USER GUIDE TO INSTALL AUDELA

Install AudeLA with SVN
Compile AudeLA
Linux
Launching AudeLA

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Installing AudeLA from the sourceforge SVN server and compiling under Linux

1. Install packages

Use the 8.5 version

Switch your terminal to root using the command **su**

Suse : zypper install gcc g++ make tcl-devel tk-devel gsl gsl-devel subversion tkimg

Ubuntu : apt-get install tcl-dev tk-dev libgsl0 libgsl0-dev subversion tkimg

Fedora : apt-get install gcc gcc-c++ subversion tkimg

Debian Raspberry :
apt-get install make tcl tk tcl-dev tk-dev subversion tkimg
wget http://mirrordirector.raspbian.org/raspbian/pool/main/g/gsl/libgsl0ldbl_1.15+dfsg.2-2_armhf.deb
wget http://mirrordirector.raspbian.org/raspbian/pool/main/g/gsl/libgsl0-dev_1.15+dfsg.2-2_armhf.deb
dpkg -i libgsl0ldbl_1.15+dfsg.2-2_armhf.deb
dpkg -i libgsl0-dev_1.15+dfsg.2-2_armhf.deb

Optional packages (for some specific cameras):
libtiff-devel

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1b. Alternative install with Tcl/Tk compilation

If multithreading is needed for Tcl/Tk (use of cameras and telescopes),
then it is preferable to recompile Tcl/Tk from sources:

Download Tcl and Tk sources from sourceforge (version 8.5. Don‘t use a newer one)
http://www.tcl.tk/software/tcltk/download.html

```
unzip tcl8514-src.zip
cd tcl8.5.14/unix
./configure --enable-threads
make install
cd ../..

unzip tk8514-src.zip
cd tk8.5.14/unix
./configure --enable-threads
make install
cd ../..
```

About TkImg, one must add a link. Switch your terminal to root using the command **su**):

```
cd /usr/local/lib
ln -s /usr/share/tcl/Img1.3
```

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2. Prepare the srv folder

root> mkdir /srv
root> chown -R *USER*.users /usr/local /srv (replace *USER* by your login)

cd /srv
mkdir develop

3. Download AudeLA from SVN

cd /srv/develop
svn co svn://svn.code.sf.net/p/audela/code/trunk/audela audela

Installing AudeLA from the sourceforge SVN server and compiling under Linux

4. Compile AudeLA (OS 32 bits)

```
cd /srv/develop/audela/src
chmod +x configure
./configure –enable-threads
make external
make contrib
make
cd ../bin
chmod +x audela.sh
```

5. Set the library path for AudeLA (OS 32 bits)

```
root> cd /etc/ld.so.conf.d
root> touch audela.conf
root> vi audela.conf
```

write these lines and save

```
root> ldconfig
```

```
/srv/develop/audela/bin
/usr/local/lib
/srv/develop/audela/lib
/usr/lib
```

Installing AudeLA from the sourceforge SVN server and compiling under Linux

4. Compile AudeLA (OS 64 bits)

```
cd /srv/develop/audela/src
chmod +x configure
./configure –enable-threads –with-tcl=/usr/local/lib64 --with-tk=/usr/local/lib64
make external
make contrib
make
cd ../bin
chmod +x audela.sh
```

Copy the folder /srv/develop/audela/lib64/thread2.6.5.1 in /srv/develop/audela/lib

5. Set the library path for AudeLA (OS 64 bits)

```
root> cd /etc/ld.so.conf.d
root> touch audela.conf
root> vi audela.conf
        write these lines and save
root> ldconfig
```

```
/srv/develop/audela/bin
/usr/local/lib64
/srv/develop/audela/lib
/srv/develop/audela/lib64
/usr/lib
```

Installing AudeLA from the sourceforge SVN server and compiling under Linux

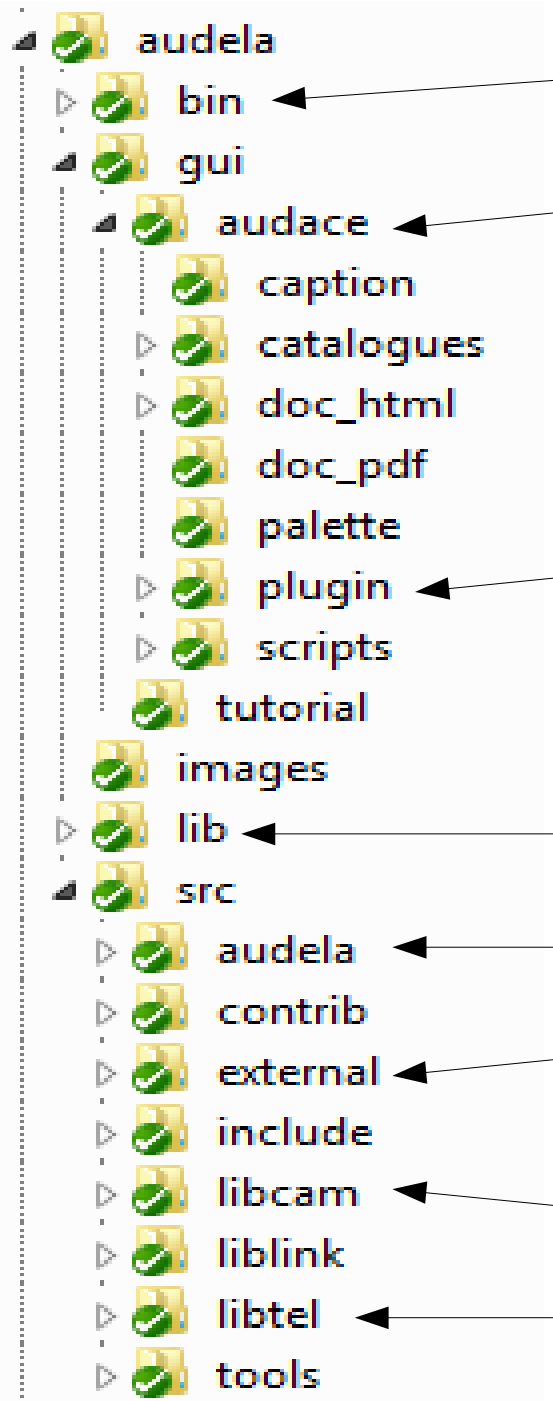
6. Create a desktop shortcut

cd
cd Desktop
vi audela.desktop

In the editor window add the following lines and save the text file:

[Desktop Entry]
Name=AudeLA
Exec="/srv/develop/audela/bin/audela"
Icon=/srv/develop/audela/bin/audace32.png
Type=Application
Categories=Education;Application

AudeLA architechture : AudeLA important folders (same Windows/Linux)



Executables and libraries (.so, .dll)

Tcl/Tk codes for GUI definition

Tcl/Tk codes for “Plugin GUI tools”

Tcl libraries (FTP, plots, HTTP, SOAP, MySQL,...)

C/C++ source codes

C/C++ codes of Fitsio, Sextractor, DLL for drivers

Camera plugin C/C++ codes

Mount plugin C/C++ codes

bin

Tcl

C
C++

Many ways to launch AudeLA

1. Launch AudeLA and Aud'ACE graphical interface (standard)

Windows : Click on the audela.exe icon 
Linux: Click on the AudeLA icon or use the command ./audela &

2. Launch AudeLA without Aud'ACE graphical interface (console mode)

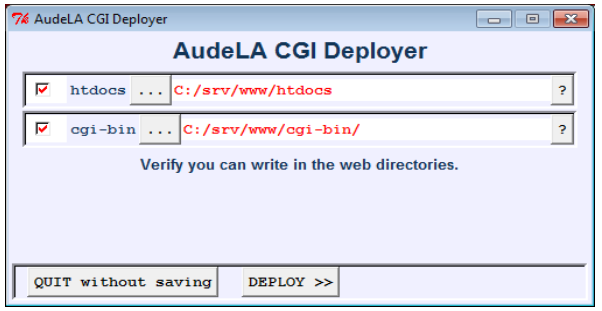
Windows command: audela.exe --console
Linux command: ./audela --console

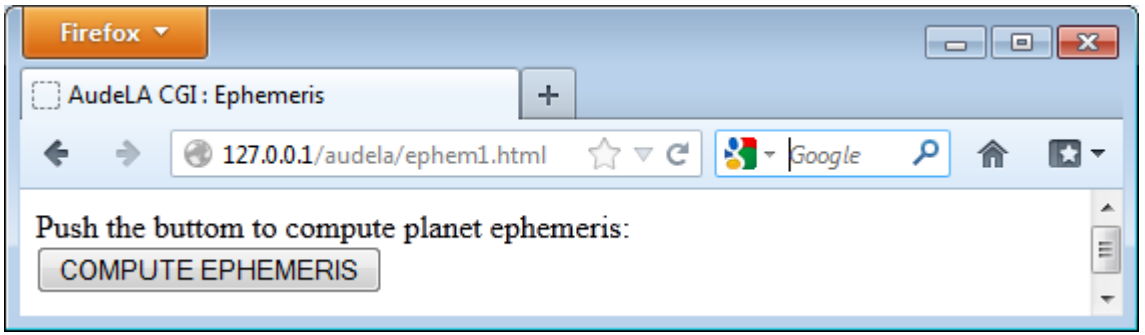
3. Launch AudeLA without Aud'ACE graphical interface and launch a script

Windows command: audela.exe --console --file c:\test\analysis.tcl
Linux : ./audela --console --file ~/test/analysis.tcl

4. Launch AudeLA without Aud'ACE graphical interface as a CGI script

Install Apache server before.
Install through the AudeLA terminal: source $audace(rep_install)/bin/cgi_install.tcl ; ::cgi_install::run





What appends when you launch AudeLA ?

Anatomy of the executable file audela.exe / audela

Entry point
main(int argc, char **argv)

Load the Tcl library
#include <tcl.h>

Declare a Tcl interpreter
void *interp

Launch the Tcl event loop
Tcl_Main(argc, argv, init)

Define the init of the interpreter

```
int init(Tcl_Interp *interp) {
        Tcl_Init(interp);
        return TCL_OK;
}
```

Load
    libaudela
    libmc
    etc...
Load
    libaudelatk
    etc...

Launch a starting Tcl script
source audela/bin/audela.tcl (default)

Migration from old to new sourceforge SVN server (since 2013 March 26th)

URL address for anonymous checkout and update only:
svn://svn.code.sf.net/p/audela/code/trunk/audela

URL address for sourceforge identified users (xxx) that commit (ask to denis.marchais@free.fr to have an id):
svn+ssh://xxx@svn.code.sf.net/p/audela/code/trunk/audela

Windows (Tortoise SVN):

AudeLA folder, right mouse button "TortoiseSVN > Relocate"
Type one of the two above URL until /code (replace xxx by our sourceforge id if necessary)
Password asked for identified users
Message when the conversion is done
Un petit message signale la fin de conversion.

Linux

New SVN versions, only one command:
svn relocate svn://svn.code.sf.net/p/audela/code/trunk/audela
or, if you are identified
svn relocate svn+ssh://xxx@svn.code.sf.net/p/audela/code (sometimes add /trunk/audela)

Old SVN version, only one command:
svn switch --relocate https://audela.svn.sourceforge.net/svnroot/audela svn://svn.code.sf.net/p/audela/code/trunk/audela
or, if you are identified
svn switch --relocate https://audela.svn.sourceforge.net/svnroot/audela svn+ssh://xxx@svn.code.sf.net/p/audela/code/trunk/a