

Module: Web Services (WAT 2124C)

Coursework – REST Web Service

In this individual coursework, you need to design and implement a REST Web Service (Web API) using PHP, which provides information about books (e.g. book title, author(s), publication year, description, language, ISBN, reviews, best seller, cover photo, category, etc) in JSON format. You may consider other additional information which you deem necessary. All the book information must be stored in a MySQL database named “bookstore”, in a table named “books” (you may consider other tables if required). Below are the core operations/functionalities which must be provided by your web service:

1. Get book(s) information by title
2. Get book(s) information by author
3. Get book(s) information by publication year
4. Get book(s) information by category
5. Get book information by author and category
6. Get book information by author and publication year

Apart from the above list of functionalities, you must implement a minimum of **two additional functionalities** for your webservice, e.g. you may consider to include a response format in the query, where the programmer can choose to get book information in either JSON or XML. **NOTE:** additional functionalities must be completely different from 1-4 listed above, e.g. get book information by ISBN will not be considered as an additional functionality.

Following the implementation of your web service, you need to design and implement a client web application which consumes and demonstrates all the functionalities of the web service. You need to carefully implement the appropriate HTTP Methods for each type of request (GET, POST, PUT, ...)

Submission

- You need to submit a report which completely describes your application design, implementation (**explaining all your codes**) and testing (screen shots). You must also submit a video of maximum duration of 5 minutes which serves as a demonstration of the functionalities implemented in your application. The demonstration video must also include in the lower left corner a recording of you describing the demonstration (your face must be clearly visible). Submit your work in google classroom by uploading your report and video (avoid compressed files e.g. zip, rar). You may consider the following software for your recording: <https://screencast-o-matic.com/>
-
- Submission deadline is defined in Google Classroom.

Marking Scheme (100 marks/50%)

- Report: well-structured and prepared: 10
- Web Service Implementation (including video demonstration):
 - Structure of web service application: 20
 - Implementation of core functionalities*: 30
 - Implementation of additional functionalities*: 20
- Client Application (including video demonstration):
 - Consuming web service functionalities*: 20

[*Note: All marks include proper explanation of codes in the report. Failure to accurately explain codes for working functionalities implies major penalty in marks]