




SCons File Organization

SCons Machinery

A container like ScienceTools includes several files in addition to regular user source. They replace IExternal and subdirectories, the *Policy packages, and CMT requirements.

These files reside in several places and may have package-specific , container-specific , or global scope .


The master copies of global files are in CVS under SConsFiles. They show up in all containers by means of symbolic links.


Externals

Three files are used to set up externals:

 **allExternals.scons:** Will describe all versions of all externals used any container (so far just ST) on any platform. Involves symbols.

<http://www-glast.stanford.edu/cgi-bin/viewcvs/SConsFiles/allExternals.scons?revision=1.38&view=markup>

 **processExternals.scons:** Makes substitutions for symbols based on current environment. Does extra set-up for certain externals.




 **externals.scons:** Choose the particular (i)version of each external required for this container.

<http://www-glast.stanford.edu/cgi-bin/viewcvs/ScienceTools-scons/externals.scons?revision=1.58&view=markup>

Tools

- **addLibrary.py**: add dependency on library or collection of libraries
- **doxygen.py**: build doxygen config file
- **generateScript.py**: build wrapper scripts for exe's and generic _setup. See also `setupTarget.scons`.
- **registerObjects.py**: keeps track of what should be installed where; aliases
- **registerTargets.py**: replacement for registerObjects. Additionally has access to build environments for targets, needed to make project files on Windows
- **makeStudio.py**: makes project and solution files by calling builders defined in `msvs.py`. Invoked from registerTargets but only on Windows.
- **msvs.py**: replacement for SCons-native tool of the same name.

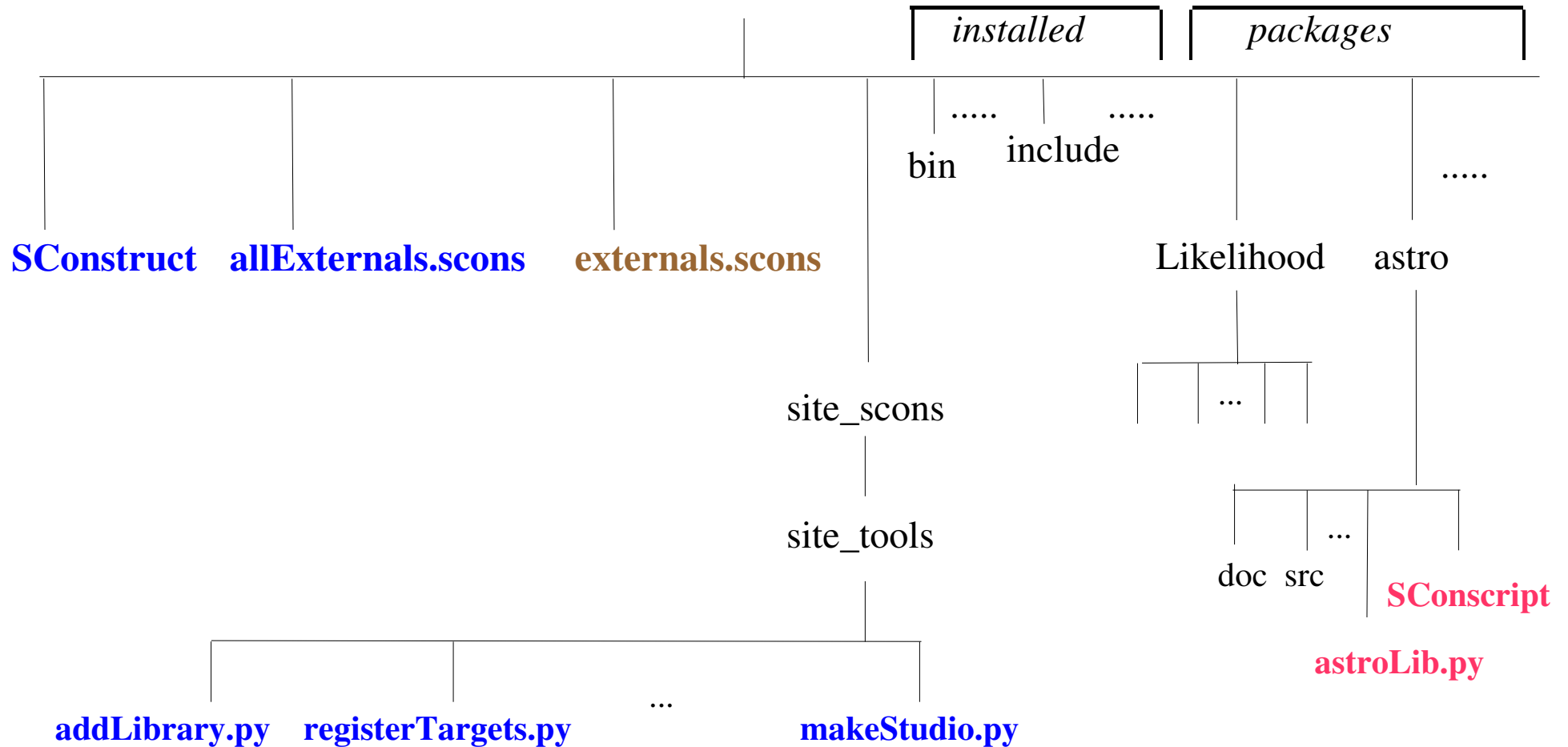
Miscellany

- **SConstruct**  Bulk of SCons options definition and interpretation, generic (non-container-specific) set up.
- **package.scons**  Defines, etc., used throughout this container.
- **setupTarget.scons**  Asks for build of _setup target (see also generateScript.py)

Per-package files

- **SConscript** Defines targets (libraries and executables) to be built for this package, then invokes `registerTargets`
- **xxxLib.py** Needed for any package that builds a library which will be referenced at link time by other binaries in this package or another package. Defines dependencies of the library on other libraries.

ScienceTools-someVersion



Windows only

- Requires SCons 1.2.0.d20090223
- Check out recent ST version, e.g. latest LATEST
- From top directory issue CVS commands
 - `cvns update -A -l` (update local files)
 - `cvns update -A site_scons/site_tools`
- Add `msvs.py`, `makeStudio.py` to your `site_scons/site_tools` folder. They're in CVS module `users/jrb/minimalDev/site_scons/site_tools`
- Edit `site_scons/site_tools/registerTargets.py` to enable call to `makeStudio`:
 - uncomment line near top: `from makeStudson import *`
 - uncomment multi-line call to `makeStudio` at the bottom