

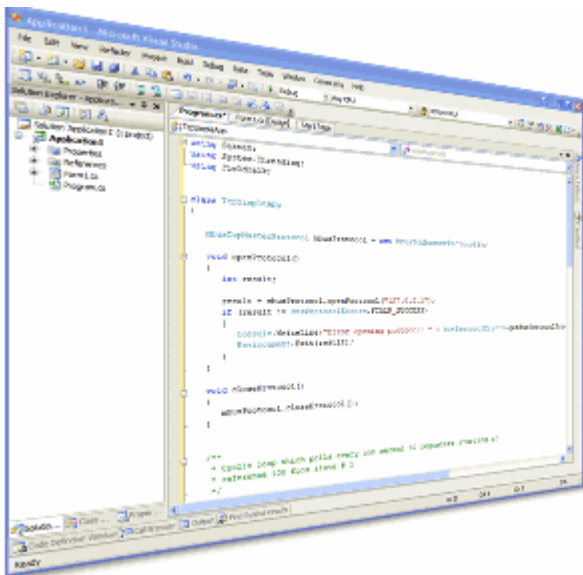
# FieldTalk Modbus Master .NET and Visual Studio 2005

## Application Note 201

Revision 1.1, July 2008

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This Application Note describes how to integrate the *FieldTalk* Modbus library and driver into a .NET Visual Studio 2005 project.



### Prerequisites

- Visual Studio 2005 Standard or Professional
- To target Windows CE 5.0 you need the *Windows CE: Standard Software Development Kit* installed.
- To target Windows Mobile 5.0 you need the *Windows Mobile 5.0 SDK for Pocket PC* installed.
- To target Windows Mobile 6 you need the *Windows Mobile 6 Development Kit* installed.
- *FieldTalk* Modbus Master .NET for Visual Basic & C# version 2.4 or higher



Above mentioned development kits can be downloaded from Microsoft.

### Installation

1. Download and save the zip archive into a project directory.
2. Uncompress the archive using unzip or another zip tool of your choice:

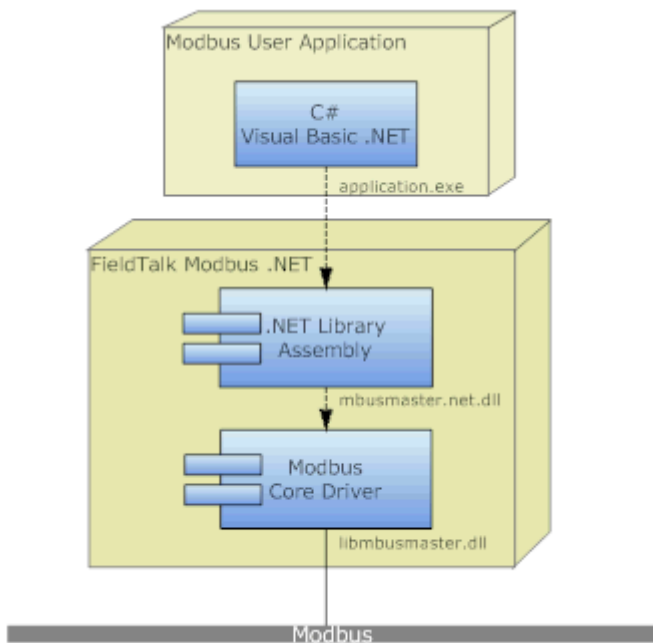
```
unzip FT-MBMP-DLL-ALL.2.4.0.zip
```

The archive will create the following directory structure in your project directory:

```
My Projects
  fieldtalk
    doc
    src
    lib
    samples
```

## Library Architecture

*FieldTalk* Modbus Master .NET consists of two components: a .NET Library Assembly and a Modbus Core Driver.



The .NET Library Assembly implements the *FieldTalk* Modbus API and its class libraries for the .NET languages Visual Basic .NET and C#. The .NET Library Assembly is contained in the file `mbusmaster.net.dll`.

The Modbus functionality is implemented as native code in the Modbus Core Driver and contained in the file `libmbusmaster.dll`.

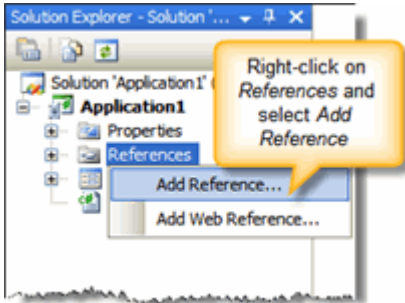
Both components are required to execute your Modbus application and must be available in the executable search path. We recommend to deploy both DLLs into the same directory as the application executable file.

## Adding the .NET Library Assembly

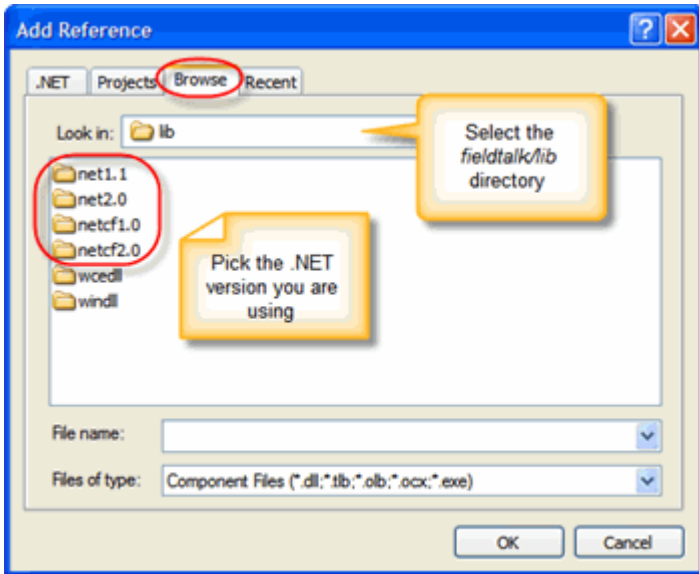
Launch Visual Studio 2005. Open an existing .NET project where you want to add Modbus functionality or create a new .NET Modbus project. You can choose any language supported by the .NET

and Visual Studio environment but *FieldTalk's* example code and API documentation is focusing on Visual Basic and C#.

In the Solution Explorer Window, right-click on *References* and select the *Add Reference...* sub-menu.

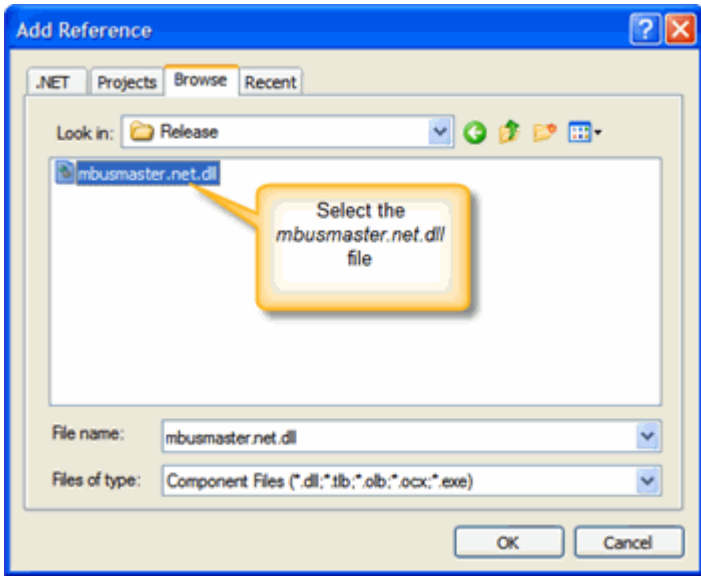


A file selection dialog opens. Click on the *Browse* tab and traverse to the *FieldTalk lib* directory. Then double-click on the directory named after the .NET framework version you are writing your Modbus application for.

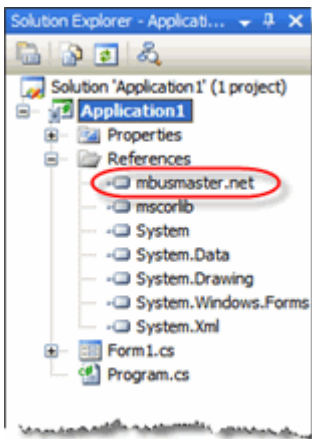


<b>lib Directory</b>	<b>Framework Version</b>
net1.1	.NET Framework Version 1.1
net2.0	.NET Framework Version 2.0 and 3.0
netcf1.0	.NET Compact Framework Version 1.0
netcf2.0	.NET Compact Framework Version 2.0

Descent further in the directory hierarchy by double-clicking on the *Release* directory and finally select the file *mbusmaster.net.dll* which contains the .NET Library Assembly.



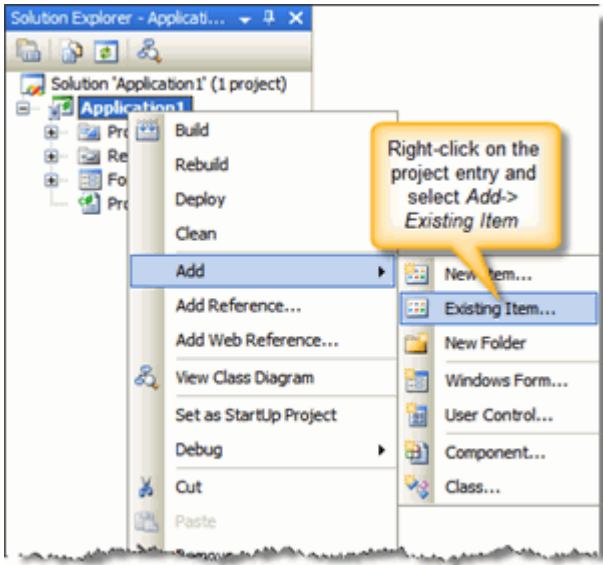
Click *OK* to confirm. The .NET Library Assembly has now been added to your project and is shown in the References list in the Solution Explorer Window. You can now start adding Modbus functions from the *FieldTalk* API to your application.



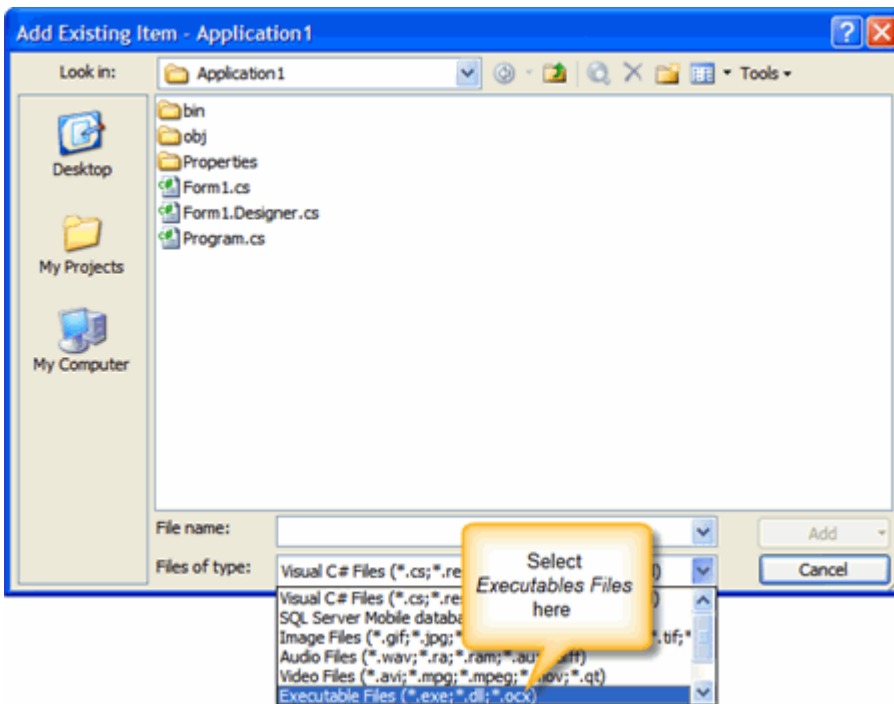
The .NET Library Assembly allows your Modbus application to compile and link, but to execute an additional component is required: To run your Modbus application, you need to make available the file `libbusmaster.dll`, which contains the Modbus Core Driver.

## Adding the Modbus Core Driver DLL for Automatic Deployment

To add the Modbus Core Driver `libbusmaster.dll` for automatic deployment, right-click in the Solution Explorer Window on your Application, select the *Add* sub-menu and then the *Existing Item...* sub-menu.

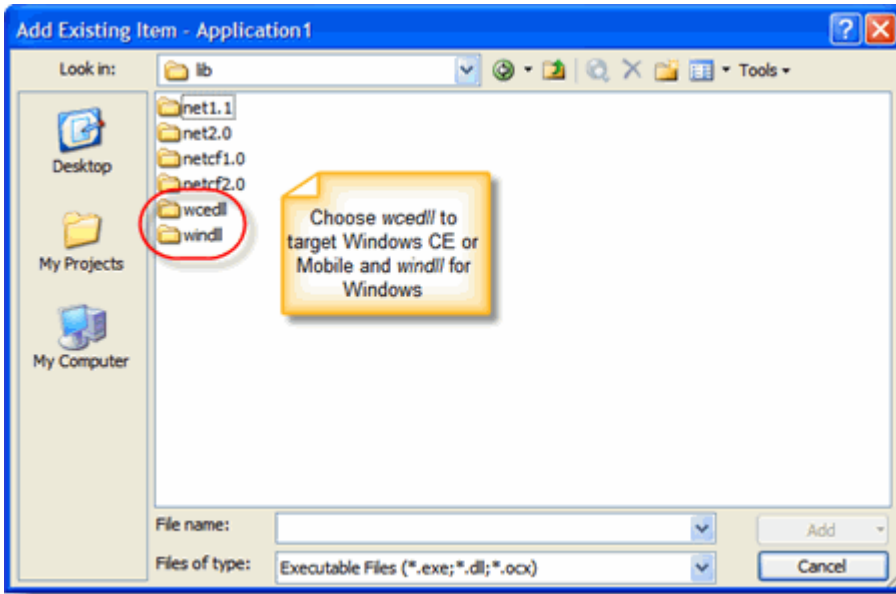


A file selection dialog opens. In the *Files of type* field select *Executable Files (.exe; .dll; \*.ocx)* as shown below.

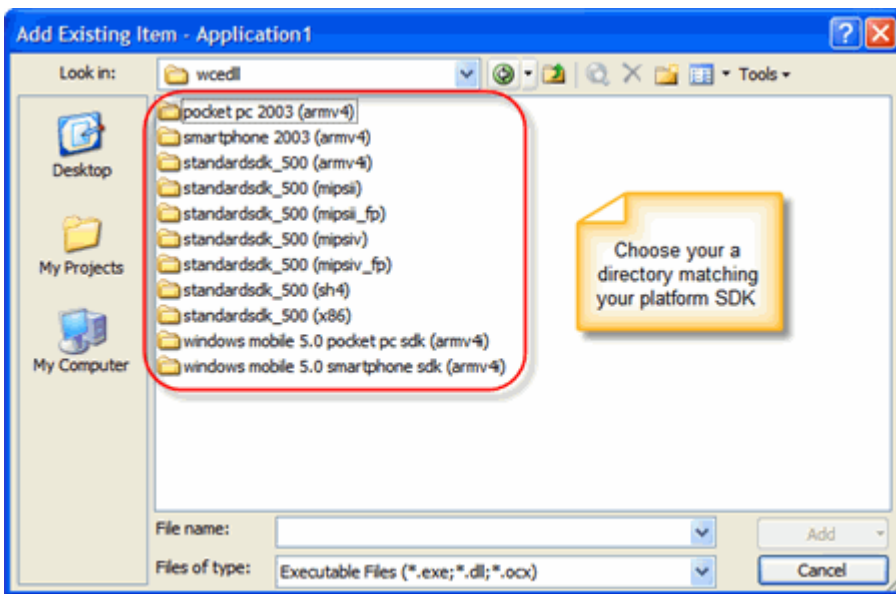


Traverse to the *FieldTalk* lib directory. Then double-click on the directory named after the Windows version you are writing your Modbus application for.

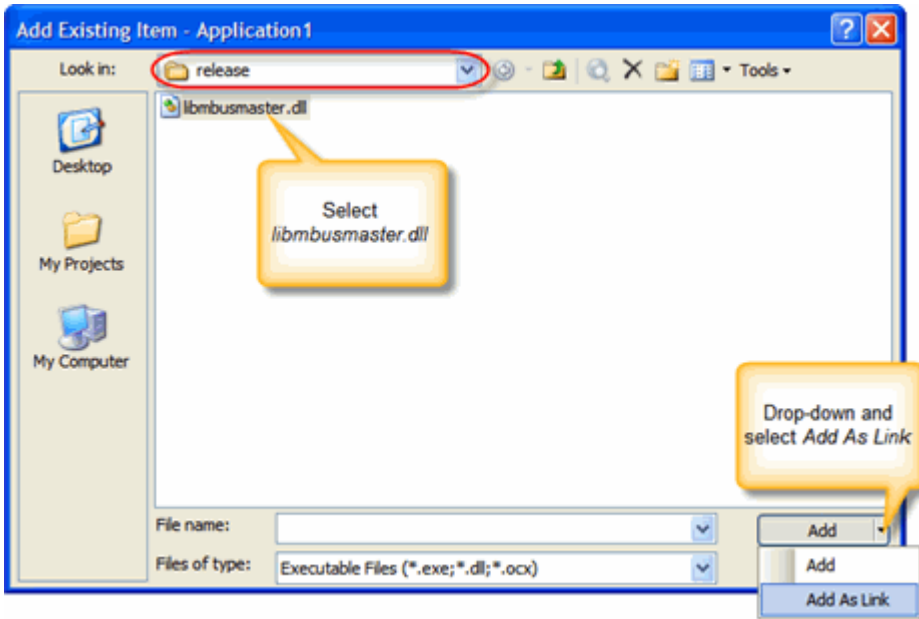
<b>Directory</b>	<b>Windows Version</b>
windll	Windows 32-bit
win64dll	Windows 64-bit
wcedll	Windows CE, Pocket PC, Windows Mobile



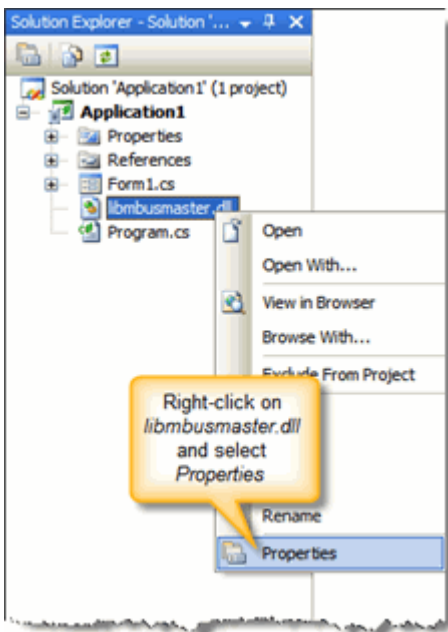
If you are targeting Windows CE, Pocket PC, Windows Mobile and have chosen wcedll, then you must also select a sub-directory matching your CPU and target platform.



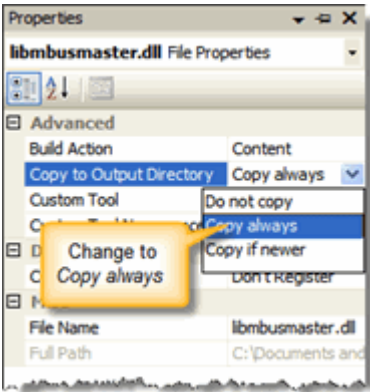
Decent further in the directory hierarchy by double-clicking on the release directory and select the file `libbusmaster.dll` which contains the Modbus Core Driver. This DLL contains native Modbus code compiled specifically for your target CPU and platform. Then click on the drop-down arrow of the *Add* button and choose *Add As Link*.



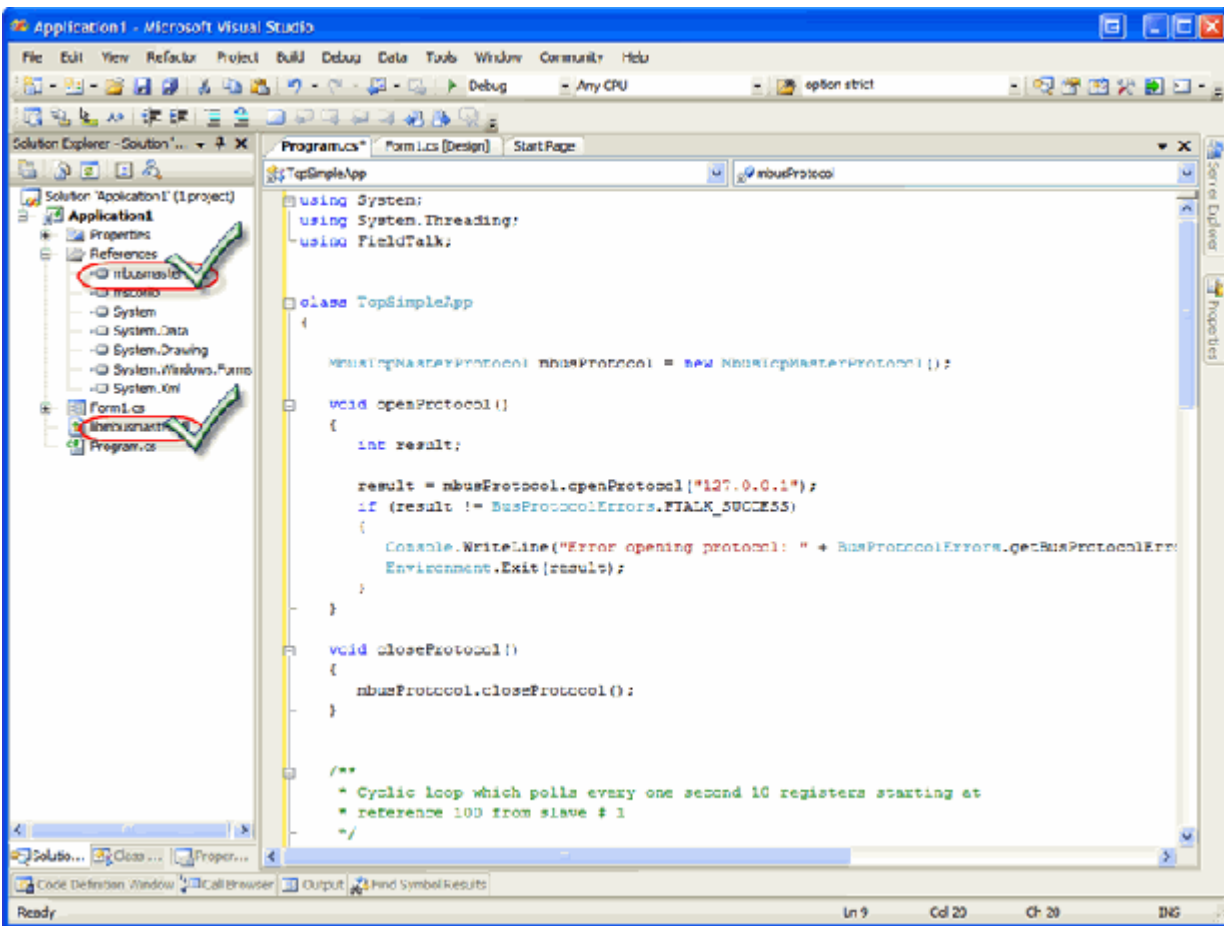
Right-click on the newly added *libbusmaster.dll* entry in your project tree and select the *Properties* sub-menu.



The *Properties* window shows the settings for the newly added item *libbusmaster.dll*. Click on *Copy to Output Directory* and select the *Copy always* entry in the drop-down box.



The Modbus Core Driver libbusmaster.dll has been added as an external reference and will be deployed together with your main application executable file and the .NET Library Assembly DLL file.



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## Support & product feedback

We provide an electronic support and feedback system for our *FieldTalk* products. It can be accessed through the following web link:

<http://www.modbusdriver.com/support>

Your feedback and comments are always welcome. It helps improving this product.

## Contact

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