VMware vSphere: Optimize & Scale V6.7

Duration: **5 Days**

Overview:

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 optimise the VMware vSphere® 6.7 features that build a foundation for a truly scalable infrastructure, and you discuss when and where these features have the greatest effect. This course deepens your understanding of vSphere and how its advanced features and controls can benefit your organisation.

Target Audience:

- System Administrators
- System Integrators
- System Integrators

Pre-requisites:

This course requires completion of one of the following prerequisites:

- Understanding of concepts presented in the VMware vSphere: Install, Configure, Manage [V6.7] course
- Equivalent knowledge and administration experience with ESXi and vCenter Server
- Experience with working at the command line is highly recommended

Module 1: Course Introduction

Lessons:

- Introductions and course logistics
- Course objectives
- Identify additional resources for after this course
- Identify other VMware Education offerings

Module 2: Network Scalability

Lessons:

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

Module 3: Storage Scalability

Lessons:

- 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 vSAN storage policies
- Configure VMware vSphere® Storage DRS™ and VMware vSphere® Storage I/O Control

Module 4: Host and Management Scalability

Lessons:

- Define and use content libraries
- Describe and use host profiles
- Describe and use VMware vSphere® ESXi™ Image Builder CLI and vSphere Auto Deploy

Module 5: CPU Optimisation

Lessons:

- 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 Optimisation

Lessons:

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

Module 7: Storage Optimisation

Lessons:

- Describe storage queue types and other factors that affect storage performance
- Use esxtop to monitor key storage performance metrics

Module 8: Network Optimisation

Lessons:

- Explain the 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 Optimisation

Lessons:

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

Module 10: vSphere Security

Lessons:

- Configure ESXi host access and authorisation
- Secure ESXi, vCenter Server, and virtual machines
- Use VMware Certificate Authority to configure vSphere certificate management
- Configure vSphere to encrypt virtual machines, core dumps and VMware vSphere® vMotion® migrations

Course 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™, VMware vSphere® Web Client, and VMware vSphere® ESXi™ Shell to manage vSphere
- Create a content library for deploying virtual machines
- Use VMware vSphere® Auto Deploy™ and host profiles to provision VMware ESXi™ hosts and manage ESXi host compliance
- Monitor and analyse key performance indicators for compute, storage, and networking resources for ESXi hosts
- Optimise the performance of ESXi and VMware vCenter Server®
- Harden the vSphere environment against security threats
- Encrypt virtual machines for additional security
- Certifications: This course prepares you for the following certification: VMware Certified Professional 6.5 – Data Center Virtualisation (VCP6.5-DCV)