

VMware vSAN: Install, Configure, Manage

Course Overview

During this four-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, troubleshooting, and advanced vSAN cluster operations. You will learn these skills through the completion of instructor-led activities and hands-on lab exercises.

Course Objectives

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

- Describe vSAN concepts
- Discover vSAN architecture
- Explain key features and use cases for vSAN
- Identify requirements and planning considerations for vSAN clusters
- Describe vSAN deployment options
- Explain vSAN configuration of fault domains
- Describe steps to define and create VM storage policies
- Discuss the impact of vSAN storage policy changes
- Discuss vSAN resilience and data availability
- Describe vSAN storage space efficiency
- Explain vSAN encryption
- Discover VMware Cross-Cluster Capacity Sharing technology and architecture
- Discover vSAN File Service architecture and configuration
- Detail vSAN iSCSI target service configuration
- Describe the steps for setting up stretched and two-node vSAN clusters
- Explain the importance of vSAN hardware compatibility
- Describe vSAN maintenance mode and data evacuation options
- Explain the use of proactive tests to check the integrity of a vSAN cluster
- Explain the usage of VMware Skyline Health for monitoring vSAN health
- Understand the vSAN troubleshooting process

Target Audience

Storage and virtual infrastructure consultants, solution architects, and administrators who are responsible for production, support, and administration of VMware vSAN 8 Update 2.

Prerequisites

Completion of the following course is required:

- VMware vSphere: Install, Configure, Manage or equivalent knowledge

Course Modules

1 Course Introduction

- Introductions and course logistics
- Course objectives

2 Introduction to vSAN

- Describe vSAN
- Review different types of vSAN architectures
- Explore vSAN implementation types
- Distinguish different vSAN disk configurations
- Examine vSAN Storage Policies

3 Planning a vSAN Cluster

- Review vSAN requirements
- Understand factors for vSAN storage capacity planning
- Describe vSAN ReadyNode Sizer capabilities

4 Deploying a vSAN Cluster

- Describe vSAN cluster configuration types
- Identify the steps involved in configuring a vSAN cluster
- Validate vSAN cluster configurations
- Explore Auto-Policy Management
- Configure vSAN Reserved Capacity

5 vSAN Storage Policies

- Recognize vSAN Objects and Components
- Explain storage policies integration with vSAN
- Compare different vSAN storage policies
- Explore vSAN ESA snapshots
- Examine Custom-Sized Namespace Objects
- Understand vSAN ESA storage policies
- Understand how the vSAN Storage Policies can be customized
- Review Configuration Changes and Impacts

6 vSAN Resilience and Data Availability

- Identify vSAN component states
- Explore how Fault Domains can protect against potential outages
- Analyze the vSAN response to different types of hardware failures
- Explore the vSAN response to different types of network partitions
- Explain how vSAN repairs objects after a failure

7 Managing vSAN Space Efficiency

- Explain the configuration steps of compression-only in vSAN OSA

- Discuss vSAN OSA's deduplication and compression
- Review vSAN ESA's compression capabilities
- Describe the steps to reclaim storage space with TRIM/UNMAP

8 vSAN Security Operations

- Understand how vSAN protects data on disk with Data-at-Rest Encryption
- Configure vSAN Data-at-Rest Encryption
- Describe the I/O flow from the Guest OS to encrypted data on disk
- Explore the ESXi host boot up process with encrypted disks
- Review the ESXi boot up process when encryption is activated
- Understand how new keys can be generated
- Explore how vSAN protects data in flight with Data-in-Transit Encryption

9 vSAN Stretched and Two-Node Clusters

- Identify characteristics of vSAN stretched clusters
- Discuss the vSAN stretched cluster architecture and use cases
- Explain how read and write I/O management works in vSAN stretched clusters
- List networking requirements of vSAN stretched clusters
- Describe the purpose of the vSAN witness host
- Explain the Two-Node vSAN cluster architecture and use cases
- Describe the purpose of the vSAN shared witness appliance

10 vSAN Cross-Cluster Capacity Sharing

- Understand the purpose of Cross-Cluster Capacity Sharing
- Review three Cross-Cluster Capacity Sharing topologies
- Explore remote vSAN Datastore operations

11 vSAN File Service and iSCSI Target Service

- Understand the purpose of vSAN File Service
- Explore how to turn on and configure vSAN File Service
- Create and view a share and create a snapshot for a share
- Explore monitoring and performance of vSAN File Service
- Describe the vSAN iSCSI target service
- Discuss vSAN iSCSI target service networking

- Detail steps to configure the vSAN iSCSI target service

12 vSAN Cluster Maintenance

- Describe vSAN maintenance mode and data evacuation options
- Detail how to assess the vSAN maintenance mode precheck reports
- Define the steps to shut down a vSAN cluster for maintenance
- Describe vSAN cluster scaling
- Detail the removal and replacement of disks and disk groups in a vSAN cluster
- Detail the removal and replacement of a host in a vSAN cluster
- Describe stages in the vSAN upgrade process
- List the best practices to prepare for a vSAN upgrade

13 vSAN Cluster Monitoring

- Explore the PNOMA framework
- Understand how Skyline Health can identify issues
- Evaluate and perform proactive tests
- Examine the available performance charts
- Explore capacity monitoring and forecasting tools

Contact

If you have questions or need help registering for this course, click [here](#).



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