

DB53
4 Day

Intermediate SQL - ORACLE

This course presents the SQL language, its basis and current versions as supported by Oracle 8/9/10g. Delegates will learn how to declare tables and how to write effective SQL statements to query, update, delete and insert records into a relational database. The creation and test of Stored Procedures and Triggers, using PL/SQL is presented and supported by numerous exercises. The EXPLAIN command for analysing the efficiency of Queries is described and attendees will also see how to use MS Access to front-end to Oracle. Basic administration services are also covered for those organisations needing to perform their own DBA.

The course addresses SQL2 and SQL3 standards.

Course Objectives

On completing this course, delegates will be able to:

- Perform analysis and design leading to effective RDBMS implementation
- Show how RDBMS are an integral part of distributed systems.
- Explain the reasons for SQL
- Understand relational databases, in theory and practice
- Write SQL statements to query relational databases
- Write SQL statements to insert, modify or delete records
- Understand how to join multiple tables and why this is necessary.
- Be familiar with the various forms of the SQL Query
- Use SQL to protect the database from incorrect updates
- Be able to create and debug Stored Procedures and Triggers in PL/SQL

- Be able to define Views
- Understand the use of Data Control Language
- Use Access to connect to RDBMS.
- Understand how to monitor the performance of Queries

Prerequisites

- The need to access data from a relational database
- Experience with accurate entry of information into PCs.
- The course is designed to take users at all levels of experience to a competent level of SQL knowledge.

Timetable

Register at 09:00 for 09:30 start.
Finish at 17:00.

Presentation Style

Lectures, demonstrations, exercises and group discussions.

Dates and Venues

Refer to *Course Schedules*.

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The course covers:

- 📁 Introduction to Systems Design Environment
- 📁 RDBMS and Evolution of Distributed Processing
- 📁 Commercial Databases
 - Oracle
 - SQL Server
 - MySQL
- 📁 Data Warehousing and data mining
- 📁 ER Design
- 📁 Entity Relationship Diagrams
- 📁 Entities, Attributes, relationships, Degree, Optionality, Resolving many to many relationships
- 📁 Structure Charts
- 📁 RDBMS and SQL
- 📁 Background to SQL
- 📁 Components of SQL
- 📁 Versions of SQL
- 📁 Structure of Relational Databases
- 📁 SQL Query statements
- 📁 SQL Functions and their use

- 📁 SQL data modification
- 📁 Overview of relational databases Components of relational databases
- 📁 Primary and foreign keys
- 📁 Principles of relational table design
- 📁 SQL table create / modify statements
- 📁 Transactions, locking and concurrent operations
- 📁 SQL used to filter, modify, sort and group query data
- 📁 Views, what they are and how to create them
- 📁 When to use and how to create Stored Procedures
- 📁 Triggers and how to use them (with reference to RI and other topics)
- 📁 Data Control Language, to manage privileges, access rights and schemas.
- 📁 User management, backup and recovery, user authorizations, security

- 📁 Optimisation and Tuning techniques for SQL statements
- 📁 Use of Access to work with relational databases such as Oracle