

About MongoDB.

1) Installing and Setting up MongoDB.

- Go to MongoDB official website → downloads.
- Download the community edition with zip/msi file
[msi file recommended]
- Complete the installation process.
- Add the path in environment variables afterwards.
- From Mongo 6.0, shell has to be downloaded separately.

2) What is MongoDB?

- MongoDB is an open source document database and leading NoSQL database.
- It is written in C++.
- Basic terminologies include database, collection and document.

3) Basic terminologies

- Collection → It is a group of MongoDB documents, equivalent to a RDBMS table.
- Document → Document is a set of key-value pairs.
They have a dynamic schema. (meaning documents within the same collection can have different fields).

4) Comparison

RDBMS

Table

Row

Column

Table Join

Primary key

MongoDB

Collection

~~DB~~ document

field

Embedded documents.

Primary key (given by MongoDB).

Server & Client

mysqld / Oracle.

mysql / sqlplus.

mongod

mongo.

Note:

3-9d is a 12 byte hexadecimal number which assures the uniqueness of every document.

12 bytes. $\rightarrow 4$ (timestamp) + 3 (machine id) + 2 (process id) + 3 (incremental value).

Note: There is a similar concept of relationships in MongoDB.

1:1, 1:N, N:1, N:N.

5) Advantages of MongoDB over RDBMS.

- i) MongoDB is Schemaless, therefore can hold diff things.
- ii) Easily scalable.
- iii) No complex joins.
- iv) dynamic queries on documents as powerful as sql queries.
- v) Supports Map Reduce method.
- vi) Open Source

Note: 2 types of data Model :- Embedded Data Model.
and Normalised Data Model.

6) CRUD operations in MongoDB.

- i) Refer documentation using 'help' command.
(or)
- ii) refer the given output pdf files for crud operations.