

## BLOCK DEVICE QUICK START

To use this guide, you must have executed the procedures in the [Storage Cluster Quick Start](#) guide first. Ensure your [Ceph Storage Cluster](#) is in an active + clean state before working with the [Ceph Block Device](#).

**Note:** The Ceph Block Device is also known as [RBD](#) or [RADOS](#) Block Device.



You may use a virtual machine for your ceph-client node, but do not execute the following procedures on the same physical node as your Ceph Storage Cluster nodes (unless you use a VM). See [FAQ](#) for details.

### INSTALL CEPH

1. Verify that you have an appropriate version of the Linux kernel. See [OS Recommendations](#) for details.

```
lsb_release -a
uname -r
```

2. On the admin node, use ceph-deploy to install Ceph on your ceph-client node.

```
ceph-deploy install ceph-client
```

3. On the admin node, use ceph-deploy to copy the Ceph configuration file and the ceph.client.admin.keyring to the ceph-client.

```
ceph-deploy admin ceph-client
```

The ceph-deploy utility copies the keyring to the /etc/ceph directory. Ensure that the keyring file has appropriate read permissions (e.g., `sudo chmod +r /etc/ceph/ceph.client.admin.keyring`).

### CREATE A BLOCK DEVICE POOL

1. On the admin node, use the ceph tool to [create a pool](#) (we recommend the name 'rbd').
2. On the admin node, use the rbd tool to initialize the pool for use by RBD:

```
rbd pool init <pool-name>
```

### CONFIGURE A BLOCK DEVICE

1. On the ceph-client node, create a block device image.

```
rbd create foo --size 4096 --image-feature layering [-m {mon-IP}] [-k /path/to/ceph.client
```

2. On the ceph-client node, map the image to a block device.

```
sudo rbd map foo --name client.admin [-m {mon-IP}] [-k /path/to/ceph.client.admin.keyring
```

3. Use the block device by creating a file system on the ceph-client node.

```
sudo mkfs.ext4 -m0 /dev/rbd/rbd/foo
```

This may take a few moments.

4. Mount the file system on the ceph-client node.

```
sudo mkdir /mnt/ceph-block-device  
sudo mount /dev/rbd/rbd/foo /mnt/ceph-block-device  
cd /mnt/ceph-block-device
```

5. Optionally configure the block device to be automatically mapped and mounted at boot (and unmounted/unmapped at shutdown) - see the [rbdmap manpage](#).

See [block devices](#) for additional details.