

# Setting up persistent storage using OpenEBS

## Install iSCSI on all nodes

Refer: <https://docs.openebs.io/docs/next/prerequisites.html>

## Install iSCSI tools if not installed

```
sudo apt-get update
sudo apt-get install open-iscsi
sudo systemctl enable --now iscsid
```

## Check if iSCSI is running

```
sudo systemctl status iscsid
```

```
● iscsid.service - iSCSI initiator daemon (iscsid)
   Loaded: loaded (/lib/systemd/system/iscsid.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2021-05-19 14:32:56 CEST; 17s ago
 TriggeredBy: ● iscsid.socket
   Docs: man:iscsid(8)
  Process: 48196 ExecStartPre=/lib/open-iscsi/startup-checks.sh (code=exited, status=0/SUCCESS)
  Process: 48203 ExecStart=/sbin/iscsid (code=exited, status=0/SUCCESS)
 Main PID: 48207 (iscsid)
   Tasks: 2 (limit: 19148)
  Memory: 2.4M
   CGroup: /system.slice/iscsid.service
           └─48206 /sbin/iscsid
             └─48207 /sbin/iscsid

May 19 14:32:56 vmi593089.contaboserver.net systemd[1]: Starting iSCSI initiator daemon (iscsid)...
May 19 14:32:56 vmi593089.contaboserver.net iscsid[48203]: iSCSI logger with pid=48206 started!
May 19 14:32:56 vmi593089.contaboserver.net systemd[1]: iscsid.service: Failed to parse PID from file /run/iscsid.pid: Inp
May 19 14:32:56 vmi593089.contaboserver.net systemd[1]: Started iSCSI initiator daemon (iscsid).
May 19 14:32:57 vmi593089.contaboserver.net iscsid[48206]: iSCSI daemon with pid=48207 started!
~
techiterian@vmi593089:~$
```

# Make sure you have admin context

```
kubectl config use-context kubernetes-admin@kubernetes
```

## Remove taint from master node

We need to use master node as a storage node where all database files and persistent volumes will be stored. Remove taint from master node so that master node will be available to schedule pods

```
kubectl taint node <masternode_name> node-role.kubernetes.io/master:NoSchedule-
```

## Install using kubectl

Download file <https://openebs.github.io/charts/openebs-operator.yaml>

to install OpenEBS to use volumes from master node we need to label master node with appropriate label

Use following command to label master node

```
kubectl label nodes <node-name> node=openebs
```

Next, in the downloaded `openebs-operator.yaml`, find the PodSpec for `openebs-provisioner`, `maya-apiserver`, `openebs-snapshot-operator`, `openebs-admission-server` and `openebs-ndm` pods and add the following key-value pair under `nodeSelector` field

`nodeSelector` field will be available in `pod > specs > template > specs > nodeSelector`

```
nodeSelector:  
  node: openebs
```

Install OpenEBS with updated command

```
kubectl apply -f openebs-operator.yaml
```

# Check if OpenEBS has been installed

```
kubectl get pods -n openebs -o wide
```

Output should show running pods

```
techiterian@prd-master1:~/Documents/k8s-rapidoreach-prod$ kubectl get pods -n openebs -o wide
NAME                                READY   STATUS    RESTARTS   AGE   IP              NODE                                NOMINATED NODE   READINESS GATES
maya-apiserver-6fb6d8d5ff-2hpgc     1/1     Running   0           15m   10.244.0.8      prd-master1.rapidoreach.com        <none>           <none>
openebs-admission-server-79c84d84d6-7622v  1/1     Running   0           15m   10.244.0.6      prd-master1.rapidoreach.com        <none>           <none>
openebs-localpv-provisioner-75cc7566c6-4spz5  1/1     Running   0           15m   10.244.1.8      prd-worker1.rapidoreach.com        <none>           <none>
openebs-ndm-gdw4s                    1/1     Running   0           13m   75.119.139.251  prd-master1.rapidoreach.com        <none>           <none>
openebs-ndm-operator-79d5597f77-7hp77      1/1     Running   0           15m   10.244.1.9      prd-worker1.rapidoreach.com        <none>           <none>
openebs-provisioner-8d6cf9796-7sc5p        1/1     Running   0           15m   10.244.0.9      prd-master1.rapidoreach.com        <none>           <none>
openebs-snapshot-operator-7c476dcc86-mxjh2  2/2     Running   0           15m   10.244.0.7      prd-master1.rapidoreach.com        <none>           <none>
techiterian@prd-master1:~/Documents/k8s-rapidoreach-prod$
```

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