routing protocol by 100:

```
switch# configure terminal
switch(config)# route-map set-metric
switch(config-route-map)# set metric +100
switch(config-route-map)#
```

### Related Commands

| Command               | Description                                                                              |
|-----------------------|------------------------------------------------------------------------------------------|
| <b>route-map</b>      | Defines the conditions for redistributing routes from one routing protocol into another. |
| <b>show route-map</b> | Displays information about a route map.                                                  |

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## set metric-type

To set the metric type for the destination routing protocol, use the **set metric-type** command. To return to the default, use the **no** form of this command.

**set metric-type** {internal | type-1 | type-2}

**no set metric-type** {internal | type-1 | type-2}

### Syntax Description

|                 |                                                                                                     |
|-----------------|-----------------------------------------------------------------------------------------------------|
| <b>internal</b> | Specifies the Interior Gateway Protocol (IGP) metric as the multi-exit discriminator (MED) for BGP. |
| <b>type-1</b>   | Specifies the Open Shortest Path First (OSPF) external Type 1 metric.                               |
| <b>type-2</b>   | Specifies the OSPF external Type 2 metric.                                                          |

### Command Default

This command is disabled by default.

### Command Modes

Route-map configuration mode

### Command History

| Release     | Modification                 |
|-------------|------------------------------|
| 6.0(2)N1(1) | This command was introduced. |

### Usage Guidelines

Use the **route-map** global configuration command with **match** and **set** route-map configuration commands to define the conditions for redistributing routes from one routing protocol into another. Each **route-map** command has a list of **match** and **set** commands associated with it. The **match** commands specify the match criteria—the conditions under which redistribution is allowed for the current **route-map** command. The **set** commands specify the set actions—the particular redistribution actions to perform if the criteria enforced by the **match** commands are met. The **no route-map** command deletes the route map.

The **set** route-map configuration commands specify the redistribution set actions to be performed when all the match criteria of a route map are met. When all match criteria are met, all set actions are performed.



#### Note

This command is not supported for redistributing routes into Border Gateway Protocol (BGP).

### Examples

This example shows how to set the metric type of the destination protocol to OSPF external Type 1:

```
switch# configure terminal
switch(config)# route-map map-type
switch(config-route-map)# set metric-type type-1
switch(config-route-map)#
```

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| Command                          | Description                                                                              |
|----------------------------------|------------------------------------------------------------------------------------------|
| <b>route-map</b>                 | Defines the conditions for redistributing routes from one routing protocol into another. |
| <b>show ip community-list</b>    | Displays information about a community list.                                             |
| <b>show ip extcommunity-list</b> | Displays information about an extended community list.                                   |
| <b>show ip prefix-list</b>       | Displays information about IPv4 prefix lists.                                            |
| <b>show route-map</b>            | Displays information about a route map.                                                  |

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# set origin

To set the Border Gateway Protocol (BGP) origin code, use the **set origin** command. To delete the entry, use the **no** form of this command.

```
set origin { egp as-num [:as-num] | igp | incomplete }
```

```
no set origin
```

**Syntax Description**

|                          |                                                                                                                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>egp</b> <i>as-num</i> | Specifies the autonomous system (AS) number for a remote exterior gateway protocol (EGP) system. You can specify the AS number as a 2-byte integer or a 4-byte integer in aa:nn format. Range is from 1 to 65535. |
| <b>igp</b>               | Specifies a local interior gateway protocol (IGP) system.                                                                                                                                                         |
| <b>incomplete</b>        | Specifies an unknown heritage.                                                                                                                                                                                    |

**Command Default**

Default origin, based on route in main IP routing table.

**Command Modes**

Route-map configuration mode

**Command History**

| Release     | Modification                 |
|-------------|------------------------------|
| 6.0(2)N1(1) | This command was introduced. |

**Usage Guidelines**

You must have a match clause (even if it points to a “permit everything” list) if you want to set tags.

Use the **route-map** global configuration command, and the **match** and **set** route-map configuration commands, to define the conditions for redistributing routes from one routing protocol into another. Each **route-map** command has a list of **match** and **set** commands associated with it. The **match** commands specify the match criteria—the conditions under which redistribution is allowed for the current **route-map** command. The **set** commands specify the set actions—the particular redistribution actions to perform if the criteria enforced by the **match** commands are met. The **no route-map** command deletes the route map.

The **set route-map** configuration commands specify the redistribution set actions to be performed when all of the match criteria of a route map are met. When all match criteria are met, all set actions are performed.

**Examples**

This example shows how to set the origin of routes that pass the route map to IGP:

```
switch# configure terminal
switch(config)# route-map set_origin
switch(config-route-map)# match as-path 10
switch(config-route-map)# set origin igp
switch(config-route-map)#
```

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| Command                          | Description                                                                              |
|----------------------------------|------------------------------------------------------------------------------------------|
| <b>match as-path</b>             | Matches a BGP autonomous system path access list.                                        |
| <b>route-map</b>                 | Defines the conditions for redistributing routes from one routing protocol into another. |
| <b>show ip community-list</b>    | Displays information about a community list.                                             |
| <b>show ip extcommunity-list</b> | Displays information about an extended community list.                                   |
| <b>show ip prefix-list</b>       | Displays information about IPv4 prefix lists.                                            |
| <b>show route-map</b>            | Displays information about a route map.                                                  |

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# set tag

To set a tag value of the destination routing protocol, use the **set tag** command. To delete the entry, use the **no** form of this command.

**set tag** *tag-value*

**no set tag** *tag-value*

**Syntax Description**

|                  |                                                                 |
|------------------|-----------------------------------------------------------------|
| <i>tag-value</i> | Name for the tag. The value is an integer from 0 to 4294967295. |
|------------------|-----------------------------------------------------------------|

**Command Default**

If not specified, the default action is to *forward* the tag in the source routing protocol onto the new destination protocol.

**Command Modes**

Route-map configuration mode

**Command History**

| Release     | Modification                 |
|-------------|------------------------------|
| 6.0(2)N1(1) | This command was introduced. |

**Usage Guidelines**

Use the **route-map** global configuration command and the **match** and **set** route-map configuration commands to define the conditions for redistributing routes from one routing protocol into another. Each **route-map** command has a list of **match** and **set** commands associated with it. The **match** commands specify the match criteria—the conditions under which redistribution is allowed for the current **route-map** command. The **set** commands specify the set actions—the particular redistribution actions to perform if the criteria enforced by the **match** commands are met. The **no route-map** command deletes the route map.

The **set** route-map configuration commands specify the redistribution set actions to be performed when all the match criteria of a route map are met. When all match criteria are met, all set actions are performed.

**Examples**

This example shows how to set the tag value of the destination routing protocol to 5:

```
switch(config)# route-map test
switch(config-route-map)# set tag 5
```

**Related Commands**

| Command          | Description                                                                              |
|------------------|------------------------------------------------------------------------------------------|
| <b>match tag</b> | Redistributes routes in the routing table that match the specified tags.                 |
| <b>route-map</b> | Defines the conditions for redistributing routes from one routing protocol into another. |

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# set weight

To specify the Border Gateway Protocol (BGP) weight for the routing table, use the **set weight** command. To delete an entry, use the **no** form of this command.

**set weight** *number*

**no set weight** [*number*]

|                           |                                                                                                                                                                                                                                                                                                                       |                                                                                          |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>Syntax Description</b> | <i>number</i> Weight value. Range: 0 to 65535.                                                                                                                                                                                                                                                                        |                                                                                          |
| <b>Command Default</b>    | The weight is not changed by the specified route map.                                                                                                                                                                                                                                                                 |                                                                                          |
| <b>Command Modes</b>      | Route-map configuration mode                                                                                                                                                                                                                                                                                          |                                                                                          |
| <b>Command History</b>    | <b>Release</b>                                                                                                                                                                                                                                                                                                        | <b>Modification</b>                                                                      |
|                           | 6.0(2)N1(1)                                                                                                                                                                                                                                                                                                           | This command was introduced.                                                             |
| <b>Usage Guidelines</b>   | The implemented weight is based on the first matched autonomous system path. Weights indicated when an autonomous system path is matched override the weights assigned by global <b>neighbor</b> commands.                                                                                                            |                                                                                          |
| <b>Examples</b>           | <p>This example shows how to set the BGP weight for the routes that match the autonomous system path access list to 200:</p> <pre>switch# configure terminal switch(config)# route-map set-weight switch(config-route-map)# match as-path 10 switch(config-route-map)# set weight 200 switch(config-route-map)#</pre> |                                                                                          |
| <b>Related Commands</b>   | <b>Command</b>                                                                                                                                                                                                                                                                                                        | <b>Description</b>                                                                       |
|                           | <b>match as-path</b>                                                                                                                                                                                                                                                                                                  | Matches a BGP autonomous system path access list.                                        |
|                           | <b>route-map</b>                                                                                                                                                                                                                                                                                                      | Defines the conditions for redistributing routes from one routing protocol into another. |
|                           | <b>show ip community-list</b>                                                                                                                                                                                                                                                                                         | Displays information about a community list.                                             |
|                           | <b>show ip extcommunity-list</b>                                                                                                                                                                                                                                                                                      | Displays information about an extended community list.                                   |
|                           | <b>show ip prefix-list</b>                                                                                                                                                                                                                                                                                            | Displays information about IPv4 prefix lists.                                            |
|                           | <b>show route-map</b>                                                                                                                                                                                                                                                                                                 | Displays information about a route map.                                                  |

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## shutdown (BGP)

To shut down an instance of the Border Gateway Protocol (BGP), use the **shutdown** command. To disable this function, use the **no** form of this command.

**shutdown**

**no shutdown**

|                           |                                            |
|---------------------------|--------------------------------------------|
| <b>Syntax Description</b> | This command has no arguments or keywords. |
|---------------------------|--------------------------------------------|

|                        |         |
|------------------------|---------|
| <b>Command Default</b> | Enabled |
|------------------------|---------|

|                      |                           |
|----------------------|---------------------------|
| <b>Command Modes</b> | Router configuration mode |
|----------------------|---------------------------|

|                        |                |                              |
|------------------------|----------------|------------------------------|
| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|                        | 6.0(2)N1(1)    | This command was introduced. |

|                         |                                                                                                                                                                 |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Usage Guidelines</b> | Use the <b>shutdown</b> command to disable an instance of BGP without removing the configuration.<br>This command requires the LAN Enterprise Services license. |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                 |                                              |
|-----------------|----------------------------------------------|
| <b>Examples</b> | This example shows how to disable BGP 64496: |
|-----------------|----------------------------------------------|

```
switch# configure terminal
switch(config)# router bgp 64496
switch(config-router)# shutdown
switch(config-router)#
```

|                         |                 |                      |
|-------------------------|-----------------|----------------------|
| <b>Related Commands</b> | <b>Command</b>  | <b>Description</b>   |
|                         | <b>show bgp</b> | Displays BGP routes. |

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## soft-reconfiguration inbound (BGP)

To configure the switch software to start storing Border Gateway Protocol (BGP) peer updates, use the **soft-reconfiguration** command. To not store received updates, use the no form of this command.

**soft-reconfiguration inbound**

**no soft-reconfiguration inbound**

|                           |                                            |
|---------------------------|--------------------------------------------|
| <b>Syntax Description</b> | This command has no arguments or keywords. |
|---------------------------|--------------------------------------------|

|                        |          |
|------------------------|----------|
| <b>Command Default</b> | Disabled |
|------------------------|----------|

|                      |                                            |
|----------------------|--------------------------------------------|
| <b>Command Modes</b> | Neighbor address-family configuration mode |
|----------------------|--------------------------------------------|

|                        |                |                              |
|------------------------|----------------|------------------------------|
| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|                        | 6.0(2)N1(1)    | This command was introduced. |

|                         |                                                                                                                                                                                                                                                               |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Usage Guidelines</b> | <p>Entering this command starts the storage of updates, which is required to do inbound soft reconfiguration.</p> <p>To use soft reconfiguration, or soft reset, without preconfiguration, both BGP peers must support the soft route refresh capability.</p> |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                 |                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------|
| <b>Examples</b> | This example shows how to configure the soft reconfiguration on the neighbor at 192.168.0.1: |
|-----------------|----------------------------------------------------------------------------------------------|

```
switch# configure terminal
switch(config)# router bgp 102
switch(config-router)# neighbor 192.168.0.1 remote-as 201
switch(config-router-neighbor)# address-family ipv4 unicast
switch(config-router-neighbor-af)# soft-reconfiguration inbound
switch(config-router-neighbor-af)#
```

|                         |                              |                                                                                              |
|-------------------------|------------------------------|----------------------------------------------------------------------------------------------|
| <b>Related Commands</b> | <b>Command</b>               | <b>Description</b>                                                                           |
|                         | <b>address-family (BGP)</b>  | Enters the router in address family configuration mode for configuring BGP routing sessions. |
|                         | <b>neighbor</b>              | Configures a BGP neighbor.                                                                   |
|                         | <b>show ip bgp neighbors</b> | Displays BGP peer information.                                                               |

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# suppress-inactive

To advertise the active routes to a Border Gateway Protocol (BGP) peer only, use the **suppress-inactive** command. To remove the restriction, use the **no** form of this command. To return to the default setting, use the **default** form of this command.

**suppress-inactive**

**no default suppress-inactive**

## Syntax Description

This command has no arguments or keywords.

## Command Default

BGP advertises routes to a peer as soon as they are installed in the local routing table, even if the routes are not the active routes in the table.

## Command Modes

Neighbor address-family configuration mode

## Command History

| Release     | Modification                 |
|-------------|------------------------------|
| 6.0(2)N1(1) | This command was introduced. |

## Usage Guidelines

Use the **suppress-inactive** command to advertise only active routes to a BGP peer. This command requires the LAN Enterprise Services license.

## Examples

This example shows how to create a summary address. The path advertised for this route is an autonomous system set consisting of all elements contained in all paths that are being summarized.

```
switch# configure terminal
switch(config)# router bgp 64496
switch(config-router)# neighbor 192.0.2.1/8 remote-as 64497
switch(config-router-neighbor)# address-family ipv4 unicast
switch(config-router-neighbor af)# suppress-inactive
switch(config-router-neighbor af)#
```

## Related Commands

| Command   | Description          |
|-----------|----------------------|
| route-map | Creates a route map. |

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