

# SQL



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## Module 1:

Introduction to MySQL. Installation of MySQL server. Download sample database .Load sample database to work.

## Module 2:

Writing Basic SQL

Topic:

Basic SELECT Statement

Selecting All Columns

Selecting Specific Columns

Writing SQL Statements

Column Heading Defaults

Arithmetic Expressions

Using Arithmetic Operators

Operator Precedence

Using Parentheses

Defining a Null

Defining a Column Alias

Using Column Aliases

Concatenation Operator

Using the Concatenation Operator

Literal Character Strings

Using Literal Character Strings

Duplicate Rows

Eliminating Duplicate Rows



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### Module 3:

Restricting and Sorting Data

**Topic :**

Limiting Rows Using a Selection

Limiting the Rows Selected

Using the WHERE Clause

Character Strings and Dates

Comparison Conditions

Using Comparison Conditions

Other Comparison Conditions

Using the BETWEEN Condition

Using the IN Condition

Using the LIKE Condition

Using the NULL Conditions

Logical Conditions

Using the AND Operator

Using the OR Operator

Using the NOT Operator

Rules of Precedence

ORDER BY Clause

Sorting in Descending Order

Sorting by Column Alias

Sorting by Multiple Columns

### Module 4:

Working on DDL Commands

**Topic:**

Relational Database Management System (RDBMS)

Normalization

Create Database objects

Data Types in SQL

Alter Table Statements

Drop Table Statements

Various Constraints

Creating Views



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## Module 5:

Working on DML statements

### **Topic:**

Data Manipulation Language

Adding a New Row to a Table

The INSERT Statement Syntax 8-5

Inserting New Rows

Inserting Rows with Null Values

Inserting Special Values

Inserting Specific Date Values

Creating a Script

Copying Rows from Another Table

Changing Data in a Table

The UPDATE Statement Syntax

Updating Rows in a Table

Updating Two Columns with a Subquery

Updating Rows Based on Another Table

Updating Rows: Integrity Constraint Error

Removing a Row from a Table

The DELETE Statement

Deleting Rows from a Table

Deleting Rows Based on Another Table

Deleting Rows: Integrity Constraint Error

Using a Subquery in an INSERT Statement

## Module 6:

Working on multiple tables and Retrieve records from multiple tables

### **Topic :**

Self-Join

Inner Join

Left Join

Right Join

Cross Join



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## Module 7:

Working on subqueries

**Topic :**

Using a Subquery to Solve a Problem

Subquery Syntax

Using a Subquery

Guidelines for Using Subqueries

Types of Subqueries

Single-Row Subqueries

Executing Single-Row Subqueries

Using Group Functions in a Subquery

The HAVING Clause with Subqueries

Multiple-Row Subqueries

Using the ANY Operator in Multiple-Row Subqueries

Using the ALL Operator in Multiple-Row Subqueries

Null Values in a Subquery

## Module 8:

Use of built-in function in SQL

**Topics:**

Conversion Function

Logical Functions

Math Function

Aggregate Functions

String Functions

Date Functions

## Module 9:

Advance functions in SQL

**Topics:**

Sql Server Trigger

Sql Server Procedure

Sql Server Functions

Sql Server Index

Sql Server Views

Manage and secure a database

Monitor and optimize performance



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