```
---
service_type: osd
service_id: osd_host_and_path
placement:
  host_pattern: 'node[6-10]'
data_devices:
  paths:
    - /dev/sdb
db_devices:
  paths:
    - /dev/sdc
wal_devices:
  paths:
    - /dev/sdd
encrypted: true
```

The `osd_size_and_model` service specifies that any host can be used for placement and the service will be managed by the storage administrator. The data device must have a device with 100 GB or more, and the write-ahead log must have a device of 10 - 20 GB. The database device must be of the `My-Disk` model.

The `osd_host_and_path` service specifies that the target host must be provisioned on nodes between `node6` and `node10` and the service will be managed by the orchestrator service. The device paths for data, database, and write-ahead log must be `/dev/sdb`, `/dev/sdc`, and `/dev/sdd`. The devices in this service will be encrypted.

Run the `ceph orch apply` command to apply the service specification.

```
[ceph: root@node /]# ceph orch apply -i service_spec.yaml
```

Other OSD Utilities

The `ceph-volume` command is a modular tool to deploy logical volumes as OSDs. It uses a plug-in type framework. The `ceph-volume` utility supports the `lvm` plug-in and raw physical disks. It can also manage devices that are provisioned with the legacy `ceph-disk` utility.

Use the `ceph-volume lvm` command to manually create and delete BlueStore OSDs. The following command creates a new BlueStore OSD on block storage device `/dev/vdc`:

```
[ceph: root@node /]# ceph-volume lvm create --bluestore --data /dev/vdc
```

An alternative to the `create` subcommand is to use the `ceph-volume lvm prepare` and `ceph-volume lvm activate` subcommands. With this method, OSDs are gradually introduced into the cluster. You can control when the new OSDs are in the `up` or `in` state, so you can ensure that large amounts of data are not unexpectedly rebalanced across OSDs.

The `prepare` subcommand configures logical volumes for the OSD to use. You can specify a logical volume or a device name. If you specify a device name, then a logical volume is automatically created.

```
[ceph: root@node /]# ceph-volume lvm prepare --bluestore --data /dev/vdc
```