

AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)

**Faculty of Science and Technology (FST)
Department of Computer Science (CS)
Course: Web Technologies**

Lab Task 02: Reading and Writing JSON Files Using PHP

Instructions:

- 1. Complete the task using PHP only.**
- 2. Use JSON files as a data storage format (no database).**
- 3. Save all files with proper .php and .json extensions.**
- 4. Push all files to your GitHub repository after completion.**

Scenario:

You are developing a simple student record system that stores data in a JSON file instead of a database. The system should be able to read existing data, add new data, and display all records. This lab introduces persistent data storage using JSON files.

Task Requirements:

Create the following files:

- students.json
- index.php
- add_student.php

Part A: JSON File Structure (students.json)

1. Create a JSON file containing an array of at least 2 student objects.
2. Each student object should have:

- id
- name
- email
- department

Part B: Reading JSON Data (index.php)

- Read the contents of students.json using file_get_contents().
- Decode the JSON data using json_decode() into a PHP array.
- Display all student records in an HTML table.

- If the JSON file is empty or missing, display a proper message.

Part C: Adding Data to JSON File (add_student.php)

1. Create an HTML form to add a new student:

- ID
- Name
- Email
- Department

2. On form submission:

- Read existing JSON data
- Decode it into a PHP array
- Append the new student record
- Encode the updated array back to JSON
- Save it to students.json using `file_put_contents()`

3. Redirect the user back to index.php after successful insertion.