Lab

Creating and Customizing Storage Maps

In this lab, you will modify the CRUSH map, create a CRUSH rule, and set the CRUSH tunables profile.

Outcomes

You should be able to create a new CRUSH hierarchy and move OSDs into it, create a CRUSH rule and configure a replicated pool to use it, and set the CRUSH tunables profile.

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 map-review
```

This command confirms that the hosts required for this exercise are accessible, backs up the CRUSH map, and sets the `mon_allow_pool_delete` setting to `true`.

Instructions

1. Create a new CRUSH hierarchy under `root=review-cl260` that has two data center buckets (`dc1` and `dc2`), two rack buckets (`rack1` and `rack2`), one in each data center, and two host buckets (`hostc` and `hostd`), one in each rack.

   Place `osd.1` and `osd.2` into `dc1`, `rack1`, `hostc`.

   Place `osd.3` and `osd.4` into `dc2`, `rack2`, `hostd`.

2. Add a CRUSH rule called `replicated1` of type `replicated`. Set the root to `review-cl260` and the failure domain to `datacenter`.

3. Create a new replicated pool called `reviewpool` with 64 PGs that use the new CRUSH rule from the previous step.

4. Set CRUSH tunables to use the `optimal` profile.

5. Return to `workstation` as the `student` user.

Evaluation

Grade your work by running the `lab grade map-review` command from your `workstation` machine. Correct any reported failures and rerun the script until successful.

```
[student@workstation ~]$ lab grade map-review
```

Finish

On the `workstation` machine, use the `lab` command to complete this exercise. This is important to ensure that resources from previous exercises do not impact upcoming exercises.