VMware vSphere: Optimize and Scale plus Troubleshooting Fast Track [V7] Training

Duration: 5 Days

Course Content:

The VMware vSphere v7 training module comprises of VMware administration that offers a complete walkthrough of the VMware vSphere platform, with its optimization and scaling strategies. It provides a troubleshooting session of vSphere, which is designed to be of an expert level. Starting from the basics, the training encompasses all the topics to make you a pro. Every topic is explained with an illustration for better comprehension.

All the knowledge and skills that you access from this technical training program will serve in the long-term, and on a broader aspect. The training provides insight that would be extremely useful for certifications like VCP-DCV, VCAP-DCA, and VCIX-DCV. The course is enterprise-oriented, dedicated to imparting technical knowledge. VMware vSphere V7 Training is the complete hands-on experience training, inclusive of all the needful modules.

Who should attend?

- Experienced system administrators
- System engineers
- System integrators

Prerequisites for this training

This course requires completion of one of the following prerequisites:

- VMware vSphere: Install, Configure, Manage
- Equivalent knowledge and administration experience with ESXi and vCenter Server
- Experience in working at the command prompt is highly recommended

What you will learn

- Introduce troubleshooting principles and procedures
- Use command-line interfaces, log files, and VMware vSphere® Client™ to diagnose and resolve problems in the vSphere environment
- Describe the benefits and capabilities of VMware Skyline
- Explain the purpose of key vSphere log files
- Monitor and analyze key performance indicators for compute, storage, and networking resources for VMware ESXi™ hosts
- Optimize the performance in the vSphere environment, including VMware vCenter Server®
- Identify networking problems based on reported symptoms, validate, and troubleshoot the reported problem, identify the root cause, and implement the appropriate resolution
- Analyze storage failure scenarios using a logical troubleshooting methodology, identify the root cause, and apply the appropriate resolution to resolve the problem
- Troubleshoot vSphere cluster failure scenarios and analyze possible causes
- Diagnose common VMware vSphere® High Availability problems and provide solutions
- Identify and validate ESXi host and vCenter Server problems, analyze failure scenarios, and select the correct resolution

- Troubleshoot virtual machine problems, including migration problems, snapshot problems, and connection problems
- Troubleshoot performance problems with vSphere components

Curriculum

Module 1: Course Introduction

- Introductions and course logistics
- Course objectives

Module 2: Introduction to Troubleshooting

- Define the scope of troubleshooting
- Use a structured approach to solve configuration and operational problems
- Apply a troubleshooting methodology to logically diagnose faults and improve troubleshooting efficiency

Module 3: Troubleshooting Tools

- Use command-line tools (such as ESXCLI) to identify and troubleshoot vSphere problems
- Identify important vSphere log files and interpret the log file contents
- Describe the benefits and capabilities of VMware Skyline
- Explain how VMware Skyline works
- Identify uses for Skyline Advisor

Module 4: Network Optimization

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

Module 5: Troubleshooting Virtual Networking

- Analyze and resolve standard switch and distributed switch problems
- Analyze virtual machine connectivity problems and fix them
- Examine common management network connectivity problems and restore configurations

Module 6: 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 7: Troubleshooting Storage

- Troubleshoot and resolve storage (iSCSI, NFS, and VMware vSphere® VMFS) connectivity and configuration problems
- Analyze and resolve common VM snapshot problems
- Identify and resolve multipathing-related problems, including common causes of permanent device loss (PDL) and all paths down (APD) event problems

Module 8: 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 9: 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 10: Troubleshooting vSphere Clusters

- Identify and recover from problems related to vSphere HA
- Analyze and resolve VMware vSphere® vMotion® configuration and operational problems
- Analyze and resolve common VMware vSphere® Distributed Resource Scheduler™ problems

Module 11: Troubleshooting Virtual Machines

- Identify, analyze, and solve virtual machine snapshot problems
- Troubleshoot virtual machine power-on problems
- Identify possible causes and troubleshoot virtual machine connection-state problems
- Diagnose and recover from VMware Tools™ installation failures

Module 12: vCenter Server Performance Optimization

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

Module 13: Troubleshooting vCenter Server and ESXi

- Analyze and fix problems with vCenter Server services
- Diagnose and troubleshoot vCenter Server database problems
- Examine ESXi host and vCenter Server failure scenarios and resolve the problems