

EXPERIMENT NO. 9

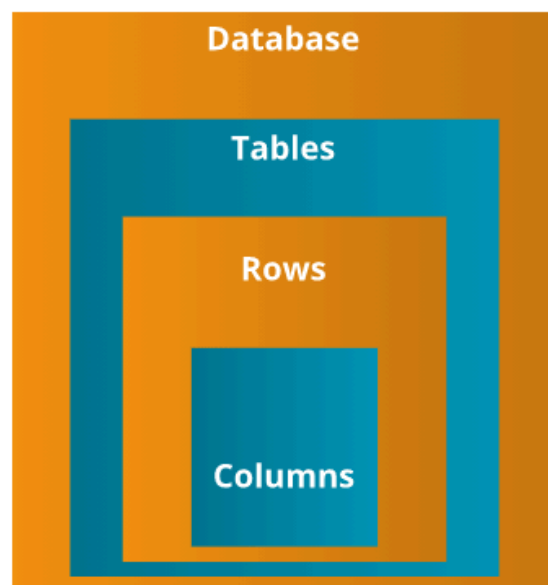
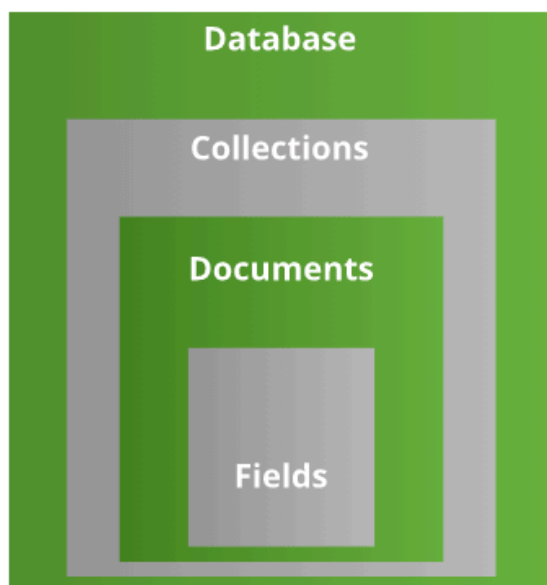
Aim : Perform CRUD Operations using a Document based Data Store i.e MongoDB

Post Lab Question

Q1.Difference between MongoDB and RDBMS

Q. 2. Explain the Structure of Mangodb.

Database Structure



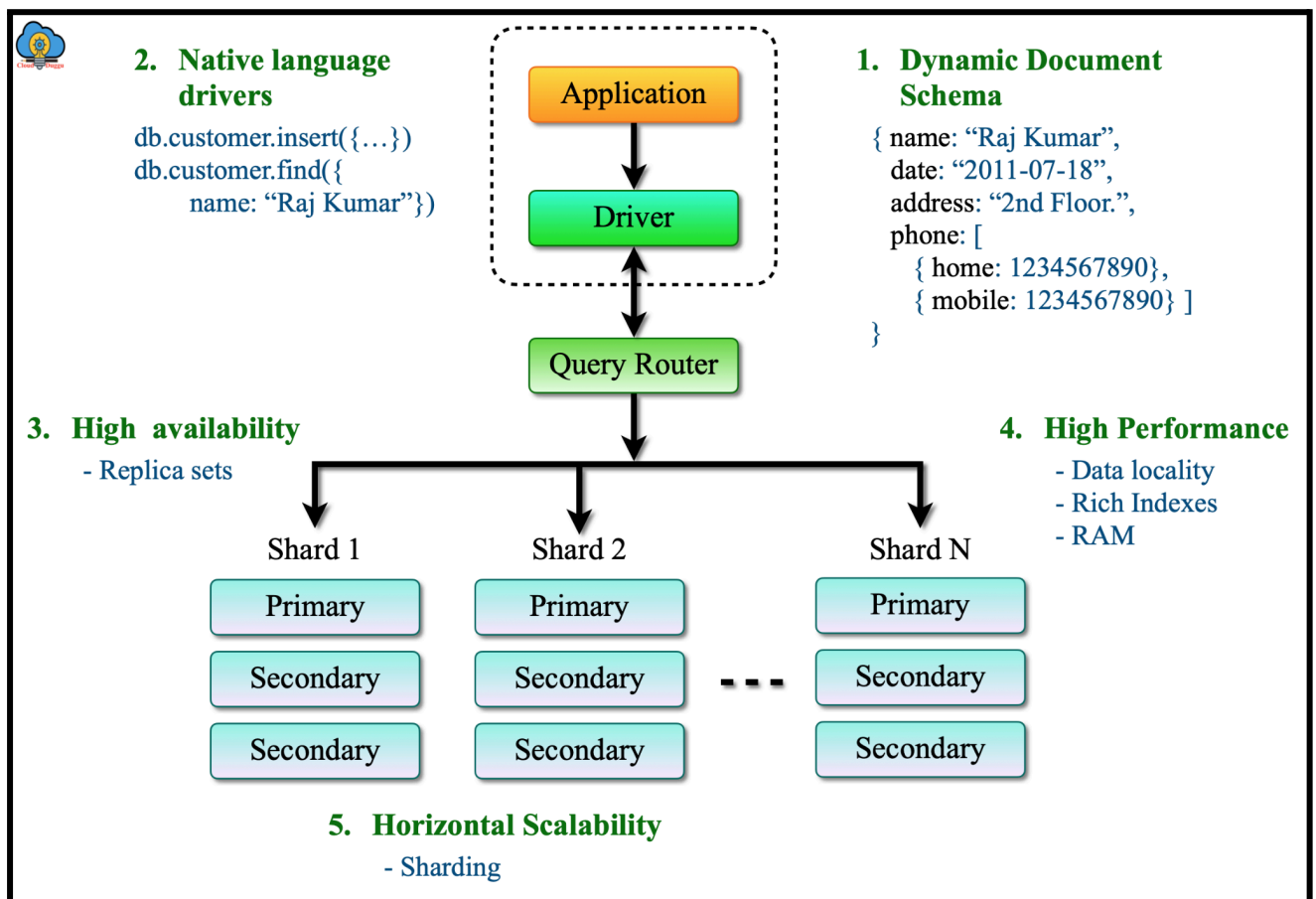
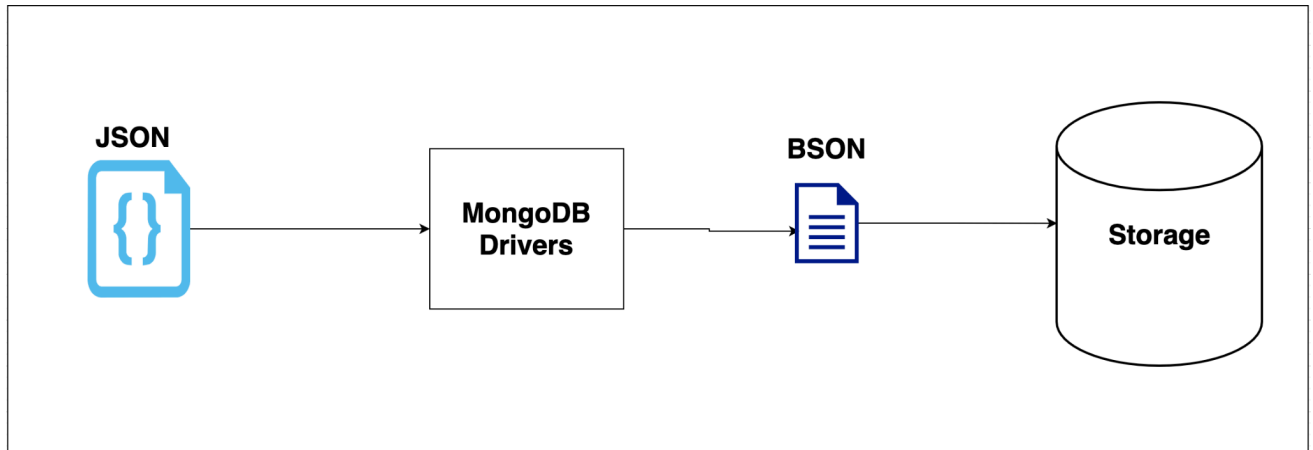
Person

name	phone
John	3634
Sue	6343

Orders

personName	date	product
John	2002	Gizmo
John	2004	Gadget
Sue	2002	Gadget

```
{
  "Person": [
    {
      "name": "John",
      "phone": 3646,
      "Orders": [
        { "date": 2002, "product": "Gizmo" },
        { "date": 2004, "product": "Gadget" }
      ]
    },
    {
      "name": "Sue",
      "phone": 6343,
      "Orders": [
        { "date": 2002, "product": "Gadget" }
      ]
    }
  ]
}
```



To install MongoDB on Windows 10, you can follow these steps:

1. Download MongoDB:

<https://www.mongodb.com/try/download/community> and select the "Community Server" tab.

- Choose the version of MongoDB you want to install.
- Select the "Windows" operating system.
- **Download the installer. You can choose between an .msi (Windows Installer) and .zip archive.** For most users, the .msi installer is recommended.

2. Run the Installer:

- **If you downloaded the .msi installer, double-click it to start the installation.**

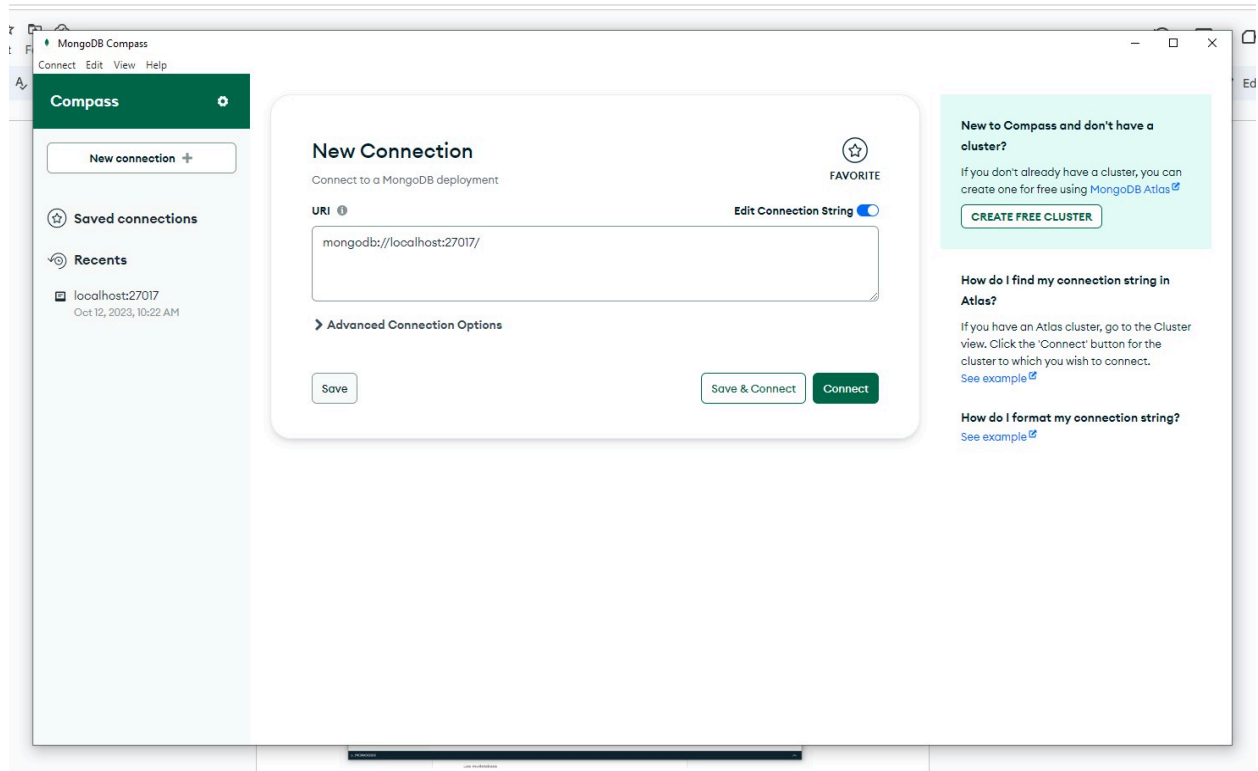
3. Install MongoDB:

Follow the installation wizard's instructions:

- Accept the MongoDB License Agreement.
- Choose the installation directory. The default is usually C:\Program Files\MongoDB\Server\<version>.

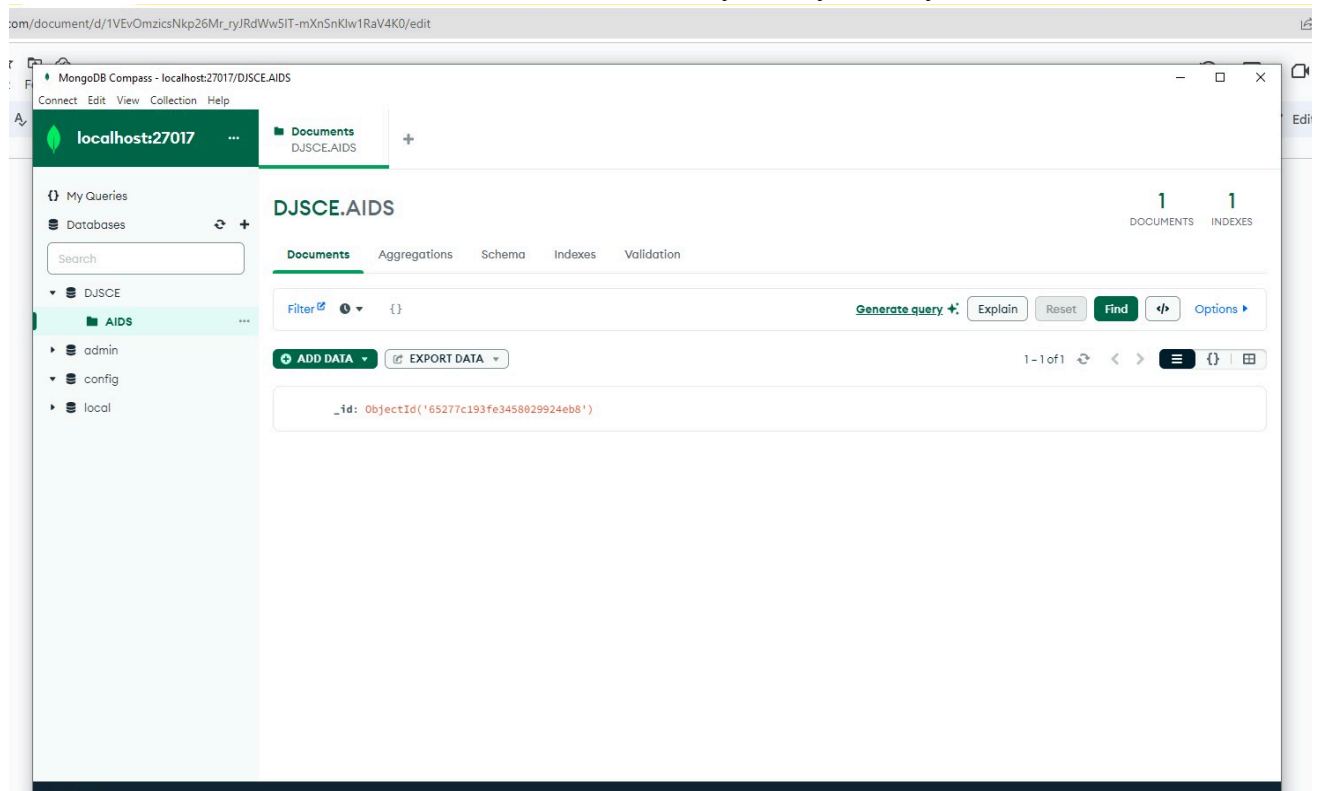
- You can also customize the installation components, but it's recommended to select the "Complete" installation for all features.

4. Once you complete setup it will open mongo db compass

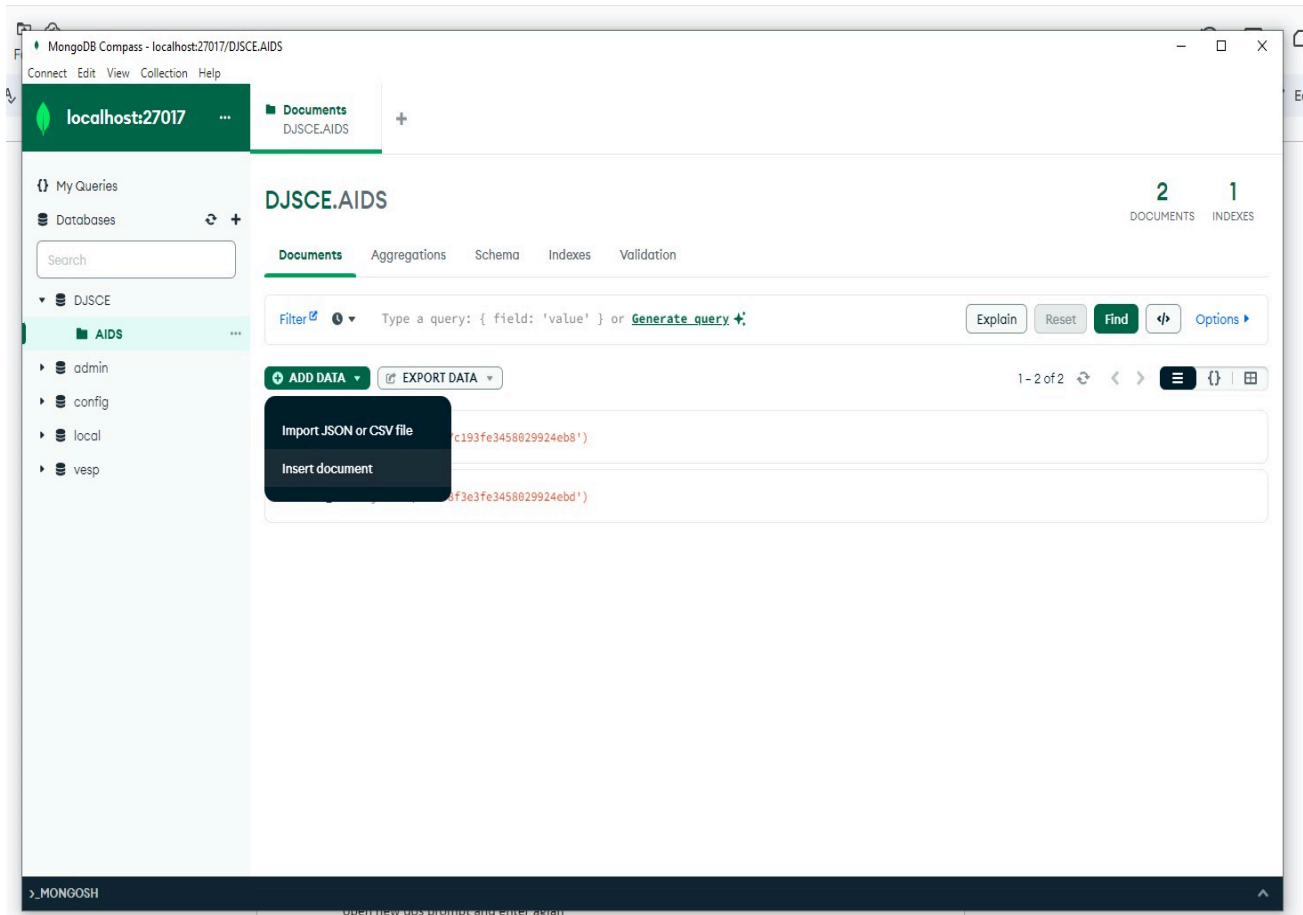


5. Click on the Connect button. (it would get connected to mongodb://localhost:27017)

6. Next it will show the dashboard of all databases. here you may create your database too.

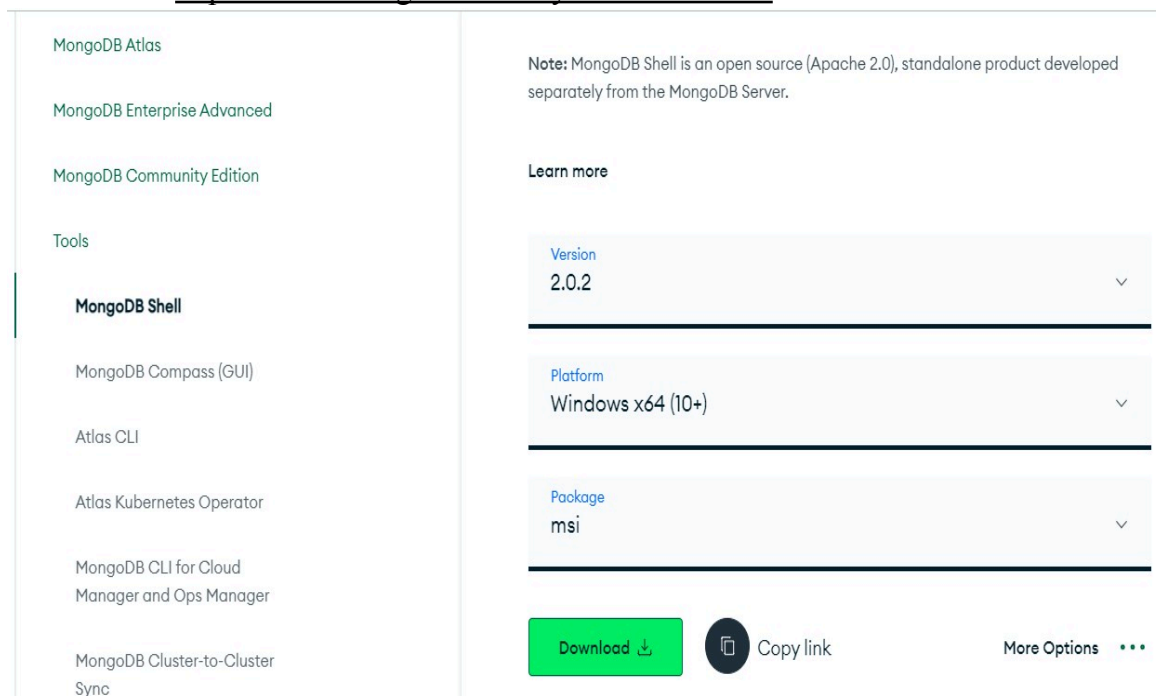


7. You can insert documents



8. Now you want to interact with the Mongo shell

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



➤ Select the latest one mongodb shell and Click on Download.

9. Double-click on the .msi file and install it.

10 .Open Mongoddb using shell

C:\Users\djsce.student>cd C:\Program Files\MongoDB\Server\7.0\bin



C:\Program Files\MongoDB\Server\7.0\bin>mongosh
 enter

OR

11. Direct using the command mongosh you can connect to shell..

Open environment variable

Click on system variable → Edit → Path → C:\Program Files\MongoDB\Server\mongosh-2.0.1-win32-x64\mongosh-2.0.1-win32-x64\bin
 Open the dos prompt and enter the Mongosh command.

12. Use the command line for performing CRUD operations. (case-sensitive language)

Create database.

→ Syntax: use mydatabase
 ♦ E.g test> use dj

Show database

dj> show dbs

→ Know your current selected database
 dj> db

→ Create collection

Syntax db.create collection(name)
 dj> db.createCollection("student");
 { ok: 1 }

→ Show collections

dj> show collections
 student

→ Insert document in collection

Syntax: db.COLLECTION_NAME.insert(document)
 dj> db.employee.insertOne({name:"HrusikMisra",city:"mumbai",contactno:"8899776633"})
 {
 acknowledged: true,
 insertedId: ObjectId("6527b4f355bcdc2c752c1813")
 }

→ Insert to many documents

dj> db.employee.insert([{name:"Nikhil jha",city:"borivali",Mark:98},{Name: "Pranay Pandey", city:"powai", subject:"DevOps",contno:8976632221}]);
 {
 acknowledged: true,
 insertedIds: { '0': ObjectId("6527b6f255bcdc2c752c1814") }
 }

→ Get collection document

Syntax: >db.COLLECTION_NAME.find()

dj> db.employee.find()



```
[
  {
    _id: ObjectId("6527b4d055bc2c752c1812"),
    name: 'Hrusik Misra',
    city: 'mumbai',
    contactno: '8899776633'
  },
  {
    _id: ObjectId("6527b4f355bc2c752c1813"),
    name: 'Hrusik Misra',
    city: 'mumbai',
    contactno: '8899776633'
  },
  {
    _id: ObjectId("6527b6f255bc2c752c1814"),
    name: 'Nikhil jha',
    city: 'boriwali',
    Mark: 98
  }
]
```

db.employee.findOne({name: 'Govinda'})

db.employee.find().count() # select all records

db.employee.find().limit(2) #select only 2 records.

→ Update document

Syntax: db.COLLECTION_NAME.update(SELECTION_CRITERIA, UPDATED_DATA)

dj> db.employee.update({'name': 'Hrusik Misra'}, {\$set: {'name': 'Nirzaree'}});

DeprecationWarning: Collection.update() is deprecated. Use updateOne, updateMany, or bulkWrite.

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

→ How to rename a field in a document with \$rename

db.student.update({ "name": "Hrusik Misra" }, { \$rename: { "City": "Location" } })

```
db.collection('yourCollection').updateOne(
  { name: 'Hrusik Misra' },
  { $set: { age: 31 } }
);
```

// Update multiple documents

```
db.collection('yourCollection').updateMany(
  { age: { $lt: 30 } },
  { $set: { mark: 'young' } }
);
```



→ Delete document

Syntax>db.COLLECTION_NAME.remove(DELETION_CRITERIA)

dj> db.employee.remove({'name':'Hrusik Misra'});

DeprecationWarning: Collection.remove() is deprecated. Use deleteOne, deleteMany, findOneAndDelete, or bulkWrite.

{ acknowledged: true, deletedCount: 1 }

→ How to delete or remove a field with \$unset

Example

db.student.update({"name": "Hrusik Misra"}, { \$unset: {"City": Andheri} })

// Delete a single document

db.collection('yourCollection').deleteOne({ name: 'John' });

// Delete multiple documents

db.collection('yourCollection').deleteMany({ age: { \$lt: 30 } });

Drop Table

dj> db.dropDatabase()

{ ok: 1, dropped: 'dj' }

Conclusion: Hence we study all CRUD operation

References:

<https://www.youtube.com/watch?v=gB6WLkSrtJk&t=82s>

<https://www.youtube.com/watch?v=bSulWZtc2n8>

<https://www.youtube.com/watch?v=4EjKroJCpFA&list=PLA3GkZPtsafZydhN4nP0h7hw7PQuLsBy>