VMware vSphere: Troubleshooting Workshop v6.5

Course Summary

Description

This five-day, hands-on training workshop provides you with the advance 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

After taking this course, students will be able to:
- 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 issues 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 issues and provide solutions
- Troubleshoot problems related to virtual machine migration (VMware vSphere vMotion) and improve resource use (VMware vSphere® Distributed Resource Scheduler™)
- Troubleshoot vCenter Server problems
- Identify VMware ESXi host issues, analyze failure scenarios, and correct them
- Troubleshoot faulty virtual machines, including installation issues, snapshot issues, connection issues, and more

Topics

- Course Introduction
- Introduction to Troubleshooting
- Troubleshooting Tools
- Networking

- Storage
- vSphere Clusters
- Virtual Machines
- vCenter Server and ESXi

Audience

This course was designed for system administrators and 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].

Duration

Five days

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Course Outline

I.   Course Introduction
   A.   Introductions and course logistics
   B.   Course objectives
   C.   Describe the content of this course
   D.   Gain a complete picture of the VMware certification system
   E.   Familiarize yourself with the benefits of the VMware Education Learning Zone
   F.   Identify additional resources

II.   Introduction to Troubleshooting
   A.   Identify the effects of a system problem
   B.   Define the scope of troubleshooting
   C.   Use a structured approach
   D.   Understand the principles of troubleshooting
   E.   Follow a logical troubleshooting procedure
   F.   Examine examples of troubleshooting

III. Troubleshooting Tools
   A.   Use command-line tools to identify and troubleshoot problems
   B.   Use VMware vSphere® Management Assistant
   C.   Find and interpret important log files
   D.   Use vRealize Log Insight for log aggregation, efficient log search, and problem analysis

IV.   Networking
   A.   Identify the symptoms of network-related problems
   B.   Analyze and resolve standard switch and distributed switch problems
   C.   Analyze virtual machine connectivity problems and fix them
   D.   Examine common management network connectivity problems and restore configurations
   E.   Identify and prevent potential problems

V.   Storage
   A.   Troubleshoot storage (iSCSI, NFS, VMware vSphere® VMFS, VMware vSAN™, and VMware vSphere® Virtual Volumes™) connectivity problems
   B.   Analyze storage-related logs
   C.   Analyze hardware malfunction and software misconfiguration scenarios

   D.   Identify multipathing-related problems, including permanent device loss (PDL) and all paths down (APD)
   E.   Analyze possible causes, recover from the faulty conditions, and restore storage visibility

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

VII. Virtual Machines
   A.   Analyze and resolve common virtual machine snapshot problems
   B.   Identify possible causes and resolve virtual machine power-on problems
   C.   Troubleshoot virtual machine connection state problems
   D.   Resolve problems seen during VMware Tools™ installations
   E.   Examine failure scenarios and provide solutions

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