

# Working with Databases in Python 3

Using a Relational Database - PostgreSQL and psycopg2



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# Overview



**PostgreSQL is a database server**

**Connect to the server via a network**

**Authenticate with a user account**

**The psycopg2 module provides Python support**

**The workflow is similar to SQLite**

**Most of the heavy lifting is done by SQL**

**psycopg2 includes conveniences for working with the database**



# Installing psycopg2

The most popular  
PostgreSQL package  
for Python

Installing the  
psycopg2 package  
from source can be  
difficult

A simpler solution is  
to install the  
psycopg2-binary  
package



**This course will run  
PostgreSQL in a Docker  
container for convenience.**



# Using psycopg2

```
import psycopg2
```



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connection = psycopg2.connect(
    host="localhost",
    database="manager",
    user="postgres",
    password="pgpassword"
)
```



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

cursor.execute("SELECT * FROM investment;")
data = cursor.fetchall()
```



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cursor.execute("SELECT * FROM investment;")
data = cursor.fetchall()

cursor.close()
connection.close()
```



# Summary



The `psycopg2` Python packages adds Python support for PostgreSQL

PostgreSQL is a database server

- Connect via network
- Authenticate with username and password

Connect to the database

Send it some SQL statements

Parse the results

Utilities in `psycopg2`

- Parameterized SQL statements
- Cursor factories

Coming up next, SQLAlchemy!

