

SQL AND NoSQL

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What is SQL?

SQL is a domain-specific language used to query and manage data. It works by allowing users to query, insert, delete, and update records in relational databases.

SQL also allows for complex logic to be applied through the use of transactions and embedded procedures such as stored functions or views.

What is NoSQL?

NoSQL stands for Not only SQL. It is a type of database that uses non-relational data structures, such as documents, graph databases, and key-value stores to store and retrieve data. NoSQL systems are designed to be more flexible than traditional relational databases and can scale up or down easily to accommodate changes in usage or load. This makes them ideal for use in applications

How Does SQL Work?

In the relational engine, a query is parsed and then processed by the query optimizer, which generates an execution plan. When any query reaches SQL Server, the first place it goes to is the relational engine. Here, the query compilation process happens in three phases; Parsing, Binding and Optimization

Examples of SQL databases

Db2

MySQL

PostgreSQL

YugabyteDB

CockroachDB

Oracle Database

Microsoft SQL Server

Azure SQL Database

What is MongoDB and how it works?

MongoDB ([link resides outside IBM](#)) is an open source, nonrelational database management system (DBMS) that uses flexible documents instead of tables and rows to process and store various forms of data. As a [NoSQL database](#) solution, MongoDB does not require a relational database management system (RDBMS), so it provides an elastic data storage model that enables users to store and query multivariate data types with ease. This not only simplifies database management for developers but also creates a highly scalable environment for cross-platform applications and services.

Key Difference Between MongoDB and MySQL

- MongoDB represents data as of JSON documents whereas MySQL represents data in tables and rows.
- In MongoDB, you don't need to define the schema while in MySQL you need to define your tables and columns
- MongoDB doesn't support JOIN but MySQL supports JOIN operations.
- MongoDB uses JavaScript as query language while MySQL uses the Structured Query Language (SQL).
- MongoDB is an ideal choice if you have unstructured and/or structured data with the potential for rapid growth while MYSQL is a great choice if you have structured data and need a traditional relational database.
- If most of your services are cloud based MongoDB is the best suited for you but If data security is your priority then MYSQL is the best option for you.

