Symantec High Availability Fundamentals with Veritas Storage Foundation 5.1 and Veritas Cluster Server 5.1 *for Solaris*

COURSE DESCRIPTION

The *Symantec High Availability Fundamentals* course describes how to manage storage in a high availability environment, perform cluster management, and practice basic file system administration. This five-day, instructor-led, hands-on class covers how to use Veritas high availability technology to meet data availability goals of your operations by implementing Veritas Cluster Server and Veritas Storage Foundation, which includes Veritas Volume Manager and Veritas File System.

Delivery Method
Instructor-led

Duration
Five days

Course Objectives
By the end of this course, you will be able to:

- Install and configure Veritas Storage Foundation High Availability.
- Configure and manage disks, disk groups, and volumes by using Veritas Volume Manager.
- Perform online file system administration by using Veritas File System tools and commands.
- Identify types of disk failure and resolve disk failures.
- Manage cluster services with Veritas Cluster Server and perform troubleshooting techniques.
- Describe cluster communications, identify faults, and configure failover behavior.

Who Should Attend
This course is for UNIX system or network administrators, system engineers, technical support personnel, and system integration/development staff who will be installing, operating, or integrating Veritas Storage Foundation and Veritas Cluster Server.

Prerequisites
Knowledge of UNIX system administration

Hands-On
This course includes practical exercises that allow you to test your new skills and begin to transfer them into your working environment.

COURSE OUTLINE

PART 1: Veritas Storage Foundation 5.1 for UNIX: Install and Configure

Virtual Objects

- Physical data storage
- Virtual data storage
- Volume Manager storage objects
- Volume Manager RAID levels

Installing Storage Foundation and Accessing SF Interfaces

- Preparing to install Storage Foundation
- Installing Storage Foundation
- Storage Foundation resources
- Storage Foundation user interfaces
- Managing the VEA software

Creating a Volume and File System

- Preparing disks and disk groups for volume creation
- Creating a volume
- Adding a file system to a volume
- Displaying disk and disk group information
- Displaying volume configuration information
- Removing volumes, disks, and disk groups

Working with Volumes with Different Layouts

- Volume layouts
- Creating volumes with various layouts
- Creating a layered volume
- Allocating storage for volumes

Making Configuration Changes

- Administering mirrored volumes
- Resizing a volume and a file system
- Moving data between systems
- Renaming disks and disk groups
- Managing disk group versions and formats

Administering File Systems

- Benefits of using Veritas File System
- Using Veritas File System commands
- Logging in VxFS
- Controlling file system fragmentation
- Using thin provisioning disk arrays

Resolving Hardware Problems

- How does VxVM interpret failures in hardware?
- Recovering disabled disk groups
- Resolving disk failures

- Managing hot relocation at the host level

PART 2: Veritas Cluster Server 5.1 for UNIX: Install and Configure

High Availability Concepts
- High availability concepts
- Clustering concepts
- HA application services
- Clustering prerequisites
- High availability references

VCS Building Blocks
- VCS terminology
- Cluster communication
- VCS architecture

Preparing a Site for VCS Implementation
- Hardware requirements and recommendations
- Software requirements and recommendations
- Preparing installation information
- Preparing to upgrade

Installing VCS
- Using the common product installer
- VCS configuration files
- Viewing the default VCS configuration
- Other installation considerations

VCS Operations
- Common VCS tools and operations
- Service group operations
- Resource operations
- Using the VCS Simulator

VCS Configuration Methods
- Starting and stopping VCS
- Overview of configuration methods
- Online configuration
- Offline configuration
- Controlling access to VCS

Preparing Services for High Availability
- Preparing applications for VCS
- Performing one-time configuration tasks
- Testing the application service
- Stopping and migrating an application service
- Collecting configuration information

Online Configuration
- Online service group configuration
- Adding resources
- Solving common configuration errors
- Testing the service group

Offline Configuration
- Offline configuration procedures
- Solving offline configuration problems
- Testing the service group

Configuring Notification
- Notification overview
- Configuring notification
- Using triggers for notification

Handling Resource Faults
- VCS response to resource faults
- Determining failover duration
- Controlling fault behavior
- Recovering from resource faults
- Fault notification and event handling

Cluster Communications
- VCS communications review
- Cluster membership
- Cluster interconnect configuration
- Joining the cluster membership
- Changing the interconnect configuration

System and Communication Faults
- Ensuring data integrity
- Cluster interconnect failures

I/O Fencing
- Data protection requirements
- I/O fencing concepts and components
- I/O fencing operations
- I/O fencing implementation
- Configuring I/O fencing
- Coordination point server

Troubleshooting
- Monitoring VCS
- Troubleshooting guide
- Archiving VCS-related files