Nutech Computer Training Institute

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Oracle OCP / DBA 11G Certification

Total Hours: 80 hrs
Tuition Fee: $3500.00
Registration Fee: $60.00/package

Oracle Certified Associate
Oracle Certified Professional

OCA Oracle Database 11g: SQL Fundamentals I (Exam 1Z0-051)

- SQL SELECT statements
- Restricting and sorting data
- Single-row functions
- Conversion functions and conditional expressions
- Group functions
- Displaying data from multiple tables
- Subqueries
- Set operators
- DML and DDL statements
- Schema objects

Course Content

SQL SELECT Statements

List the Capabilities of SQL SELECT Statements
Execute a Basic SELECT Statement

Restricting and sorting data

Limit the Rows Retrieved by a Query
Sort the Rows Retrieved by a Query
Ampersand substitution

Conversion functions and conditional expressions

Describe Various Types of Conversion Functions Available in SQL
Use the TO_Char. TO_Number. and TO_Date Conversion Functions
Apply Conditional Expressions in a SELECT Statement

Group Functions

Describe the group functions
Identify the Available the Group Functions
Group Data Using the GROUP BY Clause
Include or Exclude Grouped Rows using the HAVING Clause

Displaying data from multiple tables

Write SELECT Statements to Access Data from More than one Table Using Equijoins and Nonequijoins
Join a Table to Itself Using a Self-join
View Data that Does not meet a join condition
Generate a Carresian Product of two or more tables

Subqueries

Define Subqueries
Describe the types of problems that the Subqueries can solve
List the type of Subqueries
Write Single-Row and Multiple-Row Subqueries

Set Operators

Describe the Set Operators
Use a Set Operator to Combine Multiple Queries
Control the order of rows returned

DML and DDL statement

Categorize the main Database Objects
Review the Table Structure
List the data types that are available for columns
Create a simple table
Explain how constraints are created

Schema Objects

Create simple and complex views
Retrieve Data from views
Create private and public Synonyms
Create, Maintain and use Sequences
Create and maintain Index

OCA Oracle Database 11g: Administration I Exam Guide (Exam 1Z0-052)

- 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

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
- 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 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 datatime datatypes
Query data using case insensitive and accent insensitive searches
Obtain Globalization support configuration information