How to store username and password in Flask

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We'll discuss how to save a Username and password on a Flask website in this article. We may view the welcome message and the username we chose when registering on the profile page after logging in with our username and password. The names of subsequent users who sign up using the login information we'll be using here will also show up on the profile page screen. To maintain the user login and registration credentials, Python code will be coupled to a Flask MySQL database. From there, we can utilize phpmyadmin to see how many users have registered and modified their information.

Required module

For making our project we install Flask, and Flask-MySQLdb, and create a virtual environment.

```
pip install Flask-MySQLdb
pip install Flask
```

Templates Files

Create a template folder and in the templates folder we basically made three files one for register.html, another one for login.html, and at last one for the user.html.

register.html

This HTML file contains a straightforward registration form that asks for three inputs: username, email address, and password. Once these fields have been completed, click the register button to see a flashing message stating that the form has been successfully submitted and that the registration information has been safely saved in the MySQL database. For flashing massage, we are using

Jinja2 in an HTML file, so we can now log in using our credentials. If we registered using the same email address, the flash email id will also exist.

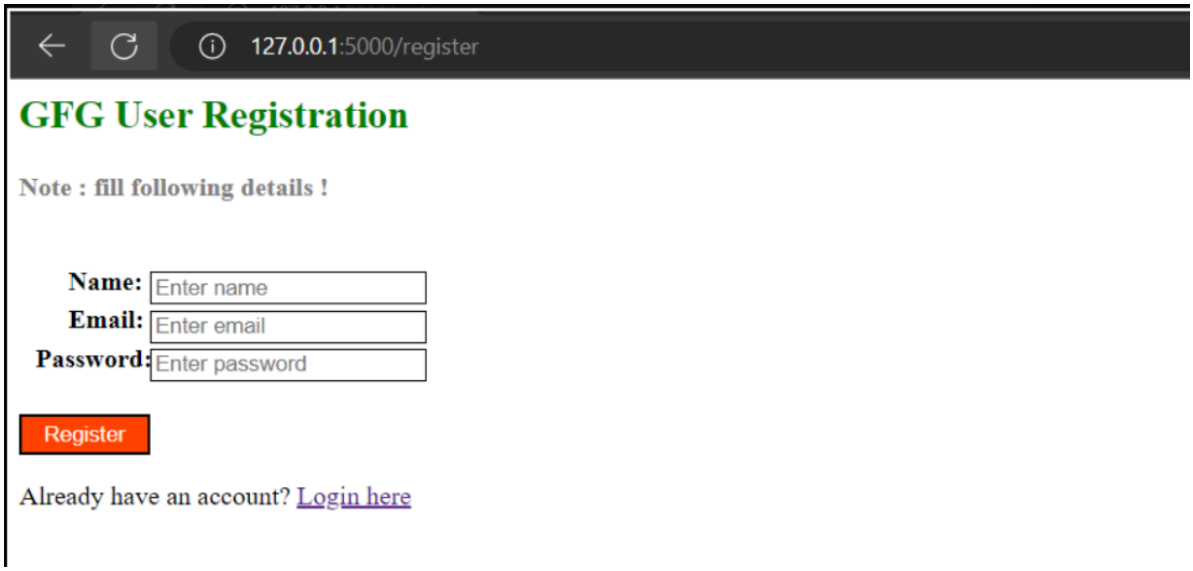
HTML

```
<html>
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>User Registration Form</title>

</head>
<style>
    .hi{
        color: green;
    }
    .ok{
        display: block;
        margin-left: 80px;
        margin-top: -15px;
        border: 1px solid black;
    }
    .gfg{
        margin-left: 30px;
        font-weight: bold;
    }
    .gf{
        margin-left: 10px;
        font-weight: bold;
    }
    .btn{
        margin-top: 20px;
        width: 80px;
        height: 25px;
        background-color: orangered;
        color: white;
    }
    .y{
        color: gray;
    }
</style>
<body>
<div class="container">
    <h2 class="hi" > GFG User Registration </h2>
    <h4 class="y"  >Note : fill following details !</h4>
    <form action="{{ url_for('register') }}" method="post">
        {% if message is defined and message %}
            <div class="alert alert-warning">  <strong>  {{ message }} ???? </str
```

```
        {% endif %}
        <br>
        <div class="form-group">
            <label class="gfg">Name:</label>
             <input class="ok" type="text" class="form-control" id="name" name="r
        </div>
        <div class="form-group">
            <label class="gfg">Email:</label>
             <input class="ok" type="email" class="form-control" id="email" name=
        </div>
        <div class="form-group">
            <label class="gf">Password:</label>
        <input class="ok" type="password" class="form-control" id="password" name
        </div>
        <button class="btn" type="submit" class="btn btn-primary">Register</butto
        <p class="bottom">Already have an account?  <a class="bottom" href="{{url
    </form>
</div>
</body>
</html>
```

Output:



register.html

login.html

In login.html, we have created two straightforward inputs: a username and a password that we successfully registered. If we enter the correct email address and password, It will direct us to the user/login profile page, where we have

used the URL for the function to write the file function that we want to display following successful registration.

HTML

```
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<title>User Registration Form</title>

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        color: white;
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    }
</style>
<body>
<div class="container">
    <h2 class="hi" > GFG User Registration </h2>
    <h4 class="y"  >Note : fill following details !</h4>
    <form action="{{ url_for('register') }}" method="post">
        {% if message is defined and message %}
            <div class="alert alert-warning">  <strong>  {{ message }} ???? </str
```
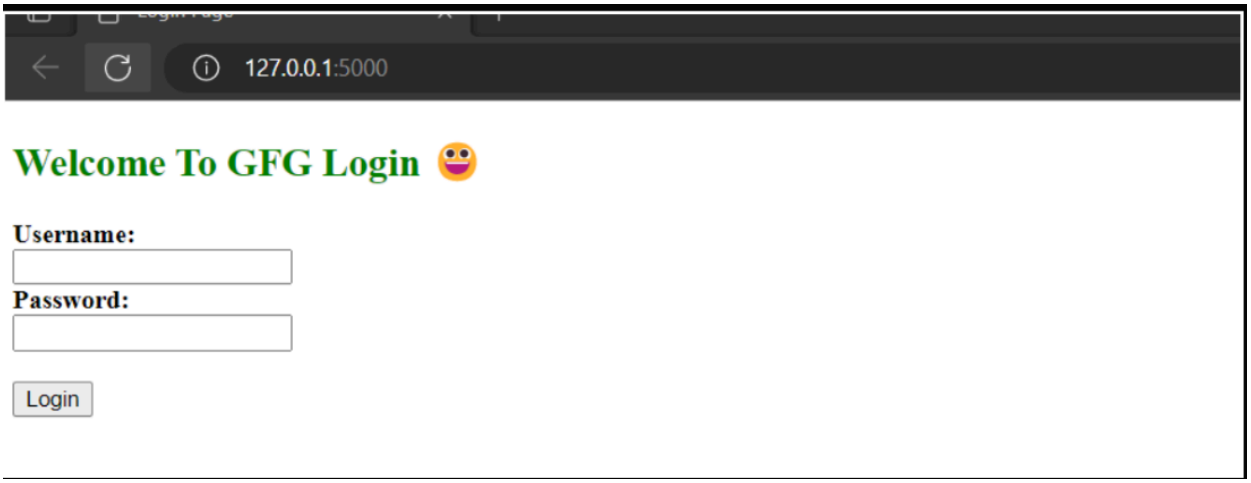

```
        {% endif %}
        <br>
        <div class="form-group">
            <label class="gfg">Name:</label>
             <input class="ok" type="text" class="form-control" id="name" name="r
        </div>
        <div class="form-group">
            <label class="gfg">Email:</label>
             <input class="ok" type="email" class="form-control" id="email" name=
        </div>
        <div class="form-group">
            <label class="gf">Password:</label>
        <input class="ok" type="password" class="form-control" id="password" name
        </div>
        <button class="btn" type="submit" class="btn btn-primary">Register</butto
        <p class="bottom">Already have an account?  <a class="bottom" href="{{url
    </form>
</div>
</body>
</html>
```

Output:



login.html

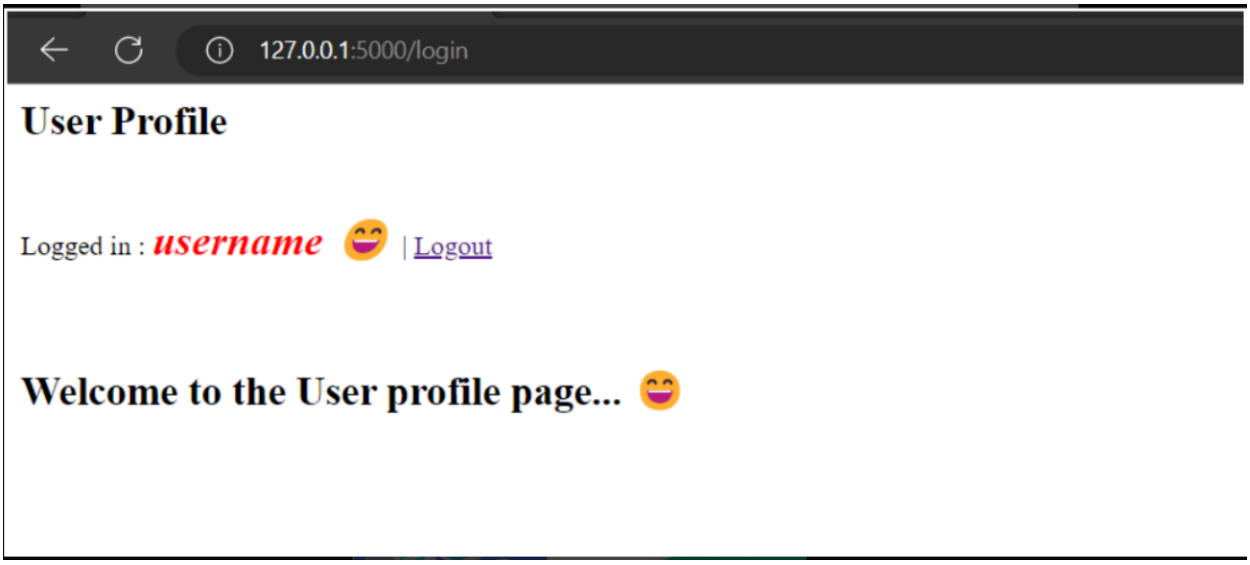
user.html

After a successful login, we put a few lines of code to greet the user in these files. We also add a second session. The name code we use during registration means that when we log in, our name will also appear on the screen. Additionally, a button for logging out will appear on the screen; by clicking this button, we can log out and must log in again.

HTML

```
<html>
<head>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<title>User Account</title>

</head>
<style>
.gfg{
    font-size: 25px;
    color: red;
    font-style: italic;
}
</style>
<body>
<div class="container">
    <div class="row">
        <h2>User Profile</h2>
    </div>
    <br>
    <div class="row">
        Logged in : <strong class="gfg">  {{session.name}} ???? </strong>| <a hre
    </div>
    <br><br>
    <div class="row">

        <h2>Welcome to the User profile page... ????</h2>
    </div>
</div>
</body>
</html>
```

Output:



user.html

Setting up app.py file

Step 1: Import all library

First, the python code is written in a file called app.py. We import all the libraries required for running our application, connecting to MySQL, and performing admin login from the database into this file. Following the import of re(regular expression), which will read the data from our MySQL database, the Python code database, MySQL DB, is used to construct the data for our database. We initialize the flask function and generate a secret key for our flask after importing all modules. The database name, email address, and password are then added to the database.

Python3

```
# Import all important libraries
from flask import *
from flask_mysqldb import MySQL
import MySQLdb.cursors
import re

# initialize first flask
app = Flask(__name__)
app.secret_key = 'GeeksForGeeks'

# Set MySQL data
app.config['MYSQL_HOST'] = 'localhost'
```

```
app.config['MYSQL_USER'] = 'root'
app.config['MYSQL_PASSWORD'] = ''
app.config['MYSQL_DB'] = 'user-table'

mysql = MySQL(app)
```

Step 2: Adding login and logout function

Then, we develop a functional login() and develop a session for login and registration for a system that also obtains our data from MySQL. A successfully registered message will also appear on the login page when we successfully register on the register page. In this function, we pass the request to the login form by entering our name, password, and email when we click on enter. It will automatically save on our PHPMyAdmin by MySQL data.

HTML

```
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<title>User Registration Form</title>

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        margin-left: 30px;
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    }
    .gf{
        margin-left: 10px;
        font-weight: bold;
    }
    .btn{
        margin-top: 20px;
```

```
            width: 80px;
            height: 25px;
            background-color: orangered;
            color: white;
        }
        .y{
            color: gray;
        }
    </style>
    <body>
    <div class="container">
        <h2 class="hi" > GFG User Registration </h2>
        <h4 class="y"  >Note : fill following details !</h4>
        <form action="{{ url_for('register') }}" method="post">
            {% if message is defined and message %}
                <div class="alert alert-warning">  <strong>  {{ message }} ???? </str
            {% endif %}
            <br>
            <div class="form-group">
                <label class="gfg">Name:</label>
                 <input class="ok" type="text" class="form-control" id="name" name="r
            </div>
            <div class="form-group">
                <label class="gfg">Email:</label>
                 <input class="ok" type="email" class="form-control" id="email" name=
            </div>
            <div class="form-group">
                <label class="gf">Password:</label>
            <input class="ok" type="password" class="form-control" id="password" name
            </div>
            <button class="btn" type="submit" class="btn btn-primary">Register</butto
            <p class="bottom">Already have an account?  <a class="bottom" href="{{url
        </form>
    </div>
    </body>
    </html>
```

Step 3: Adding User Registration function

On the login screen, we can log in by providing our email address and password. There are also more flashing notifications, such as “User already exists” if we attempt to register again using the same email address. With the same email address, we are able to create two registered accounts. The username we specified on the registration page will also show up on the

profile once we successfully log in. For this instance, we typed “GFG.” “Welcome GFG” will appear once we have successfully logged in. That clarifies the entire code as well as its intended use.

Python3

```
# Make a register session for registration
# session and also connect to Mysql to code for access
# login and for completing our login
# session and making some flashing massage for error
@app.route('/register', methods=['GET', 'POST'])
def register():
    message = ''
    if request.method == 'POST' and 'name' in
        request.form and 'password' in request.form
            and 'email' in request.form:

        userName = request.form['name']
        password = request.form['password']
        email = request.form['email']
        cursor = mysql.connection.cursor(MySQLdb.cursors.DictCursor)
        cursor.execute('SELECT * FROM user WHERE email = % s',
                       (email, ))
        account = cursor.fetchone()
        if account:
            message = 'Account already exists !'
        elif not re.match(r'[^@]+@[^@]+\.[^@]+', email):
            message = 'Invalid email address !'
        elif not userName or not password or not email:
            message = 'Please fill out the form !'
        else:
            cursor.execute(
                'INSERT INTO user VALUES (NULL, % s, % s, % s)',
              (userName, email, password, ))
            mysql.connection.commit()
            message = 'You have successfully registered !'
    elif request.method == 'POST':
        message = 'Please fill out the form !'
    return render_template('register.html', message=message)
```

Complete Code

Python3

```
# Import all important libraries
from flask import *
from flask_mysqldb import MySQL
import MySQLdb.cursors
import re

# initialize first flask
app = Flask(__name__)
app.secret_key = 'GeeksForGeeks'

# Set MySQL data
app.config['MYSQL_HOST'] = 'localhost'
app.config['MYSQL_USER'] = 'root'
app.config['MYSQL_PASSWORD'] = ''
app.config['MYSQL_DB'] = 'user-table'

mysql = MySQL(app)


@app.route('/')
@app.route('/login', methods=['GET', 'POST'])
def login():
    message = ''
    if request.method == 'POST' and 'email' in
    request.form and 'password' in request.form:
        email = request.form['email']
        password = request.form['password']
        cursor = mysql.connection.cursor
                (MySQLdb.cursors.DictCursor)
        cursor.execute(
            'SELECT * FROM user WHERE email = % s AND password = % s',
                 (email, password, ))
        user = cursor.fetchone()
        if user:
            session['loggedin'] = True
            session['userid'] = user['userid']
            session['name'] = user['name']
            session['email'] = user['email']
            message = 'Logged in successfully !'
            return render_template('user.html',
                                   message=message)
        else:
            message = 'Please enter correct email / password !'
    return render_template('login.html',
                           message=message)
```

```
# Make function for logout session
@app.route('/logout')
def logout():
    session.pop('loggedin', None)
    session.pop('userid', None)
    session.pop('email', None)
    return redirect(url_for('login'))


@app.route('/register', methods=['GET', 'POST'])
def register():
    message = ''
    if request.method == 'POST' and 'name' in request.form
            and 'password' in request.form and 'email' in request.form:
        userName = request.form['name']
        password = request.form['password']
        email = request.form['email']
        cursor = mysql.connection.cursor(MySQLdb.cursors.DictCursor)
        cursor.execute('SELECT * FROM user WHERE email = % s', (email, ))
        account = cursor.fetchone()
        if account:
            message = 'Account already exists !'
        elif not re.match(r'[^@]+@[^@]+\.[^@]+', email):
            message = 'Invalid email address !'
        elif not userName or not password or not email:
            message = 'Please fill out the form !'
        else:
            cursor.execute(
                'INSERT INTO user VALUES (NULL, % s, % s, % s)',
                     (userName, email, password ))
            mysql.connection.commit()
            message = 'You have successfully registered !'
    elif request.method == 'POST':
        message = 'Please fill out the form !'
    return render_template('register.html', message=message)


# run code in debug mode
if __name__ == "__main__":
    app.run(debug=True)
```

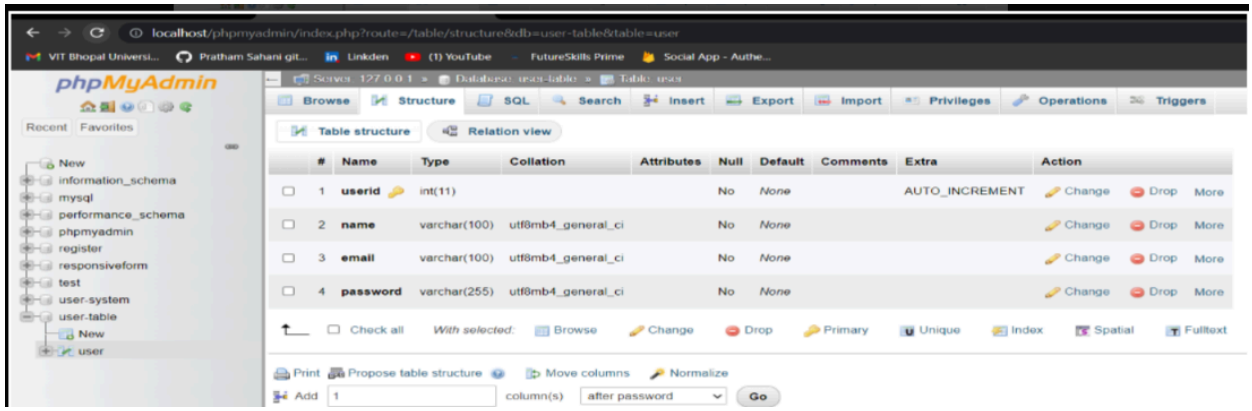
After writing whole open your terminal and run the following command

```
python app.py
```

Output:

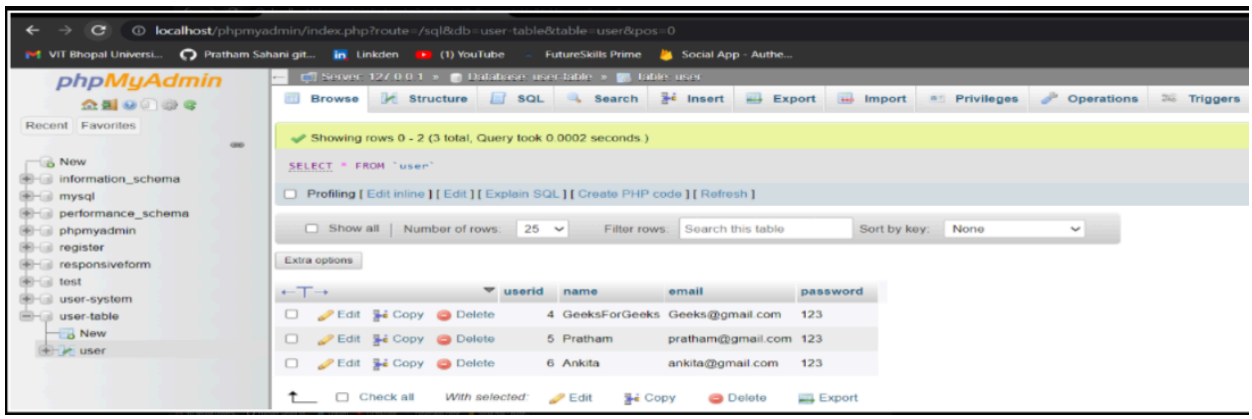
Complete the output and showing where we save our password and username and how.

Database Output:



Database table

After registering multiple users these outputs will show in your database by watching the video you can understand how the username will display on the screen and how multiple users can register and log in.



Save/Store username and password

3

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