Packaging and Docker Report

Here I describe what I do for python packaging. All steps are followed in
https://packaging.python.org/en/latest/tutorials/packaging-projects/#installing-your-newly-uploaded-package
Also the final website for packaging is
https://test.pypi.org/project/EC530-project2-new/0.1.0/

1. Create **Readme** which can be found in this folder

2. Create **pyproject.toml** which can be found in this folder

3. Create **Liscance** whcih can be found in this folder

4. Change code the input location like this
Docker_and_Packaging/
├── LICENSE
├── pyproject.toml
├── README.md
├── src/
│   └── my_package/
│   ├── _app.py
│   └── auth.py
│   └── upload.py
│   └── textanalyzer.py
│   └── nowclient.py
│   └── example.pdf
│   └── grade.pdf
│   └── resume.pdf
│   └── test.txt
└── tests/

Which means currently we put all codes and input example documents into src folder, and currently I leave test as empty file , but I will build test files later.

5. Generating distribution archives (generate dist folder)
First print [**pip3 install build**] on terminal, then print [**python3 -m build**] on terminal.

```
ERROR Backend subprocess exited when trying to invoke build_wheel
zhangjingyi@crc-dot1x-nat-10-239-106-66 JYZec530_packaging % python3 -m build
* Creating isolated environment: venv+pip...
* Installing packages in isolated environment:
    - hatchling
* Getting build dependencies for sdist...
* Building sdist...
* Building wheel from sdist
* Creating isolated environment: venv+pip...
* Installing packages in isolated environment:
    - hatchling
* Getting build dependencies for wheel...
* Building wheel...
Successfully built ec530_project2_new-0.1.0.tar.gz and ec530_project2_new-0.1.0-py3-none-any.whl
zhangjingyi@crc-dot1x-nat-10-239-106-66 JYZec530_packaging %
```
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6. Create API

Register https://test.pypi.org/account/register/

Generate a API, for convenient I paste my api and name here.

Create API token

Token for "mac"

username:mac

Permissions: Upload packages

Scope: Entire account (all projects)

pypi-AgENdGVzdC5weXBpLm9yZwIkYTUyYTczZjYtZTRjYi00ZjUxLTk3MzItZmI2Y2E0N
zlhOWRiAAIqWzMsIjVmOWQyNjBkLTM4NjktNDAzOS04MGZiLTMyYTBjNDI4NmNhYSJ
dAAAGIDUBuGSN-NNRnZ_ZWNpJogdcQlVF8w82Kz1oQy-Yi4pG

7. Upload packaging

First print [**pip3 install twine**] on terminal, then print [**python3 -m twine upload --repository-url https://test.pypi.org/legacy/ dist/***] on terminal. Then enter API on last step. Then we can see the website formed called

https://test.pypi.org/project/EC530-project2-new/0.1.0/


```
keyring>=15.1->twine) (1.1.1)
Downloading twine-5.0.0-py3-none-any.whl (37 kB)
Downloading pkginfo-1.10.0-py3-none-any.whl (30 kB)
Downloading readme_renderer-43.0-py3-none-any.whl (13 kB)
Downloading requests_toolbelt-1.0.0-py2.py3-none-any.whl (54 kB)
                          54.5/54.5 kB 4.6 MB/s eta 0:00:00
Downloading rfc3986-2.0.0-py2.py3-none-any.whl (31 kB)
Downloading docutils-0.21.2-py3-none-any.whl (587 kB)
                          587.4/587.4 kB 9.5 MB/s eta 0:00:00
Downloading nh3-0.2.17-cp37-abi3-macosx_10_12_x86_64.macosx_11_0_arm64.macosx_10_12_universal2.whl (1.4 MB)
                          1.4/1.4 MB 26.4 MB/s eta 0:00:00
Installing collected packages: nh3, rfc3986, pkginfo, docutils, requests-toolbelt, readme-renderer, twine
Successfully installed docutils-0.21.2 nh3-0.2.17 pkginfo-1.10.0 readme-renderer-43.0 requests-toolbelt-1.0.0 rfc3986-2.0.0 twine-5.0.0
zhangjingyi@crc-dot1x-nat-10-239-106-66 JYZec530_packaging % python3 -m twine upload --repository-url https://test.pypi.org/legacy/ dist/*
Uploading distributions to https://test.pypi.org/legacy/
Enter your API token:
Uploading ec530_project2_new-0.1.0-py3-none-any.whl
100%                      270.7/270.7 kB • 00:00 • 3.4 MB/s
Uploading ec530_project2_new-0.1.0.tar.gz
100%                      268.4/268.4 kB • 00:00 • 121.5 MB/s

View at:
https://test.pypi.org/project/EC530-project2-new/0.1.0/
zhangjingyi@crc-dot1x-nat-10-239-106-66 JYZec530_packaging %
```
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8. Installing newly uploaded package

Now we print

[**pip3 install --index-url https://test.pypi.org/simple/ EC530-project2-new**] on terminal to download package.

Also print [**pip3 show EC530-project2-new**] to see more details.


```
TERMINAL

zhangjingyi@zhangs-MacBook-Pro final % pip3 install --index-url https://test.pypi.org/simple/ EC530-project2-new
Defaulting to user installation because normal site-packages is not writeable
Looking in indexes: https://test.pypi.org/simple/
Collecting EC530-project2-new
  Downloading https://test-files.pythonhosted.org/packages/f6/1d/28467ce0fd8f3222b195d672142f05bb53a42534cc468c4272f89e9ec850/ec530_project
2_new-0.1.0-py3-none-any.whl.metadata (4.1 kB)
Requirement already satisfied: flask in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from EC530-project2-new) (3.0.2)
Requirement already satisfied: flask-login in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from EC530-project2-new) (0.
6.3)
Requirement already satisfied: flask-restful in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from EC530-project2-new) (
0.3.10)
Requirement already satisfied: pdfplumber in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from EC530-project2-new) (0.1
1.0)
Requirement already satisfied: requests in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from EC530-project2-new) (2.31.
0)
Requirement already satisfied: spacy in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from EC530-project2-new) (3.7.4)
Requirement already satisfied: textblob in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from EC530-project2-new) (0.18.
0.post0)
Requirement already satisfied: Werkzeug>=3.0.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from flask->EC530-projec
t2-new) (3.0.1)
Requirement already satisfied: Jinja2>=3.1.2 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from flask->EC530-project2
-new) (3.1.3)
Requirement already satisfied: itsdangerous>=2.1.2 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from flask->EC530-pr
oject2-new) (2.1.2)
Requirement already satisfied: click>=8.1.3 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from flask->EC530-project2-
new) (8.1.7)
Requirement already satisfied: blinker>=1.6.2 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from flask->EC530-project
2-new) (1.7.0)
Requirement already satisfied: aniso8601>=0.82 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from flask-restful->EC53
0-project2-new) (9.0.1)
Requirement already satisfied: six>=1.3.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from flask-restful->EC530-pro
ject2-new) (1.16.0)
Requirement already satisfied: pytz in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from flask-restful->EC530-project2-
new) (2024.1)
Requirement already satisfied: pdfminer.six==20231228 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from pdfplumber->
EC530-project2-new) (20231228)
Requirement already satisfied: Pillow>=9.1 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from pdfplumber->EC530-proje
ct2-new) (10.2.0)
Requirement already satisfied: pypdfium2>=4.18.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from pdfplumber->EC530
-project2-new) (4.29.0)
Requirement already satisfied: charset-normalizer>=2.0.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from pdfminer.
six==20231228->pdfplumber->EC530-project2-new) (3.3.0)
Requirement already satisfied: cryptography>=36.0.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from pdfminer.six==
```
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```
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30-project2-new) (6.4.0)
Requirement already satisfied: tqdm<5.0.0,>=4.38.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from spacy->EC530-p
oject2-new) (4.66.2)
Requirement already satisfied: pydantic!=1.8,!=1.8.1,<3.0.0,>=1.7.4 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (fr
m spacy->EC530-project2-new) (2.6.4)
Requirement already satisfied: setuptools in /Library/Frameworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from spacy->
C530-project2-new) (58.1.0)
Requirement already satisfied: packaging>=20.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from spacy->EC530-proje
t2-new) (23.2)
Requirement already satisfied: langcodes<4.0.0,>=3.2.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from spacy->EC5
0-project2-new) (3.3.0)
Requirement already satisfied: numpy>=1.19.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from spacy->EC530-project
-new) (1.26.3)
Requirement already satisfied: nltk>=3.8 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from textblob->EC530-project2
new) (3.8.1)
Requirement already satisfied: MarkupSafe>=2.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from Jinja2>=3.1.2->fla
k->EC530-project2-new) (2.1.4)
Requirement already satisfied: joblib in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from nltk>=3.8->textblob->EC530-
roject2-new) (1.3.2)
Requirement already satisfied: regex>=2021.8.3 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from nltk>=3.8->textblo
->EC530-project2-new) (2023.12.25)
Requirement already satisfied: annotated-types>=0.4.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from pydantic!=1
8,!=1.8.1,<3.0.0,>=1.7.4->spacy->EC530-project2-new) (0.6.0)
Requirement already satisfied: pydantic-core==2.16.3 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from pydantic!=1.
,!=1.8.1,<3.0.0,>=1.7.4->spacy->EC530-project2-new) (2.16.3)
Requirement already satisfied: typing-extensions>=4.6.1 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from pydantic!
1.8,!=1.8.1,<3.0.0,>=1.7.4->spacy->EC530-project2-new) (4.9.0)
Requirement already satisfied: blis<0.8.0,>=0.7.8 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from thinc<8.3.0,>=8
2.2->spacy->EC530-project2-new) (0.7.11)
Requirement already satisfied: confection<1.0.0,>=0.0.1 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from thinc<8.3
0,>=8.2.2->spacy->EC530-project2-new) (0.1.4)
Requirement already satisfied: cloudpathlib<0.17.0,>=0.7.0 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from weasel
0.4.0,>=0.1.0->spacy->EC530-project2-new) (0.16.0)
Requirement already satisfied: cffi>=1.12 in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from cryptography>=36.0.0->p
fminer.six==20231228->pdfplumber->EC530-project2-new) (1.16.0)
Requirement already satisfied: pycparser in /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages (from cffi>=1.12->cryptography
=36.0.0->pdfminer.six==20231228->pdfplumber->EC530-project2-new) (2.21)
Downloading https://test-files.pythonhosted.org/packages/f6/1d/28467ce0fd8f3222b195d672142f05bb53a42534cc468c4272f89e9ec850/ec530_project2
new-0.1.0-py3-none-any.whl (263 kB)
                      263.5/263.5 kB 4.6 MB/s eta 0:00:00
Installing collected packages: EC530-project2-new
Successfully installed EC530-project2-new-0.1.0
zhangjingyi@zhangs-MacBook-Pro final %
```
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```
                                                 263.3/263.3 KB 4.6 MB/s eta 0:00:00
Installing collected packages: EC530-project2-new
Successfully installed EC530-project2-new-0.1.0
zhangjingyi@zhangs-MacBook-Pro final % pip3 show EC530-project2-new
Name: EC530-project2-new
Version: 0.1.0
Summary: EC530-project2-new: document analyzer
Home-page:
Author:
Author-email: JINGYI ZHANG <jyz0328@bu.edu>
License: Copyright (c) 2018 The EC530-project2-new Authority

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        SOFTWARE.
Location: /Users/zhangjingyi/Library/Python/3.10/lib/python/site-packages
Requires: flask, flask-login, flask-restful, pdfplumber, requests, spacy, textblob
Required-by:
zhangjingyi@zhangs-MacBook-Pro final % 
```