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

Database Designers
PL/SQL Developer
Technical Consultant

Prerequisites

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

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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 meth
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

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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

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