CSE 682 Software Engineering

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STEP1: Install anaconda package if not done so.

https://www.youtube.com/watch?v=YJC6ldI3hWk

Once installed, create anaconda virtual environment for our project

conda create -n sweng python=3.11.10 anaconda

conda activate sweng

conda deactivate

Note: You can do without anaconda also, but anaconda makes life easier. It allows you to create virtual environments and install packages within a virtual environment. This also takes care of package dependencies and other things.

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STEP2: PostgreSQL database installation:

Install the postgresql from its website
The installation will include the postgresql server and the pgAdmin client.

https://www.postgresql.org/download/

Check installation by connecting via the pgAdmin client. Default user and password are both **postgres.** You may need to go to Windows control center to start the server manually if it's not auto started.

From the pgAdmin client screen , right click on Databases and create a database called **CSE682**

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STEP3: Install dependent python packages within the virtual environment. We need two packages - streamlit for UI development and psycopg2 for database connection.

Conda install streamlit

streamlit hello

python -m streamlit hello

conda install -c anaconda psycopg2

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STEP 4: I needed this step to stop and start the database server from my Mac, but you may not need this step if you can stop and start database server from windows control center

Start and Connect PostgreSQL server via command line.

```
export PATH=/Library/PostgreSQL/16/bin:$PATH
export PGDATA=/Library/PostgreSQL/16/data
export PGDATABASE=postgres
export PGUSER=postgres
export PGPORT=5432
export PGLOCALEDIR=/Library/PostgreSQL/16/share/locale
export MANPATH=$MANPATH:/Library/PostgreSQL/16/share/man
```

sudo -u postgres pg_ctl -D /Library/PostgreSQL/16/data start
sudo -u postgres pg_ctl -D /Library/PostgreSQL/16/data stop (stop server when your work is done)

Connect from command line:
psql postgres://postgres:postgres@localhost:5432/CSE682

```
SELECT CURRENT_DATE;
\q
```

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STEP5: Test connection of PostgreSQL from Python :

```
import psycopg2

conn = psycopg2.connect(
   database="CSE682",
   user="postgres",
   password="postgres",
```

```
    host="localhost",
    port="5432"
)

# Create a cursor object
cursor = conn.cursor()

# Execute a query to fetch the current timestamp
cursor.execute("SELECT NOW();")

# Fetch and print the result (current timestamp)
current_timestamp = cursor.fetchone()[0]
print("Current Timestamp:", current_timestamp)

# Close the cursor and connection
cursor.close()
conn.close()

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```