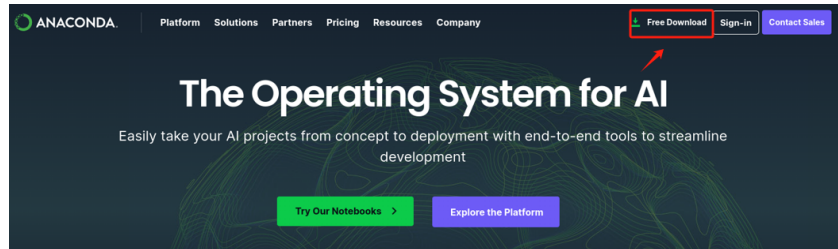


Ch 1. 在Ubuntu 22.04系统下配置 Python 环境

Anaconda是一个为科学计算设计的发行版，适用于数据科学、机器学习、科学计算和工程领域。它会提供大量预安装的科学计算和数据科学相关的库，且提供了 Conda 这样一个包管理器，用来安装、管理和升级包，同时也可以创建隔离的环境以避免版本和依赖冲突。相较于单独安装Python，对初学者更友好，尤其是对于不熟悉 Python 和包管理的用户。

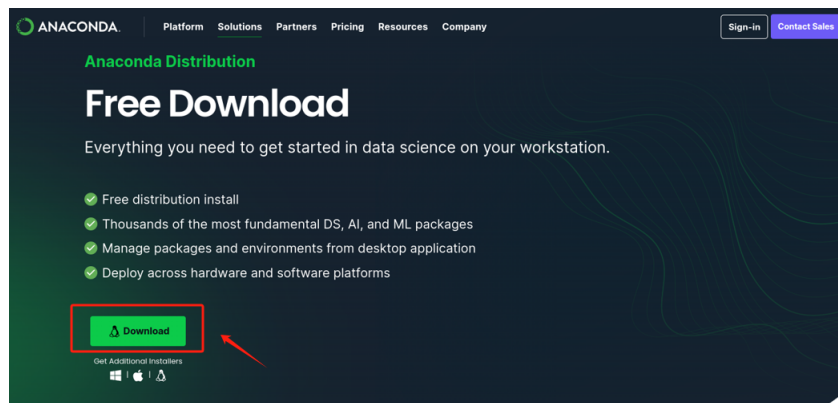
我们这里选择使用Anaconda来构造和管理Python环境。

- **Step 1. 进入Anaconda官网：** <https://www.anaconda.com/download>



- **Step 2. 下载安装程序**

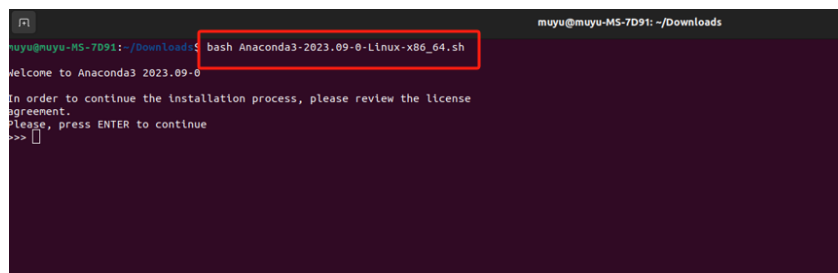
Anaconda官网会根据系统版本自动下载对应的安装程序。



- **Step 3. 进入终端，执行安装**

找到安装包的下載位置，执行如下命令：

```
bash Anaconda3-2023.09.0-Linux-x86_64.sh
```



在此处输入“yes”，然后按“Enter”键使用Anaconda的默认安装位置 (/home/\${account}/anaconda3) 。

```
You must comply with all domestic and international export laws and regulations that apply to the software, which include restrictions on destinations, end users, and end use. An
tion includes cryptographic software. The country in which you currently reside may have restrictions on the import, possession, use, and/or re-export to another country, of en
ware. BEFORE using any encryption software, please check your country's laws, regulations and policies concerning the import, possession, or use, and re-export of encryption softw
this is permitted. See the Wassenaar Arrangement http://www.wassenaar.org/ for more information.

Anaconda has self-classified this software as Export Commodity Control Number (ECCN) EAR99 which includes mass market information security software using or performing cryptograph
with asymmetric algorithms. No license is required for export of this software to non-embargoed countries.

The Intel Math Kernel Library contained in Anaconda Distribution is classified by Intel as ECCN SD092.C with no license required for export to non-embargoed countries.

The following packages listed on https://www.anaconda.com/cryptography are included in the repository accessible through Anaconda Distribution that relate to cryptography.

Last updated February 25, 2022

Do you accept the license terms? [yes/no]
[no] >>> yes
Anaconda3 will now be installed into this location:
/home/muyu/anaconda3
- Press ENTER to confirm the location
- Press CTRL-C to abort the installation
- Or specify a different location below

[/home/muyu/anaconda3] >>>
```

- Step 4. 等待安装完成

```
PREFIX=/home/muyu/anaconda3
Unpacking payload ...

Installing base environment...

Downloading and Extracting Packages

Downloading and Extracting Packages

Preparing transaction: done
Executing transaction: |

Installed package of scikit-learn can be accelerated using scikit-learn-intelex.
More details are available here: https://intel.github.io/scikit-learn-intelex

For example:

$ conda install scikit-learn-intelex
$ python -m sklearnx my_application.py

done
Installation finished.
Do you wish to update your shell profile to automatically initialize conda?
This will activate conda on startup and change the command prompt when activated.
If you'd prefer that conda's base environment not be activated on startup,
run the following command when conda is activated:

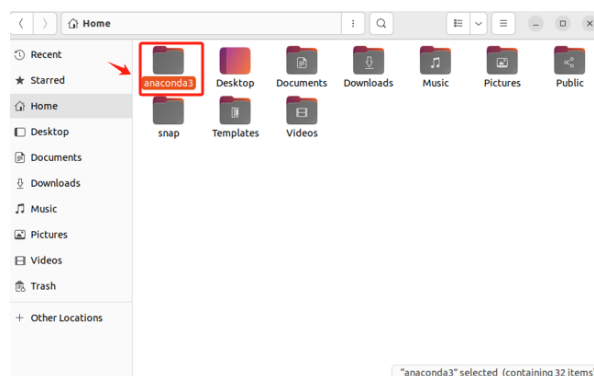
conda config --set auto_activate_base false

You can undo this by running 'conda init --reverse $SHELL'? [yes/no]
[no] >>> yes
no change      /home/muyu/anaconda3/condabin/conda
no change      /home/muyu/anaconda3/bin/conda
no change      /home/muyu/anaconda3/bin/conda-env
no change      /home/muyu/anaconda3/bin/activate
no change      /home/muyu/anaconda3/bin/deactivate
no change      /home/muyu/anaconda3/etc/profile.d/conda.sh
no change      /home/muyu/anaconda3/etc/fish/conf.d/conda.fish
no change      /home/muyu/anaconda3/shell/condabin/conda.ps1
no change      /home/muyu/anaconda3/shell/condabin/conda-hook.ps1
no change      /home/muyu/anaconda3/lib/python3.11/site-packages/xontrib/conda.xsh
no change      /home/muyu/anaconda3/etc/profile.d/conda.csh
modified       /home/muyu/.bashrc

==> For changes to take effect, close and re-open your current shell. <==
```

- Step 5. 验证安装情况

安装完成后，会在对应的安装目录中出现 `anaconda3` 文件夹。



- Step 6. 配置环境变量

在终端的命令行修改配置文件：

```
vim ~/.bashrc
```

```
muyu@muyu-MS-7D91:~$ cd ~
muyu@muyu-MS-7D91:~$ ls
anaconda3 Desktop Documents Downloads Music Pictures Public snap Templates Videos
muyu@muyu-MS-7D91:~$ vim ~/.bashrc
```

在打开的配置文件末尾添加 `export PATH= {Anaconda3的实际安装路径}`，配置完成后，按 `:wq!` 保存并退出。

```
# 我的anaconda3的安装路径是/home/muyu/anaconda3
```

```
export PATH=/home/muyu/anaconda3/bin:$PATH
```

```
# >>> conda initialize >>>
# !! Contents within this block are managed by 'conda init' !!
__conda_setup="$('/home/muyu/anaconda3/bin/conda' 'shell.bash' 'hook' 2> /dev/null)"
if [ $? -eq 0 ]; then
    eval "$__conda_setup"
else
    if [ -f "/home/muyu/anaconda3/etc/profile.d/conda.sh" ]; then
        . "/home/muyu/anaconda3/etc/profile.d/conda.sh"
    else
        export PATH="/home/muyu/anaconda3/bin:$PATH"
    fi
fi
unset __conda_setup
# <<< conda initialize <<<

export PATH=/home/muyu/anaconda3/bin:$PATH
:wq!
```

使用如下命令使环境变量的修改立即生效。

```
muyu@muyu-MS-7D91:~$ cd ~
muyu@muyu-MS-7D91:~$ ls
anaconda3 Desktop Downloads Music Pictures Public snap Templates Videos
muyu@muyu-MS-7D91:~$ vim ~/.bashrc
muyu@muyu-MS-7D91:~$ source ~/.bashrc
```

• Step 7. 启动Anaconda

配置好环境变量后，在终端输入 `anaconda-navigator` 即可打开Anaconda，和Windows操作系统下的操作就基本一致了。

