

Oracle for Developers

Lesson 1: Introduction to Programming

Document History

Date	Course Version No.	Software Version No.	Developer / SME	Change Record Remarks
13-Nov-2008	1.0		Rajita Dhumal	Content Creation
14-Nov-2008	1.1		CLS team	Review
14-Jan-2010	1.2		Anu Mitra	Review
14-Jan-2010	1.2		Rajita Dhumal, CLS Team	Incorporating Review comments
25-Apr-2011	2.0		Anu Mitra	Integration refinements
18-Feb-2014	2.1		Sathiabama Ranganathan	Course Refinements

Course Goals and Non Goals

- **Course Goals**

- To understand basic DBMS, and use SQL commands.

- **Course Non Goals**

- Nothing Specific.



Pre-requisites

- A proficiency level in familiarity with Windows.

Intended Audience

- Software Programmers
- Software Analysts



Day Wise Schedule

- Day 1
 - Lesson 1: Introduction to Database
 - Lesson 2: Basics of SQL
 - Lesson 3: Data Query Language
 - Lesson 4: Aggregate (Group) Functions
 - Lesson 5: SQL (Single-row) functions

Day Wise Schedule

■ Day 2

- Lesson 6: Joins and Sub-queries
- Lesson 7: Introduction to Data Modeling, ER Modeling and Normalization
- Lesson 8: Database Objects (Table, Index, Sequence, Synonym to be covered here)

■ Day 3

- Lesson 8: Database Objects (Views to be covered here)
- Lesson 9: Set Operators
- Lesson 10: Data Manipulation Language
- Lesson 11: Transaction Control Language

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- Lesson 1: Getting Started with Database
 - 1.1: Introduction to Database
 - 1.2: Characteristics of DBMS
 - 1.3: Data models
 - 1.4: Relational DBMS
 - 1.5: Database Administrator
- Lesson 2: Basics of SQL
 - 2.1. The SQL Language
 - 2.2. Rules for SQL Statements
 - 2.3. Standard SQL Statement Groups

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- Lesson 2: Basics of SQL (contd)
 - 2.4: Logging to Oracle Server
- Lesson 3: Data Query Language
 - 3.1: The SELECT statement
 - 3.2: The WHERE clause
 - 3.3: Comparison, Mathematical, and Logical operators
 - 3.4: The DISTINCT clause
 - 3.5: The ORDER BY clause
 - 3.6: Tips and Tricks in SELECT Statements

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- Lesson 4: Aggregate (Group) functions
 - 4.1: The Group function
 - 4.2: GROUP BY & HAVING clause
 - 4.3: Examples of GROUP BY and HAVING clauses
 - 4.4: Tips and Tricks
- Lesson 5: SQL (Single-row) functions
 - 5.1: SQL functions
 - 5.2: Number functions
 - 5.3: Character functions

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- Lesson 5: SQL (Single-row) functions (contd.)
 - 5.4: Date functions
 - 5.5: Conversion functions
 - 5.6: Miscellaneous functions
 - 5.7: Tips and Tricks
- Lesson 6: Joins and Sub-queries
 - 6.1: Joins
 - 6.1.1: Oracle Proprietary Joins
 - 6.1.2: SQL: 1999 Compliant Joins

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- Lesson 6: Joins and Sub-queries (contd.)
 - 6.6: Sub-queries
 - 6.7: Co-related sub-query
 - 6.8: Exists / Not Exists Operator
 - 6.9: CONNECT BY and START WITH clauses
 - 6.10: Tips and Tricks

- Lesson 7: Introduction to Data Modeling, ER Modeling and Normalization
 - 7.1: Introduction to Data Modeling
 - 7.2: E-R Model
 - 7.3: Normalization

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- Lesson 8: Database Objects
 - 8.1: Basic Data Types
 - 8.2: Data Integrity
 - 8.3: Examples of CREATE TABLE
 - 8.4: Examples of ALTER TABLE
 - 8.5: Database Objects
 - 8.6: Index
 - 8.7: Synonym
 - 8.8: Sequence
 - 8.9: View
 - 8.10: Deleting Database Objects

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- Lesson 9: Set Operators
 - 9.1: Set Operation
 - 9.2: The UNION Operator
 - 9.3: The INTERSECT Operator
 - 9.4: The MINUS Operator
- Lesson 10: Data Manipulation Language
 - 10.1: Adding Data
 - 10.2: Removing Data
 - 10.3: Modifying Data
- Lesson 11: Transaction Control Language
 - 11.1: Introduction to Transactions
 - 11.2: Statement Execution and Transaction Control

References

- RDBMS Concepts - A Primer
 - <http://safari.oreilly.com>
- Introduction to Database Systems; by C.J.Date
- Relational Database Theory; by Atzeni, De Antonellis



Next Step Courses (if applicable)

- Oracle PL/SQL