

## ASSIGNMENT 2

### Database connection

Date	12 October 2022
Student Name	Surendhar S
Student Roll no	621319104059
Maximum Marks	2 Marks

#### 1. Create user table with email, username, roll number, password

The screenshot shows the IBM Db2 on Cloud SQL editor interface. The main editor window displays the following SQL script:

```
1 CREATE TABLE user_details(  
2     sl_no INT GENERATED BY DEFAULT AS IDENTITY NOT NULL,  
3     user_name VARCHAR(150) NOT NULL,  
4     user_email VARCHAR(255) NOT NULL,  
5     roll_no INT NOT NULL,  
6     password VARCHAR(100),  
7     PRIMARY KEY (sl_no)  
8 );  
9
```

The History panel at the bottom shows the execution of the script:

Script	Date	Status	Runtime
ASSIGNMENT_2	Oct 16, 2022 3:52:59 PM	✓ 1	0.161 s
CREATE TABLE user_details( sl_no INT GENERATED BY DEFAULT AS IDENTITY NOT NULL, us...		✓	0.161 s

#### Inserting values :

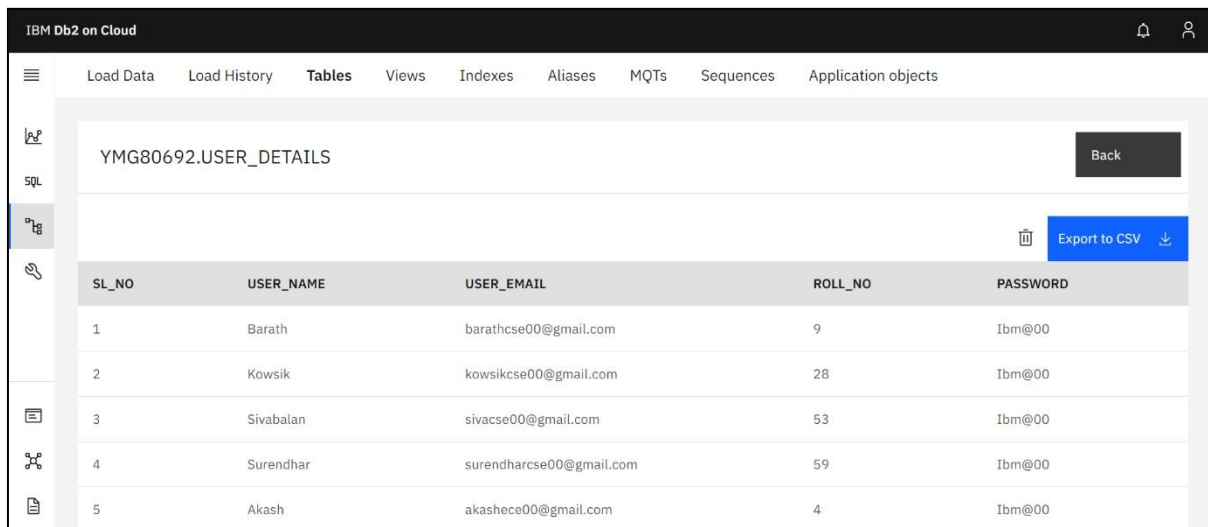
The screenshot shows the IBM Db2 on Cloud SQL editor interface. The main editor window displays the following SQL script:

```
9  
10 insert into user_details(user_name,user_email,roll_no,password) values('Barath','barathcse00@gmail.com',09,'Ibm00');  
11 insert into user_details(user_name,user_email,roll_no,password) values('kowsik','kowsikcse00@gmail.com',28,'Ibm00');  
12 insert into user_details(user_name,user_email,roll_no,password) values('Sivabalan','sivacse00@gmail.com',53,'Ibm00');  
13 insert into user_details(user_name,user_email,roll_no,password) values('Surendhar','surendharcse00@gmail.com',59,'Ibm00');  
14 insert into user_details(user_name,user_email,roll_no,password) values('Akash','akashece00@gmail.com',04,'Ibm00');
```

The History panel at the bottom shows the execution of the script:

Script	Date	Status	Runtime
ASSIGNMENT_2	Oct 16, 2022 3:54:21 PM	✓ 5	0.052 s
insert into user_details(user_name,user_email,roll_no,password) values('Barath','_		✓	0.013 s
insert into user_details(user_name,user_email,roll_no,password) values('kowsik','_		✓	0.009 s
insert into user_details(user_name,user_email,roll_no,password) values('Sivabalan_		✓	0.011 s
insert into user_details(user_name,user_email,roll_no,password) values('Surendhar_		✓	0.008 s

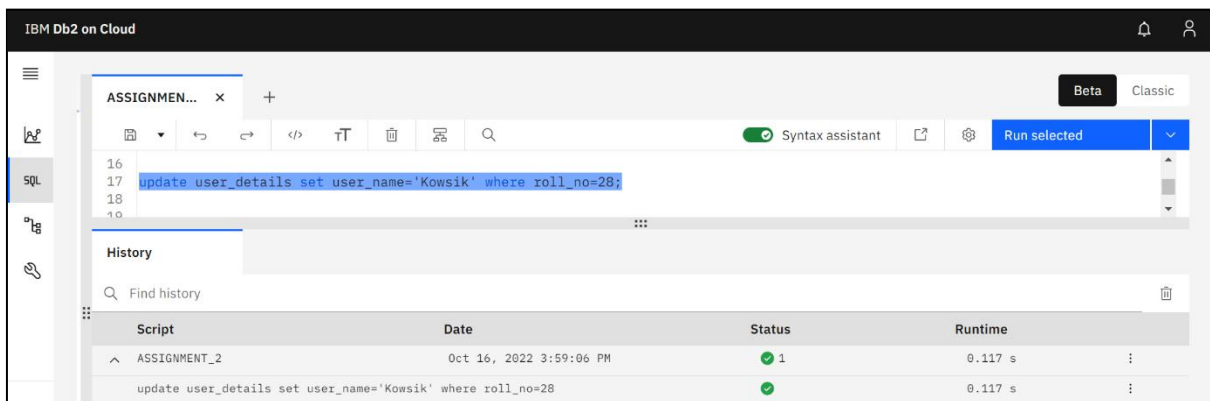
## User\_details table:



The screenshot shows the IBM Db2 on Cloud console interface. The top navigation bar includes 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Tables' tab is selected, displaying a table named 'YMG80692.USER\_DETAILS'. A 'Back' button is in the top right. Below the table name, there is a table with 5 columns: SL\_NO, USER\_NAME, USER\_EMAIL, ROLL\_NO, and PASSWORD. The table contains 5 rows of data. An 'Export to CSV' button is located to the right of the table.

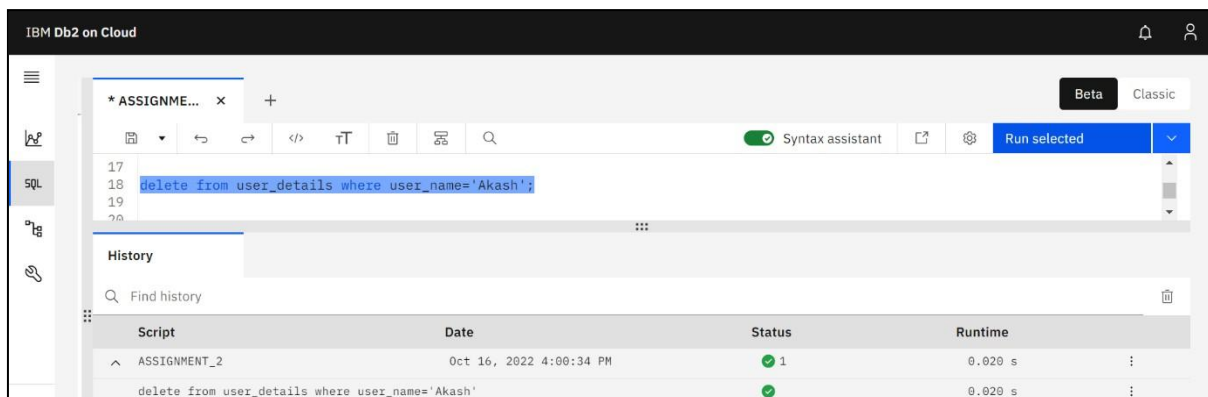
SL_NO	USER_NAME	USER_EMAIL	ROLL_NO	PASSWORD
1	Barath	barathcse00@gmail.com	9	Ibm@00
2	Kowsik	kowsikcse00@gmail.com	28	Ibm@00
3	Sivabalan	sivacse00@gmail.com	53	Ibm@00
4	Surendhar	surendharcse00@gmail.com	59	Ibm@00
5	Akash	akashece00@gmail.com	4	Ibm@00

## 2. Perform update & delete queries with the table



The screenshot shows the IBM Db2 on Cloud console with the SQL editor open. The query being executed is: `update user_details set user_name='Kowsik' where roll_no=28;`. The 'Run selected' button is highlighted. Below the editor, the 'History' tab is active, showing a table with columns: Script, Date, Status, and Runtime. The history entry shows the query was executed successfully on Oct 16, 2022 at 3:59:06 PM, with a status of 1 and a runtime of 0.117 s.

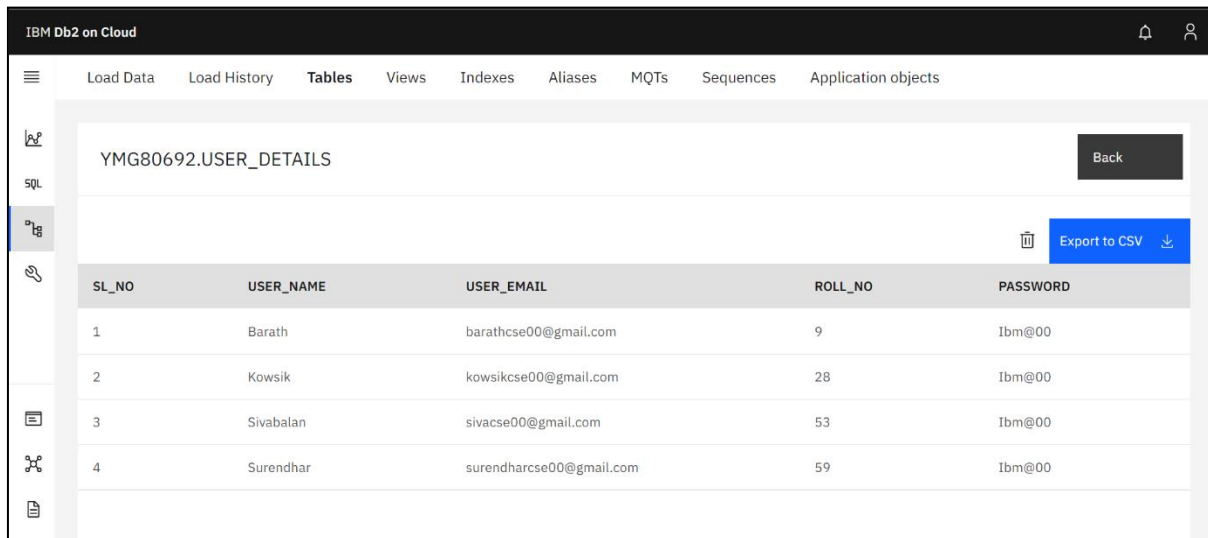
Script	Date	Status	Runtime
ASSIGNMENT_2	Oct 16, 2022 3:59:06 PM	1	0.117 s
update user_details set user_name='Kowsik' where roll_no=28		✓	0.117 s



The screenshot shows the IBM Db2 on Cloud console with the SQL editor open. The query being executed is: `delete from user_details where user_name='Akash';`. The 'Run selected' button is highlighted. Below the editor, the 'History' tab is active, showing a table with columns: Script, Date, Status, and Runtime. The history entry shows the query was executed successfully on Oct 16, 2022 at 4:00:34 PM, with a status of 1 and a runtime of 0.020 s.

Script	Date	Status	Runtime
ASSIGNMENT_2	Oct 16, 2022 4:00:34 PM	1	0.020 s
delete from user_details where user_name='Akash'		✓	0.020 s

## Updated table:



The screenshot shows the IBM Db2 on Cloud web interface. The top navigation bar includes 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Tables' tab is selected, and the table 'YMG80692.USER\_DETAILS' is displayed. The table has five columns: 'SL\_NO', 'USER\_NAME', 'USER\_EMAIL', 'ROLL\_NO', and 'PASSWORD'. There are four rows of data. A 'Back' button is in the top right, and an 'Export to CSV' button is in the top right of the table area.

SL_NO	USER_NAME	USER_EMAIL	ROLL_NO	PASSWORD
1	Barath	barathcse00@gmail.com	9	Ibm@00
2	Kowsik	kowsikcse00@gmail.com	28	Ibm@00
3	Sivabalan	sivacse00@gmail.com	53	Ibm@00
4	Surendhar	surendharcse00@gmail.com	59	Ibm@00

### 3. Connect python code to db2

```
import ibm_db
```

```
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=98538591-7217-4024-b027-8baa776ffad1.c3n41cmd0nqnrk39u98.databases.appdomain.cloud;PORT=30875;SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;PROTOCOL=TCPIP;UID=ymg80692;PWD=dS5CZPeX9CN20vpY ",";")
```

### 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**

#### App.py

```
from flask import Flask, render_template, request, redirect, url_for, session
```

```
import ibm_db
```

```
import bcrypt
```

```
conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=98538591-7217-4024-b027-8baa776ffad1.c3n41cmd0nqnrk39u98.databases.appdomain.cloud;PORT=30875;SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;PROTOCOL=TCPIP;UID=ymg80692;PWD=dS5CZPeX9CN20vpY ",";")
```

```

# url_for('static', filename='style.css')

app = Flask(__name__)
app.secret_key = b'_5#y2L"F4Q8z\n\xec]/'

@app.route("/", methods=['GET']) def home():
    if 'email' not in session:
        return redirect(url_for('login'))
    return render_template("home.html", name='Home')

@app.route("/register", methods=['GET', 'POST']) def
register():
    if request.method == 'POST':
        email = request.form['email'] username =
        request.form['username'] rollNo =
        request.form['rollNo'] password =
        request.form['password']

        if not email or not username or not rollNo or not password: return
        render_template('register.html', error='Please fill all fields')

        hash=bcrypt.hashpw(password.encode('utf-8'),bcrypt.gensalt()) query="SELECT *

        FROM USER WHERE email=? OR rollNo=?"
        stmt = ibm_db.prepare(conn, query)
        ibm_db.bind_param(stmt, 1, email)
        ibm_db.bind_param(stmt, 2, rollNo)
        ibm_db.execute(stmt)
        isUser = ibm_db.fetch_assoc(stmt)

        if not isUser:
            insert_sql="INSERT INTO USER(EMAIL, USERNAME, ROLLNO, PASSWORD) VALUES (?, ?, ?, ?)"
            prep_stmt=ibm_db.prepare(conn, insert_sql)
            ibm_db.bind_param(prepare_stmt, 1, email)
            ibm_db.bind_param(prepare_stmt, 2, username)
            ibm_db.bind_param(prepare_stmt, 3, rollNo)
            ibm_db.bind_param(prepare_stmt, 4, hash)
            ibm_db.execute(prepare_stmt)
            return render_template('register.html', success="You can login") else:
            return render_template('register.html', error='Invalid Credentials') return

        render_template('register.html', name='Home')

```

```

@app.route("/login",methods=['GET','POST']) def login():
    if request.method == 'POST':
        email = request.form['email'] password =
        request.form['password']

        if not email or not password:
            return render_template('login.html',error='Please fill all fields') query = "SELECT *
            FROM USER WHERE email=?"
            stmt = ibm_db.prepare(conn, query)
            ibm_db.bind_param(stmt,1,email)
            ibm_db.execute(stmt)
            isUser = ibm_db.fetch_assoc(stmt)
            print(isUser,password)

            if not isUser:
                return render_template('login.html',error='Invalid Credentials')

            isPasswordMatch = bcrypt.checkpw(password.encode('utf-
            8'),isUser['PASSWORD'].encode('utf-8'))

            if not isPasswordMatch:
                return render_template('login.html',error='Invalid Credentials')

            session['email'] = isUser['EMAIL'] return
            redirect(url_for('home'))

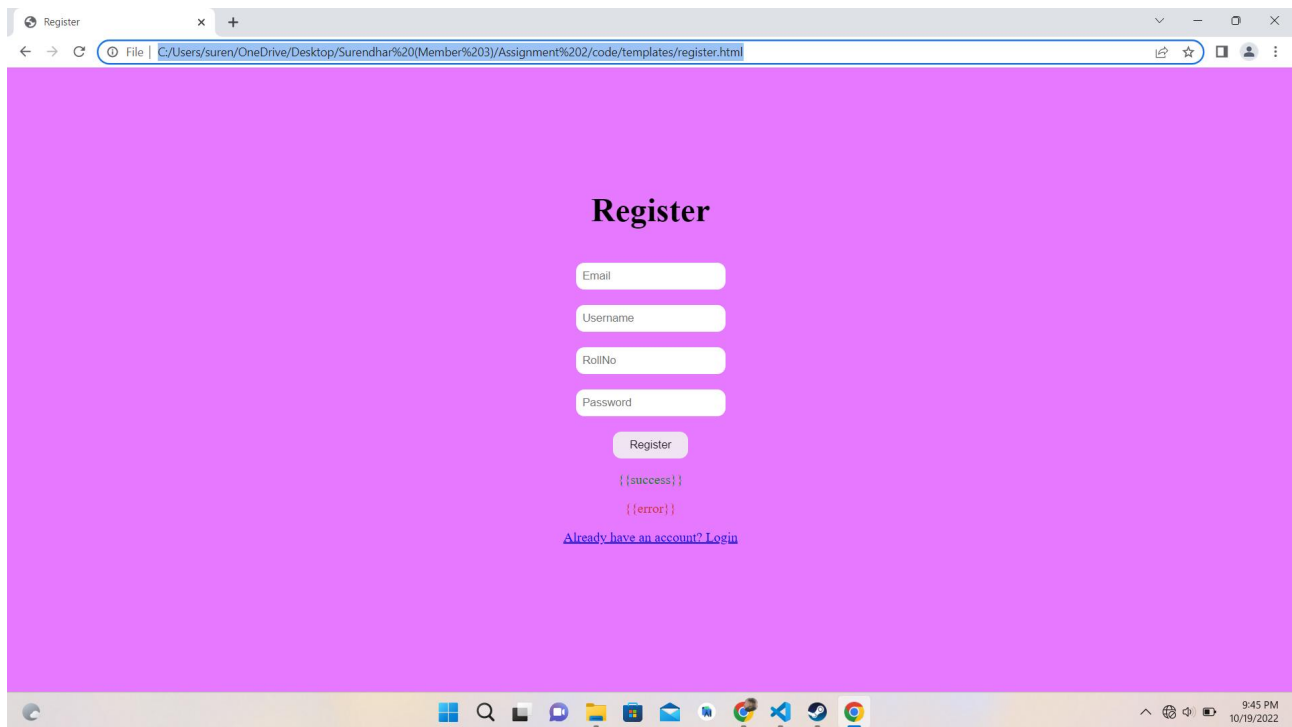
        return render_template('login.html',name='Home')

@app.route('/logout') def
logout():
    session.pop('email', None) return
    redirect(url_for('login'))
if __name__ == "__main__":
    app.run(debug=True)

```

## Output:

### Registering:

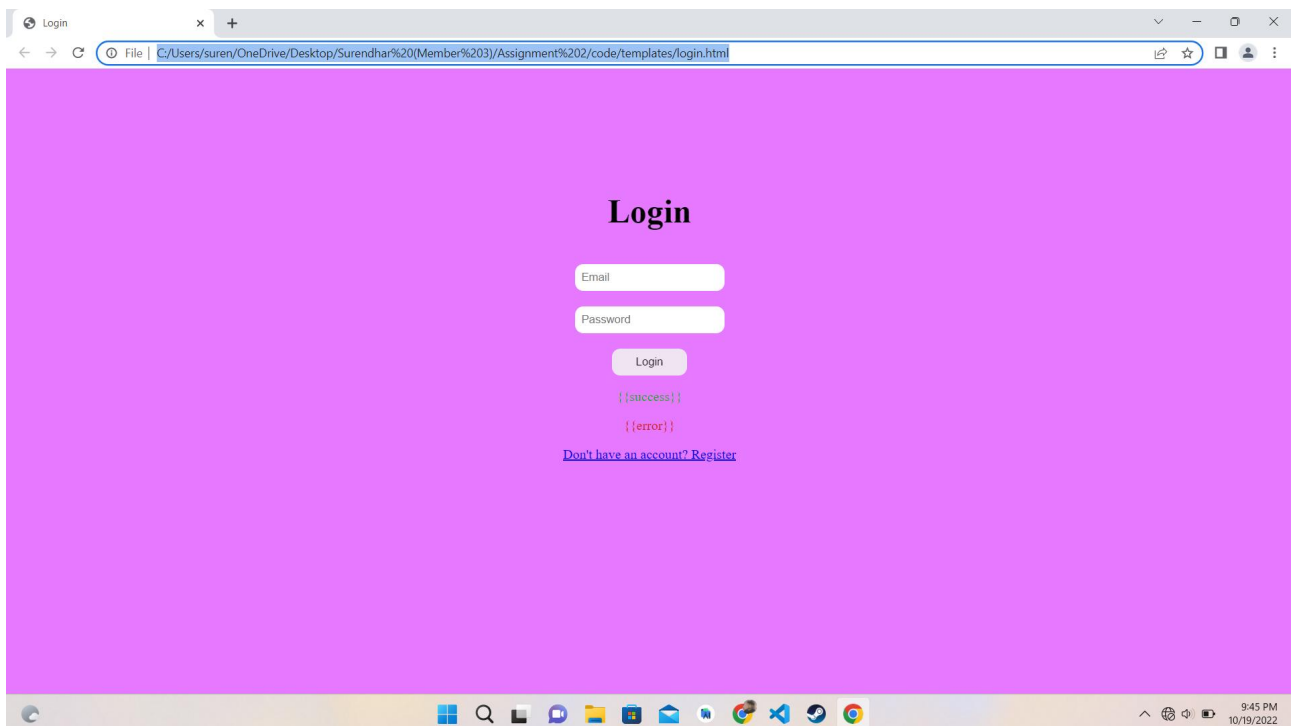


The screenshot shows a web browser window with the title 'Register'. The address bar displays the file path: `C:/Users/suren/OneDrive/Desktop/Surendhar%20(Member%203)/Assignment%202/code/templates/register.html`. The page has a solid purple background. In the center, there is a registration form with the following elements:

- Register** (Section Header)
- 
- 
- 
- 
- 
- `{{success}}`
- `{{error}}`
- [Already have an account? Login](#)

The Windows taskbar at the bottom shows the time as 9:45 PM on 10/19/2022.

### Logging in:

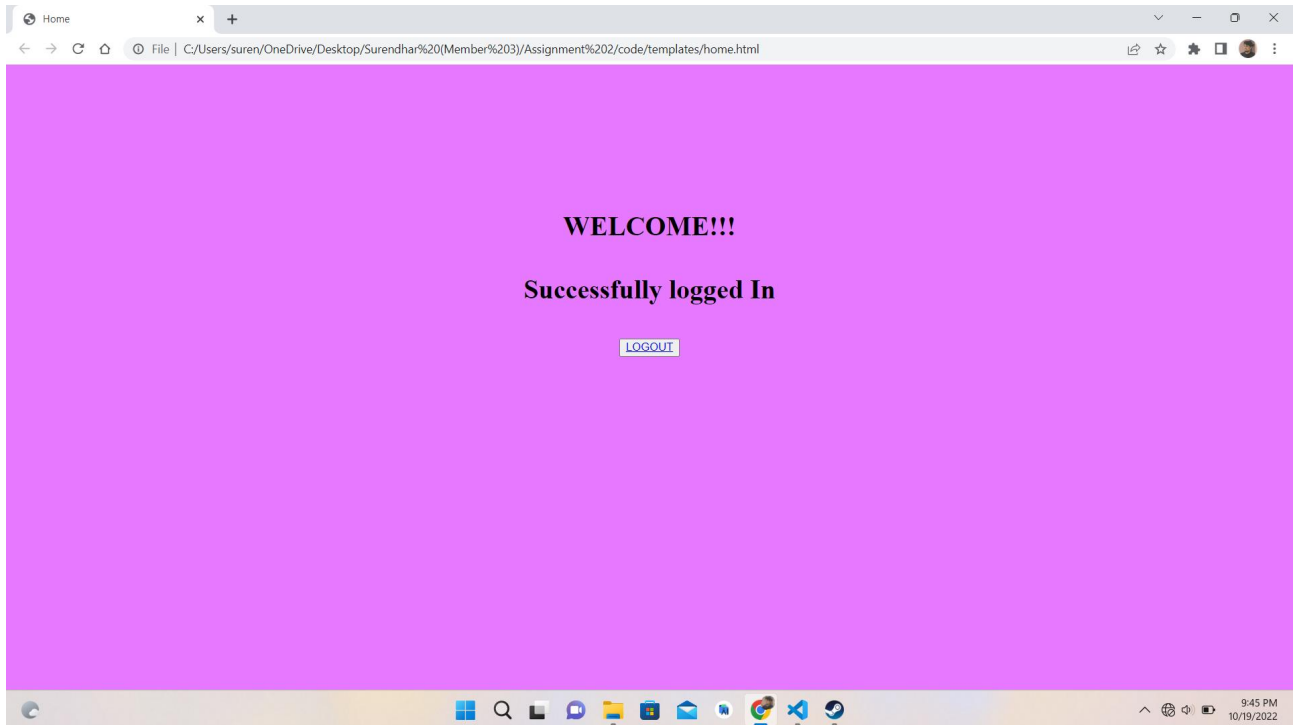


The screenshot shows a web browser window with the title 'Login'. The address bar displays the file path: `C:/Users/suren/OneDrive/Desktop/Surendhar%20(Member%203)/Assignment%202/code/templates/login.html`. The page has a solid purple background. In the center, there is a login form with the following elements:

- Login** (Section Header)
- 
- 
- 
- `{{success}}`
- `{{error}}`
- [Don't have an account? Register](#)

The Windows taskbar at the bottom shows the time as 9:45 PM on 10/19/2022.

## Home page:



## Database:

IBM Db2 on Cloud

Load Data Load History **Tables** Views Indexes Aliases MQTs Sequences Application objects

YMG80692.USER

Back

Export to CSV

EMAIL	USERNAME	ROLLNO	PASSWORD
barath@gmail.com	Bublu	10	\$2b\$12\$Fa/kcqMYCmkac624S3Nf4eYKDpemrCgt1XN7YC.zjB9OMs22Dg9ta
barathcse00@gmail.com	Barath S	9	\$2b\$12\$hq008/IPwyd6roBg14z9mOqReIBMg2K69LSZbsAFt2Xg77IUc05aG