ORACLE COURSE SYLLABUS

SQL Syllabus

BASIC CONCEPTS

- Database
- Concepts
- RDBMS Concepts
- Data Models
- Constraints
- Normalization- 1NF,2NF,3NF,BCNF etc
- ER Diagrams

SQL SERVER CONCEPTS

- Introduction to Sql Server 2008 R2
- Sql Server 2008 Features
- Server Types
- Editions
- Components
- Management Studio
- T-SQL Features
- New Operators
- DML Statements

T-SQL

- DDL
- Data Types
- System Defined Data Types
- User defined Data
- Create/modify/delete tables
- Operators
- DML
- DCL

- Using Select Statement

MAINTAINING DATABASE INTEGRITY

- Constraints
- Rules
- Entity Integrity
- Domain Integrity
- Referential Integrity

SUBQUERIES

- Built-in function
- Nested Sub Queries
- Correlated Sub Queries
- Derived tables
- Recursive queries
- Common Table Expression

JOINS

- Cross Join, Inner Join, Self Join, Outer Join

INDEXES

- Types of Indexes
- • Creating indexes
- Modifying indexes
- Dropping indexes

VIEWS

- About View
- Creating Views

- Altering Views
- Materialized Views
- Distributed View

STORED PROCEDURES

- Advantages
- System Stored Procedures
- Extended Stored Procedures
- Parameter Handling

USER DEFINED FUNCTIONS

- Returning Scalar Value
- Returning Table of Data
- Deterministic Functions
- Non Deterministic Functions

TRIGGERS

- Constraints Vs Triggers
- After Triggers
- Instead of Trigger
- DDL Triggers
- Altering and Dropping Triggers

CURSORS

- Select Vs Cursors
- Types of Cursors
- Creating Cursors
- Open/Fetch/Close Cursors
- Using Cursors in Stored Procedures and Triggers

MICROSOFT .NET FRAME WORK INTEGRATION

- CLR Integration
- UDA
- UDF
- Stored Procedures
- Triggers

TRANSACTIONS AND LOCKS

- ACID Properties
- Implicit Transactions
- Explicit Transactions
- Transaction Process
- Concurrency Problems
- Lock Types
- Distributed Transactions
- Dead Locks

DATA TRANSFORMATION SERVICES

- BCP
- DTS

ADMINISTRATIVE TASKS

- Creating Database
- Copy, Maintaining Database
- Security Concepts
- Schemas, Permissions
- Backup and Restore Database
- Sql Server Agent
- Sql Server Profiler
- Database Engine Tuning Adviser

SQL SERVER MANAGEMENT OBJECTS

- Programming with SMO
- Connecting to Sql Server
- Scripting

XML IN SQL SERVER

- XML in Sql Server

WORKING WITH IMAGES

- Working with Images

INTRODUCTION TO MS- BI

- SSRS
- Standard, Ad- hoc Embedded Reports
- SSIS
- SSAS

SQL SERVER 2012 FEATURES

- Sequence
- OFFSET and FETCH
- WITH RESULT SETS in stored procedure THROW in triggers

PL/SQL Syllabus

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

Design Considerations for PL/SQL Code

- Standardize Constants and Exceptions
- Understand Local Subprograms
- Write Autonomous Transactions
- Implement the NOCOPY Compiler Hint
- Invoke the PARALLEL_ENABLE Hint
- The Cross-Session PL/SQL Function Result Cache
- The DETERMINISTIC Clause with Functions
- Usage of Bulk Binding to Improve Performance

Triggers

- Describe Triggers
- Identify the Trigger Event Types and Body
- Business Application Scenarios for Implementing Triggers
- Create DML Triggers using the CREATE TRIGGER Statement and SQL Developer
- Identify the Trigger Event Types, Body, and Firing (Timing)

- Differences between Statement Level Triggers and Row Level Triggers
- Create Instead of and Disabled Triggers
- How to Manage, Test and Remove Triggers?

Creating Compound, DDL, and Event Database Triggers

- What are Compound Triggers?
- Identify the Timing-Point Sections of a Table Compound Trigger
- Understand the Compound Trigger Structure for Tables and Views
- Implement a Compound Trigger to Resolve the Mutating
- Table Error
- Comparison of Database Triggers to Stored Procedures
- Create Triggers on DDL Statements
- Create Database-Event and System-Events Triggers
- System Privileges Required to Manage Triggers

PL/SQL Compiler

- What is the PL/SQL Compiler?
- Describe the Initialization Parameters for PL/SQL Compilation
- List the new PL/SQL Compile Time Warnings
- Overview of PL/SQL Compile Time Warnings for Subprograms
- List the benefits of Compiler Warnings
- List the PL/SQL Compile Time Warning Messages Categories
- Setting the Warning Messages Levels: Using SQL Developer, PLSQL_WARNINGS Initialization Parameter, and the DBMS_WARNING Package Subprograms
- View Compiler Warnings: Using SQL Developer, SQL*Plus, or the Data Dictionary Views