VERP-VVOS
VMWARE VSPHERE: OPTIMIZE AND SCALE

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
5 Days	Advanced	VMware	ILT / VILT	NA

INTRODUCTION

This five-day 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. As an exclusive benefit, those who participate in this course will receive additional premium recorded lecture material on vSphere security.

AUDIENCE PROFILE

Experienced system administrators, system engineers, and system integrators

PREREQUISITES

You must meet one of the following prerequisites:

- Understanding of concepts presented in the VMware vSphere: Install, Configure, Manage [V7] course
- Equivalent knowledge and administration experience with ESXi and vCenter Server

Experience with working at the command line is highly recommended.

COURSE OBJECTIVES

After completing this course, delegates will be able to:

- 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 external identity sources
- 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 in the vSphere environment, including vCenter Server

MODULES

Module 1: Course Introduction

- Introductions and course logistics
- Course objectives

Module 2: Network Scalability

- Configure and manage vSphere distributed switches
- Describe how VMware vSphere Network I/O Control enhances performance
- Explain distributed switch features such as port mirroring and NetFlow

Module 3: Storage Scalability

- Explain why VMware vSphere VMFS is a high-performance, scalable file system
- Explain VMware vSphere Storage APIs - Array Integration, VMware vSphere API for Storage Awareness™, and vSphere APIs for I/O filtering
- Configure and assign virtual machine storage policies
- Create VMware vSAN™ storage policies
- Recognize components of the VMware vSphere® Virtual Volumes™ architecture
- Configure VMware vSphere® Storage DRS™ and VMware vSphere® Storage I/O Control

Module 4: Host and Management Scalability

- Use the vSphere Client to manage vSphere certificates
- Describe identity federation and recognize its use cases
- Configure identity federation to allow vCenter Server to use external identity provider
- Describe the benefits and use cases of vSphere Trust Authority
- Configure vSphere Trust Authority
- Use host profiles to manage ESXi configuration compliance
- Create a local content library and subscribe to a published content library
- Deploy VMs from a content library

- Create and manage resource pools in a cluster
- Describe how scalable shares work

Module 5: CPU Optimization

- Explain the CPU scheduler operation and other features that affect CPU performance
- Explain NUMA and vNUMA support
- Use esxtop to monitor key CPU performance metrics

Module 6: Memory Optimization

- Explain ballooning, memory compression, transparent page sharing, and host-swapping techniques for memory reclamation when memory is overcommitted
- Use esxtop to monitor key memory performance metrics

Module 7: Storage Optimization

- Describe storage queue types and other factors that affect storage performance
- Discuss vSphere support for NVMe and iSER technologies
- Use esxtop to monitor key storage performance metrics

Module 8: Network Optimization

- Explain performance features of network adapters
- Explain the performance features of vSphere networking
- Use esxtop to monitor key network performance metrics

Module 9: vCenter Server Performance Optimization

- Describe the factors that influence vCenter Server performance
- Use VMware vCenter® Server Appliance™ tools to monitor resource use
- Supplemental Content

Appendix A: vSphere Auto Deploy

- Explain the purpose of VMware vSphere® ESXi ™ Image Builder CLI
- Explain the purpose of VMware vSphere® Auto Deploy™
- Describe how an autodeployed ESXi host boots
- Configure a vSphere Auto Deploy environment

Appendix B: vSphere Security

- Configure ESXi Host Access and Authentication
- Recognize strategies for securing vSphere components, such as vCenter Server, ESXi hosts, and virtual machines
- Describe vSphere support for security standards and protocols
- Describe virtual machine security features
- Describe the components of a VM encryption architecture
- Create, manage, and migrate encrypted VMs
- Encrypt core dumps
- List VM encryption events and alarms

ASSOCIATED CERTIFICATIONS & EXAM

This course prepares delegates to write the VMware Certified Professional – Data Center Virtualization (VCP-DCV) exam.