Create a volume or qtree storage container

ONTAP 9

NetApp
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Create a volume or qtrees storage container

Create a volume

You can create a volume and specify its junction point and other properties by using the `volume create` command.

About this task

A volume must include a junction path for its data to be made available to clients. You can specify the junction path when you create a new volume. If you create a volume without specifying a junction path, you must mount the volume in the SVM namespace using the `volume mount` command.

Before you begin

- NFS should be set up and running.
- The SVM security style must be UNIX.
- Beginning in ONTAP 9.13.1, you can create volumes with capacity analytics and Activity Tracking enabled.

To enable capacity or Activity Tracking, issue the `volume create` command with `-analytics-state` or `-activity-tracking-state` set to `on`.

To learn more about capacity analytics and Activity Tracking, see Enable File System Analytics.

Steps

1. Create the volume with a junction point:

   ```
   volume create -vserver svm_name -volume volume_name -aggregate aggregate_name -size {integer[KB|MB|GB|TB|PB]} -security-style unix -user user_name_or_number -group group_name_or_number -junction-path junction_path [-policy export_policy_name]
   ```

   The choices for `-junction-path` are the following:

   - Directly under root, for example, `/new_vol`
     
     You can create a new volume and specify that it be mounted directly to the SVM root volume.

   - Under an existing directory, for example, `/existing_dir/new_vol`
     
     You can create a new volume and specify that it be mounted to an existing volume (in an existing hierarchy), expressed as a directory.

   If you want to create a volume in a new directory (in a new hierarchy under a new volume), for example, `/new_dir/new_vol`, then you must first create a new parent volume that is junctioned to the SVM root volume. You would then create the new child volume in the junction path of the new parent volume (new directory).

   + If you plan to use an existing export policy, you can specify it when you create the volume. You can also add an export policy later with the `volume modify` command.

2. Verify that the volume was created with the desired junction point:
Examples
The following command creates a new volume named users1 on the SVM vs1.example.com and the aggregate aggr1. The new volume is made available at /users. The volume is 750 GB in size, and its volume guarantee is of type volume (by default).

```bash
cluster1::> volume create -vserver vs1.example.com -volume users -aggregate aggr1 -size 750g -junction-path /users
[Job 1642] Job succeeded: Successful
```

```bash
cluster1::> volume show -vserver vs1.example.com -volume users -junction
```

<table>
<thead>
<tr>
<th>Vserver</th>
<th>Volume</th>
<th>Active</th>
<th>Junction Path</th>
<th>Path Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>vs1.example.com</td>
<td>users1</td>
<td>true</td>
<td>/users</td>
<td>RW_volume</td>
</tr>
</tbody>
</table>

The following command creates a new volume named “home4” on the SVM ”vs1.example.com” and the aggregate “aggr1”. The directory /eng/ already exists in the namespace for the vs1 SVM, and the new volume is made available at /eng/home, which becomes the home directory for the /eng/ namespace. The volume is 750 GB in size, and its volume guarantee is of type volume (by default).

```bash
cluster1::> volume create -vserver vs1.example.com -volume home4 -aggregate aggr1 -size 750g -junction-path /eng/home
[Job 1642] Job succeeded: Successful
```

```bash
cluster1::> volume show -vserver vs1.example.com -volume home4 -junction
```

<table>
<thead>
<tr>
<th>Vserver</th>
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<th>Path Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>vs1.example.com</td>
<td>home4</td>
<td>true</td>
<td>/eng/home</td>
<td>RW_volume</td>
</tr>
</tbody>
</table>

Create a qtree
You can create a qtree to contain your data and specify its properties by using the `volume qtree create` command.

What you’ll need
- The SVM and the volume that will contain the new qtree must already exist.
- The SVM security style must be UNIX, and NFS should be set up and running.

Steps
1. Create the qtree:

```bash
volume qtree create -vserver vs1.example.com { -volume volume_name -qtree
```
```bash
qtree_name -qtree-path qtree path -security-style unix [-policy export_policy_name]
```

You can specify the volume and qtree as separate arguments or specify the qtree path argument in the format `/vol/volume_name/_qtree_name`.

By default, qtrees inherit the export policies of their parent volume, but they can be configured to use their own. If you plan to use an existing export policy, you can specify it when you create the qtree. You can also add an export policy later with the `volume qtree modify` command.

2. Verify that the qtree was created with the desired junction path:

```bash
volume qtree show -vserver vserver_name { -volume volume_name -qtree qtree_name | -qtree-path qtree path }
```

**Example**

The following example creates a qtree named `qt01` located on SVM `vs1.example.com` that has a junction path `/vol/data1`:

```
cluster1::> volume qtree create -vserver vs1.example.com -qtree-path /vol/data1/qt01 -security-style unix
[Job 1642] Job succeeded: Successful

cluster1::> volume qtree show -vserver vs1.example.com -qtree-path /vol/data1/qt01

Vserver Name: vs1.example.com
Volume Name: data1
Qtree Name: qt01
Actual (Non-Junction) Qtree Path: /vol/data1/qt01
Security Style: unix
Oplock Mode: enable
Unix Permissions: ---rwxr-xr-x
Qtree Id: 2
Qtree Status: normal
Export Policy: default
Is Export Policy Inherited: true
```