FULL STACK WITH MERN (JAVA) ASSIGNMENT-4

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ASSIGNMENT-4: Creating a Database Using MongoDB and Mongosh

OBJECTIVE:

The objective of this assignment is to familiarize yourself with MongoDB and its command-line interface, Mongosh, and to understand how to create, manage,and query databases and collections in MongoDB.

PROCESS

1. **DATABASE SETUP**: Create a new MongoDB database called myDatabase.

   - use myDatabase

   - **Output:**

```
use myDatabase
switched to db myDatabase
db.createCollection("users")
{ ok: 1 }
```

2. **COLLECTION CREATION:** Create a collection named users within the myDatabase database.

   - db.createCollection("users")

   - **Output:**

```
use myDatabase
switched to db myDatabase
db.createCollection("users")
{ ok: 1 }
```

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

```
 db.users.insertMany([
    { name: "John Doe", email: "john@example.com", age: 25 },
    { name: "Sai", email: "sai@example.com", age: 35 },
     { name: "Alice Johnson", email: "alice@example.com", age: 30
   },
    { name: "pavan", email: "pavan@example.com", age: 19 },
    { name: "lohi", email: "lohi@example.com", age: 20 },
     { name: "shubman gill", email: "shubman@example.com", age:
   24 },
   ])
```

 Output:

```
db.users.insertMany([
  { name: "John Doe", email: "john@example.com", age: 25 },
  { name: "Sai", email: "sai@example.com", age: 35 },
  { name: "Alice Johnson", email: "alice@example.com", age: 30 },
 { name: "pavan", email: "pavan@example.com", age: 19 },
  { name: "lohi", email: "lohi@example.com", age: 20 },
  { name: "shubman gill", email: "shubman@example.com", age: 24 },
])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('65f95cf84594cd8c10686967'),
    '1': ObjectId('65f95cf84594cd8c10686968'),
    '2': ObjectId('65f95cf84594cd8c10686969'),
    '3': ObjectId('65f95cf84594cd8c1068696a'),
    '4': ObjectId('65f95cf84594cd8c1068696b'),
    '5': ObjectId('65f95cf84594cd8c1068696c')
  }
}
Database>
```

4. QUERYING: Write queries to retrieve: All users from the users collection.

```
 db.users.find()
```

 Output:


db.users.find()
{
_id: ObjectId('65f952f64594cd8c1068695f'),
name: 'John Doe',
email: 'john@example.com',
age: 25
}
{
_id: ObjectId('65f952f64594cd8c10686960'),
name: 'Sai',
email: 'sai@example.com',
age: 35
}
{
_id: ObjectId('65f952f64594cd8c10686961'),
name: 'Alice Johnson',
email: 'alice@example.com',
age: 30
}
{
_id: ObjectId('65f953884594cd8c10686962'),
name: 'pavan',

5. RETRIVING USERS WHOSE AGE IS GREATER THAN 30: Users with an age greater than or equal to 30.

 db.users.find({ age: { $gte: 30 } })

 Output:

6. UPDATE OPERATION: Update the age of a user with a specific email address.

 db.users.updateOne(
{ email: "john@example.com" },

```
  { $set: { age: 28 } }
)
```

 Output:

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

7. DELETION OPERATION: Delete a user document based on a specific email address.

```
 db.users.deleteOne({ email: "alice@example.com" })
```

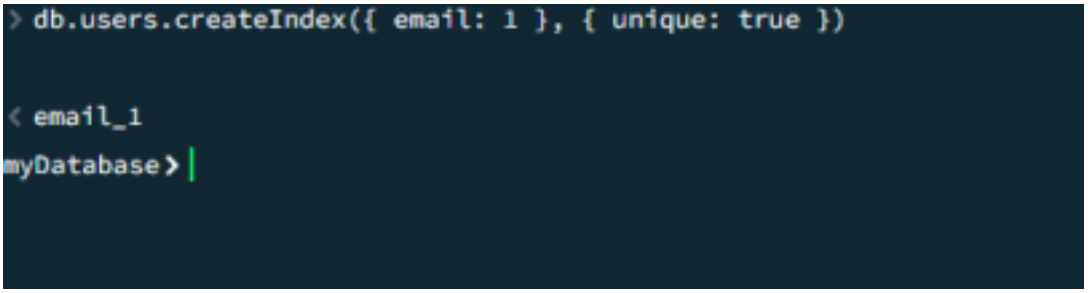
 Output:

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

8. INDEX CREATION: Create an index on the email field of the users collection.

```
 db.users.createIndex({ email: 1 }, { unique: true })
```

 Output:


> db.users.createIndex({ email: 1 }, { unique: true })
< email_1
myDatabase>