

## DATABASE

### Group 7

- Akhtar Gadang Abimanyu
- Faiq Athaya Urumsah
- Farrel Tsaqif

## LIBRARY BORROWING TRACKER


The code is in the [server.js](#). In this file, we want to focus more on showing the working operations.


|   |          |
|---|----------|
| <b>CRUD operations</b>                                    | <b>3</b> |
| 1. CREATE   | 3        |
| - Register Borrower                                       | 3        |
| - Register Librarian and login to get token               | 4        |
| - Add Book but we need authorization token from librarian | 5        |
| 2. READ   | 6        |
| - Get Books   | 6        |
| 3. UPDATE   | 7        |
| - Process of borrowing a book                             | 7        |
| 4. DELETE   | 9        |
| - Deleting a book and its history                         | 9        |








# CRUD operations


## 1. CREATE

### - Register Borrower





 <http://localhost:5000/borrower/register>






**POST**  <http://localhost:5000/borrower/register>

 Docs  Params  Authorization  Headers (8)  **Body**  Scripts  Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL **JSON** 

```
1 {
2   "borrowerName": "Test User",
3   "borrowerEmail": "test@example.com",
4   "borrowerPass": "password123"
5 }
```


Body  Cookies  Headers (8)  Test Results 


 **JSON**   Preview  Visualize 



```
1 {
2   "message": "Borrower registered"
3 }
```



|   | userID | borrowerName | borrowerEmail    | borrowerPass                                  |
|---|--------|--------------|------------------|---|
| ▶ | 1      | Test User    | test@example.com | \$2b\$10\$d/kIBgwInEY6KHRHZQ4BbetB2hiqQISp... |
| ✱ | NULL   | NULL         | NULL             | NULL  |

## - Register Librarian and login to get token



 **http://localhost:5000/librarian/register**






**POST**  **http://localhost:5000/librarian/register**

 Docs Params Auth Headers (8) **Body**  Scripts Settings

**raw**  **JSON** 



```
1 {
2   "librarianName": "Boss",
3   "librarianEmail": "boss@lib.com",
4   "librarianPass": "123"
5 }
```



**Body**   **200 OK**


 **JSON**   Preview  Visualize 

```
1 {
2   "message": "Librarian registered"
3 }
```


|   | librarianID | librarianName | librarianEmail | librarianPass                                  |
|---|-------------|---------------|----------------|--|
| ▶ | 1           | Boss          | boss@lib.com   | \$2b\$10\$Pq0BjdhFJ3dd5u/bG9p.6uKlrZCo0LwsT... |
| • | NULL        | NULL          | NULL           | NULL   |



**POST**  **http://localhost:5000/librarian/login** **Send** 






 Docs Params Authorization Headers (8) **Body**  Scripts Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL **JSON** 

```
1 {
2   "librarianName": "Boss",
3   "librarianEmail": "boss@lib.com",
4   "librarianPass": "123"
5 }
```

**Body** Cookies Headers (8) Test Results | 9:52 PM 

**200 OK** • 489 ms • 469 B •  

 **JSON**   Preview  Visualize 

```
1 {
2   "message": "Login success",
3   "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ3ZCI6MSwlc29sZSI6ImxpYnJhcm1hbiIsIm1hdC6MTc2NDI1NTE3NSwiZmxwIjoxNzY0MjgzOTc1fQ.8q0078UMyeysXwotsZ290s83Tj6XRMyygruhBY-HwMY"
4 }
```

- Add Book but we need authorization token from librarian

HTTP <http://localhost:5000/books>

POST <http://localhost:5000/books>

Docs Params Authorization Headers (9) Body Scripts Settings

Auth Type  
Bearer Token

Token  
.....

The authorization header will be automatically generated when you send the request. Learn more about [Bearer Token](#) authorization.

HTTP <http://localhost:5000/books>

POST <http://localhost:5000/books>

Docs Params Auth Headers (9) Body Scripts Settings

raw JSON

```
1 {
2   "bookISBN": "000-001",
3   "bookTitle": "Database Introduction",
4   "bookGenre": "Education"
5 }
```

Body 200 OK

{ } JSON Preview Visualize

```
1 {
2   "message": "Book added"
3 }
```

|   | bookID | bookISBN | bookTitle             | bookGenre | bookStatus |
|---|--------|----------|-----------------------|-----------|------------|
| ▶ | 1      | 000-001  | Database Introduction | Education | available  |
| ✱ | NULL   | NULL     | NULL                  | NULL      | NULL       |

## 2. READ

### - Get Books

The screenshot shows a REST client interface with the following components:

- URL Bar:** Displays `http://localhost:5000/books` with a save icon on the right.
- Method:** A dropdown menu showing `GET`.
- Navigation Tabs:** Includes `Docs`, `Params`, `Auth`, `Headers (9)`, `Body` (which is selected and underlined), `Scripts`, and `Settings`.
- Body Format:** A dropdown menu showing `raw` and `JSON` (which is selected).
- Request Body:** A text area containing a JSON object:

```
1 {
2   "bookISBN": "000-001",
3   "bookTitle": "Database Introduction",
4   "bookGenre": "Education"
5 }
```
- Response Status:** A green box on the right indicates `200 OK`.
- Response Format:** A dropdown menu showing `{}` and `JSON` (which is selected).
- Response Body:** A text area displaying the JSON response:

```
1 [
2   {
3     "bookID": 1,
4     "bookISBN": "000-001",
5     "bookTitle": "Database Introduction",
6     "bookGenre": "Education",
7     "bookStatus": "available",
8     "currentBorrowID": null
9   }
10 ]
```

### 3. UPDATE

- **Process of borrowing a book**



<http://localhost:5000/borrow>

## POST

<http://localhost:5000/borrow>

≡ Docs Params Auth ● Headers (9) Body ● Scripts Settings

raw

JSON 

```
1  {
2  |   "bookID": 1
3  }
```

Body  

200 OK

{ } JSON ▾

▶ Preview  Visualize ▼

```
1  {
2  |    "message": "Request sent"
3  }
```

POST  http://localhost:5000/borrower/login

Send 

Docs Params Authorization Headers (8) **Body** Scripts Settings

☐ none ☐ form-data ☐ x-www-form-urlencoded ☒ raw ☐ binary ☐ GraphQL **JSON** ▼

```
1 {
2   "borrowerName": "Test User",
3   "borrowerEmail": "test@example.com",
4   "borrowerPass": "password123"
5 }
```

Body Cookies Headers (8) Test Results 10:10 PM

200 OK • 1.09 s • 467 B •  

**{ }** JSON **▼** **▶** Preview **🖼** Visualize **▼**

```
1 {
2   "message": "Login success",
3   "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6MSwscm9mZSI6ImJvcnJvd2VydWYiwiAwF0IjoxNzY0MjU0L0EHA10jE3NjQyODUwNTR9.cbl-I8oS0Qewc5xEEHmSPx2D0jd_1b_aJAg_vEYPfS8"
4 }
```

POST

http://localhost:5000/borrow/approve

Docs Params Auth Headers (9) Body Scripts Settings

raw JSON

```
1  {
2    "borrowID": 1,
3    "days": 7
4  }
```

Body

200 OK

{ } JSON Preview Visualize

```
1  {
2    "message": "Approved"
3  }
```

|   | bookID | bookISBN | bookTitle             | bookGenre | bookStatus |
|---|--------|----------|-----------------------|-----------|------------|
| ▶ | 1      | 000-001  | Database Introduction | Education | borrowed   |
| • | NULL   | NULL     | NULL                  | NULL      | NULL       |

## 4. DELETE

- Deleting a book and its history

HTTP `http://localhost:5000/books/1` Save Share

**DELETE** `http://localhost:5000/books/1` Send

Docs Params Auth Headers (7) Body Scripts Settings Cookies

Auth Type: Bearer Token Token

Body: 200 OK • 63 ms • 305 B • `{ "message": "Book and history deleted" }`

|   | bookID | bookISBN | bookTitle | bookGenre | bookStatus |
|---|--------|----------|-----------|-----------|------------|
| * | NULL   | NULL     | NULL      | NULL      | NULL       |