Mälardalens universitet

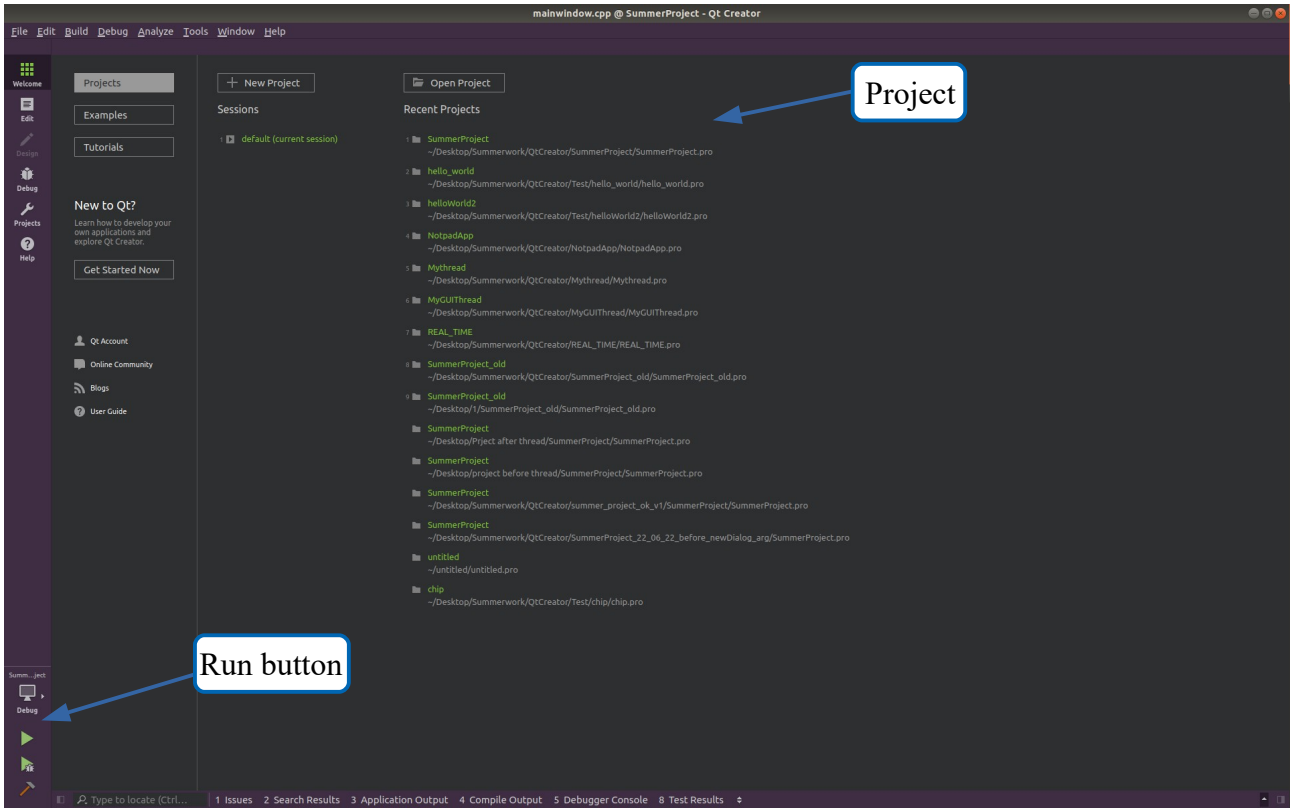
MANUAL

Tom Laurendeau - French engineer in Microelectronic and Automation 06/22 - 08/22

Table of Contents

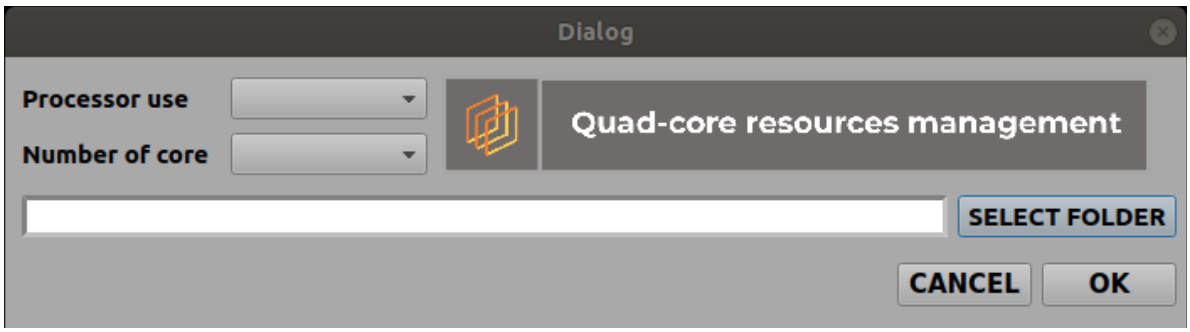
Start the interface

When you go to open Qt creator you will find this page, where you can see projects already opened in the past. Once the right project is open, just run it with the green play button at the bottom left.



Qt Creator menu

Dialog window

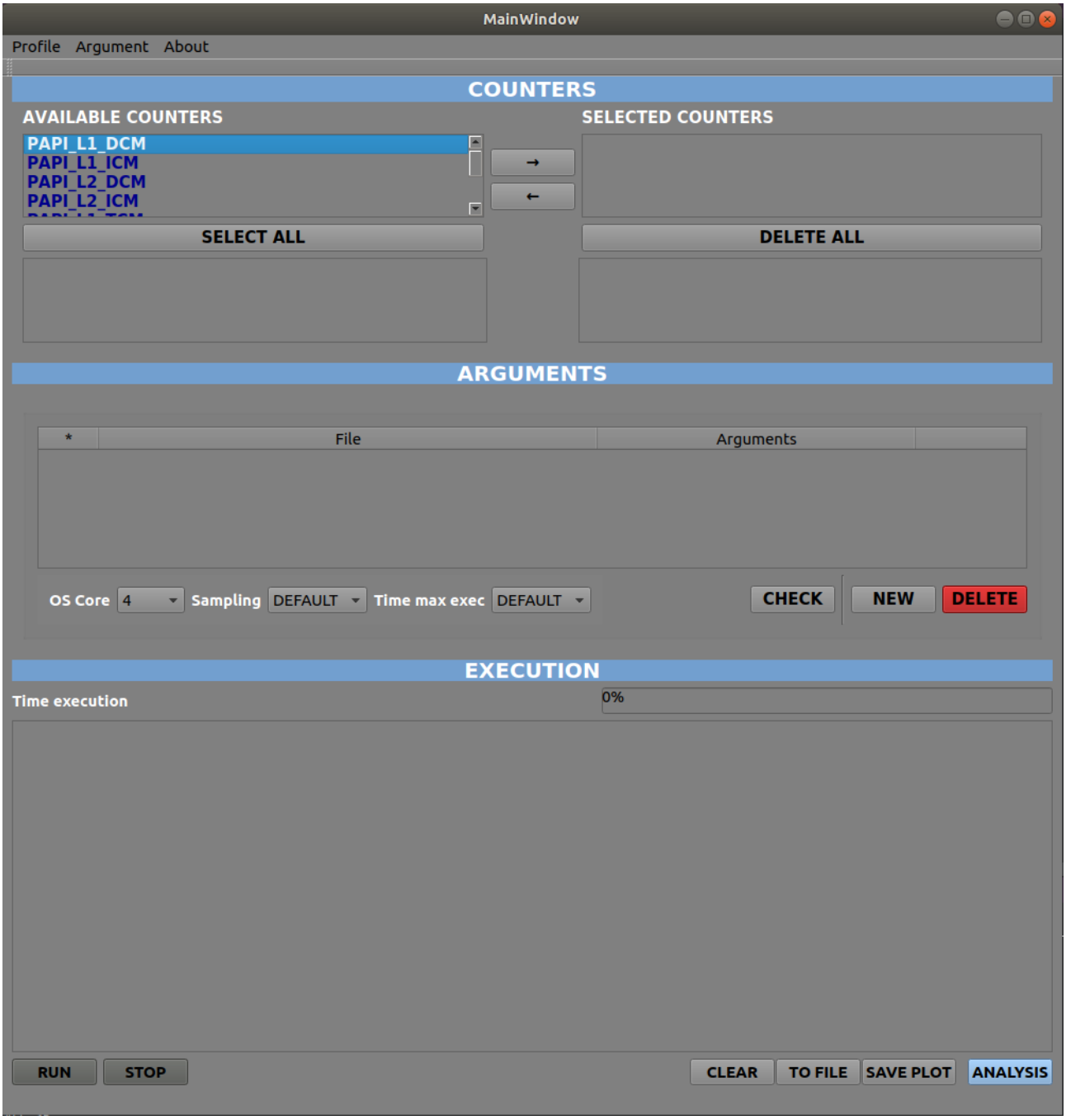


Dialog window

Once done, you should see a window called "dialog" appear.
This window is composed of :
- Two combo box, which are used to indicate the processor use and the number of cores ; if the number of cores is not known select the free option which finds the number thanks to a system command
- Buttons, the “select folder” button allows to open a dialog window to select where is saving the project, the other is useful to validate the information or exiting the window.

- One line edit, which will be filled with the access path selected previously with the help of the “select button” button.
When done, click “OK”, if any of the information is missing, a message box appears and informs what is missing (Processor, Core, Path).

Main window

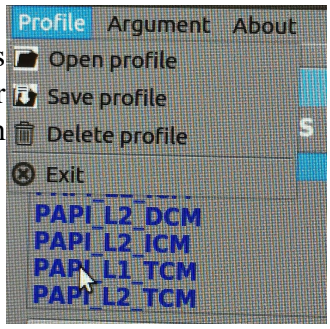


Main window

Once this step is validated, the “MainWindow” appears.
It is separated into four parts: Tools Bar, Counters, Arguments, Execution.

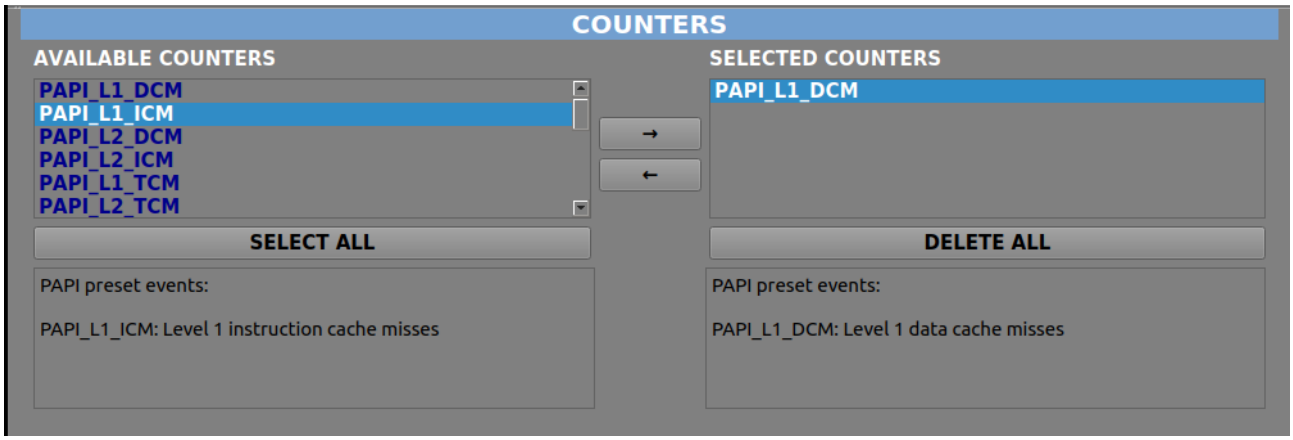
Tools Bar

The tool bar allows you to make backups, especially those of the counters and arguments parts. For counters, profiles can be saved, opened or deleted. For the argument, it is the same principle, but for an application and its arguments.



Part of the tools bar

Counters

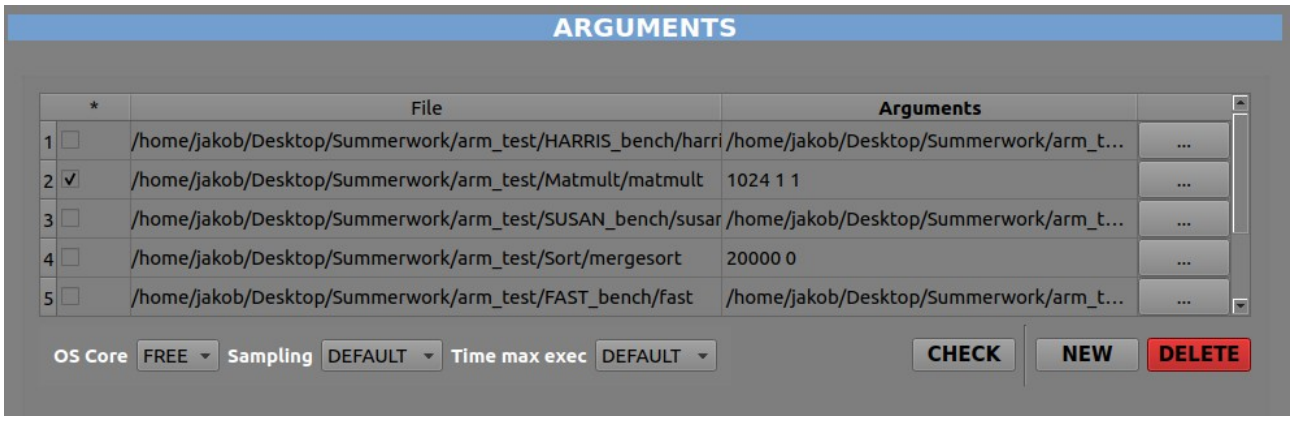


Counters part

In this part that the selection of the counters
The two buttons with arrows are used to add or remove counters from the right list (selected counter), however, if in available counters have none counter a message will be displayed and will tell you what to modify in the kernel.
Be careful, it is possible to select everything with the “select all” button, but the maximum number of counters that can select for the execution part is four. It is also possible to delete everything in the right list with the “delete all” button.

Under the lists two there are edit texts which display thanks to a .txt file the description of the highlighted counter in the list above.

Arguments



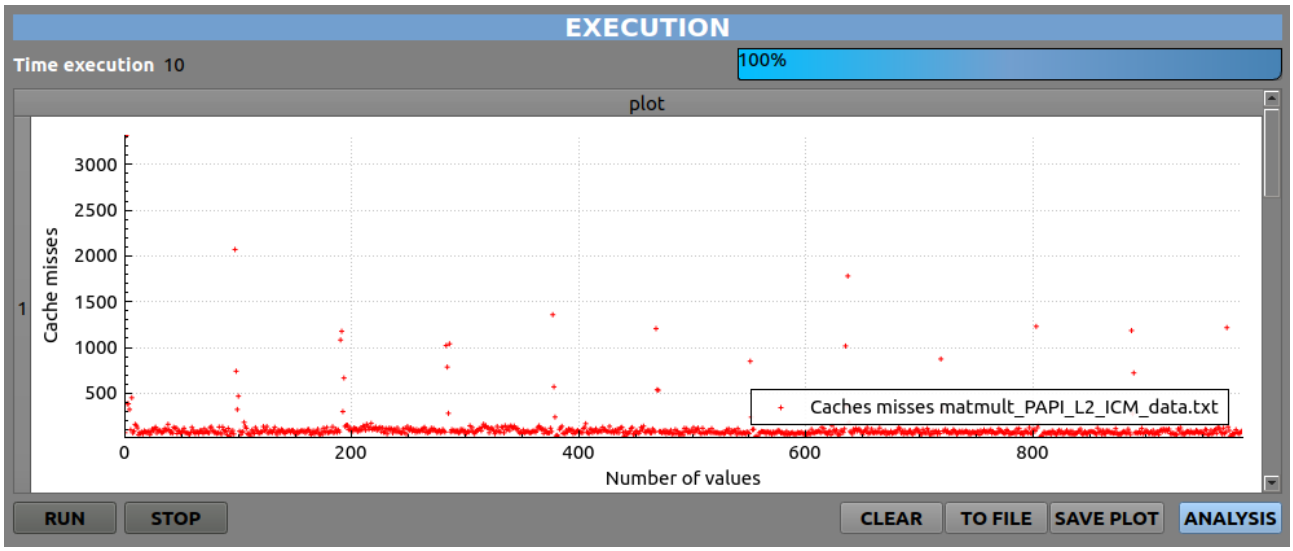
Arguments part

It is in this part that the settings are made.
The core value that was chosen in the first dialog window is defined and then initialized in a combo box, moreover, it is possible to change this value at any time.
With the two others combo box they are useful to define the sampling (millisecond) and the time maximum of the execution of the application (second).
The “New” button opens a dialog window to select where is located the application, once validated a new dialog window appears and this time is to select the argument for the application, it can be nothing, so click on cancel (matmult, mergesort application), or an image which the path is needed.
When the second dialog window is validating a new row appears in the tableWidget with the path of the application in the second column and that of the argument in the third column.
In the first and last column there are a checkbox and a button. The checkbox is used to select the application who will gunning (it is possible to select more that one, but only one can be run so just select the right application).
The button is here to change the path of the argument, thanks to to a dialog window.
To change the path of application double click on one box in the second column and another dialog window select a new application.
The “delete” button just removes the selected row.
The "check" button is there to indicate if everything is fine, if not, then a message appears to tell you what is wrong.
Don’t worry if you don’t remember how runs some application, there is a little recap just right here.

```
root@xilinx-zcu102-zu9-es2-rev1_0-2018:~/LLM_shark/my_files# cat programs.txt
/home/root/Hello/sift /home/root/Hello/256KBimg.pgm
/home/root/Hello/susan /home/root/Hello/landing_small.bmp
/home/root/Hello/fast /home/root/Hello/landing.bmp
/home/root/Hello/harris /home/root/Hello/landing_small.bmp
/home/root/Hello/matmult 200 0 0
/home/root/Hello/mergesort 20000 0
```

Example of the different way to use the application

Execution



Execution part

It is in this part that the display of the results is done.

When the “run” button is clicked it calls the function of the “check” button to see if everything is good next it can run the selected application with the selected counters.
The application runs until the “stop” button is clicked or the time has reached the max time. To know the execution progress there are different indicators such as a progress bar in % or the execution time in second.
During the execution the plot displays only the last 500 points to have a clearer approach of what is happening. When the execution is finish the plot displays all the values saved and write a .txt file with the name of the application and the counter who had run for this plot. All .txt files are saved in a directory with the date and the hours of the ending execution.
The “clear” button, remove all plot, this is useful if you want to plot another result and you don't want the others plots.
The “to file” button opens a dialog window with which you can open the .txt file to view the result in the plot:
The “save plot” button is if you want saved some result in a specific place in your computer.
The “analysis” button opens a dialog window where is located Mr. Jubeau’s part.