Creating a Database Using MongoDB and Mongosh

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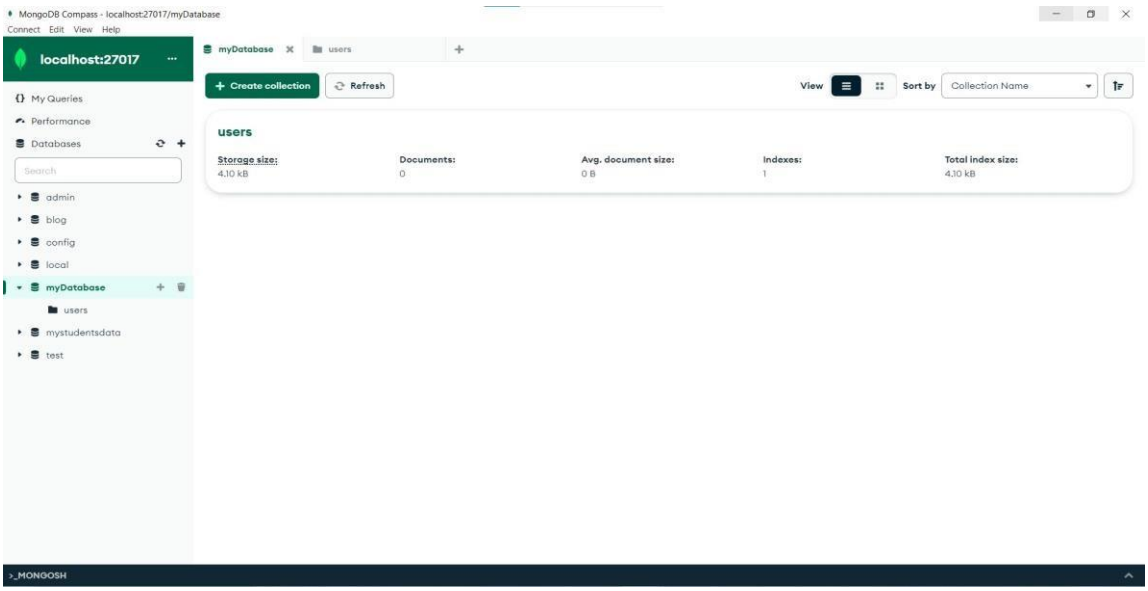
1. **Database Setup:**
    - Open the mongoDB compass
    - Create a new MongoDB database: myDatabase

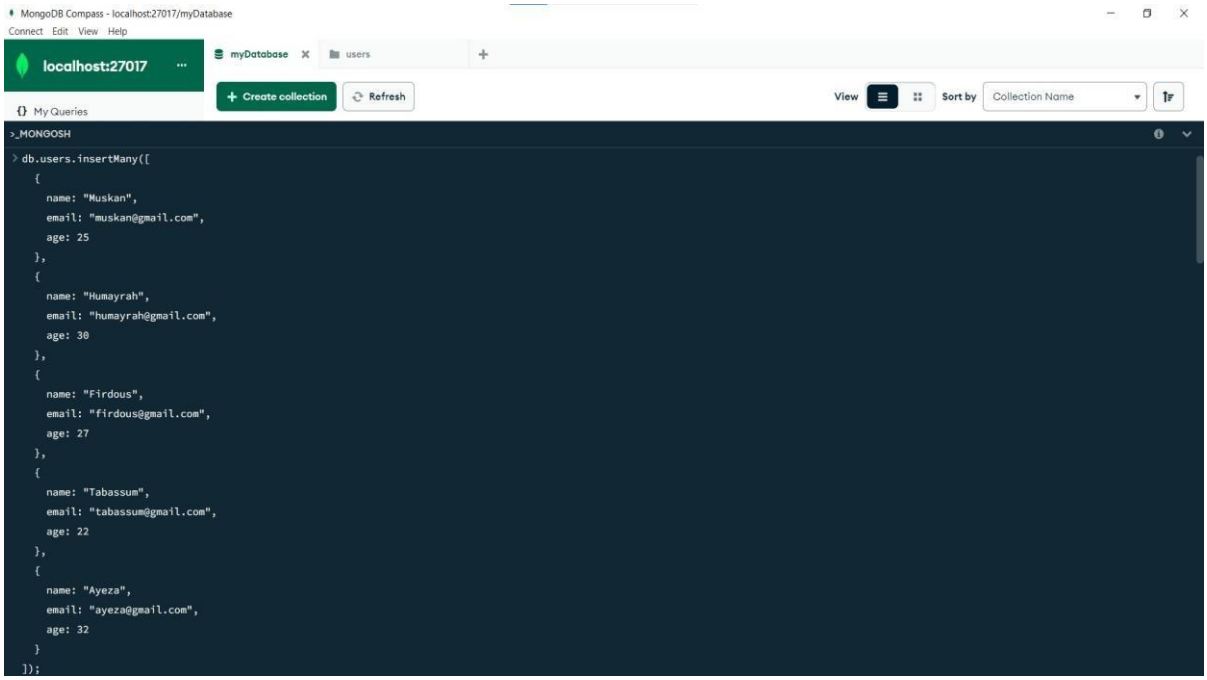
2. **Collection Creation:**
    - Create a collection within database: users



3. **Document Insertion:**
    - Insert five documents into the users collection, each representing a user with fields such as name, email, and age.
    - Before inserting into collection "`use db`" command to switch the current database context within MongoDB.

```
>_MONGOSH
> use myDatabase
< switched to db myDatabase
```

    - `db.users.insertMany()` method is used to insert the documents into users collection as shown below.



4. Queries to retrieve:

- To retrieve all the users from the users collection. ○ `db.users.find({ });`

```
> db.users.find({});
< {
    _id: ObjectId('65fd33f44ec317e6e9bf8683'),
    name: 'Muskan',
    email: 'muskan@gmail.com',
    age: 25
  }
  {
    _id: ObjectId('65fd33f44ec317e6e9bf8684'),
    name: 'Humayrah',
    email: 'humayrah@gmail.com',
    age: 30
  }
  {
    _id: ObjectId('65fd33f44ec317e6e9bf8685'),
    name: 'Firdous',
    email: 'firdous@gmail.com',
    age: 27
  }
  {
    _id: ObjectId('65fd33f44ec317e6e9bf8686'),
    name: 'Tabassum',
    email: 'tabassum@gmail.com',
    age: 22
  }
  {
    _id: ObjectId('65fd33f44ec317e6e9bf8687'),
    name: 'Ayeza',
    email: 'ayeza@gmail.com',
    age: 32
  }
```

- To retrieve the specific users with an age greater than or equal to 30 ○ `db.users.find({ age: { $gte: 30 } });`

```
> db.users.find({ age: { $gte: 30 } });
< {
    _id: ObjectId('65fd33f44ec317e6e9bf8684'),
    name: 'Humayrah',
    email: 'humayrah@gmail.com',
    age: 30
  }
  {
    _id: ObjectId('65fd33f44ec317e6e9bf8687'),
    name: 'Ayeza',
    email: 'ayeza@gmail.com',
    age: 32
  }
```

5. **Update Operation:**
    - To update the age of a user with a specific email address in MongoDB, use the updateOne() method.
        - Db.users.updateOne(

            { email: "muskan@gmail.com" },

            { $set: { age: 20 } }

        );

```
> db.users.updateOne(
    { email: "muskan@gmail.com" },
    { $set: { age: 20 } }
  );
< {
    acknowledged: true,
    insertedId: null,
    matchedCount: 1,
    modifiedCount: 1,
    upsertedCount: 0
  }
```

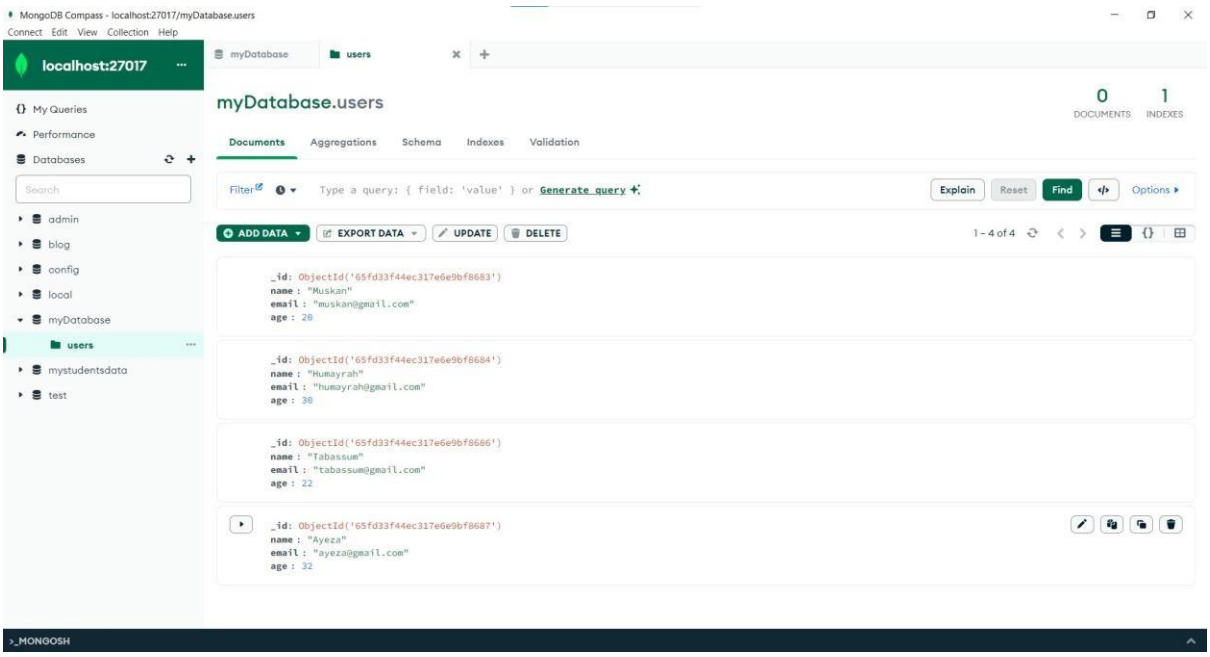
6. **Deletion Operation**:
    - To delete the user document based on a specific email address in MongoDB, you can use the deleteOne() method.
        - db.users.deleteOne({email: firdous@gmail.com});

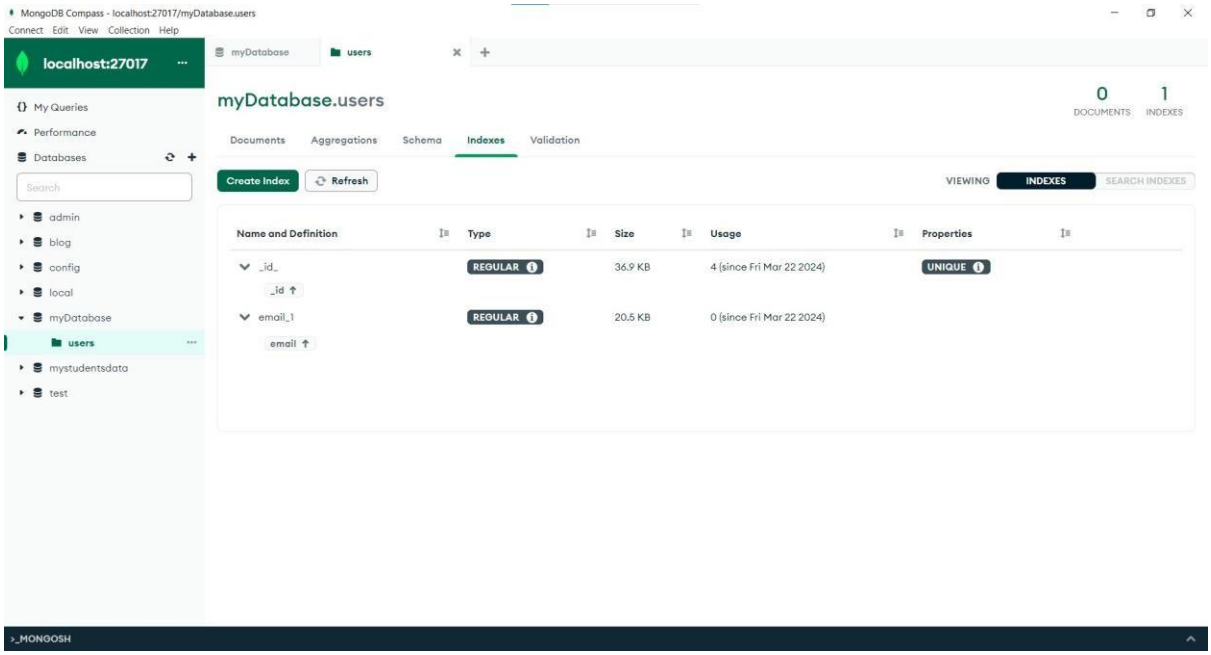
```
> db.users.deleteOne({ email: "firdous@gmail.com" });
< {
    acknowledged: true,
    deletedCount: 1
  }
```

7. **Index Creation:**
    - To create an index on the email field of the users collection in MongoDB, use the db.users.createIndex() method.
        - `db.users.createIndex({ email: 1 });`

```
> db.users.createIndex({ email: 1 });
< email_1
> db.users.getIndexes();
< [
    { v: 2, key: { _id: 1 }, name: '_id_' },
    { v: 2, key: { email: 1 }, name: 'email_1' }
  ]
myDatabase>
```

Final Outcome:




MongoDB Compass - localhost:27017/myDatabase.users
Connect Edit View Collection Help
localhost:27017
My Queries
Performance
Databases
Search
admin
blog
config
local
myDatabase
users
mystudentsdata
test
myDatabase
users
myDatabase.users
0
DOCUMENTS
1
INDEXES
Documents
Aggregations
Schema
Indexes
Validation
Create Index
Refresh
VIEWING
INDEXES
SEARCH INDEXES
Name and Definition
Type
Size
Usage
Properties
_id_
REGULAR
36.9 KB
4 (since Fri Mar 22 2024)
UNIQUE
_id
email_1
REGULAR
20.5 KB
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