Oracle(PL/SQL) Training

30 Days

Course Description: This course is designed for people who have worked with other relational databases and have knowledge of SQL, another course, called Introduction to Oracle9i for Experienced SQL Users is offered. The course covers SQL commands for DML, DDL, Query, and Transaction Control operations. Students are also introduced to procedural programming using PL/SQL. During the database course you'll learn to understand the planning, documentation and management of databases. You'll also learn how to convert tech speak into something more meaningful so that you can work with your clients or employers to design and deliver data systems that really give them what they need. This course track will provide you with the knowledge and skills to become a Database Professional. It will also give you the industry recognized IT certifications that will demonstrate your competence to employers, peers and customers. The backup and recovery workshop will teach you how to evaluate your own recovery requirements. You'll learn to develop an appropriate strategy for backup and recovery procedures. Learn to develop appropriate backup and recovery procedures to address your business needs; to employ Oracle Database recovery procedures to recover from media failure; and to use Flashback Technologies to complement backup and recovery procedures.

Who Should Attend? Application designers and developers, database administrators and operators, and end users should attend this course.

Prerequisites: There are no prerequisites for this course.

Benefits of Attendance: **Upon completion of this course, students will be able to:**

- Describe the purpose of PL/SQL.

- Describe the use of PL/SQL for the developer as well as DBA.

- Explain the benefits of PL/SQL.

- Create, execute, and maintain procedures, functions, packages, and database triggers.

- Manage PL/SQL subprograms and triggers.

- Describe Oracle supplied packages.

- Manipulate Large objects (LOBs).

- Describe additional high availability features such as Oracle Data Guard and Oracle Secure Backup

- Plan effective backup and recovery procedures

- Describe Oracle Database backup methods and recovery operations that can be used to resolve database failure

- Configure the database for recoverability

Overview of PL/SQL Programs

- Describe a PL/SQL program construct
- List the components of a PL/SQL block
- List the benefits of subprograms
- Describe how a stored procedure/function is invoked

Creating Procedures

- Define what a stored procedure is
- List the development steps for creating a procedure
- Create a procedure
- Describe the difference between formal and actual parameters
- List the types of parameter modes
- List the methods for calling a procedure with parameters
- Describe the DEFAULT option for parameters
- Create a procedure with parameters
- Invoke a procedure that has parameters
- Define a subprogram in the declarative section of a procedure
- Describe how exceptions are propagated
- Remove a procedure

Creating Functions

- Define what a stored function is
- Create a function
- List how a function can be invoked
- List the advantages of user-defined functions in SQL statements
- List where user-defined functions can be called from within an SQL statement

- Describe the restrictions on calling functions from SQL statements
- Remove a function
- Describe the differences between procedures and functions

Managing Subprograms
- Contrast system privileges with object privileges
- Grant privileges
- Contrast invokers rights with definers rights
- Identify views in the data dictionary to manage stored objects

Creating Packages

- Use DESCRIBE command to describe packages and list their possible components
- Identify a package specification and body
- Create packages: Create related variables , cursors, constants, exceptions, procedures, and functions
- Designate a package construct as either public or private
- Invoke a package construct
- Use a bodiless package
- Drop Packages
- Identify benefits of Packages

More Package Concepts

- Write packages that use the overloading feature
- Use Forward Referencing
- Describe errors with mutually referential subprograms

- Initialize variables with a one-time-only procedure
- Identify persistent states in package variables and cursors
- Identify restrictions on using Packaged functions in SQL statements
- Invoke packaged functions from SQL
- Use PL/SQL tables and records in Packages

Oracle Supplied Packages

- Describe the benefits of Execute
- Immediate over DBMS_SQL for Native
- Dynamic SQL
- Identify the flow of execution
- Use EXECUTE IMMEDIATE
- Describe the use and application of some Oracle server-supplied packages: DBMS_SQL, DBMS_OUTPUT, UTL_FILE

Manipulating Large Objects

- Compare and contrast LONG and large object (LOB) data types
- Describe LOB datatypes and how they are used
- Differentiate between internal and external LOBs
- Identify and Manage Bfiles
- Migrate from LONG To LOB
- Use the DBMS_LOB PL/SQL package
- Create LOB columns and populate them
- Perform SQL operations on LOBS: Update LOBs with SQL, Select from LOBS, Delete LOBS
- Describe the use of temporary LOBs

Creating Database Triggers

- Describe the different types of triggers
- Describe database triggers and their uses
- List guidelines for designing triggers
- Create a DML trigger
- List the DML trigger components
- Describe the trigger firing sequence options
- Use conditional predicates in a DML trigger
- Create a row level trigger
- Create a statement level trigger
- Use the OLD and NEW qualifiers in a database trigger
- Create an INSTEAD OF trigger
- Describe the difference between stored procedures and triggers
- Describe the trigger execution model
- Alter a trigger status
- Remove a trigger

More Trigger Concepts

- Define what a database trigger is
- Describe events that cause database triggers to fire
- Create a trigger for a DDL statement
- Create a trigger for a system event
- Describe the functionality of the CALL statement
- Describe the cause of a mutating table
- List what triggers can be implemented for
- List the privileges associated with triggers
- View trigger information in the dictionary views

Managing Dependencies

- Track procedural dependencies
- Describe dependent objects and referenced objects
- View dependency information in the dictionary views
- Describe how the UTLDTREE script is used
- Describe how the IDEPTREE and DEPTREE procedures are used
- Describe a remote dependency
- List how remote dependencies are governed
- Describe when a remote dependency is unsuccessfully recompiled
- Describe when a remote dependency is successfully recompiled
- List how to minimize dependency failures