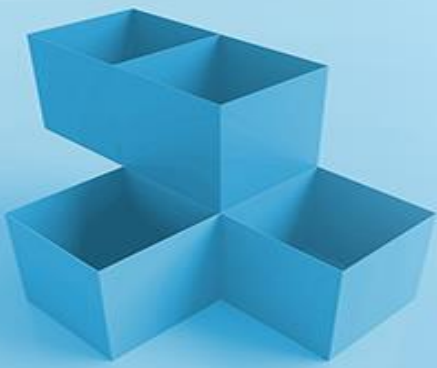


# Implementing VMware vSphere on ONTAP



Delivery: Instructor-Led Training

Duration: 2 Days

Training Units: 24

## Course Description

In this course, you learn how to manage VMware vSphere virtualization solutions with NetApp® ONTAP® data management software. You learn how to use NetApp ONTAP tools for VMware vSphere and other ONTAP solutions to deploy, manage, and protect the VMware virtual infrastructure on ONTAP based storage systems in both SAN and NAS environments. The course introduces you to the ONTAP tools Virtual Storage Console (VSC), NetApp VMware vSphere API for Storage Awareness (VASA) Provider, and Storage Replication Adapter (SRA). You also learn how to use the NetApp SnapCenter Plug-in for VMware vSphere to configure backup and recovery.

Through hands-on exercises, you configure and use ONTAP tools to create traditional datastores, VMware vSphere Virtual Volume (vVols) datastores, and vVols objects for granular virtual machine (VM) Storage Policy Based Management (SPBM).

## Audience

System administrators, solutions architects, and solutions engineers

## Prerequisites

- *ONTAP Cluster Administration*
- *ONTAP SAN Administration*
- *ONTAP Data Protection Administration*
- *VMware Fundamentals* (free web-based training from VMware Education)
- *VMware Install, Configuration, and Manage* or equivalent experience

## Objectives

This course focuses on enabling you to do the following:

- List the three core ONTAP tools for VMware vSphere
- Identify the types of datastores that ONTAP tools create
- Explain how ONTAP tools enable automated datastore provisioning for VM lifecycle management
- Describe the vVols datastore-management process
- Define ONTAP FlexGroup NAS datastores and illustrate quality-of-service (QoS) policy management for VMs in a FlexGroup volume
- Use the VMware vCenter UI to implement enhanced QoS policies
- Describe SRA features
- Describe NetApp VASA Provider features
- Use ONTAP tools to create vVols datastores and objects
- Use ONTAP tools to identify vVols performance characteristics
- Use ONTAP tools dashboards to monitor VMs

- List customer implementations for backup, restore, and cloning when integrating vSphere with NetApp
- Implement best practices for connectivity, provisioning, data layout, and multipathing
- Use ONTAP tools to access the Swagger UI and improved RESTful APIs for automation
- Use the NetApp SnapCenter Plug-in for VMware vSphere to configure and run backup and restore jobs
- List the best data protection solutions for a vSphere environment and discuss the benefits of these solutions

## Course Content

This course includes the following modules, lessons, and exercises:

Modules	Lessons	Exercises
<b>Module 1: Introduction to ONTAP tools for VMware vSphere</b>	<ul style="list-style-type: none"> <li>• ONTAP tools in a virtualized environment</li> <li>• ONTAP tools integration with vSphere</li> <li>• ONTAP tools datastore types</li> </ul>	<ul style="list-style-type: none"> <li>• Configuring Storage</li> </ul>
<b>Module 2: Deploying ONTAP tools for VMware vSphere</b>	<ul style="list-style-type: none"> <li>• Deploying ONTAP tools</li> </ul>	<ul style="list-style-type: none"> <li>• Configuring ONTAP Tools</li> </ul>
<b>Module 3: Using ONTAP tools to provision traditional datastores</b>	<ul style="list-style-type: none"> <li>• Basic IP networking and datastore considerations</li> <li>• ONTAP System Manager</li> <li>• Using ONTAP tools and vSphere Client to create NFS datastores</li> <li>• VMware Virtual Machine File System (VMFS) datastores</li> <li>• Using ONTAP tools to create an iSCSI VMFS datastore</li> <li>• Using ONTAP tools to create an FC VMFS datastore</li> </ul>	<ul style="list-style-type: none"> <li>• Provisioning SAN and NAS Datastores</li> </ul>
<b>Module 4: Using ONTAP tools to provision VMware vSphere Virtual Volumes</b>	<ul style="list-style-type: none"> <li>• Virtual Volumes concepts</li> <li>• NetApp VASA Provider</li> <li>• Storage policies and profiles</li> <li>• Managing Virtual Volumes</li> <li>• On-demand moving, copying, and restoring of virtual disks</li> </ul>	<ul style="list-style-type: none"> <li>• Creating and Managing VMware vSphere Virtual Volumes</li> </ul>

Modules	Lessons	Exercises
<p><b>Module 5: Using ONTAP tools for performance monitoring</b></p>	<ul style="list-style-type: none"> <li>Virtual Storage Console performance dashboards</li> <li>NetApp QoS features</li> <li>Create a VM storage policy</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring Datastore Performance</li> </ul>
<p><b>Module 6: Using SnapCenter Plug-in for VMware vSphere</b></p>	<ul style="list-style-type: none"> <li>SnapCenter and VMware backup and recovery</li> <li>SnapCenter licensing</li> <li>Deployment upgrades and migration options</li> <li>Veeam Software and Commvault backup solutions</li> </ul>	<ul style="list-style-type: none"> <li>Using SnapCenter Plug-in for VMware vSphere to Protect Data</li> </ul>

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