

ACTIVATE

Once **scan** has been completed, and all the metadata captured for an OSD has been persisted to `/etc/ceph/osd/{id}-{uuid}.json` the OSD is now ready to get “activated”.

This activation process **disables** all ceph-disk systemd units by masking them, to prevent the UDEV/ceph-disk interaction that will attempt to start them up at boot time.

The disabling of ceph-disk units is done only when calling `ceph-volume simple activate` directly, but is avoided when being called by systemd when the system is booting up.

The activation process requires using both the **OSD id** and **OSD uuid** To activate parsed OSDs:

```
ceph-volume simple activate 0 6cc43680-4f6e-4feb-92ff-9c7ba204120e
```

The above command will assume that a JSON configuration will be found in:

```
/etc/ceph/osd/0-6cc43680-4f6e-4feb-92ff-9c7ba204120e.json
```

Alternatively, using a path to a JSON file directly is also possible:

```
ceph-volume simple activate --file /etc/ceph/osd/0-6cc43680-4f6e-4feb-92ff-9c7ba204120e.json
```

REQUIRING UUIDS

The **OSD uuid** is being required as an extra step to ensure that the right OSD is being activated. It is entirely possible that a previous OSD with the same id exists and would end up activating the incorrect one.

DISCOVERY

With OSDs previously scanned by `ceph-volume`, a *discovery* process is performed using `blkid` and `lvm`. There is currently support only for devices with GPT partitions and LVM logical volumes.

The GPT partitions will have a PARTUUID that can be queried by calling out to `blkid`, and the logical volumes will have a `lv_uuid` that can be queried against `lvs` (the LVM tool to list logical volumes).

This discovery process ensures that devices can be correctly detected even if they are repurposed into another system or if their name changes (as in the case of non-persisting names like `/dev/sda1`)

The JSON configuration file used to map what devices go to what OSD will then coordinate the mounting and symlinking as part of activation.

To ensure that the symlinks are always correct, if they exist in the OSD directory, the symlinks will be re-done.

A systemd unit will capture the **OSD id** and **OSD uuid** and persist it. Internally, the activation will enable it like:

```
systemctl enable ceph-volume@simple-$id-$uuid
```

For example:

```
systemctl enable ceph-volume@simple-0-8715BEB4-15C5-49DE-BA6F-401086EC7B41
```

Would start the discovery process for the OSD with an id of 0 and a UUID of 8715BEB4-15C5-49DE-BA6F-401086EC7B41.

The systemd process will call out to activate passing the information needed to identify the OSD and its devices, and it will proceed to:

```
# mount the device in the corresponding location (by convention this is
/var/lib/ceph/osd/<cluster name>-<osd id>/)
```

ensure that all required devices are ready for that OSD and properly linked, regardless of objectstore used (filestore or bluestore). The symbolic link will **always** be re-done to ensure that the correct device is linked.

start the ceph-osd@0 systemd unit