

Oracle Database Program with PL/SQL



Online Course



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Course Modules

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1. Declaring PL/SQL Variables

- Recognize valid and invalid identifiers
- Uses of variables, declr & initialize variables, use bind variables
- Describe various data types using the %TYPE & %ROWTYPE

2. Writing Executable Statements

- Identify lexical units in a PL/SQL block
- Use built-in SQL functions in PL/SQL & sequences in PL/SQL exp
- Implicit conversions take place and when explicit conversions
- Write nested blocks and qualify variables with labels
- Write readable code with appropriate indentation

3. Writing SQL in PL/SQL

- Create PL/SQL executable blocks using DML & transaction ctrl
- Make use of the INTO clause to hold the values returned

4. Writing Control Structures

- Identify the uses and types of control structures
- Construct and identify loop statements
- Use EXIT and CONTINUE statements inside loops



5. Working with Composite Data Types

- Create user-defined PL/SQL records
- Create a record with the %ROWTYPE attribute
- Create an INDEX BY table and INDEX BY table of records
- Differences among records, collectns, & collections of records
- Initialize collections and records

6. Using Explicit Cursors

- Distinguish btwn implicit & explicit cursors and use SQL cursor
- Control explicit cursors, use simple loops & cursor FOR loops
- Declare and use cursors with parameters
- Lock rows with the FOR UPDATE clause & refer the current row

7. Handling Exceptions

- Define PL/SQL exceptions
- Recognize unhandled exceptions
- Handle different types of exceptions
- Propagate exceptions

8. Using PL/SQL Subprograms

- Differentiate between anonymous blocks and subprograms
- Create a simple procedure & invoke it from an anonymous block
- Identify benefits of subprograms

9. Creating Procedures and Using Parameters

- Create a procedure with parameters
- Use named notation
- Work with procedures (create, invoke and remove procedures)
- Handle exceptions in procedures & display a procedure's info

10. Creating Functions

- Differentiate between a procedure and a function
- Describe the uses of functions
- Work with functions (create, invoke and remove functions)

11. Creating Packages

- Identify the benefits and the components of packages
- Work with packages (create package specification and body)
- Overload package subprograms and use forward declarations

12. Working with Packages

- Use package types and variables
- Use packaged constants and functions in SQL
- Use ACCESSIBLE BY to restrict access to package subprograms

13. Using Dynamic SQL

- Describe the execution flow of SQL statements
- Use Native Dynamic SQL (NDS)
- Bind PL/SQL types in SQL statements

14. Design Considerations for PL/SQL Code

- Create standard constants and exceptions
- Write and call local subprograms
- Control the run-time privileges of a subprogram
- Perform autonomous transactions
- NOCOPY hint, PARALLEL ENABLE hint & DETERMINISTIC clause
- Use bulk binding and the RETURNING clause with DML

15. Creating Compound, DDL, and Event Database Triggers

- Create triggers on DDL statements
- Create triggers on system events
- Describe different types of triggers and their uses

16. Using the PL/SQL Compiler

- Describe the PL/SQL compiler and features
- Use the PL/SQL compiler initialization parameters
- Use the PL/SQL compile time warnings

17. Managing PL/SQL Code

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- Describe and use conditional compilation
- Code-based access control: granting roles to program units
- Whitelist code access with the ACCESSIBLE BY clause
- Mark code as deprecated

18. Managing Dependencies

- Track and manage procedural dependencies

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