Subject: I keep getting the same "cannot open exe for writing" error...
Posted by blackbyrus on Fri, 08 Jun 2007 14:22:04 GMT
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Here's an example of the error:
LINK : fatal error LNK1168: cannot open C:\upp\out\MSC71.Debug_full.Gui\Hello.exe for writing

In this specific one, Hello.exe had already compiled 3 times before it suddenly stopped working.

I get it for my (very simple, straight from tutorial) programs, and for the already written example programs that came packaged with the IDE. Sometimes a program will compile a couple of times, I'll make a very minor change, then I will get that error, I change it back, and now it won't compile anymore. I'm confused as to what I may be doing to cause this.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Fri, 08 Jun 2007 15:06:00 GMT
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This usually means that program is still running. Win32 cannot write to the image of running process. Check the process list and kill the process.

Rarely, this can be caused by the problem in the debugger -> in that case, you need to restart TheIDE.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Tue, 06 Nov 2018 16:06:55 GMT
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Hello all

I get very frequently this error.
The system is Windows 10 and compiler is VS 2017.
It is annoying as only way to avoid it is restarting TheIDE or changing exe name.
Thank you.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Tue, 06 Nov 2018 18:05:40 GMT
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koldo wrote on Tue, 06 November 2018 17:06Hello all

I get very frequently this error.
The system is Windows 10 and compiler is VS 2017.
It is annoying as only way to avoid it is restarting TheIDE or changing exe name.

Thank you.

Are you using debugger?

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Wed, 07 Nov 2018 11:44:44 GMT
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Yes.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Wed, 07 Nov 2018 15:44:12 GMT
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Running Sysinternals Process Explorer, it appears that the program is already running.
However in TheIDE there is no option available for stopping any process, so TheIDE thinks that the process is already stopped.
This problem happens sometimes, every 5-10 compilings of the same source.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Sun, 25 Nov 2018 16:40:09 GMT
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For me it happens after previous debugging.
(I am on Windows10 64 Bit)
It happens for me when I am using MSVC17 or MSVC17 64 Bit in TheIDE and only after debugging.

In the Windows Taskmanager it can be seen, that the previously debugged process is still attached to TheIDE.
If I choose "Debug" in the Windows Taskmanager then Windows tries to attach the VSstudio debugger.

Attaching VSStudio debugger fails.

There is an error message, which says "There is another debugger attached to this process, which is not configured to handle this kind of exception".

It seems to me, it happens, when the debugee was stopped and had some kind of exception during shutdown and this probably prevented the debugger from detaching.

These are just my observations. (And educated guesses) Hope this is useful.
I have no experience with windows programming, but have used debuggers on DOS and Linux some decades ago.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Mon, 26 Nov 2018 09:54:11 GMT
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peterh wrote on Sun, 25 November 2018 17:40For me it happens after previous debugging.
(I am on Windows10 64 Bit)
It happens for me when I am using MSVC17 or MSVC17 64 Bit in TheIDE and only after debugging.

In the Windows Taskmanager it can be seen, that the previously debugged process is still attached to TheIDE.
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Attaching VSStudio debugger fails.

There is an error message, which says "There is another debugger attached to this process, which is not configured to handle this kind of exception".

It seems to me, it happens, when the debugee was stopped and had some kind of exception during shutdown and this probably prevented the debugger from detaching.

These are just my observations. (And educated guesses) Hope this is useful.
I have no experience with windows programming, but have used debuggers on DOS and Linux some decades ago.

OK, then it is "known issue". We are well aware about this, but have found not solution yet. It looks like Microsoft .dll we are using to get symbolic information from the .exe fails to close same handles to .exe.

For now, if I run into this, I simply restart theide.

If you want to try to resolve this, the critical code is in Pdb::Stop (ide/Debuggers/Pdb.cpp).
Problem is that it works "most of time"...

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Mon, 26 Nov 2018 11:45:52 GMT
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Yes, when I see the problem then I try to solve it, or at least look for a way to reproduce it.

I see this problem frequently, because I use the debugger frequently.
Not that I write software, but I work through the examples and if I dont understand something, then I use the debugger to see how stuff works.

I could try the tools from sysinternals to investigate this problem furter, when it happens.

My observation is, sometimes it doesnt happen and sometimes it happens frequently, with the debugee being substancially unchanged.

It is not reproducible, this could be a hint for uninitialized variables, dangling pointer or race condition.

If the problem is in the microsoft dll then only a quick'n dirty workaround would be possible:

Before the build starts, delete the target *.exe file.
Possibly the Windows API has a way to get the filehandle and close and delete the file? (I dont know this; this is just an unproven idea)
If this is not possible rename it and delete it at next start.
Possibly move the exe to temp then windows would delete it.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Mon, 26 Nov 2018 16:10:42 GMT
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```
 if(hProcess != INVALID_HANDLE_VALUE) {
  DebugActiveProcessStop(processid);
  TerminateProcess(hProcess, 0);

                    // Wait for max. 10 seconds. This should solve 99.9% of all problems. I hope so ;-)
                    // TODO: If a complex unknown and possibly buggy process is terminated violently,

                    // then the error codes are hard to interpret and should be displayed to the user.
                    WaitForSingleObject(hProcess,10000);


                    while(threads.GetCount())
   RemoveThread(threads.GetKey(0)); // To CloseHandle
  UnloadModuleSymbols();
  SymCleanup(hProcess);
  CloseHandle(hProcess);
 }
```

Possibly I have found a problem.
The TerminateProcess() systemcall is asynchronous and returns immediately, eventually before the process is actually terminated.
Also it kills all threads.
(If the documentation is correct)

Possibly a WaitforSingleObject() call must be inserted here.

https://docs.microsoft.com/en-us/windows/desktop/api/processthreadsapi/nf-processthreadsapi-terminateprocess

I think I will try this, when I am at home.

In a later stage the waiting time could be measured, and if it is longer than 9 seconds then the error codes could be displayed to the user and the user should decide if he/she wants to wait longer and retry or ignore the error codes.
This is more work to implement and not necessary for now.
If this approach works, I would be happy to try to write the code.

Edit:

I have now compiled this and it works so far.
If the aforementioned problem shows up again can only be said after some hours of trial.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Mon, 26 Nov 2018 23:14:57 GMT
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Hello Peterh

Good find.

Quote:The TerminateProcess() systemcall is asynchronous and returns immediately, eventually before the process is actually terminated.
Also it kills all threads.
(If the documentation is correct)TerminateProcess() does not kill child processes.

To handle that Bazaar/Functions4U includes TerminateChildProcesses(). It kills all processes tree.

It may be dangerous, as it does not follow the proper killing order but, as using TerminateProcess() is a brute force process end, TerminateChildProcesses() just tries to do the same thing, but in depth.

Edit: Similar focus is used in PauseChildThreads() with surprising effectivity even for child GUI software.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Tue, 27 Nov 2018 07:54:43 GMT
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Then TerminateChildProcesses() might be a better solution if it doesnt block.

In any case terminating an unknown eventually buggy process which can have childprocesses, threads and pending IO can go wrong.

Cleanly terminating is without problems in simple cases and might be impossible in complicated cases.
Compromises are necessary. Terminating is always an emergency brake.

I must admit, I am unable to write this debugger and I value and respect your work.
I have only focussed to this problem and went through the code step by step and had an idea what to look for: uninitialized variables, dangling pointers, buffer overflows, race conditions.
And in this case it seems to be a race condition.

BTW, if there are childprocesses, then there is the question if it is good to terminate them.
Possibly they can be terminated with the taskmanager or Sysinternals Process explorer or a debugger can been attached to them?

All the best

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Tue, 27 Nov 2018 08:42:53 GMT
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peterh wrote on Tue, 27 November 2018 08:54
I must admit, I am unable to write this debugger and I value and respect your work.
I have only focussed to this problem and went through the code step by step and had an idea what to look for: uninitialized variables, dangling pointers, buffer overflows, race conditions.
And in this case it seems to be a race condition.

I absolutely agree - I have to admit that I have completly missed the fact that Terminate is nonblocking.

IMO what we need there is active wait, with Progress for cancelation (for the case that Terminate fails). Or maybe just keep trying for only 3s.

Mirek

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Tue, 27 Nov 2018 08:50:06 GMT
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So I have tried a quick patch to resolve this based on the new info. It is in the trunk.

I would appreciate testing...

Mirek

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Tue, 27 Nov 2018 09:07:45 GMT
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Thank you!
So this is in nightly build tomorrow?

I am going to test and report in the evening, when I am at home.
Dayover I am at Job and look occasionally into the forum.
My Job is not programming, but industrial electronics hardware.

My idea is this:

In normal cases termination should be quicker than some 100 milliseconds.
Only if there are problems like pending IO it would last longer.
I do not know if in this cases Windows waits or if it terminates the process in the hard way, leaving open serial ports, USB devices and Files behind.

However the timeout in WaitForSingleObject() must have a meaning and nobody knows how the next version of Windows or other versions will handle this.
So, if a timeout happens there must be an unusual problem and only the user/programmer can know for the reason.

It is then questionable wether the termination would succeed and the user should be asked, when a timeout happens if he wants to wait, instead of closing the process-handle, possibly unsuccessful.
Inbetween he/she could use other system-tools to debug or ignore the problem and restart the IDE and possibly chooses to reboot afterwards.

We use hardware testprograms here.
Some of the devices we test are defective and have unforseeable problems. This is, why we test.
We connect potentially defective devices to the USB Port and disconnect them, semiautomatically some hundreds a day.
I have often seen USB devices vanish after a crash and in this case there is no other choice than to reboot after such an event.
So if such a situation is encountered while debugging the test program, the debugger must leave the decision about closing a process handle after timeout to the debuggers user.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Tue, 27 Nov 2018 12:25:28 GMT

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Quote:So I have tried a quick patch to resolve this based on the new info. It is in the trunk.
This morning I have used your patch in a tough way, stopping the debug with SHIFT+F5.
For now it goes right

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Tue, 27 Nov 2018 20:09:17 GMT
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I have now downloaded Pdb.cpp from the Git website and compiled this into my IDE.
I tortured it somehow, a lot of breakpoints, Shift F5, singlestep inside a thread
and always rebuilt the debugee (GUIlock).

No problems so far.
I have also seen with this nightly build Alt J is working again and Mathtools compiles again.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Wed, 28 Nov 2018 09:49:00 GMT
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Hi,

I did download nightly build 12584 this morning.
The sources included do not contain the updated code for Pdb::Stop()
So it is unclear to me if the binary has the updated code.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Wed, 28 Nov 2018 09:57:28 GMT
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peterh wrote on Wed, 28 November 2018 10:49Hi,

I did download nightly build 12584 this morning.
The sources included do not contain the updated code for Pdb::Stop()
So it is unclear to me if the binary has the updated code.

It was revision 12585. So perhaps tomorrow...

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by cbpporter on Thu, 29 Nov 2018 11:21:07 GMT
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I tested with 12587.

The issue is not fixed.

In the past I would get a hang up when the process locked and I had to quit TheIDE.

Now, I get a message telling me that the binary can't be opened for writing. So I guess it is an improvement. The process can't be killed by windows manager and I need to shut down TheIDE.

A few months ago I tried everything to fix this but gave up. I was using WinAPI (WaitForSingleObject if I remember correctly) to wait for the process. Yet the process would not finish and TheIDE would hang forever.

```
  dword exitcode;
  int start = msecs();
  while(GetExitCodeProcess(hProcess, &exitcode) && exitcode == STILL_ACTIVE &&
msecs(start) < 3000)
   Sleep(1);
```

This behaves better than WaitForSingleObject since it won't lock forever, but I suppose testing GetExitCodeProcess after 3 seconds will still give an active result in the case where the exe can't be written too. Maybe that should be logged somewhere and shown in TheIDE?

There must be a more aggressive way o killing a process as a fail safe?

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Thu, 29 Nov 2018 11:23:58 GMT
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cbpporter wrote on Thu, 29 November 2018 12:21I tested with 12587.

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This behaves better than WaitForSingleObject since it won't lock forever, but I suppose testing GetExitCodeProcess after 3 seconds will still give an active result in the case where the exe can't be written too. Maybe that should be logged somewhere and shown in TheIDE?

There must be a more aggressive way o killing a process as a fail safe?

Perhaps we could try to add Exclamation after that if process is still active - at least that would show us that this is the problem.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by cbpporter on Thu, 29 Nov 2018 11:27:20 GMT
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mirek wrote on Thu, 29 November 2018 13:23
Perhaps we could try to add Exclamation after that if process is still active - at least that would show us that this is the problem.

Yes please!

Also, since I updated, when running command line programs with Ctrl-F5, I get this lovely output message:
Quote:<--- Finished in (-5371:-45.-1), exitcode: 0 --->

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Thu, 29 Nov 2018 12:41:04 GMT
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The question is, if your process needs more time than 3 seconds to terminate.
The other question is can it been terminated with this method at all?
If it hangs in blocking IO in kernel mode, possibly it cannot be terminated.
I do regulary see applications that do serial IO via the .NET and if these crash, then Windows does not shut down because it waits for the process forever.

This is why I proposed tho give report to the user.

There could be a message box:

"Process termination timeout"
"Wait and retry?" "Ignore and try to Close anyway"

WaitForSingleObject should return these Values:

WAIT_OBJECT_0 means the thread has stopped.
WAIT_TIMEOUT means the thread is running.

Not that I have practical experience with this. This is what I found in MSDN.

Edit:
Just for explanation:
Even if the processhandle is closed and the process detached the file cannot been deleted or modified as long as the process is running.
This is, because windows needs the .exe file for virtual memory paging, when the process is still running.
In this case the file could be renamed and marked for deletion.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Thu, 29 Nov 2018 13:10:19 GMT
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cbpporter wrote on Thu, 29 November 2018 12:27mirek wrote on Thu, 29 November 2018 13:23
Perhaps we could try to add Exclamation after that if process is still active - at least that would show us that this is the problem.

Yes please!

Also, since I updated, when running command line programs with Ctrl-F5, I get this lovely output message:
Quote:<--- Finished in (-5371:-45.-1), exitcode: 0 --->

Added & fixed...

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Fri, 30 Nov 2018 08:01:10 GMT
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Hi,

I do not know how Windows terminates a process.
I have however done WIN32 programming years ago before, even Kernel debugging. (Debugging a kernel mode driver)
So I have ideas about it.
Windows might inject an ExitProcess call into the code of the process in order to terminate it with the least damage possible.
This would not work, if the process doesnt run (e.g. hangs in blocking IO in kernel mode).
Also this can be delayed, if heavy background activity happens, e.g. swapping and it could be necessary to swap portions of the debugged process in.
In these cases I can imagine, TerminateProcess would need time or might be impossible.

All the best,

Peter

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Fri, 30 Nov 2018 10:48:53 GMT
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I have seen this same error with MinGW on Window7 32 Bit.

```
 (): Linking has failed
 ():    C:/upp/bin/mingw64/32/bin/../lib/gcc/i686-w64-mingw32/7.1.0/
../../../../i686-w64-mingw32/bin/ld.exe: cannot open output file C:\up
   p\out\reference\MINGW.Debug.Debug_Full.Gui.Mt.Noblitz\CoWork .exe: Permission denied
 (): collect2.exe: error: ld returned 1 exit status
```

It happens reproducibly when I start CoWork.exe in debug mode and terminate it with stop.
The process stays in memory after termination.
In this case the terminated process can be removed with the Windows Taskmanager.

Edit:
I retried this with MingW 32 and 64 on a faster Computer, running Windows 10 64 Bit.
There it doesnt happen.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Wed, 05 Dec 2018 20:52:50 GMT
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Hi,

I want to add this, because it might help others:

I went back to the 2018.1 stable build, because I had problems with the nightly builds.
With 2018.1 the aforementioned problem occurs frequently to me.
Then I added WaitForSingleObject(hProcess,10000) to Pdb::Stop() as aforementioned.
This did not cure the problem, but did also not cause any additional effects like delays.

Then I did see, the Ide project had the flags "GUI" and no other.
So I recompiled Theide with flags "GUI MT", because I believe, it could be multithreaded.
Apparently this cured the problem for me. It did not happen again since 2 hours now.

All the best,

Peter

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Wed, 05 Dec 2018 22:09:03 GMT
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peterh wrote on Wed, 05 December 2018 21:52
Then I did see, the Ide project had the flags "GUI" and no other.
So I recompiled Theide with flags "GUI MT", because I believe, it could be multithreaded.
Apparently this cured the problem for me. It did not happen again since 2 hours now.

No, that just shows how elusive this issue is. "MT" flag is ignored since ~2016. We are now MT always.

Mirek

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Wed, 05 Dec 2018 22:40:48 GMT
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Could be.
Otherwise the difference was drastic.
I had written "MT" into the compiler options.
Microsoft docs for VC 2015 say /MT will define the flag _MT and this will tell the linker to link the multithreaded libraries and/or DLLs
(I use VC2017)
Is this info outdated?

Subject: Re: I keep getting the same "cannot open exe for writing" error...

Posted by mirek on Thu, 06 Dec 2018 09:32:53 GMT
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peterh wrote on Wed, 05 December 2018 23:40Could be.
Otherwise the difference was drastic.
I had written "MT" into the compiler options.
Microsoft docs for VC 2015 say /MT will define the flag _MT and this will tell the linker to link the multithreaded libraries and/or DLLs
(I use VC2017)
Is this info outdated?

Builders/MscBuilder.cpp 275

-MT is hardwired. It is always there...

Mirek

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Thu, 06 Dec 2018 09:35:29 GMT
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Perhaps we should now concentrate on

```
while(threads.GetCount())
 RemoveThread(threads.GetKey(0)); // To CloseHandle
UnloadModuleSymbols();
SymCleanup(hProcess);
CloseHandle(hProcess);
```

part... I guess with current patch, we can be fairly sure that process is terminated for good (otherwise it would display an Exclamation)

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Thu, 06 Dec 2018 18:23:26 GMT
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Thank you very much.
I checked it, and it is as you said.
As this is an annoying problem for me, I think I will insert some debug messages into my own TheIde compilation and try,
 if I can find something out that is helpful.

All the best,

Peter

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Thu, 06 Dec 2018 19:53:20 GMT
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I have now changed the code in the following way:

```
  if(hProcess != INVALID_HANDLE_VALUE) {
   DebugActiveProcessStop(processid);
   TerminateProcess(hProcess, 0);
   DWORD retval = MsgWaitForMultipleObjects(
                              1,   //DWORD        nCount,
                              &hProcess,  //const HANDLE *pHandles,
                              true,   //BOOL         fWaitAll,
                              10000,   //DWORD        dwMilliseconds,
                              0    //DWORD        dwWakeMask
          );
   if (retval == WAIT_TIMEOUT)   Exclamation("WAIT_TIMEOUT");
   if (retval == WAIT_ABANDONED) Exclamation("WAIT_ABANDONED");

   WaitForSingleObject(hProcess,10000);
   while(threads.GetCount())
    RemoveThread(threads.GetKey(0)); // To CloseHandle
   UnloadModuleSymbols();
   SymCleanup(hProcess);
   CloseHandle(hProcess);
  }
```

I did this because I have read, the WaitForSingleObject() call can return prematurely under some special circumstances.
I cannot explain it, because Microsoft cannot explain it clearly.
The explanations given are misunderstandable or ambigous and there are subtile typos sometimes. And no examples
I simply try it, if someone understands this perfectly, it will be appreciated.
After I did this, something changed: Stopping the debugee needs about 4 seconds, which is perfectly ok for me.
Edit: I added some debug code
The reason for the 4 seconds delay is not WAIT_TIMEOUT and is not WAIT_ABANDONED.
I will add some code to log the reason tomorrow. (Still I am learning Upp, needs more time than usual)
Ok, I will try this over the next few days and then report again.

So long,

Peter

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Sat, 08 Dec 2018 16:00:42 GMT
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Exclamation() crashes TheIde, when called inside Pdb::Stop().
Possibly this is a non GUI thread and it must be locked, but I dont know.

So I have built in extensive logging, I log all return values.

I cannot tell more news, because it did yet not happen again with the aforementioned code modification.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Sat, 08 Dec 2018 17:33:25 GMT
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Now it happened again.

DebugActiveProcessStop returned false, this means it failed.
Probably the debugger could not detach.
In turn, TerminateProcess failed.

```
"terminated flag" = terminated flag
terminated = false                          //This is OK
"DebugActiveProcessStop" = DebugActiveProcessStop
retval = 0x0                                //Boolean, Failed
"TerminateProcess" = TerminateProcess
retval = 0x0                                //Boolean, Failed
"WaitForSingleObject" = WaitForSingleObject
retval = 0x102                              //WAIT_TIMEOUT
"CloseHandle" = CloseHandle
retval = 0x1                                //Succeeded
```

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Sat, 08 Dec 2018 18:27:52 GMT
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New Code:

```
void Pdb::Stop()
{
```

```
 DWORD retval;
 LOG("-------------------------------------");
 LOG("terminated flag");
 DUMP(terminated);
 if(!terminated) {
  terminated = true;
  SaveTree();
  String fn = ConfigFile("TreeTypes.txt");
  FileOut out(fn);
  for(int i = 0; i < treetype.GetCount(); i++)
   out << treetype.GetKey(i) << "\r\n" << treetype[i] << "\r\n";
  StringStream ss;
  Store(callback(this, &Pdb::SerializeSession), ss);
  WorkspaceConfigData("pdb-debugger") = ss;
  if(hProcess == INVALID_HANDLE_VALUE)
        { LOG("hProcess Handle is invalid handle value");};

  if(hProcess != INVALID_HANDLE_VALUE) {
   LOG("DebugActiveProcessStop");
   for(int i=0; i<10; i++){
    if (retval = DebugActiveProcessStop(processid)) break;
    DUMPHEX(retval);
                        Sleep(100);
   }
   DUMPHEX(retval);

   retval = TerminateProcess(hProcess, 0);
   LOG("TerminateProcess");
   DUMPHEX(retval);
   retval = WaitForSingleObject(hProcess,10000);
   LOG("WaitForSingleObject");
   DUMPHEX(retval);
#ifdef NEVEREVER
   retval = MsgWaitForMultipleObjects(
      1,    //DWORD        nCount,
      &hProcess,  //const HANDLE *pHandles,
      true,   //BOOL         fWaitAll,
      10000,   //DWORD        dwMilliseconds,
      0     //DWORD        dwWakeMask
      );
   LOG("WaitForMultibleObjects");
   DUMPHEX(retval);
#endif
   while(threads.GetCount())
    RemoveThread(threads.GetKey(0)); // To CloseHandle
   UnloadModuleSymbols();
   SymCleanup(hProcess);
   retval = CloseHandle(hProcess);
```

```
   LOG("CloseHandle");
   DUMPHEX(retval);
  }
  StoreToGlobal(*this, CONFIGNAME);
  IdeRemoveBottom(*this);
  IdeRemoveRight(disas);
 }
}
```

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Sat, 08 Dec 2018 18:50:21 GMT
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Apparently it happened again.
This time however, with the new code and it worked as intended.
But not completely, because TerminateProcess failed.
Possibly the process was already terminated, because WaitForSingleObject
succeeded with retval == WAIT_OBJECT_0.

Any way, TheIde had no problem after this.

```
---------------------------------------
terminated flag
terminated = false
DebugActiveProcessStop
retval = 0x0
retval = 0x1
TerminateProcess
retval = 0x0
WaitForSingleObject
retval = 0x0
CloseHandle
retval = 0x1
```

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Sun, 09 Dec 2018 09:01:55 GMT
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So if I understand correctly, the key ingredient is to retry the DebugActiveProcessStop ?

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Sun, 09 Dec 2018 10:07:03 GMT
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Yes, this where my findings.

The solution is, if it fails then wait 100 ms.
So the debugee can run and hopefully comes to a state where it succeeds.
In all normal cases this should work at the 2nd try.

The long timeouts are only for non-normal problem cases which we hopefully never will have.

Edit:
I did not expect this. I simply logged the results of all system calls and then did see it.

Then however, it was clear to me:
In all cases previously known to me the process could not be removed with the taskmanager.
The reason is, because the debugger is still attached.
So this must be the general reason.

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Fri, 04 Jan 2019 08:42:11 GMT
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Yes, it follows failing

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Sun, 13 Jan 2019 00:02:50 GMT
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Tired of this, I added TerminateChildProcesses() just before TerminateProcess().
One week, no problem

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Sun, 13 Jan 2019 18:19:44 GMT
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koldo wrote on Sun, 13 January 2019 01:02Tired of this, I added TerminateChildProcesses() just before TerminateProcess().
One week, no problem

Just be warned that we had this solved many times, with "one week no problem"

Mirek

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by peterh on Mon, 14 Jan 2019 10:31:20 GMT
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Now, if it happens only once a week this should not be a problem.

When I had the problem, it happened again and again.
I debugged simple programs without child processes.
And after the latest modification (DebugProcessStop) I had not a single problem and I did heavy repeated testing and I tried to provoke the problem.
It did not happen again here.

All the best, and happy new year!

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Mon, 14 Jan 2019 10:52:33 GMT
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peterh wrote on Mon, 14 January 2019 11:31Now, if it happens only once a week this should not be a problem.

When I had the problem, it happened again and again.
I debugged simple programs without child processes.
And after the latest modification (DebugProcessStop) I had not a single problem and I did heavy repeated testing and I tried to provoke the problem.
It did not happen again here.

All the best, and happy new year!

Well, would it be possible to came to consensus what the code should look like? I might have got lost, is trunk ok? Perhaps it does not contain koldo's addition, right? Can you post it here so that I add it to trunk?

Mirek

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Mon, 14 Jan 2019 21:49:58 GMT
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peterh wrote on Mon, 14 January 2019 11:31Now, if it happens only once a week this should not be a problem.

When I had the problem, it happened again and again.
I debugged simple programs without child processes.
And after the latest modification (DebugProcessStop) I had not a single problem and I did heavy repeated testing and I tried to provoke the problem.

It did not happen again here.Yes I agree.

Without changes you have to close TheIDE many times every day.

I do not know if the code I use is the best, as I do not know the root cause of the problem. However, you should remember that TerminateProcess() does not terminate child process, so I call TerminateChildProcesses(hProcessId, 0); just before.
It uses dwProcessId from pdb.cpp, line 117:

```
 hProcess = pi.hProcess;
 hProcessId = pi.dwProcessId; // Added
 mainThread = pi.hThread;
 mainThreadId = pi.dwThreadId;
```

and TerminateChildProcesses() is implemented like this:

```
#include <TlHelp32.h>

Vector<DWORD> GetChildProcessList(DWORD processId) {
 Vector<DWORD> child, all, parents;

 HANDLE hSnap = CreateToolhelp32Snapshot(TH32CS_SNAPPROCESS, 0);
 if (hSnap == INVALID_HANDLE_VALUE)
  return child;

 PROCESSENTRY32 proc;
 proc.dwSize = sizeof(proc);

 if (!Process32First(hSnap, &proc)) {
  CloseHandle(hSnap);
  return child;
 }

 do {
  all << proc.th32ProcessID;
  parents << proc.th32ParentProcessID;
    } while(Process32Next(hSnap, &proc));

 CloseHandle(hSnap);

 child << processId;
 int init = 0;
 while (true) {
  int count = child.GetCount();
  if (init >= count)
   break;
  for (int cid = init; cid < count; ++cid) {
   for (int i = 0; i < all.GetCount(); ++i) {
```

```
    if (parents[i] == child[cid])
     child << all[i];
   }
  }
  init = count;
 }
 child.Remove(0);
 return child;
}

void TerminateChildProcesses(DWORD dwProcessId, UINT uExitCode) {
 Vector<DWORD> children = GetChildProcessList(dwProcessId);
 for (int i = 0; i < children.GetCount(); ++i) {
  HANDLE hProcess = OpenProcess(PROCESS_TERMINATE, FALSE, children[i]);
  TerminateProcess(hProcess, uExitCode);
  CloseHandle(hProcess);
 }
}
```

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Sat, 19 Jan 2019 16:49:44 GMT
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One week, no problem :)Other week, no problem

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by mirek on Sat, 19 Jan 2019 18:22:05 GMT
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Can you please check that Pdb.cpp in the trunk is now "the best known variant"?

Mirek

Subject: Re: I keep getting the same "cannot open exe for writing" error...
Posted by koldo on Sun, 20 Jan 2019 13:52:58 GMT
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Hi Mirek

The code proposed is set over last pdb.cpp version, adding the new function TerminateChildProcesses() before TerminateProcess(), as TerminateProcess() does not stop children processes.

Anyway, here I enclose you the patch files.

File Attachments

1) pdb_patch.7z, downloaded 336 times