Kelly Technologies

# ORACLE 11g
# Course Content

**Content :**

- Fundamentals of Database
- Introduction to Database
- Database Models
- Introduction to Oracle Database
- Oracle Database History
- Oracle 11g Server and DB Architecture

## SQL

- Introduction to SQL
- Introduction to SQL *Plus
- Role of SQL in Oracle 11g
- Classification of SQL Commands
- Data Definition Languages (DDL) commands
- Oracle database 11g Schema Objects
- Oracle Data Dictionary
- Oracle Naming conventions
- Oracle Data types
- Alternation of Table Definition and it's options
- Pseudo columns Introduction
- Table Truncation and it's advantages
- Data Manipulation Language (DML) Commands
- Insertion of Data (Value , Address and Select method )
- Insertion of Nulls and Overriding the Nulls with User defined Values
- Insertion of Data in required formats
- Data Loading methods in Oracle 11g
- Data Updation
- Techniques of updation
- Complex Data Updation
- Correlated Query mechanism in Update
- Data Deletion
- Simple Data Deletion
- Critical Data Deletion
- Table Delete Vs Table Truncation
- Transaction Control Language commands
- Data Retrieving Language(DRL) command SELECT
- Conditions
- Expressions
- Restricting ans Sorting data
- SELECT command and it's clauses
- Operators Types of Operators in Oracle 11g & Filters
- Functions
- Single row functions,
- Multiple row functions
- Null functions
- Analytical functions
- Search functions
- Hierarchical functions
- Error functions
- Regular expressions(10g);
- Types of functions in Oracle 11g
- Pseudo Columns of Oracle 11g
- Displaying data from multiple tables(joins)
- Introduction to Table Join
- Types of Joins
- Inner & Outer Join/partition outer join(10g)
- Equi / Non Equi / Self Join / Cartesian Join/natural joins
- Vertical joins(set operators)
- Sub Queries and Simple sub query
- Complex Sub Query on multiple data source and Co-related Sub Query
- Top-n queries, hierarchical queries, scalar queries, flashback queries, version queries.
- Integrity Constraints
- Oracle Database Objects
- Index and Introduction to Index
- Clusters and Introduction to Cluster
- Type of Clusters and Their Usage
- Explain plan Command Usage and Oracle Scripts
- Views and Introduction to Views
- Type of Views and usage
- Performance issues with Views
- Background process of Views
- DML restrictions on Views
- Materialized View and Usage
- Synonym and Introduction to Synonyms and Usage
- Sequence and Introduction to Sequence and Usage
- Pseudo Columns Usage in Sequence
- Data Control Language commands
- What is privilege
- What is role
- Grating Privilege
- Removing Privilege
- Cascading Privilege
- Sql * Plus Commands
- Environment setting commands
- Alter session language
- Alter system language
- Sql developer

## PL/SQL

- Introduction to Programming Language
- Procedures Vs Non-Procedures Language
- Limitation of ANSI SQL and Oracle SQL
- Introduction to Oracle PL/SQL
- PL/SQL Usage in Production Database
- Key benefits of PL/SQL over SQL
- Anchor datatypes or Attributes
- Composite datatypes
- Collections
- PL/SQL block structure & Designing
- Scope and Visibility
- Constructs of PL/SQL
- Assignment operations
- Debugging statement
- Flow Control Statement
- IF / NESTED IF / EXIT / GOTO /
- Iterative statements



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- Simple Loop / While Loop / For Loop
- Continue statement(11g)
- Embedded SQL
- Introduction to Embedded SQL
- Role of Embedded SQL in PL/SQL
- Constructs of Embedded SQL
- Transaction Mngmt Using Embedded SQL
- Dynamic SQL Introduction to Dynamic SQL
- Usage of Dynamic SQL in PL/SQL
- Introduction to Exceptions
- Importance of Exceptions in PL/SQL
- Type of Exceptions
- Exception handling
- Save exceptions
- Introduction and STANDARD Package
- Introduction to User Defined Exceptions
- Non predefined exceptions
- Exception cases
- Usage of PRAGMA EXCEPTION_INIT()
- Cursor Management in PL/SQL
- Introduction to cursor management
- Pictorial presentation of cursor mechanism
- Introduction and usage of implicit cursor
- Introduction and usage of Explicit cursors
- Cursor attributes
- Cursor using simple loop
- Cursor using while loop
- Cursor using for loop
- Cursor exceptions
- Cursor expression
- Data Locking
- Data Manipulation through Cursor
- REF cursor(strong and weak)
- Using ref cursor variable as parameter
- Bulk Fetch and Bulk Data Retrieval in PL/SQL
- Bulk Collection
- Bulk Binding mechanism of Cursor (for all statement)
- Dynamic behavior of cursor mnt.
- SUB PROGRAMS
- Types of PL/SQL blocks
- Labelled blocks
- Anonymous PL/SQL blocks
- Named PL/SQL blocks
- Forward Declaration of Local Block
- Introduction to storage PL/SQL block
- Stored Procedures
- Stored Functions
- Nocopy(9i)
- Autonomous Transaction Management of PL/SQL
- PACKAGES
- Introduction to Package
- Stand-alone schema Vs Packaged Object
- Encapsulation mechanism of Package
- Data security
- Function overloading mechanism of Package
- Introduction and Usage of Package
- Oracle supplied packages
- Package data
- Restrict Reference and Complex Hints
- Usage of Pragma Serially_ reusable
- DB TRIGGERS
- Introduction to Database Trigger
- Types of Triggers
- Triggering events
- Usage of Old & New Reference
- Instead of Trigger
- Enforcing the referential integrity constraint
- Compound Trigger(11g);
- Follows key word(11g);
- Defining a disable trigger(11g)
- Trigger Cascading
- Enabling/Disabling Trigger
- Schema Trigger
- Table Mutation Error
- Transaction Audit Trigger
- Advanced Pl/sql Topics
- User Defined Types (RECORDS)
- Subtypes of Pl/sql
- Automation Transaction
- Advantages of Autonomous Transaction
- Usage of Autonomous Transaction
- Scope of autonomous Transaction
- Usage of Autonomous Transaction in Trigger
- Suing FORALL Statement
- About % BULK_ROWCOUNT
- FGA and FGAC(VPD)
- Table functions
- Managing database dependencies
- Designing pl/sql code
- Using collections
- Working with lobs
- Using secure file lobs
- Compiling pl/sql code
- Tuning pl/sql code
- Pragma inline(11g)
- Caching to improve performance
- Analysing pl/sql code
- Profiling pl/sql code
- Tracing pl/sql code
- Safeguarding pl/sql code against sql injection
- PL/Sql Architecture.

ALL THE BEST

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