

VMware vSAN: Management and Operations [V7] HQ7E8S

HPE course number	HQ7E8S
Course length	3 days
Delivery mode	ILT, VILT
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In this course, you learn about managing and operating VMware vSAN™ 7. This course focuses on 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.

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Audience

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

Prerequisites

Completion of the following courses is required:

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

Course objectives

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

- Define the tasks involved in vSAN node management
- Update and upgrade 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

Detailed course outline

Course Introduction	<ul style="list-style-type: none"> • Introductions and course logistics 	<ul style="list-style-type: none"> • Course objectives
vSAN Node Management	<ul style="list-style-type: none"> • Recognize the importance of hardware compatibility • Ensure the compatibility of driver and firmware versioning • Use tools to automate driver validation and installation 	<ul style="list-style-type: none"> • Apply host hardware settings for optimum performance • Use vSphere Lifecycle Manager to perform upgrades
vSAN Resilience and Data Availability Operations	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Plan maintenance tasks to avoid vSAN object failures • Recognize the importance of managing snapshot utilization in a vSAN cluster • Configure vSAN fault domains
vSAN Cluster Maintenance	<ul style="list-style-type: none"> • Perform typical vSAN maintenance operations • Describe vSAN maintenance modes and data evacuation options • Assess the impact of entering maintenance mode on cluster objects • Determine the specific data actions required after exiting maintenance mode 	<ul style="list-style-type: none"> • Define the steps to shut down and reboot hosts and vSAN clusters • Use best practices for boot devices • Replace vSAN nodes
vSAN Storage Space Efficiency	<ul style="list-style-type: none"> • Discuss deduplication and compression techniques • Understand deduplication and compression overhead • Discuss compression-only mode • Configure erasure coding 	<ul style="list-style-type: none"> • Configure swap object thin provisioning • Discuss reclaiming storage space with SCSI UNMAP • Configure TRIM/UNMAP
vSAN Cluster Performance Monitoring	<ul style="list-style-type: none"> • 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™ 	<ul style="list-style-type: none"> • Create and configure custom alarms to trigger vSAN health issues • Use IO Insight metrics for monitoring vSAN performance • Analyze vsantop performance metrics • Use a vSAN proactive test to detect and diagnose cluster issues
vSAN Security Operations	<ul style="list-style-type: none"> • Identify differences between VM encryption and vSAN encryption • Perform ongoing operations to maintain data security 	<ul style="list-style-type: none"> • Describe the workflow of data in transit encryption • Identify the steps involved to replace the Key Management Server (KMS)
vSAN Direct	<ul style="list-style-type: none"> • Discuss use cases for vSAN Direct • Understand the overall architecture of vSAN Direct 	<ul style="list-style-type: none"> • Describe the workflow of vSAN Direct datastore creation • Explore how vSAN Direct works with storage policy tagging
Remote vSAN	<ul style="list-style-type: none"> • Discuss use cases for remote vSAN • Understand the high level architecture • Describe remote datastore operations 	<ul style="list-style-type: none"> • Discuss the network requirement • Explain interoperability between remote vSAN and VMware vSphere® High Availability

vSAN Native File Service

- Discuss 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

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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