OpenModelica Eclipse Setup

Adrian.Pop@liu.se

2013-10-09
Important notices

• Make sure you use paths with no spaces
  – For Eclipse workspace
  – For OpenModelica project

• Make sure your Eclipse is not running until the slide which tells you to start Eclipse

• If you want omc to include the revision number in the omc version install TortoiseSVN command line svn client and put it in your path
Checkout OMDev into C:\OMDev

- OMDev url:
  https://openmodelica.org/svn/OpenModelica/installers/windows/OMDev

- Add OMDEV environment variable pointing to C:\OMDev

- JDK 32bit needs to be installed and Msys should be able to find it! Put it in your PATH environment variable.
Msys location – use the shortcut

<table>
<thead>
<tr>
<th>Name</th>
<th>Date modified</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>bin</td>
<td>2013-10-02 21:36</td>
<td>File folder</td>
</tr>
<tr>
<td>etc</td>
<td>2011-11-05 23:24</td>
<td>File folder</td>
</tr>
<tr>
<td>home</td>
<td>2013-08-23 22:15</td>
<td>File folder</td>
</tr>
<tr>
<td>include</td>
<td>2013-10-02 13:12</td>
<td>File folder</td>
</tr>
<tr>
<td>lib</td>
<td>2013-10-02 13:33</td>
<td>File folder</td>
</tr>
<tr>
<td>postinstall</td>
<td>2013-10-02 13:33</td>
<td>File folder</td>
</tr>
<tr>
<td>sbin</td>
<td>2011-11-05 23:24</td>
<td>File folder</td>
</tr>
<tr>
<td>share</td>
<td>2013-10-02 21:19</td>
<td>File folder</td>
</tr>
<tr>
<td>var</td>
<td>2011-11-05 23:24</td>
<td>File folder</td>
</tr>
<tr>
<td>m.ico</td>
<td>2009-07-11 20:34</td>
<td>IrfanView ICO File</td>
</tr>
<tr>
<td>msys.bat</td>
<td>2011-09-18 04:30</td>
<td>Windows Batch File</td>
</tr>
<tr>
<td>msys.ico</td>
<td>2009-07-11 20:34</td>
<td>IrfanView ICO File</td>
</tr>
<tr>
<td>perlocal.pod</td>
<td>2010-01-30 19:42</td>
<td>POD File</td>
</tr>
</tbody>
</table>
Msys – a Linux like terminal

We will use this one later
Checkout OpenModelica
Copy `.project-sample` to `.project`
Checkout OpenModelica - done
Copy OMDev-MINGW-OpenModelicaBuilder.launch-sample to OMDev-MINGW-OpenModelicaBuilder.launch in workspace\OpenModelica\.externalToolBuilders
If your project is not named OpenModelica change it in .project
Start Eclipse

Install MDT in Eclipse if you haven’t done that yet:
https://trac.openmodelica.org/documents/MDT/install/
Switch to Modelica perspective
Modelica perspective
New Modelica project named OpenModelica (or the name you chose)
Remove Build automatically from Project
Add \texttt{+g=MetaModelica} to \texttt{omc flags}

\begin{center}
\textbf{RESTART ECLIPSE AFTER THIS CHANGE}
\end{center}
Important notice

- In Eclipse is best to do refresh on a workspace automatically, via
- Window-> Preferences
Refresh project, right click->Refresh
Check settings in Project builder
Check settings in all tabs!
Check settings in all tabs!

Make sure jdk 32 bit is in your PATH
Build Project

Leave empty and click OK to build omc

......

It does take a while.

Check the builder settings if there are errors
OpenModelica project was build

Refresh project and check build/bin/
Build the bootstrapped compiler

Use Msys
Setup Eclipse Debugging

Refresh project and check testsuite/openmodelica/bootstrapping
Change name
Select program
Select program and work directory
Check environment tab

Add OPENMODELICAHOME and OPENMODELICALIBRARY
Have a test example

```modelica
model HelloWorld
    Real x(start = 10);
    parameter Real a = -1;
    equation
        x = -a * der(x);
end HelloWorld;
```
Add command line parameters

Arguments:
+locale=C +d=dumpSCCGraphML +s HelloWorld.mo
Put a breakpoint

function dumpStrongComponents
  "dump the strongly connected components on a flag"
  input BackendDAE.EqSystem isyst;
  input BackendDAE.Shared isshared;
  algorithm
    _ := matchcontinue(isyst, isshared)
    case (_, _)
      equation
        false = Flags.isSet(Flags.DUMP_SCC_GRAPHML);
      then ()
      case (_, _)
      equation
        IndexReduction.dumpSystemGraphML(isyst, isshared, NONE(), "Comps" + intString(systemS)
      then ()
      end matchcontinue;
  end DumpStrongComponents;

Double click here
Start Debug
Switch to Debug perspective

Confirm Perspective Switch

This kind of launch is configured to open the Debug perspective when it suspends.

This Debug perspective is designed to support application debugging. It incorporates views for displaying the debug stack, variables and breakpoint management.

Do you want to open this perspective now?

- Remember my decision

[Yes] [No]
Debug perspective

stack

variables

execution point

console
The End

• The Eclipse workspace created in this demo (only with the important parts) is here: https://openmodelica.org/documents/

• Also this document should be there

• Contact Adrian.Pop@liu.se for any issues.