
DBM039 : Oracle Database PL/SQL Programming**หลักการและเหตุผล :**

This course provides the knowledge and skills to learning about how to utilize the procedural language extension for SQL in the Oracle relational database. Starting with learning about data types, flow control, errors, and more. You will explore strings, numbers, booleans, and arrays. From there, jumps into creating programs, using if statements, loops functions, how to handle exceptions, using packages, and even objects. This course really is an in-depth look at programming with PL/SQL

หลักสูตรนี้เหมาะสำหรับ :

- This course is intended for IT Professionals who want to be programing skilled on Oracle Database with PL/SQL

วัตถุประสงค์ :

- Describes about overview of PL/SQL
- Using appropriate Data Types
- Defining and Using Complex Data Structures
- Declaring Variables
- Using Flow Control
- Using SQL in PL/SQL
- Implementing Function
- Implementing Procedure
- Implementing Exception Handling
- Implementing Packages
- Using PL/SQL Collections and Records
- Implementing Triggers

ความรู้พื้นฐาน :

- Working knowledge of Transact-SQL
- Working knowledge of relational databases
- Some experience with database design

เนื้อหาการอบรม :**Module 1: Introduction to PL/SQL**

- What is PL/SQL?
- Advantage of PL/SQL
- PL/SQL Engine
- PL/SQL Block Structure
- Anonymous Block vs. Named Block
- PL/SQL Statement
- Delimiters, Identifiers, Literal and Comments

Module 2: Data Types and Variables

- Handling Variables in PL/SQL
- Guidelines for Declaring and Initializing PL/SQL Variables
- Bind Variables and Substitution Variables
- Types of Variables
 - Scalar
 - Composite
 - Reference
 - LOB
- Data Type Conversion
- Using PL/SQL Records
- %TYPE and % ROWTYPE
- PL/SQL Expression

- Operator Precedence
- Using Sequence
- Handling Null Values and Null Statements
- Nested Blocks, Variable Scope and Labels

Module 3: Using Flow Control

- Basic Control Structures
- Conditional Selection
 - IF ... THEN ...
 - IF ... THEN ... ELSE ...
 - IF ... THEN ... ELSIF ...
 - Simple CASE Statements
 - Searched CASE Statements
- Iterative Control
 - Basic loop
 - WHILE loop
 - FOR loop
- Continue Statement and GOTO Statement

Module 4: Using SQL in PL/SQL

- Static and Dynamic SQL
- Using Select Statement in PL/SQL
- Using Insert Statement in PL/SQL
- Using Update Statement in PL/SQL
- Using Delete Statement in PL/SQL
- Using Merge Statement in PL/SQL
- Returning Clause
- SQL Cursor
- Implicit Cursor and Attributes
- Processing Explicit Cursor
 - Declaring Cursor
 - Opening Cursor
 - Fetching Data from Cursor
 - Closing Cursor
- Explicit Cursor Attributes
- Cursor FOR Loop
- FOR Update Cursor and WHERE CURRENT OF Clause
- Cursor Variables
- Database Transactions
 - COMMIT/ROLLBACK/SAVEPOINT
 - AUTOCOMMIT
 - SET TRANSACTION
 - READ ONLY TRANSACTION
 - Autonomous TRANSACTION

Module 5: Handling Exceptions

- Overview of Exceptions
- Trapping Exceptions
- Predefined Exceptions vs. User-Defined Exceptions
- Non-Predefined Oracle Server Errors
- How Exceptions Propagate
- RAISE Statement
- Exception Scope
- Error Reporting Function with SQLCODE and SQLERRM
- Raise own error message

Module 6: Implement Stored Procedure and Functions

- What are Subprograms
- Advantages of Subprograms
- Difference Between Anonymous Blocks and Subprograms
- About Stored Procedure
- Create and Execute Stored Procedure
- Format and Actual Parameters
- Parameter Modes
- Handled Exceptions
- Nested Subprograms
- About Functions
- Create and Execute Functions
- Guidelines and Restrictions on Calling Functions
- Definer and Invoker Right
- Overloading Subprograms

Module 7: Implement Package

- About PL/SQL Packages
- Components of a PL/SQL Package
- Advantage of Using Packages
- Guidelines for Writing a Packages
- Creating the Package Specification
- Creating the Package Body
- Creating the Bodiless Package
- Using Oracle-Supplied Packages

Module 8: Using PL/SQL Collections and Records

- What is a Collection?
- Working with Collection
- Using Associative Arrays
- Using Nested tables
- Using Varrays
- Assigning and Comparing Collection
- About Collection Method
- Using Bulk Binding in SELECT, DML and Fetch CURSOR
- FORALL Statement and SQL%BULK_ROWCOUNT
- Handling FORALL Exceptions

Module 9: Implement Trigger

- About Trigger
- Guidelines for Designing Triggers
- Types of DML Trigger
 - Statement Trigger vs. Row Triggers
- Trigger Timing
 - BEFORE/AFTER/INSTEAD OF
- Using Conditional Predicates
- Firing Trigger based on Conditions
- Implementing an Integrity Constraint with a Trigger
- Creating Compound DML Triggers
- Creating Non-DML Event Triggers for Audit
- Managing Triggers
- Guidelines for Using Triggers

วิทยากร :



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- NCS L.3, CompTIA Security+, ITIL Foundation v.3, CCNA
- MCT, MCITP Enterprise, MCSE +Security +Messaging

จำนวนชั่วโมงในการฝึกอบรม: 5 วัน (30 ชั่วโมง)

ช่วงเวลาฝึกอบรม: 9.00 - 16.00 น.

สถานที่ฝึกอบรม :

สถาบันวิทยากร สวทช.

เลขที่ 73/1 อาคารสำนักงานพัฒนาวิทยาศาสตร์และเทคโนโลยีแห่งชาติ (สวทช.)

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วิธีการสำรองที่นั่ง :

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