LAB REPORT

03

CSE416: Web Engineering Lab
Experiment Title: Basic PHP programming

Submitted To
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1. Objective

The objective of this lab is to understand the basics of **PHP programming** and how to connect PHP with a **MySQL database** to perform simple operations such as **inserting** and **retrieving data**.

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2. Tools and Technologies Used

- **XAMPP** – for running PHP and MySQL server.
- **Code Editor** – Visual Studio Code.
- **Web Browser** – Google Chrome.

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3. Explanation

a) PHP

PHP (Hypertext Preprocessor) is a server-side scripting language used to build dynamic and interactive web applications.

b) Variables

In PHP, variables start with `$` symbol.
Example:

```
$name = "Fahim";
$a = 10;
$b = 20;
```

c) Data Types

PHP supports several data types:

- **String** → `"Hello World"`
- **Integer** → `10, -5, 200`
- **Float** → `10.5, 3.14`
- **Boolean** → `true, false`
- **Array** → `array("Apple", "Banana", "Mango")`

d) Operators

- **Arithmetic Operators**: `+`, `-`, `*`, `/`, `%`
- **Comparison Operators**: `==`, `!=`, `>`, `<`
- **Logical Operators**: `&&`, `||`, `!`

e) Output Functions

- **echo** → Outputs one or more strings.
- **print** → Similar to echo, but returns `1`.

f) Conditional Statements

Example:

```
if ($a > $b) {
  echo "A is greater";
} else {
  echo "B is greater";
}
```

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4. Code Implementation

a) Simple PHP Script

```
<?php
// Variables
$name = "Fahim";
$a = 10;
$b = 20;

// Output
echo "Hello, my name is $name <br>";
echo "Sum of a and b = " . ($a + $b) . "<br>";

// Conditional statement
if ($a > $b) {
    echo "a is greater than b <br>";
} else {
    echo "b is greater than a <br>";
}
?>
```

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b) Connecting PHP with MySQL Database

Database Connection (`db_connect.php`)

```php
<?php
$servername = "localhost";
$username = "root"; // default for XAMPP
$password = "";     // default for XAMPP
$dbname = "informationdb";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
?>
```

Insert Data (insert.php)

```php
<?php
include "db_connect.php";

$message = "";

if (isset($_POST['submit'])) {
    $name = $_POST['name'];
    $email = $_POST['email'];
```

```
    $sql = "INSERT INTO users (name, email) VALUES ('$name',
'$email')";

    if ($conn->query($sql) === TRUE) {
        $message = "New record inserted successfully!";
    } else {
        $message = "Error: " . $sql . "<br>" . $conn->error;
    }
}
$conn->close();
?>

<!DOCTYPE html>
<html>
<head>
    <title>Insert User</title>
    <link rel="stylesheet" href="style.css">
    <style>
        body {
            background: #f4f6f8;
            font-family: Arial, sans-serif;
        }
        .container {
            background: #fff;
            max-width: 400px;
            margin: 60px auto;
```

```
        padding: 30px 40px;
        border-radius: 10px;
        box-shadow: 0 4px 16px rgba(0,0,0,0.08);
    }
    h2 {
        text-align: center;
        color: #333;
    }
    label {
        display: block;
        margin-bottom: 6px;
        color: #555;
    }
    input[type="text"], input[type="email"] {
        width: 100%;
        padding: 8px 10px;
        margin-bottom: 18px;
        border: 1px solid #ccc;
        border-radius: 5px;
        box-sizing: border-box;
    }
    input[type="submit"] {
        width: 100%;
        background: #007bff;
        color: #fff;
        border: none;
        padding: 10px;
```

```
        border-radius: 5px;
        font-size: 16px;
        cursor: pointer;
        transition: background 0.2s;
    }
    input[type="submit"]:hover {
        background: #0056b3;
    }
    .message {
        background: #e7f7e7;
        color: #2e7d32;
        border: 1px solid #c3e6cb;
        padding: 10px;
        border-radius: 5px;
        margin-bottom: 15px;
        text-align: center;
    }
    a {
        display: block;
        text-align: center;
        color: #007bff;
        text-decoration: none;
        margin-top: 10px;
    }
    a:hover {
        text-decoration: underline;
    }
```

```
    </style>
</head>
<body>
    <div class="container">
        <h2>Insert User</h2>
        <?php if($message) echo "<p class='message'>$message</p>"; ?>
        <form method="POST" action="">
            <label>Name:</label>
            <input type="text" name="name" required>

            <label>Email:</label>
            <input type="email" name="email" required>

            <input type="submit" name="submit" value="Insert">
        </form>
        <a href="retrieve.php">View Users</a>
    </div>
</body>
</html>
```

Retrieve Data (retrieve.php)

```
<?php
include "db_connect.php";
```

```
$sql = "SELECT id, name, email FROM users";
$result = $conn->query($sql);
?>

<!DOCTYPE html>
<html>
<head>
    <title>Retrieve Users</title>
    <link rel="stylesheet" href="style.css">
    <style>
        body {
            background: #f4f6f8;
            font-family: Arial, sans-serif;
        }
        .container {
            max-width: 700px;
            margin: 40px auto;
            background: #fff;
            padding: 32px 24px;
            border-radius: 8px;
            box-shadow: 0 2px 8px rgba(0,0,0,0.08);
        }
        h2 {
            text-align: center;
            color: #333;
            margin-bottom: 24px;
        }
```

```
table {
    width: 100%;
    border-collapse: collapse;
    margin-bottom: 18px;
}
th, td {
    padding: 12px 8px;
    text-align: left;
}
th {
    background: #007bff;
    color: #fff;
    border: none;
}
tr:nth-child(even) {
    background: #f0f4fa;
}
tr:hover {
    background: #e2e6ea;
}
a {
    display: inline-block;
    padding: 8px 16px;
    background: #007bff;
    color: #fff;
    text-decoration: none;
    border-radius: 4px;
```

```
            transition: background 0.2s;
        }
        a:hover {
            background: #0056b3;
        }
    </style>
</head>
<body>
    <div class="container">
        <h2>Users List</h2>
        <table>
            <tr>
                <th>ID</th>
                <th>Name</th>
                <th>Email</th>
            </tr>
            <?php
            if ($result->num_rows > 0) {
                while($row = $result->fetch_assoc()) {
                    echo "<tr>
                            <td>".$row["id"]."</td>
                            <td>".$row["name"]."</td>
                            <td>".$row["email"]."</td>
                          </tr>";
                }
            } else {
                echo "<tr><td colspan='3'>No results found</td></tr>";
```

```
            }
            $conn->close();
            ?>
        </table>
        <a href="insert.php">Insert New User</a>
    </div>
</body>
</html>
```

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5. Output / Screenshots

- **PHP Script Output:** Displays variable values, sum of numbers, and conditional check.
- **Insert Script Output:** `"New record inserted successfully"`
- **Retrieve Script Output:** List of stored users with ID, name, and email.

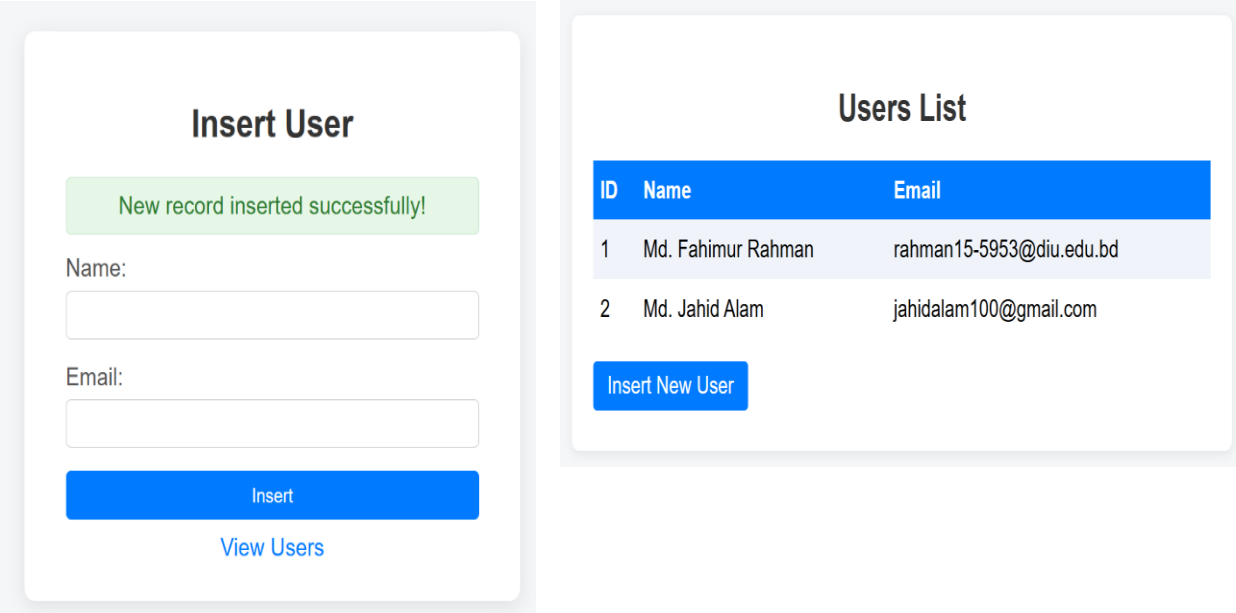

Fig 5.1: *Insert user Successfully and the user list.*

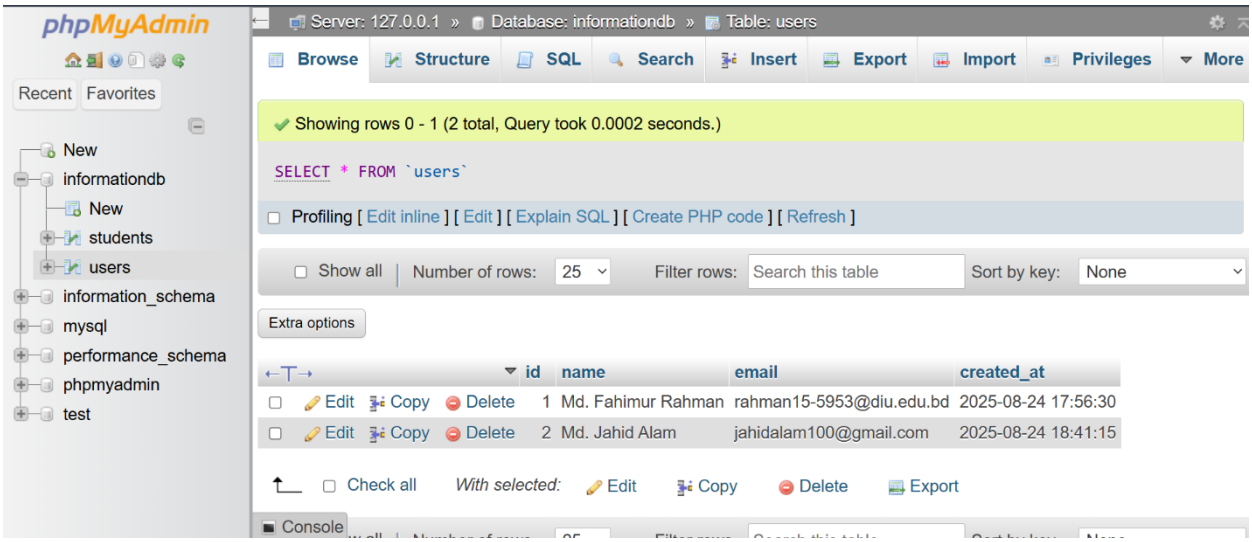

Fig 5.2: *Successfully insert in Database.*

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6. Conclusion

- PHP is a powerful server-side language that allows dynamic content generation.
- Variables, data types, operators, and conditionals make PHP flexible and easy to use.
- **Database connectivity** with MySQL enables storage and retrieval of data.
- This lab helped in understanding how **PHP + MySQL** can be used together for web development.