

Introduction

This document represents a step-by-step guide to publish our code in GitHub and create our first PIP package on testpypi and PyPi.

Github Icon

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1. Create a github account on [github.com](https://github.com/) Icon

   Description automatically generated clicking on sign up button.
2. Create a new repository

A screenshot of a computer

Description automatically generated with low confidence

1. Github requests to name new repository and select some options.

A screenshot of a computer

Description automatically generated with medium confidence

1. After creating our first repository, Github shows us relevant information about it. From here we will extract the steps to upload our project.

Git-SCMLogo, icon

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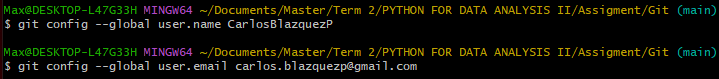
1. **To upload our project, we need to install git bash tool. It named** [**git-scm**](https://git-scm.com/downloads) **Logo, icon

   Description automatically generated**
2. **You must select the version according to your computer.**
3. **After installed, run the program git-BASH Git for Windows (git-bash is a CLI)**
4. **You must locate the folder where your project/s is/are. To navigate across your files and folders, you must use the following commands:**
   1. ls (list): used to list files and folders.
   2. cd (change directory).
   3. pwd (print working directory): where I’m located
   4. TAB key: to automatically fill the path or show possibilities

A screenshot of a computer

Description automatically generated with medium confidence

1. **Here we have two possibilities: upload new content to repositories or clone an existing project (from github) to work on.**
   1. Work on repositories
      1. First step is initializing the local directory as a Git repository. Command: git init
      2. Insert info about ourselves (username and e-mail)
         1. git config --global user.name XXX
         2. git config --global user.email XXX@YYY.ZZ



* + 1. select all the files want to upload. (to select all, use . )
       1. git add .



* + 1. to view a report about git-bash, see in our environment use:
       1. git status

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* + 1. To commit the files:
       1. git commit -m “Comments”

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* + 1. To define where we want to upload our work. (git hub works with branches. Like independent versions of our code. The scope of this document covers main branch only)
       1. git branch -M main



* + 1. Defining our project location (github)
       1. git remote set-url origin GitHub-URL



* + 1. Uploading our project
       1. git push -u origin main
       2. System shows us a pop up to log in and the results

Graphical user interface, application

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* + 1. All the data has been uploaded to github by gitbash

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* 1. Clone a repository from github to Local. Elements necessary:
     1. Command git clone
     2. URL from the project we want to clone
     3. Complete command: git clone <git hub project URL>

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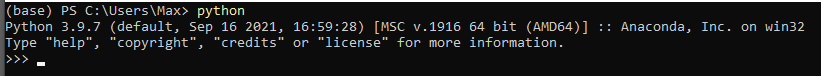
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1. **Troubleshooting**
   1. fatal: bad object refs/desktop.ini
      1. desktop.ini is a file created by windows to improve SO operations. For github, it is an incompatible object. To remove this file, use this command:
         1. rm (remove): rm desktop.ini



Pypi (&testPypi) 

1. **Create account in Pypi** PyPI - CI/CD Tools Universe
   1. Click on Register or use this link [Register on Pypi](https://pypi.org/account/register/)
2. **Create account in TestPypi** PyPI - CI/CD Tools Universe
   1. Click on Register or use this link [Register on Test.Pypi](https://test.pypi.org/account/register/)
3. **After creating an account on pypi and testpypi, it is recommended to create an API token (key) in order to upload our packages in the next steps. You can create an API Key on your account settings.**
   1. [pypi.org - token](https://pypi.org/manage/account/token/)
   2. [test.pypi.org - token](https://test.pypi.org/manage/account/token/)
4. **Open a console where python has been already installed. Confirm everything is OK by typing python, then a python kernel should open.**

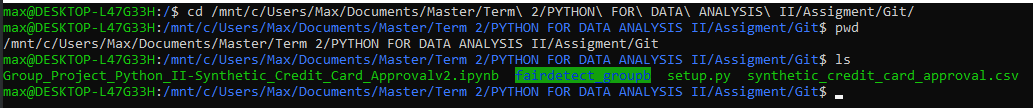


1. **To create a package to upload to pypi, test pypi or both, you must use wheel.**
   1. Already installed as part of python environment.
      1. If you need to install or reinstall: pip install wheel
2. **To publish our package, you must install twine** 
   1. Twine: tool to publish packages on pypi and test pypi.
      1. pip install twine
3. **To check if these tools are already installed you can call pip list in command prompt**

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1. **You must locate the folder where your project/s is/are. To navigate across your files and folders you must use the following commands:**
   1. ls (list): used to list files and folders
   2. cd (change directory)
   3. pwd (print working directory): where I’m located
   4. TAB key: to automatically fill the path or show possibilities



1. **Create a setup.py file. This script file is used to describe our package. This script must contain these fields.** 
   1. **name**=name of the package
   2. **version**= version of the package
   3. **description**=a short description about the package
   4. **url**=URL where the project is located.
   5. **author**=Who is the author or who are the authors
   6. **author\_email**
   7. l**icense**= you must fill this field with the correct license you want. Here is an easy way to select a license type: [choosealicense](https://choosealicense.com/) (external resource)
   8. **packages**=where it is located

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1. **Create a source distribution**
   1. Python.exe .\setup.py sdist this command creates our source distribution (format tar.gz) on dist folder and create another folder called like our package .egg-info. This folder contains all relevant information about our package.

Text, letter

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Graphical user interface, text, application

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Text

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1. **Generate a python wheel file**
   1. Python.exe ./setup.py bdist\_wheel sdist this command creates a new folder called build, in this folder, command creates two more folders called lib (where our package is) and other bdist.win-amd64 (system folder). Another phase of this command is adding a whl (wheel file) file to our dist folder.

Graphical user interface, text, application, email

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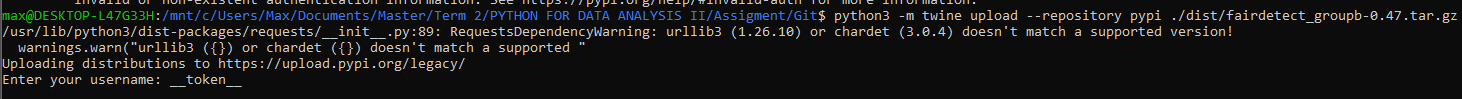
Graphical user interface, text, application

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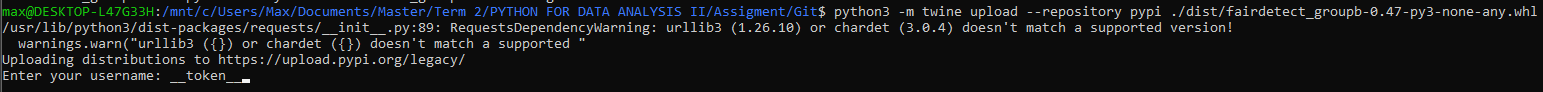
Text

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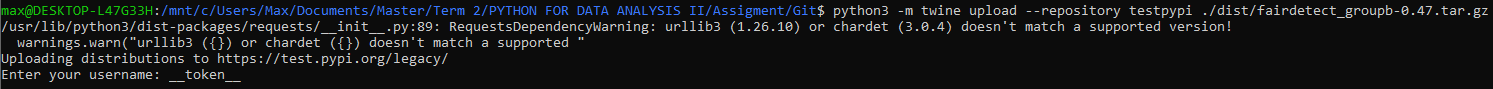
1. **Upload our package**
   1. To upload our package, call the python and twine commands. When we call the command to upload our package, the system asks for credentials. We’re going to use our API token. For this, we must use \_\_token\_\_ as username and the API token created on step 3 as password.
      1. Pypi version: python3 -m twine upload --repository pypi ./dist/filename we want to upload. It is important to upload tar.gz and whl file.
         1. Tar.gz file



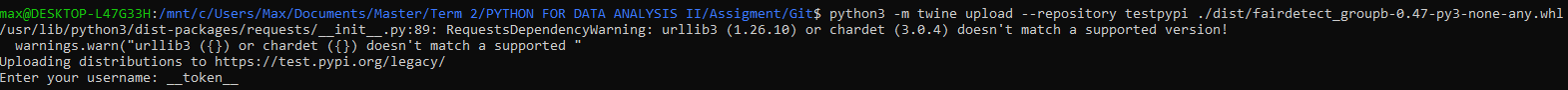
* + - 1. Whl file



1. TestPypi version: python3 -m twine upload --repository testpypi ./dist/filename we want to upload. It is important to upload the tar.gz and whl file.
   * + 1. Tar.gz file



* + - 1. Whl file



1. **Install our package.** 
   1. Install using the following commands:
      1. From **test.pypi.org** use: pip install -i https://test.pypi.org/simple/ package\_name (latest version available)
      2. If you want to install a selected version of our package from **test.pypi.org:** pip install -i https://test.pypi.org/simple/ package\_name==number\_version 
      3. From **pypi.org** use pip install package\_name (latest version available) 
      4. If you want to install a selected version of our package from **pypi.org:** pip install -i https://test.pypi.org/simple/ package\_name==number\_version 