<table>
<thead>
<tr>
<th>FORMA SZKOLENIA</th>
<th>MATERIAŁY SZKOLENIOWE</th>
<th>CENA</th>
<th>CZAS TRWANIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stacjonarne</td>
<td>Cyfrowe</td>
<td>14750 PLN NETTO*</td>
<td>5 dni</td>
</tr>
<tr>
<td>Stacjonarne</td>
<td>Tablet CTAB</td>
<td>15350 PLN NETTO*</td>
<td>5 dni</td>
</tr>
<tr>
<td>Metoda dlearning</td>
<td>Cyfrowe</td>
<td>14750 PLN NETTO*</td>
<td>5 dni</td>
</tr>
<tr>
<td>Metoda dlearning</td>
<td>Tablet CTAB</td>
<td>14750 PLN NETTO*</td>
<td>5 dni</td>
</tr>
</tbody>
</table>

* (+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.