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## VMware vSAN: Deploy and Manage plus VMware vSAN: Troubleshooting Workshop

**Duration: 5 Days**    **Course Code: VMVSANTS**    **Version: 6.7**

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### Overview:

In this five-day VMware vSAN course, you will focus on deploying and managing a software-defined storage solution with VMware vSAN™ 6.7. You will learn how vSAN functions as an important component in the VMware software-defined data center. You will gain practical experience with vSAN concepts and troubleshooting methodology and diagnostic tools through the completion of hands-on lab exercises.

### Product Alignment:

- ESXi 6.7
  - vCenter Server 6.7
  - vSAN 6.6 and vSAN 6.7
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### Target Audience:

Storage and virtual infrastructure administrators who want to use software-defined storage with vSAN.

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### Objectives:

- By the end of the course, you should be able to meet the following objectives:
    - Describe the vSAN architecture
    - Identify vSAN features and use cases
    - Configure vSAN networking components
    - Configure a vSAN cluster
    - Deploy virtual machines on a vSAN datastore
    - Configure virtual machine storage policies
    - Perform ongoing vSAN management tasks
    - Configure vSAN encryption
    - Control vSAN resynchronization tasks
    - Create and manage nested fault domains
    - Use the vSAN health service to monitor health and performance
    - Configure a stretched cluster and observe failover scenarios
    - Describe vSAN interoperability with VMware vSphere® features and other products
    - Plan and design a vSAN cluster
    - Use diagnostic and troubleshooting tools to resolve vSAN 6.6 deployment and architectural issues
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### Prerequisites:

- Storage administration experience on block or file storage devices
  - Understanding of concepts presented in the VMware vSphere: Install, Configure, Manage [V6.x] (VSICM) course
- Experience working at the command line is helpful.
- The course material presumes that a student can perform the

### Testing and Certification

- Recommended as preparation for the following exams:
- This course does not align to a specific exam.
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following tasks with no assistance or guidance before enrolling in this course:

- Use VMware vSphere® Web Client
- Create and manage VMware vCenter Server® objects, such as data centers, clusters, hosts, and virtual machines
- Create and modify a standard switch
- Connect a VMware ESXi™ host to NAS, iSCSI, or Fibre Channel storage
- Create a VMware vSphere® VMFS datastore
- Use a wizard or a template to create a virtual machine
- Migrate a virtual machine with VMware vSphere® vMotion®
- Migrate a virtual machine with VMware vSphere® Storage vMotion®

If you cannot complete all of these tasks, VMware recommends that you complete the VMware vSphere: Install, Configure, Manage [V6.x] (VSICM) course before enrolling in VMware vSAN: Deploy and Manage (VMVSAN).

## Content:

<p>1 Course Introduction</p> <ul style="list-style-type: none"><li>• Introductions and course logistics</li><li>• Course objectives</li><li>• Describe the software-defined data center</li></ul>	<p>4 vSAN Policies and Virtual Machines</p> <ul style="list-style-type: none"><li>• Explain how storage policies work with vSAN</li><li>• Define and create a virtual machine storage policy</li><li>• Apply and modify virtual machine storage policies</li><li>• Change virtual machine storage policies dynamically</li><li>• Identify virtual machine storage policy compliance status</li></ul>	<ul style="list-style-type: none"><li>• Explain the use of the health service to monitor vSAN health</li><li>• Explain the use of the performance service to monitor vSAN performance.</li><li>• Monitor and test the vSAN environment</li><li>• Describe vSAN architecture components and the PNOMA OSI model.</li></ul>
<p>2 Introduction to vSAN</p> <ul style="list-style-type: none"><li>• Describe basic vSAN architecture and components</li><li>• Describe the differences between file, block, and object storage</li><li>• Explain the advantages of object-based storage</li><li>• Detail the configuration of a vSAN cluster</li><li>• Install and validate the initial vSAN installation and configuration</li></ul>	<p>5 Managing and Operating vSAN</p> <ul style="list-style-type: none"><li>• Explain how to configure encryption in the vSAN cluster</li><li>• Explain the management of hardware storage devices</li><li>• Identify alarms for vSAN events</li><li>• Describe and configure fault domains</li><li>• Describe the configuration of the vSAN iSCSI service, iSCSI targets, and LUNS</li></ul>	<p>8 vSAN Software Architecture</p> <ul style="list-style-type: none"><li>• Describe the vSAN architecture and components</li><li>• Describe the policy-driven, object-based vSAN storage environment</li><li>• Describe the vSAN software components: CLOM, DOM, LSOM, CMMDS, and RDT</li><li>• Explain the relationships between the vSAN software components</li><li>• Explain the relationship between objects and components</li><li>• Determine how specific storage policies affect components</li><li>• Describe component placement</li></ul>
<p>3 vSAN Configuration</p> <ul style="list-style-type: none"><li>• Apply vSAN design considerations</li><li>• Detail the expansion of a vSAN cluster</li><li>• Configure vSAN disk groups manually</li><li>• Identify physical network configuration requirements</li><li>• Describe the configuration of vSAN networking</li><li>• Test and validate the vSAN configuration and functionality</li><li>• Describe the vSAN architecture and components</li><li>• Describe the differences between the vSAN</li></ul>	<p>6 Stretched Clusters and Two-Node Clusters</p> <ul style="list-style-type: none"><li>• Describe the architecture for stretched clusters and two-node clusters</li><li>• Create a stretched cluster</li><li>• Describe how stretched cluster storage policies affect vSAN objects</li><li>• Create and apply a vSAN stretched cluster policy to meet specific needs</li><li>• Discuss the behavior of a stretched cluster</li></ul>	<p>9 Troubleshooting Methodology</p> <ul style="list-style-type: none"><li>• Use a structured approach to solve configuration and operational problems</li><li>• Apply troubleshooting methodology to logically diagnose faults and optimize troubleshooting efficiency</li></ul> <p>10 Troubleshooting Tools</p> <ul style="list-style-type: none"><li>• Replace a failed witness appliance</li></ul>

hybrid and all-flash architectures

- Describe the advantages of all-flash architecture
- Describe the space-efficiency features of vSAN
- Describe the different vSAN assessment tools
- Explain vSAN License Details

when various types of failures occur

## 7 Monitoring and Troubleshooting vSAN

- Discuss hardware failure scenarios
- Describe the process of resynchronization
- Explain the possible reasons for resynchronization
- Describe the use of vSphere Client to detect issues

- 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
- Explain which log files are useful for vSAN troubleshooting
- Use log files to help troubleshoot vSAN problems
- Discuss the esxcli vsan namespace commands
- • Discuss how to use Ruby vSphere Console commands

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### Further Information:

For More information, or to book your course, please call us on 0800/84.009

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[www.globalknowledge.com/en-be/](http://www.globalknowledge.com/en-be/)