



metrocluster configuration-settings commands

ONTAP 9.15.1 commands

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Table of Contents

- metrocluster configuration-settings commands 1
 - metrocluster configuration-settings show-status 1
 - metrocluster configuration-settings calibration measure 3
 - metrocluster configuration-settings calibration show 4
 - metrocluster configuration-settings connection check 6
 - metrocluster configuration-settings connection connect 8
 - metrocluster configuration-settings connection disconnect 12
 - metrocluster configuration-settings connection show 14
 - metrocluster configuration-settings dr-group create 20
 - metrocluster configuration-settings dr-group delete 21
 - metrocluster configuration-settings dr-group show 23
 - metrocluster configuration-settings interface create 25
 - metrocluster configuration-settings interface delete 29
 - metrocluster configuration-settings interface show 31
 - metrocluster configuration-settings mediator add 34
 - metrocluster configuration-settings mediator remove 35
 - metrocluster configuration-settings mediator show 35

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 bandwidth 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.

[-num-packets-retransmitted <integer>] - Number of Packets Retransmitted

This field specifies the number of TCP packets retransmitted during bandwidth measurement.

[-pct-pkt-retrans <double>] - Percentage of packages retransmitted

This field specifies the percent of TCP packets retransmitted during bandwidth measurement.

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.

Parameters

[-v, -verbose <true>] - Enable Detailed Output (privilege: advanced)

This optional parameter enables verbose mode.

[-p, -ping <true>] - Check Ping Response Only (privilege: advanced)

Specify this parameter to perform reachability checks.

[-t, -throughput <true>] - Check Throughput Only (privilege: advanced)

Specify this parameter to perform throughput checks.

{ [-z, -tos <Hex String>] - Type of Service for Pings (privilege: advanced)

This optional parameter specifies the value for the Type of Service field to be used for ping or throughput checks. If specified, the ping and throughput checks will be limited to only the specified value and not cycle through all the pre-defined TOS values for those checks.

| [-D, -dscp <text>] - DSCP for Throughput or Pings (privilege: advanced)

This optional parameter specifies the DSCP value to be used for ping or throughput checks. The value can be specified as a number, hexadecimal string or as a symbolic name. For example, "32", "0x20" and "CS4" all refer to the same value. If specified, the ping and throughput checks will be limited to only the specified value and not cycle through all the pre-defined DSCP values for these checks.

[-E, -ecn <integer>] - ECN for Pings (privilege: advanced) }

This optional parameter specifies the ECN value to be used for ping checks.

[-c, -count <integer>] - Ping Count (privilege: advanced)

This optional parameter specifies the number of ping requests to send for each destination. The default value is 1.

[-i, -interval <double>] - Ping Interval (privilege: advanced)

This optional parameter specifies the interval to use between pings. The default value is 1 second.

[-S, -source <IP Address>] - Source IP Address (privilege: advanced)

This optional parameter specifies the source IP address to use for ping or throughput check.

[-destination <IP Address>] - Destination IP Address (privilege: advanced)

This optional parameter specifies the destination IP address to use for ping or throughput checks.

[-role <Roles of MetroCluster Nodes>] - Partner Role (privilege: advanced)

This optional parameter specifies the partner role to use for ping and throughput checks. Only the nodes with the matching role will be used.

[-I, -port {<netport>|<ifgrp>}] - Interface Port Name (privilege: advanced)

This optional parameter specifies the port to use for ping and throughput checks.

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 through 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
Group Cluster Node      Source      Destination
State                               Network Address Network Address Partner Type Config
-----
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 State	Cluster	Node	Network Address	Network Address	Partner	Type	Config
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

```

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
disconnected      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
```

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

```

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

```

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
	clusB B2		
completed	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
	B1		
completed	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
	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 over IP 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 through 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 over IP 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 identifies 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 over IP 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 in the MetroCluster over IP 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 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 through 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.

[-gateway <IP Address>] - Gateway

Use this parameter to specify the gateway to be assigned for the routed network.

[-vlan-id <integer>] - Virtual LAN ID

Use this parameter to specify the VLAN id.

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

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	Partner	Type	Config				
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

```

```

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.

[-vlan-id <integer>] - Virtual LAN ID

If this parameter is specified, all interfaces with vlan-id set to this 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.

Parameters

[-dr-group-id <integer>] - DR Group Id (privilege: advanced)

Specifies the Disaster Recovery Group Identifier for which the mediator connections need to be removed.

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.

[-port <integer>] - Mediator port number

Specifies the port 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.

[-configured {true|false}] - Mediator Configuration Status

Specifies the configuration 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      Configuration
Connection
      Status
-----
10.234.217.168
                31784  cluster1_node_01  true      true
                cluster1_node_02  true      true
                cluster2_node_01  true      true
                cluster2_node_02  true      true
```

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