

SQL (Structured Query Language)

SQL (Structured Query Language) is used to perform **operations on the records stored in the database, such as updating records, inserting records, deleting records, creating and modifying database tables, views, etc.**

SQL is not a database system, but it is a **query language**. Suppose you want to perform the queries of SQL language on the stored data in the database. You are required to install any database management system in your systems, for example, [Oracle](#), [MySQL](#), [MongoDB](#), [PostgreSQL](#), [SQL Server](#), [DB2](#), etc.

What is SQL

SQL is a short-form of the structured **query language**, and it is pronounced as S-Q-L or sometimes as See-Quell.

This database language is mainly designed for **maintaining the data in relational database management systems**. It is a special tool used by data professionals for handling structured data (data which is stored in the form of tables). It is also designed for stream processing in RDSMS.

Why SQL

Nowadays, SQL is widely used in data science and analytics. Following are the reasons which explain why it is widely used:

- The basic use of SQL for data professionals and SQL users **is to insert, update, and delete the data from the relational database.**
- SQL allows the data professionals and users to **retrieve the data from the relational database management systems.**
- It also helps them to describe the structured data.
- It allows SQL users to **create, drop, and manipulate the database** and its tables.
- It also helps in creating the view, stored procedure, and functions in the relational database.
- It allows you to define the data and modify that stored data in the relational database.

- It also allows SQL users to set the permissions or constraints on table columns, views, and stored procedures.

Advantages of SQL

SQL provides various advantages which make it more popular in the field of data science. Following are the best advantages or benefits of Structured Query Language:

1. No programming needed

SQL does not require a large number of coding lines for managing the database systems. We can easily access and maintain the database by using simple SQL syntactical rules. These simple rules make the SQL user-friendly.

2. High-Speed Query Processing

A large amount of data is accessed quickly and efficiently from the database by using SQL queries. Insertion, deletion, and updation operations on data are also performed in less time.

3. Standardized Language

SQL follows the long-established standards of ISO and ANSI, which offer a uniform platform across the globe to all its users.

4. Portability

The structured query language can be easily used in desktop computers, laptops, tablets, and even smartphones. It can also be used with other applications according to the user's requirements.

5. Interactive language

We can easily learn and understand the SQL language. We can also use this language for communicating with the database because it is a simple query language. This language is also used for receiving the answers to complex queries in a few seconds.