

# MONGODB

## Installation of mongodb:

Mongo Shell download link

All the work is expected to do it in mongo shell not in mongo compass

OR

You can also install Studio3T

Connect to mongodb://localhost:27017

## Mongocompass:

MongoDB Compass is a graphical user interface (GUI) for MongoDB, designed to provide an intuitive and visual way to interact with MongoDB databases. As the official GUI tool provided by MongoDB, Compass simplifies the process of managing and visualizing data, making it accessible even for those who may not be deeply familiar with database commands. Users can easily perform CRUD (Create, Read, Update, Delete) operations, visualize schema structures, and analyze documents within their databases. Compass also offers advanced features such as performance monitoring, index analysis, and the ability to run queries using a visual query builder. This tool supports a wide range of MongoDB operations and configurations, helping developers, data scientists, and database administrators efficiently manage their data without the need for extensive command-line interaction. Its user-friendly interface, combined with powerful features, makes MongoDB Compass a valuable asset for optimizing database performance and maintaining the integrity of MongoDB deployments.

## Mongoshell:

The MongoDB Shell, commonly referred to as mongosh, is an interactive JavaScript interface for MongoDB, providing a powerful command-line environment to interact with MongoDB databases. As a critical tool for database administrators and developers, mongosh allows users to perform a wide range of database operations, including querying, updating, and managing MongoDB collections and documents. The shell supports JavaScript, enabling the execution of complex scripts and functions directly within the MongoDB environment. Users can leverage

mongosh to connect to local or remote MongoDB instances, run administrative commands, and perform tasks such as indexing, aggregation, and data import/export. It also supports modern JavaScript features and offers an improved user experience compared to its predecessor, mongo. With its rich set of features, MongoDB Shell is essential for anyone looking to harness the full potential of MongoDB through a command-line interface, facilitating efficient database management and streamlined workflows.

## Documents:

At the heart of MongoDB is the document:

an ordered set of keys with associated values.

The representation of a document varies by programming language, but most languages have a data structure that is a natural fit, such as a map, hash, or dictionary.

```
{'greeting': "Hello, world!"}
```

## Collections:

Collections A collection is a group of documents.

If a document is the MongoDB analog of a row in a relational database, then a collection can be thought of as the analog to a table.

## Database:

MongoDB groups collections into databases.

A single instance of MongoDB can host several databases, each grouping together zero or more collections.

A database has its own permissions, and each database is stored in separate files on disk.

A good rule of thumb is to store all data for a single application in the same database.

## Datatype:

Basically each document will be in JSON format which will be as follows. Where each attributes inside can be of multiple data types

```
{
  "name" : "John Doe",
  "address" : {
    "street" : "123 Park Street",
    "city" : "Anytown",
    "state" : "NY"
  }
}
```

Different datatypes:

- 1.Date
- 2.Int32
- 3.Decimal
- 4.Timestamp

## Few Commands to test after connections

Command	Expected Output	Notes
show dbs	admin 40.00 KiB config 72.00 KiB db 128.00 KiB local 40.00 KiB	All Databases are shown
use db	switched to db db	Connect and use db
show collections	Students	Show all tables
db.foo.insert({"bar" : "baz"})		Insert a record to collection. Create Collection if not exists

## Few Commands to test after connections

Command	Notes
<code>db.foo.batchInsert([{"_id" : 0}, {"_id" : 1}, {"_id" : 2}])</code>	Insert more than one document
<code>db.foo.find()</code>	Print all rows
<code>db.foo.remove()</code>	Remove foo table