network bgp commands
ONTAP 9.13.1 commands

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network bgp commands

network bgp config create

Create BGP configuration

Availability: This command is available to cluster administrators at the advanced privilege level.

Description

The network bgp config create command is used to create the border gateway protocol (BGP) configuration for a node. It can be used to override the BGP parameters defined in the global BGP defaults.

Parameters

-node {<nodename>|local} - Node
This parameter specifies the node on which configuration details will be created.

-asn <integer> - Autonomous System Number
This parameter specifies the autonomous system number (ASN). The ASN attribute is a positive integer of the range from 1 to 4,294,967,295. It should typically be chosen from RFC6996 "Autonomous System (AS) Reservation for Private Use" or the AS number assigned to the operator’s organization.

-hold-time <integer> - Hold Time
This parameter specifies the hold time in seconds. The default value is 180.

-router-id <IP Address> - Router ID
This parameter specifies the local router ID. The router-id value takes the form of an IPv4 address. The default router-id will be initialized using a local IPv4 address in admin vserver.

Examples

    cluster1::> network bgp config create -node node1 -asn 10 -hold-time 180
    -router-id 10.0.1.112

network bgp config delete

Delete BGP configuration

Availability: This command is available to cluster administrators at the advanced privilege level.

Description

The network bgp config delete command deletes a node’s border gateway protocol (BGP) configuration. A BGP configuration cannot be deleted if there are BGP peer groups configured on the associated node.
Parameters

-node {<nodename>|local} - Node

This parameter specifies the node for which the BGP configuration will be deleted.

Examples

cluster1::> network bgp config delete -node node1

network bgp config modify

Modify BGP configuration

Availability: This command is available to cluster administrators at the advanced privilege level.

Description

The network bgp config modify command is used to modify a node’s border gateway protocol (BGP) configuration.

Parameters

-node {<nodename>|local} - Node

This parameter specifies the node on which BGP configuration will be modified.

[-asn <integer>] - Autonomous System Number

This parameter specifies the autonomous system number (ASN). The ASN attribute is a positive integer of the range from 1 to 4,294,967,295. It should typically be chosen from RFC6996 "Autonomous System (AS) Reservation for Private Use" or the AS number assigned to the operator’s organization.

[-hold-time <integer>] - Hold Time

This parameter specifies the hold time in seconds.

[-router-id <IP Address>] - Router ID

This parameter specifies the local router ID. The router-id value takes the form of an IPv4 address.

Examples

cluster1::> network bgp config modify -node node1 -router-id 1.1.1.1 -asn 20

network bgp config show

Display BGP configuration

Availability: This command is available to cluster administrators at the admin privilege level.
Description

The `network bgp config show` command displays the border gateway protocol (BGP) configuration for each node.

Parameters

`{ [-fields <fieldname>,...] }`

If you specify the `-fields <fieldname>, ...` parameter, the command output also includes the specified field or fields. You can use `-fields ?` to display the fields to specify.

`{ [-instance ] }`

If you specify the `-instance` parameter, the command displays detailed information about all fields.

`[-node {<nodename>|local}] - Node`

This parameter selects the BGP configurations that match the specified node.

`[-asn <integer>] - Autonomous System Number`

This parameter selects the BGP configurations that match the specified autonomous system number.

`[-hold-time <integer>] - Hold Time`

This parameter selects BGP configurations that match the specified hold time.

`[-router-id <IP Address>] - Router ID`

This parameter selects the BGP configurations that match the specified router ID.

Examples

```
cluster1::> network bgp config show
  Autonomous
    System  Hold Time
    Node    Number    (seconds)  Router ID
  -----------------  -------------  ---------------
  node1 10 180 10.0.1.112
```

network bgp defaults modify

Modify BGP defaults

**Availability:** This command is available to cluster administrators at the advanced privilege level.

Description

The `network bgp defaults modify` command modifies the global defaults for border gateway protocol (BGP) configurations.
Parameters

[ -asn <integer> ] - Autonomous System Number

This parameter specifies the autonomous system number (ASN). The ASN attribute is a positive integer. It should typically be chosen from RFC6996 "Autonomous System (AS) Reservation for Private Use", or the AS number assigned to the operator's organization. The default ASN is 65501.

[ -hold-time <integer> ] - Hold Time

This parameter specifies the hold time in seconds. The default value is 180.

Examples

```bash
cluster1::> network bgp defaults modify -asn 20
```

network bgp defaults show

Display BGP defaults

Availability: This command is available to cluster administrators at the admin privilege level.

Description

The network bgp defaults show command displays the global defaults for border gateway protocol (BGP) configurations.

Examples

```bash
cluster1::> network bgp defaults show
Autonomous System Number  Hold Time
                       (Seconds)
------------------------  --------
                              10     180
```

network bgp peer-group create

Create a new BGP peer group

Availability: This command is available to cluster administrators at the admin privilege level.

Description

The network bgp peer-group create command is used to create a border gateway protocol (BGP) peer group. A BGP peer group will advertise VIP routes for the list of vservers in the peer group's vserver-list using the BGP LIF of the peer group. A BGP peer group will advertise VIP routes to a peer router using the border gateway protocol. The address of the peer router is identified by the peer-address value.
Parameters

- **ipspace <IPspace>** - IPspace Name
  This parameter specifies the IPspace of the peer group being created.

- **peer-group <text>** - Peer Group Name
  This parameter specifies the name of the peer group being created.

- **bgp-lif <lif-name>** - BGP LIF
  This parameter specifies the BGP interface (BGP LIF) of the peer group being created.

- **peer-address <IP Address>** - Peer Router Address
  This parameter specifies the IP address of the peer router for the peer group being created.

- **[-peer-asn <integer>]** - Peer Router Autonomous number
  This parameter specifies the peer router autonomous system number (ASN) in the peer group being created. The default value is the value of the local node’s ASN.

- **route-preference <integer>** - Route Preference
  This parameter specifies the preference field in BGP update messages for VIP routes. If a router receives multiple VIP route announcements for the same VIP LIF from different BGP LIFs, it will install the one that has the highest preference value. The default route preference value is 100.

- **[-asn-prepend-type <ASN Prepend type>]** - ASN prepend type (privilege: advanced)
  This parameter specifies the ASN that will be prepended in the BGP attributes. The possible values are local-asn and peer-asn. The default behaviour is not to prepend any ASN.

- **[-asn-prepend-count <integer>]** - ASN prepend count (privilege: advanced)
  This parameter specifies the number of times ASN, as specified in asn-prepend-type will be prepended in the BGP path attributes. The default behaviour is not to prepend any ASN.

- **[-community <BGP community>,...]** - BGP Community (privilege: advanced)
  This parameter specifies the communities that will be included in the BGP path attributes. The default behaviour is not to include any community in BGP path attributes.

- **[-med <integer>]** - Multi Exit Discriminator (privilege: advanced)
  This parameter specifies the Multi Exit Discriminator (MED) attribute of BGP update messages, which can be used by routers for best path selection, in cases where more than one peer advertises the same route with similar attributes.

- **[-use-peer-as-next-hop {true|false}]** - Use Peer Address As Next Hop
  This parameter specifies whether the peer group uses the peer address as a next hop route. When the value is true, the peer address is used as the next hop router for packets sent from VIP LIFs via the port on which bgp-lif is configured. Internally, a default route with a gateway configured as the peer-address is added automatically on the node for all the Vservers in this peer group’s IPspace. The route will be added for a Vserver only if it has a VIP LIF hosted on the current node of bgp-lif. Note that these automatically installed default routes are for VIP traffic; however, they can be used for non-VIP traffic as well if a Vserver hosts both VIP and non-VIP LIFs in the same subnet as bgp-lif. This route will have metric of 20 and will be used to forward traffic through the current port of bgp-lif. The default value of this parameter is false.
Examples

```
cluster1::> network bgp peer-group create -peer-group group1 -ipspace Default -bgp-lif bgp_lif -peer-address 10.0.1.112
```

**network bgp peer-group delete**

Delete a BGP peer group

**Availability**: This command is available to *cluster* administrators at the *admin* privilege level.

**Description**

The `network bgp peer-group delete` command is used to delete border gateway protocol (BGP) peer group configuration.

**Parameters**

- `-ipspace <IPspace>` - *IPspace Name*
  - This parameter specifies the *IPspace* of the BGP peer group being deleted.

- `-peer-group <text>` - *Peer Group Name*
  - This parameter specifies the name of the BGP peer group being deleted.

**Examples**

```
cluster1::> network bgp peer-group delete -ipspace Default -peer-group group1
```

**network bgp peer-group modify**

Modify a BGP peer group

**Availability**: This command is available to *cluster* administrators at the *admin* privilege level.

**Description**

The `network bgp peer-group modify` command is used to modify a border gateway protocol (BGP) peer group configuration.

**Parameters**

- `-ipspace <IPspace>` - *IPspace Name*
  - This parameter specifies the *IPspace* of the peer group being modified.
-peer-group <text> - Peer Group Name
   This parameter specifies the name of the peer group being modified.

[-peer-address <IP Address>] - Peer Router Address
   This parameter specifies an updated value for the IP address of the peer router.

[-use-peer-as-next-hop {true|false}] - Use Peer Address As Next Hop
   This parameter specifies whether the peer group uses the peer address as a next hop route. When the value is true, the peer address is used as the next hop router for packets sent from VIP LIFs via the port on which bgp-lif is configured. Internally, a default route with a gateway configured as the peer-address is added automatically on the node for all the Vservers in this peer group’s IPspace. The route will be added for a Vserver only if it has a VIP LIF hosted on the current node of bgp-lif. Note that these automatically installed default routes are for VIP traffic; however, they can be used for non-VIP traffic as well if a Vserver hosts both VIP and non-VIP LIFs in the same subnet as bgp-lif. This route will have metric of 20 and will be used to forward traffic through the current port of bgp-lif. The default value of this parameter is false.

Examples

```
cluster1::> network bgp peer-group modify -ipspace Default -peer-group peer1 -peer-address 10.10.10.10
```

```
network bgp peer-group rename

Rename a BGP peer group

Availability: This command is available to cluster administrators at the advanced privilege level.

Description

The network bgp peer-group rename command is used to assign a new name to a BGP peer group.

Parameters

-ipspace <IPspace> - IPspace Name (privilege: advanced)
   This parameter specifies the IPspace of the peer group being renamed.

-peer-group <text> - Peer Group Name (privilege: advanced)
   The name of the peer group to be updated.

-new-name <text> - New Name (privilege: advanced)
   The new name for the peer group.

Examples

```
cluster1::> network bgp peer-group rename -peer-group old_name -new-name new_name
```
network bgp peer-group show

Display BGP peer groups information

Availability: This command is available to cluster administrators at the admin privilege level.

Description

The network bgp peer-group show command displays the BGP peer groups configuration.

Parameters

{ [-fields <fieldname>,…] 
  If you specify the -fields <fieldname>, … parameter, the command output also includes the specified field or fields. You can use ‘-fields ?’ to display the fields to specify.

| [-instance ] } 
  If you specify the -instance parameter, the command displays detailed information about all fields.

[-ipspace <IPspace>] - IPspace Name
  This parameter selects peer groups that match the specified IPspace.

[-peer-group <text>] - Peer Group Name
  This parameter selects peer groups that match the specified name.

[-bgp-lif <lif-name>] - BGP LIF
  This parameter selects peer groups that match the specified BGP Interface.

[-peer-address <IP Address>] - Peer Router Address
  This parameter selects peer groups that match the specified peer router address.

[-peer-asn <integer>] - Peer Router Autonomous number
  This parameter selects peer groups that match the specified autonomous system number.

[-state <BGP Session State>] - Peer Group State
  This parameter selects peer groups that match the specified BGP session state.

[-bgp-node <nodename>] - BGP LIF Node
  This parameter selects peer groups that match the specified bgp-node value. This value is calculated based on the current node of the corresponding BGP LIF.

[-bgp-port <netport>] - BGP LIF Port
  This parameter selects peer groups that match the specified bgp-port value. This value is calculated based on the current port of the associated BGP LIF.

[-route-preference <integer>] - Route Preference
  This parameter selects peer groups that match the specified route preference value.
[-asn-prepend-type <ASN Prepend type>] - ASN prepend type (privilege: advanced)

This parameter selects peer groups that match the specified asn-prepend-type value. The possible values are local-asn and peer-asn.

[-asn-prepend-count <integer>] - ASN prepend count (privilege: advanced)

This parameter selects peer groups that match the specified asn-prepend-count value.

[-community <BGP community>,…] - BGP Community (privilege: advanced)

This parameter selects peer groups that match the specified community value.

[-med <integer>] - Multi Exit Discriminator (privilege: advanced)

This parameter selects peer groups that match the specified med value.

[-use-peer-as-next-hop {true|false}] - Use Peer Address As Next Hop

This parameter selects peer groups that match the specified use-peer-as-next-hop value.

Examples

cluster1::> network bgp peer-group show
  IPspace: Default
  Peer Group               Local BGP Peer router Interface Address/subnet state Autonomous Number Node
  Port                     --------- ----------------- -------------- ----------
  ------ -----             --------- ----------------- -------------- ----------
  gp1   bgp_lif1 10.0.5.37 up                     10
  node1 e1a
  gp2   bgp_lif2 10.0.6.38 up                     12
  node1 e2a

network bgp vserver-status show

Display Vserver BGP status

Availability: This command is available to cluster administrators at the admin privilege level.

Description

The network bgp vserver-status show command displays the per-node border gateway protocol (BGP) status for each vserver. The BGP status for a particular vserver is "up" when at least one BGP peer group supporting that vserver is able to communicate with its peer router.

Parameters

{ [-fields <fieldname>,…] } if you specify the -fields <fieldname>, … parameter, the command output also includes the specified
field or fields. You can use ‘-fields ?’ to display the fields to specify.

```bash
[-instance ]
```

If you specify the `-instance` parameter, the command displays detailed information about all fields.

```bash
[-node {<nodename>|local}] - Node
```

This parameter selects the BGP status that match the specified node.

```bash
[-vserver <vserver name>] - Vserver
```

This parameter selects the BGP status for specified vserver.

```bash
[-ipv4-status {unknown|unconfigured|up|down}] - IPv4 status
```

This parameter selects the BGP status that matches the specified status for IPv4 address family.

```bash
[-ipv6-status {unknown|unconfigured|up|down}] - IPv6 status
```

This parameter selects the BGP status that matches the specified status for IPv6 address family.

**Examples**

```bash
cluster1::> network bgp vserver-status show
   Node   vserver   IPv4 status IPv6 status
       ----  -------  -------------  -------------
       node1  vs1     up            up
```