

环境配置保姆级教学

关于Anaconda

Anaconda：一个提供了包管理与环境管理的Python发行版。

你可以创建多个环境，互不干扰，并且进行切换。

例如可以给CTF分一个环境装我们需要的Crypto、gmpy2等库，然后给科学计算课程分一个环境装cv、NumPy等库，根据需要切换。

有效减少了不同库直接依赖冲突、打架的可能性。

`conda install.....` 有时可以解决更多依赖之类问题（更强的依赖检查）；也许pip捣鼓半天没法解决的用conda一行就完成了，**个人建议能用conda install就优先试试，不行再pip**

默认是装给所有环境的；如果需要装在指定的某个特定环境里，可以：

```
conda install -n 环境名 包名
```

有兴趣的同学不妨试试。

简单命令：

创建名为yyy的环境，python版本3.10：`conda create -n yyy python=3.10`

激活：`conda activate yyy`

退出：`conda deactivate`

关于pip

你可能会遇到连接问题，请关闭某些代理软件

如果连接不上或者太慢需要换源，参考[pip更换源](#)，换成国内镜像

安装gmpy2

gmpy是一个封装了GMP高精度计算数学模组的python扩展模块。

首先执行 `pip3 install gmpy2`

如果你在使用Anaconda：首先尝试 `conda install gmpy2`

成功了就完事了——可惜一般没那么容易

我们首先需要确定一下python版本：

```
(py310) E:\CTFZone\_workspace\_yyy2015c01>python --version
Python 3.10.4

(py310) E:\CTFZone\_workspace\_yyy2015c01>python -V
Python 3.10.4
```

下载wheel: [gmpy2 · PyPI](#)

Navigation

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Statistics

GitHub statistics:

★ Stars: 371

Forks: 67

📄 Open issues/PRs: 58

View statistics for this project via [Libraries.io](#), or by using [our public dataset on Google BigQuery](#)

Meta

License: GNU Lesser General Public License v3 or later (LGPLv3+) (LGPL-3.0+)

Author: [Case Van Horses](#)

gmp, mpfr, mpc, multiple-precision, arbitrary-precision, precision, bignum

Download files

Download the file for your platform. If you're not sure which to choose, learn more about [installing packages](#).

Source Distribution

[gmpy2-2.1.2.tar.gz](#) (258.4 kB [view hashes](#))
Uploaded Jan 6, 2022 [source](#)

Built Distributions

- CPython3.10**
- [gmpy2-2.1.2-cp310-cp310-win_amd64.whl](#) (1.1 MB [view hashes](#))
Uploaded Jan 6, 2022 [cp310](#)
 - [gmpy2-2.1.2-cp310-cp310-musllinux_1_1_x86_64.whl](#) (3.6 MB [view hashes](#))
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 - [gmpy2-2.1.2-cp310-cp310-musllinux_1_1_i686.whl](#) (3.5 MB [view hashes](#))
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 - [gmpy2-2.1.2-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl](#) (3.6 MB [view hashes](#))
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 - [gmpy2-2.1.2-cp310-cp310-manylinux_2_17_i686.manylinux2014_i686.whl](#) (3.6 MB [view hashes](#))
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 - [gmpy2-2.1.2-cp310-cp310-macosx_11_0_arm64.whl](#) (655.3 kB [view hashes](#))
Uploaded Jan 6, 2022 [cp310](#)
 - [gmpy2-2.1.2-cp310-cp310-macosx_10_9_x86_64.whl](#) (800.7 kB [view hashes](#))
Uploaded Jan 6, 2022 [cp310](#)
 - [gmpy2-2.1.2-cp39-cp39-win_amd64.whl](#) (1.1 MB [view hashes](#))
Uploaded Jan 6, 2022 [cp39](#)
 - [gmpy2-2.1.2-cp39-cp39-musllinux_1_1_x86_64.whl](#) (3.6 MB [view hashes](#))
Uploaded Jan 6, 2022 [cp39](#)
 - [gmpy2-2.1.2-cp39-cp39-musllinux_1_1_i686.whl](#) (3.5 MB [view hashes](#))
- 根据自己架构选择

如何专业造轮子(wheel):

首先 `pip3 install wheel`

```
(py310) E:\CTFZone\_workspace\_yyy2015c01>pip3 install wheel
Collecting wheel
  Downloading wheel-0.37.1-py2.py3-none-any.whl (35 kB)
Installing collected packages: wheel
Successfully installed wheel-0.37.1
```

然后安装刚刚下载好的轮子，注意路径取决于下载的文件放在哪：

```
(py310) E:\CTFZone\_workspace\_yyy2015c01>pip3 install C:\gmpy2-2.1.2-cp310-cp310-win_amd64.whl
Processing c:\gmpy2-2.1.2-cp310-cp310-win_amd64.whl
Installing collected packages: gmpy2
Successfully installed gmpy2-2.1.2
```

```
(py310) E:\CTFZone\_workspace\_yyy2015c01>python
Python 3.10.4 | packaged by conda-forge | (main, Mar 30 2022, 08:38:02) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> from gmpy2 import *
>>>
```


没有报错说明安装成功

如果找不到对应自己版本的或者依然失败 可以尝试pipwin安装(Windows下):

```
pip3 install pipwin
```

```
pipwin install gmpy2
```

```
(py310) E:\CTFZone\_workspace\_yyy2015c01>pipwin install gmpy2
Building cache. Hang on . . .
Done
Package `gmpy2` found in cache
Downloading package . . .
https://download.lfd.uci.edu/pythonlibs/archived/gmpy2-2.1.2-cp310-cp310-win_amd64.whl
gmpy2-2.1.2-cp310-cp310-win_amd64.whl
[*] 636 kB / 636 kB @ 243 kB/s [#####] [100%, 0s left]
Processing c:\temp\_workspace\_yyy2015c01\gmpy2-2.1.2-cp310-cp310-win_amd64.whl
```



如果没成功，至少也知道了去哪里下载轮子.....

具体可以参考：[Python3安装gmpy2报错的解决方法](#)

安装crypto库

剪不断，理还乱：pycrypto，pycryptodome和crypto基本是一个东西。Crypto：一个软件包

PyCrypto：Crypto，但python 2

pycryptodome：pycrypto的延伸版本

pycryptodomex: 老年crypto, 除非有兼容性考虑一般用不上

我们需要执行的是: `pip3 install pycryptodome`

如果你是Anaconda, 不妨试试无敌的 `conda install pycryptodome`

```
(tmp) E:\CTFZone\_workspace\_yyy2015c01>pip3 install pycryptodome
Collecting pycryptodome
  Downloading pycryptodome-3.15.0-cp35-abi3-win_amd64.whl (1.9 MB)
    |████████████████████| 1.9 MB 262 kB/s
Installing collected packages: pycryptodome
Successfully installed pycryptodome-3.15.0
```

我已经迫不及待了, 快端上来罢:

- HE:

```
(tmp) E:\CTFZone\_workspace\_yyy2015c01>python
Python 3.6.13 [Anaconda, Inc.] (default, Mar 16 2021, 11:37:27) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> from Crypto.Util.number import *
>>> import Crypto
>>> |
```

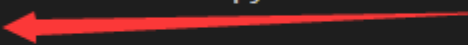
能import, 成功了


- BE:

```
(tmp) E:\CTFZone\_workspace\_yyy2015c01>python
Python 3.6.2 [Continuum Analytics, Inc.] (default, Jul 20 2017, 12:30:02) [MSC v.1900 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> from Crypto.Util.number import *
Traceback (most recent call last):
  File "<stdin>", line 1, in <module>
ModuleNotFoundError: No module named 'Crypto'
```

好吧, 其实有个地方要改: 找到你的python安装位置, 然后进去lib>site-packages

```
(tmp) E:\CTFZone\_workspace\_yyy2015c01>where python
F:\Anaconda\envs\tmp\python.exe
F:\Anaconda\python.exe
C:\Users\yyy\AppData\Local\Microsoft\WindowsApps\python.exe
```





The screenshot shows a Windows File Explorer window. The address bar at the top displays the path: `< > > 此... Anaconda > envs > tmp > Lib > site-packages`. The `Lib > site-packages` portion of the path is enclosed in a green rectangular box. Below the address bar, a table lists the contents of the `site-packages` directory. The table has four columns: `名称` (Name), `修改日期` (Modified Date), `类型` (Type), and `大小` (Size). The listed items are folders: `__pycache__`, `certifi`, `certifi-2016.2.28-py3.6.egg-info`, `crypto`, and `gmpy2`. The `crypto` folder is highlighted with a blue background. A blue circle is drawn around the `crypto` folder name in the `名称` column.

名称	修改日期	类型	大小
__pycache__	2022/7/4 1:35	文件夹	
certifi	2022/7/4 1:35	文件夹	
certifi-2016.2.28-py3.6.egg-info	2022/7/4 1:35	文件夹	
crypto	2022/7/4 3:09	文件夹	
gmpy2	2022/7/4 2:22	文件夹	

把 `crypto` 改成 `Crypto` (是的, 就是首字母改大写)

再一次地：能import就说明成功了，功能琳琅满目供您选用：

```
(tmp) E:\CTFZone\workspace\_yyy2015c01>python
Python 3.6.13 |Anaconda, Inc.| (default, Mar 16 2021, 11:37:27) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import Crypto
>>> help(Crypto)
Help on package Crypto:

NAME
    Crypto

PACKAGE CONTENTS
    Cipher (package)
    Hash (package)
    IO (package)
    Math (package)
    Protocol (package)
    PublicKey (package)
    Random (package)
    SelfTest (package)
    Signature (package)
    Util (package)

DATA
    __all__ = ['Cipher', 'Hash', 'Protocol', 'PublicKey', 'Util', 'Signatu...

VERSION
    3.10.1

FILE
    f:\anaconda\envs\tmp\lib\site-packages\crypto\__init__.py
```

如果还是各种报错，可以类比上面装gmpy2的方法自己下轮子或者用pipwin解决。相信大家都能活用搜索引擎——一个密码学中**非常重要**的技能。

不过现在好了，一切都已经好了，斗争已经结束。他终于战胜了自己，他热爱密码学。

—George Crypto