



Lab Report-04

Course Code:	Course Title:
CSE 416	Web Engineering Lab

Lab Report Details	
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Submitted To	Submitted By
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Experiment No: 04

Experiment Name: Database-Driven Web Application Development with PHP and MySQL.

Objective:

To develop a simple database-driven web application using PHP and MySQL that performs CRUD (Create, Read, Update, Delete) operations on a student records database.

JavaScript Operations Performed:

No.	Feature / Concept	Description	Example Functions / Syntax
1	Basic PHP Syntax	Embedding PHP inside HTML, variables, and echo statements.	<?php ... ?>, \$var
2	Database Connection	Connecting PHP to MySQL database using mysqli or PDO.	mysqli_connect()
3	Create Operation	Inserting new data into database tables.	INSERT INTO query
4	Read Operation	Fetching and displaying data from database.	SELECT query
5	Update Operation	Editing and updating existing records.	UPDATE query
6	Delete Operation	Removing records from database.	DELETE query

Code Snippets and Outcomes:

1. Basic PHP Syntax

Description:

PHP code is written inside <?php ... ?> tags and can be embedded into HTML.

Code Snippet:

```
66 <?php
67 $name = "Munna Biswas";
68 echo "Hello, " . $name;
69 ?>
```

Screenshot:

Hello, Munna Biswas

2. Database Connection

Description:

Connected PHP to MySQL using mysqli_connect().

Code Snippet:

```
1  <?php
2  $servername = "localhost";
3  $username = "root"; // default in XAMPP
4  $password = "";    // default in XAMPP
5  $dbname = "student_db";
6
7  // Create connection                                (global variable) string $username
8  $conn = mysqli_connect(hostname: $servername, username: $username, password: $password, database: $dbname);
9
10 // Check connection
11 if (!$conn) {
12     die("Connection failed: " . mysqli_connect_error());
13 }
14 ?>
15
```

Screenshot:

The screenshot displays the phpMyAdmin web interface. On the left, a sidebar shows the database structure with 'student_db' selected. The main area shows the 'students' table with columns 'id', 'name', and 'email'. Two rows of data are listed. Above the table, there are navigation and action icons. Below the table, there are controls for 'Check all', 'With selected', 'Edit', 'Copy', 'Delete', and 'Export'. At the bottom, there are filters for 'Show all', 'Number of rows' (set to 25), 'Filter rows' (Search this table), and 'Sort by key' (set to None). A 'Query results operations' section at the very bottom includes buttons for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'.

3. Create Operation (Insert Data)

Description:

Inserted new student record into the database.

Code Snippet:

```
4 // CREATE
5 if (isset($_POST['add'])) {
6     $name = $_POST['name'];
7     $email = $_POST['email'];
8     mysqli_query(mysql: $conn, query: "INSERT INTO students (name, email) VALUES ('$name','$email')");
9 }
10
```

Screenshot:


Student Management System


Student Records


ID	Name	Email	Action
1	Munna Biswas	biswas15-5261@diu.edu.bd	Edit Delete
2	Afsar	asfar@gmail.com	Edit Delete

↔ T ↔


▼ id name email


☐  Edit


☐  Copy

☐  Delete

1 Munna Biswas biswas15-5261@diu.edu.bd

☐  Edit

☐  Copy


☐  Delete


2 Afsar asfar@gmail.com


↑


☐ Check all

With selected:

 Edit

 Copy

☐  Delete

 Export

Click the drop-down arrow to toggle column's visibility.

4. Read Operation (Fetch Data)

Description:

Fetches and displays student data in an HTML table.

Code Snippet:

```
17 // READ
18 $result = mysqli_query(mysql: $conn, query: "SELECT * FROM students");
19 ?>

45 <table>
46 <tr><th>ID</th><th>Name</th><th>Email</th><th>Action</th></tr>
47 <?php while($row = mysqli_fetch_assoc(result: $result)) { ?>
48 <tr>
49 <td><?= $row['id']; ?></td>
50 <td><?= $row['name']; ?></td>
51 <td><?= $row['email']; ?></td>
52 <td>
53 <a href="update.php?id=<?= $row['id']; ?>">Edit</a> |
54 <a href="index.php?delete=<?= $row['id']; ?>" onclick="return confirm('Are you sure?')">Delete
55 </td>
56 </tr>
57 <?php } ?>
58 </table>
```

Screenshot:

Student Records

ID	Name	Email	Action
1	Munna Biswas	biswas15-5261@diu.edu.bd	Edit Delete
2	Afsar	asfar@gmail.com	Edit Delete

5. Update Operation (Edit Data)

Description:

Updated an existing student's email in the database.

Code Snippet:

```
// Update record
if (isset($_POST['update'])) {
    $name = $_POST['name'];
    $email = $_POST['email'];
    mysqli_query(mysql: $conn, query: "UPDATE students SET name='$name', email='$email' WHERE id=$id");
    header(header: "Location: index.php");
}
```







Screenshots:

Update Student

[Back to Home](#)

Student Records

ID	Name	Email	Action
1	Munna	munna5261@diu.edu.bd	Edit Delete

				id	name	email
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	Munna	munna5261@diu.edu.bd
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	Afsar	asfar@gmail.com

6. Delete Operation (Remove Data)

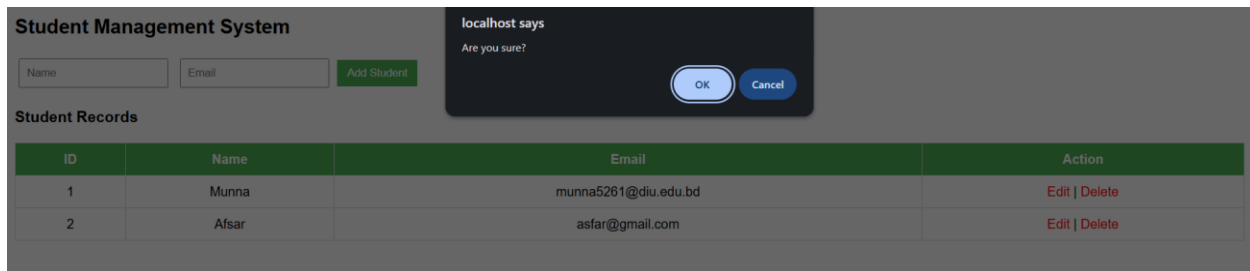
Description:

Deleted a student record from the database.

Code Snippet:

```
// DELETE
if (isset($_GET['delete'])) {
    $id = $_GET['id'];
    mysqli_query(mysql: $conn, query: "DELETE FROM students WHERE id=$id");
}
```

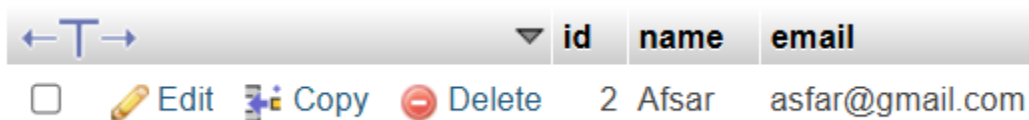
Screenshot:



Student Management System

Student Records

ID	Name	Email	Action
2	Afsar	asfar@gmail.com	Edit Delete



Outcome:

The student management application successfully performed CRUD operations. Users could add, view, update, and delete student records stored in a MySQL database.

Conclusion:

PHP and MySQL provide a powerful way to create dynamic, database-driven web applications. CRUD functionality is essential for almost all real-world applications such as student management, e-commerce, and content management systems.

References:

<https://www.php.net/manual/en/>

<https://www.w3schools.com/php/>

<https://www.mysqltutorial.org/>