



VERITAS Cluster Server 5.0 for Solaris (Suite)

(Course Code: VCS)

- Course Objectives:** Upon completion of this course, trainees should be able to:
- Manage existing highly available application services using VERITAS Cluster Server.
 - Install VCS and create a cluster.
 - Configure service groups and resources.
 - Implement and verify failover and failback capability for application, storage, and network services.
 - Configure and optimize cluster behavior.
 - Protect data in a shared storage environment.
 - Configure VCS to manage an Oracle database, an NFS share, and other applications.
 - Analyze, troubleshoot, and correct cluster problems.
 - Implement four-node clusters.
 - Configure service group dependencies and workload management.
 - Implement alternative network configurations.
- Who Should Attend:** This course is for system administrators, system engineers, network administrators, system integration or development staff, and technical support personnel who will be working with VERITAS Cluster Server.
- Prerequisites:** You should have experience as a system and network administrator working in a UNIX environment. Experience developing shell or Perl scripts is helpful.
- Hands-On:** This course includes practical exercises that enable you to test your new skills and begin to transfer them into your working environment.
- Duration:** Five days

The VERITAS Cluster Server course is designed for the IT professional tasked with installing, configuring and maintaining VCS clusters. This five-day, instructor-led, hands-on class covers how to use VERITAS Cluster Server to manage applications in a high availability environment. After gaining the fundamental skills that are needed to manage a highly available application in a cluster, you will deploy VCS in a lab environment to implement a sample cluster design.

REGISTRATION AND INFORMATION

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VERITAS Cluster Server, Fundamentals

- 1. High Availability Concepts**
 - High Availability Concepts
 - Clustering Concepts
 - Clustering Prerequisites
- 2. VCS Building Blocks**
 - Cluster Terminology
 - Cluster Communication
 - VCS Architecture
- 3. Preparing a Site for VCS Implementation**
 - Hardware Requirements and Recommendations
 - Software Requirements and Recommendations
 - Preparing Installation Information
- 4. Installing VCS**
 - Using the VERITAS Product Installer
 - VCS Configuration Files
 - Viewing the Default VCS Configuration
 - Other Installation Considerations
- 5. VCS Operations**
 - Managing Applications in a Cluster Environment
 - Service Group Operations
 - Using the VCS Simulator
- 6. VCS Configuration Methods**
 - Starting and Stopping VCS
 - Overview of Configuration Methods
 - Online Configuration
 - Offline Configuration
 - Controlling Access to VCS
- 7. Preparing Services for High Availability**
 - Preparing Applications for VCS
 - One-Time Configuration Tasks
 - Testing the Application Service
 - Stopping and Migrating an Application Service
- 8. Online Configuration**
 - Online Service Group Configuration
 - Adding Resources
 - Solving Common Configuration Errors
 - Testing the Service Group
- 9. Offline Configuration**
 - Offline Configuration Procedures
 - Offline Configuration Practices and Tools
- Solving Offline Configuration Problems
 - Testing the Service Group
- 10. Sharing Network Interfaces**
 - Parallel Service Groups
 - Sharing Network Interfaces
 - Localizing Resource Attributes
- 11. Configuring Notification**
 - Notification Overview
 - Configuring Notification
 - Using Triggers for Notification
- 12. Configuring VCS Response to Resource Faults**
 - VCS Response to Resource Faults
 - Determining Failover Duration
 - Controlling Fault Behavior
 - Recovering from Resource Faults
 - Fault Notification and Event Handling
- 13. Cluster Communications**
 - VCS Communications Review
 - Cluster Membership
 - Cluster Interconnect Configuration
 - Joining the Cluster Membership
 - Changing the Interconnect Configuration
- 14. System and Communication Faults**
 - Ensuring Data Integrity
 - Cluster Interconnect Failures
- 15. I/O Fencing**
 - Data Protection Requirements
 - I/O Fencing Concepts and Components
 - I/O Fencing Operations
 - I/O Fencing Implementation
 - Configuring I/O Fencing
 - Stopping and Recovering Fenced Systems
- 16. Troubleshooting**
 - Monitoring VCS
 - Troubleshooting Guide
 - Cluster Communication Problems
 - VCS Engine Problems
 - Service Group and Resource Problems
 - Archiving VCS-Related Files

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VERITAS Cluster Server, Example Application Configurations

17. Clustering Applications

- Application Service Overview
- VCS Agents for Managing Applications
- The Application Agent

18. Clustering Databases

- VCS Database Agents
- Database Preparation
- The Enterprise Agent for Oracle
- Clusters
- Database Failover Behavior
- Additional Oracle Agent Functions

19. Clustering NFS

- Preparing NFS for High Availability
- Testing the NFS Service
- Configuring an NFS Service Group
- NFS Lock Failover VERITAS Cluster Server, Implementing Local

VERITAS Cluster Server, Implementing Local Clusters

20. Workshop: Reconfiguring Cluster Membership

- Task 1: Removing a System from a Running VCS Cluster
- Task 2: Adding a New System to a Running VCS Cluster
- Task 3: Merging Two Running VCS Clusters

21. Service Group Interactions

- Common Application Relationships
- Service Group Dependency Definition
- Service Group Dependency Examples
- Configuring Service Group Dependencies
- Alternative Methods of Controlling Interactions

22. Workload Management

- Startup Rules and Policies
- Failover Rules and Policies
- Configuring Startup and Failover Policies

23. Alternate Network Configurations

- Alternative Network Configurations
- Additional Network Resources
- Example MultiNIC Setup

24. Data Center Availability

- Cluster Management Console
- Storage Foundation Management Server
- Disaster Recovery
- Symantec Data Center Foundation

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