# Marlin Processor in Eclipse

## Prerequisites

Here's how to set up Eclipse to work with a Marlin Processor, including debugger.
These instructions are for Eclipse Indigo. The instructions at https://twiki.cern.ch/twiki/bin/view/CLIC/LCSimEclipse may be a starting point to set up Eclipse, although they are for a different version.
Either

- Check out the Marlin Project and build it
    1. `source /afs/cern.ch/eng/clic/software/x86_64-slc5-gcc41/ILCSOFT/v01-12/init_ilcsoft.sh`
    2. `cmake -C $ILCSOFT/ILCSoft.cmake ..`

or

- Create a new SVN project in eclipse and "Configure Project using New Project Wizard". Use the wizard to create a new C++ project.

    > ⚠ **Workspace Imports**
    >
    > When creating a new C++ Project from existing sources, the existing sources MAY NOT be in the eclipse Workdir.

    ### Adding Marlin sources
    Once you have the Project configured as a C++ project in Eclipse, Marlin sources are made available like this

1. Add the ILCSoft include paths, e.g.
    - `/afs/cern.ch/eng/clic/software/x86_64-slc5-gcc41/ILCSOFT/v01-12/LCFIVertex/v00-06/include`
    - `/afs/cern.ch/eng/clic/software/x86_64-slc5-gcc41/ILCSOFT/v01-12/ilcutil/v00-02/include`
    - `/afs/cern.ch/eng/clic/software/x86_64-slc5-gcc41/ILCSOFT/v01-12/lcio/v02-00/include`
    - `/afs/cern.ch/eng/clic/software/x86_64-slc5-gcc41/ROOT/v5-30-00/include`
    - `/afs/cern.ch/eng/clic/software/x86_64-slc5-gcc41/ILCSOFT/v01-12/MarlinUtil/v01-04/include`
    - `/afs/cern.ch/eng/clic/software/x86_64-slc5-gcc41/ILCSOFT/v01-12/Marlin/v01-01/include`
    - They should show up under **Properties -> C++ General -> Paths and Symbols -> Includes Tab -> GNU C++**. You may be able to add them right there, but for me I had to
    a. Enable **Generate Makefiles automatically** in **Properties -> C/C++ Build**
    b. Add these paths under **Properties -> C/C++ Build -> Settings -> Tool Settings Tab**
    c. Disable **Generate Makefiles automatically** in **Properties -> C/C++ Build**
2. Some parts of the code may be wrapped in `#ifdef`. Define the symbol for this `#ifdef` (e.g. `USEROOT`) under **Properties -> C++ General -> Paths and Symbols -> Symbols Tab -> GNU C++**
3. Specify the build location of your Makefile. In **Properties -> C/C++ Build**, in the build location field, add `/build` within the curly braces after the name of your project.

Now your done and should have code completion available.
You can add **Run** and **Debug** configurations by specifying the location of the `Marlin` executable and adding the necessary `MARLIN_DLL` and `LD_LIBRARY_PATH` environment configurations. Details to be put here upon request.