



Enterprise Computing Solutions - Education Services

## TRAINING OFFERING

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# Veritas InfoScale Storage 7.3 for UNIX/Linux: Administration - På anmodning

CODE:	LENGTH:	PRICE:
VER_ISS-7.3 A-U	40 Hours (5 dage)	kr 25,000.00

## Description

The Veritas InfoScale Storage 7.0 for Linux: Administration course is designed for the IT professional tasked with installing, configuring, and maintaining the Veritas InfoScale Storage environments, including Volume Manager (VxVM), File System (VxFS), and Cluster File System (CFS).

This five day, instructor-led, hands-on class covers how to use InfoScale Storage to manage disks, disk groups, and volumes by using a variety of InfoScale Storage user interfaces including the Veritas InfoScale Operations Manager (VIOM) Web console. You learn the basics of online file system administration and recovery from disk failures. In addition, you learn about data replication using Veritas File Replicator and Veritas Volume Replicator. You also learn how to configure Veritas Cluster Volume Manager and Veritas Cluster File System

## Objectives

By the completion of this course, you will be able to:

- Create, configure, and manage disks, disk groups, and volumes.

- Administer file systems.
- Manage components in the VxVM architecture.
- Manage multiple paths to disk devices.
- Identify types of disk failures and how to resolve them.
- Describe concepts and components specific to Veritas Replicator, and Veritas File Replicator.
- Configure a CFS cluster according to a specified sample design.
- Configure shared disk groups and volumes.
- Configure shared file systems.
- Share local disks among systems in a cluster

## Audience

This course is for UNIX/Linux system administrators, system engineers, technical support personnel, network/SAN administrators, and systems integration/development staff, who will be installing, operating, or integrating InfoScale Storage.

## Prerequisites

Knowledge of and hands-on experience with UNIX/Linux systems administration is required.

## Programme

- Virtual Objects
  - Operating system storage devices and virtual data storage
  - Volume Manager (VxVM) storage objects

InfoScale Storage Basics VxVM volume layouts and RAID levels

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

## Labs

Exercise A: Creating disk groups, volumes and file systems: CLI

Exercise B: Removing volumes and disks: CLI

Exercise C: Destroying disk data using disk shredding: CLI

Exercise D: (Optional) Creating disk groups, volumes, and file systems: VIOM

Exercise E: (Optional) Removing volumes, disks, and disk groups: VIOM

Working with Volumes with Different Layouts

Volume layouts

Creating volumes with various layouts

Allocating storage for volumes

Making Configuration Changes

Administering mirrored volumes

Resizing a volume and a file system

Moving data between systems

Renaming VxVM objects

## Labs

Exercise A: Creating volumes with different layouts: CLI

Exercise B: (Optional) Creating volumes with user defaults: CLI

## Labs

Exercise A: Administering mirrored volumes

Exercise B: Resizing a volume and file system

Exercise C: Renaming a disk group

Exercise D: Moving data between systems

Exercise E: (Optional) Resizing a file system only

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

## Labs

Exercise A: Preparing for "Defragmenting a Veritas File System" exercise

Exercise B: Defragmenting a Veritas File System

Exercise C: Using SmartMove

Exercise D: Observing thin reclamation

Managing Devices

## SmartIO

InfoScale Storage 7.3 SmartIO

Support for caching on Solid State Drives (SSDs)

Using SmartAssist Tool

## Labs

Exercise A: Configuring VxVM caching

Exercise B: Configuring VxFS read caching

Exercise C: Configuring VxFS writeback caching

Exercise D: Destroying cache area

## Labs

Exercise A: Administering the Device Discovery Layer

Exercise B: Displaying DMP information

Exercise C: Displaying DMP statistics

Exercise D: Enabling and disabling DMP paths

Exercise E: Managing array policies

## Dynamic Multi-Pathing

Managing components in the VxVM architecture

Discovering disk devices

Managing multiple paths to disk devices

## Dynamic Multi-Pathing for VMware

DMP in a VMware ESX/ESXi environment

Managing DMP for VMware

Administering the SmartPool

Performance monitoring and tuning using the DMP console

## Resolving Hardware Problems

How does VxVM interpret failures in hardware?

Recovering disabled disk groups

Resolving disk failures

## Labs

Exercise A: Recovering a temporarily disabled disk group

Exercise B: Preparing for disk failure labs

Exercise C: Recovering from temporary disk failure

Exercise D: Recovering from permanent disk failure

Exercise E: (Optional) Recovering from temporary disk failure—Layered volume

Exercise F: (Optional) Recovering from permanent disk failure—Layered volume

Exercise G: (Optional) Replacing physical drives—without hot relocation

Exercise H: (Optional) Replacing physical drives—with hot relocation

Exercise I: (Optional) Recovering from temporary disk failure with vxattachd daemon

Exercise J: (Optional) Exploring spare disk behavior

Exercise K: (Optional) Using the Support Web Site

Cluster File System

## Storage Foundation Cluster File System Architecture

SFCFS overview

SFCFS architecture

SFCFS communication

VCS management of SFCFS infrastructure

## Cluster Volume Manager

VxVM and CVM overview

CVM concepts

CVM configuration

CVM response to storage disconnectivity

## Labs

- Exercise A: Creating shared disk groups and volumes using CLI
- Exercise B: Creating a shared disk group and volume using VIOM
- Exercise C: Converting a disk group from shared to private and vice versa
- Exercise D: Investigating the impact of the disk group activation modes
- Exercise E: (Optional) Observing the impact of rebooting the master node in a storage cluster

## Cluster File System

Cluster File System concepts

Data flow in CFS

Administering CFS Flexible Storage Sharing

Understanding Flexible Storage Sharing

FSS storage objects

FSS case study

Flexible Storage Sharing implementation

FSS configuration

## Labs

Exercise A: Creating a shared file system – CLI

Exercise B: Changing the primary node role – CLI

Exercise C: Placing the shared file system under the storage cluster control – CLI

Exercise D: Deleting shared file systems and disk groups

## Disaster Recovery and Replication Overview

Disaster recovery concepts

Defining replication

Replication options and technologies

Veritas File Replicator

Understanding Veritas File Replicator

Setting up replication for a Veritas file system

Replication Veritas technologies for disaster recovery

Error recovery with Veritas File Replicator

## Labs

Exercise A: Setting up and performing replication for a VxFS file system

Exercise B: Restoring the source file system using the replication target

Veritas Volume Replicator Components

## Labs

Veritas Volume Replicator overview

Exercise A: Preparing storage for replication

Comparing volume replication with volume management

Exercise B: Establishing replication

Volume Replicator components

Exercise C: Observing data replication

Volume Replicator data flow

Exercise D: Migrating the primary role

Veritas Volume Replicator Operations

Replication setup

Assessing the status of the replication environment

Migration, takeover, and fast failback

## Session Dates

På anmodning. [Kontakt os venligst](#)

## Yderligere Information

[Denne træning er også tilgængelig som træning på stedet. Kontakt os for at finde ud af mere.](#)