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LUMIFY WORK vSAN Configure Manage User Guide

CLOUD COMPUTING AND VIRTUALISATION
VMware vSAN: Install, Configure, Manage

Contents

vSAN Configure Manage

VMWARE AT LUMIFY WORK

VMware is the world leader in server virtualisation technologies. Lumify Work is a VMware Education Reseller Partner (VERP), offering training in vSphere, vRealize, vSAN, Horizon, NSX-T, Workspace ONE, Carbon Black, and other VMware technologies and platforms.

LENGTH	PRICE (Incl. GST)	VERSION
4 days	$5,269	8

WHY STUDY THIS COURSE

During this four-day course, you gain the knowledge, skills, and tools to plan and deploy a VMware vSAN™ cluster. You learn how to manage and operate vSAN. T his course focuses on building the required skills for common Day-2 vSAN administrator tasks. Administrator tasks include vSAN node management, cluster maintenance, security operations, troubleshooting, and advanced vSAN cluster operations. You acquire the course skills through the completion of instructor-led activities and hands-on lab exercises.

Product Alignment

- VMware ESXi™ 8.0
- VMware vCenter Server® 8.0
- VMware vSAN 8.0

WHAT YOU'LL LEARN

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
- 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 two-node 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

Lumify Work Customised Training
We can also deliver and customise this training course for larger groups saving your organisation time, money and resources.

For more information, please contact us on 1 800 853 276.

COURSE SUBJECTS

1. **Course Int roduct ion**

   • Introduction and course logistics Course objectives

2. **Int roduct ion t o 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

3. **Planning a vSAN Clust er**

   • 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

   • Recognise best practices for vSAN network configurations

4. **Deploying a vSAN Clust er**

   • Recognise 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

   • 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

5. **vSAN St orage 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 Dat a Availability**
   - Describe and configure the Object Repair T imer advanced option
   - Plan disk replacement in a vSAN cluster
   - Plan maintenance tasks to avoid vSAN object failure
   - Recognise the importance of managing snapshot utilisation in a vSAN cluster

7. **Managing vSAN St orage 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 T RIM/UNMAP

8. **vSAN Securit y Operat ions**
   - 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. **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

10. **vSAN File Services**
    - Understand the purpose of vSAN File Services
    - Detail vSAN File Services architecture
    - Configure vSAN File Shares

11. **vSAN St ret ched and Two Node Clust ers**
    - 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

12. **vSAN Clust er Maint enance**

- 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

13. **vSAN Clust er Monit oring**

- 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

14. **vSAN Troubleshoot ing**

- Use a structured approach to solve configuration and operational problems
- Apply troubleshooting methodology to logically diagnose faults and optimise troubleshooting efficiency
- Use VMware Skyline Health to investigate and help determine failure conditions
- Explain which log files are useful for vSAN troubleshooting

15. **vSAN Express St orage Archit ect ure**

- 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

WHO IS THE COURSE FOR?

Storage and virtual infrastructure consultants, solution architects, and administrators who are responsible for production support and administration of VMware vSAN 8.0.

PREREQUISITES

Equivalent knowledge or completion of the following course is required:

- **VMware vSphere: Install, Configure, Manage**

The s upply of this cours e by Lumify Work is governed by the booking terms and conditions.
Please read the terms and conditions carefully before enrolling in this cours e, as enrolment in the cours e is conditional on acceptance of thes e terms and conditions.
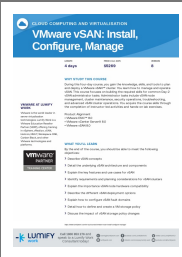
Documents / Resources

LUMIFY WORK vSAN Configure Manage [pdf] User Guide
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References

- 🔵 **Lumify Work | Lumify Work AU**
- 🔵 **Lumify Work | Lumify Work AU**
- 🔵 **VMware vSAN: Install, Configure, Manage | Lumify Work AU**
- 🔵 **VMware vSphere: Install, Configure, Manage | Lumify Work AU**
- **User Manual**