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管理好Python的库: 包管理器

最新版本: v1.0更新时间: 20210425

简介

介绍如何用包管理器尤其是pip去管理好Python的库。先进行基本的概述,包括常见的Python包管理器有easy_install、setuptools、pip;然后详细阐述pip:包括常用的命令,比如pip install、pip uninstall、pip show、pip list、pip search、pip freeze。其中包括pip install的各种语法和各种举例说明;以及如何给pip下载加速,包括更换源和加代理的方法和具体操作步骤;总结了pip常见的一些问题,包括command not found pip、Could not install packages due to an EnvironmentError Errno 13 Permission denied、Retrying after connection broken by NewConnectionError、使用pip时要注意是python2还是python3、以及部分可以情况下不用pip管理python的库;然后整理了pip相关的一些内容,包括虚拟环境工具pipenv、通过pip查看site-packages位置等;最后给出参考资料。

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鸣谢

感谢我的老婆**陈雪**的包容理解和悉心照料,才使得我 crifan 有更多精力去专注技术专研和整理归纳出这些电子书和技术教程,特此鸣谢。

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Python包管理器概述

Python开发期间,经常涉及到需要安装各种Python库,用于实现不同的功能。

Python中用包管理器来管理Python库。

目前现存有很多种Python的包管理器:

- Python包管理器
 - easy_install
 - easy_install 基于旧的包格式: egg
 - 现在很少用了
 - 只有当你只有 egg 的格式时,才需要用 到 easy_install
 - setuptools
 - setuptools 包含了(内部用到了) easy_install
 - 现在用的很少
 - o pip
 - 历史
 - 2008年发布
 - 内部实现
 - 基于新的包的格式: wheel
 - pip 往往是Python自带就有的,无需额外安装。且功能强大,很好用。
 - pip 是目前Python中最常见的包管理器

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pip

pip 是Python中最常用的**包管理器**。

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pip常用命令

pip常用的命令有:

- pip install
- pip uninstall
- pip search
- pip show
- pip list
- pip freeze

后续会详细介绍。

典型的pip使用逻辑

对于使用pip管理Python库的典型逻辑是:

用 virtualevn 或 pipenv 等创建某Python项目的Python虚拟环境后 进入虚拟环境,然后

• 去用 pip install xxx 安装需要用到的库

Python项目开发期间:

- 如果不需要某库, 用 pip uninstall xxx 去删除掉
- 如果不知道某个库的包名是什么,但知道库的名字,可以用 pip search xxx 去找找源中是否有该库,以及具体包名是啥
- 想要知道具体某个已安装的库的详情(比如版本,具体安装位置等),可以用 pip show xxx 去查看
- 查看当前都安装了哪些库, 用 pip list

项目开发完毕后, 冻结 环境,即保存好当前Python环境,用:

```
pip freeze > requirements.txt
```

即生成了 requirements.txt ,记录了当前安装了哪些Python库,及其版本信息。

如果别人(比如你的同事接手你的项目)想要重新恢复你的Python项目的环境,则去:

(用和你一样的 virtualenv 或 pipenv) 创建对应的虚拟环境后,进入虚拟环境,再去:

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

安装全部的库,即恢复出了相同的Python环境。

即可,接着愉快的继续(协作)开发项目了。

pip语法

pip 的语法,可以通过help查看到:

pip --help

贴出来供参考:

```
    limao@xxx □ ~ □ pip --help

Usage:
  pip <command> [options]
Commands:
  install
                              Install packages.
  download
                              Download packages.
  uninstall
                              Uninstall packages.
  freeze
                              Output installed packages in
  list
                              List installed packages.
  show
                              Show information about insta'
  check
                              Verify installed packages have
                              Manage local and global conf:
  config
  search
                              Search PyPI for packages.
  cache
                              Inspect and manage pip's whee
  wheel
                              Build wheels from your requi
  hash
                              Compute hashes of package are
  completion
                              A helper command used for cor
  debua
                              Show information useful for (
  help
                              Show help for commands.
General Options:
  -h, --help
                              Show help.
  --isolated
                              Run pip in an isolated mode,
  -v, --verbose
                              Give more output. Option is a
  -V, --version
                              Show version and exit.
  -q, --quiet
                              Give less output. Option is a
                              ERROR, and CRITICAL logging
  --log <path>
                              Path to a verbose appending
  --no-input
                              Disable prompting for input.
                              Specify a proxy in the form
  --retries <retries>
                              Maximum number of retries each
  --timeout <sec>
                              Set the socket timeout (defau
  --exists-action <action>
                              Default action when a path a
                              Mark this host or host:port |
  --trusted-host <hostname>
                              Path to alternate CA bundle.
  --cert <path>
                              Path to SSL client certificat
  --client-cert <path>
                              PEM format.
  --cache-dir <dir>
                              Store the cache data in <dir:
                              Disable the cache.
  --no-cache-dir
  --disable-pip-version-check
                              Don't periodically check PyPl
                              download. Implied with --no-:
  --no-color
                              Suppress colored output.
  --no-python-version-warning
                              Silence deprecation warnings
  --use-feature <feature>
                              Enable new functionality, that
  --use-deprecated <feature>
                              Enable deprecated functional:
```

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pip install

可以用 pip install 安装Python的库。

语法介绍

可通过

```
pip install --help
```

或:

```
pip help install
```

查看细节。

贴出来供参考:

```
    limao@xxx □ ~ □ pip install --help

Usage:
  pip install [options] <requirement specifier> [package-ir
  pip install [options] -r <requirements file> [package-incl
  pip install [options] [-e] <vcs project url> ...
  pip install [options] [-e] <local project path> ...
  pip install [options] <archive url/path> ...
Description:
  Install packages from:
 - PyPI (and other indexes) using requirement specifiers.
  - VCS project urls.
  - Local project directories.
  - Local or remote source archives.
  pip also supports installing from "requirements files", \
  an easy way to specify a whole environment to be installed
Install Options:
  -r, --requirement <file>
                              Install from the given requir
  -c, --constraint <file>
                              Constrain versions using the
  --no-deps
                              Don't install package depende
  --pre
                              Include pre-release and devei
  -e, --editable <path/url>
                              Install a project in editable
                              or a VCS url.
                              Install packages into <dir>.
  -t, --target <dir>
                              Use --upgrade to replace exis
  --platform <platform>
                              Only use wheels compatible w:
                              this option multiple times to
  --python-version <python_version>
                              The Python interpreter version
                              Defaults to a version derived
                              up to three dot-separated int
                              minor version can also be give
  --implementation <implementation>
                              Only use wheels compatible w:
                              or 'ip'. If not specified, the
                              force implementation-agnostic
  --abi <abi>
                              Only use wheels compatible w:
                              current interpreter abi tag :
                              supported by the target inter
                              --platform, and --python-vers
  --user
                              Install to the Python user in
                              %APPDATA%\Python on Windows.
                              details.)
  --root <dir>
                              Install everything relative t
  --prefix <dir>
                              Installation prefix where lik
  --src <dir>
                              Directory to check out edital
```

	the same format.
Package Index Options: -i,index-url <url></url>	Base URL of the Python Packaq repository compliant with PE
no-clean	Specify type of progress to be Don't clean up build director
progress-bar <progress_ba< th=""><th>r></th></progress_ba<>	r>
require-hashes	Require a hash to check each implied when any package in a
prefer-binary	value. Accepts either ":all:' or more package names with co to install when this option : Prefer older binary packages
only-binary <format_contr< th=""><td>ol> Do not use source packages. (</td></format_contr<>	ol> Do not use source packages. (
	Do not use binary packages. (value. Accepts either ":all:' the colons), or one or more; packages are tricky to compi
no-binary <format_control< th=""><td>></td></format_control<>	>
no-warn-conflicts	Do not warn about broken depe
compileno-compileno-warn-script-location	Do not compile Python source Do not warn when installing
<pre>global-option <options>compile</options></pre>	<pre>install-scripts=/usr/local/b: options to setup.py install. absolute path. Extra global options to be su Compile Python source files to</pre>
<pre>use-pep517install-option <options></options></pre>	PEP 518 must be already instause PEP 517 for building sour Extra arguments to be supplied
<pre>ignore-requires-pythonno-build-isolation</pre>	Ignore the Requires-Python in Disable isolation when build:
force-reinstall -I,ignore-installed	satisfy the requirements of the Reinstall all packages even to the Ignore the installed packages package is of a different verbackage.
upgrade-strategy <upgrade< th=""><td><pre>_strategy> Determines how dependency upg dependencies are upgraded reg requirements of the upgraded</pre></td></upgrade<>	<pre>_strategy> Determines how dependency upg dependencies are upgraded reg requirements of the upgraded</pre>
-U,upgrade	Upgrade all specified package depends on the upgrade-strate
	path>/src". The default for (

```
General Options:
 -h, --help
                             Show help.
 --isolated
                             Run pip in an isolated mode,
 -v, --verbose
                             Give more output. Option is a
 -V, --version
                             Show version and exit.
 -q, --quiet
                             Give less output. Option is a
                             ERROR, and CRITICAL logging
 --log <path>
                             Path to a verbose appending
 --no-input
                             Disable prompting for input.
 --proxy <proxy>
                             Specify a proxy in the form
 --retries <retries>
                            Maximum number of retries each
                             Set the socket timeout (defau
 --timeout <sec>
 --exists-action <action> Default action when a path a
 --trusted-host <hostname> Mark this host or host:port;
 --cert <path>
                             Path to alternate CA bundle.
                             Path to SSL client certificat
 --client-cert <path>
                             PEM format.
 --cache-dir <dir>
                             Store the cache data in <dir:
                             Disable the cache.
  --no-cache-dir
 --disable-pip-version-check
                             Don't periodically check PyPl
                             download. Implied with --no-:
 --no-color
                              Suppress colored output.
 --no-python-version-warning
                             Silence deprecation warnings
 --use-feature <feature>
                             Enable new functionality, that
 --use-deprecated <feature>
                             Enable deprecated functional:
```

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用pip安装库

- 安装
 - 。 普通安装

```
pip install xxx
```

■ 把pip作为python的模块去安装

```
/your/specific/python -m pip install xxx
```

。 安装特定版本

```
pip install 'xxx==version_number'
```

。 安装 A 时,同时安装A所依赖的库: B

```
pip install A[B]
```

- 升级
 - 。 升级已安装的库

```
pip install --upgrade xxx
```

■ 等价于

```
pip install -U xxx
```

安装来源和方式

- 从文件安装
 - o whl文件
 - 在线 文件

```
pip install https://storage.googleapis.com/tens
```

■ 本地 文件

```
pip install /Users/crifan/dev/dev_tool/tensorfl
```

- 从源安装
 - o 源码包
 - 语法

```
pip install PackageName --no-index --find-links
```

■ 举例

```
pip install -U SQLAlchemy --no-index --find-lin
```

pip install 举例

- pipenv
 - 。安装pinenv

```
pip3 install pipenv --user
```

。 用pip升级pipenv

```
pip install --user --upgrade pipenv
```

• 安装Django的sendfile插件

```
pip3 install django-sendfile
```

• 安装Django的CORS插件

```
pip3 install django-cors-headers
```

• 安装查看文件类型的MIME

```
pip install mime
```

• 安装Amazon的boto3

```
pip install boto3
```

• 安装Web自动化工具 selenium

```
pip install -U selenium
```

• 安装虚拟环境工具 virtualenv

```
pip install virtualenv
```

。 升级virtualenv

```
pip install --upgrade virtualenv
```

• 安装MongoDB数据库的Python的driver

```
pip install pymongo
```

。 升级MongoDB

```
pip install --upgrade pymongo
```

• 安装数据库ORM: sqlalchemy

```
pip install -U sqlalchemy
```

。 安装指定版本

```
pip install 'sqlalchemy==1.1.0b3'
```

• 安装爬虫工具scrapy

```
pip install scrapy
```

通过python的模块方式调用pip去安装

• 通过python的模块方式调用pip去安装pylint

```
/usr/local/bin/python3 -m pip install -U pylint --user
```

。 类似的写法

```
python -m pip install -U pylint
```

安装之前加额外参数

• 在重新安装pycurl之前,加上额外的参数

```
pip uninstall pycurl
export PYCURL_SSL_LIBRARY=openssl
export LDFLAGS=-L/usr/local/opt/openssl/lib;export CPPF
```

安装库A同时安装依赖库B

- 安装gunicorn同时安装所依赖的其他库
 - eventlet

```
pip install gunicorn[eventlet]
```

gevent

```
pip install gunicorn[gevent]
```

tornado

```
pip install gunicorn[tornado]
```

gthread

```
pip install gunicorn[gthread]
```

给出部分库的详细安装日志

• 安装Python项目部署工具supervisor

```
pip install supervisor
```

。 如果遇到权限问题,则加上 --user

```
pip install supervisor --user
```

- 详细日志
 - → robotDemo pip install supervisor —user

 Collecting supervisor

 Collecting meld3>=0.6.5 (from supervisor)

 Using cached https://files.pythonhosted.org/papipenv 11.10.0 requires certifi, which is not in pipenv 11.10.0 requires requests[security], which pipenv 11.10.0 requires virtualenv, which is not matplotlib 1.3.1 requires nose, which is not installing collected packages: meld3, supervisor Installing collected packages: meld3, supervisor The scripts echo_supervisord_conf, pidproxy, Consider adding this directory to PATH or, if Successfully installed meld3—1.0.2 supervisor—3
- 安装Excel处理工具 openpyxl

```
pip install openpyxl
```

。 详细日志

```
→ 英语资源 pip install openpyxl
Collecting openpyxl
 Downloading openpyxl-2.5.1.tar.gz (169kB)
                                          174kB 1
Collecting jdcal (from openpyxl)
  Downloading jdcal-1.3.tar.gz
Collecting et_xmlfile (from openpyxl)
  Downloading et_xmlfile-1.0.1.tar.gz
Building wheels for collected packages: openpyxl, j
 Running setup.py bdist_wheel for openpyxl ... done
 Stored in directory: /Users/crifan/Library/Caches
 Running setup.py bdist_wheel for jdcal ... done
 Stored in directory: /Users/crifan/Library/Caches
 Running setup.py bdist_wheel for et-xmlfile ... don
 Stored in directory: /Users/crifan/Library/Caches
Successfully built openpyxl jdcal et-xmlfile
Installing collected packages: jdcal, et-xmlfile, o
Successfully installed et-xmlfile-1.0.1 jdcal-1.3 o
```

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给pip下载加速

用 pip 去安装库时,往往速度很慢,甚至连不上

因为通过pip去安装库,需要先去下载库的安装包,而安装包的来源,默 认的是:

https://pypi.org

其服务器在国外,国内连接的速度往往很慢,导致:

pip安装库的速度很慢

解决办法:

- 方式1: **更换pip的源**
 - 。 为某个国内的pypi.org的镜像服务器
 - 国内用户访问速度更快
- 方式2: 给网络加代理
 - 。 通过代理访问 pypi.org, 实现下载加速的效果

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更换pip的源

思路

- 新建(全局的、系统的) pip 的配置文件
 - o Windows : %HOMEPATH%\pip\pip.ini
 - 举例
 - C:\Users\Administrator\pip\pip.ini
 - o macOS : ~/.pip/pip.conf
 - 举例
 - /Users/crifanli/.pip/pip.conf
- 给配置文件加上国内的某个pip的源

步骤

(如果不存在的话) 新建pip的配置文件

```
mkdir ~/.pip
vim ~/.pip/pip.conf
```

去更新配置内容,格式是:

```
[global]
index-url = pypi_mirror_url

[install]
trusted-host=pypi_mirror_url_host
```

参数解释:

- · pypi_mirror_url
 - 。 常见可选的pip的源
 - 阿里云: http://mirrors.aliyun.com/pypi/simple/
 - 清华大学: https://pypi.tuna.tsinghua.edu.cn/simple
 - 豆瓣: http://pypi.douban.com/simple
- pypi_mirror_url_host
 - 。 对应 host
 - mirrors.aliyun.com
 - pypi.tuna.tsinghua.edu.cn
 - pypi.douban.com

下面给出实例:

推荐:清华大学的pip的源

```
[global]
index-url = https://pypi.tuna.tsinghua.edu.cn/simple
[install]
trusted-host=pypi.tuna.tsinghua.edu.cn
```

实测: 速度暴快, > 1MB/s

推荐:阿里云的pip的源

```
[global]
index-url = http://mirrors.aliyun.com/pypi/simple

[install]
trusted-host=mirrors.aliyun.com
```

速度也不错,也很稳定。

可选:豆瓣的pip的源

```
[global]
index-url = http://pypi.douban.com/simple
[install]
trusted-host=pypi.douban.com
```

待确认:淘宝taobao的源

后来看到淘宝的npm的镜像

taobao Mirrors

其中也能找到python的源:

Python Mirror

抽空试试是否可用

特殊: 现已不推荐: ustc的源

之前推荐的

```
[global]
index-url = http://pypi.mirrors.ustc.edu.cn/simple

[install]
trusted-host=pypi.mirrors.ustc.edu.cn
```

现已不推荐

原因:

• 其内部已跳转到tsinghua的源

202104 后记: 现已跳转到 BFSU(北京外国语大学)的镜像 了: mirrors.bfsu.edu.cn

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给pip加代理

此处也可以通过给pip加代理的方式实现加速pip下载。

实现方式:用 pip 安装时,加上代理:

```
pip --proxy http://127.0.0.1:1087 install pandas
```

其中:

- 代理地址: 127.0.0.1:1087
 - 。 对应着此处本地的 ss 的 http代理:



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pip uninstall

• 卸载已安装的Python库

pip uninstall xxx

• 有时候,pip会提示你,确认是否删除,需要输入 y 才能继续删除

。 如果不希望被提示,直接删除,可以加上 y

pip uninstall -y xxx

• 想要卸载某个特定版本,可以指定版本号

pip uninstall xxx==verion_number

pip uninstall 举例

• 卸载(已安装,但有问题的)pycurl

pip uninstall pycurl

。 不询问(是否删除)而直接删除

pip uninstall -y pycurl

• 卸载uiautomator2

pip uninstall uiautomator2

• 卸载facebook-wda

pip uninstall facebook-wda

• 卸载 1.7.0rc1 版本的 tensorflow

pip uninstall tensorflow==1.7.0rc1

卸载pyinstaller

pip uninstall pyinstaller

• 卸载pipenv

pip3 uninstall pipenv

• 卸载pip自己

python -m pip uninstall pip

• 卸载mime

pip uninstall mime

• 卸载selenium

pip uninstall selenium

给出部分库的详细卸载日志

卸载virtualenv

pip uninstall virtualenv

- 。 完整log举例
 - → virtualenv pip uninstall virtualenv Uninstalling virtualenv-15.1.0: /usr/local/bin/virtualenv

/usr/local/lib/python2.7/site-packages/virtualenv Proceed (y/n)? y Successfully uninstalled virtualenv-15.1.0

- 期间需要输入 y 才可继续卸载
 - 想要实现,不需要输入 y 就可以直接自动卸载,可以加上 -y 参数

pip uninstall -y virtualenv

卸载supervisor

pip2 uninstall supervisor

。 详细日志

```
[root@xxx-general-01 robotDemo]# pip2 uninstall s
Uninstalling supervisor-3.3.4:
Would remove:
    /usr/bin/echo_supervisord_conf
    /usr/bin/pidproxy
    /usr/bin/supervisorctl
    /usr/bin/supervisord
    /usr/lib/python2.7/site-packages/supervisor-3
    /usr/lib/python2.7/site-packages/supervisor-3
    /usr/lib/python2.7/site-packages/supervisor/c
    /usr/lib/python2.7/site-packages/supervisor/c
    /usr/lib/python2.7/site-packages/supervisor/d
    /usr/lib/python2.7/site-packages/supervisor/d
    /usr/lib/python2.7/site-packages/supervisor/e
    /usr/lib/python2.7/site-packages/supervisor/h
    /usr/lib/python2.7/site-packages/supervisor/h
    /usr/lib/python2.7/site-packages/supervisor/l
    /usr/lib/python2.7/site-packages/supervisor/m
    /usr/lib/python2.7/site-packages/supervisor/o
    /usr/lib/python2.7/site-packages/supervisor/p
    /usr/lib/python2.7/site-packages/supervisor/p
    /usr/lib/python2.7/site-packages/supervisor/p
    /usr/lib/python2.7/site-packages/supervisor/r
    /usr/lib/python2.7/site-packages/supervisor/s
    /usr/lib/python2.7/site-packages/supervisor/t
    /usr/lib/python2.7/site-packages/supervisor/u
    /usr/lib/python2.7/site-packages/supervisor/v
    /usr/lib/python2.7/site-packages/supervisor/w
    /usr/lib/python2.7/site-packages/supervisor/x
```

Proceed (y/n)? y
Successfully uninstalled supervisor-3.3.4

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pip show

可以用

```
pip show
```

去查看已安装的库/包的详细信息。

语法:

```
pip show xxx
```

pip show 举例

Django

```
[root@xx-general-01 xxx]# pip3 show Django
Name: Django
Version: 2.0.6
Summary: A high-level Python Web framework that encourages
Home-page: https://www.djangoproject.com/
Author: Django Software Foundation
Author-email: foundation@djangoproject.com
License: BSD
Location: /usr/lib/python3.4/site-packages
Requires: pytz
Required-by: django-redis
```

supervisor

```
[root@xx-general-01 robotDemo]# pip show supervisor
Name: supervisor
Version: 3.3.4
Summary: A system for controlling process state under UNIX
Home-page: http://supervisord.org/
Author: Chris McDonough
Author-email: chrism@plope.com
License: BSD-derived (http://www.repoze.org/LICENSE.txt)
Location: /usr/lib/python2.7/site-packages
Requires: meld3
Required-by:
```

kafka

```
# pip3 show kafka
Name: kafka
Version: 1.3.5
Summary: Pure Python client for Apache Kafka
Home-page: https://github.com/dpkp/kafka-python
Author: Dana Powers
Author-email: dana.powers@gmail.com
License: Apache License 2.0
Location: /usr/local/lib/python3.6/site-packages
Requires:
Required-by:
```

flask

```
(xxx) → xxx pip show flask
Metadata-Version: 2.0
Name: Flask
Version: 0.11.1
Summary: A microframework based on Werkzeug, Jinja2 and god
Home-page: http://github.com/pallets/flask/
Author: Armin Ronacher
Author-email: armin.ronacher@active-4.com
Installer: pip
License: BSD
Location: /root/Envs/xxx/lib/python2.7/site-packages
Requires: itsdangerous, Jinja2, Werkzeug, click
Classifiers:
  Development Status :: 4 - Beta
  Environment :: Web Environment
  Intended Audience :: Developers
  License :: OSI Approved :: BSD License
  Operating System :: OS Independent
  Programming Language :: Python
  Programming Language :: Python :: 2
  Programming Language :: Python :: 2.6
  Programming Language :: Python :: 2.7
  Programming Language :: Python :: 3
  Programming Language :: Python :: 3.3
  Programming Language :: Python :: 3.4
  Programming Language :: Python :: 3.5
  Topic :: Internet :: WWW/HTTP :: Dynamic Content
  Topic :: Software Development :: Libraries :: Python Modu
Entry-points:
  [console_scripts]
  flask=flask.cli:main
```

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pip list

可以用

pip list

来查看当前(Python)环境中的已安装的Python库(及其版本信息)

pip list 举例

Package	Version 	Location
adbutils	0.7.1	
apkutils2	1.0.0	
asn1crypto	1.3.0	
attrdict	2.0.1	
attrs	19.3.0	
Automat	20.2.0	
autopep8	1.4.4	
beautifulsoup4	4.8.2	
blinker	1.4	
Brotli	1.0.7	
bs4	0.0.1	
cached-property	1.5.1	
certifi	2019.11.28	
cffi	1.14.0	
chardet	3.0.4	
cigam	0.0.3	
Click	7.0	
constantly	15.1.0	
cryptography	2.4.2	
cssselect	1.1.0	
decorator	4.4.1	
defusedxml	0.6.0	
Deprecated	1.2.7	
deprecation	2.0.7	
facebook-wda	1.3.4	
Flask	1.1.1	
Flask-Login	0.5.0	
future	0.18.2	
greenlet	1.0.0	
h11	0.9.0	
h2	3.1.1	
hpack	3.0.0	
humanize	0.5.1	
hyperframe	5.2.0	
hyperlink	19.0.0	
idna	2.8	
incremental	17.5.0	
itemadapter	0.1.0	
itsdangerous	1.1.0	
Jinja2	2.11.1	
json5	0.9.5	
kaitaistruct	0.8	
ldap3	2.6.1	
logzero	1.5.0	
lxml	4.5.0	
MarkupSafe	1.1.1	
mitmproxy	5.0.1	

```
numpy
                   1.18.1
                   20.1
packaging
                   0.24.2
pandas
                   1.6.0
parsel
                   1.7.2
passlib
PGet
                   0.5.0
Pillow
                   7.0.0
                   21.0.1
pip
pipenv
                   2018.11.26
                   1.10.0
playwright
progress
                   1.5
Protego
                   0.1.16
protobuf
                   3.10.0
publicsuffix2
                   2.20191221
                   1.8.1
ру
pyasn1
                   0.4.8
pyasn1-modules
                   0.2.8
                   2.5.0
pycodestyle
pycparser
                  2.19
                  7.43.0.5
pycurl
PyDispatcher
                  2.0.5
                  8.1.0
pyee
pyelftools
                   0.26
PyHamcrest
                  2.0.2
                  19.0.0
py0penSSL
                  2.4.6
pyparsing
                  1.7.0
pyperclip
                   1.4.1
pyquery
pyspider
                   0.3.10
python-dateutil
                   2.8.1
                  2019.3
pytz
                  5.3
PyYAML
                  1.5.0
queuelib
requests
                  2.22.0
                   0.9.2
retry
                  0.16.7
ruamel.yaml
                   2.2.1
Scrapy
service-identity 18.1.0
setuptools
                   41.2.0
                   1.14.0
six
sortedcontainers 2.1.0
                   1.9.5
soupsieve
spark-parser
                  1.8.9
tblib
                  1.7.0
tornado
                   4.5.3
                   1.2.48
tushare
                  20.3.0
Twisted
typing-extensions 3.7.4.3
u-msgpack-python 2.6.0
uiautomator2
                  2.5.3
uncompyle6
                  3.6.2
                              /Users/limao/dev/tools/python_
```

```
urllib3
                1.25.8
urwid
                2.0.1
virtualenv
                16.7.9
virtualenv-clone 0.5.3
w3lib
               1.22.0
weditor
                0.4.2
Werkzeug
               1.0.0
wheel
                0.35.1
whichcraft
                0.6.1
wrapt
                1.11.2
WsgiDAV
                3.0.3
wsproto
                0.14.1
xdis
                4.2.2
xmltodict
                0.12.0
zope.interface
                5.1.0
zstandard
                0.12.0
```

另外一个 pipenv 的虚拟环境中的例子:

Package	Version
asn1crypto	0.24.0
astroid	1.5.3
attrs	17.3.0
Automat	0.6.0
backports.functools-lru-cache	1.4
browsermob-proxy	0.8.0
certifi	2017.11.5
cffi	1.11.2
chardet	3.0.4
configparser	3.5.0
constantly	15.1.0
cryptography	2.1.4
cssselect	1.0.1
enum34	1.1.6
hyperlink	17.3.1
idna	2.6
incremental	17.5.0
ipaddress	1.0.19
isort	4.2.15
lazy-object-proxy	1.3.1
lxml	4.1.1
mccabe	0.6.1
parsel	1.2.0
pip	9.0.1
pyasn1	0.4.2
pyasn1-modules	0.2.1
pycparser	2.18
PyDispatcher	2.0.5
pylint	1.7.2
py0penSSL	17.5.0
queuelib	1.4.2
requests	2.18.4
Scrapy	1.4.0
selenium	3.7.0
service-identity	17.0.0
setuptools	38.4.0
singledispatch	3.4.0.3
six	1.10.0
speedtest-cli	1.0.7
Twisted	17.9.0
urllib3	1.22
virtualenv	15.1.0
	1.18.0
w3lib	
w3lib wheel wrapt	0.30.0 1.10.11

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pip search

当想要安装某个库,但却又不知道该库的包名时,可以用:

pip search xxx

去数据源中查询有哪些相关的包。

pip search 举例

kafka

```
[root@xxx-dev-01 exercise]# pip3 search kafka
kafka (1.3.5)
                                                   - Pure Py
  INSTALLED: 1.3.5 (latest)
heroku-kafka (2.1.2)
                                                    Python
pytest-kafka (0.3.1)
                                                   - Zookeer
kafka-utils (2.3.0)
                                                   - Kafka r
chance-kafka (0.0.6)
                                                   - The kat
                                                   - Dask-Ka
dask-kafka (0.1.0.dev0)
kafka-bundle (1.0)
                                                   - Kafka s
kafka-helper (0.2)
                                                   - Makes :
                                                   - Kafka-l
scrapy-kafka (0.1.1)
kafka-connector (0.0.7)
                                                   - A pytho
kafka-logger (0.3.0)
                                                   - A simp
eventcore-kafka (0.3.3)
                                                   - Produce
kafka-shell (0.1.1)
                                                   - A super
kafka-quixey (0.9.0-q3)
                                                   - Pure Pv
confluent-kafka (1.1.0)
                                                   - Conflue
kafka-python (1.4.6)
                                                   - Pure Py
timi-kafka (0.0.2)
                                                   - Pure Py
kafka-scanner (0.3.4)
                                                   - High Le
log-to-kafka (1.1.4)
                                                   - log to
sentry-kafka (1.1)
                                                   - A Senti
kafka-rest (0.0.12)
                                                   - Asvnc o
kafka-tools (0.1.9)
                                                   - A colle
kafka-connect-python (0.0.3)
                                                   - Kafka (
kafka-dev-tools (0.0.1)
                                                   - Tools :
kafka-python-with-confluent-kafka (0.2)
                                                   - This py
aio-kafka-daemon (0.5.1)
                                                   - Asynchi
scrapy-kafka-export (0.1.1)
                                                   - Export
kafka-rest-client (0.8.0)
                                                   - A pytho
chatora.confluent-kafka-ext (0.3)
                                                   - Apache
kafka-utils-netease (1.4.9)
                                                   - Easy wa
stack-kafka-python (1.4.11)
                                                   - Pure P
scrapy-kafka-redis (0.0.7)
                                                   - Kafka a
kafka-splunk-connector (1.0.6)
                                                   - Library
confluent-kafka-helpers (0.7.3)
                                                   - Helpers
netbox-kafka-producer (1.0.10)
                                                   - Easily
gc-kafka-python (0.9.8)
                                                   - Pure Py
robinhood-kafka-python (1.4.3)
                                                   - Pure P
kafka-connect-healthcheck (0.1.0)
                                                   - A simp
kafka-logging-handler (0.2.2)
                                                   - A Pytho
netbox-kafka-consumer (1.0.6)
                                                   - Easily
heroku-kafka-eze (0.0.2)
                                                   - Python
logwatcher-kafka-plugin (1.0)
                                                   - LogWate
python-elk-kafka (0.0.1)
                                                   - A pytho
confluent-kafka-smyte (0.9.3)
                                                   - Smyte 1
swissbib-kafka-event-hub (2.2.0)
                                                   - Swissb:
                                                   - Simple
kafka-log-handler (1.2)
                                                   - Simple
python-kafka-logger (0.5)
batching-kafka-consumer (0.0.4)
                                                   - Kafka (
```

```
python-kafka-logging (0.6)
                                                    - Simple
reverse-kafka-logger (0.1.2)
                                                    - grep ka
pipelinewise-tap-kafka (1.0.0)
                                                    - Singer
ctodd-python-lib-kafka (1.0.2)
                                                    - Python
kafka-avro-binary-consumer (0.0.0.2)
                                                    - Kafka a
kafka-avro-producer-topkrabbensteam (1.3.1)
                                                    - Kafka
prometheus-kafka-consumer-group-exporter (0.5.1)
                                                   - Kafka (
kafka-python-log-handler (0.0.1.dev12)
                                                    - A log h
kafka-metrics-producer-topkrabbensteam (1.0)
                                                    - Library
gevent-kafka (0.2)
                                                    - Apachel
kafka-cffi (0.11.4a5)
                                                    - A CFFI
kafka-tfrx (0.14.0)
                                                    - Add a s
dox-kafka (0.0.1)
kafka-transport (0.6.7)
ansible-runner-kafka (0.1)
kser-transport-kafka (0.1.0)
                                                    - Kser l:
                                                    - Kafka (
samsa (0.3.11)
azure-functions-kafka-binding (1.0.1)
ickafka (0.1.4)
                                                    - improve
                                                    - A usabi
esque (0.1.4a0)
                                                    - kafka s
pysubman (1.20.1.4)
zpython-tools (0.1.1)
                                                    - kafka 1
                                                    - Kafka l
kafkaloghandler (0.9.0)
kafka influxdb (0.9.3)
                                                    - A Kafka
dhcpkit_kafka (1.0.0)
                                                    - Kafka (
                                                    - Kafka :
robinhood-aiokafka (1.0.3)
aiokafka (0.5.2)
                                                    - Kafka '
kafkaBridgeClient (0.1.5)
                                                    - A packa
kafka_store (0.1.4)
                                                    - Kafka S
                                                    - IBM Sti
streamsx.kafka (1.2.4)
kg (2.0.0)
                                                    - Kafka I
                                                    - fjord l
fjord_kafka_migration (0.2.5)
kafkatos3 (0.2.0)
                                                    - Archive
bubuku (0.10.47)
                                                    - AWS sur
xoskafka (3.3.1)
                                                    - Wrappei
robotframework-kafkalibrary (0.0.2)
                                                    - Kafka
kser (0.8.19)
                                                    - Kafka s
nico (0.1)
                                                    - job sch
kafkaesque (1.0)
                                                    - an easy
kiel (0.9.3)
                                                    - Kafka (
                                                    - automai
testing.kafka (0.0.1)
kser-crypto (0.1.4)
                                                    - Crypto
yelp_kafka (5.2.1)
                                                    - A libra
kafkacrypto (0.9.4)
                                                    - Message
asynckafka (0.1.2)
                                                    - Fast py
kafka replayer (1.0.1)
                                                    - Timesta
                                                    - Conflue
robotframework-confluentkafkalibrary (0.3.0)
kafkacli (0.0.7)
                                                    Apache
klag (1.0.2)
                                                    - A Kafka
Kafthon (0.0.1)
                                                    - High le
```

```
afkak (3.0.0) - Twisted flasfka (1.1.6)
```

此处,找到我们希望安装的库是:

```
pip3 install kafka-python
```

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pip freeze

用 pip freeze + pip install 备份和 恢复Python环境

pip的常见用法之一包括:

在别处,用pip给某项目安装了相应的库之后,去 freeze = 冻结:

pip freeze > requirements.txt

即,把当前Python中安装的所有的库的信息,写入到一个文本文件中。

该文件文件常写成 requirements.txt ,表示当前Python环境**所需**的库的信息。

而换到另外一个地方, 想要恢复之前项目的环境, 则可以用:

pip install -r requirements.txt

即可自动安装所依赖的,各种Python的库,恢复了之前的项目的Python环境。

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pip常见问题

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command not found pip

现象: 用pip去安装 virtualenv 期间出错:

```
~ pip zsh: command not found: pip
```

原因: 当前CentOS服务器中没有安装pip

解决办法: 去CentOS中安装pip

操作步骤:

先用 yum 安装 python-pip:

```
yum -y install python-pip
```

再去升级到最新版:

```
pip install --upgrade pip
```

即可

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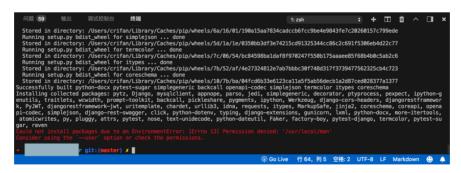
Errno 13 Permission denied

Could not install packages due to an EnvironmentError: [Errno 13] Permission denied: /usr/local/man

现象:

```
pip3 install -r requirements.txt
```

报错:



原因: 没有权限

解决办法:给(当前用户)加上权限,或者(通过 ——user)改用当前用户权限

操作步骤:

• 给(当前用户)加上权限

。 给/usr/local加上权限,或者把拥有者ower换成自己

```
sudo chown -R crifan /usr/local
```

■ 或:

```
sudo chown -R $USER /usr/local
```

• 通过 --user 改用当前用户权限

```
pip3 install --user -r requirements.txt
```

。 其他类似的问题的解决办法,也是加 --user

```
python -m pip install -U pylint --user
```

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Retrying after connection broken by NewConnectionError

现象:

```
pip install boto3
```

报错:

```
(RunningFast) → stable pip install boto3
Collecting boto3
  Retrying (Retry(total=4, connect=None, read=None, redired)
  Retrying (Retry(total=0, connect=None, read=None, redired)
  Could not find a version that satisfies the requirement be
No matching distribution found for boto3

Failed to establish a new connection Errno -2 Name or service.
Retrying (Retry(total=4, connect=None, read=None, redirect=
```

原因:当时网络不稳定,连不上pip的源,导致报网络相关的错误

解决办法:

- 换个时间(网络就正常了)
 - 。 此处当时就是这么做的:换了个时间,第二天早上,网络正常了,再去 pip install boto3 ,就可以了
- 给pip加上代理
 - 。 确保可以正常访问pip的源
 - 如何操作,详见前面章节:给pip加代理

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使用pip时注意是Pyhton2还是Python3

在使用pip时,要注意 pip 的版本,是 Python 2 还是 Python 3 可以通过:

```
pip --version
```

去确认当前pip到底是什么版本。

举例:

• Python 2

```
→ pip --version
pip 10.0.1 from /Users/crifan/Library/Python/2.7/lib/
```

• Python 3

```
→ pip --version
pip 10.0.1 from /usr/local/lib/python3.6/site-package
```

在使用时,不要搞混了。

如果搞混了,容易出现问题:

用pip安装了库(到某个Python环境=python版本)中

但是去代码中(用到了另外一个环境=Python版本)去导入对应的库,却 找不到该库,import会报错。

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不用pip安装python库

有些python的包(第三方库),也可以不用pip,而用系统相关包管理工具去管理:

举例:

- 安装supervisord
 - CentOS
 - 用yum

```
yum install supervisord
```

- Ubuntu
 - 用 apt-get

```
apt-get install supervisord
```

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pip相关

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pipenv

pipenv 是个Python虚拟环境管理工具。
pipenv 中主要是利用 pip 去安装包的。
pipenv 安装库有2种方式:

• 先进入 pipenv 环境, 再用pip去安装库

```
pipenv shell
pip install xxx
```

• 直接用 pipenv 去安装

```
pipenv install xxx
```

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通过pip查看site-packages位置

有时候,希望知道当前Python的 site-packages 的位置。

此时可以借用 pip show xxx 去实现。

举例:

pip3 show Django

Name: Django Version: 2.0.6

Summary: A high-level Python Web framework that encourages

Home-page: https://www.djangoproject.com/

Author: Django Software Foundation

Author-email: foundation@djangoproject.com

License: BSD

Location: /usr/lib/python3.4/site-packages

Requires: pytz

Required-by: django-redis

从其中的:

/usr/lib/python3.4/site-packages

可以得知:

- 当前Python是: /usr/lib/python3.4
- 对应 site-packages 的位置是: /usr/lib/python3.4/site-packages

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附录

下面列出相关参考资料。

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参考资料

- 【已解决】macOS中全局设置pip源是ustc但是当前项目却从 tsinghua的源去安装
- 【已解决】Mac中给pip更换源以加速下载
- 【已解决】macOS中pip安装powerline-status报错: WARNING Retrying Retry total 4 after connection broken by ConnectTimeoutError
- 【已解决】Mac中安装Python的1.7.0rc1的tensorflow
- 【已解决】Mac中启动PySpider
- 【已解决】自动抓包工具库facebook-wda优化:合并之前已优化的wda代码
- 【已解决】Mac中安装guesslang报错: ERROR No matching distribution found for tensorflow 1.7.0rc1 from guesslang
- 【已解决】windows中PyInstaller打包exe运行报错: Failed to execute script pyi_rth_pkgres ModuleNotFoundError pkg_resources.py2_warn
- 【已解决】树莓派中卸载重新安装Python3.7的pipenv
- 【已解决】树莓派升级Python3.7.3后pip出错: ImportError cannot import name main from pip
- 【已解决】PyCharm调试python代码import mime出错:
 UnicodeDecodeError ascii codec can't decode byte 0xc3 in position
 7213 ordinal not in range 128
- 【已解决】CentOS中用pip3查看不到库kafka-python的信息
- 【已解决】CentOS中用python2的pip去安装supervisor后找不到/etc/supervisor中的默认配置文件supervisord.conf
- 【已解决】python解析excel文件并读取其中的sheet和row和column的值
- 【已解决】Mac本地用supervisor去管理gunicorn的Python3的Flask
- 【记录】用Python的Scrapy去爬取cbeebies.com
- [已解决] CentOS中zsh: command not found: pip
- [已解决] 通过pip升级SQLAlchemy为最新的1.1版本
- 【已解决】python中从文件名后缀推断出MIME类型
- 【已解决】VSCode提示安装lint出错: Could not install packages due to an EnvironmentError Errno 13 Permission denied
- 【已解决】pipenv安装后警告: The script virtualenv is installed in which is not on PATH
- 【已解决】mac中卸载virtualenv出错: Not uninstalling virtualenv at outside environment
- 【已解决】Mac中把Python3的pip重新换成Python2的pip
- 【已解决】CentOS中如何查看Python的site-packages位置

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- 【已解决】如何使用pip去本地安装Python的包文件
- 【已解决】pip3 install出错: Could not install packages due to an EnvironmentError Errno 13 Permission denied /usr/local/man
- 【已解决】Mac中给pip3添加代理以提升下载python包的速度 在路 ト
- 【已解决】pipenv虚拟环境中用pip安装pyspider出错:
 main.ConfigurationError: Curl is configured to use SSL, but we have
 not been able to determine which SSL backend it is using
- 【已解决】pipenv install PySpider卡死在: Locking [packages] dependencies
- 【已解决】Mac中升级Python 3的pipenv的版本
- 【已解决】Ant Design的Reactjs页面中点击下载word文件不弹框而 直接下载
- 【已解决】Chrom中js去POST本地Django的API出错: The value of the Access-Control-Allow-Origin header in the response must not be the wildcard * when the request's credentials mode is include
- 【已解决】CentOS中用python2的pip去安装supervisor后找不到/etc/supervisor中的默认配置文件supervisord.conf
- 【已解决】CentOS中用pip或easy install安装supervisor
- 【已解决】Python3中选择合适的虚拟环境工具
- 【记录】用VSCode开发和调试Python
- 【记录】Mac中安装和运行pyspider
- 【记录】Amazon AWS中尝试使用S3
- 【已解决】pip install失败: Failed to establish a new connection Errno -2 Name or service not known – 在路上
- 【已解决】Mac中安装selenium出错: OSError Errno 13 Permission denied /usr/local/selenium
- 【貌似无需解决】Mac中active后virtualenv没有生效
- 【已解决】pyspider运行出错: ImportError pycurl libcurl link-time ssl backend (openssl) is different from compile-time ssl backend (none/other)
- 【已解决】升级CentOS中的supervisor到最新版本
- 【已解决】用Python去连接本地mongoDB去用GridFS保存文件
- 【记录】安装Tensor Flow

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- pip vs easy_install Python Packaging User Guide
- MacOS 下利用 pyenv 管理Python 版本和虚拟环境 掘金
- 关于python Django与Flask学习的一些疑惑? 知乎
- pypi
- · Which Installer is Better? Pip or Easy Install | Liquid Web
- Project Summaries Python Packaging User Guide
- User Guide pip documentation v21.2.dev0
- Settings Gunicorn 19.9.0 documentation

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