

PostgreSQL

1. Creating a database in SQL Shell(psql):

```
SQL Shell (psql)
Port [5432]:
Username [postgres]:
Password for user postgres:

psql (18.0)
WARNING: Console code page (437) differs from Windows code page (1252)
8-bit characters might not work correctly. See psql reference
page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \l

      List of databases
  Name | Owner  | Encoding | Locale Provider | Collate | Ctype | Locale | ICU Rules | Access privileges
-----+-----+-----+-----+-----+-----+-----+-----+-----
 demodb | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 postgres | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 student | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 template0 | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 template1 | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
(5 rows)

postgres=# create database Demodb;
ERROR: database "demodb" already exists
postgres=# create database dbdemo;
CREATE DATABASE
postgres=# \l

      List of databases
  Name | Owner  | Encoding | Locale Provider | Collate | Ctype | Locale | ICU Rules | Access privileges
-----+-----+-----+-----+-----+-----+-----+-----+-----
 dbdemo | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 demodb | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 postgres | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 student | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 template0 | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 template1 | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
(6 rows)
```

2. Deleting a database

```
SQL Shell (psql)

dbdemo | postgres | UTF8 | libc | English_India.1252 | English_India.1252 | | |
demodb | postgres | UTF8 | libc | English_India.1252 | English_India.1252 | | |
postgres | postgres | UTF8 | libc | English_India.1252 | English_India.1252 | | |
student | postgres | UTF8 | libc | English_India.1252 | English_India.1252 | | |
template0 | postgres | UTF8 | libc | English_India.1252 | English_India.1252 | | |
template1 | postgres | UTF8 | libc | English_India.1252 | English_India.1252 | | |
(6 rows)

postgres=# \c dbdemo
You are now connected to database "dbdemo" as user "postgres".
dbdemo=# CREATE DATABASE test;
ERROR: syntax error at or near "DATABASE"
LINE 1: CREATE DATABASE test;
          ^
dbdemo=# CREATE DATABASE test;
ERROR: syntax error at or near "DATABASE"
LINE 1: CREATE DATABASE test;
          ^
dbdemo=# CREATE DATABASE test;
CREATE DATABASE
dbdemo=# \l

      List of databases
  Name | Owner  | Encoding | Locale Provider | Collate | Ctype | Locale | ICU Rules | Access privileges
-----+-----+-----+-----+-----+-----+-----+-----+-----
 dbdemo | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 demodb | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 postgres | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 student | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 template0 | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 template1 | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
 test | postgres | UTF8     | libc             | English_India.1252 | English_India.1252 |         |          |
(7 rows)

dbdemo=# drop database test;
DROP DATABASE
```

3. Creating table and adding data

```
SQL Shell (psql)
List of databases

```

Name	Owner	Encoding	Locale Provider	Collate	Ctype	Locale	ICU Rules	Access privileges
dbdemo	postgres	UTF8	libc	English_India.1252	English_India.1252			
demodb	postgres	UTF8	libc	English_India.1252	English_India.1252			
postgres	postgres	UTF8	libc	English_India.1252	English_India.1252			
student	postgres	UTF8	libc	English_India.1252	English_India.1252			
template0	postgres	UTF8	libc	English_India.1252	English_India.1252			=c/postgres +
template1	postgres	UTF8	libc	English_India.1252	English_India.1252			postgres=Ctc/postgres +
test	postgres	UTF8	libc	English_India.1252	English_India.1252			=c/postgres +

```

(7 rows)

dbdemo=# drop database test;
DROP DATABASE
dbdemo=# CREATE DATABASE students;
CREATE DATABASE
dbdemo=# \c students
You are now connected to database "students" as user "postgres".
students=# CREATE TABLE students(name text, number int, age int);
CREATE TABLE
students=# \d
List of relations
Schema | Name | Type | Owner
-----+-----+-----+-----
public | students | table | postgres
(1 row)

students=# INSERT INTO students(name, number, age) VALUES('Seema',12, 20);
INSERT 0 1
students=# INSERT INTO students(name, number, age) VALUES('Rama',13, 21);
INSERT 0 1
students=#
students=#
students=#
students=#
students=#
```

4. Retrieving data from database and deleting contents in the table

```
SQL Shell (psql)
students=#
students=#
students=#
students=# SELECT * FROM students;

```

name	number	age
Seema	12	20
Rama	13	21

```

(2 rows)

students=# SELECT name FROM students;

```

name
Seema
Rama

```

(2 rows)

students=# SELECT * FROM students WHERE number=12;

```

name	number	age
Seema	12	20

```

(1 row)

students=# SELECT * FROM students WHERE name='Rama';

```

name	number	age
Rama	13	21

```

(1 row)

students=# TRUNCATE TABLE students;
TRUNCATE TABLE
students=# SELECT * FROM students;

```

name	number	age
------	--------	-----

```

(0 rows)
```

5. Setting up virtual environment – virtualenv

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.26100.4946]
(c) Microsoft Corporation. All rights reserved.

C:\Users\hp\OneDrive\Desktop\visual_studio>virtualenv env
created virtual environment CPython3.13.0.final.0-64 in 3163ms
creator CPython3Windows(dest=C:\Users\hp\OneDrive\Desktop\visual_studio\env, clear=False, no_vcs_ignore=False, global=False)
seeders FromAppData(download=False, pip=bundle, via=copy, app_data_dir=C:\Users\hp\AppData\Local\pypa\virtualenv)
added seed packages: pip==25.2, psycpg2==2.9.10
activators BashActivator, BatchActivator, FishActivator, NushellActivator, PowerShellActivator, PythonActivator

C:\Users\hp\OneDrive\Desktop\visual_studio>cd env
C:\Users\hp\OneDrive\Desktop\visual_studio\env>cd scripts
C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts>activate

(env) C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts>python testt.py
python.exe: can't open file 'C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts\testt.py': [Errno 2] No such file or directory

(env) C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts>cd..
(env) C:\Users\hp\OneDrive\Desktop\visual_studio\env>cd..
(env) C:\Users\hp\OneDrive\Desktop\visual_studio>python testt.py
Pythonn

(env) C:\Users\hp\OneDrive\Desktop\visual_studio>deactivate
C:\Users\hp\OneDrive\Desktop\visual_studio>cd env
C:\Users\hp\OneDrive\Desktop\visual_studio\env>cd scripts
C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts>activate
(env) C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts>
```

testt.py

```
1 print("Pythonn")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
& : File c:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts\Activate.ps1 cannot be loaded
because running scripts is disabled on this system. For more information, see
about Execution Policies at https://go.microsoft.com/fwlink/?linkid=135170.
At line:1 char:1
+ & C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts\Activate.ps1
+ ~~~~~
+ CategoryInfo          : SecurityError: (:) [], PSSecurityException
+ FullyQualifiedErrorId : UnauthorizedAccess
PS C:\Users\hp\OneDrive\Desktop\visual_studio> python testt.py
Pythonn
PS C:\Users\hp\OneDrive\Desktop\visual_studio>
```

6. Installing psycpg2

```
C:\Windows\System32\cmd.exe
copying lib\extras.py -> build\lib.win-amd64-cpython-313\psycpg2
copying lib\pool.py -> build\lib.win-amd64-cpython-313\psycpg2
copying lib\sql.py -> build\lib.win-amd64-cpython-313\psycpg2
copying lib\tz.py -> build\lib.win-amd64-cpython-313\psycpg2
copying lib\ipaddress.py -> build\lib.win-amd64-cpython-313\psycpg2
copying lib\json.py -> build\lib.win-amd64-cpython-313\psycpg2
copying lib\lru_cache.py -> build\lib.win-amd64-cpython-313\psycpg2
copying lib\range.py -> build\lib.win-amd64-cpython-313\psycpg2
copying lib\__init__.py -> build\lib.win-amd64-cpython-313\psycpg2
running build_ext
building 'psycpg2._psycpg2' extension
error: Microsoft Visual C++ 14.0 or greater is required. Get it with "Microsoft C++ Build Tools": https://visualstudio.microsoft.com/visual-cpp-build-tools/
[end of output]

note: This error originates from a subprocess, and is likely not a problem with pip.
ERROR: failed building wheel for psycpg2
Failed to build psycpg2
error: failed-wheel-build-for-install

x Failed to build installable wheels for some pyproject.toml based projects
  psycpg2

(env) C:\Users\hp\OneDrive\Desktop\visual_studio>pip install psycpg2
Requirement already satisfied: psycpg2 in c:\users\hp\onedrive\desktop\visual_studio\env\lib\site-packages (2.9.10)

(env) C:\Users\hp\OneDrive\Desktop\visual_studio>
```

7. Connecting to the database

```
PYTHON Lecture Page
upskill.tutdude.com/course/lecture-python

SQL Shell (psql)
Server [localhost]:
Database [postgres]:
Port [5432]:
Username [postgres]:
Password for user postgres:

psql (18.0)
WARNING: Console code page (437) differs from Windows code page (1252)
8-bit characters might not work correctly. See psql reference
page "Notes for Windows users" for details.
Type "help" for help.

postgres=#

test.py
1 import psycpg2
2 conn=psycpg2.connect(dbname="postgres", user="postgres", password="Prakri")
3 print("Connected Successfully")

C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.26100.4946]
(c) Microsoft Corporation. All rights reserved.

C:\Users\hp\OneDrive\Desktop\visual_studio>cd env
C:\Users\hp\OneDrive\Desktop\visual_studio>cd scripts
C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts>activate
(env) C:\Users\hp\OneDrive\Desktop\visual_studio\env\Scripts>cd..
(env) C:\Users\hp\OneDrive\Desktop\visual_studio\env>cd..
(env) C:\Users\hp\OneDrive\Desktop\visual_studio>python testt.py
Connected Successfully

(env) C:\Users\hp\OneDrive\Desktop\visual_studio>
```

8. Creating table using python

I completed the module at one go and now running for the assignment.

The image is a composite of three screenshots showing the development and execution of a Python script that interacts with a PostgreSQL database.

Top Screenshot: A web browser window displays a tutorial page from `upskill.tutored.com/course/lecture-python`. The code in the browser shows a Python script that connects to a PostgreSQL database, inserts a new employee, and then queries the database. Below the code, there are buttons for "Live 1:1 Mentorship" and "Chat with Mentor". To the right, a terminal window shows the output of the script, displaying the database schema and the results of the query.

Middle Screenshot: The same Python script is shown in a code editor. The terminal window shows the script being executed, and the command prompt window shows the script's output, including the database schema and the results of the query.

Bottom Screenshot: The Python script is shown in the code editor, with the terminal window showing the script being executed. The command prompt window shows the script's output, including the database schema and the results of the query.

11. Adding the input from the user

The image is a composite of three screenshots related to a data analysis project.

Top Left: Presentation Slide
 Title: DATA ANALYSIS
 Topics:
 - COLLECTION OF DATA
 - PROCESSING OF DATA
 - CLEANING OF DATA

Top Right: SQL Shell (psql)
 Command: `postgres=# SELECT * FROM employee;`
 Output:
 (1 row)
 name | id | age

 Sam | 1 | 30
 (1 row)

Bottom Left: Visual Studio Code Editor
 File: testt.py
 Line 13: `def data():`
 Line 15: `cursor = conn.cursor()`
 Line 18: `name = input('Enter name: ')`
 Line 19: `id = input('Enter id: ')`
 Line 20: `age = input('Enter age: ')`
 Line 22: `query='insert into employee(Name,ID,Age) Values(%s,%s,%s);'`
 Line 23: `cursor.execute(query,(name,id,age))`
 Line 24: `print("data updated")`
 Line 26: `conn.commit()`
 Line 27: `conn.close()`
 Line 28: `data()`

Bottom Right: Windows Command Prompt
 Command: `(env) C:\Users\hp\OneDrive\Desktop\visual_studio>python testt.py`
 Output:
 Enter name: pakku
 Enter id: 323
 Enter age: 22
 data updated