



# **NetApp ONTAP iSCSI Configuration**

## **NetApp Solutions**

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# NetApp ONTAP iSCSI Configuration

To enable Trident integration with the NetApp ONTAP storage system you must create a backend that enables communication with the storage system.

1. There are sample backend files available in the downloaded installation archive in the `sample-input` folder hierarchy. For NetApp ONTAP systems serving iSCSI, copy the `backend-ontap-san.json` file to your working directory and edit the file.

```
[netapp-user@rhel7 trident-installer]$ cp sample-input/backends-samples/ontap-san/backend-ontap-san.json ./
[netapp-user@rhel7 trident-installer]$ vi backend-ontap-san.json
```

2. Edit the managementLIF, dataLIF, svm, username, and password values in this file.

```
{
  "version": 1,
  "storageDriverName": "ontap-san",
  "managementLIF": "172.21.224.201",
  "dataLIF": "10.61.181.240",
  "svm": "trident_svm",
  "username": "admin",
  "password": "password"
}
```

3. With this backend file in place, run the following command to create your first backend.

```
[netapp-user@rhel7 trident-installer]$ ./tridentctl -n trident create
backend -f backend-ontap-san.json
+-----+-----+
+-----+-----+-----+-----+
|          NAME          | STORAGE DRIVER |          UUID          |
| STATE  | VOLUMES |          |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| ontapsan_10.61.181.241 | ontap-san      | 6788533c-7fea-4a35-b797- |
| fb9bb3322b91 | online |          0 |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
```

4. With the backend created, you must next create a storage class. Just as with the backend, there is a sample storage class file that can be edited for the environment available in the `sample-inputs` folder. Copy it to the working directory and make necessary edits to reflect the backend created.

```
[netapp-user@rhel7 trident-installer]$ cp sample-input/storage-class-samples/storage-class-csi.yaml.tmpl ./storage-class-basic.yaml
[netapp-user@rhel7 trident-installer]$ vi storage-class-basic.yaml
```

5. The only edit that must be made to this file is to define the `backendType` value to the name of the storage driver from the newly created backend. Also note the `name-field` value, which must be referenced in a later step.

```
apiVersion: storage.k8s.io/v1
kind: StorageClass
metadata:
  name: basic-csi
provisioner: csi.trident.netapp.io
parameters:
  backendType: "ontap-san"
```



There is an optional field called `fsType` that is defined in this file. In iSCSI backends, this value can be set to a specific Linux filesystem type (XFS, ext4, etc) or can be deleted to allow OpenShift to decide what filesystem to use.

6. Run the `oc` command to create the storage class.

```
[netapp-user@rhel7 trident-installer]$ oc create -f storage-class-basic.yaml
storageclass.storage.k8s.io/basic-csi created
```

7. With the storage class created, you must then create the first persistent volume claim (PVC). There is a sample `pvc-basic.yaml` file that can be used to perform this action located in sample-inputs as well.

```
[netapp-user@rhel7 trident-installer]$ cp sample-input/pvc-samples/pvc-basic.yaml ./
[netapp-user@rhel7 trident-installer]$ vi pvc-basic.yaml
```

8. The only edit that must be made to this file is ensuring that the `storageClassName` field matches the one just created. The PVC definition can be further customized as required by the workload to be provisioned.

```

kind: PersistentVolumeClaim
apiVersion: v1
metadata:
  name: basic
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 1Gi
  storageClassName: basic-csi

```

9. Create the PVC by issuing the `oc` command. Creation can take some time depending on the size of the backing volume being created, so you can watch the process as it completes.

```

[netapp-user@rhel7 trident-installer]$ oc create -f pvc-basic.yaml
persistentvolumeclaim/basic created

[netapp-user@rhel7 trident-installer]$ oc get pvc

```

NAME	STATUS	VOLUME	CAPACITY
basic	Bound	pvc-7ceac1ba-0189-43c7-8f98-094719f7956c	1Gi
RWO		basic-csi	3s

[Next: Solution Validation / Use Cases: Red Hat OpenShift with NetApp.](#)

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