

# pip (package manager)

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**pip** is a package management system used to install and manage software packages written in Python. Many packages can be found in the Python Package Index (PyPI).<sup>[4]</sup>

Python 2.7.9 and later (on the python2 series), and Python 3.4 and later include pip (pip3 for Python 3) by default.<sup>[5]</sup>

**pip** is a recursive acronym that can stand for either "Pip Installs Packages" or "Pip Installs Python".<sup>[6][7]</sup>

## Contents

- 1 Command-line interface
- 2 Web hosting service use
- 3 See also
- 4 References
- 5 External links

## Command-line interface

Most distributions of Python come with pip preinstalled. If pip is missing, it can be installed through the system package manager or by invoking `cURL`, a client-side data transfer tool:

```
curl https://bootstrap.pypa.io/get-pip.py | python
```

One major advantage of *pip* is the ease of its command-line interface, which makes installing Python software packages as easy as issuing one command:

```
pip install some-package-name
```

Users can also easily remove the package:

```
pip uninstall some-package-name
```

Most importantly **pip** has a feature to manage full lists of packages and corresponding version numbers, possible through a "requirements" file.<sup>[4]</sup> This permits the efficient re-creation of an entire group of packages in a separate environment (e.g. another computer) or virtual environment. This can be achieved with a properly formatted `requirements.txt` file and the following command:

## pip

```
root@localhost:~# pip --help
Usage:
  pip [command] [options]

Commands:
  install      Install packages.
  uninstall    Uninstall packages.
  list         Output installed packages in requirements format.
  freeze       List installed packages.
  show         Show information about installed packages.
  search       Search PyPI for packages.
  wheel        Build wheels from your requirements.
  help        Show help for commands.

General Options:
  -h, --help            Show help.
  --isolated            Run pip in an isolated mode, ignoring environment variables and user configuration.
  -v, --verbose         Give more output. Option is additive, and can be used up to 3 times.
  -q, --quiet           Show version and exit.
  -s, --silent          Show less output.
  --log [path]         Path to a verbose appending log.
  --no-warn-script-dir  Silence a warning in the form 'UserWarning: /usr/bin/python: No module named ...'
  --retry [count]       Maximum number of retries each connection should attempt (default 5 times).
  --timeout [sec]       Set the socket timeout (default 15 seconds).
  --default-timeout [sec] Default action when a path already exists: (switch, (ignore, (warn, (b)ackup.
  --trusted-host [hostname] Mark this host as trusted, even though it does not have valid or any HTTPS.
  --cert [path]         Path to alternate CA bundle.
  --client-cert [path]  Path to SSL client certificate, a single file containing the private key and the certificate in PEM format.
  --cache-dir [dir]     Store the cache data in [dir].
  --no-cache-dir        Disable the cache.
  --disable-pip-version-check Don't periodically check PyPI to determine whether a new version of pip is available for download.
                           (warning: This option is only present for pip versions 1.4.1 and above.)
```

An output of `pip --help`

<b>Initial release</b>	4 April 2011 <sup>[1]</sup>
<b>Stable release</b>	9.0.1 <sup>[2]</sup> / 6 November 2016
<b>Repository</b>	github.com/pypa/pip (https://github.com/pypa/pip)
<b>Written in</b>	Python
<b>Operating system</b>	OS-independent
<b>Platform</b>	Python
<b>Type</b>	Package management system
<b>License</b>	Free software <sup>[3]</sup>
<b>Website</b>	pip.pypa.io (https://pip.pypa.io)

```
root@localhost:~# pip install virtualenv
Collecting virtualenv
  Downloading virtualenv-1.11.6-py2.py3-none-any.whl (1.7MB)
    100% |#####| 1.7MB 2016/5
Successfully installed virtualenv-1.11.6
root@localhost:~#
```

An output of `pip install virtualenv`

```
pip install -r requirements.txt
```

Install some package for a specific version python, where `{{version}}` is replaced for 2, 3, 3.4, etc.:

```
pip{{version}} install some-package-name
```

## Web hosting service use

Pip is used to support the use of Python in cloud web hosting, such as by Heroku.<sup>[8]</sup>

## See also

- Setuptools
- Software repository

## References

1. 1.0 release commit (<https://github.com/pypa/pip/commit/ac38fb6f2aa6d2710ccb5bf8096dffd5e67ccd7e#diff-a5e5f2a71c0a49ac22e4b2b4963174d6>)
2. "Release Notes" (<https://pip.pypa.io/en/stable/news>).
3. "LICENSE.txt" (<https://github.com/pypa/pip/blob/develop/LICENSE.txt>). *github.com/pypa/pip*. Retrieved 25 July 2015.
4. "pip documentation" (<http://www.pip-installer.org/>). The pip developers. Retrieved 5 January 2012.
5. "pip installation" (<https://pip.pypa.io/en/latest/installing.html>). Retrieved 24 Feb 2015.
6. "pip - ubuntuusers.de" (<http://wiki.ubuntuusers.de/pip>). ubuntuusers.de. Retrieved 17 February 2015.
7. "What Does PIP Stand For?" (<http://unix.stackexchange.com/questions/169709/what-does-pip-stand-for>). Stack Exchange. Retrieved 17 February 2015.
8. "Getting Started with Python on Heroku/Cedar" (<http://devcenter.heroku.com/articles/python>). *Dev Center*. Heroku. Retrieved 5 January 2012.

## External links

- Official website (<https://pip.pypa.io/>)

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