

# DD4hep Installation

DD4hep is a software framework for providing a complete solution for full detector description (geometry, materials, visualization, readout, alignment, calibration, etc...

- Download the DD4HEP : git clone <https://github.com/AIDAsoft/DD4hep.git>
- Installation : <https://dd4hep.web.cern.ch/dd4hep/page/installation>
  - Dependencies :
    - CMake (at least version 3.3)
    - Boost (at least version 1.49)
    - ROOT (at least version 6.08.00)
    - Geant4 (optional, but required for typical purposes)
    - Xerces C++ (optional, but required for full functionality)
  - Sourcing root and geant4 for ilcsoft v02 : `thisroot.sh` , `geant4.sh`

```
source /cvmfs/ilc.desy.de/sw/x86_64_gcc49_sl6/v02-00-01/root/6.08.06/bin/thisroot.sh
source /cvmfs/ilc.desy.de/sw/x86_64_gcc49_sl6/v02-00-01/geant4/10.03.p02/bin/geant4.sh
```

- Compilation :

```
mkdir build
cd build
cmake -DDD4HEP_USE_GEANT4=ON -DBoost_NO_BOOST_CMAKE=ON -DDD4HEP_USE_LCIO=ON -DBUILD_TESTING=ON -
DGeant4_DIR=$G4INSTALL/lib/Geant4-10.3.0 -DROOT_DIR=$ROOTSYS ..
make -j4
make install
```

If you want to run the simulation with your local dd4hep installation, make sure to source the dd4hep which you are using :

```
source <yourpath>/DD4hep/cmake/thisdd4hep.sh
```

before running your simulation check always the DD4hep directory you are using and the ddsim :

```
echo $DD4hep_DIR
echo $DD4hep_ROOT
which ddsim
```