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Compiling MarlinTPC

To compile MarlinTPC you need:

- [LCIO](#)
- [GEAR](#) (at least v00-09-pre2)
- [LCCD](#)
- [CLHEP](#) / [HepPDT](#)
- [GSL](#)
- [raida](#) (needs at least version v01-04, should also work with JAIDA/AIDAJNI.)
- [Marlin](#) (at least version 00-09-08, compiled with GEAR, LCCD and CLHEP/HepPDT)
- [Minuit2](#) either stand alone or the version included in [ROOT](#)
- [ROOT](#) (this dependency will be removed once the required functionality is implemented in RAIDA)

Compiling with GNUmakefiles is not supported any more, the GNUmakefiles have been removed from the trunk. The v00-02-xx branch still supports GNUmakefiles, but this installation method is deprecated. Please use cmake.

Compiling with cmake

1. Go to the MarlinTPC root directory and create a directory named `build`. Change into this directory.
2. Run `cmake` to create the Makefiles

```
cmake -C /PATH/TO/YOUR/ILCSOFT/ILCSoft.cmake ..
```

`/PATH/TO/YOUR/ILCSOFT` is the path to your ilcsoft installation, for instance `/usr/local/ilcsoft/v01-03`. There the `cmake` config file (`ILCSoft.cmake`) for ilcsoft is located and tells `cmake` all the required dependencies. Don't forget the two dots at the end of the command!

3. run `make`
4. set the `MARLIN_DLL` variable. You need the Minuit2 and the MarlinTPC library. Minuit2 has to be loaded before MarlinTPC. For instance in `bash`:

```
export MARLIN_DLL="$ROOTSYS/lib/libMinuit2.so:$HOME/MarlinTPC/build/lib/libMarlinTPC.so"
```

In this case Minuit2 from ROOT is used and MarlinTPC is located in your home directory. You can omit the path if it is in your `LD_LIBRARY_PATH`

5. Run Marlin

```
/usr/local/ilcsoft/v01-03/Marlin/v00-09-10/bin/Marlin myStreeringFile.xml
```

Recompiling with cmake

- Repeat the steps B. and C. . In case of problems remove the `build` directory and repeat A. through C.

It is convenient to put `/PATH/TO/MARLIN/bin` and `/PATH/TO/LCIO/bin` to your `$PATH` shell variable and to set the `$PATH` and `$MARLIN_DLL` in your `~/.bashrc`

Compiling with GNUmake files (deprecated)

1. Make sure you have all required environment variables set correctly, e. g. `$MARLIN`, `$LCIO` etc.
2. State

```
make
```

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in the root of the MarlinTPC directory. You will get a MarlinTPC executable in the MarlinTPC/bin
3. Run your local MarlinTPC binary:

```
$HOME/MarlinTPC/bin/MarlinTPC myStreeringFile.xml
```

The binaries of the tools and examples are located in their respective directories.

- validation/generateRawData/generateRawData
- validation/generateRawData/generateRawData2
- validation/TPCGEMSimInput/CreateMuonsLCIO
- tools/BackgroundMerger/BackgroundMerger

They are LCIO standalone programs and do not provide Marlin processors.

BEWARE: The dependencies in the GNUMakefiles are not completely resolved. It is recommended to `make clean` and then recompile after each update!

-- MartinKillenberg - 04 Jun 2008

This topic: ILCTPC > UserWorkbookCompilingMarlinTPC

Topic revision: r11 - 2008-06-18 - MartinKillenberg



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