

Software installation and configuration

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Before you start, if you use a Windows PC laptop, please install and enable WSL (Windows Subsystem for Linux) then follow the instructions for Ubuntu.

You will need at least 30Gb of disk space (the more the better).

1. You will need to install a Java Virtual Machine in order to run CDS Aladin and HIPS Generator. Please use the instructions available at <https://aladin.cds.unistra.fr/> to download Aladin and then also download the Beta version of Aladin as explained here: <https://aladin.cds.unistra.fr/hips/HipsIn10Steps.gml>

2. You will need a working Python-3 installation with the following packages:

- (a) numpy
- (b) astropy
- (c) scipy
- (d) imageio
- (e) PIL (Python Imaging Library)
- (f) astroquery

There are multiple ways to install python packages. We recommend using "pip" and installing packages into the "conda" environment.

3. You will need to install astromatic tools (SourceExtractor, PSFex, SWarp)

- (a) for MacOS X you can use MacPorts (try "sudo port install source-extractor", then swarp, scamp, and psfex)
- (b) for Ubuntu/Debian use "sudo apt install source-extractor", then swarp, scamp, and psfex
- (c) For Fedora use "dnf"

4. You will need to install SourceXtractor++ as described here:

<https://github.com/astroworld/SourceXtractorPlusPlus>

The installation can be done either from the "conda" Python environment, or from a package (for Fedora/RedHat Linux families), or from source (not recommended unless you really know what you're doing)

5. Please have a working version of git (optional but recommended)

Data and additional software

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1. We will distribute a link to a public repository with the Python software which will be used during the tutorial for image post-processing and RGB generation

2. The idea of the tutorial is to use astroquery to access data in the "live" mode from the archives. However, in case of poor internet connection or if the archive, which we plan to use, is down, we will have a static version of the dataset, which will be of an order of 3-4Gb or less.