

# Oracle for Developers

## Lesson 1: Introduction to Programming

IGATE is now a part of Capgemini

People matter, results count.



©2016 Capgemini. All rights reserved.

The information contained in this document is proprietary and confidential. For Capgemini only.

## 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
- Day 2
  - Lesson 4: Aggregate (Group) Functions
  - Lesson 5: SQL (Single-row) functions
  - Lesson 6: Joins and Sub-queries (Joins to be covered here)

## Day Wise Schedule

### ■ Day 3

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

### ■ Day 4

- Lesson 8: Database Objects (Views to be covered here)
- Lesson 9: Set Operators
- Lesson 10: Data Manipulation Language
- Lesson 11: Transaction Control Language
- Lesson 12: Data Control Language

## Table of Contents

- 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



## Table of Contents

- 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

## Table of Contents

- 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

## Table of Contents

- 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

## Table of Contents

- 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: Set Operators
  - 7.1: Set Operation
  - 7.2: The UNION Operator
  - 7.3: The INTERSECT Operator
  - 7.4: The MINUS Operator

## Table of Contents

- 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

## Table of Contents

- Lesson 9: Data Manipulation Language
  - 9.1: Adding Data
  - 9.2: Removing Data
  - 9.3: Modifying Data
- Lesson 10: Transaction Control Language
  - 10.1: Introduction to Transactions
  - 10.2: Statement Execution and Transaction Control
- Lesson 11: Transaction Control Language
  - 11.1: Object Privileges
  - 11.2: Grant and Revoke Statements

## 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

