**How to compute FFT using FFTW in Qt**

**Getting Start**

**Note that I do this in Ubuntu operating system, in Windows some steps are different.**

* Step1: Download FFTW ([http:www.fftw.orgdownload.html](http://qt-project.org/wiki/http%3Awww.fftw.orgdownload.html))
* Step2: Extract and Configure it (my path: /home/jafarabadi/Documents/fftw-3.3.4)
  1. cd  /home/jafarabadi/Documents/fftw-3.3.4
  2. chmod +x configure
  3. ./configure
  4. make
  5. make install
* Step 3: Add library to project: first open [your\_project\_name].pro file in Qt Creator and add this line:
  1. LIBS += -lfftw3
* Step 4: Example
  1. #include <fftw3.h>
  2. **int** N;
  4. fftw\_complex \*in, \*out;
  5. in = (fftw\_complex\*) fftw\_malloc(**sizeof**(fftw\_complex)\*N);
  6. out = (fftw\_complex\*) fftw\_malloc(**sizeof**(fftw\_complex)\*N);
  8. fftw\_plan my\_plan;
  9. my\_plan = fftw\_plan\_dft\_1d(N, in, out, FFTW\_FORWARD, FFTW\_ESTIMATE);
  10. fftw\_execute(my\_plan);
  12. fftw\_destroy\_plan(my\_plan);
  13. fftw\_free(in);
  14. fftw\_free(out);
  16. // A short tutorial: http://www2.math.uu.se/~figueras/fftw\_tutorial/text/fftw\_tutorial.pdf
* Step 5: Enjoy :) [Written by Ali Jafarabdi :: Qt is an awesome programming language.]