

VMware vSAN: Install, Configure, Manage



Days: 4

Prerequisites: Before attending, participants should have completed *VMware vSphere: Install, Configure, Manage* or possess equivalent hands-on vSphere experience.

Audience: Storage & virtual-infrastructure consultants, solution architects, and administrators responsible for VMware vSAN 8 production environments.

Description: This intensive course equips you to plan, deploy, and administer VMware vSAN clusters. Through instructor-led discussions and hands-on labs, you'll master Day 2 operations—including node management, cluster maintenance, security, troubleshooting, and advanced operations—so you can keep vSAN environments resilient, efficient, and secure.

Course Objectives: Upon completion of this course, participants will be able to:

- Describe vSAN concepts, architecture, and key use cases
- Plan, size, and deploy vSAN clusters—factoring in hardware compatibility, networking, and fault domains
- Define and apply VM storage policies, evaluate compliance, and assess impacts of policy changes
- Configure vSAN resilience, data-availability, and space-efficiency features (deduplication, compression, erasure coding)
- Secure vSAN data with encryption and perform ongoing security operations
- Operate and monitor vSAN clusters with Skyline Health, proactive tests, and IOInsight
- Perform Day 2 tasks such as node replacement, maintenance-mode operations, and cluster shutdown/start-up
- Implement advanced capabilities: HCI Mesh, vSAN File & iSCSI Target Services, stretched & two-node clusters, and vSAN Express Storage Architecture
- Troubleshoot vSAN issues using structured methodologies, Skyline Health, and log analysis

OUTLINE:

LESSON 1: COURSE INTRODUCTION

- Welcome and logistics
- Course goals and structure

MODULE 1 – COURSE INTRODUCTION

- Welcome, logistics, and objectives

MODULE 2 – INTRODUCTION TO VSAN

- vSAN architecture & software components (CLOM, DOM, LSOM, CMMDS, RDT)
- Object-based storage, All-Flash vs. Hybrid, integrations & use cases

MODULE 3 – PLANNING A VSAN CLUSTER

- Requirements, sizing, and growth planning
- Host design, networking best practices, traffic control, fault domains

MODULE 4 – DEPLOYING A VSAN CLUSTER

- Hardware compatibility & lifecycle management
- Driver/firmware validation, QuickStart wizard, manual deployment
- vSphere HA with vSAN, implicit vs. explicit fault domains

MODULE 5 – VSAN STORAGE POLICIES

- Objects, components, witness components, large-object handling
- Creating, applying, and modifying VM storage policies; compliance checks

MODULE 6 – VSAN RESILIENCE & DATA AVAILABILITY

- Object Repair Timer, disk replacement planning, snapshot management

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MODULE 7 – MANAGING VSAN STORAGE SPACE EFFICIENCY

- Deduplication & compression (overhead, compression-only)
- Erasure coding, swap-object thin provisioning, TRIM/UNMAP

MODULE 8 – VSAN SECURITY OPERATIONS

- VM vs. vSAN encryption, data-in-transit encryption workflow
- Key Management Server replacement procedures

MODULE 9 – VSAN HCI MESH

- Architecture, mounting/unmounting remote datastores

MODULE 10 – VSAN FILE SERVICE & ISCSI TARGET SERVICE

- File Services architecture, file-share configuration
- iSCSI Target Service overview

MODULE 11 – VSAN STRETCHED & TWO-NODE CLUSTERS

- Architectures, witness nodes, stretched-cluster storage policies

MODULE 12 – VSAN CLUSTER MAINTENANCE

- Maintenance modes & data-evacuation impacts
- Host/cluster shutdown & reboot, node replacement, boot-device best practices

MODULE 13 – VSAN CLUSTER MONITORING

- CEIP overview, Skyline Health, custom alarms
- IOInsight performance metrics, proactive tests

MODULE 14 – VSAN TROUBLESHOOTING

- Structured troubleshooting methodology, key log files, Skyline Health use

MODULE 15 – VSAN EXPRESS STORAGE ARCHITECTURE

- ESA purpose & components, storage-policy differences, compression & encryption variations