```
[ceph: root@node /]# ceph orch device ls
Hostname  Path      Type  Serial                Size  Health   Ident  Fault
 Available
nodea     /dev/vda  hdd   00000000-0000-0000-a  20G   Unknown  N/A    N/A    Yes
nodea     /dev/vdb  hdd   00000000-0000-0000-b  20G   Unknown  N/A    N/A    Yes
nodeb     /dev/vda  hdd   00000000-0000-0001-a  20G   Unknown  N/A    N/A    Yes
nodeb     /dev/vdb  hdd   00000000-0000-0001-b  20G   Unknown  N/A    N/A    Yes
```

Nodes with the `Yes` label in the `Available` column are candidates for OSD provisioning. To view only in-use storage devices, use the `ceph device ls` command.

**Note**
Some devices might not be eligible for OSD provisioning. Use the `--wide` option to view the details of why the cluster rejects the device.

To prepare a device for provisioning, Use the `ceph orch device zap` command. This command removes all partitions and purges the data in the device so it can be used for provisioning. Use the `--force` option to ensure the removal of any partition that a previous OSD might have created.

```
[ceph: root@node /]# ceph orch device zap node /dev/vda --force
```

## Reviewing BlueStore Provisioning Methods

In RHCS 5, `cephadm` is the recommended tool to provision and manage OSDs. It uses the `ceph-volume` utility in the background for OSD operations. The `cephadm` tool might not see manual operations that use `ceph-volume`. It is recommended to limit manual `ceph-volume` OSD use cases to troubleshooting.

There are multiple ways to provision OSDs with `cephadm`. Consider the appropriate method according to the wanted cluster behavior.

## Orchestrator-Managed Provisioning

The Orchestrator service can discover available devices among cluster hosts, add the devices, and create the OSD daemons. The Orchestrator handles the placement for the new OSDs that are balanced between the hosts, as well as handling BlueStore device selection.

Use the `ceph orch apply osd --all-available-devices` command to provision all available, unused devices.

```
[ceph: root@node /]# ceph orch apply osd --all-available-devices
```

This command creates an OSD service called `osd.all-available-devices` and enables the Orchestrator service to manage all OSD provisioning. The Orchestrator automatically creates OSDs from both new disk devices in the cluster and from existing devices that are prepared with the `ceph orch device zap` command.

To disable the Orchestrator from automatically provisioning OSDs, set the `unmanaged` flag to `true`.