Oracle Database 10g: Managing Oracle on Linux for DBAs

Duration: 2 Days

What you will learn

This course is designed to give the Database Administrator a firm understanding of the components required to successfully deploy an Oracle 10g Database on Enterprise Linux. Students will learn how to configure the Linux operating system for optimal performance with an Oracle database. Then they will install and create an Oracle 10g database on Linux. In addition, the students will also learn how to tune the database to take advantage of the Linux operating system and the Enterprise level features of the OS.

Learn To:

Optimally configure Linux for an Oracle Database installation
Customize the database to take advantage of Linux features
Monitor memory, CPU, and I/O activity and performance
Identify the different kernels and memory models available for Linux

Audience

Database Administrators
Support Engineer
Technical Consultant

Prerequisites

Required Prerequisites
Working knowledge of Oracle Database Administration

Knowledge of operating system concepts

Course Objectives

Optimally configure Linux for an Oracle Database installation
Identify the different kernels and memory models available for Linux
View installed packages on a Linux system
Create a database and listener
Customize the database to take advantage of Linux features
Identify and implement the best storage options for an Oracle database
Enable a large SGA that overcomes 32-bit addressing limitations
Monitor memory, CPU, and I/O activity and performance
Tune an Oracle database on Linux
Debug database errors specific to the Linux OS

Course Topics

Introduction to Linux

Kernel Version Information
Common Linux Commands
Navigating the File System
Using the Virtual File System
The Basics of Bash Shell Scripting

Preparing Linux for Oracle
Setting Shared Memory Parameters
Setting Semaphore Parameters
Managing Packages
Configuring the X Window System
Creating the Necessary Linux Users

Installing Oracle on Linux
File System Security
Setting Environment Variables
Creating Oracle Directories
Managing Multiple Version of Oracle Software
Using the Oracle Universal Installer
Installation Pre-requisites
The Oracle Relink Utility

Managing Storage
Certified and Supported File Systems
Disk Partitioning
Automatic Storage Management

Automatic Storage Management (ASM)
ASMLib
Configuring Disks for ASM
Creating an ASM Instance
ASM Best Practices

Creating the Database
Choosing the Storage Mechanism
Assigning ASM Disk Groups in the Database
dbca Log Files
Installation Log Files
Instance Dump Files
Background Processes
Server Processes
Process Hierarchy

Customizing Oracle on Linux
Linux Startup Sequence
Linux Runlevels
Database Startup and Shutdown
Administrative Scripts
Managing Services with chkconfig
Automating Jobs
Server Parameter File

Managing Memory
Swap Space
Evaluating Memory Usage
Implementing Hugepages on 32-bit Linux
Enlarging the SGA

Using Linux Measurement Tools
Tuning CPU
Tuning Memory
Measuring Memory with sar
Monitoring and Tuning I/O
Using iostat
Reducing I/O Bottlenecks

Tuning Oracle on Linux
Sizing Database Blocks
Using Multiple DBWR Processes
Using DB Writer Slaves
Using Automatic Shared Memory Management

Debugging Oracle on Linux
Using OS Watcher
Using the Remote Diagnostic Agent
Using strace to Trace Processes
Resolving ORA-600 Errors
Resolving ORA-7445 Errors