

MASTER SQL

IN 20 DAYS

Beginner to Advanced



Contents

- ▶ **Stage 1: Getting Started**
- ▶ **Stage 2: Core Concepts**
- ▶ **Stage 3: Advanced Queries**
- ▶ **Stage 4: Database Design and Optimization**
- ▶ **Stage 5: Advanced Topics**
- ▶ **Stage 6: Practice, Practice, Practice !**

Stage 1: Getting Started



Day 1

► Understand the role of SQL in managing and querying data.

- Learn basic terminology like tables, rows, columns, and queries.
- Understand the role of SQL in managing and querying data.



Day 2

► Setting Up the Environment:

- Install a relational database management system (RDBMS) like MySQL, PostgreSQL, or SQLite.
- Familiarize yourself with a SQL client or command-line interface.

Free Resources

[SQLZoo](#)



[Khan Academy –
Intro to SQL](#)



Stage 2: Core Concepts



Day 3



Creating and Modifying Tables:

- Design and create database tables with proper data types and constraints.
- Understand primary keys, foreign keys, and indexing.



Day 4



Basic Querying:

- Write SELECT statements to retrieve data from a single table.
- Use WHERE clause for data filtering.
- Sort and limit results with ORDER BY and LIMIT.

Free Resources

[SQLBolt](#)



Stage 2: Core Concepts



Day 5

► Data Manipulation:

- INSERT, UPDATE, and DELETE data in tables.
- Practice altering table data safely.

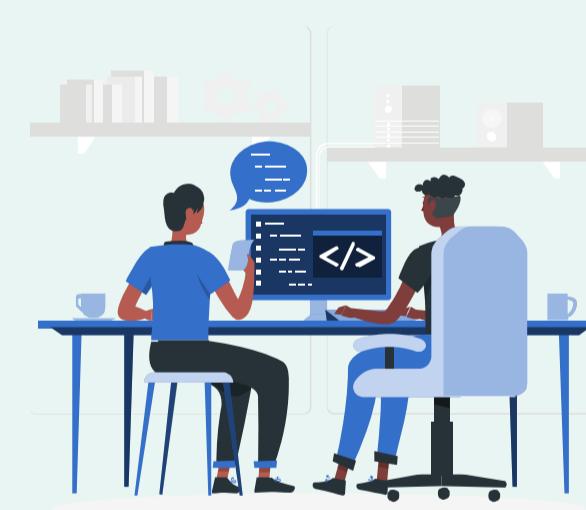
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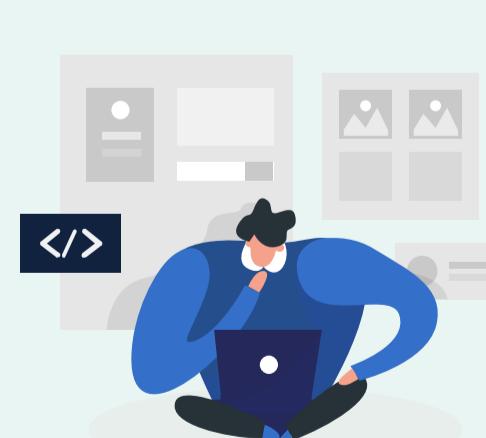
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Stage 3: Advanced Queries



Day 6

► Joins and Relationships:

- Understand different JOIN operations (INNER, LEFT, RIGHT, FULL).

- Learn about one-to-many and many-to-many relationships.



Day 7

► Subqueries and Derived Tables:

- Write subqueries for complex filtering and aggregation.

- Utilize derived tables for intermediate results.



Nikesh Bisen

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CHASE & CO.

To

→ Microsoft

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Stage 3: Advanced Queries



Day 8



Conditional Logic and Functions:

- Use CASE statements for conditional logic.
- Explore SQL functions for string manipulation, date calculations, and more.

Free Resources:

[SQLZoo Advanced Tutorials](#)



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Gunjan Bhadani

Google

If you have the courage to take your career in an analytical direction, Tutor Academy has the expertise, method, and support to help you. Extremely knowledgeable faculty with a thorough understanding of the industry. Highly recommended especially for working professionals.



Mohit Agarwal



When I started looking for a software development course, I found Tutor Academy completely matching my requirements. Apart from the content and live classes that they provide, the mentorship program is the cherry on the cake.

Stage 4: Database Design and Optimization



Day 9

► Normalization:

- Deep dive into database normalization for optimized data structure.
- Understand the importance of reducing data redundancy.



Day 10

► Indexes and Performance:

- Learn about indexes for improved query performance.
- Optimize queries using execution plans.

Free Resources:

[Coursera - Database Management Essentials](#)



Stage 4: Database Design and Optimization



Day 11

► Transactions and ACID:

- Grasp transactions and their role in data integrity.
- Understand ACID properties (Atomicity, Consistency, Isolation, Durability).



Subhadip
Chowdhury

From



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Stage 5: Advanced Topics



Day 12

▶ Window Functions:

- Explore window functions for advanced analytical queries.
- Learn about ranking, aggregation, and pagination.



Day 13

▶ Stored Procedures and Functions:

- Create stored procedures and functions for encapsulated logic.
- Understand the benefits of procedural SQL.

Free Resources:

[Modern SQL](#)



Stage 5: Advanced Topics



Day 14

► Database Security:

- Learn about SQL injection and securing databases.
- Understand user roles, permissions, and encryption.



Savitha
Ranganathan



I got rejected in the Amazon interview. After that, I joined Tutort Academy for DSA concepts as a working professional. They fulfilled my all requirements and that is why I am in Microsoft right now. I highly recommend Tutort Academy for professionals.

Stage 6: Practice, Practice, Practice



Day 15

► Free Resources for Practice

SQLZoo: This platform offers interactive tutorials and exercises that cover a wide range of SQL concepts and queries. It's suitable for beginners and more advanced learners.

[SQLZoo](#)



Day 16

► Free Resources for Practice

LeetCode: While primarily known for coding challenges, LeetCode also has a database section with SQL problems that help you practice various SQL skills.

[LeetCode SQL](#)



Stage 6: Practice, Practice, Practice



Day 17

► Free Resources for Practice

- HackerRank: HackerRank provides a variety of coding and technical challenges, including SQL problems. It offers a great way to test and improve your SQL skills.

[HackerRank SQL](#)



Day 18

► Free Resources for Practice

- SQLBolt is an online resource that provides interactive lessons and exercises to help you learn and practice SQL directly in your browser.

[SQLBolt Exercises](#)



Gopal
Yadav

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 CISCO™



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Stage 6: Practice, Practice, Practice



Day 19

Free Resources for Practice

- Codecademy: Codecademy offers a free SQL course with hands-on exercises that help you practice SQL queries and database manipulation.

[Codecademy SQL Course](#)



Day 20

Free Resources for Practice

- W3Schools SQL Exercises: W3Schools offers interactive SQL exercises that allow you to practice different SQL queries and concepts.

[W3Schools SQL Exercises](#)



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