



Advanced Oracle Programming for University System Developers (BAN200)

Course Description

This 5-day course provides an in-depth look at complex SQL statements and reporting techniques. The course covers a comprehensive set of programming techniques using the PL/SQL language. The course provides both lecture and hands-on lab time with the student spending approximately 50% of the class time practicing the techniques discussed in the lecture.

Audience

This course is intended for technically oriented end-users, application developers and programmers who will create or maintain Oracle applications. The prerequisite for this course is SQL100 or a minimum of three months of SQL/SQL*Plus experience.

Course Topics

Advanced Subqueries

- Multiple Value Subqueries
- Nested Subqueries
- Correlated Subqueries
- EXISTS Operator
- ANY Operator
- ALL Operator

Complex Table Joins

- Multiple Outer Joins
- Replacing NOT IN With Outer Join
- Self-Join
- Tree-Structured Query
- CONNECT BY Clause

Using Multiple Cursors

- Nested Cursors
- Cursor Parameters
- Passing Parameters to Cursors

Complex Cursors & Looping

- While Loop
- Count Loop
- While Loop with Cursor
- Where Current of Clause
- Cursor Count Loop
- Cursor For Loop

Table & Record Data Types

Advanced DML

- INSERT with Table Join
- INSERT with Correlated Subquery
- UPDATE with Table Join
- UPDATE with Correlated Subquery
- DELETE with Correlated Subquery
- Temporary Tables

Dynamic SQL

- Generating SQL
- Spooling to a File
- Calling a Second File
- Using Substitution Variables

Matrix Reports

- Matrix Reports
- Decode Function
- Creating a Matrix Report
- Adding Summary Columns

Advanced Functions

- Creating Bar Charts
- Creating Graphs
- TRANSLATE Function
- Making RTRIM & LTRIM Powerful
- INSTR Function

Introduction to PL/SQL

- What is PL/SQL?
- Block Structure
- Server Output
- Declaration Section
- Variable Assignment
- Select Into
- Conditional Control
- Using an Aggregate

Cursors & Looping

- Forever Loop
- Cursors

- PL/SQL Record Data Type
- Defining a Record Data Type
- Initializing a Record Data Type
- Using Record Data Types
- Defining PL/SQL Tables
- Loading PL/SQL Tables
- Retrieving Data From PL/SQL Tables
- Creating Tables of Records

Procedures

- Procedure Definition
- Creating Procedures
- Executing a Procedure
- Procedure Parameters
- Compiling a Procedure
- Modifying a Procedure
- Dropping a Procedure

Functions

- Function Definition
- Creating a Function
- Executing a Function
- Function Parameters
- Compiling Functions
- Modifying a Function
- Dropping a Function

Packages

- Package Definition
- Package Specification
- Package Body
- Modifying a Package
- Calling a Package Object
- Dropping a Package

Database Triggers

- Trigger Definition
- Trigger Types
- When Clause
- Pseudo-columns OLD & NEW
- Creating a Trigger
- Modifying a Trigger

- Implicit Cursors
- Explicit Cursors
- Cursor Management
- Simple Cursor

- Compiling a Trigger
- Disabling a Trigger
- Enabling a Trigger
- Dropping a Trigger

Handling Exceptions

- Exceptions
- Predefined Exceptions
- Handling an Exception
- Assigning Error to Exception
- User-Defined Exceptions