MongoDB VS SQL

MySQL

- MySQL is a popular, free-to-use, and open-source relational database management system (RDBMS) developed by Oracle. As with other relational systems, MySQL stores data using tables and rows, enforces referential integrity, and uses structured query language (SQL) for data access. When users need to retrieve data from a MySQL database, they must construct an SQL query that joins multiple tables together to create the view on the data they require.
- Database schemas and data models need to be defined ahead of time, and data must match this schema to be stored in the database. This rigid approach to storing data offers some degree of safety, but trades this for flexibility. If a new type or format of data needs to be stored in the database, schema migration must occur, which can become complex and expensive as the size of the database grows.

MongoDB

- MongoDB is also free to use and open source; however, its design principles differ from traditional relational systems. Often styled as a non-relational (or NoSQL) system, MongoDB adopts a significantly different approach to storing data, representing information as a series of JSON-like documents (actually stored as binary JSON, or BSON), as opposed to the table and row format of relational systems.
- MongoDB documents consist of a series of key/value pairs of varying types, including arrays and nested documents; however, the primary difference is that the structure of the key/value pairs in a given collection can vary from document to document. This more flexible approach is possible because documents are self-describing.

Features of MongoDB

- High Performance
- Scalability
- Availability
- Flexibility

Features of SQL Server

- Cloud Database Support
- Ease of Management
- High Security
- End-to-End Business Data Solutions

Cons of MongoDB

- The transactions using MongoDB are complex.
- When it comes to ACID properties, MongoDB is not as strong as compared to many other RDBMS systems.
- MongoDB doesn’t support any Stored Procedures or functions and fails when it comes to implementing any business logic at the Database level that you can easily achieve in other RDBMS systems.

Cons of MySQL

- If sometimes a server crash happens, it can corrupt the system catalog.
- Transactions that are related to the catalog are not ACID compliant.
- Most of the MySQL tables used for the procedure or trigger are pre-locked.

Conclusion

- MongoDB is a database that is more advanced and capable of handling big data with dynamic schema features. SQL Server is an RDBMS that is used to manage the relational database system and offers end-to-end business data solutions. In the case of unstructured data MongoDB is a good choice. Also, MongoDB is open source which makes it readily available.
- No doubt SQL Server is going strong for many years but now with the era of Big Data, MongoDB seems to have a bright future. But, that doesn't mean SQL Server will be completely eradicated. The choice of database between MongoDB and SQL Server is completely specific to the user's needs.