Lab

Providing Block Storage Using RADOS Block Devices

In this lab you will configure Red Hat Ceph Storage to provide block storage to clients using RADOS block devices (RBDs). You will import and export RBD images to and from the Ceph cluster.

Outcomes

You should be able to:

- Create and prepare an RBD pool.
- Create, manage, and use RBD images.
- Export and import RBD images.

Before You Begin

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

```
[student@workstation ~]$ lab start block-review
```

This command verifies the status of the cluster and creates the `rbd` pool if it does not already exist.

Instructions

Perform the following steps on your `clienta` admin node, which is a client node to the primary 3-node Ceph storage cluster.

1. Log in to `clienta` as the `admin` user. Create a pool called `rbd260`, enable the `rbd` client application for the Ceph block device, and make it usable by the RBD feature.
2. Create a 128 MiB RADOS block device image called `prod260` in the `rbd260` pool. Verify your work.
3. Map the `prod260` RBD image in the `rbd260` pool to a local block device file by using the kernel RBD client. Format the device with an XFS file system. Mount the file system on the `/mnt/prod260` image and copy the `/etc/resolv.conf` file to the root of this new file system. When done, unmount and unmap the device.
4. Create a snapshot of the `prod260` RBD image in the `rbd260` pool and name it `beforeprod`.
5. Export the `prod260` RBD image from the `rbd260` pool to the `/root/prod260.xfs` file. Import that image file into the `rbd` pool on your primary 3-node Ceph cluster, and name the imported image `img260` in that pool.
6. Configure the client system so that it persistently mounts the `rbd260/prod260` RBD image as `/mnt/prod260`. Authenticate as the `admin` Ceph user using existing keys found in the `/etc/ceph/ceph.client.admin.keyring` file.