Summary

In this chapter, you learned:

- The CRUSH algorithm provides a decentralized way for Ceph clients to interact with the Red Hat Ceph Storage cluster, which enables massive scalability.
- The CRUSH map contains two main components: a hierarchy of buckets that organize OSDs into a treelike structure where the OSDs are the leaves of the tree, and at least one CRUSH rule that determines how Ceph assigns PGs to OSDs from the CRUSH tree.
- Ceph provides various command-line tools to display, tune, modify, and use the CRUSH map.
- You can modify the CRUSH algorithm's behavior by using `tunables`, which disable, enable, or adjust features of the CRUSH algorithm.
- The OSD map `epoch` is the map's revision number and increments whenever a change occurs. Ceph updates the OSD map every time an OSD joins or leaves the cluster and OSDs keep the map synchronized among themselves.