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**h5gt**

***Release 0.2.0***

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To see C++ API documentation please refer to [tierra-colada.github.io/h5gt/](https://tierra-colada.github.io/h5gt/)



## ABOUT

There are several C++ wrappers for [HDF5](#) C library. One of them is [HighFive](#) project. **h5gt** is created upon it. So the API is pretty similar.

Generally one may prefer using **h5gt** only if python bindings are needed. Otherwise one should consider using [HighFive](#).

Originally the project was started as part of a free and open source geophysical platform [Colada](#).

Also [h5geo](#) project actively uses **h5gt**.

### 1.1 License

Boost Software License 1.0





## BUILD INSTRUCTIONS

### 2.1 Pre-requisites

- CMake
- compiler with C++17 support
- python (optional)

### 2.2 Dependencies

- [HDF5](#)
- [Eigen](#) (header only, optional)

### 2.3 h5gtpy dependencies

- python
- [Eigen](#) (header only, **required**)

### 2.4 Configure & Build

```
git clone https://github.com/tierra-colada/h5gt.git
cd h5gt
mkdir build
cd build
cmake ..
-DH5GT_BUILD_h5gtpy=ON
-DPYTHON_EXECUTABLE=/path/to/python.exe
-DH5GT_USE_EIGEN=ON
-DEigen3_ROOT=/path/to/eigen3
-DHDF5_DIR=/path/to/hdf5-config.cmake
-DHDF5_RUNTIME_DIRS=/path/to/hdf5-runtime
-DZLIB_RUNTIME_DIRS=/path/to/zlib-runtime
-DH5GTPY_COPY_RUNTIME_DEPS=OFF
cmake --build .
```

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```
# CMake settings
-DCMAKE_BUILD_TYPE=Release
-G "some generator"
cmake --build . --config Release
cmake --install . --prefix /path/to/h5gt-install
```

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**Note:** If you see that some of the dependencies were not resolved at installation step then change `<lib>_RUNTIME_DIRS`, rerun cmake & cmake install steps.

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**Warning:** `H5GTPY_COPY_RUNTIME_DEPS` copies all the resolved runtimes to `site-packages/h5gtpy` dir. There might be OS-specific runtimes that nobody wants to copy. Thus this option is not recommended yet.

## 2.5 Supported platforms

Windows, Linux, MacOS

## EXAMPLES

For examples please referer to [src/examples](#).



## INDICES AND TABLES

- `genindex`
- `modindex`
- `search`