T.Y.B.Tech CSE 2023-24

Name : Parimal Shrikant Kolhe
Roll No : PB_01
Sub : FSD

Sem : 5
Panel : B
Batch : B1

Lab Assignment 4

Aim: Write server-side script in PHP to perform form validation and create database application using PHP and MySQL to perform insert, update, delete and search operations.

Objectives:

1. To understand Server-side Scripting.
2. To learn database connectivity using PHP-MySQL.
3. To perform insert, update, delete and search operations on database.

Theory :

1. PHP Architecture:

PHP (Hypertext Preprocessor) is a widely-used server-side scripting language for web development. It follows a typical request-response model. Here's an overview of PHP's architecture:

- **Client Request:** A client (usually a web browser) sends an HTTP request to the web server.
- **Web Server:** The web server, such as Apache, receives the request and forwards it to the PHP interpreter.
- **PHP Interpreter:** PHP interpreter processes the PHP script embedded in the requested web page. It can perform various tasks, such as interacting with databases, processing forms, and generating dynamic content.
- **Database Interaction:** If needed, PHP can connect to a database to fetch or store data. This interaction can happen through various database extensions like MySQL, SQLite, or PostgreSQL.

- **Response Generation:** PHP generates dynamic HTML content or other data based on the script's logic and the data retrieved from the database.
- **Server Response:** The dynamic content is sent back to the web server, which, in turn, sends it as an HTTP response to the client.
- **Client Display:** The client's web browser processes the response and displays the content to the user.

2. Steps for Database Connectivity in PHP

To connect to a database in PHP, you typically follow these steps:

- **Database Setup:** First, you need to have a database management system (e.g., MySQL) installed and create a database that you want to connect to.
- **PHP Database Extensions:** PHP provides various extensions (e.g., mysqli, PDO) for interacting with databases. Choose the appropriate extension for your database.
- **Connection Parameters:** Define the database connection parameters such as hostname, username, password, and database name.
- **Establish Connection:** Use the selected PHP database extension to establish a connection to the database using the defined parameters.
- **Execute Queries:** Once the connection is established, you can execute SQL queries to fetch, insert, update, or delete data.
- **Error Handling:** Implement error handling to deal with connection issues or query failures gracefully.
- **Close Connection:** After you're done with the database operations, close the database connection to free up resources.

Ex)

```
<?php
$hostname = "localhost";
$username = "your_username";
$password = "your_password";
```

```
$database = "your_database";

$mysqli = new mysqli($hostname, $username, $password,
$database);

iF ($mysqli->connect_error) {
    die("Connection Failed: " . $mysqli->connect_error);
}

$sql = "SELECT column1, column2 FROM your_table";
$result = $mysqli->query($sql);

iF ($result) {
    while ($row = $result->Fetch_assoc()) {
        echo "Column 1: " . $row["column1"] . "<br>";
        echo "Column 2: " . $row["column2"] . "<br>";
    }
} else {
    echo "Error: " . $mysqli->error;
}

$mysqli->close();
?>
```

FAQ:

Q: What are the advantages of Server-side Scripting?

Server-side scripting, like PHP, offers several advantages:

- Dynamic Content: It allows you to generate dynamic web content based on user input or data from databases.
- Security: Sensitive operations and data are kept on the server, making it more secure.
- Cross-Platform: Server-side scripts can run on various web servers and are accessible from different client devices.
- Scalability: Handling complex tasks and database interactions is easier on the server, ensuring scalability.

- Customization: You can tailor the user experience and functionality of your website.

Q: What is XAMPP and phpMyAdmin?

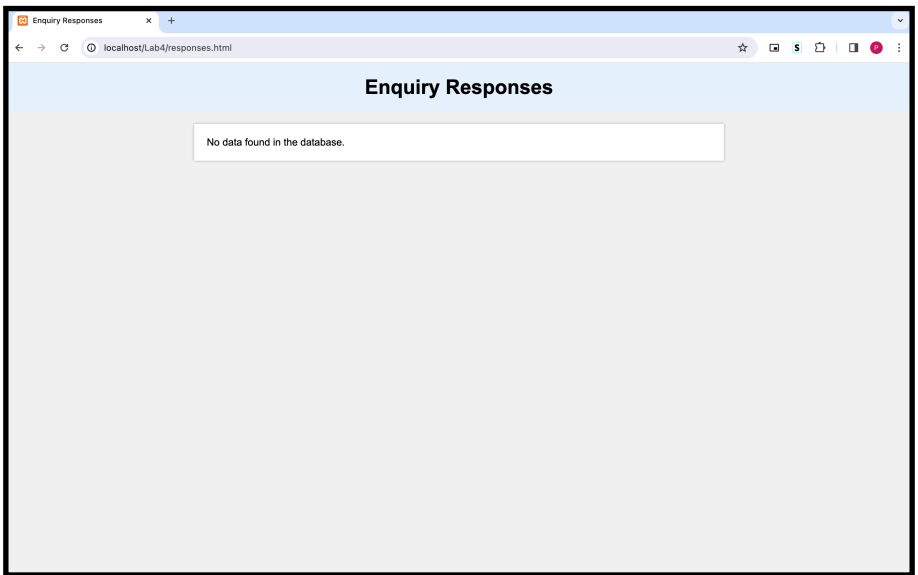
XAMPP is a free and open-source software package that provides a local development environment for web developers. It includes Apache (web server), MySQL (database server), PHP, and Perl, creating a complete development stack for testing web applications on your local machine. phpMyAdmin is a web-based application used to manage MySQL databases. It offers a user-friendly interface to create, modify, and administer MySQL databases, making it easier to work with databases during web development.

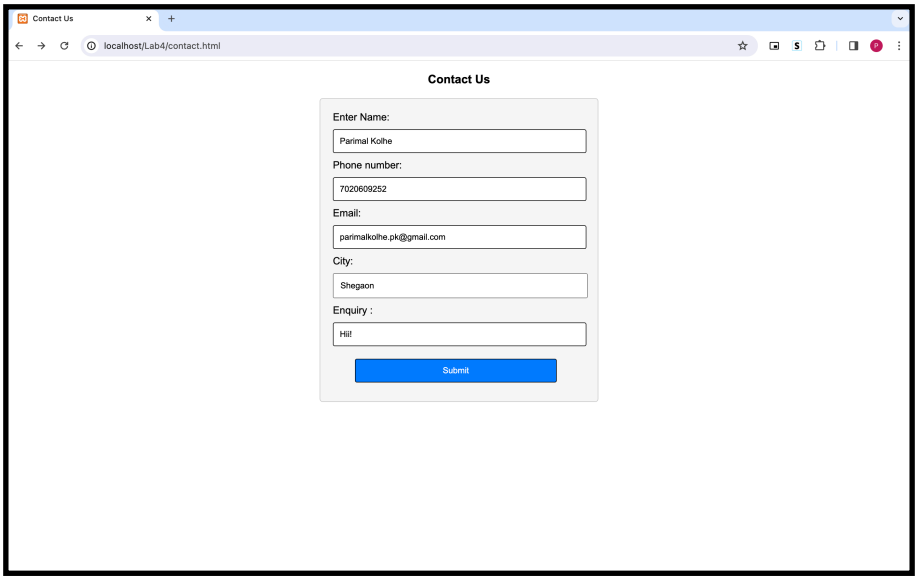
Q: What are the two ways to connect to a database in PHP?

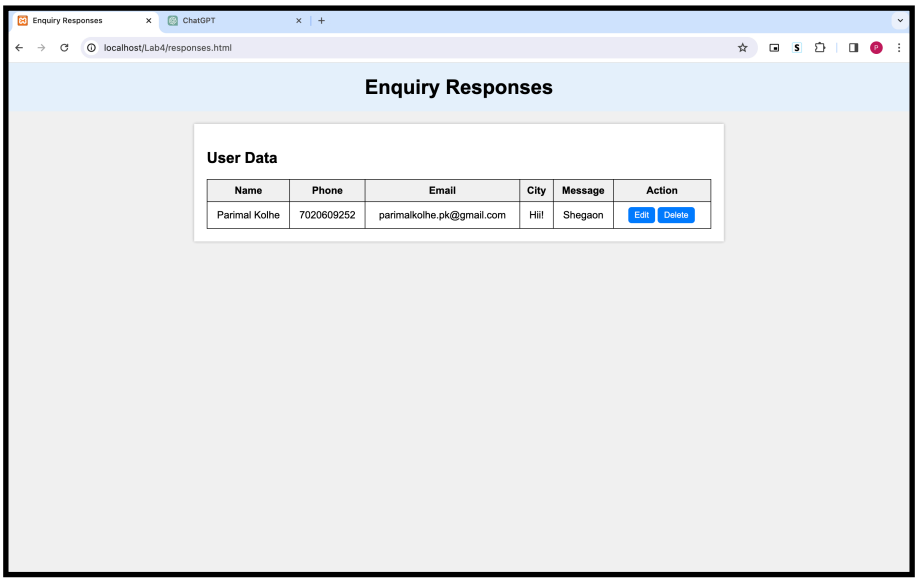
There are primarily two ways to connect to a database in PHP:

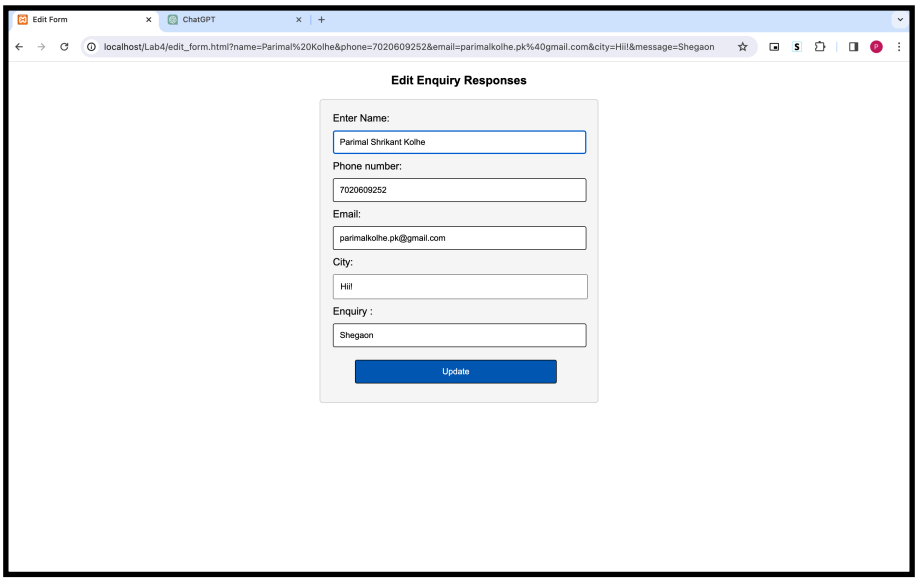
- **MySQLi (MySQL Improved Extension):** MySQLi is a PHP extension specifically designed for MySQL database interaction. It offers both procedural and object-oriented approaches for database operations and provides enhanced security and performance compared to the older MySQL extension.
- **PDO (PHP Data Objects):** PDO is a database abstraction layer in PHP that supports various database management systems, not just MySQL. It provides a consistent, object-oriented interface for working with databases, making it easier to switch between different database systems without changing your code. This makes PDO a more versatile choice when working with multiple database types.

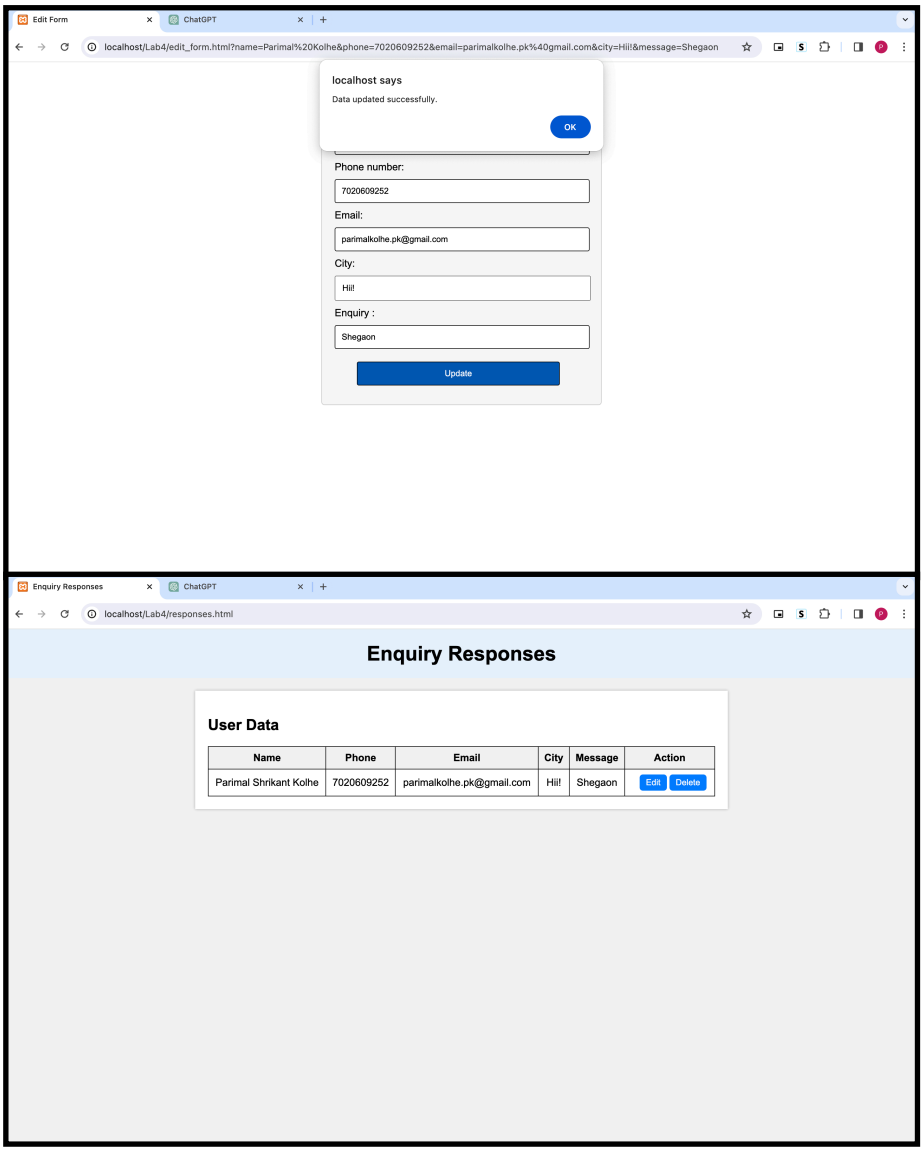
Output Images :



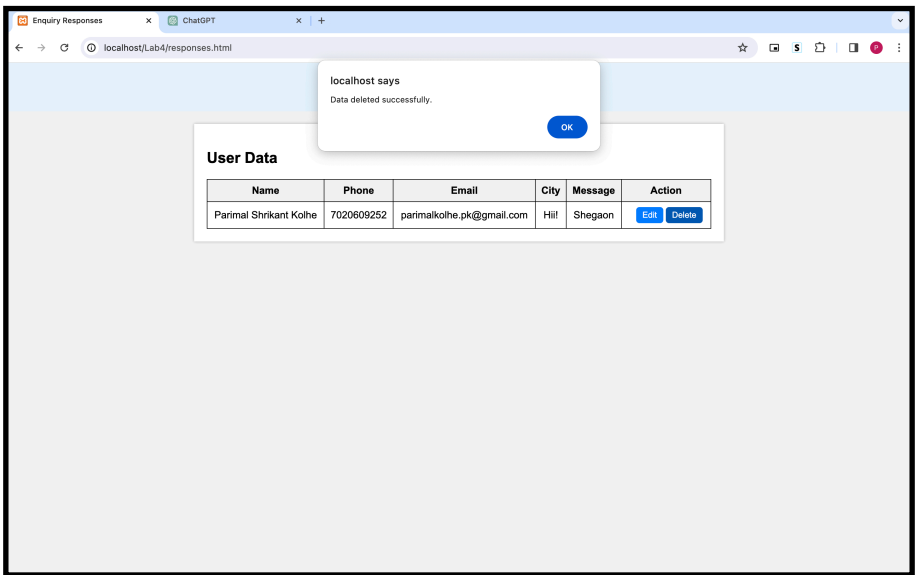

Contact Us
localhost/Lab4/contact.html
Contact Us
Enter Name:
Parimal Kolhe
Phone number:
7020609252
Email:
parimalkolhe.pk@gmail.com
City:
Shegaon
Enquiry :
Hii!
Submit


Enquiry Responses
ChatGPT
localhost/Lab4/responses.html
Enquiry Responses
User Data
Name
Phone
Email
City
Message
Action
Parimal Kolhe
7020609252
parimalkolhe.pk@gmail.com
Hii!
Shegaon
Edit
Delete


Edit Form
ChatGPT
localhost/Lab4/edit_form.html?name=Parimal%20Kolhe&phone=7020609252&email=parimalkolhe.pk%40gmail.com&city=Hii!&message=Shegaon
Edit Enquiry Responses
Enter Name:
Parimal Shrikant Kolhe
Phone number:
7020609252
Email:
parimalkolhe.pk@gmail.com
City:
Hii!
Enquiry :
Shegaon
Update


Edit Form
ChatGPT
localhost/Lab4/edit_form.html?name=Parimal%20Kolhe&phone=7020609252&email=parimalkolhe.pk%40gmail.com&city=Hii!&message=Shegaon
localhost says
Data updated successfully.
OK
Phone number:
7020609252
Email:
parimalkolhe.pk@gmail.com
City:
Hii!
Enquiry :
Shegaon
Update

Enquiry Responses
ChatGPT
localhost/Lab4/responses.html
Enquiry Responses
User Data
Name
Phone
Email
City
Message
Action
Parimal Shrikant Kolhe
7020609252
parimalkolhe.pk@gmail.com
Hii!
Shegaon
Edit
Delete


Enquiry Responses
ChatGPT
localhost/Lab4/responses.html
localhost says
Data deleted successfully.
OK
User Data
Name
Phone
Email
City
Message
Action
Parimal Shrikant Kolhe
7020609252
parimalkolhe.pk@gmail.com
Hii!
Shegaon
Edit
Delete