How to install Ubuntu 14.04

Download Ubuntu From the following web page:
http://www.ubuntu.com/download/desktop

Ubuntu 14.04.4 LTS 64 bit

After download, burn iso file into a DVD.

1. Using a DVD?

It’s easy to install Ubuntu from a DVD. Here’s what you need to do:

Put the Ubuntu DVD into the DVD-drive

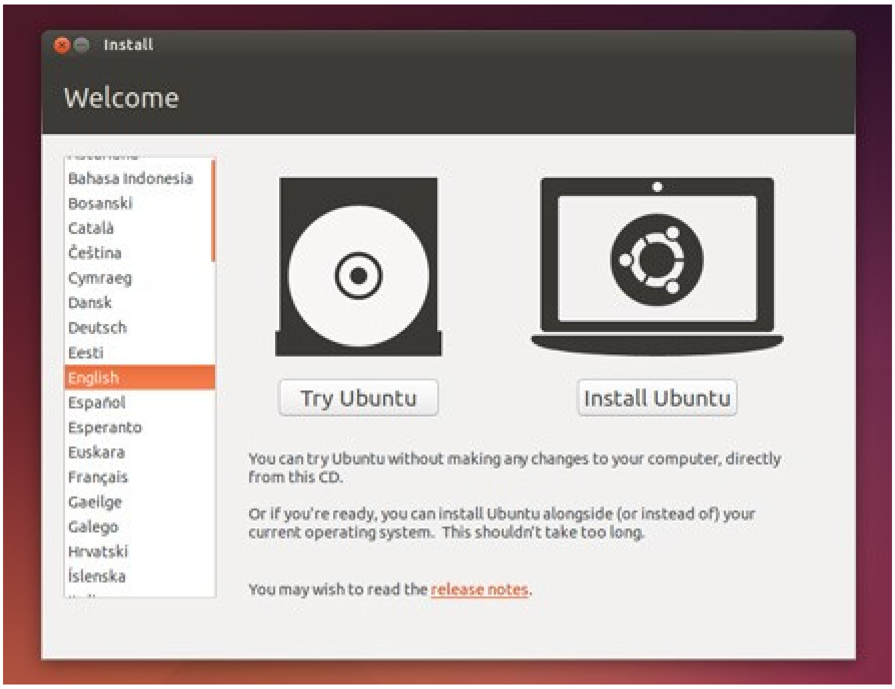
Restart your computer. You should see a welcome screen prompting you to choose your language and giving you the option to install Ubuntu or try it from the DVD.

If you don’t get this menu, read the booting from the DVDguide for more information.

Using a USB drive?

Most newer computers can boot from USB. You should see a welcome screen prompting you to choose your language and giving you the option to install Ubuntu or try it from the USB.

If your computer doesn’t automatically do so, you might need to press the F12 key to bring up the boot menu, but be careful not to hold it down - that can cause an error message.



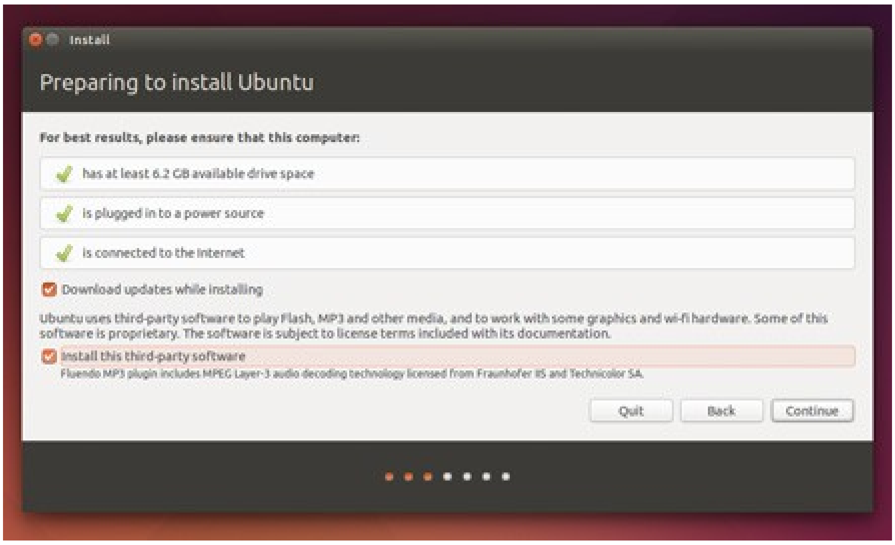
You can try Ubuntu without making any changes to your computer, directly from this CD.

Or if you're ready, you can install Ubuntu alongside (or instead of) your current operating system. This shouldn't take too long.

You may wish to read the release notes.

2. Prepare to install Ubuntu

- We recommend you plug your computer into a power source
- You should also make sure you have enough space on your computer to install Ubuntu
- We advise you to select Download updates while installing and Install this third-party software now
- You should also stay connected to the internet so you can get the latest updates while you install Ubuntu
- If you're not connected to the internet, we'll help you set up wireless at the next step



For best results, please ensure that this computer:

✓ has at least 6.2 GB available drive space

✓ is plugged in to a power source

✓ is connected to the Internet

☑ Download updates while installing

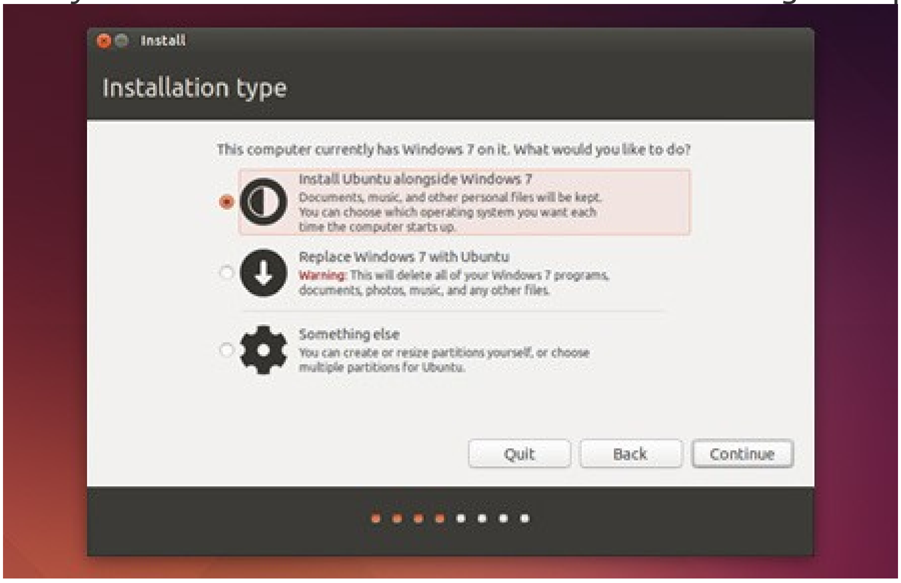
Ubuntu uses third-party software to play Flash, MP3 and other media, and to work with some graphics and wi-fi hardware. Some of this software is proprietary. The software is subject to license terms included with its documentation.

☑ Install this third-party software

Fluendo MP3 plugin includes MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Technicolor SA.

3. Allocate drive space

Use the checkboxes to choose whether you’d like to **Install Ubuntu alongside another operating system**, delete your existing operating system and replace it with Ubuntu, or — if you’re an advanced user — choose the ’Something else’option



Installation type

This computer currently has Windows 7 on it. What would you like to do?

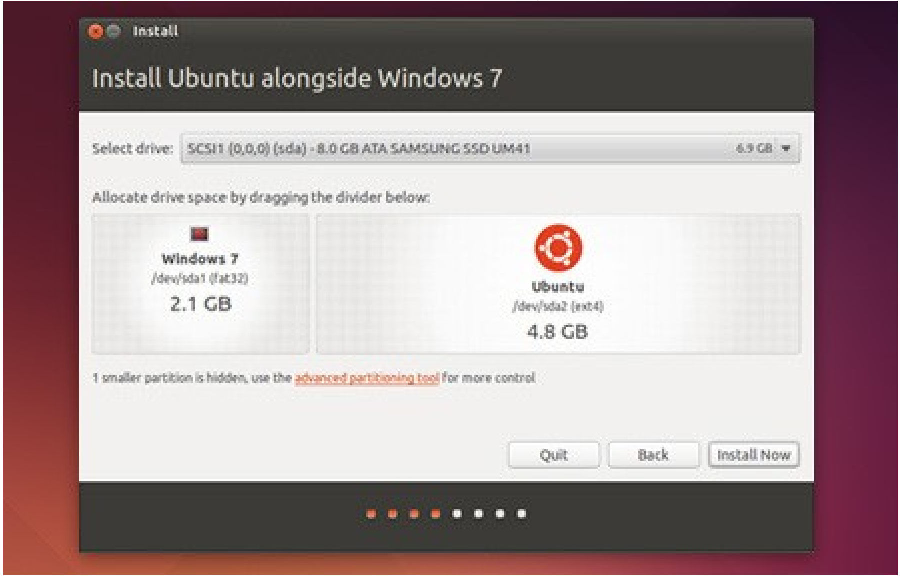
● Install Ubuntu alongside Windows 7
Documents, music, and other personal files will be kept. You can choose which operating system you want each time the computer starts up.

○ Replace Windows 7 with Ubuntu
Warning: This will delete all of your Windows 7 programs, documents, photos, music, and any other files.

○ Something else
You can create or resize partitions yourself, or choose multiple partitions for Ubuntu.

4. Begin the installation

Depending on your previous selections, you can now verify that you have chosen the way in which you would like to install Ubuntu. The installation process will begin when you click the Install Now button.
Ubuntu needs about 4.5 GB to install, so add a few extra GB to allow for your files.



Install Ubuntu alongside Windows 7

Select drive: SCSI1 (0,0,0) (sda) - 8.0 GB ATA SAMSUNG SSD UM41 6.9 GB

Allocate drive space by dragging the divider below:

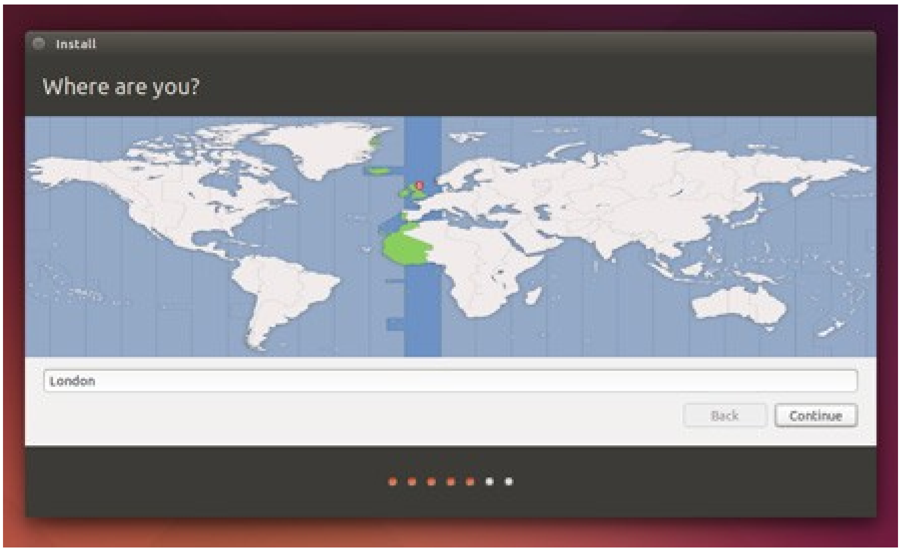
Windows 7
/dev/sda1 (fat32)
2.1 GB

Ubuntu
/dev/sda2 (ext4)
4.8 GB

1 smaller partition is hidden, use the advanced partitioning tool for more control

5. Select your location

If you are connected to the internet, this should be done automatically. Check your location is correct and click'Forward' to proceed. If you're unsure of your time zone, type the name of the town you're in or click on the map and we'll help you find it.
(**kolkata india**)

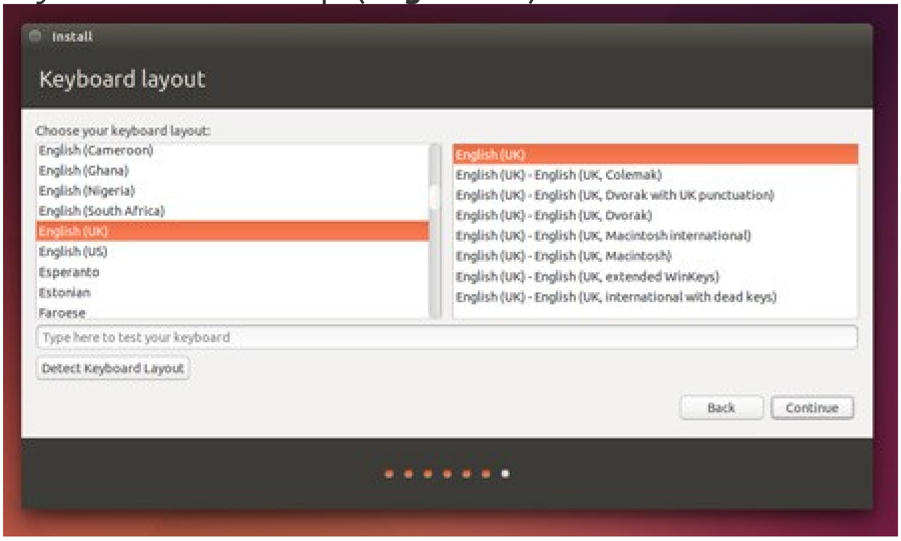

Install

Where are you?

London

6. Select your preferred keyboard layout

Click on the language option you need. If you're not sure, click the 'Detect Keyboard Layout' button for help. (**English UK**)


Install

Keyboard layout

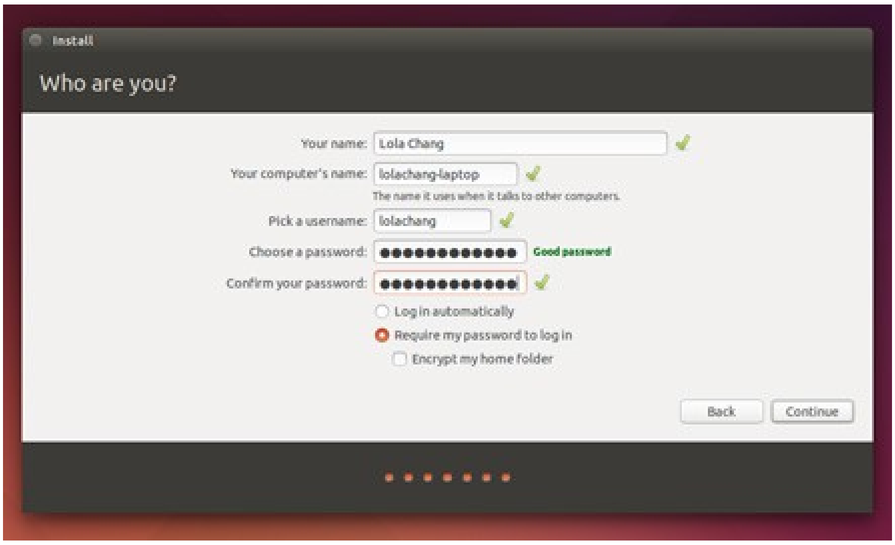
Choose your keyboard layout:

- English (Cameroon)
- English (Ghana)
- English (Nigeria)
- English (South Africa)
- English (UK)
- English (US)
- Esperanto
- Estonian
- Faroese

- English (UK)
- English (UK) - English (UK, Colemak)
- English (UK) - English (UK, Dvorak with UK punctuation)
- English (UK) - English (UK, Dvorak)
- English (UK) - English (UK, Macintosh international)
- English (UK) - English (UK, Macintosh)
- English (UK) - English (UK, extended WinKeys)
- English (UK) - English (UK, international with dead keys)

Type here to test your keyboard

7. Enter your login and password details



Install

Who are you?

Your name: Lola Chang ✓

Your computer's name: lolachang-laptop ✓

The name it uses when it talks to other computers.

Pick a username: lolachang ✓

Choose a password: ●●●●●●●●●●●●● Good password

Confirm your password: ●●●●●●●●●●●●● ✓

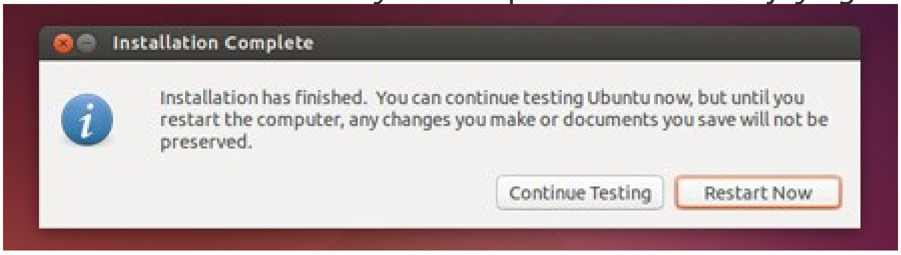
○ Log in automatically

● Require my password to log in

□ Encrypt my home folder

8. That's it.

All that's left is to restart your computer and start enjoying Ubuntu!



Installation Complete

Installation has finished. You can continue testing Ubuntu now, but until you restart the computer, any changes you make or documents you save will not be preserved.

How to install CERN ROOT 5.34

Prerequisites:

```
sudo apt-get install build-essential git subversion dpkg-dev make
g++ gcc binutils libx11-dev libxpm-dev libxft-dev libxext-dev
```

Optional (recommended) prerequisites:

```
sudo apt-get install gfortran libssl-dev libpcre3-dev libglu1-mesa-dev libglew-dev libftgl-dev
libmysqlclient-dev libfftw3-dev libcfitsio3-dev graphviz-dev libavahi-compat-libdnssd-dev
libldap2-dev python-dev libxml2-dev libkrb5-dev libgsl0-dev libqt4-dev
```

Install font server and fonts for ROOT:

```
sudo apt-get install xfs xfstt
```

```
sudo apt-get install t1-xfree86-nonfree ttf-xfree86-nonfree ttf-
xfree86-nonfree-syriac xfonts-75dpi xfonts-100dpi
```

```
service xfs start
```

Get ROOT

```
wget ftp://root.cern.ch/root/root_v5.34.14.source.tar.gz
```

```
gzip -dc root_v5.34.14.source.tar.gz | tar -xf -
```

Compile ROOT :

```
cd root
```

```
./configure
```

OR **(if you need GSL or Pythia)**

```
./configure --all --with-gsl-incdir="/usr/local/include" --with-gsl-libdir="/usr/local/lib" --enable-pythia8 --with-pythia8-incdir=$PYTHIA8/include --with-pythia8-libdir=$PYTHIA8/lib
```

```
make -j N
```

where N is the number of CPU cores:

```
cat /proc/cpuinfo | grep 'cpu cores'
```

For Ubuntu 14.04 you will also need to do:

```
sudo mkdir /usr/include/freetype && sudo cp /usr/include/freetype2/
```

Setup environment:

```
echo "source $PWD/bin/thisroot.sh" >> $HOME/.bashrc
```

```
source $HOME/.bashrc
```

How to install Geant4

Software Required to Build Optional Components of Geant4

- GDML Support (All Platforms)

Requires: Xerces-C++ headers and library compiled against the C++11 Standard.

•Qt User Interface and Visualization (All Platforms)

Requires: Qt4 or Qt5 headers and libraries, OpenGL or MesaGL headers and libraries.

Either Qt4 or Qt5 can be used provide that the version of Qt is 4.6 or higher on Linux.

•Motif User Interface and Visualization

Requires: Motif and X11 headers and libraries, OpenGL or MesaGL headers and libraries.

•X11 OpenGL Visualization (Linux and Mac OS X)

Requires: X11 headers and libraries,OpenGL or MesaGL headers and libraries.

On Mac OS X 10.10 and higher, X11 can be obtained through the Xquartz project.

Building and Installing on Unix Platforms

Unpack the Geant4 source package geant4.10.02.tar.gz to a location of your choice. For illustration only, this guide will assume it's been unpacked in a directory named /path/to, so that the Geant4 source package sits in a subdirectory

```
/path/to/geant4.10.02
```

We refer to this directory as the source directory. The next step is to create a directory in which to configure and run the build and store the build products. This directory should not be the same as, or inside, the source directory. In this guide, we create this build directory alongside our source directory:

```
    $ cd /path/to
    $ mkdir geant4.10.2-build
    $ ls
    geant4.10.02  geant4.10.2-build
```

To configure the build, change into the build directory and run CMake:

```
    $ cd /path/to/geant4.10.2-build
    $ cmake -DCMAKE_INSTALL_PREFIX=/path/to/geant4.10.2-install
/path/to/geant4.10.02
```

Here, the CMake Variable CMAKE_INSTALL_PREFIX is used to set the install directory, the directory under which the Geant4 libraries, headers and support files will be installed. It must be supplied as an absolute path. The second argument to CMake is the path to the source directory. In this example, we have used the absolute path to the source directory, but you can also use the relative path from your build directory to your source directory.

Additional arguments may be passed to CMake to activate optional components of Geant4, such as visualization drivers, or tune the build and install parameters. See Section 2.3 for details of these options. If you run CMake and decide afterwards you want to activate additional options, simply rerun CMake in the build directory, passing it the extra options plus the build directory. For example, after running CMake as above, you may wish to activate the installation of Geant4's datasets, so you would run

```
    $ cd /path/to/geant4.10.2-build
    $ cmake -DGEANT4_INSTALL_DATA=ON .
```

On executing the CMake command, it will run to configure the build and generate Unix Makefiles to perform the actual build. CMake has the capability to generate buildscripts for other tools, such as Eclipse and Xcode, but please note that we do not support user installs of Geant4 with these tools. On Linux, you will see output similar to:

```
    $ cmake -DCMAKE_INSTALL_PREFIX=/path/to/geant4.10.2-install
/path/to/geant4.10.02
    -- The C compiler identification is GNU 4.9.2
    -- The CXX compiler identification is GNU 4.9.2
    -- Check for working C compiler: /usr/bin/gcc-4.9
    -- Check for working C compiler: /usr/bin/gcc-4.9 -- works
    -- Detecting C compiler ABI info
    -- Detecting C compiler ABI info - done
    -- Detecting C compile features
    -- Detecting C compile features - done
    -- Check for working CXX compiler: /usr/bin/g++-4.9
    -- Check for working CXX compiler: /usr/bin/g++-4.9 -- works
    -- Detecting CXX compiler ABI info
    -- Detecting CXX compiler ABI info - done
    -- Detecting CXX compile features
    -- Detecting CXX compile features - done
    -- Found EXPAT: /usr/lib64/libexpat.so (found version "2.0.1")
    -- Looking for sys/types.h
    -- Looking for sys/types.h - found
    -- Looking for stdint.h
    -- Looking for stdint.h - found
    -- Looking for stddef.h
    -- Looking for stddef.h - found
    -- Check size of off64_t
    -- Check size of off64_t - done
    -- Looking for fseeko
    -- Looking for fseeko - found
    -- Looking for unistd.h
    -- Looking for unistd.h - found
    -- Pre-configuring dataset G4NDL (4.5)
    -- Pre-configuring dataset G4EMLOW (6.48)
    -- Pre-configuring dataset PhotonEvaporation (3.2)
    -- Pre-configuring dataset RadioactiveDecay (4.3)
    -- Pre-configuring dataset G4NEUTRONXS (1.4)
    -- Pre-configuring dataset G4PII (1.3)
    -- Pre-configuring dataset RealSurface (1.0)
    -- Pre-configuring dataset G4SAIDDATA (1.1)
    -- Pre-configuring dataset G4ABLA (3.0)
    -- Pre-configuring dataset G4ENSDFSTATE (1.2)
      *WARNING*
      Geant4 has been pre-configured to look for datasets
      in the directory:

      /path/to/geant4.10.2-install/share/Geant4-10.2.0/data

      but the following datasets are NOT present on disk at
      that location:

      G4NDL (4.5)
      G4EMLOW (6.48)
      PhotonEvaporation (3.2)
      RadioactiveDecay (4.3)
      G4NEUTRONXS (1.4)
      G4PII (1.3)
      RealSurface (1.0)
      G4SAIDDATA (1.1)
      G4ABLA (3.0)
      G4ENSDFSTATE (1.2)

      If you want to have these datasets installed automatically
      simply re-run cmake and set the GEANT4_INSTALL_DATA
      variable to ON. This will configure the build to download
      and install these datasets for you. For example, on the
      command line, do:

      cmake -DGEANT4_INSTALL_DATA=ON <otherargs>

      The variable can also be toggled in ccmake or cmake-gui.
      If you're running on a Windows system, this is the best
      solution as CMake will unpack the datasets for you
      without any further software being required

      Alternatively, you can install these datasets manually
      now or after you have installed Geant4. To do this,
      download the following files:

      http://geant4.cern.ch/support/source/G4NDL.4.5.tar.gz
```

```
      http://geant4.cern.ch/support/source/G4EMLOW.6.48.tar.gz
      http://geant4.cern.ch/support/source/G4PhotonEvaporation.3.2.tar.gz
      http://geant4.cern.ch/support/source/G4RadioactiveDecay.4.3.tar.gz
      http://geant4.cern.ch/support/source/G4NEUTRONXS.1.4.tar.gz
      http://geant4.cern.ch/support/source/G4PII.1.3.tar.gz
      http://geant4.cern.ch/support/source/RealSurface.1.0.tar.gz
      http://geant4.cern.ch/support/source/G4SAIDDATA.1.1.tar.gz
      http://geant4.cern.ch/support/source/G4ABLA.3.0.tar.gz
      http://geant4.cern.ch/support/source/G4ENSDFSTATE.1.2.tar.gz

      and unpack them under the directory:

      /path/to/geant4.10.2-install/share/Geant4-10.2.0/data

      As we supply the datasets packed in gzipped tar files,
      you will need the 'tar' utility to unpack them.

      Nota bene: Missing datasets will not affect or break
      compilation and installation of the Geant4
      libraries.

    -- The following Geant4 features are enabled:
    GEANT4_BUILD_CXXSTD: Compiling against C++ Standard '11'
    GEANT4_USE_SYSTEM_EXPAT: Using system EXPAT library

    -- Configuring done
    -- Generating done
    -- Build files have been written to: /path/to/geant4.10.2-build
```

On Mac OS X, the output will have slight differences, but the last three lines at least should be the same. These indicate a successful configuration.

The warning message about datasets is simply an advisory. Due to the size of the datasets, Geant4 will try and reuse any datasets it can find under the data installation prefix, in our example case /path/to/geant4.10.2-install/share/Geant4-10.2.0/data. If any datasets are not found here, it will pre-configure the setup scripts for using Geant4 (described inSection 3.1 and Section 3.2) to point to this location and emit the message to advise you on the steps you need to take to manually install the datasets at a time of your convenience.

Datasets are not required to be present to build Geant4, but may be required to run your application, depending on the physics models you use. If you wish to download and install the datasets automatically as part of your build of Geant4, simply add the option -DGEANT4_INSTALL_DATA=ON to the arguments passed to CMake. Note that this requires a working network connection and will download around 0.5GB of data. If you already have the datasets present on your system, you can point Geant4 to their location. See the GEANT4_INSTALL_DATADIRoption described Section 2.3.1 for more details.

If you see any errors at this point, carefully check the error messages output by CMake, and check your install of CMake and C++ compiler first. The default configuration of Geant4 is very simple, and provided CMake and the compiler are installed correctly, you should not see errors.

After the configuration has run, CMake will have generated Unix Makefiles for building Geant4. To run the build, simply execute make in the build directory:

```
$ make -jN
```

where N is the number of parallel jobs you require (e.g. if your machine has a dual core processor, you could set N to 2).

The build will now run, and will output information on the progress of the build and current operations. If you need more output to help resolve issues or simply for information, run make as

```
$ make -jN VERBOSE=1
```

Once the build has completed, you can install Geant4 to the directory you specified earlier in CMAKE_INSTALL_PREFIX by running

```
$ make install
```

Geant4 Installation Locations

If you choose the default installation paths, then your install of Geant4 is completely contained under the directory you chose for CMAKE_INSTALL_PREFIX, with the structure

```
+- CMAKE_INSTALL_PREFIX
   +- bin/
   |  +- geant4-config   (UNIX ONLY)
   |  +- geant4.csh      (UNIX ONLY)
   |  +- geant4.sh       (UNIX ONLY)
   |  +- G4global.dll    (WINDOWS ONLY)
   |  +- ...
   +- include/
   |  +- Geant4/
   |     +- G4global.hh
   |     +- ...
   |     +- CLHEP/       (WITH INTERNAL CLHEP ONLY)
   |     +- tools/
   +- lib/               (MAY BE lib64 on LINUX)
   |  +- libG4global.so  (AND/OR .a, OR G4Global.lib ON WINDOWS)
   |  +- ...
   |  +- Geant4-10.2.0/
   |     +- Geant4Config.cmake
   |     +- Geant4ConfigVersion.cmake
   |     +- Geant4LibraryDepends.cmake
   |     +- Geant4LibraryDepends-Release.cmake
   |     +- UseGeant4.cmake
   |     +- Linux-g++    (OR Darwin-g++ UNIX ONLY SOFTLINK -> ..)
   |     +- Modules/
```

```
    +- share
       +- Geant4-10.2.0
          +- geant4-10.2.0
          +- data/        (IF GEANT4_INSTALL_DATA WAS SET)
          +- examples/
          +- geant4make/
             +- geant4make.csh
             +- geant4make.sh
             +- config/
```

If you wish to make the Geant4 binaries and libraries available via your PATH and library path (LD_LIBRARY_PATH on Linux, DYLD_LIBRARY_PATH on Mac OS X), together with default environment variables for locating datasets, you should source the relevant script in CMAKE_INSTALL_PREFIX/bin

On interactive bourne shells (e.g. bash), do (assuming you are in CMAKE_INSTALL_PREFIX/bin):

```
$ . geant4.sh
```

This command can also be used to setup the Geant4 environment in other Bourne shell scripts. You can also supply the full path to the script rather than changing to the directory containing it.

On interactive C shells, do (assuming you are in CMAKE_INSTALL_PREFIX/bin):

```
$ source geant4.csh
```

Use the following link for installation guide:
http://geant4.web.cern.ch/geant4/UserDocumentation/UsersGuides/InstallationGuide/html/