

LAB REPORT

CSE416: Web Engineering Lab

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| 04 [Report Number] |

Topic: Database-Driven Web Application Development with PHP and MySQL

Submitted To

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**1. Objective**

* To understand and apply basic PHP syntax in building a dynamic web application.
* To implement CRUD operations (Create, Read, Update, Delete) using PHP and MySQL.
* To design a book management system for adding, storing, and viewing books.

**2. Equipment and Software Used**

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| --- | --- | --- |
| Sl. No. | Equipment / Software | Description |
| 1 | Laptop / PC | Device used for coding and testing the web application |
| 2 | XAMPP (Apache + MySQL + PHP) | Local server environment |
| 3 | PHP 8.x | Server-side scripting language |
| 4 | MySQL | Database system for storing book records |
| 5 | Visual Studio Code | IDE used for writing PHP & HTML code |
| 6 | Google Chrome | Browser for running and testing application |

**4. Theory**

* PHP (Hypertext Preprocessor) is a server-side scripting language used for creating dynamic web applications.
* MySQL is a relational database management system used with PHP to store and retrieve data.
* CRUD operations represent the four basic functions of database applications:
  + Create – Insert records into the database
  + Read – Retrieve and display records
  + Update – Modify existing records
  + Delete – Remove records

**4. Procedure**

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| --- | --- |
| Step | Description |
| 1 | Create a MySQL database named **book** and table new\_books with fields (id, title, author, genre, description, best\_selling, created\_at). |
| 2 | Write **book.php** to provide a form for adding a new book into the database. |
| 3 | Write **bookInsert.php** as an alternative book entry form with basic validation. |
| 4 | Write **view.php** to display all stored books in a tabular format. |
| 5 | Connect PHP files to the MySQL database using mysqli functions. |
| 6 | Test the application by adding new books and verifying entries in the database. |

**5. Code Snippets**

**(i) Database Connection (db.php)**

A computer screen with text on it

AI-generated content may be incorrect.

**(ii) Create Operation (create.php)**

A computer screen shot of code

AI-generated content may be incorrect.

**(iii) Read Operation (read.php)**

A computer screen with white and green text

AI-generated content may be incorrect.

**(iv) Update Operation (update.php)**

A computer screen with white and green text

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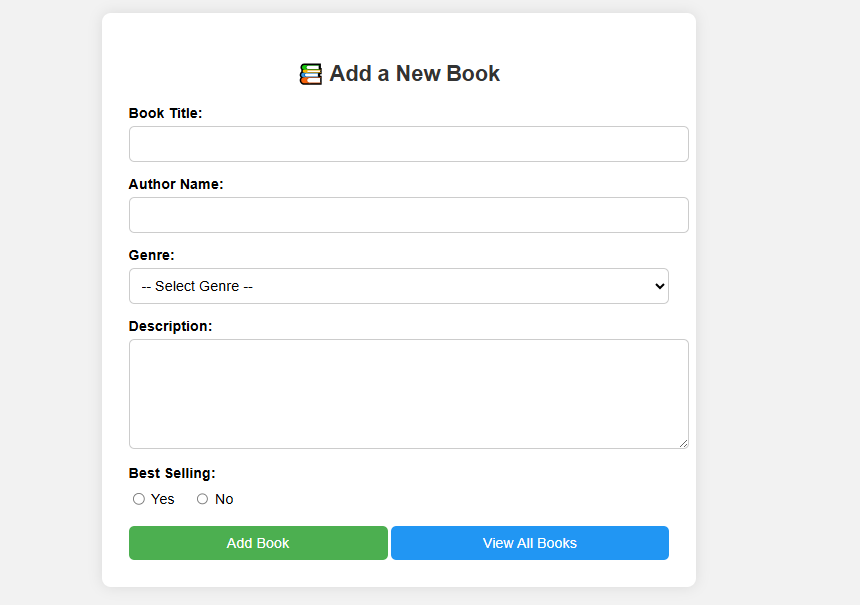
**(v) Delete Operation (delete.php)**

A computer screen with text on it

AI-generated content may be incorrect.

**7. Output Snippets** [[Full code]](https://github.com/mehedihasansaim/Web-Engineering-Lab/tree/main/Lab%20php-2)

Book Entry Form (book.php)



**Book Table (view.php)**

A screenshot of a book

AI-generated content may be incorrect.

**8. Result**

* Successfully created a database-driven web application using PHP and MySQL.
* Implemented book insertion and viewing functionality.
* Validations ensure required fields are not left empty.

**9. Conclusion**

This lab demonstrated how PHP can interact with MySQL to develop dynamic, data-driven web applications. CRUD operations form the foundation of any real-world database application.

**10. References**

* PHP Official Documentation – <https://www.php.net/docs.php>
* MySQL Documentation – https://dev.mysql.com/doc/
* W3Schools PHP Tutorial – https://www.w3schools.com/php/