Final Project: Simple Blog Application with User Authentication and CRUD Operations

This project will guide you through building a simple blog application using PHP. It will include user registration, login, and CRUD operations for blog posts. We'll deploy the application to a live server as the final step.

Project Requirements:
1. Local Environment Setup: XAMPP/WAMP/MAMP installed and running.
2. Database: MySQL for storing user information and blog posts.
3. PHP: Basic understanding of PHP and MySQL queries.

Step 1: Database Setup
1. Create a Database and Tables
   - Open `phpMyAdmin` and create a new database called `blog_app`.
   - Create two tables: `users` and `posts` with the following structure.

sql
```sql
-- Create users table
CREATE TABLE users (
    id INT AUTO_INCREMENT PRIMARY KEY,
    username VARCHAR(50) NOT NULL,
    password VARCHAR(255) NOT NULL,
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);

-- Create posts table
CREATE TABLE posts (
    id INT AUTO_INCREMENT PRIMARY KEY,
    title VARCHAR(255) NOT NULL,
    content TEXT NOT NULL,
    user_id INT,
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    FOREIGN KEY (user_id) REFERENCES users(id)
);
```

Step 2: Folder Structure and Configuration
1. Project Folder Structure:

```
blog_app/
 ├── index.php
 ├── register.php
 ├── login.php
 ├── dashboard.php
 ├── create_post.php
 ├── edit_post.php
 ├── delete_post.php
 ├── logout.php
```

```
    ├── includes/
    │   ├── db.php
    │   └── header.php
    └── styles/
        └── style.css
```

2. Database Configuration File (`includes/db.php`):
php
```php
<?php
// Database connection
$host = 'localhost';
$db = 'blog_app';
$user = 'root';
$pass = '';

$conn = new mysqli($host, $user, $pass, $db);

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

Step 3: User Registration
1. Create the Registration Form (`register.php`):
php
```php
<?php
include 'includes/db.php';

if ($_SERVER['REQUEST_METHOD'] == 'POST') {
    $username = $_POST['username'];
    $password = password_hash($_POST['password'], PASSWORD_DEFAULT);

    $sql = "INSERT INTO users (username, password) VALUES ('$username', '$password')";
    if ($conn->query($sql) === TRUE) {
        header("Location: login.php");
    } else {
        echo "Error: " . $sql . "<br>" . $conn->error;
    }
}
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Register</title>
```

```html
    </head>
    <body>
        <h2>Register</h2>
        <form action="register.php" method="POST">
            <label for="username">Username:</label>
            <input type="text" name="username" required>
            <br>
            <label for="password">Password:</label>
            <input type="password" name="password" required>
            <br>
            <button type="submit">Register</button>
        </form>
        <a href="login.php">Already have an account? Login</a>
    </body>
</html>
```

Step 4: User Login
1. Create the Login Form (`login.php`):
 php

```php
<?php
session_start();
include 'includes/db.php';

if ($_SERVER['REQUEST_METHOD'] == 'POST') {
    $username = $_POST['username'];
    $password = $_POST['password'];

    $sql = "SELECT * FROM users WHERE username='$username'";
    $result = $conn->query($sql);

    if ($result->num_rows > 0) {
        $user = $result->fetch_assoc();
        if (password_verify($password, $user['password'])) {
            $_SESSION['user_id'] = $user['id'];
            header("Location: dashboard.php");
        } else {
            echo "Incorrect password.";
        }
    } else {
        echo "No user found with that username.";
    }
}
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
```

```html
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Login</title>
</head>
<body>
    <h2>Login</h2>
    <form action="login.php" method="POST">
        <label for="username">Username:</label>
        <input type="text" name="username" required>
        <br>
        <label for="password">Password:</label>
        <input type="password" name="password" required>
        <br>
        <button type="submit">Login</button>
    </form>
    <a href="register.php">Don't have an account? Register</a>
</body>
</html>
```

Step 5: User Dashboard and CRUD Operations
1. Dashboard (`dashboard.php`):
 php
```php
<?php
session_start();
include 'includes/db.php';

if (!isset($_SESSION['user_id'])) {
    header("Location: login.php");
}

$user_id = $_SESSION['user_id'];
$sql = "SELECT * FROM posts WHERE user_id = $user_id";
$result = $conn->query($sql);
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Dashboard</title>
</head>
<body>
    <h2>Welcome to your Dashboard</h2>
    <a href="create_post.php">Create New Post</a>
    <a href="logout.php">Logout</a>
    <h3>Your Posts</h3>
    <?php while ($post = $result->fetch_assoc()): ?>
        <div>
```

```php
        <h4><?php echo $post['title']; ?></h4>
        <p><?php echo $post['content']; ?></p>
        <a href="edit_post.php?id=<?php echo $post['id']; ?>">Edit</a>
        <a href="delete_post.php?id=<?php echo $post['id']; ?>">Delete</a>
      </div>
    <?php endwhile; ?>
  </body>
  </html>
```

2. Create Post (`create_post.php`):
php
```php
<?php
session_start();
include 'includes/db.php';

if (!isset($_SESSION['user_id'])) {
    header("Location: login.php");
}

if ($_SERVER['REQUEST_METHOD'] == 'POST') {
    $title = $_POST['title'];
    $content = $_POST['content'];
    $user_id = $_SESSION['user_id'];

    $sql = "INSERT INTO posts (title, content, user_id) VALUES ('$title', '$content', $user_id)";
    if ($conn->query($sql) === TRUE) {
        header("Location: dashboard.php");
    } else {
        echo "Error: " . $sql . "<br>" . $conn->error;
    }
}
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Create Post</title>
</head>
<body>
    <h2>Create New Post</h2>
    <form action="create_post.php" method="POST">
        <label for="title">Title:</label>
        <input type="text" name="title" required>
        <br>
        <label for="content">Content:</label>
```

```html
        <textarea name="content" required></textarea>
        <br>
        <button type="submit">Create Post</button>
    </form>
    <a href="dashboard.php">Back to Dashboard</a>
</body>
</html>
```

3. Edit Post (`edit_post.php`):
 php
```php
<?php
session_start();
include 'includes/db.php';

if (!isset($_SESSION['user_id'])) {
    header("Location: login.php");
}

$post_id = $_GET['id'];

if ($_SERVER['REQUEST_METHOD'] == 'POST') {
    $title = $_POST['title'];
    $content = $_POST['content'];

    $sql = "UPDATE posts SET title='$title', content='$content' WHERE id=$post_id";
    if ($conn->query($sql) === TRUE) {
        header("Location: dashboard.php");
    } else {
        echo "Error: " . $sql . "<br>" . $conn->error;
    }
} else {
    $sql = "SELECT * FROM posts WHERE id=$post_id";
    $result =

$conn->query($sql);
    $post = $result->fetch_assoc();
}
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Edit Post</title>
</head>
<body>
    <h2>Edit Post</h2>
```

```
    <form action="edit_post.php?id=<?php echo $post_id; ?>" method="POST">
        <label for="title">Title:</label>
        <input type="text" name="title" value="<?php echo $post['title']; ?>" required>
        <br>
        <label for="content">Content:</label>
        <textarea name="content" required><?php echo $post['content']; ?></textarea>
        <br>
        <button type="submit">Update Post</button>
    </form>
    <a href="dashboard.php">Back to Dashboard</a>
  </body>
  </html>
```

4. Delete Post (`delete_post.php`):
 php
```php
<?php
session_start();
include 'includes/db.php';

if (!isset($_SESSION['user_id'])) {
    header("Location: login.php");
}

$post_id = $_GET['id'];

$sql = "DELETE FROM posts WHERE id=$post_id";
if ($conn->query($sql) === TRUE) {
    header("Location: dashboard.php");
} else {
    echo "Error: " . $sql . "<br>" . $conn->error;
}
?>
```

5. Logout (`logout.php`):
 php
```php
<?php
session_start();
session_unset();
session_destroy();
header("Location: login.php");
?>
```

Step 6: Deploying the Application
1. Hosting and Domain Setup:

- Choose a hosting provider like Bluehost, SiteGround, or any cloud service or Fontys Apollo service.
   - Set up a domain name and link it to your hosting account or use your FontysICT subdomain.

2. Transfer Files Using FTP:
   - Use an FTP client like FileZilla to upload your project files to the server.

3. Configure Database:
   - Create a new database on the server using the control panel.
   - Update `db.php` with the live database credentials.

4. Test and Debug:
   - Test all functionalities on the live server.
   - Fix any issues that arise during the deployment.

-THE END-