

MongoDB Vs RDBMS Comparing the Big 2 Database Services



Digital transformation is revamping every industry, and most organizations are doing their best to deliver their clients beyond everyone's expectations. However, the journey of [digital transformation](#) is not an easy road to travel upon.

In the digital world, there are no barriers for data, and it is very hard to manage the enormous amount of data floating around. It can be challenging for firms to manage a large volume of data that is being generated on the database. This is where database platforms like MongoDB come into work.

According to the Stack Overflow Developers survey, **Mongo DB** was the most favoured database to use for developers in the last four years. Another report from 3T Software Labs states that MongoDB users tried at least two different technologies on average, either relational or non-relational in 2017, whereas in 2020, it changed over 3 per average user.

Echoing similar sentiments for **RDBMS**, Gartner revealed that more than 50 percent of commercial existing proprietary RDBMS instances would be planning to convert in 2022. According to a separate analysis by Dell, 78 percent of users reported that they were operating data on the RDBMS, and approximately 70 percent of respondents are running more than 100 databases in MongoDB.

With multiple database solutions currently available in the market, it can be hard to select the right solution for your organization. MongoDB and RDBMS are among the two most established leading names in the database platform. Both are in their own space but which database best suits for your application? Our Veritis team will guide you to decide the right database for your projects.

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Before digging deep into the major differences, we will first introduce you to **MongoDB** and **RDBMS**.

MongoDB





Developed by 10gen in 2007, the term MongoDB was coined by Kevin Ryan, Eliot Horowitz, and Dwight Merriman. MongoDB is a powerful document-oriented database designed for ease of application, scaling, and development that provides support for JSON like documents and collections. It witnessed exponential growth in the market and is the world's fifth most popular database.

MongoDB is also known as Not Only SQL (NoSQL) database, and it stores data in the document format model with no concept of tables, schemas, rows, and columns. Even with heavy loads of data, the document-oriented database is designed to be fast, scalable, and flexible.

Database management offers efficiency, reliability, and strong security. MongoDB supports various programming languages including C++, JavaScript, Python, PHP, Scala, Ruby, and more to the list and operating systems like Linux, Windows, and macOS.

MongoDB is currently used as a backend data store for highly reputed companies like Twitter, Facebook, Google, IBM, Forbes, Citrix, T-Mobile, Zendesk, Sony, HTC, and many more. Some of the websites that use MongoDB like The New York Times, eBay, SourceForge, Craigslist, etc. According to the reports by Siftery, 4000 plus organizations are using the NoSQL database for their projects.

NoSQL database challenger MongoDB is highly popular in the developer community as it has 800 million monthly active users, and it also handles 3 billion requests per day from the application. Moreover, it has more than 6.5 million downloads.

Developers mostly prefer MongoDB because it can handle all sizes of projects and companies across the globe. From large banking systems to weekend-long hackathon projects, the non-relational database system is the best choice database for organizations. With the likes of AWS, Azure, and Google Cloud, the database vendor has been deployed across 80 regions.

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RDBMS



RDBMS was first defined by Edgar F. Codd in 1970 and it one of the most reliable database service platforms used around the globe. A relational database management system (RDBMS) is a regular type of database that stores and provides access to data in a tabular format like rows and columns. RDBMS uses Structured Query Language (SQL) to access the database.

Modern database systems like IBM DB2, ORACLE, Microsoft Access, SQL, My-SQL, and MS SQL server are all established based on the principles of RDBMS. The most widely used cloud-based databases are – SQL Azure, Google Cloud SQL, IBM Db2 on Cloud, Oracle Cloud, and AWS Relational Database Service.

The relational database includes functions like accuracy, integrity, security, and consistency of data, and it is totally different when file storage is used in a DBMS. RDBMS offers data accuracy, easy access to data, data integrity, flexibility, and high security to the users.



It acts as an interface between databases, users, and applications, and additionally, it also manages administrative functions for access, performance, and data storage. RDBMS permits users to create, read, update, and delete the operations that can be performed with advance consistent treatment of data.

RDBMS usually provides metadata collections, and data dictionaries which are used to handle the data. Structured Query Language (SQL) is most used by RDBMS to perform data interacting tasks like creating a table and inserting data, modifying and updating data, filtering and querying data, and deleting table or data.

Useful Link: [A Guide to DevOps Implementation on Google Cloud](#)

Comparison Between MongoDB and RDBMS

Details	MongoDB	RDBMS
Data Storage	Stores data in document-based with no rows and columns	Stores data in row-based table structure with fixed rows and columns
History	Developed in 2007	Developed in 1970
Hierarchical	It has inbuilt support for hierarchical data storage	It doesn't fit for hierarchical data storage
Query Language	Database vendor MongoDB supports BSON query language	Database vendor RDBMS supports SQL query language

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Schema	It has a schema-less database because it doesn't need a pre-defined concept of relationship	It usually follows the schema structure
Security	It provides security to the database	It provides robust security to the database
Foreign Key	It doesn't work with the concept of primary key -foreign key relationship	It supports foreign key
Scalability	MongoDB databases are horizontally scalable	Relational databases are vertically scalable
Principle	It follows ACID (Atomicity, Consistency, Isolation, and Durability) properties	It follows CAP approach (Consistency, Availability, and Partition tolerance)
Performance	RDBMS performs slow for bulk data when compared with NoSQL database	MongoDB performs 100 times quicker than the traditional database
Joins	No complex joins used in the database	It requires complex joins
Trigger	Triggers are not supported in NoSQL	Triggers are supported in a relational database
JavaScript	MongoDB allows JavaScript client for querying	RDBMS is not suggested to access database for JavaScript clients

Conclusion



MongoDB is the modern leading data platform that has more than 18k clients around 100 nations, and it clocks more than 110 million downloaders. IT developers mostly prefer MongoDB as it is the most deployed NoSQL distribution.

Relational database suits for enterprises, which deals with structured and relational data. SQL database is great for websites which generates high traffic for their applications. It offers quick processing, specialized web functions, data insertions, and robust reality. Hope this blog post provided you sufficient information on MongoDB and RDBMS databases. Ultimately, you must decide what best suits for your organization.

With multiple database options available in the current market, picking the best one is a herculean task. This is where **Veritis** comes in. Veritis is an [IT consulting services provider](#) that has been partnering with fortune 500 firms for over a decade. We value

every client through their demands, and our only motive is to offer the best solution for customers with world-class experiences and cost-effective solutions.

Services