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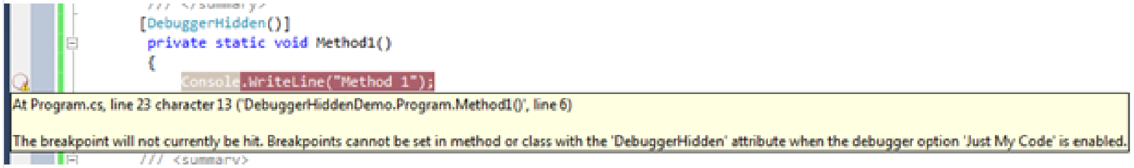
Hide Methods from debugger Using DebuggerHidden attribute

By Abhijit Jana | January 31, 2011 3 Comments

DubuggerHidden attribute tells the Visual Studio debugger that the method is hidden from the debugging process and while debugging. This is quite helpful when you don't want to go to stepping inside of a method while debugging.

When you mark a method with DebuggerHidden() attributes, It's explicitly tells the debugger not to step inside of that methods and no break point will be hit over that method. Now I am going to explain the same using a Example with Intellitrace debugging.



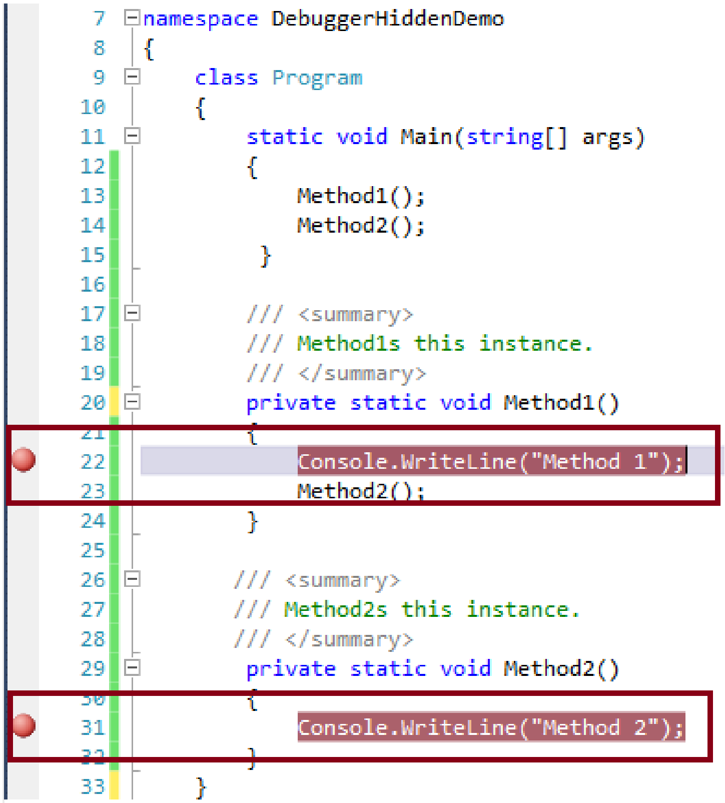
```
        /// </summary>
        [DebuggerHidden()]
         private static void Method1()
         {
             Console.WriteLine("Method 1");
```

At Program.cs, line 23 character 13 ('DebuggerHiddenDemo.Program.Method1()', line 6)

The breakpoint will not currently be hit. Breakpoints cannot be set in method or class with the 'DebuggerHidden' attribute when the debugger option 'Just My Code' is enabled.

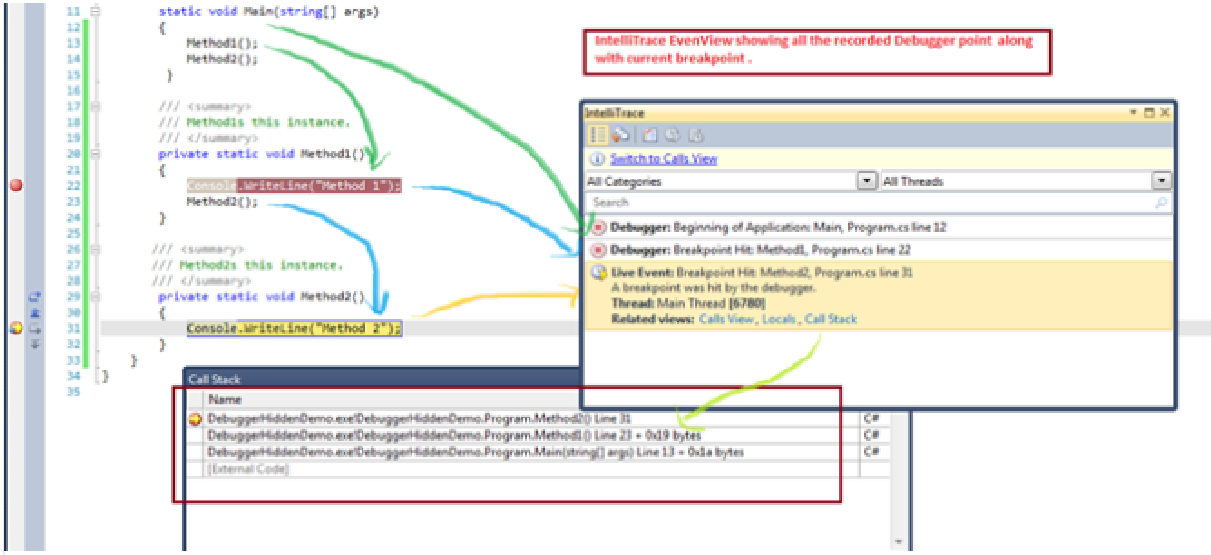
```
        /// <summary>
```

Let's consider you have below code snippet



```
 7  namespace DebuggerHiddenDemo
 8  {
 9      class Program
10      {
11          static void Main(string[] args)
12          {
13              Method1();
14              Method2();
15           }
16
17          /// <summary>
18          /// Method1s this instance.
19          /// </summary>
20          private static void Method1()
21          {
22              Console.WriteLine("Method 1");
23              Method2();
24          }
25
26         /// <summary>
27         /// Method2s this instance.
28         /// </summary>
29          private static void Method2()
30          {
31              Console.WriteLine("Method 2");
32          }
33      }
```

We have set two break points in each of the method (*Line 22*, and *Line 31* as shown) . Now if you run this application and check the output intellitrace debugging window , you will get bellow out put



```
        static void Main(string[] args)
        {
            Method1();
            Method2();
         }

        /// <summary>
        /// Method1s this instance.
        /// </summary>
        private static void Method1()
        {
            Console.WriteLine("Method 1");
            Method2();
        }

       /// <summary>
       /// Method2s this instance.
       /// </summary>
        private static void Method2()
        {
            Console.WriteLine("Method 2");
        }
    }
}
```

IntelliTrace EvenView showing all the recorded Debugger point along with current breakpoint .

IntelliTrace

Switch to Calls View

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Debugger: Beginning of Application: Main, Program.cs line 12

Debugger: Breakpoint Hit: Method1, Program.cs line 22

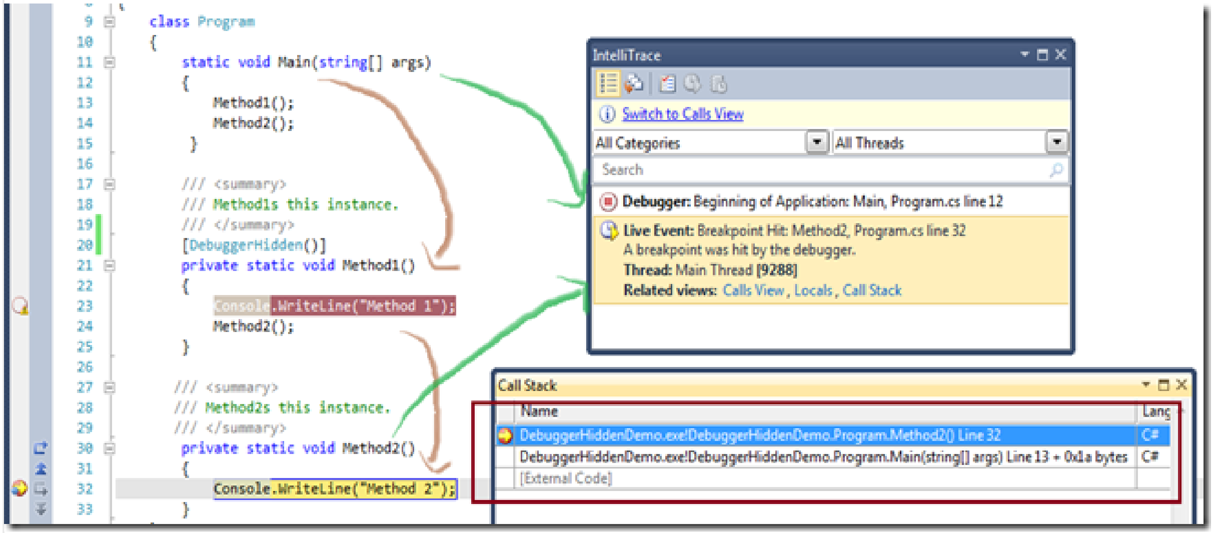
Live Event: Breakpoint Hit: Method2, Program.cs line 31
A breakpoint was hit by the debugger.
Thread: Main Thread [6780]
Related views: Calls View , Locals , Call Stack

Call Stack

Name	
DebuggerHiddenDemo.exe!DebuggerHiddenDemo.Program.Method2() Line 31	C#
DebuggerHiddenDemo.exe!DebuggerHiddenDemo.Program.Method1() Line 23 + 0x19 bytes	C#
DebuggerHiddenDemo.exe!DebuggerHiddenDemo.Program.Main(string[] args) Line 13 + 0x1a bytes	C#
[External Code]	

As per the above image, you can see the flow of the application from Main() > Method1() > Method2() . If you also check the current live event's "Call Stack" , that also represent the call of method2() from method1(). This is as per our expected behavior.

Now, If you don't need to go inside Method1() while debugging and debugger should not stop inside method1() for any of the breakpoint, you have to add "*DebuggerHidden()*" attributes with the *method1().* If you try to debug the application with the same breakpoint, CallStack() and IntelliTrace debugger view will be something different.



```
    class Program
    {
        static void Main(string[] args)
        {
            Method1();
            Method2();
        }

        /// <summary>
        /// Method1s this instance.
        /// </summary>
        [DebuggerHidden()]
        private static void Method1()
        {
            Console.WriteLine("Method 1");
            Method2();
        }

       /// <summary>
       /// Method2s this instance.
       /// </summary>
        private static void Method2()
        {
            Console.WriteLine("Method 2");
        }
```

IntelliTrace

Switch to Calls View

All Categories | All Threads

Search

Debugger: Beginning of Application: Main, Program.cs line 12

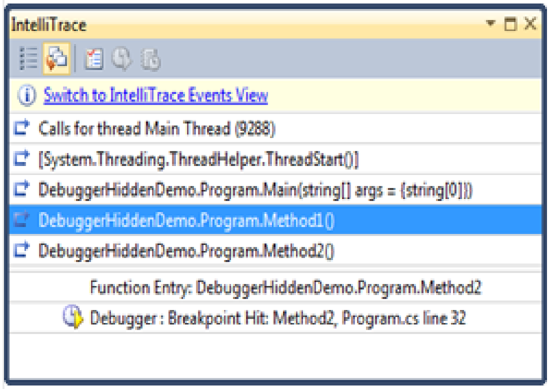
Live Event: Breakpoint Hit: Method2, Program.cs line 32
A breakpoint was hit by the debugger.
Thread: Main Thread [9288]
Related views: Calls View , Locals , Call Stack

Call Stack

Name	Lang
DebuggerHiddenDemo.exe!DebuggerHiddenDemo.Program.Method2() Line 32	C#
DebuggerHiddenDemo.exe!DebuggerHiddenDemo.Program.Main(string[] args) Line 13 + 0x1a bytes	C#
[External Code]	

If you check the above image, debugger reached to Method2() through Method1(), but breakpoint in method1() never hits, because of the “DebugerHidden” attribute.

If you move from “EventView” mode to “CallView” mode in Intellitrace window, you can find the actual flow of sequence of the program.



Switch to IntelliTrace Events View

```
Calls for thread Main Thread (9288)
[System.Threading.ThreadHelper.ThreadStart()]
DebuggerHiddenDemo.Program.Main(string[] args = {string[0]})
DebuggerHiddenDemo.Program.Method1()
DebuggerHiddenDemo.Program.Method2()
    Function Entry: DebuggerHiddenDemo.Program.Method2
    Debugger : Breakpoint Hit: Method2, Program.cs line 32
```

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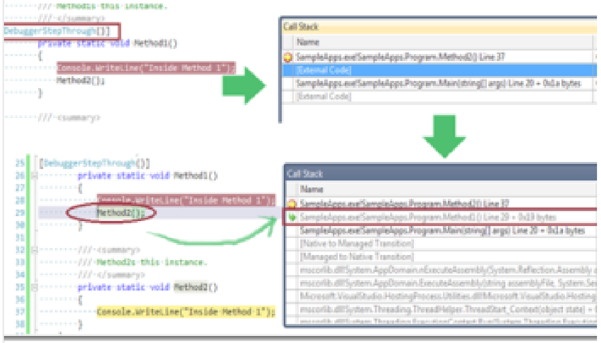

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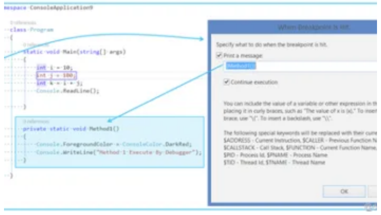

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Abhijit runs the Daily .NET Tips. He started this site with a vision to have a single knowledge base of .NET tips and tricks and share post that can quickly help any developers . He is a Former Microsoft ASP.NET MVP, CodeProject MVP, Mentor, Speaker, Author, Technology Evangelist and presently working as a .NET Consultant. He blogs at http://abhijitjana.net , you can follow him @AbhijitJana . He is the author of book Kinect for Windows SDK Programming Guide.

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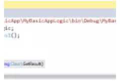
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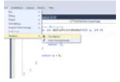
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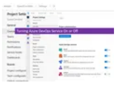
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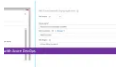
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