Lab 12

Ajax and APIs

# Overview

In this lab exercise, you will convert an existing multi-page app developed using express+handlebars into a single page app using raw JavaScript in the browser.

Your solution must not use any additional libraries in the client side (i.e. no jQuery, no Axios) and must rely on the ‘fetch’ function call to retrieve data from the server.

# Step 1 – Application Configuration

Get a copy of the lab code from D2L. You will need to have a database (either local or in the cloud) named ‘university’. Create a collection called ‘course’ and load the courses.json file into this collection. Make sure that the application works.

# Step 2 – SPA Conversion

Change the program so that when the user visits the / page they see the contents of the spaapp.handlars template. Disable the layouts. Check that the home and ‘course list’ links switch pages.

# Step 3 – Course List (6 points)

Write an API route for ‘/api/course’ that returns a list of all courses in JSON format. Test this API using the Postman tool.

Modify the page to show the courses in the following format. For now, the buttons do not need to do anything. A close-up of a document

Description automatically generated

# Step 4 – Course Capacity (2 points)

Implement a handler for the ‘Update Capacity’ button to show the user an interface like this:

A close-up of a sign

Description automatically generated

The value in the control must be the current value of the course capacity.

When the user clicks on the “Update” button, the data must be sent to the server using the fetch method. After it is complete, the course list should be shown again. I recommend writing the server code first and testing with Postman.

# Step 5 – Add Course (1 point)

To make this as simple as possible, when the user clicks this button a course with the code INFS4444, name “Introduction to Everything” and capacity 20 will be added to the collection using Ajax. When the operation is done the list of courses should be refreshed. Include code to ensure that no duplicate courses can be inserted.

# Step 6 – Delete Course (1 point)

Write the code necessary for deleting the course from the course list (and from the collection on the server).