



Workflows: Red Hat OpenShift Virtualization with NetApp ONTAP

NetApp Solutions

Nikhil M Kulkarni, Dorian Henderson
May 28, 2021

This PDF was generated from https://docs.netapp.com/us-en/netapp-solutions/containers/rh-os-n_use_case_openshift_virtualization_workflow_vm_from_snapshot.html on August 03, 2021. Always check docs.netapp.com for the latest.

Table of Contents

- Workflows: Red Hat OpenShift Virtualization with NetApp ONTAP 1
 - Create VM from a Snapshot..... 1
 - Create a new VM from the snapshot 3

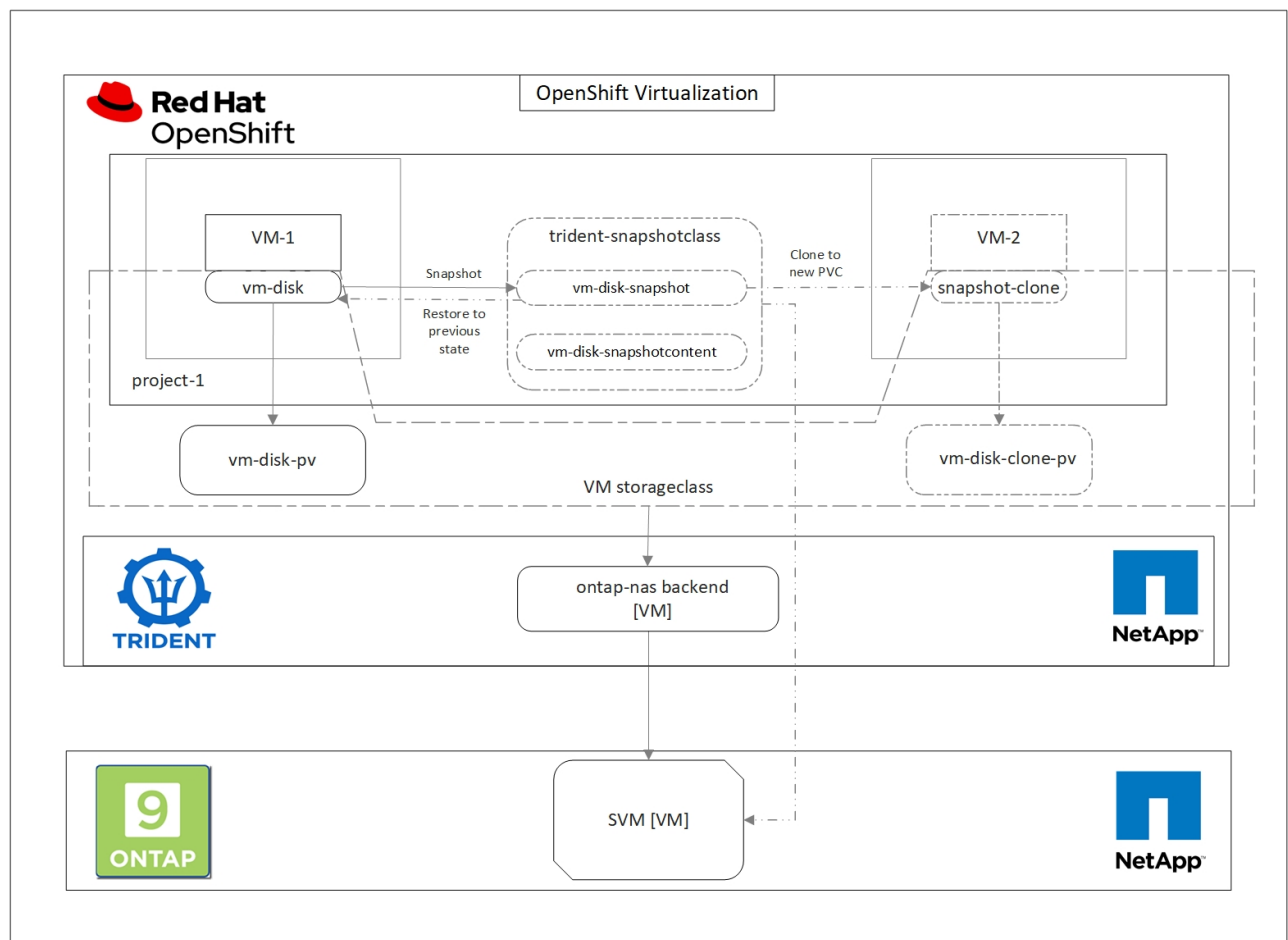
Workflows: Red Hat OpenShift Virtualization with NetApp ONTAP

Create VM from a Snapshot

With NetApp 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.

[? View shortcuts](#)

```
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
```

CreateCancel

 [Download](#)

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 on '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 *

 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

- Next, create a new VM from this PVC. Navigate to [Workloads](#) > [Virtualization](#) > [Virtual Machines](#) and click [Create](#) → [With YAML](#).
- In the [spec](#) > [template](#) > [spec](#) > [volumes](#) section, specify the new PVC created from Snapshot instead of 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.

Copyright Information

Copyright © 2021 NetApp, Inc. All rights reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means-graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system-without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark Information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.