Enable client access to S3 object storage

ONTAP 9

NetApp
April 25, 2023

Table of Contents

Enable client access to S3 object storage

Enable ONTAP S3 access for remote FabricPool tiering

For ONTAP S3 to be used as a remote FabricPool capacity (cloud) tier, the ONTAP S3 administrator must provide information about the S3 server configuration to the remote ONTAP cluster administrator.

About this task

The following S3 server information is required to configure FabricPool cloud tiers:

- server name (FQDN)
- bucket name
- CA certificate
- access key
- password (secret access key)

In addition, the following networking configuration is required:

- There must be an entry for the remote ONTAP S3 server's hostname in the DNS server configured for the admin SVM, including the S3 server's FQDN name and the IP addresses on its LIFs.
- Intercluster LIFs must be configured on the local cluster, although cluster peering is not required.

See the FabricPool documentation about configuring ONTAP S3 as a cloud tier.

Managing Storage Tiers By Using FabricPool

Enable ONTAP S3 access for local FabricPool tiering

For ONTAP S3 to be used as a local FabricPool capacity tier, you must define an object store based on the bucket you created, and then attach the object store to a performance tier aggregate to create a FabricPool.

Before you begin

You must have the ONTAP S3 server name and a bucket name, and the S3 server must have been created using cluster LIFs (with the `-vserver Cluster` parameter).

About this task

The object-store configuration contains information about the local capacity tier, including the S3 server and bucket names and authentication requirements.

An object-store configuration once created must not be reassociated with a different object-store or bucket. You can create multiple buckets for local tiers, but you cannot create multiple object stores in a single bucket.

A FabricPool license is not required for a local capacity tier.

Steps

1. Create the object store for the local capacity tier:

```
storage aggregate object-store config create -object-store-name store_name
-ipspace Cluster -provider-type ONTAP_S3 -server S3_server_name -container
-name bucket_name -access-key access_key -secret-password password
```

- The `-container-name` is the S3 bucket you created.
- The `-access-key` parameter authorizes requests to the ONTAP S3 server.
- The `-secret-password` parameter (secret access key) authenticates requests to the ONTAP S3 server.
- You can set the `-is-certificate-validation-enabled` parameter to `false` to disable certificate checking for ONTAP S3.

```
cluster1::> storage aggregate object-store config create
-object-store-name MyLocalObjStore -ipspace Cluster -provider-type
ONTAP_S3 -server s3.example.com
-container-name bucket1 -access-key myS3key -secret-password myS3pass
```

2. Display and verify the object store configuration information:

   ```
   storage aggregate object-store config show
   ```

3. Optional: To see how much data in a volume is inactive, follow the steps in Determining how much data in a volume is inactive by using inactive data reporting.

   Seeing how much data in a volume is inactive can help you decide which aggregate to use for FabricPool local tiering.

4. Attach the object store to an aggregate:

   ```
   storage aggregate object-store attach -aggregate aggr_name -object-store-name
   store_name
   ```

   You can use the `allow-flexgroup` **`true`** option to attach aggregates that contain FlexGroup volume constituents.

   ```
   cluster1::> storage aggregate object-store attach
   -aggregate aggr1 -object-store-name MyLocalObjStore
   ```

5. Display the object store information and verify that the attached object store is available:

   ```
   storage aggregate object-store show
   ```

   ```
   cluster1::> storage aggregate object-store show

   Aggregate    Object Store Name    Availability State
   ---------    -----------------    ------------------
   aggr1        MyLocalObjStore      available
   ```

Enable client access from an S3 app

For S3 client apps to access the ONTAP S3 server, the ONTAP S3 administrator must provide configuration information to the S3 user.

What you'll need

The S3 client app must be capable of authenticating with the ONTAP S3 server using the following AWS signature versions:

- Signature Version 4, ONTAP 9.8 and later
- Signature Version 2, ONTAP 9.11.1 and later

Other signature versions are not supported by ONTAP S3.

The ONTAP S3 administrator must have created S3 users and granted them access permissions, as an individual users or as a group member, in the bucket policy or the object storage server policy.

The S3 client app must be capable of resolving the ONTAP S3 server name, which requires that ONTAP S3 administrator provide the S3 server name (FQDN) and IP addresses for the S3 server's LIFs.

About this task

To access an ONTAP S3 bucket, a user on the S3 client app enters information provided by the ONTAP S3 administrator.

Beginning with ONTAP 9.9.1, the ONTAP S3 server supports the following AWS client functionality:

- user-defined object metadata

  A set of key-value pairs can be assigned to objects as metadata when they are created using PUT (or POST). When a GET/HEAD operation is performed on the object, the user-defined metadata is returned along with the system metadata.

- object tagging

  A separate set of key-value pairs can be assigned as tags for categorizing objects. Unlike metadata, tags are created and read with REST APIs independently of the object, and they implemented when objects are created or any time after.

> To enable clients to get and put tagging information, the actions `GetObjectTagging`, `PutObjectTagging`, and `DeleteObjectTagging` need to be allowed using the bucket or group policies.

For more information, see the AWS S3 documentation.

Steps

1. Authenticate the S3 client app with the ONTAP S3 server by entering the S3 server name and the CA certificate.
2. Authenticate a user on the S3 client app by entering the following information:
   - S3 server name (FQDN) and bucket name
   - the user's access key and secret key

Copyright information

Trademark information