

Oracle Advanced PL/SQL

Cursusduur: 3 Dagen Cursuscode: OAP Trainingsmethode: Maatwerk

Beschrijving:

Oracle Advanced PL/SQL Course Overview

This course, designed for Oracle database administrators and software development personnel who need to gain practical experience of the advanced features of PL/SQL such as program design, packages, cursors, large objects and collections.

It also introduces some of the Oracle-supplied packages.

Exercises and examples are used throughout the course to give practical hands-on experience with the techniques covered.

Versions supported 12cR2, 18c, 19c.

Maatwerk

Global Knowledge biedt zowel standaard- als maatwerkcursussen die zijn afgestemd op uw wensen en die als besloten cursus op uw eigen locatie of onze locatie gevolgd kunnen worden.

Doelgroep:

Who will the Course Benefit?

Software development personnel and Oracle database administrators who need to take advantage of the advanced features of PL/SQL in Oracle Database.

Practical experience of Oracle SQL or SQL Developer and a good working knowledge of the fundamentals of the PL/SQL programming language are required.

Versions supported 12cR2, 18c and 19c.

Doelstelling:

■ Course Objectives

■ By the end of this Oracle Advanced PL/SQL course delegates will be able to effectively tune PL/SQL code; create subtypes; create and use collections; execute external C programs and Java programs from PL/SQL; use fine-grained access control; use LOB data types and the DBMS_LOB package; use SecureFile LOBs; effectively design cursors; improve memory usage with PL/SQL result caching and SQL result sets and apply coding standards to avoid SQL injection attacks.

Vereiste kennis en vaardigheden:

■ Practical experience of Oracle SQL and the PL/SQL programming language is required. This can be gained by attendance on the pre-requisite courses. Familiarity with the Oracle Database is also required.

Vervolg cursussen:

Further Learning

- Oracle 19c SQL Performance Tuning
 - Oracle Database 19c Administration
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Cursusinhoud:

Oracle Advanced PL/SQL Training Course Course Contents - DAY 1

Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

Session 1: DESIGNING PL/SQL CODE FOR PERFORMANCE

- Oracle Predefined Data Types
- Create Subtypes Based on Existing Types for an Application
- Guidelines for Cursor Design
- Use Cursor Variables
- Pass Cursor Variables as Program Parameters
- Compare Cursor Variables to Static Cursors

Session 2: USE COLLECTIONS

- Overview of Collections
- Associative Arrays
- Nested Tables
- Varrays
- Select the Appropriate Collection Type
- Create PL/SQL Programs that use Collections
- Use Collections Effectively

Session 3: ADVANCED INTERFACE METHODS

- The Benefits of External Routines
- External Routine Components
- Define the Library to Oracle
- Register the External Function
- Networking Files
- The Shared Library
- Call an Operating System Supplied DLL from PL/SQL
- Create Secure External Procedures
- Call C Program from PL/SQL
- Call Java from PL/SQL

Session 4: VPD AND FINE-GRAINED ACCESS CONTROL

- Overview of Fine-Grained Access Control
 - The Features of Fine-Grained Access Control
 - Overview of an Application Context
 - Create an Application Context
 - Set an Application Context
 - Describe the Package DBMS_RLS
 - Implement a Policy
 - Query the Data Dictionary for Fine-Grained Access Control Information
- Oracle Advanced PL/SQL Training Course Course Contents - DAY 2

Session 5: MANIPULATE LARGE OBJECTS

- Overview of a LOB Object
- Manage Internal LOBs
- Character Large Objects
- Binary Large Objects
- External Large Objects - BFILES
- Create and Use the DIRECTORY Object to Access and Use BFILES
- The DBMS_LOB Package
- Delete LOBs
- Create a Temporary LOB using the Package DBMS_LOB

Session 6: ADMINISTER SECUREFILE LOBS

- Overview of SecureFile LOBs
- Configure the Environment for SecureFile LOBs
- Store Documents using SecureFile LOBs
- Convert BasicFile LOBS to SecureFile LOBs
- Evaluate the Performance of SecureFile LOBs
- Establish Space Utilization of a LOB File
- Set up Encryption
- Enable Compression and Deduplication

Session 7: TUNING PL/SQL CODE FOR PERFORMANCE

- Understand the PL/SQL Compiler
- Influence the Compiler
- Tuning PL/SQL Programs
- The DBMS_UTILITY.GET_TIME Function
- Tuning SQL
- Reduce the Number of SQL Calls
- PL/SQL Tuning
- The FETCH FIRST Clause and Bulk Collections
- The DBMS_EXECUTE_PARALLEL Package
- PL/SQL Functions that Run Faster in SQL
- PL/SQL Native Compilation

Session 9: ANALYZE PL/SQL CODE

- Use Data Dictionary Views to View Coding Information
- Use Supplied Packages to View Coding Information
- Use the DBMS_METADATA Package to View Metadata as XML
- Use the DBMS_METADATA Package to Create DDL that can be used to Re-create Objects
- Determine Identifier Types and Usages with PL/Scope
- The UTL_CALL_STACK Package
- Compile Time Warnings
- Conditional Compilation

Session 10: PROFILE AND TRACE PL/SQL CODE

- Trace PL/SQL Program Execution
- Profile PL/SQL Applications
- Access the Trace Data
- DBMS_PROFILER
- The Hierarchical Profiler
- PL/SQL Predefined Enquiry Directives

Session 11: SECURE CODE

- Grant Roles to Standalone Programs and PL/SQL Packages
- BEQUEATH CURRENT_USER Views
- Enable INHERENT PRIVILEGES and INHERIT ANY PRIVILEGES Privileges
- White Lists using the ACCESSIBLE BY Clause

Session 12: SAFEGUARD CODE

- Overview of SQL Injections
- Detecting Attacks
- Review of Dynamic SQL
- The Attack Surface
- Typical SQL Attacks
- Reduce Attack Surfaces
- Use the DBMS_ASSERT Package
- Design Immune Code
- Test Code for SQL Injection Flaws

Session 13: MISCELLANEOUS NEW 12c NEW FEATURES

- Edition Based Redefinition
- Invisible Columns and the %ROWTYPE Attribute

Session 8: USE SQL AND PL/SQL CACHING
TO IMPROVE PERFORMANCE

- The Importance of the Shared Pool
 - Library Cache
 - The Data Dictionary Cache
 - Pinning Code in the Shared Pool
 - SQL and PL/SQL Caching
 - PL/SQL Function Cache
 - Invoker's Right Function Result Caching
 - The Invalidation of Cache Results
 - The DBMS_RESULTS_CACHE Package
- Oracle Advanced PL/SQL Training
Course Course Contents - DAY 3

Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

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