Installing and Building QHG on Centos 7.3.1611

All commands shown here in bold face must be entered in a terminal window.

1 Installing necessary packages

Import an important addditional repository

```
sudo yum install epel-release
```

Code versioning

```
sudo yum install subversion.x86_64
```

Install developer tools (compiler debugger etc

```
sudo yum install gcc-c++.x86_64
sudo yum install gdb.x86_64
sudo yum install valgrind.x86_64 valgrind-devel.x86_64
```

Libraries used by QHG

```
sudo yum install zlib-devel.x86_64
sudo yum install openssl-devel.x86_64
sudo yum install hdf5-devel.x86_64 hdf5.x86_64
sudo yum install gsl-devel.x86_64 gsl.x86_64
```

2 Add environment variables to `~/.bash_profile`

For the compilation to work we must make sure some environment variables will always be set. For this you have to edit the file '`.profile`' in your home directory (in the example vi is used, but you can use any ASCII text editor)

```
vi ~/.bash_profile
```

Add the following line to the end of '`~/.profile`'

```
export GCC=/usr/bin/g++
```

Save and close the file

3 Create the source code directory and get the code

Create your source code directory

```
mkdir ~/progs
```

Got there

```
cd ~/progs
```

Check out the code base

```
svn co svn+ssh://alirv@aim-bigfoot.uzh.ch/home/morpho_svn/QHG3/trunk QHG3
```

4 Log out and log back in again

This makes sure the environment variable are set and stuff we installed gets initialised

5 Build QHG

Go to the code root directory

```
cd ~/progs/QHG3
```

Build **QHG** (with debug information)

```
make clean QHGMain
```

See if it works

```
app/QHGMain
```

6 Create output directory for some of the tools

The directory '`~/utils`' must exist, because some tools are copied there

```
mkdir ~/utils
```

7 Install packages needed by QHG tools

```
sudo yum install libpng-devel.x86_64
sudo yum install glib2-devel.x86_64
sudo yum install cairo-devel.x86_64
sudo yum install gtk2-devel.x86_64
```

8 Modify `~/.profile` again

Open the file '~/.profile' with any text editor

```
vi ~/.profile
```

Add the following line (no line break) to the end of the file

```
export CPATH=/usr/include/cairo/:/usr/lib64/glib-
2.0/include/:/usr/include/glib-2.0:$CPATH
```

Save and close the file

9 “Activate” the new variables in `~/.bash_profile`

This makes sure the environment variable are set.

10 Build the tools

Got to the code root directory

```
cd ~/progs/QHG3
```

Build the tools

```
make tools_n
```