

Installing with CVMFS:

```
source /cvmfs/sft.cern.ch/lcg/views/LCG_106/x86_64-ubuntu2204-gcc11-opt/setup.sh
```

```
git clone https://github.com/AIDAsoft/DD4hep.git
```

```
mkdir build && cd build
```

```
cmake -DDD4HEP_USE_GEANT4=ON -DBoost_NO_BOOST_CMAKE=ON  
-DDD4HEP_USE_HEPMC3=ON -DBUILD_TESTING=ON -DROOT_DIR=$ROOTSYS  
-DDD4HEP_USE_EDM4HEP=ON -D CMAKE_BUILD_TYPE=Release ..
```

```
make install -j32
```

```
cd ..
```

```
source bin/thisdd4hep.sh
```

Can test with the following:

```
ddsim -h
```

```
which ddsim
```

Those just make sure ddsim works properly

If you have visualization through your ssh:

```
cd DDDetectors/compact
```

```
geoDisplay SiD.xml
```

This will display a detector geometry in a pop out screen.

NOTE: Everytime you re-login, you will have to do `source /cvmfs/[sft.cern.ch/lcg/views/LCG\\_104/x86\\_64-ubuntu2204-gcc11-opt/setup.sh](https://sft.cern.ch/lcg/views/LCG_104/x86_64-ubuntu2204-gcc11-opt/setup.sh)` and `source bin/[thisdd4hep.sh](#)` (change path to wherever you installed dd4hep to)

Installing without CVMFS:

Install root:

```
wget https://root.cern/download/root\_v6.32.10.Linux-ubuntu20.04-x86\_64-gcc9.4.tar.gz
```

```
tar -xzf root_v6.32.10.Linux-ubuntu20.04-x86_64-gcc9.4.tar.gz
```

Install boost (should be installed already):

```
sudo apt-get install libboost-all-dev
```

Install xerces:

wget <https://dlcdn.apache.org/xerces/c/3/sources/xerces-c-3.3.0.tar.gz>

tar -xzf [xerces-c-3.3.0.tar.gz](#)

cd xerces-c-3.3.0

mkdir build && cd build

cmake -G "Unix Makefiles" -DCMAKE_INSTALL_PREFIX=**/home/ryan/xerces-install** ..
make install -j12

Install Geant4:

wget <https://gitlab.cern.ch/geant4/geant4/-/archive/v11.3.2/geant4-v11.3.2.tar.gz>

tar -xzf [geant4-v11.3.2.tar.gz](#)

mkdir **/home/ryan/geant4-v11.3.2-build** && cd **/home/ryan/geant4-v11.3.2-build**

cmake -DCMAKE_INSTALL_PREFIX=**/home/ryan/geant4-v11.3.2-install**
-DGEANT4_INSTALL_DATA=ON -DGEANT4_USE_GDML=ON
-DCMAKE_PREFIX_PATH=**/home/ryan/xerces-install**
-DGEANT4_BUILD_TLS_MODEL=global-dynamic -DGEANT4_BUILD_MULTITHREADED=ON
/home/ryan/geant4-v11.3.2

make install -j24

You need an upgraded version of cmake for the next steps, so do this:
pip install -U cmake

Install hepmpc3:

wget <http://hepmpc.web.cern.ch/hepmpc/releases/HepMC3-3.2.6.tar.gz>

tar -xzf [HepMC3-3.2.6.tar.gz](#)

cd HepMC3-3.2.6 && mkdir build && cd build

/home/ryan/.local/bin/cmake -DHEPMC3_ENABLE_ROOTIO=OFF
-DCMAKE_POLICY_VERSION_MINIMUM=3.5 -DCMAKE_INSTALL_PREFIX=../install/
-DHEPMC3_Python_SITEARCH38=**/home/ryan/.local/lib/python3.8/site-packages** ..

make install -j12

Install DD4hep:

```
git clone https://github.com/AIDASoft/DD4hep.git
```

```
cd DD4hep
```

```
mkdir build && cd build
```

```
source geant4-install/bin/geant4.sh
```

```
source root/bin/.thisroot.sh
```

```
/home/ryan/.local/bin/cmake -DDD4HEP_USE_GEANT4=ON  
-DBoost_NO_BOOST_CMAKE=ON -DDD4HEP_USE_HEPMC3=ON -DBUILD_TESTING=ON  
-DROOT_DIR=$ROOTSYS -DDD4HEP_USE_XERCEC=ON  
-DCMAKE_PREFIX_PATH=/home/ryan/HepMC3-3.2.6/install/  
-DXercesC_INCLUDE_DIR=/home/ryan/xerces-install/include/  
-DXercesC_LIBRARY=/home/ryan/xerces-install/lib/libxerces-c.so  
-DCMAKE_BUILD_TYPE=Release ..
```

```
make install -j12
```