

Lab 10: Web Programming - CSci130

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Keep the different documents that you are creating during the lab sessions as they can be asked later as a part of the “attendance and participation” mark.

Goals: The goal of this lab is to create a graphical user interface to browse into a list of objects that are stored in a file in PHP. **Learning outcomes:** PHP syntax, classes and objects with PHP, JSON with PHP, POST, GET.

Part 1. You may work as a group

We consider students who are defined by the following properties: FirstName, LastName, Address, Date of Birth, ID number, GPA, number of units. The first step is to create this class and to add the appropriate function to transform an object of the class student into some JSON string, and to obtain an instance of the class student from a JSON string. We want to create a page that can load a JSON file containing students, display the students one by one, to edit the records for each student, to delete a student, to add a student. You need an HTML page and appropriate JS functions with the different fields corresponding to the properties of a student. You need buttons for:

- Button “Previous student”
- Button “Next student”
- Button “Edit (toggle on/off the readonly property of the text boxes)”
- Button “Save” the record (Save the object in the array of objects)
- Button “Save all” the database (Save the whole collection in a file on the server side)
- Button “Delete” the current record (delete an element of the array, go to the first element)
- Button “Insert” a new element (add a new element in the array, go in the last position)

At the beginning with 0 element, the inputs are in read only, you need to Insert an element to enable them.

Tasks:

1. Create the class Student in **PHP**.
2. Create the Graphical User Interface using **HTML5**.
3. Send the information using **AJAX** to the server.
4. Save the received information in a file with **PHP**.
5. Verify the content of the file; what was sent by the client by using a text editor.

Display the position of the current displayed object in the list for debugging purposes.

When you will load the page, you will automatically retrieve the list of objects from the server, as it is stored in a file (you can consider a default filename that corresponds to your JSON database).

After completing this lab, you should be able: Create/Insert/Remove/Display/Save/Load an object from a list of objects that is stored on the server in a JSON file.