

Assignment -1

Python Programming

Assignment Date	27 September 2022
Student Name	A.Shanthini
Student Roll Number	421319104025
Maximum Marks	2 Marks

Question-1:

Create user table with user with email, username, roll number, password

Solution:

Create table students

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. A search bar for 'Find schemas or tables' is present. On the left, a sidebar shows 'Schemas' and 'Tables'. The main area is divided into two panels: 'Tables' and 'Table definition'. The 'Tables' panel shows a table named 'USER TABLE' in schema 'GSP11422'. The 'Table definition' panel shows the table's structure with columns: 'USERNAME' (VARCHAR, 255, nullable), 'EMAIL' (VARCHAR, 255, nullable), 'ROLL.NO' (VARCHAR, 255, nullable), and 'PASSWORD' (VARCHAR, 255, nullable). A 'View data' button is at the bottom.

Name	Schema	Properties
USER TABLE	GSP11422	...

Name	Data type	Nullable	Length	Scale
USERNAME	VARCHAR	Y	255	0
EMAIL	VARCHAR	Y	255	0
ROLL.NO	VARCHAR	Y	255	0
PASSWORD	VARCHAR	Y	255	0

Question-2:

Perform UPDATE,DELETE queries with user table

Solution:

Insert into user values ("sathish",23,'sarkarsathish@gmail.com','s@thish');

Insert into user values ("shanthini",25,'shanu@gmail.com','shanu@cse');

Insert into user values ("Narmatha",20,'narmatha@gmail.com','narmu');

Insert into user values ("vignesh",37,'vignesh@gmail.com','vicky');

Alter table user add age int;

Drop table user;

The screenshot shows the IBM Db2 on Cloud console interface. The top navigation bar includes the IBM logo and several tabs: "CAD-B8-2AAE(Evening Session)", "Service Details - IBM Cloud", and "IBM Db2 on Cloud". The main content area is divided into two sections: "Data objects" on the left and "My script" on the right. The "Data objects" section shows a search bar and a list of objects, including "GSP11422". The "My script" section displays a SQL script in a text editor with a syntax assistant. The script contains five lines of SQL code: 1. insert into user values('sathish',23,'sarkarsathish@gmail.com','s@thish'); 2. insert into user values('narmatha',20,'naveena@gmail.com','Pn1122'); 3. insert into user values('vignesh',42,'badyvicky@gmail.com','badyvicky45'); 4. insert into user values('shanthini',25,'shanuvasu@gmail.com','shanu25'); 5. alter table user add age int; The script is titled "Untitled - 2". Below the script editor, there is a "History" tab showing a table of script execution results. The table has four columns: "Script", "Date", "Status", and "Runtime". The table contains five rows of data, including the execution of the script "Untitled - 2" on October 5, 2022, at 11:44:12 AM, which was successful (Status: 4) and took 0.023 seconds to run.

Script	Date	Status	Runtime
insert into user values('sathish',23,'sarkarsathish@gmail.com','s@thish')		✗	0.010 s
insert into user values('narmatha',20,'naveena@gmail.com','Pn1122')		✗	0.011 s
insert into user values('vignesh',42,'badyvicky@gmail.com','badyvicky45')		✗	0.009 s
insert into user values('shanthini',25,'shanuvasu@gmail.com','shanu25')		✗	0.017 s
Untitled - 2	Oct 5, 2022 11:44:12 AM	✓ 4	0.023 s
insert into user values('sathish',23,'sarkarsathish@gmail.com','s@thish')		✓	0.005 s

SQL

Tables

GSP11422.USER

Back

Export to CSV

NAME	Roll.no	EMAIL	PASSWORD	AGE
narmatha	20	naveena@gmail	Pn1122	
narmatha	20	naveena@gmail	Pn1122	
sathish	23	savior@gmail	savior123	
sathish	23	savior@gmail	savior123	
shanthini	25	shanuvasu@gmail	shanu25	
shanthini	25	shanuvasu@gmail	shanu25	
vignesh	42	badyvicky@gmail	badyvicky45	

The screenshot shows the IBM Db2 on Cloud console interface. On the left, the 'Data objects' tab is selected, showing a search bar and a list of objects including 'GSP11422'. The main area displays a SQL script in a text editor with a 'Run all' button. The script contains four INSERT statements for the 'user' table. Below the editor, the 'History' tab is active, showing a table of execution results.

Script	Date	Status	Runtime	
Untitled - 2	Oct 5, 2022 11:44:12 AM	✓ 4	0.023 s	:
insert into user values('sathish',23,'savior@gmail','savior12');		✓	0.005 s	:
insert into user values('nazmatha',20,'naveena@gmail','Pn1122');		✓	0.011 s	:
insert into user values('vignesh',42,'badyvicky@gmail','badyv...		✓	0.003 s	:
insert into user values('shanthini',25,'shanuvasu@gmail','sha...		✓	0.004 s	:

IBM

CAD-B8-244E(Evening Session)-I

Service Details - IBM Cloud

IBM Db2 on Cloud

bs2ipcul0apon0juf80lite.db2.cloud.ibm.com/cn%3Av1%3Abluemix%3Apublic%3Adashdb-for-transactions%3Aeu-gb%3Aa%2F3212639087ac452c95398...

Gmail

YouTube

Maps

Translate

History

IBM Db2 on Cloud

HWCADM0002E: Table GSP11422.USER can't be found.

Show logs

X

Filter objects

GSP11422

1 insert into user values('sathish',23,'savior@gmail','savior123');

2 insert into user values('narmatha',20,'naveena@gmail','Pn1122');

3 insert into user values('vignesh',42,'badyvicky@gmail','badyvicky45');

4 insert into user values('shanthini',25,'shanuvasu@gmail','shanu25');

5 alter table user add age int;

6 drop table user;

History

Results

Find history

Script	Date	Status	Runtime	
Untitled - 2	Oct 5, 2022 12:06:20 PM	6	0.108 s	:
insert into user values('sathish',23,'savior@gmail','savior123')			0.016 s	:
insert into user values('narmatha',20,'naveena@gmail','Pn1122')			0.021 s	:
insert into user values('vignesh',42,'badyvicky@gmail','badyvicky...			0.014 s	:
insert into user values('shanthini',25,'shanuvasu@gmail','shanu25...			0.015 s	:
alter table user add age int			0.026 s	:

The screenshot shows the IBM Db2 on Cloud console interface. The top navigation bar includes 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MQTs', 'Sequences', and 'Application objects'. The 'Tables' tab is selected, and the table 'GSP11422.USER' is displayed. The table structure is as follows:

NAME	Roll.no	EMAIL	PASSWORD
narmatha	20	naveena@gmail	Pn1122
sathish	23	savior@gmail	savior123
shanthini	25	shanuvasu@gmail	shanu25
vignesh	42	badyvicky@gmail	badyvicky45

Question-3:

Connect python code to db2

Solution:

```
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.conect("DATABASE=;HOSTNAME=;PORT=;SECURITY=SSL;SSL  
ServerCertificate=;UID=;PhD=", ' ', '')
```

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

```
def home():
```

```
    return render_template('home.html')
```

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

```
def login():
```

```
    global userid
```

```
    msg = ''
```

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

```
        username = request.form['username']
```

```
        password = request.form['password']
```

```
        return render_template('home.html')
```

```
        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']
```

```
        else:
```

```
            msg = 'Incorrect username/password'
```

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

```

@app.route('/register', methods=['GET', 'POST'])
def register():
    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-Z0-9]+', email):
            msg = "format does not match"
        elif not re.match(r'[A-Za-z0-9]+', username):
            msg = "name must contain 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('/dashboard')
def dash():
    return render_template('dashboard.html')
```

```
@app.route('/apply', methods=['GET', 'POST'])
def app():
    msg = ''
    if request.method == "POST":
        username = request.form['username']
        email = request.form['email']
        qualification = request.form['qualification']
        skills = request.form['skills']
        jobs = request.form['s']
        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 = "there is only 1 job position"
        return render_template('apply.html', msg=msg)

insert_sql = "INSERT INTO job 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, qualification)
ibm_db.bind_param(prepare_stmt, 4, skills)
ibm_db.bind_param(prepare_stmt, 5, jobs)
ibm_db.execute(prepare_stmt)
msg = "You have successfully applied for job"
session['loggedin'] = True
TEXT = "Hello user,a new application for job position" + job + isrequested
"

```

```

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

```

```

@app.route('/display')
def display():
    print
    session["username"], session['id']
    cursor = mysql.connection.cursor()
    cursor.execute('SELECT*FROM job WHERE userid=%s', (session['id'],))
    account = cursor.fetchone()
    print("accountdisplay", account

```

Question-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

Solution:

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

```
app = Flask(__name__)
```

```
app.secret_key = 'a'
```

```
conn =
```

```
ibm_db.conect("DATABASE=bludb;HOSTNAME=21fecfd8
-47b7-4937-840d-
d791d0218660.bs2io90l08kqb1od8lcg.databases.appdomain.c
loud;PORT=31864;SECURITY=SSL;SSLServerCertificate=
DigiCertGlobalRootCA.crt;USERNAME=gsp11422;PASSW
ORD=ixh307unZlZgLLB9", ' ', '')
```

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

```
def home():
```

```
    return render_template('home.html')
```

```
@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!'
else:
    msg = 'Incorrect username/password'
    return render_template('login.html',msg=msg)
```

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

```
def register():
```

```
    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 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.bnd_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('/dashboard')
```

```
def dash():  
    return render_template('dashboard.html')  
  
@app.route('/apply', methods=['GET', 'POST'])  
def app():  
    msg = ''  
    if request.method == "POST":  
        username = request.form['username']  
        email = request.form['email']  
        qualification = request.form['qualification']  
        skills = request.form['skills']  
        jobs = request.form['s']  
        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 = "there is only 1 job position"  
            return render_template('apply.html', msg=msg)
```

```
insert_sql = "INSERT INTO job 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, qualification)
ibm_db.bind_param(prepare_stmt, 4, skills)
ibm_db.bind_param(prepare_stmt, 5, jobs)
ibm_db.execute(prepare_stmt)
msg = "You have successfully applied for job"
session['LoggedIn'] = True
TEXT = "Hello user, a new application for job position +
job + is requested"
```

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

```
@app.route('/display')
def display():
    print
```



```
session["username"], session['id']
cursor = mysql.connection.cursor()
cursor.execute('SELECT*FROM job WHERE userid=%s',
(session['id'],))
account = cursor.fetchone()
print("accountdisplay", account)

return render_template('display.html',account=account)

@app.route('/logout')

def logout():
    session.pop('loggedin',None)
    session.pop('id',None)
    session.pop('username',None)
    return render_template('home.html')

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

