stackfuel

Skill Track • Curriculum

SQL & Relational Databases

Effective SQL Queries for **Relational Databases**

Why this course?

SQL (Structured Query Language) is the world's dominant database language. It is used in a wide range of database systems for creating queries and processing data. SQL is supported by leading database programs such as MySQL, Microsoft SQL Server and Oracle Database.

For many companies, the biggest challenge is turning raw data into actionable insights. Much of the world's big data - from digital medical records to online shopping purchases and transaction logs in banks' customer accounts – is stored in organized collections of tables called relational databases. Companies around the world are therefore in great demand of people who can understand this kind of data and analyze it using SQL.

With the SQL & Relational Databases course, you will gain practical expert knowledge of SQL and relational databases. We will break down common SQL practices and teach you how to get the most out of relational databases with the latest best practices.

50%

of all job ads for tech jobs require the latest SQL-Skills in the job profile.
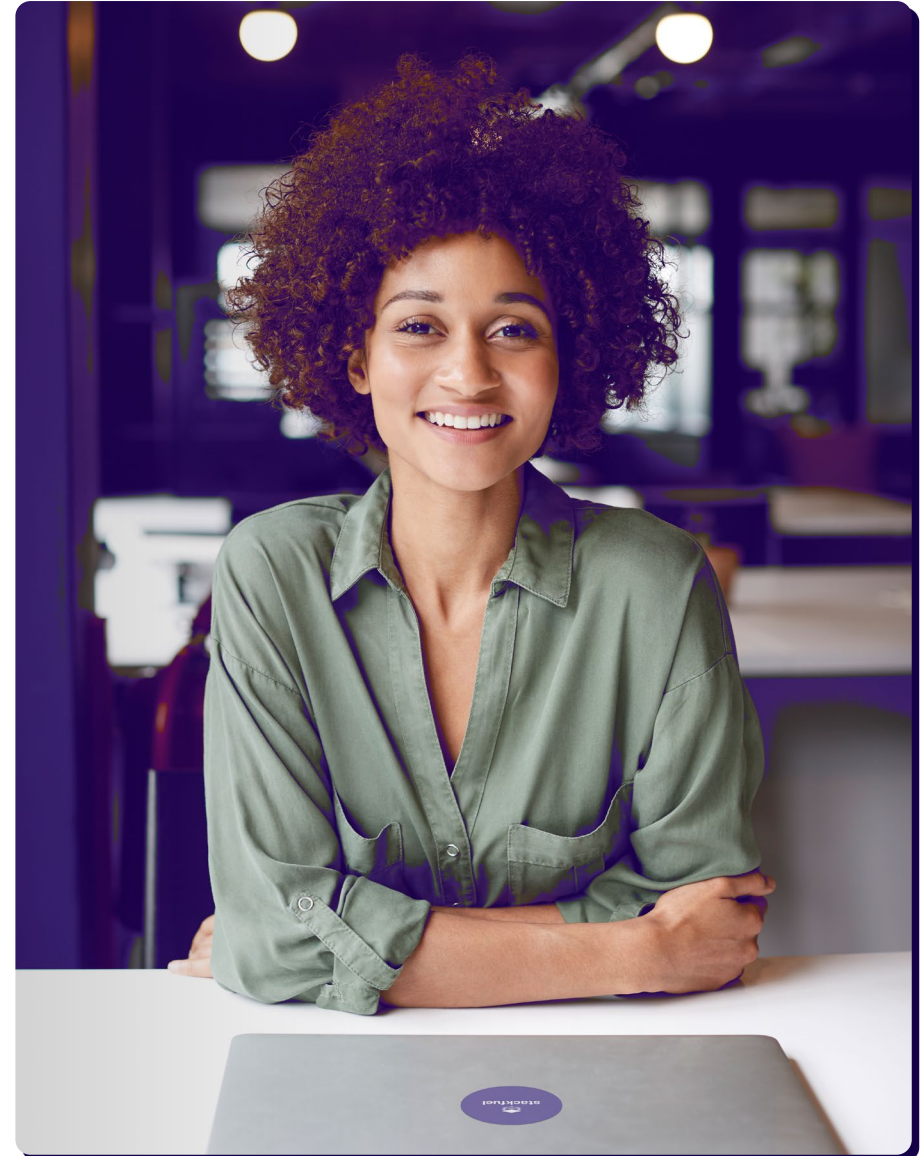
Course content.

> Use SQL to quickly get a practical overview of the data in order to write and carry out basic and advanced SQL queries

> Select the correct SQL query technique for each specific situation and generate optimized queries

> Key functions for organizing, filtering and categorizing information in a relational database

> Elected practical projects and programming exercises in Jupyter Notebooks

> Advanced knowledge of views, CTEs, subqueries and window functions

At a glance.

Duration

32 hours

Type

Online course

Language

German, English

Structure

4 chapters + 4 quizzes + 3 exercise projects

Level

Mid level

Completion

Certificate of completion

Prerequisites

No prior knowledge or programming skills are required for the course.

Target group

The mid level course is designed for anyone who wants to learn SQL quickly and in a hands-on manner, apply the knowledge and thus improve their IT skills.

The course is also suitable for people who want to pursue a career in the IT or tech industry or become Data Scientist or Business Intelligence Consultants.

Chapter overview.

Chapter 1

Relational databases

The first chapter introduces you to the topic of databases. You will learn what databases are and where they are used and why. You will understand how **relational databases** are built and learn about their advantages and disadvantages. You will take a deeper look at **ER diagrams** (Entity Relationship) and learn how to read them.

You will learn the most important SQL vocabulary and get to know SQL as the primary language to communicate with relational databases. This chapter also provides an overview of how this **interaction** works and what SQL can do.

Chapter 2

Basic SQL

In the second chapter, you will learn how to write **SQL queries** and read relational databases in order to extract company-relevant information. In doing so, you will distinguish between **data formats**, learn about **Boolean logic** and filter tables with **Boolean operators**.

In the first **hands-on project** you will apply what you have learned so far and build a **toolkit** to filter, group, sort and join data.

Chapter 3

Advanced SQL

In the third chapter, you'll focus on **advanced SQL concepts and techniques** and how to use them to overcome the limitations of basic SQL queries. This includes 4 concepts to reuse query results: **subqueries, views, common table expressions (CTEs)**, and **creating tables**.

In several use cases, you'll learn how to use advanced filtering and joining methods using nested SQL queries. You will also learn how to accelerate your queries (**indexes**) and apply everything you have learned so far in the second **hands-on project**.

Chapter overview.

Analytic Functions and Final Project

The last chapter focuses on the **final project**. You will analyze a completely new database on your own - from the initial exploration to the very last query.

For this, we'll teach you two more important concepts that regularly come up in everyday work with SQL: You will learn how to optimally apply **arithmetic with SQL** and how to calculate with using **SELECT**.

You will also build up in-depth knowledge of analytical functions to create **ranked lists** or calculate **running totals** over longer periods of time. To do this, you will determine **statistical parameters** such as correlations, standard deviation and median, create **window functions** and learn to control various SQL dialects.

About StackFuel.

We are your strategic learning partner, suitable for every career level and professional orientation.

Whether you're changing careers, an employee or a manager, our certified and state-supported training courses in data, AI and programming will keep you up to date with the latest technologies.

Course schedule.

	Weeks
Assessment	
Kick-off event	
Data analyst course	
Course support & webinars	
Career coaching	
Graduation project	
Certificate	
Weeks	0 1 2 3 4 5 6 7 8 9 10 11 12

*Sample course schedule for our Data Analyst course.

- ● Onboarding & offboarding
- ● Training contents
- ● Mentoring & support

Training philosophy.

Online & flexible
Do your course part-time or full-time and learn 100% online in your browser on your PC or laptop at home.

Hands-on practice with real-life projects
In our Data Lab you will write your own algorithms with industrial data sets in interactive exercises and coding challenges.

Mentoring & career coaching
Your personal mentoring team will accompany you with coaching, feedback, and weekly group webinars.

Certified & eligible
As a certified training provider, you can get our courses fully subsidized by the job center and the employment agency.

Facts.

91% completion rate	**80%** interactive exercises	**20%** expert videos & text lessons
+150.000 learning hours in the Data Lab	**4,3 von 5** recommendation rate	

Sponsorship opportunities.

Installments or part payment

Use our installments or part payment options to spread out the costs of your course over several months so you can remain financially flexible.

Education voucher

With an education voucher (Bildungsgutschein in German), you can get your course financed up to 100% by the Jobcenter or the Employment Office, if you are currently out of work or looking for employment.

Training opportunities act

If you are working, you can get your course partially or completely funded by your employer thanks to the Training Opportunities Act (Qualifiyierungschancengesetz in German) - regardless of your qualifications, age or the size of the company.

StackFuel scholarships

We regularly award various scholarships for our courses, to promote more diversity in the field of data. We want to encourage more people to take an interest in programming, and more women to work in data roles.

Support & mentoring.

Coaching

> Assessment
> Final project and evaluation
> 1:1 project feedback consultation
> Official certificate of completion

Personal mentoring

> Kick-off session
> Webinars with other course participants
> Support via email or phone
> Online forum

Career services

> CV and application coaching
> Talent pool and career intros
> Data community
> Career events

Ready to enroll?

Get in touch with our __consultants__ and build up the __skills__ you need!

For Individuals

Maria Schwenke

Education Advisor

Book free consultation

For Businesses

Ginesh Koottakara

Head of Sales

Book free demo