VMWARE VSAN: INSTALL, CONFIGURE, MANAGE [V7.X]

Course Code: 821816

During this five-day course, you will gain the knowledge, skills, and tools to plan and deploy a VMware vSAN™ cluster. You will learn about managing and operating vSAN. This course focuses on building the required skills for common Day-2 vSAN administrator tasks such as vSAN node management, cluster maintenance, security operations, and advanced vSAN cluster operations. You will learn these skills through the completion of instructor-led activities and hands-on lab exercises.

What You'll Learn

Upon completing this course, the learner will be able to meet these overall objectives:

- Describe vSAN concepts
- Detail the underlying vSAN architecture and components
- Explain the key features and use cases for vSAN
- Identify requirements and planning considerations for vSAN clusters
- Explain the importance vSAN node hardware compatibility
- Describe the use of VMware vSphere® Lifecycle Manager™ to automate driver and firmware installations
- Describe the different vSAN deployment options
- Explain how to configure vSAN fault domains
- Detail how to define and create a VM storage policy
- Discuss the impact of vSAN storage policy changes
- Detail vSAN resilience and data availability
- Describe vSAN storage space efficiency
- Explain how vSAN encryption works
- Identify requirements to configure the vSAN iSCSI target
- Detail VMware HCI Mesh™ technology and architecture
- Detail vSAN File Service architecture and configuration
- Explain the use cases of vSAN Direct Configuration™
- Describe how to setup a stretched and a two-node vSAN cluster
- Discuss vSAN cluster backup methodology
- Describe vSAN maintenance mode and data evacuation options
- Define the steps to shut down a vSAN cluster for maintenance

- Explain how to use proactive tests to check the integrity of a vSAN cluster
- Use VMware Skyline Health™ for monitoring vSAN health

Who Needs to Attend

The primary audience for this course is as follows:

- Storage and virtual infrastructure consultants, solution architects, and administrators who are responsible for production support and administration of VMware vSAN.

Prerequisites

Completion of the following course is required:

- VMware vSphere: Install, Configure, Manage [V7.x] or equivalent knowledge

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VIRTUAL CLASSROOM LIVE	$4,250 USD	5 Day

Virtual Classroom Live Outline

Module 1: Course Introduction

- Introductions and course logistics
- Course objectives

Module 2: Introduction to vSAN

- Describe vSAN architecture
- Describe the vSAN software components: CLOM, DOM, LSOM, CMMDS, and RDT
- Identify vSAN objects and components
- Describe the advantages of object-based storage
- Describe the difference between All-Flash and Hybrid vSAN architecture
- Explain the key features and use cases for vSAN
- Discuss the vSAN integration and compatibility with other VMware technologies

Module 3: Planning a vSAN Cluster

- Identify requirements and planning considerations for vSAN clusters
- Apply vSAN cluster planning and deployment best practices
- Determine and plan for storage consumption by data growth and failure tolerance
- Design vSAN hosts for operational needs
- Identify vSAN networking features and requirements
- Describe ways of controlling traffic in a vSAN environment
- Recognize best practices for vSAN network configurations

Module 4: Deploying a vSAN Cluster

- Recognize the importance of hardware compatibility
- Ensure the compatibility of driver and firmware versioning

- Use tools to automate driver validation and installation
- Apply host hardware settings for optimum performance
- Use vSphere Lifecycle Manager to perform upgrades
- Deploy and configure a vSAN Cluster using the Cluster QuickStart wizard
- Manually configure a vSAN Cluster using VMware vSphere® Client™
- Explain and configure vSAN fault domains
- Using VMware vSphere® High Availability with vSAN
- Understand vSAN Cluster maintenance capabilities
- Describe the difference between implicit and explicit fault domains
- Create explicit fault domains

Module 5: vSAN Storage Policies

- Describe a vSAN object
- Describe how objects are split into components
- Explain the purpose of witness components
- Explain how vSAN stores large objects
- View object and component placement on the vSAN datastore
- 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

Module 6: vSAN Resilience and Data Availability

- Describe and configure the Object Repair Timer advanced option
- Plan disk replacement in a vSAN cluster
- Plan maintenance tasks to avoid vSAN object failures
- Recognize the importance of managing snapshot utilization in a vSAN cluster

Module 7: Configuring vSAN Storage Space Efficiency

- Discuss deduplication and compression techniques
- Understand deduplication and compression overhead
- Discuss compression only mode
- Configure erasure coding
- Configure swap object thin provisioning
- Discuss reclaiming storage space with SCSI UNMAP
- Configure TRIM/UNMAP

Module 8: vSAN Security Operations

- Identify differences between VM encryption and vSAN encryption
- Perform ongoing operations to maintain data security
- Describe the workflow of data-in transit encryption
- Identify the steps involved in replacing Key Management Server

Module 9: Introduction to Advanced vSAN Configurations

- Identify requirements to configure vSAN iSCSI target
- Detail VMware HCI Mesh technology and architecture
- Detail vSAN File Service architecture and configuration

- Explain the use cases of vSAN Direct Configuration

Module 10: vSAN Cluster Maintenance

- Perform typical vSAN maintenance operations
- Describe vSAN maintenance modes and data evacuation options
- Assess the impact on cluster objects of entering maintenance mode
- Determine the specific data actions required after exiting maintenance mode
- Define the steps to shut down and reboot hosts and vSAN clusters
- Use best practices for boot devices
- Replace vSAN nodes

Module 11: vSAN Stretched and Two Node Clusters

- Describe the architecture and uses case for stretched clusters
- Detail the deployment and replacement of a vSAN witness node
- Describe the architecture and uses case for two-node clusters
- Explain the benefits of vSphere HA and vSphere Site Recovery Manager in a vSAN stretched cluster
- Explain storage policies for vSAN stretched cluster

Module 12: vSAN Cluster Monitoring

- Describe how the Customer Experience Improvement Program (CEIP) enables VMware to improve products and services
- Use VMware Skyline Health for monitoring vSAN cluster health
- Manage alerts, alarms, and notifications related to vSAN in VMware vSphere® Client™
- Create and configure custom alarms to trigger vSAN health issues
- Use IOInsight metrics for monitoring vSAN performance
- Analyze vsantop performance metrics
- Use a vSAN proactive test to detect and diagnose cluster issues

Sep 15 - 19, 2025 | 10:00 AM - 6:00 PM EST

Nov 3 - 7, 2025 | 10:00 AM - 6:00 PM EST

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

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