

Assignment -2

Python Programming

ASSIGNMENT 2

Student Name	NARAYANAN E
Student Roll Number	422319104020
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 console. The 'Tables' tab is selected, showing a list of tables. The 'USER TABLE' is highlighted, and its definition is shown in the right-hand pane. The table definition pane shows the following columns:

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

The 'View data' button is visible at the bottom of the table definition pane.

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 displays the IBM Db2 on Cloud console interface. The top navigation bar includes the IBM logo and several open tabs: 'CAD-B8-2A4E(Evening Session)', 'Service Details - IBM Cloud', and 'IBM Db2 on Cloud'. The main content area is divided into three sections: 'Data objects', 'My script', and a 'History' tab.

The 'Data objects' section on the left shows a search bar and a list of objects, including 'GSP11422'. The 'My script' section in the center contains a SQL script editor with the following code:

```
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
```

The 'History' tab at the bottom shows a table of script execution records. The table has columns for 'Script', 'Date', 'Status', and 'Runtime'. The records show that the first four insert statements failed (Status: red circle), while the fifth statement (the alter table statement) was successful (Status: green circle) and executed 4 times.

Script	Date	Status	Runtime
insert into user values('sathish',23,'savior@gmail','savior123')		❌	0.010 s
insert into user values('narmatha',20,'naveena@gmail','Pn1122')		❌	0.011 s
insert into user values('vignesh',42,'badyvicky@gmail','badyvicky...')		❌	0.009 s
insert into user values('shanthini',25,'shanuvasu@gmail','shanu25...')		❌	0.017 s
Untitled - 2	Oct 5, 2022 11:44:12 AM	✅ 4	0.023 s
insert into user values('sathish',23,'savior@gmail','savior123')		✅	0.005 s

IBM

CAD-B8-2A4E(Evening Session)-I

Service Details - IBM Cloud

IBM Db2 on Cloud

bs2ipcul0apon0jufi80lite.db2.cloud.ibm.com/crm%3Av1%3Abluemix%3Apublic%3Adashdb-for-transactions%3Aeu-gb%3Aa%2F3212639087ac452c95398...

Gmail YouTube Maps Translate History

IBM Db2 on Cloud

Load Data

Load History

Tables

Views

Indexes

Aliases

MQTs

Sequences

Application objects

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	

IBM

Service Details - IBM Cloud

IBM Db2 on Cloud

bs2ipcul0apon0jufi80lite.db2.cloud.ibm.com/cm%3Av1%3Abluemix%3Apublic%3Adashdb-for-transactions%3Aeu-gb%3Aa%2F3212639087ac452c95398a907...

GmailYouTubeMapsTranslateHistory

IBM Db2 on Cloud

Data objects

My script

Filter objects

GSP11422

SQL

*Untitled - 2

BetaClassic

Syntax assistant

Run all

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

6

History

Results

Find history

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('narmatha',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/cm%3Av1%3Abluemix%3Apublic%3Adashdb-for-transactions%3Aeu-gb%3Aa%2F3212639087ac452c95398...

GmailYouTubeMapsTranslateHistory

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('nazmatha',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;

HistoryResults

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('nazmatha',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 and data are 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=ixh307unZIzgLLB9", ' ', ' ')
```

```
@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')
```

