metrocluster configuration-settings commands

ONTAP commands

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metrocluster configuration-settings commands

metrocluster configuration-settings show-status

Display the configuration settings status for a MetroCluster setup

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

Description

The `metrocluster configuration-settings show-status` command displays the configuration settings status for nodes in a MetroCluster setup. If a DR group has not been created, then status for nodes in the local cluster only are displayed.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays detailed information about all nodes in the cluster matching the specified cluster-uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays detailed information about all the nodes in the specified cluster.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

[-configuration-status <text>] - Configuration Settings Status

If this parameter is specified, the command displays detailed information about all nodes with the specified configuration status.

[-config-error-info <text>] - Configuration Error Information

If this parameter is specified, the command displays detailed information about all nodes with the specified configuration error information.

Examples

The following example shows the display of MetroCluster setup status:

```
Nodes do not have a valid platform-specific personality value (equivalent
to HAOSC parameter on non-Apollo platforms) for a MetroCluster setup.
```

```
clusA::> metrocluster configuration-settings show-status
Cluster                   Node               Configuration Settings
Status
------------------------- ------------------
--------------------------------
   clusA                     A1                 not a MetroCluster setup
                             A2                 not a MetroCluster setup
2 entries were displayed.
MetroCluster setup uses FC links rather than IP
xref:{relative_path}clusA::> metrocluster configuration-settings show-
status
Cluster                   Node               Configuration Settings
Status
------------------------- ------------------
--------------------------------
clusA                     A1                 not applicable for FC and
SAS
                          A2                 not applicable for FC and
SAS
2 entries were displayed.
Output of the command when MetroCluster setup uses IP links and before
`"metrocluster configuration-settings dr-group create"` command is run:
clusA::> metrocluster configuration-settings show-status
Cluster                   Node               Configuration Settings
Status
------------------------- ------------------
--------------------------------
clusA                     A1                 ready for DR group create
                          A2                 ready for DR group create
2 entries were displayed.
Output of the command after `"metrocluster configuration-settings dr-group
create"` command is run:
clusA::> metrocluster configuration-settings show-status
Cluster                   Node               Configuration Settings
Status
------------------------- ------------------
--------------------------------
clusA
                          A1                 ready for interface create
                          A2                 ready for interface create
clusB
                          B1                 ready for interface create
                          B2                 ready for interface create
4 entries were displayed.
Output of the command after `"metrocluster configuration-settings
interface create"` command is run for every node:
```

```
clusA::> metrocluster configuration-settings show-status
Cluster                     Node               Configuration Settings
Status
--------------------------- ------------------
--------------------------------
clusA
                            A1                 ready for next interface
create
                            A2                 ready for connection connect
clusB
                            B1                 ready for connection connect
                            B2                 ready for connection connect
4 entries were displayed.
Output of the command after ` "metrocluster configuration-settings
connection connect" ` command is run:
usA::> metrocluster configuration-settings show-status
Cluster                     Node               Configuration Settings
Status
--------------------------- ------------------
--------------------------------
clusA
                            A1                 completed
                            A2                 completed
clusB
                            B1                 completed
                            B2                 completed
4 entries were displayed.
Output of the command after ` "metrocluster configuration-settings
connection connect"` command is run and there are connection errors:
clusA::> metrocluster configuration-settings show-status
Cluster                     Node               Configuration Settings
Status
--------------------------- ------------------
--------------------------------
clusA                       A1                 connection error
                            A2                 completed
clusB                       B1                 connection error
                            B2                 completed
4 entries were displayed.
```

metrocluster configuration-settings calibration measure

Measure latency and bandwith values

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

Description

The `metrocluster configuration-settings calibration measure` command measures the bandwidth and latency between local and remote nodes in a MetroCluster over IP configuration.

This command should not be run when the MetroCluster configuration is under a heavy load. Bandwidth measurements will attempt to fully saturate network connections to the remote cluster and may disrupt the quality of service.

Examples

```
The following example shows the output for the calibration measure command
in MetroCluster over IP configurations:
```

```
clusA::*> metrocluster configuration-settings calibration measure
Warning: This operation will attempt to fully saturate the network
connection to
     the remote cluster for measuring bandwidth. This may disrupt
           performance and should not be run when MetroCluster is under
heavy
     load. Do you want to continue? {y|n}: y
  Measuring latency and bandwidth between node "A1" (10.140.113.214) and
node "B1" (10.140.113.26) over port "e0f".
  Measuring latency and bandwidth between node "A1" (10.140.113.215) and
node "B1" (10.140.113.27) over port "e0g".
  Measuring latency and bandwidth between node "A2" (10.140.113.216) and
node "B2" (10.140.113.25) over port "e0f".
  Measuring latency and bandwidth between node "A2" (10.140.113.217) and
node "B2" (10.140.113.28) over port "e0g".
  Measurements complete. Use the "metrocluster configuration-settings
calibration show" command to display the results.
```

metrocluster configuration-settings calibration show

Display the calibration measurements for local nodes in MetroCluster over IP configuration

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

Description

The `metrocluster configuration-settings calibration show` command shows the bandwidth and latency between local and remote nodes in a MetroCluster over IP 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.

[-calibration-id <integer>] - Calibration ID

This field specifies Calibration ID.

[-subnet <IP Address>] - IP Subnet

This field specifies subnet.

[-node-uuid <UUID>] - Node UUID

This field specifies UUID of the node.

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

This field specifies name of the port used to measure latency and bandwidth.

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

This field specifies name of the node.

[-collection-time <MM/DD/YYYY HH:MM:SS>] - Collection Time of Sample

This field specifies collection time of sample.

[-source-address <IP Address>] - Source Network Address

This field specifies IP address of the port on the node.

[-destination-address <IP Address>] - Destination Network Address

This field specifies IP address of the port on the partner node.

[-latency <double>] - Latency in ms

This field specifies latency in ms.

[-bandwidth <double>] - Bandwidth in Mb/s

This field specifies bandwidth in Mb/s.

Examples

```
The following example shows the output for the calibration show command in
MetroCluster over IP configurations:
```

```
clusA::*> metrocluster configuration-settings calibration show
                                    Home Latency Bandwidth
  ID Subnet          Node     Port (ms)    (Mb/s)    Collection Time
  -- --------------- -------------- ---- ------- ---------
-------------------
  1  172.21.96.0     A1
                                   e0f  0.341   764       8/6/2019
16:20:07
                                   e0g  0.311   629       8/6/2019
16:20:22
        A2
                                   e0f  0.307   1265      8/6/2019
16:20:36
                                   e0g  0.307   1063      8/6/2019
16:20:50
  4 entries were displayed.
```

metrocluster configuration-settings connection check

Check the network connections between partner nodes

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

Description

The `metrocluster configuration-settings connection check` command checks the settings of a MetroCluster over IP configuration.

This command is used for MetroCluster configurations that are connected through IP links.

Examples

```
The following example shows the output for the check command in
MetroCluster over IP configurations:
```

```
clusA::*> metrocluster configuration-settings connection check
[Job 68] Job succeeded: Connect is successful.

Begin connection check.
Start checking the partner cluster.
    Check partner cluster: PASS.
Start checking the configuration settings.
    Check configuration settings: PASS.
Start pinging the network endpoints from cluster "clusA".
    Ping network endpoints: PASS.
Start pinging the network endpoints from cluster "clusB".
    Ping network endpoints: PASS.
Start checking the network MTU sizes from cluster "clusA".
    Check network MTU sizes: PASS.
Start checking the network MTU sizes from cluster "clusB".
    Check network MTU sizes: PASS.
Start checking the network subnets from cluster "clusA".
    Check network subnets: PASS.
Start checking the network subnets from cluster "clusB".
    Check network subnets: PASS.
Start checking the storage daemons on cluster "clusA".
    Check storage daemons: PASS.
Start checking the storage daemons on cluster "clusB".
    Check storage daemons: PASS.
End of connection check.
```

metrocluster configuration-settings connection connect

Configure the network connections between partner nodes

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

Description

The `metrocluster configuration-settings connection connect` command configures the connections that mirror NV logs and access remote storage between partner nodes in a MetroCluster setup.

This command is used for MetroCluster setups that are connected though IP links. MetroCluster setups that are connected through FC links will configure the FC connections automatically.

The `metrocluster configuration-settings` commands are run in the following order to set up MetroCluster:

- metrocluster configuration-settings dr-group create ,
- metrocluster configuration-settings interface create ,
- `metrocluster configuration-settings connection connect` .

Before this command is run

- The DR groups must have been configured. Run the metrocluster configuration-settings dr-group show command to verify that every node is partnered in a DR group.
- The network logical interfaces must have been configured on every node. Use the metrocluster configuration-settings interface show command to verify that every node has network logical interfaces configured to mirror NV logs and access remote storage.

After this command completes successfully, every node will:

- Have NV log mirroring configured and mirroring disabled. NV log mirroring will be enabled by the metrocluster configure command.
- Have access to remote storage. Use the storage disk show -pool Pool1 command to view the remote disks that are hosted on DR partner nodes.

The DR groups and network logical interfaces that were configured by the `metrocluster configuration-settings` commands cannot be deleted after the connections have been configured. The metrocluster configuration-settings connection disconnect command must be run to remove the connections before the DR groups and network logical interfaces can be deleted.

Parameters

Examples

```
The following example shows configuration of connections in a MetroCluster
over IP setup:
```

```
clusA::> metrocluster configuration-settings connection connect
[Job 269] Job succeeded: Connect is successful.
clusA::>  metrocluster configuration-settings connection show
DR                    Source          Destination
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- --------------- --------------- ------------
------------
1     clusA A1
                  Home Port: e0f
                       10.140.113.214  10.140.113.216  HA Partner
completed
                  Home Port: e0f
                       10.140.113.214  10.140.113.218  DR Partner
completed
                  Home Port: e0f
                       10.140.113.214  10.140.113.249  DR Auxiliary
completed
                  Home Port: e0g
                       10.140.113.215  10.140.113.217  HA Partner
```

```
completed
                Home Port: e0g
                     10.140.113.215  10.140.113.248  DR Partner
completed
                Home Port: e0g
                     10.140.113.215  10.140.113.25   DR Auxiliary
completed
                      A2
                Home Port: e0f
                     10.140.113.216  10.140.113.214  HA Partner
completed
                Home Port: e0f
                     10.140.113.216  10.140.113.249  DR Partner
completed
                Home Port: e0f
                     10.140.113.216  10.140.113.218  DR Auxiliary
completed
                Home Port: e0g
                     10.140.113.217  10.140.113.215  HA Partner
completed
                Home Port: e0g
                     10.140.113.217  10.140.113.25   DR Partner
completed
                Home Port: e0g
                     10.140.113.217  10.140.113.248  DR Auxiliary
completed
      clusB B2
                Home Port: e0f
                     10.140.113.249  10.140.113.218  HA Partner
completed
                Home Port: e0f
                     10.140.113.249  10.140.113.216  DR Partner
completed
                Home Port: e0f
                     10.140.113.249  10.140.113.214  DR Auxiliary
completed
                Home Port: e0g
                     10.140.113.25   10.140.113.248  HA Partner
completed
                Home Port: e0g
                     10.140.113.25   10.140.113.217  DR Partner
completed
                Home Port: e0g
                     10.140.113.25   10.140.113.215  DR Auxiliary
completed
                      B1
```

```
                  Home Port: e0f
                       10.140.113.218  10.140.113.249  HA Partner
completed
                  Home Port: e0f
                       10.140.113.218  10.140.113.214  DR Partner
completed
                  Home Port: e0f
                       10.140.113.218  10.140.113.216  DR Auxiliary
completed
                  Home Port: e0g
                       10.140.113.248  10.140.113.25   HA Partner
completed
                  Home Port: e0g
                       10.140.113.248  10.140.113.215  DR Partner
completed
                  Home Port: e0g
                       10.140.113.248  10.140.113.217  DR Auxiliary
completed
24 entries were displayed.
clusA::> metrocluster configuration-settings show-status
Cluster                     Node                Configuration Settings
Status
--------------------------- ------------------
---------------------------------
clusA
                            A1                  completed
                            A2                  completed
clusB
                            B1                  completed
                            B2                  completed
4 entries were displayed.
```

Related Links

- metrocluster configuration-settings dr-group create
- metrocluster configuration-settings interface create
- metrocluster configuration-settings dr-group show
- metrocluster configuration-settings interface show
- metrocluster configure
- storage disk show
- metrocluster configuration-settings connection disconnect

metrocluster configuration-settings connection disconnect

Tear down the network connections between partner nodes

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

Description

The `metrocluster configuration-settings connection disconnect` command removes the connections between nodes in a DR group that are used to mirror NV logs and access remote storage.

This command cannot be run if a node in the DR group has remote disks assigned to the node. The assigned ownership of remote disks can be removed by running the storage disk removeowner command.

The `metrocluster configuration-settings` commands are run in the following order to remove MetroCluster over IP configuration:

- `metrocluster configuration-settings connection disconnect` ,
- metrocluster configuration-settings interface delete ,
- metrocluster configuration-settings dr-group delete .

Parameters

`-dr-group-id <integer>` - DR Group ID

This parameter identifies the DR group to be disconnected.

Examples

The following example illustrates removal of connections in a four-node MetroCluster setup:

```
clusA::> metrocluster configuration-settings connection disconnect -dr
-group-id 1
[Job 270] Job succeeded: Disconnect is successful.

clusA::>  metrocluster configuration-settings show-status
Cluster                   Node               Configuration Settings
Status
------------------------- ------------------
---------------------------------
clusA
                          A1                 ready for connection connect
                          A2                 ready for connection connect
clusB
                          B1                 ready for connection connect
                          B2                 ready for connection connect
4 entries were displayed.
clusA::> metrocluster configuration-settings connection show
DR                    Source          Destination
```

```
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- --------------- --------------- ------------
------------
1     clusA A1
                  Home Port: e0f
                       10.140.113.214  10.140.113.216  HA Partner
disconnected
                  Home Port: e0f
                       10.140.113.214  10.140.113.218  DR Partner
disconnected
                  Home Port: e0f
                       10.140.113.214  10.140.113.249  DR Auxiliary
disconnected
                  Home Port: e0g
                       10.140.113.215  10.140.113.217  HA Partner
disconnected
                  Home Port: e0g
                       10.140.113.215  10.140.113.248  DR Partner
disconnected
                  Home Port: e0g
                       10.140.113.215  10.140.113.25   DR Auxiliary
disconnected
                        A2
                  Home Port: e0f
                       10.140.113.216  10.140.113.214  HA Partner
disconnected
                  Home Port: e0f
                       10.140.113.216  10.140.113.249  DR Partner
disconnected
                  Home Port: e0f
                       10.140.113.216  10.140.113.218  DR Auxiliary
disconnected
                  Home Port: e0g
                       10.140.113.217  10.140.113.215  HA Partner
disconnected
                  Home Port: e0g
                       10.140.113.217  10.140.113.25   DR Partner
disconnected
                  Home Port: e0g
                       10.140.113.217  10.140.113.248  DR Auxiliary
disconnected
      clusB B2
                  Home Port: e0f
                       10.140.113.249  10.140.113.218  HA Partner
disconnected
```

```
                  Home Port: e0f
                       10.140.113.249  10.140.113.216  DR Partner
disconnected
                  Home Port: e0f
                       10.140.113.249  10.140.113.214  DR Auxiliary
disconnected
                  Home Port: e0g
                       10.140.113.25   10.140.113.248  HA Partner
disconnected
                  Home Port: e0g
                       10.140.113.25   10.140.113.217  DR Partner
disconnected
                  Home Port: e0g
                       10.140.113.25   10.140.113.215  DR Auxiliary
disconnected
                        B1
                  Home Port: e0f
                       10.140.113.218  10.140.113.249  HA Partner
disconnected
                  Home Port: e0f
                       10.140.113.218  10.140.113.214  DR Partner
disconnected
                  Home Port: e0f
                       10.140.113.218  10.140.113.216  DR Auxiliary
disconnected
                  Home Port: e0g
                       10.140.113.248  10.140.113.25   HA Partner
disconnected
                  Home Port: e0g
                       10.140.113.248  10.140.113.215  DR Partner
disconnected
                  Home Port: e0g
                       10.140.113.248  10.140.113.217  DR Auxiliary
disconnected
24 entries were displayed.
```

Related Links

- storage disk removeowner
- metrocluster configuration-settings interface delete
- metrocluster configuration-settings dr-group delete

metrocluster configuration-settings connection show

Display the connections between partner nodes in a MetroCluster setup

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

Description

The `metrocluster configuration-settings connection show` command displays the connection configuration information between the nodes in a MetroCluster setup.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-dr-group-id <integer>] - DR Group ID

If this parameter is specified, the command displays information for the matching DR group.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays information for the matching cluster specified by uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays information for the matching cluster.

[-node-uuid <UUID>] - Node UUID

If this parameter is specified, the command displays information for the matching node specified by uuid.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

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

If this parameter is specified, the command displays information for the matching home-port.

[-relationship-type <Roles of MetroCluster Nodes>] - Relationship Role Type

If this parameter is specified, the command displays information for the matching relationship-type.

[-source-address <IP Address>] - Source Network Address

If this parameter is specified, the command displays information for the matching source address.

[-destination-address <IP Address>] - Destination Network Address

If this parameter is specified, the command displays information for the matching destination address.

[-partner-cluster-uuid <UUID>] - Partner Cluster UUID

If this parameter is specified, the command displays information for the matching partner-cluster-uuid.

[-partner-node-uuid <UUID>] - Partner Node UUID

If this parameter is specified, the command displays information for the matching partner-node-uuid.

[-partner-node <text>] - Partner Node Name

If this parameter is specified, the command displays information for the matching partner-node.

[-partner-type <text>] - Partner Relationship Type

If this parameter is specified, the command displays information for the matching partner-type.

[-config-state <text>] - Configuration State

If this parameter is specified, the command displays information for the matching config-state.

[-config-error-info <text>] - Configuration Error Information

If this parameter is specified, the command displays information for the matching config-error-info.

Examples

The following example shows the output of metrocluster configuration-settings connection connect command:

```
Output of the command before the connections are established using the
xref:{relative_path}metrocluster-configuration-settings-connection-
connect.html[metrocluster configuration-settings connection connect]
command:
clusA::> metrocluster configuration-settings connection show
DR                    Source          Destination
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- --------------- --------------- ------------
------------
1     clusA A1
                  Home Port: e0f
                       10.140.113.214  10.140.113.216  HA Partner
disconnected
                  Home Port: e0f
                       10.140.113.214  10.140.113.218  DR Partner
disconnected
                  Home Port: e0f
                       10.140.113.214  10.140.113.249  DR Auxiliary
disconnected
                  Home Port: e0g
                       10.140.113.215  10.140.113.217  HA Partner
disconnected
                  Home Port: e0g
                       10.140.113.215  10.140.113.248  DR Partner
disconnected
                  Home Port: e0g
                       10.140.113.215  10.140.113.25   DR Auxiliary
disconnected
                        A2
                  Home Port: e0f
```

```
                    10.140.113.216  10.140.113.214  HA Partner
disconnected
                Home Port: e0f
                    10.140.113.216  10.140.113.249  DR Partner
disconnected
                Home Port: e0f
                    10.140.113.216  10.140.113.218  DR Auxiliary
disconnected
                Home Port: e0g
                    10.140.113.217  10.140.113.215  HA Partner
disconnected
                Home Port: e0g
                    10.140.113.217  10.140.113.25   DR Partner
disconnected
                Home Port: e0g
                    10.140.113.217  10.140.113.248  DR Auxiliary
disconnected
      clusB B2
                Home Port: e0f
                    10.140.113.249  10.140.113.218  HA Partner
disconnected
                Home Port: e0f
                    10.140.113.249  10.140.113.216  DR Partner
disconnected
                Home Port: e0f
                    10.140.113.249  10.140.113.214  DR Auxiliary
disconnected
                Home Port: e0g
                    10.140.113.25   10.140.113.248  HA Partner
disconnected
                Home Port: e0g
                    10.140.113.25   10.140.113.217  DR Partner
disconnected
                Home Port: e0g
                    10.140.113.25   10.140.113.215  DR Auxiliary
disconnected
                     B1
                Home Port: e0f
                    10.140.113.218  10.140.113.249  HA Partner
disconnected
                Home Port: e0f
                    10.140.113.218  10.140.113.214  DR Partner
disconnected
                Home Port: e0f
                    10.140.113.218  10.140.113.216  DR Auxiliary
disconnected
```

```
                 Home Port: e0g
                      10.140.113.248  10.140.113.25   HA Partner
disconnected
                 Home Port: e0g
                      10.140.113.248  10.140.113.215  DR Partner
disconnected
                 Home Port: e0g
                      10.140.113.248  10.140.113.217  DR Auxiliary
disconnected
24 entries were displayed.
Output of the command after the connections are established using the
xref:{relative_path}metrocluster-configuration-settings-connection-
connect.html[metrocluster configuration-settings connection connect]
command:
clusA::>  metrocluster configuration-settings connection show
DR                    Source          Destination
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- --------------- --------------- ------------
------------
1     clusA A1
                 Home Port: e0f
                      10.140.113.214  10.140.113.216  HA Partner
completed
                 Home Port: e0f
                      10.140.113.214  10.140.113.218  DR Partner
completed
                 Home Port: e0f
                      10.140.113.214  10.140.113.249  DR Auxiliary
completed
                 Home Port: e0g
                      10.140.113.215  10.140.113.217  HA Partner
completed
                 Home Port: e0g
                      10.140.113.215  10.140.113.248  DR Partner
completed
                 Home Port: e0g
                      10.140.113.215  10.140.113.25   DR Auxiliary
completed
                       A2
                 Home Port: e0f
                      10.140.113.216  10.140.113.214  HA Partner
completed
                 Home Port: e0f
                      10.140.113.216  10.140.113.249  DR Partner
completed
```

```
                 Home Port: e0f
                      10.140.113.216  10.140.113.218  DR Auxiliary
completed
                 Home Port: e0g
                      10.140.113.217  10.140.113.215  HA Partner
completed
                 Home Port: e0g
                      10.140.113.217  10.140.113.25   DR Partner
completed
                 Home Port: e0g
                      10.140.113.217  10.140.113.248  DR Auxiliary
completed
       clusB B2
                 Home Port: e0f
                      10.140.113.249  10.140.113.218  HA Partner
completed
                 Home Port: e0f
                      10.140.113.249  10.140.113.216  DR Partner
completed
                 Home Port: e0f
                      10.140.113.249  10.140.113.214  DR Auxiliary
completed
                 Home Port: e0g
                      10.140.113.25   10.140.113.248  HA Partner
completed
                 Home Port: e0g
                      10.140.113.25   10.140.113.217  DR Partner
completed
                 Home Port: e0g
                      10.140.113.25   10.140.113.215  DR Auxiliary
completed
                       B1
                 Home Port: e0f
                      10.140.113.218  10.140.113.249  HA Partner
completed
                 Home Port: e0f
                      10.140.113.218  10.140.113.214  DR Partner
completed
                 Home Port: e0f
                      10.140.113.218  10.140.113.216  DR Auxiliary
completed
                 Home Port: e0g
                      10.140.113.248  10.140.113.25   HA Partner
completed
                 Home Port: e0g
                      10.140.113.248  10.140.113.215  DR Partner
```

```
completed
                 Home Port: e0g
                      10.140.113.248  10.140.113.217  DR Auxiliary
completed
24 entries were displayed.
```

Related Links

- metrocluster configuration-settings connection connect

metrocluster configuration-settings dr-group create

Create a DR group in a MetroCluster setup

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

Description

The `metrocluster configuration-settings dr-group create` command partners the nodes that will comprise a DR group in a MetroCluster setup.

This command is used for MetroCluster setups that are connected though IP links. MetroCluster setups that are connected through FC links will configure DR groups automatically and do not require the `metrocluster configuration-settings` commands.

The `metrocluster configuration-settings` commands are run in the following order to set up MetroCluster:

- `metrocluster configuration-settings dr-group create` ,
- metrocluster configuration-settings interface create ,
- metrocluster configuration-settings connection connect .

Before running this command, cluster peering must be configured between the local and partner clusters. Run the cluster peer show command to verify that peering is available between the local and partner clusters.

This command configures a local node and a remote node as DR partner nodes. The command also configures the HA partner of the local node and the HA partner of the remote node as the other DR partner nodes in the DR group.

Parameters

`-partner-cluster <Cluster name>` - Partner Cluster Name

Use this parameter to specify the name of the partner cluster.

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

Use this parameter to specify the name of a node in the local cluster.

`-remote-node <text>` - Remote Node Name

Use this parameter to specify the name of a node in the partner cluster that is to be the DR partner of the

specified local node.

Examples

The following example shows the creation of the MetroCluster DR group:

```
clusA::>  metrocluster configuration-settings dr-group  create -partner
-cluster clusB -local-node A1 -remote-node B1
[Job 268] Job succeeded: DR Group Create is successful.

clusA::>  metrocluster configuration-settings dr-group show
DR Group ID Cluster                    Node               DR Partner Node
----------- -------------------------- -----------------
------------------
1           clusA
                                       A1                 B1
                                       A2                 B2
            clusB
                                       B2                 A2
                                       B1                 A1
4 entries were displayed.
clusA::> metrocluster configuration-settings show-status
Cluster                    Node               Configuration Settings
Status
-------------------------- -----------------
---------------------------------
clusA
                           A1                 ready for interface create
                           A2                 ready for interface create
clusB
                           B1                 ready for interface create
                           B2                 ready for interface create
4 entries were displayed.
```

Related Links

- metrocluster configuration-settings interface create
- metrocluster configuration-settings connection connect
- cluster peer show

metrocluster configuration-settings dr-group delete

Delete a DR group in a MetroCluster setup

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

Description

The `metrocluster configuration-settings dr-group delete` command deletes a DR group and its node partnerships that were configured using the metrocluster configuration-settings dr-group create command.

This command cannot be run if the metrocluster configuration-settings interface create command has configured a network logical interface on a network port provisioned for MetroCluster. The metrocluster configuration-settings interface delete command must then be run to delete the network logical interfaces on every node in the DR group.

The `metrocluster configuration-settings` commands are run in the following order to remove the MetroCluster over IP configuration:

- metrocluster configuration-settings connection disconnect ,
- metrocluster configuration-settings interface delete ,
- `metrocluster configuration-settings dr-group delete` .

Parameters

`-dr-group-id <integer>` - Dr group Id

This parameter indentifies the DR group to be deleted.

Examples

```
The following example shows the deletion of the MetroCluster DR group:
```

```
clusA::> metrocluster configuration-settings dr-group delete -dr-group-id
1

Warning: This command deletes the existing DR group relationship. Are you
sure
         you want to proceed ? {y|n}: y
[Job 279] Job succeeded: DR Group Delete is successful.

clusA::>  metrocluster configuration-settings dr-group  show
No DR groups exist.

clusA::> metrocluster configuration-settings show-status
Cluster                     Node                Configuration Settings
Status
--------------------------- ------------------
---------------------------------
clusA
                            A1                  ready for DR group create
                            A2                  ready for DR group create
clusB
                            B1                  ready for DR group create
                            B2                  ready for DR group create
4 entries were displayed.
```

Related Links

- metrocluster configuration-settings dr-group create
- metrocluster configuration-settings interface create
- metrocluster configuration-settings interface delete
- metrocluster configuration-settings connection disconnect

metrocluster configuration-settings dr-group show

Display the DR groups in a MetroCluster setup

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

Description

The `metrocluster configuration-settings dr-group show` command displays the DR groups and their nodes.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-dr-group-id <integer>] - DR Group ID

If this parameter is specified, the command displays information for the matching DR group.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays information for the matching cluster uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays information for the specified cluster.

[-node-uuid <UUID>] - Node UUID

If this parameter is specified, the command displays information for the matching nodes uuid.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

[-dr-partner-node-uuid <UUID>] - DR Partner Node UUID

If this parameter is specified, the command displays information for the matching DR partner node uuid.

[-dr-partner-node <text>] - DR Partner Node Name

If this parameter is specified, the command displays information for the matching DR partner nodes.

Examples

The following example illustrates the display of DR group configuration in a four-node MetroCluster setup:

```
clusA::>  metrocluster configuration-settings dr-group show
DR Group ID Cluster                   Node               DR Partner Node
----------- ------------------------- ------------------
------------------
1           clusA
                                      A1                 B1
                                      A2                 B2
            clusB
                                      B2                 A2
                                      B1                 A1
4 entries were displayed.
```

metrocluster configuration-settings interface create

Create a MetroCluster interface

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

Description

The `metrocluster configuration-settings interface create` command configures the network logical interfaces that will be used on a node in a MetroCluster setup to mirror NV logs and access remote storage.

This command is used for MetroCluster setups that are connected though IP links. MetroCluster setups that are connected through FC links do not require the user to provision network logical interfaces to mirror NV logs and access remote storage.

The `metrocluster configuration-settings` commands are run in the following order to set up MetroCluster:

- metrocluster configuration-settings dr-group create ,
- `metrocluster configuration-settings interface create` ,
- metrocluster configuration-settings connection connect .

Before running this command , the node's DR group must be configured using the metrocluster configuration-settings dr-group create command. Run the metrocluster configuration-settings dr-group show command to verify that the node's DR group has been configured.

Parameters

`-cluster-name <Cluster name>` - Cluster Name

Use this parameter to specify the name of the local or partner cluster.

`-home-node <text>` - Home Node

Use this parameter to specify the home node in the cluster which hosts the interface.

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

Use this parameter to specify the home port provisioned for MetroCluster.

`-address <IP Address>` - Network Address

Use this parameter to specify the network address to be assigned to the home port.

`-netmask <Contiguous IP Mask>` - Netmask

Use this parameter to specify the network mask to be assigned to the interface.

Examples

This example shows configuring logical interface on MetroCluster IP capable port:

```
clusA::>  metrocluster configuration-settings interface create -cluster
```

```
-name clusA -home-node A1 -home-port e0f -address 10.140.113.214 -netmask
255.255.192.0
[Job 281] Job succeeded: Interface Create is successful.

clusA::> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node    Network Address Netmask         Gateway
State
----- ------- ------- --------------- --------------- ---------------
---------
1     clusA A1
                  Home Port: e0f
                                       10.140.113.214  255.255.192.0   -
completed
Output after configuring all the interfaces:
clusA::> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node    Network Address Netmask         Gateway
State
----- ------- ------- --------------- --------------- ---------------
---------
1     clusA A1
                  Home Port: e0f
                       10.140.113.214  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.215  255.255.192.0   -
completed
                        A2
                  Home Port: e0f
                       10.140.113.216  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.217  255.255.192.0   -
completed
      clusB B2
                  Home Port: e0f
                       10.140.113.249  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.25   255.255.192.0   -
completed
                        B1
                  Home Port: e0f
```

```
                     10.140.113.218  255.255.192.0   -
completed
                Home Port: e0g
                     10.140.113.248  255.255.192.0   -
completed
8 entries were displayed.

clusA::> metrocluster configuration-settings show-status
Cluster                     Node               Configuration Settings
Status
--------------------------- ------------------
---------------------------------
clusA
                            A1                 ready for connection connect
                            A2                 ready for connection connect
clusB
                            B1                 ready for connection connect
                            B2                 ready for connection connect
4 entries were displayed.

clusA::> metrocluster configuration-settings connection show
DR                    Source          Destination
Group Cluster Node    Network Address Network Address Partner Type Config
State
----- ------- ------- --------------- --------------- ------------
------------
1     clusA A1
                Home Port: e0f
                     10.140.113.214  10.140.113.216  HA Partner
disconnected
                Home Port: e0f
                     10.140.113.214  10.140.113.218  DR Partner
disconnected
                Home Port: e0f
                     10.140.113.214  10.140.113.249  DR Auxiliary
disconnected
                Home Port: e0g
                     10.140.113.215  10.140.113.217  HA Partner
disconnected
                Home Port: e0g
                     10.140.113.215  10.140.113.248  DR Partner
disconnected
                Home Port: e0g
                     10.140.113.215  10.140.113.25   DR Auxiliary
disconnected
                      A2
```

```
                Home Port: e0f
                     10.140.113.216  10.140.113.214  HA Partner
disconnected
                Home Port: e0f
                     10.140.113.216  10.140.113.249  DR Partner
disconnected
                Home Port: e0f
                     10.140.113.216  10.140.113.218  DR Auxiliary
disconnected
                Home Port: e0g
                     10.140.113.217  10.140.113.215  HA Partner
disconnected
                Home Port: e0g
                     10.140.113.217  10.140.113.25   DR Partner
disconnected
                Home Port: e0g
                     10.140.113.217  10.140.113.248  DR Auxiliary
disconnected
      clusB B2
                Home Port: e0f
                     10.140.113.249  10.140.113.218  HA Partner
disconnected
                Home Port: e0f
                     10.140.113.249  10.140.113.216  DR Partner
disconnected
                Home Port: e0f
                     10.140.113.249  10.140.113.214  DR Auxiliary
disconnected
                Home Port: e0g
                     10.140.113.25   10.140.113.248  HA Partner
disconnected
                Home Port: e0g
                     10.140.113.25   10.140.113.217  DR Partner
disconnected
                Home Port: e0g
                     10.140.113.25   10.140.113.215  DR Auxiliary
disconnected
                      B1
                Home Port: e0f
                     10.140.113.218  10.140.113.249  HA Partner
disconnected
                Home Port: e0f
                     10.140.113.218  10.140.113.214  DR Partner
disconnected
                Home Port: e0f
                     10.140.113.218  10.140.113.216  DR Auxiliary
```

```
disconnected
                 Home Port: e0g
                      10.140.113.248  10.140.113.25   HA Partner
disconnected
                 Home Port: e0g
                      10.140.113.248  10.140.113.215  DR Partner
disconnected
                 Home Port: e0g
                      10.140.113.248  10.140.113.217  DR Auxiliary
disconnected
24 entries were displayed.
```

Related Links

- metrocluster configuration-settings dr-group create
- metrocluster configuration-settings connection connect
- metrocluster configuration-settings dr-group show

metrocluster configuration-settings interface delete

Delete a MetroCluster interface

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

Description

The `metrocluster configuration-settings interface delete` command deletes the network logical interface that was configured on a network port provisioned for MetroCluster.

This command cannot be run if the metrocluster configuration-settings connection connect command has set up the connections between the nodes in a DR group. The metrocluster configuration-settings connection disconnect command must then be run to remove the connections.

The `metrocluster configuration-settings` commands are run in the following order to remove the MetroCluster over IP configuration:

- metrocluster configuration-settings connection disconnect ,
- `metrocluster configuration-settings interface delete` ,
- metrocluster configuration-settings dr-group delete .

Parameters

`-cluster-name <Cluster name>` - Cluster Name

Use this parameter to specify the name of the local or partner cluster.

`-home-node <text>` - Home Node

Use this parameter to specify the home node in the cluster which hosts the interface.

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

Use this parameter to specify the home port provisioned for MetroCluster.

Examples

The following example shows the deletion of interface in a MetroCluster setup:

```
clusA::> metrocluster configuration-settings interface delete -cluster
-name clusA -home-node A1 -home-port e0f
[Job 271] Job succeeded: Interface Delete is successful.

clusA::> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node    Network Address Netmask         Gateway
State
----- ------- ------- --------------- --------------- ---------------
---------
1     clusA A1
                  Home Port: e0g
                       10.140.113.215  255.255.192.0   -
completed
                        A2
                  Home Port: e0f
                       10.140.113.216  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.217  255.255.192.0   -
completed
      clusB B2
                  Home Port: e0f
                       10.140.113.249  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.25   255.255.192.0   -
completed
                        B1
                  Home Port: e0f
                       10.140.113.218  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.248  255.255.192.0   -
completed
7 entries were displayed.

clusA::> metrocluster configuration-settings show-status
```

```
Cluster                   Node                Configuration Settings
Status
------------------------- ------------------
---------------------------------
clusA
                          A1                  ready for next interface
create
                          A2                  ready for connection connect
clusB
                          B1                  ready for connection connect
                          B2                  ready for connection connect
4 entries were displayed.
Output of the command after deleting all the interfaces:
clusA::> metrocluster configuration-settings interface show
No interfaces exist.

clusA::> metrocluster configuration-settings show-status
Cluster                   Node                Configuration Settings
Status
------------------------- ------------------
---------------------------------
clusA
                          A1                  ready for interface create
                          A2                  ready for interface create
clusB
                          B1                  ready for interface create
                          B2                  ready for interface create
4 entries were displayed.
```

Related Links

- metrocluster configuration-settings connection connect
- metrocluster configuration-settings connection disconnect
- metrocluster configuration-settings dr-group delete

metrocluster configuration-settings interface show

Display the network logical interfaces provisioned for MetroCluster

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

Description

The `metrocluster configuration-settings interface show` command displays the network logical interfaces that were provisioned for MetroCluster.

Parameters

{ [-fields <fieldname>,…]

If you specify the `-fields <fieldname>,…` parameter, the command displays only the fields that you specify.

| [-instance] }

If this parameter is specified, the command displays detailed information about all entries.

[-dr-group-id <integer>] - DR Group ID

If this parameter is specified, the command displays information for the matching DR group.

[-cluster-uuid <UUID>] - Cluster UUID

If this parameter is specified, the command displays information for the matching cluster specified by uuid.

[-cluster <Cluster name>] - Cluster Name

If this parameter is specified, the command displays information for the matching cluster..

[-node-uuid <UUID>] - Node UUID

If this parameter is specified, the command displays information for the matching nodes uuid.

[-node <text>] - Node Name

If this parameter is specified, the command displays information for the matching nodes.

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

If this parameter is specified, all interfaces with home-port set to this value are displayed.

[-address <IP Address>] - Network Address

If this parameter is specified, the command displays information for the matching network address.

[-netmask <Contiguous IP Mask>] - Netmask

If this parameter is specified, all interfaces with netmask set to this value are displayed.

[-gateway <IP Address>] - Gateway

If this parameter is specified, all interfaces with gateway set to this value are displayed.

[-config-state <text>] - Configuration State

If this parameter is specified, all interfaces with this field set to the specified value are displayed.

[-config-error-info <text>] - Configuration Error Information

If this parameter is specified, all interfaces with this field set to the specified value are displayed.

Examples

The following example illustrates display of logical interfaces configured in a four-node MetroCluster setup:

```
clusA::> metrocluster configuration-settings interface show
DR
Config
Group Cluster Node    Network Address Netmask         Gateway
State
----- ------- ------- --------------- --------------- ---------------
---------
1     clusA A1
                  Home Port: e0f
                       10.140.113.214  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.215  255.255.192.0   -
completed
                        A2
                  Home Port: e0f
                       10.140.113.216  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.217  255.255.192.0   -
completed
      clusB B2
                  Home Port: e0f
                       10.140.113.249  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.25   255.255.192.0   -
completed
                        B1
                  Home Port: e0f
                       10.140.113.218  255.255.192.0   -
completed
                  Home Port: e0g
                       10.140.113.248  255.255.192.0   -
completed
8 entries were displayed.
```

metrocluster configuration-settings mediator add

Configure the network connections between the Mediator and MetroCluster nodes

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

Description

The `metrocluster configuration-settings mediator add` command configures the connection between the mediator and all the nodes in a MetroCluster configuration.

Before this command is run MetroCluster should be configured on all the clusters.

Mediator username and password are required to successfully add the mediator.

After this command completes successfully, every node will:

- Have a connection with the mediator.
- The mediator disks will be assigned to the nodes in the MetroCluster configuration.
- AUSO will be enabled.

Parameters

`-mediator-address <IP Address>` - Mediator IP Address

Specifies the IP address of the mediator to which the nodes in the MetroCluster configuration will be connected.

Examples

```
The following example connects the nodes to the mediator in a MetroCluster
configuration over IP setup:
```

```
clusA::> metrocluster configuration-settings mediator add -mediator
-address 10.234.133.115
        Adding mediator and enabling Automatic Unplanned Switchover. It
might take a few minutes to complete.
        Please enter the username for the mediator: mediatoradmin
        Please enter the password for the mediator:
        Confirm the mediator password:
        Creating mediator mailboxes...
        Setting up connections to mediator from all nodes in the
clusters...
        Setting mediator mailbox from all nodes in the cluster...
        Enabling Automatic Unplanned Switchover for all nodes in the
cluster...
        Successfully added mediator.
```

metrocluster configuration-settings mediator remove

Tear down connections between the Mediator and MetroCluster nodes

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

Description

The `metrocluster configuration-settings mediator remove` command removes the connection between the mediator and all the nodes in a MetroCluster configuration.

Mediator username and password are required to successfully remove the mediator.

Examples

```
The following example removes the connections between the nodes and the
mediator in a MetroCluster configuration over IP setup:
```

```
clusA::> metrocluster configuration-settings mediator remove
      Removing the mediator and disabling Automatic Unplanned Switchover.
It may take a few minutes to complete.
      Please enter the username for the mediator: mediatoradmin
      Please enter the password for the mediator:
      Confirm the mediator password:
      Disabling Automatic Unplanned Switchover for all nodes in the
cluster...
      Removing mediator mailboxes...
      Performing final cleanup...
      Successfully removed the mediator.
```

metrocluster configuration-settings mediator show

Display the nodes connected to the mediator

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

Description

The `metrocluster configuration-settings mediator show` command displays the connection status of the nodes with the Mediator in a MetroCluster 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.

[-mediator-address <IP Address>] - Mediator IP Address

Specifies the IP address of the mediator to which the nodes in the MetroCluster configuration are connected.

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

Specifies the nodes in the MetroCluster configuration which are connected to the mediator.

[-reachable {true|false}] - Connection Status of the Mediator

Specifies the connection status of the nodes with the mediator in the MetroCluster configuration.

Examples

```
The following example shows the mediator connection status in a
MetroCluster configuration over IP setup:
```

```
cluster1_node_01::*> metrocluster configuration-settings mediator show
        Mediator IP               Port    Node
Connection Status
        ------------------------- ------- ----------------------
-----------------
        10.234.217.168
                                  31784   cluster1_node_01     true
                                          cluster1_node_02     true
                                          cluster2_node_01     true
                                          cluster2_node_02     true
```

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