# PyClangLite Documentation

*Release 0.1*

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# Contents

This *Python* Interface to **Clang** provides a relatively small API that exposes facilities for parsing source code into an abstract syntax tree (AST):

- loading already-parsed ASTs,

- traversing the AST,

- associating physical source locations with elements within the AST,

- and other facilities that support **Clang**-based development tools.

The intent is to propose an *Python* API highly similar to the *C++* API (contrarily to libclang) for each release of **Clang**, providing only the basic functionality needed to support development tools.

For more information refers to **AutoWIG** documentation.

**Summary**

   **Status**

   **License**  see *License* section

   **Authors**  see *Authors* section

Installation

## Installation from Anaconda Cloud

**PyClangLite** is available on the *StatisKit* channel of Anaconda for Linux. To install the latest version with Anaconda or conda you should use the following command (see conda documentation for more information).

> **Warning:** This installation can fail for compiler compatibility reasons. In such cases refers to :
>
>   • the *Installation from source code* section,
>
>   • the *Using Docker* section.

## Installation from source code

In order to install **PyClangLite** from source code we recommend to use:

   • The source code available on *GitHub* (see Git and GitHub websites for more information).

   • The conda recipes present on *GitHub* repositories (see conda website for more information).

This is done by typing the following commands in shell:

> **Warning:** This installation has only been tested on **Ubuntu**.

**Note:** Following this procedure install *Python* packages in develop mode.

# Using Docker

Docker is an open-source project that automates the deployment of Linux applications inside software containers. We provide **Docker** images to enable to run **PyClangLite** on various platforms (in particular Windows and MacOS). For the installation of **Docker**, please refers to its documentation. Then, you can use the `statiskit/pyclanglite:trusty` **Docker** image to run **PyClangLite**:

```
$ docker run -it statiskit/pyclanglite:trusty
```

Note that, for convenience **IPython** and **Jupyter** packages are installed. You can therefore use:

- The **IPython** console.

```
$ ipython
```

- The **Jupyter** notebook within the **Firefox** web-browser.

```
$ jupyter notebook
```

This requires to able to run Linux GUI Apps:

- On Linux, this is done using the following command in place of the previous command:

```
$ docker run -ti --rm -e DISPLAY=$DISPLAY -v /tmp/.X11-unix:/tmp/.X11-unix
↪statiskit/ubuntu:PyClangLite
```

- On Windows refers to this post.

- On MacOs refers to this post.

# License

**PyClangLite** is distributed under the |LICENSELINK|_.

> **Note:** CeCILL-C license is a LGPL compatible license.

# Authors

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