Szkolenie: Oracle
Oracle Database: Introduction to SQL/PLSQL Accelerated

<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.