



# **Workflows: Red Hat OpenShift Virtualization with NetApp ONTAP**

NetApp Solutions

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September 01, 2021

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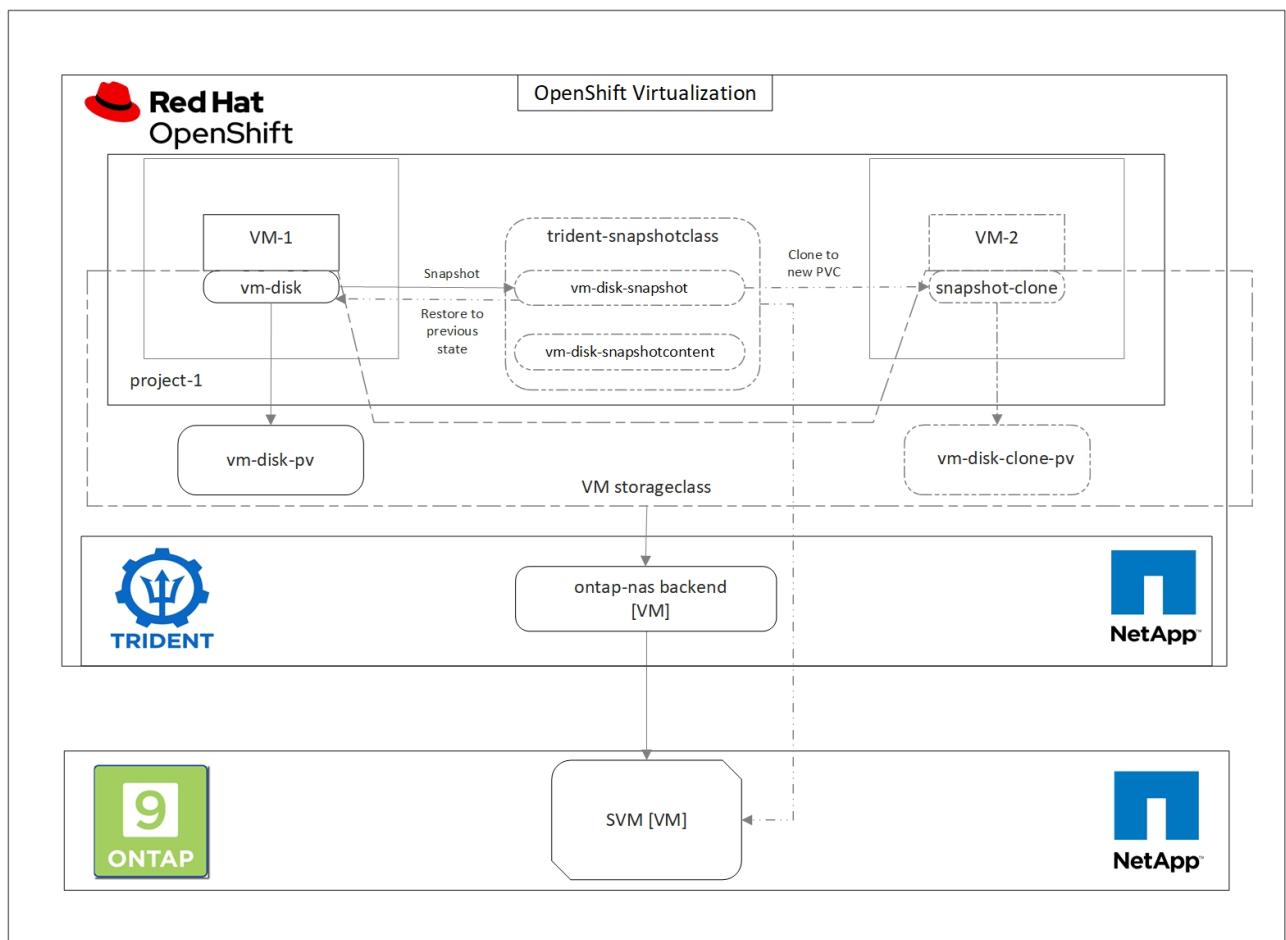
# Workflows: Red Hat OpenShift Virtualization with NetApp ONTAP

## Create VM from a Snapshot

With Astra Trident and Red Hat OpenShift, users can take a snapshot of a persistent volume on Storage Classes provisioned by it. With this feature, users can take a point-in-time copy of a volume and use it to create a new volume or restore the same volume back to a previous state. This enables or supports a variety of use-cases, from rollback to clones to data restore.

For Snapshot operations in OpenShift, the resources VolumeSnapshotClass, VolumeSnapshot, and VolumeSnapshotContent must be defined.

- A VolumeSnapshotContent is the actual snapshot taken from a volume in the cluster. It is cluster-wide resource analogous to PersistentVolume for storage.
- A VolumeSnapshot is a request for creating the snapshot of a volume. It is analogous to a PersistentVolumeClaim.
- VolumeSnapshotClass lets the administrator specify different attributes for a VolumeSnapshot. It allows you to have different attributes for different snapshots taken from the same volume.



To create Snapshot of a VM, complete the following steps:

1. Create a VolumeSnapshotClass that can then be used to create a VolumeSnapshot. Navigate to Storage > VolumeSnapshotClasses and click Create VolumeSnapshotClass.
2. Enter the name of the Snapshot Class, enter `csi.trident.netapp.io` for the driver, and click Create.

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```
1  apiVersion: snapshot.storage.k8s.io/v1
2  kind: VolumeSnapshotClass
3  metadata:
4    name: trident-snapshot-class
5  driver: csi.trident.netapp.io
6  deletionPolicy: Delete
7
```

Create

Cancel

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3. Identify the PVC that is attached to the source VM and then create a Snapshot of that PVC. Navigate to Storage > VolumeSnapshots and click Create VolumeSnapshots.
4. Select the PVC that you want to create the Snapshot for, enter the name of the Snapshot or accept the default, and select the appropriate VolumeSnapshotClass. Then click Create.

## Create VolumeSnapshot

[Edit YAML](#)

PersistentVolumeClaim \*

**PVC** rhel8-short-frog-rootdisk-28dvb

Name \*

rhel8-short-frog-rootdisk-28dvb-snapshot

Snapshot Class \*

**VSC** trident-snapshot-class

Create

Cancel

5. This creates the snapshot of the PVC at that point in time.

## Create a new VM from the snapshot

1. First, restore the Snapshot into a new PVC. Navigate to Storage > VolumeSnapshots, click the ellipsis next to the Snapshot that you wish to restore, and click Restore as new PVC.
2. Enter the details of the new PVC and click Restore. This creates a new PVC.

### Restore as new PVC

When restore action for snapshot **rhel8-short-frog-rootdisk-28dvb-snapshot** is finished a new crash-consistent PVC copy will be created.

Name \*

rhel8-short-frog-rootdisk-28dvb-snapshot-restore

Storage Class \*

SC basic

Access Mode \*

☐ Single User (RWO) ☒ Shared Access (RWX) ☐ Read Only (ROX)

Size \*

20

GiB

#### VolumeSnapshot details

Created at

 May 21, 12:46 am

Namespace

 default

Status

 Ready

API version

snapshot.storage.k8s.io/v1

Size

20 GiB

3. Next, create a new VM from this PVC. Navigate to Workloads > Virtualization > Virtual Machines and click Create > With YAML.
4. In the spec > template > spec > volumes section, specify the new PVC created from Snapshot instead of from the container disk. Provide all other details for the new VM according to your requirements.

```
- name: rootdisk
  persistentVolumeClaim:
    claimName: rhel8-short-frog-rootdisk-28dvb-snapshot-restore
```

5. Click Create to create the new VM.
6. After the VM is created successfully, access and verify that the new VM has the same state as that of the VM whose PVC was used to create the snapshot at the time when the snapshot was created.

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