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## VMware vSAN: Management and Operations

**Duration: 3 Days**    **Course Code: VMVSANMO**    **Version: 7.0**

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### Overview:

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.

### Product Alignment:

VMware ESXi™ 7.0 U1  
VMware vCenter Server® 7.0 U1  
VMware vSAN 7.0 U1

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### Target Audience:

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

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### Objectives:

- **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
  - 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
  - Manage two-node cluster and stretched cluster advance operations
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### Prerequisites:

- VMware vSAN: Plan and Deploy [V7]
  - VSICM - VMware vSphere: Install, Configure, Manage [V7.0]
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## Content:

### 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

- 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

- 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

## Further Information:

For More information, or to book your course, please call us on 00 971 4 446 4987

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