

## VMware vSphere: Optimize & Scale

Duration: 5 Days    Course Code: VSOS    Version: 7.0

### Overview:

This five-day VMware vSphere Optimize and Scale course teaches you advanced skills for configuring and maintaining a highly available and scalable virtual infrastructure. Through a mix of lecture and hands-on labs, you configure and optimize the VMware vSphere® 7 features that build a foundation for a truly scalable infrastructure, and you discuss when and where these features have the greatest effect.

Attend this course to deepen your understanding of vSphere and learn how its advanced features and controls can benefit your organization.

Product Alignment: ESXi 7vCenter Server 7

**Remark:** This training is also advised for students who want to be trained for vSphere v6.5 or v6.7. This training can also be used as preparation for a VMware VCP-Data Center Virtualization certification (VCP-DCV). If you work with, or are interested in a VMware vSphere 8 environment, we recommend you to attend [this training](#)

### Target Audience:

Experienced system administrators System engineers System integrators

### Objectives:

- By the end of the course, you should be able to meet the following objectives:
- Configure and manage vSphere networking and storage for a large and sophisticated enterprise
- Use VMware vSphere® Client™ to manage certificates
- Use Identity Federation to configure VMware vCenter Server® to use Microsoft ADFS
- Use VMware vSphere® Trust Authority™ to secure the infrastructure for encrypted VMs
- Use host profiles to manage VMware ESXi™ host compliance
- Create and manage a content library for deploying virtual machines
- Manage VM resource usage with resource pools
- Monitor and analyze key performance indicators for compute, storage, and networking resources for ESXi hosts
- Optimize the performance of ESXi and VMware vCenter Server®
- Discuss the purpose and capabilities of VMware vSphere® with Kubernetes and how it fits into the VMware Tanzu™ portfolio

### Prerequisites:

You must complete one of the following prerequisites:

- Understanding of concepts presented in the VMware vSphere: Install, Configure, Manage [V7] - VSICM course
  - Equivalent knowledge and administration experience with ESXi and vCenter Server
- Experience with working at the command line is highly recommended.
- VSICM - VMware vSphere: Install, Configure, Manage

### Follow-on-Courses:

- VSD - VMware vSphere: Design



## Content:

1 Course Introduction	<ul style="list-style-type: none"><li>• Describe identity federation and recognize its use cases</li></ul>	<ul style="list-style-type: none"><li>• Use esxtop to monitor key storage performance metrics</li></ul>
<ul style="list-style-type: none"><li>• Introductions and course logistics</li><li>• Course objectives</li></ul>	<ul style="list-style-type: none"><li>• Configure identity federation</li></ul>	8 Network Optimization
2 Network Scalability	<ul style="list-style-type: none"><li>• Describe the benefits and use cases of vSphere Trust Authority</li></ul>	<ul style="list-style-type: none"><li>• Explain performance features of network adapters</li></ul>
<ul style="list-style-type: none"><li>• Configure and manage vSphere distributed switches</li></ul>	<ul style="list-style-type: none"><li>• Configure vSphere Trust Authority</li></ul>	<ul style="list-style-type: none"><li>• Explain the performance features of vSphere networking</li></ul>
<ul style="list-style-type: none"><li>• Describe how VMware vSphere® Network I/O Control enhances performance</li></ul>	<ul style="list-style-type: none"><li>• Use host profiles to manage ESXi configuration compliance</li></ul>	<ul style="list-style-type: none"><li>• Use esxtop to monitor key network performance metrics</li></ul>
<ul style="list-style-type: none"><li>• Explain distributed switch features such as port mirroring and NetFlow</li></ul>	<ul style="list-style-type: none"><li>• Manage and update VM templates in content libraries</li></ul>	9 vCenter Server Performance Optimization
3 Storage Scalability	<ul style="list-style-type: none"><li>• Create and manage resource pools in a cluster</li></ul>	<ul style="list-style-type: none"><li>• Describe the factors that influence vCenter Server performance</li></ul>
<ul style="list-style-type: none"><li>• Explain why VMware vSphere® VMFS is a high-performance, scalable file system</li></ul>	5 CPU Optimization	<ul style="list-style-type: none"><li>• Use VMware vCenter® Server Appliance™ tools to monitor resource use</li></ul>
<ul style="list-style-type: none"><li>• Explain VMware vSphere® Storage APIs - Array Integration, VMware vSphere® API for Storage</li></ul>	<ul style="list-style-type: none"><li>• Explain the CPU scheduler operation and other features that affect CPU performance</li></ul>	10 Introduction to vSphere with Kubernetes
Awareness™, and vSphere APIs for I/O Filtering	<ul style="list-style-type: none"><li>• Explain NUMA and vNUMA support</li></ul>	<ul style="list-style-type: none"><li>• Differentiate between containers and virtual machines</li></ul>
<ul style="list-style-type: none"><li>• Configure and assign virtual machine storage policies</li></ul>	<ul style="list-style-type: none"><li>• Use esxtop to monitor key CPU performance metrics</li></ul>	<ul style="list-style-type: none"><li>• Identify the parts of a container system</li></ul>
<ul style="list-style-type: none"><li>• Create VMware vSAN™ storage policies</li></ul>	6 Memory Optimization	<ul style="list-style-type: none"><li>• Recognize the basic architecture of Kubernetes</li></ul>
<ul style="list-style-type: none"><li>• Configure VMware vSphere® Storage DRS™ and VMware vSphere® Storage I/O Control</li></ul>	<ul style="list-style-type: none"><li>• Explain ballooning, memory compression, and host-swapping techniques for memory reclamation when memory is overcommitted</li></ul>	<ul style="list-style-type: none"><li>• Describe a basic Kubernetes workflow</li></ul>
<ul style="list-style-type: none"><li>• Discuss vSphere support for NVMe and iSER</li></ul>	<ul style="list-style-type: none"><li>• Use esxtop to monitor key memory performance metrics</li></ul>	<ul style="list-style-type: none"><li>• Describe the purpose of vSphere with Kubernetes and how it fits into the VMware Tanzu portfolio</li></ul>
4 Host and Management Scalability	7 Storage Optimization	<ul style="list-style-type: none"><li>• Explain the vSphere with Kubernetes supervisor cluster</li></ul>
<ul style="list-style-type: none"><li>• Use the vSphere Client to manage vSphere certificates</li></ul>	<ul style="list-style-type: none"><li>• Describe storage queue types and other factors that affect storage performance</li></ul>	<ul style="list-style-type: none"><li>• Describe the Tanzu Kubernetes Grid service</li></ul>

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## Further Information:

For More information, or to book your course, please call us on 00 971 4 446 4987

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