

VERITAS Volume Manager Administration on Solaris
Course Summary

Duration: 4 days

Prerequisite: Solaris 10 Intermediate and Advanced System Administration

Recommendation Statement:

It is assumed that the student has experience managing the Solaris 10 environment with an advanced level of experience. The student should have experience configuring Solaris, controlling run levels, understand the Solaris file system structure, the service management facility (SMF), understand Solaris file ownership and permissions and administer Solaris OS packages.

Course Description:

A course for Solaris system administrators who are responsible for the configuration and administration of VERITAS Volume Manager (VxVM). The course covers basic and advanced installation, configuration and recovery topics.

The VERITAS Volume Manager (Storage Foundation) Administration course provides students with the essential information and skills to manage Sun disk storage arrays and SANs using VERITAS Volume Manager (VxVM) software. Students are introduced to the installation, initialization, and configuration of VxVM and to general performance issues. Basic VERITAS File System (VxFS) installation and configuration is also presented. The course is available for Veritas Storage Foundation versions 4.1, 5.0 and 5.1

Upon completion of this course, students will have performed the following tasks:

- Analyze and document storage configurations
- Optimize the system and volume configurations for availability and performance
- Install and initialize the VxVM software
- Perform VxVM disk drive operations, such as creating a new disk group, adding and removing a disk from a disk group, and displaying properties of VxVM objects
- Create, Manage and Remove volumes and file systems
- Perform advanced operations, such as performing an online volume relayout, moving a populated disk to a new disk group, and creating layered volumes with a file system
- Manage striped and RAID5 volumes
- Analyze basic volume performance
- Perform basic VxFS administration
- Manage VxVM boot disks
- Convert SVM volumes to VxVM disk groups

- **Veritas Volume Manager Administration on Solaris**

Detailed Course Outline

Understanding VERITAS Volume Manager

- List the advantages of using virtual disk management
- Describe standard RAID terminology
- List the common features of each supported RAID level including:
 - Concatenation - RAID 0
 - Striping - RAID 0
 - Mirroring - RAID 1
 - Mirrored Stripe - RAID 0+1
 - Mirrored Concatenation - RAID 0+1
 - Striped Mirror - RAID 1+0
 - Concatenated Mirror - RAID 1+0
 - Striping with distributed parity - RAID 5
 - Layered volumes
- Describe the optimum hardware configuration for each supported RAID level

VERITAS Volume Manager Installation

- Installation planning
- Research VxVM software patch requirements
- Install the VxVM software
- Initialize the VxVM software
- Verify the VxVM environment
- Prepare for virtual disk drive management
- Install the VEA client software
- Use the basic VEA features

Administering Disks

- Disk Device Naming in VxVM
- Configuring Disk Devices
- Discovering disks
- Placing disks under VxVM control
- Setting up VxVM root disk
- Displaying disk information
- Adding a disk to VxVM
- Encapsulating a disk
- Rootability
- Removing disks

Creating and Administering Disk Groups

- List disk group administrative operations including:
 - Initialize disk drives for VxVM use
 - Create disk groups
 - Add and remove disk drives for a disk group
 - Import and deport disk groups
 - Destroy a disk group
 - Rename VxVM disk drives
- Administer disk groups using the vxdiskadm utility
- Administer disk groups using command-line programs
- Administer disk groups using the VEA GUI

VERITAS Volume Manager Volume Operations

- Describe volume planning activities
- Create volumes using the VEA GUI
- Create volumes using the vxassist command
- Add file systems to existing volumes
- Administer volumes
 - Display volume information
 - Start/stop a volume
 - Resize a volume
 - Remove a volume
 - Move a volume

VERITAS File System Basic Operations

- Describe basic VxFS features
- Install the VxFS software
- Create VxFS file systems
- Use extended VxFS mount options
- Perform online VxFS administration tasks

Creating / Administering Subdisks

- Creating subdisks
- Display subdisk information
- Associate subdisk with Plexes

Creating/Administering Plexes

- Creating striped plex
- Display plex information
- Attaching and associating plexes
- Taking plexes offline
- Detaching / Reattaching plexes
- Move / Copy plexes
- Remove plexes

Performance Monitoring and Tuning

- Performance Guidelines
- Performance monitoring
- Solaris tunable kernel parameters

VERITAS Volume Manager Advanced Operations

- Encapsulate and mirror the system boot disk
- Administer hot spares and hot relocation
- Evacuate all subdisks from a disk drive
- Move a disk drive without preserving data
- Move a populated disk drive to a new disk group
- Backup and restore a disk group configuration
- Describe how to import a disk group after a system crash
- Administer volume snapshots
- Replace a failed disk drive
- Migrating from Solaris SVM to VxVM