MONGODB

INTRODUCTION:

What is MongoDB?

MongoDB is a non-relational database system. There are two primary database types: SQL (relational) and NoSQL (non-relational). Relational databases store data in columns and rows. Organizations like Microsoft SQL Server Oracle and Sybase use the relational database management system (RDBMS). MongoDB has cultivated a reputation as a versatile, flexible database and is currently used today as the backend data store of many high-profile businesses and organizations such as Forbes, Facebook, Google, IBM, Twitter, and many more.
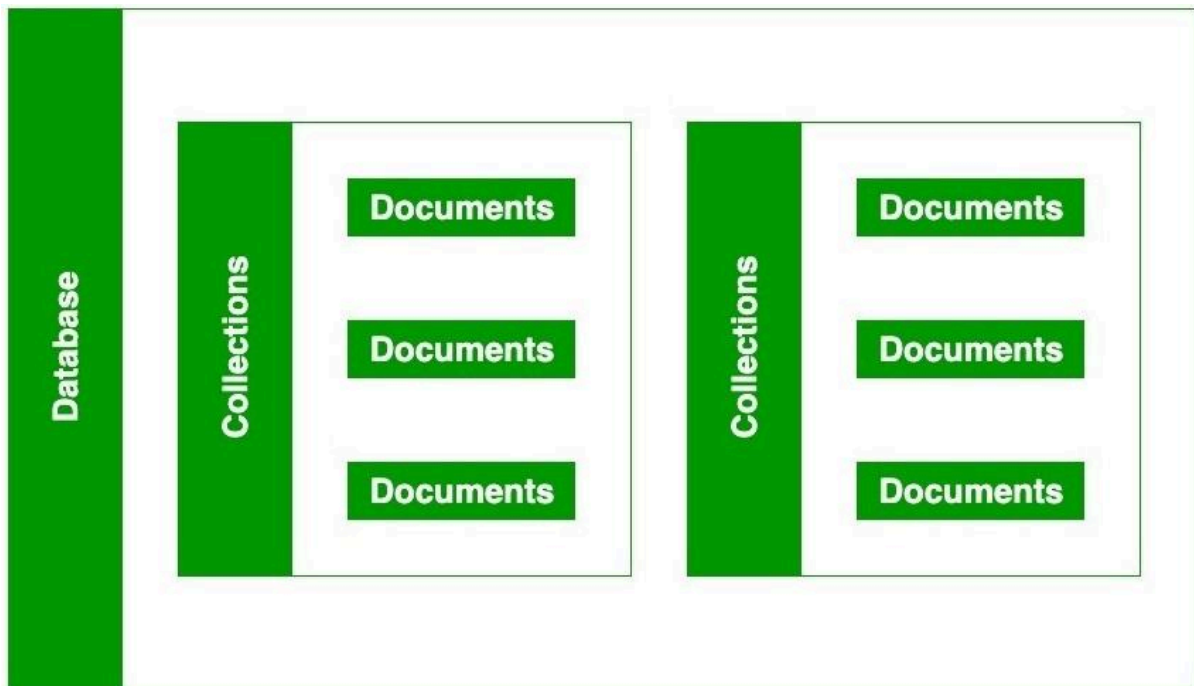
Why MongoDB?

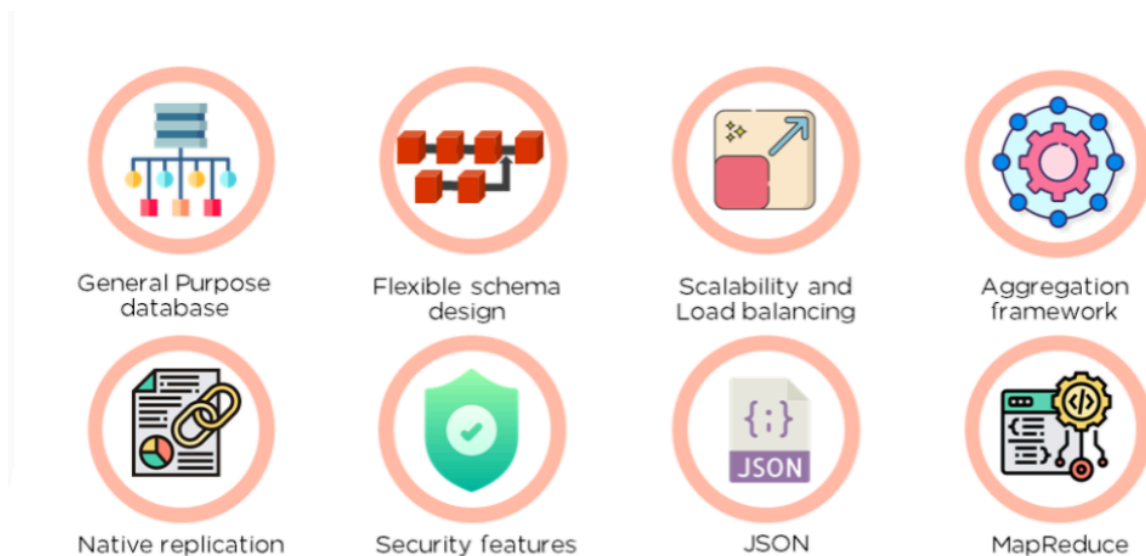There are four major reasons why MongoDB is being deployed more often. They are:

1. Flexibility: **MongoDB uses documents that can contain sub-documents in complex hierarchies making it expressive and flexible. MongoDB can map objects from any programming language, ensuring easy implementation and maintenance**.

2. Flexible Query Model: **The user can selectively index some parts of each document or a query based on regular expressions, ranges, or attribute values, and have as many properties per object as needed by the application layer.**

3. Native Aggregation: **It allows users to extract and transform data from the database. The data can either be loaded into a new format or exported to other data sources.**

1

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4. Schema-less model: **Applications get the power and responsibility to interpret different properties found in a collection's documents.**

Salient Features of MongoDB

General Purpose database

Flexible schema design

Scalability and Load balancing

Aggregation framework

Native replication

Security features

JSON

MapReduce

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Benefits of MongoDB

→ **NoSQL databases are cheaper and easier to maintain. NoSQL databases have features like easier data distribution, simpler data models, and automatic repair. These benefits require less administrative costs and, consequently, are less expensive.**

→ **It's easily and highly scalable. Since NoSQL databases like MongoDB expand horizontally, you can scale by adding more machines to your resource pool.**

→ **MongoDB has no schema hassles. You can place data into a NoSQL database without requiring a predefined schema, so you can change the data model and formats without disrupting applications.**

→ **It's user-friendly. MongoDB offers plenty of useful features (Ad-hoc queries, aggregation, capped collection, file storage, indexing, load balancing, replication, server-side JavaScript execution) that makes it a user-friendly database.**

MongoDB Applications

Internet of Things   Mobile applications   Real time analysis

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Limitations of MongoDB

1. **MongoDB uses high memory for data storage.**
2. **The BSON document size cannot exceed 16MB.**
3. **Naming restrictions for databases in Windows.**