

Title: Login System add to EDGE Project.

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Description: A PHP-based login system using a `users` database table authenticates users by verifying the entered username and password against stored credentials. Upon successful login, it starts a session, stores the user's ID in the session, and sets a secure cookie for session tracking. Each page checks the session and cookie to validate user authentication. The system includes a logout functionality that clears the session and cookie. Security measures such as prepared statements, password hashing, and secure cookie flags are implemented.

Implementation Steps

1. Session Checking

The `session_checking.php` file centralizes user authentication by validating cookies to confirm whether a user is logged in. This file is included in all protected pages to ensure unauthorized access is blocked. If the session or cookie is invalid, it redirects users to the login page. This approach simplifies the code structure, enhances maintainability, and ensures consistent authentication across the application.

```
<?php
if (isset($_COOKIE["token"])) {
    $user = $_COOKIE["user"];
} else {
    header("location: Login.php");
    exit();
}
?>
```

2. Login Form

Handles user authentication by validating the provided username and password against stored credentials in the database. On successful login, it initializes a session and may set cookies to track the user's logged-in state. If authentication fails, it provides an error message.

```
<?php

if (isset($_COOKIE['token'])) {
    header('location: Dashboard.php');
}
```

```

include("dbconnect.php");

function getRandomStringRandomInt($length = 64)
{
    $stringSpace =
'0123456789abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ';
    $pieces = [];
    $max = mb_strlen($stringSpace, '8bit') - 1;
    for ($i = 0; $i < $length; ++$i) {
        $pieces[] = $stringSpace[random_int(0, $max)];
    }
    return implode('', $pieces);
}

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

    $sql = "SELECT * FROM users WHERE username = '$username' AND password
= '$password'";
    $result = mysqli_query($conn, $sql);

    if (mysqli_num_rows($result) > 0) {
        while ($row = mysqli_fetch_assoc($result)) {
            $token = getRandomStringRandomInt();
            // setcookie('user', json_encode($row), time() + 3600, "/");
            setcookie('token', $token, time() + 3600, "/");
            header('Location: Dashboard.php');
            exit;
        }
    } else {
        echo '<script>alert("Invalid username or password")</script>';
        // echo "Invalid username or password";
    }
}
?>

<!DOCTYPE html>
<html lang="en">

</html>

<head>

```

```

        <title>Delete Employee</title>
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0-alpha1/dist/css/
bootstrap.min.css" rel="stylesheet">
</head>

<body>
    <div class="container mt-5">
        <h2>Login</h2>
        <form id="loginForm" method="POST" action="">
            <div class="mb-3">
                <label for="username" class="form-label">User
Email</label>
                <input type="text" class="form-control" id="username"
name="username"
                    placeholder="Enter user email" required>
            </div>
            <div class="mb-3">
                <label for="password" class="form-label">Password</label>
                <input type="password" class="form-control" id="password"
name="password"
                    placeholder="Enter position" required>
            </div>
            <button type="submit" class="btn btn-success">Login</button>
        </form>
    </div>
</body>

```

3. Logout System

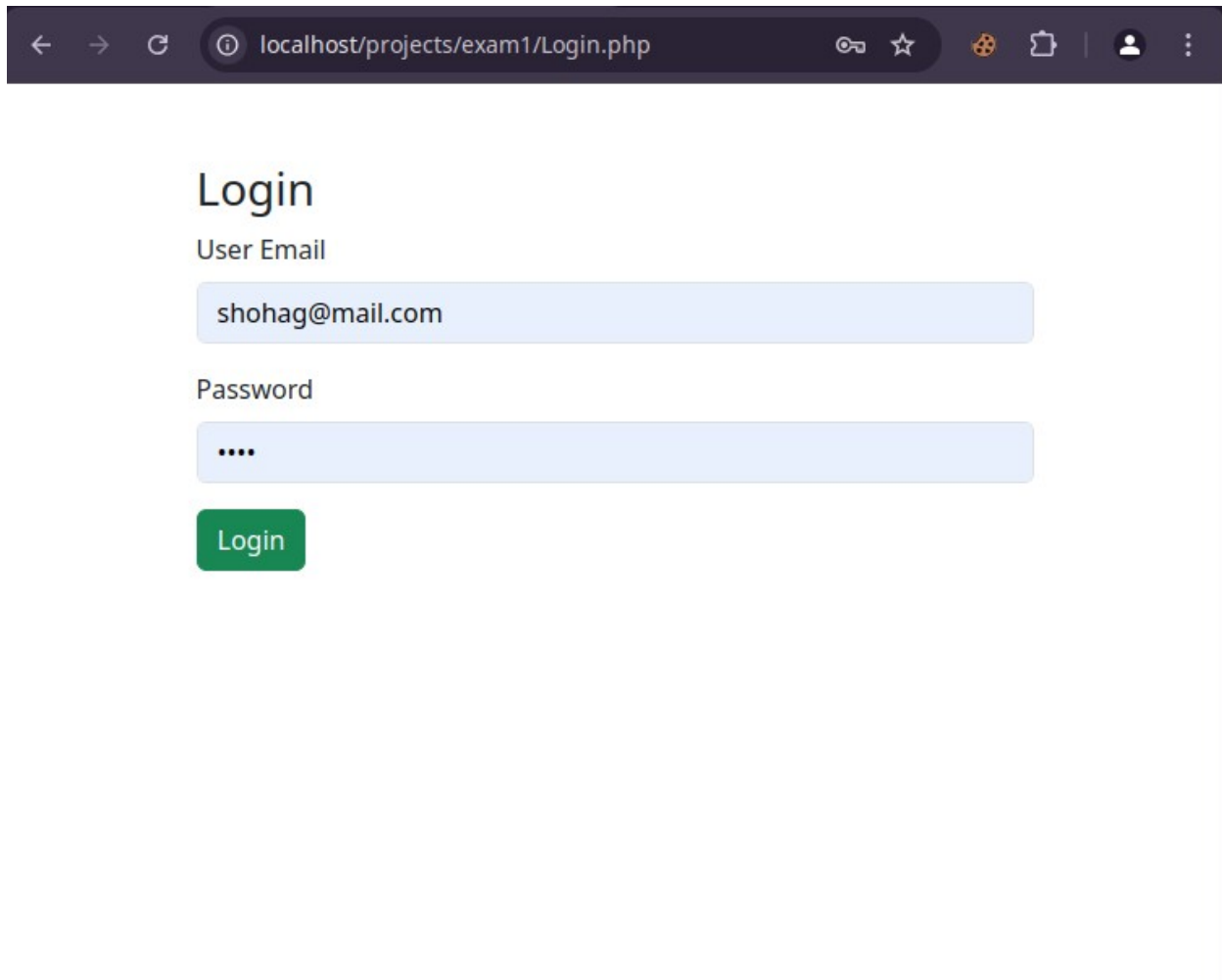
Destroys the user session and clears any related cookies to log the user out securely. It typically redirects users to the login page or homepage after completing the logout process.

```

<?php
if (isset($_COOKIE['token'])) {
    setcookie('token', '', time() - 3600, '/');
    header('location: Login.php');
    exit;
} else {
    header('location: Login.php');
    exit;
}
?>

```

Screenshot:



The screenshot shows a web browser window with the address bar displaying `localhost/projects/exam1/Login.php`. The page content includes a heading "Login", a "User Email" label, a text input field containing "shohag@mail.com", a "Password" label, a password input field with masked characters "....", and a green "Login" button.

Conclusion:

The login and logout functionality, combined with the session-checking mechanism, creates a robust user authentication system. The `Login.php` file ensures secure user access by validating credentials and initializing sessions, while the `Logout.php` file guarantees a secure and seamless exit by destroying sessions and clearing cookies. The inclusion of a centralized session-checking file across protected pages enhances security and maintains consistency. This structure ensures that unauthorized users are prevented from accessing restricted areas, creating a reliable and maintainable authentication framework for your application.

