



Understanding SQL Scripting & Database Concepts

Course Objective :

This course teaches participants the knowledge and skills to use SQL (Structured Query Language) to access, define, create and manipulate database. Usage of SQL Statements to add, delete, insert, retrieve and update data in a SQL database.

At the end of the course, participants will be able to write to SQL statements and sub-queries based on the requirements of database structures, create and manipulate database tables based on the requirements of database structures. Participants will also learn to create and use views that satisfy information requirements and create use or drop stored procedures according to information requirements.

Prerequisite:

No prerequisite required. Some database concepts and basic programming knowledge an added advantage.

e-Certificate Of Attendance :

e-Certificate Of Attendance will be awarded to participants completing the course and achieving minimum 75% attendance within 7 days from course end date.

Training Methodology & Materials:

- Practical case study sessions to enhance concept.
- Well-designed lab sessions to enhance further understanding of the courseware.

Training Duration:

Full-Time : 3 Weekdays or 3 Sats
Time : 9.30am to 5.30pm

Course Fee Per Pax :

Normal Course Fee : S\$799
Promotion Fee : S\$680
Regn Fee : S\$50

All fees subject to prevailing GST.

Course eligible for SkillsFuture Funding.

Self-sponsored trainees may offset course fee using SkillsFuture Credit Claim and/or PSEA. Terms and conditions apply.

Detailed Course Outline

Day 1

1. Database Concepts and DBMS

- DBMS Fundamentals
- Types of Database

2. Executing a simple Query

- Connect to SQL Database
- Query a Database
- Save a Query
- Modify a Query
- Execute a Stored Query

3. Performing a Conditional Search

- Search Using a Simple Condition
- Compare Column Values

6. Retrieving Data from Tables

- Search Using Multiple Conditions
- Search for a Range of Values and Null Values
- Retrieve Data Based on Pattern

4. Working with Function

- Perform Date Calculations
- Calculate Data Using Aggregate Functions
- Manipulate String Values

5. Organizing Data

- Sort Data
- Rank Data
- Group Data
- Filter Grouped Data
- Summarise Grouped Data
- Use PIVOT and UNPIVOT operations

10. Working with Views

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- Combine Results of Two Queries
- Compare the results of Two Queries
- Retrieve Data by Joining Table
- Check for Unmatched Records
- Retrieve Information from a Single Table using Joins

Day 2

7. Using Subqueries to Perform Advanced Querying

- Search Based on Unknown Values
- Compare a Value with Unknown Values
- Search Based on the existence of Records
- Generate Output Using Correlated Subqueries
- Filter Grouped Data within Subqueries
- Perform Multiple-Level Subqueries

8. Data Modeling

- Levels of Data Modeling
- Data Normalization

9. Manipulating Table Data

- Insert Data
- Modify and Delete Data
- Create a Table
- Create a Table with Constraints
- Add and Drop Table Columns
- Modify the Column Definition
- Back Up Tables
- Delete Tables

- Create a View
- Manipulate Data in Views
- Create Aliases
- Modify and Drop Views

11. Indexing Data

- Create Indices
- Drop Indices

Day 3

12. Managing Transactions

- Create Transactions
- Commit Transactions

13. Presenting Query Results

- Save the Query Result
- Generate an XML Report

14. Stored Procedures

- Benefits of Stored Procedures
- Creating Stored Procedures
- Calling Stored Procedures
- Alter Stored Procedures
- Delete Stored Procedures



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