# How to compile and test SimCode

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The following document describes how to compile a susan template file to change SimCode functionality and then test it. I edited SimCodeC.tpl file and compiled it as an example. I used openmodelica with msys mingw on Windows 7. To compile openmodelica .mo file I have used eclipse with modelica plugin installed.

1. You can find susan template code for SimCode in following directory.
   OpenModelica\Compiler\susan_codegen\SimCode
2. Template is saved in .tpl file, actually this is compiled into metamodelica code .mo file and then we can recompile omc and omcd.
3. Edit and save SimCodeC.tpl file to include desired functionality.
4. Open msys and go to openmodelica trunk directory, then go to Compiler\susan_codegen\SimCode directory.
5. Type following command to compile .tpl file to .mo file. You can change name of .mo file as per requirement:
   make –f Makefile SimCodeC.mo
6. Copy the newly created .mo file to compiler directory with following command:
   cp SimCodeC.mo ../../
7. Now go to Compiler directory:
   cd ../../
8. Compile omc:
   make –f Makefile.omdev.mingw omc
9. Similarly you can also compile omc debugger with omcd flag:
   make –f Makefile.omdev.mingw omcd
   Please note that for above two commands you should use correct Makefile name for your installation.
10. This will create omc.exe & omcd.exe files in OpenModelica\build\bin directory.
11. To test the new functionality you need to compile a modelica .mo file. I created a simple test1.mo file in build\bin directory with following modelica code.
    model test1
    Real A(start=1);
    equation
    der(A)=A;
    end test1;
12. Start eclipse and open openmodelica project. In debug configurations Right Click MDT and select new.
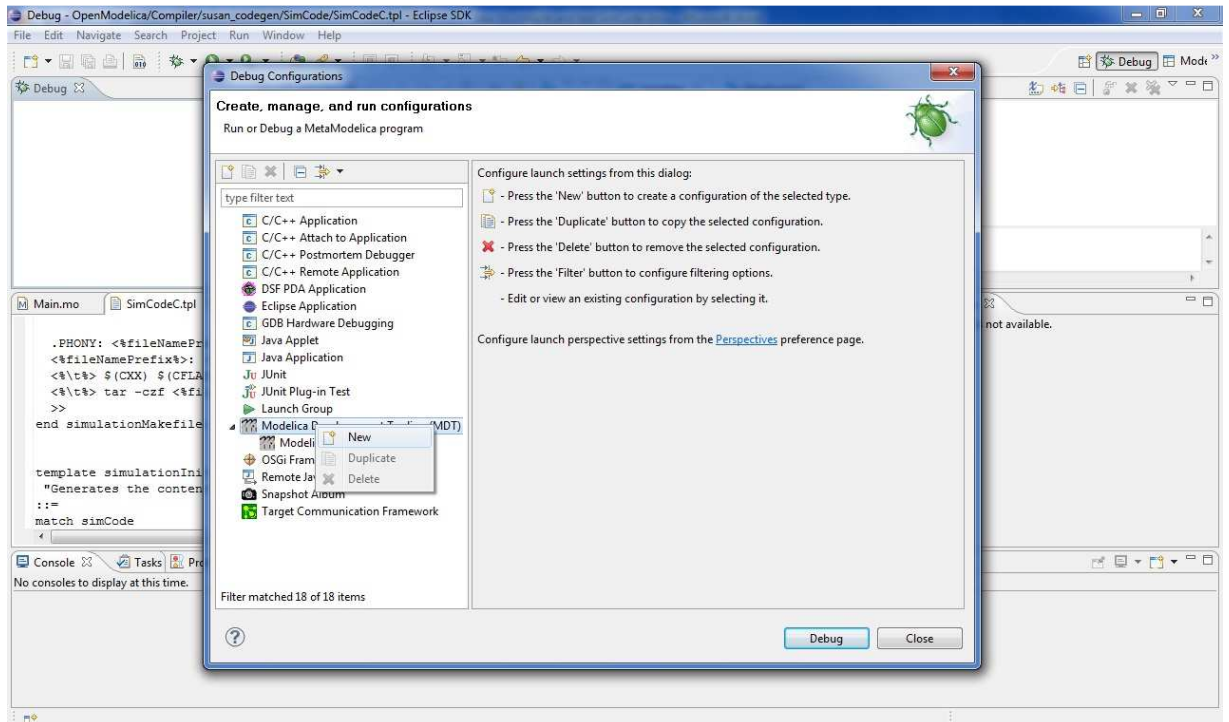
13. Click browse and type omc you will see two options omc and omcd, select omcd and Click ok. Add "+s yourProgramName.mo" in arguments to compile. Click 'Apply' and Click 'Debug'.
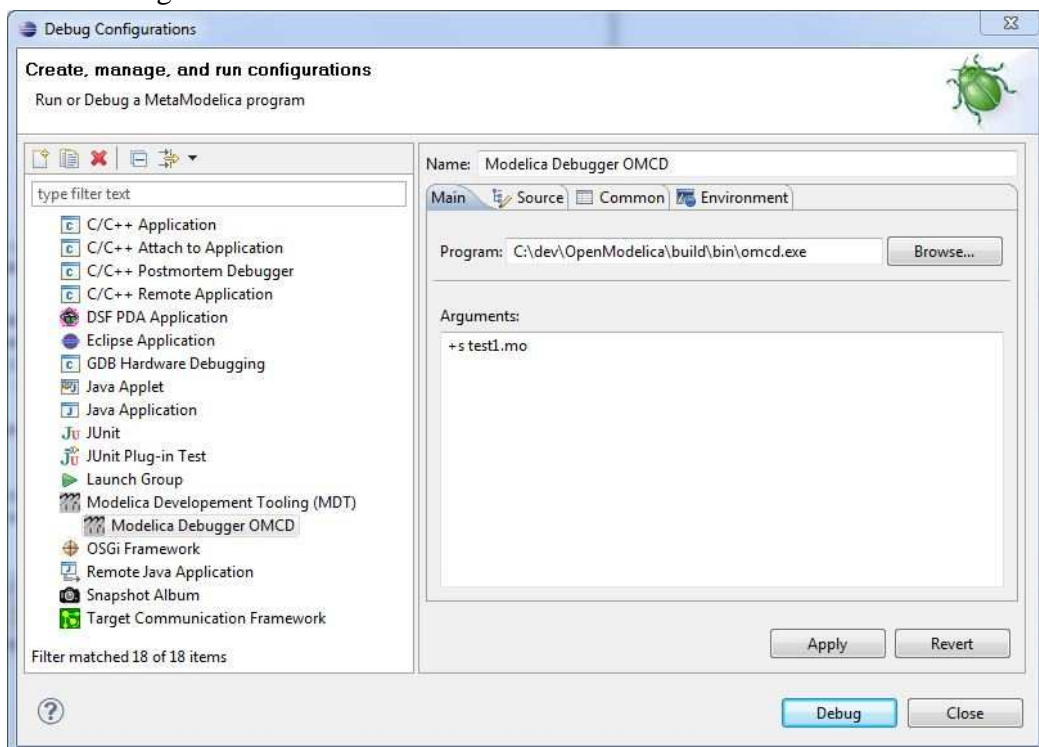
14. Some new files will be created in bin directory like test1.makeFile etc. The changes must be reflected in these files.
15. Now in msys go to OpenModelica\build\bin directory and type following command to compile test1.makeFile and create an executable file for it:
    make –f test1.makeFile
    Note that you might get error while compiling this makefile the reason for this can be that you use a newer version of modelica librart to compile .mo file and now makeFile will use default omc libararies which are openmodelica 1.5.0 libraries. To fix this you need to edit makefile and change path of omc libraries in "CFLAGS" and "LDFLAGS".
16. You should be able to compile the makefile and create executable. If you run this executable you should see a test1_res.plt file which contains the result of simulation.