✦ DATA SCIENCE & ANALYTICS · BEGINNER

SQL for Data Analysts

The core skill behind every analytics role.



40	7	SAM-SQL
HOURS	MODULES	CERTIFICATION

✦ INSIDE THIS BROCHURE

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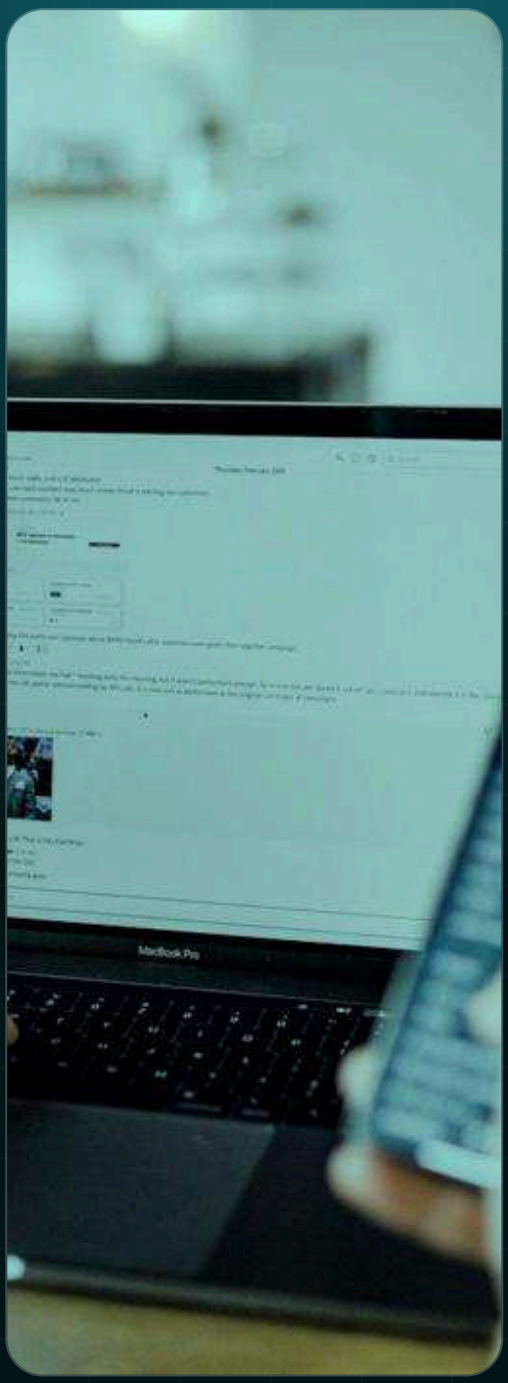
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AT A GLANCE

Level	Beginner
Duration	40 Hours
Modules	7
Certificate	SAM-SQL

✦ PROGRAM OVERVIEW

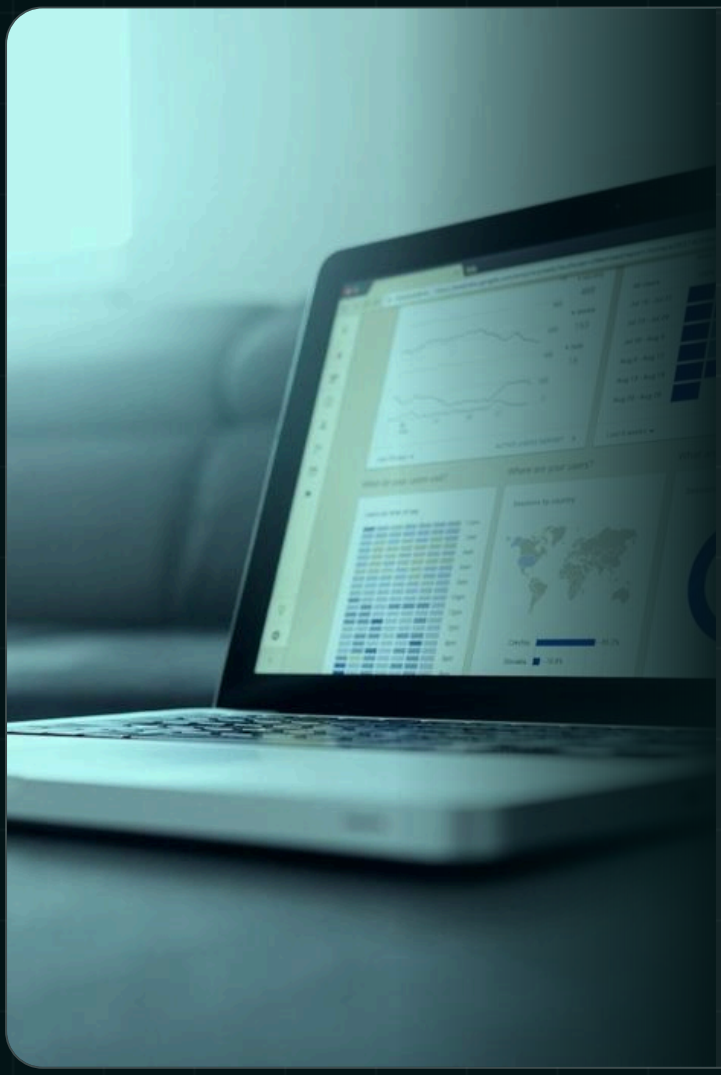
The core skill behind every analytics role.



Query, join, aggregate and shape real business data with SQL.

SQL is the common language for retrieving and shaping business data across databases, warehouses and BI tools. This beginner program teaches analysts to write clear, correct queries, from filtering and sorting to joins, aggregations, subqueries, CTEs and window functions, using MySQL and PostgreSQL on realistic business datasets to answer real questions.

LEVEL	DURATION	CERTIFICATION	DELIVERY
Beginner	40 Hours	SAM-SQL	ILT · VILT · Self-Paced



✦ WHAT YOU'LL PRACTISE

Write SELECT queries with filters	01
Join and aggregate tables	02
Use window functions	03
Answer business questions with SQL	04

✦ WHO IT'S FOR

Built for people ready to grow.

01

Business professionals

Data literacy, Excel and SQL foundations

02

Analysts

Power BI, Tableau and Python for analysis

03

Data engineers

Pipelines with Spark, Kafka and Airflow

04

Data scientists & architects

ML, NLP, computer vision and platform design

PREREQUISITES

None — beginner friendly	01
Basic spreadsheet familiarity	02
Comfort with logical thinking	03

ROLES YOU CAN TARGET

- Data Analyst ↗
- Business Analyst ↗
- Reporting Analyst ↗
- Product Analyst ↗
- MIS Executive ↗

✦ LEARNING OUTCOMES

What you'll be able to do.

01 Write SELECT queries with filters, sorting and limits

02 Combine tables accurately using inner and outer joins

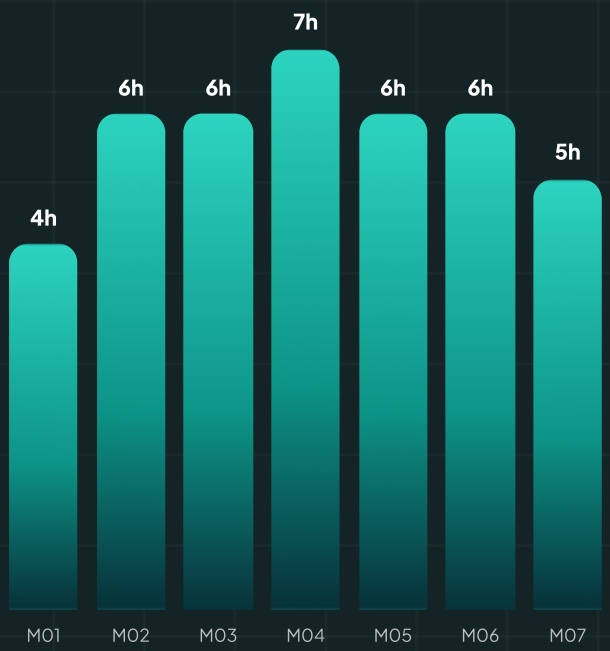
03 Aggregate data with GROUP BY, HAVING and functions

04 Structure complex logic using subqueries and CTEs

05 Apply window functions for rankings and running totals

06 Answer business questions and present query results clearly

HOURS PER MODULE



✦ PROGRAM RUNWAY

Your journey, module by module.

7
MODULES · 40 HRS

01	**Databases and SQL Basics** Relational database concepts, Tables, keys and relationships, Installing MySQL and PostgreSQL	4 hrs
02	**Querying and Filtering Data** SELECT, WHERE and ORDER BY, Comparison and logical operators, IN, BETWEEN and LIKE	6 hrs
03	**Functions and Aggregations** String and date functions, CASE expressions, COUNT, SUM, AVG, MIN, MAX	6 hrs
04	**Joins and Set Operations** Inner joins, Left, right and full outer joins, Self joins	7 hrs
05	**Subqueries and CTEs** Scalar and correlated subqueries, EXISTS and NOT EXISTS, Common table expressions	6 hrs
06	**Window Functions** OVER and PARTITION BY, ROW_NUMBER, RANK, DENSE_RANK, Running totals and moving averages	6 hrs
07	**Analytics Use Cases and Performance** Cohort and retention analysis, Funnel analysis, Creating views	5 hrs
★	**Capstone · Business Analytics Case Study** Assessment, capstone review and certification	

✦ DETAILED CURRICULUM

The syllabus.

Modules 01–03

MODULE 01

Databases and SQL Basics

4 hours

Hands-on lab
Set up a sample retail database and explore its tables and relationships.

TOPICS COVERED

- Relational database concepts
- Tables, keys and relationships
- Installing MySQL and PostgreSQL
- Using a SQL client like DBeaver
- Data types

MySQL PostgreSQL

MODULE 02

Querying and Filtering Data

6 hours

Hands-on lab
Answer ten business questions using filtered, sorted queries.

TOPICS COVERED

- SELECT, WHERE and ORDER BY
- Comparison and logical operators
- IN, BETWEEN and LIKE
- Handling NULL values
- DISTINCT and LIMIT
- Aliases and calculated columns

MODULE 03

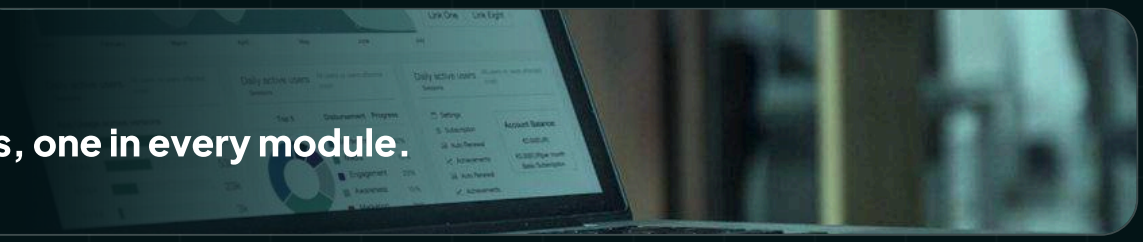
Functions and Aggregations

6 hours

Hands-on lab
Produce monthly revenue and order summaries by category and region.

TOPICS COVERED

- String and date functions
- CASE expressions
- COUNT, SUM, AVG, MIN, MAX
- GROUP BY and HAVING
- Type conversion



LEARN BY DOING

7 guided labs, one in every module.

✦ DETAILED CURRICULUM

Syllabus, continued.

Modules 04–05

MODULE 04

Joins and Set Operations

7 hours

Hands-on lab
Combine customers, orders and products to build a sales report.

TOPICS COVERED

- Inner joins
- Left, right and full outer joins
- Self joins
- Joining multiple tables
- UNION and UNION ALL
- Avoiding duplicate-row pitfalls

MODULE 05

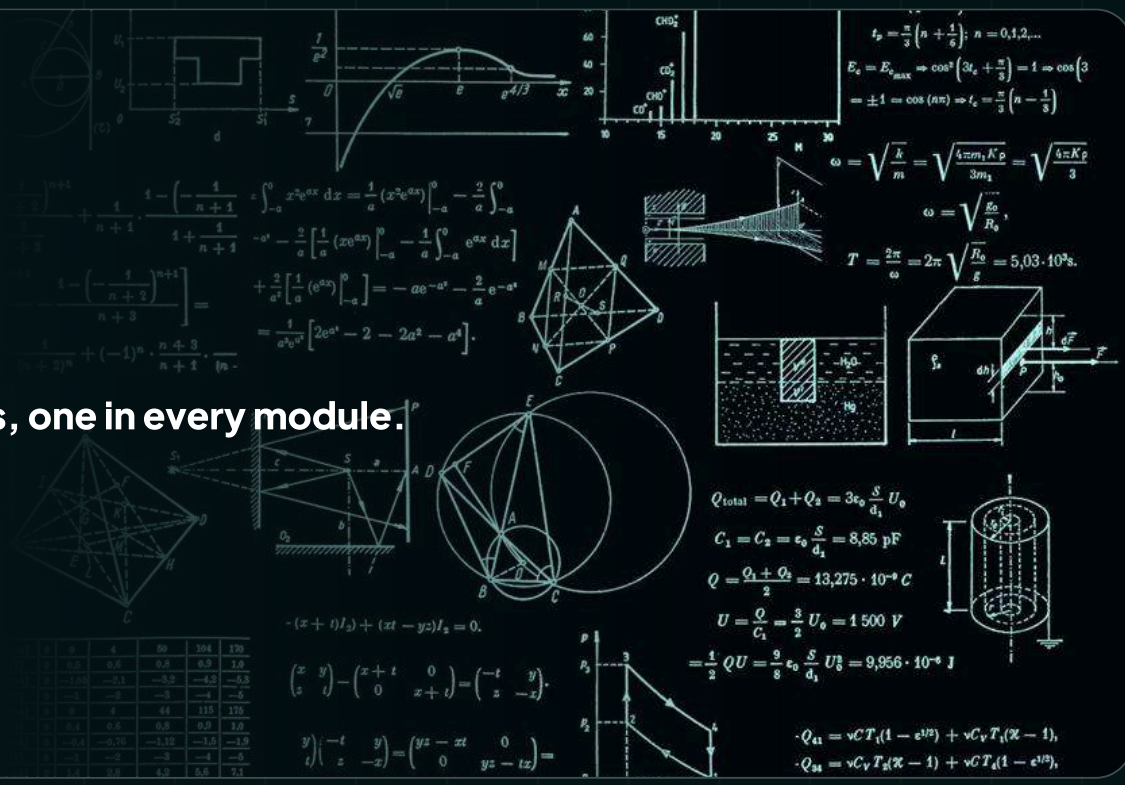
Subqueries and CTEs

6 hours

Hands-on lab
Identify repeat customers and top products using CTE-based queries.

TOPICS COVERED

- Scalar and correlated subqueries
- EXISTS and NOT EXISTS
- Common table expressions
- Recursive CTE basics
- Writing readable SQL



LEARN BY DOING

7 guided labs, one in every module.

✦ DETAILED CURRICULUM

Syllabus, continued.

Modules 06–07

MODULE 06

Window Functions

6 hours

Hands-on lab
Calculate month-over-month growth and customer rankings with window functions.

TOPICS COVERED

- OVER and PARTITION BY
- ROW_NUMBER, RANK, DENSE_RANK
- Running totals and moving averages
- LAG and LEAD
- Percentiles and NTILE

MODULE 07

Analytics Use Cases and Performance

5 hours

Hands-on lab
Build a cohort retention query and export results for visualisation.

TOPICS COVERED

- Cohort and retention analysis
- Funnel analysis
- Creating views
- Indexes and query plans basics
- Exporting results to Excel and BI



CAPSTONE

Business Analytics Case Study

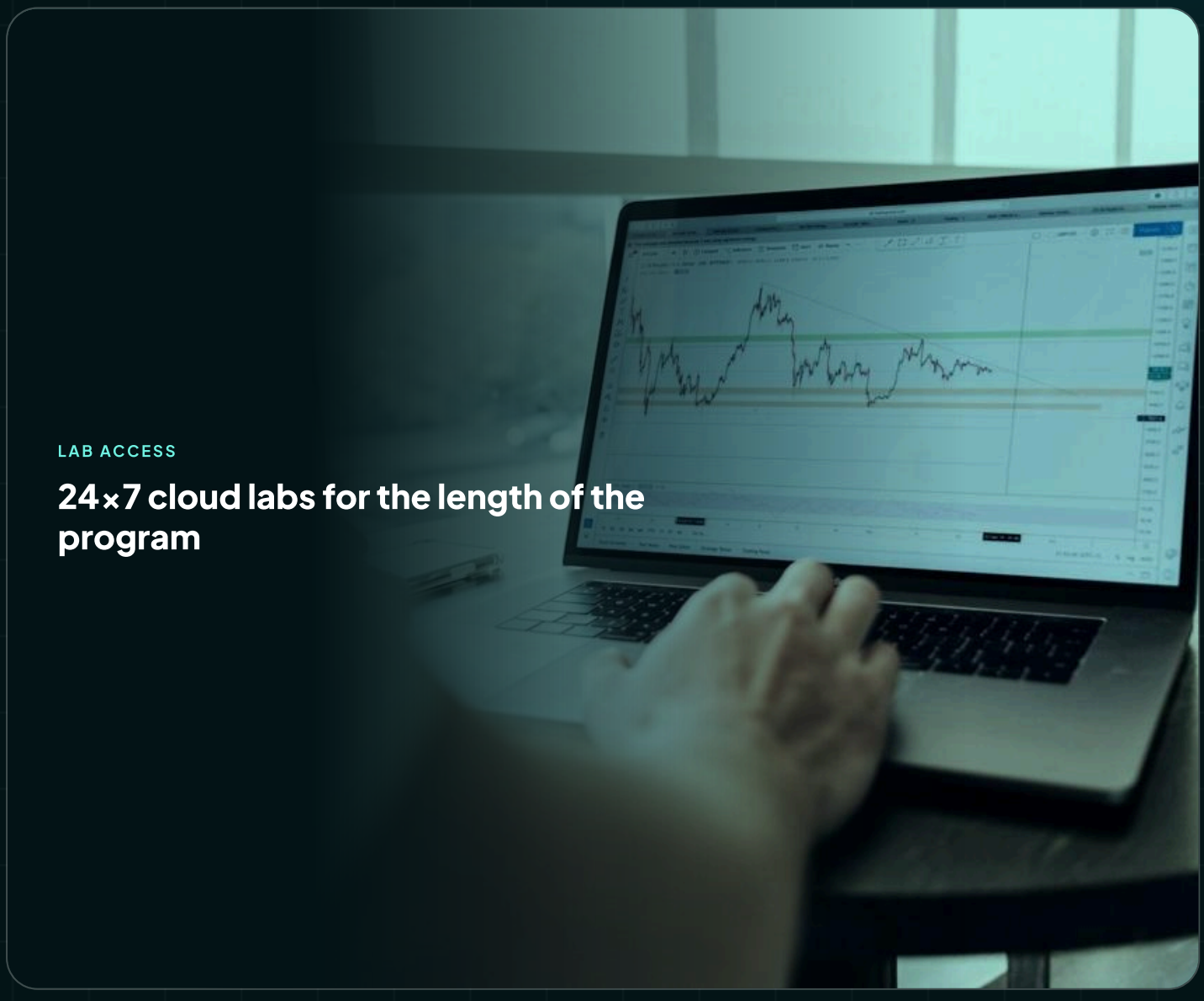
✦ YOUR STACK

Tools you'll build with.

Real platforms and frameworks — the same stack modern teams ship with, practised in cloud-hosted labs.

MySQL
Relational database

PostgreSQL
Relational database



LAB ACCESS

24×7 cloud labs for the length of the program

✦ HANDS-ON WORK

Projects that prove you can do it.

01

Retail Sales Analysis

Answer key sales questions on revenue, top products and regional performance using filters, joins and aggregations.

02

Customer Behaviour Report

Use CTEs and window functions to analyse repeat purchases, rankings and month-over-month customer growth across segments.

03

Funnel and Cohort Study

Build SQL queries that measure conversion funnels and retention cohorts for an e-commerce dataset, with clear summaries.

CAPSTONE PROJECT

Business Analytics Case Study

Work through a realistic company database to answer a brief from management, writing well-structured SQL with joins, CTEs and window functions, then present findings and the queries behind them in a short report.

Real-world scenario | Mentor review | Portfolio ready



CERTIFICATION

SAM-SQL

Awarded on successful completion of the program assessments.

- MCQ assessments
- Practical lab evaluation
- Project & capstone review
- Final presentation



✦ HOW YOU LEARN

The SAM Learning Framework™

PHASE 01

S

Scenario

Real-world attack and use-case scenarios open every module.

PHASE 02

A

Apply

Hands-on lab work, CTF challenges and live projects.

PHASE 03

M

Master

Assessment, peer review and certification prep.

PHASE 04

M

Mentor

Post-program career guidance and support.

DELIVERY MODELS

- Instructor-Led (ILT)
- Virtual Instructor-Led
- Self-Paced Online
- E-Learning Licensing
- Blended Learning
- Corporate Onsite
- Bootcamp Intensive
- Hackathon / CTF
- Mentorship

✦ LEARNING PATH · DATA SCIENCE & ANALYTICS

Where this program fits.

Beginner	Intermediate	Advanced	Expert
You are here	5 programs	4 programs	2 programs

BEFORE THIS

A starting point — no prerequisite program needed.

UP NEXT

Power BI — Data Visualization	48 Hours
Tableau Desktop & Server	48 Hours
Python for Data Analysis (Pandas/NumPy)	64 Hours
Data Engineering Fundamentals	80 Hours

CAREER ROLES

- Data Analyst
- Business Analyst
- Reporting Analyst
- Product Analyst
- MIS Executive



✦ FAQS

Questions, answered.

Q01

Do I need prior experience?

No. This program starts with database basics and assumes no programming background. If you are comfortable with spreadsheets and logical thinking, you will be able to follow along and write useful queries quickly.

Q02

How are classes scheduled and delivered?

Sessions are instructor-led and run as live virtual or blended batches, with weekday and weekend options where available. Each session pairs concept explanations with live query practice on sample databases.

Q03

Will I receive a certificate?

Yes. Learners who complete the required labs, projects and final assessment receive the Samcommunity Academy SAM-SQL certificate. It recognises the practical skills you demonstrated during the program rather than attendance alone.

Q04

How do I access labs and tools?

You install free MySQL and PostgreSQL editions and a client such as DBeaver, or use a browser-based SQL environment. Sample databases and exercise sets are provided, with installation guidance in the first session.

Q05

Is career support included?

You get guidance on portfolio projects, resume positioning and interview preparation for relevant roles. Your SQL case studies can be shared on GitHub as portfolio work. We do not guarantee jobs, placements or salaries.



✦ LET'S TALK

Start SQL for Data Analysts with Samcommunity.

INDIVIDUALS

academy@samcommunity.in

Batches, enrolment & career guidance

CORPORATE & INSTITUTIONS

corporate@samcommunity.in

Team batches & custom programs

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