Recover a cluster configuration

ONTAP 9

NetApp
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Find a configuration to use for recovering a cluster

You use the configuration from either a node in the cluster or a cluster configuration backup file to recover a cluster.

Steps

1. Choose a type of configuration to recover the cluster.
   - A node in the cluster

     If the cluster consists of more than one node, and one of the nodes has a cluster configuration from when the cluster was in the desired configuration, then you can recover the cluster using the configuration stored on that node.

     In most cases, the node containing the replication ring with the most recent transaction ID is the best node to use for restoring the cluster configuration. The `cluster ring show` command at the advanced privilege level enables you to view a list of the replicated rings available on each node in the cluster.

   - A cluster configuration backup file

     If you cannot identify a node with the correct cluster configuration, or if the cluster consists of a single node, then you can use a cluster configuration backup file to recover the cluster.

     If you are recovering the cluster from a configuration backup file, any configuration changes made since the backup was taken will be lost. You must resolve any discrepancies between the configuration backup file and the present configuration after recovery. See Knowledge Base article ONTAP Configuration Backup Resolution Guide for troubleshooting guidance.

2. If you chose to use a cluster configuration backup file, then make the file available to the node you plan to use to recover the cluster.

If the configuration backup file is located…	Then…
At a remote URL	Use the `system configuration backup download` command at the advanced privilege level to download it to the recovering node.
On a node in the cluster	a. Use the `system configuration backup show` command at the advanced privilege level to find a cluster configuration backup file that was created when the cluster was in the desired configuration. b. If the cluster configuration backup file is not located on the node you plan to use to recover the cluster, then use the `system configuration backup copy` command to copy it to the recovering node.

Restore a cluster configuration from an existing configuration

To restore a cluster configuration from an existing configuration after a cluster failure, you re-create the cluster using the cluster configuration that you chose and made available to the recovering node, and then rejoin each additional node to the new cluster.

About this task

You should only perform this task to recover from a disaster that resulted in the loss of the cluster's configuration.

> If you are re-creating the cluster from a configuration backup file, you must contact technical support to resolve any discrepancies between the configuration backup file and the configuration present in the cluster.
>
> If you are recovering the cluster from a configuration backup file, any configuration changes made since the backup was taken will be lost. You must resolve any discrepancies between the configuration backup file and the present configuration after recovery. See the Knowledge Base article ONTAP Configuration Backup Resolution Guide for troubleshooting guidance.

Steps

1. Disable storage failover for each HA pair:

   `storage failover modify -node` *`node_name`* `-enabled false`

   You only need to disable storage failover once for each HA pair. When you disable storage failover for a node, storage failover is also disabled on the node's partner.

2. Halt each node except for the recovering node:

   `system node halt -node` *`node_name`* `-reason "text"`

   ```
   cluster1::*> system node halt -node node0 -reason "recovering cluster"

   Warning: Are you sure you want to halt the node? {y|n}: y
   ```

3. Set the privilege level to advanced:

   `set -privilege advanced`

4. On the recovering node, use the **`system configuration recovery cluster recreate`** command to re-create the cluster.

   This example re-creates the cluster using the configuration information stored on the recovering node:

```
cluster1::*> configuration recovery cluster recreate -from node

Warning: This command will destroy your existing cluster. It will
         rebuild a new single-node cluster consisting of this node
         and its current configuration. This feature should only be
         used to recover from a disaster. Do not perform any other
         recovery operations while this operation is in progress.
Do you want to continue? {y|n}: y
```

A new cluster is created on the recovering node.

5. If you are re-creating the cluster from a configuration backup file, verify that the cluster recovery is still in progress:

   system configuration recovery cluster show

   You do not need to verify the cluster recovery state if you are re-creating the cluster from a healthy node.

```
cluster1::*> system configuration recovery cluster show
 Recovery Status: in-progress
 Is Recovery Status Persisted: false
```

6. Boot each node that needs to be rejoined to the re-created cluster.

   You must reboot the nodes one at a time.

7. For each node that needs to be joined to the re-created cluster, do the following:
   a. From a healthy node on the re-created cluster, rejoin the target node:

      system configuration recovery cluster rejoin -node *node_name*

      This example rejoins the “node2” target node to the re-created cluster:

```
cluster1::*> system configuration recovery cluster rejoin -node node2

Warning: This command will rejoin node "node2" into the local
         cluster, potentially overwriting critical cluster
         configuration files. This command should only be used
         to recover from a disaster. Do not perform any other
         recovery operations while this operation is in progress.
         This command will cause node "node2" to reboot.
Do you want to continue? {y|n}: y
```

      The target node reboots and then joins the cluster.

   b. Verify that the target node is healthy and has formed quorum with the rest of the nodes in the cluster:

cluster show -eligibility true

The target node must rejoin the re-created cluster before you can rejoin another node.

```
cluster1::*> cluster show -eligibility true
Node                 Health  Eligibility   Epsilon
-------------------- ------- ------------  ------------
node0                true    true          false
node1                true    true          false
2 entries were displayed.
```

8. If you re-created the cluster from a configuration backup file, set the recovery status to be complete:

   system configuration recovery cluster modify -recovery-status complete

9. Return to the admin privilege level:

   set -privilege admin

10. If the cluster consists of only two nodes, use the **cluster ha modify** command to reenable cluster HA.
11. Use the **storage failover modify** command to reenable storage failover for each HA pair.

After you finish

If the cluster has SnapMirror peer relationships, then you also need to re-create those relationships. For more information, see Data Protection.

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