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

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<th>FORMA SZKOLENIA</th>
<th>MATERIAŁY SZKOLENIOWE</th>
<th>CENA</th>
<th>CZAS TRWANIA</th>
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<td>Stacjonarne</td>
<td>Cyfrowe</td>
<td>7450 PLN NETTO*</td>
<td>5 dni</td>
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<td>Stacjonarne</td>
<td>Tablet CTAB</td>
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* (+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.
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.