

Assignment -2

IBM CLOUD DB2

Assignment Date	29 September 2022
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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 web interface. The top navigation bar includes 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Tables' tab is active, showing a list of tables in the 'KWR62447' schema. A table named 'USERS' is selected. The 'Table definition' panel on the right shows the structure of the 'USERS' table:

Name	Data type	Nullable	Length	Scale
USERNAME	CHAR	Y	20	0
EMAIL	CHAR	Y	200	0
PASSWORD	CHAR	Y	200	0

At the bottom of the 'Table definition' panel, there is a 'View data' button. The left sidebar shows the 'Schemas' list with 'KWR62447' selected. The bottom status bar indicates 'Total: 1, selected: 0'.

2. Perform UPDATE,DELETE Queries with user table.

UPDATE TABLE:-

The screenshot displays the IBM Db2 on Cloud web interface. The top navigation bar includes 'Service Details - IBM Cloud', 'IBM Db2 on Cloud', and 'IBM'. The main content area is divided into two sections: 'Data objects' on the left and 'My script' on the right.

In the 'Data objects' section, a search bar 'Filter objects' is visible. Below it, a tree view shows the database structure: 'YDR22992' (Database), 'Tables' (Container), 'USERTABLE' (Table), 'Views' (Container), 'MQTs' (Container), 'Aliases' (Container), and 'Nicknames' (Container).

The 'My script' section shows a SQL editor with the following code:

```
1 INSERT
2 INTO "YDR22992"."USERTABLE" ("NAME", "ROLLNUMBER", "EMAIL", "PASSWORD")
3 VALUES(
4 'sasi', --NAME CHAR(10)
5 46, --ROLLNUMBER INTEGER
6 'sasi@gmail.com', --EMAIL CHAR(20)
7 '1234' --PASSWORD VARCHAR(32)
8 );
9
```

Below the editor, a 'History' tab is active, showing a list of executed scripts. The table below represents the data in the 'History' tab:

Script	Date	Status	Runtime
Untitled - 2	Oct 27, 2022 10:25:17 AM	1	0.007 s
INSERT INTO "YDR22992"."USERTABLE" ("NAME", "ROLLNUMBER", "EMAIL", "PASSWORD")...			
Untitled - 2	Oct 27, 2022 10:24:36 AM	1	0.028 s
INSERT INTO "YDR22992"."USERTABLE" ("NAME", "ROLLNUMBER", "EMAIL", "PASSWORD")...			
Untitled - 2	Oct 27, 2022 10:23:56 AM	1	0.014 s

The bottom section of the interface shows the 'Tables' tab selected. It displays the table 'YDR22992.USERTABLE'. The table structure is defined as:

NAME	ROLLNUMBER	EMAIL	PASSWORD
ramesh	42	ramesh@gmail.com	5678
sasi	46	sasi@gmail.com	1234
sasi	46	sasi@gmail.com	1234

An 'Export to CSV' button is visible in the top right corner of the table view.

DELETE TABLE:-

The screenshot displays the IBM Db2 on Cloud web interface. The top navigation bar includes links for Service Details, IBM Db2 on Cloud, IBM, and various database-related links. The main content area is divided into two sections: 'Data objects' and 'My script'.

In the 'Data objects' section, a tree view shows the database structure, including tables, views, MQTs, aliases, and nicknames. The 'Tables' section is expanded, showing a table named 'YDR22992'.

In the 'My script' section, a SQL script is being executed. The script contains the following SQL statements:

```
DELETE FROM "YDR22992"."USERTABLE"  
--Search condition (e.g. WHERE "NAME" = NULL)  
WHERE ROLLNUMBER = 46;
```

The 'History' tab shows the execution results of the script. The table below summarizes the execution history:

Script	Date	Status	Runtime
Untitled - 3	Oct 27, 2022 10:31:37 AM	1	0.005 s
DELETE FROM "YDR22992"."USERTABLE" --Search condition (e.g. WHERE "NAME" = ...		1	0.005 s
Untitled - 2	Oct 27, 2022 10:27:43 AM	1	0.007 s
INSERT INTO "YDR22992"."USERTABLE" ("NAME", "ROLLNUMBER", "EMAIL", "PASSWORD")...		1	0.007 s
Untitled - 2	Oct 27, 2022 10:25:17 AM	1	0.007 s

The 'Results' tab shows the data for the 'YDR22992.USERTABLE' table. The table has four columns: NAME, ROLLNUMBER, EMAIL, and PASSWORD. The data is as follows:

NAME	ROLLNUMBER	EMAIL	PASSWORD
ramesh	42	ramesh@gmail.com	5678

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.

```

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=55fbc997-9266-4331-afd3-888b05e734c0.bs2io90l08kqb1od8lcg.databases.appdomain.cloud;
    PORT=31929;USERNAME=kwr62447;PASSWORD=sl6om9GM9MwckIT;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'^[^\@]+\@[^\@]+\.[^\@]+', 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 --> <a href="/static/style.css">Follow link (ctrl + click)</a>
    <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>
    <!-- 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>Home 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 HOME PAGE</H1>
  
</body>

</html>

```

Style.css

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

body {
  background: linear-gradient(to bottom right, #529aec, #d13d1b);
  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:-

Smart Fashion Register x Service Details - IBM Cloud x IBM Db2 on Cloud x +

127.0.0.1:5000

Gmail Maps Feed | LinkedIn GitHub Pick a Vulnerability... img

Register Form

soundar

sakthisoundarraj26@gmail.com

Register

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

Smart Fashion Login x Service Details - IBM Cloud x IBM Db2 on Cloud x +

127.0.0.1:5000/login

Gmail Maps Feed | LinkedIn GitHub Pick a Vulnerability... img

Login Form

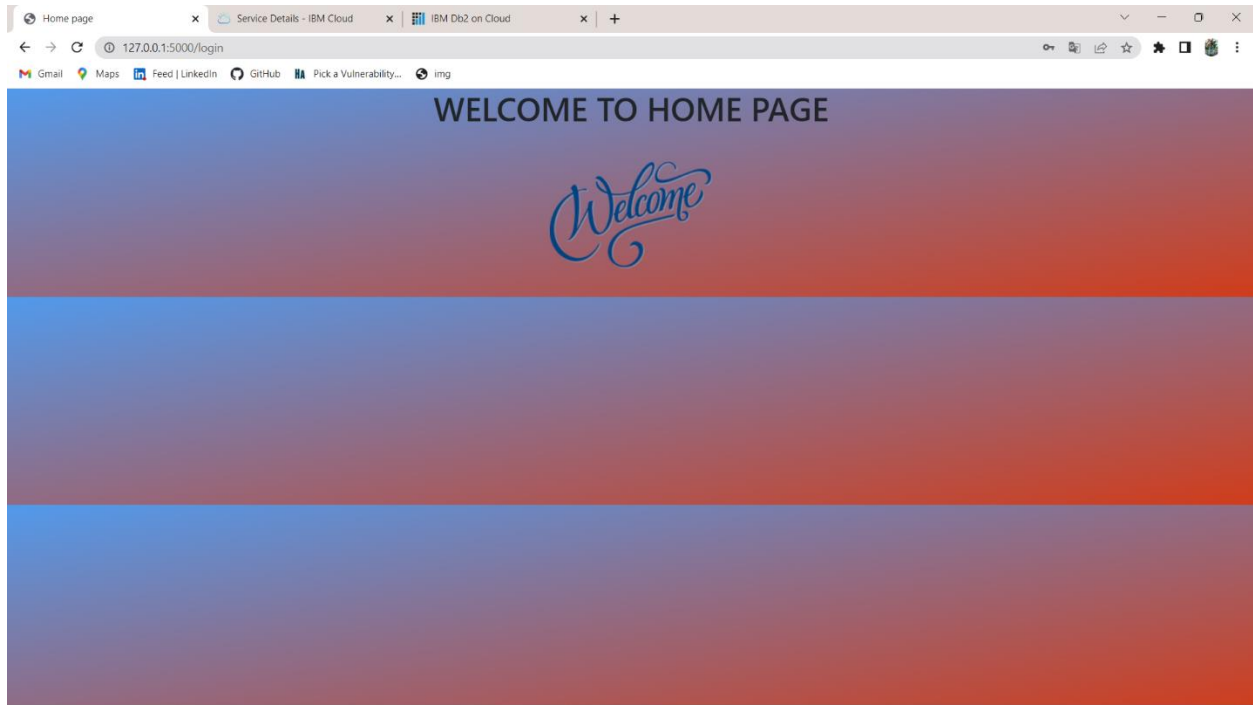
Username

soundar

Password

Login

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



DataBase Table:

A screenshot of the IBM Db2 on Cloud console. The top navigation bar includes 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Tables' tab is selected. On the left sidebar, there are icons for 'SQL' and 'Table'. The main content area displays a table named 'KWR62447.USERS'. The table has three columns: 'USERNAME', 'EMAIL', and 'PASSWORD'. There are two data rows. The first row has 'ramesh' as the username, 'rameshkrishna002@gmail.com' as the email, and '12345' as the password. The second row has 'soundar' as the username, 'sakthisoundarraj26@gmail.com' as the email, and '12345678' as the password. There are buttons for 'Back' and 'Export to CSV' in the top right corner of the table view.