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',
    email: 'pavan@example.com',
    age: 19
  }
  {
    _id: ObjectId('65f953884594cd8c10686963'),
    name: 'lohi',
    email: 'lohi@example.com',
    age: 20
  }
  {
    _id: ObjectId('65f953884594cd8c10686964'),
    name: 'shubman gill',
    email: 'shubman@example.com',
    age: 24
  }
```

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:**

```
db.users.find({ age: { $gte: 30 } })
[
  {
    _id: ObjectId('65f952f64594cd8c10686960'),
    name: 'Sai',
    email: 'sai@example.com',
    age: 35
  }
  {
    _id: ObjectId('65f952f64594cd8c10686961'),
    name: 'Alice Johnson',
    email: 'alice@example.com',
    age: 30
  }
```

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

```
db.users.updateOne(
  { email: "john@example.com" },
  { $set: { age: 28 } }
)
```

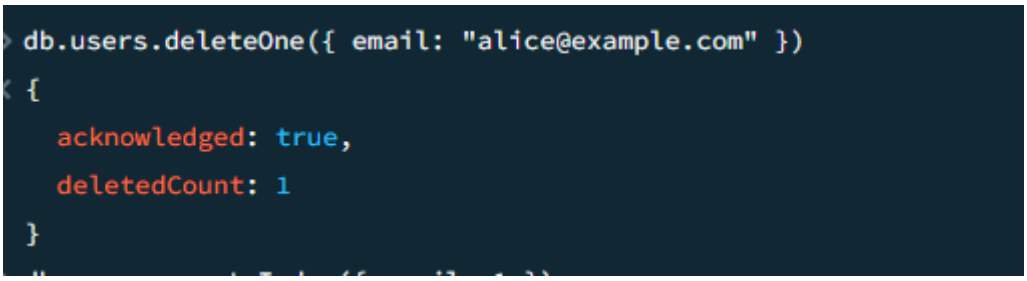
- **Output:**

```
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:**



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

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

- **Output:**