

Course : VMware vSAN: Install, Configure, Manage V8 (VSANICM8)

Official course, exam preparation 5V0-22.23 (Badge)

Practical course - 4d - 28h00 - Ref. MWQ

With this training, you'll have the knowledge and skills to use the tools needed to plan and deploy a VMware vSAN™ cluster. You'll learn how to manage and operate vSAN. Through extensive hands-on work, you'll acquire the skills required to perform common Day-2 vSAN administrator tasks, such as vSAN node management, cluster maintenance, security operations, troubleshooting and advanced vSAN cluster operations.

PARTICIPANTS

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

PREREQUISITES

Ref. MWA training or equivalent knowledge.

TRAINER QUALIFICATIONS

The experts who lead the training courses are specialists in the subjects covered. They are approved by the publisher and certified for the course. They have also been validated by our teaching teams in terms of both professional knowledge and teaching skills for each course they teach. They have at least three to ten years of experience in their field and hold or have held positions of responsibility in companies.

ASSESSMENT TERMS

Assessment of targeted skills prior to training.

Assessment by the participant, at the end of the training course, of the skills acquired during the training course.

Validation by the trainer of the participant's learning outcomes, specifying the tools used: multiple-choice questions, role-playing exercises, etc.

At the end of each training course, ITTCERT provides participants with a course evaluation questionnaire, which is then analysed by our teaching teams. Participants also complete an official evaluation of the publisher.

An attendance sheet for each half-day of attendance is provided at the end of the training course, along with a certificate of completion if the participant has attended the entire session.



Teaching objectives

At the end of the training, the participant will be able to:

- ✓ vSAN concepts
- ✓ Details of the underlying vSAN architecture and components
- ✓ Explain the key features and use cases of vSAN
- ✓ Identify requirements and planning considerations for vSAN clusters
- ✓ Explain the importance of vSAN node hardware compatibility
- ✓ Describe the different vSAN deployment options
- ✓ Explain how to configure vSAN fault domains
- ✓ How to define and create a VM storage policy
- ✓ Addressing the impact of changes to vSAN storage strategy
- ✓ vSAN resilience and data availability in detail
- ✓ Describing vSAN storage efficiency
- ✓ Describe how vSAN encryption works
- ✓ Details of VMware HCI Mesh™ technology and architecture.
- ✓ Describe how to set up an extended two-node vSAN cluster
- ✓ Describe vSAN maintenance mode and data evacuation options
- ✓ Defining the steps to stop a vSAN cluster for maintenance
- ✓ Explain how to use proactive tests to verify the integrity of a vSAN cluster
- ✓ Use VMware Skyline Health™ to monitor vSAN health
- ✓ Use VMware Skyline Health™ to investigate and help determine failure conditions.
- ✓ Identify best practices for vSAN troubleshooting
- ✓ Describe vSAN Express storage architecture concepts

TEACHING AIDS AND TECHNICAL RESOURCES

The teaching resources used are the publisher's official materials and practical exercises.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training course.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you have specific accessibility requirements? Contact Ms FOSSE, disability advisor, at the following address: psh-accueil@orsys.fr so that we can assess your request and its feasibility.

Intended audience

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

Prerequisites

Ref. MWA training or equivalent knowledge.

Certification

Passing the 5V0-22.23 exam earns you the [VMware Specialist - vSAN 2023 " badge. To obtain this badge, it is recommended to have attended at least one of these training courses: Ref. MWF, Ref. MWJ or Ref. MWL.

[Comment passer votre examen ?](#)

Practical details

Teaching methods

Training in French. Official course material in digital format and in English. Good understanding of written English.

Course schedule

1 Introduction to vSAN

- Describe the 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 of vSAN.VMware technologies.
- vSAN integration and compatibility with other VMware technologies.

2 Planning a vSAN Cluster

- Identify requirements and planning considerations for vSAN clusters.
- Apply best practices for planning and deploying vSAN clusters.
- Determine and plan storage consumption according to data growth.
- Design vSAN hosts for operational needs.
- Identify vSAN network features and requirements.
- Describe how to control traffic in a vSAN environment.
- Recognize best practices for vSAN network configurations.

3 Deploying a vSAN Cluster

- Recognize the importance of hardware compatibility.
- Ensure driver and firmware version compatibility.
- 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 the VMware vSphere® Client.
- Describe and configure vSAN fault domains.
- Use VMware vSphere® High Availability with vSAN.
- Understand the maintenance capabilities of the vSAN cluster.
- Describe the difference between implicit and explicit fault domains.
- Create explicit error domains.

4 vSAN Storage Policies

- Describe a vSAN object.
- Describe how objects are divided into components.
- Explain the purpose of control components.
- Explain how vSAN stores large objects.
- Display the placement of objects and components on the vSAN database.
- Explain how storage policies work with vSAN.
- Define and create a virtual machine storage policy.
- Apply and modify storage policies for virtual machines.
- Dynamically modify virtual machine storage policies.
- Identify the compliance status of virtual machine storage policies.

5 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 failure of vSAN objects.
- Recognize the importance of managing the use of snapshots in a vSAN cluster.

6 Managing vSAN Storage Space Efficiency

- Learn about duplication and compression techniques.
- Understand duplication and compression overload.
- Compression mode only.
- Configure erasure coding.
- Storage space reclamation with SCSI UNMAP.
- Configure TRIM/UNMAP.

7 vSAN Security Operations

- Identify the differences between VM encryption and vSAN encryption.
- Perform operations to maintain data security.
- Describe the encryption workflow for data in transit.
- Identify the steps involved in replacing Key Management Server.

8 vSAN HCI Mesh

- Understand the purpose of vSAN HCI Mesh.
- Details of vSAN HCI Mesh technology and architecture.
- Mount and dismount a remote database.

9 vSAN File Services

- Understand the purpose of vSAN File Services.
- Describe the architecture of vSAN File Services.
- Configure vSAN file shares.

10 vSAN Stretched and Two Node Clusters

- Describe the architecture and use case of extended clusters.
- Detail the deployment and replacement of a vSAN control node.
- Describe the architecture and use case of two-node clusters.
- Explain storage strategies for "vSAN stretched cluster".

11 vSAN Cluster Maintenance

- Perform typical vSAN maintenance operations.
- Describe vSAN maintenance modes and data evacuation options.
- Evaluate the impact of entering maintenance mode on cluster objects.
- Determine specific data actions required after exiting maintenance mode.
- Define steps for shutting down and restarting vSAN hosts and clusters.
- Use best practices for boot devices.
- Replace vSAN nodes.

12 vSAN Cluster Monitoring

- Describe how CEIP enables VMware to improve products and services.
- Use VMware Skyline Health to monitor the health of the vSAN cluster.
- Manage vSAN alerts, alarms and notifications in VMware vSphere® Client.
- Create and configure custom alarms to detect vSAN reliability problems.
- Use IOInsight metrics to monitor vSAN performance.
- Use proactive vSAN testing to detect and diagnose cluster problems.

13 vSAN Troubleshooting

- Use a structured approach to solve configuration and operating problems.
- Apply troubleshooting methods to diagnose faults and optimize troubleshooting efficiency.
- Use VMware Skyline Health to analyze failure conditions.
- Explain which logs are useful for vSAN troubleshooting.

14 vSAN Express Storage Architecture

- Understand the purpose of vSAN Express Storage Architecture.
- Describe the components of vSAN Express Storage Architecture.
- Identify differences in storage policies.
- Understand the differences between compression and encryption operations.