vmware EDUCATION SERVICES

VMware vSAN: Deploy and Manage

Course Overview

In this three-day course, you focus on deploying and managing a software-defined storage solution with VMware vSAN™ 6.7. You learn how vSAN functions as an important component in the VMware software-defined data center. You gain practical experience with vSAN concepts through the completion of hands-on lab exercises.

Course 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

Target Audience

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

Prerequisites

This course requires meeting 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® Client™
- Create and manage VMware vCenter Server® objects, such as data centers, clusters, hosts, and virtual machines
- Create and modify a standard switch
- Create and modify a distributed 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 [V6.7] course before enrolling in VMware vSAN: Deploy and Manage.

Product Alignment

- ESXi 6.7
- vCenter Server 6.7
- vSAN 6.7

Course Modules

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.