Setup for Windows

Setting Up PostgreSQL for the Banking Application

1. Install PostgreSQL:
   * Download and install PostgreSQL from the official website.
   * Follow the installation instructions specific to your operating system.
2. Open services and run the service Postgres service
   * 
3. Create a PostgreSQL Database:
   * Open the PostgreSQL command-line tool (psql) or use a graphical interface like pgAdmin.
   * Create a new database (for example user\_management)
   * A screenshot of a computer

     Description automatically generated
4. Create a new Login role.
5. Whenever running create table script make sure the login role has super user, otherwise deselect super user during normal application use.
   * Right click on user role -> properties -> privileges
   * Toggle Superuser on/off

Setting up Environment Variables

* Open the Start Menu and search for "Environment Variables".
* Click on "Edit the system environment variables".
* In the System Properties window, click on the "Environment Variables" button.
* Under "User variables" or "System variables", click "New" and add the following:
* Variable name: DB\_NAME
* Variable value: your\_db\_name (for example user management
* Repeat for DB\_USER, DB\_PASSWORD, DB\_HOST (optional), and DB\_PORT (optional).

Necessary packages

* **psycopg2-binary:** For PostgreSQL database interactions.
* **pyotp:** For generating and verifying one-time passwords (OTP) for multi-factor authentication (MFA).
* **bcrypt:** For hashing passwords securely.
* **cryptography:** For encrypting and decrypting MFA secrets.
* **qrcode:** For generating QR codes for MFA setup.

**pip install psycopg2-binary pyotp bcrypt cryptography qrcode**

Before running bank application, run create\_tables.py to set up database

* Ensure environment variables are setup
* Have the postgress setup
* Ensure Login role has superuser toggled
* After tables are setup, remove superuser privilege (toggle off)

After setup is complete simply navigate to the folder with the code files and run main.py