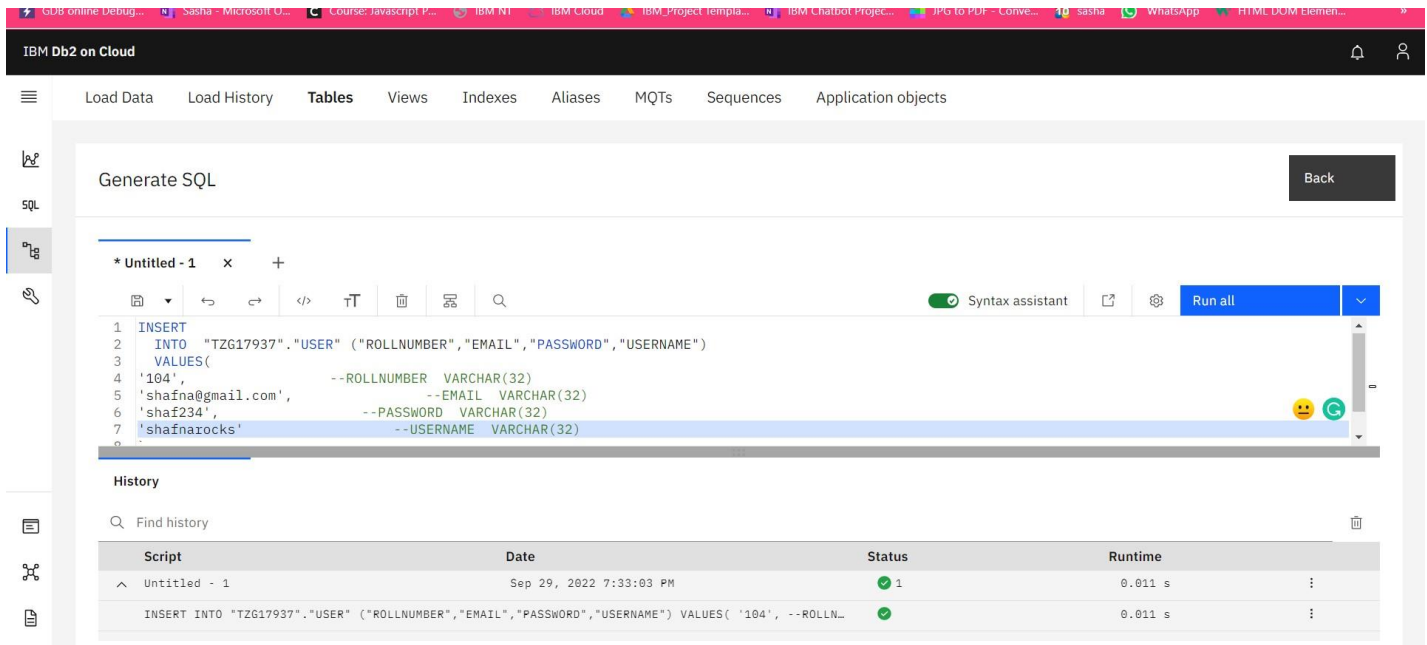


## ASSIGNMENT 2

### CLOUD APPLICATION DEVELOPMENT

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

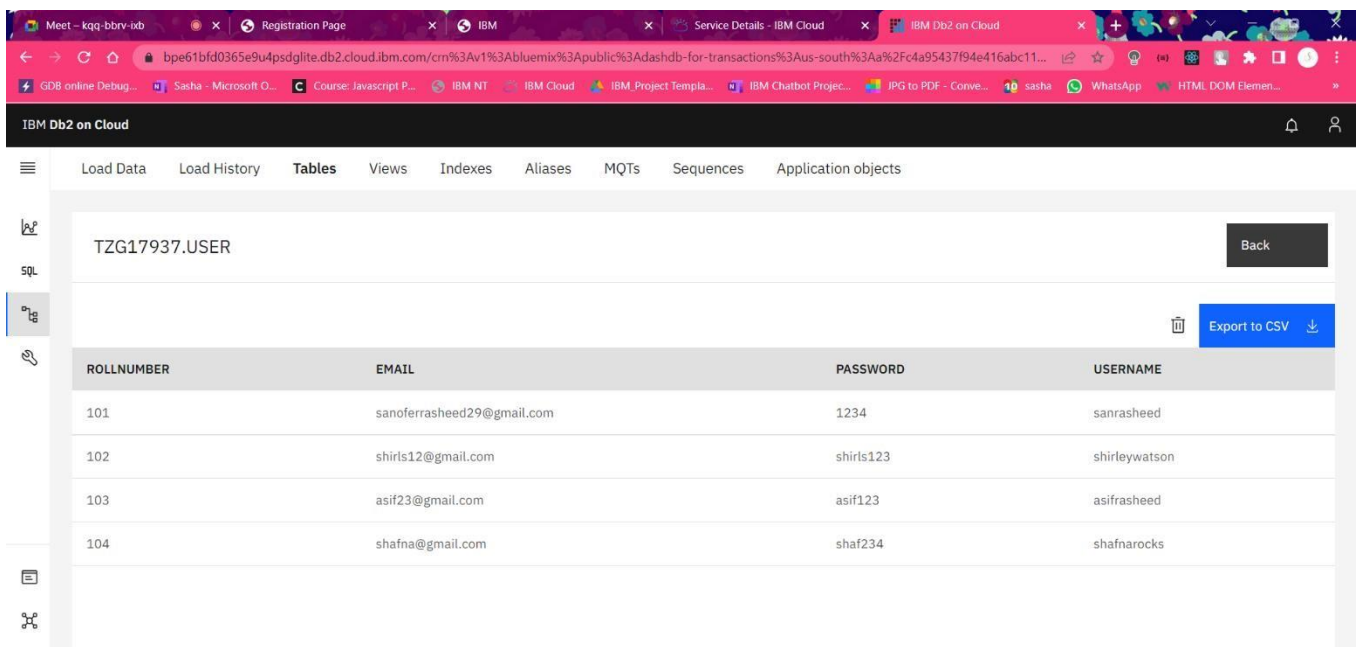


The screenshot shows the IBM Db2 on Cloud console. The 'Generate SQL' tab is active, displaying a SQL script in a text editor. The script is an INSERT statement into a table named 'TZG17937.USER'. The script is as follows:

```
1 INSERT
2 INTO "TZG17937"."USER" ("ROLLNUMBER", "EMAIL", "PASSWORD", "USERNAME")
3 VALUES(
4 '104', --ROLLNUMBER VARCHAR(32)
5 'shafna@gmail.com', --EMAIL VARCHAR(32)
6 'shaf234', --PASSWORD VARCHAR(32)
7 'shafnarocks' --USERNAME VARCHAR(32)
8 )
```

Below the editor, the 'History' tab shows a table of executed scripts:

Script	Date	Status	Runtime
Untitled - 1	Sep 29, 2022 7:33:03 PM	✓ 1	0.011 s
INSERT INTO "TZG17937"."USER" ("ROLLNUMBER", "EMAIL", "PASSWORD", "USERNAME") VALUES( '104', --ROLL...		✓	0.011 s



The screenshot shows the IBM Db2 on Cloud console with the 'TZG17937.USER' table selected. The table structure is displayed, and the data is shown in a table format. The table has four columns: ROLLNUMBER, EMAIL, PASSWORD, and USERNAME. The data is as follows:

ROLLNUMBER	EMAIL	PASSWORD	USERNAME
101	sanoferasheed29@gmail.com	1234	sanrasheed
102	shirls12@gmail.com	shirls123	shirleywatson
103	asif23@gmail.com	asif123	asifrasheed
104	shafna@gmail.com	shaf234	shafnarocks

Thus a user table is created.

2. Perform UPDATE,DELETE Queries with user table

## UPDATE

The screenshot shows 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 main area is titled 'Generate SQL' and contains a text editor with the following SQL statement:

```
1 UPDATE "TZG17937"."USER"  
2 SET "PASSWORD" = 'shaf098' --PASSWORD VARCHAR(32)  
3 --Search condition (e.g. WHERE "ROLLNUMBER" = NULL)  
4 WHERE "ROLLNUMBER" = '104';  
5
```

Below the editor is a 'History' table showing the execution of the script:

Script	Date	Status	Runtime
Untitled - 1	Sep 29, 2022 7:37:58 PM	✓ 1	0.006 s
UPDATE "TZG17937"."USER" SET "PASSWORD" = 'shaf098' --PASSWORD VARCHAR(32) --Search condition (		✓	0.006 s
Untitled - 1	Sep 29, 2022 7:37:14 PM	✗ 1	0.027 s

The bottom screenshot shows the 'TZG17937.USER' table with the following data:

ROLLNUMBER	EMAIL	PASSWORD	USERNAME
101	sanoferasheed29@gmail.com	1234	sanrasheed
102	shirts12@gmail.com	shirts123	shirleywatson
103	asif23@gmail.com	asif123	asifrasheed
104	shafna@gmail.com	shaf098	shafnarocks

Thus for user id 104 the password has been updated from “shaf234” to “shaf098”.

## DELETE

IBM Db2 on Cloud

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

### Generate SQL

Back

\*Untitled - 1

```
1 DELETE FROM "TZG17937"."USER"
2 --Search condition (e.g. WHERE "ROLLNUMBER" = NULL)
3 WHERE "ROLLNUMBER" = '104';
4
```

Syntax assistant Run all

#### History

Find history

Script	Date	Status	Runtime
Untitled - 1	Sep 29, 2022 7:41:08 PM	1	0.019 s
DELETE FROM "TZG17937"."USER" --Search condition (e.g. WHERE "ROLLNUMBER" = NULL) WHERE "ROLLNUMB...			0.019 s

IBM Db2 on Cloud

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

### TZG17937.USER

Back

Export to CSV

ROLLNUMBER	EMAIL	PASSWORD	USERNAME
101	sanoferasheed29@gmail.com	1234	sanrasheed
102	shirls12@gmail.com	shirls123	shirleywatson
103	asif23@gmail.com	asif123	asifrasheed

Thus userid 104 has been deleted.

3. Connect python code to db2.

```
import ibm_db
dsn_hostname = "9938aec9-8105-433e-8bf9-0fb7e483086.clogj3sd0tqtu0lqde09.databases.apptomain.cloud" # e.g.: "54a2f15b-5c0f-46df-8954-7e38e612c2bd.clogj3sd0tqtu0lqde09.databases.apptomain.cloud"
dsn_uid = "tzg17937" # e.g. "abc12345"
dsn_pwd = "RxjZk0B5SpKoGhV5" # e.g. "7d8Z3wWt9XN6SoBJ"
dsn_driver = "{IBMDB2CL1}"
dsn_database = "b1udb" # e.g. "BLUDB"
dsn_port = "32459" # e.g. "32733"
dsn_protocol = "TCPIP" # i.e. "TCPIP"
dsn_security = "SSL" # i.e. "SSL"
dsn_certs = "DigicertGlobalRootCA.crt"
dsn = (
    "DRIVER={0};"
    "DATABASE={1};"
    "HOSTNAME={2};"
    "PORT={3};"
    "PROTOCOL={4};"
    "UID={5};"
    "PWD={6};"
    "SECURITY={7};"
    "SSLServerCertificate={8};".format(dsn_driver, dsn_database, dsn_hostname, dsn_port, dsn_protocol, dsn_uid, dsn_pwd, dsn_security, dsn_certs)
)
try:
    conn = ibm_db.connect(dsn, "", "")
    print("Connected to database: ", dsn_database, "as user: ", dsn_uid, "on host: ", dsn_hostname)
except:
    print("Unable to connect: ", ibm_db.conn_errormsg())
sql = "insert into user values('105','sahana@gmail.com','1234','sahanaparveen')"
ibm_db.exec_immediate(conn, sql)
print(dsn)
```

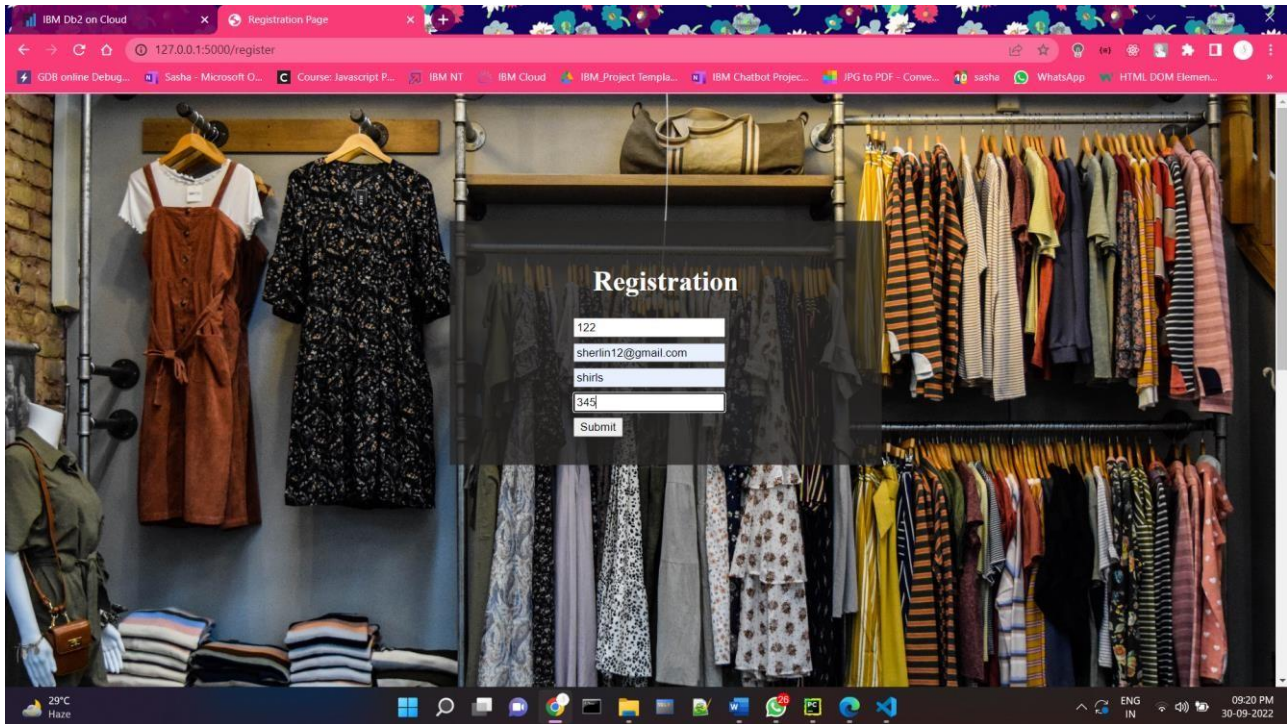
ROLLNUMBER	EMAIL	PASSWORD	USERNAME
101	sanoferasheed29@gmail.com	1234	sanrasheed
102	shirls12@gmail.com	shirls123	shirleywatson
103	asif23@gmail.com	asif123	asifrasheed
105	sahana@gmail.com	1234	sahanaparveen
110	willis123@gmail.com	1234	willisrockz

Here after connecting db2 with python, insertion of values in database is successful.

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. The respective codes is attached

## Registration Page



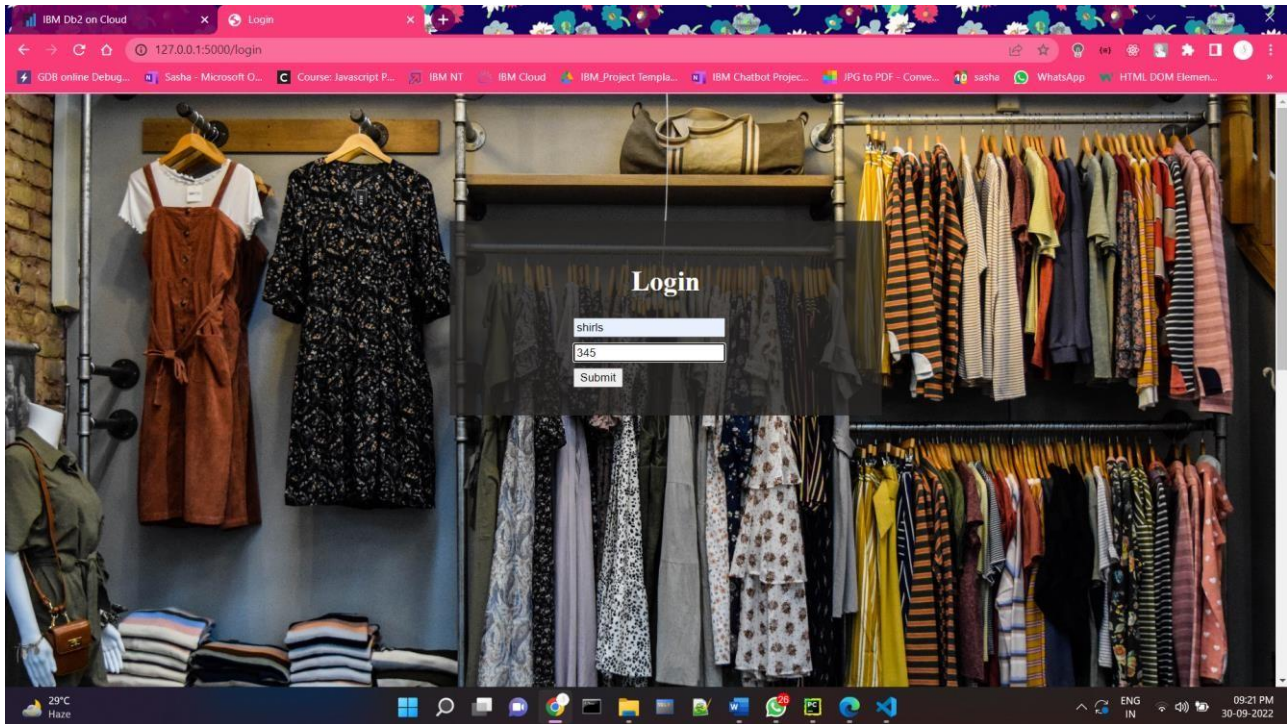


After the user is registered, the data is inserted in the table.

The screenshot shows the IBM Db2 on Cloud console interface. The 'Tables' view is selected, and the table structure for 'TZG17937.USER' is displayed. The table has the following columns: ROLLNUMBER, EMAIL, PASSWORD, and USERNAME. The row with ROLLNUMBER 122 is highlighted with a red border.

ROLLNUMBER	EMAIL	PASSWORD	USERNAME
103	asif23@gmail.com	asif123	asifrasheed
105	sahana@gmail.com	1234	sahanaparveen
110	wills123@gmail.com	1234	willsrockz
111	jack23@gmail.com	890	jacklove
112	jill23@gmail.com	456	jilqueen
121	katie34@gmail.com	345	kati265
122	sherlin12@gmail.com	345	shirls

Login Page:



After logging with credentials, the user is redirected to home page.

