

Nutech Computer Training Institute

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Oracle 11G New Features

Total Hours: 60 hrs

Tuition Fee: \$2999.00

Registration Fee: \$30.00

Starting Date: Apr. 24, 2010

- Database architecture
- Creating an Oracle Database
- Managing the Oracle instance
- Configuring and managing the Oracle network
- Managing database storage structures
- Administering user security
- Managing schema objects, data and concurrency, and undo data
- Implementing Oracle Database security
- Database maintenance and performance management
- Backup and recovery
- Moving data
- Intelligent infrastructure enhancements
- Database structure and Oracle Automatic Storage Management
- Configuring database recoverability
- Oracle Recovery Manager (RMAN)
- Oracle Flashback Memory management techniques
- Database tuning advisors
- Disk space and resource management
- Configuring database diagnostics
- Administering the Oracle Scheduler
- Database globalization

Course Content

Database Architecture

- Outline the Oracle Architecture and its main Components
- Explain the Oracle instance architecture

Creating an Oracle Database

- Use DBCA to Create a database
- Use DBCA to Delete a database
- Use DBCA to manage templates

Managing the Oracle Instance

- Use Enterprise Manager
- Use SQL*Plus and iSQL*Plus to access the Oracle Database
- Modify database initialization parameters
- Describe the stages of database startup
- Describe the database shutdown options
- View the database alert log
- Use dynamic performance views

Managing Database Storage Structures

- Describe how table row data is stored in blocks
- Define the purpose of tablespaces and data files
- Explain space management in tablespaces
- Create tablespaces
- Manage tablespaces: alter, drop, take offline, put online, add data files, make read-only or read-write, generate DDL
- Obtain tablespace information
- Explain key features and benefits of ASM

Administering User Security

- Create and manage database user accounts
- Create and manage roles
- Grant and revoke privileges
- Create and manage profiles
- Managing Schema Objects
- Create and modify tables
- Define constraints and states of constraints
- Dropping and truncating tables
- Create and use B-Tree and Bitmap indexes
- Create Views
- Create sequences
- Use data dictionary

Managing Schema Objects, Data and Concurrency, and undo data

- Manipulate data through the use of SQL
- Identify and administer PL/SQL objects
- Describe triggers and triggering events
- Define levels of locking

List possible causes of lock conflict
Monitor and resolve lock conflicts

Implementing Oracle Database Security

Apply the principle of least privilege
Audit database activity
Implement Fine-Grained Auditing

Database maintenance and performance management

Gather optimizer statistics
Manage the Automatic Workload Repository
Use the Automatic Database Diagnostic Monitor (ADDM)
Set warning and critical alert thresholds
React to performance issues
Performance Management
Use enterprise manager to view performance
Tune SQL by using SQL tuning advisor
Tune SQL by using SQL access advisor
Use automatic shared memory management
Use the memory advisor to size memory buffer

Backup and Recovery

Describe the types of failure that may occur in an Oracle Database
Identify the importance of checkpoints, redo log files, and archived log files
Tuning instance recovery
Configure a database for recoverability
Configure ARCHIVELOG mode

Performing Flashback

Describe flashback database
Restore the table contents to a specific point in time
Recover from a dropped table
Use Flashback Query to view the contents of the database as of any single point of time
View transaction history or row with flashback transaction query

Moving Data

Describe the general architecture of Data Pump
Use Data Pump export and import to move data between Oracle databases
Load data with SQL Loader
Use external tables to move data

Intelligent infrastructure enhancements

Use the Enterprise Manager support workbench
Manage Patches

Database structure and Oracle Automatic Storage Management

- Use the Database Advisors to gather information about your database
- Use the SQL Tuning Advisor to improve database performance
- Use automatic undo retention tuning Using Recovery Manager
- Use the RMAN BACKUP command to create backup sets and image copies
- Enable block change tracking
- Manage the backups and image copies taken with RMAN with the LIST and REPORT Commands

Configuring database recoverability

- Configure database parameters that affect RMAN operations
- Change RMAN default settings with CONFIGURE
- Manage RMAN's persistent settings
- Start RMAN utility and allocate channels

Oracle Recovery Manager (RMAN)

- Recover the control file
- Explain reasons for incomplete recovery
- Perform incomplete recovery using EM
- Perform incomplete recovery using RMAN
- Perform incomplete recovery using SQL
- Perform database recovery following a RESETLOGS operation

Oracle Flashback Memory management techniques

- Determine which flashback technology to use for each recovery situation
- Configure and sue Flashback Database
- Monitor the Flashback Database
- Use the Enterprise Manager Recovery Wizard to flashback database
- Manage (or maintain) the Flash Recovery Area

Database tuning advisors

- Tune redo writing and archiving operations
- Issue statements that can be suspended upon encountering space condition errors
- Tuning space-related error conditions by proactively managing tablespace usage
- Tuning wasted space from tables and indexes using the segment shrink functionality
- Estimate the size of new table and indexes
- Use different storage options to improve the performance of queries
- Rebuild indexes online

Disk space and resource management

- Set up initialization parameter files for ASM and database instances
- Execute SQL commands with ASM file names
- Start up and shut down ASM instances
- Administer ASM disk groups
- Use RMAN to migrate your database to ASM

Configuring database diagnostics

- Use the alert log and database trace files for diagnostic purposes
- View alerts using Enterprise Manager
- Adjust thresholds for tracked metrics
- Control the size and location of trace files

Administering the Oracle Scheduler

- Simplify management tasks by using the Scheduler
- Create a job, program, schedule, and window
- Reuse Scheduler components for similar tasks
- View information about job executions and job instances

Database globalization

- Customize language-dependent behavior for the database and individual sessions
- Specify different linguistic sorts for queries
- Use datetime datatypes
- Query data using case insensitive and accent insensitive searches
- Obtain Globalization support configuration information