

Library
Specifications Sheet
v0.0.1

Revision.....	3
Introduction.....	4
Assumptions.....	4
Tables.....	5
borrower.....	5
book.....	5
movement.....	6
movement_aud.....	6
revinfo.....	7
APIs.....	8
Add A Borrower.....	8
Add A Book.....	9
List All Books.....	10
Borrow A Book.....	11
Return A Book.....	12

Revision

Version	Date	Updated By	Remarks
0.0.1	17/10/2024	Asri	Initial version

Introduction

Library is a simple RESTful API web service aimed at showcasing candidates' abilities and understanding of each of their own strengths and weaknesses.

This document will attempt to document every aspect of the resultant Library system that this document comes bundled with.

This system is built with Java 17, Spring Boot, Maven, and a little bit of Docker thrown in.

Assumptions

1. ISBN number received is always a 13-character-long value.
2. A book must have a title.
3. There may exist a book with an unknown author.
4. No duplicate borrower's email address is allowed.
5. A library may lend media other than books.

Tables

borrower

Name	Datatype	Nullable ? (Y/N)	Remarks
id	varchar(32)	N	Primary Key
name	nvarchar(100)	Y	
email	nvarchar(100)	Y	Unique

book

Name	Datatype	Nullable ? (Y/N)	Remarks
id	varchar(32)	N	Primary Key
isbn	varchar(13)	Y	
title	nvarchar(200)	N	
author	nvarchar(250)	Y	

movement

Name	Datatype	Nullable ? (Y/N)	Remarks
id	int	N	AUTO_INCREMENT Primary Key
item_id	varchar(32)	N	
borrower_id	varchar(32)	N	
stat	int	N	0 = outside library/borrowed 1 = inside library/returned
movement_date	datetime	Y	

movement_aud

Name	Datatype	Nullable ? (Y/N)	Remarks
id	int	Y	AUTO_INCREMENT Primary Key
item_id	varchar(32)	Y	
borrower_id	varchar(32)	Y	
stat	int	Y	0 = outside library/borrowed 1 = inside library/returned
movement_date	datetime	Y	
rev	int	Y	
revtype	int	Y	

revinfo

Name	Datatype	Nullable ? (Y/N)	Remarks
rev	int	N	AUTO_INCREMENT Primary Key
revtstmp	bigint	N	

APIs

Add A Borrower

Endpoint

```
{project_url}/borrower/add?name={borrower_name}&email={borrower_email}
```

Sample Responses

```
{  
  "status": "SUCCESS",  
  "message": "New borrower added.",  
  "data": null  
}
```

```
{  
  "status": "FAIL",  
  "message": "Email address already registered.",  
  "data": null  
}
```

```
{  
  "status": "ERROR",  
  "message": "At least 1 detail must be provided.",  
  "data": null  
}
```

```
{  
  "status": "SYSERR",  
  "message": "java.lang.NullPointerException",  
  "data": null  
}
```


Add A Book

Endpoint

```
{project_url}/book/add
```

Sample Request Body

```
{
  "isbn": "9780261102736",
  "title": "The Silmarillion",
  "author": "J.R.R. Tolkien"
}
```

Sample Responses

```
{
  "status": "SUCCESS",
  "message": "New book added.",
  "data": null
}
```

```
{
  "status": "FAIL",
  "message": "ISBN 9780261102736 already registered with different Title and/or Author.",
  "data": null
}
```

```
{
  "status": "ERROR",
  "message": "Book must at least have a title.",
  "data": null
}
```

```
{
  "status": "SYSERR",
  "message": "java.lang.NullPointerException",
  "data": null
}
```

List All Books

Endpoint

```
{project_url}/book/all
```

Sample Responses

```
{
  "status": "SUCCESS",
  "message": null,
  "data": [
    {
      "id": "37d3c0ac8c9711ef9d150242ac1a0002",
      "isbn": "9780261102736",
      "title": "The Silmarillion",
      "author": "J.R.R. Tolkien"
    },
    {
      "id": "37d3c27b8c9711ef9d150242ac1a0002",
      "isbn": "9780261102736",
      "title": "The Silmarillion",
      "author": "J.R.R. Tolkien"
    },
    {
      "id": "37d3c4638c9711ef9d150242ac1a0002",
      "isbn": "9789671797112",
      "title": "Si Sabariah",
      "author": "Hamka"
    }
  ]
}
```

```
{
  "status": "SUCCESS",
  "message": null,
  "data": []
}
```

```
{
  "status": "SYSERR",
  "message": "java.lang.NullPointerException",
  "data": null
}
```

Borrow A Book

Endpoint

```
{project_url}/borrow/book?bookId={book_id}&borrowerId={borrower_id}
```

Sample Responses

```
{  
  "status": "SUCCESS",  
  "message": "Book check-out successful.",  
  "data": null  
}
```

```
{  
  "status": "FAIL",  
  "message": "This is awkward. Book already checked out.",  
  "data": null  
}
```

```
{  
  "status": "SYSERR",  
  "message": "java.lang.NullPointerException",  
  "data": null  
}
```

Return A Book

Endpoint

```
{project_url}/return/book?bookId={book_id}&borrowerId={borrower_id}
```

Sample Responses

```
{
  "status": "SUCCESS",
  "message": "Book returned successfully.",
  "data": null
}
```

```
{
  "status": "FAIL",
  "message": "This is awkward. No record of said book being borrowed.",
  "data": null
}
```

```
{
  "status": "FAIL",
  "message": "This is awkward. No record of said borrower borrowing said book.",
  "data": null
}
```

```
{
  "status": "SYSERR",
  "message": "java.lang.NullPointerException",
  "data": null
}
```