Symantec™

Veritas Storage Foundation 6.0 *for UNIX*: Administration

COURSE DESCRIPTION

In the *Veritas Storage Foundation 6.0 for UNIX: Administration* course, you learn to integrate, operate, and make the most of Veritas Storage Foundation (SF), including Veritas Volume Manager (VxVM) and Veritas File System (VxFS), in a UNIX environment.

You learn to install and configure Veritas Storage Foundation and to manage disks, disk groups, and volumes by using a variety of SF user interfaces, including the Veritas Operations Manager (VOM) Web console. You also learn about recovery from disk failures, online file system administration, including data compression and deduplication, remote mirroring across sites, offline and off-host processing using volume snapshots and storage checkpoints, and dynamic storage tiering using the SmartTier feature.

Delivery Method
This course is available in the following delivery methods:
- Instructor-led training (ILT) – 5 days
- Virtual Academy (VA) – 5 days

Course Objectives
By the completion of this course, you will be able to:
- Install and configure Veritas Storage Foundation.
- Configure and manage disks, disk groups, and volumes.
- Administer file systems.
- Install Veritas Operations Manager and manage multiple Storage Foundation servers.
- Monitor VxVM tasks and change volume layouts to improve performance.
- Manage the dynamic multipathing feature.
- Identify types of disk failure and resolve disk failures.
- Create and manage point-in-time copies for off-host and on-host processing.
- Optimize storage utilization using advanced features, such as file system data compression and file system deduplication.
- Remotely mirror your data across different sites.
- Use the SmartTier feature for optimal storage allocation.
- Replicate a Veritas File System using the Veritas File Replicator option on a Linux platform.

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.

Prerequisites
Knowledge of UNIX system administration

COURSE OUTLINE

PART I - Install and Configure (two-day course)

Virtual Objects
- Operating system storage devices and virtual data storage
- Volume Manager storage objects
- VxVM volume layouts and RAID levels

Installing Storage Foundation and Accessing SF Interfaces
- Preparing to install Storage Foundation
- Installing Storage Foundation
- Storage Foundation resources
- Storage Foundation user interfaces

Getting Started with Veritas Operations Manager (VOM)
- VOM overview
- Installing the VOM management server
- Installing additional functionality using VOM add-ons
- Changing Storage Foundation hosts to managed hosts

Creating a Volume and File System
- Preparing disks and disk groups for volume creation
- Creating a volume and adding a file system
- 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
- Using the Storage Provisioning add-on in VOM

Making Configuration Changes
- Administering mirrored volumes
- Resizing a volume and a file system
- Moving data between systems
- Renaming VxVM objects
- 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

PART II - *Manage and Administer* (three-day course)

Administering Volume Manager
- Introduction to performance monitoring with Storage Foundation
- Changing the volume layout
- Managing volume tasks

Managing Devices Within the VxVM Architecture
- Managing components in the VxVM architecture
- Discovering disk devices
- Managing multiple paths to disk devices

Resolving Hardware Problems
- How does VxVM interpret failures in hardware?
- Recovering disabled disk groups
- Resolving disk failures
- Managing hot relocation at the host level

Using Full-Copy Volume Snapshots
- Understanding and selecting snapshot technologies
- Creating and managing full-copy volume snapshots
- Using volume snapshots for off-host processing

Using Copy-on-Write SF Snapshots
- Creating and managing space-optimized volume snapshots
- Creating and managing storage checkpoints
- Examples of using SF snapshot technologies for different application needs

Using Advanced VxFS Features
- Compressing files and directories with VxFS
- Using the FileSnap feature
- Deduplicating VxFS data

Using Site Awareness with Mirroring
- What are remote mirroring and site awareness?
- Configuring site awareness
- Recovering from failures with remote mirrors
- Verifying a site-aware environment

Implementing SmartTier
- What is SmartTier?
- SmartTier concepts
- Creating and managing volume sets
- Creating and managing multi-volume file systems
- Creating storage tiers
- Implementing file placement policies

Replicating a Veritas File System
- Understanding Veritas File Replicator
- Setting up replication for a Veritas file system
- Error recovery with Veritas File Replicator

SUPPLEMENTAL MODULES

The following modules are available for self study in Appendices:

Importing LUN Snapshots
- How Volume Manager detects hardware snapshots
- Managing clone disks
- Using disk tags

Managing the Boot Disk with Storage Foundation
- Placing the boot disk under VxVM control
- Creating an alternate boot disk
- Administering the boot disk
- Removing the boot disk from VxVM control