Lab

Deploying CephFS

In this review, you will deploy CephFS on an existing Red Hat Ceph Storage cluster using specified requirements.

Outcomes

You should be able to deploy a Metadata Server, provide storage with CephFS, and configure clients for its use.

Before You Begin

If you did not reset your classroom virtual machines at the end of the last chapter, save any work you want to keep from earlier exercises on those machines and reset the classroom environment now.

Important

Reset your environment before performing this exercise. All comprehensive review labs start with a clean, initial classroom environment that includes a pre-built, fully operational Ceph cluster. All remaining comprehensive reviews use the default Ceph cluster provided in the initial classroom environment.

As the `student` user on the `workstation` machine, use the `lab` command to prepare your system for this exercise.

```
[student@workstation ~]$ lab start comprehensive-review3
```

This command ensures that all cluster hosts are reachable.

Specifications

- Create a CephFS file system `cl260-fs`. Create an MDS service called `cl260-fs` with two MDS instances, one on the `serverc` node and another on the `serverd` node. Create a data pool called `cephfs.cl260-fs.data` and a metadata pool called `cephfs.cl260-fs.meta`. Use replicated as the type for both pools.

- Mount the CephFS file system to the `/mnt/cephfs` directory on the `clienta` host and owned by the `admin` user. Save the `client.admin` key-ring to the `/root/secretfile` and use the file to authenticate the mount operation.

- Create the `ceph01` and `ceph02` directories. Create an empty file called `firstfile` in the `ceph01` directory. Verify the directories and its contents are owned by the `admin` user.

- Modify the `ceph.dir.layout.stripe_count` layout attribute for the `/mnt/cephfs/dir1` directory. Verify that new files created with the directory inherit the attribute.

- Use the `ceph-fuse` client to mount a new directory called `/mnt/cephfuse`.