Veritas InfoScale Availability 8.0 for UNIX/Linux: Administration

COURSE DESCRIPTION

The *Veritas InfoScale Availability 8.0 for Unix/Linux: Administration* course is designed for IT professionals tasked with installing, deploying, configuring, and maintaining Veritas Cluster Server (VCS) clusters.

This course discusses how to use InfoScale Availability to manage applications and databases in high availability environments and Cloud environments. The course is designed to enable you to gain the necessary fundamental and advanced skills that are required to manage a highly available application in a cluster. It also discusses how to deploy InfoScale Availability in the lab environment to practically implement a sample cluster design and deployment.

Delivery Methods

This course is available in the following delivery methods:

- Instructor-led training (ILT)
- Virtual instructor-led training (VILT)
- Learning Lab

Duration

- Instructor-led training - ILT: 5 days, including 6 months of lab access
- Virtual instructor-led training - VILT: 5 days, including 6 months of lab access
- Learning Lab – Self-paced lesson guide plus 6 months of lab access

Course Objectives

After completing this course, you will be able to:

- Provide an overview of the InfoScale product suite and InfoScale support for cloud environments.
- Create a cluster, and configure service groups and resources.
- Outline the different VCS cluster communication mechanisms.
- Explain InfoScale support for multi-version clusters.
- Perform common administrative cluster operations.
- Summarize VCS user and agent account passwords encryption standards.
- Outline online and offline configuration procedures.
- Configure notifications and triggers to customize VCS behavior in response to events.
- Explain how VCS responds to resources faults.
- Describe how the Intelligent Monitoring Framework improves fault detection.
- Describe VCS response to common system and cluster interconnect failures.
- Illustrate how I/O Fencing protects data in common cluster scenarios.

- Manage applications and databases in a VCS environment.
- Explain InfoScale support for containers and Kubernetes.
- Summarize the architecture of VMware vSphere HA.
- Summarize the architecture for supporting HA in VMware environments.
- Set up cluster configuration using shared storage for CFS clusters.

Who Should Attend

This course is designed for UNIX/Linux system administrators, system engineers, technical support personnel, network/SAN administrators, and systems integration/development staff, who will install, configure, manage, and integrate InfoScale Availability.

Prerequisites

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

Hands-On

This course includes practical lab exercises that enable you to test your new skills and begin to transfer those skills into your working environment.

COURSE OUTLINE

Cluster Server Basics

High Availability Concepts

- High Availability Concepts
- Clustering Concepts
- High Availability Applications
- Clustering Prerequisites

Labs: Introduction

- Exercise A: Viewing Virtual Machine Configuration Details
- Exercise B: Verifying Network Connectivity

Labs:

- Exercise A: Performing a CPI Pre-installation Verification
- Exercise B: Performing a SORT Pre-installation Verification

Installing and Licensing InfoScale

- Introducing the Veritas InfoScale Product Suite
- Tools for Installing InfoScale Products
- InfoScale Cloud Offerings
- Installing Veritas InfoScale Storage

- Installing Veritas InfoScale Availability
- Upgrading Veritas InfoScale Enterprise

Labs:

- Exercise A: Installing InfoScale Enterprise Using the Common Product Installer (CPI)
- Exercise B: Running a Post-installation Check
- Exercise C: Adding Managed Hosts to the VIOM Management Server

VCS Building Blocks

- VCS Terminology
- Cluster Communication
- VCS Architecture
- Multi-version Cluster
- Veritas InfoScale Operations Manager (VIOM): Overview

Labs:

- Exercise A: Working with the VIOM GUI Dashboard and Inventory Information
- Exercise B: Exploring the VIOM GUI License Options
- Exercise C: Working with the VIOM GUI Settings Option

VCS Operations

- Common VCS Tools and Operations
- Service Group Operations
- Resource Operations
- VCS Custom Scripts: Operations

Labs:

- Exercise A: Displaying Cluster Information
- Exercise B: Displaying Status and Attributes
- Exercise C: Performing Service Group Operations
- Exercise D: Manipulating Resources

VCS Configuration Methods

- Starting and Stopping VCS
- Configuration Methods: Overview
- Online Configuration
- Controlling Access to VCS
- VCS Password Encryption

Labs:

- Exercise A: VCS Configuring the State and Stopping VCS
- Exercise B: Configuring Automatic Backup of VCS Configuration
- Exercise C: Setting Non-default VCS Stop Options

Preparing Services for VCS

- Preparing Applications for VCS
- Performing One-time Configuration Tasks
- Testing the Application Service
- Stopping and Migrating a Service
- Collecting Configuration Information

Labs:

- Exercise A: Configuring and Examining Storage for a Service
- Exercise B: Examining the Application
- Exercise C: Manually Starting and Stopping the Application

Online Configuration

- Online Service Group Configuration
- Adding Resources
- Solving Common Configuration Errors
- Testing the Service Group

Labs:

- Exercise A: Creating a Service Group for the Loopy Application
- Exercise B: Configuring Resources for the Loopy Application
- Exercise C: Performing a Virtual Fire Drill (VFD) on the Service Group
- Exercise D: Testing the Service Group
- Exercise E: Setting Resources to Critical
- Exercise F: (Optional) Examining Veritas File System Locking by VCS

Offline Configuration

- Offline Configuration Examples
- Offline Configuration Procedures
- Solving Offline Configuration Problems
- Testing the Service Group

Labs:

- Exercise A: Editing a Copy of the main.cf File Using a System Editor
- Exercise B: Stopping VCS
- Exercise C: Restarting VCS Using the Edited main.cf File

Configuring Notification

- Notification: Overview
- Configuring Notification
- Triggers: Overview

Labs:

- Exercise A: Configuring and Testing Notifier Using VIOM
- Exercise B: Configuring Trigger Scripts

Cluster Server Additions

Handling Resource Faults

- VCS Response to Resource Faults
- Determining Failover Duration
- Controlling Fault Behavior
- Recovering from Resource Faults
- Fault Notification and Event Handling

Labs:

- Exercise A: Observing Non-Critical Resource Faults
- Exercise B: Observing Critical Resource Faults

- Exercise C: (Optional) Observing Faults in Frozen Service Groups
- Exercise D: (Optional) Observing ManageFaults Behavior
- Exercise E: (Optional) Observing RestartLimit Behavior

Intelligent Monitoring Framework

- Intelligent Monitoring Framework: Overview
- Intelligent Monitoring Framework: Configuration
- Faults and Failover with Intelligent Monitoring

Labs:

- Exercise A: Examining IMF Monitoring on a Resource
- Exercise B: (Optional) Examining IMF Default Configuration

Cluster Communications

- VCS Communications: Overview
- Cluster Interconnect Configuration
- Cluster Startup
- System and Cluster Interconnect Failure
- Changing the Interconnect Configuration

Labs:

- Exercise A: Reconfiguring LLT
- Exercise B: Observing Jeopardy Membership

Cluster Server Applications

Using I/O Fencing for Application Data Integrity

- Data Protection Requirements
- I/O Fencing Concepts
- I/O Fencing Operations
- I/O Fencing Implementation
- Fencing Configuration

Labs:

- Exercise A: Fencing Configuration Pre-checks
- Exercise B: Configuring VCS for I/O Fencing
- Exercise C: Verifying I/O Fencing Configuration
- Exercise D: Verifying Data Disks for I/O Fencing

Clustering Applications

- Application Service: Overview
- Manage Applications Using VCS Agents
- Working with the Application Agent
- IMF Support and Prevention of Concurrency Violation

Labs:

- Exercise A: Adding a Resource of Type Application
- Exercise B: Testing the Resource
- Exercise C: IMF and Application Agent Monitoring Options

Clustering Databases

- VCS Database Agents
- Database Preparation
- Database Agent For Oracle
- Database Failover Behavior

- Additional Oracle Agent Functions

Labs:

- Exercise A: Verifying the Oracle Configuration
- Exercise B: Preparing Storage and Network Resources for the Oracle Service Group
- Exercise C: Testing the Oracle Database Manually
- Exercise D: Configuring Oracle Under VCS Control
- Exercise E: Running a Virtual Fire Drill and Switching the Oracle Service Group
- Exercise F: (Optional) Oracle Monitoring

In-Guest Clustering

InfoScale Support for Cloud Environments

- InfoScale Solutions for Cloud Environments
- InfoScale Support for Kubernetes on Linux
- Preparing for InfoScale Installations in Cloud Environments
- Configuration for Cloud Environments
- Application Migration Support for AWS
- Troubleshooting Issues in Cloud Environment

Labs:

- Exercise A: Configuring the REST API Server
- Exercise B: Verifying S3 Server Details
- Exercise C: Creating InfoScale Storage Support for S3 Connector
- Exercise D: Using the VIOM Deploy Application Migration Add-On
- Exercise E: Adding the VIOM Management Server to the Global Reports Perspective
- Exercise F: Generating VIOM Reports

VMware vSphere Data Center Architecture

- VMware vSphere High Availability Architecture
- VMware Administration
- VMware Storage Architecture
- Server and Storage Migration

Labs:

- Exercise A: Verifying the VMware vSphere Lab Environment
- Exercise B: Connecting to Nested Virtual Machines
- Exercise C: Testing vMotion Functionality

Veritas High Availability Deployment in VMware

- Veritas High Availability Architecture for VMware
- Deploying InfoScale Availability on Virtual Machines
- Configuring the vSphere Web Client for Veritas HA

Labs:

- Exercise A: Preparing the Nested Virtual Machine Lab Environment
- Exercise B: Deploying a Veritas Cluster on Nested Virtual Machines
- Exercise C: Adding Cluster Systems as Managed Hosts to VIOM
- Exercise D: Installing the VIOM Control Host Add-On

- Exercise E: Adding Virtualization Information to the VIOM Management Server
- Exercise F: Installing and Registering the Veritas HA Plug-in for vSphere Web Client

Veritas High Availability Configuration and Administration

- Configuring Storage for VCS Failover Clusters
- Configuring shared storage for CFS Clusters
- Configuring Availability
- Veritas High Availability Operations
- Just-In-Time Availability Solution

Labs:

- Exercise A: Preparing the Nested Virtual Machine Lab Environment
- Exercise B: Setting the EnableUUID Parameter for Virtual Machine Disks
- Exercise C: Testing vMotion with Veritas In-Guest Clustering

- Exercise D: Managing the Oracle Disk Group Configuration

Labs: Managing Different Types of VMware Storage in a VCS Cluster

- Exercise A: Preparing the Nested Virtual Machine Lab Environment
- Exercise B: Configuring a Shared VMFS Datastore
- Exercise C: Configuring Virtual and Physical RDM Disks
- Exercise D: Creating a Service Group to Manage the Virtual and Physical RDM Disks
- Exercise E: (Optional) Observing vMotion with RDM Disks
- Exercise F: (Optional) Enabling Shared Storage Across Multiple VMs Using Physical RDM Disks
- Exercise G: (Optional) Aligning Shared Disk Device Names Across Multiple Virtual Machines

About Veritas

Veritas Technologies is a global leader in data protection and availability. Over 80,000 customers— including 87 percent of the Fortune Global 500—rely on us to abstract IT complexity and simplify data management. The Veritas Enterprise Data Services Platform automates the protection and orchestrates the recovery of data everywhere it lives, ensures 24/7 availability of business-critical applications, and provides enterprises with the insights they need to comply with evolving data regulations. With a reputation for reliability at scale and a deployment model to fit any need, Veritas Enterprise Data Services Platform supports more than 800 different data sources, over 100 different operating systems, more than 1,400 storage targets, and more than 60 different cloud platforms. Learn more at www.veritas.com. Follow us on Twitter at @veritastechllc.

2625 Augustine Drive, Santa Clara, CA 95054
+1 (866) 837 4827
veritas.com

For specific country offices and contact numbers, please visit our website.