CEPH-VOLUME – CEPH OSD DEPLOYMENT TOOL

SYNOPSIS

ceph-volume [-h] [–cluster CLUSTER] [–log-level LOG_LEVEL]
[–log-path LOG_PATH]

ceph-volume lvm [*trigger* | *create* | *activate* | *prepare*
zap | *list*]

ceph-volume simple [*trigger* | *scan* | *activate*]

DESCRIPTION

ceph-volume is a single purpose command line tool to deploy logical volumes as OSDs, trying to maintain a similar API to `ceph-disk` when preparing, activating, and creating OSDs.

It deviates from `ceph-disk` by not interacting or relying on the udev rules that come installed for Ceph. These rules allow automatic detection of previously setup devices that are in turn fed into `ceph-disk` to activate them.

COMMANDS

LVM

By making use of LVM tags, the `lvm` sub-command is able to store and later re-discover and query devices associated with OSDs so that they can later activated.

Subcommands:

activate Enables a systemd unit that persists the OSD ID and its UUID (also called `fsid` in Ceph CLI tools), so that at boot time it can understand what OSD is enabled and needs to be mounted.

Usage:

```
ceph-volume lvm activate --filestore <osd id> <osd fsid>
```

Optional Arguments:

- [-h, –help] show the help message and exit
- [–bluestore] bluestore objectstore (default)
- [–filestore] filestore objectstore

prepare Prepares a logical volume to be used as an OSD and journal using a `filestore` or `bluestore` (default) setup. It will not create or modify the logical volumes except for adding extra metadata.

Usage:

```
ceph-volume lvm prepare --filestore --data <data lv> --journal <journal device>
```

Optional arguments:

- [-h, –help] show the help message and exit
- [–journal JOURNAL] A logical group name, path to a logical volume, or path to a device
- [–journal-size GB] Size (in GB) A logical group name or a path to a logical volume
- [–bluestore] Use the bluestore objectstore (default)
- [–filestore] Use the filestore objectstore
- [–dmcrypt] Enable encryption for the underlying OSD devices
- [–osd-id OSD_ID] Reuse an existing OSD id
- [–osd-fsid OSD_FSID] Reuse an existing OSD fsid

Required arguments:

- `--data` A logical group name or a path to a logical volume

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create Wraps the two-step process to provision a new osd (calling `prepare` first and then `activate`) into a single one. The reason to prefer `prepare` and then `activate` is to gradually introduce new OSDs into a cluster, and avoiding large amounts of data being rebalanced.

The single-call process unifies exactly what `prepare` and `activate` do, with the convenience of doing it all at once. Flags and general usage are equivalent to those of the `prepare` subcommand.

trigger This subcommand is not meant to be used directly, and it is used by systemd so that it proxies input to `ceph-volume lvm activate` by parsing the input from systemd, detecting the UUID and ID associated with an OSD.

Usage:

```
ceph-volume lvm trigger <SYSTEMD-DATA>
```

The systemd "data" is expected to be in the format of:

```
<OSD ID>-<OSD UUID>
```

The lvs associated with the OSD need to have been prepared previously, so that all needed tags and metadata exist.

Positional arguments:

- <SYSTEMD_DATA> Data from a systemd unit containing ID and UUID of the OSD.

list List devices or logical volumes associated with Ceph. An association is determined if a device has information relating to an OSD. This is verified by querying LVM's metadata and correlating it with devices.

The lvs associated with the OSD need to have been prepared previously by ceph-volume so that all needed tags and metadata exist.

Usage:

```
ceph-volume lvm list
```

List a particular device, reporting all metadata about it:

```
ceph-volume lvm list /dev/sda1
```

List a logical volume, along with all its metadata (vg is a volume group, and lv the logical volume name):

```
ceph-volume lvm list {vg/lv}
```

Positional arguments:

- <DEVICE> Either in the form of `vg/lv` for logical volumes or `/path/to/sda1` for regular devices.

zap Zaps the given logical volume or partition. If given a path to a logical volume it must be in the format of vg/lv. Any filesystems present on the given lv or partition will be removed and all data will be purged.

However, the lv or partition will be kept intact.

Usage, for logical volumes:

```
ceph-volume lvm zap {vg/lv}
```

Usage, for logical partitions:

```
ceph-volume lvm zap /dev/sdc1
```

Positional arguments:

- <DEVICE> Either in the form of `vg/lv` for logical volumes or `/path/to/sda1` for regular devices.

SIMPLE

Scan legacy OSD directories or data devices that may have been created by ceph-disk, or manually.

Subcommands:

activate Enables a systemd unit that persists the OSD ID and its UUID (also called `fsid` in Ceph CLI tools), so that at boot time it can understand what OSD is enabled and needs to be mounted, while reading information that was previously created and persisted at `/etc/ceph/osd/` in JSON format.

Usage:

```
ceph-volume simple activate --bluestore <osd id> <osd fsid>
```

Optional Arguments:

- [-h, –help] show the help message and exit
- [–bluestore] bluestore objectstore (default)
- [–filestore] filestore objectstore

Note: It requires a matching JSON file with the following format:

```
/etc/ceph/osd/<osd id>-<osd fsid>.json
```

scan Scan a running OSD or data device for an OSD for metadata that can later be used to activate and manage the OSD with ceph-volume. The scan method will create a JSON file with the required information plus anything found in the OSD directory as well.

Optionally, the JSON blob can be sent to stdout for further inspection.

Usage on data devices:

```
ceph-volume simple scan <data device>
```

Running OSD directories:

```
ceph-volume simple scan <path to osd dir>
```

Optional arguments:

- [-h, –help] show the help message and exit
- [–stdout] Send the JSON blob to stdout
- [–force] If the JSON file exists at destination, overwrite it

Required Positional arguments:

- <DATA DEVICE or OSD DIR> Actual data partition or a path to the running OSD

trigger This subcommand is not meant to be used directly, and it is used by systemd so that it proxies input to `ceph-volume simple activate` by parsing the input from systemd, detecting the UUID and ID associated with an OSD.

Usage:

```
ceph-volume simple trigger <SYSTEMD-DATA>
```

The systemd “data” is expected to be in the format of:

```
<OSD ID>-<OSD UUID>
```

The JSON file associated with the OSD need to have been persisted previously by a scan (or manually), so that all needed metadata can be used.

Positional arguments:

- <SYSTEMD_DATA> Data from a systemd unit containing ID and UUID of the OSD.

AVAILABILITY

ceph-volume is part of Ceph, a massively scalable, open-source, distributed storage system. Please refer to the documentation at http://docs.ceph.com/ for more information.

SEE ALSO

ceph-osd(8), ceph-disk(8),