Subject: TheIDE PDB debugger now understands some U++ types
Posted by mirek on Fri, 22 Nov 2019 09:31:16 GMT
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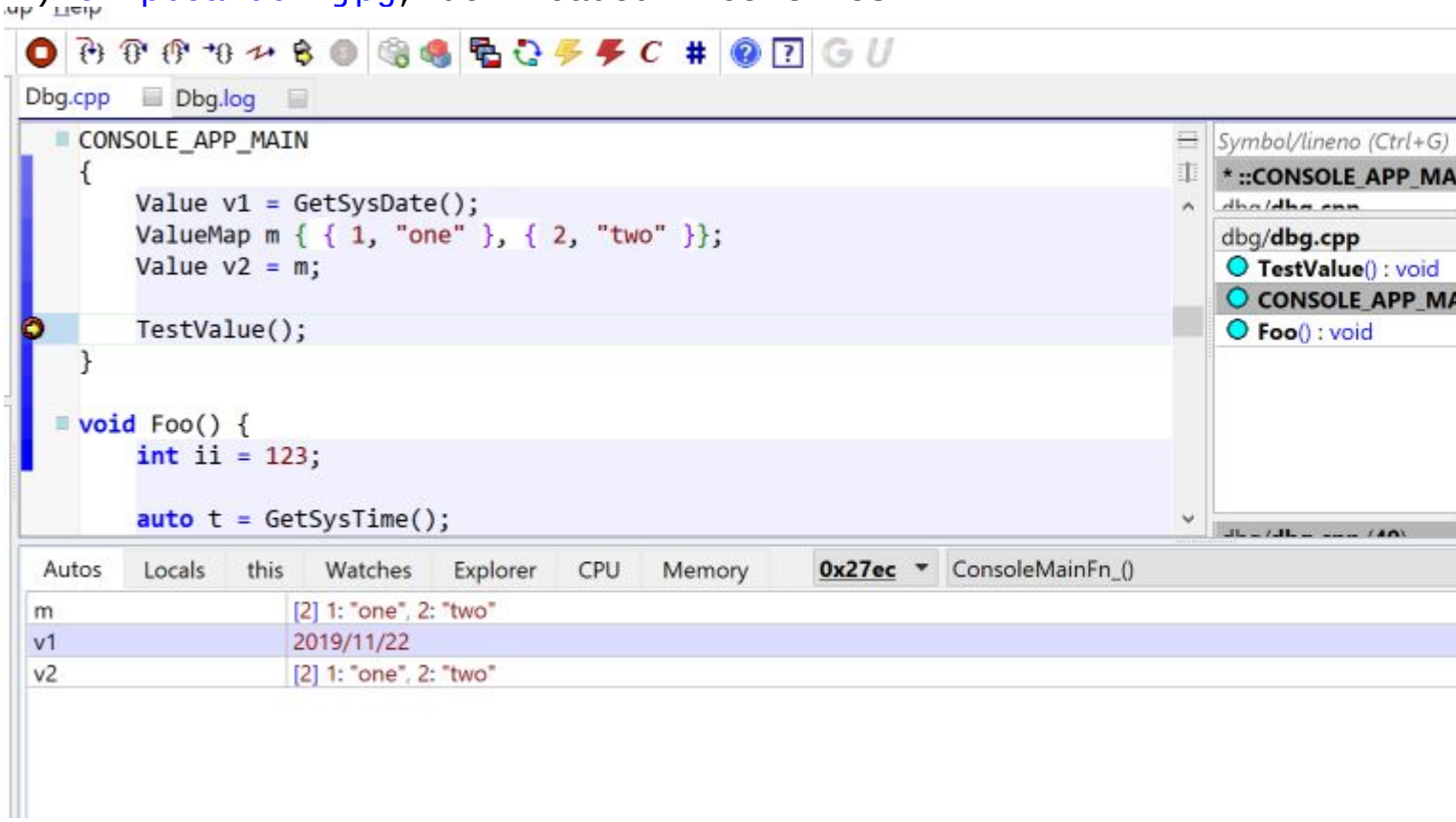
So, this is for PDB debugger (one for Visual C++ compiler only) and it is limited, hardcoded and otherwise ugly implementation, plus there is some work left to do (support more types, support structured browsing), but in general I think it is already useful feature:

File Attachments

1) Clipboard01.jpg, downloaded 1165 times



Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by unodgs on Fri, 22 Nov 2019 14:07:10 GMT
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Very cool, I was missing that so many times

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by zsolt on Fri, 22 Nov 2019 16:41:57 GMT

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Thanks a lot!

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by mirek on Thu, 28 Nov 2019 11:25:35 GMT
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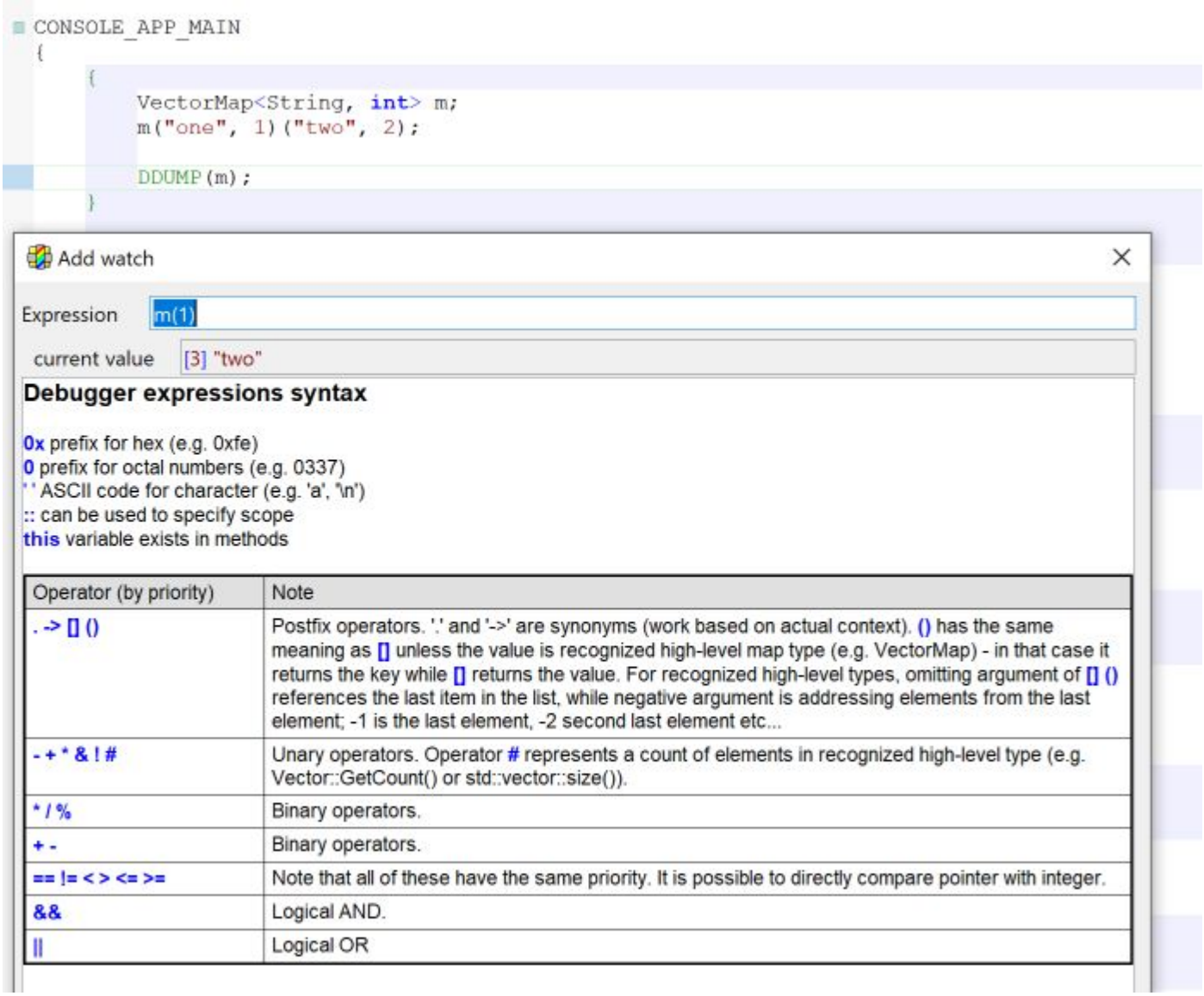
"recognized high-level types" are now supported in expressions:

File Attachments

1) Clipboard02.jpg, downloaded 1081 times



Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by zsolt on Fri, 29 Nov 2019 01:41:10 GMT
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How can I activate it?
I have compiled current Git version with MSC 2017 64 bit, but it seems to be working in the old way.

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by mirek on Fri, 29 Nov 2019 08:13:23 GMT
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zsolt wrote on Fri, 29 November 2019 02:41How can I activate it?
I have compiled current Git version with MSC 2017 64 bit, but it seems to be working in the old way.

Should work out of box-> something is wrong.

Core should be trunk version for Value recogniction.

Project must be compiled with MSC.

Not all U++ types are supported. Check ide/debuggers/Pretty.cpp for the list of types currently supported:

```
pretty.Add("Upp::Date", { 0, THISFN(PrettyDate) });
pretty.Add("Upp::Time", { 0, THISFN(PrettyTime) });
pretty.Add("Upp::ValueArray", { 0, THISFN(PrettyValueArray) });
pretty.Add("Upp::ValueMap", { 0, THISFN(PrettyValueMap) });
pretty.Add("Upp::Value", { 0, THISFN(PrettyValue) });
pretty.Add("Upp::String", { 0, THISFN(PrettyString) });
pretty.Add("Upp::WString", { 0, THISFN(PrettyWString) });
pretty.Add("Upp::Vector", { 1, THISFN(PrettyVector) });
pretty.Add("Upp::BiVector", { 1, THISFN(PrettyBiVector) });
pretty.Add("Upp::Array", { 1, THISFN(PrettyArray) });
pretty.Add("Upp::BiArray", { 1, THISFN(PrettyBiArray) });
pretty.Add("Upp::Index", { 1, THISFN(PrettyIndex) });
pretty.Add("Upp::VectorMap", { 2, THISFN(PrettyVectorMap) });
pretty.Add("Upp::ArrayMap", { 2, THISFN(PrettyArrayMap) });

pretty.Add("std::vector", { 1, THISFN(PrettyStdVector) });
pretty.Add("std::basic_string", { 1, THISFN(PrettyStdString) });
```

If none of those helps, we will have to dig into it... E.g. for starters, testcase would help.

Is debugged code 32 or 64?

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by zsolt on Fri, 29 Nov 2019 12:47:02 GMT
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It was my fault. Works perfectly.
It's very easy to debug this way. Thank you!

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by mirek on Fri, 29 Nov 2019 14:00:35 GMT
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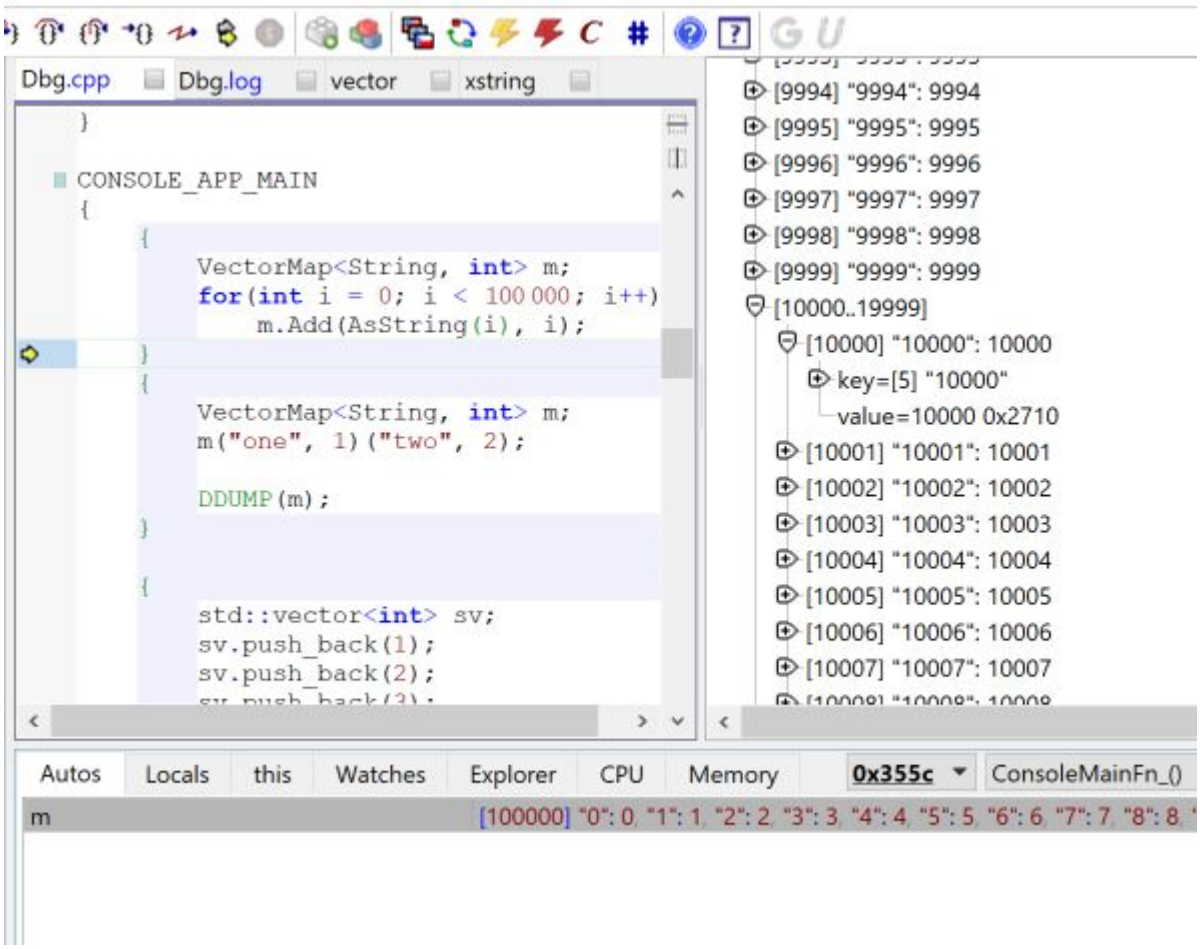
Tree view now can be used to see any element:

File Attachments
1) Clipboard01.jpg, downloaded 1036 times



Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by koldo on Sat, 30 Nov 2019 15:42:21 GMT
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Thank you Mirek. Debugger is very improved.
How do you access to tree view?

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by mirek on Sun, 01 Dec 2019 15:07:16 GMT
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koldo wrote on Sat, 30 November 2019 16:42Thank you Mirek. Debugger is very improved.
How do you access to tree view?

Click the line with the value.

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by koldo on Sun, 01 Dec 2019 20:54:52 GMT
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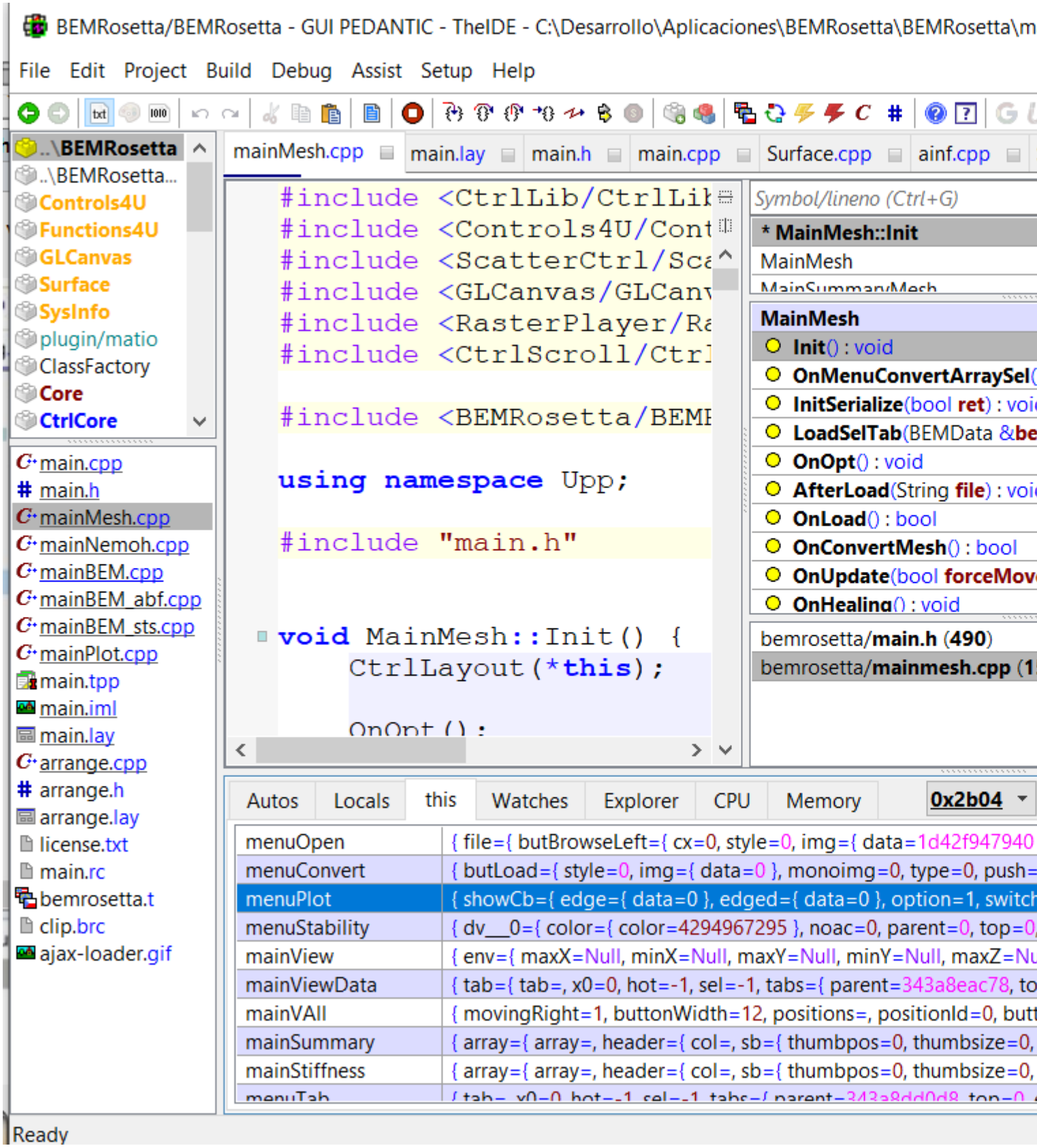
Very smart!

Let me show to the Forum the full picture.
The trick was to insist some times on moving the right vertical bar to the left.

File Attachments

1) Sin título.png , downloaded 884 times


BEMRosetta/BEMRosetta - GUI PEDANTIC - TheIDE - C:\Desarrollo\Aplicaciones\BEMRosetta\BEMRosetta\m
File Edit Project Build Debug Assist Setup Help
..\BEMRosetta
..\BEMRosetta...
Controls4U
Functions4U
GLCanvas
Surface
SysInfo
plugin/matio
ClassFactory
Core
CtrlCore
main.cpp
main.h
mainMesh.cpp
mainNemoh.cpp
mainBEM.cpp
mainBEM_abf.cpp
mainBEM_sts.cpp
mainPlot.cpp
main.tpp
main.iml
main.lay
arrange.cpp
arrange.h
arrange.lay
license.txt
main.rc
bemrosetta.t
clip.brc
ajax-loader.gif
mainMesh.cpp
main.lay
main.h
main.cpp
Surface.cpp
ainf.cpp
#include <CtrlLib/CtrlLib
#include <Controls4U/Cont
#include <ScatterCtrl/Sca
#include <GLCanvas/GLCanv
#include <RasterPlayer/Ra
#include <CtrlScroll/Ctrl
#include <BEMRosetta/BEMR
using namespace Upp;
#include "main.h"
void MainMesh::Init() {
CtrlLayout(*this);
OnOpt();
Symbol/lineno (Ctrl+G)
* MainMesh::Init
MainMesh
MainSummaryMesh
MainMesh
Init() : void
OnMenuConvertArraySel(
InitSerialize(bool ret) : voi
LoadSelTab(BEMData &be
OnOpt() : void
AfterLoad(String file) : voi
OnLoad() : bool
OnConvertMesh() : bool
OnUpdate(bool forceMov
OnHealing() : void
bemrosetta/main.h (490)
bemrosetta/mainmesh.cpp (1
Autos Locals this Watches Explorer CPU Memory
0x2b04
menuOpen { file={ butBrowseLeft={ cx=0, style=0, img={ data=1d42f947940
menuConvert { butLoad={ style=0, img={ data=0 }, monoimg=0, type=0, push=
menuPlot { showCb={ edge={ data=0 }, edged={ data=0 }, option=1, switch
menuStability { dv__0={ color={ color=4294967295 }, noac=0, parent=0, top=0,
mainView { env={ maxX=Null, minX=Null, maxY=Null, minY=Null, maxZ=Nu
mainViewData { tab={ tab=, x0=0, hot=-1, sel=-1, tabs={ parent=343a8eac78, to
mainVAll { movingRight=1, buttonWidth=12, positions=, positionId=0, butt
mainSummary { array={ array=, header={ col=, sb={ thumbpos=0, thumbsize=0,
mainStiffness { array={ array=, header={ col=, sb={ thumbpos=0, thumbsize=0,
Ready

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by mirek on Tue, 03 Dec 2019 10:10:11 GMT
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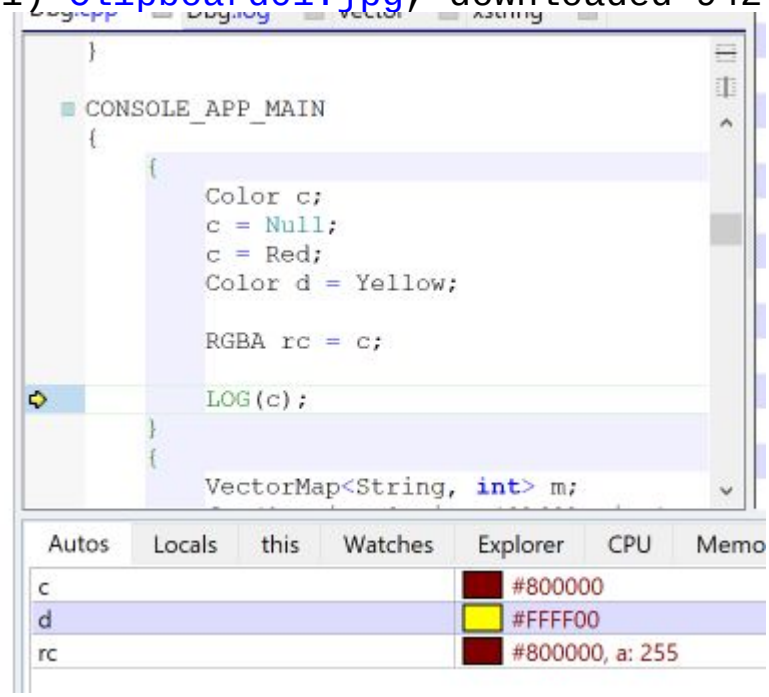
Could not resist:

File Attachments

1) Clipboard01.jpg, downloaded 942 times



Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by koldo on Fri, 06 Dec 2019 09:21:26 GMT
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Really useful.

Could you add a copy to clipboard option to get the variable text?

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by Klugier on Sat, 07 Dec 2019 22:12:39 GMT
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Hello koldo,

Some time ago I implemented feature for GDB that copy the text to the clipboard from the tree. Optimally, we should have the same functionality for PDB with the shared code to reduced code

maintenance. I also planned to add window that will open when you want to examine full string value inside TheIDE. This functionallity should also be shared between debuggers. This is optimal implementation to not favor any of debugger. Especially that PDB is not available on Linux.

I think above improvements are great, but they are not present with the GDB back-end. Mirek, do you think we can port this functionality without much effort (by extracting common code?)?

Sincerely,
Klugier

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by mirek on Sun, 08 Dec 2019 07:40:07 GMT
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Klugier wrote on Sat, 07 December 2019 23:12
I think above improvements are great, but they are not present with the GDB back-end. Mirek, do you think we can port this functionality without much effort (by extracting common code?)?

Unfortunately not. That is one of reasons I have resisted these features for so long.

GDB and PDB are completely different beasts. GDB is just issuing text commands to gdb binary via text pipe and interpreting results.

PDB code is really a full featured debugger. It is using Win32 debugging API directly and symbol server to really understand the layout of objects, directly reads debugee memory etc... That are actually requirements to make this kind of functionality possible.

This definitely possible to binaries produced by GCC toolchain too. But it is a LOT of work, probably would involve thorough study of GDB sources and about a year to complete.

Mirek

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by Novo on Sun, 08 Dec 2019 15:27:44 GMT
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mirek wrote on Sun, 08 December 2019 02:40
This definitely possible to binaries produced by GCC toolchain too. But it is a LOT of work, probably would involve thorough study of GDB sources and about a year to complete.

IMHO, it is easier to use LLDB, which is available as a lib.

"The LLDB debugger APIs are exposed as a C++ object oriented interface in a shared library. The lldb command line tool links to, and uses this public API."

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by mirek on Sat, 14 Dec 2019 14:20:18 GMT
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koldo wrote on Fri, 06 December 2019 10:21Really useful.

Could you add a copy to clipboard option to get the variable text?

Done.

Subject: Re: TheIDE PDB debugger now understands some U++ types
Posted by koldo on Sat, 14 Dec 2019 15:33:09 GMT
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Cool! It runs, thank you Mirek.

The last features you are adding to debugger are really useful, and they have helped me to detect errors.
