

INSTALLATION OF MONGODB

To install MongoDB, you can follow these steps:

1. Download MongoDB: Visit the official MongoDB website and navigate to the "Downloads" section. Choose the version of MongoDB that is compatible with your operating system.

2. Install MongoDB on Windows:

- Once the download is complete, run the MongoDB installer.
- Follow the installation wizard instructions. You can choose the "Complete" setup type for a standard installation.
- MongoDB will be installed on your system.

3. Install MongoDB on Mac:

- After downloading the MongoDB package for Mac, open the downloaded file.
- Drag the MongoDB application to your Applications folder.
- MongoDB is now installed on your Mac.

4. Set Up MongoDB:

- Create a data directory where MongoDB will store its data.
- Start the MongoDB server by running the `mongod` command in the command line.
- You can then connect to the MongoDB server using the `mongo` command.

5. Verify Installation:


- To verify that MongoDB is installed correctly, you can run the `mongo` command in your terminal or command **prompt**. This should open the MongoDB shell.


STEP 1:


Note: MongoDB Shell is an open source (Apache 2.0), standalone product developed separately from the MongoDB Server.

[Learn more](#)

Version	2.2.6	▼
Platform	Windows x64 (10+)	▼
Package	zip	▼

[Download](#) 

 [Copy link](#)

[More Options](#) 

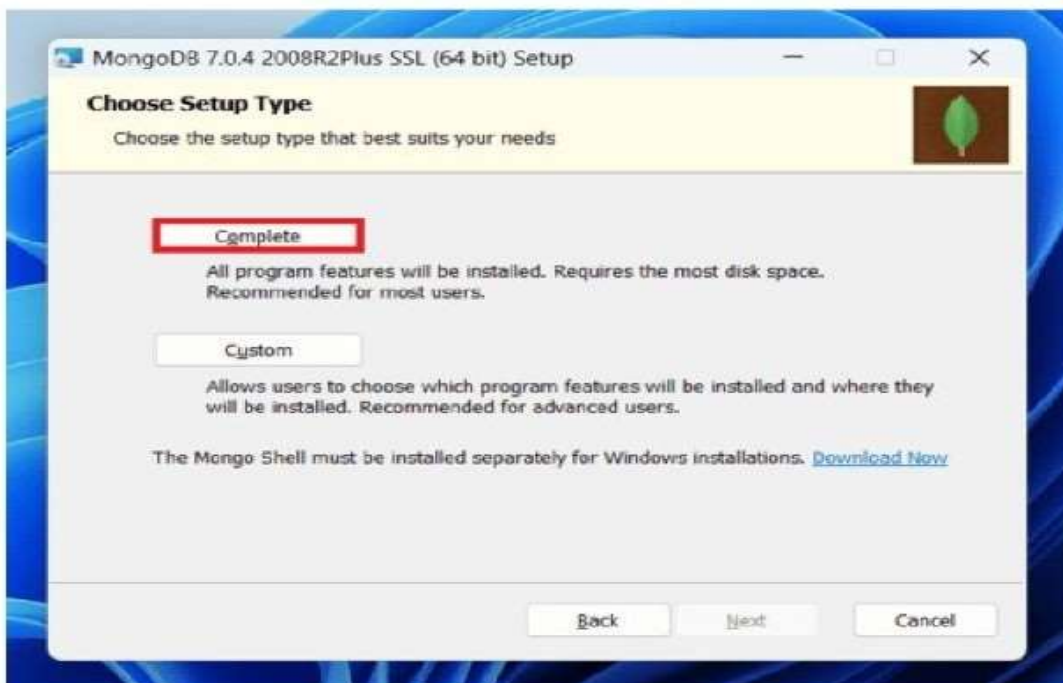
step 2:



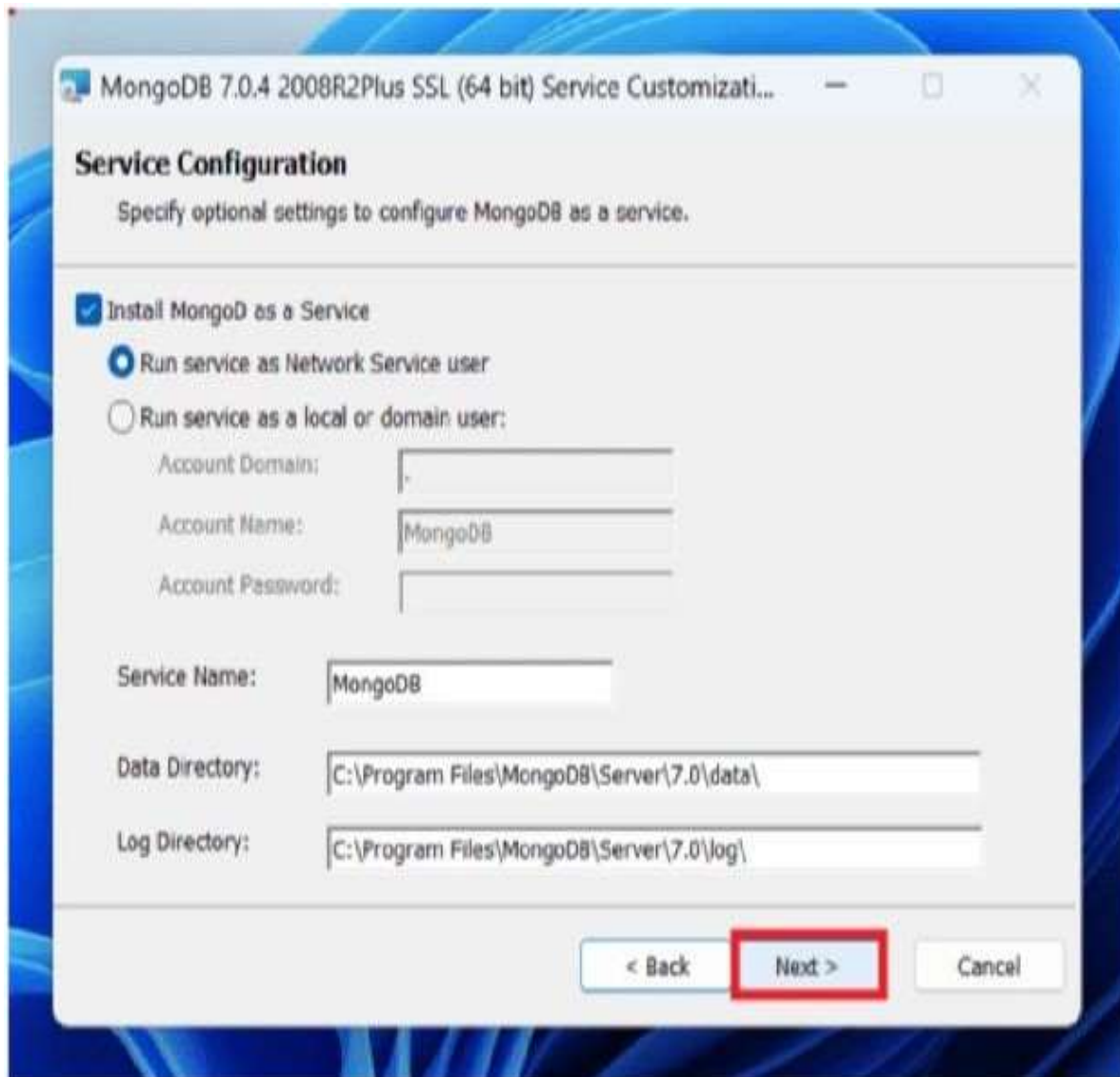
Step 3:



STEP 4:



Step 5:



Step 6:



Step 6:



Final step:



DOCUMENT:

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

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

DATATYPE:

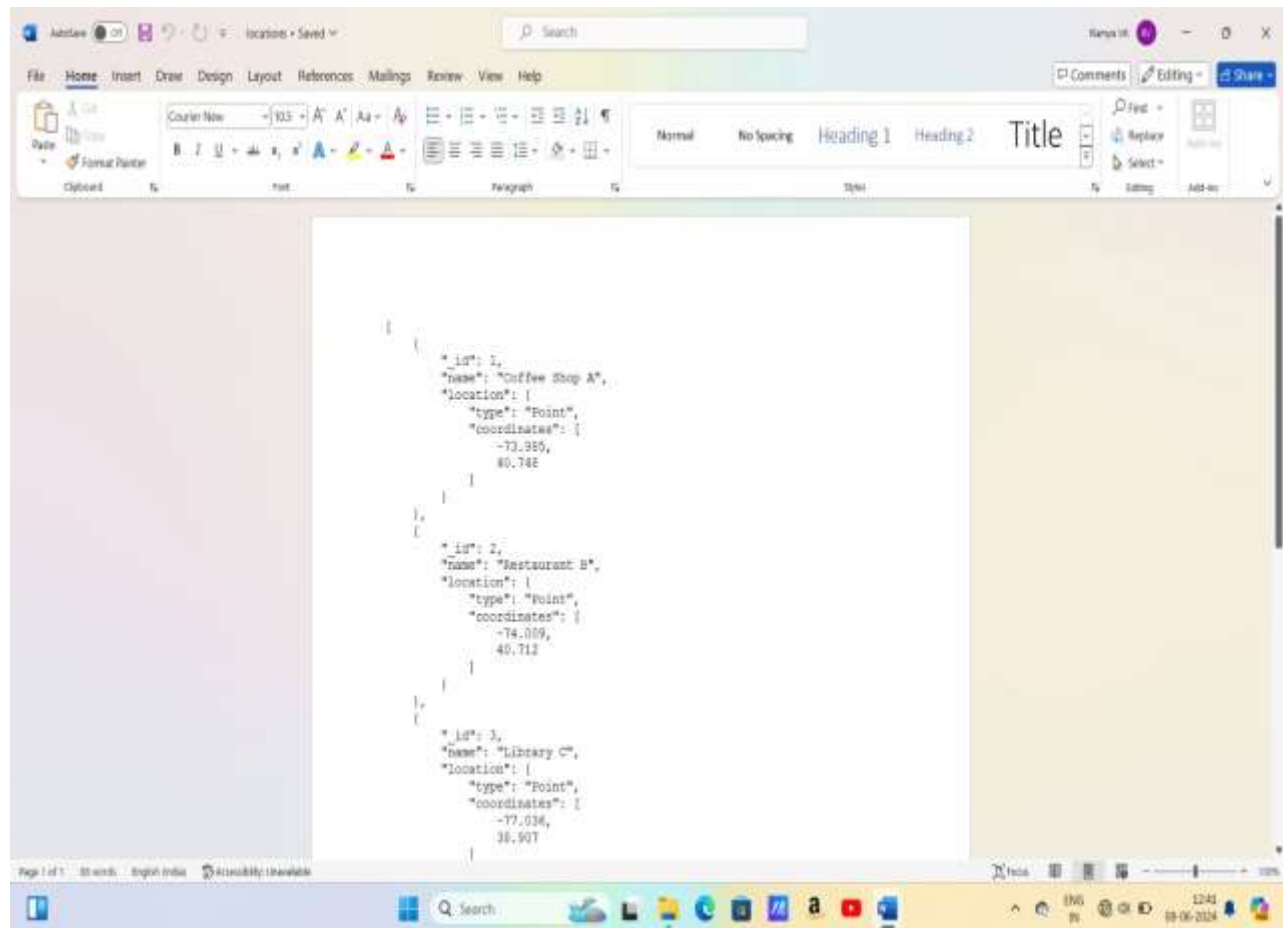
Basically each document will be in JSON format which will be as follows. Where each attributes inside can be of multiple

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

DATA TYPES:

In MongoDB, there are several data types that you can use to store different kinds of information in your documents. Some common data types in MongoDB include:

1. String: Used to store textual data.
2. Integer: Used to store whole numbers.
3. Double: Used to store floating-point numbers.
4. Boolean: Used to store true or false values.
5. Date: Used to store dates and timestamps.
6. Array: Used to store lists or arrays of values.
7. Object: Used to store embedded documents.
8. ObjectId: A unique identifier for each document in a collection.
9. Null: Used to store null values.
10. Binary Data: Used to store binary data like images or files.



ADD,UPDATE &DELETE

In MongoDB, commands are instructions or operations that you can use to interact with the database. These commands allow you to perform various tasks such as querying data, inserting or updating documents, creating indexes, managing collections, and more. MongoDB provides a rich set of commands that enable you to work with your data effectively and efficiently.

Load the document:

- Download the student csv from this [link](#)
- Import the data to the collection created [link](#)
- You should be able to see the uploaded data in mongo compass.

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

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

DOCUMENTS:

In MongoDB, a document is a basic unit of data storage, similar to a row in a relational database. It is a JSON-like data structure composed of field and value pairs. Documents are stored in collections, which are analogous to tables in a relational database. Each document in a collection can have a different structure, allowing for flexible and schema-less data modeling.

students_permission - Saved to the PC

File Home Insert Page Layout Formulas Data Review View Help

Clipboard Font Alignment Number Styles Cells Editing Add-ins

POSSIBLE DATA LOSS Some features might be lost if you save this workbook in the comma delimited (.csv) format. To preserve those features, save it as an Excel file format. Don't show again Save As...

name

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	name	age	permissions																				
2	Alice	22	0																				
3	Bob	25	1																				
4	Charlie	20	2																				
5	David	28	3																				
6	Eve	19	4																				
7	Fiona	23	5																				
8	George	21	6																				
9	Henry	27	7																				
10	Isla	18	6																				
11	Jack	24	5																				
12	Kim	25	4																				
13	Lily	20	3																				
14	Mike	26	2																				
15	Nancy	19	1																				
16	Oliver	22	0																				
17	Peter	28	3																				
18	Quinn	20	2																				
19	Riley	27	3																				
20	Sarah	18	4																				
21	Thomas	24	5																				
22																							
23																							
24																							
25																							
26																							

students_permission

Help Accessibility Unavailable

Microsoft Copilot | localhost:27017/students

localhost:27017

My Queries students

localhost:27017 > db > students

Documents: 500 Aggregations: Schema: Indexes: 3 Validation

Type a query or click "New" to generate a query

ADD DATA EXPORT DATA UPDATE DELETE

1 - 20 of 500

```

1. db.getCollection('students').find()
name: "Student 548"
age: 23
courses: ["English", "Computer Science", "Physics", "Mathematics"]
home_city: "City 2"
blood_group: "O+"
is_hotel_resident: true

2. db.getCollection('students').find()
name: "Student 227"
age: 20
courses: ["Physics", "English"]
home_city: "City 4"
blood_group: "O+"
is_hotel_resident: true

3. db.getCollection('students').find()
name: "Student 140"
age: 18
courses: ["Physics", "Computer Science", "Mathematics", "History"]
home_city: "City 1"
is_hotel_resident: true

```

Import completed. 500 documents imported.

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.

```
db> db.students.find({});
[
  {
    _id: ObjectId('6663dac4f24355f2c2a837e5'),
    name: 'Student 948',
    age: 19,
    courses: "['English', 'Computer Science', 'Physics', 'Mathematics']",
    gpa: 3.44,
    home_city: 'City 2',
    blood_group: 'O+',
    is_hotel_resident: true
  },
  {
    _id: ObjectId('6663dac4f24355f2c2a837e6'),
    name: 'Student 157',
    age: 20,
    courses: "['Physics', 'English']",
    gpa: 2.27,
    home_city: 'City 4',
    blood_group: 'O-',
    is_hotel_resident: true
  },
  {
    _id: ObjectId('6663dac4f24355f2c2a837e7'),
    name: 'Student 316',
    age: 20,
    courses: "['Physics', 'Computer Science', 'Mathematics', 'History']",
    gpa: 2.32,
    blood_group: 'B+',
    is_hotel_resident: true
  },
  {
    _id: ObjectId('6663dac4f24355f2c2a837e8'),
    name: 'Student 346',
    age: 25,
    courses: "['Mathematics', 'History', 'English']",
    gpa: 3.31,
    home_city: 'City 8',
    blood_group: 'O-',
    is_hotel_resident: true
  },
]
```


DATABASE:

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.