

Oracle PL/SQL Course Content:35-40hours

Course Outline

Chapter 1: Database Design

- Database Models
- Beginnings
- Some Introductory Terminology
- Codd's 12 Rules
- Normalization
- First Normal Form
- Higher Order Normal Forms

Chapter 2: Oracle Standard Interfaces

- SQL
- SQL*Plus
- Oracle Architecture
- Interfaces to Oracle
- Command Line Interface
- Viewing a Sample Table
- The Graphical User Interface
- The SQL Buffer
- The Web-Based Interface
- Describe

Chapter 3: The Sample Database

- The Entity Relationship Model
- Entity Relationship Diagrams
- The Sample Database
- ER Diagram for Sample Database
- Creating the Sample Data
- Viewing Sample Data

- Data Types of the Sample Data

Chapter 4: Data Definition Language

- Categories of SQL Statements
- Oracle Datatypes
- The CREATE Statement
- The DROP Command
- The ALTER Command
- Integrity Constraints
- Entity Integrity Constraints
- Referential Integrity Constraints
- Modifying Table to Use Constraints
- Checking Constraints
- The Data Dictionary

Chapter 5: Data Manipulation Language

- DML Statements
- The SELECT Statement
- The INSERT Statement
- The DELETE Statement
- The UPDATE Statement
- More SQL*Plus Commands

Chapter 6: Transaction Control

- Transactions
- Command Classification
- Savepoints
- The SET TRANSACTION Command

Chapter 7: SQL Operators

- Simple Selects
- Comparison Operators
- IN and NOT IN Operators
- BETWEEN Operator
- The LIKE Operator
- Logical Operators
- IS NULL and IS NOT NULL
- ANY
- ALL

Chapter 8: SQL FUNCTIONS

- Introduction
- The DISTINCT Keyword
- Aliases
- Miscellaneous Functions
- Mathematical Functions
- String Functions
- Date Functions
- Conversion Functions
- Pseudo Columns

Chapter 9: Joining Tables

- Joins
- Cartesian Product
- Inner Joins
- Equi-Join
- Table Aliases
- Non-Equi Join
- Non-Key Join
- Reflexive Join
- Natural Join
- Outer Joins
- Right Outer Join
- Left Outer Join
- Full Outer Join
- Oracle-Specific Syntax for Outer Joins

Chapter 10: Set Operators

- Introduction
- Selection Criteria
- Union
- Union All
- Intersect
- Minus

Chapter 11: SQL Subqueries

- Introduction
- Using a Subquery with a DML Statement
- Typical Subqueries

- Subquery Operators
- Standard vs. Correlated Subqueries
- Correlated Subquery Example
- Predicate Operators

Chapter 12: Groups

- SQL Statements
- GROUP BY Clause
- HAVING Clause
- Order of a SELECT Statement

Chapter 13: More Database Objects

- More Database Objects
- Relational Views
- Updating a View
- Create or Replace
- Forcing a View
- The Data Dictionary Revisited
- Indexes
- Synonyms

Chapter 14: Reports

- Report Features
- Session Control
- The SET Command
- The COLUMN Command
- The BREAK Command
- The COMPUTE Command

Chapter 15: Introduction

- SQL vs. PL/SQL
- A Few Simple Examples
- Saving Procedures
- A More Complete Picture
- Comments
- Variable Substitution
- Simple Exception Handling
- Advantages of PL/SQL
- Assignments

Chapter 16: Declarations and Data Types

- Declarations
- Standard Data Types
- Initialization
- Variable Names
- Specialized Data Types - %TYPE
- Specialized Data Types - %ROWTYPE
- Building Your Own Data Types - Records
- A Quick look at Loops
- Arrays
- Tables
- Nested Blocks

Chapter 17: Language Components

- Introduction
- Assignments
- Decision Making Statements
- Simple Loops
- Loops - for
- Loops - indefinite
- Loops - while
- Simple Loops
- Nested Loops
- Boolean Variables
- PL/SQL Relational Operators
- PL/SQL Logical Operators
- The CASE Construct

Chapter 18: Cursors

- Introduction
- Cursor Manipulation
- Using the Cursor
- For Loops Cursors
- Cursor Attributes
- Cursor Parameters
- Nested Cursors
- Cursor Exceptions

Chapter 19: Exceptions

- Errors in Programs
- Run Time Exceptions
- Oracle Built In Exceptions
- Unnamed Exceptions
- Built in Exception Functions
- Creating Your Own Exceptions
- Building Non Terminating Exceptions

Chapter 20: Functions and Procedures

- Introduction
- Creating a Procedure
- Example Procedure
- Using Parameters
- Functions
- Procedures and Exceptions
- Appendix A: An SQL and SQL*Plus Reference
- DDL Statements
- DML Statements
- Transaction Control Statements
- Operators
- Common SQL*Plus Commands