Fwd: Watching the brick

From : afanofosc <bricxcc@comcast.net> Thu, Nov 08, 2012 05:40 PM

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Subject : Fwd: Watching the brick

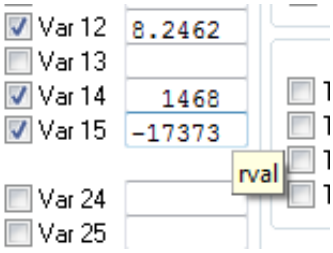
To : John Charles Hansen <afanofosc@comcast.net>

Recent test releases also include the ability to show you which variable is associated with which variable field in the Watching the Brick tool. It is not currently user-configurable. And the variable names that show in the hints that popup when you hover your mouse over a field are currently still decorated, i.e., not exactly matching the name used in your code except for global variables. For example, in this code:

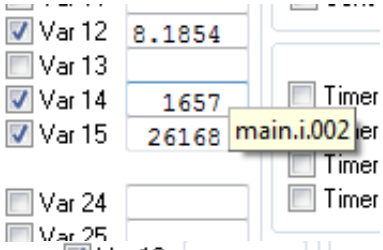
```
int rval;

struct Person {
  int age;
  byte height;
};

task main()
{
  SetSleepTimeout(0);
  Person p;
  Wait(SEC_5);
  while (true) {
    float f;
    for (int i=0; i < 10000; i++) {
      rval = Random();
      p.age = Random(60);
      p.height = 60 + Random(24);
      f = sqrt(p.height);
      NumOut(0, LCD_LINE1, rval, true);
      NumOut(0, LCD_LINE2, p.age);
      NumOut(0, LCD_LINE3, p.height);
      NumOut(0, LCD_LINE4, f);
      Wait(1000);
    }
  }
}
```

the global variable "rval" would show as "rval" in the hint window but the local variables will all be decorated. The float variable called "f" would show as main.f.001 where "main" is the containing function and "001" is the scoping level (i.e,. 000 would be inside main but not inside any other {} pair while 001 would be inside main and inside 1 scoping level {} brace pair, e.g., the while loop) The int "i" used in the for loop will show as main.i.002 since it is scoped another level down below main and the while loop. Constant values used in the program under the compiler's hood, as it were, and other temporary variables also show up. Constant positive integer values will be named __constVal* where the value of the constant is appended to the variable name. I've attached small images that demonstrate how these hints show up when you hover the mouse pointer over the field.

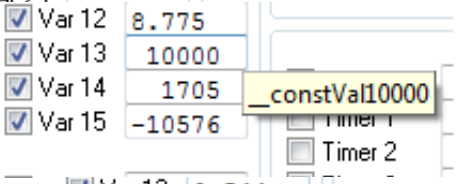
global variable rval:



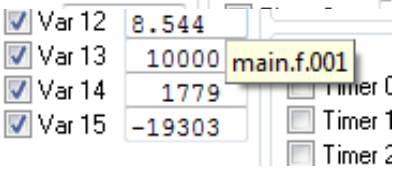
local variable int i used in the for loop:



global constant value used by the compiler:

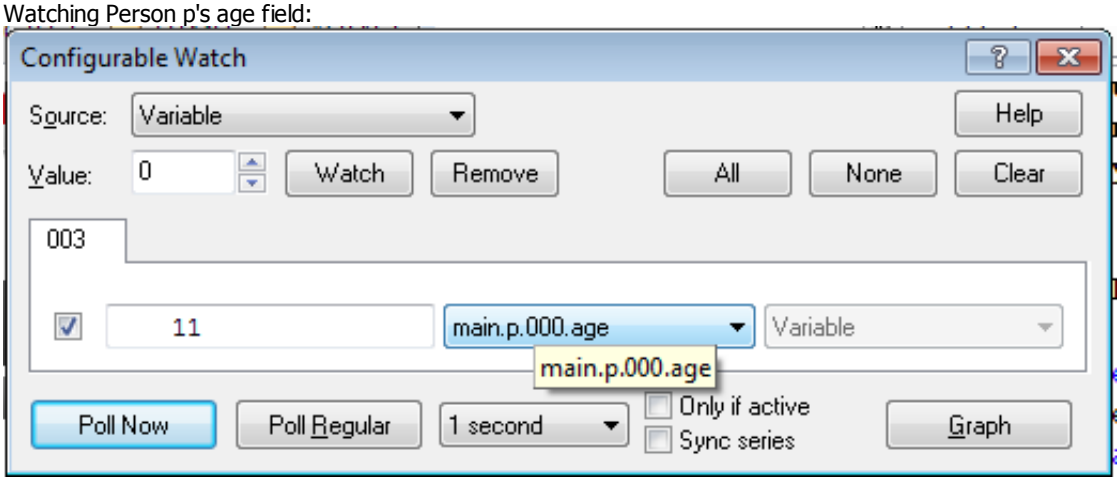


local variable float f declared inside the while loop:

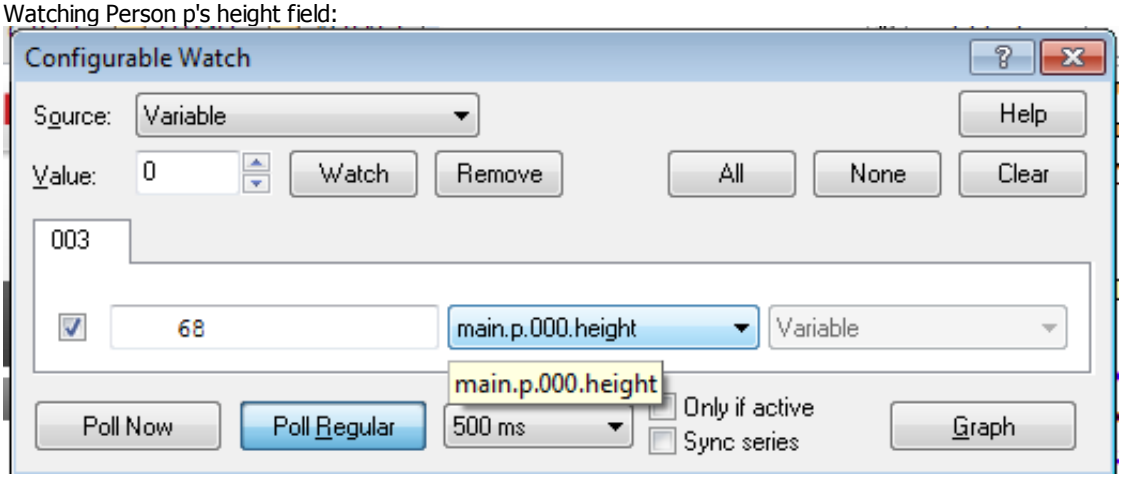


Since you can't pick which variable is associated with which field this dialog is very limited in how useful it is for watching variables in your code. The NXT Watch List tool is much more flexible, though it also uses decorated names like you see here. You can also use the more flexible configurable watch tool which lets you pick the variables being watched on each tab that you add to the configurable watch page. You can add a Variable watch to the tab set and then for each variable watch tab you check the box to say "watch this" and pick which variable you want to watch from the drop-down list. Then as you poll now or poll regularly the values on each tab will show the specified variable's value.

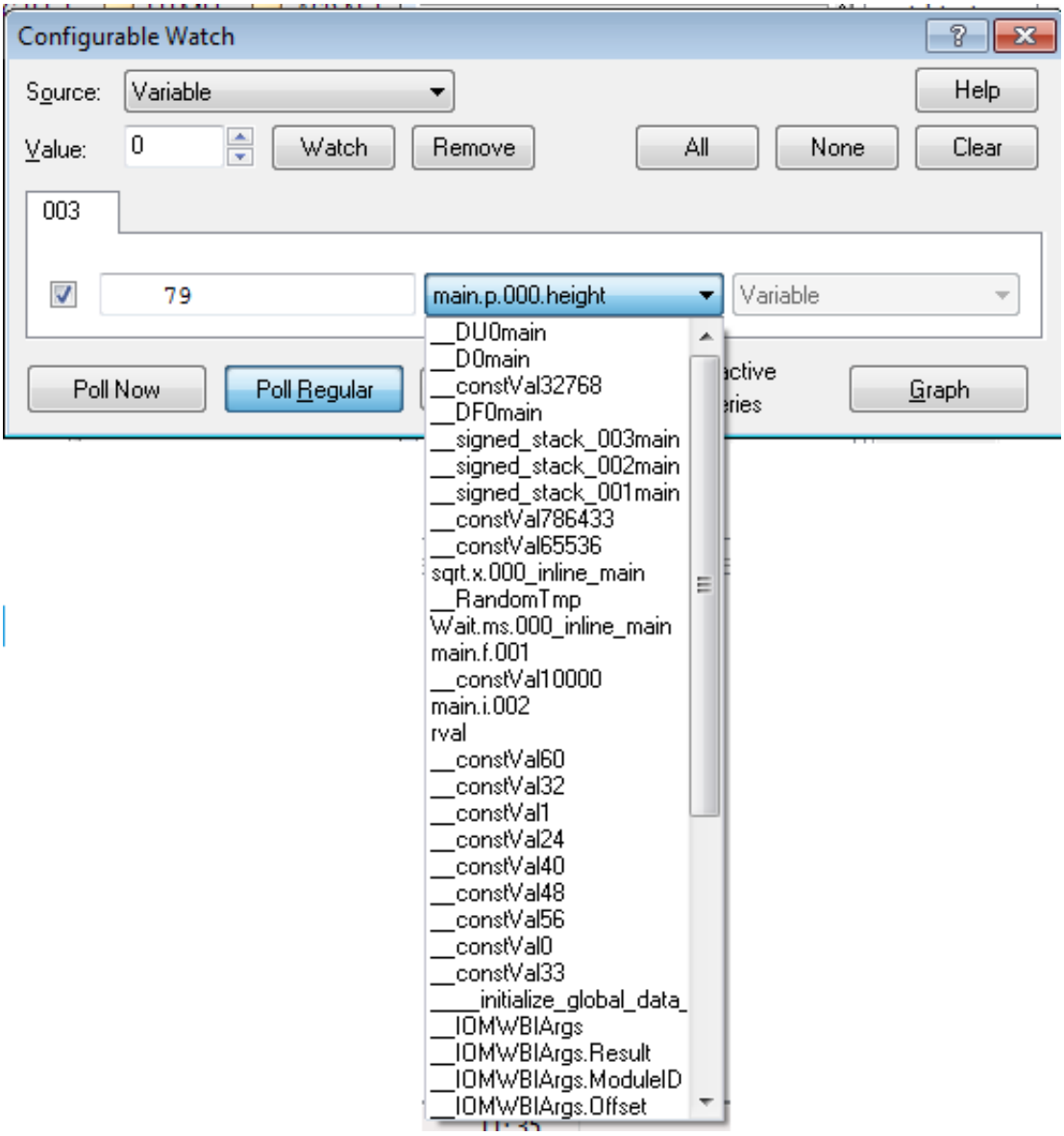
Watching Person p's age field:



Watching Person p's height field:

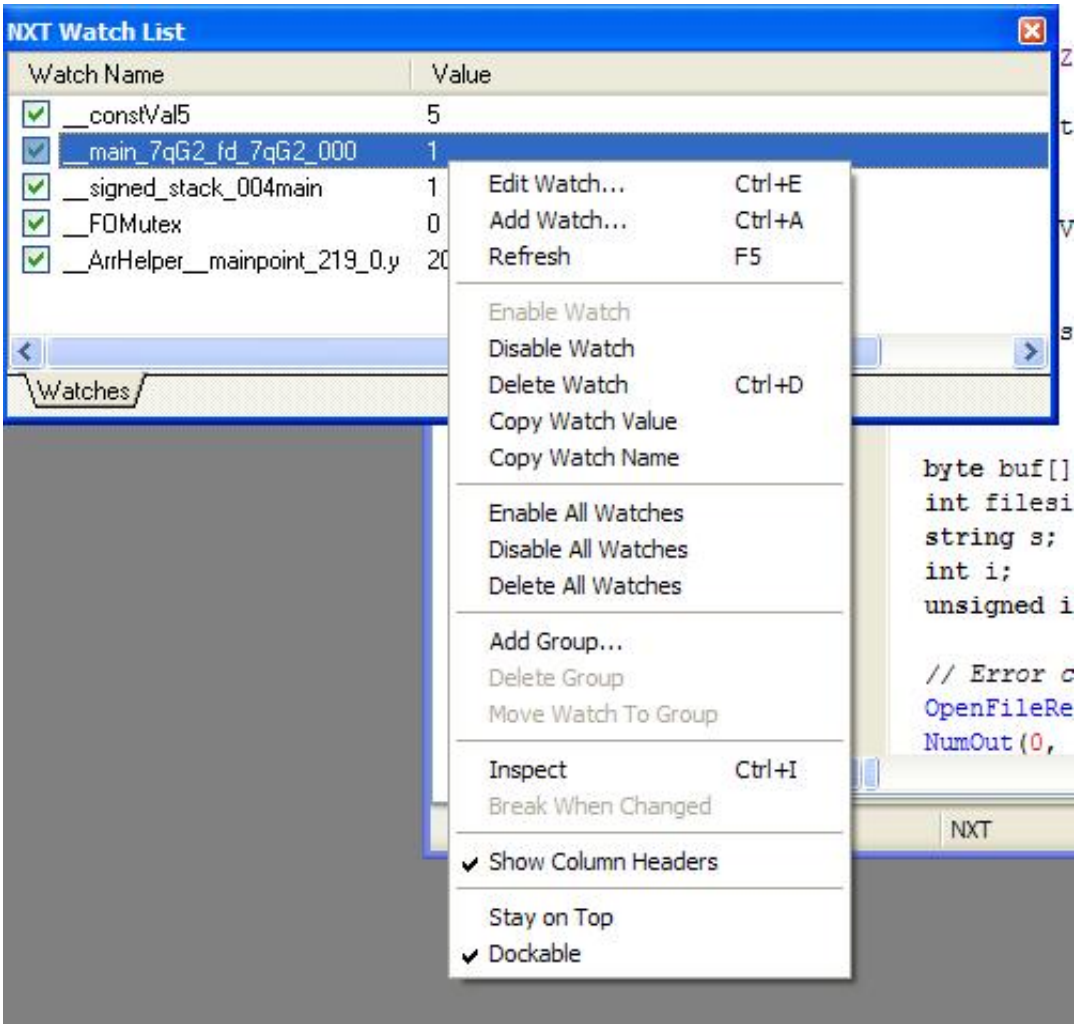


Picking which variable you want to watch:



All of the variables that start with "__" are internal variables used by the compiler as part of your program.

With the NXT Watch List you add watches to a simple two column grid that looks very similar to the Delphi watch window. It is not fully implemented yet but it is functional.

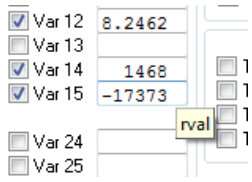


There is a video online that shows how to do this with the NXT Watch List tool, which is available in newer BricxCC test release versions and will be in the next official release.

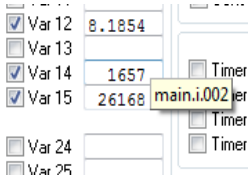
https://dl.dropbox.com/u/53437658/debug.m4v

Please ask if you have any questions about how these three options work in BricxCC.

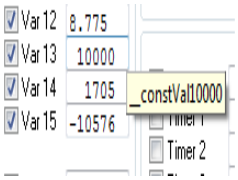
John Hansen



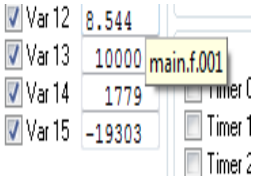
watchbrick.png
3 KB



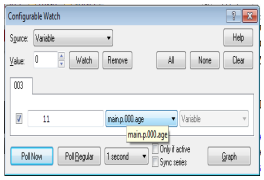
watchbrick2.png
4 KB



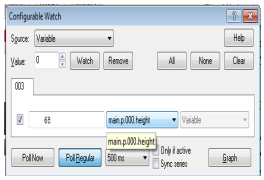
watchbrick3.png
4 KB



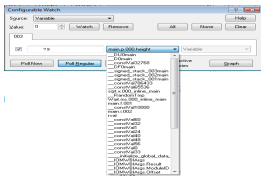
watchbrick4.png
3 KB



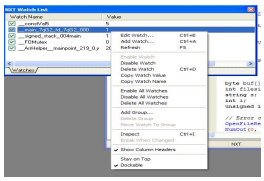
cwatch1.png
13 KB



cwatch2.png
13 KB



cwatch3.png
24 KB



nxtwatch.JPG
42 KB