

Assignment -2

IBM CLOUD DB2

Student Name	Tamilarasan K
Student Roll Number	712219104027
Maximum Marks	2 Marks

Questions:

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

The screenshot shows the IBM Db2 on Cloud console. The 'Tables' tab is selected, and a 'New table' dialog is open. The table name is 'USERTABLE' and the schema is 'HGC00903'. The 'Table definition' panel on the right shows the following columns:

Name	Data type	Nullable	Length	Scale
USERNAME	CHAR	Y	20	0
ROLL NO	INTEGER	Y		0
EMAIL	VARCHAR	Y	32	0
PASSWORD	VARCHAR	Y	32	0

A 'View data' button is visible at the bottom of the table definition panel.

The screenshot shows the IBM Db2 on Cloud console displaying the 'USERTABLE' table. The table has four columns: 'USERNAME', 'ROLL NO', 'EMAIL', and 'PASSWORD'. The table is empty, and a message at the bottom states: 'There is no data here yet'.

2. Perform UPDATE,DELETE Queries with user table.

UPDATE TABLE:-

The screenshot shows the IBM Db2 on Cloud console interface. On the left, the 'Data objects' pane shows a table named 'HGC00903'. The main editor area, titled '*Untitled - 1', contains the following SQL query:

```
1 UPDATE USERTABLE SET EMAIL='vallarasuneyveli@gmail.com'  
2 WHERE USERNAME='Vallarasu';
```

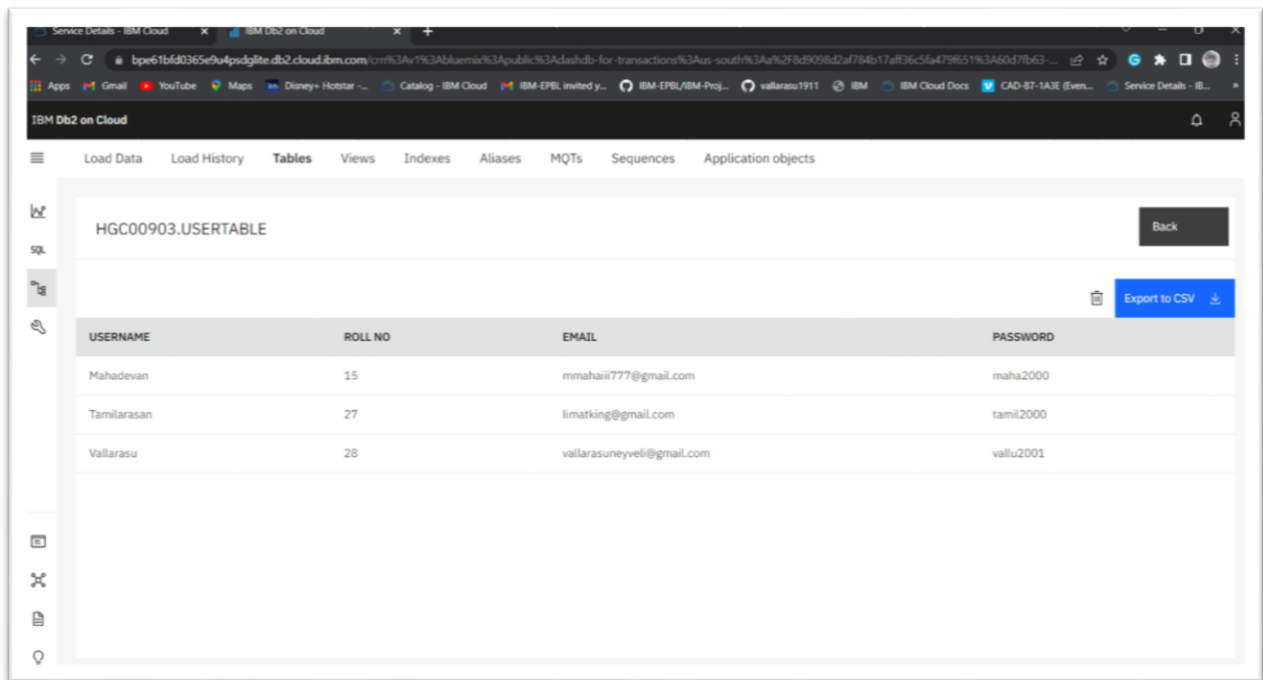
The query has been executed, and the 'History' tab at the bottom shows the execution details:

Script	Date	Status	Runtime
Untitled - 1	Oct 19, 2022 11:33:16 AM	✓ 1	0.008 s
UPDATE USERTABLE SET EMAIL='vallarasuneyveli@gmail.com' WHERE USERNAME='Vall...		✓	0.008 s

The screenshot shows the IBM Db2 on Cloud console interface, displaying the data in the 'HGC00903.USERTABLE' table. The table has four columns: USERNAME, ROLL NO, EMAIL, and PASSWORD. The data is as follows:

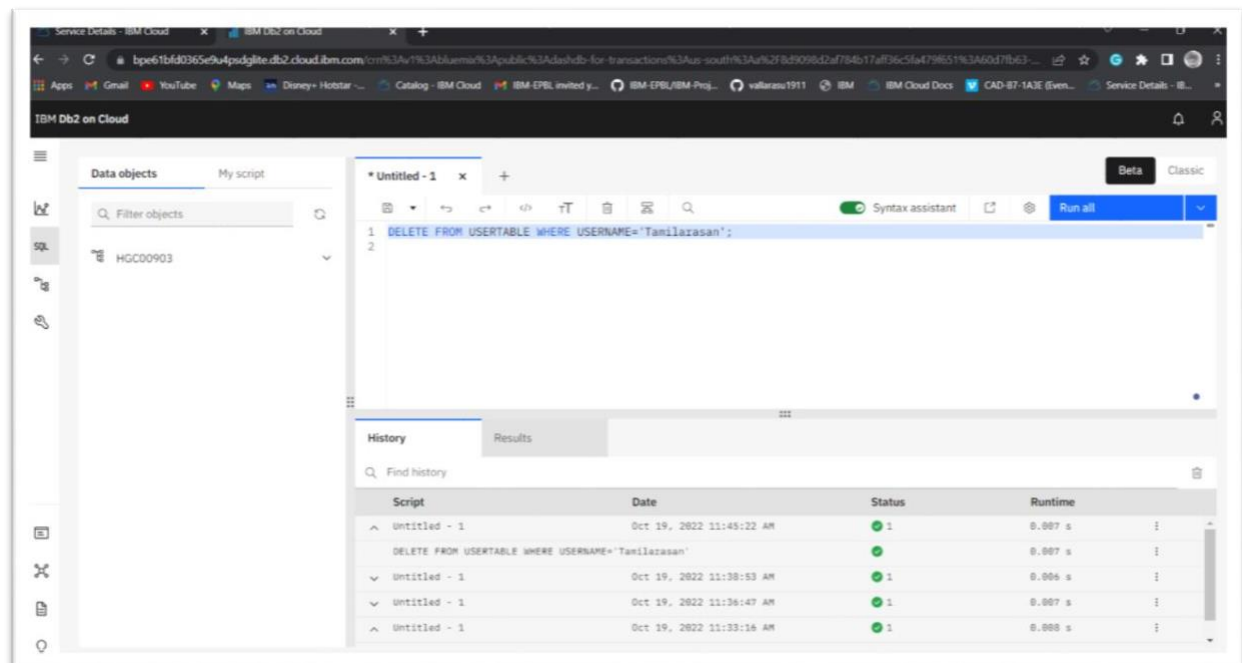
USERNAME	ROLL NO	EMAIL	PASSWORD
Vallarasu	28	vallarasuneyveli@gmail.com	vallu2001

DELETE TABLE:-



The screenshot shows the IBM Db2 on Cloud console interface. The top navigation bar includes tabs for Load Data, Load History, Tables, Views, Indexes, Aliases, MQTs, Sequences, and Application objects. The 'Tables' tab is selected, displaying the table 'HGCO0903.USERTABLE'. A 'Back' button is in the top right. Below the table name, there is an 'Export to CSV' button. The table schema is shown with columns: USERNAME, ROLL NO, EMAIL, and PASSWORD. The data rows are as follows:

USERNAME	ROLL NO	EMAIL	PASSWORD
Mahadevan	15	mmahaii777@gmail.com	maha2000
Tamilarasan	27	lmatking@gmail.com	tamil2000
Vallarasu	28	vallarasuneyveli@gmail.com	vallu2001



The screenshot shows the IBM Db2 on Cloud console interface with the 'My script' tab selected. A script is being executed in the 'Untitled - 1' editor. The script content is:

```
1 DELETE FROM USERTABLE WHERE USERNAME='Tamilarasan';
2
```

Below the script editor, the 'History' tab is active, displaying a table of execution history. The table has columns: Script, Date, Status, and Runtime. The data rows are as follows:

Script	Date	Status	Runtime
Untitled - 1	Oct 19, 2022 11:45:22 AM	1	0.007 s
DELETE FROM USERTABLE WHERE USERNAME='Tamilarasan'	Oct 19, 2022 11:38:53 AM	1	0.006 s
Untitled - 1	Oct 19, 2022 11:36:47 AM	1	0.007 s
Untitled - 1	Oct 19, 2022 11:33:16 AM	1	0.008 s

The screenshot shows the IBM Db2 on Cloud web interface. The table HGC00903.USERTABLE is displayed with the following data:

USERNAME	ROLL NO	EMAIL	PASSWORD
Mahadevan	15	mmahaii777@gmail.com	maha2000
Vallarasu	28	vallarasuneyveli@gmail.com	vallu2001

3.Connect python code to db2.

```
import ibm_db
conn=ibm_db.connect(
('DATABASE=b1ldb;HOSTNAME=b1bc1829-6f45-4cd4-bef4-10cf081900bf.clogj3sd0tgtu0Lqde00.databases.appdomain.cloud; PORT=32304; SECURITY=SSL;
SSLServerCertificate=DigiCertGlobalRootCA;UID=hgc00903;PWD=UzumT0ZHCXvHur30;', "", ""))
print(conn)
print("connection successfully...")
```

NOTE:- Question 4 also contains Question 3 answer because to connect with ibm_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

Answers :-

App.py

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

app = Flask(__name__)
app.secret_key = 'a'

conn = ibm_db.connect(
'DATABASE=b1ldb;HOSTNAME=b1bc1829-6f45-4cd4-bef4-10cf081900bf.clogj3sd0tgtu0Lqde00.databases.appdomain.cloud;PORT=32304;USERNAME=hgc00903;
PASSWORD=UzumT0ZHCXvHur30;SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;', "", "")
```

```

@app.route("/", methods=['GET', 'POST'])
def register():
    msg = ''
    if request.method == 'POST':
        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'^[a-zA-Z0-9]+@[a-zA-Z0-9]+\.[a-zA-Z]+$', email):
            msg = 'Invalid email address !'
        elif not re.match(r'^[A-Za-z0-9]+$', username):
            msg = 'name must contain only characters and numbers !'
        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 registered !'

```

```

        elif request.method == 'POST':
            msg = 'Please fill out the form !'
            return render_template('register.html', msg=msg)

@app.route('/Login', methods=['GET', 'POST'])
def login():
    global userid
    msg = ''

    if request.method == 'POST':
        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 !'

            msg = 'Logged in successfully !'
            return render_template('dashboard.html', msg=msg)
        else:
            msg = 'Incorrect username / password !'
            return render_template('Login.html', msg=msg)

if __name__ == '__main__':
    app.run(host='0.0.0.0')
    # app.run(debug=True)

```

Register.html:-

```

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

<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>registration page</title>
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
        integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjnpSL0n8PARn9HuZ0nIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">
    <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">
    <!-- css stylesheet -->
    <link rel="stylesheet" href="/static/style.css">
    <!-- font styles cdn -->
    <link rel="preconnect" href="https://fonts.gstatic.com">
    <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">
    <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">
</head>

```

```

<body>
  <div class="login text-center mt-5">
    <form action="/" method="post">
      <h2 class="form-text-h2"> Register Form </h2>
      <div class="msg">{{ msg }}</div>
      <input type="text" class="form-control" name="username" placeholder="Enter Your Username" id="username"
        required>
      <input type="email" class="form-control" name="email" placeholder="Enter Your Email ID" id="email" required>
      <input type="password" class="form-control" name="password" placeholder="Enter Your Password" id="password"
        required>
      <button type="submit" id="button" class="btn btn-primary"> Register </button>
      <div class="note mt-3 text-center">
        <!--Register form -->
        <p> already have an account ? please login <a href="/login">login! </a> </p>
      </div>
    </form>
  </div>
</body>
</html>

```

Login.html:-

```

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

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Login page</title>
  <!-- favicon -->
  <!-- <link rel="shortcut icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
  <!-- <link rel="icon" href="/assets/img/favicon.ico" type="image/x-icon"> -->
  <link rel="icon" type="image/png" sizes="16x16" href="/assets/img/favicon-32x32.png">
  <!-- bootstrap css cdn -->
  <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
    integrity="sha384-JckB8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">
  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">
  <!-- css stylesheet -->
  <link rel="stylesheet" href="/static/style1.css">
  <!-- font styles cdn -->
  <link rel="preconnect" href="https://fonts.gstatic.com">
  <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">
  <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">
</head>

```

```

<body>

  <div class="login text-center mt-5">

    <form action="/login" method="post">
      <h2 class="form-text-h2"> Login Form </h2>
      <div class="msg">{{ msg }}</div>
      <div class="form-group mb-3">
        <label class="label" for="username">Username</label>
        <input type="text" class="form-control" placeholder="Username" name="username" required>
      </div>
      <div class="form-group mb-3">
        <label class="label" for="password">Password</label>
        <input type="password" class="form-control" placeholder="Password" name="password" required>
      </div>

      <button type="submit" id="button" class="btn btn-primary"> Login </button>
      <div class="note mt-3 text-center">
        <!--Register form -->
        <p> Don't have an account yet? Click here to <a href="/">register! </a> </p>
      </div>
    </form>
  </div>

</body>

</html>

```


Dashboard.html:-

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

<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Dashboard page</title>
  <meta charset="UTF-8">

  <!-- bootstrap css cdn -->
  <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
    integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z" crossorigin="anonymous">
  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.css">
  <!-- css stylesheet -->
  <link rel="stylesheet" href="/static/style.css">
  <!-- font styles cdn -->
  <link rel="preconnect" href="https://fonts.gstatic.com">
  <link href="https://fonts.googleapis.com/css2?family=Alegreya&display=swap" rel="stylesheet">
  <link href="https://fonts.googleapis.com/css2?family=Alegreya:wght@600&display=swap" rel="stylesheet">
</head>

<body>
  <h1>WELCOME TO DASHBOARD</h1>
  <h3>SMART FASHION RECOMMENDER</h3>
</body>

</html>
```

Style.css:-

```
* {
  margin: 0;
  padding: 0;
}

body {
  display: flex;
  flex-direction: column;
  align-items: center;
  justify-content: center;
}

form {
  display: flex;
  flex-direction: column;
  align-items: center;
  justify-content: center;
  background-color: #f0f0f0;
  width: 40%;
  height: 450px;
  border-radius: 50px;
  margin: 100px;
  gap: 25px;
}

h2 {
  font-size: large;
  font-weight: bolder;
}

input {
  width: 80% !important;
}
```

```

h2 {
  font-size: large;
  font-weight: bolder;
}

input {
  width: 80% !important;
}

div {
  display: flex;
  align-items: center;
  justify-content: center;
  flex-direction: column;
  width: 90%;
}

.form-text-vk {
  font-size: small;
  padding-bottom: 10px;
}

.form-text-h2 {
  font-size: x-large;
  padding-top: 10px;
}

```

Style1.css:-

```

* {
  margin: 0;
  padding: 0;
}

body {
  display: flex;
  flex-direction: column;
  align-items: center;
  justify-content: center;
}

form {
  display: flex;
  flex-direction: column;
  align-items: center;
  justify-content: center;
  background-color: #2b2b2b;
  width: 40%;
  height: 450px;
  border-radius: 50px;
  margin: 100px;
  gap: 5px;
}

h2 {
  font-size: large;
  font-weight: bolder;
}

input {
  width: 80% !important;
}

```



```
div {
  display: flex;
  align-items: center;
  justify-content: center;
  flex-direction: column;
  width: 90%;
}

.form-text-vk {
  font-size: small;
  padding-bottom: 10px;
}

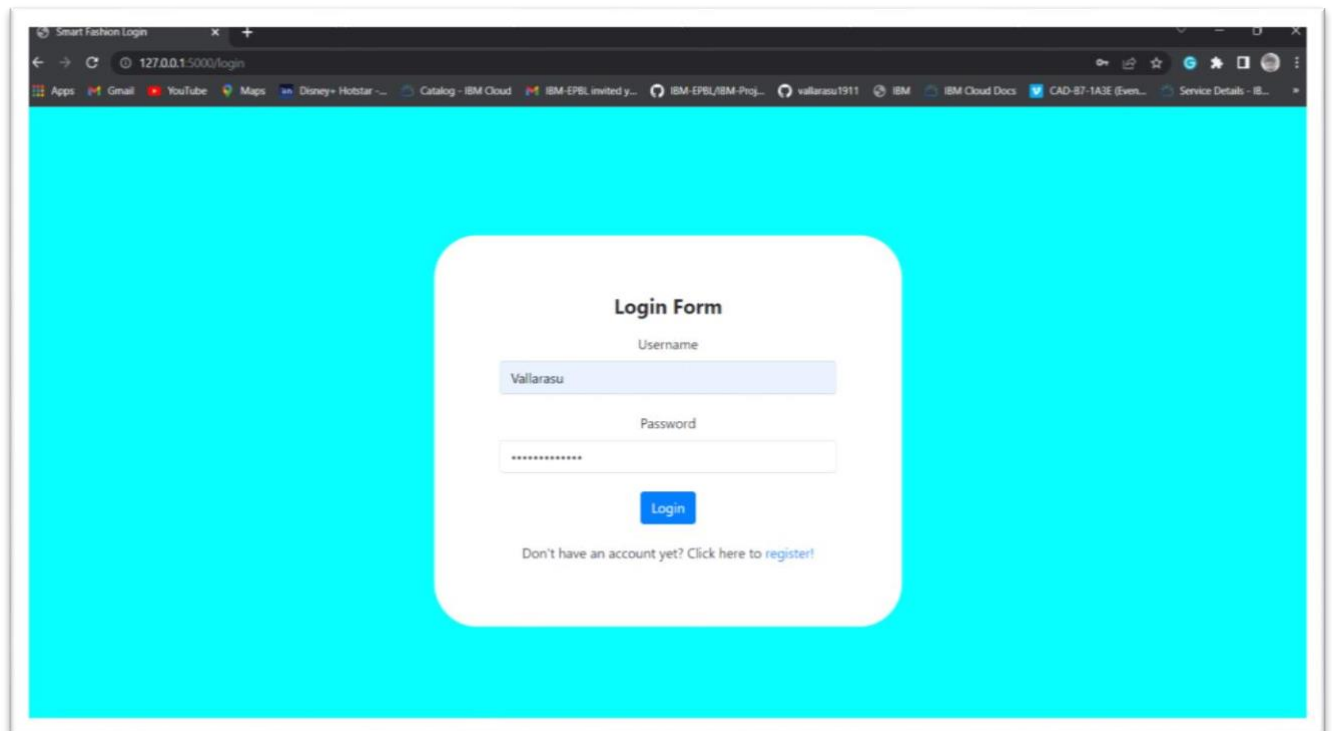
.form-text-h2 {
  font-size: x-large;
  padding-top: 10px;
}
```

Output:-

Registration page:

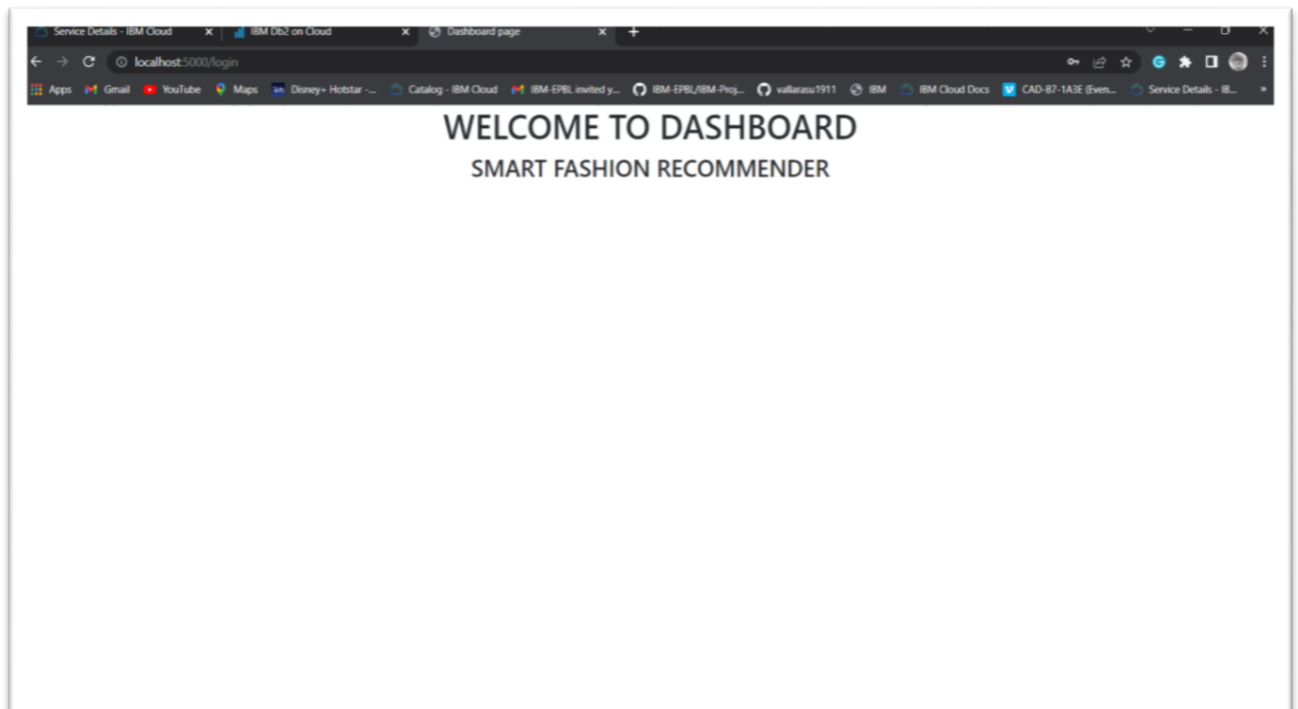
The screenshot shows a web browser window with the address bar displaying 'localhost:5000'. The page content is a registration form titled 'Register Form'. Above the form, there is a message 'You have successfully registered!'. The form itself consists of three text input fields with placeholder text: 'Enter Your Username', 'Enter Your Email ID', and 'Enter Your Password'. Below these fields is a blue button labeled 'Register'. At the bottom of the form, there is a link that says 'already have an account ? please login login'.

Login page:-

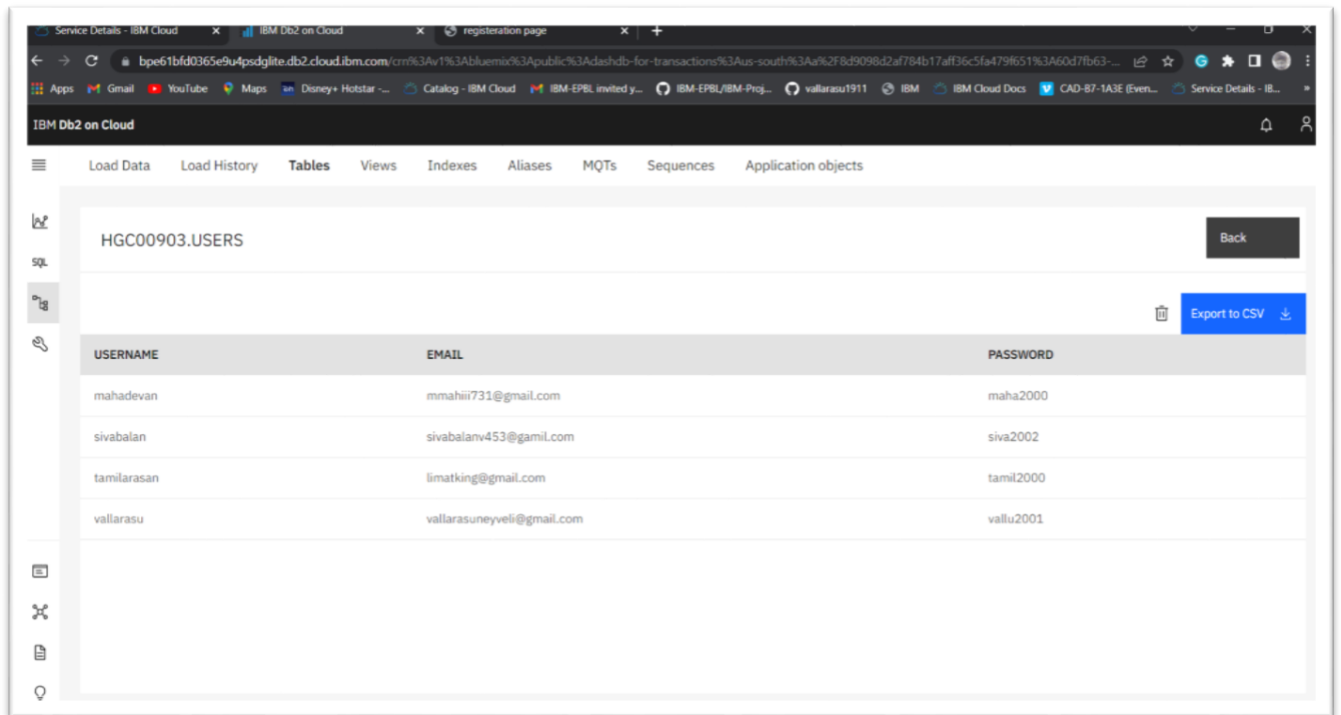


A screenshot of a web browser displaying the 'Smart Fashion Login' page. The browser's address bar shows '127.0.0.1:5000/login'. The page has a solid blue background. In the center, there is a white rounded rectangle containing the 'Login Form'. The form has a title 'Login Form' in bold. Below it, there are two input fields: 'Username' with the text 'Vallarasu' and 'Password' with masked characters '*****'. A blue 'Login' button is positioned below the password field. At the bottom of the form, there is a link that says 'Don't have an account yet? Click here to [register!](#)'.

Dashboard page:-



Database Table :-



The screenshot shows the IBM Db2 on Cloud web interface. The browser address bar displays a long URL. The interface has a top navigation bar with tabs for 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Tables' tab is selected. On the left, there is a sidebar with icons for 'SQL', 'Table', and 'Query'. The main content area displays the table 'HGC00903.USERS'. A 'Back' button is in the top right corner. Below the table name, there is an 'Export to CSV' button. The table has three columns: 'USERNAME', 'EMAIL', and 'PASSWORD'. It contains five rows of data.

USERNAME	EMAIL	PASSWORD
mahadevan	mmahii731@gmail.com	maha2000
sivabalan	sivabalanv453@gamil.com	siva2002
tamilarasan	limatking@gmail.com	tamil2000
vallarasu	vallarasuneyveli@gmail.com	vallu2001