Overview

Microsoft®
SQL Server®

WHAT IS SQL?

SQL (Structured Query Language) is a special language used to talk to databases. Imagine a database like a giant spreadsheet with lots of tables full of information like customers, orders, or products. SQL is the way we ask questions, add new info, update things, or delete stuff from those tables.

FOCUS

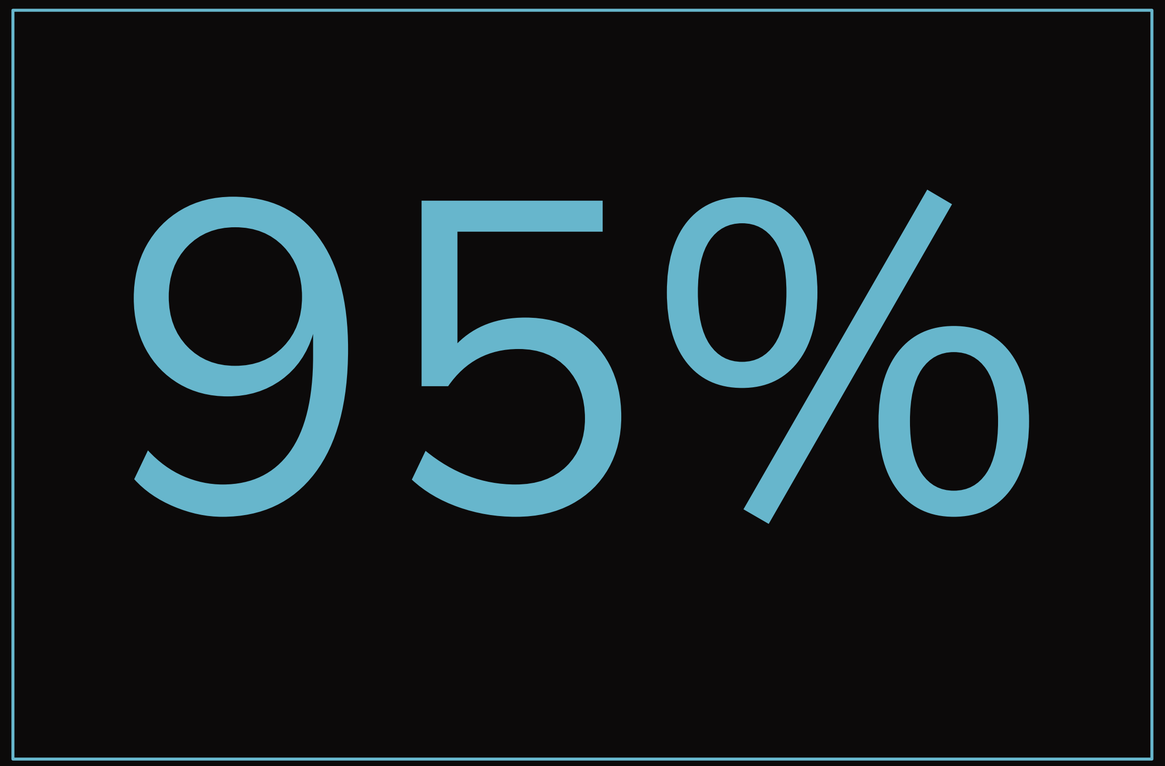
DML – Data Manipulation Language

Command	What it Does	Example
SELECT	Gets data from a table	`SELECT * FROM users;`
INSERT	Adds new data to a table	`INSERT INTO users (name, email) VALUES ('John', 'john@email.com');`
UPDATE	Changes existing data	`UPDATE users SET email = 'new@email.com' WHERE id = 1;`
DELETE	Removes data	`DELETE FROM users WHERE id = 1;`

DDL – Data Definition Language

Command	Purpose	Example
`CREATE`	Create database objects	`CREATE TABLE students (id INT, name TEXT);`
`ALTER`	Modify structure of table	`ALTER TABLE students ADD age INT;`
`DROP`	Delete database objects	`DROP TABLE students;`
`TRUNCATE`	Remove all data from table	`TRUNCATE TABLE students;`

INDUSTRY WIDE USAGE



SQL is widely used across the tech industry, think of it as the bread and butter of data work.

Estimated SQL Usage in Industry: 85%–95%

Why it's so widely used:

- Databases: Most applications use relational databases like PostgreSQL, MySQL, SQL Server, or Oracle—which all use SQL.
- Data Analytics: Tools like Power BI, Tableau, Looker, etc., often rely on SQL.
- Data Engineering & Science: SQL is a must-have skill in these roles for querying large datasets.
- Even in Big Data/Cloud: Tools like BigQuery, Snowflake, AWS Redshift still use SQL or SQL-like syntax.

80%

DML QUERIES

DML is like using a house (moving in furniture, cleaning, living your life).

20%

DDL QUERIES

DDL is like building or renovating the house (adding rooms, fixing walls).

MOST WIDELY USED

DATABASES

- A database is a structured collection of data that stores information in an organized way.
- It allows you to add, view, update, and delete data efficiently.
- Databases are used in apps, websites, and systems to manage everything from users to transactions.

TABLES

- An SQL table is like a spreadsheet inside a database, used to store data in rows and columns.
- Each row is a record, and each column holds a specific type of information (like name, age, etc.).
- Tables make it easy to organize, retrieve, and manage related data efficiently.

STORED PROCEDURES

- An SQL stored procedure is a set of SQL statements saved in the database to perform a task.
- It's like a reusable script—you can call it whenever you need to run that task.
- Stored procedures help with automation, consistency, and better performance.

THANK YOU