### FORMA SZKOLENIA MATERIAŁY SZKOLENIOWE CENA CZAS TRWANIA
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<td>Stacjonarne</td>
<td>Cyfrowe</td>
<td>14750 PLN NETTO*</td>
<td>5 dni</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 **Introduction to SQL/PLSQL Accelerated** course will teach you SQL and PL/SQL programming language concepts. Learn how to write SQL commands, develop stored PL/SQL procedures, functions, packages and database triggers. This accelerated course covers 10 days worth of content in only 5 days.

**Learn To:**

- Understand the fundamental and core concepts of relational databases.
- Create reports of sorted and restricted data.
- Run data manipulation statements (DML).
- Retrieve row and column data from tables.
- Control privileges at the object and system level.
- Create indexes and constraints; alter existing schema objects.
- Create and query external tables.
- Create anonymous PL/SQL blocks, functions and procedures.
- Conditionally control code flow (loops, control structures).
- Create stored procedures, functions and packages.
- Conditionally control code flow (loops, control structures).
- Use PL/SQL packages to group and contain related constructs.
- Create triggers to solve business challenges.
- Leverage the Oracle supplied PL/SQL packages for various programming tasks.
Plan szkolenia:

- Introduction to Oracle Database
  - List the features of Oracle Database 12c
  - Discuss the basic design, theoretical, and physical aspects of a relational database
  - Categorize the different types of SQL statements
  - Describe the data set used by the course
  - Log on to the database using SQL Developer environment
  - Save queries to files and use script files in SQL Developer

- 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
  - Select All Columns
  - Select Specific Columns
  - Use Column Heading Defaults
  - Use Arithmetic Operators
  - Understand Operator Precedence
  - Learn the DESCRIBE command to display the table structure

- Learn to Restrict and Sort Data
  - Write queries that contain a WHERE clause to limit the output retrieved
  - List the comparison operators and logical operators that are used in a WHERE clause
  - Describe the rules of precedence for comparison and logical operators
  - Use character string literals in the WHERE clause
  - Write queries that contain an ORDER BY clause to sort the output of a SELECT statement
  - Sort output in descending and ascending order

- Usage of Single-Row Functions to Customize Output
  - Describe the differences between single row and multiple row functions
  - Manipulate strings with character function in the SELECT and WHERE clauses
  - Manipulate numbers with the ROUND, TRUNC, and MOD functions
  - Perform arithmetic with date data
  - Manipulate dates with the DATE functions

- Invoke Conversion Functions and Conditional Expressions
  - Describe implicit and explicit data type conversion
  - Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions
  - Nest multiple functions
  - Apply the NVL, NULLIF, and COALESCE functions to data
○ Use conditional IF THEN ELSE logic in a SELECT statement

○ **Aggregate Data Using the Group Functions**
  ○ Use the aggregation functions to produce meaningful reports
  ○ Divide the retrieved data in groups by using the GROUP BY clause
  ○ Exclude groups of data by using the HAVING clause

○ **Display Data From Multiple Tables Using Joins**
  ○ Write SELECT statements to access data from more than one table
  ○ View data that generally does not meet a join condition by using outer joins
  ○ Join a table to itself by using a self join

○ **Use Sub-queries to Solve Queries**
  ○ Describe the types of problem that sub-queries can solve
  ○ Define sub-queries
  ○ List the types of sub-queries
  ○ Write single-row and multiple-row sub-queries

○ **The SET Operators**
  ○ Describe the SET operators
  ○ Use a SET operator to combine multiple queries into a single query
  ○ Control the order of rows returned

○ **Data Manipulation Statements**
  ○ Describe each DML statement
  ○ Insert rows into a table
  ○ Change rows in a table by the UPDATE statement
  ○ Delete rows from a table with the DELETE statement
  ○ Save and discard changes with the COMMIT and ROLLBACK statements
  ○ Explain read consistency

○ **Use of DDL Statements to Create and Manage Tables**
  ○ Categorize the main database objects
  ○ Review the table structure
  ○ List the data types available for columns
  ○ Create a simple table
  ○ Decipher how constraints can be created at table creation
  ○ Describe how schema objects work

○ **Other Schema Object**
  ○ Create a simple and complex view
  ○ Retrieve data from views
  ○ Create, maintain, and use sequences
Create and maintain indexes
Create private and public synonyms

Introduction to PL/SQL
- Overview of PL/SQL
- Identify the benefits of PL/SQL Subprograms
- Overview of the types of PL/SQL blocks
- Create a Simple Anonymous Block
- How to generate output from a PL/SQL Block?

Declare PL/SQL Identifiers
- List the different Types of Identifiers in a PL/SQL subprogram
- Usage of the Declarative Section to Define Identifiers
- Use variables to store data
- Identify Scalar Data Types
- The %TYPE Attribute
- What are Bind Variables?
- Sequences in PL/SQL Expressions

Write Executable Statements
- Describe Basic PL/SQL Block Syntax Guidelines
- Learn to Comment the Code
- Deployment of SQL Functions in PL/SQL
- How to convert Data Types?
- Describe Nested Blocks
- Identify the Operators in PL/SQL

Interaction with the Oracle Server
- Invoke SELECT Statements in PL/SQL
- Retrieve Data in PL/SQL
- SQL Cursor concept
- Avoid Errors by using Naming Conventions when using Retrieval and DML Statements
- Data Manipulation in the Server using PL/SQL
- Understand the SQL Cursor concept
- Use SQL Cursor Attributes to Obtain Feedback on DML
- Save and Discard Transactions

Control Structures
- Conditional processing using IF Statements
- Conditional processing using CASE Statements
- Describe simple Loop Statement
○ Describe While Loop Statement
○ Describe For Loop Statement
○ Use the Continue Statement

○ Composite Data Types
○ Use PL/SQL Records
○ The %ROWTYPE Attribute
○ Insert and Update with PL/SQL Records
○ INDEX BY Tables
○ Examine INDEX BY Table Methods
○ Use INDEX BY Table of Records

○ Explicit Cursors
○ What are Explicit Cursors?
○ Declare the Cursor
○ Open the Cursor
○ Fetch data from the Cursor
○ Close the Cursor
○ Cursor FOR loop
○ The %NOTFOUND and %ROWCOUNT Attributes
○ Describe the FOR UPDATE Clause and WHERE CURRENT Clause

○ Exception Handling
○ Understand 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
○ Create a Modularized and Layered Subprogram Design
○ Modularize Development With PL/SQL Blocks
○ Understand the PL/SQL Execution Environment
○ List the benefits of using PL/SQL Subprograms
○ List the differences between Anonymous Blocks and Subprograms
○ Create, Call, and Remove Stored Procedures
○ Implement Procedures Parameters and Parameters Modes
○ View Procedure Information
• Stored Functions and Debugging Subprograms
  • Create, Call, and Remove a Stored Function
  • Identify the advantages of using Stored Functions
  • Identify the steps to create a stored function
  • Invoke User-Defined Functions in SQL Statements
  • Restrictions when calling Functions
  • Control side effects when calling Functions
  • View Functions Information
  • How to debug Functions and Procedures?

Wymagania:

Recommended Related Training Courses:

• Using Java - for PL/SQL and Database Developers
• Oracle Database: SQL Tuning for Developers
• Oracle Database 12c: Analytic SQL for Data Warehousing

Poziom trudności

Certyfikaty:

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

Prowadzący:

Autoryzowany wykładowca Oracle.