

Szkolenie: HPE
VMware vSAN: Install, Configure, Manage [V8]



Cel szkolenia:

During this course, you gain the knowledge, skills, and tools to plan and deploy a VMware vSAN™ cluster. You learn how to manage and operate 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, troubleshooting and advanced vSAN cluster operations. You learn these skills through the completion of instructor-led activities and hands-on lab exercises.

Course objectives

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

- 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
- Explain the importance vSAN node hardware compatibility
- 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
- Detail vSAN resilience and data availability
- Describe vSAN storage space efficiency
- Explain how vSAN encryption works
- Detail VMware HCI Mesh™ technology and architecture
- Detail vSAN File Service architecture and configuration
- Describe how to setup a stretched and a twonode vSAN cluster
- Describe 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
- Use VMware Skyline Health to investigate and help determine failure conditions
- Discuss vSAN troubleshooting best practices

- Describe vSAN Express Storage Architecture™ concepts

Audience

Storage and virtual infrastructure consultants, solution architects, and administrators who are responsible for production support and administration of VMware vSAN 8.

Plan szkolenia:

- Course Introduction
 - Introduction and course logistics
 - Course objectives
- 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
 - Explain the key features and use cases for vSAN
 - Discuss the vSAN integration and compatibility with other VMware technologies
- 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
- 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 VMware vSphere® Lifecycle Manager™ to perform upgrades
 - Deploy and configure a vSAN cluster using the Cluster QuickStart wizard
 - Manually configure a vSAN cluster using VMware vSphere® Client™

- Explain and configure vSAN fault domains
- Using VMware vSphere® High Availability with vSAN
- Understand vSAN cluster maintenance capabilities
- Describe the difference between implicit and explicit fault domains
- Create explicit fault domains
- 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
- 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
- Managing 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
- 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
- vSAN HCI Mesh
 - Understand the purpose of vSAN HCI Mesh

- Detail vSAN HCI Mesh technology and architecture
- Perform mount and unmount of a remote datastore
- vSAN File Service and iSCSI Target Service
 - Understand the purpose of vSAN File Services
 - Detail vSAN File Services architecture
 - Configure vSAN File Shares
 - Describe vSAN iSCSI Target Service
- 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 two-node clusters
 - Explain storage policies for vSAN stretched cluster
- 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
- vSAN Cluster Monitoring
 - Describe how the Customer Experience Improvement Program (CEIP) enables VMware to improve products and services
 - Use VMware 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 IOInsight metrics for monitoring vSAN performance
 - Use a vSAN proactive test to detect and diagnose cluster issues
- vSAN Troubleshooting
 - Use a structured approach to solve configuration and operational problems
 - Apply troubleshooting methodology to logically diagnose faults and optimize troubleshooting efficiency
 - Use VMware Skyline Health to investigate and help determine failure conditions
 - Explain which log files are useful for vSAN troubleshooting
- vSAN Express Storage Architecture
 - Understand the purpose of vSAN Express Storage Architecture

- Describe the vSAN Express Storage Architecture components
- Identify storage policy differences
- Understand compression and encryption operation Differences

Wymagania:

Completion of the following course VMware vSphere: Install, Configure, Manage, or equivalent knowledge, is required.

Poziom trudności



Certyfikaty:

After completing the course, participants receive a certificate of completion of an authorized VMware course.

Prowadzący:

Authorized VMware Trainer.