

## Course Content of Oracle 12C Developer:

### Introduction

- Course Objectives
- Course Agenda
- Describe the full Human Resources (HR) Schema
- Identify the Appendices Used in this Course
- Review the online Oracle Database 12c SQL and PL/SQL documentation and the additional available resources
- List the PL/SQL development environments Available in this course
- Start SQL Developer and Create a Database Connection
- Use the SQL Worksheet

### Oracle Database Exadata Express Cloud Service

- Overview of Oracle Database Exadata Express Cloud Service
- Accessing Cloud Database using SQL Workshop
- Connecting to Exadata Express Database using Database Clients
- Using SQL Developer to work with Exadata Express Database

### Overview of Collections

- Overview of Collections
- Use Associative arrays
- Use Nested tables
- Use Varrays

### Using Collections in PL/SQL

- Write PL/SQL programs that use collections
- Use Collections effectively
- Enhancements to PL/SQL Type Binds
- Binding PL/SQL only datatypes to SQL statements using DBMS\_SQL

### Manipulating Large Objects

- Working with LOBs

- Overview of SecureFile LOBs

## Working with JSON Data

- JSON Data
- JSON data columns in tables
- Generation of JSON data with SQL/JSON generation function
- Querying JSON columns
- PL/SQL object types for JSON

## Using Advanced Interface Methods

- Calling External Procedures from PL/SQL
- Benefits of External Procedures
- Understand how an external routine is called from PL/SQL
- C advanced interface methods
- Java advanced interface methods
- Access PL/SQL blocks from from Java classes using JDBC

## Performance and Tuning

- Understand and influence the compiler
- Tune PL/SQL code
- Enable intra unit inlining
- Identify and tune memory issues
- Recognize network issues
- Designing Applications for Real World Performance

## Improving Performance with Caching

- Describe result caching
- Use PL/SQL function cache
- Review PL/SQL function cache considerations

## Analyzing PL/SQL Code

- Finding Coding Information
- PL/Scope Concepts

- DBMS\_METADATA Package
- PL/SQL Enhancements
- PL/SQL Pragma to mark an item deprecated

## Profiling and Tracing PL/SQL Code

- What is Tracing and Profiling
- Tracing PL/SQL Execution
- Tracing PL/SQL: Steps

## Securing application through PL/SQL

- Controlling Access to Program Units
- Managing Access to data using PL/SQL
- Creating Secure Application roles to control access to applications

## Safeguarding Your Code Against SQL Injection Attacks

- SQL Injection Overview
- Reducing the Attack Surface
- Filtering Input with DBMS\_ASSERT

## Security Features implemented through PL/SQL

- Brief introduction to Security implementation
- Fine Grained Access Control
- Application Context
- List the DBMS\_RLS procedures
- Implement a policy
- Query the dictionary views holding information on fine-grained access