

PostgreSQL-Python Cheat Sheet (Basics)

```
import psycopg2
```

```
#Establishing the connection to the database and handling exceptions
```

```
try:
```

```
    connection = psycopg2.connect(database="staff", user = "mihai",  
password = "python", host = "127.0.0.1", port = "5432")
```

```
except psycopg2.Error as err:
```

```
    print("An error was generated!")
```

```
else:
```

```
    print("Connection to database was successful!")
```

```
#Creating a cursor
```

```
cursor = conn.cursor()
```

```
#Creating a table and defining the attributes for each column
```

```
cur.execute("create table mystaff.employees
```

```
    (id int primary key not null,
```

```
    first_name varchar(25) not null,
```

```
    last_name varchar(25) not null,
```

```
    department varchar(25) not null,
```

```
    phone varchar(25)
```

```
address varchar(50),  
salary int);")
```

#Inserting data into a table

```
cursor.execute("insert into mystaff.employees  
(id,first_name,last_name,department,phone,address,salary) \  
values (1, 'John', 'Smith', 'Sales', '0123456789', '1st Street, Miami', 50000), \  
        (2, 'Jack', 'Doe', 'IT', '0213456742', '2nd Street, NY', 55000), \  
        (3, 'Emily', 'Davids', 'Sales', '0123456999', '3rd Street, LA', 59000), \  
        (4, 'Karen', 'Willson', 'Logistics', '0823556785', '4th Street, Las Vegas', 41000), \  
        (5, 'Emma', 'Richard', 'Marketing', '0423453580', '5th Street, Denver', 40000);")
```

#Updating the department column for the row(s) where the value on the last_name column is Doe

```
cursor = connection.cursor()  
cursor.execute("update mystaff.employees set department = 'Logistics'  
where last_name = 'Doe';")
```

#Deleting all the records in the database for which the value in the salary column is greater than 50000

```
cursor = connection.cursor()  
cursor.execute("delete from mystaff.employees where salary > 50000;")
```

#Querying the database using the cursor

```
cursor = connection.cursor()
```

```
cursor.execute("select * from mystaff.employees where salary > 50000;")
```

```
#cursor.execute("select * from mystaff.employees where last_name like  
'%Richard%';")
```

```
#cursor.execute("select * from mystaff.employees where salary between  
40000 and 45000;")
```

```
#cursor.execute("select * from mystaff.employees where department in  
('Sales', 'IT');")
```

#Fetching all the rows in a query result; returns a list

```
records = cursor.fetchall()
```

#Fetching the next 2 rows in a query result; returns a list

```
records = cursor.fetchmany(size = 2)
```

#Fetching the next row in a query result; returns a tuple; returns None
when no more records are available

```
records = cursor.fetchone()
```

#Printing the fetched results to the screen

```
for record in records:
```

```
    print(record)
```

#Committing (saving) the changes/transactions performed since the last commit()

`connection.commit()`

#Rolling back (undoing) the changes/transactions performed since the last commit()

`connection.rollback()`

#Closing the connection to the database

`connection.close()`