KERNEL MODULE OPERATIONS

Important: To use kernel module operations, you must have a running Ceph cluster.

LOAD THE CEPH RBD MODULE

To map a block device image to a kernel module, first load the Ceph RBD module:

```
modprobe rbd
```

GET A LIST OF IMAGES

To mount a block device image, first return a list of the images.

```
rbd list
```

MAP A BLOCK DEVICE

Use `rbd` to map an image name to a kernel module. You must specify the image name, the pool name, and the user name.

```
sudo rbd map {image-name} --pool {pool-name} --id {user-name}
```

For example:

```
sudo rbd map foo --pool rbd myimage --id admin
```

If you use cephx authentication, you must also specify a secret. It may come from a keyring or a file containing the secret.

```
sudo rbd map --pool rbd myimage --id admin --keyring /path/to/keyring
sudo rbd map --pool rbd myimage --id admin --keyfile /path/to/file
```

SHOW MAPPED BLOCK DEVICES

To show block device images mapped to kernel modules with the `rbd` command, specify the `showmapped` option.

```
sudo rbd showmapped
```

UNMAPPING A BLOCK DEVICE

To unmap a block device image with the `rbd` command, specify the `rm` option and the device name (i.e., by convention the same as the block device image name).

```
sudo rbd unmap /dev/rbd/{poolname}/{imagename}
```

For example:

```
sudo rbd unmap /dev/rbd/rbd/foo
```