

Installing of Geant4

- Prepare your system: build tools and compiler
- Install CLHEP
- Install Data files
- Install GEANT4

Installation Instruction are available from
GEANT4 web page

Links: tutorialedge.net/material06/HandsOn1/installLinks.html

Prepare your System

Build tools (make, cp, mv, ...) and compiler (gcc, vsc++) are needed before installing GEANT4

Linux, MacOS:

All tools should be installed

Windows XP:

cygwin for build tools.

Visual C++ for compiler.

(Visual C++ 2005 Express Edition is available for free)

Prepare your System

Windows tools

- Install Visual C++ 2005 Express Edition
- Install Microsoft Platform SDK

- Install cygwin (click setup.exe on cygwin web site)
- Need to select the Development Package
(gmake, gcc, binutils and tcsh)
- Installing X-windows is also useful
- About 1GB large

Prepare your System Windows tools

Add the path for VC++ and SDK to the cygwin startup script so that the VC++ compiler is available from the command line

`cp cygwin.bat cygwinG4.bat` (In C:\cygwin)

`edit cygwinG4.bat` and add:

`@echo all`

`call "C:\Program Files\Microsoft VisualStudio\8\Common7\Tools\vsvars32.bat"`

`call "C:\Program Files\Microsoft Platform SDK\SetEnv.cmd"`

create a short cut on the Desktop for `cygwinG4.bat`

Required versions for CLHEP and GEANT4

CLHEP version: **1.9.2.2**

GEANT4 version: **8.0 patch 1**

CLHEP

- download CLHEP 1.9.2.2
- unzip/untar
- `./configure --disable-shared \`
`--prefix/path/where/to/install/clhep`
Env-variable CLHEP_BASE_DIR will point to
the prefix path for GEANT4 installation
- `gmake`
- `gmake install`
- Will create: bin/, data/, examples/, include/, lib/

Data-Files

Data files are needed for some specific (optional) Physics processes.

- Download Files from GEANT4 download page
- Create a data directory (e.g.: .../geant4/data)
- unzip/untar the down loaded files in data directory (for each process there will be a sub-directory)

GEANT4

- unzip/untar GEANT4 version (8.0)
- ./Configure -build
- answer questions:
 - Location of CLHEP
 - Location of DATA files
 - Enable OpenGL drivers
(G4VIS_BUILD_OPENGLX_DRIVER, G4VIS_USE_OPENGLX)
- ./Configure -install => copies genat4 files to \$G4INSTALLDIR
- ./Configure => create env.sh, env.csh. Use them to setup env Variables: (source env.sh)

Directories

Build Directory:

From here you run Configure. Configure -install installs GEANT4 in *G4INSTALL*.

Install Directory (*G4INSTALL*):

contains header files, examples,

Work Directory (*G4WORKDIR*):

Used for building the examples. The binaries are in this directory.

Visualization

Some visualization Driver are automatically part of the executable:

DAWNFILE, HepRepFile, HepRepXML, RayTracer, VRML1FILE, VRML2FILE and ATree and GAGTree.

Others have to be enabled during the GEANT4 Installation:

OpenGL, OpenInventor, RayTracerX

Check the visualization links in the HandsOn1 page