Creating CephFS with the Service Specification

Use the Ceph Orchestrator to deploy the MDS service with the service specification. First, manually create the two required pools. Then, create a YAML file with the service details:

```
service_type: mds
service_id: fs-name
placements:
  hosts:
    - host-name-1
    - host-name-2
    - ...
```

Use the YAML service specification to deploy the MDS service with the `ceph orch apply` command:

```
[ceph: root@server /]# ceph orch apply -i file-name.yml
```

Finally, create the CephFS file system with the `ceph fs new` command.

Mounting a File System with CephFS

You can mount CephFS file systems with either of the available clients:

- The kernel client
- The FUSE client

The kernel client requires a Linux kernel version 4 or later, which is available starting with RHEL 8. For previous kernel versions, use the FUSE client instead.

The two clients have unique advantages and disadvantages. Not all features are supported in both clients. For example, the kernel client does not support quotas, but can be faster. The FUSE client supports quotas and ACLs. You must enable ACLs to use them with the CephFS file system mounted with the FUSE client.

Common CephFS Client Configuration

To mount a CephFS-based file system with either client, verify the following prerequisites on the client host.

- Install the `ceph-common` package. For the FUSE client, also install the `ceph-fuse` package.
- Verify that the Ceph configuration file exists (`/etc/ceph/ceph.conf` by default).
- Authorize the client to access the CephFS file system.
- Extract the new authorization key with the `ceph auth get` command and copy it to the `/etc/ceph` folder on the client host.
- When using the FUSE client as a non-root user, add `user_allow_other` in the `/etc/fuse.conf` configuration file.

Mounting CephFS with the FUSE Client

When the prerequisites are met, use the FUSE client to mount and unmount a CephFS file system:

```
[root@node ~]# ceph-fuse [mount-point] [options]
```

To provide the key ring for a specific user, use the `--id` option.