6

Downloading and Installing Scilab

To conclude this presentation of the Scilab software, here is additional information that you may find useful during the Scilab download and installation process.

6.1. Where to find Scilab?

Scilab's official website (see Figure 6.1) is without doubt the prime location to find all information on Scilab.

Figure 6.1 : *Scilab's official website*

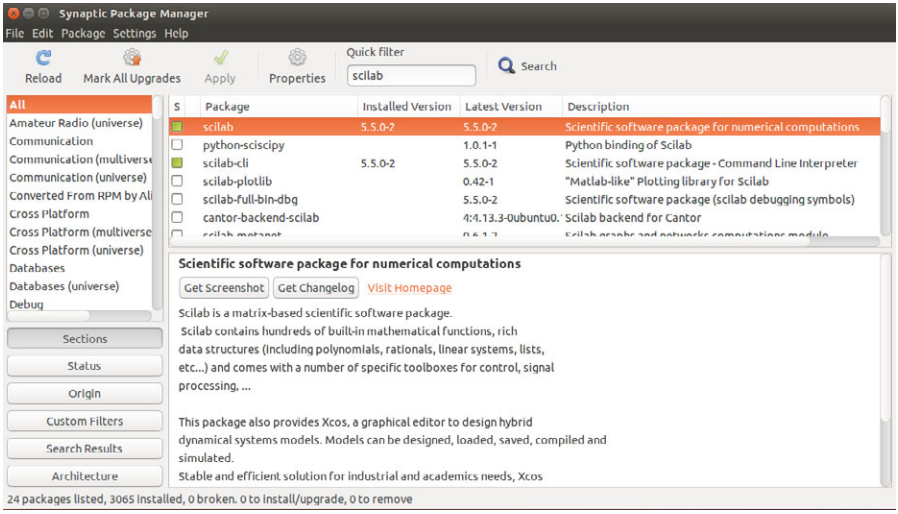
A link on the homepage redirects to the download page which provides access to the latest Scilab versions for the three main operating systems (Windows, Linux et Mac OS).

Caution *› When downloading the Windows or Linux versions, you need to choose the version that best fits your processor's architecture:*

- *For a 32 bits Windows or Linux architecture, only the Scilab 32 bits version should be installed.*
- *For a Linux 64 bits architecture, install the Scilab 64 bits version.*
- *For Windows 64 bits, you can install either the 32 or 64 bits version. However, the Scilab 64 bits version is recommended to optimize the software performance.*
- *For MAC OS users, only one Scilab version is available.*

In Linux, you can also download and install Scilab through a package manager such as Synaptic.

Figure 6.2 : *Installing Scilab through Synaptic*



Caution *› Synaptic often does not offer the most up to date versions of Scilab (or of its associated packages). For this reason, it may be preferable to perform a manual installation.*

In some cases, you may also need to install different versions of Scilab, for example to get around certain bugs. On the same site, you can find:

- older version of Scilab which can be requested *via* a form (the list of Scilab versions is available on the Scilab website)
- development versions, called *Nightly Builds* since they are compiled each night. They can be convenient to check if a recently reported bug was correctly fixed

Caution › *The quality of these versions does not match the official version and should not be used in production!*

- sporadic *alpha* or *beta* versions to test new developments prior to major updates

Since 2008, Scilab has been open source under a license issued by CEA (Atomic Energy and Alternative Energies Commission), CNRS (the French National Centre for Scientific Research) and INRIA (the French Institute for Research in Computer Science and Automation), called CeCILL, which is also compatible with the GPL license. In fact, Scilab's source code is accessible and modifiable! Scilab's development is managed through the Git tool that provides access to the source code which can be viewed by everyone and modified by contributors. The Scilab source code is accessible from http://cgit.scilab.org and http://gitweb.scilab.org (see Figure 6.3).

Figure 6.3 : *Accessing the Scilab source code from gitweb*

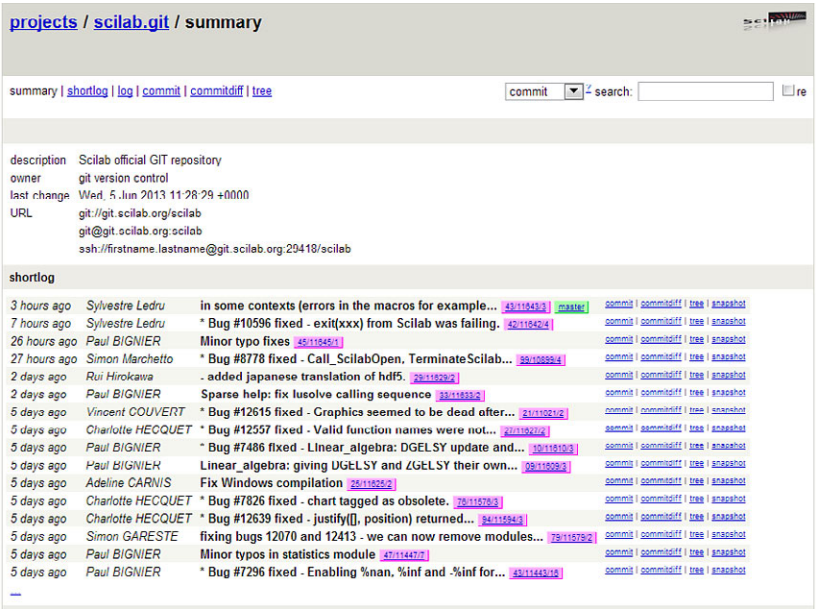
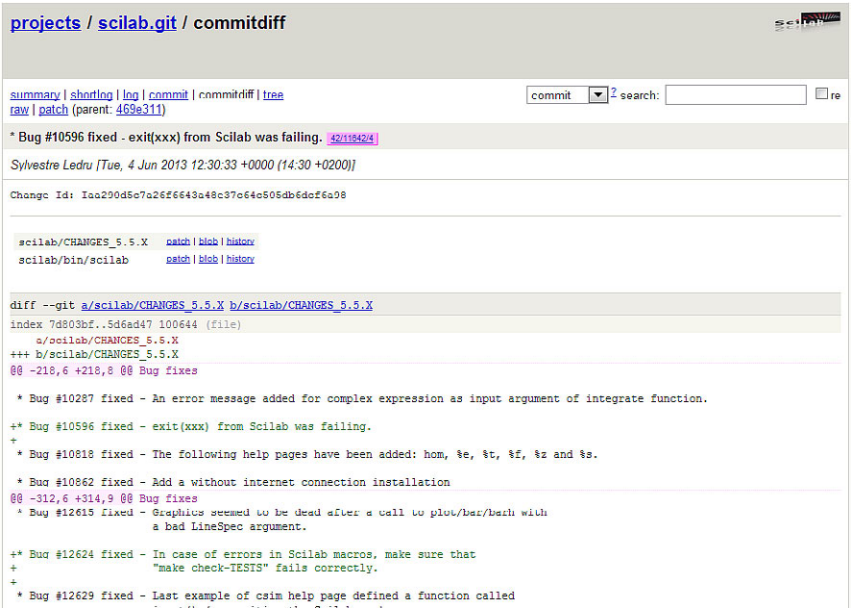


Figure 6.4 : Comparing versions on gitweb



6.2. Installation

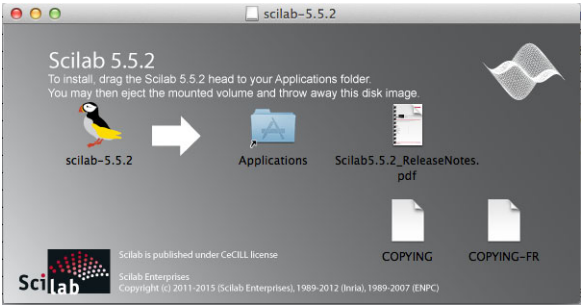
Once the appropriate binary file is downloaded, the installation is very simple. In accordance with your operating system:

- For Windows, execute the `scilab-*.exe` file, for example by double-clicking on the file icon from the file explorer. Then follow the instructions in the different windows (see Figure 6.5).

Figure 6.5 : Installing Scilab on Windows

- In Linux, if you perform a manual installation, extract the `scilab-*.tar.gz` file in the specific directory where you wish to install Scilab. For example, execute the command `tar xvf scilab-5.5.2.tar.gz -C /usr/` from a terminal (you can also choose a directory other than `/usr/` and make sure you have administrative rights).
- On Mac OS, drag the `scilab-*.dmg` file icon (image of downloaded disk) to the Applications folder to launch the Mac OS applications installer (see Figure 6.6).

Figure 6.6 : Installing Scilab on Mac OS



During the Scilab installation, and depending on your operating system, a group of files and programs are installed in a given directory. To find their location, follow the path:

- `C:/Program*/Scilab-*.*.*/` if you use Windows
- `/usr/Scilab-*.*.*/` if you use Linux

- `/Applications/Scilab.app/Contents/MacOS/share/scilab/` if you use Mac OS

From now on, we will refer to Scilab's installation directory as `SCI`. It contains, among other things, two important directories:

- `SCI/bin/`, which contains Scilab's main executables
- `SCI/contrib/` which in the future will contain supplementary modules

6.3. Executables and launch options

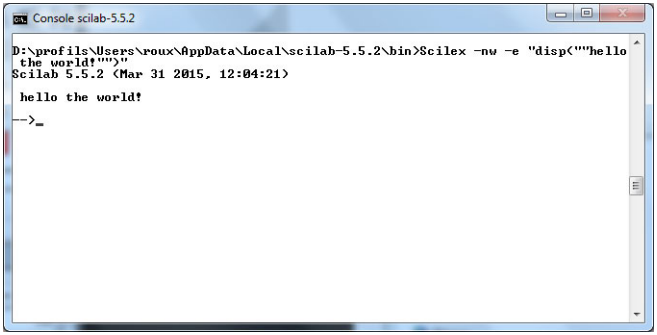
The executable file that is used to launch Scilab is located in the `SCI/bin/` directory. It is called:

- `scilab` in Linux or Mac OS
- `WScilex.exe` in Windows

If you wish to create shortcut to start Scilab, you need to point to one of these files. Once you launch the correct executable, Scilab's main window will appear as shown in Figure 2.1. You can also launch Scilab straight from your operating system's command-line interpreter by calling the executable file above. In this case, several launch options are available:

- `scilab -nwni`: launches Scilab in the terminal to use through the command-line without loading the graphics features.
- `scilab -nw`: launches Scilab in the terminal to use through the command-line while loading advanced features such as graphics.
- `scilab -e 'command'`: launches Scilab and silently executes the `command` Scilab during startup.
- `scilab -f file.sce`: launches Scilab and silently executes the commands file `file.sce` (also see Chapter Scripts).

Figure 6.7 : Launching Scilab from a command prompt



Tip *› You can also find files located in the `SCI/bin/` directory that let you execute Scilab directly from a terminal:*

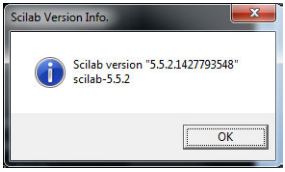
- *On Windows, `Scilex.exe` performs the equivalent of launching Scilab with the option `-nwni`.*
- *On Linux or Mac OS:*
  - *`scilab-cli` corresponds to launching Scilab with the `-nwni` option*
  - *`scilab-adv-cli` corresponds to launching Scilab with the option `-nw`.*

There are also more advanced options:

- `scilab -ns` starts Scilab without the start file `scilab.start` (see Chapter Scripts).
- `scilab -nouserstartup` starts Scilab without loading the user start files `SCIHOME/.scilab` or `SCIHOME/scilab.ini` (see Chapter Scripts).
- `scilab -nb` starts Scilab without displaying the welcome banner.
- `scilab -l language` launches Scilab while configuring the user language, for example `"fr"` for french.
- `scilab -mem N` launches Scilab while setting the stack size N (memory allocated to Scilab).
- `scilab -version` displays a window with the Scilab version before returning control.

Caution *› When launching Scilab from the command-line, the current directory is the one from which the command `scilab` (or `Wsilex`) is called.*

Figure 6.8 : Launching Scilab with the `-version` option



Tip *› If Scilab's user interface language does not suit you, this parameter can be changed at any time from the preferences editor (see Figure 2.3). You can also retrieve and modify this data from the command-line with* `getlanguage` *and* `setlanguage`*.*

```
-->//  retrieve the Scilab interface language

-->getlanguage()  // in English at first
 ans  =
 en_US

-->//  modify Scilab interface language

-->setlanguage('fr_FR')   // change to French
 ans  =
  T
```