

VERSION

2

**CRASH COURSE**

**SR. CODE**

EAPL/CRASH/CRTC17

**COURSE CODE**

EACMY

**SUB CATEGORY**

DATABASE MANAGEMENT

  
TOTAL DURATION  
**45**  
HOURS

  
THEORY TAKEN  
**15**  
HOURS

  
PRACTICAL TAKEN  
**30**  
HOURS

ELYSIUM  
ACADEMY  
CORE MYSQL  
**ELYSIUM  
ACADEMY  
CORE MYSQL**  
ELYSIUM  
ACADEMY  
CORE MYSQL  
ELYSIUM  
ACADEMY  
CORE MYSQL  
ELYSIUM  
ACADEMY  
CORE MYSQL  
ELYSIUM  
ACADEMY

## COURSE DESCRIPTION



The MySQL course provides comprehensive training in database management, covering essential concepts such as data modeling, SQL queries, indexing, and normalization.

## COURSE GOALS



Upon completion, You will proficiently design and manage MySQL databases, write complex SQL queries, and ensure data integrity and security. They will develop the skills necessary to work with MySQL in various environments, from small-scale projects to enterprise-level applications.

## FUTURE SCOPE



Graduates will be well-equipped for roles as database administrators, SQL developers, or data analysts. With MySQL's widespread usage across industries, including web development, e-commerce, and finance, opportunities for MySQL professionals abound, ensuring a promising career trajectory in the data management field.

# 01

## CHAPTER

### **GETTING STARTED**

#### **O1. Beginning Database**

- a. What is a Database?
- b. What about database engine?
- c. Types of data and storage
- d. RDBMS
- e. FIELD Concepts

#### **O2. Beginning of MYSQL**

- a. What is MYSQL?
- b. SQL vs. MYSQL
- c. Data types
- d. Indexes
- e. Environmental setup:  
Download and install MYSQL Server

#### **O3. Data Types**

- a. String Data Types
- b. Numeric Data Types
- c. Date and time Data types

#### **O4. MYSQL Functions**

- a. String functions
- b. Numeric functions
- c. Date functions
- d. Advanced functions



**01**  
HRS



**4.5**  
HRS

## O5. Creating Database and Tables

- a. Connect and create database
- b. Showing Database
- c. Creating Database
- d. Rename Database
- e. Introducing Tables
- f. Creating Tables
- g. Dropping Tables
- h. Hands on

# 02

## CHAPTER

## SQL COMMANDS

### O1. Data Definition Language

- a. What is DDL?
- b. Purpose of DDL
- c. Create database
- d. Drop database
- e. Alter database
- f. Truncate database
- g. Comment
- h. Rename

### O2. Data Query Language

- a. What is DQL?
- b. Purpose of DQL
- c. Select



02  
HRS



6.5  
HRS

### **O3. Data Manipulation Language**

- a. What is DML?
- b. Purpose of DML
- c. Insert data
- d. Update data
- e. Delete Data
- f. Lock data

### **O4. Data Control Language**

- a. What is DCL?
- b. Purpose of DCL
- c. Grant data
- d. Revoke data

### **O5. Transaction Control Language**

- a. What is TCL?
- b. Purpose of TCL
- c. COMMIT
- d. ROLLBACK
- e. SAVEPOINT

# 03

## CHAPTER

### **CONSTRAINTS**

#### **O1. Inserting data**

- a.INSERT-Basics
- b.Hands on INSERT data
- c. SELECT
- d.Hands on SELECT query
- e. Multi inserts
- f. Hands on Multi inserts
- g.NOT NULL
- h.Hands on NOT NULL
- i. DEFAULT Values
- j. Hands on DEFAULT Values
- k. AUTO INCREMENT
- l. Hands on AUTO INCREMENT

#### **O2. Basic Operators**

- a.ORDER BY
- b.ALIASES
- c. UNIONS
- d.CONSTRAINTS
- e. VIEWS

#### **O3. Primary Key**

- a.What is primary key?
- b.Creating a primary key
- c.Dropping a primary key



**1.5**  
HRS



**5.5**  
HRS

## O4. Foreign key

- a. What is foreign key?
- b. Creating a foreign key
- c. Dropping a foreign key

## O5. Composite key

- a. What is composite key?
- b. Creating a composite key
- c. Dropping a composite key

# 04

CHAPTER

## JOINS AND AGGREGATE

### O1. CRUD

- a. What is CRUD?
- b. Create Table
- c. Insert Values
- d. Hands on insert values
- e. Read Table
- f. Read Query
- g. Hands on read query
- h. Update Table
- i. Hands on update table
- j. Delete Tables
- k. Hand on delete tables



01  
HRS



08  
HRS

## **O2. JOINS**

- a. What is joins?
- b. Advantages of JOINS.
- c. Types of Joins
- d. INNER JOIN
- e. Hands on INNER JOIN
- f. LEFT JOIN
- g. Hands on LEFT JOIN
- h. RIGHT JOIN
- i. Hands on RIGHT JOIN
- j. CROSS JOIN
- k. Hands on CROSS JOIN

## **O3. Aggregate Functions**

- a. What are aggregate functions?
- b. Purpose of Aggregate functions
- c. count ()
- d. Hands on count ()
- e. sum ()
- f. Hands on sum ()
- g. average ()
- h. Hands on average ()
- i. min ()
- j. Hands on min ()
- k. max ()
- l. Hands on max ()
- m. group\_concat ()
- n. Hands on group\_concat ()



- o. first ()
- p. Hands on first ()
- q. last ()
- r. Hands on last ()

# 05

## CHAPTER

### **OPERATORS**

#### **O1. GROUP BY**

- a. What is GROUP BY?
- b. Purpose of GROUP BY
- c. GROUP BY with aggregate functions
- d. GROUP BY with JOIN
- e. HAVING Clause
- f. EXISTS
- g. Hands on EXISTS

#### **O2. Arithmetic Operators**

- a. Add
- b. Subtract
- c. Multiply
- d. Divide
- e. Modulo
- f. Hands on

#### **O3. Bitwise Operators**

- a. Bitwise AND
- b. Bitwise OR
- c. Bitwise exclusive OR
- d. Hands on



**2.5**  
HRS



**06**  
HRS

## **O4. Comparison Operators**

- a. Equal to
- b. Greater than
- c. Less than
- d. Greater than or equal to
- e. Less than or equal to
- f. Not equal to

## **O5. Logical Operators**

- a. ALL
- b. AND
- c. ANY
- d. BETWEEN
- e. EXISTS
- f. IN
- g. LIKE
- h. NOT
- i. OR
- j. SOME

# 06

## CHAPTER

# TRIGGERS, VIEWS, INDEXEST

## O1. Triggers

- a. What are Triggers?
- b. Purpose of Triggers
- c. Advantages and drawbacks
- d. Types of MYSQL Triggers
- e. Before update triggers
- f. After update triggers
- g. Before insert triggers
- h. After insert triggers
- i. Before delete triggers
- j. After delete triggers
- k. Hands on

## O2. Views

- a. What are views in MYSQL?
- b. Purpose of views
- c. Advantages and drawbacks
- d. Create view
- e. Update view
- f. Replace view
- g. Dropping view

## O3. Tables

- a. What is tables in MYSQL?
- b. Create Tables
- c. Alter tables



**1.5**  
HRS



**05**  
HRS

- d. Show tables
- e. Rename Table
- f. Truncate tables
- g. Drop tables
- h. Temporary tables
- i. Copy tables
- j. Repair tables
- k. Hands on tables

## **O4. Queries**

- a. What is queries?
- b. Constraints
- c. INSERT Record
- d. UPDATE Record
- e. DELETE Record
- f. SELECT Record
- g. Hands on queries

## **O5. Indexes**

- a. Create Index
- b. Drop Index
- c. Unique Index
- d. Show Index
- e. Clustered Index
- f. Hands on Indexes

## **O6. Common Functions**

- a. Date/time functions
- b. Math functions
- c. String functions
- d. Hands on functions

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