

K. J. Somaiya College of Engineering, Mumbai-77
(A Constituent College of Somaiya Vidyavihar University)

Batch: A3 Roll No.: 16010121045

Experiment No. 06

TITLE: Design and Demonstrate database Connectivity between PHP & MYSQL

AIM: Design and Demonstrate database Connectivity between PHP & MYSQL

Expected OUTCOME of Experiment:

CO5: Apply database operations by integrating SQL queries and session variables.

Books/ Journals/ Websites referred:

1. Head First HTML5 Programming published by Shroff/O'Reilly in 2011.
2. HTML, XHTML, and CSS Bible, 5th Edition By Steven Schafe,
3. <https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/HTML5>
4. https://www.w3schools.com/php/php_mysql_connect.asp

Pre Lab/ Prior Concepts:

PHP

The PHP Hypertext Preprocessor (PHP) is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for developing web based software applications. This tutorial helps you to build your base with PHP.

The different server side technologies should be considered in the design of web pages.

The technology used can be PHP, ASP, JSP, ASP.NET etc.

PHP started out as a small open source project that evolved as more and more people found out how useful it was. Rasmus Lerdorf unleashed the first version of PHP way back in 1994.

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- PHP is a recursive acronym for "PHP: Hypertext Preprocessor".
- PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.
- It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.
- PHP is pleasingly zippy in its execution, especially when compiled as an Apache module on the Unix side. The MySQL server, once started, executes even very complex queries with huge result sets in record-setting time.
- PHP supports a large number of major protocols such as POP3, IMAP, and LDAP. PHP4 added support for Java and distributed object architectures (COM and CORBA), making n-tier development a possibility for the first time.
- PHP is forgiving: PHP language tries to be as forgiving as possible.
- PHP Syntax is C-Like.

Common uses of PHP

- PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.
- PHP can handle forms, i.e. gather data from files, save data to a file, through email you can send data, return data to the user.
- You add, delete, modify elements within your database through PHP.
- Access cookies variables and set cookies.
- Using PHP, you can restrict users to access some pages of your website.
- It can encrypt data.

Characteristics of PHP

Five important characteristics make PHP's practical nature possible –

- Simplicity
- Efficiency
- Security
- Flexibility
- Familiarity

"Hello World" Script in PHP

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To get a feel for PHP, first start with simple PHP scripts. Since "Hello, World!" is an essential example, first we will create a friendly little "Hello, World!" script.

As mentioned earlier, PHP is embedded in HTML. That means that in amongst your normal HTML (or XHTML if you're cutting-edge) you'll have PHP statements like this –

```
<html>
  <head>
    <title>Hello World</title>
  </head>
  <body>
    <?php echo "Hello, World!";?>
  </body>
</html>
```

It will produce following result –

Hello, World!

If you examine the HTML output of the above example, you'll notice that the PHP code is not present in the file sent from the server to your Web browser. All of the PHP present in the Web page is processed and stripped from the page; the only thing returned to the client from the Web server is pure HTML output.

All PHP code must be included inside one of the three special markup tags ATE are recognised by the PHP Parser.

```
<?php PHP code goes here ?>
<?  PHP code goes here ?>
<script language="php"> PHP code goes here </script>
```

A most common tag is the <?php...?> and we will also use the same tag in our tutorial.

From the next chapter we will start with PHP Environment Setup on your machine and then we will dig out almost all concepts related to PHP to make you comfortable with the PHP language.

Installation of Php:

In order to develop and run PHP Web pages three vital components need to be installed on your computer system.

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- Web Server – PHP will work with virtually all Web Server software, including Microsoft's Internet Information Server (IIS) but then most often used is freely available Apache Server. Download Apache for free here – <https://httpd.apache.org/download.cgi>
- Database – PHP will work with virtually all database software, including Oracle and Sybase but most commonly used is freely available MySQL database. Download MySQL for free here – <https://www.mysql.com/downloads/>
- PHP Parser – In order to process PHP script instructions a parser must be installed to generate HTML output that can be sent to the Web Browser. This tutorial will guide you how to install PHP parser on your computer.

The INSERT INTO statement is used to insert new rows in a database table.

Syntax Insert Data Into MySQL

1. The SQL query must be quoted in PHP
2. String values inside the SQL query must be quoted
3. Numeric values must not be quoted
4. The word NULL must not be quoted

The INSERT INTO statement is used to add new records to a MySQL table:

```
INSERT INTO table_name (column1, column2, column3,...)
VALUES (value1, value2, value3,...)
```

Inserting Data into a MySQL Database Table

Now that you've understood how to create database and tables in MySQL. In this experiment you will learn how to execute SQL query to insert records into a table.

The INSERT INTO statement is used to insert new rows in a database table.

Let's make a SQL query using the INSERT INTO statement with appropriate values, after that we will execute this insert query through passing it to the PHP `mysqli_query ()` function to insert data in table.

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Implementation Details: Code

In this section students need to specify how the details are applied for server side programming in their application

```
<?php
    $servername = "localhost";
    $username = "root";
    $password = "";
    $dbname = "blogsite";

    // Create connection
    $conn = mysqli_connect($servername, $username, $password, $dbname);
    // Check connection
    if (!$conn) {
        die("Connection failed: " . mysqli_connect_error());
    }
?>
```

```
<?php
    //connect to database
    include('../scripts/connection.php');

    //query to get the max userid
    $query = "SELECT MAX(userid) as maxid FROM users";
    $result = mysqli_query($conn, $query);
    $row = mysqli_fetch_assoc($result);

    //increment the userid by 1
    $maxid = $row['maxid'];
    $newid = $maxid + 1;

    //get data from form
    $email = $_POST["email"];
    $username = $_POST["name"];
    $pass = $_POST["password"];

    //hash the password
```

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```
$hashed_pass = password_hash($pass, PASSWORD_DEFAULT);

//insert data into database
$sql = "INSERT INTO users (email, username, userid,pass)
VALUES ('$email', '$username', '$newid','$hashed_pass')";

//just hear cause it doesn't work without this
if (mysqli_query($conn, $sql)) {}

header("Location: ../pages/index.php");

//close connection
mysqli_close($conn);
?>
```

Conclusion:

To design and implement a blog site that allows multiple users to create and manage their own blogs, while also providing functionality for users to view, search, and comment on other blogs. The site will support CRUD operations for each entity, along with the support for querying of blogs by title or content, and all blogs and comments associated with a specific user and all comments associated with a specific blog.

Post Lab Descriptive Questions (Add questions from examination point view)

1) What are the advantages of server side technologies that you used?

Server-side technologies have several advantages, including:

1. Increased security: Server-side technologies are often more secure than client-side technologies because sensitive information is stored on the server and not on the client device. This helps prevent data breaches and other security issues.
2. Centralized data management: With server-side technologies, data is stored on a central server, making it easier to manage and organize. This also ensures that everyone accessing the data is seeing the same information.
3. Scalability: Server-side technologies can be easily scaled up or down to handle changes in traffic and usage. This allows for a more flexible infrastructure that can adapt to changing needs.

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2) Which function is used for database connectivity in PHP?

function `mysqli_connect()` is used to connect database in php the below is the given example.

```
<?php
    $servername = "localhost";
    $username = "root";
    $password = "";
    $dbname = "blogsite";

    // Create connection
    $conn = mysqli_connect($servername, $username, $password, $dbname);
    // Check connection
    if (!$conn) {
        die("Connection failed: " . mysqli_connect_error());
    }
?>
```

3) How would you redirect the page in PHP?

```
header("Location: ../pages/index.php");
```