CS 306 PROJECT PHASE 4

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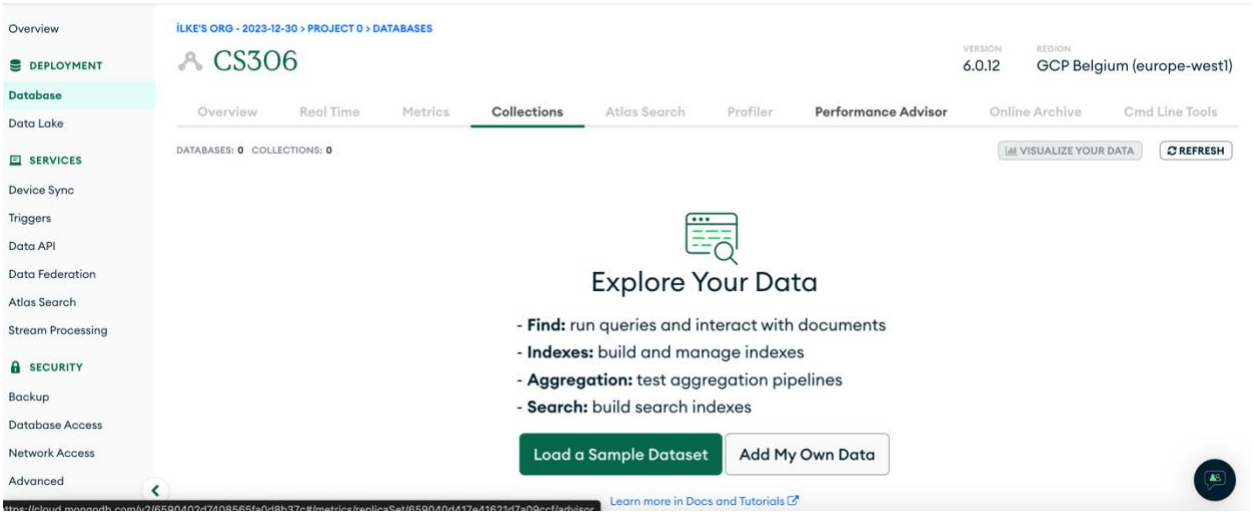
In Project Phase 4, we have developed an advanced application interfacing with MongoDB Atlas, specifically tailored for managing and analyzing customer feedback through complaints and item comments. This application offers a range of functionalities including the creation and meticulous management of various collections, sophisticated mechanisms for reading and selectively filtering data, and comprehensive operations such as create, read, update, delete. These functions are dynamically driven by user inputs, fostering a highly interactive database environment. The design prioritizes user centricity, ensuring efficient data management and elevating customer engagement. The application excels in handling structured feedback, thereby streamlining the feedback management process and offering insightful data analytics to better understand customer needs and preferences. This enhanced functionality makes the system not only a tool for data management but also a valuable for strategic customer relationship management.

We have two collections which are customer_complaints and item_comments.
Firstly we start with customer_complaints.

At the beginning, our mongodb Atlas looks like this. There is no any collection.

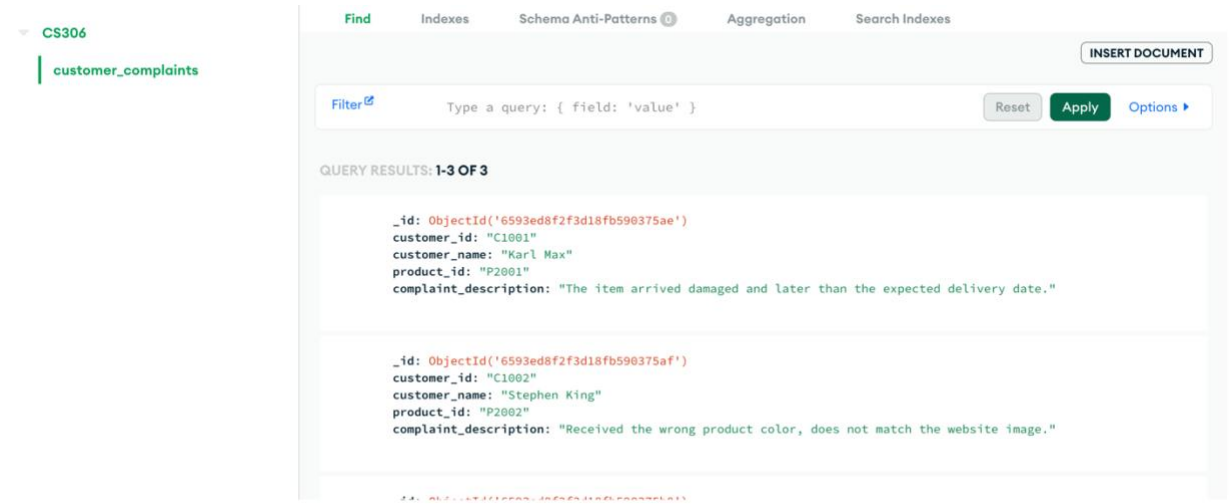


1-First step, we create a new collection called customer_complaints with its dummy_data that we created explicitly in our code.

```
ilkekanil@Ilke-MacBook-Air-2 ~ % /usr/local/bin/python /Users/ilkekanil/connect2.py
ilkekanil@Ilke-MacBook-Air-2 ~ % /usr/local/bin/python /Users/ilkekanil/dummy_data.py
ilkekanil@Ilke-MacBook-Air-2 ~ % /usr/local/bin/python /Users/ilkekanil/main.py
Connection established to your db

Welcome to the Review Portal!
Please enter your user id: 29271
User ID: 29271 recognized.
Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 1
Enter the name of the new collection to create: customer_complaints
Collection 'customer_complaints' created.
Insertion successfully completed.
Inserted document ID: 6593ed8f2f3d18fb590375ae
Insertion successfully completed.
Inserted document ID: 6593ed8f2f3d18fb590375af
Insertion successfully completed.
Inserted document ID: 6593ed8f2f3d18fb590375b0
Would you like to do something else? (yes/no): yes
```

After the process finished, our collection looks like this:



2-In the second part, we “read all data in a collection”.

After we entered the name of the collection we want to read, the data in the collection is read and shown in the terminal:

```
Welcome to the Review Portal!
Please enter your user id: 29271
User ID: 29271 recognized.
Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 2
Enter the name of the collection to read from: customer_complaints
{'_id': ObjectId('6593ed8f2f3d18fb590375ae'), 'customer_id': 'C1001', 'customer_name': 'Karl Max', 'product_id': 'P2001', 'complaint_description': 'The item arrived damaged and later than the e
xpected delivery date.'}
{'_id': ObjectId('6593ed8f2f3d18fb590375af'), 'customer_id': 'C1002', 'customer_name': 'Stephen King', 'product_id': 'P2002', 'complaint_description': 'Received the wrong product color, does no
t match the website image.'}
{'_id': ObjectId('6593ed8f2f3d18fb590375b0'), 'customer_id': 'C1003', 'customer_name': 'Brandon Sanderson', 'product_id': 'P2003', 'complaint_description': 'Product malfunctioned after a week o
f use, not satisfied with the quality.'}
Would you like to do something else? (yes/no): yes
```

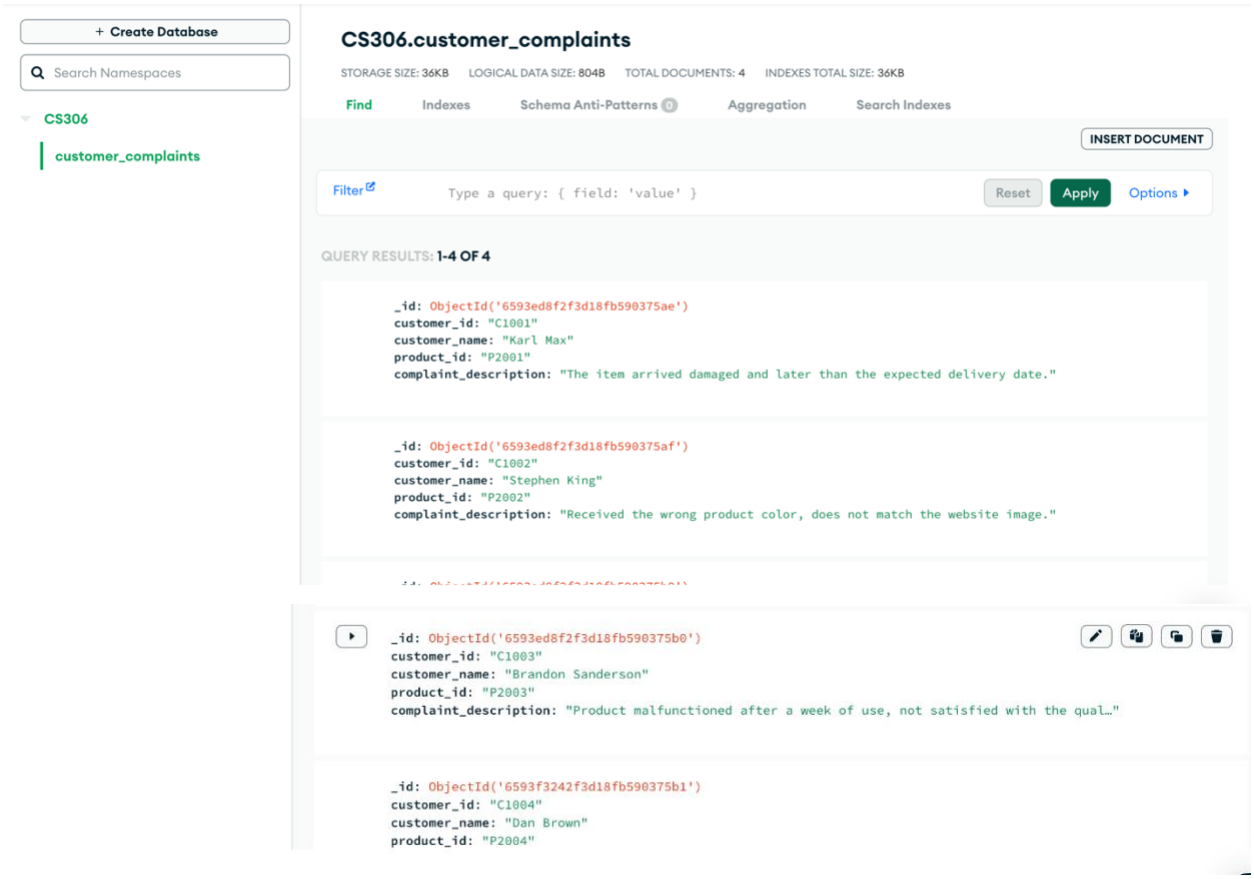
3- In this step, we “read some part of the data while filtering”.
First we enter the name of the collection that we want to filter and read from. Then we enter the field and value information. After that the data in the collection which have the related value on that field is read and shown in the terminal:

```
Welcome to the Review Portal!
Please enter your user id: 29271
User ID: 29271 recognized.
Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 3
Enter the name of the collection to filter data from: customer_complaints
Enter the field name to filter by: customer_name
Enter the field value to filter by: Karl Max
{'_id': ObjectId('6593ed8f2f3d18fb590375ae'), 'customer_id': 'C1001', 'customer_name': 'Karl Max', 'product_id': 'P2001', 'complaint_description': 'The item arrived damaged and later than the e
xpected delivery date.'}
Would you like to do something else? (yes/no): yes
```

4-Now, we insert a data into our collection. After we select collection and enter the values, our new data is added into our current collection.

```
Welcome to the Review Portal!
Please enter your user id: 29271
User ID: 29271 recognized.
Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 4
Please select the collection you want to insert data into:
1 - Customer Complaints
2 - Item Comments
Selected option: 1
Enter customer ID: C1004
Enter customer name: Dan Brown
Enter product ID: P2004
Enter complaint description: The product does not meet the specifications listed on the site; dimensions are incorrect.
Insertion successfully completed.
Inserted document ID: 6593f3242f3d18fb590375b1
Would you like to do something else? (yes/no): yes
```

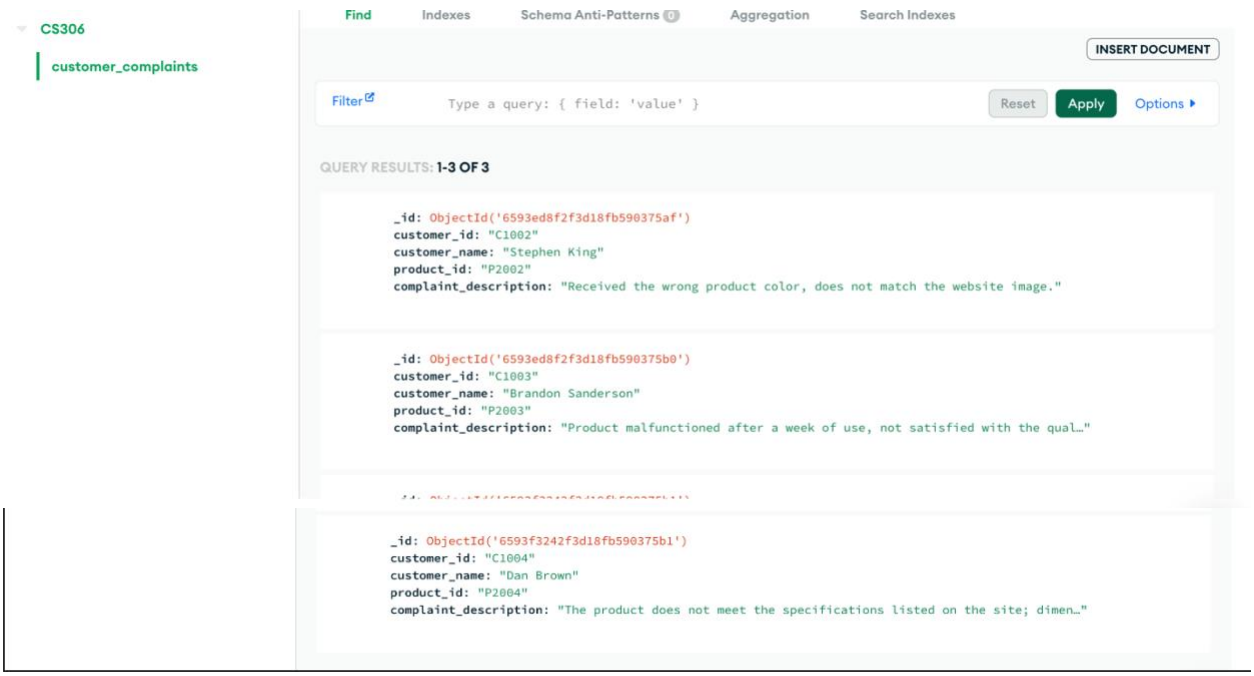
Our mongoDB Atlas is updated:



5- Our next step is deleting an item. We select the collection that we want to make changes on, and enter the objectID of the item we want to delete:

```
Welcome to the Review Portal!
Please enter your user id: 29271
User ID: 29271 recognized.
Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 5
Enter the collection name to delete from: customer_complaints
Please enter the ID of the record to delete: 6593ed8f2f3d18fb590375ae
Successfully deleted record with ID 6593ed8f2f3d18fb590375ae
Would you like to do something else? (yes/no): yes
```

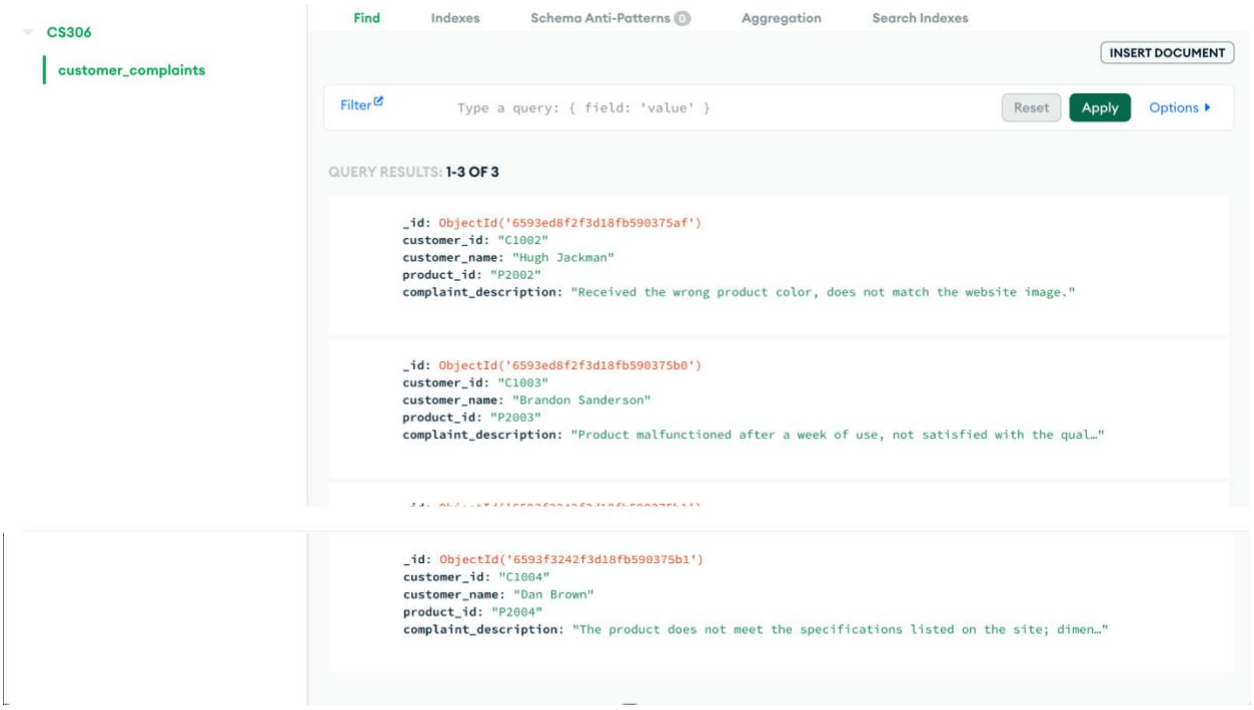
As we can see, we deleted the first item in the collection which has the id entered. The number of items is decrement.



6- Lastly, we update the data. We enter the collection name, the field we want to update and the value will be used in updating.

```
Welcome to the Review Portal!
Please enter your user id: 29271
User ID: 29271 recognized.
Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 6
Enter the collection name to update: customer_complaints
Please enter the ID of the record to update: 6593ed8f2f3d18fb590375af
Enter the field name to update: customer_name
Enter the new value for the field: Hugh Jackman
Successfully updated record with ID 6593ed8f2f3d18fb590375af
Would you like to do something else? (yes/no): no
Thank you for using the Review Portal. Goodbye!
```

Our data is updated:



Item_comments;

In the second step we will create a second collection named item_comments because we have two different data in the dummy data. We also upload the data in item_comments :

```
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User ID: 29271 recognized.
Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 1
Enter the name of the new collection to create: item_comments
Collection 'item_comments' created.
Insertion successfully completed.
Inserted document ID: 6593f7350c60e12580e49916
Insertion successfully completed.
Inserted document ID: 6593f7350c60e12580e49917
Insertion successfully completed.
Inserted document ID: 6593f7350c60e12580e49918
Would you like to do something else? (yes/no): yes
```
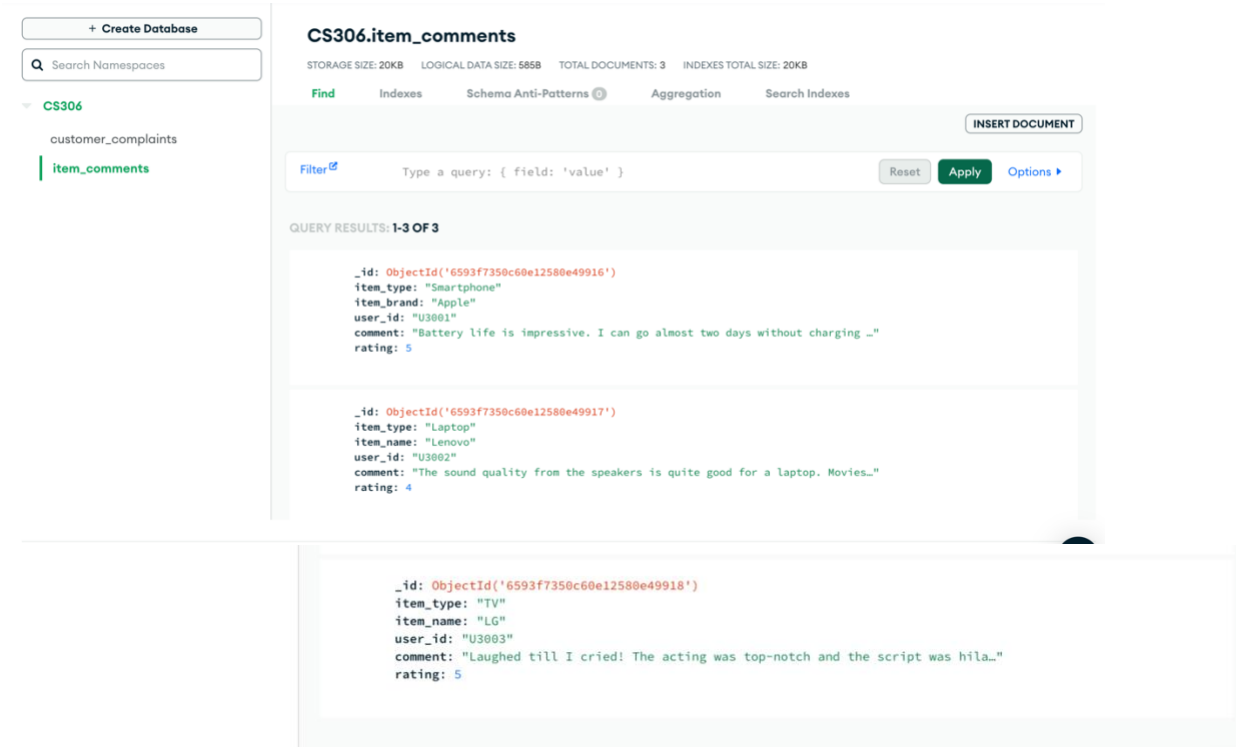
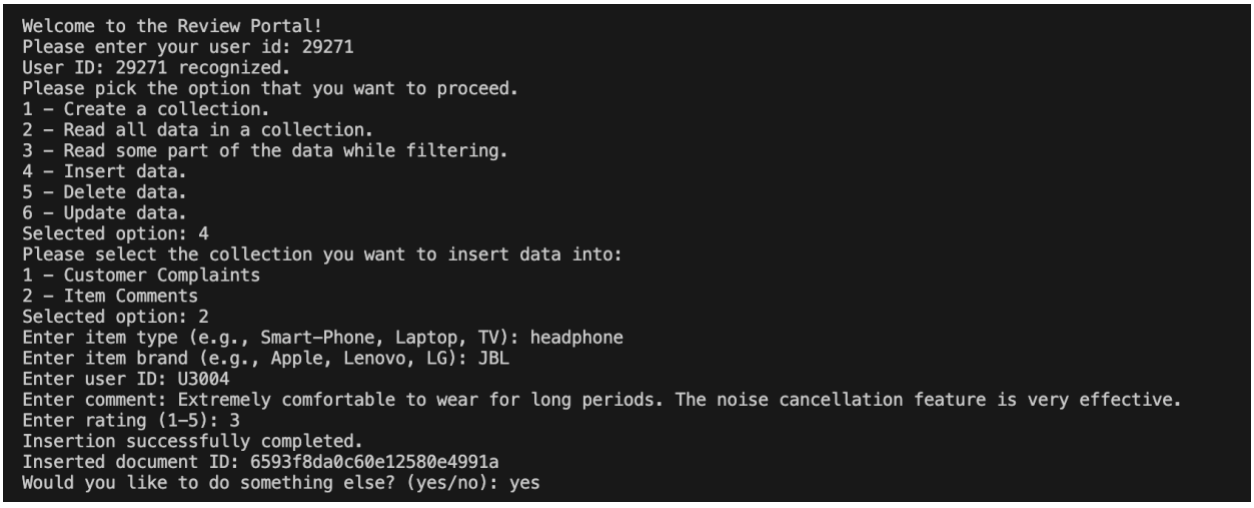

Here is the MongoDb;



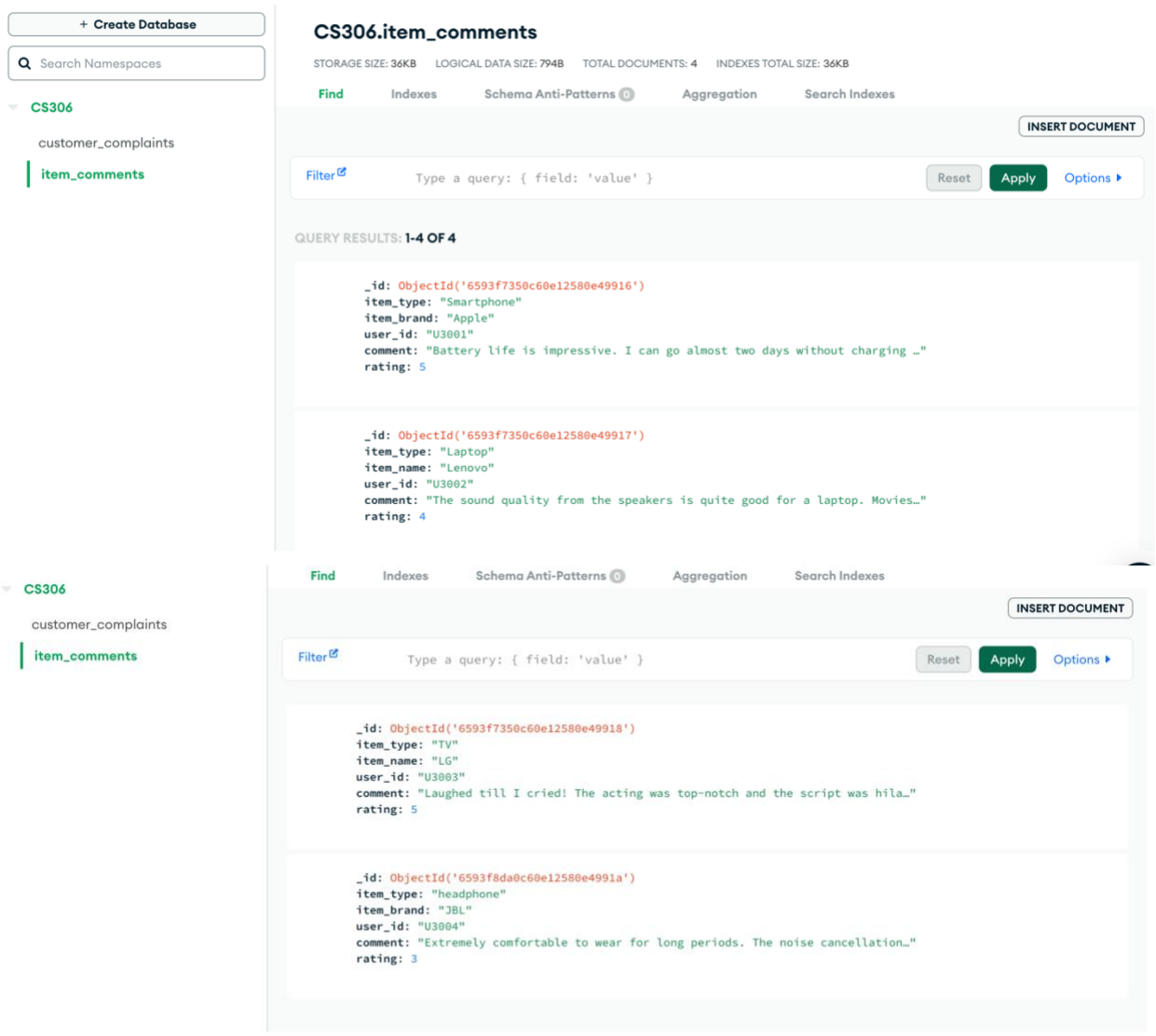
Then, we will choose option 2 and read the all data in the item_comments, and print them in the main.py;

After that, we will choose 3 option and filter the item_type (Laptop in this case) and print the other objects in the selected index;

Then, we will choose option 4 to insert data in the MongoDb, and select item_comments:



We can see the result in the MongoDb that query results increment by 1 and the inserted document will start with headphone;



After that, we will choose the option 5 to delete the data in the collection item_comments. We will delete by id (the deleted element is “TV”, item_name is “LG”);

```
Welcome to the Review Portal!
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Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 5
Enter the collection name to delete from: item_comments
Please enter the ID of the record to delete: 6593f7350c60e12580e49918
Successfully deleted record with ID 6593f7350c60e12580e49918
Would you like to do something else? (yes/no): yes
```
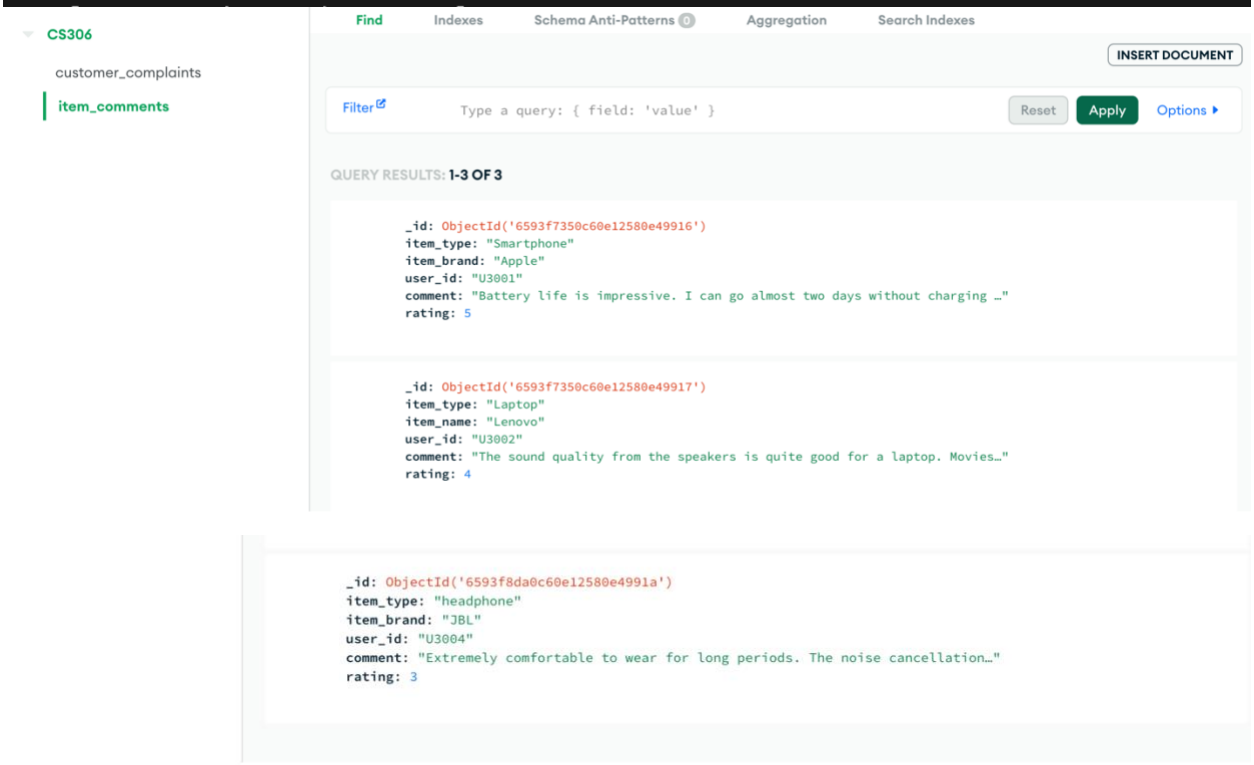
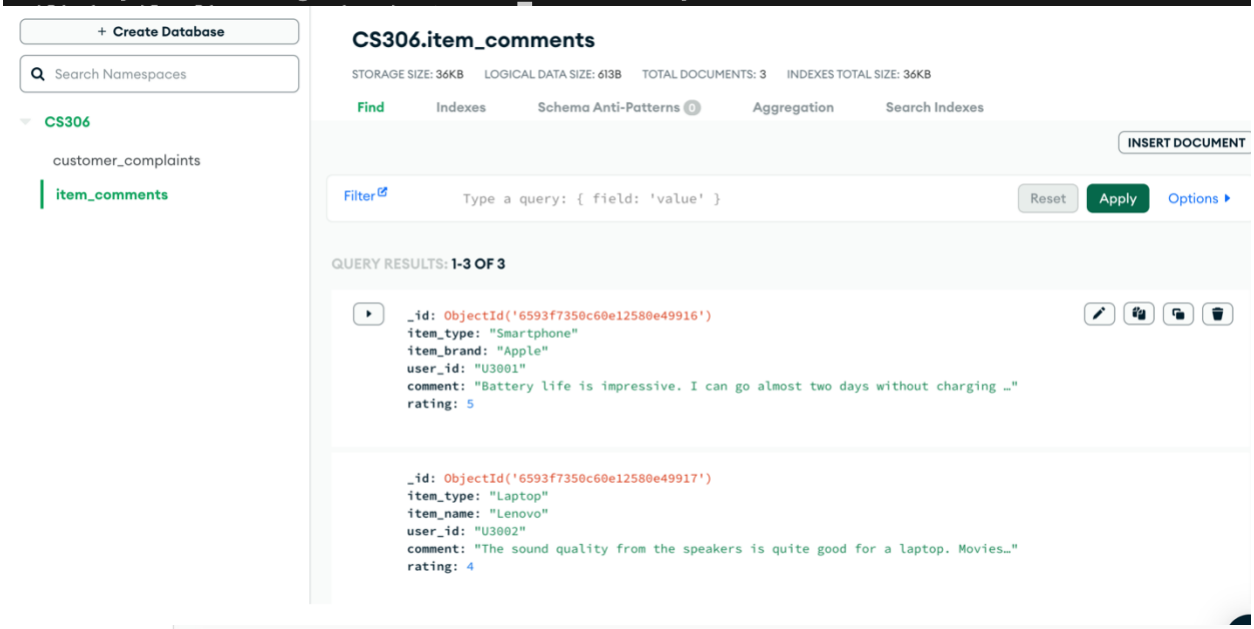



Finally we will update the data, with selecting option 6. We will choose the updated element by id then decide which part we want to update and finally terminating the system with selecting “no” for the question “Would you like to do something else?”.

```
Welcome to the Review Portal!
Please enter your user id: 29271
User ID: 29271 recognized.
Please pick the option that you want to proceed.
1 - Create a collection.
2 - Read all data in a collection.
3 - Read some part of the data while filtering.
4 - Insert data.
5 - Delete data.
6 - Update data.
Selected option: 6
Enter the collection name to update: item_comments
Please enter the ID of the record to update: 6593f8da0c60e12580e4991a
Enter the field name to update: item_type
Enter the new value for the field: Speaker
Successfully updated record with ID 6593f8da0c60e12580e4991a
Would you like to do something else? (yes/no): no
Thank you for using the Review Portal. Goodbye!
```



In conclusion, this project represents a solution for managing customer interactions and feedback. It leverages the flexibility and scalability of MongoDB Atlas, making it ideal for handling large volumes of unstructured data. The application's well structured user interface and backend functionalities demonstrate a comprehensive approach to database management, ensuring both efficiency and ease of use. This system is poised to significantly enhance user experience and streamline feedback processing for businesses or service providers.