Research on how PHP works with Myqsli and how html works with Sql

How PHP and mysqli connect to server

We are using PDO (PHP Data Object) and Mysqli, where PDO can work with different database systems, while Mysqi can work with its databases only. This brings an advantage of using PDO where when you want to switch projects, PDO will make it easier since its adaptable among different databases since will need to change only the string with few queries unlike Mysli where it will need whole code and queries combined. These two are object oriented and Mysli also offers procedural API. Both support Prepared Statements. Prepared Statements protect from SQL injection and are very important for web application security.

There are three ways on how PHP can work with mysli namely

- object-oriented Mysqli
- procedural Mysqli
- PDO

Firstly here is the code to connect to the server and below is object oriented Mysqli;

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

$conn = new mysqli($servername, $username, $password);

if (mysqli_connect_error()) {
  die("Database connection failed: " . mysqli_connect_error());
}

?>
```

Secondly on Procedural Mysqli;

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


$conn = mysqli_connect($servername, $username, $password);
```

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

And lastly on PDO

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


{
 $conn = new PDO("mysql:host=$servername;dbname=myDB", $username, $password);

 $conn->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
 echo "Connected successfully";
} catch(PDOException $e) {
 echo "Connection failed: " . $e->getMessage();
}
?>
```

On the other hand we are looking on how HTML can work with SqL;

Suppose you selected the form field Name (text input), Email(email input), Phone (number input), and message (multi-line text). The form submit button also necessary for submitting the form. Open a web browser (chrome, firefox, edge, etc.,) and type this http://localhost/phpmyadmin/ or http://127.0.0.1/phpmyadmin/ for open GUI for managing DB on your computer. Click on the databases link and create your db by the name "db_contact"

After creating your DataBase you need to create a table by any name I choose "tbl_contact" with the number of field 5. We choose 4 fields on top Name, Email, Phone, and Message. The first column we will keep for maintaining the serial number and in technical terms primary key(unique number of each recor)

When you will click to go button you will now hve to feed every field information then sve. The following code explains

```sql
--
-- Database: `mydb`
--

CREATE DATABASE IF NOT EXISTS `db_contact` DEFAULT CHARACTER SET latin1
COLLATE latin1_swedish_ci;
```

```
USE `db_contact`;

-- --------------------------------------------------------

--
-- Table structure for table `tbl_contact`
--

DROP TABLE IF EXISTS `tbl_contact`;
CREATE TABLE IF NOT EXISTS `tbl_contact` (
`id` int(11) NOT NULL,
  `fldName` varchar(50) NOT NULL,
  `fldEmail` varchar(150) NOT NULL,
`fldPhone` varchar(15) NOT NULL,
`fldMessage` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;

--
-- Indexes for dumped tables
--


--
-- Indexes for table `tbl_contact`
--
ALTER TABLE `tbl_contact`
ADD PRIMARY KEY (`id`);

--
-- AUTO_INCREMENT for dumped tables
--


--
-- AUTO_INCREMENT for table `tbl_contact`
--
ALTER TABLE `tbl_contact`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT;
```

To create an html form connecting to database

you need to create a working folder first and then create a web page with the name
"contact.html". If you install xampp your working folder is in folder this "E:\xampp\htdocs".
You can create a new folder "contact" on your localhost working folder. Below codes form

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
<title>Contact Form - PHP/MySQL Demo Code</title>
</head>

<body>
```

```
<fieldset>
<legend>Contact Form</legend>
<form name="frmContact" method="post" action="contact.php">
<p>
<label for="Name">Name </label>
<input type="text" name="txtName" id="txtName">
</p>
<p>
<label for="email">Email</label>
<input type="text" name="txtEmail" id="txtEmail">
</p>
<p>
<label for="phone">Phone</label>
<input type="text" name="txtPhone" id="txtPhone">
</p>
<p>
<label for="message">Message</label>
<textarea name="txtMessage" id="txtMessage"></textarea>
</p>
<p> </p>
<p>
<input type="submit" name="Submit" id="Submit" value="Submit">
</p>
</form>
</fieldset>
</body>
</html>
```

Then creating PHP page to save data from html form to your Mysli database

The contact HTML form action is on "contact.php" page. On this page, we will write code for inserting records into the database.

For storing data in MySQL as records, you have to first connect with the DB. Connecting the code is very simple. The mysql_connect in PHP is deprecated for the latest version therefore I used it here `mysqli_connect`.

```
$con =
mysqli_connect("localhost","your_localhost_database_user","your_localhost_dat
abase_password","your_localhost_database_db");
```

You need to place value for your localhost username and password. Normally localhost MySQL database username is root and password blank or root. For example, the code is as below

```
$con = mysqli_connect('localhost', 'root', '','db_contact');
The "db_contact" is our database name that we created before.
After connection database you need to take post variable from the form. See
the below code
$txtName = $_POST['txtName'];
```

```
$txtEmail = $_POST['txtEmail'];
$txtPhone = $_POST['txtPhone'];
$txtMessage = $_POST['txtMessage'];
```

When you will get the post variable then you need to write the following SQL command.

```
$sql = "INSERT INTO `tbl_contact` (`Id`, `fldName`, `fldEmail`, `fldPhone`,
`fldMessage`) VALUES ('0', '$txtName', '$txtEmail', '$txtPhone',
'$txtMessage');"
```

For fire query over the database, you need to write the following line

```
$rs = mysqli_query($con, $sql);
```

Here is PHP code for inserting data into your database from a form.

```
<?php
// database connection code
// $con = mysqli_connect('localhost', 'database_user',
'database_password','database');

$con = mysqli_connect('localhost', 'root', '','db_contact');

// get the post records
$txtName = $_POST['txtName'];
$txtEmail = $_POST['txtEmail'];
$txtPhone = $_POST['txtPhone'];
$txtMessage = $_POST['txtMessage'];

// database insert SQL code
$sql = "INSERT INTO `tbl_contact` (`Id`, `fldName`, `fldEmail`, `fldPhone`,
`fldMessage`) VALUES ('0', '$txtName', '$txtEmail', '$txtPhone',
'$txtMessage')";

// insert in database
$rs = mysqli_query($con, $sql);

if($rs)
{
        echo "Contact Records Inserted";
}

?>
```

Referees;

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