

# VMware vSphere: Troubleshooting Workshop [V6.5]

**Overview:** This five-day, hands-on training workshop provides you with the advanced knowledge, skills, and abilities to achieve competence in troubleshooting the VMware vSphere® 6.x environment. This workshop increases your skill and competence in using the command-line interface, VMware vSphere® Web Client, VMware vRealize® Log Insight™, and other tools to analyze and solve problems.

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

- Use vSphere Web Client, the command-line interface, and logs to diagnose and resolve problems in the vSphere environment
- Introduce troubleshooting principles and procedures
- Troubleshoot networking problems and recover from these problems
- Analyze storage failure scenarios and resolve the problems
- Troubleshoot vSphere cluster failure scenarios and analyze possible causes
- Diagnose common VMware vSphere® High Availability problems and provide solutions
- Troubleshoot problems related to virtual machine migration (VMware vSphere® vMotion®) and improve resource use (VMware vSphere® Distributed Resource Scheduler™)
- Troubleshoot VMware vCenter Server® problems
- Identify VMware ESXi™ host problems, analyze failure scenarios, and correct them
- Troubleshoot faulty virtual machines, including installation problems, snapshot problems, connection problems, and more

**Intended Audience:**

- System administrators
- System integrators

**Prerequisites:** This course requires completion of one of the following prerequisites:

- VMware Certified Professional 6 – Data Center Virtualization (VCP6-DCV)
- VMware vSphere: Fast Track [V6.x]
- VMware vSphere: Install, Configure, Manage [V6.x]
- Equivalent knowledge and administration experience with ESXi and vCenter Server

Experience in working with a command-line interface is highly recommended, as is completion of VMware vSphere: Optimize and Scale [V6.x].

**Outline:**

- 1 Course Introduction
  - Introductions and course logistics
  - Course objectives
  - Describe the content of this course
  - Gain a complete picture of the VMware certification system
  - Familiarize yourself with the benefits of the VMware Education Learning Zone
  - Identify additional resources
- 2 Introduction to Troubleshooting
  - Identify the effects of a system problem
  - Define the scope of troubleshooting
  - Use a structured approach
  - Understand the principles of troubleshooting
  - Follow a logical troubleshooting procedure
  - Examine examples of troubleshooting

### 3 Troubleshooting Tools

- Use command-line tools to identify and troubleshoot problems
- Use VMware vSphere® Management Assistant
- Find and interpret important log files
- Use vRealize Log Insight for log aggregation, efficient log search, and problem analysis

### 4 Networking

- Identify the symptoms of network-related problems
- 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
- Identify and prevent potential problems

### 5 Storage

- Troubleshoot storage (iSCSI, NFS, VMware vSphere® VMFS, VMware vSAN™, and VMware vSphere® Virtual Volumes™) connectivity problems
- Analyze storage-related logs
- Analyze hardware malfunction and software misconfiguration scenarios
- Identify multipathing-related problems, including permanent device loss (PDL) and all paths down (APD)
- Analyze possible causes, recover from the faulty conditions, and restore storage visibility

### 6 vSphere Clusters

- Identify and recover from problems related to vSphere HA
- Analyze and troubleshoot various types of vSphere vMotion problems related to virtual machine migrations
- Discuss and recover from vSphere DRS problems to achieve proper function and balanced resource use
- Examine vSphere cluster failure scenarios and possible solutions

### 7 Virtual Machines

- Analyze and resolve common virtual machine snapshot problems
- Identify possible causes and resolve virtual machine power-on problems
- Troubleshoot virtual machine connection state problems
- Resolve problems seen during VMware Tools™ installations
- Examine failure scenarios and provide solutions

### 8 vCenter Server and ESXi

- Understand the vCenter Server and VMware Platform Services Controller™ architecture in vSphere 6.x
- Identify and resolve authentication problems
- Troubleshoot VMware Certificate Authority and certificate problems
- Analyze and fix problems with vCenter Server services
- Analyze and fix vCenter Server database problems
- Identify VMware vCenter Server® High Availability problems
- Examine ESXi host and vCenter Server failure scenarios and resolve the problems.