Creating a Database Using MongoDB and Mongosh

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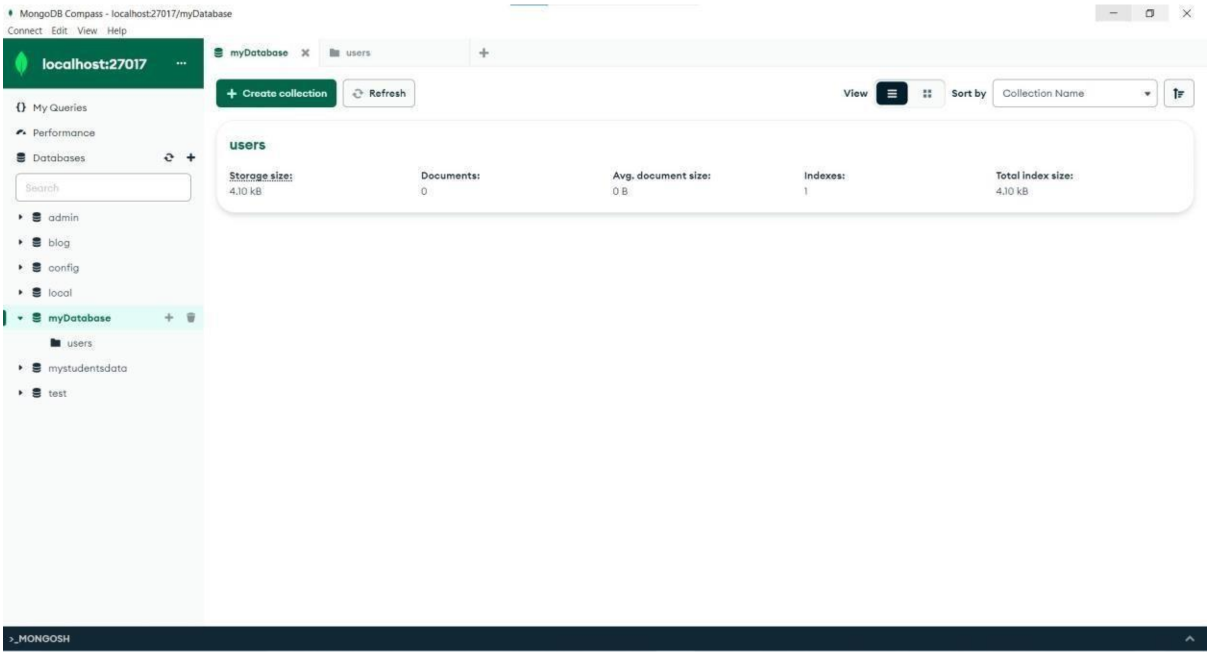
1. Database Setup:

- Open the mongoDB compass
- Create a new MongoDB database: myDatabase

2. Collection Creation:

- Create a collection within database: users

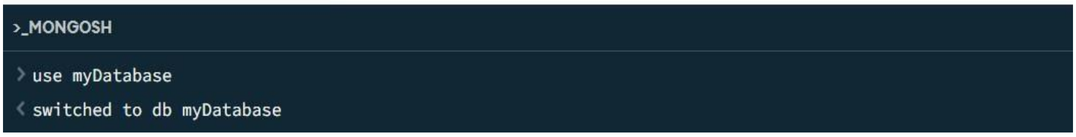


users

Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:
4.10 kB	0	0 B	1	4.10 kB

3. Document Insertion:

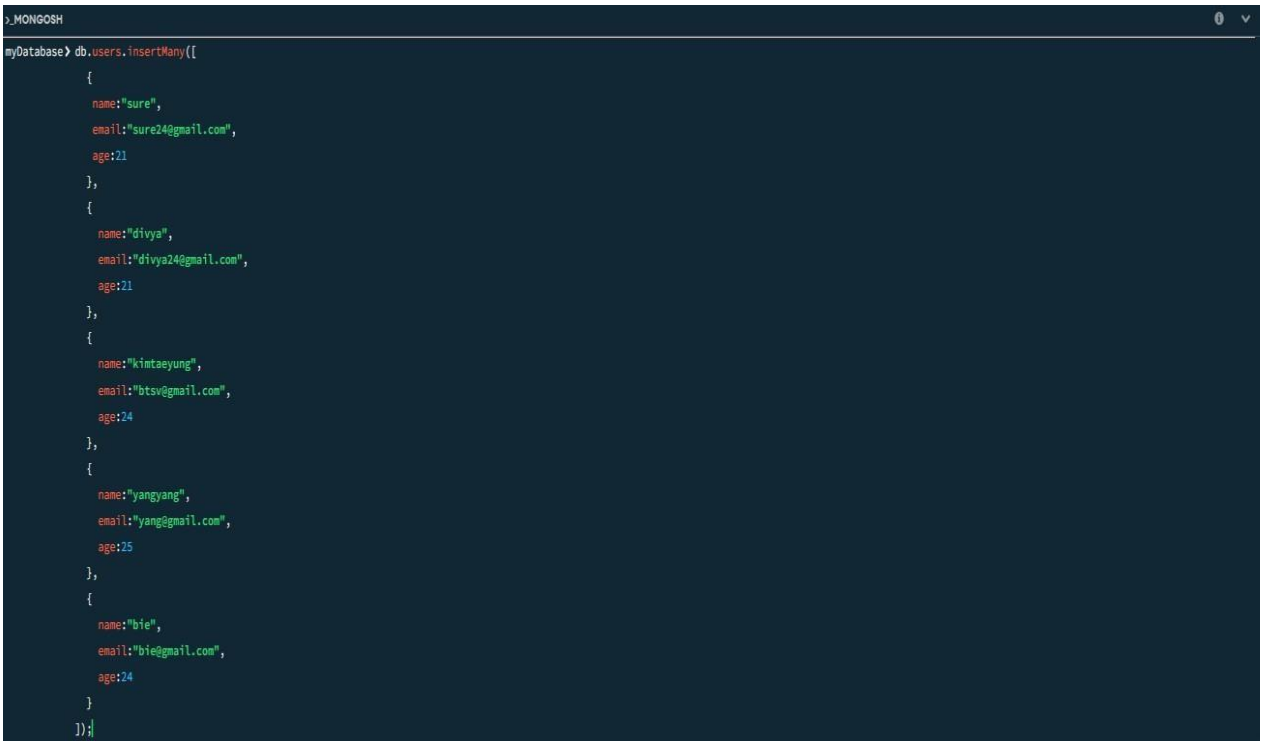
- Insert five documents into the users collection, each representing a user with fields such as name, email, and age.
- Before inserting into collection “`use db`” command to switch the current database context within MongoDB.



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

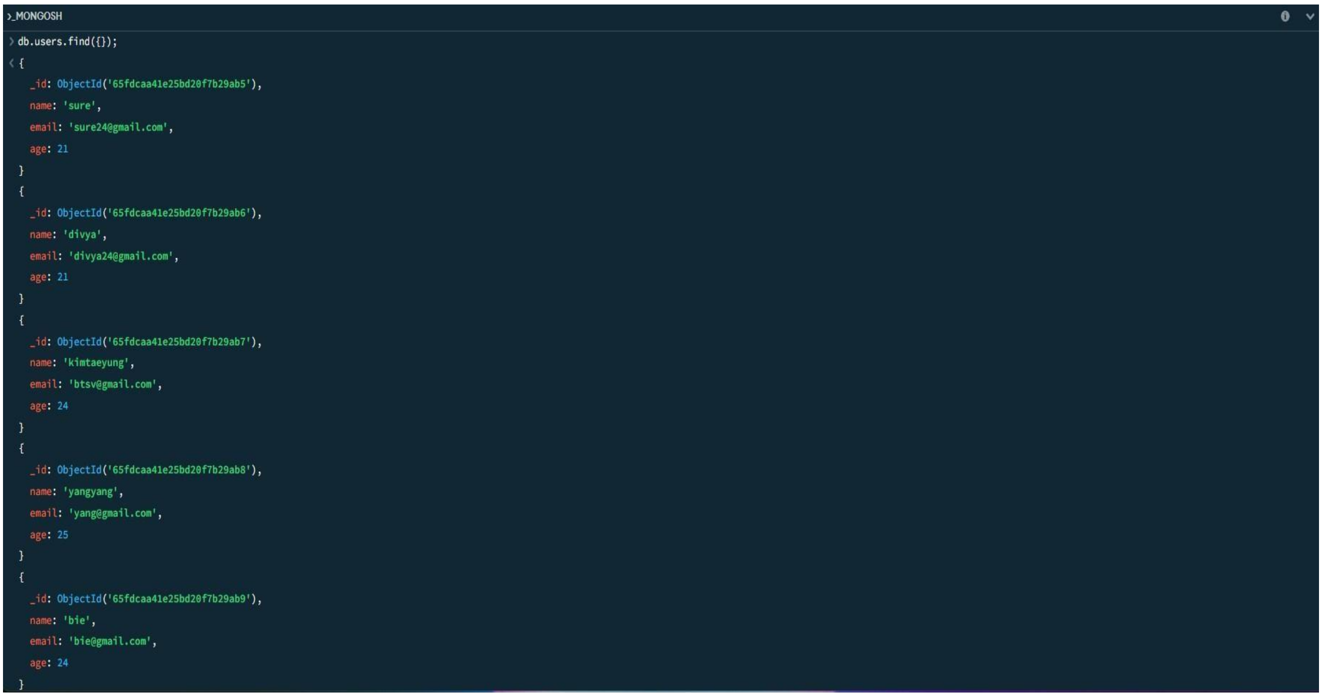
- `db.users.insertMany()` method is used to insert the documents into users collection as shown below.

4. Queries to retrieve:



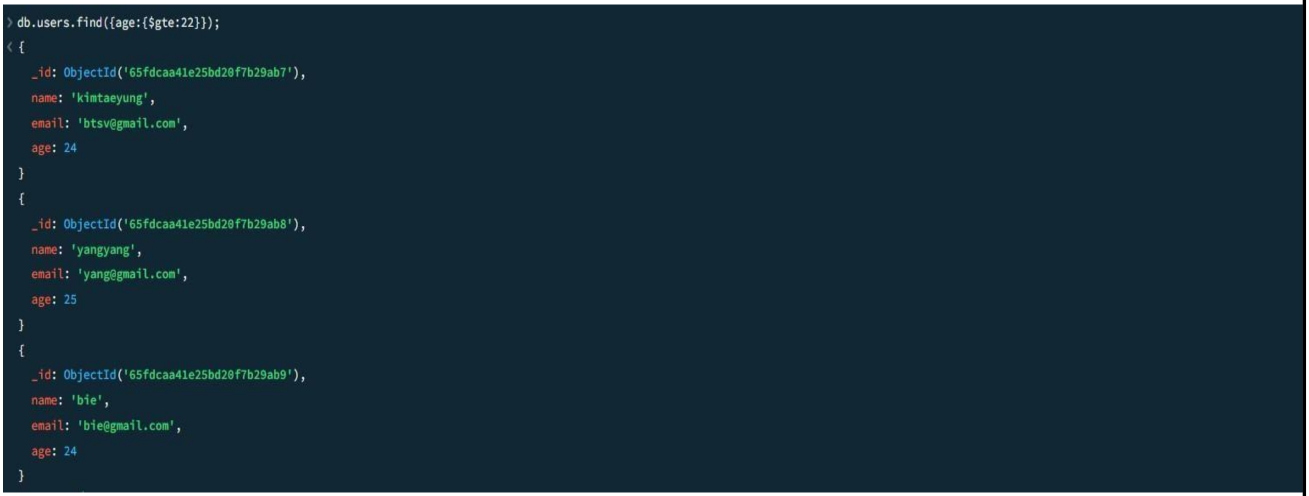
```
>_MONGOSH
myDatabase> db.users.insertMany([
           {
            name:"sure",
            email:"sure24@gmail.com",
            age:21
           },
           {
             name:"divya",
             email:"divya24@gmail.com",
             age:21
           },
           {
             name:"kimtaeyung",
             email:"btsv@gmail.com",
             age:24
           },
           {
             name:"yangyang",
             email:"yang@gmail.com",
             age:25
           },
           {
             name:"bie",
             email:"bie@gmail.com",
             age:24
           }
          ]);
```

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



```
> db.users.find({});
< {
    _id: ObjectId('65fdcaa41e25bd20f7b29ab5'),
    name: 'sure',
    email: 'sure24@gmail.com',
    age: 21
  }
  {
    _id: ObjectId('65fdcaa41e25bd20f7b29ab6'),
    name: 'divya',
    email: 'divya24@gmail.com',
    age: 21
  }
  {
    _id: ObjectId('65fdcaa41e25bd20f7b29ab7'),
    name: 'kimtaeyung',
    email: 'btsv@gmail.com',
    age: 24
  }
  {
    _id: ObjectId('65fdcaa41e25bd20f7b29ab8'),
    name: 'yangyang',
    email: 'yang@gmail.com',
    age: 25
  }
  {
    _id: ObjectId('65fdcaa41e25bd20f7b29ab9'),
    name: 'bie',
    email: 'bie@gmail.com',
    age: 24
  }
```

- To retrieve the specific users with an age greater than or equal to 22
  - db.users.find({ age: { $gte: 22 } });



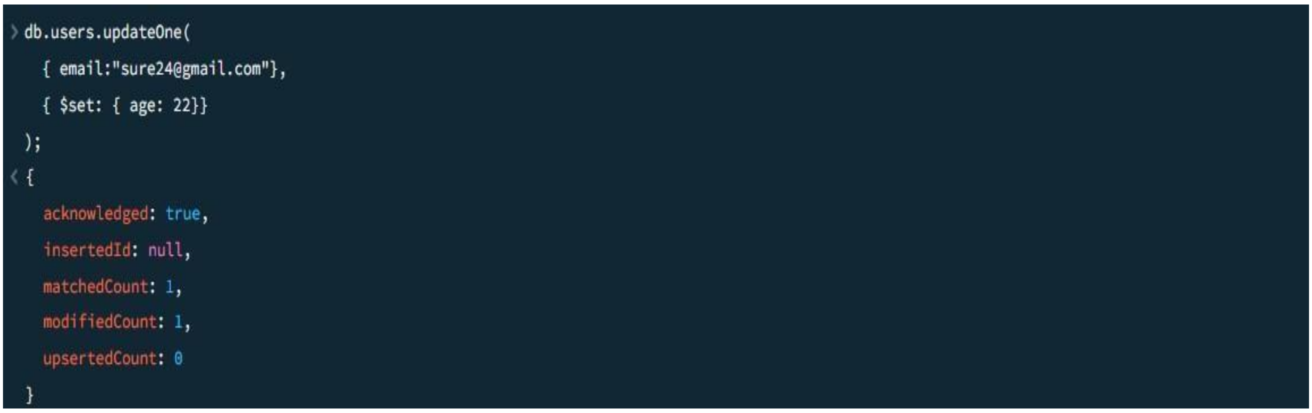
```
> db.users.find({age:{$gte:22}});
< {
    _id: ObjectId('65fdcaa41e25bd20f7b29ab7'),
    name: 'kimtaeyung',
    email: 'btsv@gmail.com',
    age: 24
  }
  {
    _id: ObjectId('65fdcaa41e25bd20f7b29ab8'),
    name: 'yangyang',
    email: 'yang@gmail.com',
    age: 25
  }
  {
    _id: ObjectId('65fdcaa41e25bd20f7b29ab9'),
    name: 'bie',
    email: 'bie@gmail.com',
    age: 24
  }
```

5. Update Operation:

• To update the age of a user with a specific email address in MongoDB, use the updateOne() method. • Example:

○ db.users.updateOne(

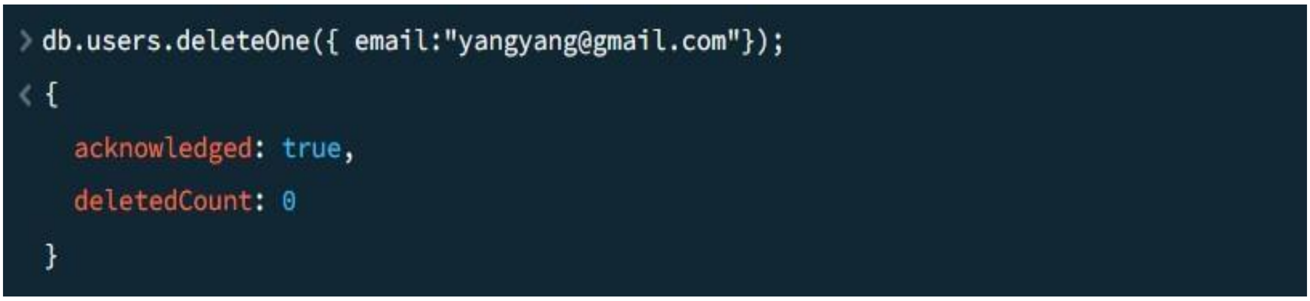
```
    { email: "sure24@gmail.com" },
    { $set: { age: 22 } }
);
```



```
> db.users.updateOne(
   { email:"sure24@gmail.com"},
   { $set: { age: 22}}
  );
< {
   acknowledged: true,
   insertedId: null,
   matchedCount: 1,
   modifiedCount: 1,
   upsertedCount: 0
  }
```

6. Deletion Operation:

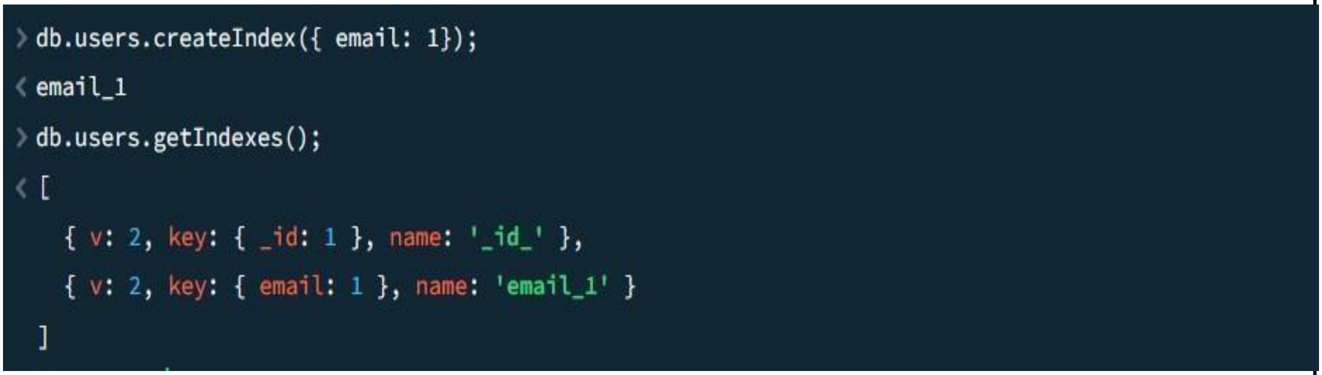
- To delete the user document based on a specific email address in MongoDB, you can use the deleteOne() method.
  - ○ `db.users.deleteOne({email:yangyang@gmail.com});`



```
> db.users.deleteOne({ email:"yangyang@gmail.com"});
< {
    acknowledged: true,
    deletedCount: 0
  }
```

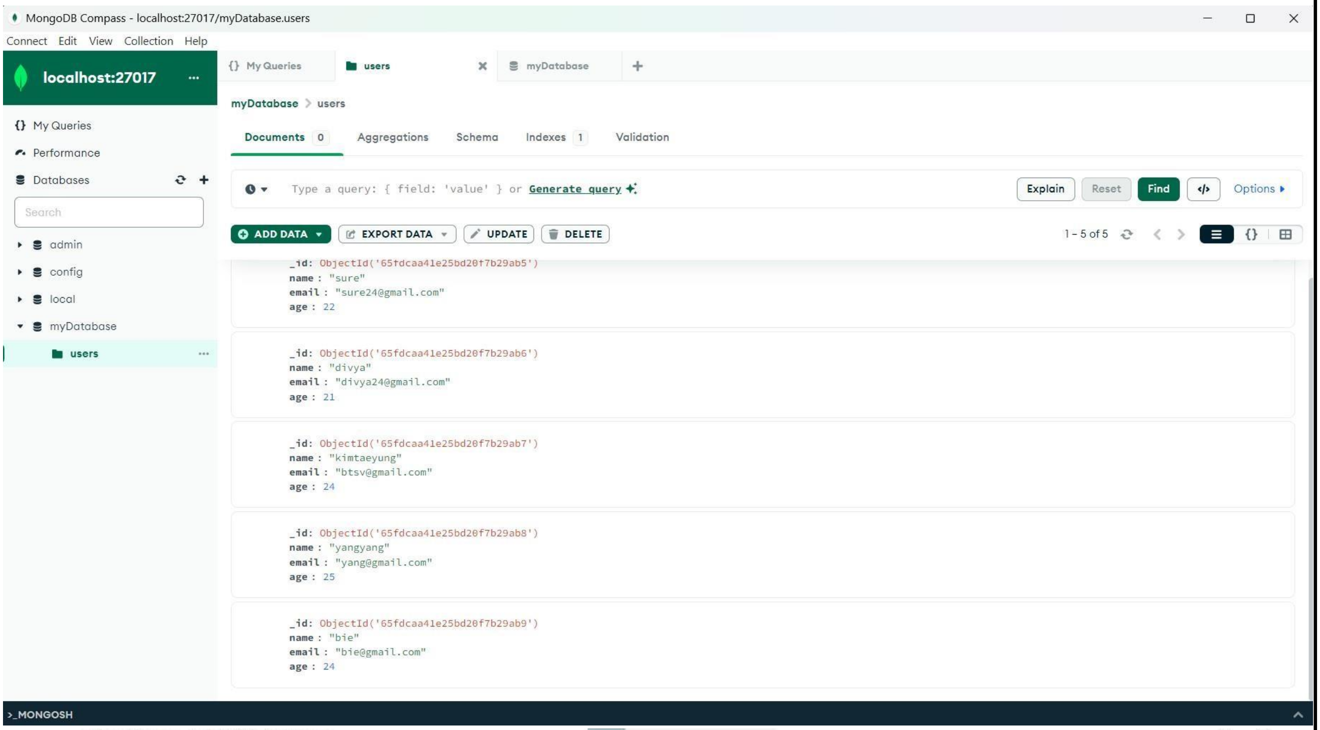
7. Index Creation:

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' }
  ]
```

Final Outcome:



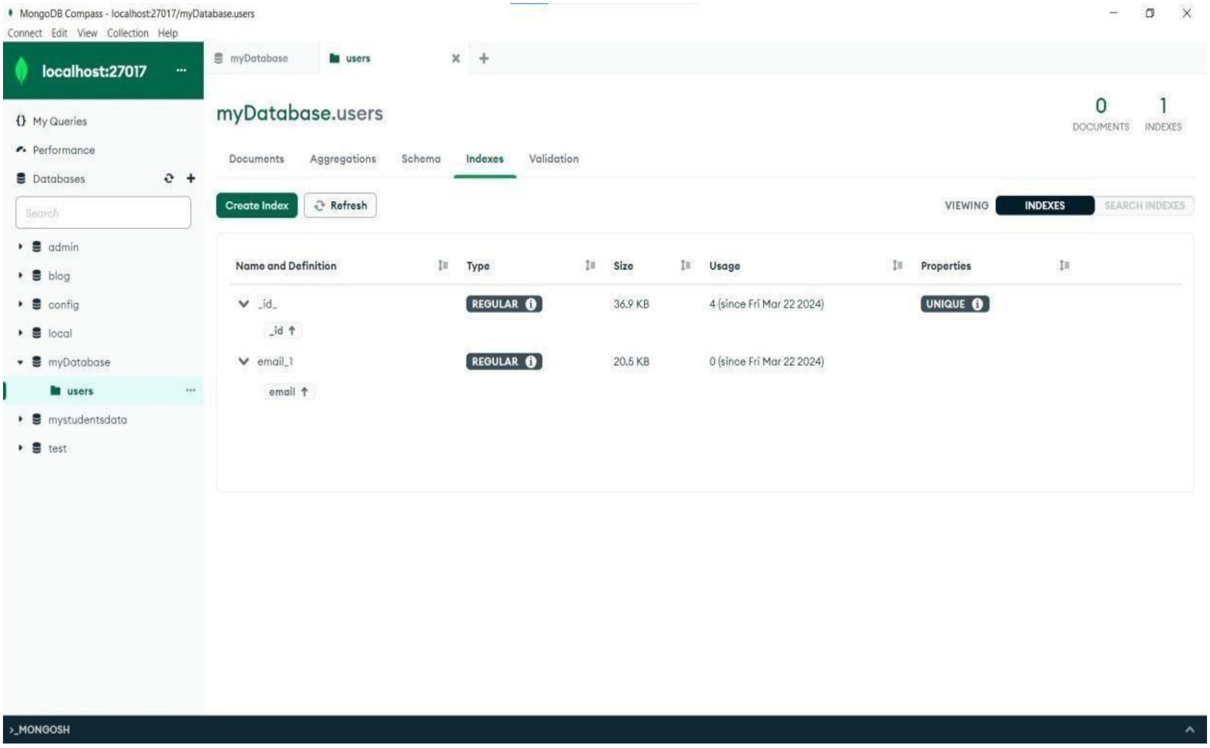
```
_id: ObjectId('65fdcaa41e25bd20f7b29ab5')
name : "sure"
email : "sure24@gmail.com"
age : 22

_id: ObjectId('65fdcaa41e25bd20f7b29ab6')
name : "divya"
email : "divya24@gmail.com"
age : 21

_id: ObjectId('65fdcaa41e25bd20f7b29ab7')
name : "kimtaeyung"
email : "btsv@gmail.com"
age : 24

_id: ObjectId('65fdcaa41e25bd20f7b29ab8')
name : "yangyang"
email : "yang@gmail.com"
age : 25

_id: ObjectId('65fdcaa41e25bd20f7b29ab9')
name : "bie"
email : "bie@gmail.com"
age : 24
```



Name and Definition	Type	Size	Usage	Properties
_id_ _id ↑	REGULAR	36.9 KB	4 (since Fri Mar 22 2024)	UNIQUE
email_1 email ↑	REGULAR	20.5 KB	0 (since Fri Mar 22 2024)	