



Enterprise Computing Solutions - Education Services

## TRAINING OFFERING

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**Du kan nå oss här**

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<b>CODE:</b>	<b>LENGTH:</b>	<b>PRICE:</b>
VMW_VSANFT7	40 Hours (5 days)	kr64,000.00

## Description

During this five-day, intensive course, you gain the knowledge, skills, and tools to plan and deploy a VMware vSAN™ cluster. You 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, and advanced vSAN cluster operations.

You also focus on learning the tools and skills necessary to troubleshoot vSAN 7 implementations and gain practical experience with vSAN troubleshooting concepts through the completion of instructor-led activities and hands-on lab exercises.

This course is a combination of the following courses: VMware vSAN: Plan and Deploy, VMware vSAN: Management and Operations, and VMware vSAN: Troubleshooting.

## Objectives

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

- Describe vSAN concepts
- Detail the underlying vSAN architecture and components
- Explain the key features and use cases for vSAN
- Identify requirements and planning considerations for vSAN clusters
- Describe the different vSAN deployment options
- Explain how to configure vSAN fault domains
- Detail how to define and create a VM Storage policy
- Discuss the impact of vSAN storage policy changes
- Describe vSAN storage space efficiency
- Explain how vSAN encryption works
- Identify requirements to configure vSAN iSCSI target
- Detail HCI Mesh technology and architecture
- Detail vSAN file service architecture and configuration
- Explain the use cases of vSAN Direct
- Describe how to setup stretched and two-node vSAN clusters
- Explain the importance vSAN node hardware compatibility
- Describe the use of VMware vSphere® Lifecycle Manager™ to automate driver and firmware installations
- Detail vSAN resilience and data availability
- Discuss the vSAN cluster backup methodology
- Describe the vSAN maintenance mode and data evacuation options
- Define the steps to shut down a vSAN cluster for maintenance
- Explain how to use proactive tests to check the integrity of a vSAN cluster
- Use VMware Skyline Health™ for monitoring vSAN health
- Apply a structured approach to troubleshoot vSAN cluster configuration and operational problems

## Audience

Storage and virtual infrastructure consultants, solution architects, and administrators who are responsible for production support and administration of VMware vSAN [v7]

## Prerequisites

Completion of the following course is required:

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

# Programme

2. Introduction to vSAN:
  - Describe vSAN architecture
  - Describe the vSAN software components: CLOM, DOM, LSOM, CMMDS, and RDT
  - Identify vSAN objects and components
  - Describe the advantages of object-based storage
  - Describe the difference between All-Flash and Hybrid vSAN architecture
1. Course Introduction:
  - Introductions and course logistics
  - Course objectives
- Explain the key features and use cases for vSAN
- Discuss the vSAN integration and compatibility with other VMware technologies
3. Planning a vSAN Cluster:
  - Identify requirements and planning considerations for vSAN clusters
  - Apply vSAN cluster planning and deployment best practices
  - Determine and plan for storage consumption by data growth and failure tolerance
  - Design vSAN hosts for operational needs
  - Identify vSAN networking features and requirements
  - Describe ways of controlling traffic in a vSAN environment
  - Recognize best practices for vSAN network configurations
4. Deploying a vSAN Cluster:
  - 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 Life Cycle Manager to perform upgrades
  - Deploy and configure a vSAN Cluster using Cluster Quickstart wizard
  - Manually configure a vSAN Cluster using vSphere Client
  - Explain and configure vSAN fault domains
  - Using vSphere HA with vSAN
  - Understand vSAN Cluster maintenance capabilities
  - Describe the difference between implicit and explicit fault domains
  - Create explicit fault domains
5. vSAN Storage Policies:
  - Describe a vSAN Object
  - Describe how objects are split into components
  - Explain the purpose of witness components
  - Explain how vSAN stores large objects
  - View object and component placement on the vSAN Datastore
  - Explain how storage policies work with vSAN
  - Define and create a virtual machine storage policy
  - Apply and modify virtual machine storage policies
  - Change virtual machine storage policies dynamically
  - Identify virtual machine storage policy compliance status
6. vSAN Resilience and Data Availability:
  - 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
7. Configuring 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
8. 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
9. Introduction to Advanced vSAN Configurations:
  - Identify requirements to configure vSAN iSCSI target
  - Detail HCI Mesh technology and architecture
  - Detail vSAN File Service architecture and configuration
  - Explain the use cases of vSAN Direct

#### 10. 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

#### 11. vSAN Stretched and Two Node Clusters:

- Describe the architecture and uses case for stretched clusters
- Detail the deployment and replacement of a vSAN Witness node
- Describe the architecture and uses case for twonode clusters
- Explain the benefits of vSphere HA and vSphere Site Recovery Manager in a vSAN stretched cluster
- Explain storage policies for vSAN stretched cluster

#### 12. vSAN Cluster 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 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 vSAN Proactive Test to detect and diagnose cluster issues

#### 13. vSAN Troubleshooting Methodology:

- Use a structured approach to solve configuration and operational problems
- Apply troubleshooting methodology to logically diagnose faults and optimize troubleshooting efficiency

#### 14. vSAN Troubleshooting Tools:

- Use Skyline Health for vSAN to identify and correct issues in VMware vSAN
- Discuss the ways to run various command-line tools
- Discuss the ways to access VMware vSphere ESXi Shell
- Use commands to view, configure, and manage your VMware vSphere environment
- Discuss the esxcli vsan namespace commands
- Use log files to help vSAN troubleshooting

## Session Dates

På begäran, [kontakta oss](#)

## Ytterligare information

[Denna utbildning finns också som utbildning på plats. Kontakta oss för mer information.](#)