

## Assignment -2

### IBM CLOUD DB2

|                     |                   |
|---------------------|-------------------|
| Assignment Date     | 29 September 2022 |
| Team ID             | PNT2022TMID53909  |
| Student Name        | John Milton S     |
| Student Roll Number | 95071912302       |
| 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 0% storage usage. The bottom section shows a 'Load Data' task in progress, loading data from a CSV file into the 'SMART\_FASHION\_RECOMMENDER\_TABLE'. The task is currently in the 'Define' stage.

**Resource usage graph:**

- Y-axis: Storage usage (%)
- X-axis: Time (09:12 AM to 10:12 AM)
- Legend: Storage (DM / DM) current value

**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:**

| 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          | sunilrajaa.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

IBM Db2 on Cloud

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

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

IBM Db2 on Cloud

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

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 |
|-----------------|-----------------------|---|------------|----------|
| 95071912084     | Saravana Muthu Babu P | saravanamuthubabup.ug19.cs@franciscxavier.ac.in | 8754717133 | babu     |
| 95071912100     | Sunil Raja A          | sunilrajaa.ug19.cs@franciscxavier.ac.in         | 6383970186 | sunil    |
| 95071912302     | John Milton S         | johnmiltonts.ug19.cs@franciscxavier.ac.in       | 8870128916 | john     |
| 95071915012     | Harini P              | harinip.ug19.it@franciscxavier.ac.in            | 6385434878 | harini   |

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

IBM Db2 on Cloud

Data objects Saved objects

Filter objects

JDF06184

Untitled - 2

```
1 INSERT INTO SMART_FASHION_RECOMMENDER_TABLE VALUES ('18', 'Virat', 'virat.ug19.cs@franciscxavier.ac.in', '9876543210', 'virat');
```

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@franciscxavier.ac.in              | 9876543210 | virat    |
| 95071912084     | Saravana Muthu Babu P | saravanamuthubabup.ug19.cs@franciscxavier.ac.in | 8754717133 | babu     |
| 95071912100     | Sunil Raja A          | sunilrajaa.ug19.cs@franciscxavier.ac.in         | 6383970186 | sunil    |
| 95071912302     | John Milton S         | johnmiltonts.ug19.cs@franciscxavier.ac.in       | 8870128916 | john     |
| 95071915012     | Harini P              | harinip.ug19.it@franciscxavier.ac.in            | 6385434878 | harini   |

## DELETE TABLE:

The screenshot shows the IBM Db2 on Cloud SQL editor interface. The main window displays a script titled "Untitled - 2" with the following SQL statement:

```
1 DELETE FROM SMART_FASHION_RECOMMENDER_TABLE WHERE REGISTER_NUMBER = 18;
```

The "History" tab is open, showing a table of execution history:

| 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. The table structure and data are as follows:

| 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:

login!'. The browser's address bar shows 'File | D:/IBM/register.html'. The Windows taskbar at the bottom shows the date as 15-11-2022 and time as 17:00."/>

Smart Fashion register

File | D:/IBM/register.html

### Register Form

John Milton S

johnmiltons.ug19.cs@francixavier.ac.in

\*\*\*\*

Register

already have an account ? please login [login!](#)

28°C Cloudy

Search

ENG IN

17:00 15-11-2022

Login Page:

register!'. The browser's address bar shows 'File | D:/IBM/login.html'. The Windows taskbar at the bottom shows the date as 15-11-2022 and time as 16:59."/>

Smart Fashion Login

File | D:/IBM/login.html

### Login Form

Username

johnmiltons.ug19.cs@francixavier.ac.in

Password

\*\*\*\*

Login

Don't have an account yet? Click here to [register!](#)

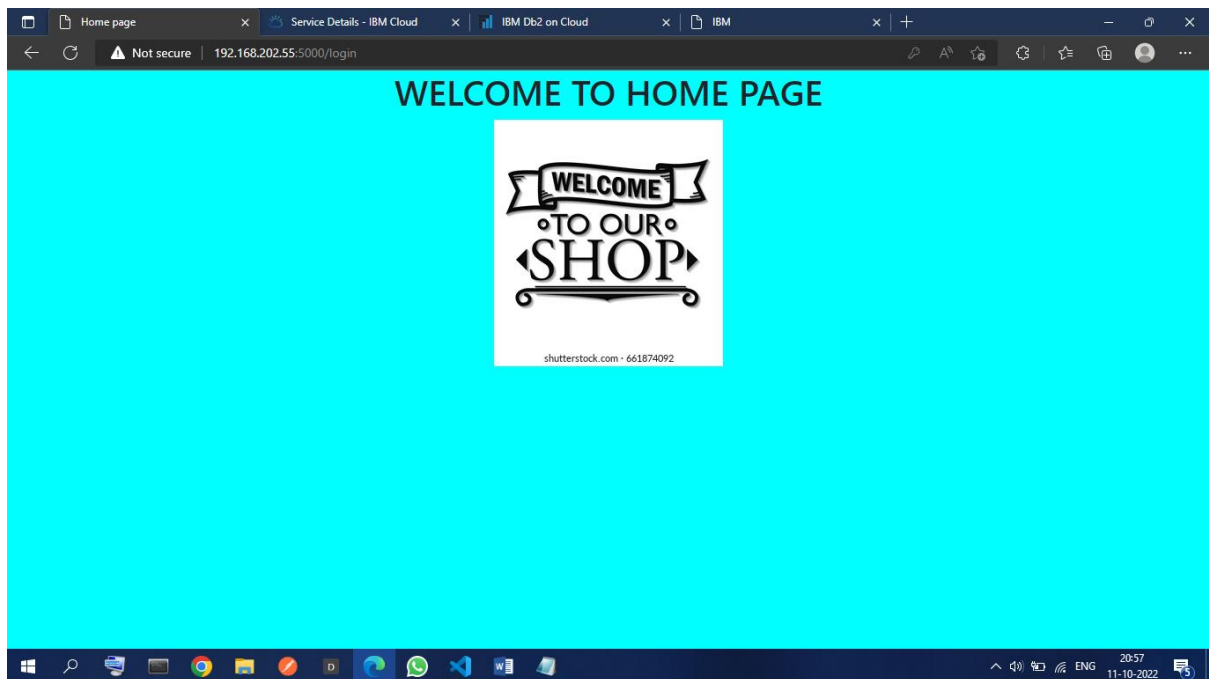
28°C Cloudy

Search

ENG IN

16:59 15-11-2022

## Welcome Page:



## Data Base 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. The main content area displays a table named 'JDF06184.SMART\_FASHION\_RECOMMENDER\_TABLE'. The table has three columns: 'NAME', 'EMAIL', and 'PASSWORD'. There is one data row with the following values: 'John Milton S', 'johnmiltons.ug19.cs@francisc Xavier.ac.in', and 'john'. The table is displayed in a light gray theme. On the right side of the table, there is a blue button labeled 'Export to CSV'. The bottom of the console shows a sidebar with icons for 'SQL' and 'Table' views. The system tray at the bottom shows the date and time as '15-11-2022' and '17:11'.

| NAME          | EMAIL                                     | PASSWORD |
|---------------|---|----------|
| John Milton S | johnmiltons.ug19.cs@francisc Xavier.ac.in | john     |