



# **Traditional File Storage Provisioning**

## **NetApp Solutions**

NetApp  
January 18, 2023

This PDF was generated from [https://docs.netapp.com/us-en/netapp-solutions/virtualization/vsphere\\_ontap\\_auto\\_file\\_nfs.html](https://docs.netapp.com/us-en/netapp-solutions/virtualization/vsphere_ontap_auto_file_nfs.html) on January 18, 2023. Always check docs.netapp.com for the latest.

# Table of Contents

- vSphere traditional file storage provisioning with ONTAP ..... 1
  - vSphere NFS datastore - Version 3 with ONTAP ..... 1
  - vSphere NFS Datastore - Version 4.1 with ONTAP ..... 2

# vSphere traditional file storage provisioning with ONTAP

VMware vSphere supports following NFS protocols, both of which support ONTAP.

- [NFS Version 3](#)
- [NFS Version 4.1](#)

If you need help selecting the correct NFS version for vSphere, check [this comparison of NFS client versions](#).

## Reference

[vSphere datastore and protocol features: NFS](#)

## vSphere NFS datastore - Version 3 with ONTAP

### About this task

Creation of NFS version 3 datastore with ONTAP NAS storage.

For automated provisioning, use one of these scripts: [\[PowerShell\]](#), [\[Ansible\]](#), or [\[Terraform\]](#).

### What you need

- The basic skill necessary to manage a vSphere environment and ONTAP.
- An ONTAP storage system (FAS/AFF/CVO/ONTAP Select/Cloud Volume Service/Azure NetApp Files) running ONTAP 9.8 or later
- ONTAP credentials (SVM name, userID, password)
- ONTAP network port, SVM, and LUN information for NFS
  - [A completed NFS configuration worksheet](#)
- vCenter Server credentials
- vSphere host(s) information for vSphere 7.0 or later
- NFS VMKernel adapter IP information
- Network switch(es)
  - with ONTAP system network data ports and connected vSphere hosts
  - VLAN(s) configured for NFS
  - (Optional) link aggregation configured for ONTAP network data ports
- ONTAP Tool for VMware vSphere deployed, configured, and ready to consume

### Steps

- Check compatibility with the [Interoperability Matrix Tool \(IMT\)](#)
  - [Verify that the NFS configuration is supported.](#)
- Complete the following ONTAP and vSphere tasks.

## ONTAP tasks

1. [Verify the ONTAP license for NFS.](#)
  - a. Use the `system license show` command and check that NFS is listed.
  - b. Use `license add -license-code <license code>` to add a license.
2. [Follow the NFS configuration workflow.](#)

## VMware vSphere Tasks

[Follow the workflow for NFS client configuration for vSphere.](#)

## Reference

[vSphere datastore and protocol features: NFS](#)

## What's next?

After these tasks are completed, the NFS datastore is ready to consume for provisioning virtual machines.

# vSphere NFS Datastore - Version 4.1 with ONTAP

## About this task

This section describes the creation of an NFS version 4.1 datastore with ONTAP NAS storage.

For automated provisioning, use one of these scripts: [\[PowerShell\]](#), [\[Ansible\]](#), or [\[Terraform\]](#).

## What you need

- The basic skills necessary to manage a vSphere environment and ONTAP
- ONTAP Storage System (FAS/AFF/CVO/ONTAP Select/Cloud Volume Service/Azure NetApp Files) running ONTAP 9.8 or later
- ONTAP credentials (SVM name, userID, password)
- ONTAP network port, SVM, and LUN information for NFS
- [A completed NFS configuration worksheet](#)
- vCenter Server credentials
- vSphere host(s) information vSphere 7.0 or later
- NFS VMKernel adapter IP information
- Network switch(es)
  - with ONTAP system network data ports, vSphere hosts, and connected
  - VLAN(s) configured for NFS
  - (Optional) link aggregation configured for ONTAP network data ports
- ONTAP Tools for VMware vSphere deployed, configured, and ready to consume

## Steps

- Check compatibility with the [Interoperability Matrix Tool \(IMT\)](#).
  - [Verify that the NFS configuration is supported.](#)
- Complete the ONTAP and vSphere Tasks provided below.

## ONTAP tasks

1. [Verify ONTAP license for NFS](#)
  - a. Use the `system license show` command to check whether NFS is listed.
  - b. Use `license add -license-code <license code>` to add a license.
2. [Follow the NFS configuration workflow](#)

## VMware vSphere tasks

[Follow the NFS Client Configuration for vSphere workflow.](#)

## What's next?

After these tasks are completed, the NFS datastore is ready to consume for provisioning virtual machines.

## Copyright information

Copyright © 2023 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.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## 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.