



MYSQL

CHEMA . QUERIES . INDEXES
INNODB . TRANSACTIONS .
KUP . REPLICATION . TUNING

DURATION	LEVEL	MODULES	MODE
40 Hours	Beginner to Advanced	8	Classroom · Online · Hybrid

01 COURSE OVERVIEW

A MySQL course covering schema design, query writing and server administration. The course covers both sides of MySQL: writing correct SQL against well-designed schemas, and running the server — storage engines, configuration, backups, replication and tuning.

Learners build a production-shaped database with backups, replication and a tuned query set.

WHO IT IS FOR

- Developers working with MySQL
- Analysts writing queries
- Junior database administrators
- Backend engineers

PREREQUISITES

Basic computer knowledge. SQL is taught from the start.

02 LEARNING OUTCOMES

- | | |
|---|--|
| 01 Design normalised schemas with correct data types. | 02 Write joins, subqueries and window functions. |
| 03 Add indexes that the optimiser actually uses. | 04 Manage transactions and isolation levels. |
| 05 Back up and restore reliably. | 06 Configure replication and read scaling. |
| 07 Diagnose slow queries and lock contention. | |

03 MODULE STRUCTURE

8 MODULES

01 MYSQL FOUNDATIONS

Installation

Storage engines

Configuration files

Clients and Workbench

Character sets and collations

02 SCHEMA DESIGN

Data types

Normalisation

Generated columns

Keys and constraints

Denormalisation trade-offs

Partitioning basics

LAB

SCHEMA BUILD

03 QUERYING

SELECT and filtering

Aggregation

CTEs

JSON functions

Joins

Subqueries

Window functions

LAB

REPORTING QUERIES

04 INDEXES AND OPTIMISATION

B-tree indexes

Covering indexes

Index hints

Composite index order

EXPLAIN

Full-text search

LAB

QUERY TUNING

05 TRANSACTIONS AND LOCKING

ACID

InnoDB locking

MVCC

Isolation levels

Deadlocks

Long transaction risks

06 PROGRAMMABILITY

Views

Functions

Events

Stored procedures

Triggers

Error handling

07 BACKUP AND RECOVERY

mysqldump

Binary logs

Restore drills

Physical backups

Point-in-time recovery

08 REPLICATION AND OPERATIONS

Primary-replica setup

Read scaling

Monitoring

GTIDs

Failover basics

User privileges

PROJECT

PRODUCTION DATABASE WITH REPLICATION

04 ASSESSMENT & CERTIFICATION

Module assignments and labs

25%

Mini projects

20%

Internal assessments

15%

Final project and review

40%

CERTIFICATION

Learners who complete all modules, submit the final project and clear the review receive a course completion certificate from Kaizen Infinities Private Limited. Project work is documented for the learner's portfolio, and interview preparation is included in the closing sessions.

05 CAREER OUTCOMES

ROLES THIS PROGRAMME PREPARES FOR

DATABASE DEVELOPER

MYSQL ADMINISTRATOR

BACKEND DEVELOPER

DATA ANALYST

SUPPORT ENGINEER

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