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# **Stage Python 3e 2016-2017 Documentation**

*Release 0.1.0*

**Patrick**

December 01, 2016



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**See also:**

- <https://python-stage-3e-2016.readthedocs.io/en/latest/>
- <https://www.python.org/>
- <https://twitter.com/gvanrossum>
- <https://docs.python.org/3/>
- <https://twitter.com/PythonWeekly>

**Python scientifique**

**Projet** Stage 3e id3 Technologies

**Release** 0.1.0

**Date** December 01, 2016

**Authors** Anaëlle, Sofia et Patrick

- [genindex](#)
- [search](#)
- <https://docs.python.org/3/>
- <https://www.continuum.io>
- <https://twitter.com/SciPyTip>





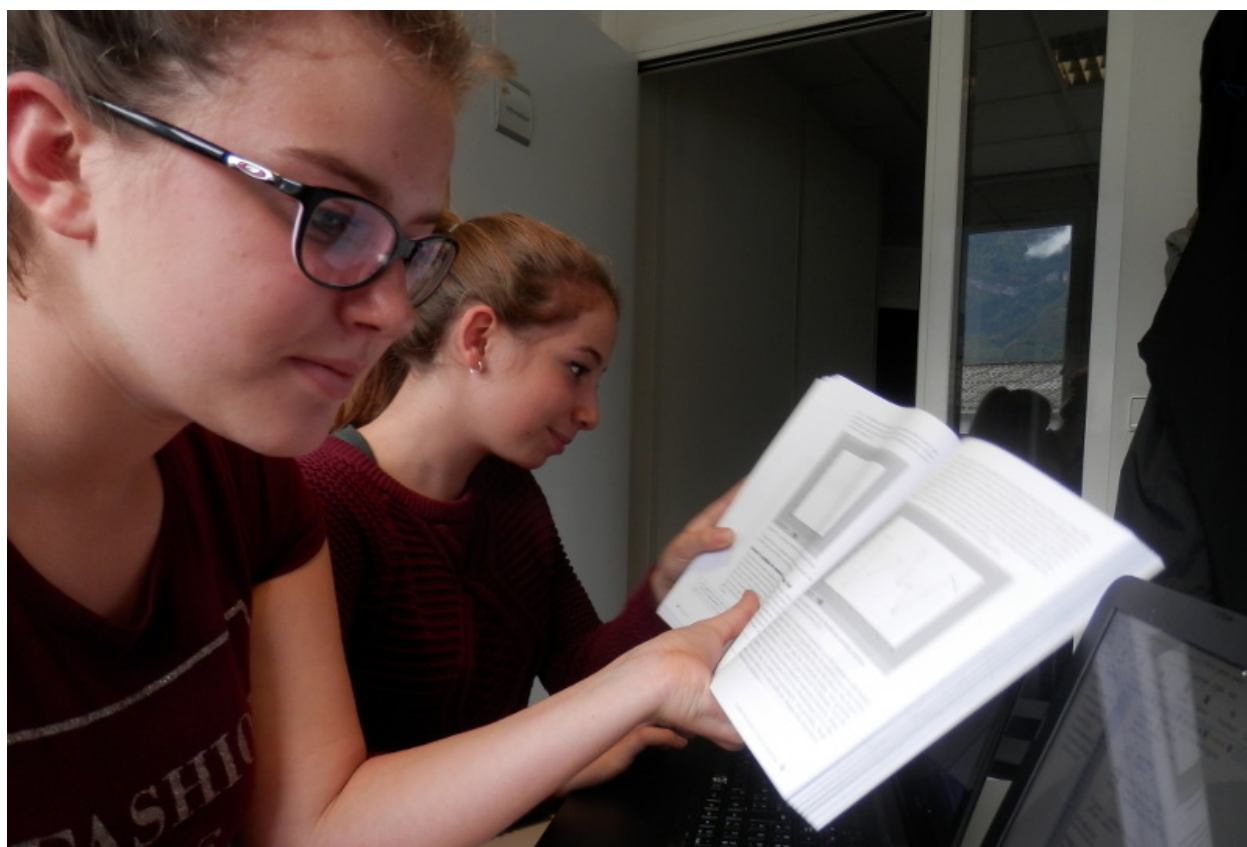


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### Introduction

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Stage effectué par Anaëlle et Sofia les 13 et 14 octobre 2016 pour une initiation au langage Python.





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## Programmes Python

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### 2.1 Programmes (modules, scripts) Python

See also:

- <http://www.editions-eyrolles.com/Livre/9782212143645/python-pour-les-maths>

#### 2.1.1 Hello World !

##### Contents

- *Hello World !*
  - *Programme*
  - *Execution*

##### Programme

```
#!/usr/bin/python
# -*- coding: UTF-8 -*-
"""Le programme le plus simple en Python."""

print('hello !')
```

##### Execution

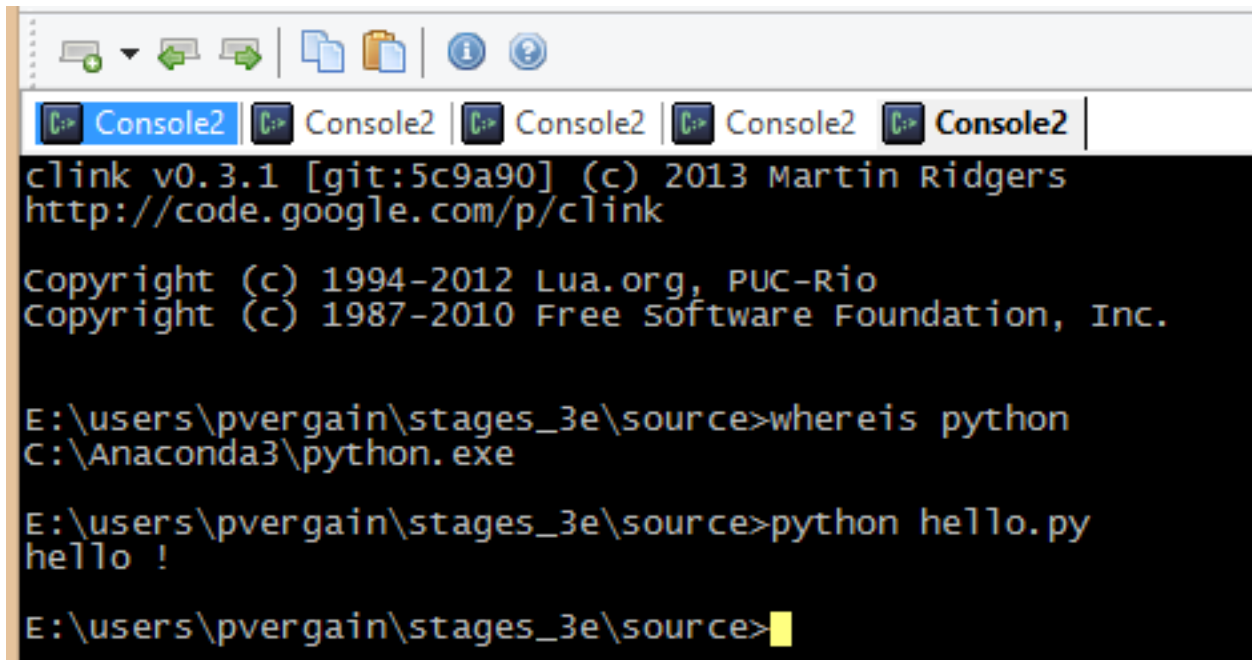
#### 2.1.2 Programmes avec le module pylab

See also:

- <http://www.courspython.com/introduction-pylab.html>

##### Contents

- *Programmes avec le module pylab*
  - *Prérequis : utiliser l'environnement virtuel Python Anaconda3*
  - *Les programmes*



```

C:\> Console2 | Console2 | Console2 | Console2 | Console2 |
clink v0.3.1 [git:5c9a90] (c) 2013 Martin Ridgers
http://code.google.com/p/clink

Copyright (c) 1994-2012 Lua.org, PUC-Rio
Copyright (c) 1987-2010 Free Software Foundation, Inc.

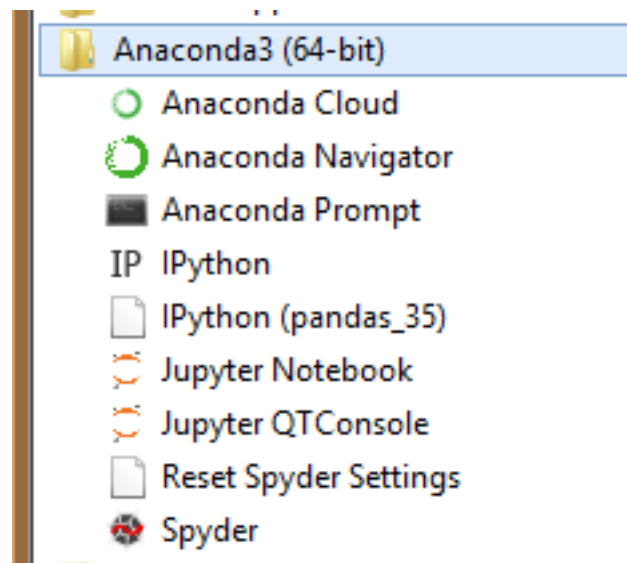
E:\users\pvergain\stages_3e\source>whereis python
C:\Anaconda3\python.exe

E:\users\pvergain\stages_3e\source>python hello.py
hello !

E:\users\pvergain\stages_3e\source>
  
```

**Prérequis : utiliser l'environnement virtuel Python Anaconda3**

Se placer dans l'environnement Anaconda3 en choisissant 'IPython'.

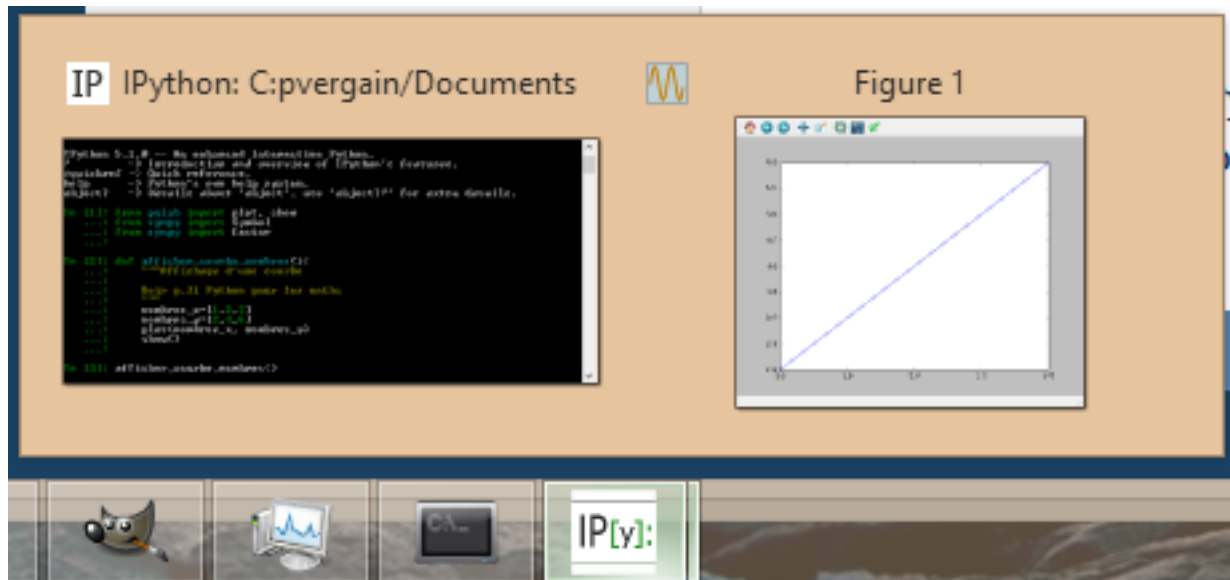


## Les programmes

Code Python utilisant matplotlib et sympy

See also:

- *matplotlib* (python 2D plotting library)



- *sympy* (Computer algebra system in Python)

## Contents

- *Code Python utilisant matplotlib et sympy*
  - *Prérequis : utiliser les IDEs Anaconda3*
  - *Programmes (modules, scripts) Python*
    - \* *Le module Python source/pylab/exo\_factor.py*
  - *Avec IPython (CLI, Command Line Interface)*
  - *Avec Jupyter notebook*
  - *Avec Spyder*

**Prérequis : utiliser les IDEs Anaconda3**    **See also:**

*Prérequis : utiliser l'environnement virtuel Python Anaconda3*

## Programmes (modules, scripts) Python

```
C:\PROJECTS_ID3\STAGE_3E_2016\SOURCE
+---hello
|     hello.py
|
+---pylab
|     exos.ipynb
|     exo_factor.py
|     exo_plot.py
```

### Le module Python source/pylab/exo\_factor.py

```
1 #!/usr/bin/python
2 # -*- coding: UTF-8 -*-
3 """Exemples de code Python basés sur sympy.
4
5 - sympy (http://docs.sympy.org/latest/index.html)
```

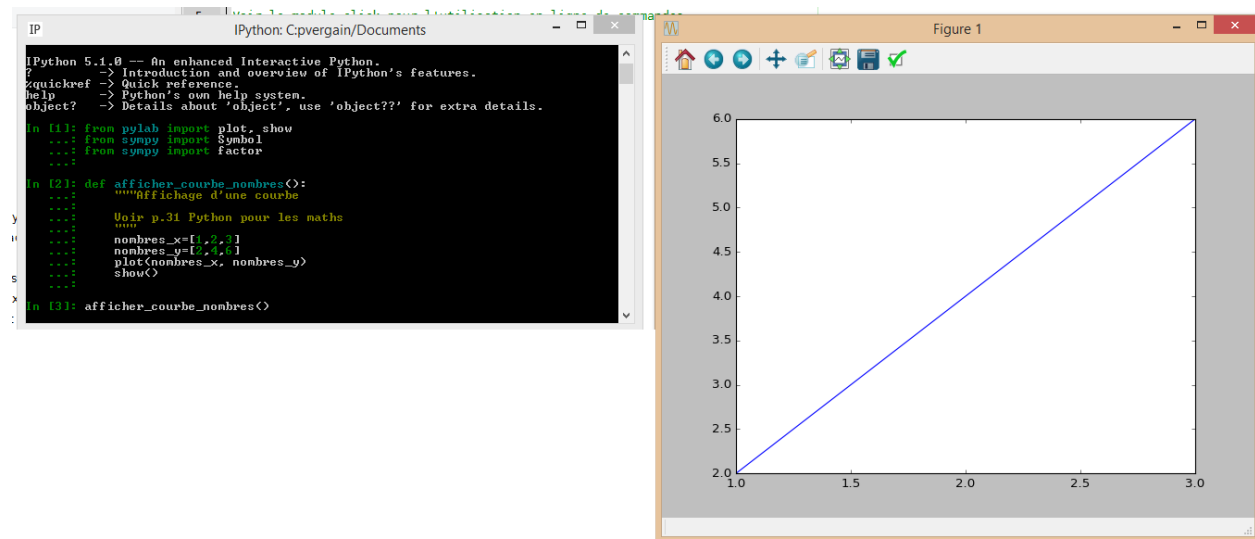
```

6
7 """
8
9 from sympy import Symbol
10 from sympy import factor
11
12
13 def exemple_factoriser():
14     """Factorisation d'une expression en employant le module Python sympy"""
15     x=Symbol('x')
16     y=Symbol('y')
17     expr1=x**2-y**2
18     facteur1 = factor(expr1)
19     print(facteur1)
20
21
22 if __name__ == '__main__':
23     exemple_factoriser()

```

Avec IPython (CLI, Command Line Interface) See also:

- *IPython*

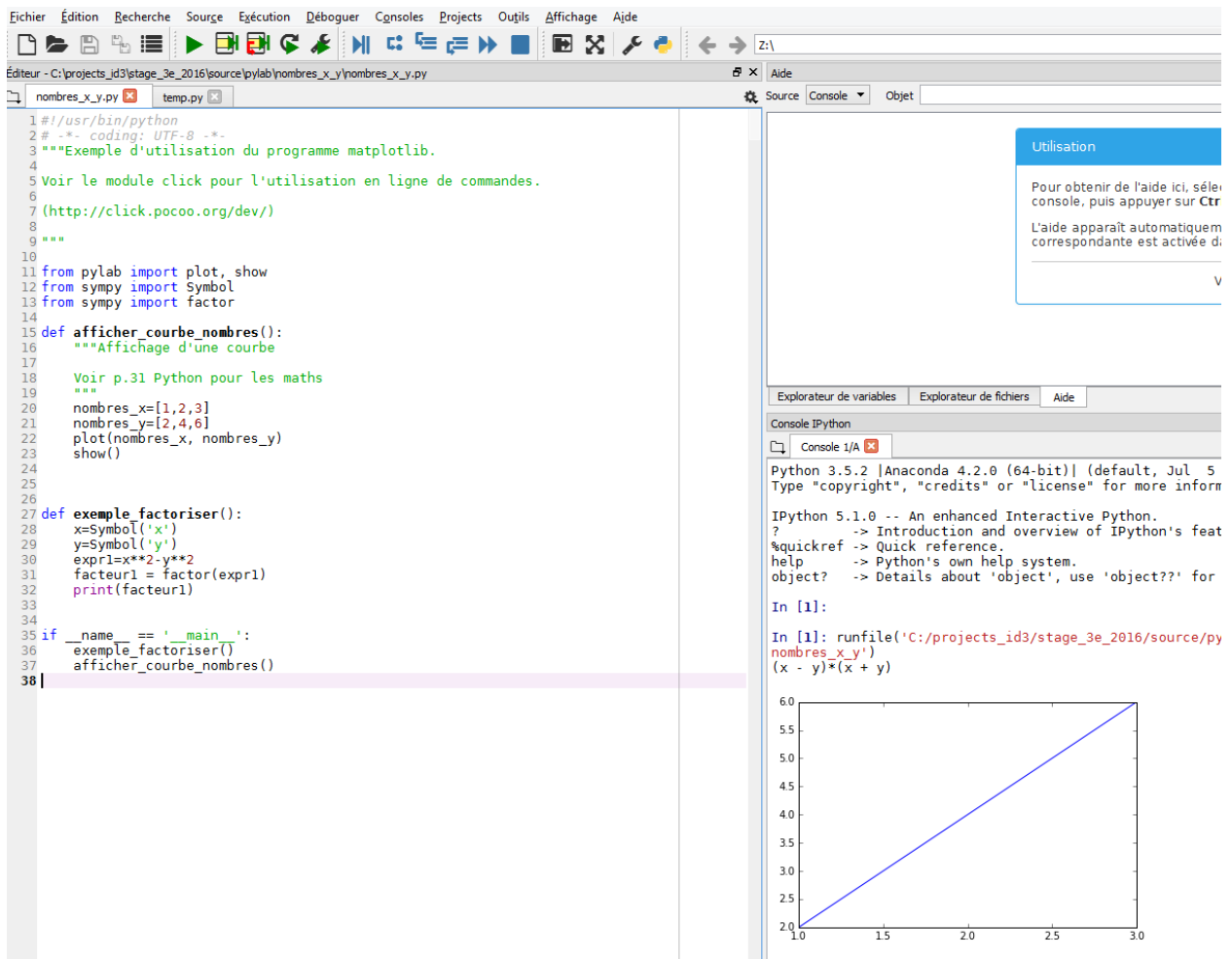
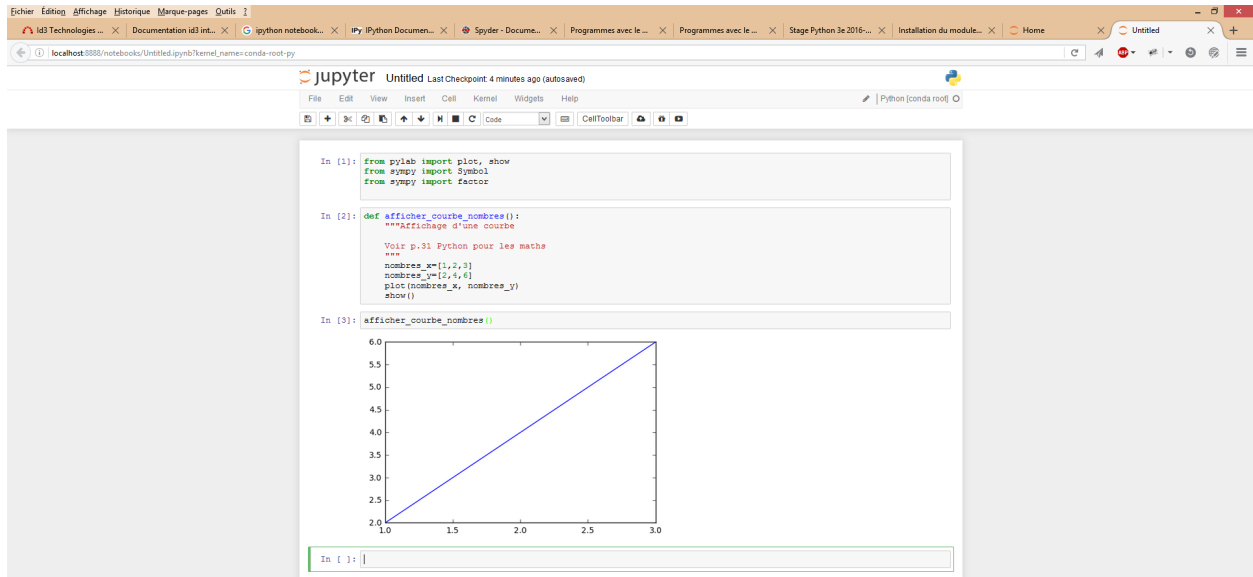


Avec Jupyter notebook See also:

- *Jupyter Notebook (anciennement IPython notebook)*

Avec Spyder See also:

- *Spyder is the Scientific PYTHON Development Environment*







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## Actions

---

### 3.1 Actions

#### 3.1.1 Actions du vendredi après-midi 14 octobre 2016 : suivre le tutorial Django

See also:

- <https://docs.djangoproject.com/fr/1.10/intro/tutorial01/>
- <https://docs.djangoproject.com/fr/1.10/intro/tutorial02/>

##### Contents

- *Actions du vendredi après-midi 14 octobre 2016 : suivre le tutorial Django*
  - *Installer git*
  - *Sauvegarde des modules utilisés*
  - *Faire la documentation de ce qui a été vu avec sphinx*
  - *Tutorial 1 de django : pas le temps ?*
  - *Conclusion*

<https://www.djangoproject.com>

**django**

The web framework for  
perfectionists with deadlines.

#### Installer git

See also:

- *Installation de Git*

---

#### Todo

à faire

---

## Sauvegarde des modules utilisés

See also:

- *Environnements virtuel de projets Python classiques*
- 

**Todo**

à faire

---

Sauvegarder les modules dans requirements.txt

```
pip freeze > requirements.txt
```

---

## Faire la documentation de ce qui a été vu avec sphinx

See also:

- *Environnement virtuel pour la production de la documentation*

Un projet quel qu'il soit doit être accompagné d'une documentation.

## Tutorial 1 de django : pas le temps ?

See also:

- <https://docs.djangoproject.com/fr/1.10/intro/tutorial01/>

## Conclusion

Par manque de temps, la partie développement d'application Web avec Django n'a pas pu être abordée.

Seule la partie 'Python scientifique' a été abordé.

## 3.1.2 Actions du 13 jeudi après-midi 13 octobre 2016 : installation de l'environnement scientifique Python 3 et écriture de 2 programmes Python

### Contents

- *Actions du 13 jeudi après-midi 13 octobre 2016 : installation de l'environnement scientifique Python 3 et écriture de 2 programmes Python*
  - *Installation des prérequis*
  - *Début écriture d'une application Web Django*
    - \* *Création d'un environnement virtuel Python*
  - *Installation du framework Python Django*
    - \* *Activation de l'environnement virtuel Python*
    - \* *Installation du framework Django*

## Installation des prérequis

- installation de *Python 3.5 avec anaconda*
- installation de *gimp*
- écriture de *quelques programmes tirés de “Python pour les maths”*
- installation du *module Python virtualenv*
- installation du *module Python sphinx*

## Début écriture d’une application Web Django

### Création d’un environnement virtuel Python

```
virtualenv appli_django
```

Si on a un seul programme Python dans le PATH.

ou préciser le chemin de l’interpréteur Python voulu au moyen de l’option `--python=`:

```
C:\projects_id3\stage_3e_2016>virtualenv appli_django --python=c:\python35\python.exe
```

```
Already using interpreter c:\python35\python.exe
Using base prefix 'c:\python35'
New python executable in C:\projects_id3\stage_3e_2016\appli_django\Scripts\python.exe
Installing setuptools, pip, wheel...done.
```

## Installation du framework Python Django

See also:

- <https://docs.djangoproject.com/fr/1.10/topics/install/#installing-official-release>

### Activation de l’environnement virtuel Python

A la main:

```
appli_django\Scripts\activate.bat
```

Avec un script `1__activate_appli_django.bat`

```
Installing setuptools, pip, wheel...done.
C:\projects_id3\stage_3e_2016>1__activate_appli_django.bat
C:\projects_id3\stage_3e_2016>appli_django\Scripts\activate.bat
(appli_django) C:\projects_id3\stage_3e_2016>pip list
pip (8.1.2)
setuptools (28.3.0)
wheel (0.30.0a0)
(appli_django) C:\projects_id3\stage_3e_2016>
```

## Installation du framework Django

### See also:

- *Installation du framework Python Django*

Le framework Python doit être installé dans l'environnement virtuel précédemment créé

```
pip install django
```

```
Collecting django
  Using cached Django-1.10.2-py2.py3-none-any.whl
Installing collected packages: django
Successfully installed django-1.10.2
```

```
(appli_django) C:\projects_id3\stage_3e_2016>pip list
```

```
Django (1.10.2)
pip (8.1.2)
setuptools (28.3.0)
wheel (0.30.0a0)
```

## Environnements de développement Python

### 4.1 Développement de projets Python : scientifiques et classiques

See also:

- [http://conda.pydata.org/docs/\\_downloads/conda-pip-virtualenv-translator.html](http://conda.pydata.org/docs/_downloads/conda-pip-virtualenv-translator.html)



#### conda vs. pip vs. virtualenv

If you've used pip and virtualenv in the past, you can use conda to perform all of the same operations. Pip is a package manager, and Virtualenv is an environment manager. Conda is both.

Task	Conda package and environment manager command	Pip package manager command	Virtualenv environment manager command
Install a package	conda install \$PACKAGE_NAME	pip install \$PACKAGE_NAME	X
Update a package	conda update --name \$ENVIRONMENT_NAME \$PACKAGE_NAME	pip install --upgrade \$PACKAGE_NAME	X
Update package manager	conda update conda	Linux/OSX: pip install -U pip Win: python -m pip install -U pip	X
Uninstall a package	conda remove --name \$ENVIRONMENT_NAME \$PACKAGE_NAME	pip uninstall \$PACKAGE_NAME	X
Create an environment	conda create --name \$ENVIRONMENT_NAME python	X	cd \$ENV_BASE_DIR; virtualenv \$ENVIRONMENT_NAME
Activate an environment	source activate \$ENVIRONMENT_NAME	X	source \$ENV_BASE_DIR/\$ENVIRONMENT_NAME/bin/activate
Deactivate an environment	source deactivate	X	deactivate
Search available packages	conda search \$SEARCH_TERM	pip search \$SEARCH_TERM	X
Install package from specific source	conda install --channel \$URL \$PACKAGE_NAME	pip install --index-url \$URL \$PACKAGE_NAME	X
List installed packages	conda list --name \$ENVIRONMENT_NAME	pip list	X
Create requirements file	conda list --export	pip freeze	X
List all environments	conda info --envs	X	Install virtualenv wrapper, then lsvirtualenv
Install other package manager	conda install pip	pip install conda	X
Install Python	conda install python*x.x	X	X
Update Python	conda update python *	X	X

• conda update python updates to the most recent in the series, so Python 2 to latest 2.x, Python 3 to latest 3.x, and so on.

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#### Contents

- *Développement de projets Python : scientifiques et classiques*
  - *Types de projets Python*
  - *Les projets Python classiques*
    - \* *Environnements virtuels “classiques” gérés avec pip et virtualenv*
  - *Les projets Python “scientifiques”*
    - \* *Environnements virtuels scientifiques*

#### 4.1.1 Types de projets Python

On distingue 2 types de projet:

- les projets Python classiques
- les projets Python “scientifiques”

## 4.1.2 Les projets Python classiques

Avec ces projets (comme un projet Django par exemple), on utilise:

- les environnements virtuels créés avec virtualenv
- on installe les modules Python avec pip

### Environnements virtuels “classiques” gérés avec pip et virtualenv

#### Environnements virtuel de projets Python classiques

**Prérequis** Les modules Python ‘virtualenv’ et virtualenv-wrapper-win sont installés.

Pour les installer:

```
pip install virtualenv
pip install virtualenvwrapper-win
```

#### Les environnements virtuels utilisés

	Contents
<b>Environnement virtuel pour la production de la documentation</b>	<ul style="list-style-type: none"> <li>• <i>Environnement virtuel pour la production de la documentation</i> <ul style="list-style-type: none"> <li>– <i>Création de l’environnement</i></li> <li>– <i>Activation de l’environnement</i></li> <li>– <i>Liste des modules utilisés</i></li> <li>– <i>Liste des modules à mettre à jour</i></li> <li>– <i>Liste des modules à ‘freezer’ dans requirements.txt</i></li> <li>– <i>Réinstaller les mêmes modules</i></li> </ul> </li> </ul>

#### Création de l’environnement

1. Rassemblement de tous les environnements virtuels sous WORKON\_HOME:

```
mkvirtualenv sphinx35 --python=c:\anaconda3\python.exe
```

2. ou sous le répertoire courant:

```
virtualenv sphinx35 --python=c:\anaconda3\python.exe
```

#### Activation de l’environnement

1. si on utilise WORKON\_HOME:

```
workon sphinx35
```

2. ou le répertoire courant:

```
sphinx35\Scripts\activate.bat
```

#### Liste des modules utilisés

```
pip list
```

#### Liste des modules à mettre à jour

```
pip list -o
```

#### Liste des modules à ‘freezer’ dans requirements.txt

```
pip freeze > requirements.txt
```

#### Réinstaller les mêmes modules

```
pip install -r requirements.txt
```

### 4.1.3 Les projets Python “scientifiques”

Pour les projets scientifiques on utilise les outils fournis par continuum:

- on utilise la commande ‘conda’ et non ‘pip’

#### Environnements virtuels scientifiques

##### Gestion d’environnements scientifiques Python avec conda

#### See also:

- <http://conda.pydata.org/docs/>
- [http://conda.pydata.org/docs/\\_downloads/conda-pip-virtualenv-translator.html](http://conda.pydata.org/docs/_downloads/conda-pip-virtualenv-translator.html)

#### Contents

- *Gestion d’environnements scientifiques Python avec conda*
  - *Conda*



Package, dependency and environment management for any language: Python, R, Scala, Java, Javascript, C/ C++, FORTRAN

**Conda** See also:

- <https://www.continuum.io/content/conda-data-science>

**Conda** is an open source package management system and environment management system for installing multiple versions of software packages and their dependencies and switching easily between them.

It works on Linux, OS X and Windows, and was created for Python programs but can package and distribute any software.

Conda is included in Anaconda and Miniconda. Conda is also included in the Continuum subscriptions of Anaconda, which provide on-site enterprise package and environment management for Python, R, Node.js, Java, and other application stacks.

Conda is also available on pypi, although that approach may not be as up-to-date.



---

## Installation de Python et autres outils

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### 5.1 Installation de l'environnement de programmation Python 3.5, Anaconda, Gimp, Sphinx

#### 5.1.1 Installation de l'environnement scientifique Python Anaconda

See also:

- <https://www.continuum.io/downloads>

#### Contents

- *Installation de l'environnement scientifique Python Anaconda*
  - *Installation de Python 3.5 64 bits avec anaconda*
  - *Après installation*
    - \* *Un menu apparait dans les programmes disponibles*
  - *IDEs disponibles*

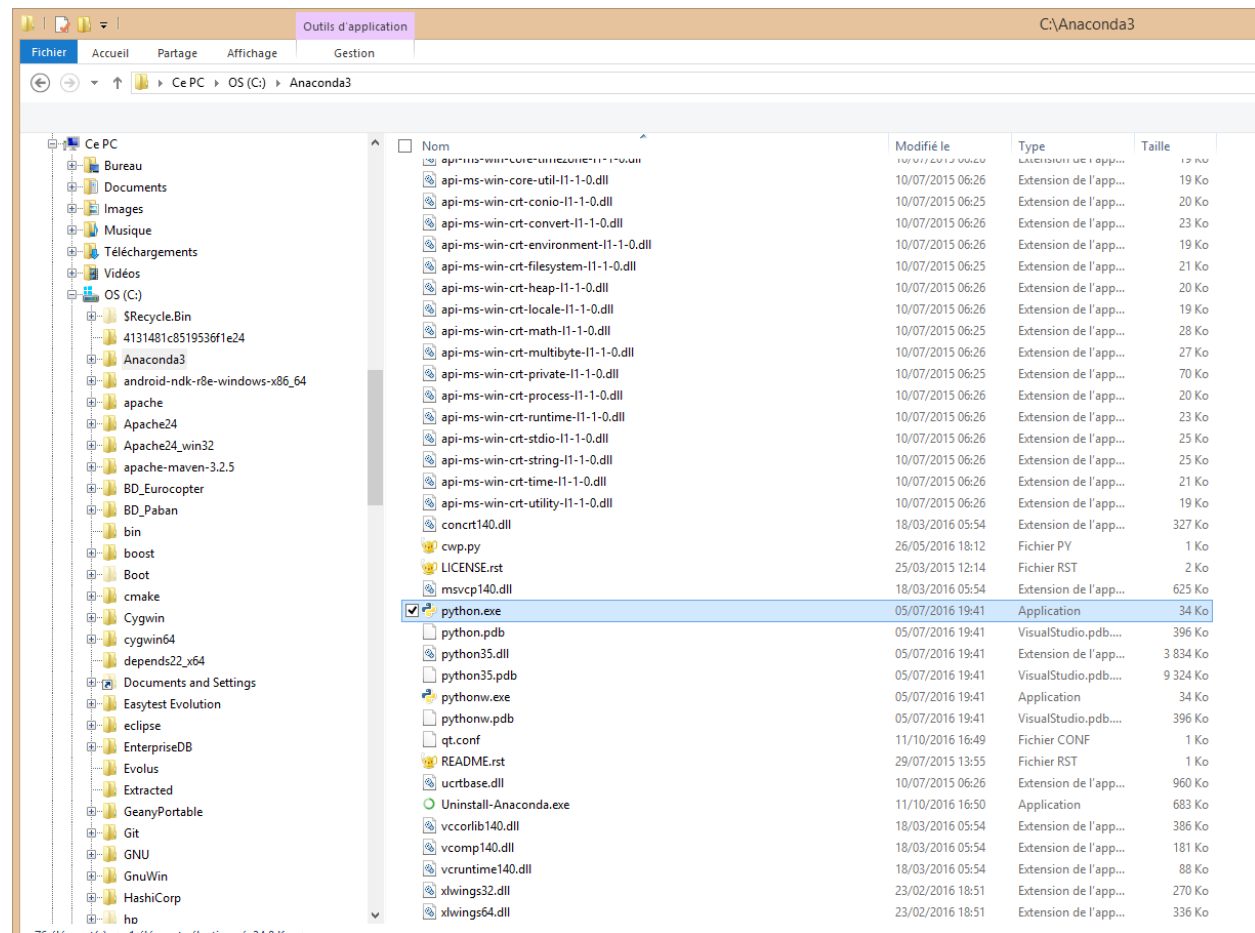
Installation de *Python 3.5 64 bits* avec anaconda



Installation de l'environnement scientifique avec **Anaconda** (<https://www.continuum.io/downloads>)

## Après installation

L'interpréteur Python (python.exe) est sous le répertoire `c:\anaconda3`



### Un menu apparait dans les programmes disponibles

## IDEs disponibles

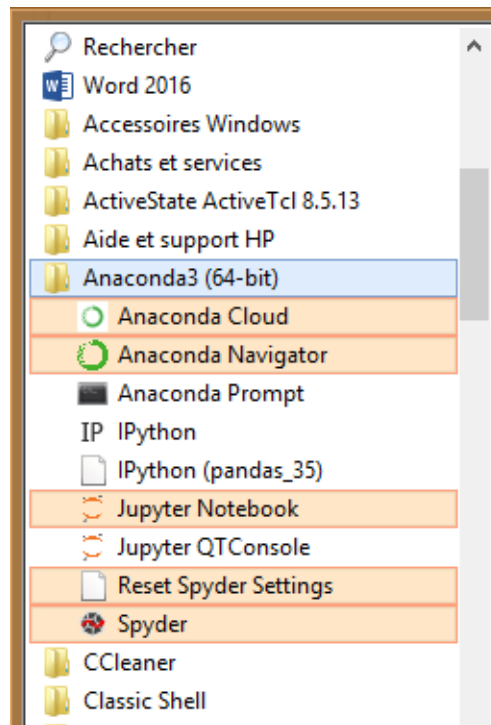
**See also:**

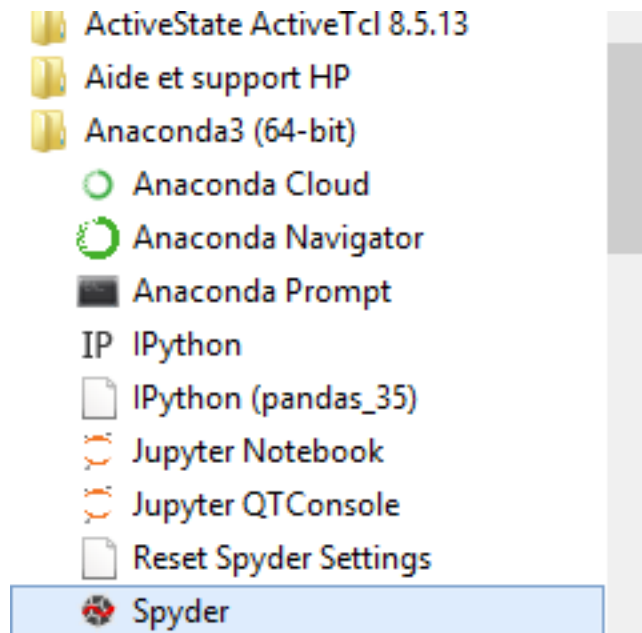
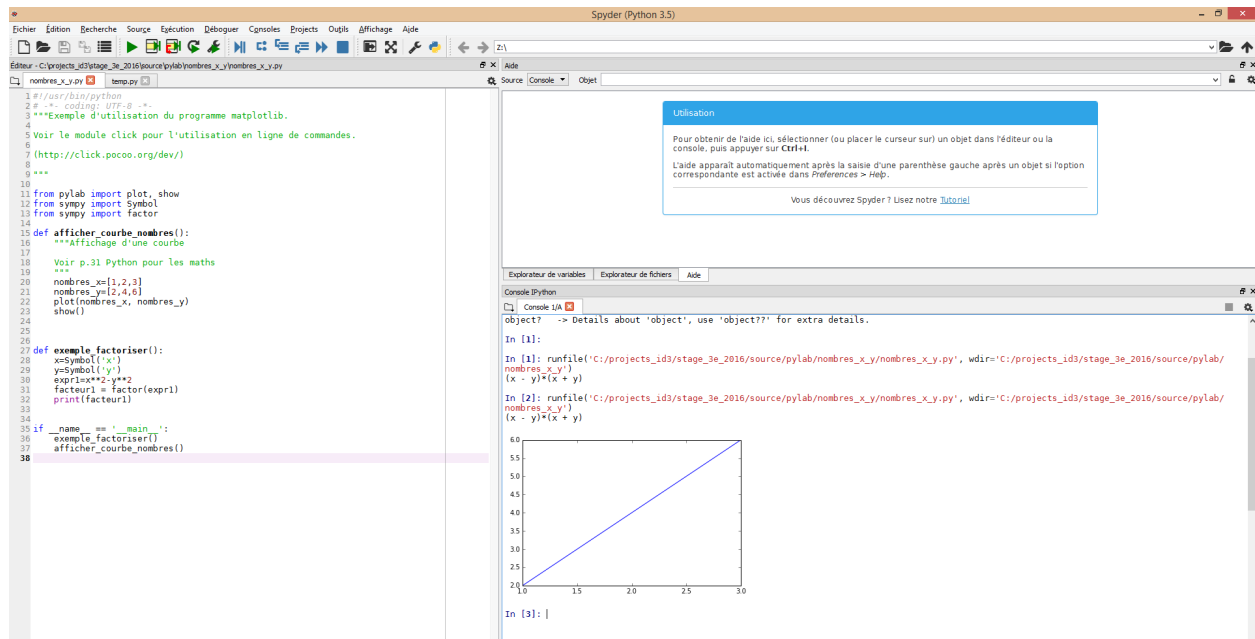
- [https://fr.wikipedia.org/wiki/Environnement\\_de\\_d%C3%A9veloppement](https://fr.wikipedia.org/wiki/Environnement_de_d%C3%A9veloppement)

## Spyder is the Scientific PYthon Development EnviRonment

**See also:**

- <http://pythonhosted.org/spyder/>





## IPython

### See also:

- <http://ipython.readthedocs.io/en/stable/index.html>
- <https://fr.wikipedia.org/wiki/IPython>

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<https://ipython.org/notebook.html>

---

# IP[y]: IPython

## Interactive Computing

**Description** IPython provides a rich toolkit to help you make the most out of using Python interactively. Its main components are:

- A powerful interactive Python shell
- A Jupyter kernel to work with Python code in Jupyter notebooks and other interactive frontends.

### Fernando Perez See also:

- [https://twitter.com/fperez\\_org](https://twitter.com/fperez_org)
- [https://en.wikipedia.org/wiki/Fernando\\_P%C3%A9rez\\_\(software\\_developer\)](https://en.wikipedia.org/wiki/Fernando_P%C3%A9rez_(software_developer))

Fernando Pérez is a physicist, software developer, and free software advocate.

He is best known as the creator of the IPython programming environment, for which he received the 2012 Free Software Award from the Free Software Foundation.

Fernando Pérez was born in Medellín, Colombia, and has a PhD in Particle Physics from University of Colorado Boulder, where he worked on numerical simulations in Lattice QCD.

Pérez began working on IPython as a side project in 2001

### Jupyter Notebook (anciennement IPython notebook)

### See also:

- <http://jupyter.org/>
- <https://twitter.com/ProjectJupyter>
- <https://github.com/jupyter>
- <http://ipython.readthedocs.io/en/stable/index.html>

### Contents

- *Jupyter Notebook (anciennement IPython notebook)*
  - *Description*
  - *Sauvegarde d'un notebook*
  - *Chargement d'un notebook*



**Fernando Perez**  
[@fperez\\_org](#)

Physicist, data scientist, [@IPythonDev](#) creator (evolved into [@ProjectJupyter](#)). Scientist at LBNL/UC Berkeley, climber, advisor to [@plotlygraphs](#), [@terminalcloud](#).

 Berkeley, CA

 [fperez.org](#)

 Inscrit en janvier 2011

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[jupyter.org](#)

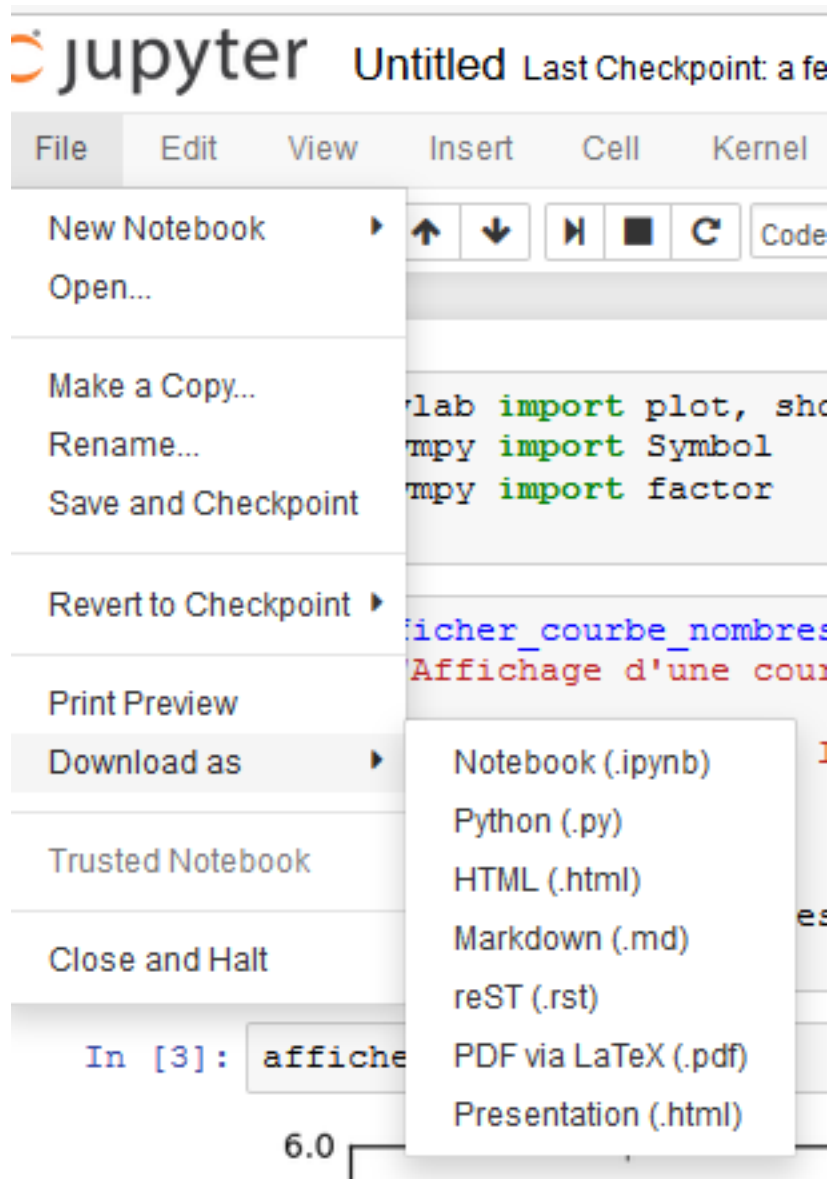
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### Description

**Warning:** The IPython Notebook is now known as the Jupyter Notebook.

It is an interactive computational environment, in which you can combine code execution, rich text, mathematics, plots and rich media.

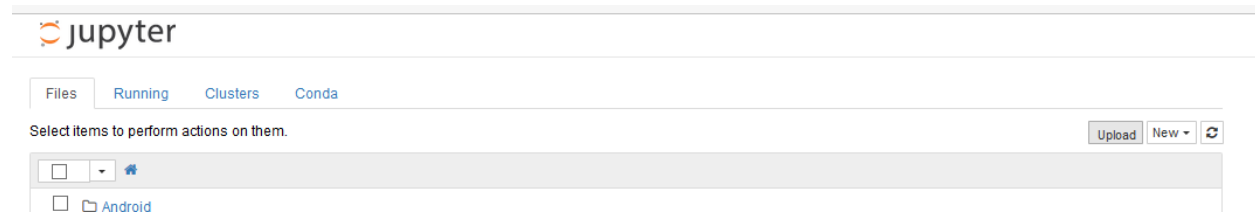


## Sauvegarde d'un notebook

## Chargement d'un notebook

### 5.1.2 Installation de Python 3.5 avec Anaconda

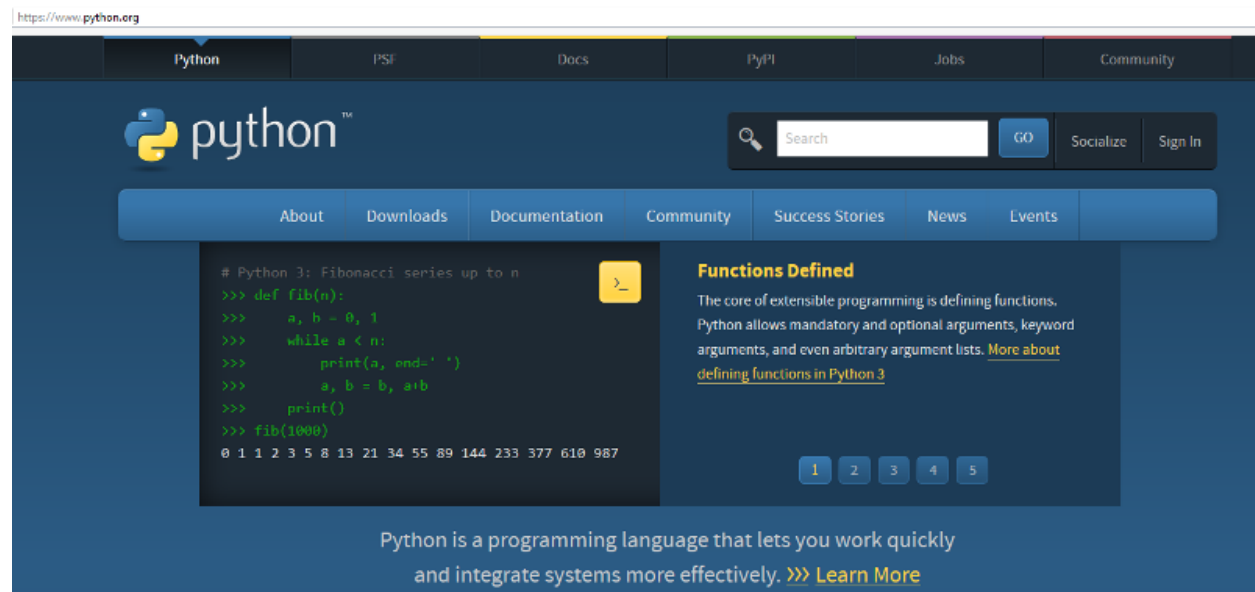
**See also:**



- [https://fr.wikipedia.org/wiki/Python\\_\(langage\)](https://fr.wikipedia.org/wiki/Python_(langage))
- <https://docs.python.org/3/>

## Contents

- *Installation de Python 3.5 avec Anaconda*
  - *Installation de Python 3.5 64 bits avec anaconda*
  - *Guido Van rossum*



## Installation de *Python 3.5 64 bits* avec *anaconda*

### See also:

- *Installation de l'environnement scientifique Python Anaconda*
- <https://docs.python.org/3/>

En installant *Anaconda* on installe *Python 3.5* Installation de *Python 3.5 64 bits* (<https://docs.python.org/3/>) avec *anaconda* (<https://www.continuum.io/downloads>)

## Guido Van rossum

### See also:

- <https://twitter.com/gvanrossum>



- [https://fr.wikipedia.org/wiki/Guido\\_van\\_Rossum](https://fr.wikipedia.org/wiki/Guido_van_Rossum)



Guido van Rossum est un développeur néerlandais, connu pour être le créateur et leader du projet du langage de programmation Python.

Au sein de la communauté pythonienne, il est considéré comme un Benevolent Dictator for Life (« dictateur bienveillant à vie »), ce qui signifie qu'il continue à suivre le développement de Python et qu'il prend des décisions lorsque c'est nécessaire.

### 5.1.3 Installation de modules Python

#### Utilisation du module Python pip

See also:

- <https://pip.pypa.io/en/stable/#>

## Contents

- *Utilisation du module Python pip*
  - *Description*

## Description

The PyPA recommended tool for installing Python packages.

## Installation du module Python sphinx

### See also:

- <http://www.sphinx-doc.org/en/stable/index.html>

## Contents

- *Installation du module Python sphinx*
  - *Description*
    - \* *Autres*
  - *Installation*
  - *Le format ReST*
  - *Read the docs*
    - \* *Eric Holscher*

[www.sphinx-doc.org/en/stable/index.html](http://www.sphinx-doc.org/en/stable/index.html)



**SPHINX**  
Python Documentation Generator

[Home](#) [Get It](#) [Docs](#) [Extend/Develop](#)

## Description

Pour faire la documentation des projets Python, C, C++.

Pratiquement tous les projets Python utilisent sphinx pour leur documentation, à commencer par Python lui-même (<https://docs.python.org/3/>)

### Autres

- <http://docs.sympy.org/latest/index.html>

## Installation

```
pip install sphinx
```

## Le format ReST

**Le format pour la documentation : le format ReST (reStructuredText)** See also:

- <http://docutils.sourceforge.net/rst.html>
- <http://www.sphinx-doc.org/en/stable/rest.html>
- <https://rest-sphinx-memo.readthedocs.io/en/latest/ReST.html>
- [https://pybookmarks.readthedocs.io/en/master/documentation/doc\\_generators/sphinx/sphinx.html#rest-sphinx](https://pybookmarks.readthedocs.io/en/master/documentation/doc_generators/sphinx/sphinx.html#rest-sphinx)

### Contents

- *Le format pour la documentation : le format ReST (reStructuredText)*
  - *Description*
  - *Exemple*

**Description** reStructuredText is an easy-to-read, what-you-see-is-what-you-get plaintext markup syntax and parser system.

It is useful for in-line program documentation (such as Python docstrings), for quickly creating simple web pages, and for standalone documents.

reStructuredText is designed for extensibility for specific application domains.

The reStructuredText parser is a component of Docutils. reStructuredText is a revision and reinterpretation of the StructuredText and Setext lightweight markup systems.

**Exemple** La page que vous lisez a été réalisé avec sphinx. Cliquer sur le bouton ‘Montrer le code source’ pour voir le code ReST (reStructuredText)

## Read the docs

**See also:**

- <https://readthedocs.org/>
- <https://twitter.com/readthedocs>

Read the Docs hosts documentation, making it fully searchable and easy to find. You can import your docs using any major version control system, including Mercurial, Git, Subversion, and Bazaar. We support webhooks so your docs get built when you commit code. There’s also support for versioning so you can build docs from tags and branches of your code in your repository.

Hosting documentation is free and simple, read our guide to get started!

**Eric Holscher** See also:

- <https://twitter.com/ericholscher>

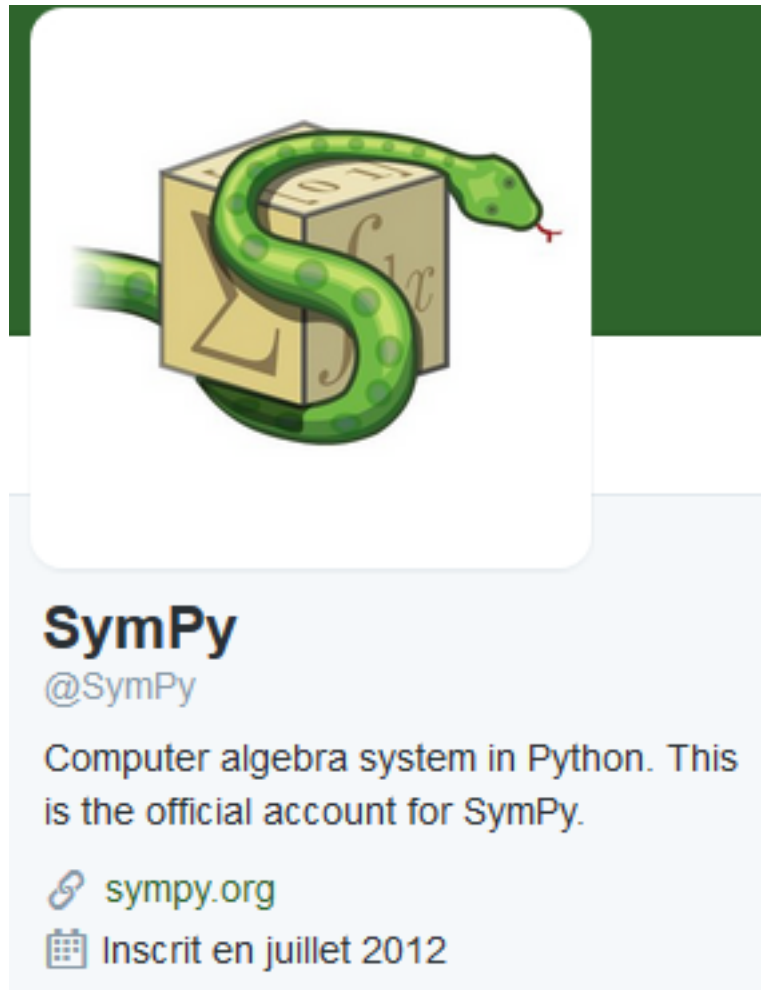




## sympy (Computer algebra system in Python)

### See also:

- <http://www.sympy.org/en/index.html>
- <https://twitter.com/SymPy>
- <http://nbviewer.jupyter.org/url/www.inp.nsk.su/%7Egrozin/python/sympy.ipynb>



### Description

#### See also:

- <http://docs.sympy.org/latest/install.html#anaconda>

`sympy` est l'un des nombreux modules Python installés avec `anaconda3`.

SymPy is a Python library for symbolic mathematics. It aims to become a full-featured computer algebra system (CAS) while keeping the code as simple as possible in order to be comprehensible and easily extensible.

SymPy is written entirely in Python.

## matplotlib (python 2D plotting library)

### See also:

- <http://matplotlib.org/index.html>



### Description

matplotlib est l'un des nombreux modules Python installés avec anaconda3.

matplotlib is a python 2D plotting library which produces publication quality figures in a variety of hardcopy formats and interactive environments across platforms.

matplotlib can be used in python scripts, the python and ipython shell (ala MATLAB®\* or Mathematica®†), web application servers, and six graphical user interface toolkits.

### Installation du module Python virtualenv

#### See also:

- <http://docs.python-guide.org/en/latest/dev/virtualenvs/>

### Installation

```
pip install virtualenv
```

### Installation du framework Python Django

#### See also:

- <https://docs.djangoproject.com/en/1.10/intro/tutorial01/>

### Au préalable

Se placer dans *l'environnement virtuel voulu*.

## Django girls

### See also:

- <https://twitter.com/djangogirls>
- <https://djangogirls.org/>



Django Girls is a non-profit organization and a community that empowers and helps women to organize free, one-day programming workshops by providing tools, resources and support.

We are a volunteer run organization with hundreds of people contributing to bring more amazing women into the world of technology.

We are making technology more approachable by creating resources designed with empathy.

During each of our events, 30-60 women build their first web application using HTML, CSS, Python and Django.



## Installation

```
pip install django
```

### Arborescence du framework Django installé

Comme tous les modules Python, le framework django se trouve sous le répertoire Lib/site\_packages de l'environnement virtuel **appli\_django**.

: > OS (C:) > projects\_id3 > stage\_3e\_2016 > appli\_django > Lib > site-packages > django >

Nom	Modifié le	Type	Taille
__pycache__	13/10/2016 15:57	Dossier de fichiers	
apps	13/10/2016 15:56	Dossier de fichiers	
bin	13/10/2016 15:56	Dossier de fichiers	
conf	13/10/2016 15:56	Dossier de fichiers	
contrib	13/10/2016 15:56	Dossier de fichiers	
core	13/10/2016 15:57	Dossier de fichiers	
db	13/10/2016 15:57	Dossier de fichiers	
dispatch	13/10/2016 15:57	Dossier de fichiers	
forms	13/10/2016 15:57	Dossier de fichiers	
http	13/10/2016 15:57	Dossier de fichiers	
middleware	13/10/2016 15:57	Dossier de fichiers	
template	13/10/2016 15:57	Dossier de fichiers	
templatetags	13/10/2016 15:57	Dossier de fichiers	
test	13/10/2016 15:57	Dossier de fichiers	
urls	13/10/2016 15:57	Dossier de fichiers	
utils	13/10/2016 15:57	Dossier de fichiers	
views	13/10/2016 15:57	Dossier de fichiers	
__init__.py	13/10/2016 15:56	Fichier PY	1 Ko
__main__.py	13/10/2016 15:56	Fichier PY	1 Ko
shortcuts.py	13/10/2016 15:56	Fichier PY	6 Ko

### Détail des fichiers

Fichier produit au moyen de la commande:

```
tree /a /f > django.txt
```

```

1 |   easy_install.py
2 |
3 +---django
4 |   |   shortcuts.py
5 |   |   __init__.py
6 |   |   __main__.py
7 |   |
8 |   +---apps
9 |   |   |   config.py
10 |   |   |   registry.py
11 |   |   |   __init__.py
12 |   |   |
13 |   |   \---__pycache__
14 |   |       config.cpython-35.pyc
15 |   |       registry.cpython-35.pyc
16 |   |       __init__.cpython-35.pyc
17 |   |

```

```

18 | +---bin
19 | | | django-admin.py
20 | | |
21 | | | \---__pycache__
22 | | |     django-admin.cpython-35.pyc
23 | | |
24 | +---conf
25 | | | global_settings.py
26 | | | __init__.py
27 | | |
28 | | +---app_template
29 | | | | admin.py-tpl
30 | | | | apps.py-tpl
31 | | | | models.py-tpl
32 | | | | tests.py-tpl
33 | | | | views.py-tpl
34 | | | | __init__.py-tpl
35 | | | |
36 | | | \---migrations
37 | | |     __init__.py-tpl
38 | | |
39 | | +---locale
40 | | | | __init__.py
41 | | | |
42 | | | +---af
43 | | | | \---LC_MESSAGES
44 | | | |     django.mo
45 | | | |     django.po
46 | | | |
47 | | | +---ar
48 | | | | | formats.py
49 | | | | | __init__.py
50 | | | | |
51 | | | | +---LC_MESSAGES
52 | | | | |     django.mo
53 | | | | |     django.po
54 | | | | |
55 | | | | \---__pycache__
56 | | | |     formats.cpython-35.pyc
57 | | | |     __init__.cpython-35.pyc
58 | | | |
59 | | | +---ast
60 | | | | \---LC_MESSAGES
61 | | | |     django.mo
62 | | | |     django.po
63 | | | |
64 | | | +---az
65 | | | | | formats.py
66 | | | | | __init__.py
67 | | | | |
68 | | | | +---LC_MESSAGES
69 | | | | |     django.mo
70 | | | | |     django.po
71 | | | | |
72 | | | | \---__pycache__
73 | | | |     formats.cpython-35.pyc
74 | | | |     __init__.cpython-35.pyc
75 | | | |

```

```

76 | | | +---be
77 | | | | \---LC_MESSAGES
78 | | | | | django.mo
79 | | | | | django.po
80 | | | |
81 | | | +---bg
82 | | | | | formats.py
83 | | | | | __init__.py
84 | | | |
85 | | | | +---LC_MESSAGES
86 | | | | | django.mo
87 | | | | | django.po
88 | | | |
89 | | | | \---__pycache__
90 | | | | | formats.cpython-35.pyc
91 | | | | | __init__.cpython-35.pyc
92 | | | |
93 | | | +---bn
94 | | | | | formats.py
95 | | | | | __init__.py
96 | | | |
97 | | | | +---LC_MESSAGES
98 | | | | | django.mo
99 | | | | | django.po
100 | | | |
101 | | | | \---__pycache__
102 | | | | | formats.cpython-35.pyc
103 | | | | | __init__.cpython-35.pyc
104 | | | |
105 | | | +---br
106 | | | | \---LC_MESSAGES
107 | | | | | django.mo
108 | | | | | django.po
109 | | | |
110 | | | +---bs
111 | | | | | formats.py
112 | | | | | __init__.py
113 | | | |
114 | | | | +---LC_MESSAGES
115 | | | | | django.mo
116 | | | | | django.po
117 | | | |
118 | | | | \---__pycache__
119 | | | | | formats.cpython-35.pyc
120 | | | | | __init__.cpython-35.pyc
121 | | | |
122 | | | +---ca
123 | | | | | formats.py
124 | | | | | __init__.py
125 | | | |
126 | | | | +---LC_MESSAGES
127 | | | | | django.mo
128 | | | | | django.po
129 | | | |
130 | | | | \---__pycache__
131 | | | | | formats.cpython-35.pyc
132 | | | | | __init__.cpython-35.pyc
133 | | | |

```

```

134 | | | +---cs
135 | | | | | formats.py
136 | | | | | __init__.py
137 | | | | |
138 | | | | | +---LC_MESSAGES
139 | | | | | | | django.mo
140 | | | | | | | django.po
141 | | | | |
142 | | | | | \---__pycache__
143 | | | | | | | formats.cpython-35.pyc
144 | | | | | | | __init__.cpython-35.pyc
145 | | | | |
146 | | | | | +---cy
147 | | | | | | | formats.py
148 | | | | | | | __init__.py
149 | | | | | | |
150 | | | | | | | +---LC_MESSAGES
151 | | | | | | | | | django.mo
152 | | | | | | | | | django.po
153 | | | | | | |
154 | | | | | | | \---__pycache__
155 | | | | | | | | | formats.cpython-35.pyc
156 | | | | | | | | | __init__.cpython-35.pyc
157 | | | | | | |
158 | | | | | +---da
159 | | | | | | | formats.py
160 | | | | | | | __init__.py
161 | | | | | | |
162 | | | | | | | +---LC_MESSAGES
163 | | | | | | | | | django.mo
164 | | | | | | | | | django.po
165 | | | | | | |
166 | | | | | | | \---__pycache__
167 | | | | | | | | | formats.cpython-35.pyc
168 | | | | | | | | | __init__.cpython-35.pyc
169 | | | | | | |
170 | | | | | +---de
171 | | | | | | | formats.py
172 | | | | | | | __init__.py
173 | | | | | | |
174 | | | | | | | +---LC_MESSAGES
175 | | | | | | | | | django.mo
176 | | | | | | | | | django.po
177 | | | | | | |
178 | | | | | | | \---__pycache__
179 | | | | | | | | | formats.cpython-35.pyc
180 | | | | | | | | | __init__.cpython-35.pyc
181 | | | | | | |
182 | | | | | +---de_CH
183 | | | | | | | formats.py
184 | | | | | | | __init__.py
185 | | | | | | |
186 | | | | | | | \---__pycache__
187 | | | | | | | | | formats.cpython-35.pyc
188 | | | | | | | | | __init__.cpython-35.pyc
189 | | | | | | |
190 | | | | | +---dsb
191 | | | | | | | \---LC_MESSAGES

```

[illegible]

```

250 | | | | |
251 | | | | | \---__pycache__
252 | | | | |     formats.cpython-35.pyc
253 | | | | |     __init__.cpython-35.pyc
254 | | | | |
255 | | | | | +---es
256 | | | | |     | formats.py
257 | | | | |     | __init__.py
258 | | | | |
259 | | | | | +---LC_MESSAGES
260 | | | | |     | django.mo
261 | | | | |     | django.po
262 | | | | |
263 | | | | | \---__pycache__
264 | | | | |     formats.cpython-35.pyc
265 | | | | |     __init__.cpython-35.pyc
266 | | | | |
267 | | | | | +---es_AR
268 | | | | |     | formats.py
269 | | | | |     | __init__.py
270 | | | | |
271 | | | | | +---LC_MESSAGES
272 | | | | |     | django.mo
273 | | | | |     | django.po
274 | | | | |
275 | | | | | \---__pycache__
276 | | | | |     formats.cpython-35.pyc
277 | | | | |     __init__.cpython-35.pyc
278 | | | | |
279 | | | | | +---es_CO
280 | | | | |     | formats.py
281 | | | | |     | __init__.py
282 | | | | |
283 | | | | | +---LC_MESSAGES
284 | | | | |     | django.mo
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286 | | | | |
287 | | | | | \---__pycache__
288 | | | | |     formats.cpython-35.pyc
289 | | | | |     __init__.cpython-35.pyc
290 | | | | |
291 | | | | | +---es_MX
292 | | | | |     | formats.py
293 | | | | |     | __init__.py
294 | | | | |
295 | | | | | +---LC_MESSAGES
296 | | | | |     | django.mo
297 | | | | |     | django.po
298 | | | | |
299 | | | | | \---__pycache__
300 | | | | |     formats.cpython-35.pyc
301 | | | | |     __init__.cpython-35.pyc
302 | | | | |
303 | | | | | +---es_NI
304 | | | | |     | formats.py
305 | | | | |     | __init__.py
306 | | | | |
307 | | | | | \---__pycache__

```

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308 | | | | | formats.cpython-35.pyc
309 | | | | | __init__.cpython-35.pyc
310 | | | | |
311 | | | | | +---es_PR
312 | | | | | | | formats.py
313 | | | | | | | __init__.py
314 | | | | | | |
315 | | | | | | | \---__pycache__
316 | | | | | | | formats.cpython-35.pyc
317 | | | | | | | __init__.cpython-35.pyc
318 | | | | | | |
319 | | | | | +---es_VE
320 | | | | | | | \---LC_MESSAGES
321 | | | | | | | django.mo
322 | | | | | | | django.po
323 | | | | | | |
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325 | | | | | | | formats.py
326 | | | | | | | __init__.py
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328 | | | | | | | +---LC_MESSAGES
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343 | | | | | | | | |
344 | | | | | | | | | \---__pycache__
345 | | | | | | | | | formats.cpython-35.pyc
346 | | | | | | | | | __init__.cpython-35.pyc
347 | | | | | | | | |
348 | | | | | +---fa
349 | | | | | | | formats.py
350 | | | | | | | __init__.py
351 | | | | | | |
352 | | | | | | | +---LC_MESSAGES
353 | | | | | | | | | django.mo
354 | | | | | | | | | django.po
355 | | | | | | | | |
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357 | | | | | | | | | formats.cpython-35.pyc
358 | | | | | | | | | __init__.cpython-35.pyc
359 | | | | | | | | |
360 | | | | | +---fi
361 | | | | | | | formats.py
362 | | | | | | | __init__.py
363 | | | | | | |
364 | | | | | | | +---LC_MESSAGES
365 | | | | | | | | | django.mo

```

```

366 | | | | |         django.po
367 | | | | |
368 | | | | |     \---__pycache__
369 | | | | |         formats.cpython-35.pyc
370 | | | | |         __init__.cpython-35.pyc
371 | | | | |
372 | | | | |     +---fr
373 | | | | |         formats.py
374 | | | | |         __init__.py
375 | | | | |
376 | | | | |     +---LC_MESSAGES
377 | | | | |         django.mo
378 | | | | |         django.po
379 | | | | |
380 | | | | |     \---__pycache__
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382 | | | | |         __init__.cpython-35.pyc
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384 | | | | |     +---fy
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386 | | | | |         __init__.py
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388 | | | | |     +---LC_MESSAGES
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390 | | | | |         django.po
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392 | | | | |     \---__pycache__
393 | | | | |         formats.cpython-35.pyc
394 | | | | |         __init__.cpython-35.pyc
395 | | | | |
396 | | | | |     +---ga
397 | | | | |         formats.py
398 | | | | |         __init__.py
399 | | | | |
400 | | | | |     +---LC_MESSAGES
401 | | | | |         django.mo
402 | | | | |         django.po
403 | | | | |
404 | | | | |     \---__pycache__
405 | | | | |         formats.cpython-35.pyc
406 | | | | |         __init__.cpython-35.pyc
407 | | | | |
408 | | | | |     +---gd
409 | | | | |         formats.py
410 | | | | |         __init__.py
411 | | | | |
412 | | | | |     +---LC_MESSAGES
413 | | | | |         django.mo
414 | | | | |         django.po
415 | | | | |
416 | | | | |     \---__pycache__
417 | | | | |         formats.cpython-35.pyc
418 | | | | |         __init__.cpython-35.pyc
419 | | | | |
420 | | | | |     +---gl
421 | | | | |         formats.py
422 | | | | |         __init__.py
423 | | | | |

```



```

424 | | | | +---LC_MESSAGES
425 | | | | |         django.mo
426 | | | | |         django.po
427 | | | | |
428 | | | | | \---__pycache__
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940 | | | | |         django.po
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954 | | | \---__pycache__
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976 | | | \---project_name
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979 | | | | wsgi.py-tpl
980 | | | | __init__.py-tpl
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982 | | | +---urls
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984 | | | | static.py
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992 | | | \---__pycache__
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996 | | | +---contrib
997 | | | | __init__.py
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999 | | | +---admin
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1011 | | | | tests.py
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1353 | | | | |         django.mo
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1367 | | | | | |         django.mo
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1374 | | | | | |         django.mo
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1596 | | | | | +---uk
1597 | | | | | | \---LC_MESSAGES
1598 | | | | | | django.mo
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1612 | | | | | | django.mo
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1624 | | | | | \---zh_Hant
1625 | | | | | | \---LC_MESSAGES
1626 | | | | | | django.mo
1627 | | | | | | django.po
1628 | | | | | | djangojs.mo
1629 | | | | | | djangojs.po
1630 | | | | |
1631 | | | | | +---migrations
1632 | | | | | | 0001_initial.py
1633 | | | | | | 0002_logentry_remove_auto_add.py
1634 | | | | | | __init__.py
1635 | | | | |
1636 | | | | | \---__pycache__
1637 | | | | | | 0001_initial.cpython-35.pyc
1638 | | | | | | 0002_logentry_remove_auto_add.cpython-35.pyc
1639 | | | | | | __init__.cpython-35.pyc
1640 | | | | |
1641 | | | | | +---static

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1642 | | | | \---admin
1643 | | | | +---css
1644 | | | | | base.css
1645 | | | | | changelists.css
1646 | | | | | dashboard.css
1647 | | | | | fonts.css
1648 | | | | | forms.css
1649 | | | | | login.css
1650 | | | | | rtl.css
1651 | | | | | widgets.css
1652 | | | | |
1653 | | | | +---fonts
1654 | | | | | LICENSE.txt
1655 | | | | | README.txt
1656 | | | | | Roboto-Bold-webfont.woff
1657 | | | | | Roboto-Light-webfont.woff
1658 | | | | | Roboto-Regular-webfont.woff
1659 | | | | |
1660 | | | | +---img
1661 | | | | | calendar-icons.svg
1662 | | | | | icon-addlink.svg
1663 | | | | | icon-alert.svg
1664 | | | | | icon-calendar.svg
1665 | | | | | icon-changelink.svg
1666 | | | | | icon-clock.svg
1667 | | | | | icon-deletelink.svg
1668 | | | | | icon-no.svg
1669 | | | | | icon-unknown-alt.svg
1670 | | | | | icon-unknown.svg
1671 | | | | | icon-yes.svg
1672 | | | | | inline-delete.svg
1673 | | | | | LICENSE
1674 | | | | | README.txt
1675 | | | | | search.svg
1676 | | | | | selector-icons.svg
1677 | | | | | sorting-icons.svg
1678 | | | | | tagadd.svg
1679 | | | | | tagarrowright.svg
1680 | | | | |
1681 | | | | \---gis
1682 | | | | | move_vertex_off.svg
1683 | | | | | move_vertex_on.svg
1684 | | | | |
1685 | | | | \---js
1686 | | | | | actions.js
1687 | | | | | actions.min.js
1688 | | | | | calendar.js
1689 | | | | | cancel.js
1690 | | | | | change_form.js
1691 | | | | | collapse.js
1692 | | | | | collapse.min.js
1693 | | | | | core.js
1694 | | | | | inlines.js
1695 | | | | | inlines.min.js
1696 | | | | | jquery.init.js
1697 | | | | | popup_response.js
1698 | | | | | prepopulate.js
1699 | | | | | prepopulate.min.js

```

## 5.1. Installation de l'environnement de programmation Python 3.5, Anaconda, Gimp, Sphinx 65

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1758 | | | | | object_delete_summary.html
1759 | | | | |
1760 | | | | | \---registration
1761 | | | | |     logged_out.html
1762 | | | | |     password_change_done.html
1763 | | | | |     password_change_form.html
1764 | | | | |     password_reset_complete.html
1765 | | | | |     password_reset_confirm.html
1766 | | | | |     password_reset_done.html
1767 | | | | |     password_reset_email.html
1768 | | | | |     password_reset_form.html
1769 | | | | |
1770 | | | | | +---templatetags
1771 | | | | |     admin_list.py
1772 | | | | |     admin_modify.py
1773 | | | | |     admin_static.py
1774 | | | | |     admin_urls.py
1775 | | | | |     log.py
1776 | | | | |     __init__.py
1777 | | | | |
1778 | | | | | \---__pycache__
1779 | | | | |     admin_list.cpython-35.pyc
1780 | | | | |     admin_modify.cpython-35.pyc
1781 | | | | |     admin_static.cpython-35.pyc
1782 | | | | |     admin_urls.cpython-35.pyc
1783 | | | | |     log.cpython-35.pyc
1784 | | | | |     __init__.cpython-35.pyc
1785 | | | | |
1786 | | | | | +---views
1787 | | | | |     decorators.py
1788 | | | | |     main.py
1789 | | | | |     __init__.py
1790 | | | | |
1791 | | | | | \---__pycache__
1792 | | | | |     decorators.cpython-35.pyc
1793 | | | | |     main.cpython-35.pyc
1794 | | | | |     __init__.cpython-35.pyc
1795 | | | | |
1796 | | | | | \---__pycache__
1797 | | | | |     actions.cpython-35.pyc
1798 | | | | |     apps.cpython-35.pyc
1799 | | | | |     checks.cpython-35.pyc
1800 | | | | |     decorators.cpython-35.pyc
1801 | | | | |     exceptions.cpython-35.pyc
1802 | | | | |     filters.cpython-35.pyc
1803 | | | | |     forms.cpython-35.pyc
1804 | | | | |     helpers.cpython-35.pyc
1805 | | | | |     models.cpython-35.pyc
1806 | | | | |     options.cpython-35.pyc
1807 | | | | |     sites.cpython-35.pyc
1808 | | | | |     tests.cpython-35.pyc
1809 | | | | |     utils.cpython-35.pyc
1810 | | | | |     widgets.cpython-35.pyc
1811 | | | | |     __init__.cpython-35.pyc
1812 | | | | |
1813 | | | | | +---admindocs
1814 | | | | |     apps.py
1815 | | | | |     middleware.py

```



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1816 | | | | | urls.py
1817 | | | | | utils.py
1818 | | | | | views.py
1819 | | | | | __init__.py
1820 | | | | |
1821 | | | | | +---locale
1822 | | | | | | +---af
1823 | | | | | | | \---LC_MESSAGES
1824 | | | | | | | django.mo
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1827 | | | | | | +---ar
1828 | | | | | | | \---LC_MESSAGES
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django.mo
django.po

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|     django.po

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2502 | | | | | +---hsb
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2508 | | | | | | \---LC_MESSAGES
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2510 | | | | | |         django.po
2511 | | | | |

```

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2527 | | | | +---is
2528 | | | | | \---LC_MESSAGES
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2530 | | | | |     django.po
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2572 | | | | | +---lt
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2576 | | | | |
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2581 | | | | |
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2617 | | | | | +---nl
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2622 | | | | | +---nn
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2626 | | | | |
2627 | | | | | +---os

```

```

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2677 | | | | | +---sr
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2685 | | | | | |     django.po

```

```

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2737 | | | | | +---vi
2738 | | | | | | \---LC_MESSAGES
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2740 | | | | | | | django.po
2741 | | | | | |
2742 | | | | | +---zh_Hans
2743 | | | | | | \---LC_MESSAGES

```



### 5.1.4 Installation de Git

- <https://git-scm.com/>  
+---templates
- <https://en.wikipedia.org/wiki/Git>  
password\_reset\_subject.txt

## 5.1. Installation de l'environnement de programmation Python 3.5, Anaconda, Gimp, Sphinx



## Contents

- *Installation de Git*
  - *Description*
  - *Commandes Git*
    - \* *git status*
    - \* *git add*
    - \* *git commit . -m "commentaires"*
    - \* *Annuler des modifications*

## Description

git est un logiciel de gestion de versions décentralisé.

C'est un logiciel libre créé par Linus Torvalds, auteur du noyau Linux, et distribué selon les termes de la licence publique générale GNU version 2.

En 2016, il s'agit du logiciel de gestion de versions le plus populaire qui est utilisé par plus de douze millions de personnes.

## Commandes Git

### git status

```
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        renamed:    installation/python35/anaconda.png -> installation/anaconda/anaconda.png
        renamed:    installation/python35/apres_install_anaconda.png -> installation/anaconda/apres_...
        renamed:    installation/python35/tree_anaconda.png -> installation/anaconda/tree_anaconda.pr...

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   actions/2__14_octobre_2016/2__14_octobre_2016.rst
        modified:   index.rst
        modified:   installation/installation.rst
        modified:   installation/pycharm/pycharm.rst
        modified:   installation/python35/python35.rst
```

```
modified:   programmes/pylab/nombres_x_y/nombres_x_y.rst
modified:   programmes/pylab/pylab.rst
modified:   ../source/pylab/nombres_x_y/nombres_x_y.py
```

Untracked files:

(use "git add <file>..." to include in what will be committed)

```
installation/anaconda/anaconda.rst
installation/anaconda/ipython/
installation/anaconda/spyder/
installation/git/
programmes/pylab/ipython_anaconda3.png
programmes/pylab/ipython_barre_commandes.png
programmes/pylab/nombres_x_y/execution_dans_python.png
```

### git add

```
git add .
```

### git commit . -m "commentaires"

```
git commit . -m "maj doc"
```

### Annuler des modifications

#### See also:

- <https://www.atlassian.com/git/tutorials/undoing-changes/>

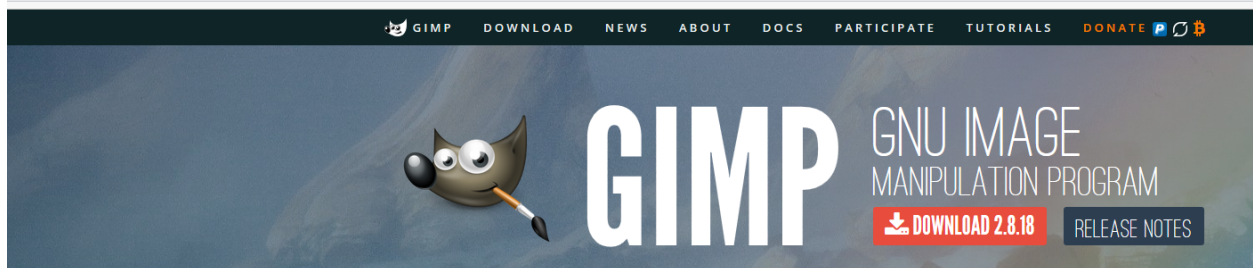
```
git checkout pip.rst
```

## 5.1.5 Installation de GIMP ((GNU Image Manipulation Program))

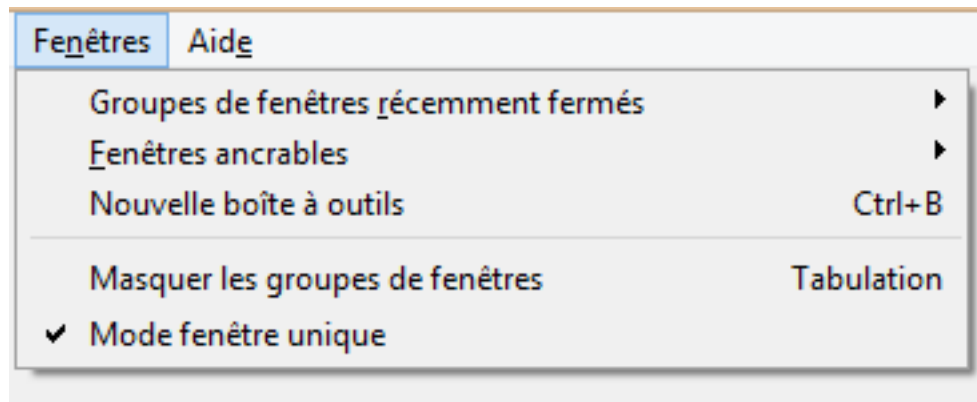
#### See also:

- <https://www.gimp.org/>
- <https://fr.wikipedia.org/wiki/GIMP>
- <http://docs.gimp.org/2.8/fr/>

[www.gimp.org](http://www.gimp.org)



**GIMP** est utilisé pour capturer les images et les insérer dans les documents Sphinx.



### 5.1.6 Installation du module StExBar (CLI, ligne de commande)

See also:

- <http://stefanstools.sourceforge.net/StExBar.html>

Indispensable au développeur Windows.

**Warning:** Si console ne s'installe pas, voici d'autres alternatives:

- <http://stefanstools.sourceforge.net/StExBar.html>

C'est ce qui s'est passé sur l'ordinateur d'Anael.

### 5.1.7 Installation de l'IDE PyCharm

See also:

- <https://www.jetbrains.com/help/pycharm/2016.2/django.html>
- <https://confluence.jetbrains.com/display/PYH/Using+IPython+Notebook+with+PyCharm>
- <https://fr.wikipedia.org/wiki/PyCharm>

#### Contents

- *Installation de l'IDE PyCharm*  
– *Description*

#### Description

PyCharm est un environnement de développement intégré (abrégé EDI en français ou en anglais : IDE (Integrated Development Environment)) utilisé pour programmer en Python.

Il offre l'analyse de code, un débogueur graphique, la gestion des tests unitaires, l'intégration de logiciel de gestion de versions, et supporte le développement web avec Django.

Il est développé par l'entreprise Tchèque, JetBrains. Il est multi-plateforme et fonctionne sous Windows, Mac OS X et Linux.

Il est décliné en édition professionnelle, réalisé sous licence propriétaire et en édition communautaire réalisé sous licence Apache.

---

**Note:** on peut l'utiliser avec Django

---

**Warning:** Pour anaconda, il existe d'autres IDEs plus adaptés. .. seealso:: *Spyder is the Scientific PYthon Development EnviRonment*



---

## Glossaire

---

### 6.1 Glossaire

**IDE** integrated development environment (environnement de développement) An integrated development environment (IDE) is a software application that provides comprehensive facilities to computer programmers for software development

**See also:**

- [https://fr.wikipedia.org/wiki/Environnement\\_de\\_d%C3%A9veloppement](https://fr.wikipedia.org/wiki/Environnement_de_d%C3%A9veloppement)
- [https://en.wikipedia.org/wiki/Integrated\\_development\\_environment](https://en.wikipedia.org/wiki/Integrated_development_environment)





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