

Project Summary: User CRUD with Python, Flask, SQLAlchemy, and psycopg2

Objective: Develop a web page that connects to a local PostgreSQL database for CRUD (Create, Read, Update, Delete) operations on users.

Technologies:

- **Python:** Main programming language.
- **Flask:** Web framework for Python.
- **SQLAlchemy:** Object-Relational Mapping (ORM) for Python.
- **psycopg2:** Python adapter for PostgreSQL.

Features:

- **Create new users:** User information is captured through a web form and saved to the database.
- **List users:** All registered users are displayed in the database.
- **Update users:** Modify the information of an existing user.
- **Delete users:** Remove a user from the database.
- **Error handling:** Control exceptions that may occur during CRUD operations.

Highlights:

- **Source code:** Well-organized and documented code with comments explaining each section.
- **Error handling:** Robust error handling captures exceptions and displays them to the user in a friendly manner.
- **Security:** Utilizes `flask_sqlalchemy` library to protect the application from SQL injection attacks.

Conclusion:

This project exemplifies creating a CRUD web application using Python, Flask, SQLAlchemy, and psycopg2. The application is functional, secure, and user-friendly.

Appendix:

Python-PostgreSQL

Username

Name

Password

Save

id	Username	Name	Password	Edit	Delete
4	fchajud	Andres	12345	Edit	Delete
5	Takookie	Naty	compu	Edit	Delete

1. This is the home page

Python-PostgreSQL

Username is required. x

Username

Name

Password

Save

id	Username	Name	Password	Edit	Delete
4	fchajud	Andres	12345	Edit	Delete
5	Takookie	Naty	compu	Edit	Delete

2. This happens when you try to insert a username-less new user

Python-PostgreSQL

Name is required. x

Username

Name

Password

Save

id	Username	Name	Password	Edit	Delete
4	fchajud	Andres	12345	Edit	Delete
5	Takookie	Naty	compu	Edit	Delete

3. This happens when you try to insert a name-less new user

Python-PostgreSQL

Password is required. x

Username

Name

Password

Save

id	Username	Name	Password	Edit	Delete
4	fchajud	Andres	12345	Edit	Delete
5	Takookie	Naty	compu	Edit	Delete

4. This happens when you try to insert a password-less new user

Python-PostgreSQL

User successfully deleted! x

Username

Name

Password

Save

id	Username	Name	Password	Edit	Delete
5	Takookie	Naty	compu	Edit	Delete

5. This happens when you press the 'Delete' button

Python-PostgreSQL

Username
fchajud

Name
Andres

Password
12345

Update

6. This is the edit page

Python-PostgreSQL

All fields must be filled! x

Username
Takookie

Name
Naty

Password
compu

Update

7. This message pops up when any of the fields in the edit page is blank when trying to update the user

Python-PostgreSQL

User successfully updated! x

Username

Name

Password

Save

id	Username	Name	Password	Edit	Delete
5	Takookie	Natalia	compu	Edit	Delete

8. This happens when you try to edit a user and there is not any blank fields or repeated username