ReplOAuth – A self-replicating app

Installation Document

This document explains the steps that are needed to take to create a working copy of this app on your heroku account.

Step 1: Initial preparation of the development environment

You will need to have a git installed on your local computer, a heroku account as the working server for your own version of the app, also a working environment in python with the required packages. (Having a copy of this app means that you already have a working github account). You can skip each section of this part if you have the required systems already in place and working.

- Install local git and connecting with your github account: this link explains the steps you will need to install git and authenticate it with github, therefore you can directly connect your local and remote repositories.
- Sign up at Heroku and install Heroku CLI : Heroku is a platform as a service (PaaS) that enables developers to build, run, and operate applications entirely in the cloud. You can sign up here and start using it free.
- Install Heroku CLI: The Heroku Command Line Interface (CLI) makes it easy to create and manage your Heroku apps directly from the terminal. It's an essential part of using Heroku. You can follow these instructions to install it on your system.

Step 2: Make your app to work

In this step you will follow the instruction to how to create a local copy of the app, creating a space for the app on heroku, defining the required keys and pushing the code into heroku.

2.a. Clone from github to local repository:

Use the following code in your desired place to get a copy off the app on your computer.

```
$ git clone https://github.com/YOUR-USERNAME/YOUR-REPOSITORY
```

Or you can follow the instructions here.

2.b. Deploying the app on Heroku

This link provides a comprehensive guide about how to deploy your app on heroku using git and Heroku CLI. But for the simplicity the steps are provided here. Before starting, make sure to be in the root directory of your application in the command line, therefore the remote heroku repository will be automatically set as the repository for your app.

```
$ heroku create app_name
$ git remote -v
$ git push heroku master
```

First line above creates the remote empty repository on your heroku. The second line checks if the remote repository is created. the last line deploys the app on heroku.

2.b. Register your OAuth app in your Github

An OAuth App uses GitHub as an identity provider to authenticate as the user who grants access to the app. This means when a user grants an OAuth App access, they grant permissions to *all* repositories they have access to in their account, and also to any organizations they belong to that haven't blocked third-party access. Note that OAuth Apps are applications that need to be hosted somewhere (you are hosting it on heroku). With this introduction you follow the instructions in this link to create an OAuth app on your github that is hosted on your heroku repository which you created in the previous step.
When registering your app put the URL to your heroku repository in **Homepage URL** and remember for **Authorization callback URL** add `/login/authorized` at the end of url for homepage and put it there.

2.c. Set the Config Vars in heroku

Github creates a *Client_Id* and a *Client_Secret* for your app, that you can find them in your app's page at Github. The *client_id* is a public identifier for apps. Even though it's public, it's best that it isn't guessable by third parties, so many implementations use something like a 32-character hex string. It must also be unique across all clients that the authorization server handles. If the client ID is guessable, it makes it slightly easier to craft phishing attacks against arbitrary applications. the *client_secret* is a mechanism of authorizing a client, the software requesting an access token. You might think of it as a secret passphrase that proves to the authentication server that the client app is authorized to make a request on behalf of the user.
Then you open your heroku, open your app, click the *settings* tab on far right top, and then push the *Reveal Config Vars* button. Then set the variables and the values for your app as in the following figure.

Use the same name for the variables as in the figure. The values for GITHUB_CLIENT_ID and GITHUB_CLIENT_SECRET are what you get from your git hub account. For creating the APP_SECRET_KEY you can run the short code random_string.py provided in the root directory of your app to create a random string of the size you want, then copy and paste it as the value for this variable.

All done! Now you can trigger your app by typing *app_name*.herokuapp.com at your browser.