

## Assignment -2

### IBM CLOUD DB2

|                     |                   |
|---------------------|-------------------|
| Assignment Date     | 29 September 2022 |
| Team ID             | PNT2022TMID53909  |
| Student Name        | Sunil Raja A      |
| Student Roll Number | 95071912100       |
| Maximum Marks       | 2 Marks           |

### Questions:

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

The screenshot displays the IBM Db2 on Cloud console. The top section shows the 'Resource usage' graph for the last hour, indicating storage usage is at 0%. Below this, the 'Load Data' tab is active, showing a task to load data from a CSV file into the 'SMART\_FASHION\_RECOMMENDER\_TABLE'. The task is in progress, and the data is being loaded from the file 'smart\_fashion\_recommender.csv'.

**Resource usage graph (Last 1 hour):**

| Time     | Storage usage (%) |
|----------|-------------------|
| 09:12 AM | 0                 |
| 09:20 AM | 0                 |
| 09:40 AM | 0                 |
| 10:00 AM | 0                 |
| 10:12 AM | 0                 |

**Load Data task details:**

- Source: smart\_fashion\_recommender.csv
- Target: JDF06184.SMART\_FASHION\_RECOMMENDER\_TABLE
- Code page: 1208 (UTF-8)
- Separator: ,
- Header in first row: ☒
- Time & date format: ☐
- Detect data types: ☐

**Data loaded from CSV:**

| REGISTER_NUMBER | NAME                  | EMAIL                                           | PHONE      | PASSWORD |
|-----------------|-----------------------|-------------------------------------------------|------------|----------|
| 95071912302     | John Milton S         | johnmiltons.ug19.cs@franciscxavier.ac.in        | 8870128916 | john     |
| 95071912084     | Saravana Muthu Babu P | saravanamuthubabup.ug19.cs@franciscxavier.ac.in | 8754717133 | babu     |
| 95071912100     | Sunil Raja A          | sunilraja.ug19.cs@franciscxavier.ac.in          | 6383970186 | sunil    |
| 95071915012     | Harini P              | harinip.ug19.it@franciscxavier.ac.in            | 6385434878 | harini   |

IBM Db2 on Cloud

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

Load details

My computer smart\_fashion\_recommender.csv Target JDF06184.SMART\_FASHION\_RECOMMEND...

View Table Load More Data

Status Settings

4 Rows read 4 Rows loaded 0 Rows rejected

Start time 11/15/2022 10:12:34 AM End time 11/15/2022 10:12:49 AM

The data load job succeeded.  
You can now work with your data.

Errors Warnings

No errors

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Find schemas or tables Refresh

Schemas

| Name     | Type | Tables |
|----------|------|--------|
| JDF06184 | User | 1      |

Total: 1, selected: 1

Tables

| Name                  | Schema   | Properties |
|-----------------------|----------|------------|
| SMART_FASHION_RECO... | JDF06184 | ...        |

Total: 1, selected: 0

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

Find schemas or tables Refresh

Tables

| Name                  | Schema   | Properties |
|-----------------------|----------|------------|
| SMART_FASHION_RECO... | JDF06184 | ...        |

Total: 1, selected: 0

Table definition

SMART\_FASHION\_RECOMMENDER\_TABLE

| Name            | Data type | Nullable | Length | Scale |
|-----------------|-----------|----------|--------|-------|
| REGISTER_NUMBER | BIGINT    | Y        |        | 0     |
| NAME            | VARCHAR   | Y        | 21     | 0     |
| EMAIL           | VARCHAR   | Y        | 46     | 0     |
| PHONE           | BIGINT    | Y        |        | 0     |
| PASSWORD        | VARCHAR   | Y        | 6      | 0     |

View data

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

JDF06184.SMART\_FASHION\_RECOMMENDER\_TABLE

Export to CSV

| REGISTER_NUMBER | NAME                  | EMAIL                                         | PHONE      | PASSWORD |
|-----------------|-----------------------|-----------------------------------------------|------------|----------|
| 95071912084     | Saravana Muthu Babu P | saravanamuthubabup.ug19.cs@francixavier.ac.in | 8754717133 | babu     |
| 95071912100     | Sunil Raja A          | sunilrajaa.ug19.cs@francixavier.ac.in         | 6383970186 | sunil    |
| 95071912302     | John Milton S         | johnmiltons.ug19.cs@francixavier.ac.in        | 8870128916 | john     |
| 95071915012     | Harini P              | harinip.ug19.it@francixavier.ac.in            | 6385434878 | harini   |

- Perform UPDATE,DELETE Queries with user table.  
**UPDATE TABLE:-**

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Data objects Saved objects

Filter objects

JDF06184

Untitled - 2

```
1 INSERT INTO SMART_FASHION_RECOMMENDER_TABLE VALUES ('18', 'Virat', 'virat.ug19.cs@francixavier.ac.in', '9876543210', 'v
```

Run all

History

| Script                                                                          | Date                     | Status | Runtime |
|---------------------------------------------------------------------------------|--------------------------|--------|---------|
| Untitled - 2                                                                    | Nov 15, 2022 10:15:19 AM | ✓ 1    | 0.004 s |
| INSERT INTO SMART_FASHION_RECOMMENDER_TABLE VALUES ('18', 'Virat', 'virat.ug... |                          | ✓      | 0.004 s |

IBM Db2 on Cloud

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

JDF06184.SMART\_FASHION\_RECOMMENDER\_TABLE

Export to CSV

| REGISTER_NUMBER | NAME                  | EMAIL                                         | PHONE      | PASSWORD |
|-----------------|-----------------------|-----------------------------------------------|------------|----------|
| 18              | Virat                 | virat.ug19.cs@francixavier.ac.in              | 9876543210 | virat    |
| 95071912084     | Saravana Muthu Babu P | saravanamuthubabup.ug19.cs@francixavier.ac.in | 8754717133 | babu     |
| 95071912100     | Sunil Raja A          | sunilrajaa.ug19.cs@francixavier.ac.in         | 6383970186 | sunil    |
| 95071912302     | John Milton S         | johnmiltons.ug19.cs@francixavier.ac.in        | 8870128916 | john     |
| 95071915012     | Harini P              | harinip.ug19.it@francixavier.ac.in            | 6385434878 | harini   |

## DELETE TABLE:

The screenshot shows the IBM Db2 on Cloud SQL editor interface. The 'Data objects' panel on the left lists the database 'JDF06184'. The main editor area contains a single SQL statement: `DELETE FROM SMART_FASHION_RECOMMENDER_TABLE WHERE REGISTER_NUMBER = 18;`. The 'History' panel at the bottom displays a table of executed scripts.

| Script                                                                        | Date                     | Status | Runtime |
|-------------------------------------------------------------------------------|--------------------------|--------|---------|
| Untitled - 2                                                                  | Nov 15, 2022 10:17:44 AM | 1      | 0.097 s |
| DELETE FROM SMART_FASHION_RECOMMENDER_TABLE WHERE REGISTER_NUMBER = 18        |                          | 1      | 0.097 s |
| Untitled - 2                                                                  | Nov 15, 2022 10:15:19 AM | 1      | 0.084 s |
| INSERT INTO SMART_FASHION_RECOMMENDER_TABLE VALUES ('18', 'Virat', 'virat.ug- |                          | 1      | 0.084 s |

The screenshot shows the IBM Db2 on Cloud SQL editor interface with the 'Tables' tab selected. The table 'JDF06184.SMART\_FASHION\_RECOMMENDER\_TABLE' is displayed. An 'Export to CSV' button is visible in the top right corner of the table view.

| REGISTER_NUMBER | NAME                  | EMAIL                                          | PHONE      | PASSWORD |
|-----------------|-----------------------|------------------------------------------------|------------|----------|
| 95071912084     | Saravana Muthu Babu P | saravanamuthubabu.ug19.cs@franciscxavier.ac.in | 8754717133 | babu     |
| 95071912100     | Sunil Raja A          | sunilrajaa.ug19.cs@franciscxavier.ac.in        | 6383970186 | sunil    |
| 95071912302     | John Milton S         | johnmiltons.ug19.cs@franciscxavier.ac.in       | 8870128916 | john     |
| 95071915012     | Harini P              | harinip.ug19.it@franciscxavier.ac.in           | 6385434878 | harini   |

3. Connect python code to db2.

**NOTE: Question 4 contains Question 3 answer**

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=bludb;HOSTNAME=ba99a9e6-d59e-4883-8fc0-
d6a8c9f7a08f.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=31321;USERNAM
E=jdf06184;PASSWORD=vmxvhG6ebxrzRw0c;SECURITY=SSL;SSLSERVERCERTIFICATE=DigiCer
tGlobalRootCA.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'^@+@[^@]+\.[^@]+', 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>Smart Fashion register</title>

    <!-- 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/css/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>
    <!-- bootstrap navbar -->
    <!-- navbar ends -->
    <!-- Login form -->
    <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>Smart Fashion Login</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/css/style2.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>

```

#### Style.css

```

* {
    margin: 0;
    padding: 0;
}

body {
    background-color: aqua !important;
    display: flex;
    flex-direction: column;
    align-items: center;
    justify-content: center;
}

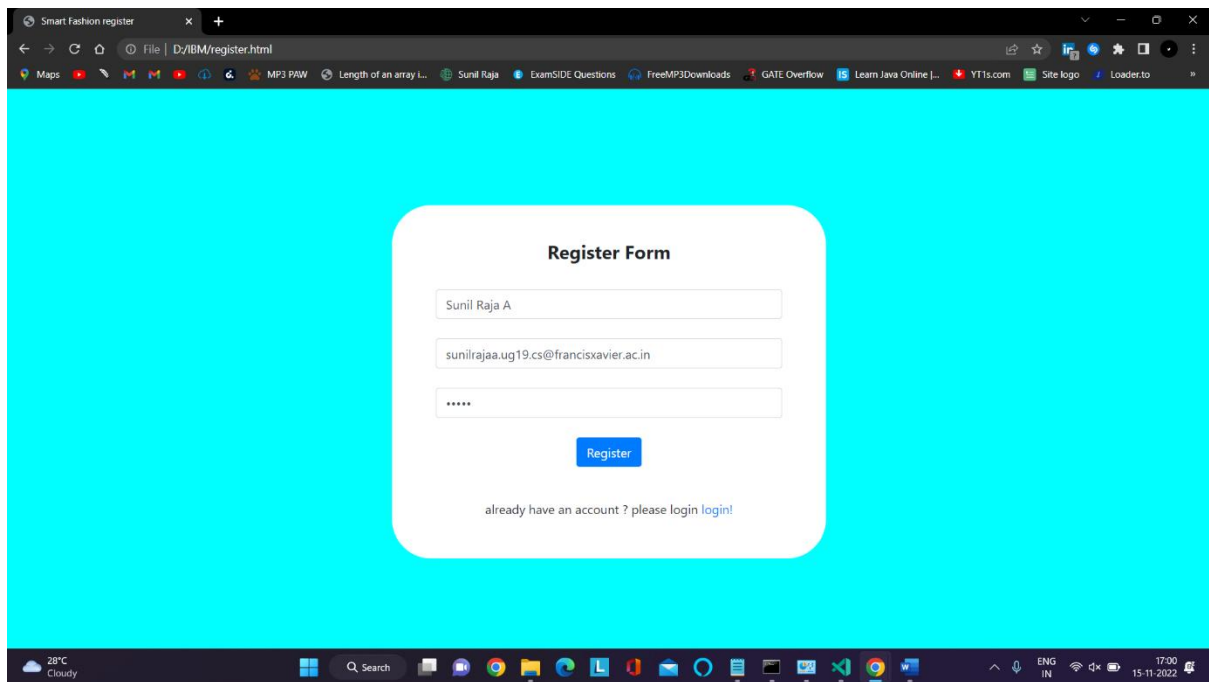
form {
    display: flex;
    flex-direction: column;
    align-items: center;
    justify-content: center;
    background-color: white;
    width: 40%;
    height: 450px;
    border-radius: 50px;
    margin: 100px;
    gap: 25px;
}

```

```
}  
  
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;  
}
```

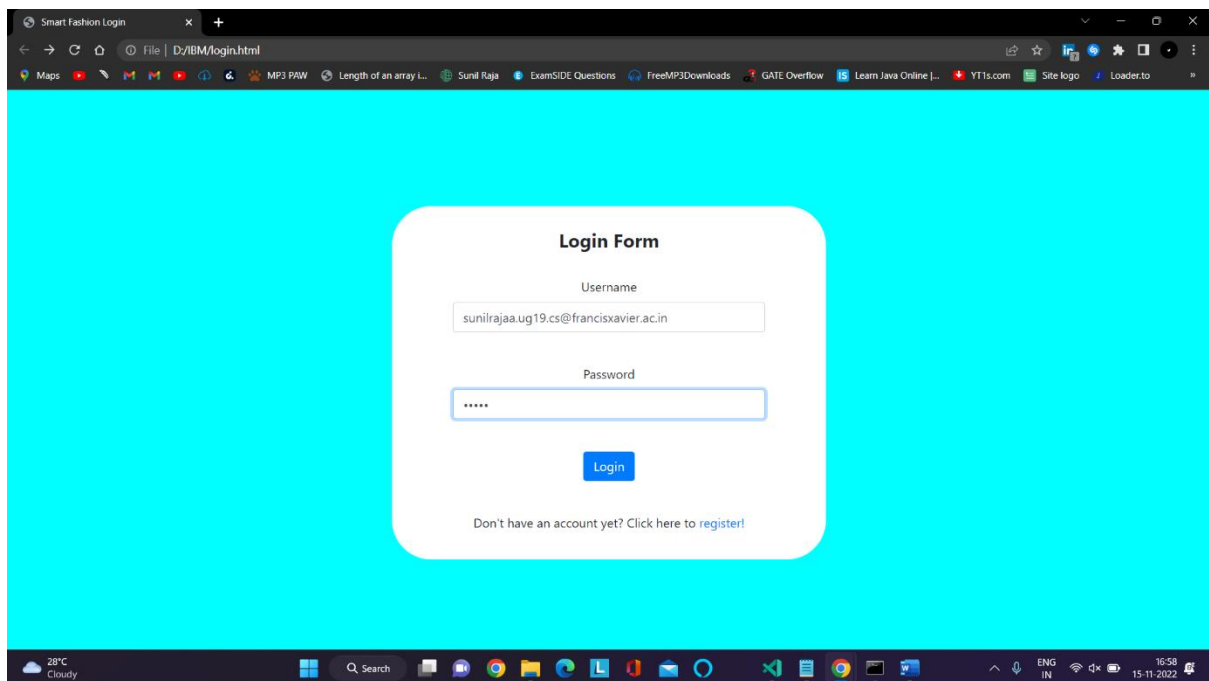
Output:

registration page:



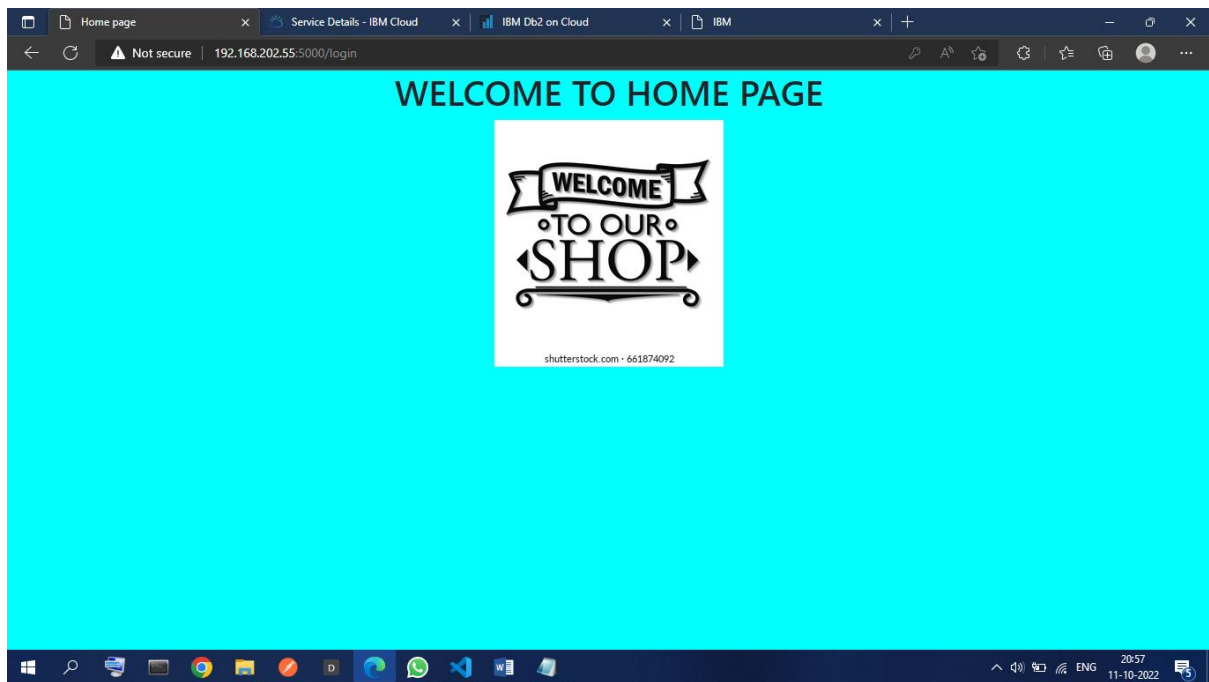
The screenshot shows a web browser window with the title "Smart Fashion register". The address bar shows the file path "D:/IBM/register.html". The browser's taskbar at the bottom displays various open applications and the system clock showing 17:00 on 15-11-2022. The main content area has a solid blue background. In the center, there is a white rounded rectangle containing the "Register Form". The form has three input fields: the first contains "Sunil Raja A", the second contains "sunilrajaa.ug19.cs@franciscxavier.ac.in", and the third is a password field with six dots. Below the fields is a blue "Register" button. At the bottom of the form, there is a link: "already have an account ? please login [login!](#)".

Login Page:



The screenshot shows a web browser window with the title "Smart Fashion Login". The address bar shows the file path "D:/IBM/login.html". The browser's taskbar at the bottom displays various open applications and the system clock showing 16:58 on 15-11-2022. The main content area has a solid blue background. In the center, there is a white rounded rectangle containing the "Login Form". The form has two input fields: the first is labeled "Username" and contains "sunilrajaa.ug19.cs@franciscxavier.ac.in", and the second is labeled "Password" and contains six dots. Below the fields is a blue "Login" button. At the bottom of the form, there is a link: "Don't have an account yet? Click here to [register!](#)".

## Welcome Page:



## Data Base Table:

