COURSE DESCRIPTION

The Veritas InfoScale Availability 7.3 for UNIX/Linux: Advanced Administration II course is designed for the IT professional tasked with managing, configuring, and using clusters in an enterprise environment.

This class covers how to set up advanced service group and application configurations, manage system outages, and upgrade a cluster.

Note: This course does not teach basic clustering concepts and is a follow-on course from the *Veritas InfoScale Availability 7.3 for UNIX/Linux: Administration* course.

Delivery Method(s)
This course is available in the following delivery method(s):
- 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
By the completion of this course, you will be able to:
- Set up service group dependencies and virtual Business services.
- Use triggers to customize VCS behavior.
- Reconfigure cluster memberships.
- Control and customize application startup, failover, and shutdown.
- Manage system outages and upgrade clusters.

Who Should Attend
This course is for system administrators, architects, and technical support personnel who are responsible for implementing, managing, and supporting clusters in complex enterprise environments.

Prerequisites
You must have administrator-level experience with UNIX or Linux, TCP/IP networking, and clustering using Veritas Cluster Server.

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

COURSE OUTLINE

Service Groups

Managing Service Group Dependencies
- Common application relationships
- Service group dependencies
- Service group dependency examples
- Configuring service group dependencies
- Limitations of service group dependencies

Labs
- Exercise A: Verifying the lab environment for service group dependency tests
- Exercise B: Understanding online global dependencies
- Exercise C: (Optional) Understanding online remote dependencies
- Exercise D: (Optional) Understanding online local dependencies
- Exercise E: (Optional) Observing a multi-level service group dependency
- Exercise F: (Optional) Understanding dependencies with parallel service groups

Using Virtual Business Services
- Understanding Virtual Business Services
- Configuring a virtual business services
- Managing a virtual business service
- Disaster recovery support in VBS
- Supporting a VBS environment

Labs
- Exercise A: Adding hosts to VIOM
- Exercise B: Creating the Virtual Business Service (VBS)
- Exercise C: Verifying VBS Operations
- Exercise D: Understanding VBS Fault Handling
- Exercise E: Restoring the original configuration

Using Triggers to Customize VCS Behavior
- Understanding triggers
- Configuring triggers
- Using multiple trigger scripts

Labs
- Exercise A: Using the PreOnline service group trigger to set up an application
- Exercise B: Using a PostOffline service group trigger
- Exercise C: (Optional) Using multiple trigger scripts
- Exercise D: (Optional) Comparing the use of trigger-related attributes at the service group or the resource level

Reconfiguring Cluster Membership
- Removing a cluster node
- Adding a cluster node
- Merging clusters

Labs
- Exercise A: Verifying the lab environment

- Exercise B: Manually removing a system from a running cluster—Phase 1
- Exercise C: (Optional) Manually removing a system from a running cluster—Phase 2

Applications

Controlling Application Startup and Shutdown
- Agent framework overview
- Resource online and offline processes
- Cluster startup
- Startup rules and policies
- Limits and prerequisites

Labs
- Exercise A: Verifying the lab environment
- Exercise B: Testing order startup policy
- Exercise C: Testing priority startup policy
- Exercise D: Observing the impact of limits and prerequisites on service group startup

Controlling Application Failover
- Failover rules and policies
- Limits and prerequisites
- Priority based failover
- AdaptiveHA

Labs
- Exercise A: Preparing the lab environment
- Exercise B: Testing priority failover policy with limits and prerequisites
- Exercise C: Testing priority failover policy
- Exercise D: Enabling priority-based failover with static load and capacity
- Exercise E: Configuring AdaptiveHA

Customizing Application Failover Behavior
- VCS response to resource faults
- Other service group attributes affecting failover
- Controlling failover with resource type attributes

Labs
- Exercise A: Preparing the lab environment
- Exercise B: Observing faults in frozen service groups
- Exercise C: Observing the impact of service group attributes related to fault handling
- Exercise D: Controlling fault management at the resource level
- Exercise E: Clearing service group faults automatically to enable failover
- Exercise F: Observing the impact of resource type attributes related to fault handling

Managing Applications in Docker Containers
- Docker overview
- Storage management for Docker
- Using Veritas File System for Docker storage
- Using Cluster File System for Docker storage
- High availability for Docker

- Disaster recovery for Docker

Labs
- Exercise A: Verifying the lab environment
- Exercise B: Configuring a Docker container using a Veritas file system as persistent storage
- Exercise C: Configuring high availability for the Docker container
- Exercise D: Testing the Docker container service group
- Exercise E: Restoring the original configuration

Systems and Clusters

Managing System Outages
- Differentiating between system shutdown and outage
- Controlling cluster shutdown
- Controlling applications during a system outage

Labs
- Exercise A: Verifying the lab environment
- Exercise B: Observing the impact of the AutoDisabled attribute on service group operations
- Exercise C: Testing the SysDownPolicy attribute
- Exercise D: Using EngineShutdown to control hastop behavior
- Exercise E: Observing the impact of a frozen system on service group and cluster operations

Upgrading InfoScale Availability
- Planning to upgrade InfoScale
- Online upgrade
- Full upgrade
- Rolling upgrade
- Phased upgrade
- Finding and installing InfoScale patches
- Other upgrade considerations

Labs
- Exercise A: Verifying the lab environment
- Exercise B: Preparing for an upgrade
- Exercise C: Performing a rolling upgrade from SFHA 6.2.1 to IS 7.3
- Exercise D: (Optional) Using SORT to check for patches