

To install gemc follow the instructions on [this link](#)

The installation takes place in a machine with Ubuntu 20.04

Problem 1: QT

go_qt does not work; therefore, download qt's offline installer and use that to install qt in gemc's folder.

Problem 2: EVIO

Evio version has to be set to **5.1** in the **versions.env** file. Later versions do not download directly from **go_evio**.

Evio SConstruct throws errors like crazy due to "ISO C++17 does not allow dynamic exception specifications". To solve this, in SConstruct specify the following flags:

```
from init_env import init_environment
from util import scanFiles

env = init_environment("evio")
env.Append(CPPFLAGS = '-fPIC -Wall -O2 -std=c++11')
env.Replace(CXXFLAGS = '-fexceptions -fstack-protector -Wall -O2 -std=c++11')

print("CPPFLAGS is:", env['CPPFLAGS'])
print("CXXFLAGS is:", env['CXXFLAGS'])
```

Problem 3: MySQL

In Ubuntu, the following line appears for various libraries:

cp: -r not specified; omitting directory '/usr/lib/x86_64-linux-gnu/<name_of_folder>

Therefore, I added a **-r** in **go_mysql** . That solved the message.

Problem 4: glibrary

When **scons** is executed in the glibrary folder, **scons** throws the following error:

Error: ROOT not found

Therefore; glibrary **needs** root installed. However! The version of glibrary located at [gemc's github](#) does not need it. I'll stick with this...

Problem 5: ROOT

The following error appears:

```
Activities Terminal abr 23 15:28
esteban@esteban: ~/JLAB_software/gemc/2.6/install

*** Package root ***
> Version: 6.24.06
> Filename: root_v6.24.06.source.tar.gz
> Release: -j4
> Multithread Compilation:

> Installing root version 6.24.06

> Downloading root_v6.24.06.source.tar.gz...
2022-04-23 12:00:01 URL:https://www.jlab.org/12gev_phys/packages/sources/root/root_v6.24.06.source.tar.gz [185153944/185153944] -> "root_v6.24.06.source.tar.gz" [1]
> Unpacking root_v6.24.06.source.tar.gz...

> Source compilation started on --- sáb 23 abr 2022 12:00:05 -04
> Compiling source. Log will be in $ROOTSYS/build_log
> Starting xterm showing compilation log
[1] 0024
c++: Fatal error: Killed signal terminated program cciplus
compilation terminated.
make[2]: *** [interpreter/llvn/src/tools/clang/lib/Sema/CMakeFiles/obj.clangSema.dir/build.make:336: interpreter/llvn/src/tools/clang/lib/Sema/CMakeFiles/obj.clangSema.dir/SemaDeclAttr.cpp.o] Error 1
make[2]: *** Deleting file 'interpreter/llvn/src/tools/clang/lib/Sema/CMakeFiles/obj.clangSema.dir/SemaDeclAttr.cpp.o'
make[2]: *** Waiting for unfinished jobs....
make[1]: *** [CMakeFiles/Makefile2:17897: interpreter/llvn/src/tools/clang/lib/Sema/CMakeFiles/obj.clangSema.dir/all] Error 2
make: *** [Makefile:152: all] Error 2

In file included from /home/esteban/opt/root-6.20.00/root-6.20.00_install/include/TVirtualPad.h:27,
                 from /home/esteban/opt/root-6.20.00/root-6.20.00_install/include/TPad.h:16,
                 from /home/esteban/opt/root-6.20.00/root-6.20.00_install/include/TCanvas.h:17,
                 from /home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/roofit/roostats/src/HypoTestInverter.cxx:51:
/home/esteban/opt/root-6.20.00/root-6.20.00_install/include/TVirtualX.h:43:11: error: redefinition of 'const int kNumCursors'
   43 | const int kNumCursors = 19;
      | ~~~~~^~~~~
In file included from /home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/core/base/inc/TAttBox2D.h:15,
                 from /home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/graf2d/graf/inc/TLine.h:18,
                 from /home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/roofit/roostats/src/HypoTestInverter.cxx:50:
/home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/core/gul/inc/gulTypes.h:371:11: note: 'const int kNumCursors' previously defined here
   371 | const int kNumCursors = 19;
      | ~~~~~^~~~~
In file included from /home/esteban/opt/root-6.20.00/root-6.20.00_install/include/TVirtualPad.h:27,
                 from /home/esteban/opt/root-6.20.00/root-6.20.00_install/include/TPad.h:16,
                 from /home/esteban/opt/root-6.20.00/root-6.20.00_install/include/TCanvas.h:17,
                 from /home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/roofit/roostats/src/HypoTestInverter.cxx:51:
/home/esteban/opt/root-6.20.00/root-6.20.00_install/include/TVirtualX.h:44:6: error: multiple definition of 'enum ECursor'
   44 | enum ECursor { kBottomLeft, kBottomRight, kTopLeft, kTopRight,
      | ~~~~~^~~~~
In file included from /home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/core/base/inc/TAttBox2D.h:15,
                 from /home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/graf2d/graf/inc/TLine.h:18,
                 from /home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/roofit/roostats/src/HypoTestInverter.cxx:50:
/home/esteban/JLAB_software/gemc/2.6/root/root-6.24.06/core/gul/inc/gulTypes.h:372:6: note: previous definition here
   372 | enum ECursor { kBottomLeft, kBottomRight, kTopLeft, kTopRight,
      | ~~~~~^~~~~
make[2]: *** [roofit/roostats/CMakeFiles/RooStats.dir/build.make:245: roofit/roostats/CMakeFiles/RooStats.dir/src/HypoTestInverter.cxx.o] Error 1
make[1]: *** [CMakeFiles/Makefile2:35832: roofit/roostats/CMakeFiles/RooStats.dir/all] Error 2
make: *** [Makefile:152: all] Error 2

> Source compilation ended on --- sáb 23 abr 2022 13:54:42 -04
```

It seems that the version of ROOT I have installed in my machine is conflicting with the current installation.

Workaround:

- In `./ce/root.env` replace the `PROPOSED_INSTALL` directory with your install directory.
- In `./ce/versions.env` replace the `ROOT_DEFAULT_VERSION` with your installed version.
- That is it for now

Problem 6: GEMC

So gemc also has troubles. It says the 3.0 version does not exist.

- **Fix:** in `versions.env` change the default gemc version in the 2.6 case to 2.9

The **ISO C++17 does not allow dynamic exception specifications** error appears again!

- Try to fix it by adding in `SConstruct` the flags to use the other cpp versions. Another error: **It is not reading the GEANT4 libraries.**
 - **FIX:** When printing the flags I noticed that `CXXFLAGS` in `SConstruct` script includes the G4 libraries
- Here is another problem! If I append `c++11` as the option of standard `c++` to read, GEANT4 has problems! But EVIO looks good.
 - There is a new version of evio: Version 6.0 (I'll check it out)
 - **EVIO 6.0** also works with `c++11`
 - GEANT 4.10.07 works with C++11!!!! I'll use this
 - Version: **4.10.07.p03**

It worked changing geant's version!!!!

Problem 7: Open GEMC

So, now the issue is that when opening gemc with USE_GUI=1. I got:

qt.qpa.plugin: Could not find the Qt platform plugin "xcb" in ""

Temp fix: `export QT_PLUGIN_PATH=/usr/lib/qt/plugins`

Maybe I should purge QT and do the whole thing again...

To uninstall qt : [Here the instructions](#)

NOTE: After doing the whole install again I successfully managed to execute gemc with visual mode!

How?

- Download ceInstall2.5
- Change SCons version to 1.10 in the **versions.env** file
- It is not necessary to install glibrary for gemc<=2.9