

Oracle Database 10g: RAC Deployment Workshop

Duration: 4 Days

What you will learn

Students attending this workshop will explore advanced RAC-related topics. These topics include node/instance/cluster management, enterprise-capable shared storage solutions and management, networking, and Oracle products integration. Since this is a workshop, hands-on lab work is stressed.

This course counts toward the Hands-on course requirement for the following certification

Oracle Database 10g: Real Application Clusters Administrator Certified Expert

Only instructor-led inclass or instructor-led online formats of this course will meet the Certification Hands-on Requirement. Self Study CD-Rom and Knowledge Center courses are excellent study and reference tools but DO NOT meet the Hands-on Requirement for certification.

Learn To: Create a RAC primary physical/logical standby database environment
Use Oracle Clusterware to protect a single-instance database
Upgrade and patch Oracle Clusterware, RAC, and RAC databases from 10.2.0.1 to 10.2.0.2 in a rolling fashion
Extend Oracle Clusterware and RAC to more than two nodes
Create a very large RAC cluster, 6 to 12 nodes
Install and configure iSCSI storage on both client clusters and Open filer servers

Audience

Data Warehouse Administrator
Database Administrators

Prerequisites

Suggested Prerequisites

Oracle Database 10g: Administering Real Application Clusters

Course Objectives

Convert a single-instance database to RAC
Evaluate deployment alternatives
Install and configure ASMLib
Install and configure OCFS2
Use ASM & Snapshot and Replication techniques
Diagnose and troubleshoot a RAC instance
Install Clusterware to protect a single instance

Course Topics

RAC Deployment Workshop

Assumptions
Workshop Format and Challenge
Workshop Flow Overview
Hardware Organization
Openfiler Storage Organization

Cluster Storage Organization
Group Formation and Naming Conventions
Workshop I: Configuring Storage

Persistent Storage Flow
Enterprise Network Storage
Openfiler: Your Classroom Storage Solution
Persistent Storage Flow
Creating Physical Volumes
Persistent Storage Flow
Creating Volume Groups
Persistent Storage Flow

Creating Logical Volumes
Persistent Storage Flow
Initializing the Storage
Persistent Storage Flow
Accessing the Shared Storage
Persistent Storage Flow
Accessing the Shared Storage
Persistent Storage Flow

Partitioning the iSCSI Disk
Persistent Storage Flow
Udev Basics
Udev Configuration
Udev Rules Parameters
Multipathing and Device Mapper
Persistent Storage Flow
Configuring Multipath

Device Mapper Devices
Persistent Storage Flow
Openfiler Storage Goal
Configuring Openfiler Storage
Configuring Cluster Storage: iSCSI + fdisk
Configuring Cluster Storage: Multipathing
Configuring Cluster Storage: Permissions
Workshop II: Install Clusterware and ASM

Installing Oracle Clusterware
Installing Oracle RAC Software and ASM
Workshop III: Set Up Single-Instance Protection
Installing Single-Instance Database Software
Creating Single-Instance Database
Protecting the Single-Instance Database by Using Oracle Clusterware
Protection Flow Diagrams

Workshop IV: Single-Instance to RAC Conversion
Workshop V: Cluster Extension to Three Nodes
Required Steps to Add a Node to a RAC Cluster
Checking Prerequisites Before Oracle Clusterware Installation
Adding Oracle Clusterware to the New Node
Configuring the New ONS
Adding ASM Home to the New Node (Optional)
Adding RAC Home to the New Node

Adding a Listener to the New Node (Optional)
Adding a Database Instance to the New Node
RAC and Data Guard Architecture
Workshop VI: Creating a RAC Logical Standby
Installing OCFS2 on the Second Cluster
Creating the Physical Standby Database I
Creating the Physical Standby Database II
Standby Initialization Parameter: Example

Primary Initialization Parameter: Example
Converting Physical Standby to Logical Standby
Logical Standby Initialization Parameter: Example
Patches and the RAC Environment
Inventory List Locks
OPatch Support for RAC: Overview
Rolling Patch Upgrade Using RAC
Downloading and Installing Patch Updates

Rolling Release Upgrade Using SQL Apply
Workshop VII: Rolling Upgrade
Oracle Clusterware Rolling Upgrade: Initial Status
Oracle Clusterware Rolling Upgrade: Primary Site
Oracle Clusterware Rolling Upgrade: Standby Site
Oracle Clusterware Rolling Upgrade: Final Status
Standby Database Upgrade
Switching Over

Old Primary Database Upgrade
Switching Back
Using a Test Environment
Optional Workshop: Six Nodes Cluster