CEPH STORAGE CLUSTER

The Ceph Storage Cluster is the foundation for all Ceph deployments. Based upon RADOS, Ceph Storage Clusters consist of two types of daemons: a Ceph OSD Daemon (OSD) stores data as objects on a storage node; and a Ceph Monitor maintains a master copy of the cluster map. A Ceph Storage Cluster may contain thousands of storage nodes. A minimal system will have at least one Ceph Monitor and two Ceph OSD Daemons for data replication.

The Ceph Filesystem, Ceph Object Storage and Ceph Block Devices read data from and write data to the Ceph Storage Cluster.

CONFIG AND DEPLOY

Ceph Storage Clusters have a few required settings, but most configuration settings have default values. A typical deployment uses a deployment tool to define a cluster and bootstrap a monitor. See Deployment for details on `ceph-deploy`.

- Configuration
  - Disks and Filesystems
  - Configuring Ceph
  - Network Settings
  - Auth Settings
  - Monitor Settings
  - Heartbeat Settings
  - OSD Settings
  - Filestore Settings
  - Journal Settings
  - Pool, PG & CRUSH Settings
  - Messaging Settings
  - General Settings
- Deployment
  - Transition from mkcephfs
  - Preflight Checklist
  - Install Ceph
  - Create a Cluster
  - Add/Remove Monitor(s)
  - Key Management
  - Add/Remove OSD(s)
  - Add/Remove MDS(s)
  - Purge Hosts
  - Admin Tasks
  - mkcephfs (deprecated)

OPERATIONS

Once you have a deployed a Ceph Storage Cluster, you may begin operating your cluster.

- Operations
  - Operating a Cluster
  - Monitoring a Cluster
  - Monitoring OSDs and PGs
  - Authentication Overview
  - Cephx Authentication
  - Data Placement Overview
  - Pools
  - Placement Groups
  - CRUSH Maps
  - Adding/Removing OSDs
  - Adding/Removing Monitors
  - Command Reference
  - The Ceph Community
  - Recovering from Monitor Failures
  - Troubleshooting OSDs
  - Troubleshooting PGs
  - Logging and Debugging
  - CPU Profiling
  - Memory Profiling
- Man Pages

APIS

Most Ceph deployments use Ceph Block Devices, Ceph Object Storage and/or the Ceph Filesystem. You may also develop applications that talk directly to the Ceph Storage Cluster.

- APIs
  - librados (C)
  - librados (C++)