

## Assignment-4: Creating a Database Using MongoDB and Mongosh

NAME: PAMANJI VISALAKSHI

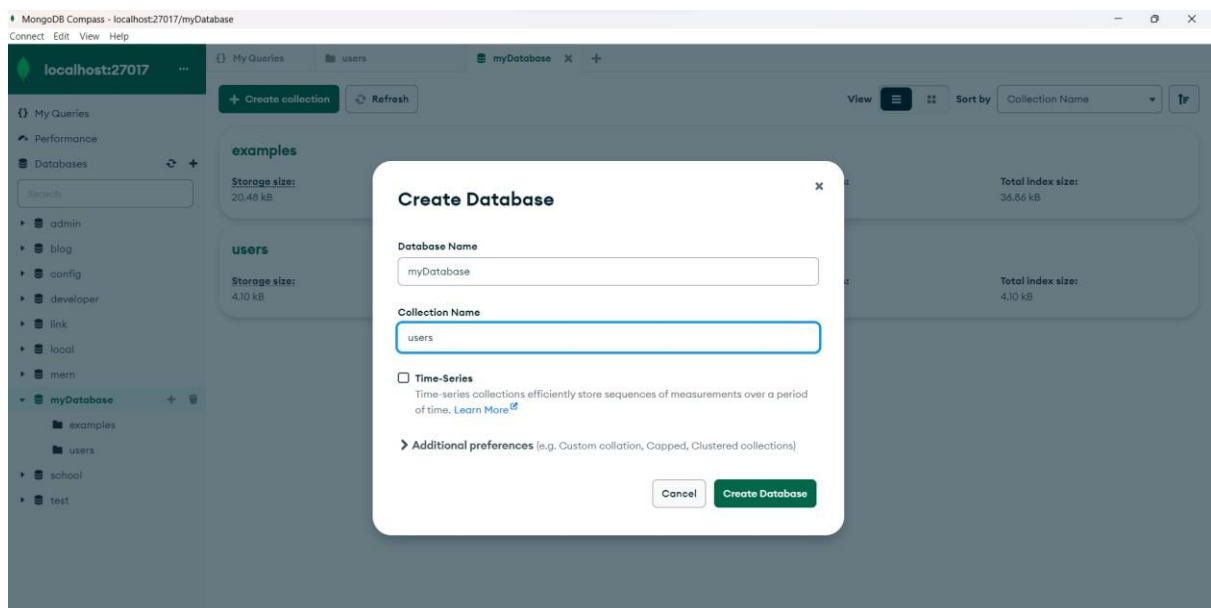
ROLL NUMBER: 2022MCA16069

TASK: creating a database using MongoDB and mongosh

COLLEGE NAME: Sri Padmavati Mahila Visvavidyalayam

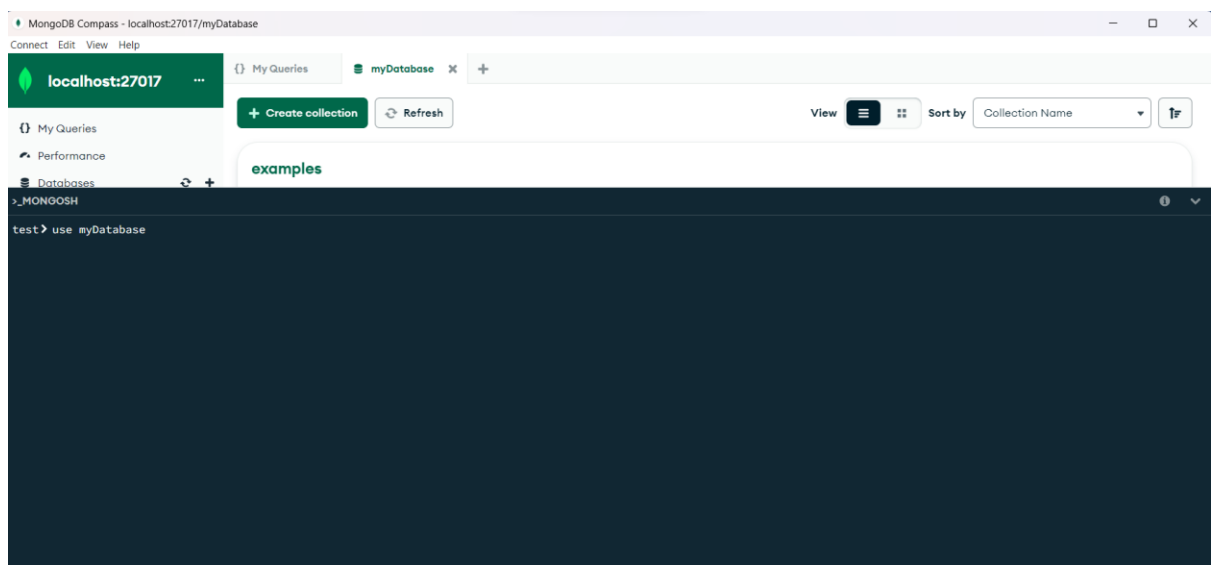
**Database Setup:** Create a new MongoDB database called 'myDatabase'.

**Collection Creation:** Create a collection named users within the myDatabase database.



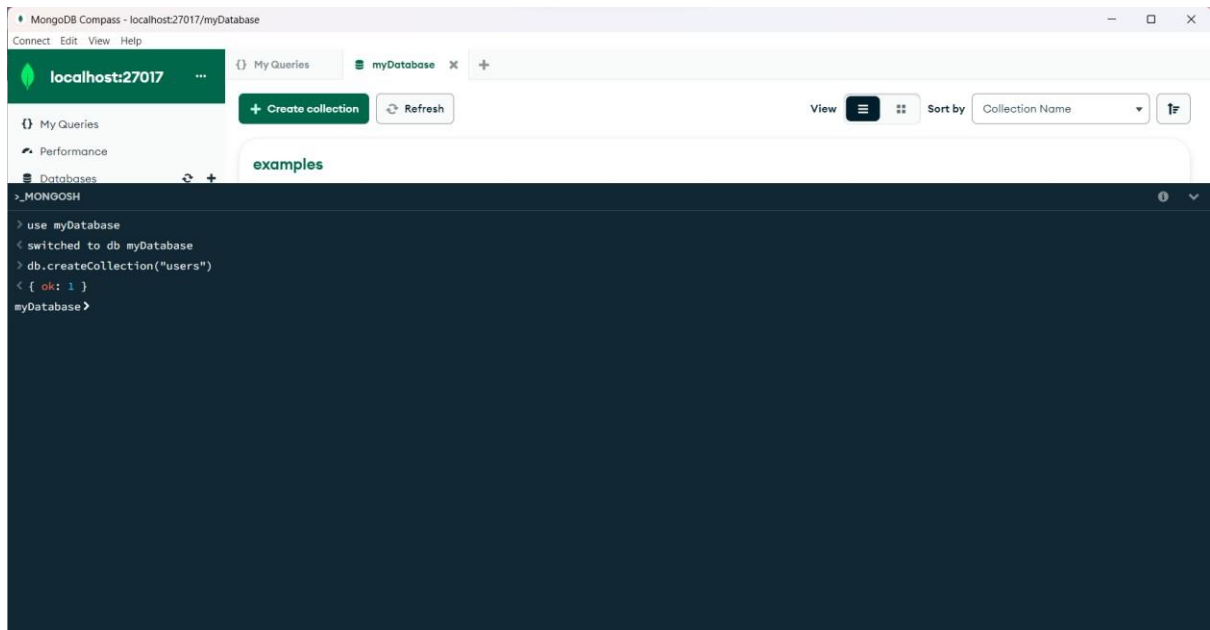
Below are the steps to achieve the tasks using MongoDB commands: **Database setup in MONGOSH:**

use myDatabase

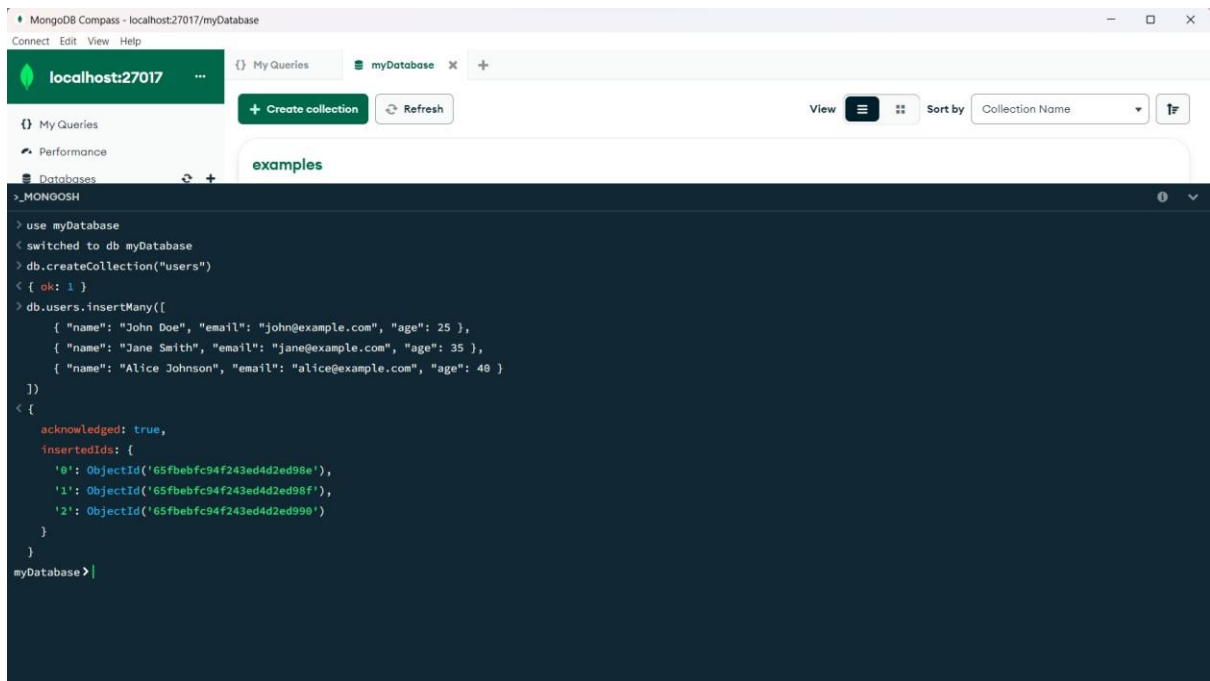


## Collection Creation in MONGOSH:

db.createCollection("users")

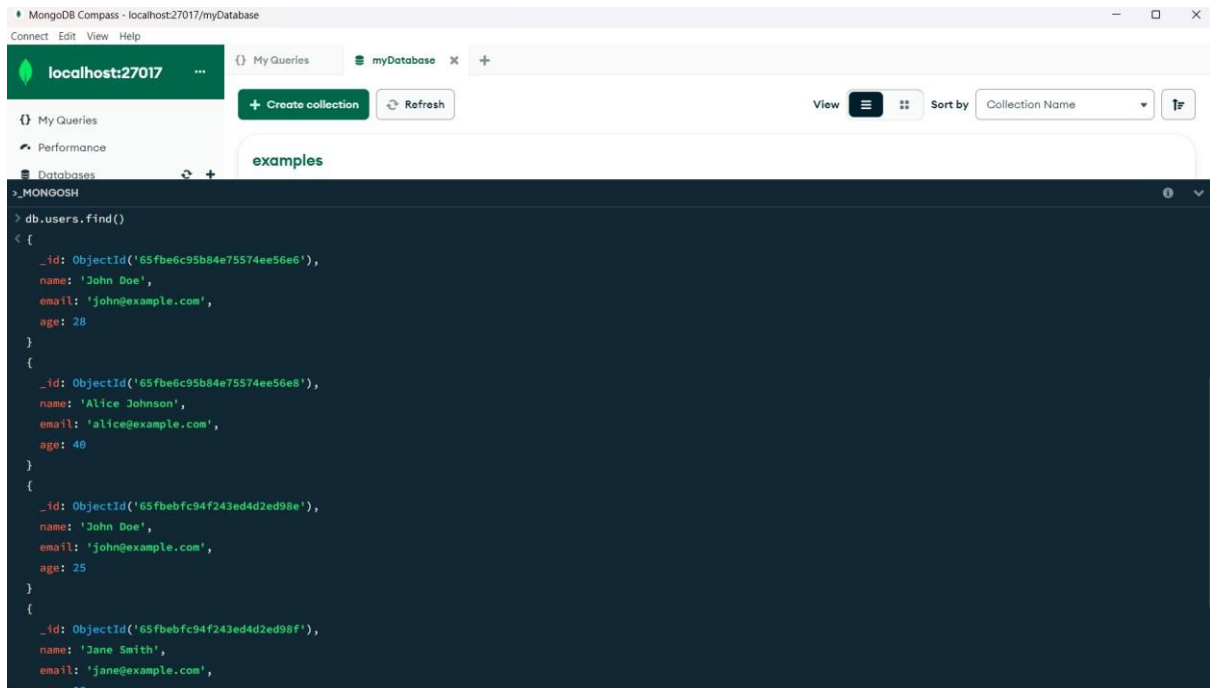


**Document Insertion:** Insert at least three documents into the users collection, each representing a user with fields such as name, email, and age.



**Querying:** Write queries to retrieve: All users from the users collection. Users with an age greater than or equal to 30.

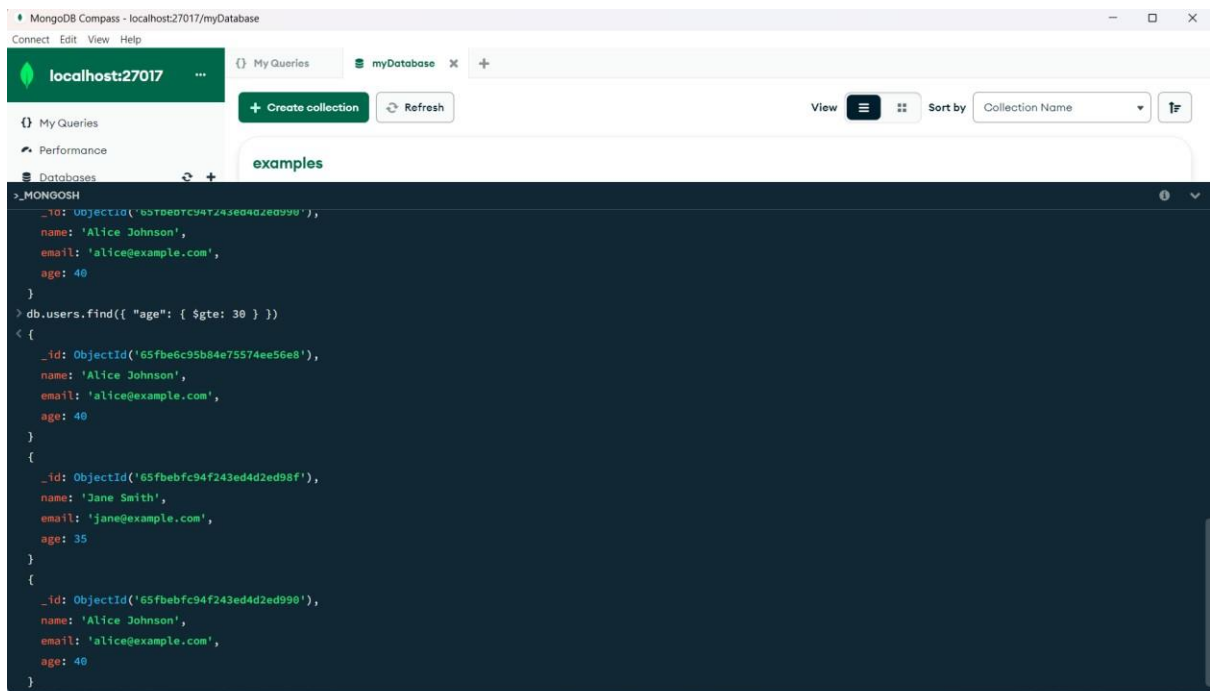
**All users from the users collection:**



The screenshot shows the MongoDB Compass interface. The left sidebar displays the database structure with 'localhost:27017' and 'myDatabase'. The main panel shows a query result for the 'users' collection. The query is `db.users.find()`. The result is a JSON array of four user documents.

```
>_MONGOOSH
> db.users.find()
< [
  {
    _id: ObjectId('65fbc95b84e75574ee56e6'),
    name: 'John Doe',
    email: 'john@example.com',
    age: 28
  },
  {
    _id: ObjectId('65fbc95b84e75574ee56e8'),
    name: 'Alice Johnson',
    email: 'alice@example.com',
    age: 40
  },
  {
    _id: ObjectId('65fbefbc94f243ed4d2ed98e'),
    name: 'John Doe',
    email: 'john@example.com',
    age: 25
  },
  {
    _id: ObjectId('65fbefbc94f243ed4d2ed98f'),
    name: 'Jane Smith',
    email: 'jane@example.com',
    age: 35
  }
]
```

**Users with an age greater than or equal to 30:**

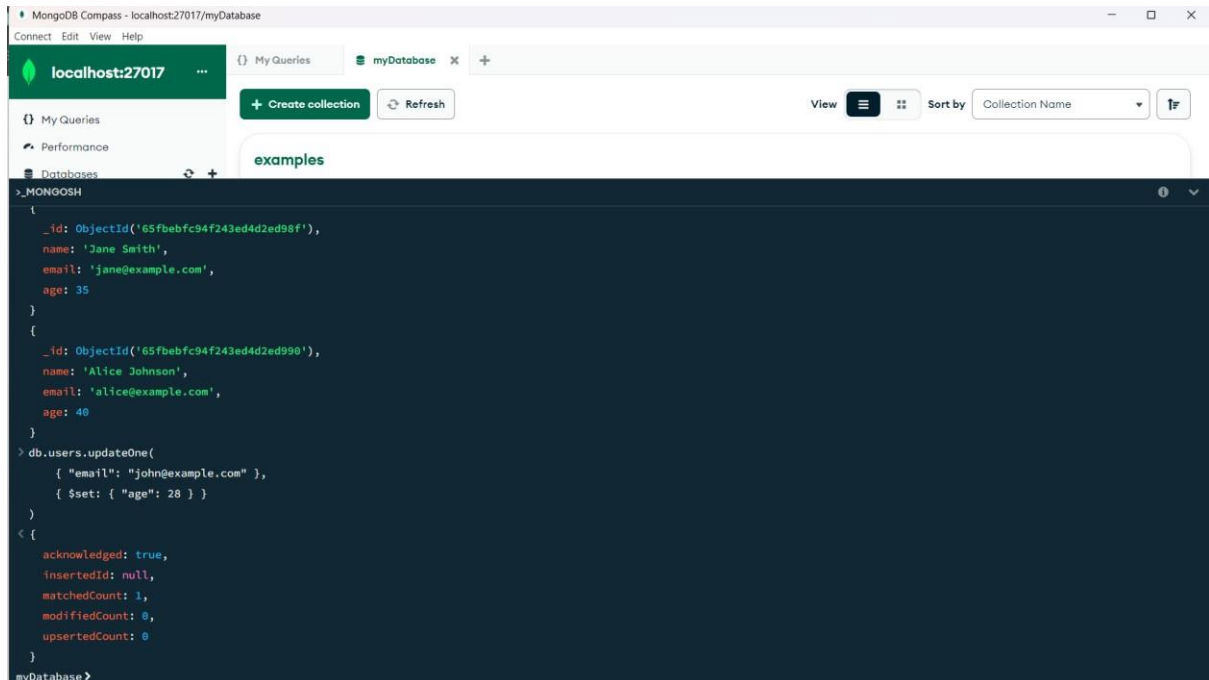


The screenshot shows the MongoDB Compass interface. The left sidebar displays the database structure with 'localhost:27017' and 'myDatabase'. The main panel shows a query result for the 'users' collection. The query is `db.users.find({ "age": { $gte: 30 } })`. The result is a JSON array of three user documents.

```
>_MONGOOSH
> db.users.find({ "age": { $gte: 30 } })
< [
  {
    _id: ObjectId('65fbc95b84e75574ee56e8'),
    name: 'Alice Johnson',
    email: 'alice@example.com',
    age: 40
  },
  {
    _id: ObjectId('65fbefbc94f243ed4d2ed98f'),
    name: 'Jane Smith',
    email: 'jane@example.com',
    age: 35
  },
  {
    _id: ObjectId('65fbefbc94f243ed4d2ed990'),
    name: 'Alice Johnson',
    email: 'alice@example.com',
    age: 40
  }
]
```

**Update Operation:** Update the age of a user with a specific email address.

**Update the age of a user with a specific email address (e.g., "[john@example.com](mailto:john@example.com)"):**



The screenshot shows the MongoDB Compass interface. The left sidebar displays the database structure with 'examples' as the selected database. The main panel shows a JSON array of two user documents. The first document is for 'Jane Smith' with email 'jane@example.com' and age 35. The second document is for 'Alice Johnson' with email 'alice@example.com' and age 40. Below the documents, the MongoDB shell output shows the execution of the update command: `db.users.updateOne({ "email": "john@example.com" }, { $set: { "age": 28 } })`. The response indicates that one document was matched and updated.

```
> db.users.updateOne(
  { "email": "john@example.com" },
  { $set: { "age": 28 } }
)
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 0,
  upsertedCount: 0
}
```

**Deletion Operation:** Delete a user document based on a specific email address.

**Delete a user document based on a specific email address (e.g., "[jane@example.com](mailto:jane@example.com)"):**



The screenshot shows the MongoDB shell output for a deletion operation. The command `db.users.deleteOne({ "email": "jane@example.com" })` has been executed, resulting in a response indicating that one document was deleted.

```
> db.users.deleteOne({ "email": "jane@example.com" })
< {
  acknowledged: true,
  deletedCount: 1
}
```

**Index Creation:** Create an index on the email field of the users collection.

**Create an index on the email field of the users collection:**



The screenshot shows the MongoDB shell output for creating an index. The command `db.users.createIndex({ "email": 1 })` has been executed, resulting in a response indicating that an index named 'email\_1' has been created.

```
> db.users.createIndex({ "email": 1 })
< email_1
myDatabase >
```