

**SQL-MYSQL FOR DATA ANALYTICS**

**COURSE CODE: MOOCCAP-A12**

**DURATION: 10 Weeks.**

**Course Prerequisites:**

No prior experience. We'll start from the basics.

**Learning Outcomes:**

1. What is relational database management?
2. How to create database with SQL.
3. Learn how to code in SQL.
4. Handle SQL joins.
5. Learn to insert, update and delete records from the database.

**Course Description:**

Managing databases is the most crucial step while working with data. Database management and extracting the correct data is the foundation for any analysis and smart decision making. The course will cover the basics of database management and the relations between the data. What is SQL and why we learn MySQL. We will learn to write queries in SQL and extract data to solve real-world business problems.

**COURSE DETAILS**

**MODULE 1: (Introduction)**

**TOPIC 1: (Get started with database, SQL and MySQL)**

- Lecture 1.1: What is database?
- Lecture 1.2: Why use SQL?
- Lecture 1.3: Importance of MySQL

**MODULE 2: (SQL Server Languages and Relational Databases)**

**TOPIC 1: (SQL language statements)**

- Lecture 1.1: (DDL)
- Lecture 1.2: (DCL)
- Lecture 1.3: (DML)
- Lecture 1.4: (TCL)

**TOPIC 2: (Relational Database Terminology)**

- Lecture 2.1: (Relational Database essentials)
- Lecture 2.2: (Primary key)
- Lecture 2.3: (Foreign key)
- Lecture 2.4: (Unique key and null values)

**TOPIC 3: (Installing MySQL)**

- Lecture 3.1: (Get acquainted with the interface)

**MODULE 3: (Basics of SQL)**

**TOPIC 1: (First Steps in SQL)**

- Lecture 1.1: (Creating a database)
- Lecture 1.2: (Introduction to datatypes)
- Lecture 1.3: (Creating a table)

**MODULE 4: (Constraints of MYSQL)**

**TOPIC 1: (Different constraints in MySQL)**

- Lecture 1.1: (Primary key constraint)
- Lecture 1.2: (Foreign key constraint)
- Lecture 1.3: (Unique constraint)

Lecture 1.4: (Default constraint)

Lecture 1.5: (Not null)

**MODULE 5: (The Select Statement)**

**TOPIC 1: (Load the database)**

Lecture 1.1: (Loading employees' database)

**TOPIC 2: (Starting with SELECT statement)**

Lecture 2.1: (Select-From)

Lecture 2.2: (Where)

Lecture 2.3: (And-Or)

Lecture 2.4: (In-not in)

Lecture 2.5: (Like-not like)

Lecture 2.6: (Wildcard characters)

Lecture 2.7: (Between-and)

Lecture 2.8: (Is not null-is null)

Lecture 2.9: (Select distinct)

Lecture 2.10: (Aggregate statement)

Lecture 2.11: (Order by-Group by)

Lecture 2.12: (Using Aliases)

Lecture 2.13: (Having and Limit)

**MODULE 6: (The SQL Statement)**

**TOPIC 1: (Insert statement)**

Lecture 1.1: (Inserting data INTO table)

**TOPIC 2: (Update statement)**

Lecture 2.1: (Commit and rollback)

**TOPIC 3: (Delete statement)**

Lecture 3.1: (Drop vs Truncate)

**MODULE 7: (AGGREGATE FUNCTIONS)**

**TOPIC 1: (Functions)**

Lecture 1.1: (Count())

Lecture 1.2: (Sum())

Lecture 1.3: (Min() and Max())

Lecture 1.4: (Avg())

Lecture 1.5: (Round())

**MODULE 8: (SQL JOINS)**

**TOPIC 1: (Introduction to Joins)**

Lecture 1.1: Joins

Lecture 1.2: Left join

Lecture 1.3: Right join

Lecture 1.4: Cross join

Lecture 1.5: Union and Union all

**MODULE 9: (SUBQUERIES)**

**TOPIC 1: (Working with Subqueries)**

Lecture 1.1: IN nested inside Where

Lecture 1.2: EXISTS nested inside Where

**MODULE 10: (STORED ROUTINES)**

**TOPIC 1: (Introduction to Stored Procedures)**

Lecture 1.1: With input parameter

Lecture 1.2: With output parameter

Lecture 1.3: Variables

Lecture 1.4: User defined functions

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