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How to use RaspberryPiDotNet and C#

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by **SeminarKurs** » Sat Apr 27, 2013 5:20 pm
Hi

I want to use the RaspberryPiDotNet <https://github.com/cypherkey/RaspberryPi.Net/> Library to control my GPIO Pins wit C#. How do create a Library from these Files? Must I create a DLL File?
And how can I run for example this Testprogram by using this Library

Code: [Select all](#)

```
using System;

using RaspberryPiDotNet;

namespace Test
{
    class Program
    {
        static void Main(string[] args)
        {
            GPIOMem led = new GPIOMem(GPIO.GPIOPins.Pin12);

            while(true)
            {
                led.Write(true);

                System.Threading.Thread.Sleep(500);

                led.Write(false);

                System.Threading.Thread.Sleep(500);
            }
        }
    }
}
```

thanks a lot for helping

Martin

Last edited by SeminarKurs on Sun Apr 28, 2013 1:54 pm, edited 1 time in total.

by **eried** » Sat Apr 27, 2013 11:40 pm

You can compile the library from the library path with:

Code: [Select all](#)

```
xbuild RaspberryPiDotNet.csproj
```

Then,

Code: [Select all](#)

```
cp bin/Debug/RaspberryPiDotNet.dll ../
cd ..
mcs YourTestProgram.cs -r:RaspberryPiDotNet.dll
```

My website: www.ried.cl

by **SeminarKurs** » Sun Apr 28, 2013 12:13 pm

Hello Eried,

Posts: 8**Joined:** Sat Apr 27, 2013

4:23 pm

**Posts:** 82**Joined:** Mon Apr 15, 2013

2:11 am

Location: Chile**Posts:** 8

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Code: [Select all](#)

```
xbuild RaspberryPiDotNet.csproj
```

I got 288 Warnings is that normal?
The most are like

Code: [Select all](#)

```
TM16XX/TM1638.cs{8,18}: warning CS1591: Missing XML comment for  
publicly visible type or member 'RaspberryPiDotNet.TM1638'
```

But it worked anyway.

Now I copied the .dll file to my folder.
But if I want to compile it, I got the following 3 errors.

Code: [Select all](#)

```
Test.cs(10,44): error CS0117: `RaspberryPiDotNet.GPIO' does not  
contain a definition for `GPiOPins'  
/home/pi/Desktop/C#/RaspberryPiDotNet.dll (Location of the symbol  
related to previous error)  
Test.cs(10,27): error CS1502: The best overloaded method match for  
`RaspberryPiDotNet.GPIOMem.GPIOMem(RaspberryPiDotNet.GPiOPins)' has  
some invalid arguments  
/home/pi/Desktop/C#/RaspberryPiDotNet.dll (Location of the symbol  
related to previous error)  
Test.cs(10,27): error CS1503: Argument `#1' cannot convert `object'  
expression to type `RaspberryPiDotNet.GPiOPins'  
Compilation failed: 3 error(s), 0 warnings
```

I get this errors also if I try

Code: [Select all](#)

```
dmcs Test.cs -r:RaspberryPiDotNet.dll
```

How could I solve this Problem?

I have the sof-float Debian Wheezy and I installed mono with

Code: [Select all](#)

```
apt-get install mono-complete
```

so I have the version 2.10 on my raspberry
by **eried** » Sun Apr 28, 2013 4:05 pm
Well, now you have to fix something in that example code, but the library is ready to be used.
Warnings are ok. If you don't use Datetime class mono-complete will be enough, otherwise
install the experimental one from here.
My website: www.ried.cl



Posts: 82

Joined: Mon Apr 15, 2013

2:11 am

Location: Chile

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I think it should work.

what should I fix in the Code?

by **eried** » Sun Apr 28, 2013 8:33 pm

It seems that example is for another version of the code. If you check GPIOPins.cs file you will see that there is no definition of the pin12 and also the namespace is directly RaspberryPiDotNet so you have to use:

Code: [Select all](#)

```
GPIOMem led = new GPIOMem(GPIOPins.Pin_P1_12);
```

I never used RaspberryPiDotNet so not sure if that is the correct pin, also in the readme it says something about GPIOMem and accesing the pin from files or directly, so probably more things are still missing.

It is a good idea to start with a simple app, for example read how they access the pins via python and use the same files with a simple .Net function like File.WriteAllText(...), just to be sure the GPIO part is working.

My website: www.ried.cl

by **SeminarKurs** » Mon Apr 29, 2013 9:43 pm

Thank you eried.

I always thought, I got the errors because of the incorrect or missing Library and I never cheked the example code. Maybe because I'm really new in C#. 😊

Your Code hasn't got the right Pin because I have Raspberry Revision 2 but this was the solution.

I spend really much time in this problem.

by **vitanemo** » Mon May 06, 2013 5:35 pm

Helo eried,

Me compiling is ready, bat i have problem width running executable app.

Can you help me ???

Code: [Select all](#)

```
pi@raspberrypi ~/Desktop $ mono test.exe
Unhandled Exception: System.TypeInitializationException: An
exception was thrown by the type initializer for
RaspberryPiDotNet.GPIOMem ---> System.DllNotFoundException:
libbcm2835.so
  at (wrapper managed-to-native)
RaspberryPiDotNet.GPIOMem:bcm2835_init ()
  at RaspberryPiDotNet.GPIOMem..cctor () [0x00000] in <filename
unknown>:0
  --- End of inner exception stack trace ---
  at Test.Program.Main (System.String[] args) [0x00000] in <filename
unknown>:0
[ERROR] FATAL UNHANDLED EXCEPTION:
System.TypeInitializationException: An exception was thrown by the
type initializer for RaspberryPiDotNet.GPIOMem --->
System.DllNotFoundException: libbcm2835.so
  at (wrapper managed-to-native)
RaspberryPiDotNet.GPIOMem:bcm2835_init ()
  at RaspberryPiDotNet.GPIOMem..cctor () [0x00000] in <filename
unknown>:0
  --- End of inner exception stack trace ---
  at Test.Program.Main (System.String[] args) [0x00000] in <filename
unknown>:0
pi@raspberrypi ~/Desktop $
```

Joined: Sat Apr 27, 2013

4:23 pm



Posts: 82

Joined: Mon Apr 15, 2013

2:11 am

Location: Chile

Posts: 8

Joined: Sat Apr 27, 2013

4:23 pm

Posts: 1

Joined: Mon May 06, 2013

5:21 pm

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SeminarKurs, maybe you already found a solution?

Last edited by eried on Wed May 08, 2013 4:27 am, edited 1 time in total.

My website: www.ried.cl

Posts: 82

Joined: Mon Apr 15, 2013

2:11 am

Location: Chile

by **OtherCrashOverride** » Tue May 07, 2013 9:45 pm

System.DllNotFoundException: libbcm2835.so

It means that it can not locate a shared library named "libbcm2835.so". The error does not make much sense on linux since linux does not have .dll files.

Make sure you have this file (libbcm2835.so) and that it resides in a place that dlopen can see

<http://linux.die.net/man/3/dlopen>

by **SeminarKurs** » Thu May 30, 2013 3:56 pm

Hello vitanemo

if you want to use the Raspberrypidotnet library, you first must install McCauley's BCM2835 library.

read the readme from RaspberryPi.Net <https://github.com/cypherkey/RaspberryPi.Net/>. There are the instructions to use this library. Only the example Code 'Test' isn't useful.

by **ibex77** » Wed Jun 12, 2013 8:16 am

Hello

I'm quite new in this topic. But trying to access the GPIO using the RaspberryPi.Net.

Compiling and adding the dll to the reference worked fine, as well no errors in the test code.

I prefer to use the GPIOFile method instead the GPIOMem

But when I run the application on the Pi I get some errors. Mono framework is working on the Pi for other applications.

Any idea where the problem could be?

Many thanks for your help for a rookie...

Posts: 582

Joined: Sat Feb 02, 2013

3:25 am

Posts: 8

Joined: Sat Apr 27, 2013

4:23 pm

Posts: 2

Joined: Sun Jun 09, 2013

1:57 pm

Code: [Select all](#)

```
using System;
```

```
using Gtk;
```

```
using RaspberryPiDotNet;
```

```
public partial class MainWindow: Gtk.Window
```

```
{
```

```
public MainWindow (): base (Gtk.WindowType.Toplevel)
```

```
{
```

```
Build ();
```

```
}
```

```
protected void OnDeleteEvent (object sender, DeleteEventArgs a)
```

```
{
```

```
Application.Quit ();
```

```
a.RetVal = true;
```

```
}
```

```
protected void OnButton2Clicked (object sender, EventArgs e)
```

```
{
```

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```

}

protected void OnButton3Clicked (object sender, EventArgs e)
{
    GPIOFile led = new GPIOFile(GPIOPins.Pin_Pl_24);
    led.Write (true);
}

}

```

Errors:

Marshaling clicked signal

Exception in Gtk# callback delegate

Note: Applications can use `GLib.ExceptionManager.UnhandledException` to handle the exception.

System.Reflection.TargetInvocationException: Exception has been thrown by the target of an invocation. ---> System.IO.DirectoryNotFoundException: Could not find a part of the path "/sys/class/gpio/gpio8/direction".

at System.IO.FileStream..ctor (System.String path, FileMode mode, FileAccess access, FileShare share, Int32 bufferSize, Boolean anonymous, FileOptions options) [0x001c6] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System.IO/FileStream.cs:282](#)

at System.IO.FileStream..ctor (System.String path, FileMode mode, FileAccess access, FileShare share) [0x00000] in :0

at (wrapper remoting-invoke-with-check) System.IO.FileStream..ctor (string,System.IO.FileMode,System.IO.FileAccess,System.IO.FileShare)

at System.IO.StreamWriter..ctor (System.String path, Boolean append, System.Text.Encoding encoding, Int32 bufferSize) [0x00039] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System.IO/StreamWriter.cs:120](#)

at System.IO.StreamWriter..ctor (System.String path, Boolean append, System.Text.Encoding encoding) [0x00000] in :0

at (wrapper remoting-invoke-with-check) System.IO.StreamWriter..ctor (string,bool,System.Text.Encoding)

at System.IO.File.WriteAllText (System.String path, System.String contents, System.Text.Encoding encoding) [0x00000] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System.IO/File.cs:576](#)

at System.IO.File.WriteAllText (System.String path, System.String contents) [0x00000] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System.IO/File.cs:571](#)

at RaspberryPiDotNet.GPIOFile.set_PinDirection (GPIODirection value) [0x0004c] in /Users/reschmann/RaspberryPiDotNet/GPIOFile.cs:71

at RaspberryPiDotNet.GPIO..ctor (GPIOPins pin, GPIODirection direction, Boolean initialValue) [0x0006d] in /Users/reschmann/RaspberryPiDotNet/GPIO.cs:88

--- End of inner exception stack trace ---

at System.Reflection.MonoMethod.Invoke (System.Object obj, BindingFlags invokeAttr, System.Reflection.Binder binder, System.Object[] parameters, System.Globalization.CultureInfo culture) [0x000eb] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System.Reflection/MonoMethod.cs:234](#)

at System.Reflection.MethodBase.Invoke (System.Object obj, System.Object[] parameters) [0x00000] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System.Reflection/MethodBase.cs:96](#)

at System.Delegate.DynamicInvokeImpl (System.Object[] args) [0x000bf] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System/Delegate.cs:413](#)

at System.MulticastDelegate.DynamicInvokeImpl (System.Object[] args) [0x00018] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System/MulticastDelegate.cs:70](#)

at System.Delegate.DynamicInvoke (System.Object[] args) [0x00000] in /private/tmp/source/bockbuild/profiles/mono-2-10/build-root/mono-2.10.12/_build/[mono-2.10.12.git/mcs/class/corlib/System/Delegate.cs:387](#)

at GLib.Signal.ClosureInvokedCB (System.Object o, GLib.ClosureInvokedArgs args)

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```
n_param_vals, IntPtr param_values, IntPtr invocation_hint, IntPtr marshal_data) [0x00000] in
:0
at GLib.ExceptionManager.RaiseUnhandledException(System.Exception e, Boolean
is_terminal)
at GLib.SignalClosure.MarshalCallback(IntPtr raw_closure, IntPtr return_val, UInt32
n_param_vals, IntPtr param_values, IntPtr invocation_hint, IntPtr marshal_data)
at Gtk.Application.gtk_main()
at Gtk.Application.Run()
```

Any idea where the problem could be?
 Many thanks for your help for a rookie...
 by **OtherCrashOverride** » Wed Jun 12, 2013 3:49 pm

Code: [Select all](#)

```
System.Reflection.TargetInvocationException: Exception has been
thrown by the target of an invocation. --->
System.IO.DirectoryNotFoundException: Could not find a part of the
path "/sys/class/gpio/gpio8/direction".
```

Posts: 582

Joined: Sat Feb 02, 2013
 3:25 am

It means "/sys/class/gpio/gpio8/direction" is not a valid path on your system. I verified there is no "gpio8" directory on my RPi running Raspbian.

by **__pepsi__** » Sat Jul 20, 2013 3:06 pm

Hi,
 I had the same problem. If one read the gpiomem.cs file, it states at the top:
 /// To create the shared object, download the source code from the link above. The standard
 Makefile compiles a
 /// statically linked library. To build a shared object, do:
 /// tar -zxf bcm2835-1.3.tar.gz
 /// cd bcm2835-1.3/src
 /// make libbcm2835.a
 /// cc -shared bcm2835.o -o libbcm2835.so
 /// Place the shared object in the same directory as the executable and other assemblies.

Posts: 1

Joined: Sat Jul 20, 2013
 3:00 pm

So I did this and everything worked great!
 ps: remember to run as root (sudo mono myprogram.exe)

Best Regards
 Fredrik
 by **Kesaya** » Sun Aug 18, 2013 12:04 pm
 Hey there,

Posts: 1

Joined: Sun Aug 18, 2013
 11:55 am

I'm new to the Raspberry Pi and wanted to control an 8-Channel Relay using the GPIO-Pins provided by the Raspberry Pi. Because I've been programming for a little while now in VB and C# I wanted to use the RaspberryPiDotNet library to access the pins. However, I have a problem compiling the RaspberryPiDotNet.csproj - everytime i try to execute the xbuild command the following error appears:

```
sudo xbuild RaspberryPiDotNet.csproj
XBuild Engine Version 2.10.8.1
Mono, Version 2.10.8.1
Copyright (C) Marek Sieradzki 2005-2008, Novell 2008-2011.
```

Build started 8/18/2013 11:50:15 AM.

```
RaspberryPiDotNet.csproj: error : /media/9CB65D4EB65D2A52/SOMBIE/SOMBIE
/RaspberryPiDotNet/RaspberryPiDotNet/RaspberryPiDotNet.csproj: Expected =, but found /
[47] Line 28, position 73.
Build FAILED.
Errors:
```

```
RaspberryPiDotNet.csproj: error : /media/9CB65D4EB65D2A52/SOMBIE/SOMBIE
/RaspberryPiDotNet/RaspberryPiDotNet/RaspberryPiDotNet.csproj: Expected =, but found /
[47] Line 28, position 73.
```

0 Warning(s)
 1 Error(s)

Time Elapsed 00:00:00.0164910

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By the way, the same problem appears with the same error message, when I try to open the project-file in Visual Studio in Windows.

Can someone help me on what I'm doing wrong here? I've tried googling the problem, but no success so far.

Thanks in advance and Greetings,

Kesaya

by **OtherCrashOverride** » Sun Aug 18, 2013 1:42 pm

I downloaded the source from <https://github.com/cypherkey/RaspberryPi.Net> using the "Download ZIP" button on the lower right hand side of the page. It extracts and compiles with no error in Visual Studio 2010 so you may have a bad copy of the source code.

Posts: 582

Joined: Sat Feb 02, 2013

3:25 am



16 posts

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