

## OpenStack Storage Provisioning

This section describes the options to create a volume either through the horizon dashboard or by using the OpenStack Command Line Interface (CLI).

KumoScale software supports the following storage provisioning functionality:

- Creating a volume.
- Attaching a volume.
- Taking a snapshot of a volume.
- Creating a volume from a snapshot.
- Cloning a volume by creating a volume from a source volume.
- Replicable volumes are supported for the above.

### Horizon Dashboard

Provision KumoScale volumes by following the instructions in: <https://docs.openstack.org/horizon/yoga/user/manage-volumes.html>

When creating the volume, choose the volume type you have configured for the *type* field, by selecting the relevant dropdown list item.

### OpenStack CLI

Follow the instructions for the relevant command listed at <https://docs.openstack.org/python-openstackclient/yoga/cli/command-list.html>:

OpenStack CLI Commands

Action	Command
Create a volume	<a href="#">volume create</a>
Delete a volume	<a href="#">volume delete</a>
Attach a volume	<a href="#">server add volume</a> (only writeable snapshot volumes to the same host as the source are supported; not readable). Returns: <ul style="list-style-type: none"><li>• NVMe namespace block device path for a simple volume</li><li>• MD device path for a replicated volume.</li></ul>
Detach a volume	<a href="#">server remove volume</a>
Create a snapshot	<a href="#">snapshot create</a>
Create a snapshot volume	Use <a href="#">volume create</a> and specify the snapshot with the snapshot <snapshot_id> command parameter.
Delete a snapshot volume	<a href="#">volume snapshot delete</a>
Clone a volume	Use the <a href="#">volume create</a> command and specify the volume to clone with the --source <volume_id> command parameter.
Expand a Volume	<a href="#">Volume Set</a>

### Replicable volumes

When attaching replicable volumes or snapshot volumes of replicated volumes the system will create a RAID from all returned raid devices and the MD UUID will be equal to the volume UUID. The output of attaching a replicated volume is the MD device path.

See Next: [OpenStack Troubleshooting](#)

