Here is an example command to bootstrap a cluster using a services configuration file:

```
[root@node ~]# cephadm bootstrap --apply-spec CONFIGURATION_FILE_NAME \
--mon-ip MONITOR-IP-ADDRESS
```

Labeling Cluster Nodes

The Ceph orchestrator supports assigning labels to hosts. Labels can be used to group cluster hosts so that you can deploy Ceph services to multiple hosts at the same time. A host can have multiple labels.

Labeling simplifies cluster management tasks by helping to identify the daemons running on each host. For example, you can use the `ceph orch host ls` command to list You can use the Ceph orchestrator or a YAML service specification file to deploy or remove daemons on specifically labeled hosts.

Except for the `_admin` label, labels are free-form and have no specific meaning. You can use labels such as `mon`, `monitor`, `mycluster_monitor`, or other text strings to label and group cluster nodes. For example, assign the `mon` label to nodes that you deploy MON daemons to. Assign the `mgr` label for nodes that you deploy MGR daemons to, and assign `rgw` for RADOS gateways.

For example, the following command applies the `_admin` label to a host to designate is as the admin node.

```
[ceph: root@node /]# ceph orch host label add ADMIN_NODE _admin
```

Deploy cluster daemons to specific hosts by using labels.

```
[ceph: root@node /]# ceph orch apply prometheus --placement="label:prometheus"
```

Setting up the Admin Node

To configure the admin node, perform the following steps:

- Assign the `admin` label to the node, as shown previously.
- Copy the admin key to the admin node.
- Copy the `ceph.conf` file to the admin node.

```
[root@node ~]# scp /etc/ceph/ceph.client.admin.keyring ADMIN_NODE:/etc/ceph/
[root@node ~]# scp /etc/ceph/ceph.conf ADMIN_NODE:/etc/ceph/
```

References

For more information, refer to the *Red Hat Ceph Storage 5 Installation Guide* at https://access.redhat.com/documentation/en-us/red_hat_ceph_storage/5/html-single/installation_guide/index