

Oracle Database 10g: New Features for Administrators Release 2

What you will learn:

This course introduces students to the new features in Oracle Database 10g Release 2 - the database for Grid computing. Students learn how to use Oracle Database 10g new features to increase database availability, to simplify database performance monitoring and tuning through the use of Oracle Database 10g Advisors, and to offer simplified database manageability. The course also covers security changes that students need to understand. Hands-on practice sessions give students an opportunity to examine many of the new features, and to practice database administration with Enterprise Manager Database Control.

Learn to:

- VLDB Enhancements
- Flashback Recovery
- Automatic Management
- Enhancements to Storage Management
- Backup and Recovery Enhancements
- Enhancements Space Management

This course counts towards the Hands-on course requirement for the Oracle 9i Database Administrator Certification. 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.

Audience:

- Database Administrators
- Data Warehouse Administrator
- Sales Consultants
- Support Engineer
- Project Manager
- Database Designers
- Technical Consultant

Prerequisites:

Required Prerequisites:

- 9i DBA Fundamentals
- [Oracle9i Database Administration Fundamentals I](#)
- [Oracle9i Database Administration Fundamentals II](#)
- [Oracle9i Database: New Features for Administrators](#)

Course Objectives:

- Using Database Control to simplify database management
- Proactively monitoring the database
- Increasing data availability by using improved point in time recovery features

- Implementing Automatic Storage Management
- Managing Metric Baselines
- Using Oracle Secure Backup
- Simplifying Instance Configuration
- Using Data Pump Export and Import
- Configuring the Scheduler
- Using the Automatic Workload Repository
- Managing Services
- Creating Bigfile Tablespaces
- Creating Hash-Partitioned Global Indexes
- Creating Compressed Backup sets in RMAN
- Configuring Flashback Database
- Creating the SYSAUX Tablespace

Course Topics:

Installation

- Installation New Feature Support
- Performance Enhancements to Installation
- Checking the Pre-Install Requirements
- Management, File Storage, and Backup and Recovery Options
- Passwords
- Info about installation directories for the DB and EM
- Grid control architectures and installation
- Distinction between Grid Control and Database Control

Server Configuration

- SYSAUX and DBCA
- Using Enterprise Manager: - Command line interfaces: emctl/emca
- Database Cloning
- Database Feature Usage
- Managing Policies
- Response File Improvements
- Policy Framework
- Blackouts

Data Pump, SQL*Loader, and External Tables

- Data Pump: General Architecture
- Data Pump Direct Path Considerations
- Data Pump Utility: Interfaces and Modes
- Data Pump Job Monitoring Views
- Data Pump Import Transformations
- Using EM to Monitor Data Pump Jobs
- Loading Data From Flat Files Using EM
- External Table Parallel Populate Operation

Database and Tablespace Data Movements

- Cross-Platform Transportable Tablespaces
- Minimum Compatibility Level

- Transportable Tablespace Procedure
- Dynamic Performance View Changes
- Using Enterprise Manager to Transport Tablespaces
- Transportable Database
- Transport Tablespace From Backup
- Tablespace Repository

Automatic Management

- Automatic Database Diagnostic Monitor
- Retrieving ADDM Reports Using SQL and EM
- Automatic Shared Memory Management (including streams pool)
- SGA Advisor
- Automatic Optimizer Statistics Collection
- Locking Statistics
- Automatic Undo Retention Tuning
- Automatically Tuned Multiblock Reads

Manageability Infrastructure

- Automatic Workload Repository Data
- Active Session History
- AWR Snapshot Baselines and Purging Policy
- Server-Generated Alerts
- Metric and Alert Views
- Job Scheduler Concepts
- DBCA and Automated Tasks
- Dictionary Changes

Managing Metric Baselines

- The Cyclic Nature of Workloads
- Thresholds and Metric Baselines
- Enable Metric Baselineing
- Set Adaptive Alert Thresholds
- Create Static Metric Baselines
- Metric Baseline and Adaptive Threshold Considerations
- Classification of Eligible Metrics
- Configure Normalization Metrics

Application Tuning

- Automatic Statistics Gathering
- Enhanced Query Optimization
- Using Enterprise Manager to Gather Dictionary Statistics
- Automatic SQL Tuning
- SQL Tuning Loop
- SQL Tuning Advisor
- Concurrency Wait Class: Drill Down
- Duplicate SQL page

System Resource Management

- Database Resource Manager
- Setting Idle Timeouts
- Switching Back to the Initial Consumer Group at End of Call
- Creating a Mapping Using Database Control
- Using the RATIO Allocation Method
- Monitoring the Resource Manager Using EM
- Switching Plans at Scheduler Window Boundaries

Automating Tasks with the Scheduler

- Privileges for Scheduler Components
- Creating a Scheduler Job
- Creating a Job Class
- Creating a Window
- Managing Jobs, Programs, Schedules, Windows, and Priority
- Job chains
- Using events

Space Management

- Tablespace Space Usage Monitoring
- Shrinking Segments
- Automatic Segment Advisor
- Fast Ramp-Up
- Sorted Hash Cluster
- Segment Metadata Dump and Verification

Improved VLDB Support

- Create and maintain bigfile tablespaces
- Interpret ROWIDs referencing bigfile tablespaces
- Create temporary tablespace groups
- Create list-partitioned index-organized tables
- Create hash-partitioned global indexes
- Partitioned IOT Enhancements
- Skipping Unusable Indexes
- Bitmap Index Storage Enhancements

Backup and Recovery Enhancements

- New Backup and Recovery Strategy
- Flash Backup and Recovery
- Best Practices for the Database and Flash Recovery Area
- Backup Maintenance
- Implementing Fast Recovery
- Automated Instance Creation and TSPITR
- RMAN Command Changes
- Setting Duration and Throttling Option

Oracle Backup

- Installation

- Implement the Oracle suggested strategy
- RMAN and Oracle Backup
- Database Backup/restore to tape
- Install Oracle Backup (CLI)

Flashback Any Error

- Flashback Database
- Flashback Drop
- Recycle Bin
- Resource optimized DROP TABLE...PURGE for partitioned tables
- Flashback Versions Query
- Guaranteed Undo Retention
- SCN and Time Mapping Enhancements
- Restore Point Usage

General Storage Enhancements

- SYSAUX Tablespace and Occupants
- Tablespace Rename
- Default Permanent Tablespace
- Designating a Default Permanent Tablespace
- Copying Files Using the Database Server
- Redo Logfile Size Advisor
- Dropping an Empty Data File

Automatic Storage Management

- ASM: Key Features and Benefits
- ASM Instance Creation
- Accessing an ASM Instance
- Starting Up and Shutting Down an ASM Instance
- ASM Disk Group
- ASM Files
- Migrate Your Database to ASM
- ASM and XML DB

Maintaining Software

- Oracle Database 10g Upgrade Paths
- Pre-Upgrade Utility Enhancements
- DBUA Advantages
- New Post-Upgrade Status Utility
- Recompiling Invalid Objects
- Performing the Manual Upgrade
- OPatch Utility
- Support for ASM only upgrade

Security

- Virtual Private Database enhancements
- Policy Types
- Enhanced Enterprise User Auditing

- Transparent Data Encryption
- Enhanced Proxy Capabilities
- Username and Password in Wallet
- OS Audit in XML format
- Connect role change

Services

- Traditional Workload Dispatching
- Grid Workload Dispatching
- High Availability of Services in RAC
- Service Aggregation and Tracing
- The trcsess Utility
- Session-Based and End-to-End Tracing
- Using Enterprise Manager to Enable Statistics Aggregation
- Using Enterprise Manager to Enable and View SQL Tracing

Miscellaneous New Features

- Transaction Monitoring
- Configurationless Client Connect
- Resumable Space Allocation Enhancements
- Implicit Conversion Between CLOB and NCLOB
- UTL_MAIL and UTL_COMPRESS Package
- LogMiner Enhancements
- Asynchronous COMMIT
- Direct Attach to SGA for Statistic Collection

Suggested Next Courses:

- [Oracle Enterprise Manager 10g Grid Control](#)
- [Oracle Enterprise Manager 10g Grid Control Release 2](#)
- [Oracle Database 10g: Real Application Clusters](#)
- [Oracle Database 10g: Data Guard Administration Release 2](#)
- [Oracle Database 10g: Data Guard Administration](#)
- [Oracle Database 10g: Implement Streams](#)
- [Oracle Database 10g: Implement Streams Release 2](#)