

TRAINING: VMware vSphere: Troubleshooting

LOCATIONS & TERMS: **Virtual Classroom, ENG**  
**5 days**

#### TRAINING GOALS:

This five-day training course provides you with the knowledge, skills, and abilities to achieve competence in troubleshooting the VMware vSphere® 8 environment. This course increases your skill level and competence in using the command-line interface, VMware vSphere® Client™, log files, and other tools to analyze and solve problems.

#### AUDIENCE

- System architects and system administrators

#### PREREQUISITES

This course requires completion of one the following courses:

- VMware vSphere: Fast Track
- VMware vSphere: Install, Configure, Manage
- VMware vSphere: Operate, Scale and Secure

The course material presumes that you can perform the following tasks with no assistance or guidance before enrolling in this course:

- Install and configure ESXi
- Install vCenter
- Create vCenter Server objects, such as data centers and folders
- Create and modify a standard switch
- Create and modify a distributed switch
- Connect an ESXi host to NAS, iSCSI, or Fibre Channel storage
- Create a VMware vSphere® VMFS datastore
- Modify a virtual machine's hardware
- Migrate a virtual machine with VMware vSphere® vMotion® and VMware vSphere® Storage vMotion®
- Configure and manage a VMware vSphere® Distributed Resource Scheduler™ cluster
- Configure and manage a VMware vSphere HA cluster
- Basic knowledge of command line tools like ESXCLI, DCLI, and PowerCLI

If you cannot complete these tasks, VMware recommends that you take the VMware vSphere: Install, Configure, Manage [V8] course instead.

#### COURSE MODULES

##### 1 Course Introduction

- Introductions and course logistics
- Course objectives

##### 2 Introduction to Troubleshooting

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

##### 3 Troubleshooting Tools

- Identify the utilities and tools used to run commands
- Identify how to access the vSphere ESXi shell
- Run commands to view, configure, and manage vSphere components

- Use Standalone ESXCLI for troubleshooting
- Run ESXCLI commands from the Standalone ESXCLI tool
- Use Data Center CLI commands for troubleshooting
- Run commands to view, configure, and manage your vSphere components
- Identify the best tool to use for CLI troubleshooting
- Locate important log files
- Identify how to use log files in troubleshooting
- Describe the benefits and capabilities of VMware Skyline™
- Explain how VMware Skyline works at a high-level
- Identify the types of health information provided by Skyline™ Health
- Identify uses for VMware Skyline™ Advisor
- Describe the support bundle REST API
- Use the support bundle REST API

#### 4 Troubleshooting Virtual Networking

- Analyze and troubleshoot standard switch problems
- Analyze and troubleshoot virtual machine connectivity problems
- Analyze and troubleshoot management network problems
- Analyze and troubleshoot distributed switch problems

#### 5 Troubleshooting Storage

- Recognize components in the vSphere storage architecture
- Identify the possible causes of problems in the various types of datastores
- Analyze the common storage connectivity and configuration problems and discuss the possible causes
- Resolve the storage connectivity problems, correct misconfigurations, and restore LUN visibility
- Analyze log file entries to identify the root cause of storage problems
- Use ESXi and Linux commands to troubleshoot storage problems
- Investigate ESXi storage issues
- Troubleshoot virtual machine snapshots
- Troubleshoot storage performance problems
- Recognize how multipathing works
- Identify the common causes of missing paths
- Resolve the missing path problems between hosts and storage devices

#### 6 Troubleshooting vSphere Clusters

- Identify and troubleshoot potential vSphere HA problems
- Analyze and solve vSphere potential vMotion problems
- Diagnose and troubleshoot potential vSphere DRS problems

#### 7 Troubleshooting Virtual Machines

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

#### 8 Troubleshooting vCenter Server and ESXi

- Analyze and resolve vCenter service problems
- Diagnose and troubleshoot vCenter database problems
- Use vCenter appliance shell and the Bash shell to identify and solve problems
- Identify and troubleshoot ESXi host problems

## OBJECTIVES

By the end of the course, you should be able to meet the following objectives:

- Describe troubleshooting principles and procedures
- Use the vSphere Client, the command line, and log files to configure, diagnose, and correct problems in vSphere
- Explain the key vSphere log files from troubleshooting perspective
- Describe the benefits and capabilities of VMware Skyline
- Identify the networking issues by examining the reported symptoms, and troubleshoot the reported problems
- Identify the storage issues by examining the reported symptoms, and troubleshoot the reported problems
- Troubleshoot vSphere cluster failure scenarios and analyze possible causes
- Diagnose common VMware vSphere<sup>®</sup> High Availability (vSphere HA) problems and provide solutions
- Troubleshoot virtual machine problems, including migration problems, snapshot problems, and connectivity problems
- Identify VMware ESXi<sup>™</sup> host and VMware vCenter Server<sup>®</sup> problems, analyze failure scenarios, and find resolutions
- Troubleshoot performance problems with vSphere components