

# CPIT 405

## Lab Final Assignment

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This culminating assignment serves as a comprehensive assessment of the skills you've acquired throughout the course. It challenges you to integrate the front-end and back-end aspects of web development, showcasing your mastery of these concepts. This assignment carries a significant weight of 5 grades, as it attempts to evaluate your overall understanding of the course material.

In this assignment, you're asked to develop a comprehensive full-stack bookmarking application that encompasses the following components:

### Database Server

Utilize a MySQL or MariaDB database to store bookmark information in a dedicated table named 'Bookmark'. The table should contain the following fields:

- `id` : Unique identifier for each bookmark (primary key)
- `URL` : The web address of the bookmarked page
- `title` : The title of the bookmarked page
- `dateAdded` : The date when the bookmark was added (timestamp)

You may use the following [SQL code to create the database](#)

### API Server

Implement a REST API server using PHP to facilitate communication with the underlying database. The API should handle requests in JSON format, enabling seamless data exchange between the front-end and back-end components

### React Application

Create a front-end React application that communicates with the API server. The React app should interact with the API server via HTTP requests to perform CRUD operations (Create, Read, Update, Delete) on bookmarks.

### Extra Credit

- Implement user authentication and authorization mechanisms to ensure secure access to bookmarks.
- Integrate social sharing functionalities to allow users to share their bookmarks with others.
- Implement search functionality to enable users to quickly locate specific bookmarks.

## **Additional Notes**

- Watch this tutorial on creating a [CRUD REST API with PHP & MariaDB](#).
- Refer to this very relevant [todo application](#)