

1. Introduction



《Python programming》 / Lecturer: Zhiyi Luo (罗志一)

School of Computer Science and Technology
计算机科学与技术学院



Overview

- Development Tools
- Environments Setup
- Let's have a TRY!



Tools(1): IDLE

Download Python

- <https://www.python.org/downloads/>





Active Python Releases

For more information visit the [Python Developer's Guide](#).

Python version	Maintenance status	First released	End of support	Release schedule
3.12	prerelease	2023-10-02 (planned)	2028-10	PEP 693
3.11	bugfix	2022-10-24	2027-10	PEP 664
3.10	security	2021-10-04	2026-10	PEP 619
3.9	security	2020-10-05	2025-10	PEP 596
3.8	security	2019-10-14	2024-10	PEP 569

Looking for a specific release?

Python releases by version number:

Release version	Release date	Click for more	
Python 3.11.5	Aug. 24, 2023	Download	Release Notes
Python 3.10.13	Aug. 24, 2023	Download	Release Notes
Python 3.9.18	Aug. 24, 2023	Download	Release Notes
Python 3.8.18	Aug. 24, 2023	Download	Release Notes
Python 3.10.12	June 6, 2023	Download	Release Notes
Python 3.11.4	June 6, 2023	Download	Release Notes
Python 3.11.3	June 6, 2023	Download	Release Notes

[View older releases](#)



Active Python Releases

For more information visit the [Python Developer's Guide](#).

Python version	Maintenance status	First released	End of support	Release schedule
3.12	prerelease	2023-10-02 (planned)	2028-10	PEP 693
3.11	bugfix	2022-10-24	2027-10	PEP 664
3.10	security	2021-10-04	2026-10	PEP 619
3.9	security	2020-10-05	2025-10	PEP 596
3.8	security	2019-10-14	2024-10	PEP 569

Looking for a specific release?

Python releases by version number:

Release version	Release date		Click for more
Python 3.11.5	Aug. 24, 2023	Download	Release Notes
Python 3.10.13	Aug. 24, 2023	Download	Release Notes
Python 3.9.18	Aug. 24, 2023	Download	Release Notes
Python 3.8.18	Aug. 24, 2023	Download	Release Notes
Python 3.10.12	June 6, 2023	Download	Release Notes
Python 3.11.4	June 6, 2023	Download	Release Notes

[View older releases](#)



Tool(1): IDLE

- Install Python
 - Windows x86 MSI installer (32-bit)
 - Windows x86-64 MSI installer (64-bit)

Files

Version	Operating System	Description	MD5 Sum	File Size	PGP	Sigstore
Gzipped source tarball	Source release		b628f21aae5e2c3006a12380905bb640	26571003	SIG	.sigstore
XZ compressed source tarball	Source release		393856f1b7713aa8bba4b642ab9985d3	20053580	SIG	.sigstore
macOS 64-bit universal2 installer	macOS	for macOS 10.9 and later	7a24f8b4eeca34899b7d75caaec3bc73	44239554	SIG	.sigstore
Windows embeddable package (32-bit)	Windows		add17856887d34c04a9cfd6c051c4bea	10053367	SIG	.sigstore
Windows embeddable package (64-bit)	Windows		c5e83dc45630df2236720a18170bf941	11170359	SIG	.sigstore
Windows embeddable package (ARM64)	Windows		8fc7d74daf27882f2a32a1b10c3a3a2c	10428395	SIG	.sigstore
Windows installer (32-bit)	Windows		ac8e48a759a6222ce9332691568fe67a	24662424	SIG	.sigstore
Windows installer (64-bit)	Windows	Recommended	3afd5b0ba1549f5b9a90c1e3aa8f041e	25932664	SIG	.sigstore
Windows installer (ARM64)	Windows	Experimental	cd2bfd6bb39a6c84dbf9d1615b9f53b5	25197192	SIG	.sigstore



Tools(2): Pycharm

Download & Install 下载并安装Pycharm

- https://www.jetbrains.com/zh-cn/pycharm/download/



版本: 2022.2.1
生成: 222.3739.56
2022年8月17日

系统要求

安装说明

其他版本

第三方软件

下载 PyCharm

Windows macOS Linux

Professional

适用于科学和 Web Python 开发。支持 HTML、JS 和 SQL。

下载

.dmg (Intel) ▼

可免费试用 30 天

Community

适用于纯 Python 开发

下载

.dmg (Intel) ▼

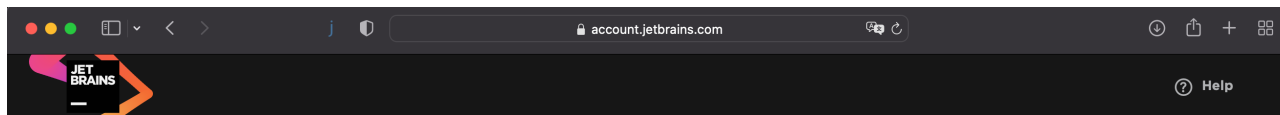
免费, 开源

i 选择适用于 Intel 或 Apple Silicon 的安装程序



Tools(2): Pycharm

用学校邮箱注册JetBrains账户并登录



Welcome to JetBrains Account



Access your purchases

and view your order history



Identify expired and outdated licenses,
order new licenses and upgrades



Manage your company licenses
and distribute them to end users

Sign in with existing account

[Sign In](#)[Forgot password?](#)

Or sign in with:



Google



Not registered yet?

Create JetBrains Account

[Sign Up](#)



Tools(2): Pycharm

● 申请免费的学生或教师license

2. 第二年license到期,
申请新的license。

更早 (4)

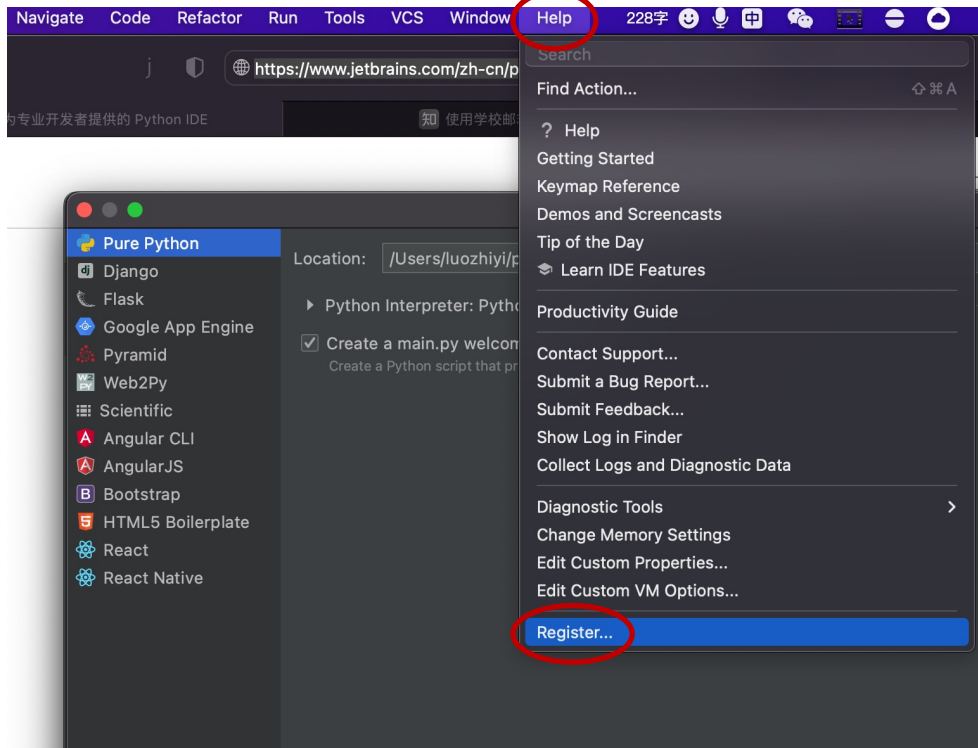
<input type="checkbox"/>	JetBrains Sales		[收件箱] License Certificate for your JetBrains Educational Pack / Order D375986090 ...Please use your JetBrains Account to access JetBrains ...	5月25日
<input type="checkbox"/>	JetBrains Account		[收件箱] JetBrains Educational Pack confirmation ...Kind Regards, The JetBrains team www.jetbrains.com ...	5月25日
<input type="checkbox"/>	JetBrains Sales		[收件箱] License Certificate for your JetBrains Educational Pack / Order D374028785 ...Kind Regards, The JetBrains team www.jetbrains.com ...	2021-05-26
<input type="checkbox"/>	JetBrains Account		[收件箱] JetBrains Educational Pack confirmation ...Kind Regards, The JetBrains team www.jetbrains.com ...	2021-05-26

1. 首次申请license,
有效期一年。



Tools(2): Pycharm

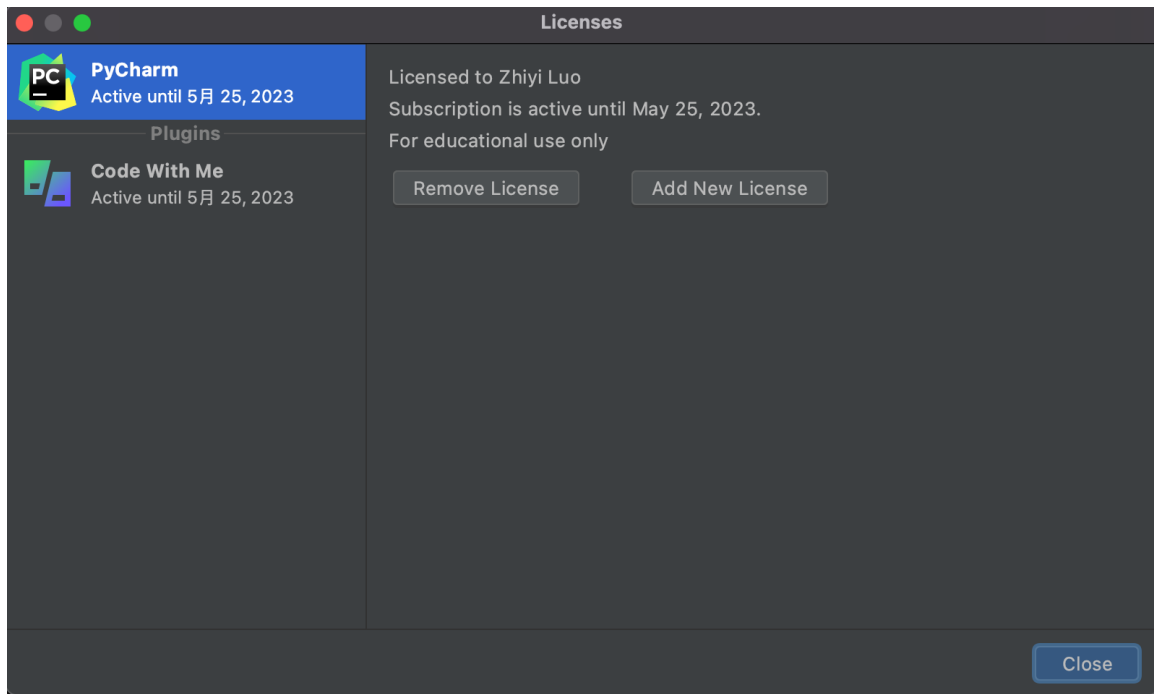
用申请到的license激活Pycharm





Tools(2): Pycharm

用申请到的license激活Pycharm





Environments: Anaconda

- Download Anaconda Installer
 - Download link 官方下载链接:
<https://www.anaconda.com/products/distribution>



Products ▾

Pricing

Solutions ▾

Resources ▾

Partners ▾

Blog

Company ▾

Contact Sales

Individual Edition is now

ANACONDA DISTRIBUTION

The world's most popular open-source Python distribution platform

浏览器会根据当前使用的操作系统为你推荐安装文件，点击“Download”下载即可。





Environments: Anaconda

◎ 从清华大学镜像下载Anaconda

- 如果安装包下载速度过慢，可以使用Anaconda国内源（例如：清华大学镜像）进行下载。
- Anaconda清华源的下载列表链接为：
<https://mirrors.tuna.tsinghua.edu.cn/anaconda/archive/>



Environments: Anaconda

从清华大学镜像下载Anaconda

清华大学开源软件镜像站

HOME EVENTS BLOG RSS PODCAST MIRRORS

Index of /anaconda/archive/ Last Update: 2022-09-01 05:51

File Name ↓	File Size ↓	Date ↓
Parent directory/	-	-
Anaconda3-2022.05-MacOSX-arm64.sh	304.8 MiB	2022-06-08 01:42
Anaconda3-2022.05-MacOSX-arm64.pkg	316.4 MiB	2022-06-08 01:42
Anaconda3-2022.05-Windows-x86.exe	487.8 MiB	2022-05-11 02:36
Anaconda3-2022.05-Windows-x86_64.exe	593.9 MiB	2022-05-11 02:36
Anaconda3-2022.05-MacOSX-x86_64.sh	584.0 MiB	2022-05-11 02:36
Anaconda3-2022.05-MacOSX-x86_64.pkg	591.0 MiB	2022-05-11 02:36
Anaconda3-2022.05-Linux-x86_64.sh	658.8 MiB	2022-05-11 02:35
Anaconda3-2022.05-Linux-s390x.sh	279.8 MiB	2022-05-11 02:35
Anaconda3-2022.05-Linux-ppc64le.sh	367.3 MiB	2022-05-11 02:35
Anaconda3-2022.05-Linux-aarch64.sh	567.6 MiB	2022-05-11 02:35
Anaconda3-2021.11-Windows-x86_64.exe	510.3 MiB	2021-11-18 02:14



Environments: Anaconda

- ◎ 从清华大学镜像下载Anaconda
 - 下载完成之后，双击安装包进行安装。



Environments: Anaconda

◎ 从清华大学镜像下载Anaconda

○ 使用帮助文档在:

<https://mirrors.tuna.tsinghua.edu.cn/help/anaconda/>

- 在用户目录下配置`condarc`文件
- macOS和Linux用户可直接在用户目录`/home/username`下创建`.condarc`文件，并写入配置内容。
- Windows用户无法直接创建名为`.condarc`的文件，可先执行`conda config --set show_channel_urls yes`命令生成该文件，再写入配置内容。



Environments: Anaconda

● 创建Python虚拟环境

- `conda create -n <环境名称>`
- 例如，可以使用如下命令将新建环境命名为pycourse，并指定该环境的Python版本为3.9: `conda create -n pycourse python=3.9`

● 查看Anaconda中的所有虚拟环境

- `conda info --envs`

● 激活指定环境

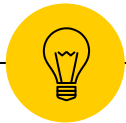
- `conda activate <环境名称>`

● 退出当前激活的环境

- `conda deactivate`

如果.condarc中配置了清华源
此处无需翻墙即可成功。

Let's have a try!





Running Python

Using the Interactive Interpreter

```
06:44:29 with luozhiyi in ~ via ©base  
→ python  
Python 3.8.5 (default, Sep 4 2020, 02:22:02)  
[Clang 10.0.0 ] :: Anaconda, Inc. on darwin  
Type "help", "copyright", "credits" or "license" for more information.  
>>> █
```



Running Python

☉ Use Python Files

make a Python program file and run it:

1. Open your text editor.
2. Type the line `print(61)`.
3. Save this to a file called `61.py`.
4. open a terminal window
5. Run your program by typing the following:

```
$ python 61.py
```

You should see a single line of output:61

Python as a calculator





First Case: Hello World!

```
print('Hello World')
```



First Case: Hello World!

Define a main() function that prints a little greeting.

```
def main():  
    print('Hello World')
```

```
main()
```



First Case: Hello World!

Define a main() function that prints a little greeting.

def main():

 print('Hello World')

main()

Indent: Four spaces



First Case: Hello World!

```
# Define a main() function that prints a little greeting.  
def main():  
    print('Hello World')  
  
# This is the standard boilerplate that calls the main() function.  
if __name__ == '__main__':  
    main()
```



First Case: Hello World!

```
import sys

# Define a main() function that prints a little greeting.
def main():
    # Get the name from the command line, using 'World' as a fallback.
    if len(sys.argv) >= 2:
        name = sys.argv[1]
    else:
        name = 'World'
    print('Hello', name)

# This is the standard boilerplate that calls the main() function.
if __name__ == '__main__':
    main()
```



First Case: Hello World!

```
import sys

# Define a main() function that prints a little greeting.
def main():
    # Get the name from the command line, using 'World' as a fallback.
    if len(sys.argv) >= 2:
        name = sys.argv[1]
    else:
        name = 'World'
    print('Hello', name)

# This is the standard boilerplate that calls the main() function.
if __name__ == '__main__':
    main()
```

How many spaces are there?