
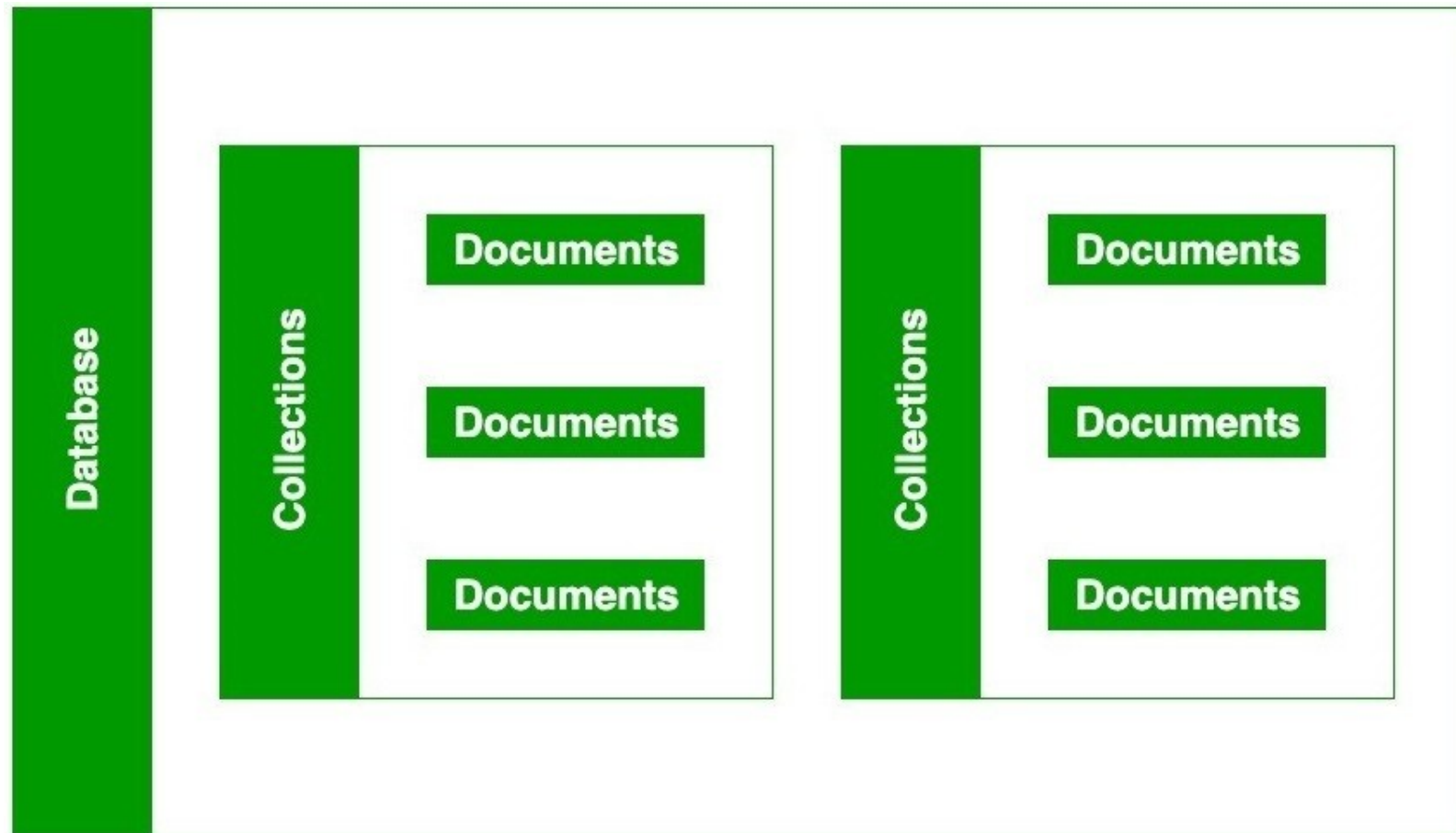


What is MongoDB?

MongoDB is an open-source document-oriented database that is designed to store a large scale of data and also allows you to work with that data very efficiently. It is categorized under the NoSQL (Not only SQL) database because the storage and retrieval of data in the MongoDB are not in the form of tables.

A decorative blue wavy line graphic at the bottom of the slide, consisting of two overlapping curved shapes in different shades of blue.

How Data Store in MongoDB



How MongoDB Works?

- The MongoDB database contains collections just like the MySQL database contains tables. You are allowed to create multiple databases and multiple collections.
- Now inside of the collection we have documents. These documents contain the data we want to store in the MongoDB database and a single collection can contain multiple documents and you are schema-less means it is not necessary that one document is similar to another.

How MongoDB Works?

- The documents are created using the fields. Fields are key-value pairs in the documents, it is just like columns in the relation database. The value of the fields can be of any BSON data types like double, string, boolean, etc.
- The data stored in the MongoDB is in the format of BSON documents. Here, BSON stands for Binary representation of JSON documents. Or in other words, in the backend, the MongoDB server converts the JSON data into a binary form that is known as BSON and this BSON is stored and queried more efficiently.

How MongoDB Works?

- and store them in the same document which makes the working and fetching of data extremely efficient as compared to SQL. In SQL, you need to write complex joins to get the data from table 1 and table 2. The maximum size of the BSON document is 16MB.

How mongoDB is different from RDBMS ?

Some major differences in between MongoDB and the RDBMS are as follows:

MONGODB	RDMS
It is a non-relational and document-oriented database.	It is a relational database.
It is suitable for hierarchical data storage.	It is not suitable for hierarchical data storage.
It has a dynamic schema.	It has a predefined schema.
In terms of performance, it is much faster than RDBMS	In terms of performace, it is slower than MongoDB.

Advantages

It is a schema-less NoSQL database. You need not to design the schema of the database when you are working with MongoDB.

It does not support join operation.

It provides great flexibility to the fields in the documents.

It provides high performance, availability, scalability.

It is a document oriented database and the data is stored in BSON documents.

It also supports multiple document ACID transition(string from MongoDB 4.0).

It does not require any SQL injection.

It is easily integrated with Big Data.

Disadvantages

It uses high memory for data storage.

You are not allowed to store more than 16MB data in the documents.

The nesting of data in BSON is also limited you are not allowed to nest data more than 100 levels.

MongoDB Installation

Ubuntu

1. First, update the packages list to have the most recent version of the repository listings:

`“sudo apt update”`

2. Now install the MongoDB package itself:

`“sudo apt install -y mongodb”`

MongoDB Installation

Ubuntu

The installation process started MongoDB automatically, but let's verify that the service is started and that the database is working.

First, check the service's status:

```
"sudo systemctl status mongod"
```

You'll see this output:

Output

- mongod.service - An object/document-oriented database
 - Loaded: loaded (/lib/systemd/system/mongod.service; enabled; vendor preset: enabled)
 - Active: active (running) since Sat 2018-05-26 07:48:04 UTC; 2min 17s ago
 - Docs: man:mongod(1)
 - Main PID: 2312 (mongod)
 - Tasks: 23 (limit: 1153)
 - CGroup: /system.slice/mongod.service
 - └─2312 /usr/bin/mongod --unixSocketPrefix=/run/mongod --config /etc/mongod

MongoDB Installation MAC

<https://treehouse.github.io/installation-guides/mac/mongo-mac.html>

MongoDB Installation Windows

<https://treehouse.github.io/installation-guides/windows/mongo-windows.html>

<https://www.mongodb.com/try/download/shell>

MongoDB Shell Commands

<https://gist.github.com/michaeltreat/d3bdc989b54cff969df86484e091fd0c>