WEEK 10

## PHP-MYSQL CONNECTIVITY USING XAMPP SERVER

TABLE OF CONTENT

- PHP Connect To MySQL

- Select Data From a MySQL Database

- Insert Data Into MySQL Using MySQLi

- Delete Data From a MySQL Table Using MySQLi

- Update Data In a MySQL Table Using MySQLi

- Simple PHP Implementation

PHP CONNECT TO MYSQL

1. PHP 5 and later can work with a MySQL database using:

   • MySQLi extension (the "i" stands for improved)

2. In this, and in the following chapters we demonstrate the way of working with PHP and MySQL:

   • MySQLi (procedural)

3. Start both MySQL and Apache on XAMPP local Server
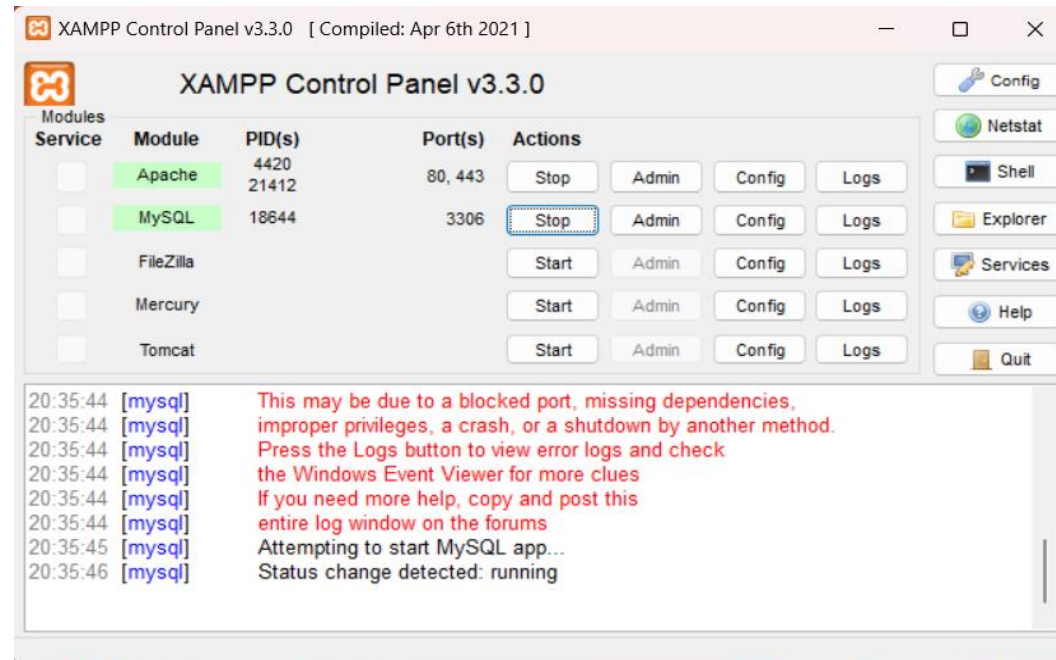
CREATING CONFIG.PHP

- Download Visual Studio Code or any code editor.

- Create a folder called "CRUD_Database"

- Write the following code and save it as **config.php** into folder C:\xampp\htdocs\CRUD_Database

```php
<?php
$servername = "localhost";
$username = "root"; //Your Username will depend on your database, XAMPP default is root
$password = ""; //Your Username will depend on your database, XAMPP default is empty
$dbname = "is2022_testbench"; //Change into your database name

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

// Check connection
if (!$conn) {
  die("Connection failed: " . mysqli_connect_error());
}
echo "Connected successfully";
?>
```

- To connect PHP with MySQL, we use the mysqli_connect() function with the server address as the first parameter, username as the second parameter, user password as the third parameter, and database name as the fourth parameter.

- Next we will create a Simple PHP file to display data from the database.

- The file **index.php** is the main file which includes the configuration file for the database connection. Then display all student list using MySQL Select Query. Students to be displayed in the list need to be added first using the 'Add New Student' link.

CREATING INDEX.PHP

- Write the following code and save it as **index.php** into folder C:\xampp\htdocs\CRUD_Database

PHP Code

```php
<?php
// Create database connection using config file
include_once("config.php");

// Fetch all users data from database and student table
$result = mysqli_query($conn, "SELECT * FROM student");
?>
```

HTML Code

```html
<html>
    <head>
        <title>Homepage</title>
    </head>

    <body>
        <!-- This is a link for Add Page -->
        <a href="add.php">Add New Student</a><br/><br/>
        <table border=1>
            <tr>
                <th>ID</th>
                <th>Name</th>
                <th>Department Name</th>
                <th>Total Creds</th>
                <th>Action</th>
            </tr>
```

```php
            <?php
            while($student = mysqli_fetch_array($result)) {
                echo "<tr>";
                echo "<td>".$student['ID']."</td>";
                echo "<td>".$student['name']."</td>";
                echo "<td>".$student['dept_name']."</td>";
                echo "<td>".$student['tot_cred']."</td>";
                echo "<td><a href='edit.php?ID=$student[ID]'>Edit</a> |
                <a href='delete.php?ID=$student[ID]'>Delete</a></td></tr>";
            }
            ?>
        </table>
    </body>
</html>
```

If successful, you should see something like this:

Add New Student

ID	Name	Department Name	Total Creds	Action
1281	Zhang	Comp. Sci.	102	Edit	Delete
12345	Shankar	Comp. Sci.	32	Edit	Delete
19991	Brandt	History	80	Edit	Delete
23121	Chavez	Finance	110	Edit	Delete
44553	Peltier	Physics	56	Edit	Delete
45678	Levy	Physics	46	Edit	Delete
54321	Williams	Comp. Sci.	54	Edit	Delete
55739	Sanchez	Music	38	Edit	Delete
70557	Snow	Physics	0	Edit	Delete
76543	Brown	Comp. Sci.	58	Edit	Delete
76653	Aoi	Elec. Eng.	60	Edit	Delete
98765	Bourikas	Elec. Eng.	98	Edit	Delete
98988	Tanaka	Biology	120	Edit	Delete

Add New Student

- Next we will create an Add page to enter data into the database. The link above will direct it from **index.php**

- The **add.php** file is used to add a new student. HTML forms are used to accept student data input. After student data is submitted, **MySQL INSERT** Query is used to enter student data into the database.

CREATING ADD.PHP

- Write the following code and save it as **add.php** into folder C:\xampp\htdocs\CRUD_Database

PHP Code

```php
<?php
// Check If form submitted, insert form data into student table.
if(isset($_POST['Submit'])) {
    $ID = $_POST['ID'];
    $name = $_POST['name'];
    $dept_name = $_POST['dept_name'];
    $tot_cred = $_POST['tot_cred'];

    // include database connection file
    include_once("config.php");

    // Insert student data into table
    $result = mysqli_query($conn, "INSERT INTO student(ID,name,dept_name,tot_cred)
    VALUES('$ID','$name','$dept_name',$tot_cred)");

    // Show message when student added
    echo "Student added successfully. <a href='index.php'>View Students</a><br><br>";
}
?>
```

HTML Code

```html
<html>
    <head>
        <title>Add Students</title>
    </head>

    <body>
        <a href="index.php">Go to Home</a>
        <br/><br/>

        <form action="add.php" method="post" name="form1">
            <table width="25%" border="0">
                <tr>
                    <td>ID</td>
                    <td><input type="text" name="ID"></td>
                </tr>
                <tr>
                    <td>Name</td>
                    <td><input type="text" name="name"></td>
                </tr>
                <tr>
                    <td>Dept Name</td>
                    <td><input type="text" name="dept_name"></td>
                </tr>
```

```html
                    <td>Total Credits</td>
                    <td><input type="text" name="tot_cred"></td>
                </tr>
                <tr>
                    <td></td>
                    <td><input type="submit" name="Submit" value="Add"></td>
                </tr>
            </table>
        </form>
    </body>
</html>
```

If successful, you should see something like this:

- Try filling in the form with data for student tables. Then after you are done. Check back the table on **index.php** by clicking the View Students link.

CREATING UPDATE.PHP

234242	Farah Yulianti	Comp Sci	4	Edit Delete

- Next we will create an edit page to update data into the database. The **edit.php** file is used to edit/update student data. You can click the edit button to go to this file. This file will redirect the user back to the homepage, after a successful update.

- Write the following code and save it as **edit.php** into folder C:\xampp\htdocs\CRUD_Database

PHP Code

```php
<?php
// include database connection file
include_once("config.php");

// Check if form is submitted for user update, then redirect to homepage after update
if(isset($_POST['update']))
{
    $ID = $_POST['ID'];
    $name = $_POST['name'];
    $dept_name = $_POST['dept_name'];
    $tot_cred = $_POST['tot_cred'];

    // update user data
    $result = mysqli_query($conn, "UPDATE student
    SET name='$name',dept_name='$dept_name',tot_cred='$tot_cred' WHERE ID=$ID");

    // Redirect to homepage to display updated user in list
    header("Location: index.php");
}
?>
```

```php
<?php
// Display selected user data based on id
// Getting id from url
$ID = $_GET['ID'];

// Fetech user data based on id
$result = mysqli_query($conn, "SELECT * FROM student WHERE ID=$ID");

while($student = mysqli_fetch_array($result))
{
    $name = $student['name'];
    $dept_name = $student['dept_name'];
    $tot_cred = $student['tot_cred'];
}
?>
```

HTML Code

```html
<html>
<head>
    <title>Edit Student Data</title>
</head>

<body>
    <a href="index.php">Home</a>
    <br/><br/>

    <form name="update_student" method="post" action="edit.php">
        <table border="0">
            <tr>
                <td>Name</td>
                <td><input type="text" name="name" value=<?php echo $name;?>></td>
            </tr>
            <tr>
                <td>Department Name</td>
                <td><input type="text" name="dept_name" value=<?php echo $dept_name;?>></td>
            </tr>
            <tr>
                <td>Total Credits</td>
                <td><input type="text" name="tot_cred" value=<?php echo $tot_cred;?>></td>
            </tr>
            <tr>
                <td><input type="hidden" name="ID" value=<?php echo $_GET['ID'];?>></td>
                <td><input type="submit" name="update" value="Update"></td>
            </tr>
        </table>
    </form>
</body>
</html>
```

CREATING DELETE.PHP

234242	Farah Yulianti	Comp Sci	4	Edit	Delete

- Next we will create delete page to delete data into the database. The **delete.php** file is only called when we click on the 'Delete' link for any of the selected student.

- Write the following code and save it as **delete.php** into folder C:\xampp\htdocs\CRUD_Database

PHP Code

```php
<?php
// include database connection file
include_once("config.php");

// Get id from URL to delete that student
$ID = $_GET['ID'];

// Delete student row from table based on given ID
$result = mysqli_query($conn, "DELETE FROM student WHERE ID=$ID");

// After delete redirect to Home, so that latest students list will be displayed.
header("Location:index.php");
?>
```

HANDS-ON

- Try CRUD For Course, Section, Takes, Instructor, and Teaches tables.
- Try displaying data of titles of courses in the Biology Department
- Try displaying data of instructors who earn more than the average salary of all instructors.
- Try displaying titles of courses that can be taken whether on Packard Building or Watson building

THANK YOU