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## VMware vSAN: Management and Operations

**Duration: 3 Days**    **Course Code: VMVSANMO**    **Version: 7.0**    **Delivery Method: Virtual Learning**

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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

### Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

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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
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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 Head Office 01189 123456 / Northern Office 0113 242 5931

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