

ASSIGNMENT – 2

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AIM

1. Create User table with user with email, username, roll number, password.
2. Perform UPDATE, DELETE Queries with user table
3. Connect python code to db2.
4. Create a flask app with registration page, login page and welcome page. By default, load the registration page once the user enters all the fields store the data in database and navigate to login page authenticate user username and password. If the user is valid show the welcome page.

DIRECTORY STRUCTURE

- static/styles
 - home.css
 - login.css
 - signup.css
 - users_list.css
 - user_update.css
- templates
 - home.html
 - login.html
 - signup.html
 - users_list.html
 - user_update.html
- app.py

CODE

1. HTML FILES

a) home.html

```
<!DOCTYPE html>

<html>

<link rel="stylesheet" href="{{url_for('static', filename='styles/home.css')}}">

<body>

    <h2>Welcome, {{name}}</h2>
```

```
</body>
```

```
</html>
```

b) login.html

```
<!DOCTYPE html>
```

```
<html>
```

```
<link rel="stylesheet" href="{url_for('static', filename='styles/login.css')}">
```

```
<body>
```

```
    <form action="/" method="POST">
```

```
        <h1>CRUD APPLICATION !!!</h1>
```

```
        <h3>Login</h3>
```

```
        <div class="error">
```

```
            {% if error %}
```

```
                {{ error }}
```

```
            {% endif %}
```

```
        </div>
```

```
        <label>
```

```
            Username
```

```
        </label>
```

```
        <br>
```

```
        <input type="text" name="username" required>
```

```
        <br><br>
```

```
        <label>
```

```
            Password
```

```
        </label>
```

```
        <br>
```

```
        <input type="password" name="password" required>
```

```
        <br><br>
```

```
        <button type="submit">SIGN IN</button>
```

```

        <br><br><br>

        Don't have an account? <a href="signup">Sign up</a>

        <br><br><br>
    </form>
</body>

</html>

```

c) signup.html

```

<!DOCTYPE html>

<html>

<link rel="stylesheet" href="{url_for('static', filename='styles/signup.css')}">

<body>
    <form action="/signup" method="POST">
        <h1>CRUD APPLICATION !!!</h1>

        <h3>Signup</h3>

        <div class="error">
            {% if error %}
                {{ error }}
            {% endif %}
        </div>

        <div class="msg">
            {% if msg %}
                {{ msg }}
            {% endif %}
        </div>

        <label>
            Email
        </label>

        <br>

        <input type="email" name="email">

        <br><br>
    </form>

```

```
<label>
    Username
</label>

<br>

<input type="text" name="username" required>

<br><br>

<label>
    Roll Number
</label>

<br>

<input type="text" name="roll_no" required>

<br><br>

<label>
    Password
</label>

<br>

<input type="password" name="password" required>

<br><br>

<button type="submit">SIGN UP</button>

<br><br><br>

Already have an account? <a href="/">Sign in</a>

<br><br><br>
</form>
</body>

</html>
```

d) users_list.html

```
<!DOCTYPE html>

<html>

<link rel="stylesheet" href="{url_for('static', filename='styles/users_list.css')}}">

<body>

    <h1>Users List</h1>

    <table>
        <thead>
            <th>USERNAME</th>
            <th>EMAIL</th>
            <th>ROLL_NO</th>
            <th>OPTIONS</th>
        </thead>

        <tbody>
            {% for user in users %}
                <tr>
                    <td>{{user[0]}}</td>
                    <td>{{user[1]}}</td>
                    <td>{{user[2]}}</td>
                    <td>
                        <a href="/user/{{user[0]}}/update">Update</a>
                        <a href="/user/{{user[0]}}/delete">Delete</a>
                    </td>
                </tr>
            {% endfor %}
        </tbody>
    </table>

</body>

</html>
```

e) user_update.html

```
<!DOCTYPE html>

<html>

<link rel="stylesheet" href="{{url_for('static', filename='styles/user_update.css')}}">

<body>
    <form action="/user/{{username}}/update" method="POST">
        <h1>UPDATE USER!</h1>

        <div class="error">
            {% if error %}
                {{ error }}
            {% endif %}
        </div>

        <label>
            Username
        </label>

        <br>

        <input type="text" name="username" value="{{username}}" required>

        <br><br>

        <label>
            Email
        </label>

        <br>

        <input type="email" name="email" value="{{email}}" required>

        <br><br>

        <label>
            Roll No
        </label>

        <br>

        <input type="text" name="roll_no" value="{{roll_no}}" required>
```

```
<br><br>

<button type="submit">UPDATE</button>

<br><br><br>
</form>
</body>

</html>
```

2. CSS FILES

a) home.css

```
h2 {
  text-align: center;
}
```

b) login.css

```
.error {
  color: red;
}
```

c) signup.css

```
.error {
  color: red;
}

.msg {
  color: green;
}
```

d) users_list.css

```
table {
  border: 1px solid black;
  text-align: center;
}
```

```
th, td {  
    border: 1px solid black;  
    text-align: center;  
}
```

e) user_update.css

```
.error {  
    color: red;  
}
```

3. app.py

NOTE: AS IBM CLOUD ACCOUNT IS NOT ACCESSIBLE, POSTGRES DB IS USED

```
import psycopg2  
  
from flask import Flask  
from flask import render_template  
from flask import request  
from flask import redirect  
  
conn = psycopg2.connect(database="crudapp", user="postgres", password="password",  
host="127.0.0.1", port="5432")  
  
app = Flask(__name__)  
  
@app.route("/", methods=["GET", "POST"])  
def login():  
    if(request.method=="GET"):  
        return render_template("login.html", error=None)  
    elif(request.method=="POST"):  
        username = request.form["username"]  
        password = request.form["password"]  
  
        cursor = conn.cursor()  
  
        query = f'select username from users where username = \'{username}\'' and password =  
        \'{password}\''  
        cursor.execute(query)  
        info = cursor.fetchone()
```



```

        if(info == None):
            return render_template("login.html", error="INVALID CREDENTIALS !!!")

        return render_template("home.html", name=username)

@app.route("/signup",methods=["GET","POST"])
def signup():
    if(request.method=="GET"):
        return render_template("signup.html", error=None, msg=None)
    elif(request.method=="POST"):
        username = request.form["username"]
        email = request.form["email"]
        roll_no = request.form["roll_no"]
        password = request.form["password"]

        cursor = conn.cursor()

        query = f'select email from users where email = \'{email}\''
        cursor.execute(query)
        rows = cursor.fetchall()

        if(len(rows)!=0):
            return render_template("signup.html", error="EMAIL ALREADY EXISTS !!!")

        query = f'select username from users where username = \'{username}\''
        cursor.execute(query)
        rows = cursor.fetchall()

        if(len(rows)!=0):
            return render_template("signup.html", error="USERNAME ALREADY EXISTS !!!")

        query = "insert into users values(%s, %s, %s, %s)"
        cursor.execute(query, (email, username, roll_no, password))
        conn.commit()

        return render_template("signup.html", error=None,msg="ACCOUNT CREATED SUCCESSFULLY
!!! PLEASE LOGIN")

@app.route("/users",methods=["GET","POST"])
def users():
    if(request.method=="GET"):
        cursor = conn.cursor()

        query = f'select username, email, roll_no from users'

```

```

        cursor.execute(query)
        rows = cursor.fetchall()

        return render_template("users_list.html", users=rows)
    elif(request.method=="POST"):
        username = request.form["username"]
        email = request.form["email"]
        roll_no = request.form["roll_no"]
        password = request.form["password"]

        cursor = conn.cursor()

        query = f'select email from users where email = \'{email}\''
        cursor.execute(query)
        rows = cursor.fetchall()

        if(len(rows)!=0):
            return render_template("signup.html", error="EMAIL ALREADY EXISTS !!!")

        query = f'select username from users where username = \'{username}\''
        cursor.execute(query)
        rows = cursor.fetchall()

        if(len(rows)!=0):
            return render_template("signup.html", error="USERNAME ALREADY EXISTS !!!")

        query = "insert into users values(%s, %s, %s, %s)"
        cursor.execute(query, (email, username, roll_no, password))
        conn.commit()

        return render_template("signup.html", error=None, msg="ACCOUNT CREATED SUCCESSFULLY !!! PLEASE LOGIN")

@app.route("/user/<string:username>/update", methods=["GET", "POST"])
def userUpdate(username):
    if(request.method=="GET"):
        cursor = conn.cursor()

        query = f'select username, email, roll_no from users where username = \'{username}\''
        cursor.execute(query)
        info = cursor.fetchone()

        return
    render_template("user_update.html", username=info[0], email=info[1], roll_no=info[2], error=None)
    elif(request.method=="POST"):

```

```

        new_username = request.form["username"]
        email = request.form["email"]
        roll_no = request.form["roll_no"]

        cursor = conn.cursor()

        query1 = f'select email from users where email = \'{email}\'' and username <> \'{username}\''
        cursor.execute(query1)
        rows1 = cursor.fetchall()

        query2 = f'select username from users where username = \'{new_username}\'' and username <> \'{username}\''
        cursor.execute(query2)
        rows2 = cursor.fetchall()

        if(len(rows1) == 0 and len(rows2) == 0):
            query = "update users set email=%s, username=%s, roll_no=%s where username=%s"
            cursor.execute(query, (email, new_username, roll_no, username))
            conn.commit()

        return redirect("/users")

@app.route("/user/<string:username>/delete")
def userDelete(username):
    cursor = conn.cursor()

    query = f'delete from users where username=\' {username} \''
    cursor.execute(query)
    conn.commit()

    return redirect("/users")

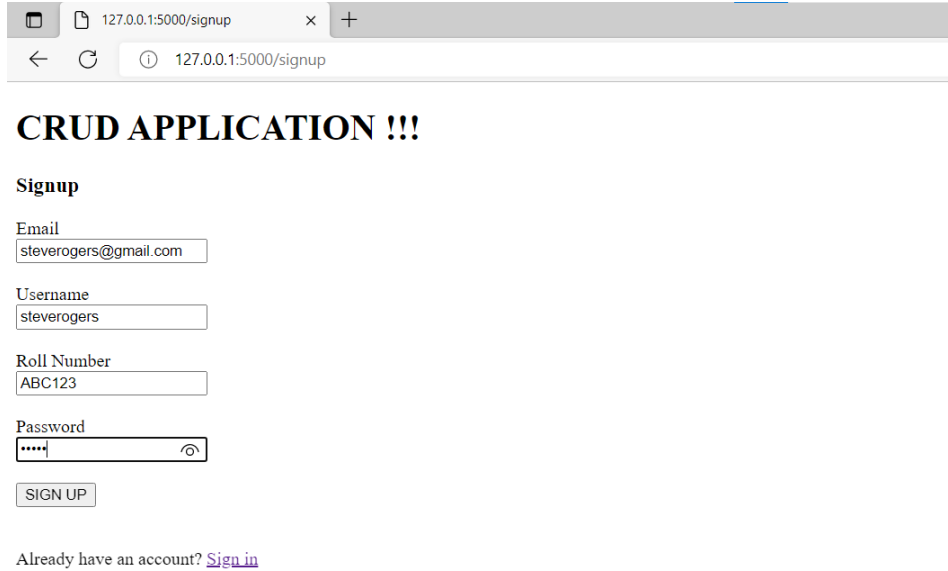
if __name__=="__main__":
    app.run()
    conn.close()

```

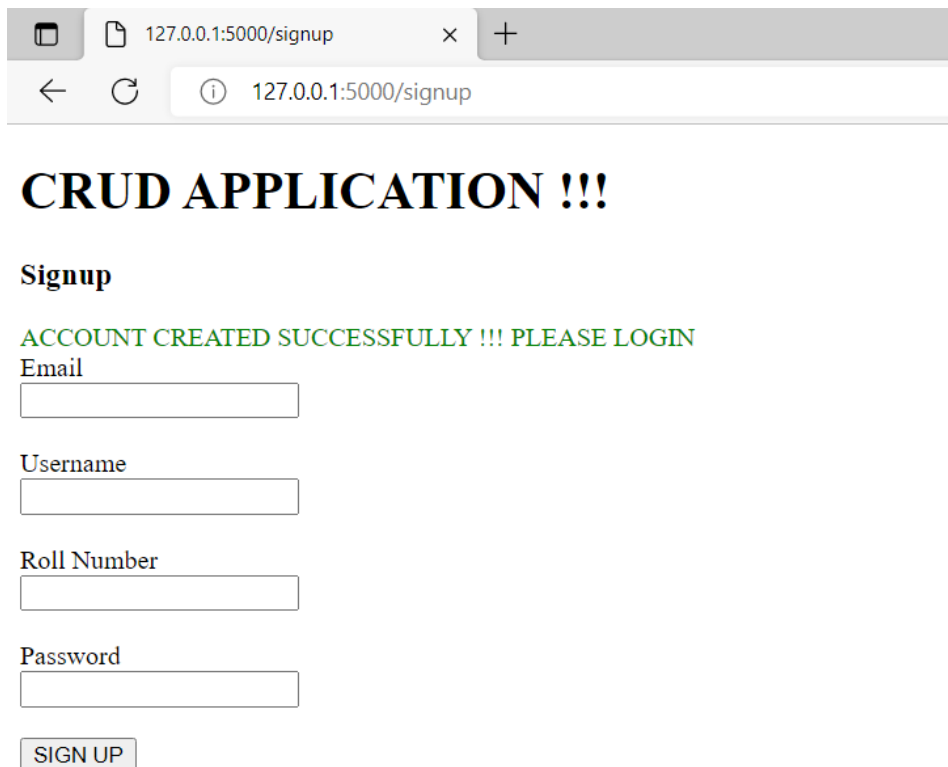
OUTPUT

1. REGISTRATION

a) SIGNUP



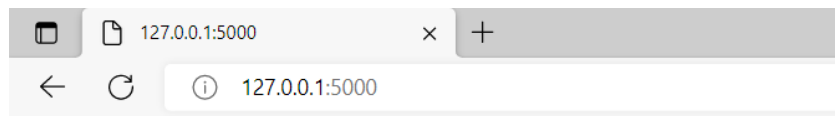
The screenshot shows a web browser window with the address bar displaying "127.0.0.1:5000/signup". The page title is "CRUD APPLICATION !!!". Below the title, the heading "Signup" is followed by four input fields: "Email" (containing "steverogers@gmail.com"), "Username" (containing "steverogers"), "Roll Number" (containing "ABC123"), and "Password" (containing four dots). A "SIGN UP" button is located below the password field. At the bottom, there is a link that says "Already have an account? [Sign in](#)".



The screenshot shows the same web browser window, but the page content has changed. The heading "Signup" is now followed by a green message: "ACCOUNT CREATED SUCCESSFULLY !!! PLEASE LOGIN". Below this message are the same four input fields as before, but they are now empty. The "SIGN UP" button remains at the bottom.

b) LOGIN

- INVALID



CRUD APPLICATION !!!

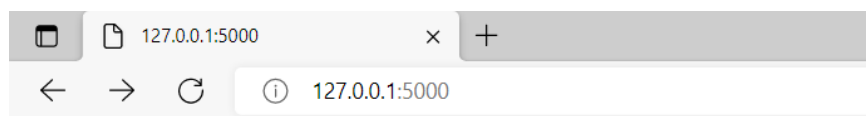
Login

Username

Password

SIGN IN

Don't have an account? [Sign up](#)



CRUD APPLICATION !!!

Login

INVALID CREDENTIALS !!!

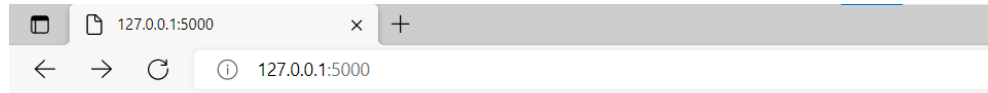
Username

Password

SIGN IN

Don't have an account? [Sign up](#)

- **VALID**



CRUD APPLICATION !!!

Login

Username

Password

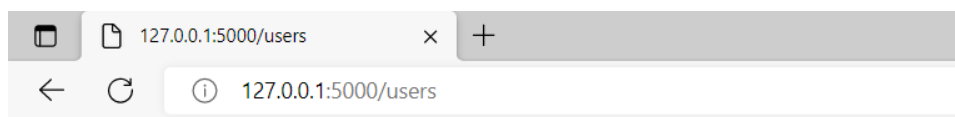
Don't have an account? [Sign up](#)



Welcome, steverogers

2. READ/UPDATE/DELETE

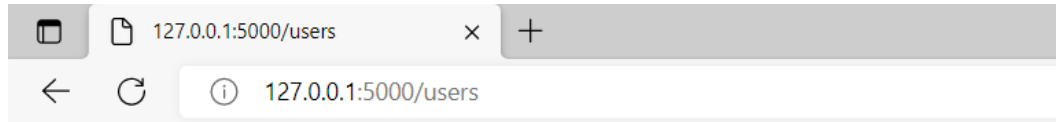
a) READ



Users List

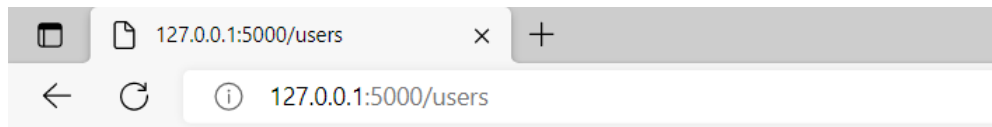
USERNAME	EMAIL	ROLL_NO	OPTIONS
user2	user1@gmail.com	12345	Update Delete
steverogers	steverogers@gmail.com	ABC123	Update Delete

b) DELETE



Users List

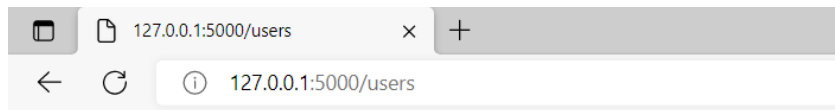
USERNAME	EMAIL	ROLL_NO	OPTIONS
user2	user1@gmail.com	12345	Update Delete
steverogers	steverogers@gmail.com	ABC123	Update Delete



Users List

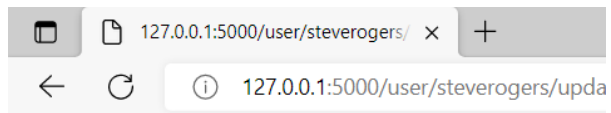
USERNAME	EMAIL	ROLL_NO	OPTIONS
steverogers	steverogers@gmail.com	ABC123	Update Delete

c) UPDATE



Users List

USERNAME	EMAIL	ROLL_NO	OPTIONS
steverogers	steverogers@gmail.com	ABC123	Update Delete

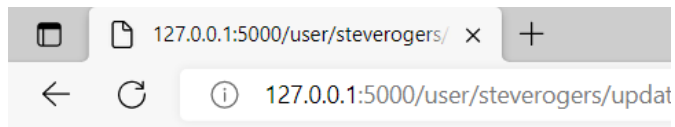


UPDATE USER!

Username

Email

Roll No

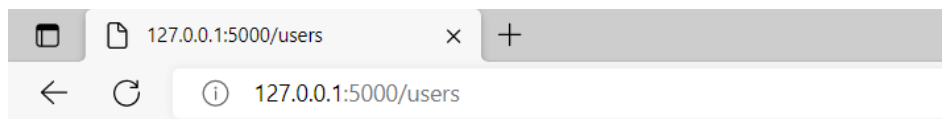


UPDATE USER!

Username

Email

Roll No



Users List

USERNAME	EMAIL	ROLL_NO	OPTIONS
steverogers	steverogers@gmail.com	XYZ123	Update Delete