# CREATE A CLUSTER

The first step in using Ceph with `ceph-deploy` is to create a new Ceph cluster. A new Ceph cluster has:

- A Ceph configuration file, and
- A monitor keyring.

The Ceph configuration file consists of at least:

- Its own filesystem ID (`fsid`)
- The initial monitor(s) hostname(s), and
- The initial monitor(s) and IP address(es).

For additional details, see the Monitor Configuration Reference.

The `ceph-deploy` tool also creates a monitor keyring and populates it with a `[mon.]` key. For additional details, see the Cephx Guide.

## USAGE

To create a cluster with `ceph-deploy`, use the `new` command and specify the host(s) that will be initial members of the monitor quorum.

```
ceph-deploy new {host [host], ...}
```

For example:

```
ceph-deploy new ceph-mon1
ceph-deploy new ceph-mon{1,2,3}
```

The `ceph-deploy` utility will connect to each host to verify its hostname and IP address. Then, it will add the specified host names to the Ceph configuration file. For additional details, execute:

```
ceph-deploy new -h
```

## NAMING A CLUSTER

By default, Ceph clusters have a cluster name of `ceph`. You can specify a cluster name if you want to run multiple clusters on the same hardware. For example, if you want to optimize a cluster for use with block devies, and another for use with the gateway, you can run two different clusters on the same hardware if they have a different `fsid` and cluster name.

```
ceph-deploy --cluster {cluster-name} new {host [host], ...}
```

For example:

```
ceph-deploy --cluster rbd-cluster new ceph-mon1
ceph-deploy --cluster rbd-cluster new ceph-mon{1,2,3}
```

**Note:** If you run multiple clusters, ensure you adjust the default port settings and open ports for your additional cluster(s) so that the networks of the two different clusters don't conflict with each other.