

## Assignment 2

1. Create User table with email, username, roll number, password.

The screenshot shows the IBM Db2 on Cloud web interface. The 'Tables' section on the left lists the 'USER' table under the 'PNG88761' schema. The 'Table definition' panel on the right shows the table's structure:

Name	Data type	Nullable	Length	Scale
EMAIL	CHAR	Y	32	0
USERNAME	CHAR	Y	32	0
Roll Number	INTEGER	Y		0
PASSWORD	CHAR	Y	32	0

The interface also includes a 'New table' button and a 'View data' button.

2. Perform UPDATE, DELETE Queries with user table

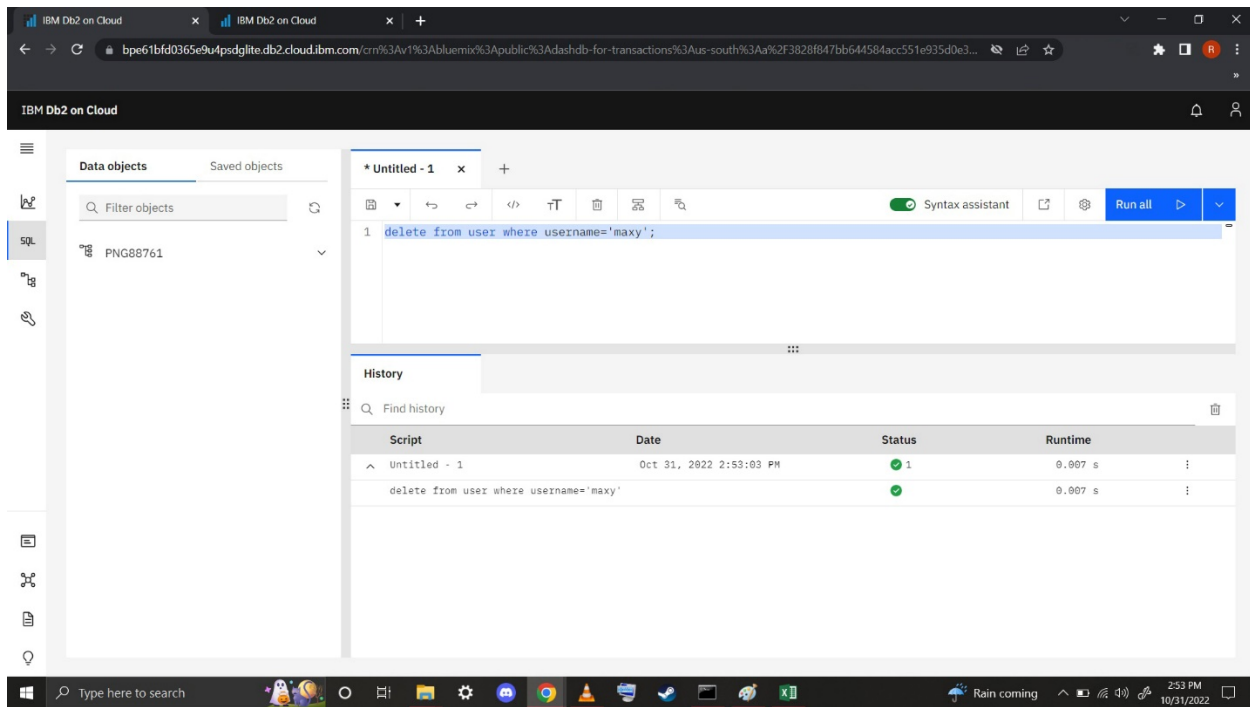
The screenshot shows the IBM Db2 on Cloud web interface with the 'Data objects' section on the left. The 'SQL' editor on the right contains the following queries:

```
1 UPDATE USER
2 Set password='maxy2020'
3 WHERE username='maxy';
```

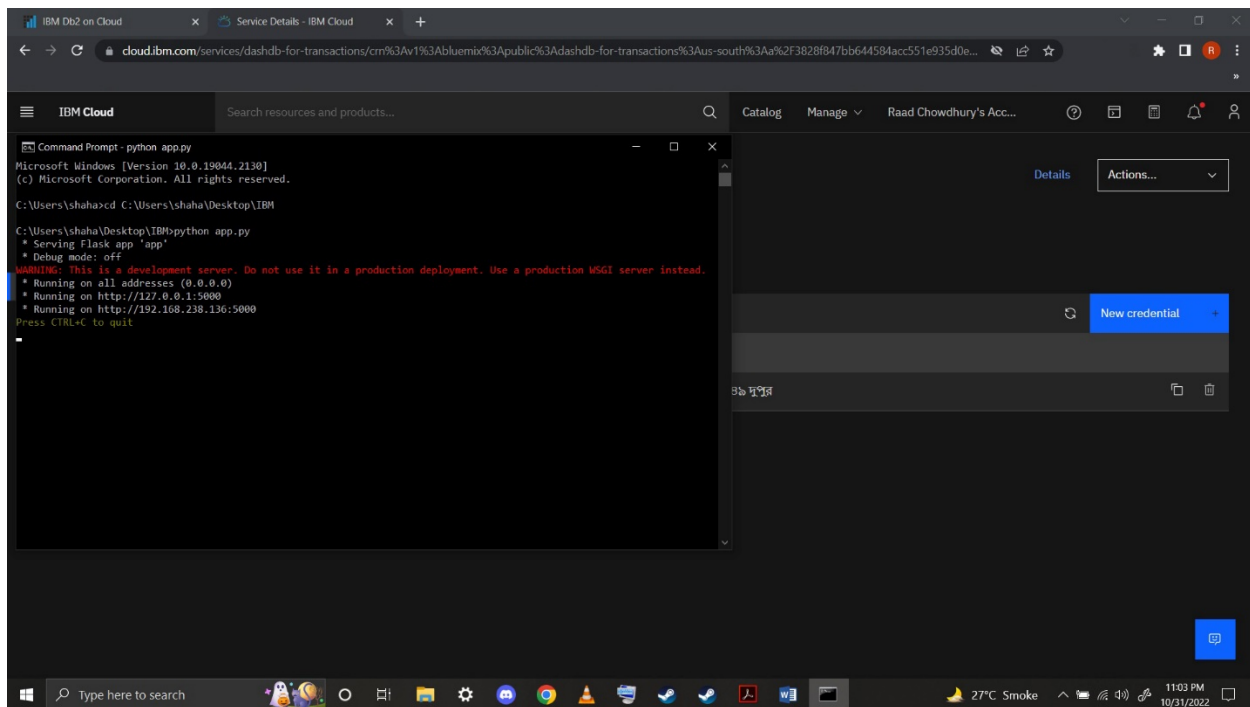
The 'History' panel below the editor shows the execution of these queries:

Script	Date	Status	Runtime
Untitled - 1	Oct 31, 2022 2:56:15 PM	✓ 1	0.004 s
UPDATE USER Set password='maxy2020' WHERE username='maxy'		✓	0.004 s

The interface also includes a 'Run all' button and a 'Syntax assistant' toggle.



### 3. Connect python code to db2.



Now, we create a flask app with a user registration page, login page and welcome page. The session will be loaded by default once the user enters all the fields, store the data in database and navigate to login page. Authenticate username and password, if the user is valid display the welcome page.

### **App.py**

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

import ibm_db

import re


app=Flask(__name__)

app.secret_key='a'

conn=ibm_db.connect("DATABASE=bludb;HOSTNAME=b0aebb68-94fa-46ec-a1fc-
1c999edb6187.c3n41cmd0nqnrk39u98g.databases.appdomain.cloud;PORT=31249;Security=SSL
;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=png88761;PWD=AC1oVSvpuOCxiNjr;"", "", ""
)


@app.route('/')

@app.route('/login',methods=['GET','POST'])

def login():

    global userid;

    msg=" "


    if request.method == 'POST' and 'username' in request.form and 'password' in request.form:

        username=request.form['username']

        password=request.form['password']

        sql="SELECT * FROM users WHERE username=? AND password=?"

        stmt=ibm_db.prepare(conn,sql)

        ibm_db.bind_param(stmt,1,username)

        ibm_db.bind_param(stmt,2,password)
```

```
ibm_db.execute(stmt)
account=ibm_db.fetch_assoc(stmt)
print(account)
if account:
    session['Loggedin']=True
    session['id']=account['USERNAME']
    userid=account['USERNAME']
    session['username']=account['USERNAME']
    msg="Logged in successfully!"
    return render_template("index.html", msg=msg)
else :
    msg="Incorrect username and password"
```

```
return render_template("login.html", msg=msg)
```

```
@app.route('/logout')
```

```
def logout():
```

```
    session.pop('loggedin', None)
    session.pop('id', None)
    session.pop('username', None)
    return redirect(url_for('login'))
```

```
@app.route("/register",methods=["GET","POST"])
```

```
def register():
```

```
    msg=""
```

```
    if request.method == 'POST' and 'username' in request.form and 'password' in request.form
    and 'email' in request.form :
```

```

username=request.form['username']
email=request.form['email']
password=request.form['password']
sql="SELECT * from users WHERE username=?"
stmt=ibm_db.prepare(conn,sql)
ibm_db.bind_param(stmt,1,username)
ibm_db.execute(stmt)
account=ibm_db.fetch_assoc(stmt)
print(account)
if account:
    msg = 'Account already exists !'
elif not re.match(r'^@]+@^[^@]+\.[^@]+', email):
    msg = 'Invalid email address !'
elif not re.match(r'[A-Za-z0-9]+', username):
    msg = 'Username must contain only characters and numbers !'
elif not username or not password or not email:
    msg = 'Please fill out the form !'
else:
    insert_sql="INSERT INTO users VALUES(?,?,?)"
    prep_stmt=ibm_db.prepare(conn,insert_sql)
    ibm_db.bind_param(prepare_stmt,1,username)
    ibm_db.bind_param(prepare_stmt,2,email)
    ibm_db.bind_param(prepare_stmt,3,password)
    ibm_db.execute(prepare_stmt)
    msg="You have successfully logged in!"

elif request.method=="POST":

```

```
    msg="Please fill out the form"
    return render_template('register.html', msg=msg)

if __name__=="__main__":
    app.run(host='0.0.0.0')
```

## Directory: static

### Style.css

```
.header{
    padding: 5px 120px;
    background-color: rgb(254, 254, 254);
    opacity: 0.6;
    border-radius: 10px;
}

.border{
    padding: 80px 50px;
    width: 400px;
    height: 450px;
    border: 1px solid #ffffff;
    border-radius: 2px;
    background-color: #e5ccf4;
    backdrop-filter: blur (10px);
}

.btn {
    padding: 10px 40px;
    background-color: #fcfae2;
```

```
        color: #26192b;  
        font-style: oblique;  
        font-weight: bold;  
        opacity: 0.6;  
        border-radius: 10px;  
    }
```

```
.textbox{  
    padding: 10px 40px;  
    background-color: #b92c96;  
    text-color: #FFFFFF;  
    border-radius: 10px;  
}
```

```
::placeholder {  
    color: #FFFFFF;  
    opacity: 0.5;  
    font-style: oblique;  
    font-weight: bold;  
}
```

```
.word{  
    color: #0c0101;  
    font-style: oblique;  
    font-weight: bold;  
}
```

```

.bottom{
    color: #010100;
    font-style: oblique;
    font-weight: bold;
}

body{
    background-image: linear-gradient(120deg, #F6EA41, #F048C6);
    color: #fff;
}

```

## Directory: Templates

### Login.html

```

<html>
    <head>
        <meta charset="UTF-8">
        <title> Login </title>
        <link rel="stylesheet" href="{{ url_for('static', filename='style.css') }}">
    </head>
    <body></br></br></br></br></br>
        <div align="center">
            <div align="center" class="border">
                <div class="header">
                    <h1 class="word">Login</h1>
                </div></br></br></br>
                <h2 class="word">
                    <form action="{{ url_for('login') }}" method="post">
                        <div class="msg">{{ msg }}</div>
                        <input id="username" name="username" type="text"
placeholder="Username" class="textbox"/></br></br>

```



```

        <input id="password" name="password" type="password"
placeholder="Password" class="textbox"/></br></br></br>
        <input type="submit" class="btn" value="Sign In"></br></br>
    </form>

</h2>
    <p class="bottom">Don't have an account? <a class="bottom"
href="{{url_for('register')}}"> Sign Up here</a></p>
</div>
</div>
<div class="background-image"></div>
</body>
</html>

```

### index.html

```

<html>
    <head>
        <meta charset="UTF-8">
        <title> Index </title>
        <link rel="stylesheet" href="{{ url_for('static', filename='style.css') }}">

    </head>
    <body style="background-color:powderblue;"></br></br></br></br></br>
        <div align="center">
            <div align="center" class="border">
                <div class="header">
                    <h1 class="word">Index</h1>
                </div></br></br></br>
                <h1 class="bottom">
                    Hi {{session.username}}!!</br></br> Welcome to the index
page...

                </h1></br></br></br>
                <a href="{{ url_for('logout') }}" class="btn">Logout</a>

```

```
        </div>
    </div>
</body>
</html>
```

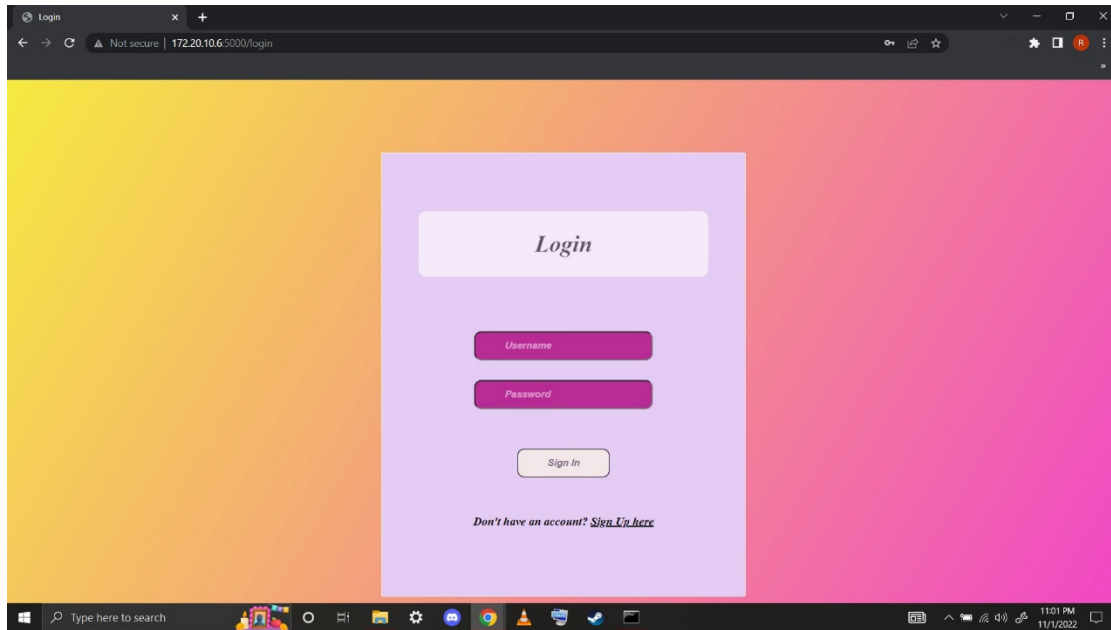
### **register.html**

```
<html>
    <head>
        <meta charset="UTF-8">
        <title> Register </title>
        <link rel="stylesheet" href="{{ url_for('static', filename='style.css') }}">
    </head>
    <body></br></br></br></br></br>
        <div align="center">
            <div align="center" class="border">
                <div class="header">
                    <h1 class="word">Register</h1>
                </div></br></br></br>
                <h2 class="word">
                    <form action="{{ url_for('register') }}" method="post">
                        <div class="msg">{{ msg }}</div>
                            <input id="username" name="username" type="text"
placeholder="Enter Your Username" class="textbox"/></br></br>
                            <input id="password" name="password" type="password"
placeholder="Enter Your Password" class="textbox"/></br></br>
                            <input id="email" name="email" type="text"
placeholder="Enter Your Email ID" class="textbox"/></br></br>
                            <input type="submit" class="btn" value="Sign Up"></br>
                        </form>
                    </h2>
                    <p class="bottom">Already have an account? <a class="bottom"
href="{{ url_for('login') }}"> Sign In here</a></p>
```

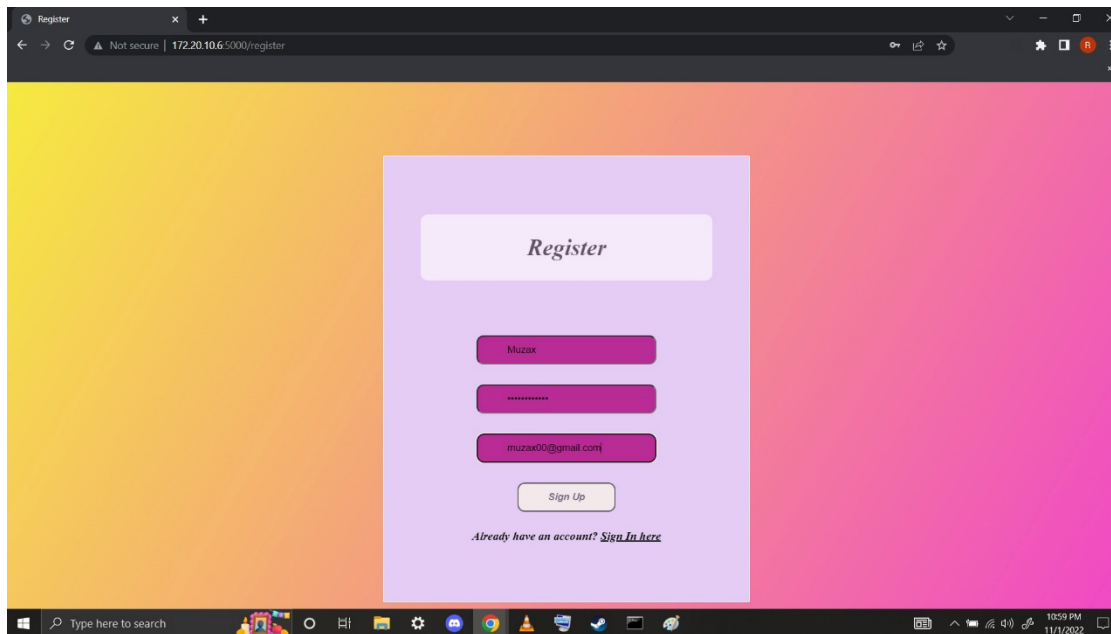
```
</div>
</div>
</body>
</html>
```

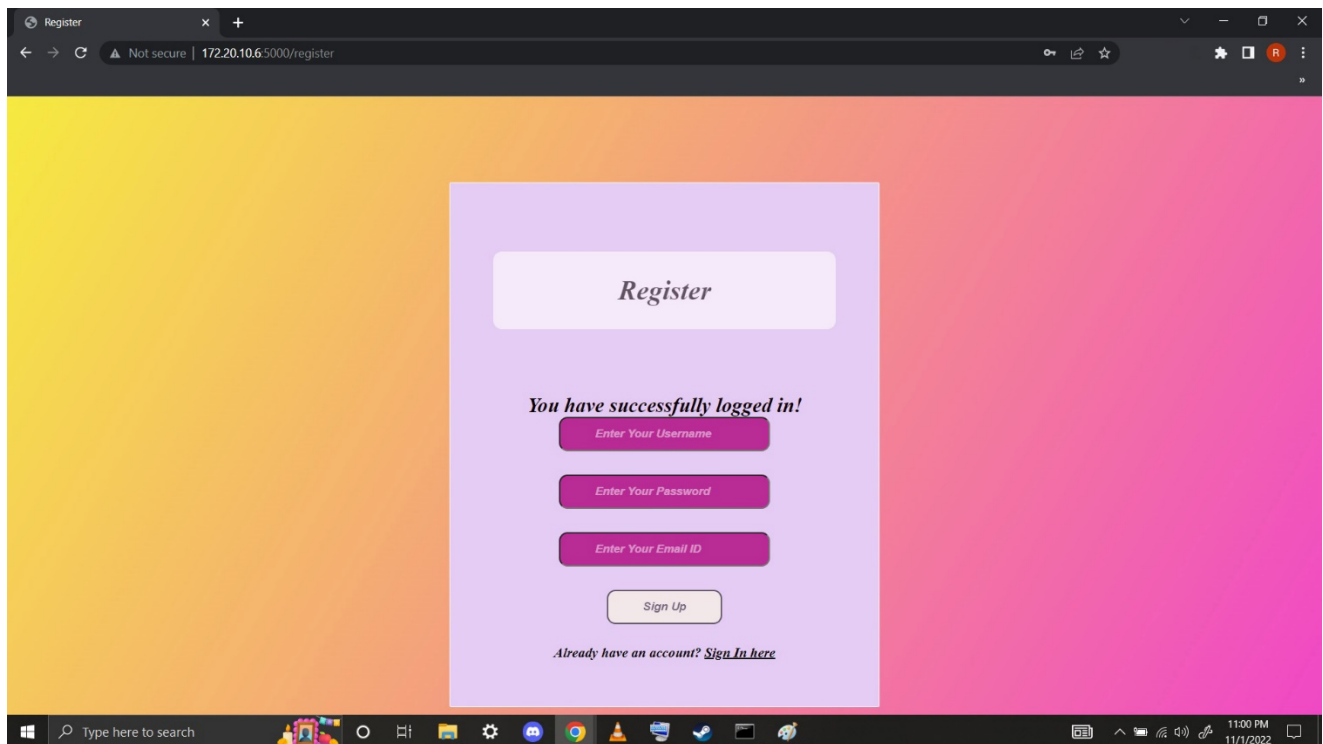
## Output

### 1.Login

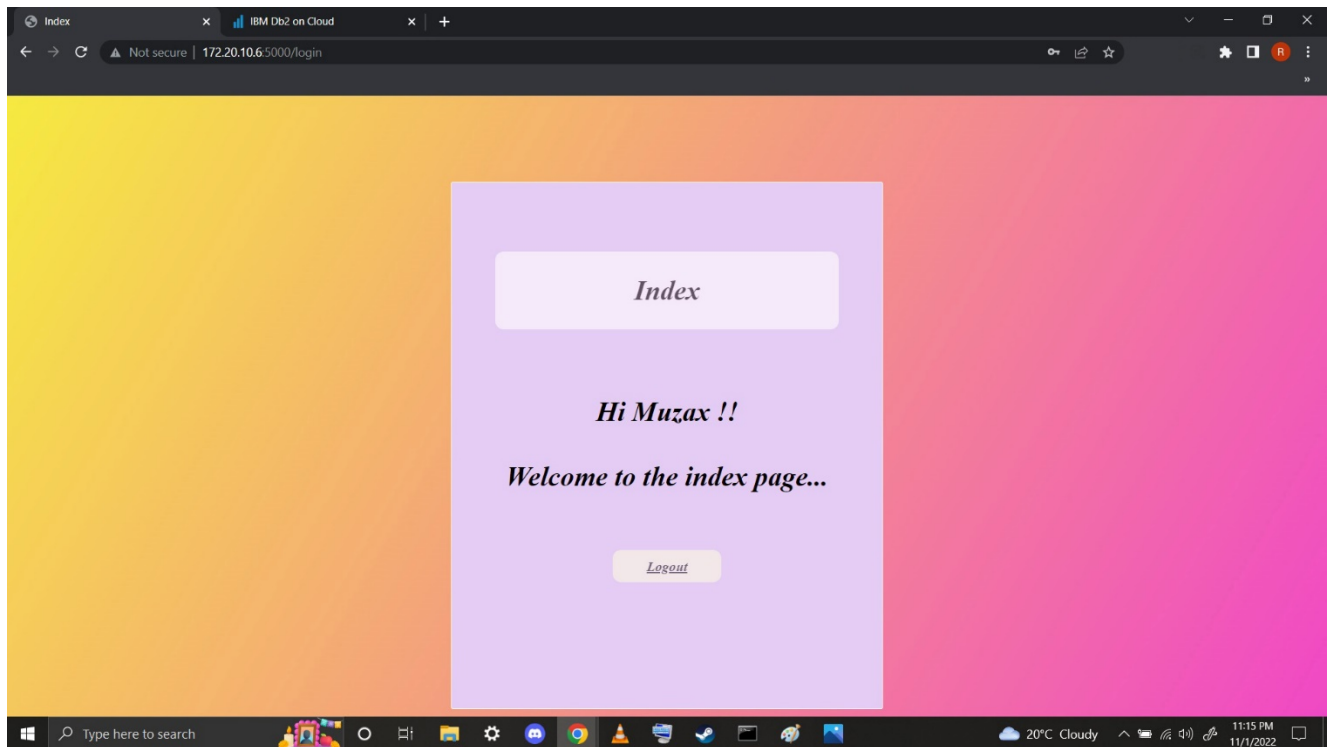


### 2. Registration

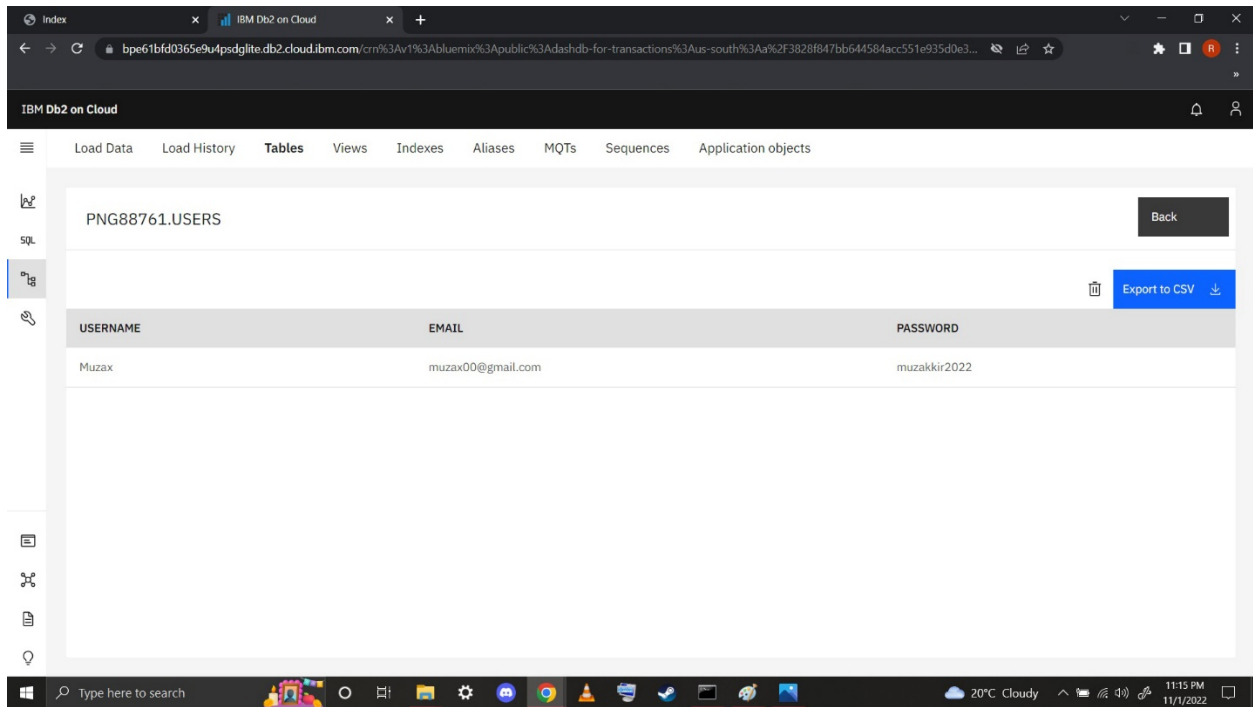




### 3. Welcome Page



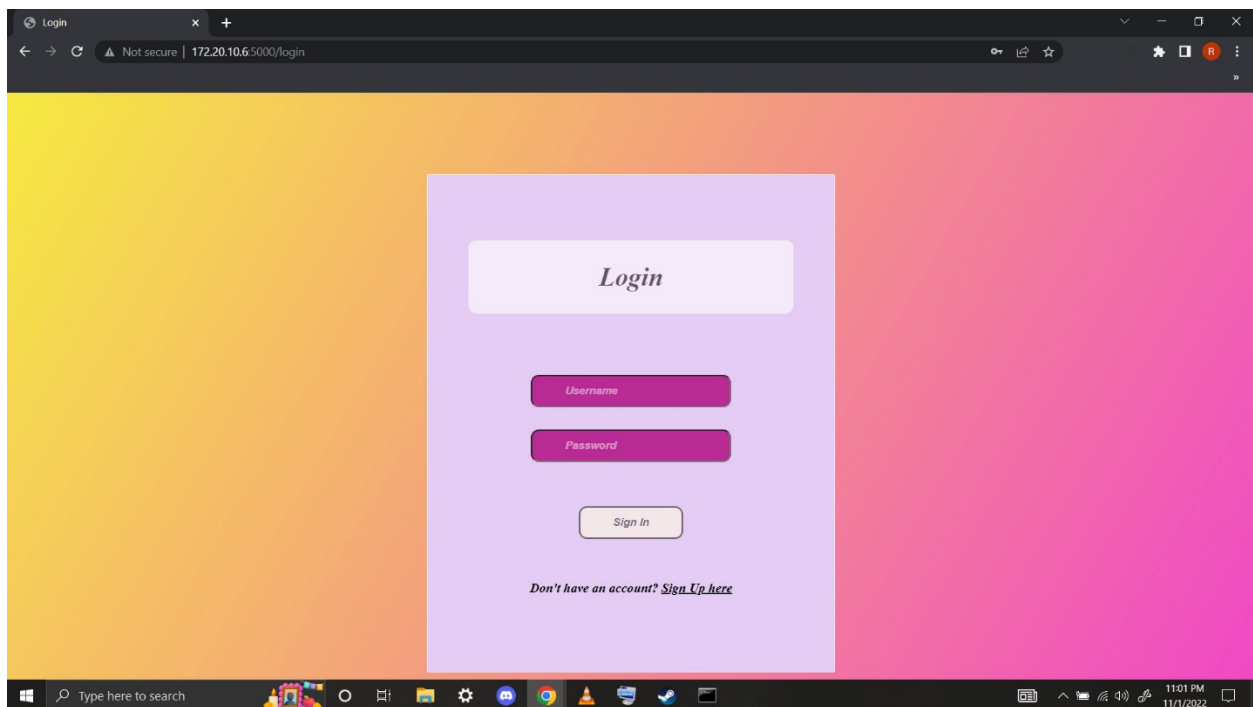
## 4. Database Entry



The screenshot shows the IBM Db2 on Cloud web interface. The top navigation bar includes links for Load Data, Load History, Tables, Views, Indexes, Aliases, MQTs, Sequences, and Application objects. The main content area displays a table named PNG88761.USERS. The table has three columns: USERNAME, EMAIL, and PASSWORD. The first row contains the values Muzax, muzax00@gmail.com, and muzakkir2022. There are buttons for 'Back' and 'Export to CSV' in the top right corner of the table view.

USERNAME	EMAIL	PASSWORD
Muzax	muzax00@gmail.com	muzakkir2022

## 5. Logout



The screenshot shows a login page with a purple and pink gradient background. The page features a 'Login' title, input fields for 'Username' and 'Password', a 'Sign In' button, and a link for 'Don't have an account? Sign Up here'.