

# DEPI-JAVA Final Project

## Library Management System

### Team:

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**Instructor name:** Dr/Mina Younan

### Main scenario:

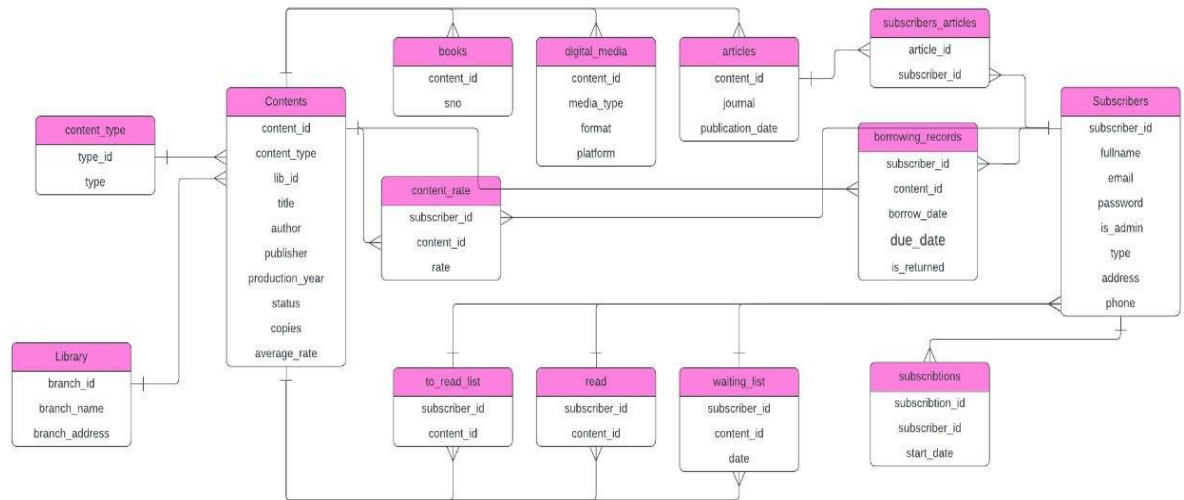
Library Management System

Develop an application to manage Library borrowing and returns activities. Consider the following information gathered during the analysis process

### Design:

- **Basic Classes:** Library, Contents, Books, Articles, Digital Media, Subscribers, Borrowing Records, and have the following relationships:
- **A library** content can be a book, an article in a journal, or digital media.
- **A subscriber** can borrow any of the library contents, for three weeks, golden subscribers can borrow for three months, after the lease time is over, a fee accrue on the subscriber until the borrowed item is returned.
- **A Librarian/administrator** can print a report about all borrowed books and rank them according to audience interest rates, can save/load data on and from files.

- **Database:**



**Your extra suggestions are welcome, especially to organize main function, display a menu to the user to:**

- Adding/editing/deleting instances belonging to each class,
- Subscriber browsing library contents and select items to borrow.
- Subscriber returning borrowed item and check his balance and pay any late fee if any.
- Admin can print reports of overdue borrowed items.

**library.txt**

Library ID	Name
1	Main Campus Library
2	CS Library
3	Engineering Library

**items.txt**

Item ID	Library ID	Category	Title	Author	Publisher	Production Year	Status	Copies
1	1	book	Introduction to Java	Daniel Liang	Pearson	2010	On shelf	10
2	...	...	...	...	...	...	...	...

**subscribers.txt**

Subscriber ID	Type	Name	Address	Phone	Email
1	regular	Mohamed	...	...	...
2	golden	Ahmed	...	...	...
3	regular	Mostafa	...	...	...

**Borrowing.txt**

subscriber ID	Borrow Date	content ID	Return Date	Fee
1	10/1/2013	1	...	0
1	10/1/2013	1	...	50
2	12/2/2013	3	...	...
2	13/2/2013	3	...	...

## Extra Features:

- Library view made as interface, and UserMainPage and AdminMainPage are made from it.
- All contents can be borrowed using the same function “borrow” (Polymorphism)
- Search for Contents using filters
- Add Contents to wish list “to\_read\_list”
- Add Contents to read list “the already read books”
- Add content to waiting list to get notified if available.
- Get notified before the end of the borrowing period by email.

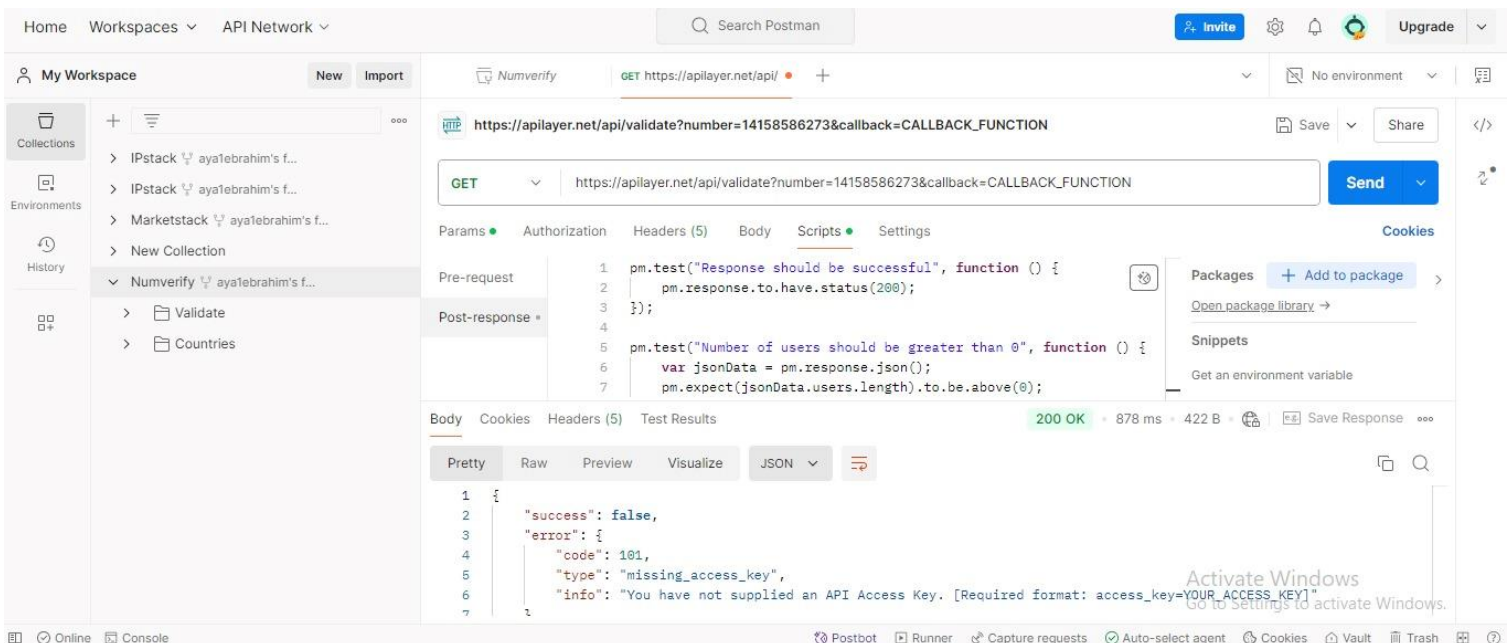
## Source code:

[Tasneem205/Library\\_Management\\_System: Library Management System as a DEPI project \(github.com\)](#)

**note:** not all the team used GitHub, so some edits are made by someone and committed by Tasneem205.

## API usage:

We tried 3 deferent APIs and tested them using postman



Home Workspaces API Network Search Postman Invite Upgrade

My Workspace New Import Overview Getting started New Collection GET https://api.ipstack.com/ No environment

collections IPstack aya1ebrahim's f... IPstack aya1ebrahim's f... New Collection This collection is empty Add a request to start working.

History

https://api.ipstack.com/72.229.28.185,110.174.165.78?language=ru Save Share

GET https://api.ipstack.com/72.229.28.185,110.174.165.78?language=ru Send

Params Authorization Headers (5) Body Scripts Settings Cookies

Pre-request 1 pm.test("Number of users should be greater than 0", function () {  
2 var jsonData = pm.response.json();  
3 pm.expect(jsonData.users.length).to.be.above(0);  
4 });

Post-response

200 OK · 902 ms · 422 B Save Response

Packages Add to package Open package library Snippets Get an environment variable Get a global variable

Body Cookies Headers (5) Test Results (0/1) Pretty Raw Preview Visualize JSON

```
1 {  
2   "success": false,  
3   "error": {  
4     "code": 101,  
5     "type": "missing_access_key",  
6     "info": "You have not supplied an API Access Key. [Required format: access_key=YOUR_ACCESS_KEY]"  
7   }  
8 }
```

Online Console Postbot Runner Capture requests Auto-select agent Cookies Vault Trash

Home Workspaces API Network Search Postman Invite Upgrade

My Workspace New Import Marketstack GET https://api.marketstack.com/ No environment

collections IPstack aya1ebrahim's f... IPstack aya1ebrahim's f... Marketstack aya1ebrahim's f... End-of-Day Data Intraday Data Real-Time Updates Historical Data Splits Data Dividends Data Tickers Exchanges Currencies Timezones New Collection

https://api.marketstack.com/v1/eod?symbols=DJI.INDX Save Share

GET https://api.marketstack.com/v1/eod?symbols=DJI.INDX Send

Params Authorization Headers (5) Body Scripts Settings Cookies

Pre-request 1 pm.test("Response should be successful", function () {  
2 pm.response.to.have.status(200);  
3 });

Post-response 4  
5 pm.test("Number of users should be greater than 0", function () {  
6 var jsonData = pm.response.json();  
7 pm.expect(jsonData.users.length).to.be.above(0);  
8 });

401 Unauthorized · 1236 ms · 1.08 KB Save Response

Packages Open package library Snippets Get an environment variable Get a global variable

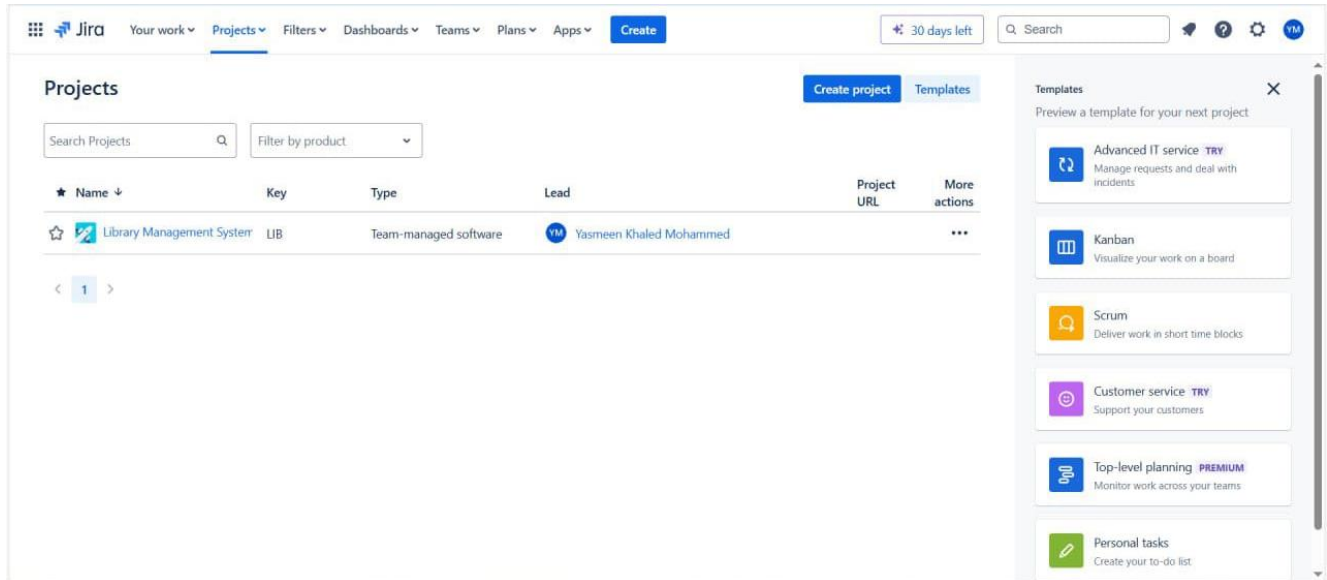
Body Cookies Headers (15) Test Results Pretty Raw Preview Visualize JSON

```
1 {  
2   "error": {  
3     "code": "missing_access_key",  
4     "message": "You have not supplied an API Access Key. [Required format: access_key=YOUR_ACCESS_KEY]"  
5   }  
6 }
```

Online Console Postbot Runner Capture requests Auto-select agent Cookies Vault Trash

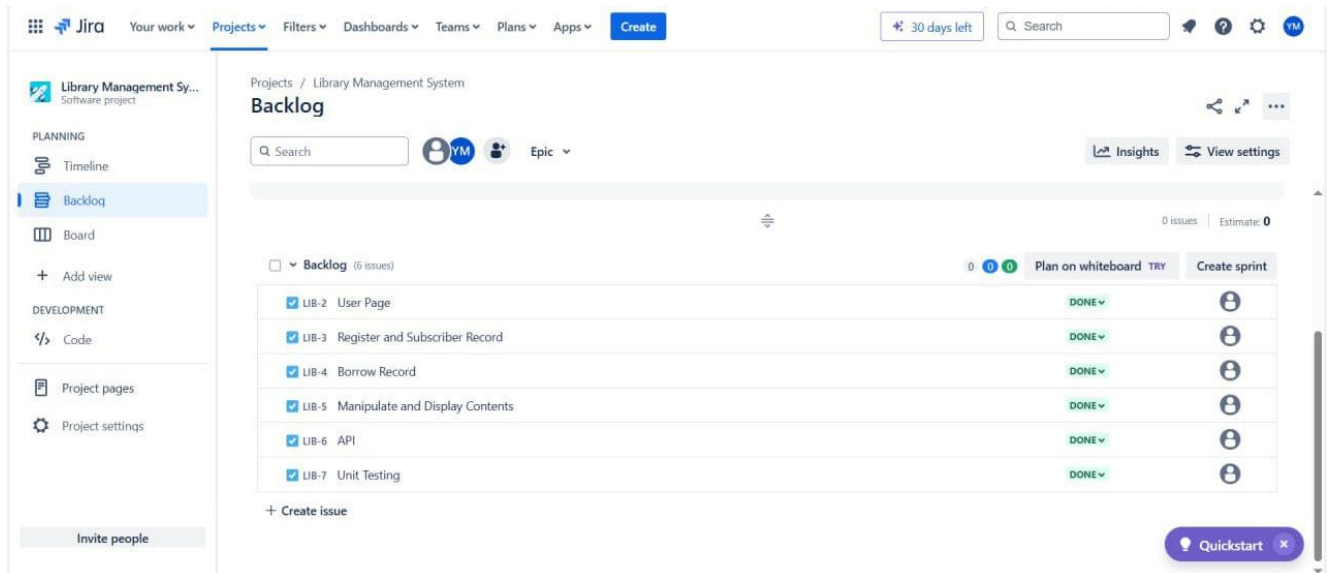
## Management tool (JIRA):

We used JIRA to manage the project using agile concepts, here is an example:



The screenshot shows the Jira Projects page. The top navigation bar includes 'Your work', 'Projects', 'Filters', 'Dashboards', 'Teams', 'Plans', 'Apps', and a 'Create' button. A search bar and a '30 days left' indicator are also present. The main content area is titled 'Projects' and features a search bar, a 'Filter by product' dropdown, and a table of projects. The table has columns for Name, Key, Type, Lead, Project URL, and More actions. One project is listed: 'Library Management System' with key 'LIB', type 'Team-managed software', and lead 'Yasmeen Khaled Mohammed'. A sidebar on the right titled 'Templates' offers various project templates like 'Advanced IT service', 'Kanban', 'Scrum', 'Customer service', 'Top-level planning', and 'Personal tasks'.

Name	Key	Type	Lead	Project URL	More actions
Library Management System	LIB	Team-managed software	Yasmeen Khaled Mohammed		...



The screenshot shows the Jira Backlog page for the 'Library Management System' project. The left sidebar contains navigation options: 'PLANNING' (Timeline, Backlog, Board), 'Add view', 'DEVELOPMENT' (Code), 'Project pages', and 'Project settings'. The main content area is titled 'Backlog' and includes a search bar, user avatars, and an 'Epic' dropdown. Below this, a list of issues is shown, each with a checkbox, a key, a title, a status, and an assignee. The issues are: 'LIB-2 User Page', 'LIB-3 Register and Subscriber Record', 'LIB-4 Borrow Record', 'LIB-5 Manipulate and Display Contents', 'LIB-6 API', and 'LIB-7 Unit Testing'. All issues are marked as 'DONE'. A '+ Create issue' button is at the bottom left, and a 'Quickstart' button is at the bottom right.

Issue	Status	Assignee
LIB-2 User Page	DONE	Yasmeen Khaled Mohammed
LIB-3 Register and Subscriber Record	DONE	Yasmeen Khaled Mohammed
LIB-4 Borrow Record	DONE	Yasmeen Khaled Mohammed
LIB-5 Manipulate and Display Contents	DONE	Yasmeen Khaled Mohammed
LIB-6 API	DONE	Yasmeen Khaled Mohammed
LIB-7 Unit Testing	DONE	Yasmeen Khaled Mohammed