Szkolenie: Oracle
Oracle Database: SQL and PL/SQL Fundamentals

FORMA SZKOLENIA | MATERIAŁY SZKOLENIOWE | CENA | CZAS TRWANIA
---|---|---|---
Stacjonarne | Cyfrowe | 7450 PLN NETTO* | 5 dni
Stacjonarne | Tablet CTAB | 8050 PLN NETTO* | 5 dni
Metoda dlearning | Cyfrowe | 7450 PLN NETTO* | 5 dni
Metoda dlearning | Tablet CTAB | 7450 PLN NETTO* | 5 dni

*L (+VAT zgodnie z obowiązującą stawką w dniu wystawienia faktury)

LOKALIZACJE

Kraków - ul. Tatarska 5, II piętro, godz. 9:00 - 16:00
Warszawa - ul. Bielska 17, godz. 9:00 - 16:00

Cel szkolenia:

This Oracle Database: SQL and PL/SQL Fundamentals training delivers the fundamentals of SQL and PL/SQL along with the benefits of the programming languages using Oracle Database technology. You'll explore the concepts of relational databases.

**Learn To:**

- Write queries against single and multiple tables, manipulate data in tables and create database objects.
- Use single row functions to customize output.
- Invoke conversion functions and conditional expressions.
- Use group functions to report aggregated data.
- Create PL/SQL blocks of application code that can be shared by multiple forms, reports and data management applications.
- Develop anonymous PL/SQL blocks, stored procedures and functions.
- Declare identifiers and trap exceptions.
- Use DML statements to manage data.
- Use DDL statements to manage database objects.
- Declare PL/SQL Variables.
- Conditionally control code flow (loops, control structures).
- Describe stored procedures and functions.
- Retrieve row and column data from tables.

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Plan szkolenia:

- **Introduction**
  - Overview of Oracle Database 12c and related products
  - Overview of relational database management concepts and terminologies
  - Introduction to SQL and its development environments
  - The HR schema and the tables used in this course
  - Oracle Database documentation and additional resources

- **Retrieve Data using the SQL SELECT Statement**
  - List the capabilities of SQL SELECT statements
  - Generate a report of data from the output of a basic SELECT statement
  - Use arithmetic expressions and NULL values in the SELECT statement
  - Invoke Column aliases
  - Concatenation operator, literal character strings, alternative quote operator, and the DISTINCT keyword
  - Display the table structure using the DESCRIBE command

- **Restricted and Sorted Data**
  - Write queries with a WHERE clause to limit the output retrieved
  - Describe the comparison operators and logical operators
  - Describe the rules of precedence for comparison and logical operators
  - Usage of character string literals in the WHERE clause
  - Write queries with an ORDER BY clause
  - Sort the output in descending and ascending order
  - Substitution Variables

- **Usage of Single-Row Functions to Customize Output**
  - List the differences between single row and multiple row functions
  - Manipulate strings using character functions
  - Manipulate numbers with the ROUND, TRUNC, and MOD functions
  - Perform arithmetic with date data
  - Manipulate dates with the DATE functions

- **Conversion Functions and Conditional Expressions**
  - Describe implicit and explicit data type conversion
  - Describe the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions
  - Nesting multiple functions
  - Apply the NVL, NULLIF, and COALESCE functions to data
  - Usage of conditional IF THEN ELSE logic in a SELECT statement
Aggregated Data Using the Group Functions
- Usage of the aggregation functions in SELECT statements to produce meaningful reports
- Describe the AVG, SUM, MIN, and MAX function
- How to handle Null Values in a group function?
- Divide the data in groups by using the GROUP BY clause
- Exclude groups of date by using the HAVING clause

Display Data From Multiple Tables
- Write SELECT statements to access data from more than one table
- Join Tables Using SQL:1999 Syntax
- View data that does not meet a join condition by using outer joins
- Join a table to itself by using a self join
- Create Cross Joins

Usage of Subqueries to Solve Queries
- Use a Subquery to Solve a Problem
- Single-Row Subqueries
- Group Functions in a Subquery
- Multiple-Row Subqueries
- Use the ANY and ALL Operator in Multiple-Row Subqueries
- Use the EXISTS Operator

SET Operators
- Describe the SET operators
- Use a SET operator to combine multiple queries into a single query
- Describe the UNION, UNION ALL, INTERSECT, and MINUS Operators
- Use the ORDER BY Clause in Set Operations

Data Manipulation
- Add New Rows to a Table
- Change the Data in a Table
- Use the DELETE and TRUNCATE Statements
- How to save and discard changes with the COMMIT and ROLLBACK statements
- Implement Read Consistency
- Describe the FOR UPDATE Clause

DDL Statements to Create and Manage Tables
- Categorize Database Objects
- Create Tables
- Describe the data types
- Understand Constraints
○ Create a table using a subquery
○ How to alter a table?
○ How to drop a table?

○ Other Schema Objects
  ○ Create, modify, and retrieve data from a view
  ○ Perform Data manipulation language (DML) operations on a view
  ○ How to drop a view?
  ○ Create, use, and modify a sequence
  ○ Create and drop indexes
  ○ Create and drop synonyms

○ Introduction to PL/SQL
  ○ PL/SQL Overview
  ○ List the benefits of PL/SQL Subprograms
  ○ Overview of the Types of PL/SQL blocks
  ○ Create a Simple Anonymous Block
  ○ Generate the Output from a PL/SQL Block

○ PL/SQL Identifiers
  ○ List the different Types of Identifiers in a PL/SQL subprogram
  ○ Usage of the Declarative Section to Define Identifiers
  ○ Use of variables to store data
  ○ Scalar Data Types
  ○ %TYPE Attribute
  ○ Bind Variables
  ○ Sequences in PL/SQL Expressions

○ Write Executable Statements
  ○ Basic PL/SQL Block Syntax Guidelines
  ○ How to comment code?
  ○ SQL Functions in PL/SQL
  ○ Data Type Conversion
  ○ Nested Blocks
  ○ Operators in PL/SQL

○ Interaction with the Oracle Server
  ○ SELECT Statements in PL/SQL to Retrieve data
  ○ Data Manipulation in the Server Using PL/SQL
  ○ The SQL Cursor concept
  ○ Learn to use SQL Cursor Attributes to Obtain Feedback on DML
○ How to save and discard transactions?

○ Control Structures
  ○ Conditional processing Using IF Statements
  ○ Conditional processing Using CASE Statements
  ○ Simple Loop Statement
  ○ While Loop Statement
  ○ For Loop Statement
  ○ The Continue Statement

○ Usage of Composite Data Types
  ○ PL/SQL Records
  ○ The %ROWTYPE Attribute
  ○ Insert and Update with PL/SQL Records
  ○ Associative Arrays (INDEX BY Tables)
  ○ INDEX BY Table Methods
  ○ INDEX BY Table of Records

○ Explicit Cursors
  ○ Understand Explicit Cursors
  ○ Declare the Cursor
  ○ How to open the Cursor?
  ○ Fetching data from the Cursor
  ○ How to close the Cursor?
  ○ Cursor FOR loop
  ○ Explicit Cursor Attributes
  ○ FOR UPDATE Clause and WHERE CURRENT Clause

○ Exception Handling
  ○ What are Exceptions?
  ○ Handle Exceptions with PL/SQL
  ○ Trap Predefined Oracle Server Errors
  ○ Trap Non-Predefined Oracle Server Errors
  ○ Trap User-Defined Exceptions
  ○ Propagate Exceptions
  ○ RAISE_APPLICATION_ERROR Procedure

○ Stored Procedures and Functions
  ○ What are Stored Procedures and Functions?
  ○ Differentiate between anonymous blocks and subprograms
  ○ Create a Simple Procedure
○ Create a Simple Procedure with IN parameter
○ Create a Simple Function
○ Execute a Simple Procedure
○ Execute a Simple Function

Wymagania:

Recommended Related Training Courses:

○ Using Java - for PL/SQL and Database Developers
○ Oracle Database: SQL Tuning for Developers

Poziom trudności

Certyfikaty:

Uczestnicy szkoleń otrzymają zaświadczenia o ukończeniu kursu sygnowane przez firmę Oracle.

Prowadzący:

Autoryzowany wykładowca Oracle.