

Oracle Database 10g: Advanced PL/SQL

Duration 2 Days

What you will learn:

This class is applicable to Oracle8i, Oracle9i and Oracle Database 10g users.

In this course, students learn how to use the advanced features of PL/SQL in order to design and tune PL/SQL to interface with the database and other applications in the most efficient manner. Using advanced features of program design, packages, cursors, extended interface methods, and collections, students learn how to write powerful PL/SQL programs. Programming efficiency, use of external C and Java routines, PL/SQL server pages, and fine-grained access are covered.

This course counts towards the Hands-on course requirement for the Oracle Database 10g 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:

- PL/SQL Developer
- Technical Consultant
- Database Designers

Prerequisites:

Required Prerequisites:

- [Oracle Database 10g: Program with PL/SQL](#)

Suggested Prerequisites:

- Understanding of HTML syntax

Course Objectives:

- Design PL/SQL packages and program units that execute efficiently
- Write code to interface with external applications and the operating system
- Create PL/SQL applications that use collections
- Write and tune PL/SQL code effectively to maximize performance

- Implement a virtual private database with fine-grained access control
- Perform code analysis to find program ambiguities, test, trace, and profile PL/SQL code

Course Topics:

Introduction

- Course objectives
- The Oracle complete solution
- Course agenda
- Tables and data used for this course

PL/SQL Programming Concepts Review

- Identify PL/SQL block structure
- Create procedures
- Create functions
- Create packages
- Use cursors
- Handle exceptions
- Understand dependencies
- Identify the Oracle supplied packages

Design Considerations

- List the different guidelines for cursor design
- Describe cursor variables
- Pass cursor variables as program parameters
- Compare cursor variables to static cursors
- Describe the predefined data types
- Create subtypes based on existing types for an application

Collections

- Describe and use nested tables
- Describe and use varrays
- Describe and use associative arrays
- Describe and use string indexed collections
- Describe and use nested collections
- Write PL/SQL programs that use collections
- Describe the common collection exceptions and how to code for them
- Compare associative arrays to collections

Advanced Interface Methods

- Execute external C routines from PL/SQL
- Understand the benefits of external routines
- Publish the external C routine in the PL/SQL code
- Execute a PL/SQL routine that calls the external C routine
- Execute Java routines from PL/SQL
- Publish the Java class method by creating the PL/SQL subprogram unit specification that references the Java class method
- Execute the PL/SQL subprogram that invokes the Java class method

PL/SQL Server Pages

- Define embedding PL/SQL code in Web pages (PL/SQL Server Pages)
- Describe the format of a PL/SQL Server Page
- Write the code and content for the PL/SQL Server Page
- Load the PL/SQL Server Page into the database as a stored procedure
- Run a PL/SQL Server Page via a URL
- Debug PL/SQL Server Page problems

Fine Grained Access Control

- Understand how fine-grained access control works overall
- Describe the features of fine-grained access control
- Describe an application context
- Set up a logon trigger
- View the results
- Query the dictionary views holding information on fine-grained access

Performance and Tuning

- Tune PL/SQL code
- Write smaller executable sections of code
- Compare SQL to PL/SQL on performance
- Understand how bulk binds can improve performance
- Handle exceptions with the FORALL syntax
- Identify data type and constraint issues
- Recognize network issues

Analyzing PL/SQL Code

- Use the supplied packages and dictionary views to find coding information
- dbms_describe supplied package
- Use supplied packages to find error information
- Trace PL/SQL programs using the dbms_trace supplied packageq
- Read and interpret the trace information
- Profile PL/SQL programs using the dbms_profiler supplied package
- Read and interpret the profiler information