Appendix C

User Guide

Here is a brief introduction for users on background environment setup (section C.1) and instructions (section C.2).

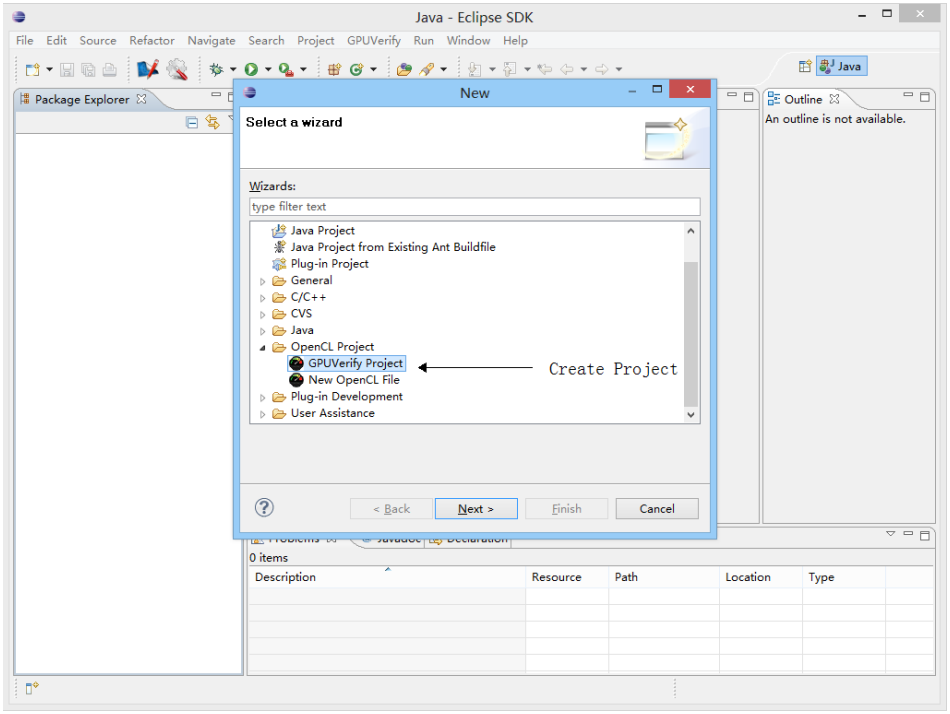
C.1 Project Setup

The following tools are required for running the GPUVerify Project (download the one that compatible with your operating system): 1. Eclipse - INDIGO with C/C++ Development Tools installed. download link: http://www.eclipse.org/downloads/packages/eclipse-ide-cc-developers-includes-incubating-components/indigosr2 2. Python 2.7.3. download link: http://www.python.org/download/releases/2.7.3/ 3. GPUVerify Eclipse Plugin download link: https://github.com/hengsok/gpuv-eclipse-plugin/archive/master.zip

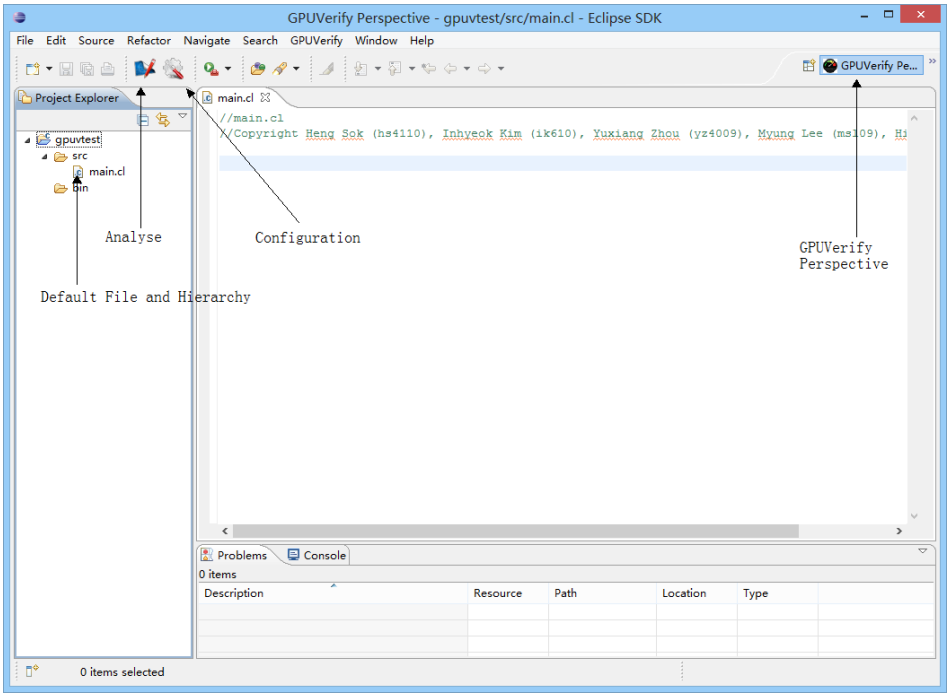
First, install Eclipse - INDIGO and CDT from the download link provides. Secondly, install Python 2.7.3 (not the latest one) and remember to set up the PATH for python if the installer does not do it for you (checking by type python –version in the terminal). Finally, unzip the master.zip file then you will get a folder named gpuv-eclipse-plugin-master and find another zip file from gpuv-eclipse-plugin-master\nightly_binary_build\eclipse.plugin.gpuv.v1.*.zip (the one with highest version). Unzip the file and copy the folder eclipse.plugin.gpuv.v1.01 into YOUR_ECLIPSE_INSTALL_PATH\dropins\. You will have the plugin fully installed by following the above step. The next section C.2 will have a brief introduction on how to create and analyse a GPUVerify project.

C.2 How to use?

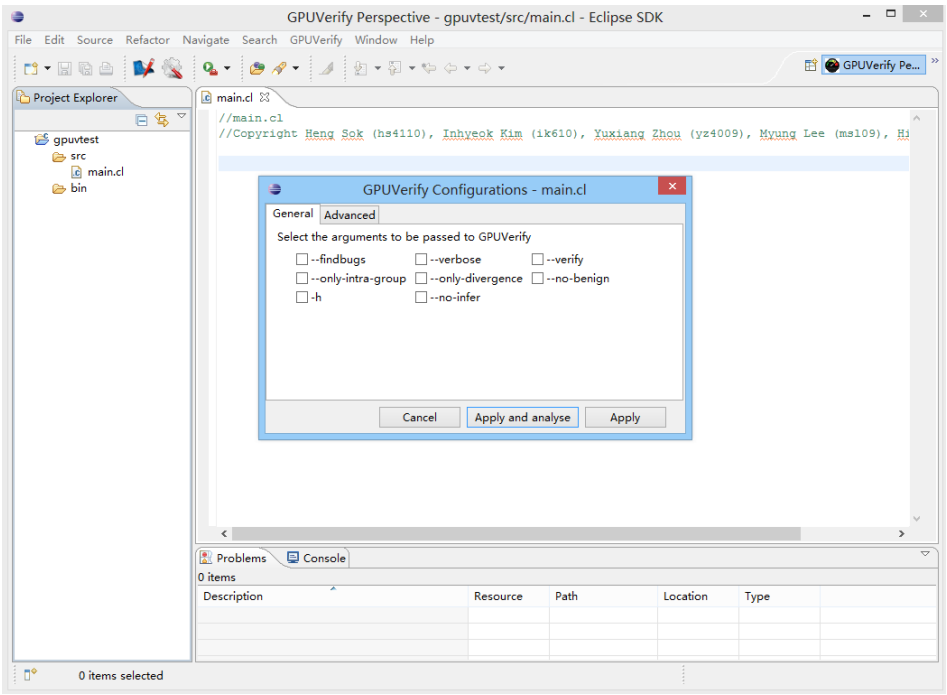
The first step of using this plugin is creating a new GPUVerify Project by following the wizard in the New dialog.



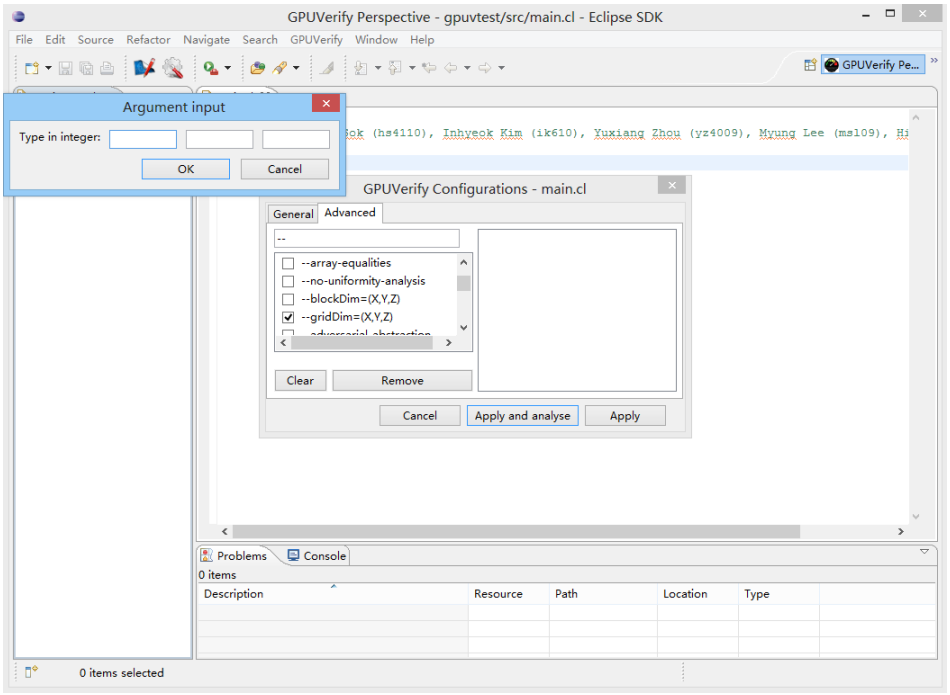
Once a project is created, user will be asked whether they want to switch to the associated perspective, which we strongly recommended to do that. Besides, the default hierarchy is created with a main.cl file included. Moreover, there are two big icon where the left one is for analysing the currently opening file and the right one is for project configuration.



The configuration dialog contains many options as GPUVerify required and there are two tabs for selecting those options. In the General tab frequently and recently used options are displayed and they keep changing according to user preferences. In the Advanced one, all options are contained by a scroll list together with a search box. Left click on any options will add it to the Selected List on the right hand side and also visible within the General tab. Some special options require predefined arguments, which use can set them in the popup box after clicking the option.



After setting the options, user can choose to apply it without analysing the file then all the options will be stored. Otherwise user can apply the setting and also run the analyse. The analysed result will be displayed in the Problem view. Clicking on any problems will redirect user to the problematic line on the editor.


GPUVerify Perspective - gpuvtest/src/main.cl - Eclipse SDK
File Edit Source Refactor Navigate Search GPUVerify Window Help
GPUVerify Pe...
Argument input
Type in integer:
OK
Cancel
GPUVerify Configurations - main.cl
General
Advanced
--
--array-equalities
--no-uniformity-analysis
--blockDim=(X,Y,Z)
--gridDim=(X,Y,Z)
Clear
Remove
Cancel
Apply and analyse
Apply
Problems
Console
0 items
Description
Resource
Path
Location
Type
0 items selected