CASE STUDY PROJECT

on

Online Book Reading Website

PROJECT TITLE

BrightReads

Submitted By

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Under the guidance of

Naga Samurai

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1.Introduction

1.1 Abstract

Internet is a great treasure trove of eBooks based websites Books when read online are much more interactive than their physical counterparts. Reading Books Online is also a great way to unwind and hence came the motivation to a make an Online Book Reading Website. This Website enables the readers to easily read the novels online. It offers numerous novels divided into various genres for readers to choose among them based on their preference.

1.2 Aim

This project aims at building a fully flexible and a complete Online Book Reading Website to ease the user's performance and uses the latest technologies (MEAN STACK) to make the website's performance faster and accurate. The objectives in building this project are to understand the fundamental concepts and usage of each technology in the MEAN stack, as well as their compatibilities and advantages as a complete stack in web application development.

2. Technology Stack-MEAN

M-MONGO

MongoDB is an open source NoSQL database management program. MongoDB is a tool that can manage document-oriented information, store or retrieve information. With its flexible schema approach, it's popular with development teams using agile methodologies.

E-EXPRESS

Express.js is a free and open-source web application framework for Node.js. It is used for designing and building web applications quickly and easily. Express provides methods to specify what function is called for a particular HTTP verb (GET , POST , SET , etc.) and URL pattern ("Route"), and methods to specify what template ("view") engine is used, where template files are located, and what template to use to render a response.

A-ANGULAR

A component-based framework for building scalable web applications.Angular is written in TypeScript. It implements core and optional functionality as a set of TypeScript libraries that you import into your applications.

N-NODEJS

Node. js is a platform built on Chrome's JavaScript runtime for easily building fast and scalable network applications. Node. js is primarily used for non-blocking, event-driven servers, due to its single-threaded nature. It's used for traditional web sites and back-end API services, but was designed with real-time, push-based architectures in mind.

3.Features of the Application

3.1 Visitor:

1. Can create an account using Signup option.
2. Can view the list of books available and their details in the website.
3. Can surf through the books based on various genres and based on search.

3.2 Authenticated User:

1. Can login to their account using Login option.
2. Can view the list of books available
3. Can read and review all the books in the website.
4. Can surf through the books based on various genres and search filter.
5. Can add a book of their choice to their library.
6. Can update the status of their reading activity of the books that belong to their library.

3.3 Authorized User - Admin

1. Can login to their account using Login option.
2. Can create,update,delete the books in the website.
3. Can create and delete the various genres of books.

4. Core Concepts and Libraries Used in Angular

4.1 Core Concepts Used

- Lazy-loading of a few modules to improve the application load time.
- Enveloped each main feature into a module
- Services for each major feature. They make up the api endpoints to communicate with the backend.
- A Shared module for components that can be used in any feature module
- Guards to protect unauthorized users from access to web pages.
- TypeScript models for each feature of the Application.
- Reactive forms for handling user input.
- Custom filter pipe for filtering the data based on search.
- Responsiveness of the SPA.

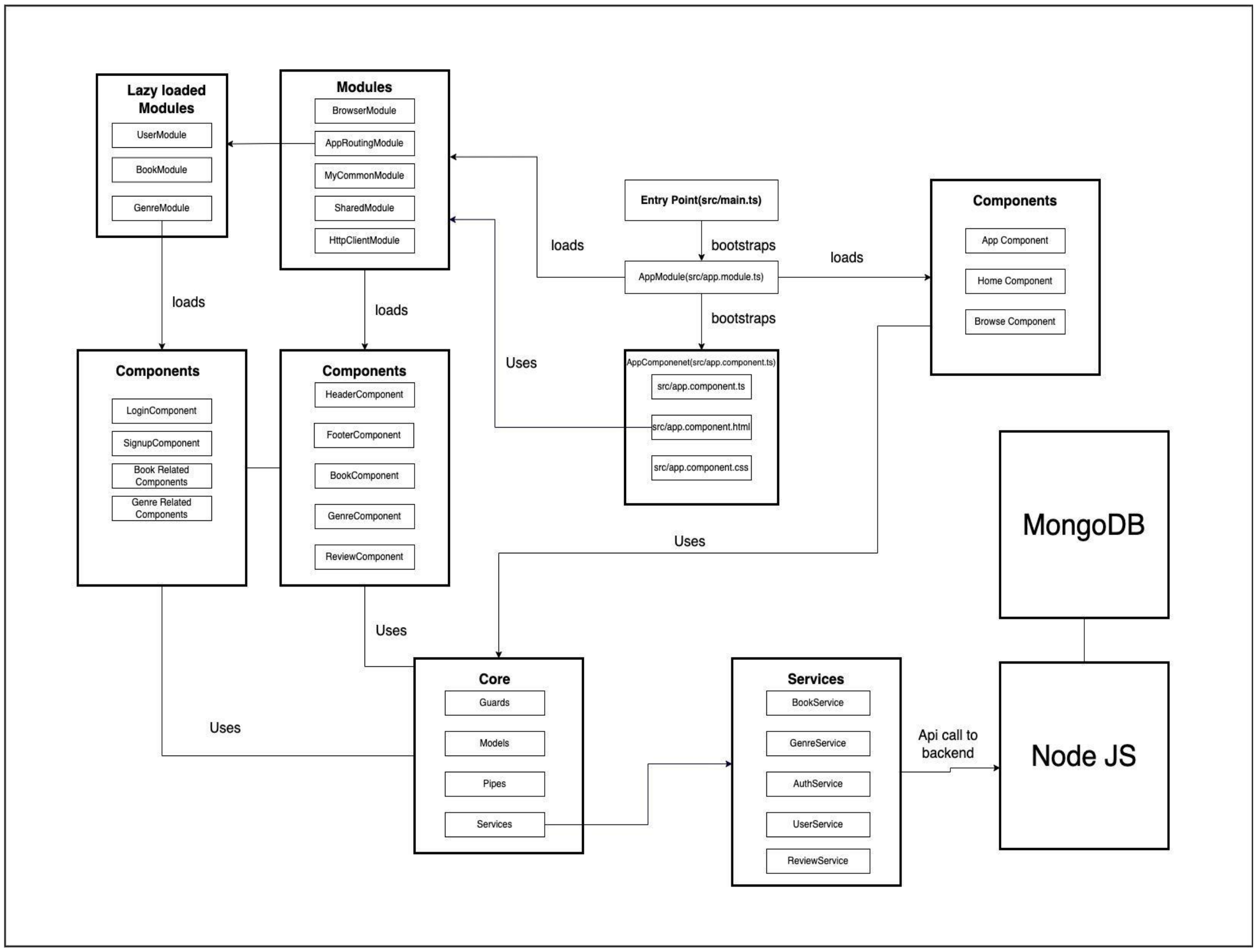
4.2 Libraries Used

- Bootstrap
- Angular Material
- Sweet Alert2(Swal)
- Rxjs
- Jwt

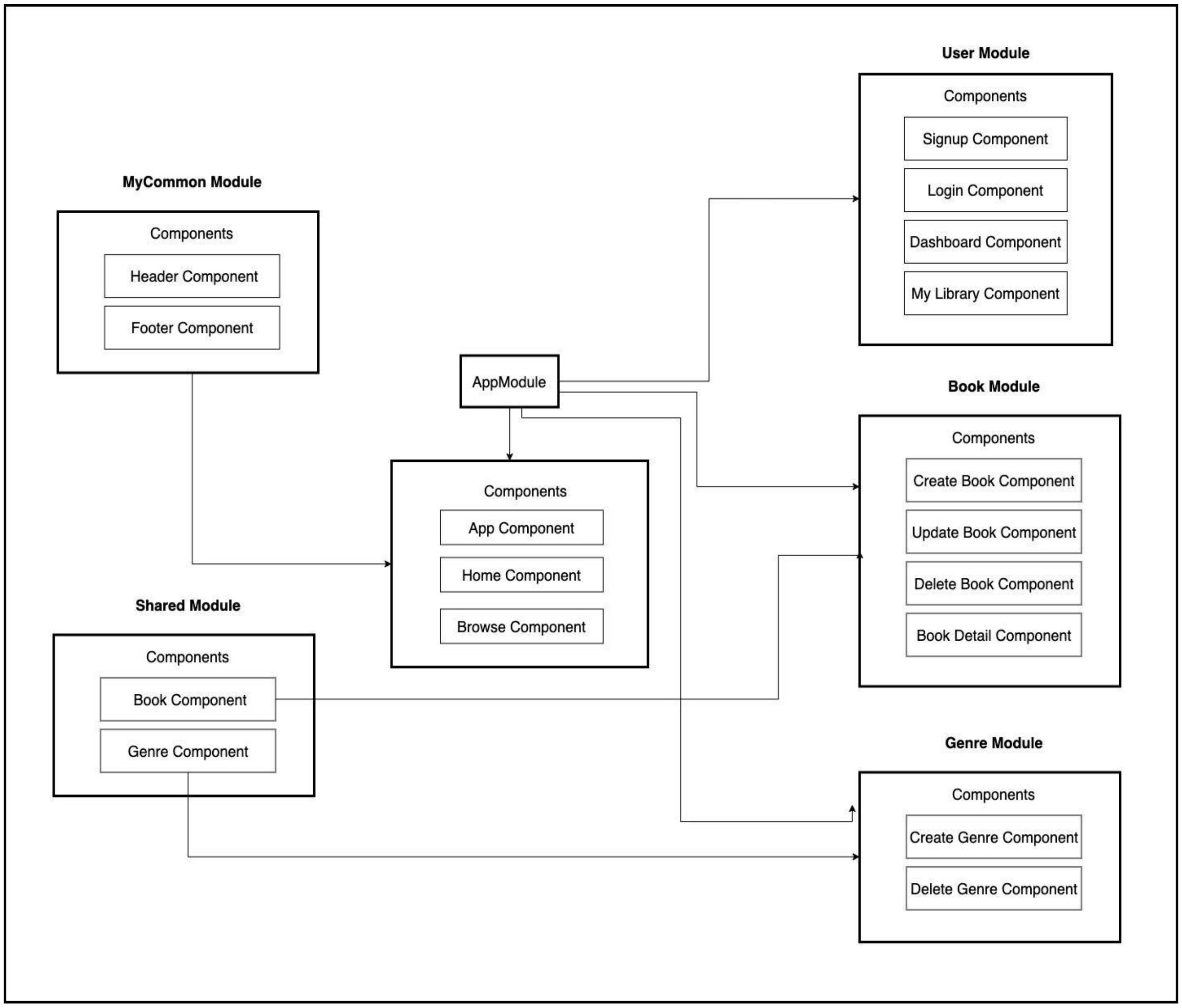
5. Project Learning and Outcome

- Building an end to end Real World Web Application using MEAN Stack.
- CRUD operations with the persisting data.
- Implementing Security features including Authentication and Authorization as well as protection of routes using guards based on role (Admin/User/Visitor).
- Integration of Frontend with Backend.
- Understanding and Implementing the core Features of Angular.
- Handling input forms with Validations.
- Implementing the API calls from Frontend.
- Fetching and sending the response from Backend.

6. Project Architecture Diagram

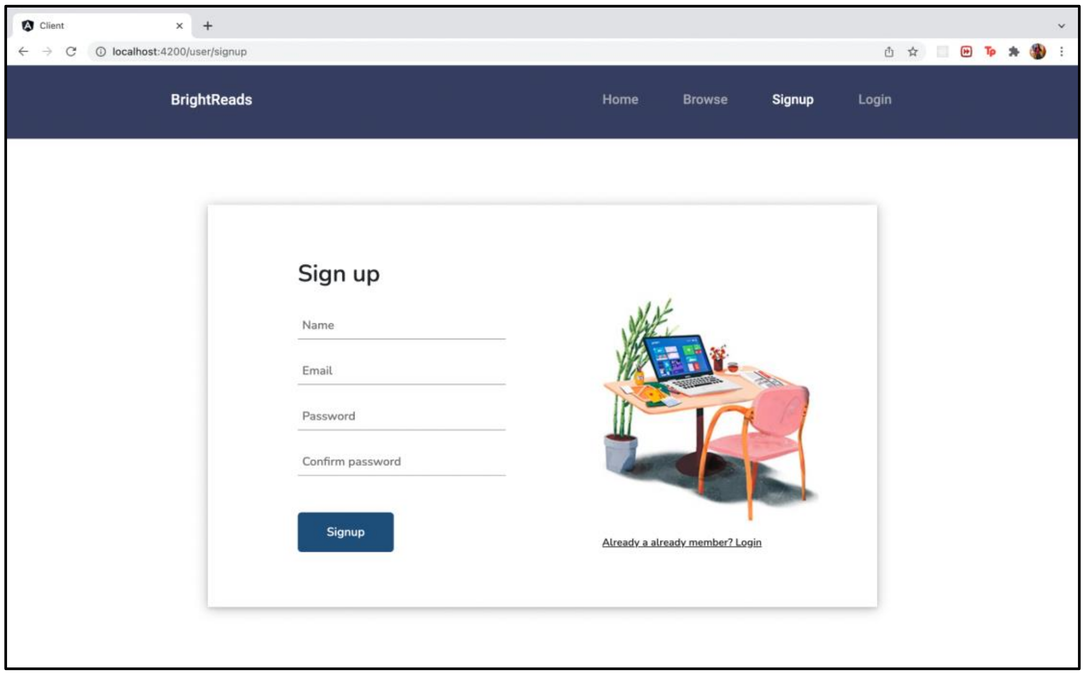


7. Component Level Architecture Diagram

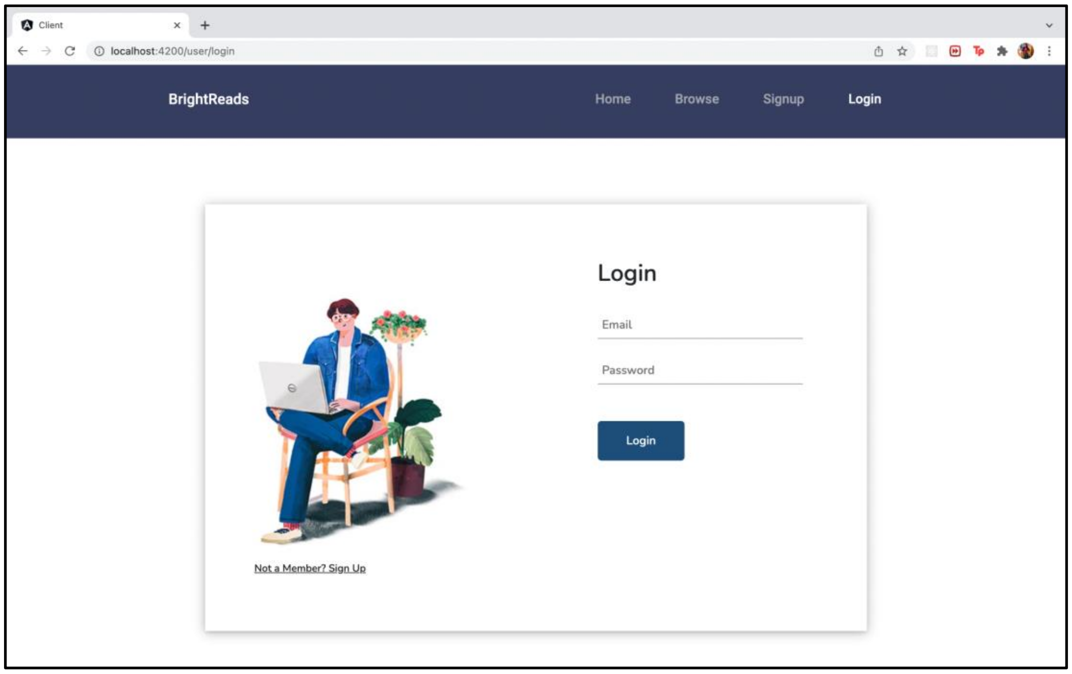


8. Front End Snapshots

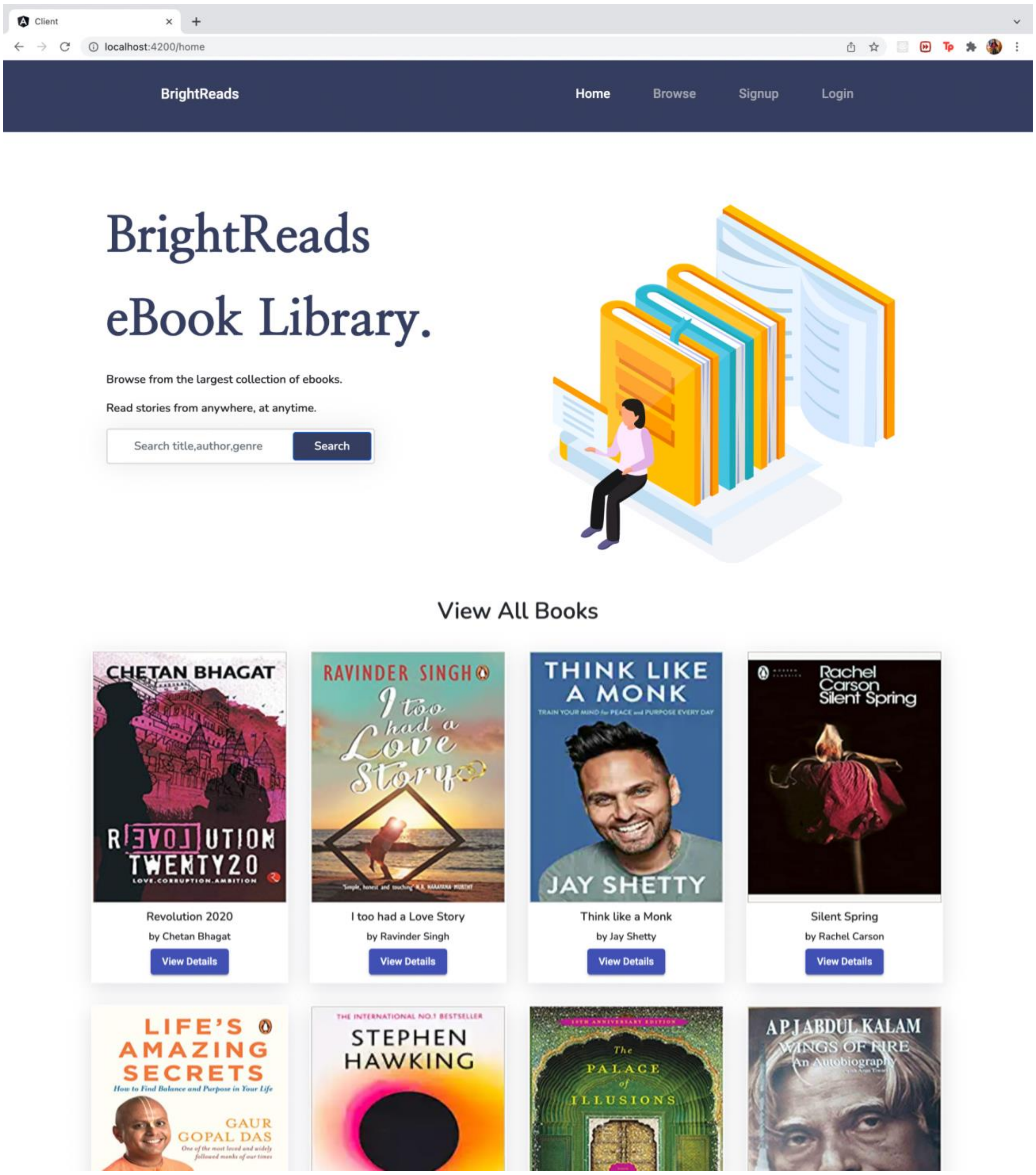
1. Signup Page:



2. Login Page:



3. Home Page:



BrightReads

eBook Library.

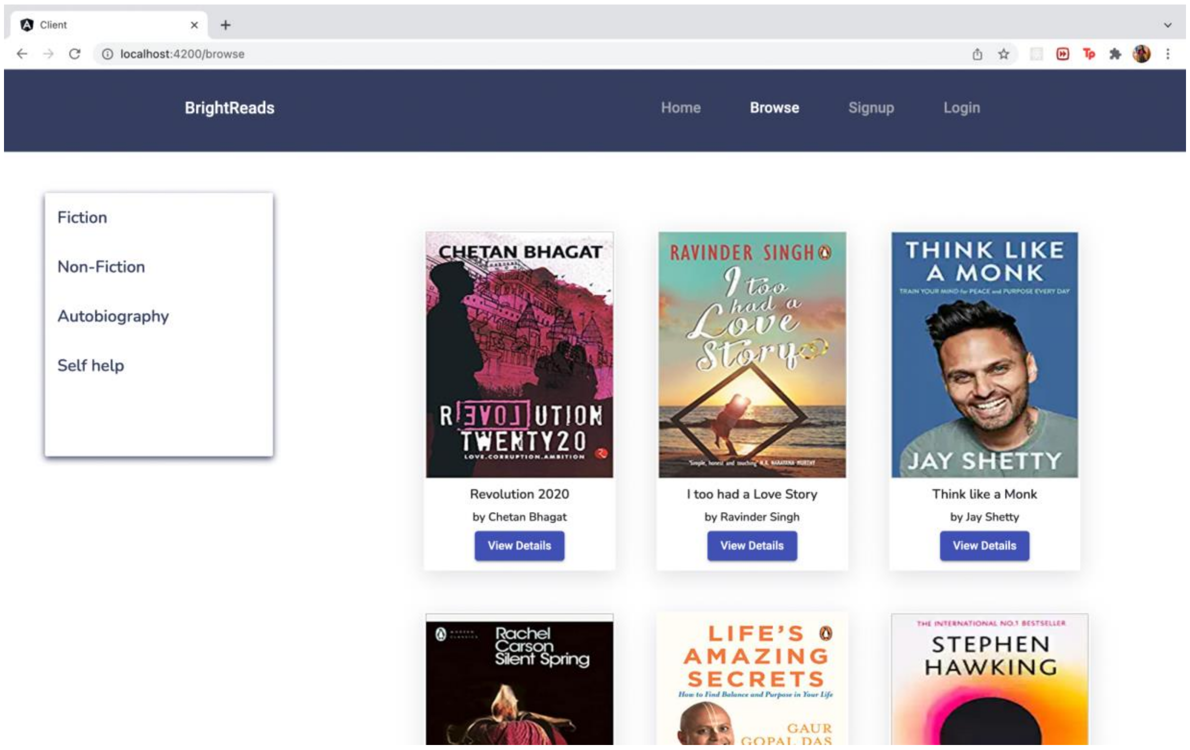
Browse from the largest collection of ebooks.

Read stories from anywhere, at anytime.

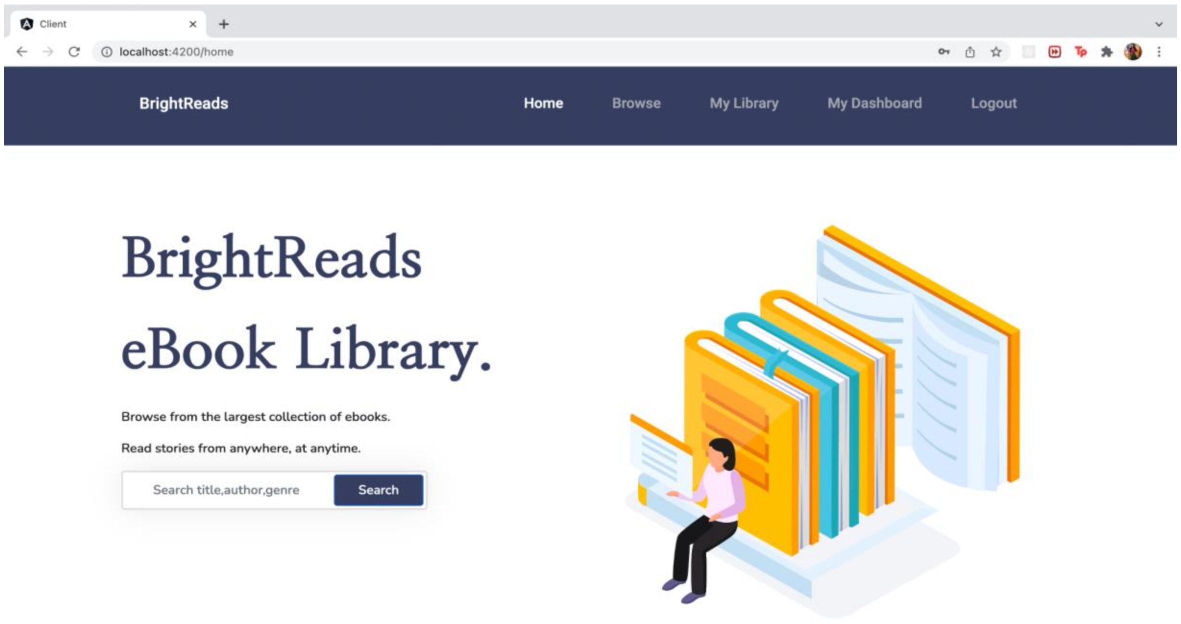
View All Books

Revolution 2020	I too had a Love Story	Think like a Monk	Silent Spring
by Chetan Bhagat	by Ravinder Singh	by Jay Shetty	by Rachel Carson
View Details	View Details	View Details	View Details

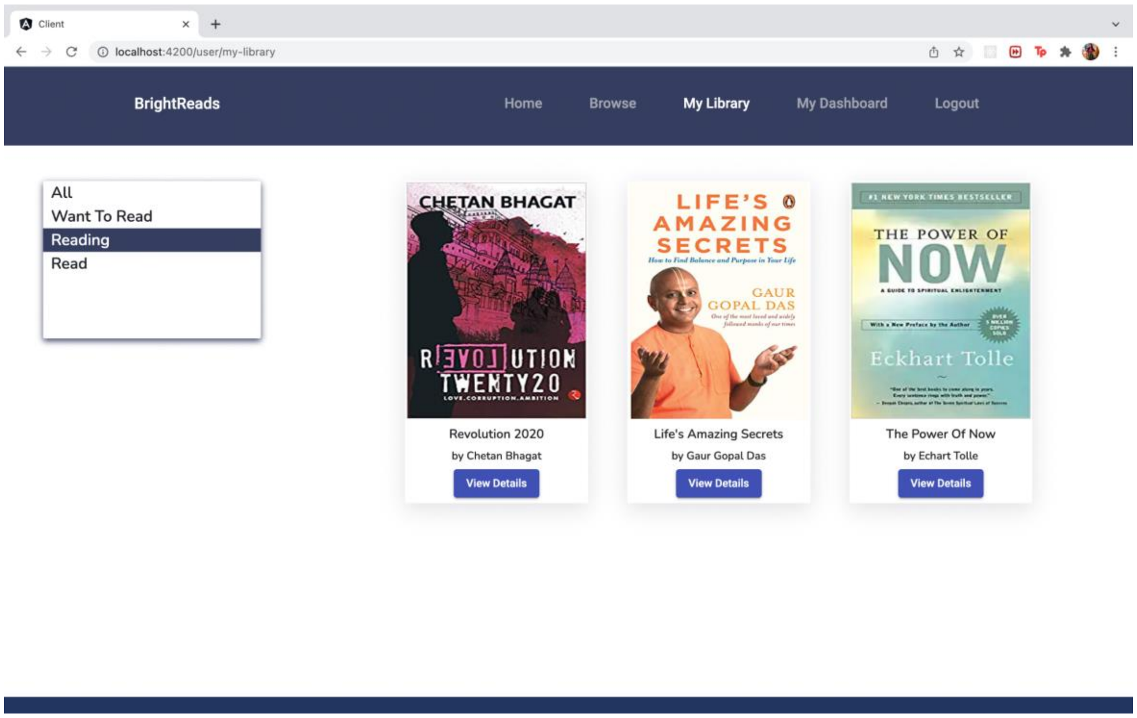
4. Browse Page: (Filtering Based on Genre)



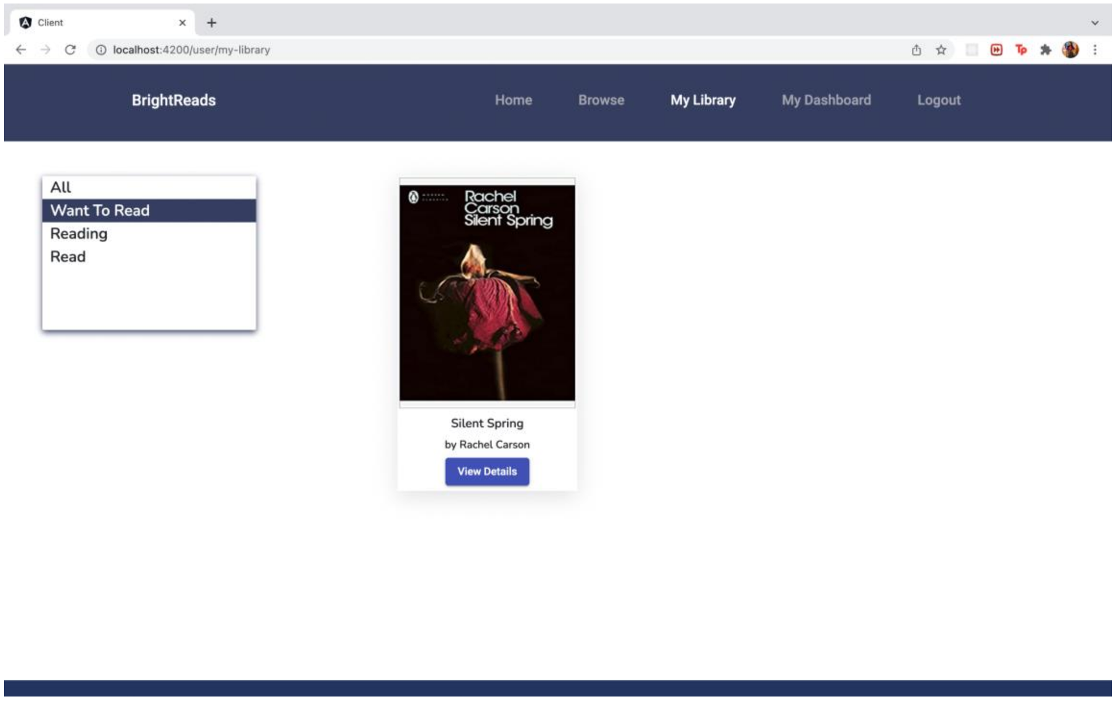
5. User Access Home Page with Search Filter:


Client
localhost:4200/home
BrightReads
Home
Browse
My Library
My Dashboard
Logout
BrightReads
eBook Library.
Browse from the largest collection of ebooks.
Read stories from anywhere, at anytime.
Search title,author,genre
Search

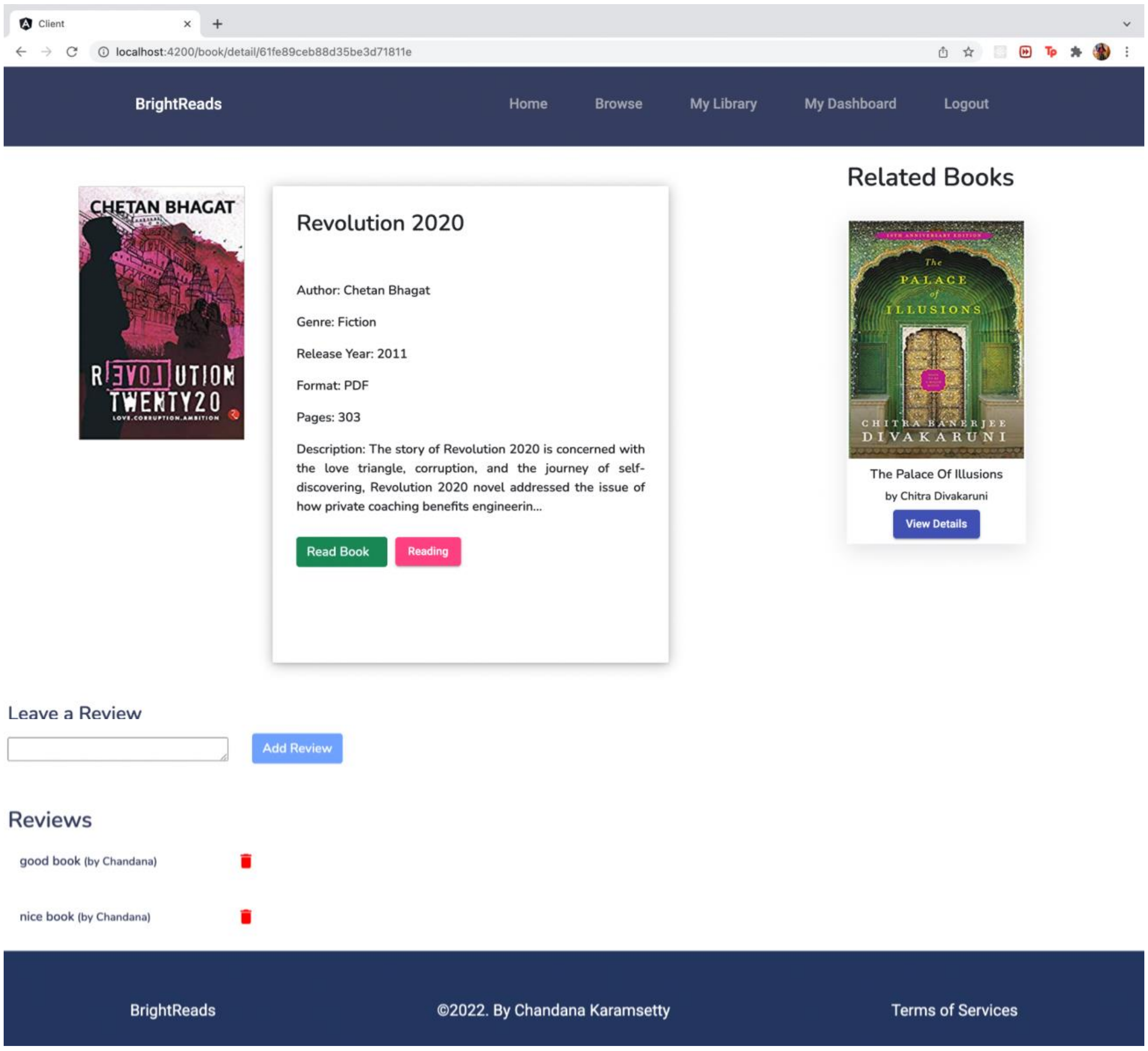
6. User Library (books in the reading section)



Books in the Want To Read Section:



7. Book Detail Page with Related Books and Reviews(Authenticated user):



Revolution 2020

Author: Chetan Bhagat

Genre: Fiction

Release Year: 2011

Format: PDF

Pages: 303

Description: The story of Revolution 2020 is concerned with the love triangle, corruption, and the journey of self-discovering, Revolution 2020 novel addressed the issue of how private coaching benefits engineerin...

Related Books

The Palace Of Illusions

by Chitra Divakaruni

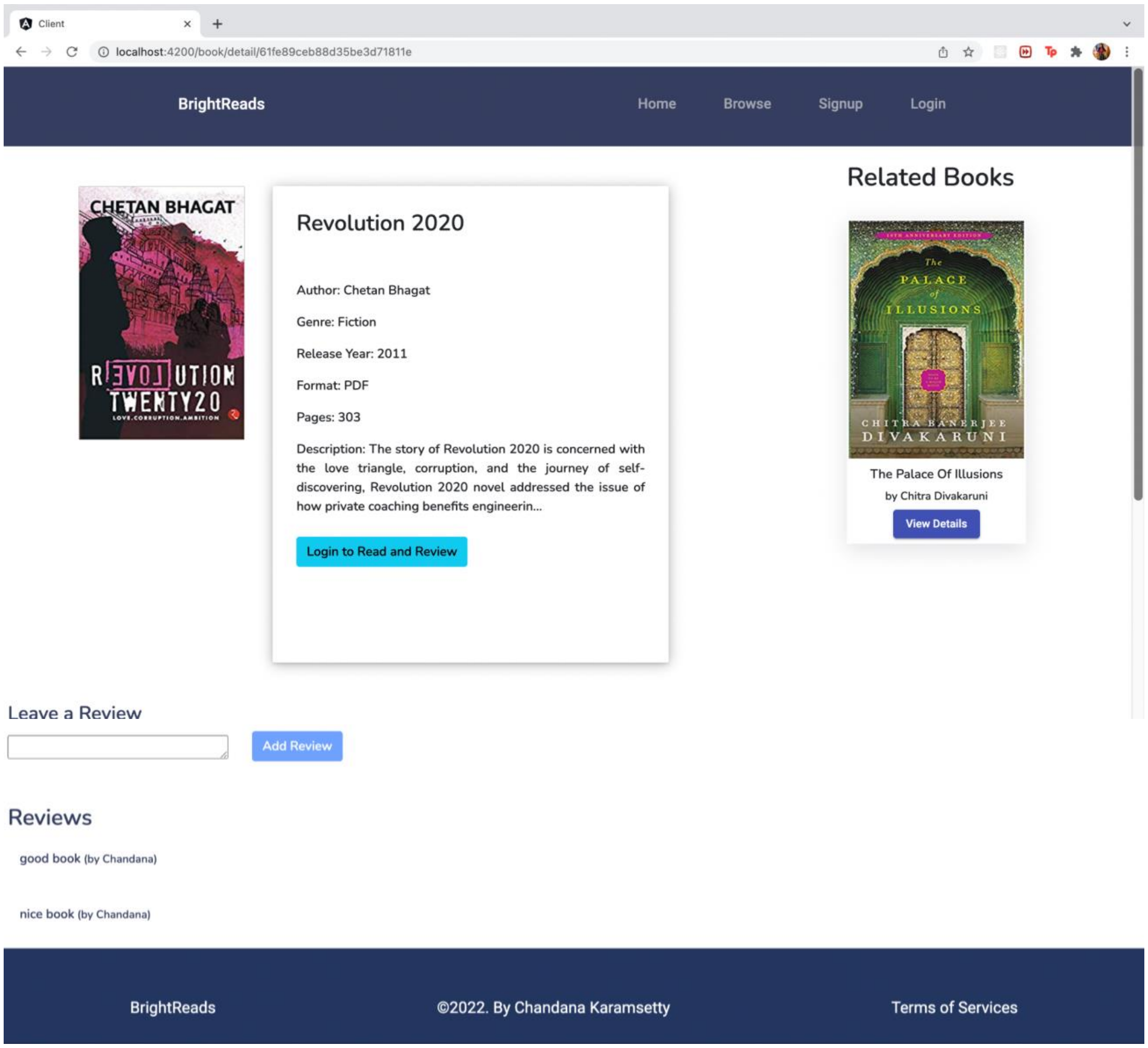
Leave a Review

Reviews

good book (by Chandana)

nice book (by Chandana)

8. Book Detail Page (Visitor):


Client

localhost:4200/book/detail/61fe89ceb88d35be3d71811e

BrightReads Home Browse Signup Login

Revolution 2020

Author: Chetan Bhagat

Genre: Fiction

Release Year: 2011

Format: PDF

Pages: 303

Description: The story of Revolution 2020 is concerned with the love triangle, corruption, and the journey of self-discovering, Revolution 2020 novel addressed the issue of how private coaching benefits engineerin...

Login to Read and Review

Related Books

The Palace Of Illusions

by Chitra Divakaruni

View Details

Leave a Review

Add Review

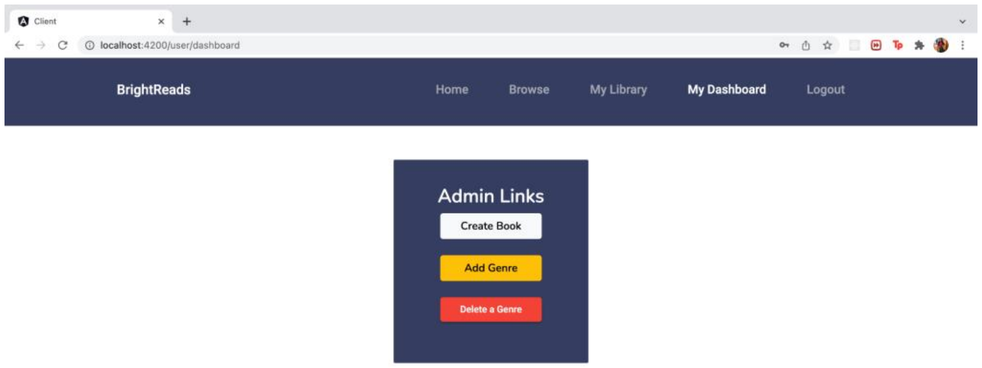
Reviews

good book (by Chandana)

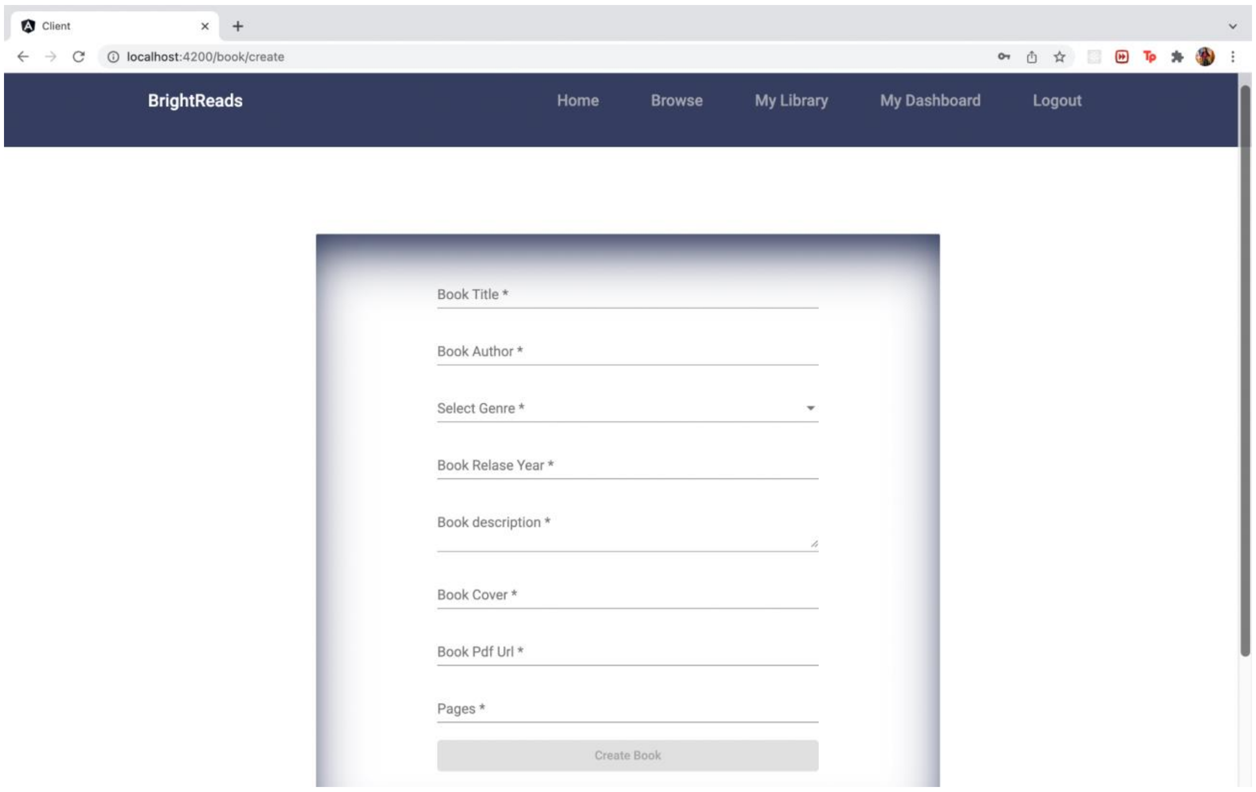
nice book (by Chandana)

BrightReads ©2022. By Chandana Karamsetty Terms of Services

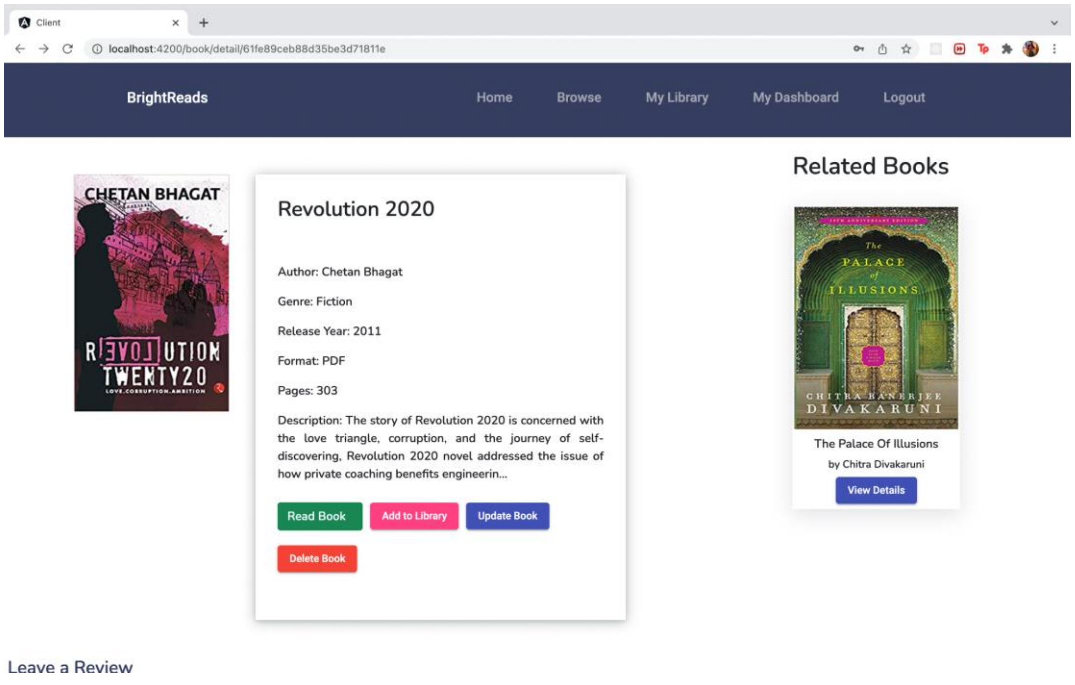
9. Admin Dashboard: (to create book, genre and delete genre):



10. Create Book Page:



11. Update and Delete Book Page(by admin):



Revolution 2020

Author: Chetan Bhagat

Genre: Fiction

Release Year: 2011

Format: PDF

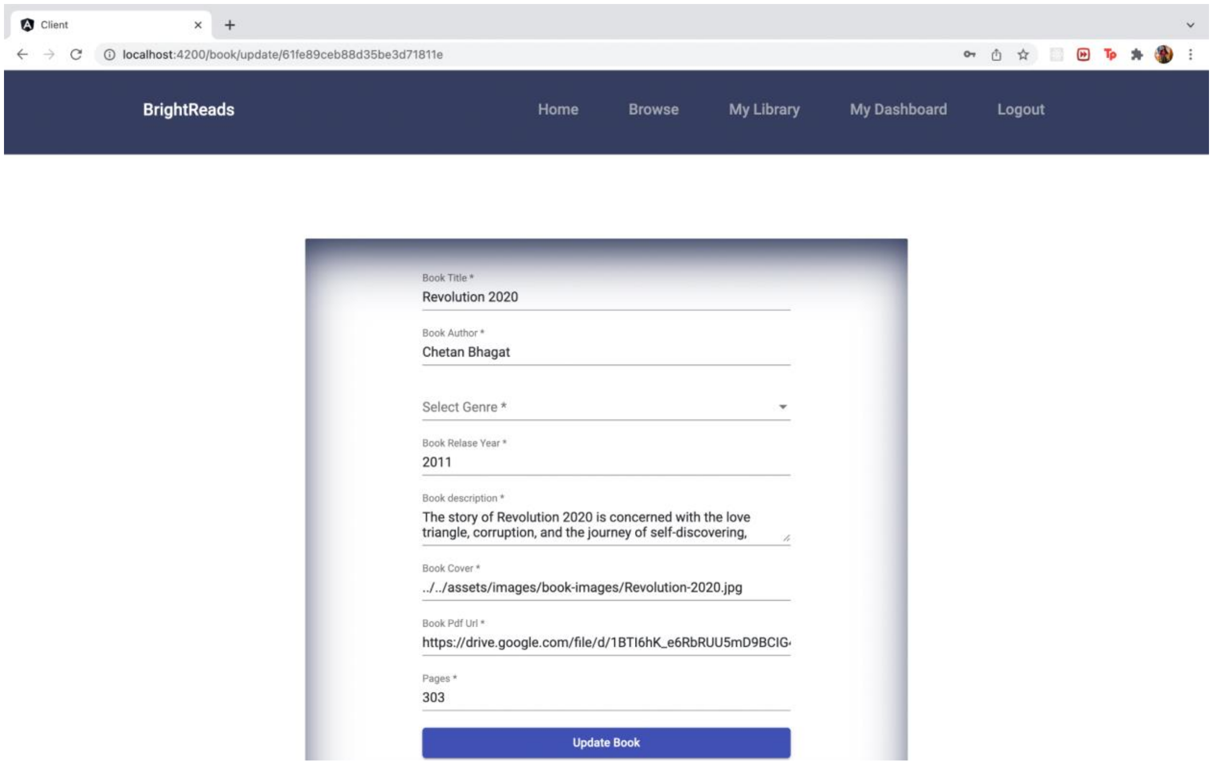
Pages: 303

Description: The story of Revolution 2020 is concerned with the love triangle, corruption, and the journey of self-discovering, Revolution 2020 novel addressed the issue of how private coaching benefits engineerin...

The Palace Of Illusions

by Chitra Divakaruni

Update Book:



Book Title *
Revolution 2020

Book Author *
Chetan Bhagat

Select Genre *

Book Relase Year *
2011

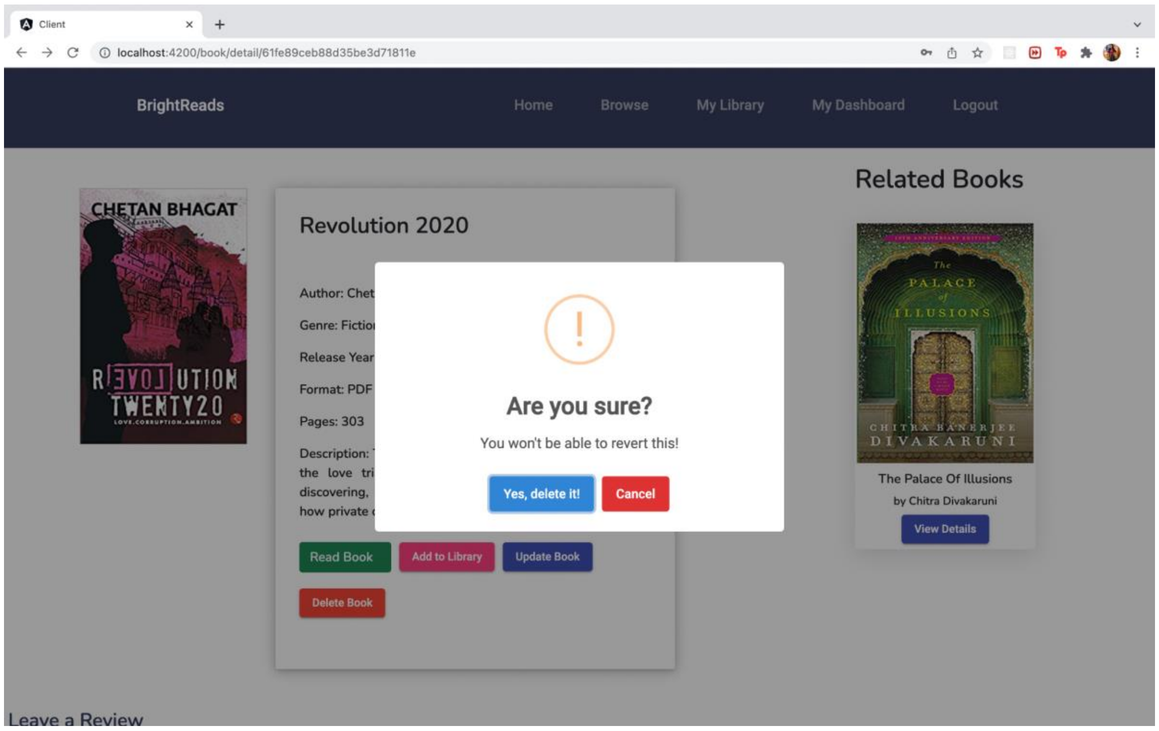
Book description *
The story of Revolution 2020 is concerned with the love triangle, corruption, and the journey of self-discovering,

Book Cover *
../../assets/images/book-images/Revolution-2020.jpg

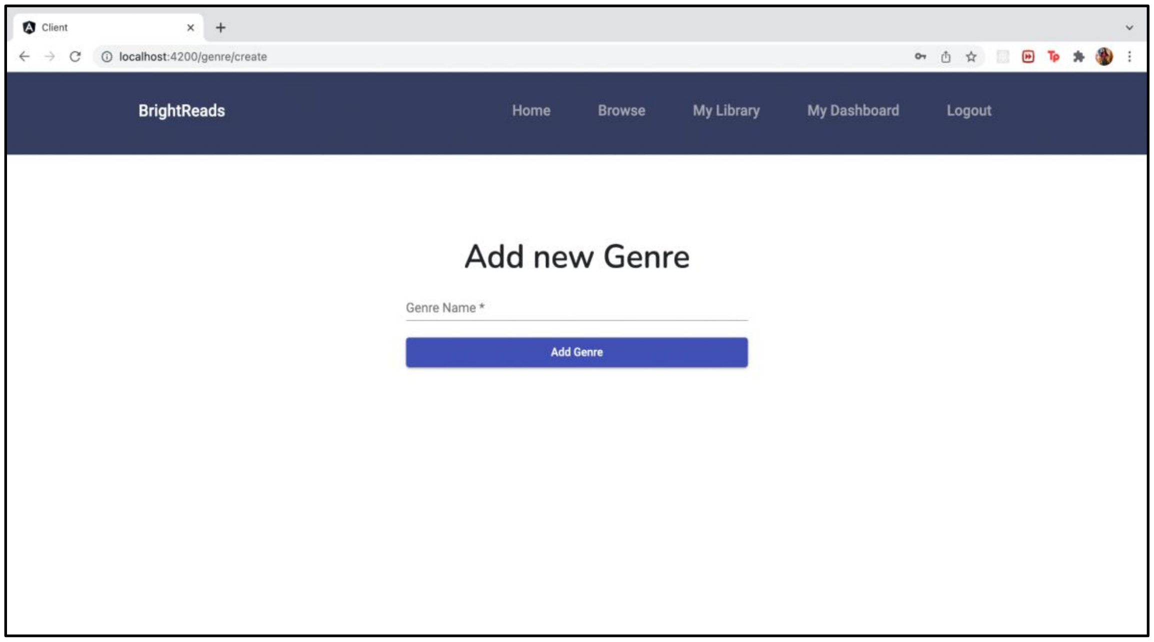
Book Pdf Url *
https://drive.google.com/file/d/1BTI6hK_e6RbRUU5mD9BCIG

Pages *
303

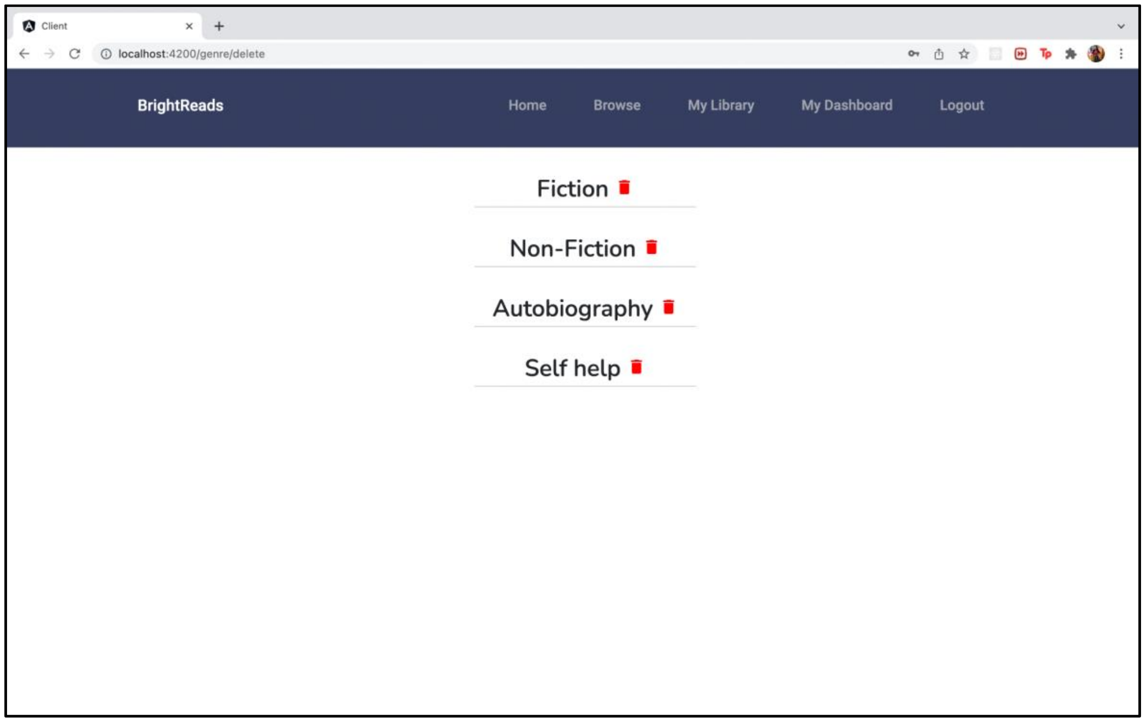
Delete Book:



12. Create Genre Page(Admin)



13. Delete Genre Page:



Fiction

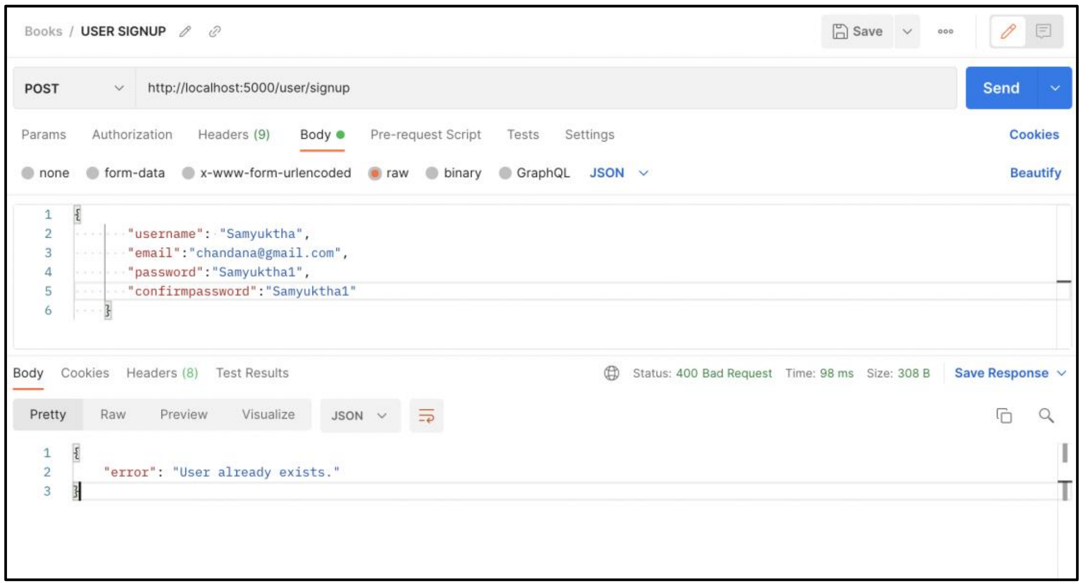
Non-Fiction

Autobiography

Self help

9.Post Man Api Calls:

1. Signup - Failure:



Books / USER SIGNUP

POST http://localhost:5000/user/signup

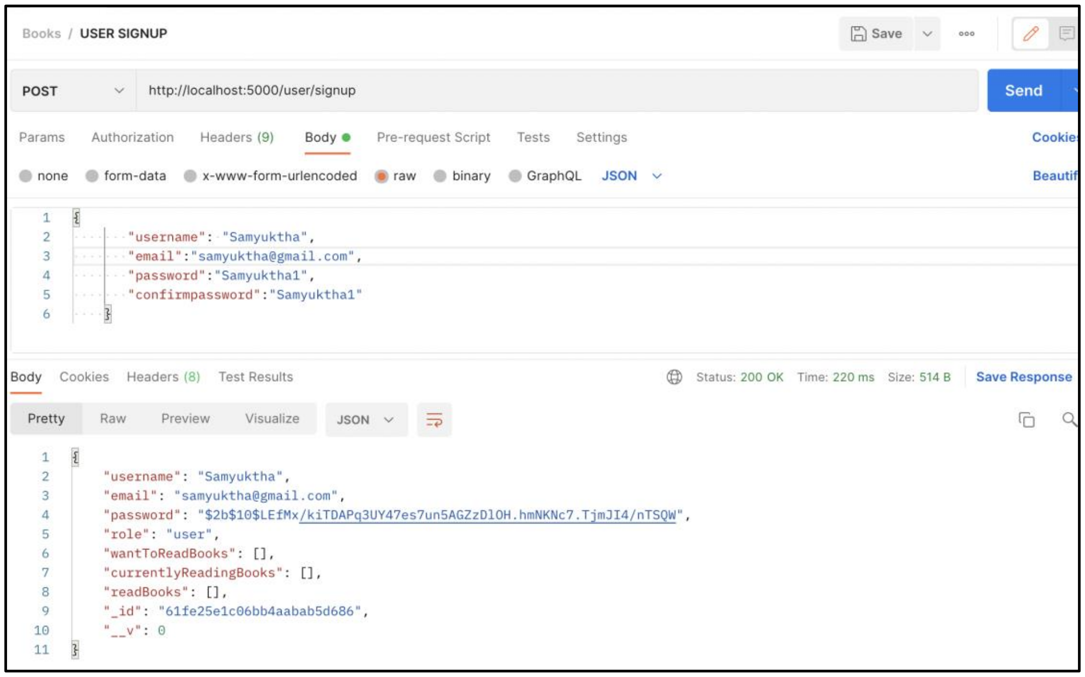
Body: raw JSON

```
{
    "username": "Samyuktha",
    "email":"chandana@gmail.com",
    "password":"Samyuktha1",
    "confirmpassword":"Samyuktha1"
}
```

Status: 400 Bad Request Time: 98 ms Size: 308 B

```
{
    "error": "User already exists."
}
```

Signup - Success:



Books / USER SIGNUP

POST http://localhost:5000/user/signup

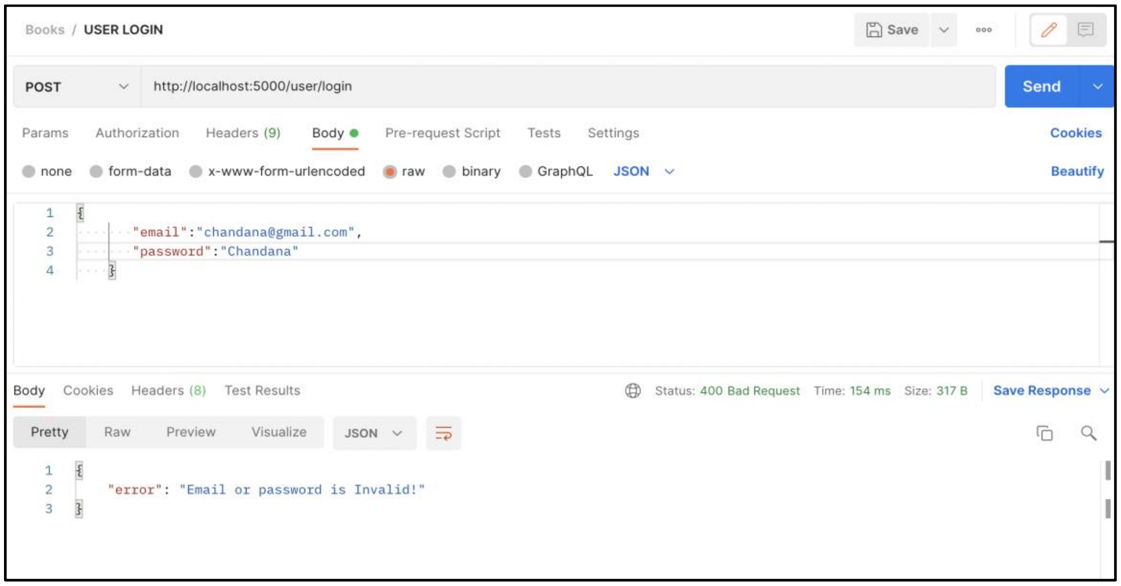
Body: raw JSON

```
{
    "username": "Samyuktha",
    "email":"samyuktha@gmail.com",
    "password":"Samyuktha1",
    "confirmpassword":"Samyuktha1"
}
```

Status: 200 OK Time: 220 ms Size: 514 B

```
{
    "username": "Samyuktha",
    "email": "samyuktha@gmail.com",
    "password": "$2b$10$LEfMx/kiTDAPq3UY47es7un5AGZzDlOH.hmNKNc7.TjmJI4/nTSQW",
    "role": "user",
    "wantToReadBooks": [],
    "currentlyReadingBooks": [],
    "readBooks": [],
    "_id": "61fe25e1c06bb4aabab5d686",
    "__v": 0
}
```

2.Login - Failure:



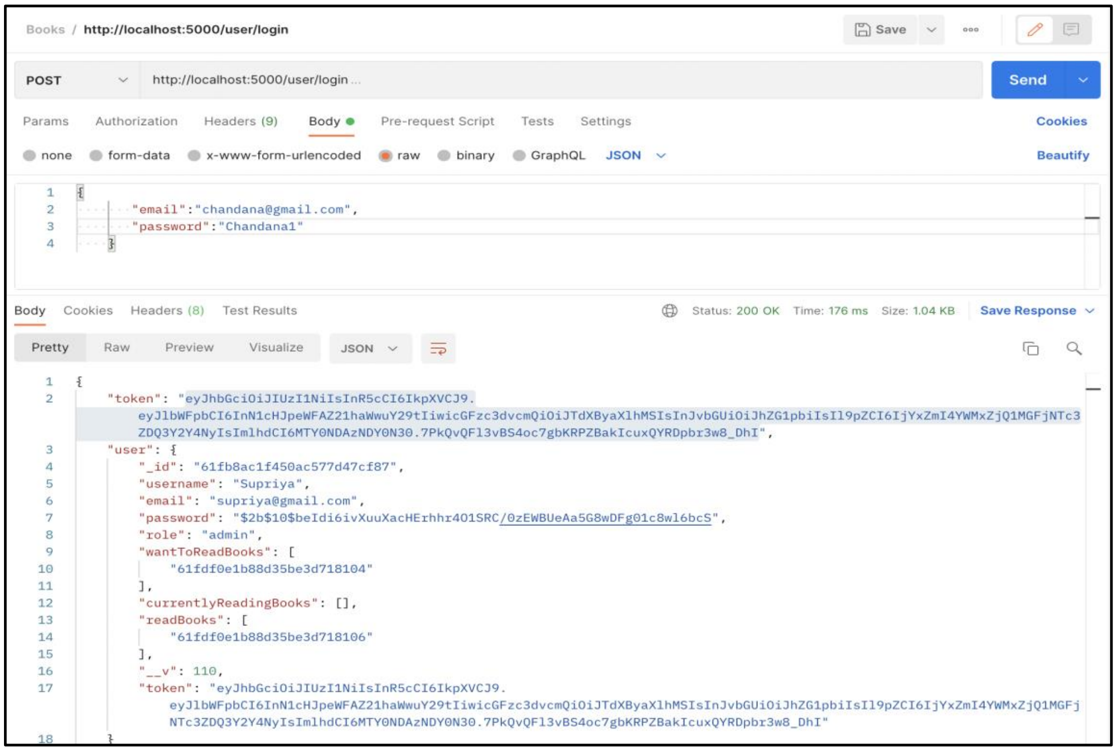
```
http://localhost:5000/user/login
```

```
{
    "email":"chandana@gmail.com",
    "password":"Chandana"
}
```

Status: 400 Bad Request Time: 154 ms Size: 317 B

```
{
    "error": "Email or password is Invalid!"
}
```

Login - Success:(User Profile)



```
http://localhost:5000/user/login ...
```

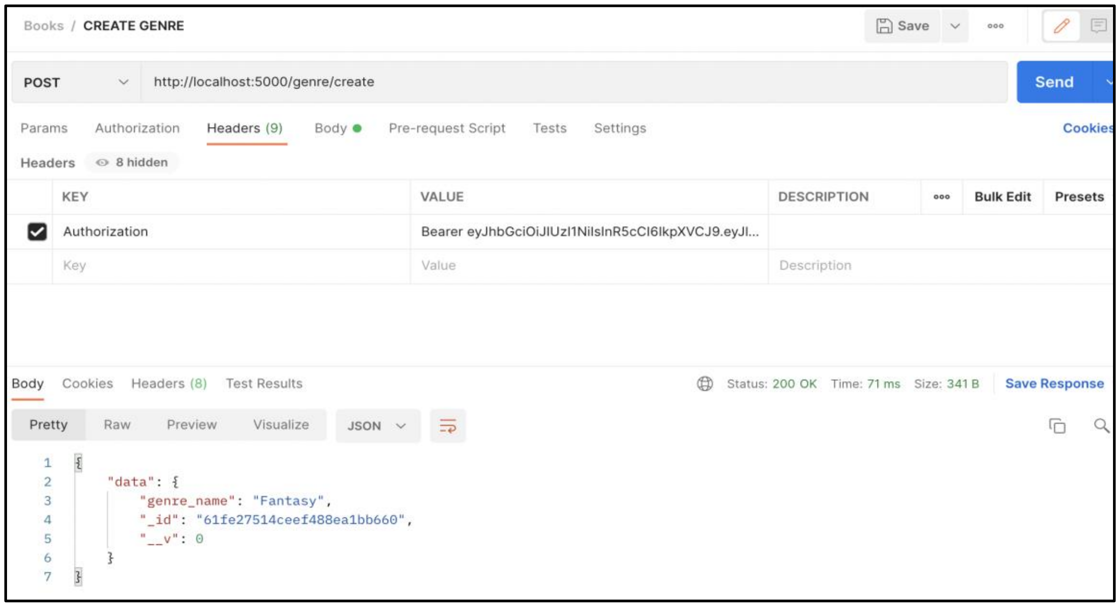
```
{
    "email":"chandana@gmail.com",
    "password":"Chandana1"
}
```

Status: 200 OK Time: 176 ms Size: 1.04 KB

```
{
    "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
        eyJlbWFpbCI6InN1cHJpeWFAZ21haWwuY29tIiwicGFzc3dvcmQiOiJTdXByaXlhMSIsInJvbGUiOiJhZG1pbiIsIl9pZCI6IjYxZmI4YWMxZjQ1MGFjNTc3
        ZDQ3Y2Y4NyIsImlhdCI6MTY0NDAzNDY0N30.7PkQvQFl3vBS4oc7gbKRPZBakIcuxQYRDpbr3w8_DhI",
    "user": {
        "_id": "61fb8ac1f450ac577d47cf87",
        "username": "Supriya",
        "email": "supriya@gmail.com",
        "password": "$2b$10$beIdi6ivXuuXacHErhhr401SRC/0zEWBUeAa5G8wDFg01c8wl6bcS",
        "role": "admin",
        "wantToReadBooks": [
            "61fdf0e1b88d35be3d718104"
        ],
        "currentlyReadingBooks": [],
        "readBooks": [
            "61fdf0e1b88d35be3d718106"
        ],
        "__v": 110,
        "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
            eyJlbWFpbCI6InN1cHJpeWFAZ21haWwuY29tIiwicGFzc3dvcmQiOiJTdXByaXlhMSIsInJvbGUiOiJhZG1pbiIsIl9pZCI6IjYxZmI4YWMxZjQ1MGFj
            NTc3ZDQ3Y2Y4NyIsImlhdCI6MTY0NDAzNDY0N30.7PkQvQFl3vBS4oc7gbKRPZBakIcuxQYRDpbr3w8_DhI"
    }
```

3. Create Genre:

(By Admin)



Books / CREATE GENRE

POST http://localhost:5000/genre/create

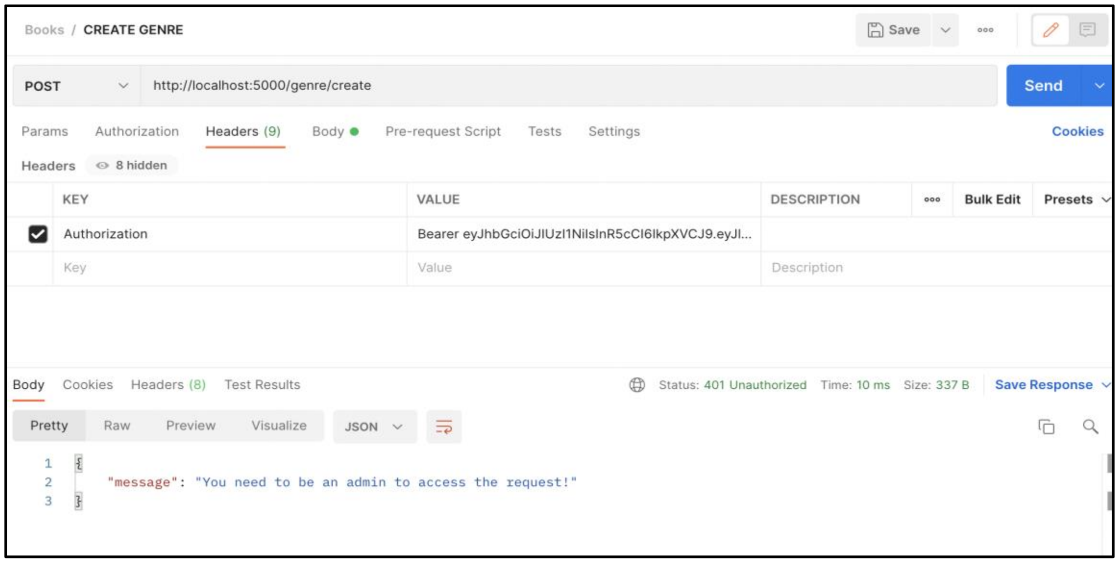
Headers (9)

	KEY	VALUE	DESCRIPTION
✓	Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJl...	

Status: 200 OK Time: 71 ms Size: 341 B

```
{
    "data": {
        "genre_name": "Fantasy",
        "_id": "61fe27514ceef488ea1bb660",
        "__v": 0
    }
}
```

(By Unauthorized User) - failed:



Books / CREATE GENRE

POST http://localhost:5000/genre/create

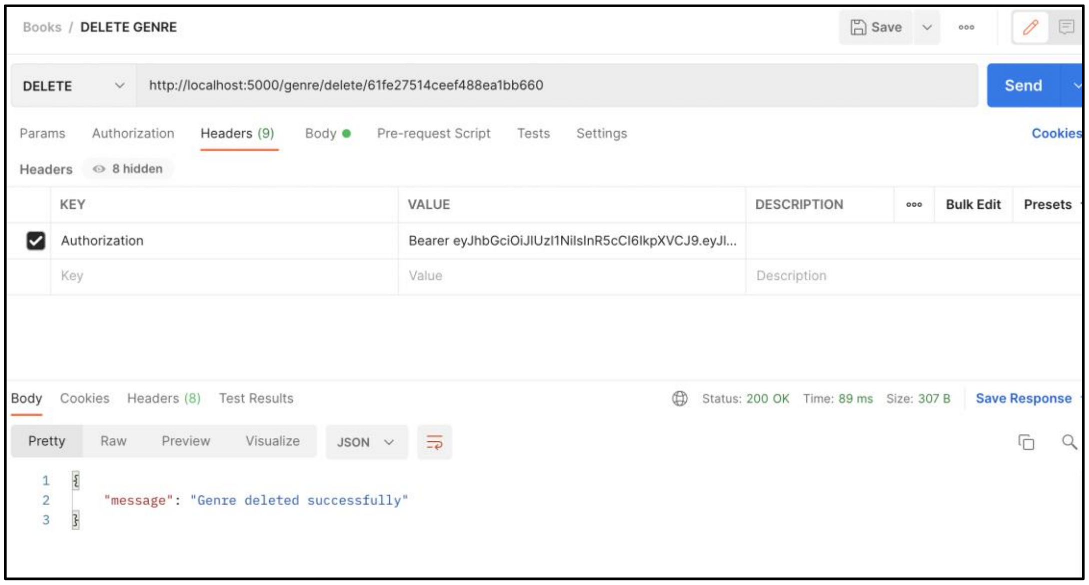
Headers (9)

	KEY	VALUE	DESCRIPTION
✓	Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJl...	

Status: 401 Unauthorized Time: 10 ms Size: 337 B

```
{
    "message": "You need to be an admin to access the request!"
}
```

4. Delete Genre (By Admin):



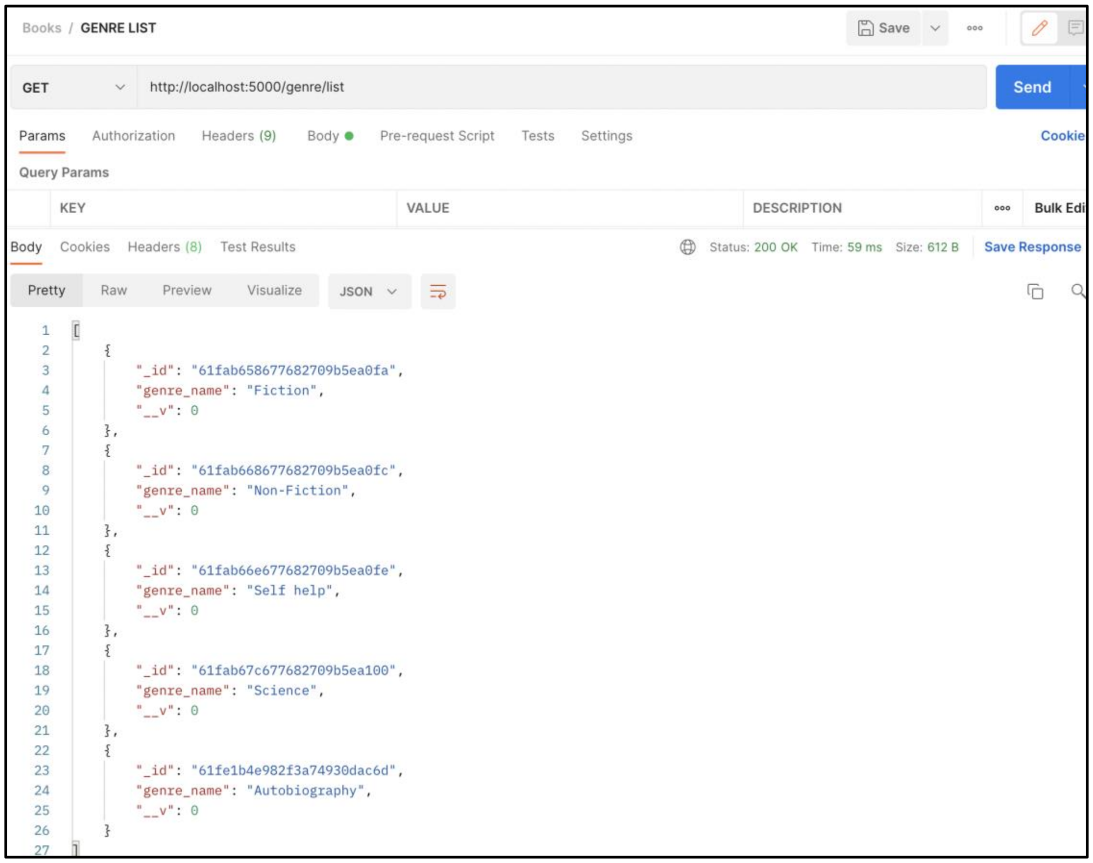
http://localhost:5000/genre/delete/61fe27514ceef488ea1bb660

KEY	VALUE	DESCRIPTION
Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJI...	
Key	Value	Description

Status: 200 OK Time: 89 ms Size: 307 B

```
{
    "message": "Genre deleted successfully"
}
```

5. List of Genres:

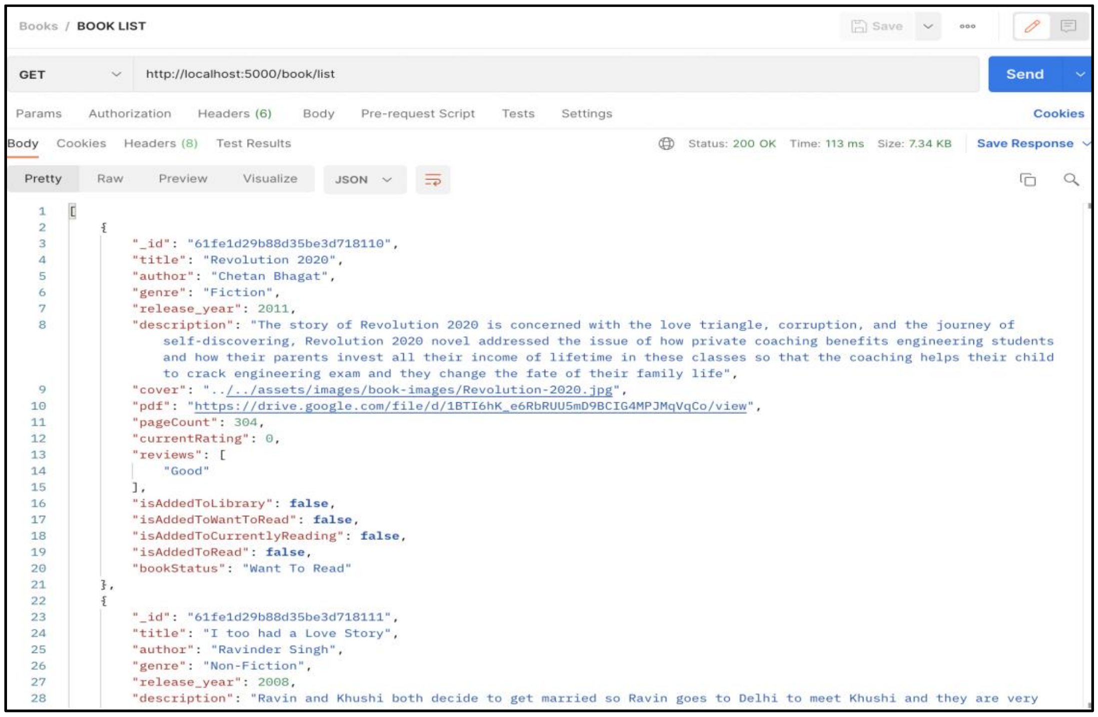


http://localhost:5000/genre/list

Status: 200 OK Time: 59 ms Size: 612 B

```
[
    {
        "_id": "61fab658677682709b5ea0fa",
        "genre_name": "Fiction",
        "__v": 0
    },
    {
        "_id": "61fab668677682709b5ea0fc",
        "genre_name": "Non-Fiction",
        "__v": 0
    },
    {
        "_id": "61fab66e677682709b5ea0fe",
        "genre_name": "Self help",
        "__v": 0
    },
    {
        "_id": "61fab67c677682709b5ea100",
        "genre_name": "Science",
        "__v": 0
    },
    {
        "_id": "61fe1b4e982f3a74930dac6d",
        "genre_name": "Autobiography",
        "__v": 0
    }
]
```

6. List of Books:

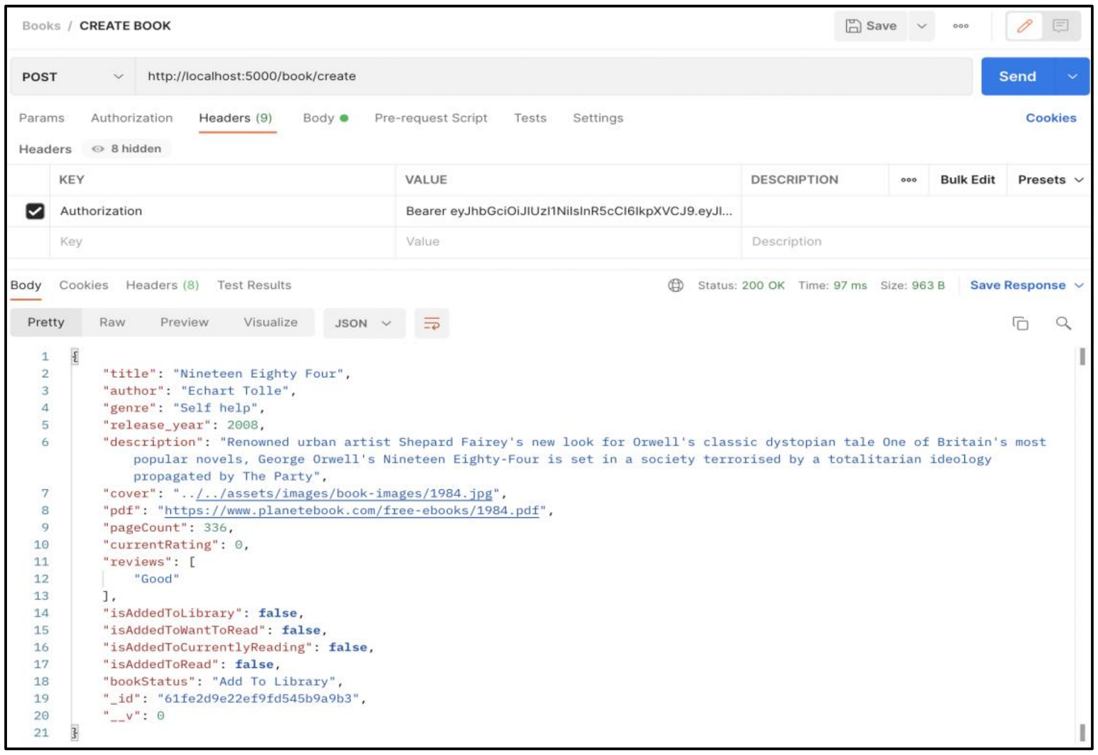

Books / BOOK LIST

GET http://localhost:5000/book/list

Status: 200 OK Time: 113 ms Size: 7.34 KB

```
[
    {
        "_id": "61fe1d29b88d35be3d718110",
        "title": "Revolution 2020",
        "author": "Chetan Bhagat",
        "genre": "Fiction",
        "release_year": 2011,
        "description": "The story of Revolution 2020 is concerned with the love triangle, corruption, and the journey of
            self-discovering, Revolution 2020 novel addressed the issue of how private coaching benefits engineering students
            and how their parents invest all their income of lifetime in these classes so that the coaching helps their child
            to crack engineering exam and they change the fate of their family life",
        "cover": "../../assets/images/book-images/Revolution-2020.jpg",
        "pdf": "https://drive.google.com/file/d/1BTI6hK_e6RbRUU5mD9BCIG4MPJMqVqCo/view",
        "pageCount": 304,
        "currentRating": 0,
        "reviews": [
            "Good"
        ],
        "isAddedToLibrary": false,
        "isAddedToWantToRead": false,
        "isAddedToCurrentlyReading": false,
        "isAddedToRead": false,
        "bookStatus": "Want To Read"
    },
    {
        "_id": "61fe1d29b88d35be3d718111",
        "title": "I too had a Love Story",
        "author": "Ravinder Singh",
        "genre": "Non-Fiction",
        "release_year": 2008,
        "description": "Ravin and Khushi both decide to get married so Ravin goes to Delhi to meet Khushi and they are very
```

7. Create Book - Success(By Admin)


Books / CREATE BOOK

POST http://localhost:5000/book/create

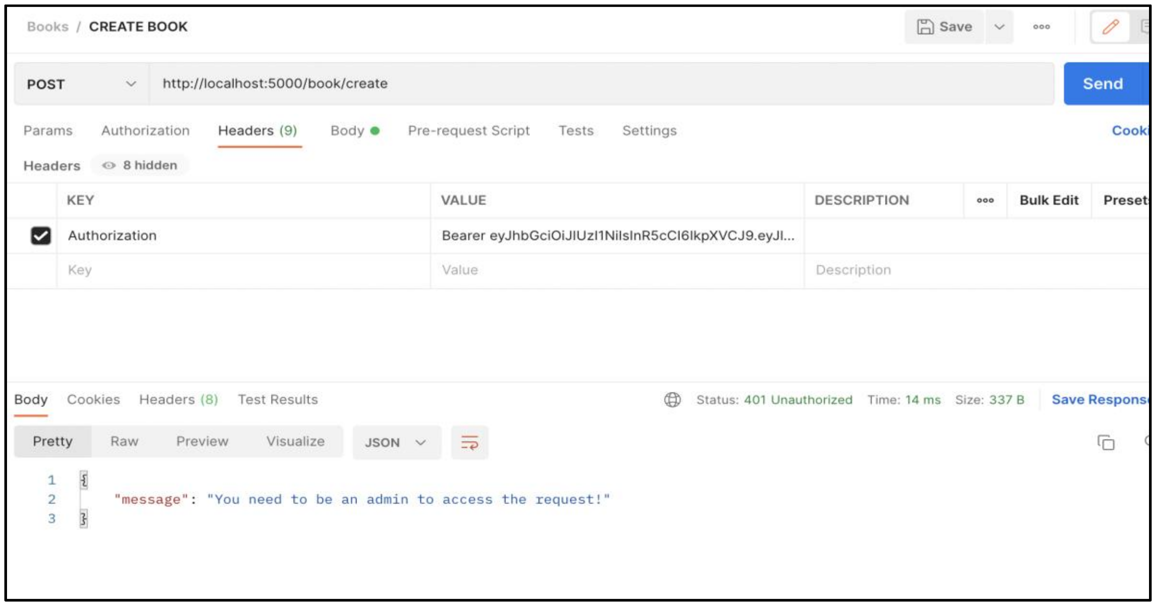
Headers (9) — 8 hidden

KEY	VALUE	DESCRIPTION
✓ Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJl...	
Key	Value	Description

Status: 200 OK Time: 97 ms Size: 963 B

```
{
    "title": "Nineteen Eighty Four",
    "author": "Echart Tolle",
    "genre": "Self help",
    "release_year": 2008,
    "description": "Renowned urban artist Shepard Fairey's new look for Orwell's classic dystopian tale One of Britain's most
        popular novels, George Orwell's Nineteen Eighty-Four is set in a society terrorised by a totalitarian ideology
        propagated by The Party",
    "cover": "../../assets/images/book-images/1984.jpg",
    "pdf": "https://www.planetebook.com/free-ebooks/1984.pdf",
    "pageCount": 336,
    "currentRating": 0,
    "reviews": [
        "Good"
    ],
    "isAddedToLibrary": false,
    "isAddedToWantToRead": false,
    "isAddedToCurrentlyReading": false,
    "isAddedToRead": false,
    "bookStatus": "Add To Library",
    "_id": "61fe2d9e22ef9fd545b9a9b3",
    "__v": 0
}
```

Create Book - Failure(By Unauthorized user)



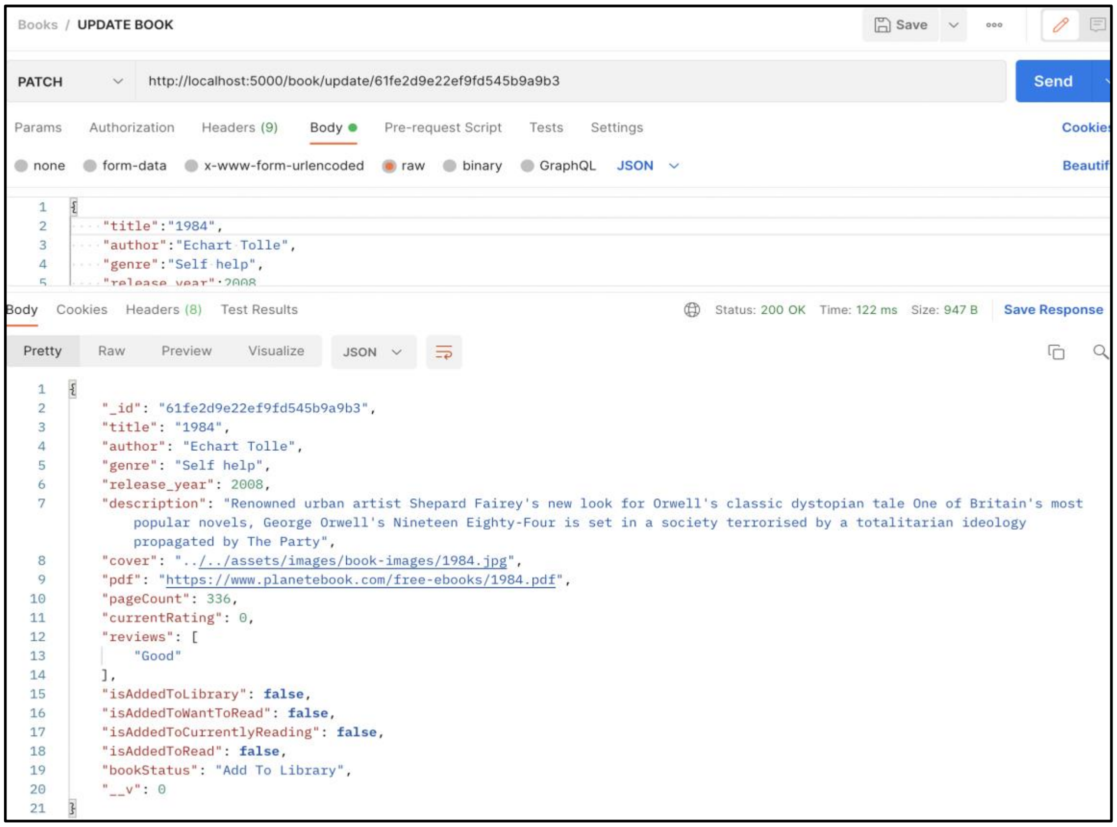
POST http://localhost:5000/book/create

	KEY	VALUE	DESCRIPTION
✓	Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJI...	
	Key	Value	Description

Status: 401 Unauthorized Time: 14 ms Size: 337 B

```
{
    "message": "You need to be an admin to access the request!"
}
```

8. Update Book(by Admin):



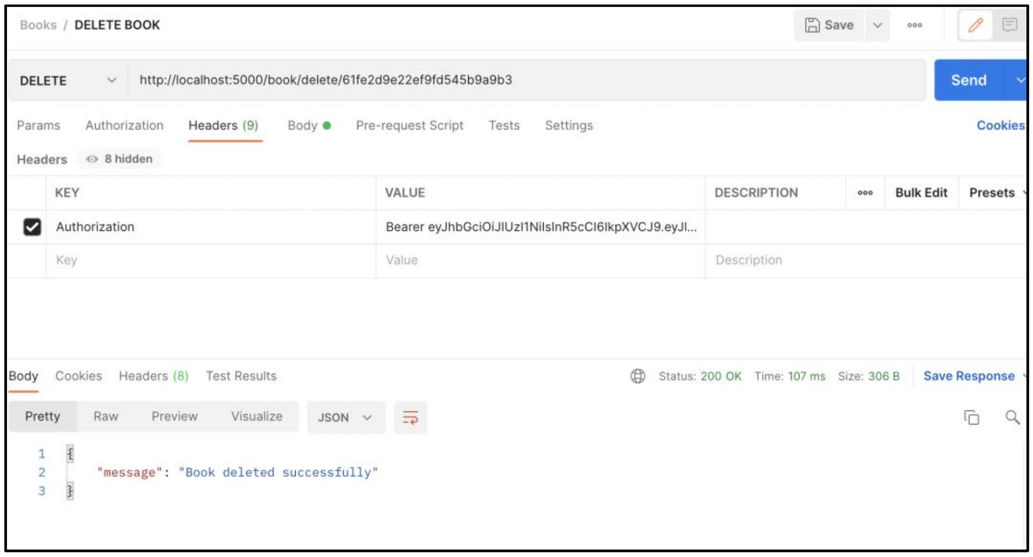
PATCH http://localhost:5000/book/update/61fe2d9e22ef9fd545b9a9b3

```
{
    "title":"1984",
    "author":"Echart Tolle",
    "genre":"Self help",
    "release_year":2008
```

Status: 200 OK Time: 122 ms Size: 947 B

```
{
    "_id": "61fe2d9e22ef9fd545b9a9b3",
    "title": "1984",
    "author": "Echart Tolle",
    "genre": "Self help",
    "release_year": 2008,
    "description": "Renowned urban artist Shepard Fairey's new look for Orwell's classic dystopian tale One of Britain's most
        popular novels, George Orwell's Nineteen Eighty-Four is set in a society terrorised by a totalitarian ideology
        propagated by The Party",
    "cover": "../../assets/images/book-images/1984.jpg",
    "pdf": "https://www.planetebook.com/free-ebooks/1984.pdf",
    "pageCount": 336,
    "currentRating": 0,
    "reviews": [
        "Good"
    ],
    "isAddedToLibrary": false,
    "isAddedToWantToRead": false,
    "isAddedToCurrentlyReading": false,
    "isAddedToRead": false,
    "bookStatus": "Add To Library",
    "__v": 0
}
```

9. Delete Book(by Admin):

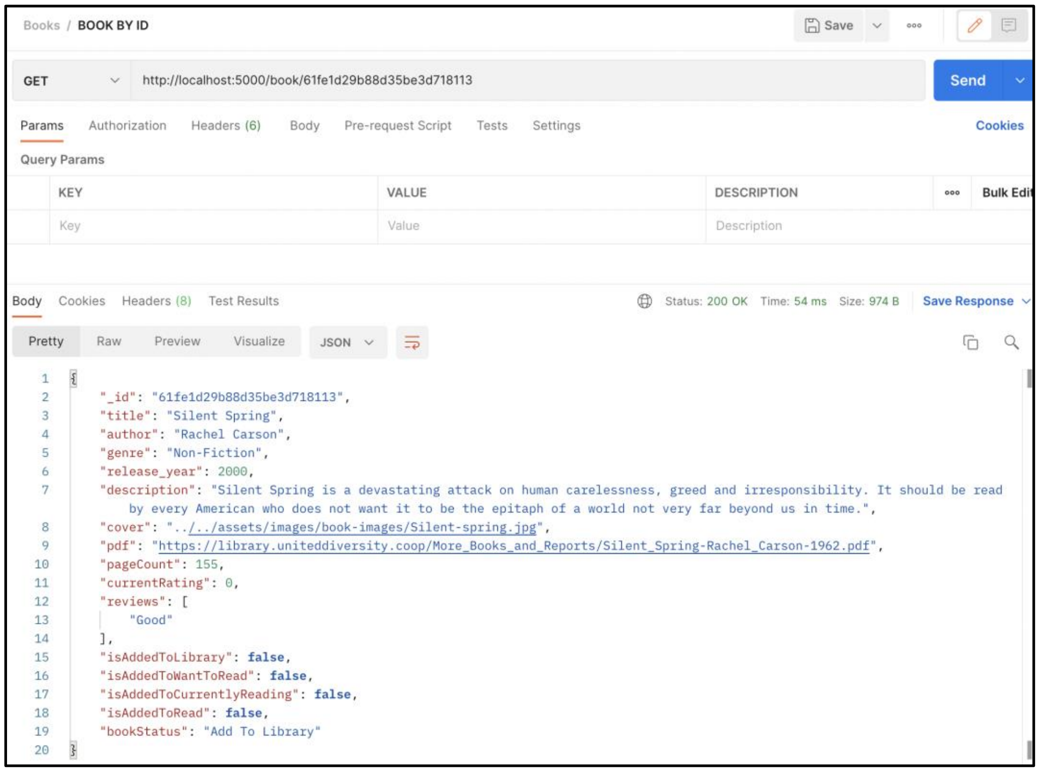


http://localhost:5000/book/delete/61fe2d9e22ef9fd545b9a9b3

KEY	VALUE	DESCRIPTION
Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJl...	
Key	Value	Description

```
{
    "message": "Book deleted successfully"
}
```

10. View Book by ID:

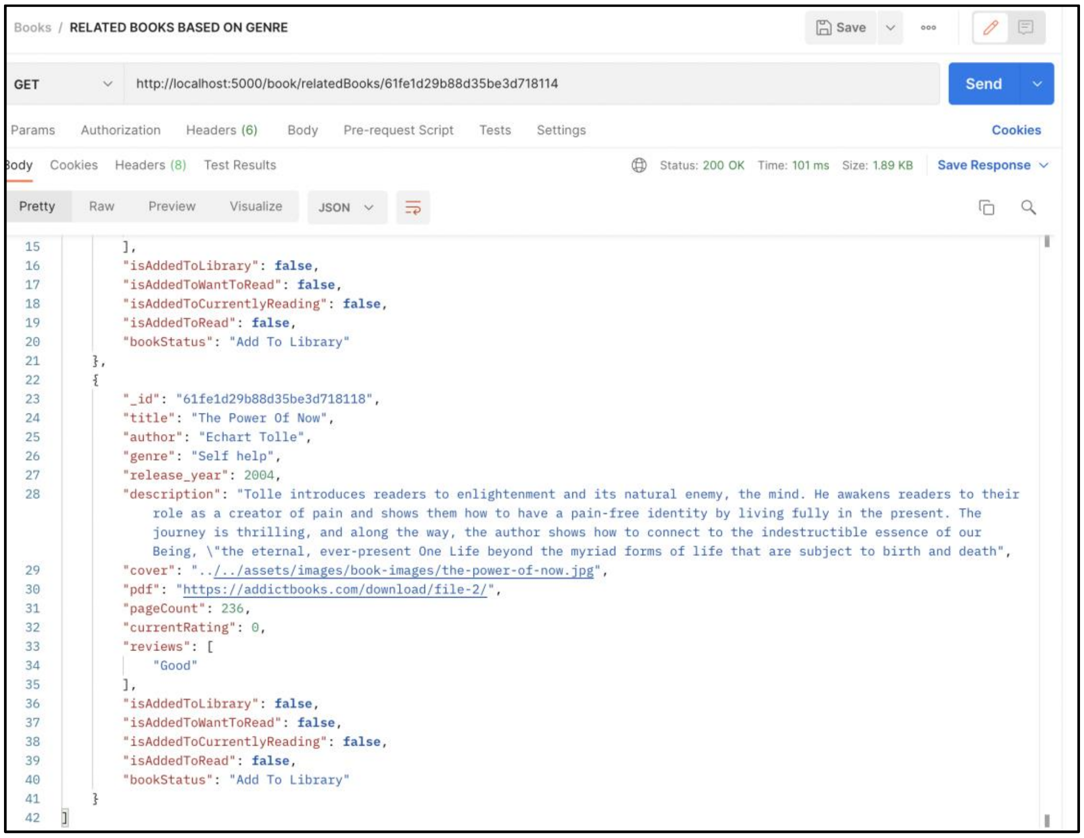


http://localhost:5000/book/61fe1d29b88d35be3d718113

KEY	VALUE	DESCRIPTION
Key	Value	Description

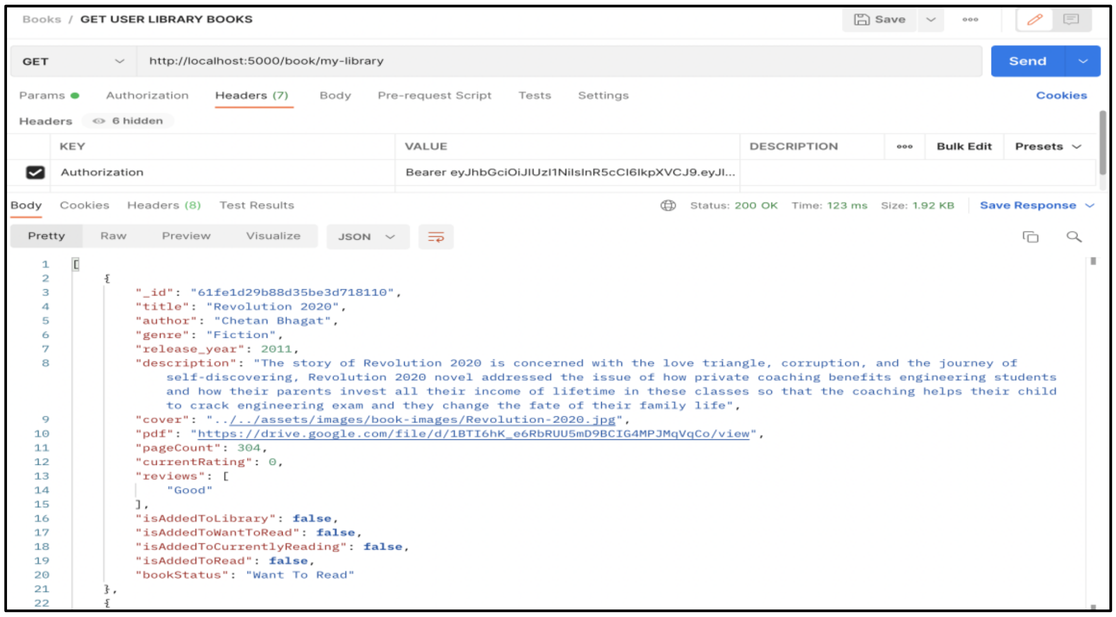
```
{
    "_id": "61fe1d29b88d35be3d718113",
    "title": "Silent Spring",
    "author": "Rachel Carson",
    "genre": "Non-Fiction",
    "release_year": 2000,
    "description": "Silent Spring is a devastating attack on human carelessness, greed and irresponsibility. It should be read
        by every American who does not want it to be the epitaph of a world not very far beyond us in time.",
    "cover": "../../assets/images/book-images/Silent-spring.jpg",
    "pdf": "https://library.uniteddiversity.coop/More_Books_and_Reports/Silent_Spring-Rachel_Carson-1962.pdf",
    "pageCount": 155,
    "currentRating": 0,
    "reviews": [
        "Good"
    ],
    "isAddedToLibrary": false,
    "isAddedToWantToRead": false,
    "isAddedToCurrentlyReading": false,
    "isAddedToRead": false,
    "bookStatus": "Add To Library"
}
```

11. Get Related books:


Books / RELATED BOOKS BASED ON GENRE
Save
GET
http://localhost:5000/book/relatedBooks/61fe1d29b88d35be3d718114
Send
Params Authorization Headers (6) Body Pre-request Script Tests Settings
Cookies
Body Cookies Headers (8) Test Results
Status: 200 OK Time: 101 ms Size: 1.89 KB
Save Response
Pretty Raw Preview Visualize JSON

```
        ],
        "isAddedToLibrary": false,
        "isAddedToWantToRead": false,
        "isAddedToCurrentlyReading": false,
        "isAddedToRead": false,
        "bookStatus": "Add To Library"
    },
    {
        "_id": "61fe1d29b88d35be3d718118",
        "title": "The Power Of Now",
        "author": "Echart Tolle",
        "genre": "Self help",
        "release_year": 2004,
        "description": "Tolle introduces readers to enlightenment and its natural enemy, the mind. He awakens readers to their
            role as a creator of pain and shows them how to have a pain-free identity by living fully in the present. The
            journey is thrilling, and along the way, the author shows how to connect to the indestructible essence of our
            Being, \"the eternal, ever-present One Life beyond the myriad forms of life that are subject to birth and death",
        "cover": "../../assets/images/book-images/the-power-of-now.jpg",
        "pdf": "https://addictbooks.com/download/file-2/",
        "pageCount": 236,
        "currentRating": 0,
        "reviews": [
            "Good"
        ],
        "isAddedToLibrary": false,
        "isAddedToWantToRead": false,
        "isAddedToCurrentlyReading": false,
        "isAddedToRead": false,
        "bookStatus": "Add To Library"
    }
]
```

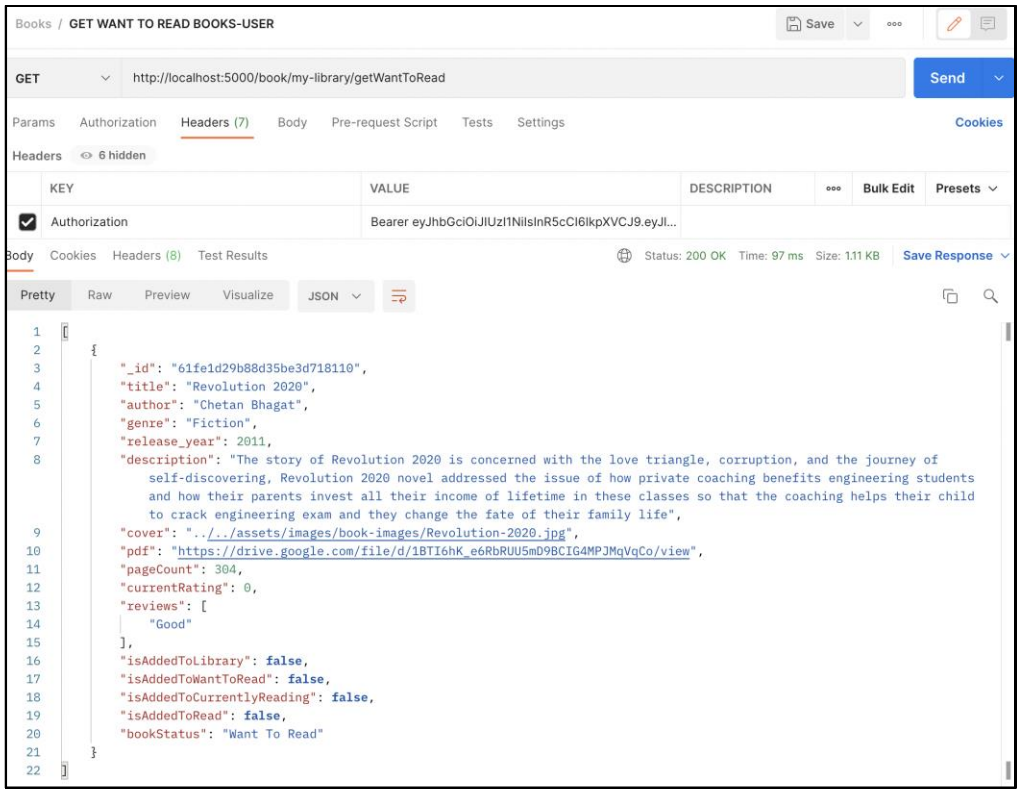
12. Get User Library Books:


Books / GET USER LIBRARY BOOKS
Save
GET
http://localhost:5000/book/my-library
Send
Params Authorization Headers (7) Body Pre-request Script Tests Settings
Cookies
Headers 6 hidden
Bulk Edit
Presets
Body Cookies Headers (8) Test Results
Status: 200 OK Time: 123 ms Size: 1.92 KB
Save Response
Pretty Raw Preview Visualize JSON

	KEY	VALUE	DESCRIPTION
✓	Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJI...	

```
[
    {
        "_id": "61fe1d29b88d35be3d718110",
        "title": "Revolution 2020",
        "author": "Chetan Bhagat",
        "genre": "Fiction",
        "release_year": 2011,
        "description": "The story of Revolution 2020 is concerned with the love triangle, corruption, and the journey of
            self-discovering, Revolution 2020 novel addressed the issue of how private coaching benefits engineering students
            and how their parents invest all their income of lifetime in these classes so that the coaching helps their child
            to crack engineering exam and they change the fate of their family life",
        "cover": "../../assets/images/book-images/Revolution-2020.jpg",
        "pdf": "https://drive.google.com/file/d/1BTI6hK_e6RbRUU5mD9BCIG4MPJMqVqCo/view",
        "pageCount": 304,
        "currentRating": 0,
        "reviews": [
            "Good"
        ],
        "isAddedToLibrary": false,
        "isAddedToWantToRead": false,
        "isAddedToCurrentlyReading": false,
        "isAddedToRead": false,
        "bookStatus": "Want To Read"
    },
    {
```

13. Get Want to Read Books: (Like wise for Reading and Read Books)



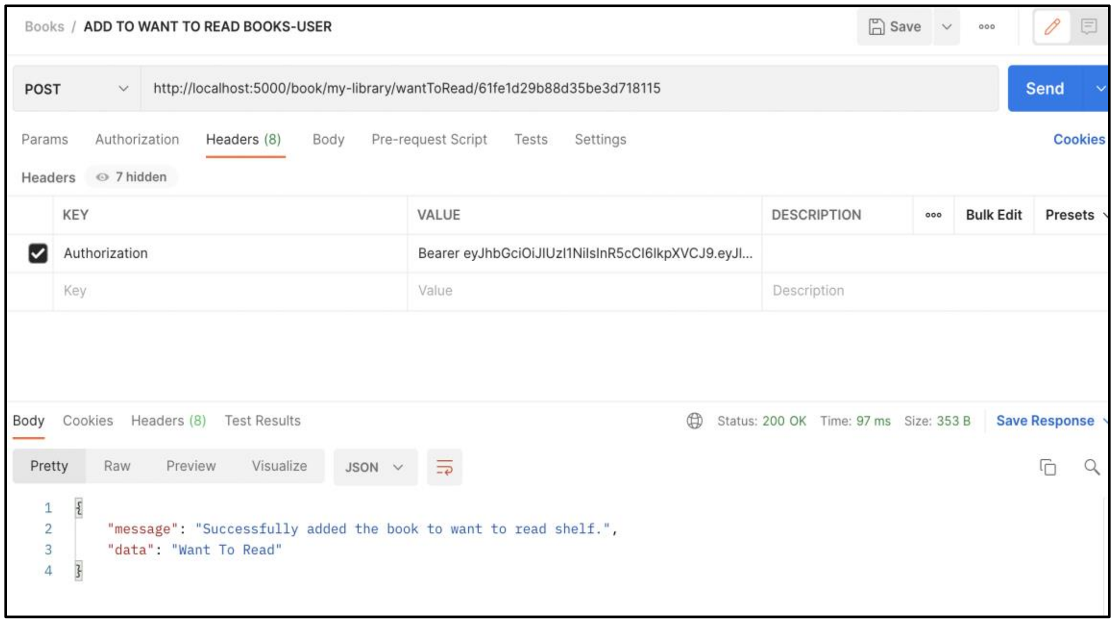
GET http://localhost:5000/book/my-library/getWantToRead

KEY	VALUE	DESCRIPTION
✓ Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJl...	

Status: 200 OK Time: 97 ms Size: 1.11 KB

```
[
    {
        "_id": "61fe1d29b88d35be3d718110",
        "title": "Revolution 2020",
        "author": "Chetan Bhagat",
        "genre": "Fiction",
        "release_year": 2011,
        "description": "The story of Revolution 2020 is concerned with the love triangle, corruption, and the journey of
            self-discovering, Revolution 2020 novel addressed the issue of how private coaching benefits engineering students
            and how their parents invest all their income of lifetime in these classes so that the coaching helps their child
            to crack engineering exam and they change the fate of their family life",
        "cover": "../../assets/images/book-images/Revolution-2020.jpg",
        "pdf": "https://drive.google.com/file/d/1BTI6hK_e6RbRUU5mD9BCIG4MPJMqVqCo/view",
        "pageCount": 304,
        "currentRating": 0,
        "reviews": [
            "Good"
        ],
        "isAddedToLibrary": false,
        "isAddedToWantToRead": false,
        "isAddedToCurrentlyReading": false,
        "isAddedToRead": false,
        "bookStatus": "Want To Read"
    }
]
```

14. Add to Want to Read Books(Like wise for Reading and Read Books)



POST http://localhost:5000/book/my-library/wantToRead/61fe1d29b88d35be3d718115

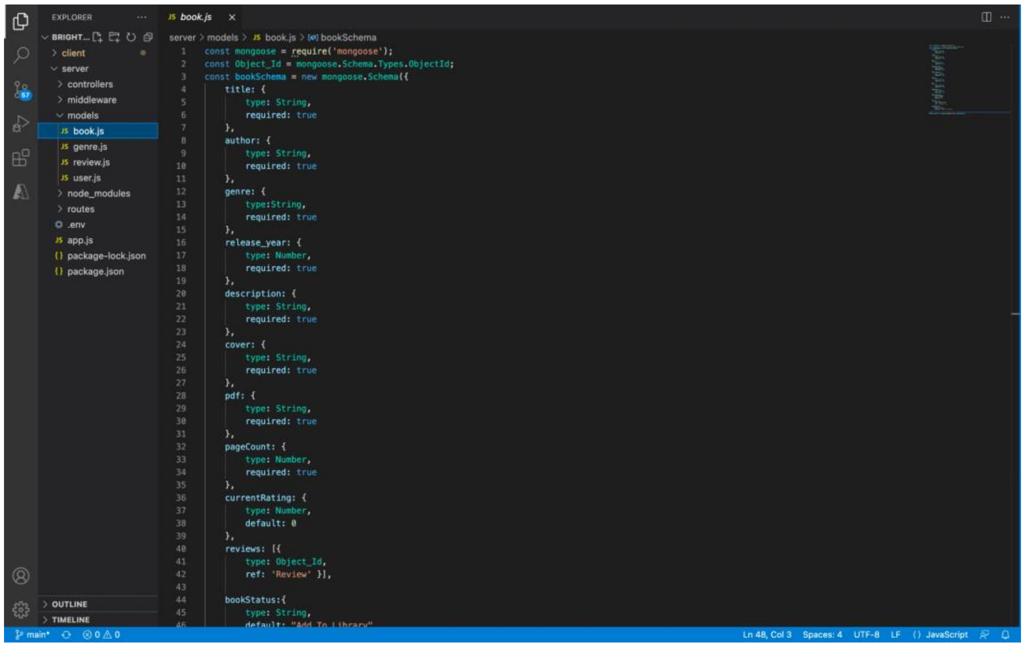
KEY	VALUE	DESCRIPTION
✓ Authorization	Bearer eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJl...	
Key	Value	Description

Status: 200 OK Time: 97 ms Size: 353 B

```
{
    "message": "Successfully added the book to want to read shelf.",
    "data": "Want To Read"
}
```

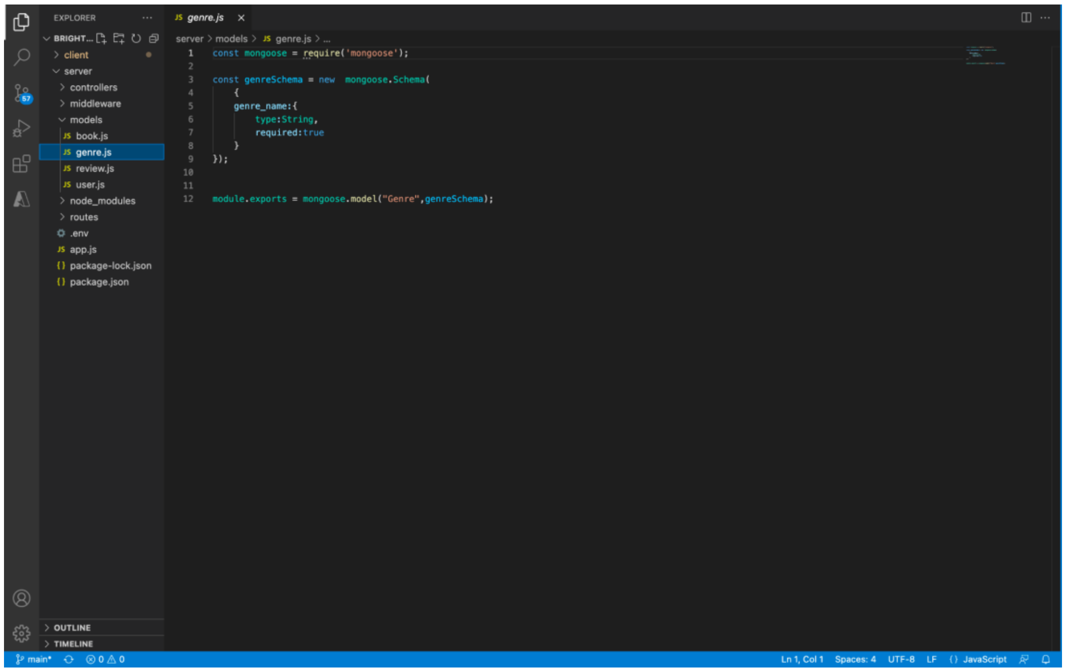
10. Schema and Database Snapshots:

Book Schema:



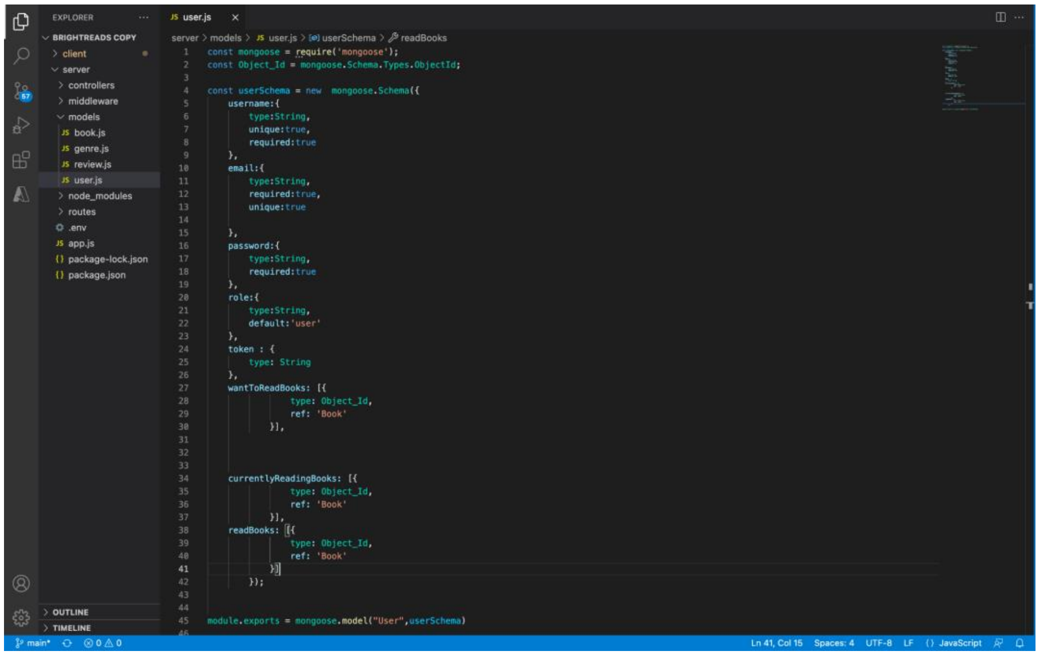
```
const mongoose = require('mongoose');
const Object_Id = mongoose.Schema.Types.ObjectId;
const bookSchema = new mongoose.Schema({
    title: {
        type: String,
        required: true
    },
    author: {
        type: String,
        required: true
    },
    genre: {
        type:String,
        required: true
    },
    release_year: {
        type: Number,
        required: true
    },
    description: {
        type: String,
        required: true
    },
    cover: {
        type: String,
        required: true
    },
    pdf: {
        type: String,
        required: true
    },
    pageCount: {
        type: Number,
        required: true
    },
    currentRating: {
        type: Number,
        default: 0
    },
    reviews: [{
        type: Object_Id,
        ref: 'Review' }],

    bookStatus:{
        type: String,
        default: "Add To Library"
```

Genre Schema:



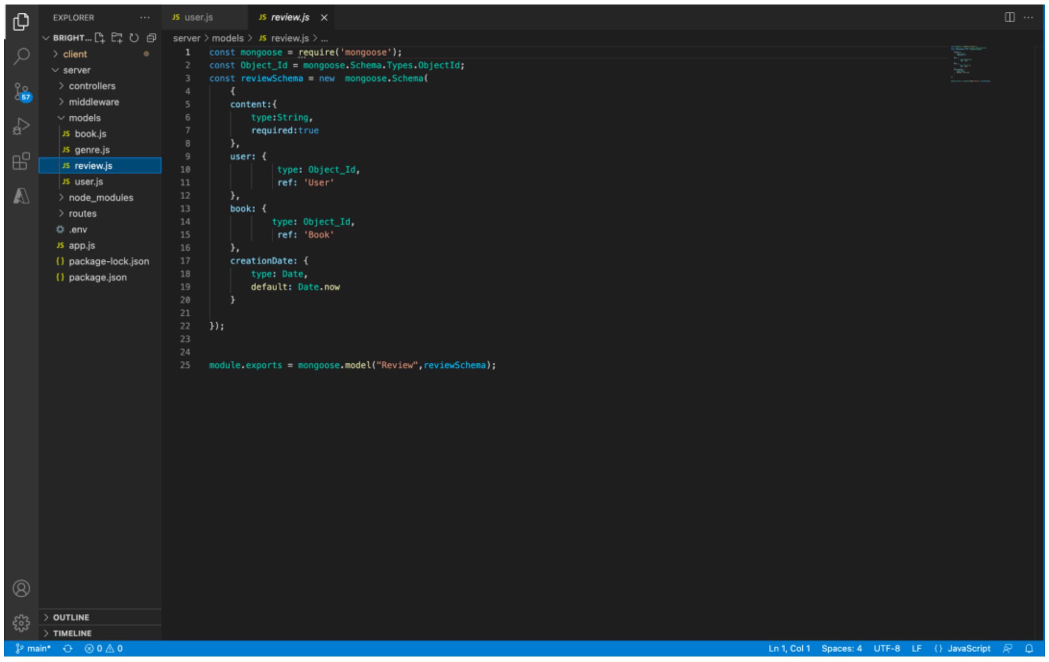
```
const mongoose = require('mongoose');

const genreSchema = new  mongoose.Schema(
    {
    genre_name:{
        type:String,
        required:true
    }
});


module.exports = mongoose.model("Genre",genreSchema);
```

User Schema:



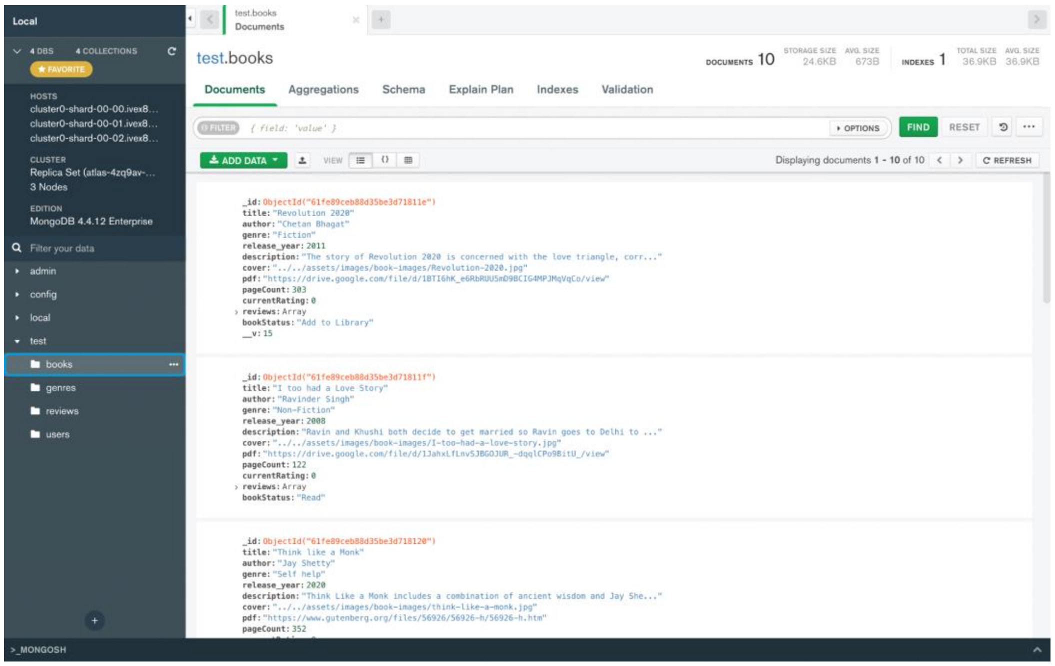
```
const mongoose = require('mongoose');
const Object_Id = mongoose.Schema.Types.ObjectId;

const userSchema = new  mongoose.Schema({
    username:{
        type:String,
        unique:true,
        required:true
    },
    email:{
        type:String,
        required:true,
        unique:true

    },
    password:{
        type:String,
        required:true
    },
    role:{
        type:String,
        default:'user'
    },
    token : {
        type: String
    },
    wantToReadBooks: [{
                type: Object_Id,
                ref: 'Book'
            }],



    currentlyReadingBooks: [{
                type: Object_Id,
                ref: 'Book'
            }],
    readBooks: [{
                type: Object_Id,
                ref: 'Book'
            }]
        });


module.exports = mongoose.model("User",userSchema)
```

Review Schema:



```
const mongoose = require('mongoose');
const Object_Id = mongoose.Schema.Types.ObjectId;
const reviewSchema = new  mongoose.Schema(
    {
    content:{
        type:String,
        required:true
    },
    user: {
            type: Object_Id,
            ref: 'User'
    },
    book: {
            type: Object_Id,
            ref: 'Book'
    },
    creationDate: {
        type: Date,
        default: Date.now
    }

});


module.exports = mongoose.model("Review",reviewSchema);
```

Books:

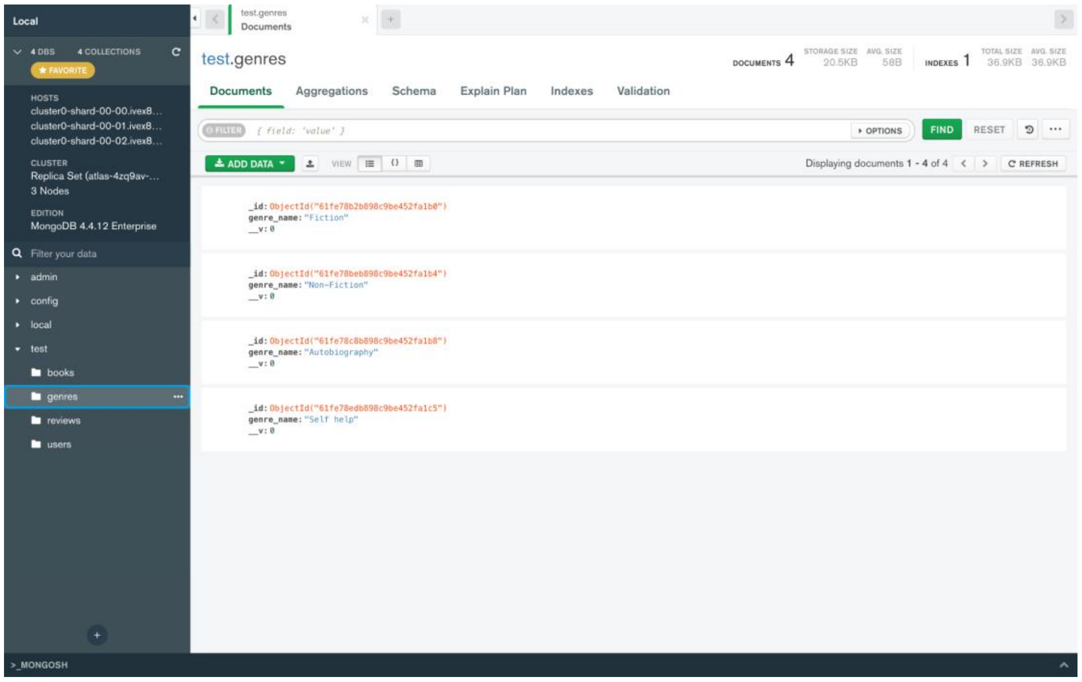


```
_id: ObjectId("61fe89ceb88d35be3d71811e")
title: "Revolution 2020"
author: "Chetan Bhagat"
genre: "Fiction"
release_year: 2011
description: "The story of Revolution 2020 is concerned with the love triangle, corr..."
cover: "../../assets/images/book-images/Revolution-2020.jpg"
pdf: "https://drive.google.com/file/d/1BTI6hK_e6RbRUU5mD9BCIG4MPJMqVqCo/view"
pageCount: 303
currentRating: 0
> reviews: Array
bookStatus: "Add to Library"
__v: 15
```

```
_id: ObjectId("61fe89ceb88d35be3d71811f")
title: "I too had a Love Story"
author: "Ravinder Singh"
genre: "Non-Fiction"
release_year: 2008
description: "Ravin and Khushi both decide to get married so Ravin goes to Delhi to ..."
cover: "../../assets/images/book-images/I-too-had-a-love-story.jpg"
pdf: "https://drive.google.com/file/d/1JahxLfLnvSJBGOJUR_-dqqlCPo9BitU_/view"
pageCount: 122
currentRating: 0
> reviews: Array
bookStatus: "Read"
```

```
_id: ObjectId("61fe89ceb88d35be3d718120")
title: "Think like a Monk"
author: "Jay Shetty"
genre: "Self help"
release_year: 2020
description: "Think Like a Monk includes a combination of ancient wisdom and Jay She..."
cover: "../../assets/images/book-images/think-like-a-monk.jpg"
pdf: "https://www.gutenberg.org/files/56926/56926-h/56926-h.htm"
pageCount: 352
```

Genres:



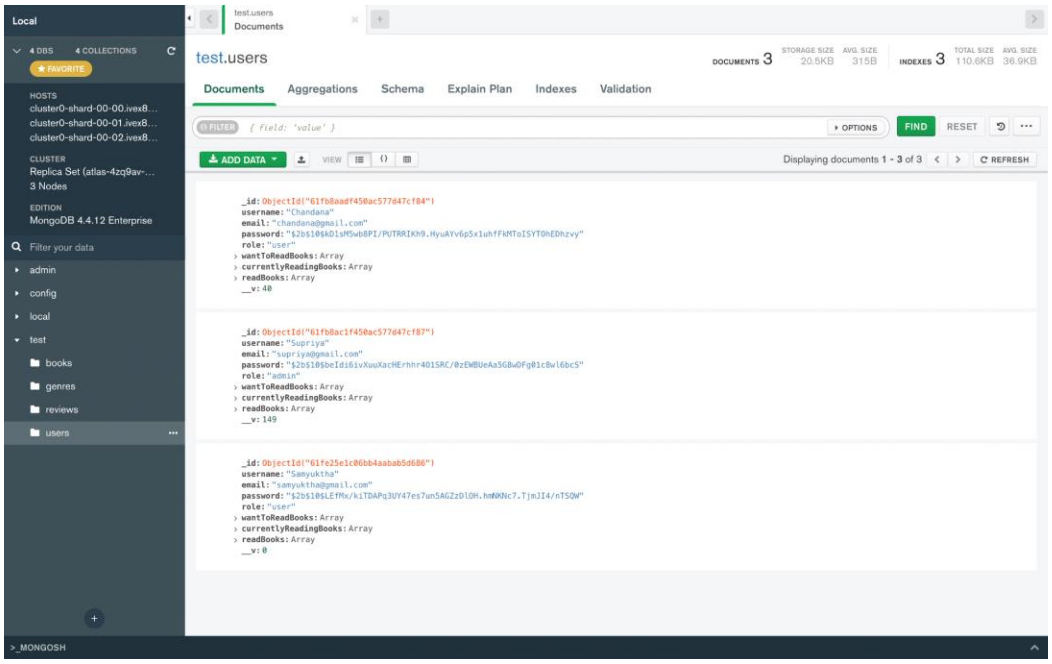
```
_id: ObjectId("61fe78b2b898c9be452fa1b0")
genre_name: "Fiction"
__v: 0
```

```
_id: ObjectId("61fe78beb898c9be452fa1b4")
genre_name: "Non-Fiction"
__v: 0
```

```
_id: ObjectId("61fe78c8b898c9be452fa1b8")
genre_name: "Autobiography"
__v: 0
```

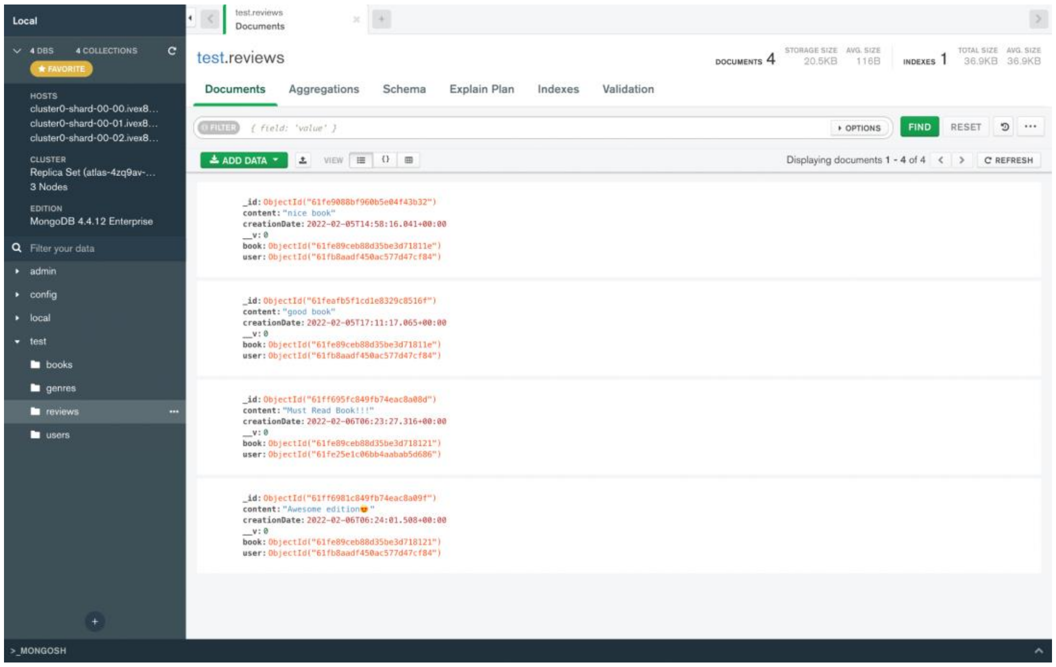
```
_id: ObjectId("61fe78edb898c9be452fa1c5")
genre_name: "Self help"
__v: 0
```

Users:



```
_id: ObjectId("61fb8aadf450ac577d47cf84")
username: "Chandana"
email: "chandana@gmail.com"
password: "$2b$10$kD1sM5wb8PI/PUTRRIKh9.HyuAYv6p5x1uhfFkMToISYTOhEDhzvy"
role: "user"
> wantToReadBooks: Array
> currentlyReadingBooks: Array
> readBooks: Array
__v: 40

_id: ObjectId("61fb8ac1f450ac577d47cf87")
username: "Supriya"
email: "supriya@gmail.com"
password: "$2b$10$beIdi6ivXuuXacHErhhr401SRC/0zEWBUeAa5G8wDFg01c8wl6bcS"
role: "admin"
> wantToReadBooks: Array
> currentlyReadingBooks: Array
> readBooks: Array
__v: 149

_id: ObjectId("61fe25e1c06bb4aabab5d686")
username: "Samyuktha"
email: "samyuktha@gmail.com"
password: "$2b$10$LEfMx/kiTDAPq3UY47es7un5AGZzDlOH.hmNKNc7.TjmJI4/nTSQW"
role: "user"
> wantToReadBooks: Array
> currentlyReadingBooks: Array
> readBooks: Array
__v: 0
```

Reviews:



```
_id: ObjectId("61fe9088bf960b5e04f43b32")
content: "nice book"
creationDate: 2022-02-05T14:58:16.041+00:00
__v: 0
book: ObjectId("61fe89ceb88d35be3d71811e")
user: ObjectId("61fb8aadf450ac577d47cf84")

_id: ObjectId("61feafb5f1cd1e8329c8516f")
content: "good book"
creationDate: 2022-02-05T17:11:17.065+00:00
__v: 0
book: ObjectId("61fe89ceb88d35be3d71811e")
user: ObjectId("61fb8aadf450ac577d47cf84")

_id: ObjectId("61ff695fc849fb74eac8a08d")
content: "Must Read Book!!!"
creationDate: 2022-02-06T06:23:27.316+00:00
__v: 0
book: ObjectId("61fe89ceb88d35be3d718121")
user: ObjectId("61fe25e1c06bb4aabab5d686")

_id: ObjectId("61ff6981c849fb74eac8a09f")
content: "Awesome edition😍"
creationDate: 2022-02-06T06:24:01.508+00:00
__v: 0
book: ObjectId("61fe89ceb88d35be3d718121")
user: ObjectId("61fb8aadf450ac577d47cf84")
```

11. References:

1. https://docs.mongodb.com/manual/crud/
2. https://www.w3schools.com/nodejs/nodejs_mongodb.asp
3. https://developer.mozilla.org/en-US/docs/Learn/Server-side/Express_Nodejs/Introduction
4. https://angular.io/docs
5. https://material.angular.io/guide/getting-started
6. https://www.youtube.com/watch?v=0oXYLzuucwE&list=PL55RiY5tL51q4D-B63KBnygU6opNPFk_q
7. https://www.digitalocean.com/community/tutorials/nodejs-jwt-expressjs
8. https://sweetalert2.github.io/