Install Doxygen

Short description of how to install Doxygen on sdf.

Step-by-step guide

Doxygen installation guide: https://doxygen.nl/manual/install.html

The following steps illustrate how to apply these steps when installing Doxygen on sdf.

1. Make sure your cmake and GCC versions are new enough, and install them if necessary (cmake 3.22 and GCC 11.2 worked for me).
   a. cmake: https://cmake.org/download/
   b. gcc: https://gcc.gnu.org/install/

2. To display inheritance diagrams, Doxygen requires an installation of graphviz.
   a. Download the source packages from https://www.graphviz.org/download/source/

   ```
   wget https://gitlab.com/api/v4/projects/4207231/packages/generic/graphviz-releases/5.0.0/graphviz-
   5.0.0.tar.gz
   ```

   b. Unpack the archive.

   ```
   tar -xf graphviz-5.0.0.tar.gz
   ```

   c. Navigate into the graphviz folder and create an install directory.

   ```
   cd graphviz-5.0.0
   mkdir install
   ```

   d. Configure

   ```
   ./configure --prefix=/sdf/group/hps/users/your_username/path/to/graphviz/install
   ```

   e. Make and install

   ```
   make
   make install
   ```

3. Install Doxygen:
   a. Clone git repository or download source distribution

   ```
   git clone https://github.com/doxygen/doxygen.git
   # OR
   wget https://www.doxygen.nl/files/doxygen-1.9.4.src.tar.gz
   tar -xf doxygen-1.9.4.src.tar.gz
   mv doxygen-1.9.4 doxygen
   ```

   b. Navigate into Doxygen directory, and create build and install directories. Navigate into build directory.

   ```
   cd doxygen
   mkdir install
   mkdir build && cd build
   ```

   c. Set GCC and g++ to newer (non-default) versions

   ```
   export CC=/your/gcc/installation/bin/gcc
   export CXX=/your/gcc/installation/bin/g++
   ```

   d. Run cmake

```
path/to/your/cmake/3.22/bin/cmake -G "Unix Makefiles" -DCMAKE_INSTALL_PREFIX=../install/ ..
```

   e. Make and make install

```
make -j4 # it will take forever otherwise
make install
```

   f. Modify your LD_LIBRARY_PATH and your PATH variable

```
# I would recommend adding this to your .bashrc
export LD_LIBRARY_PATH=/your/gcc/installation/lib:/your/gcc/installation/lib64:$LD_LIBRARY_PATH
export PATH=/sdf/group/hps/users/sgaiser/src/doxygen/doxygen/install/bin:$PATH

# if you added this to your .bashrc, do
source ~/.bashrc
```

4. Test if Doxygen has been installed successfully

```
doxygen -h
```

Related articles

- Setup Doxygen for code documentation
- Install Doxygen