**The labscript suite install guide for windows**

**Install Python(x,y)**

The labscript suite is written in Python. We currently support Python 2.7. We recommend installing Python(x,y) which includes Python 2.7 along with many other packages (like scipy, matplotlib and h5py) used in the labscript suite. You can download it here [here](https://code.google.com/p/pythonxy/wiki/Downloads?tm=2). **Please note that Python(x,y) only has a 32-bit version.** This is good, as currently some of the other labscript suite dependencies only work under 32-bit mode, which requires everything to be 32-bit (except hardware device drivers, which can be 32-bit or 64-bit depending on the OS).

We suggest selecting all available packages under the “Python” category during the install wizard.

**Install Python packages**

Once python is installed, you should have access to the executable “easy\_install”. Open a command line with administrative privileges, and install the packages listed below by typing

easy\_install <package name> (or easy\_install --upgrade <package name> if it is already installed)

Package list:

* Update h5py (you may not be able to do this from easy\_install, in which case download and install the latest version from [here](http://www.h5py.org/dl/))
* Update pyzmq==13.1.0 (the latest version seems to have bugs, specifying the package name like shown forces the version of pyzmq to 13.1.0)
* Install pyside
* Update pandas
* Install PyDAQmx
* Install spinapi
* Install qtutils
* Install zprocess

Other things to install:

* PyGtk – [download here](http://ftp.gnome.org/pub/GNOME/binaries/win32/pygtk/2.24/pygtk-all-in-one-2.24.2.win32-py2.7.msi)
* matplotlib with GTK support – [download here](http://www.lfd.uci.edu/~gohlke/pythonlibs/#matplotlib)

**GTK Themes and icons**

To make the labscript suite look like the pictures in [our paper](http://arxiv.org/abs/1303.0080), you need to install some GTK themes and icons.

To install the GTK themes, [download this file](http://downloads.sourceforge.net/gtk-win/gtk2-themes-2009-09-07-ash.exe?download) and install it to C:\Python27\Lib\site-packages\gtk-2.0\runtime\

To install icons, [download this file](https://code.google.com/p/gnome-colors/downloads/detail?name=gnome-colors-5.5.1.tar.gz&can=2&q=) and copy the files and folders (Eg. Gnome-brave) contained within to C:\Python27\Lib\site-packages\gtk-2.0\runtime\share\icons\

**Install the suite**

You will need to place all suite files in C:\pythonlib (so the following folders should exist: C:\pythonlib\BLACS, C:\pythonlib\labscript, etc)

There are a few options to get a copy of the labscript suite. Our code is located on our bitbucket team repository at <https://bitbucket.org/labscript_suite>.

1. **I want to stay up to date with development, maintain my own version history and contribute back to the project.** In this case, we recommend *forking* each of our repositories on bitbucket. These repositories can then be *cloned* to your local pythonlib folder. You will then be able to commit and push changes back to the online repository to maintain your development history, and issue *pull requests* to us to send bugfixes or added features to us to include in the main repository.
2. **I want to stay up to date with development, but won’t ever be contributing to the project or making local modifications to the labscript suite.** We would encourage anyone who is thinking of picking this option, to go with option 1 anyway (in case you change your mind in the future). However, if you are sure, then you can just clone our repository to your pythonlib folder.
3. **I just want a stable copy of the files, I don’t care about staying up to date with development.** For the moment, please go with option 2. We will in the near future, release bundles of the suite as downloadable zip files.

**Note on branches:**

* Please make sure you are on the “default” branch of BLACS (the “gtk” branch is now deprecated)
* Please make sure you are on the “gtk” branch of lyse (the Qt branch “default” is still under development)

You will also need to create a lab config file: C:\labconfig\<computer hostname>.ini and fill out the required fields. An example file exists [here](http://www.labscriptsuite.org/downloads/example.ini). The lab config file needs to contain the paths to labscriptlib and analysislib, which is where you will store python scripts using the labscript API and the lyse API respectively. We store these in C:\user\_scripts\labscriptlib and C:\user\_scripts\analysislib.

Finally, you need to add C:\pythonlib;C:\user\_scripts to your python path. To do this, you need to create/edit the windows system environment variable PYTHONPATH. This is done differently on different versions of windows, but on windows 7 you need to go to control panel->system->advanced system settings->environment variables->system variables and edit/create the PYTHONPATH variable in there. You will probably need to restart your system after doing this.

To test you have added the paths correctly, start a Python terminal and type:  
import labscript  
If you get no errors, you have done it correctly!

**Install HDFVIEW**

There is a “relatively nice” (it’s written in Java….) viewer for HDF5 files which can be downloaded from [here](http://www.hdfgroup.org/hdf-java-html/hdfview/). Either the 32-bit or 64-bit version is fine!

**Creating a lab (BLACS) connection table**

BLACS will not start unless it has access to a compiled (h5 file) lab connection table, located at a path specified in the C:\labconfig\hostname.ini file.

However, the only simple way to compile a connection table (without already having BLACS running) is to use runmanager to compile a very simple experiment that contains all the required connection table definitions. The resulting h5 file can then be used as the connection table file.

**Setting up runviewer**

Runviewer is currently licensed under the GPL, and will need to be downloaded separately from our website. You need to place the runviewer and pyqtgraph folders in pythonlib, and then run python setup.py build from a command line (setup.py is located in the runviewer folder) to compile the python c extension for your chosen platform.

**Installing BIAS**

Follow the install guide at <http://www.labscriptsuite.org/docs/bias-docs.pdf>