

# DAT152: Lab – Exercise #4

## RESTful APIs for eLibrary Web Services

For this lab, you will develop a RESTful APIs for the eLibrary Web App.

The REST API should provide the following services:

1. Produce a list of all the books with their authors (**implemented**).
2. Provide details of each book with its author (**implemented**).
3. Provide support for creating a book (**implemented**).
4. Provide support for updating and deleting a book.
5. Produce a list of all the authors with the books they published.
6. Provide details of each author with their published books.
7. Provide the support for creating and updating an author.

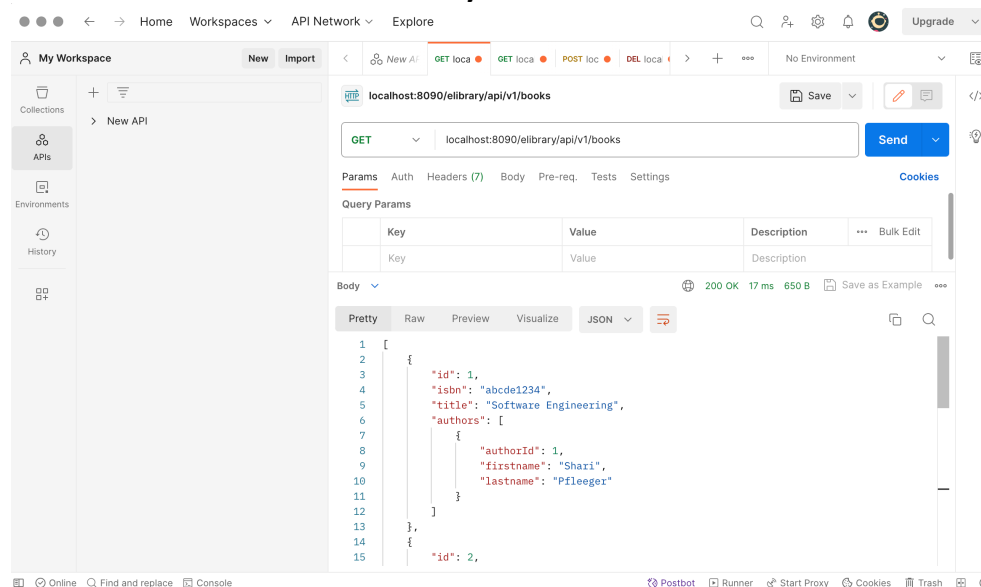
**Preambles:** Download and unzip *Lab4.zip*. Then, import the maven project into your preferred IDE.

Some ways to run your project:

1. Run the project from a command prompt (e.g., Mac Terminal). Navigate to the root folder of your project and run the maven command: `./mvnw spring-boot:run`
2. From your IDE: Right click on 'LibraryApplication.java' in the "no.hvl.dat152.main" package and "Run As" Java Application.

## Testing your REST APIs

○ You will need Postman to test your APIs.



○ Alternatively, you can use the 'curl' tool/command from a terminal.

```
curl -X GET http://localhost:8090/elibrary/api/v1/books [{"id":1,"isbn":"abcde1234","title":"Software Engineering","authors":[{"authorId":1,"firstname":"Shari","lastname":"Pfleegeer"}]},{"id":2,"isbn":"ghijk1234","title":"Computer Network","authors":[{"authorId":1,"firstname":"Shari","lastname":"Pfleegeer"}, {"authorId":2,"firstname":"Perry","lastname":"Lea"}]}]
```

**Task #1:** Involves implementing new REST APIs for the Book services. Some APIs have been implemented by default.

- getAllBooks -> /books
- getBook -> /books/{isbn}
- createBook -> /books

**Your tasks:** Provide support for updating and deleting a book by ISBN.

- BookService
  - Implement 2 methods **updateBook(Book book)** and **deleteByISBN(String isbn)** in the BookService class.
- BookController
  - Implement 2 methods **updateBook** and **deleteBook** in the BookController class.
  - The methods will use the corresponding methods in the BookService class.

**Task #2:** In the second task, you will provide a complete REST APIs for the Author services. Use inspiration from how the REST APIs in Task #1 are implemented. You will be writing your code in 2 classes – AuthorService.java and AuthorController.java

**Your tasks:**

- Produce the list of all the authors with their published books.
- Provide details of each author with their published books.
- Provide support for creating and updating an author.