

Creating a Database Using MongoDB and Mongosh

NAME : SURE VENKATA NAGA DIVYA

EMAIL ID : 208X1a0598@khitguntur.ac.in

PHONE NO : 9440407356

ROLL NO : 208X1A0598 (CSE)

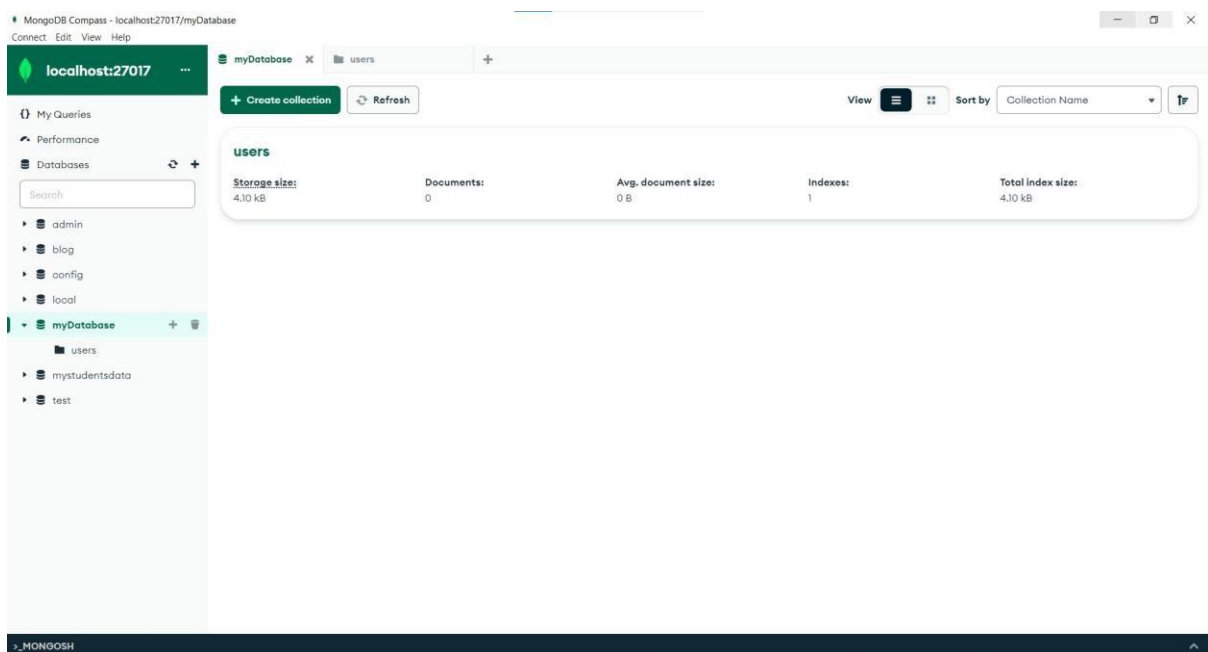
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1. Database Setup:

- 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:

```
>_MONGOSH
myDatabase> db.users.insertMany([
  {
    name:"sure",
    email:"sure24@gmail.com",
    age:21
  },
  {
    name:"divya",
    email:"divya24@gmail.com",
    age:21
  },
  {
    name:"kintaeyung",
    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({ });`

```
>_MONGOSH
> db.users.find({});
< {
  _id: ObjectId('65fdcaa4e25bd28f7b29ab5'),
  name: 'sure',
  email: 'sure24@gmail.com',
  age: 21
}
{
  _id: ObjectId('65fdcaa4e25bd28f7b29ab6'),
  name: 'divya',
  email: 'divya24@gmail.com',
  age: 21
}
{
  _id: ObjectId('65fdcaa4e25bd28f7b29ab7'),
  name: 'kintaeyung',
  email: 'btsv@gmail.com',
  age: 24
}
{
  _id: ObjectId('65fdcaa4e25bd28f7b29ab8'),
  name: 'yangyang',
  email: 'yang@gmail.com',
  age: 25
}
{
  _id: ObjectId('65fdcaa4e25bd28f7b29ab9'),
  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:

The screenshot displays the MongoDB Compass application interface. The main window shows the 'users' collection within the 'myDatabase' database on 'localhost:27017'. The 'Documents' tab is selected, showing a list of 5 documents. The left sidebar shows the database structure with 'myDatabase' expanded and 'users' selected. The bottom status bar shows '> MONGODB'.

_id	name	email	age
ObjectId('65fdcaa41e25bd28f7b29ab5')	sure	sure24@gmail.com	22
ObjectId('65fdcaa41e25bd28f7b29ab6')	divya	divya24@gmail.com	21
ObjectId('65fdcaa41e25bd28f7b29ab7')	kintaeung	btsv@gmail.com	24
ObjectId('65fdcaa41e25bd28f7b29ab8')	yangyang	yang@gmail.com	25
ObjectId('65fdcaa41e25bd28f7b29ab9')	bie	b1e@gmail.com	24

localhost:27017

myDatabase

users

x +

My Queries

Performance

Databases

Search

admin

blog

config

local

myDatabase

users

mystudentsdata

test

myDatabase.users

Documents

Aggregations

Schema

Indexes

Validation

Create Index

Refresh

VIEWING

INDEXES

SEARCH INDEXES

0

DOCUMENTS

1

INDEXES

Name and Definition	Type	Size	Usage	Properties
<div><div>id</div><div>id</div></div>	REGULAR	36.9 KB	4 (since Fri Mar 22 2024)	UNIQUE
<div><div>email_1</div><div>email</div></div>	REGULAR	20.5 KB	0 (since Fri Mar 22 2024)	