python
import turtle
turtle.setup(650,350,200,200)
turtle.penup()
turtle.fd(-250)
turtle.pendown()
turtle.pensize(25)
turtle.pencolor("purple")
turtle.seth(-40)
for 1 in range(4):
turtle.circle(40, 80)
turtle.circle(-40, 80)
turtle.fd(40)
turtle.circle(40, 80/2)
turtle.fd(40)
turtle.circle(16, 180)
turtle.fd(40 * 2/3)

Python语言程序设计

Python第三方库安装

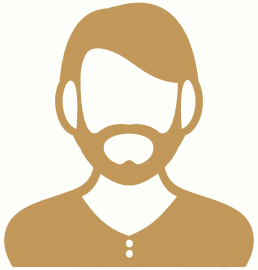
嵩 天
北京理工大学

CC BY-NC-SA 2.0 嵩天

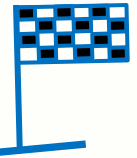
单元开篇

CC BY-NC-SA 4.0 嵩天

Python第三方库安装

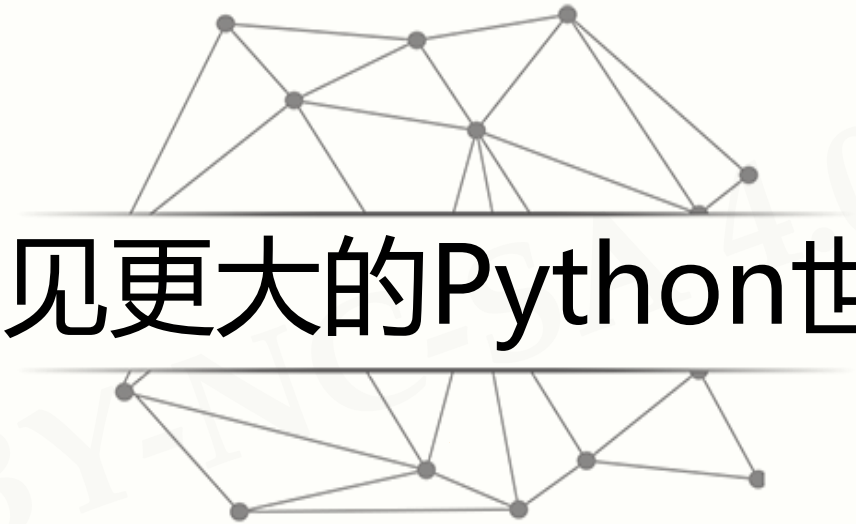


- 看见更大的Python世界
- 第三方库的pip安装方法
- 第三方库的集成安装方法
- 第三方库的文件安装方法



python
语言程序设计

CC BY-NC-SA 4.0 嵩天

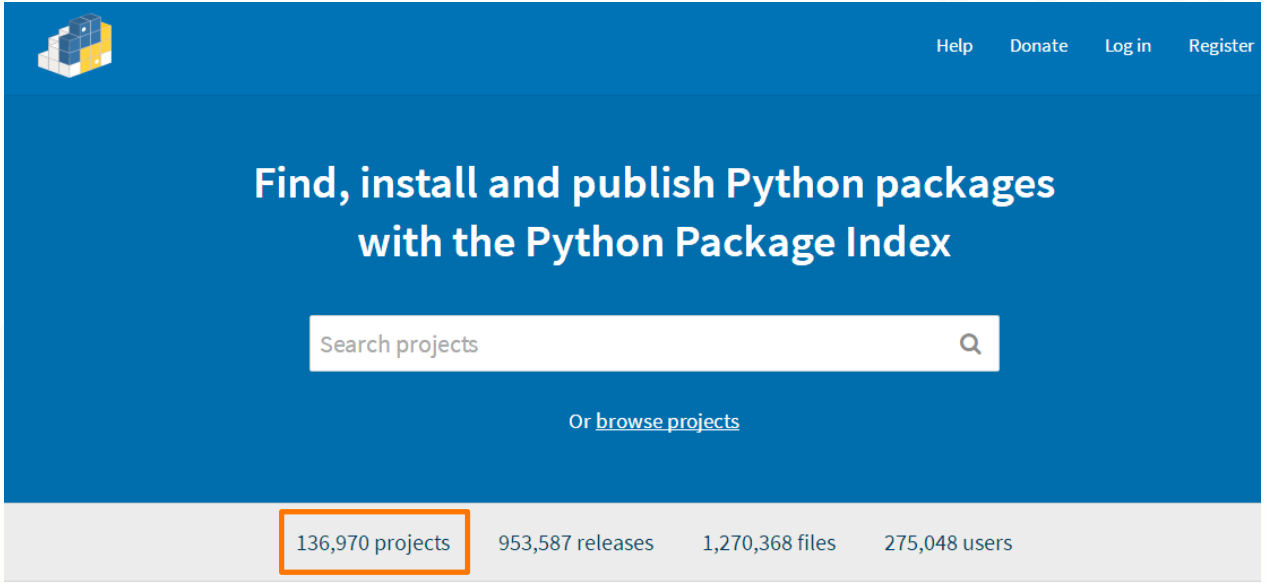


看见更大的Python世界

CC BY-NC-SA 4.0 嵩天

Python社区

>13万个第三方库　https://pypi.org/



Python社区

PyPI

- PyPI: Python Package Index
- PSF维护的展示全球Python计算生态的主站
- 学会检索并利用PyPI，找到合适的第三方库开发程序

CC BY-NC-SA 4.0 嵩天

Python社区

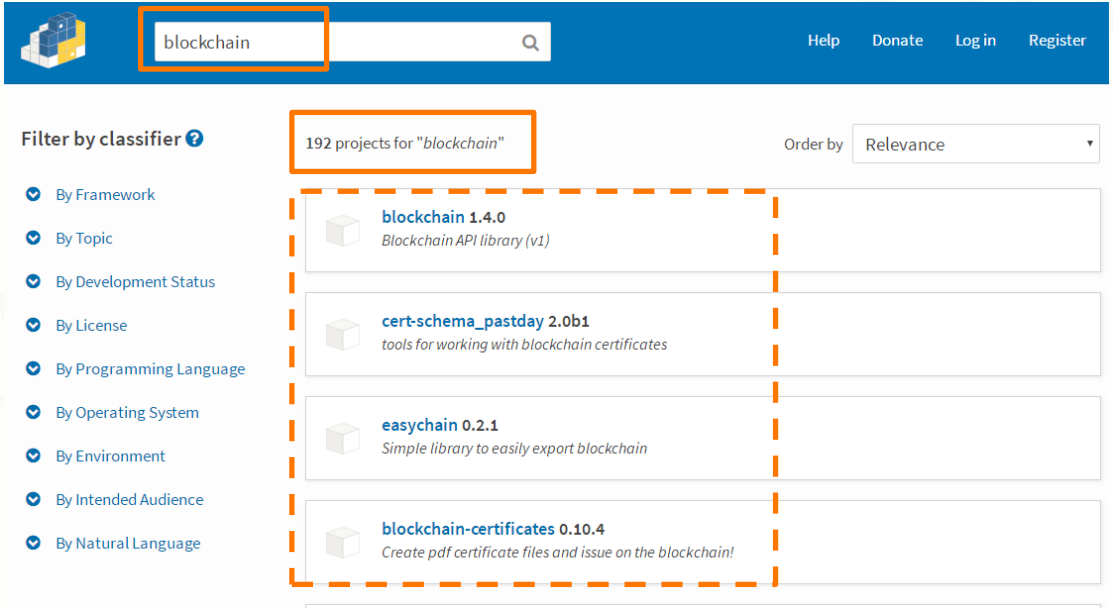
实例：开发与区块链相关的程序

- 第1步：在pypi.org搜索 blockchain
- 第2步：挑选适合开发目标的第三方库作为基础
- 第3步：完成自己需要的功能

CC BY NC SA 4.0 嵩天

Python社区

实例：开发与区块链相关的程序

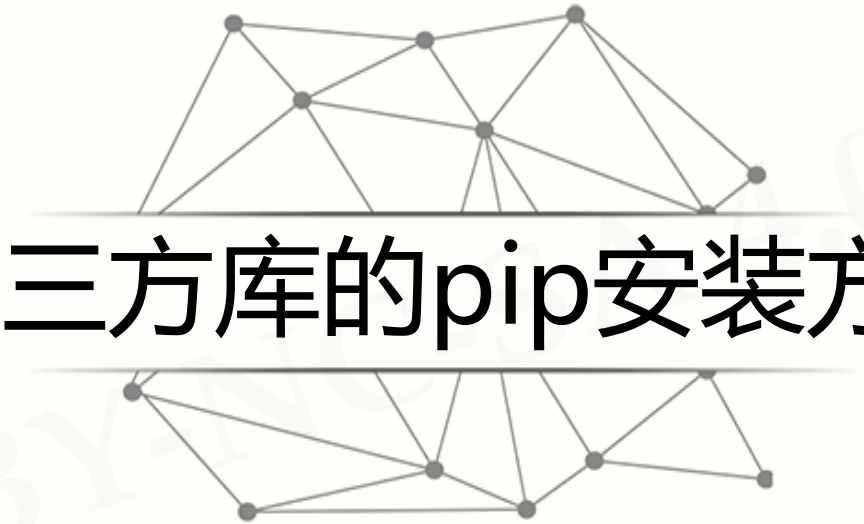


安装Python第三方库

三种方法

- **方法1(主要方法)：使用pip命令**
- **方法2：集成安装方法**
- **方法3：文件安装方法**

CC BY NC SA 4.0 嵩天



第三方库的pip安装方法

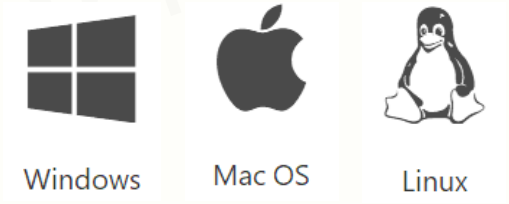
CC BY-NC-SA 4.0 嵩天

pip安装方法

```
D:\>pip -h
```

使用pip安装工具（命令行下执行）

```
Usage:
    pip <command> [options]
Commands:
  install                     Install packages.
  download                    Download packages.
  uninstall                   Uninstall packages.
  freeze                      Output installed packages in requirements format.
  list                        List installed packages.
  show                        Show information about installed packages.
  check                       Verify installed packages have compatible dependencies.
  search                      Search PyPI for packages.
  wheel                       Build wheels from your requirements.
  help                        Show help for commands.
```



CC BY-NC-SA 4.0 署名

pip安装方法

常用的pip命令

```
D:\>pip install <第三方库名>
```

- 安装指定的第三方库

CC BY-NC-SA 4.0 嵩天

pip安装方法

常用的pip命令

```
D:\>pip install -U <第三方库名>
```

- 使用-U标签更新已安装的指定第三方库

CC BY-NC-SA 4.0 嵩天

pip安装方法

常用的pip命令

```
D:\>pip uninstall <第三方库名>
```

- 卸载指定的第三方库

CC BY-NC-SA 4.0 嵩天

pip安装方法

常用的pip命令

```
D:\>pip download <第三方库名>
```

- 下载但不安装指定的第三方库

CC BY-NC-SA 4.0 嵩天

pip安装方法

常用的pip命令

```
D:\>pip show <第三方库名>
```

- 列出某个指定第三方库的详细信息

CC BY-NC-SA 4.0 嵩天

pip安装方法

常用的pip命令

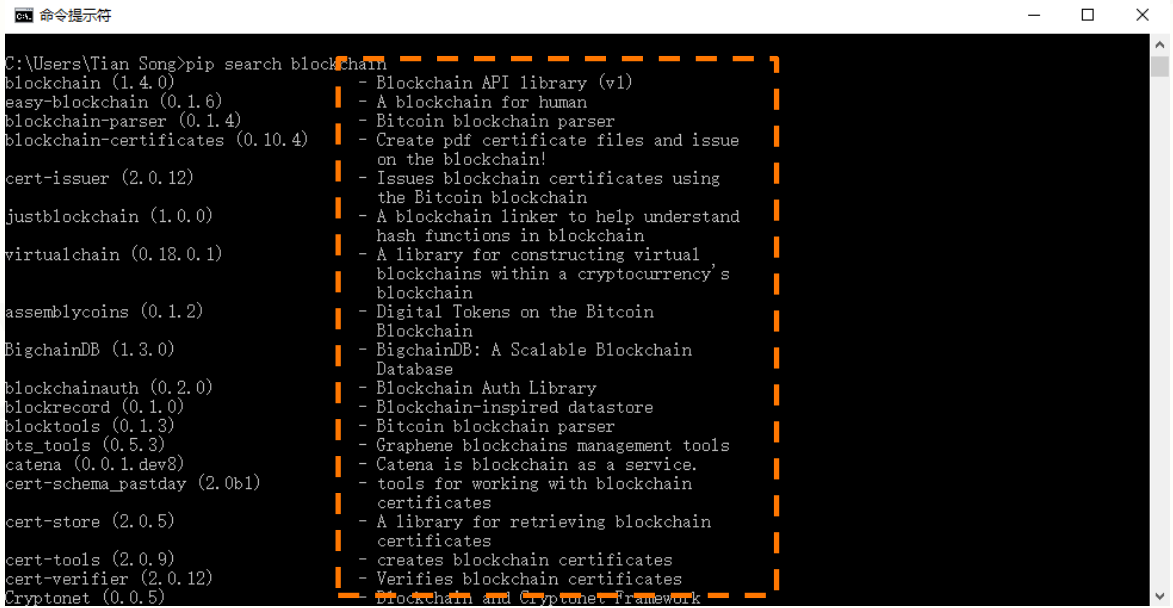
```
D:\>pip search <关键词>
```

- 根据关键词在名称和介绍中搜索第三方库

CC BY-NC-SA 4.0 嵩天

pip安装方法

pip search blockchain



pip安装方法

常用的pip命令

```
D:\>pip list
```

- 列出当前系统已经安装的第三方库

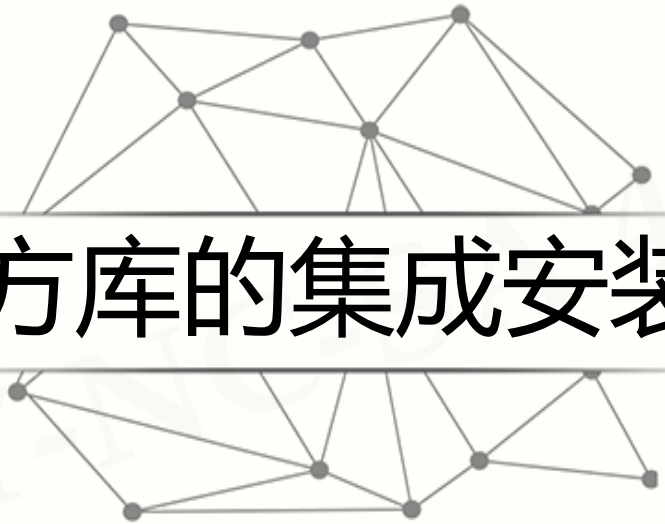
CC BY-NC-SA 4.0 嵩天

pip安装方法

主要方法，适合99%以上情况

- **适合Windows、Mac和Linux等操作系统**
- **未来获取第三方库的方式，目前的主要方式**
- **适合99%以上情况，需要联网安装**

CC BY NC SA 4.0 嵩天



第三方库的集成安装方法

CC BY-NC-SA 4.0 嵩天

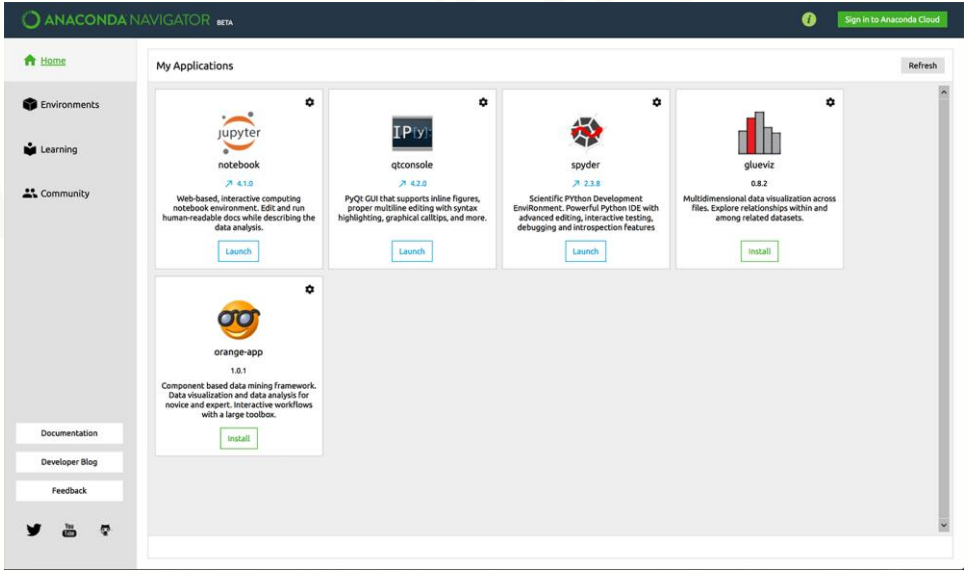
集成安装方法

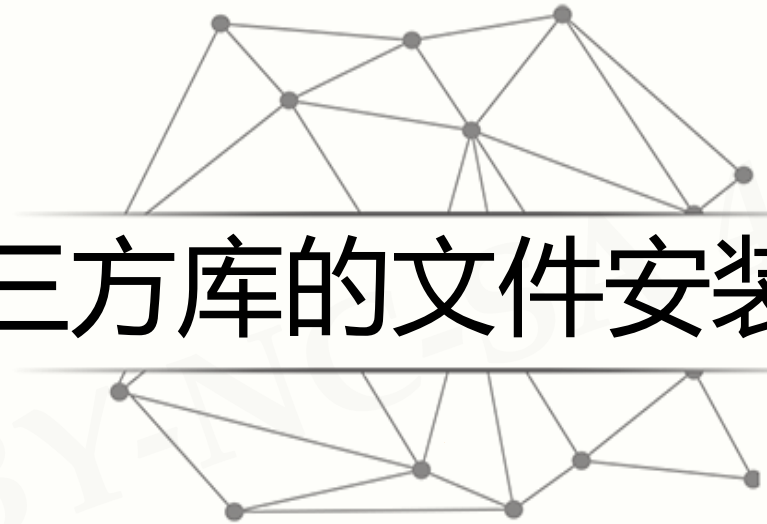
集成安装：结合特定Python开发工具的批量安装

Anaconda

https://www.continuum.io

- 支持近800个第三方库
- 包含多个主流工具
- 适合数据计算领域开发





第三方库的文件安装方法

CC BY-NC-SA 4.0 嵩天

文件安装方法

为什么有些第三方库用pip可以下载，但无法安装?

- 某些第三方库pip下载后，需要编译再安装
- 如果操作系统没有编译环境，则能下载但不能安装
- 可以直接下载编译后的版本用于安装吗?

CC BY-NC-SA 4.0 嵩天

文件安装方法

http://www.lfd.uci.edu/~gohlke/pythonlibs/

Unofficial Windows Binaries for Python Extension Packages

by **Christoph Gohlke, Laboratory for Fluorescence Dynamics, University of California, Irvine.**

This page provides 32- and 64-bit Windows binaries of many scientific open-source extension packages for the official CPython distribution of the Python programming language.

The files are unofficial (meaning: informal, unrecognized, personal, unsupported, no warranty, no liability, provided "as is") and made available for testing and evaluation purposes.

Most binaries are built from source code found on PyPI or in the projects public revision control systems. Source code changes, if any, have been submitted to the project maintainers or are included in the packages.

Refer to the documentation of the individual packages for license restrictions and dependencies.

If downloads fail, reload this page, enable JavaScript, disable download managers, disable proxies, clear cache, use Firefox, reduce number and frequency of downloads. Please only download files manually as needed.

Use pip version 9 or newer to install the downloaded .whl files. This page is not a pip package index.

Many binaries depend on numpy-1.13+mkl and the Microsoft Visual C++ 2008 (x64, x86, and SP1 for CPython 2.7), Visual C++ 2010 (x64, x86, for CPython 3.4), or the Visual C++ 2017 (x64 or x86 for CPython 3.5, 3.6, and 3.7) redistributable packages.

Install numpy+mkl before other packages that depend on it.

The binaries are compatible with the most recent official CPython distributions on Windows >=6.0. Chances are they do not work with custom Python distributions included with Blender, Maya, ArcGIS, OSGeo4W, ABAQUS, Cygwin, Pythonxy, Canopy, EPD, Anaconda, WinPython etc. Many binaries are not compatible with Windows XP or Wine.

The packages are ZIP or 7z files, which allows for manual or scripted installation or repackaging of the content.

The files are provided "as is" without warranty or support of any kind. The entire risk as to the quality and performance is with you.

The opinions or statements expressed on this page should not be taken as a position or endorsement of the Laboratory for Fluorescence Dynamics or the University of California.

UCI页面

文件安装方法

实例：安装wordcloud库

- 步骤1：在UCI页面上搜索wordcloud
- 步骤2：下载对应版本的文件
- 步骤3：使用pip install <文件名>安装

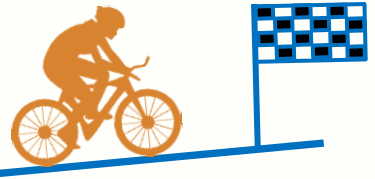
CC BY NC SA 4.0 嵩天

单元小结

CC BY-NC-SA 4.0 嵩天

Python第三方库安装

- **PyPI：Python Package Index**
- **pip命令的各种用法**
- **Anaconda集成开发工具及安装方法**
- **UCI页面的“补丁”安装方法**



python
语言程序设计

CC BY-NC-SA 4.0 嵩天