Subject: Distributed Database

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Reg_Number: 20101590

Brief Explanation

A bookstore database is a computerized system used to store and manage the inventory and sales of a bookstore. It typically includes information about each book, such as its title, author, publisher, and number of Pages, as well as details about the bookstore's customers and orders. The database may also store information about the Authors themselves and their Details. The database is used to track the inventory and sales of the bookstore, as well as to generate reports and analyze data to help the bookstore make informed business decisions such as knowing each customer favorite type of books. It may be accessed through a desktop computer or a web-based interface, and can be updated in real-time as sales are made and new books are added to the inventory.

I have created three collections in the bookstore database: "Authors," "Books," and "Customers." Each of these collections contains five documents, with two of the documents in each collection containing nested documents.

- The "Authors" collection includes information about each author, such as their name, biographical details, and a Count of their published books.
- The "books" collection contains information about each book, such as its title, author, publisher, and Number of Pages, as well as a list of reviews and ratings from customers.
- The "customers" collection includes information about each customer, such as their name, contact information, and a list of the books they have purchased. By organizing the data in this way, it is easy to quickly retrieve and analyze the information in the bookstore database.

Collection and Insertion Queries

- db.createCollection("Books")
- db.createCollection("Authors")
- db.createCollection("Customers")

- db.Books.insert({"title": "Name of the Wind","author": "Patrick Rothfuss","pages": 600,"genres": ["fantasy", "magical],"rating":9,"reviews": [{"name": "Yoshi","body": "Great Book"},{ "name": "Mario","body": "So Good"}]}

- db.Books.insert({"title": "Harry Potter","author": "Patrcik Rothfuss","Pages": 800,"genres": ["fantasy", "Magical"],"rating": 9,"Reviews": "No Reviews Yet"}
- db.Books.insert({"title": " The Doctor","author": " Johan Kennedy","Pages": 740,"genres": ["fantasy", " Adventure"," Drama"],"rating": 8,"Reviews": [{"name": "Khaled","body": "Amazing Book!!"},{ "name": "Tommy","body": "Wow, An Absolute Beast"}, { "name": "John","body": "A little Bit Long but Perfect"}{"name": "Adam", "body": "My Favorite So far"},{"name": "zain", "body": "Fantastic Book"}]}

- db.Books.insert ({"title": "Game of Thrones", "author": "George Martin", "Pages": 1050, "Genres": ["fantasy", "Sci-fi", "Horror", "Thriller", "Action"], "rating": 9, "reviews": [{"name": "Khaled", "body": "Amazing Book!!"}, {"name": "Tommy", "body": "Wow, An Absolute Beast"}, {"name": "John", "body": "A little Bit Long but Perfect"}, {"name": "Adam", "body": "My Favorite So far"}, {"name": "zain", "body": "Fantastic Book"}]

- db.Books.insert ({"title": "The Final Empire", "author": "Bradon Sanderson", "Pages": 450, "Genres": ["Adventure", "Sci-fi", "Thriller"], "rating": 8.5, "reviews": [{"name": "Dale", "body": "I loved this entire collection."}, {"name": "Teresa ", "body": "What a fabulous grouping of stories"}, {"name": "Beatrice", "body": "These compelling vignettes are so artfully sketched"}, {"name": "Darcie", "body": "they’re so spot-on in the emotion they convey"}, {"name": "Emilia", "body": "Fantastic Book"}]

- db.Customers.insert({ "Firstname": "Oskar","Lastname": "Larsen", "Phone_Number": "216-912-8548","No_of_Borrowed_Books": "15","Nationality": "NY","Gender": "Female","Fav_Type": [{"Type": "Fantasy","Count": 5 }, {"Type": "Adventure","Count": 10 }]}

- db.Customers.insert({ "Firstname": "Rafael ", "Lastname": "Bonilla", "Phone_Number": "303-866-1417", "No_of_Borrowed_Books": "25", "Nationality": "UK", "Gender": "Male", "Fav_Type": [{"Type": "Drama", "Count": 5}, {"Type": "Action", "Count": 10}, {"Type": "Sci-Fi", "Count": 10}]

- db.Customers.insert({ "Firstname": "Alivia ", "Lastname": "Fisher", "Phone_Number": "631-868-2191", "No_of_Borrowed_Books": "31", "Nationality": "Florida", "Gender": "Female", "Fav_Type": [{"Type": "Comedy", "Count": 12}, {"Type": "Thriller", "Count": 10}, {"Type": "Horror", "Count": 9}]

- db.Customers.insert({ "Firstname": "Mason", "Lastname": "Guzman", "Phone_Number": "517-316-7075", "No_of_Borrowed_Books": "46", "Nationality": "Miami", "Gender": "Male", "Fav_Type": [{"Type": "Adventure", "Count": 22}, {"Type": "Action", "Count": 8}, {"Type": "Documentary", "Count": 16}]

- db.Customers.insert({ " Firstname": "Blake ", "Lastname": "Rasmussen", "Phone_Number": "813-895-1160", "No_of_Borrowed_Books": "15", "Nationality": "San Fransisco", "Gender": "Male", "Fav_Type": [{"Type": "Action", "Count": 2}, {"Type": "Fantasy", "Count": 5}, {"Type": "Sci-Fi", "Count": 3}]

- db.Authers.insert({ "name": "Patrick Rothfuss", "Age": "41","Gender": "Male","No_of_Books": "157","Country": "California","genres": ["Fantasy","Magical","Comedy","Action"]}

- db.Authers.insert({ "name": "Bradon Sanderson", "Age": "52", "Gender": "Male", "No_of_Books": "212", "Country": "Russia", "genres": ["Adventure", "Drama", "Horror", "Thriller"]}

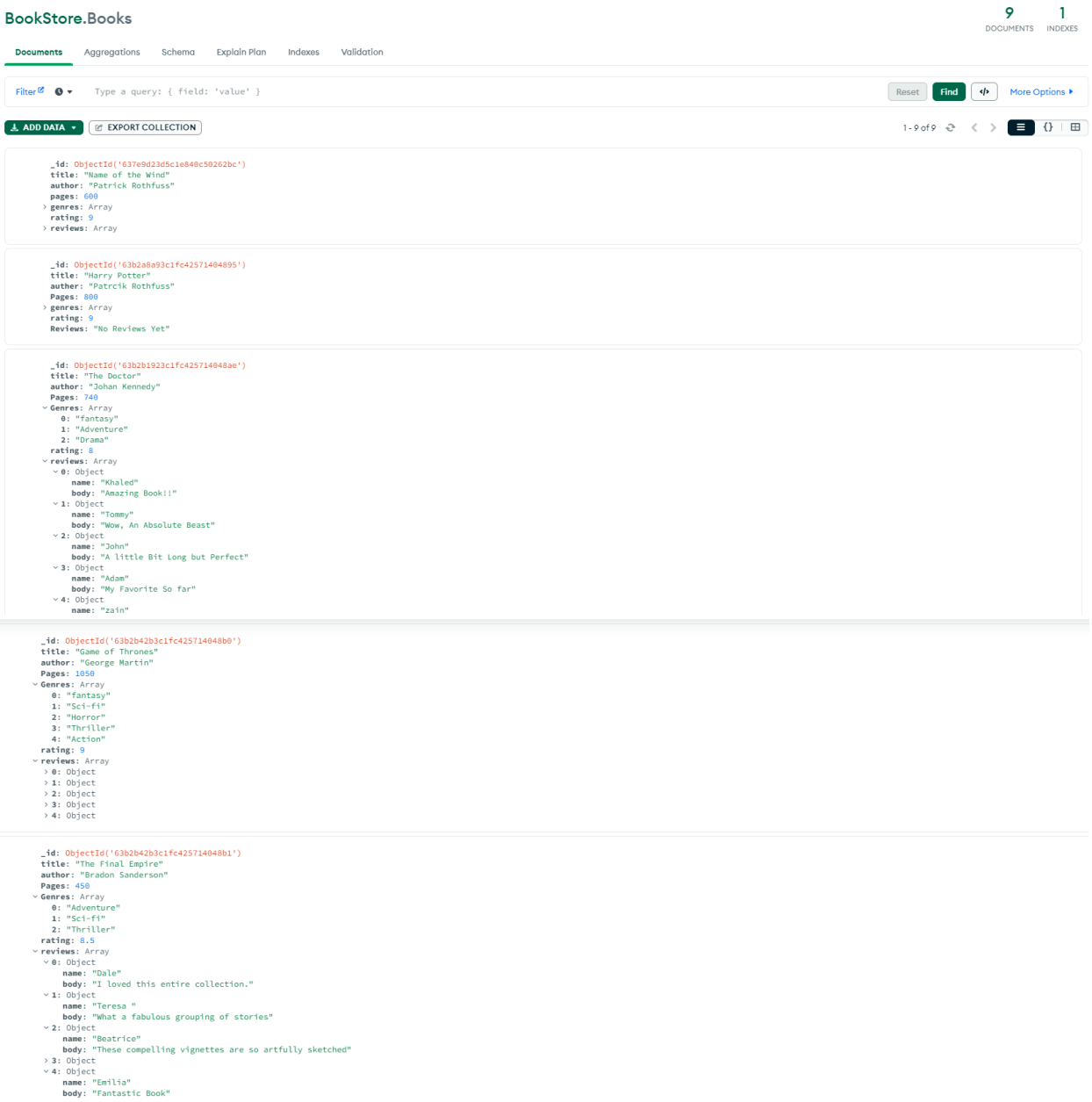
- db.Authers.insert({ "name": "Louis Theroux", "Age": "34", "Gender": "Male", "No_of_Books": "96", "Country": "Egypt", "genres": ["Science Fiction", "Fantasy", "Crime", "Action"]}

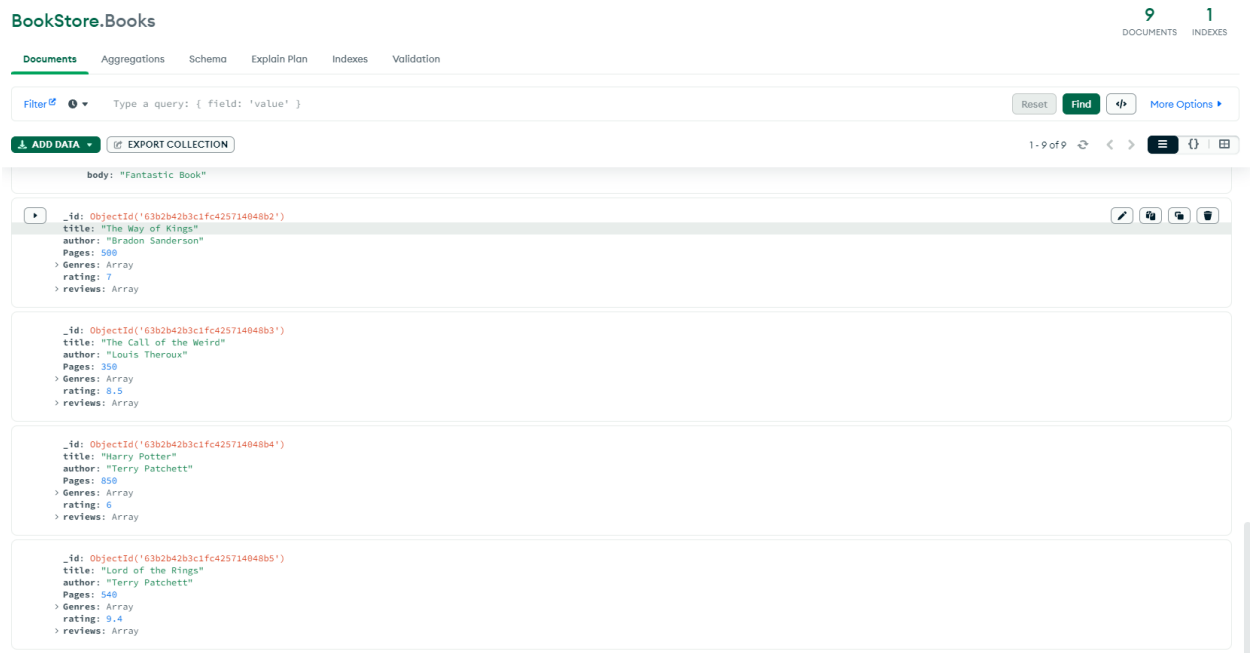
- db.Authers.insert({"name": "Terry Patchett", "Age": "28", "Gender": "Male", "No_of_Books": "72", "Country": "United Kingdom", "genres": ["Drama", "Comedy", "Adventure"]}

- db.Authers.insert({ "name": "Brynna Alexia", "Age": "31", "Gender": "Female", "No_of_Books": "48", "Country": "New York", "genres": ["Drama", "Fantasy", "Crime", "Horror"]}

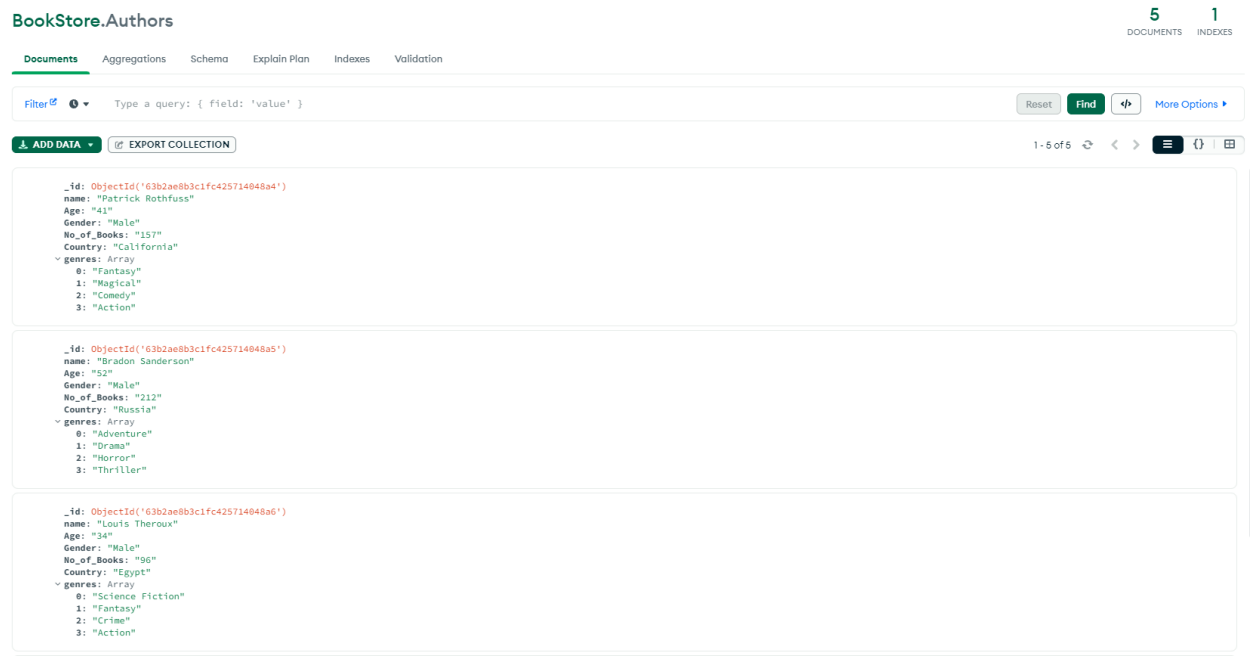
Screenshots Before and After Insertion

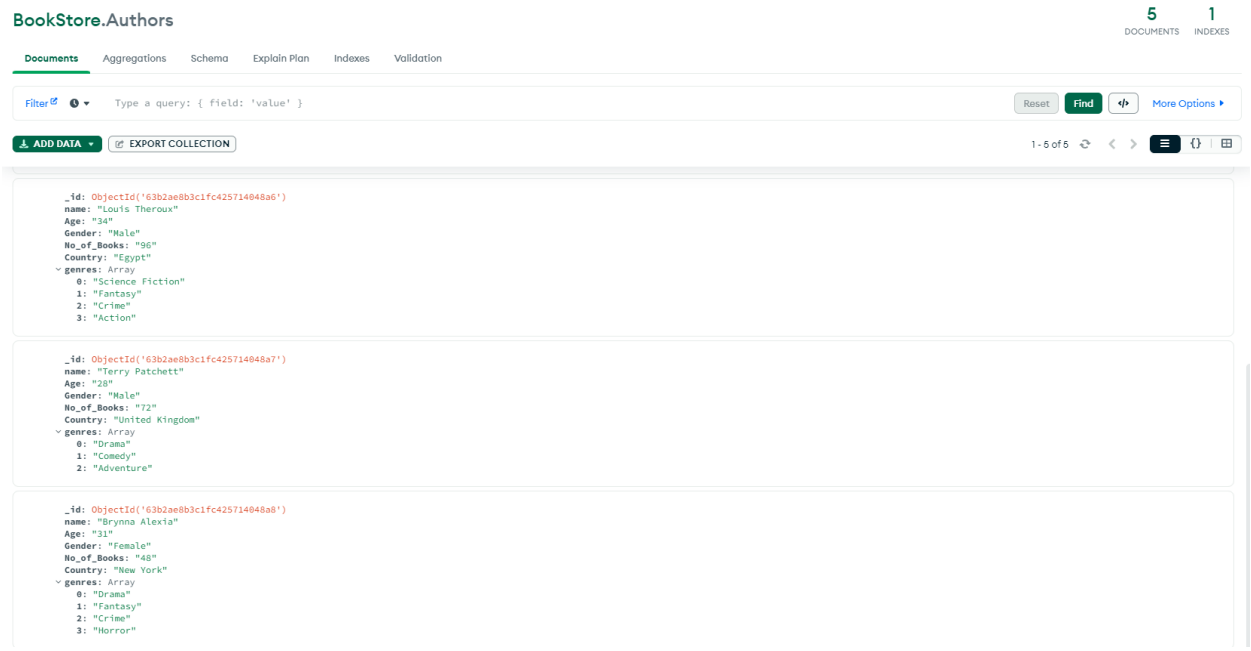
Books



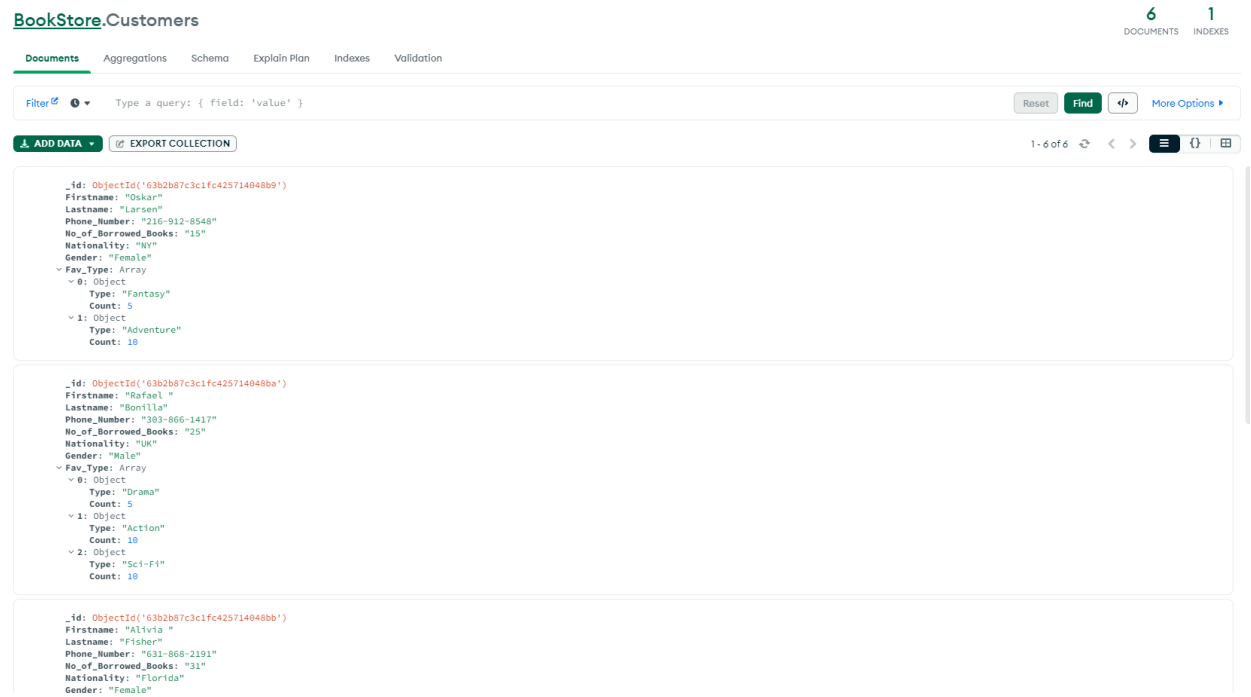

BookStore.Books
9 DOCUMENTS
1 INDEXES
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
Filter
Type a query: { field: 'value' }
Reset
Find
More Options
ADD DATA
EXPORT COLLECTION
1 - 9 of 9
body: "Fantastic Book"
_id: ObjectId('63b2b42b3c1fc425714048b2')
title: "The Way of Kings"
author: "Bradon Sanderson"
Pages: 500
Genres: Array
rating: 7
reviews: Array
_id: ObjectId('63b2b42b3c1fc425714048b3')
title: "The Call of the Weird"
author: "Louis Theroux"
Pages: 350
Genres: Array
rating: 8.5
reviews: Array
_id: ObjectId('63b2b42b3c1fc425714048b4')
title: "Harry Potter"
author: "Terry Patchett"
Pages: 850
Genres: Array
rating: 6
reviews: Array
_id: ObjectId('63b2b42b3c1fc425714048b5')
title: "Lord of the Rings"
author: "Terry Patchett"
Pages: 540
Genres: Array
rating: 9.4
reviews: Array

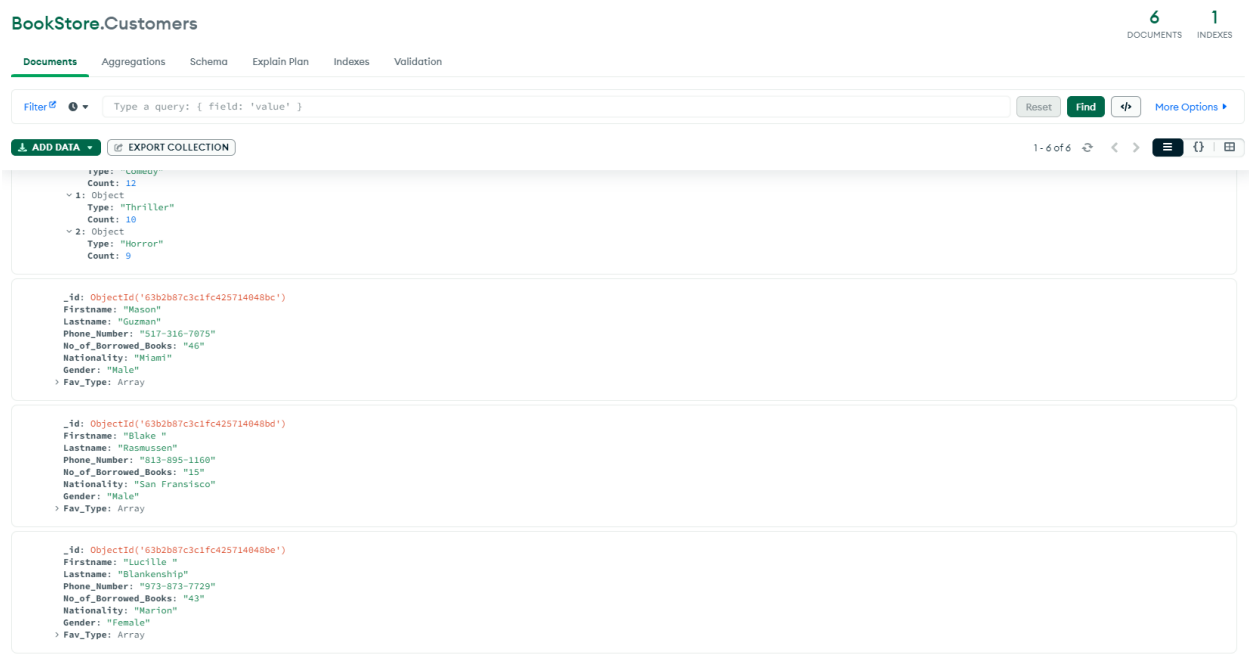
Authors


BookStore.Authors
5 DOCUMENTS
1 INDEXES
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
Filter
Type a query: { field: 'value' }
Reset
Find
More Options
ADD DATA
EXPORT COLLECTION
1 - 5 of 5
_id: ObjectId('63b2ae8b3c1fc425714048a4')
name: "Patrick Rothfuss"
Age: "41"
Gender: "Male"
No_of_Books: "157"
Country: "California"
genres: Array
0: "Fantasy"
1: "Magical"
2: "Comedy"
3: "Action"
_id: ObjectId('63b2ae8b3c1fc425714048a5')
name: "Bradon Sanderson"
Age: "52"
Gender: "Male"
No_of_Books: "212"
Country: "Russia"
genres: Array
0: "Adventure"
1: "Drama"
2: "Horror"
3: "Thriller"
_id: ObjectId('63b2ae8b3c1fc425714048a6')
name: "Louis Theroux"
Age: "34"
Gender: "Male"
No_of_Books: "96"
Country: "Egypt"
genres: Array
0: "Science Fiction"
1: "Fantasy"
2: "Crime"
3: "Action"

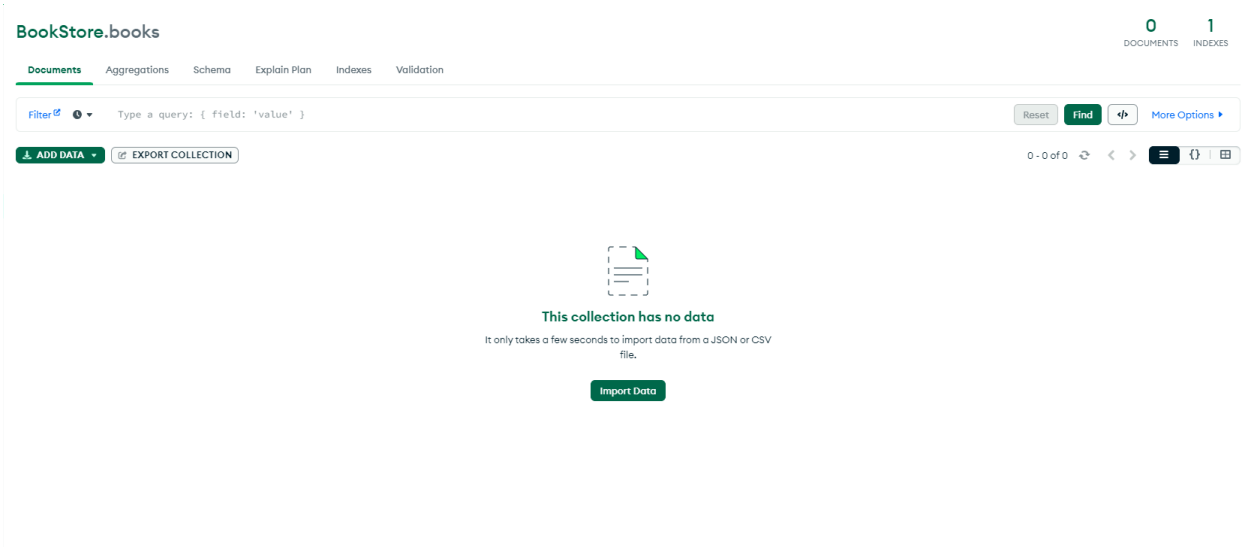

BookStore.Authors
5 DOCUMENTS
1 INDEXES
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
Filter
Type a query: { field: 'value' }
Reset
Find
More Options
ADD DATA
EXPORT COLLECTION
1 - 5 of 5
_id: ObjectId('63b2ae8b3c1fc425714048a6')
name: "Louis Theroux"
Age: "34"
Gender: "Male"
No_of_Books: "96"
Country: "Egypt"
genres: Array
0: "Science Fiction"
1: "Fantasy"
2: "Crime"
3: "Action"
_id: ObjectId('63b2ae8b3c1fc425714048a7')
name: "Terry Patchett"
Age: "28"
Gender: "Male"
No_of_Books: "72"
Country: "United Kingdom"
genres: Array
0: "Drama"
1: "Comedy"
2: "Adventure"
_id: ObjectId('63b2ae8b3c1fc425714048a8')
name: "Brynna Alexia"
Age: "31"
Gender: "Female"
No_of_Books: "48"
Country: "New York"
genres: Array
0: "Drama"
1: "Fantasy"
2: "Crime"
3: "Horror"

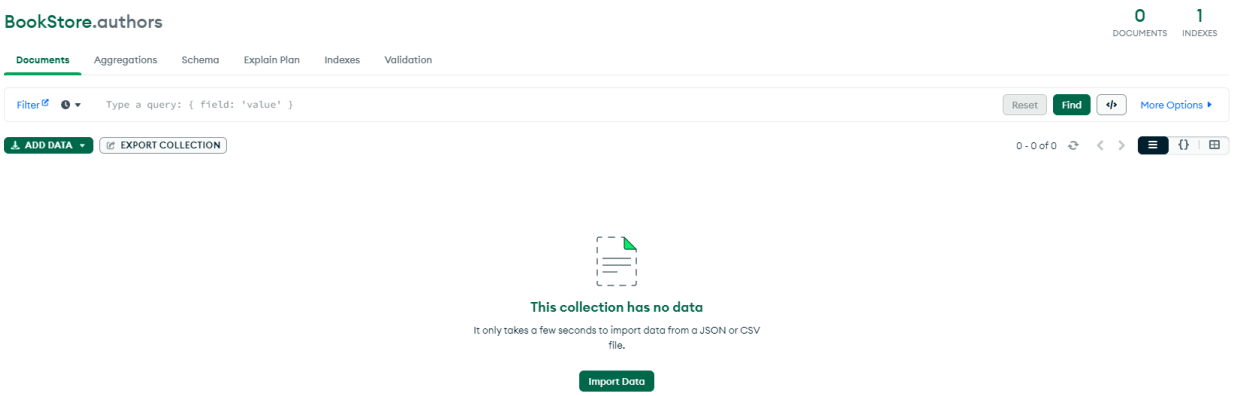
Customers

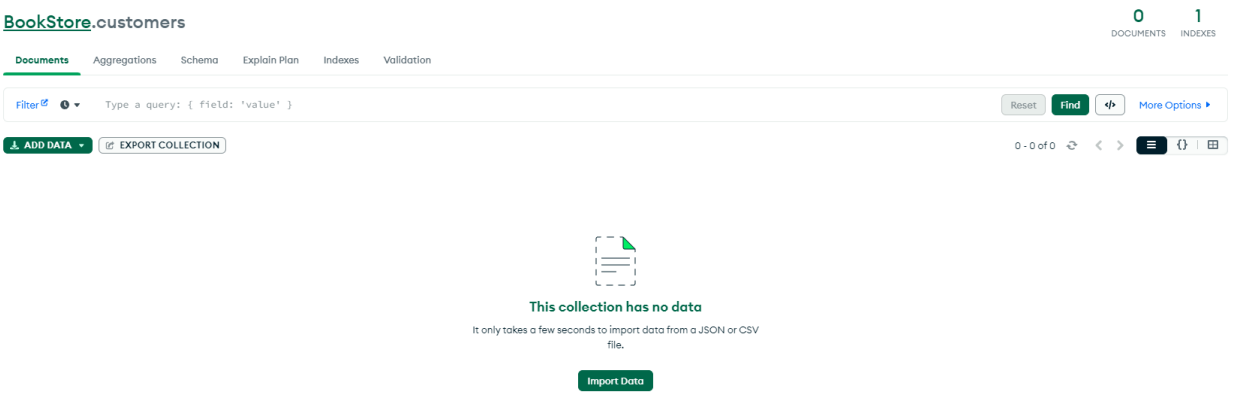

BookStore.Customers
6 DOCUMENTS
1 INDEXES
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
Filter
Type a query: { field: 'value' }
Reset
Find
More Options
ADD DATA
EXPORT COLLECTION
1 - 6 of 6
_id: ObjectId('63b2b87c3c1fc425714048b9')
Firstname: "Oskar"
Lastname: "Larsen"
Phone_Number: "216-912-8548"
No_of_Borrowed_Books: "15"
Nationality: "NY"
Gender: "Female"
Fav_Type: Array
0: Object
Type: "Fantasy"
Count: 5
1: Object
Type: "Adventure"
Count: 10
_id: ObjectId('63b2b87c3c1fc425714048ba')
Firstname: "Rafael "
Lastname: "Bonilla"
Phone_Number: "303-866-1417"
No_of_Borrowed_Books: "25"
Nationality: "UK"
Gender: "Male"
Fav_Type: Array
0: Object
Type: "Drama"
Count: 5
1: Object
Type: "Action"
Count: 10
2: Object
Type: "Sci-Fi"
Count: 10
_id: ObjectId('63b2b87c3c1fc425714048bb')
Firstname: "Alivia "
Lastname: "Fisher"
Phone_Number: "631-868-2191"
No_of_Borrowed_Books: "31"
Nationality: "Florida"
Gender: "Female"



Database Before Insertion




BookStore.authors
0
DOCUMENTS
1
INDEXES
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
Filter
Type a query: { field: 'value' }
Reset
Find
More Options
ADD DATA
EXPORT COLLECTION
0 - 0 of 0
This collection has no data
It only takes a few seconds to import data from a JSON or CSV file.
Import Data


BookStore.customers
0
DOCUMENTS
1
INDEXES
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
Filter
Type a query: { field: 'value' }
Reset
Find
More Options
ADD DATA
EXPORT COLLECTION
0 - 0 of 0
This collection has no data
It only takes a few seconds to import data from a JSON or CSV file.
Import Data