



SQL

SELECT . JOIN . GROUP BY . V
SUBQUERIES . CTE . WINDOW
EXES . PROCEDURES . TUNIN

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

01 COURSE OVERVIEW

A SQL course from first queries to window functions and query tuning. Every concept is practised on business schemas — sales, HR and customer data — with an emphasis on writing queries that stay correct as data grows. Indexing and execution plans are introduced early enough to matter.

Learners build three databases and a set of reporting queries they can reuse at work.

WHO IT IS FOR

- Analysts and MIS executives
- Developers writing queries
- Testers validating data
- Anyone moving into data roles

PREREQUISITES

Basic computer knowledge. No programming required.

02 LEARNING OUTCOMES

01 Write filtered, sorted, aggregated queries confidently.

03 Use subqueries, CTEs and window functions.

05 Write stored procedures, functions and views.

07 Load, clean and validate data with SQL.

02 Join multiple tables including outer and self joins.

04 Design normalised tables with constraints.

06 Read an execution plan and add useful indexes.

03 MODULE STRUCTURE

8 MODULES

01 DATABASES AND SQL BASICS

RDBMS concepts

SELECT

ORDER BY

NULL handling

Data types

WHERE

LIMIT

DATABASES

MYSQL

POSTGRESQL

SQL SERVER

02 FILTERING AND FUNCTIONS

Operators

String functions

CASE

Type casting

LIKE and regex

Date functions

COALESCE

LAB

CUSTOMER QUERIES

03 AGGREGATION

GROUP BY

COUNT, SUM, AVG

Rollups

LAB

SALES SUMMARIES

HAVING

DISTINCT

Pivoting with CASE

04 JOINS

INNER, LEFT, RIGHT, FULL

Cross joins

Multi-table reports

LAB

MULTI-TABLE REPORT

Self joins

Anti-joins

Join pitfalls

05 SUBQUERIES AND CTEs

Scalar and correlated subqueries

IN vs JOIN

Recursive CTEs

LAB

COHORT QUERY

EXISTS

CTEs

06 WINDOW FUNCTIONS

ROW_NUMBER

LAG and LEAD

Moving averages

LAB

RETENTION AND TREND ANALYSIS

RANK

Running totals

Partitioning

07 DATA DEFINITION AND INTEGRITY

CREATE and ALTER

Constraints

Transactions

Primary and foreign keys

Normalisation

Views

08 PROGRAMMABILITY AND PERFORMANCE

Stored procedures

Triggers

Execution plans

Functions

Indexes

Query rewriting

PROJECT

REPORTING DATABASE WITH TUNED QUERIES

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

DATA ANALYST

SQL DEVELOPER

BUSINESS INTELLIGENCE ANALYST

DATABASE ADMINISTRATOR (JUNIOR)

REPORT DEVELOPER

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