Flit Documentation

Release 0.11.3

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Contents

Flit is a simple way to put Python packages and modules on PyPI.

Say you're writing a module `foobar`—either as a single file `foobar.py`, or as a directory—and you want to distribute it.

1. Make sure that foobar's docstring starts with a one-line summary of what the module is, and that it has a `__version__`:

```
"""An amazing sample package!"""

__version__ = '0.1'
```

2. Create a file `flit.ini` next to the module. It should look like this:

```
[metadata]
module=foobar
author=Sir Robin
author-email=robin@camelot.uk
home-page=http://github.com/sirrobin/foobar

# If you want command line scripts, this is how to declare them.
# If not, you can leave this section out completely.
[scripts]
# foobar:main means the script will do: from foobar import main; main()
foobar=foobar:main
```

   You can use `flit init` to easily create a basic `flit.ini` file for your package.

   Besides the details shown above, there are other fields you can add—see the flit.ini page of the docs.

3. Install flit if you don't already have it:

```
pip install flit
```

4. Run this command to upload your code to PyPI:

```
flit publish
```

If your package is not registered on PyPI yet, flit will try to register it for you during the upload step.

To install a package locally for development, run:

```
flit install [--symlink] [--python path/to/python]
```

Flit packages a single importable module or package at a time, using the import name as the name on PyPI. All subpackages and data files within a package are included automatically.

Flit requires Python 3, but you can use it to distribute modules for Python 2, so long as they can be imported on Python 3.

See Flit's documentation for more information.

Contents:

CHAPTER 1

The flit.ini config file

This file lives next to the module or package.

Metadata section

There are four required fields:

module The name of the module/package, as you'd use in an import statement.

author Your name

author-email Your email address

home-page A URL for the project, such as its Github repository.

e.g. for flit itself

```
[metadata]
module=flit
author=Thomas Kluyver
author-email=thomas@kluyver.me.uk
home-page=https://github.com/takluyver/flit
```

The remaining fields are optional:

requires A list of other packages from PyPI that this package needs. Each package should be on its own line, and may be followed by a version specifier in parentheses, like `(>=4.1)`, and/or an environment marker after a semicolon. For example:

```
requires = requests (>=2.6)
      configparser; python_version == '2.7'
```

dev-requires Packages that are required for development. This field is in the same format as `requires`.

These are not (yet) encoded in the wheel, but are used when doing `flit install`.

description-file A path (relative to the .ini file) to a file containing a longer description of your package to show on PyPI. This should be written in reStructuredText, if your long description is not valid reStructuredText, a warning will be printed, and it will be interpreted as plain text on PyPI.

classifiers A list of Trove classifiers, one per line, indented.

requires-python A version specifier for the versions of Python this requires, e.g. `~=3.3` or `>=3.3,<4` which are equivalents.

dist-name If you want your package's name on PyPI to be different from the importable module name, set this to the PyPI name.

keywords Space separated list of words to help with searching for your package.

license The name of a license, if you're using one for which there isn't a Trove classifier. It's recommended to use Trove classifiers instead of this in most cases.

maintainer, maintainer-email Like author, for if you've taken over a project from someone else.

Here's the full example from flit itself:

```
[metadata]
author=Thomas Kluyver
author-email=thomas@kluyver.me.uk
home-page=https://github.com/takluyver/flit
requires=requests
requires-python= >=3
description-file=README.rst
classifiers=Intended Audience :: Developers
    License :: OSI Approved :: BSD License
    Programming Language :: Python :: 3
    Topic :: Software Development :: Libraries :: Python Modules
```

Scripts section

Each key and value in this describes a shell command to be installed along with your package. These work like setuptools 'entry points'. Here's the section for flit:

```
[scripts]
flit = flit:main
```

This will create a `flit` command, which will call the function `main()` imported from `flit`.

CHAPTER 2

Specifying entry points

The most common use of entry points is the `console_scripts` section for installing system commands. You can specify these in the *Scripts section* of `flit.ini`.

If you need other entry points, e.g. to distribute a plugin for an application, you should store these in an `entry_points.txt` file next to `flit.ini`. The format is like this:

```
[group]
name1=package.module:func
name2=package:obj

# e.g.
[calculator.plugins]
romannumerals=romancalc:init
```

In each `package:name` value, the part before the colon should be an importable module name, and the latter part should be the name of an object accessible within that module. The details of what object to expose depend on the application you're extending.

If you need to name the entry points file something else, you can tell flit its name by adding a `entry-points-file` key in the `[metadata]` section of `flit.ini`.

CHAPTER 3

Release history

Version 0.11.3

- Fixed a bug causing failed uploads when the password is entered in the terminal.

Version 0.11.2

- A couple of behaviour changes when uploading to warehouse.

Version 0.11.1

- Fixed a bug when you use flit to build an sdist from a subdirectory inside a VCS checkout. The VCS is now correctly detected.
- Fix the rst checker for newer versions of docutils, by upgrading the bundled copy of readme_renderer.

Version 0.11

- Flit can now build sdists (tarballs) and upload them to PyPI, if your code is in a git or mercurial repository. There are new commands:
  - `flit build` builds both a wheel and an sdist.
  - `flit publish` builds and uploads a wheel and an sdist.
- Smarter ways of getting the information needed for upload:
  - If you have the keyring package installed, flit can use it to store your password, rather than keeping it in plain text in `~/.pypirc`.

  - If `~/.pypirc` does not already exist, and you are prompted for your username, flit will write it into that file.
  - You can provide the information as environment variables: *FLIT_USERNAME*, *FLIT_PASSWORD* and *FLIT_INDEX_URL*. Use this to upload packages from a CI service, for instance.
- Include 'LICENSE' or 'COPYING' files in wheels.
- Fix for `flit install --symlink` inside a virtualenv.

Version 0.10

- Downstream packagers can use the *FLIT_NO_NETWORK* environment variable to stop flit downloading data from the network.

Version 0.9

- `flit install` and `flit installfrom` now take an optional `--python` argument, with the path to the Python executable you want to install it for. Using this, you can install modules to Python 2.
- Installing a module normally (without `--symlink`) builds a wheel and uses pip to install it, which should work better in some corner cases.

Version 0.8

- A new `flit installfrom` subcommand to install a project from a source archive, such as from Github.
- Reproducible builds - you can produce byte-for-byte identical wheels.
- A warning for non-canonical version numbers according to PEP 440.
- Fix for installing projects on Windows.
- Better error message when module docstring is only whitespace.

Version 0.7

- A new `dev-requires` field in the config file for development requirements, used when doing `flit install`.
- Added a `--deps` option for `flit install` to control which dependencies are installed.
- Flit can now be invoked with `python -m flit`.

Version 0.6

- `flit install` now ensures requirements specified in `flit.ini` are installed, using pip.
- If you specify a description file, flit now warns you if it's not valid reStructuredText (since invalid reStructuredText is treated as plain text on PyPI).
- Improved the error message for mis-spelled keys in `flit.ini`.

Version 0.5

- A new `flit init` command to quickly define the essential basic metadata for a package.
- Support for *Specifying entry points*.
- A new `flit register` command to register a package without uploading it, for when you want to claim a name before you're ready to release.
- Added a `--repository` option for specifying an alternative PyPI instance.
- Added a `--debug` flag to show debug-level log messages.
- Better error messages when the module docstring or `__version__` is missing.

Version 0.4

- Users can now specify `dist-name` in the config file if they need to use different names on PyPI and for imports.
- Classifiers are now checked against a locally cached list of valid classifiers.
- Packages can be locally installed into environments for development.
- Local installation now creates a PEP 376 `.dist-info` folder instead of `.egg-info`.

CHAPTER 4

Environment variables

FLIT_USERNAME
FLIT_PASSWORD
FLIT_INDEX_URL
New in version 0.11.

Use these to set the username, password and URL for package uploads, such as when uploading from a CI server. For interactive use, it's normally more convenient to use `.pypirc`.

FLIT_NO_NETWORK
New in version 0.10.

Setting this to any non-empty value will stop flit from making network connections (unless you explicitly ask to upload or register a package). This is intended for downstream packagers, so if you use this, it's up to you to ensure any necessary dependencies are installed.

FLIT_ROOT_INSTALL
By default, `flit install` will fail when run as root on POSIX systems, because installing Python modules systemwide is not recommended. Setting this to any non-empty value allows installation as root. It has no effect on Windows.

SOURCE_DATE_EPOCH
To make reproducible builds, set this to a timestamp as a number of seconds since the start of the year 1970 in UTC. See the specification for more details.

CHAPTER 5

Indices and tables

- genindex
- modindex
- search

Index