

# CS418 – DBSD

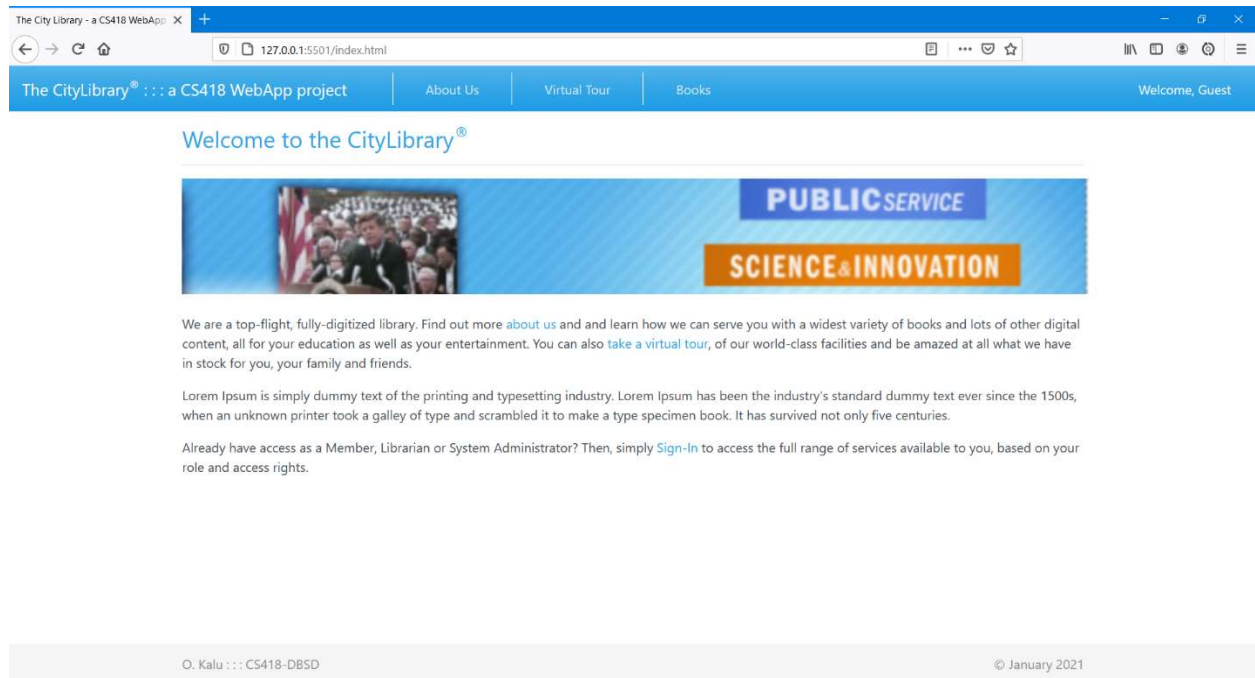
## Website Design and Development Project – City Library

Here is a step-by-step guide for developing the City Library website:

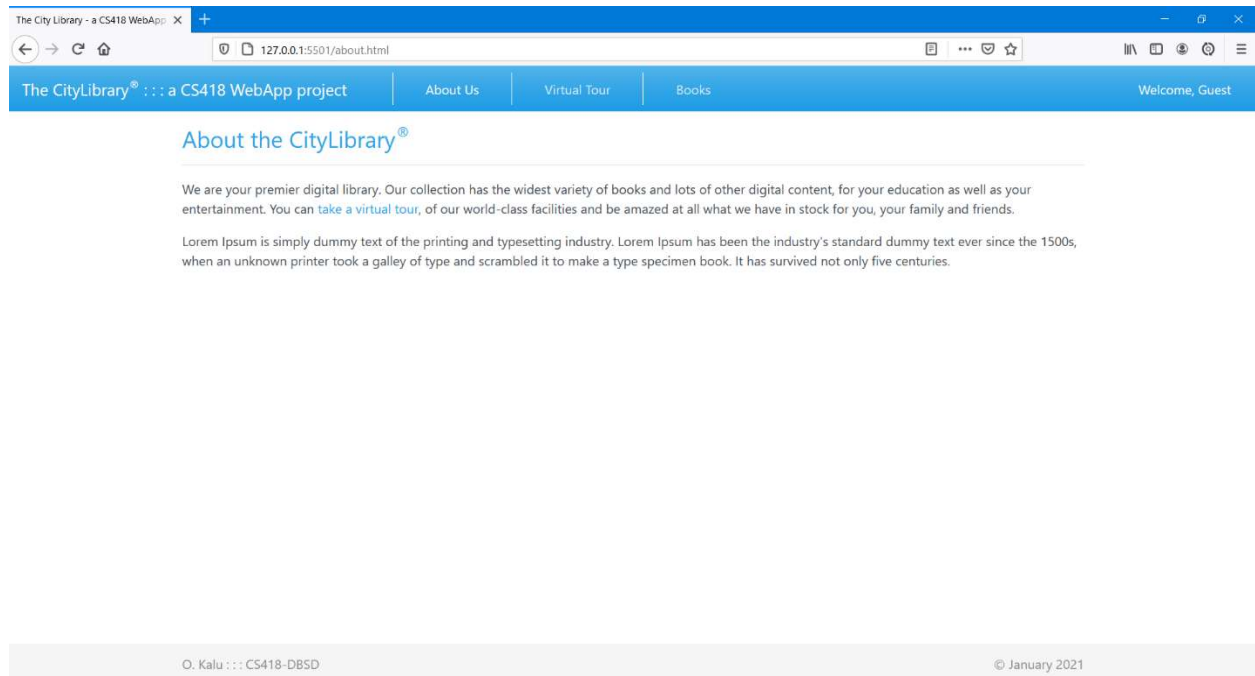
*(Note: Upon code completion, you are required to push your finished project to a repo on github)*

1. In one of your local drives on your computer, create a new directory/folder, named say, "citylibrary".
2. Open the "citylibrary" folder in Visual Studio Code (or some other Code Editing tool which you prefer).
3. In the "citylibrary" folder, create/add the following 3 sub-folders: "css", "js", "images".
4. Download and copy the image files provided for you in the project's resources folder (found on both Sakai and MS Teams) to the "citylibrary/images" folder, on your machine.
5. Implement code for the CityLibrary Homepage, About page and Virtual Tour page:
  - a. Using VS Code, add new web page source files named, "index.html", "about.html" and "virtualtour.html"
  - b. The figures below are example screenshots of what the pages may look like. **Note:** You may use a CSS framework (such as Bootstrap) to apply necessary styling, to achieve this sample or similar look and page layout:

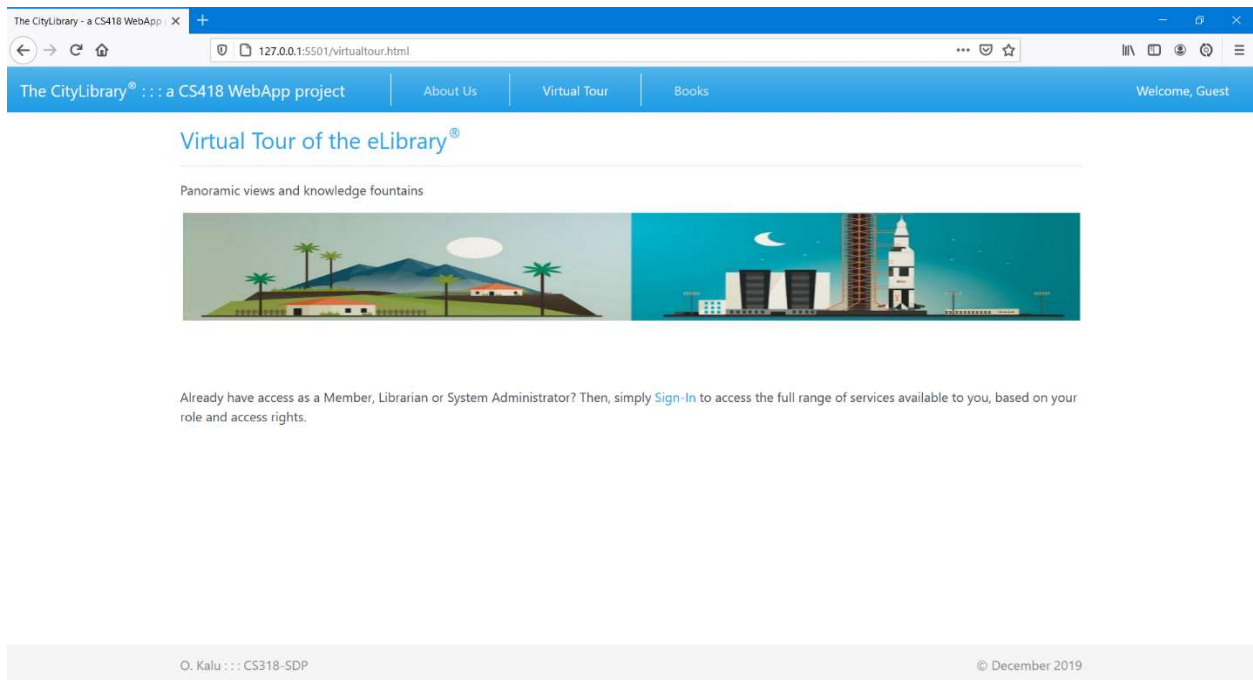
Home page:



## About page:



## Virtual Tour page:



### 6. Implement code for the CityLibrary Books page:

Note: The Books data (which is presented in JSON format) will be obtained from a remote RESTful service API hosted online at the url - <https://elibraryrestapi.herokuapp.com/elibrary/api/book/list>.

To fetch and present the data, do the following:

- Using VS Code, add a new web page source file named, "books.html".
- Add JavaScript code to your project, such that when the Books page is loaded in the Browser window, the books data is fetched from the remote RESTful service API and presented as shown below:

## Books page:

The CityLibrary - a CS418 WebApp
127.0.0.1:5501/books.html

The CityLibrary® :: a CS418 WebApp project
About Us
Virtual Tour
Books
Welcome, Guest

### Books in our Collection

Add New Book

| #  | ISBN           | Book Title                                      | Overdue Fee | Publisher      | Date Published |
|----|----------------|---|-------------|----------------|----------------|
| 1. | 978-0135974445 | Agile Software Development                      | \$1.05      | Prentice-Hall  | 2002-10-25     |
| 2. | 978-0135166307 | Core Java - Fundamentals, 12th Edition          | \$1.75      | Pearson        | 2018-08-27     |
| 3. | 978-0073523323 | Database Systems Concepts, 6th Edition          | \$1.47      | McGraw-Hill    | 2011-05-19     |
| 4. | 978-0321127426 | Patterns of Enterprise Application Architecture | \$2.49      | Addison-Wesley | 2002-11-25     |
| 5. | 978-1234567890 | Spring In Action                                | \$0.99      | Manning        | 2010-09-24     |
| 6. | 978-0000001112 | UML Distilled, 3rd Edition                      | \$1.86      | John Wiley     | 2018-03-16     |

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## 7. Adding a new Book

The CityLibrary - a CS418 WebApp
127.0.0.1:5501/books/addnewbook.html

The CityLibrary® :: a CS418 WebApp project
About Us
Virtual Tour
Books
Welcome, Guest

### New Book Form

**Note:** Form fields marked with asterisk (\*) are required.

\*Book Title

\*ISBN

\*Overdue Fee per day

Enter a valid decimal amount; in dollars and cents; no comma (e.g. 1.99)

\*Publisher

\*Date Published

Reset
Save Book

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## 8. Implement code for the CityLibrary “Add new Book” page:

Note: The endpoint url of the RESTful Web API for adding a new book to the system, is -

<https://elibraryrestapi.herokuapp.com/elibrary/api/book/add>

To add a new Book data into the system, do the following:

- Using VS Code, add a new web page source file named, "addnewbook.html". And make the Add New Book Form UI like the sample shown in step 7, above.
- Add JavaScript code to your project, such that when the "Save Book" button is clicked, the new book data is read from the form input fields, constructed into a JSON formatted object and sent to remote RESTful service API, using Fetch API, and as an HTTP POST request.
- Note: Make all the data fields to be required fields. i.e. prevent submission of the form, unless all the Book data fields are entered.
- After the form data is successfully submitted, clear the input data fields and you may also show a "Success" info message, as shown below:

The screenshot shows a web browser window with the address bar displaying 'localhost:8080/books/addnewbook.html'. The page has a blue header with the text 'The CityLibrary' and navigation links: 'About Us', 'Virtual Tour', and 'Books'. A 'Welcome, Guest' message is on the right. The main content area is titled 'New Book Form' and includes a note: 'Note: Form fields marked with asterisk (\*) are required.' The form contains five input fields: '\*Book Title' (with 'Intro to NoSQL Databases'), '\*ISBN' (with '123-3456784545'), '\*Overdue Fee per day' (with '0.50'), '\*Publisher' (with 'Apress'), and '\*Date Published' (with '02/28/2020'). Below the fields are 'Reset' and 'Save Book' buttons. The footer shows '© Kaku :: CS418-DBSD' and '© January 2021'.

The CityLibrary - a CS418 WebApp project

Book successfully added!

**Note:** Form fields marked with asterisk (\*) are required.

\*Book Title

\*ISBN

\*Overdue Fee per day

0.00

Enter a valid decimal amount; in dollars and cents; no comma (e.g. 1.99)

\*Publisher

\*Date Published

mm/dd/yyyy

Reset Save Book

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## 9. Editing/Updating and Deleting an existing Book data:

- On the Books list page, add two new columns to the table/grid. One for a hyperlink named, Edit and the other for a hyperlink named, Delete – as shown below.

The CityLibrary - a CS418 WebApp project

Books in our Collection

Add New Book

| #  | ISBN           | Book Title                                      | Overdue Fee | Publisher      | Date Published |      |        |
|----|----------------|---|-------------|----------------|----------------|------|--------|
| 1. | 978-0135974445 | Agile Software Development                      | \$1.05      | Prentice-Hall  | 2002-10-25     | Edit | Delete |
| 2. | 978-0135166307 | Core Java - Fundamentals, 12th Edition          | \$1.75      | Pearson        | 2018-08-27     | Edit | Delete |
| 3. | 978-0073523323 | Database Systems Concepts, 6th Edition          | \$1.47      | McGraw-Hill    | 2011-05-19     | Edit | Delete |
| 4. | 978-0135974499 | Intro to Alg2                                   | \$2.99      | Prentice-Hall  | 2002-10-21     | Edit | Delete |
| 5. | 123-3458764545 | Intro to NoSQL Databases                        | \$0.50      | Apress         | 2020-02-28     | Edit | Delete |
| 6. | 978-0321127426 | Patterns of Enterprise Application Architecture | \$2.49      | Addison-Wesley | 2002-11-25     | Edit | Delete |
| 7. | 978-1234567890 | Spring In Action                                | \$0.99      | Manning        | 2010-09-24     | Edit | Delete |
| 8. | 978-0000001112 | UML Distilled, 3rd Edition                      | \$1.86      | John Wiley     | 2018-03-16     | Edit | Delete |

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b. For Editing/Updating a Book:

- i. When the Edit link is clicked, make your webapp open the Book's data in an "Edit Book" form

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About Us Virtual Tour Books

Welcome, Guest

### Edit Book Form

Note: Form fields marked with asterisk (\*) are required.

\*Book Title  
Database Systems Concepts, 6th Edition

\*ISBN  
978-0073523323

\*Overdue Fee per day  
1.47  
Enter a valid decimal amount; in dollars and cents; no comma (e.g. 1.99)

\*Publisher  
McGraw-Hill

\*Date Published  
05/19/2011

Reset Save Book

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- ii. Add code such that when the "Save Book" button is clicked, the edited book data is read, formatted into a JSON Book object and sent to the Web API url at <https://elibraryrestapi.herokuapp.com/elibrary/api/book/update/{bookId}>. **Note:** substitute the {bookId} in the path with the actual bookId value.

Note: The Fetch API code for updating the Book data should be sent with an HTTP PUT request.

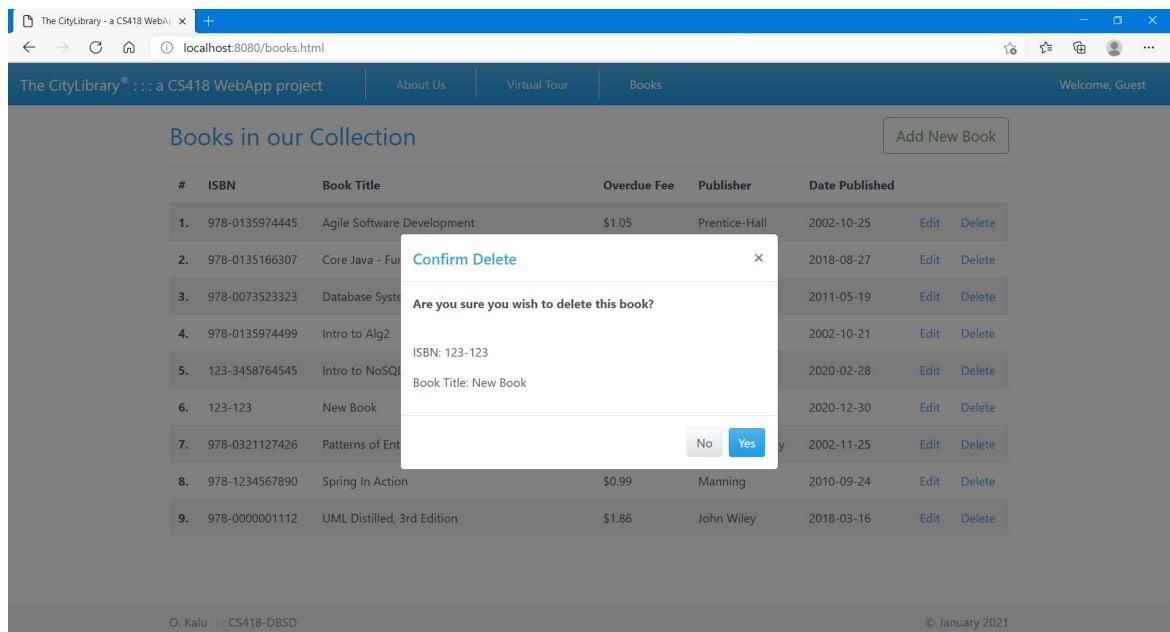
c. For Deleting a Book:

- i. Implement code such that when the Delete hyperlink is clicked, the Book data is deleted from the system, by

sending an HTTP DELETE request to the endpoint url -  
`https://elibraryrestapi.herokuapp.com/elibrary/api/book/delete/{bookId}`

**Note:** substitute the `{bookId}` in the path with the actual `bookId` value.

For a good user experience (UX), you may display a Delete warning/confirmation message to prompt the user to confirm the Delete action, before proceeding with the Deletion.





The CityLibrary - a CS418 WebApp

localhost:8080/books.html

The CityLibrary® :: a CS418 WebApp project

About UsVirtual TourBooks

Welcome, Guest

Books in our Collection

Book successfully deleted!

Add New Book

| #  | ISBN           | Book Title                                      | Overdue Fee | Publisher      | Date Published |      |        |
|----|----------------|---|-------------|----------------|----------------|------|--------|
| 1. | 978-0135974445 | Agile Software Development                      | \$1.05      | Prentice-Hall  | 2002-10-25     | Edit | Delete |
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10. ...