

VMware vSAN: Management and Operations [V7]

Course code: VMWVSANMO

In this three-day course, you learn about managing and operating VMware vSAN™ 7. 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 also gain practical experience through the completion of instructor-led activities and hands-on lab exercises.

Who is the course for

Storage and virtual infrastructure administrators who are responsible for production support and administration of VMware vSAN 7.

What we teach you

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

- Define the tasks involved in vSAN node management
- Updating and upgrading vSAN using VMware vSphere Lifecycle Manager™
- Explain vSAN resilience and data availability features
- Reconfigure vSAN storage policies and observe the cluster-wide impact
- Perform vSAN cluster scale-out and scale-up operations
- Describe common vSAN cluster maintenance operations
- Control vSAN resync operations
- Manage two-node cluster and stretched cluster advance operations
- Configure vSAN storage efficiency and reclamation features
- Use VMware Skyline™ Health to monitor cluster health, performance, and storage capacity
- Describe vSAN security operations
- Configure vSAN Direct for cloud native applications
- Configure remote vSAN datastore and vSAN native file services

Required skills

Completion of the following courses is required:

- VMware vSphere: Install, Configure, Manage [v7] or equivalent knowledge
- VMware vSAN: Plan and Deploy [v7]

Teaching materials

Professional explanation with practical samples and examples.

Course outline

1 Course Introduction

Introductions and course logistics

Course objectives

2 vSAN Node Management

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

3 vSAN Resilience and Data Availability Operations

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Describe vSAN storage policies

Recognize the impact of a vSAN storage policy change

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

Configure the vSAN fault domains

4 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

5 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

6 vSAN Cluster Performance Monitoring

Describe how the Customer Experience Improvement Program (CEIP) enables VMware to improve products and services

Use vSphere 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 IO Insight metrics for monitoring vSAN performance

Analyse vsantop performance metrics

Use a vSAN proactive test to detect and diagnose cluster issues

7 vSAN Security Operations

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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 (KMS)

8 vSAN Direct

Discuss the use cases for vSAN Direct
Understand the overall architecture of vSAN Direct
Describe the workflow of vSAN Direct datastore creation
Explore how vSAN Direct works with storage policy tagging

9 Remote vSAN

Discuss the use cases for remote vSAN
Understand the high-level architecture
Describe remote datastore operations
Discuss the network requirement
Interoperability between remote vSAN and VMware vSphere® High Availability

10 vSAN Native File Service

Discuss the use cases for vSAN file service
Understand the high-level architecture of vSAN file service
Discuss the authentication model
Configure file shares
Monitor file share health and capacity utilization

11 Manage Advanced vSAN Cluster Operations

Describe the architecture for stretched clusters and two-node clusters
Understand the importance of witness node
Describe how stretched cluster storage policies affect vSAN objects
Create and apply a vSAN stretched cluster policy to meet specific needs
Discuss stretched cluster failure scenarios and responses

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