Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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VMware vSAN: Deploy and Manage plus VMware vSAN: Troubleshooting Workshop [V6.7]

CODE:	LENGTH:	PRICE:
VM-VSAN-DM-VMVSAN-TW-V6.7	40 Hours (5 days)	$4,625.00

Description

Overview:
In this five-day course, you will focus on deploying and managing a software-defined storage solution with VMware vSAN™ 6.7. You will learn how vSAN functions as an important component in the VMware software-defined data center. You will gain practical experience with vSAN concepts and troubleshooting methodology and diagnostic tools through the completion of hands-on lab exercises.
Product Alignment
- ESXi 6.7
- vCenter Server 6.7
- vSAN 6.6 and vSAN 6.7

Objectives

By the end of the course, you should be able to meet the following objectives:
- Describe the vSAN architecture
- Identify vSAN features and use cases
- Configure vSAN networking components
- Configure a vSAN cluster
- Deploy virtual machines on a vSAN datastore
- Configure virtual machine storage policies
- Perform ongoing vSAN management tasks
- Configure vSAN encryption
- Control vSAN resynchronization tasks
- Create and manage nested fault domains
- Use the vSAN health service to monitor health and performance
- Configure a stretched cluster and observe failover scenarios
- Describe vSAN interoperability with VMware vSphere® features and other products
- Plan and design a vSAN cluster
- Use diagnostic and troubleshooting tools to resolve vSAN 6.6 deployment and architectural issues

Audience

Storage and virtual infrastructure administrators who want to use software-defined storage with vSAN

Prerequisites

This course requires completion of one of the following prerequisites:
- Storage administration experience on block or file storage devices
- Understanding of concepts presented in the VMware vSphere: Install, Configure, Manage [V6.x] course

Experience working at the command line is helpful.

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

- Use VMware vSphere® Web Client
- Create and manage VMware vCenter Server® objects, such as data centers, clusters, hosts, and virtual machines
- Create and modify a standard switch
- Connect a VMware ESXi™ host to NAS, iSCSI, or Fibre Channel storage
- Create a VMware vSphere® VMFS datastore
- Use a wizard or a template to create a virtual machine
- Migrate a virtual machine with VMware vSphere® vMotion®
- Migrate a virtual machine with VMware vSphere® Storage vMotion®

If you cannot complete all of these tasks, VMware recommends that you complete the VMware vSphere: Install, Configure, Manage [V6.x] course before enrolling in VMware vSAN: Deploy and Manage

Programme

1 Course Introduction
- Introductions and course logistics
- Course objectives
- Describe the software-defined data center

2 Introduction to vSAN
- Describe basic vSAN architecture and components
- Describe the differences between file, block, and object storage
- Explain the advantages of object-based storage
- Detail the configuration of a vSAN cluster
- Install and validate the initial vSAN installation and configuration

3 vSAN Configuration
- Apply vSAN design considerations
- Detail the expansion of a vSAN cluster
- Configure vSAN disk groups manually
- Identify physical network configuration requirements
- Describe the configuration of vSAN networking
- Test and validate the vSAN configuration and functionality
- Describe the vSAN architecture and components
- Describe the differences between the vSAN hybrid and all-flash architectures
- Describe the advantages of all-flash architecture
- Describe the space-efficiency features of vSAN
- Describe the different vSAN assessment tools
- Explain vSAN License Details

4 vSAN Policies and Virtual Machines
- Explain how storage policies work with vSAN
- Define and create a virtual machine storage policy
- Apply and modify virtual machine storage policies
- Change virtual machine storage policies dynamically
- Identify virtual machine storage policy compliance status

5 Managing and Operating vSAN
- Explain how to configure encryption in the vSAN cluster
- Explain the management of hardware storage devices
- Identify alarms for vSAN events
- Describe and configure fault domains
- Describe the configuration of the vSAN iSCSI service, iSCSI targets, and LUNS

6 Stretched Clusters and Two-Node Clusters
- Describe the architecture for stretched clusters and two-node clusters
- Create a stretched cluster
- Describe how stretched cluster storage policies affect vSAN objects
- Create and apply a vSAN stretched cluster policy to meet specific needs
- Discuss the behavior of a stretched cluster when various types of failures occur

7 Monitoring and Troubleshooting vSAN
- Discuss hardware failure scenarios
- Describe the process of resynchronization
- Explain the possible reasons for resynchronization
- Describe the use of vSphere Client to detect issues
- Explain the use of the health service to monitor vSAN health
- Explain the use of the performance service to monitor vSAN performance.
- Monitor and test the vSAN environment
- Describe vSAN architecture components and the PNOMA OSI model.

8 vSAN Software Architecture
- Describe the vSAN architecture and components
- Describe the policy-driven, object-based vSAN storage environment
- Describe the vSAN software components: CLOM, DOM, LSOM, CMMDS, and RDT
- Explain the relationships between the vSAN software components
- Explain the relationship between objects and components
- Determine how specific storage policies affect components
- Describe component placement

9 Troubleshooting Methodology
- Use a structured approach to solve configuration and operational problems
- Apply troubleshooting methodology to logically diagnose faults and optimize troubleshooting efficiency

10 Troubleshooting Tools
- Replace a failed witness appliance
- Discuss the ways to run various command-line tools
- Discuss the ways to access VMware vSphere® ESXi™ Shell
- Use commands to view, configure, and manage your VMware vSphere® environment
- Explain which log files are useful for vSAN troubleshooting
- Use log files to help troubleshoot vSAN problems
- Discuss the esxcli vsan namespace commands
- Discuss how to use Ruby vSphere Console commands

Session Dates

On request. Please Contact Us

Additional Information

This training is also available as onsite training. Please contact us to find out more.