



Oracle Database 12c: Advanced PL/SQL

This Oracle Database 12c: Advanced PL/SQL training teaches you how to use the advanced features of PL/SQL to design and tune PL/SQL to interface with the database and other applications. Expert Oracle University instructors will help you explore advanced features of program design, packages, cursors, extended interface methods and collections. In this course, you will be introduced to Oracle Database Exadata Express Cloud Service.

Learn To:

- Write powerful PL/SQL programs.
- Explore programming efficiency.
- Use external C and Java routines.
- Apply PL/SQL designing best practices.
- Create PL/SQL applications that use collections.
- Implement a virtual private database with fine-grained access control.
- Write code to interface with external C and Java applications.
- Write code to interface with large objects and use SecureFile LOBs.
- Write and tune PL/SQL code effectively to maximize performance.
- Gain an understanding of the Oracle Database Exadata Express Cloud Service.

Benefits to You

Discover how to write PL/SQL routines that analyze the PL/SQL applications and caching techniques that can improve performance. By investing in this course, you'll be introduced to the Virtual Private Database(VPD) to implement security policies and explore techniques and tools to strengthen your applications against SQL injection attacks. Expand programming resources by creating PL/SQL programs that interface with C and Java code.

Prerequisites

- Basic Knowledge of SQL, PL/SQL
- Familiarity with programming languages
- Oracle Database SQL and PL/SQL New Features

- Oracle Database: Introduction to SQL/PLSQL Accelerated
- Oracle Database 12c: SQL Tuning for Developers
- Oracle Database: Develop PL/SQL Program Units

Audience

- Database Administrator
- Developer

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
- Write code to interface with large objects and use SecureFile LOBs
- Gain an understanding of the Oracle Database Exadata Express Cloud Service

Topics

- Introduction
 - Course Objectives
 - Course Agenda
 - Describe the development environments
 - Identify the tables, data, and tools used in this course
- PL/SQL Programming Concepts: Review
 - Identify PL/SQL block structure
 - Packages, procedures and functions
 - Cursors
 - Handle exceptions
 - Dependencies
- Designing PL/SQL Code
 - Describe the predefined data types
 - Create subtypes based on existing types for an application
 - List the different guidelines for cursor design
 - Describe cursor variables
 - White List
- Overview of Collections
 - Overview of collections
 - Use Associative arrays
 - Navigate using associative methods
 - Use Nested tables
 - Use Varrays
 - Compare nested tables and varrays
- Using Collections
 - Write PL/SQL programs that use collections
 - Use Collections effectively
 - Enhancements to PL/SQL Type Binds
- Manipulating Large Objects
 - Working with LOBs
 - Overview of SecureFile LOBs
- Using Advanced Interface Methods

- Calling External Procedures from PL/SQL
- Benefits of External Procedures
- Understand how an external routine is called from PL/SQL
- C advanced interface methods
- Java advanced interface methods
- Performance and Tuning
 - Understand and influence the compiler
 - Tune PL/SQL code
 - Enable intra unit inlining
 - Identify and tune memory issues
 - Recognize network issues
- Improving Performance with Caching
 - Describe result caching
 - Use SQL query result cache
 - Use PL/SQL function cache
 - Review PL/SQL function cache considerations
- Analyzing PL/SQL Code
 - Finding Coding Information
 - PL/Scope Concepts
 - DBMS_METADATA Package
 - PL/SQL Enhancements
- Profiling and Tracing PL/SQL Code
 - Tracing PL/SQL Execution
 - Tracing PL/SQL: Steps
- 12:Implementing VPD with Fine-Grained Access Control
 - Understand how fine-grained access control works overall
 - Describe the features of fine-grained access control
 - Describe an application context
 - Create an application context
 - Set an application context
 - List the DBMS_RLS procedures
 - Implement a policy
 - Query the dictionary views holding information on fine-grained access
- Safeguarding Your Code Against SQL Injection Attacks
 - SQL Injection Overview
 - Reducing the Attack Surface
 - Filtering Input with DBMS_ASSERT
- Oracle Cloud Overview
 - Introduction to Oracle Cloud & Oracle Cloud Services
 - Cloud Deployment Models
 - Evolving from On-premises to Exadata Express
 - What is in Exadata Express?
 - Exadata Express for Users & Developers
 - Oracle Exadata Express Cloud Service
 - Getting Started with Exadata Express
 - Service Console & Web Access through Service Console