network port commands

ONTAP 9.8 commands

NetApp
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network port commands

network port delete

Delete a network port

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

Description

The `network port delete` command deletes a network port that is no longer physically present on the storage system.

Parameters

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

This specifies the node on which the port is located.

`-port {<netport>|<ifgrp>}` - Port

This specifies the port to delete.

Examples

The following example deletes port e0c from a node named node0. The command works only when the port does not physically exist on the storage system.

```
cluster1::*> network port delete -node node0 -port e0c
```

network port modify

Modify network port attributes

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

Description

The `network port modify` command enables you to change the maximum transmission unit (MTU) setting, autonegotiation setting, administrative duplex mode, and administrative speed of a specified network port.

The MTU of ports that belong to broadcast-domains must be updated through the `broadcast-domain modify` command.

Modification of a port's IPspace will only work before a node is added to a cluster, when the cluster version is below Data ONTAP 8.3, or when the node is offline. To change the IPspace of a port once the node is in a Data ONTAP 8.3 cluster, the port should be added to a broadcast-domain that belongs to that IPspace.

Parameters

-node {<nodename>|local} - Node

Use this parameter to specify the node on which the port is located.

-port {<netport>|<ifgrp>} - Port

Use this parameter to specify the port that you want to modify.

[-mtu <integer>] - MTU

The port's MTU setting. The default setting for ports in the "Cluster" IPspace is 9000 bytes. All other ports use a default value of 1500 bytes.

[-autonegotiate-admin {true|false}] - Auto-Negotiation Administrative

Whether the port uses Ethernet autonegotiation to determine the highest speed and duplex mode that the port and its endpoint can support. The default setting when you create a port is `true` .

[-duplex-admin {auto|half|full}] - Duplex Mode Administrative

The administrative setting for the port's duplex mode. This is the duplex mode that you prefer the port to use. Depending on network limitations, the operational value can be different from the administrative setting. The default setting when you create a port is `full` .

[-speed-admin {auto|10|100|1000|10000|100000|40000|25000}] - Speed Administrative

The administrative speed setting, in megabits per second. This is the speed setting that you prefer the port to use. Depending on network limitations, the operational value can be lower than the administrative setting.

[-flowcontrol-admin {none|receive|send|full}] - Flow Control Administrative

The administrative flow control setting of the port. this is the flow control setting that you prefer the port to use. Depending on network and port limitations, the operational value can be different from the administrative setting.

[-up-admin {true|false}] - Up Administrative (privilege: advanced)

The administrative state of the port. If set to `true` , the port is used if it is operational. If set to `false` , the port is configured down.

[-ipspace <IPspace>] - IPspace Name

Use this parameter to specify the IPspace the network port is assigned to. Modification of a port's IPspace will only work before a node is added to a cluster, when the cluster version is below Data ONTAP 8.3, or when the node is offline. To change the IPspace of a port once the node is in a Data ONTAP 8.3 cluster, the port should be added to a broadcast-domain that belongs to that IPspace. If there is an inconsistency between the broadcast-domain and IPspace, this parameter can be set to bring the IPspace into alignment with the broadcast-domain.

[-ignore-health-status {true|false}] - Ignore Port Health Status (privilege: advanced)

Use this parameter to specify that the system ignore network port health status of the specified port for the purpose of hosting a logical interface.

Examples

The following example modifies port e0a on a node named node0 not to use auto-negotiation, to preferably use half duplex mode, and to preferably run at 100 Mbps.

```
cluster1::> network port modify -node node0 -port e0a -autonegotiate-admin
false -duplex-admin half -speed-admin 100
```

network port show-address-filter-info

Print the port's address filter information

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

Description

The `network port show-address-filter-info` command displays information about the port's address filter.

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> - Node

Use this parameter to specify the node.

-port {<netport>|<ifgrp>} - Port

Use this parameter to specify the port. For example, e0c.

[-num-total <integer>] - Total Number Of Entries

Use this parameter to specify the total number of entries.

[-num-used <integer>] - Number Of Used Entries

Use this parameter to specify the number of used entries.

[-used-entries <text>,…] - The Used Entries

Use this parameter to list the used entries.

Examples

The following example displays information of the given port's address filter on the specified node of the cluster.

```
cluster1::*> network port show-address-filter-info -node local -port e0c

Node: node1
        Total Number       Number of
Port      of Address    Used Address     Used Address
Name  Filter Entries  Filter Entries       Filter Entries
----  --------------  --------------   ------------------
e0c             1328               3     U 0 a0 98 40 e 6
                                          M 1 80 c2 0 0 e
                                          M 1 0 5e 0 0 fb
```

network port show

Display network port attributes

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

Description

The `network port show` command displays information about network ports. The command output indicates any inactive links, and lists the reason for the inactive status.

Some parameters can have "administrative" and "operational" values. The administrative setting is the preferred value for that parameter, which is set when the port is created or modified. The operational value is the actual current value of that parameter. Administrative and operational settings are not shown for virtual ports, '-' will be displayed. Please see the physical port hosting the target virtual port for these values.

If the operational duplex mode and speed of a port cannot be determined (for instance, if the link is down), that port's status is listed as *`undef`* , meaning undefined. This is different from '-', meaning no value.

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.

| [-health]

Use this parameter to display detailed health information for the specified network ports.

| [-instance] }

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

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

Selects the network ports that match this parameter value. Use this parameter with the `-port` parameter to select a port.

[-port {<netport>|<ifgrp>}] - Port

Selects the network ports that match this parameter value. If you do not use this parameter, the command displays information about all network ports.

[-link {off|up|down}] - Link

Selects the network ports that match this parameter value.

[-mtu <integer>] - MTU

Selects the network ports that match this parameter value.

[-autonegotiate-admin {true|false}] - Auto-Negotiation Administrative

Selects the network ports that match this parameter value.

[-autonegotiate-oper {true|false}] - Auto-Negotiation Operational

Selects the network ports that match this parameter value.

[-duplex-admin {auto|half|full}] - Duplex Mode Administrative

Selects the network ports that match this parameter value.

[-duplex-oper {auto|half|full}] - Duplex Mode Operational

Selects the network ports that match this parameter value.

[-speed-admin {auto|10|100|1000|10000|100000|40000|25000}] - Speed Administrative

Selects the network ports that match this parameter value.

[-speed-oper {auto|10|100|1000|10000|100000|40000|25000}] - Speed Operational

Selects the network ports that match this parameter value.

[-flowcontrol-admin {none|receive|send|full}] - Flow Control Administrative

Selects the network ports that match this parameter value.

[-flowcontrol-oper {none|receive|send|full}] - Flow Control Operational

Selects the network ports that match this parameter value.

[-mac <MAC Address>] - MAC Address

Selects the network ports that match this parameter value.

[-up-admin {true|false}] - Up Administrative (privilege: advanced)

Selects the network ports that match this parameter value.

[-type {physical|if-group|vlan|vip}] - Port Type

Selects the network ports that match this parameter value.

[-ifgrp-node <nodename>] - Interface Group Parent Node

Selects the network ports that match this parameter value.

[-ifgrp-port {<netport>|<ifgrp>}] - Interface Group Parent Port

Selects the network ports that match this parameter value.

[-ifgrp-distr-func {mac|ip|sequential|port}] - Distribution Function

Selects the network ports that match this parameter value.

[-ifgrp-mode {multimode|multimode_lacp|singlemode}] - Create Policy

Selects the network ports that match this parameter value.

[-vlan-node <nodename>] - Parent VLAN Node

Selects the network ports that match this parameter value.

[-vlan-port {<netport>|<ifgrp>}] - Parent VLAN Port

Selects the network ports that match this parameter value.

[-vlan-tag <integer>] - VLAN Tag

Selects the network ports that match this parameter value.

[-remote-device-id <text>] - Remote Device ID

Selects the network ports that match this parameter value.

[-ipspace <IPspace>] - IPspace Name

Use this parameter to display information only about the ports that match the IPspace you specify.

[-broadcast-domain <Broadcast Domain>] - Broadcast Domain

Use this parameter to display information only about the ports that match the broadcast-domain you specify.

[-mtu-admin <integer>] - MTU Administrative

Selects the network ports that match this parameter value.

[-health-status {healthy|degraded}] - Port Health Status

Use this parameter to display information only about the ports that match the health-status you specify.

[-ignore-health-status {true|false}] - Ignore Port Health Status

Use this parameter to display information only about the ports that match the ignore-health-status you specify.

[-health-degraded-reasons {l2-reachability|link-flapping|crc-errors|vswitch-link}] - Port Health Degraded Reasons

Use this parameter to display information only about the ports that match the degraded-reason you specify.

[-vm-network-name <text>] - Virtual Machine Network Name

Use this parameter to display information only about the ports that match the network name you specify. Google Cloud Platform only.

Examples

The following example displays information about all network ports.

```
cluster1::> network port show

Node: node1

Ignore
                                                  Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- ----------- --------
------
e0a       Cluster      Cluster          up   9000  auto/1000  healthy
false
e0b       Cluster      Cluster          up   9000  auto/1000  healthy
false
e0c       Default      Default          up   1500  auto/1000  degraded
false
e0d       Default      Default          up   1500  auto/1000  degraded
true
Node: node2

Ignore
                                                  Speed(Mbps) Health
Health
Port      IPspace      Broadcast Domain Link MTU  Admin/Oper  Status
Status
--------- ------------ ---------------- ---- ---- ----------- --------
------
e0a       Cluster      Cluster          up   9000  auto/1000  healthy
false
e0b       Cluster      Cluster          up   9000  auto/1000  healthy
false
e0c       Default      Default          up   1500  auto/1000  healthy
false
e0d       Default      Default          up   1500  auto/1000  healthy
false

8 entries were displayed.
```

The following example displays health information about all network ports.

```
cluster1::> network port show -health
                                    Ignore
                          Health    Health
Node        Port      Link Status    Status Degraded Reasons
--------    --------- ---- --------- ------ ----------------------
node1
            e0a       up   healthy   false  -
            e0b       up   healthy   false  -
            e0c       up   degraded  false  l2_reachability,
                                             link_flapping
            e0d       up   degraded  false  l2_reachability

node2
            e0a       up   healthy   false  -
            e0b       up   healthy   false  -
            e0c       up   healthy   false  -
            e0d       up   degraded  false  -

8 entries were displayed.
```

network port broadcast-domain add-ports

Add ports to a layer 2 broadcast domain

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

Description

Add ports to a broadcast domain.

> The IPSpace of the ports added will be updated to the IPSpace of the broadcast-domain. The ports will be added to the failover-group of the broadcast-domain. The MTU of the ports will be updated to the MTU of the broadcast-domain.

Parameters

-ipspace <IPspace> - IPspace Name

The IPspace of the broadcast domain.

-broadcast-domain <Broadcast Domain> - Layer 2 Broadcast Domain

The broadcast domain for this port assignment.

-ports [node>:<port],… - List of ports

The ports to be added to this broadcast domain.

Examples

The following example adds the port "e0d" on node "cluster1-1" and port "e0d" on node "cluster1-2" to broadcast domain "mgmt" in IPspace "Default".

```
cluster1::network port broadcast-domain> add-ports -ipspace Default
-broadcast-domain mgmt -ports cluster1-1:e0d, cluster1-2:e0d
```

network port broadcast-domain create

Create a new layer 2 broadcast domain

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

Description

Create a new broadcast domain.

> The IPSpace of the ports added will be updated to the IPSpace of the broadcast-domain. A failover-group will be generated containing the ports of the broadcast-domain. The MTU of all of the ports in the broadcast-domain will be updated to the MTU specified for the broadcast-domain.

Parameters

`[-ipspace <IPspace>]` - IPspace Name

The IPspace to which the new broadcast domain belongs.

`-broadcast-domain <Broadcast Domain>` - Layer 2 Broadcast Domain

The name of the broadcast domain to be created. The name of the broadcast domain needs to be unique within the IPspace.

`-mtu <integer>` - Configured MTU

MTU of the broadcast domain.

`[-ports [node>:<port],…]` - Ports

The network ports to be added to the broadcast domain. Ports need to be added to the broadcast domain before interfaces can be hosted on the port. By default, no port will be added to the broadcast domain.

Examples

The following example creates broadcast domain "mgmt" in IPspace "Default" with an MTU of 1500 and network ports e0c from node "gx1" and node "gx2".

```
cluster1::> network port broadcast-domain create -ipspace Default
-broadcast-domain mgmt -mtu 1500 -ports gx1:e0c,gx2:e0c
```

network port broadcast-domain delete

Delete a layer 2 broadcast domain

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

Description

Delete a broadcast domain that contains no ports.

Parameters

`-ipspace <IPspace>` - IPspace Name
The IPspace to which the broadcast domain belongs

`-broadcast-domain <Broadcast Domain>` - Layer 2 Broadcast Domain
The name of the broadcast domain to be deleted.

Examples

The following example deletes the broadcast domain "mgmt" in IPspace "Default".

```
cluster1::network port broadcast-domain> delete -ipspace Default
-broadcast-domain mgmt
```

network port broadcast-domain merge

Merges two layer 2 broadcast domains

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

Description

Merges a broadcast domain into an existing broadcast domain.

Parameters

`-ipspace <IPspace>` - IPspace Name
The IPspace of the broadcast domain.

`-broadcast-domain <Broadcast Domain>` - Layer 2 Broadcast Domain
The merging broadcast domain.

`-into-broadcast-domain <Broadcast Domain>` - Merge with This Layer 2 Broadcast Domain
The target broadcast domain for the merge operation.

Examples

The following example merges broadcast domain "bd-mgmt" in IPspace "Default" to broadcast domain "bd-data".

```
cluster1::network port broadcast-domain> merge -ipspace Default -broadcast
-domain bd-mgmt -into-broadcast-domain bd-data
```

network port broadcast-domain modify

Modify a layer 2 broadcast domain

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

Description

Modify a broadcast domain.

Parameters

`-ipspace <IPspace>` - IPspace Name

The IPspace to which the broadcast domain belongs.

`-broadcast-domain <Broadcast Domain>` - Layer 2 Broadcast Domain

The name of the broadcast domain.

`[-mtu <integer>]` - Configured MTU

MTU of the broadcast domain.

Examples

The following example modifies the mtu attribute of broadcast domain "mgmt" in IPspace "Default" to 1500

```
cluster1::network port broadcast-domain*> modify -ipspace Default
-broadcast-domain mgmt -mtu 1500
```

network port broadcast-domain move

Move a layer 2 broadcast domain to another IPspace

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

Description

Move a broadcast domain to another IPspace.

Parameters

`-ipspace <IPspace>` - IPspace Name

The IPspace to which the broadcast domain belongs.

`-broadcast-domain <Broadcast Domain>` - Layer 2 Broadcast Domain

The name of the broadcast domain.

`-to-ipspace <IPspace>` - Name of the destination IPspace

The name of the destination IPspace.

Examples

The following example moves the broadcast domain named "mgmt" from IPspace "Default" to IPspace "Default-1".

```
cluster1::network port broadcast-domain> move -ipspace Default -broadcast
-domain mgmt -to-ipspace Default-1
```

network port broadcast-domain remove-ports

Remove ports from a layer 2 broadcast domain

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

Description

Remove port assignments from a broadcast domain.

Parameters

`-ipspace <IPspace>` - IPspace Name

The IPspace of the broadcast domain.

`-broadcast-domain <Broadcast Domain>` - Layer 2 Broadcast Domain

The broadcast domain of the ports.

`-ports [node>:<port],…` - List of ports

The ports to removed from the broadcast-domain.

Examples

The following example removes port "e0d" on node "cluster1-1" and port "e0d" on node "cluster1-2" from broadcast domain "mgmt" in IPspace "Default".

```
cluster1::network port broadcast-domain> remove-ports -ipspace Default
-broadcast-domain mgmt -ports cluster1-1:e0d, cluster1-2:e0d
```

network port broadcast-domain rename

Rename a layer 2 broadcast domain

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

Description

Rename a broadcast domain.

Parameters

`-ipspace <IPspace>` - IPspace Name

The IPspace to which the broadcast domain belongs.

`-broadcast-domain <Broadcast Domain>` - Layer 2 Broadcast Domain

The name of the broadcast domain.

`-new-name <text>` - New Name

The new name of the broadcast domain.

Examples

The following example renames the broadcast domain named "mgmt" to "mgmt2" in IPspace "Default".

```
cluster1::network port broadcast-domain> rename -ipspace Default
-broadcast-domain mgmt -new-name mgmt2
```

network port broadcast-domain show

Display layer 2 broadcast domain information

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

Description

Display broadcast domain information.

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

Selects the broadcast domains that match the IPspace name.

[-broadcast-domain <Broadcast Domain>] - Layer 2 Broadcast Domain

Selects the broadcast domains that match the broadcast domain name.

[-mtu <integer>] - Configured MTU

Selects the broadcast domains that match the MTU value. This field is the MTU that was configured by the user, which might be different from the operational MTU.

[-ports [node>:<port],…] - Ports

Selects the broadcast domains that contain the network ports. For example, node1:e0a will display broadcast domains that contain node1:e0a network port.

[-port-update-status {complete|in-progress|error|overridden-while-offline}] - Port Update Status

Selects the broadcast domains that contain the network port status. For example, specifying "error" will display broadcast domains that contain "Error" network port status.

[-port-update-status-details <text>,…] - Status Detail Description

Selects the broadcast domains that contain the network port status detail text.

[-port-update-status-combined {complete|in-progress|error|overridden-while-offline}] - Combined Port Update Status

Selects the broadcast domains that contain the combined network port status. For example, specifying "error" will display broadcast domains that contain a combined network port status of "Error".

[-failover-groups <failover-group>,…] - Failover Groups

Selects the broadcast domains that contain the failover groups.

[-subnet-names <subnet name>,…] - Subnet Names

Selects the broadcast domains that contain the subnet name or names.

[-is-vip {true|false}] - Is VIP Broadcast Domain

Selects the broadcast domains that match a specific "is-vip" flag. Specifying "true" matches only broadcast domains associated with the Virtual IP feature; "false" matches only broadcast domains that do not.

Examples

The following example displays general information about broadcast domains.

```
cluster1::> network port broadcast-domain show
IPspace Broadcast                                       Update
Name    Domain Name    MTU  Port List                   Status Details
------- ----------- ------  --------------------------- --------------
Cluster Cluster       9000
                            node1:e0a                   complete
                            node1:e0b                   complete
Default Default       1500
                            node1:e0c                   complete
                            node1:e0d                   complete
2 entries were displayed.
```

network port broadcast-domain split

Splits a layer 2 broadcast domain into two layer 2 broadcast domains.

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

Description

Splits ports from a broadcast domain into a new broadcast domain.

The following restrictions apply to this command:

- If the ports are in a failover group, all ports in the failover group must be provided. Use network interface failover-groups show to see which ports are in failover groups.
- If the ports have LIFs associated with them, the LIFs cannot be part of a subnet's ranges and the LIF's `curr-port` and `home-port` must both be provided. Use network interface show`-fields`*subnet-name , home-node , home-port , curr-node , curr-port* to see which ports have LIFs associated with them and whether the LIFs are part of a subnet's ranges. Use `network subnet remove-ranges` with the LIF's IP address and `-force-update-lif-associations` set to *true* to remove the LIF's association with a subnet.

Parameters

-ipspace <IPspace> - IPspace Name

The IPspace of the broadcast domain.

-broadcast-domain <Broadcast Domain> - Layer 2 Broadcast Domain

The broadcast domain to split.

-new-broadcast-domain <Broadcast Domain> - New Layer 2 Broadcast Domain Name

The new broadcast domain.

-ports [node>:<port],… - List of Ports

The ports to be split from this broadcast domain.

Examples

The following example splits port "e0d" on node "cluster1-1" and port "e0d" on node "cluster1-2" from broadcast domain "bd-mgmt" in IPspace "Default" to broadcast domain "bd-data".

```
cluster1::> network port broadcast-domain split -ipspace Default
-broadcast-domain bd-mgmt -new-broadcast-domain bd-data -ports cluster1-
1:e0d, cluster1-2:e0d
```

Related Links

- network interface failover-groups show
- network interface show
- network subnet remove-ranges

network port ifgrp add-port

Add a port to an interface group

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

Description

The `network port ifgrp add-port` command adds a network port to a port interface group. The port interface group must already exist. You can create a port interface group by using the network port ifgrp create command.

The following restrictions apply to port interface groups:

- A port that is already a member of a port interface group cannot be added to another port interface group.
- Cluster ports and management ports cannot be in a port interface group.
- A port to which a logical interface is already bound cannot be added to a port interface group.
- A port that already has an assigned failover role cannot be added to a port interface group.
- A VLAN port cannot be added to a port interface group.
- A port which attaches to a VLAN cannot be added to a port interface group.
- An interface group port cannot be added to a port interface group.
- A port that is assigned to a broadcast domain cannot be added to a port interface group.
- All ports in a port interface group must be physically located on the same node.

Parameters

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

The node on which the port interface group is located.

-ifgrp <ifgrp name> - Interface Group Name

The port interface group to which a port is to be added.

-port <netport> - Specifies the name of port.

The network port that is to be added to the port interface group.

[-skip-broadcast-domain-placement <true>] - Skip Placement Into Broadcast Domain (privilege: advanced)

When specified along with the first port added to the ifgrp, the ifgrp will not be placed into any broadcast domain.

Examples

The following example adds port e0c to port interface group a1a on a node named node1:

```
cluster1::> network port ifgrp add-port -node node1 -ifgrp a1a -port e0c
```

Related Links

- network port ifgrp create

network port ifgrp create

Create a port interface group

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

Description

The `network port ifgrp create` command creates a port interface group. See the documentation for the network port ifgrp add-port command for a list of restrictions on creating port interface groups.

Parameters

-node {<nodename>|local} - Node

The node on which the port interface group will be created.

-ifgrp <ifgrp name> - Interface Group Name

The name of the port interface group that will be created. Port interface groups must be named using the syntax "a<number><letter>", where <number> is an integer in the range [0-999] without leading zeros and <letter> is a lowercase letter. For example, "a0a", "a0b", "a1c", and "a2a" are all valid port interface group names.

-distr-func {mac|ip|sequential|port} - Distribution Function

The distribution function of the port interface group that will be created. Valid values are:

- mac - Network traffic is distributed based on MAC addresses
- ip - Network traffic is distributed based on IP addresses

- sequential - Network traffic is distributed in round-robin fashion from the list of configured, available ports
- port - Network traffic is distributed based on the transport layer (TCP/UDP) ports

`-mode {multimode|multimode_lacp|singlemode}` - Create Policy

The create policy for the interface group that will be created. Valid values are:

- multimode - Bundle multiple member ports of the interface group to act as a single trunked port
- multimode_lacp - Bundle multiple member ports of the interface group using Link Aggregation Control Protocol
- singlemode - Provide port redundancy using member ports of the interface group for failover

Examples

The following example creates a port interface group named a0a on node node0 with a distribution function of ip:

```
cluster1::> network port ifgrp create -node node0 -ifgrp a0a -distr-func
ip -mode multimode
```

Related Links

- network port ifgrp add-port

network port ifgrp delete

Destroy a port interface group

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

Description

The `network port ifgrp delete` command destroys a port interface group.

> When you delete an interface group port, it is automatically removed from failover rules and groups to which it belongs.

Parameters

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

The node on which the port interface group is located.

`-ifgrp <ifgrp name>` - Interface Group Name

The port interface group that will be deleted.

Examples

The following example deletes port interface group a0b from a node named node0.

```
cluster1::> network port ifgrp delete -node node0 -ifgrp a0b
```

network port ifgrp remove-port

Remove a port from an interface group

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

Description

The `network port ifgrp remove-port` command removes a network port from a port interface group.

Parameters

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

The node on which the port interface group is located.

`-ifgrp <ifgrp name>` - Interface Group Name

The port interface group from which a port will be removed.

`-port <netport>` - Specifies the name of port.

The network port that will be removed from the port interface group.

Examples

The following example removes port e0d from port interface group a1a on a node named node1:

```
cluster1::> network port ifgrp remove-port -node node1 -ifgrp a1a -port
e0d
```

network port ifgrp show

Display port interface groups

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

Description

The `network port ifgrp show` command displays information about port interface groups. By default, it displays information about all port interface groups on all nodes in the cluster.

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

Selects the port interface groups that match this parameter value. Use this parameter with the `-ifgrp` parameter to select information about a specific port interface group.

[-ifgrp <ifgrp name>] - Interface Group Name

Selects the port interface groups that match this parameter value. Use this parameter with the `-node` parameter, to select information about a specific port interface group.

[-distr-func {mac|ip|sequential|port}] - Distribution Function

Selects the port interface groups that match this parameter value.

[-mode {multimode|multimode_lacp|singlemode}] - Create Policy

Selects the port interface groups that match this parameter value.

[-mac <MAC Address>] - MAC Address

Selects the port interface groups that match this parameter value.

[-activeports {full|partial|none}] - Port Participation

Selects the port interface groups that match this parameter value. The value "partial" indicates that some but not all of the port interface group's ports are active. the value "full" indicates that all of the port interface group's ports are active.

[-ports {<netport>|<ifgrp>}] - Network Ports

Selects the port interface groups that match this parameter value.

[-up-ports {<netport>|<ifgrp>}] - Up Ports

Selects the port interface groups that match this parameter value. Displays only the ports that are up.

[-down-ports {<netport>|<ifgrp>}] - Down Ports

Selects the port interface groups that match this parameter value. Displays only the ports that are down.

Examples

The following example displays information about all port interface groups.

```
cluster1::> network port ifgrp show
        Port     Distribution                Active
Node    ifgrp    Function     MAC Address    Ports   Ports
------  -------  ------------ -------------- ------- ---------------
node0
        a0a      ip           b8:f8:7a:20:00 partial e0c
node1
        a1a      ip           07:26:60:02:00 full    e0d
```

network port reachability repair

Repair reachability

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

Description

Repair network port configuration to match the detected reachable broadcast domain. If the reachability scan has completed with a reachability-status of misconfigured-reachability, meaning the network port does not have reachability to its configured broadcast domain, but has reachability to another broadcast domain, then repairing the network port's reachability will assign the port to the detected broadcast domain. Similarly, if the reachability scan has completed with a reachability status of no-reachability, then repairing the network port's reachability will assign the port to an empty broadcast domain. LIFs configured on the port will be adjusted to be configured on another port in their current broadcast domain if possible. Vlans on the specified port that do not have reachability to their configured broadcast domain will be removed. If the port was part of an ifgrp, the port will be removed from the ifgrp. If the port is not configured on a broadcast domain and has no reachability to any existing broadcast domains, it will be configured in a newly created broadcast domain.

Parameters

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

Selects the node on which the port resides.

`-port <netport>` - Port

Selects the port on which to repair configuration.

Examples

The following example applies the scanned broadcast domain reachability information to the specified port's configuration.

```
cluster1::> network port reachability repair -node node1 -port e0c
```

network port reachability scan

Perform a reachability scan

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

Description

Scan network port configuration to detect reachable broadcast domains.

Parameters

-node {<nodename>|local} - Node

Selects the node on which the port resides.

-port <netport> - Port

Selects the port on which to scan broadcast domain reachability.

Examples

The following example applies the scanned broadcast domain reachability information to the specified port's configuration.

```
cluster1::> network port reachability scan -node node1 -port e0c
```

network port reachability show

Display Reachability Status

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

Description

Display broadcast domain reachability information for the specified port. If the port is discovered, via a layer 2 reachability scan, to have reachability to broadcast domains other than the one on which it is expected, the command will list the reachable broadcast domains and an appropriate reachability status message. If the reachable broadcast domain matches the expected one, the reachability status is displayed as Ok.

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.

| [-detail]

When true, additional details regarding which broadcast domains have been found to be reachable from the specified network port are displayed.

| [-instance] }

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

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

Selects the node on which the port resides.

[-port <netport>] - Port

Selects the port for which to display broadcast domain reachability information.

[-expected-broadcast-domain [IPspace>:<Broadcast Domain]] - Expected Broadcast Domain

The IPspace and broadcast domain currently assigned to the network port. If the specified port is an ifgrp member, the expected broadcast domain is the IPspace and broadcast domain currerntly assigned to the parent ifgrp.

[-reachable-broadcast-domains [IPspace>:<Broadcast Domain],…] - Reachable Broadcast Domains

The name of the IPspaces and broadcast domains that have reachability to the specified port, as discovered by a layer 2 reachability scan.

[-reachability-status {unknown|ok|no-reachability|misconfigured-reachability|multi-domain-reachability|internal-error}] - Reachability Status

The status of the broadcast domain reachability for the specified port. "Ok" if the expected broadcast domain matches the reachable broadcast domains, i.e., the port can reach other ports in the expected broadcast domain, but no ports configured in other broadcast domains. "No-reachability" if the port cannot reach any ports in the expected broadcast domain, and also cannot reach any ports in any other broadcast domains. "Misconfigured-reachability" if the port cannot reach any ports in the expected broadcast domain, but can reach ports in one other broadcast domain. "Multi-domain-reachability" if the port can reach other ports configured in multiple broadcast domains. "Unknown" if the port has not been link-up long enough for reachability to be determined.

[-unreachable-ports [node>:<port],…] - Unreachable Ports

The list of network ports that are expected in the same broadcast domain as the specified port but cannot be reached, either because those ports are down or because there is no network connectivity to those ports.

[-unexpected-ports [node>:<port],…] - Unexpected Ports

The list of network ports that are not expected in the same broadcast domain yet have network connectivity to the specified port.

Examples

The following example displays the broadcast domain reachability for the specified port.

```
cluster1::> network port reachability show -node node1 -port e0d
network port reachability show)
ode         Port     Expected Reachability        Reachability Status
----------- -------- ----------------------------
--------------------------
ode1        e0d      Default:Default              ok
```

The following example displays the detailed reachability for the 'e0d' port when it has misconfigured-reachability, i.e., it cannot reach the other 'e0d' port in the expected broadcast domain 'Default:Default', but can

reach the 'e0c' ports configured in the 'Default:Default-3' broadcast domain.

```
cluster1::> network port reachability show -node node1 -port e0d -detail
network port reachability show)
ode         Port     Expected Reachability        Reachability Status
----------- -------- ----------------------------
-------------------------
ode1        e0d      Default:Default              misconfigured-
reachability
Actual Reachability: Default:Default-3
Unreachable Ports: node2:e0d
 Unexpected Ports: node2:e0c, node1:e0c
```

The following example displays the detailed reachability for the 'e0d' port when it has multi-domain-reachability, i.e., it can reach the other 'e0d' port in the expected broadcast domain 'Default:Default', but can also reach the 'e0c' ports configured in the 'Default:Default-3' broadcast domain.

```
cluster1::> network port reachability show -node node1 -port e0d -detail
network port reachability show)
ode         Port     Expected Reachability        Reachability Status
----------- -------- ----------------------------
-------------------------
ode1        e0d      Default:Default              multi-domain-
reachability
Actual Reachability: Default:Default,
                     Default:Default-3
Unreachable Ports: -
 Unexpected Ports: node2:e0c, node1:e0c
```

The following example displays the detailed reachability for the 'e0d' port when it has no-reachability, i.e., it cannot reach the other 'e0d' port in the expected broadcast domain 'Default:Default', and also cannot reach any other ports configured in broadcast domains.

```
cluster1::> network port reachability show -node node1 -port e0d -detail
network port reachability show)
ode         Port     Expected Reachability        Reachability Status
----------- -------- ----------------------------
-------------------------
ode1        e0d      Default:Default              no-reachability
Actual Reachability: -
Unreachable Ports: node2:e0d
 Unexpected Ports: -
```

network port vip create

Create a VIP port

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

Description

The `network port vip create` command creates a VIP port in the specified IPspace on the specified node. Only one VIP port can be created per IPspace on the given node.

Parameters

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

The node where the VIP port should be created.

`-port <netport>` - Network Port

The name of the VIP port to be created in the format v<slot-number><port-letter>

`-ipspace <IPspace>` - IPspace Name

The IPspace where the VIP port should be created. The default value for this parameter is "Default", which identifies the default IPspace.

Examples

This example shows how to create a VIP port named v0a in ipspace ips on node1.

```
cluster1::> network port vip create -node node1 -port v0a -ipspace ips
```

network port vip delete

Delete a VIP port

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

Description

The `network port vip delete` command deletes a VIP port.

Parameters

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

The node associated with the VIP port to be deleted.

`-port <netport>` - Network Port

The name of the VIP port to be deleted.

Examples

This example shows how to delete VIP Port v0a on node1.

```
cluster1::> network port vip delete -node node1 -port v0a
```

network port vip show

Display VIP ports

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

Description

The `network port vip show` command displays information about VIP ports.

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 VIP ports that match the specified node.

[-port <netport>] - Network Port

This parameter selects the VIP ports that match the specified port.

[-ipspace <IPspace>] - IPspace Name

This parameter selects the VIP ports that match the specified IPspace.

Examples

The example below shows VIP port v0a is created in IPspace ips on node1.

```
cluster1::> network port vip show
    Node   VIP Port IPspace
    ------ -------- -------------
    node1  v0a      ips
```

network port vlan create

Create a virtual LAN (VLAN)

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

Description

The `network port vlan create` command attaches a VLAN to a network port on a specified node.

Parameters

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

The node to which the VLAN is to be attached.

> You cannot attach a VLAN to a cluster port.

{ `-vlan-name {<netport>|<ifgrp>}` - VLAN Name

The name of the VLAN that is to be attached. This name should be a combination of the name of the port or interface group and the VLAN ID, with a hyphen between, such as "e1c-80".

| `-port {<netport>|<ifgrp>}` - Associated Network Port

The network port to which the VLAN is to be attached.

`-vlan-id <integer>` - Network Switch VLAN Identifier }

The ID tag of the created VLAN.

`[-skip-broadcast-domain-placement <true>]` - Skip Placement Into Broadcast Domain (privilege: advanced)

When specified, the VLAN will not be placed into any broadcast domain.

Examples

This example shows how to create VLAN e1c-80 attached to network port e1c on node1.

```
cluster1::> network port vlan create -node node1 -vlan-name e1c-80
```

network port vlan delete

Delete a virtual LAN (VLAN)

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

Description

The `network port vlan delete` command deletes a VLAN from a network port.

> When you delete a VLAN port, it is automatically removed from all failover rules and groups that use it.

Parameters

-node {<nodename>|local} - Node

The node from which the VLAN is to be deleted.

{ -vlan-name {<netport>|<ifgrp>} - VLAN Name

The name of the VLAN that is to be deleted

| -port {<netport>|<ifgrp>} - Associated Network Port

The network port to which the VLAN is to be attached.

-vlan-id <integer> - Network Switch VLAN Identifier }

The ID tag of the deleted VLAN.

Examples

This example shows how to delete VLAN e1c-80 from network port e1c on node1.

```
cluster1::> network port vlan delete -node node1 -vlan-name e1c-80
```

network port vlan show

Display virtual LANs (VLANs)

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

Description

The `network port vlan show` command displays information about network ports that are attached to VLANs. The command output indicates any inactive links and lists the reason for the inactive status.

If the operational duplex mode and speed cannot be determined (for instance, if the link is down), they are listed as `undef` , meaning undefined.

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

Selects the VLAN network ports that match this parameter value.

{ [-vlan-name {<netport>|<ifgrp>}] - VLAN Name

Selects the VLAN network ports that match this parameter value.

| [-port {<netport>|<ifgrp>}] - Associated Network Port

Selects the VLAN network ports that match this parameter value. If neither this parameter nor `-name` are used, the command displays information about all network ports.

[-vlan-id <integer>] - Network Switch VLAN Identifier }

Selects the VLAN network ports that match this parameter value.

[-mac <MAC Address>] - MAC address

Selects the VLAN network ports that match this parameter value.

Examples

The example below shows VLAN e1b-70 attached to port e1b on node1.

```
cluster1::> network port vlan show
                  Network Network
Node   VLAN Name Port    VLAN ID  MAC Address
------ --------- ------- -------  ------------------
node1  e1b-70    e1b     70       00:15:17:76:7b:69
```

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