

Installation Guide

Workshop 23.11.2015

1. Python

Windows users:

Download latest version of PythonXY 2.7 from:

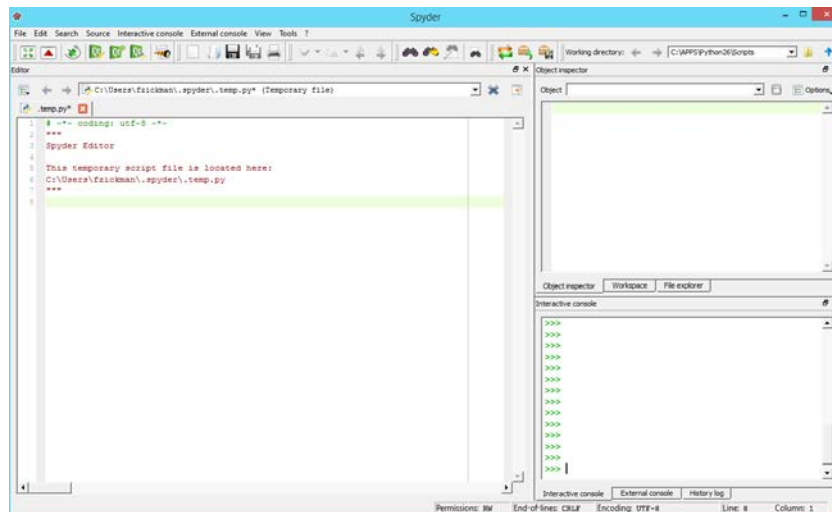
<https://python-xy.github.io/downloads.html>

Doubleclick on the file, then follow installation instructions.

Either keep the default settings, or, in case you do not want to install all default packages, install the following minimum components:

- Base Libraries
- Base Python
- Spyder
- NumPy
- SciPy
- IPython
- Matplotlib
- xy
- xydoc

To check whether the installation was successful, open a Spyder instance. A new window should open, looking like this:



Type “import numpy” and “import matplotlib” in the right bottom panel. This should be possible without any error message.

Linux users:

Install the latest version of Python 2.7 using the installer of your choice. Make sure that the packages NumPy, SciPy, and Matplotlib are installed and included in your python path.

To check whether the packages are successfully installed, you can open a python instance in your shell:

```
>python
```

Then type:

```
> import numpy
```

```
> import matplotlib
```

```
> import scipy
```

This should return no error message.

2. R and Rstudio

Relevant web sites:

<https://www.r-project.org/>

<http://www.bioconductor.org/>

<http://stat.ethz.ch/CRAN/>

<https://www.rstudio.com>

First install R, then install Rstudio.

Windows users:

Download <http://stat.ethz.ch/CRAN/bin/windows/base/R-3.2.2-win.exe> . Click “OK” or “Next” whenever asked until you reach “Startup options”. Choose “Yes” to customize startup options. Next, choose “SDI (separate windows)”. Repeatedly click “Next” until installation starts.

To install Rstudio, download <https://download1.rstudio.org/RStudio-0.99.486.exe>, execute it and follow the installation instructions.

Mac users:

On <http://stat.ethz.ch/CRAN/bin/macosx/> you will find the description on how to install R on a Mac.

To install Rstudio, download <https://download1.rstudio.org/RStudio-0.99.486.dmg>, execute it and follow the installation instructions.

Linux users:

On <http://stat.ethz.ch/CRAN/bin/linux/> you will find source files for different distributions.

To install Rstudio, go to <https://www.rstudio.com/products/rstudio/download/> and pick the appropriate version. Download, execute it and follow the installation instructions.

2.1 Relevant packages

After installation, start Rstudio. In the panel called *Console*, execute the following code while connected to the internet. You can copy and paste it into the command prompt ">":

```
install.packages("ggplot2", repos = "http://stat.ethz.ch/CRAN/")
source("https://bioconductor.org/biocLite.R")
biocLite("DESeq2")
```

2.2 Getting started

Video tutorial: <https://www.youtube.com/playlist?list=PLqzoL9-eJTNBDdKgJgJzaQcY6OXmsXAHU>

Collection of R manuals: <https://cran.r-project.org/manuals.html>

Collection of course materials from bioconductor: <http://bioconductor.org/help/course-materials/>

Some resources using R and Rstudio: <https://www.rstudio.com/resources/training/online-learning/#R>