```
npm init -y
npm install express mongoose dotenv jsonwebtoken bcryptjs joi cors helmet morgan
npm install --save-dev typescript ts-node nodemon @types/node @types/express @types/jsonwebtoken @types/mongoose @types/bcryptjs @types/joi
```

```
npm run dev
```

.env file

```
PORT=3000
```

mongoDB connection string

```
MONGO_URI=mongodb+srv://yashvendrajnv95:q7q9CVAsJY2je8KF******************
```

JWT secret keys

```
JWT_SECRET=123456789abc
JWT_REFRESH_SECRET=123456789abc
```

```
import mongoose, { Document, Types } from "mongoose";

export interface IBook extends Document {
title: string;
author: string;
genre: string;
description?: string;
averageRating: number;
createdBy: Types.ObjectId;
}

const bookSchema = new mongoose.Schema(
{
title: { type: String, required: true },
author: { type: String, required: true },
genre: { type: String, required: true },
description: { type: String },
averageRating: { type: Number, default: 0 },
createdBy: { type: mongoose.Schema.Types.ObjectId, ref: "User", required: true },
},
{ timestamps: true }
);

export default mongoose.model("Book", bookSchema);

import mongoose, { Document, Types } from "mongoose";
```

```
export interface IReview extends Document {
book: Types.ObjectId;
user: Types.ObjectId;
rating: number;
comment: string;
}

const reviewSchema = new mongoose.Schema(
{
book: { type: mongoose.Schema.Types.ObjectId, ref: "Book", required: true },
user: { type: mongoose.Schema.Types.ObjectId, ref: "User", required: true },
rating: { type: Number, min: 1, max: 5, required: true },
comment: { type: String, required: true },
},
{ timestamps: true }
);

// One review per user per book
reviewSchema.index({ book: 1, user: 1 }, { unique: true });

export default mongoose.model("Review", reviewSchema);

import mongoose, { Document } from "mongoose";

export interface IUser extends Document {
firstName: string;
lastName: string;
email: string;
password: string;
}

const userSchema = new mongoose.Schema(
{
firstName: { type: String, required: true, unique: true },
lastName: { type: String, required: true, unique: true },
email: { type: String, required: true, unique: true },
password: { type: String, required: true },
},
{ timestamps: true }
);

export default mongoose.model("User", userSchema);
```

```
{
"info": {
"_postman_id": "c742ff05-0dd0-4d99-bdf6-ef30795811a1",
"name": "Billeasy",
"schema": "https://schema.getpostman.com/json/collection/v2.1.0/collection.json",
"_exporter_id": "7707124"
},
"item": [
{
"name": "http://localhost:3000/api/v1/books",
"request": {
"method": "POST",
"header": [
{
"key": "Authorization",
"value": "Bearer $TOKEN"
},
{
"key": "Content-Type",
"value": "application/json"
}
],
"body": {
"mode": "raw",
"raw": "{\r\n "title": "The Alchemist",\r\n "author": "Paulo Coelho",\r\n "genre": "Fiction",\r\n "publishedYear": 1988\r\n}",
"options": {
"raw": {
"language": "json"
}
}
},
"url": {
"raw": "http://localhost:3000/api/v1/books",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"books"
]
},
"description": "Generated from cURL: curl -X POST http://localhost:3000/api/v1/books \\r\n-H "Authorization: Bearer $TOKEN" \\r\n-H "Content-Type: application/json" \\r\n-d '{\r\n "title": "The Alchemist",\r\n "author": "Paulo Coelho",\r\n "genre": "Fiction",\r\n "publishedYear": 1988\r\n}'\r\n"
},
"response": []
```

```
},
{
"name": "http://localhost:3000/api/v1/books?page=1&limit=10&author=Paulo%20Coelho&genre=Fiction",
"request": {
"method": "GET",
"header": [],
"url": {
"raw": "http://localhost:3000/api/v1/books?page=1&limit=10&author=Paulo%20Coelho&genre=Fiction",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"books"
],
"query": [
{
"key": "page",
"value": "1"
},
{
"key": "limit",
"value": "10"
},
{
"key": "author",
"value": "Paulo%20Coelho"
},
{
"key": "genre",
"value": "Fiction"
}
]
},
"description": "Generated from cURL: curl "http://localhost:3000/api/v1/books?page=1&limit=10&author=Paulo%20Coelho&genre=Fiction"\r\n"
},
"response": []
},
{
"name": "http://localhost:3000/api/v1/books/BOOK_ID_HERE",
"request": {
"method": "GET",
"header": [],
"url": {
"raw": "http://localhost:3000/api/v1/books/BOOK_ID_HERE",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"books",
"BOOK_ID_HERE"
]
},
"description": "Generated from cURL: curl http://localhost:3000/api/v1/books/BOOK_ID_HERE\r\n"
},
"response": []
},
{
"name": "http://localhost:3000/api/v1/books/search/query?q=alchemist",
"request": {
"method": "GET",
"header": [],
"url": {
"raw": "http://localhost:3000/api/v1/books/search/query?q=alchemist",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"books",
"search",
"query"
],
"query": [
{
"key": "q",
"value": "alchemist"
}
]
},
"description": "Generated from cURL: curl "http://localhost:3000/api/v1/books/search/query?
q=alchemist"\r\n"
},
"response": []
},
{
"name": "http://localhost:3000/api/v1/books/BOOK_ID_HERE/reviews",
"request": {
"method": "POST",
"header": [
{
"key": "Authorization",
"value": "Bearer $TOKEN"
},
{
"key": "Content-Type",
"value": "application/json"
}
],
"body": {
"mode": "raw",
"raw": "{\r\n "rating": 5,\r\n "comment": "An inspiring read!"\r\n}",
"options": {
"raw": {
"language": "json"
}
}
},
"url": {
"raw": "http://localhost:3000/api/v1/books/BOOK_ID_HERE/reviews",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"books",
"BOOK_ID_HERE",
"reviews"
]
},
```

```json
"description": "Generated from cURL: curl -X POST http://localhost:3000/api/v1/books/BOOK_ID_HERE/reviews \\r\n-H "Authorization: Bearer $TOKEN" \\r\n-H "Content-Type: application/json" \\r\n-d '{\r\n "rating": 5,\r\n "comment": "An inspiring read!"\r\n}'\r\n"
},
"response": []
},
{
"name": "http://localhost:3000/api/v1/reviews/REVIEW_ID_HERE",
"request": {
"method": "PUT",
"header": [
{
"key": "Authorization",
"value": "Bearer $TOKEN"
},
{
"key": "Content-Type",
"value": "application/json"
}
],
"body": {
"mode": "raw",
"raw": "{\r\n "rating": 4,\r\n "comment": "Actually, I liked it slightly less on the second read."\r\n}",
"options": {
"raw": {
"language": "json"
}
}
},
"url": {
"raw": "http://localhost:3000/api/v1/reviews/REVIEW_ID_HERE",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"reviews",
"REVIEW_ID_HERE"
]
},
"description": "Generated from cURL: curl -X PUT http://localhost:3000/api/v1/reviews/REVIEW_ID_HERE \\r\n-H "Authorization: Bearer $TOKEN" \\r\n-H "Content-Type: application/json" \\r\n-d '{\r\n "rating":
```

```
4,\r\n "comment": "Actually, I liked it slightly less on the second read."\r\n}'\r\n"
},
"response": []
},
{
"name": "http://localhost:3000/api/v1/reviews/REVIEW_ID_HERE",
"request": {
"method": "DELETE",
"header": [
{
"key": "Authorization",
"value": "Bearer $TOKEN"
}
],
"url": {
"raw": "http://localhost:3000/api/v1/reviews/REVIEW_ID_HERE",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"reviews",
"REVIEW_ID_HERE"
]
},
"description": "Generated from cURL: curl -X DELETE
http://localhost:3000/api/v1/reviews/REVIEW_ID_HERE \\r\n-H "Authorization: Bearer $TOKEN"\r\n"
},
"response": []
},
{
"name": "http://localhost:3000/api/v1/users/register",
"request": {
"method": "POST",
"header": [
{
"key": "Content-Type",
"value": "application/json"
}
],
"body": {
"mode": "raw",
"raw": "{\r\n "firstName": "Yash",\r\n "lastName":"Kumar",\r\n "email": "yash12345999@gmail.com",\r\n "password":"Yash123@#"\r\n}",
"options": {
"raw": {
"language": "json"
}
}
},
"url": {
"raw": "http://localhost:3000/api/v1/users/register",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"users",
"register"
]
},
"description": "Generated from cURL: curl --location 'http://localhost:3000/api/v1/users/register' \\r\n--header 'Content-Type: application/json' \\r\n--data-raw '{\r\n "firstName": "Yash",\r\n "lastName":"Kumar",\r\n "email": "yash12345999@gmail.com",\r\n "password":"Yash123@#"\r\n}'"
},
"response": []
},
{
"name": "http://localhost:3000/api/v1/users/login",
"request": {
"method": "POST",
"header": [
{
"key": "Content-Type",
"value": "application/json"
}
],
"body": {
"mode": "raw",
"raw": "{\r\n "email": "yash12345999@gmail.com",\r\n "password":"Yash123@#"\r\n}",
"options": {
"raw": {
"language": "json"
}
}
},
"url": {
"raw": "http://localhost:3000/api/v1/users/login",
"protocol": "http",
"host": [
"localhost"
],
"port": "3000",
"path": [
"api",
"v1",
"users",
"login"
]
},
"description": "Generated from cURL: curl --location 'http://localhost:3000/api/v1/users/login' \\r\n--header 'Content-Type: application/json' \\r\n--data-raw '{\r\n "email": "yash12345999@gmail.com",\r\n "password":"Yash123@#"\r\n}'"
},
"response": []
}
]
}
```