

# Python Environment Setup on Ubuntu

## 1. Install request package

```
$ sudo apt-get update && apt-get upgrade  
$ sudo apt-get install wget vim
```

## 2. Install Python3

### Miniconda

#### 1. Download installer

```
$ wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh
```

```
root@d1693f70f58d:~# wget https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh  
--2019-11-23 07:54:26-- https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh  
Resolving repo.anaconda.com (repo.anaconda.com)... 104.16.130.3, 104.16.131.3, 2606:4700::6810:8203, ...  
Connecting to repo.anaconda.com (repo.anaconda.com)|104.16.130.3|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 71785000 (68M) [application/x-sh]  
Saving to: 'Miniconda3-latest-Linux-x86_64.sh'  
Miniconda3-latest-Linux-x86_64.sh 100%[=====] 68.46M 10.5MB/s in 6.8s  
2019-11-23 07:54:33 (10.1 MB/s) - 'Miniconda3-latest-Linux-x86_64.sh' saved [71785000/71785000]  
root@d1693f70f58d:~#
```

#### 2. Change the access permissions of files

```
$ chmod +x Miniconda3-latest-Linux-x86_64.sh
```

```
root@d1693f70f58d:~# ls -al  
total 70120  
drwx----- 1 root root 4096 Nov 23 07:54 .  
drwxr-xr-x 1 root root 4096 Nov 23 07:51 ..  
-rw-r--r-- 1 root root 3106 Apr 9 2018 .bashrc  
-rw-r--r-- 1 root root 148 Aug 17 2015 .profile  
-rw-r--r-- 1 root root 71785000 Oct 25 19:35 Miniconda3-latest-Linux-x86_64.sh  
root@d1693f70f58d:~# chmod +x Miniconda3-latest-Linux-x86_64.sh  
root@d1693f70f58d:~# ls -al  
total 70120  
drwx----- 1 root root 4096 Nov 23 07:54 .  
drwxr-xr-x 1 root root 4096 Nov 23 07:51 ..  
-rw-r--r-- 1 root root 3106 Apr 9 2018 .bashrc  
-rw-r--r-- 1 root root 148 Aug 17 2015 .profile  
-rwxr-xr-x 1 root root 71785000 Oct 25 19:35 Miniconda3-latest-Linux-x86_64.sh  
root@d1693f70f58d:~#
```

### 3. Install

```
# install miniconda in ~/opt
$ mkdir -p ~/opt
$ bash Miniconda3-latest-Linux-x86_64.sh
```

```
root@d1693f70f58d:~# mkdir ~/opt
root@d1693f70f58d:~# bash Miniconda3-latest-Linux-x86_64.sh

Welcome to Miniconda3 4.7.12

In order to continue the installation process, please review the license
agreement.
Please, press ENTER to continue
>>>
=====
Miniconda End User License Agreement
=====
```

```
The following packages are included in this distribution that relate to cryptography:

Do you accept the license terms? [yes|no]
[no] >>> yes

Miniconda3 will now be installed into this location:
/root/miniconda3

- Press ENTER to confirm the location
- Press CTRL-C to abort the installation
- Or specify a different location below

[/root/miniconda3] >>> /root/opt/miniconda3
PREFIX=/root/opt/miniconda3
Unpacking payload ...
Collecting package metadata (current_repodata.json): done
Solving environment: done
```

```
Preparing transaction: done
Executing transaction: done
installation finished.
Do you wish the installer to initialize Miniconda3
by running conda init? [yes|no]
[no] >>> yes
no change      /root/opt/miniconda3/condabin/conda
no change      /root/opt/miniconda3/bin/conda
no change      /root/opt/miniconda3/bin/conda-env
no change      /root/opt/miniconda3/bin/activate
no change      /root/opt/miniconda3/bin/deactivate
no change      /root/opt/miniconda3/etc/profile.d/conda.sh
no change      /root/opt/miniconda3/etc/fish/conf.d/conda.fish
no change      /root/opt/miniconda3/shell/condabin/Conda.psm1
no change      /root/opt/miniconda3/shell/condabin/conda-hook.ps1
no change      /root/opt/miniconda3/lib/python3.7/site-packages/xontrib/conda.xsh
no change      /root/opt/miniconda3/etc/profile.d/conda.csh
modified       /root/.bashrc

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

If you'd prefer that conda's base environment not be activated on startup,
set the auto_activate_base parameter to false:

conda config --set auto_activate_base false

Thank you for installing Miniconda3!
root@d1693f70f58d:~#
```

#### 4. Activate conda

- `bash`

## 1. bash

- Copy `conda initialize` in `~/.bash_profile` to `~/.bashrc`, as below:

```
# >>> conda initialize >>>
# !! Contents within this block are managed by 'conda init' !!
__conda_setup="$('/root/opt/miniconda3/bin/conda' 'shell.bash' 'hook' 2> /dev/null)"
if [ $? -eq 0 ]; then
    eval "$__conda_setup"
else
    if [ -f "/root/opt/miniconda3/etc/profile.d/conda.sh" ]; then
        . "/root/opt/miniconda3/etc/profile.d/conda.sh"
    else
        export PATH="/root/opt/miniconda3/bin:$PATH"
    fi
fi
unset __conda_setup
# <<< conda initialize <<<
"~/.bashrc" 115L, 3577C
```

- Activate

```
$ source ~/.bashrc # or open new Terminal
```

```
root@b7dff1e19232:~# ll
total 70128
drwx----- 1 root root    4096 Nov 23 08:24 ./
drwxr-xr-x 1 root root    4096 Nov 23 08:21 ../
-rw-r--r-- 1 root root    3577 Nov 23 08:24 .bashrc
drwxr-xr-x 2 root root    4096 Nov 23 08:24 .conda/
-rw-r--r-- 1 root root     148 Aug 17 2015 .profile
-rwxr-xr-x 1 root root 71785000 Oct 25 19:35 Miniconda3-latest-Linux-x86_64.sh*
drwxr-xr-x 3 root root    4096 Nov 23 08:24 opt/
root@b7dff1e19232:~# source ~/.bashrc
(base) root@b7dff1e19232:~#
```

```
root@b7dff1e19232:~# source ~/.bashrc
(base) root@b7dff1e19232:~# conda -V
conda 4.7.12
(base) root@b7dff1e19232:~# python3 -V
Python 3.7.4
(base) root@b7dff1e19232:~# pip -V
pip 19.3.1 from /root/opt/miniconda3/lib/python3.7/site-packages/pip (python 3.7)
(base) root@b7dff1e19232:~#
```