Aemulus

# Running the Sample Projects on x86 and x64 Windows

## Application Notes

*Version 1.0, 05-2013*

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## Section 1: Overview

Example projects are created based on Microsoft Visual Studio 2005. Projects are upgradeable to version 2008 and 2012, by recompiling the projects.

The application note discusses how to run the provided sample projects on x86 and x64 Windows.

## Section 2: C# (.NET) Projects

By default, the "Target Platform" of the provided sample C# projects is "Any CPU". An example is shown below. This means the assembly will run natively on the CPU it is currently running on. In other words, the assembly will run as 64-bit on a 64-bit machine, and 32-bit on a 32-bit machine. In addition, if the assembly is called from a 64-bit application, it will perform as a 64-bit assembly and so on.

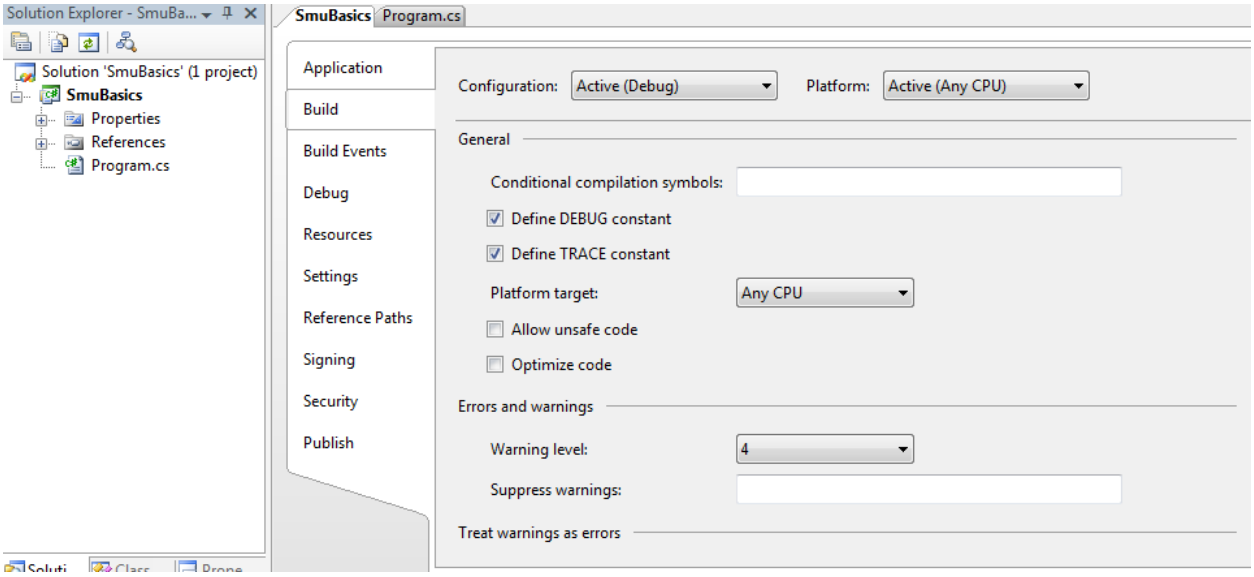


Figure 1: C# Target Platform as "Any CPU"

If the project is targeted to "x86", the assembly will only run on a 32-bit machine. This is often necessary when the project contains other dependencies upon native 32-bit DLLs. Note that a 64-bit process will be unable to call into an assembly set as "x86".

On the other hand, targeting the project to "x64" means the assembly must run under 64-bit machine. Runtime error will occur if the assembly is run on 32-bit machine or called from a 32-bit application.

Follow the following steps to change the "Target Platform":

1. Open the **Configuration Manager** dialog box from the **Build** menu in the main toolbar.

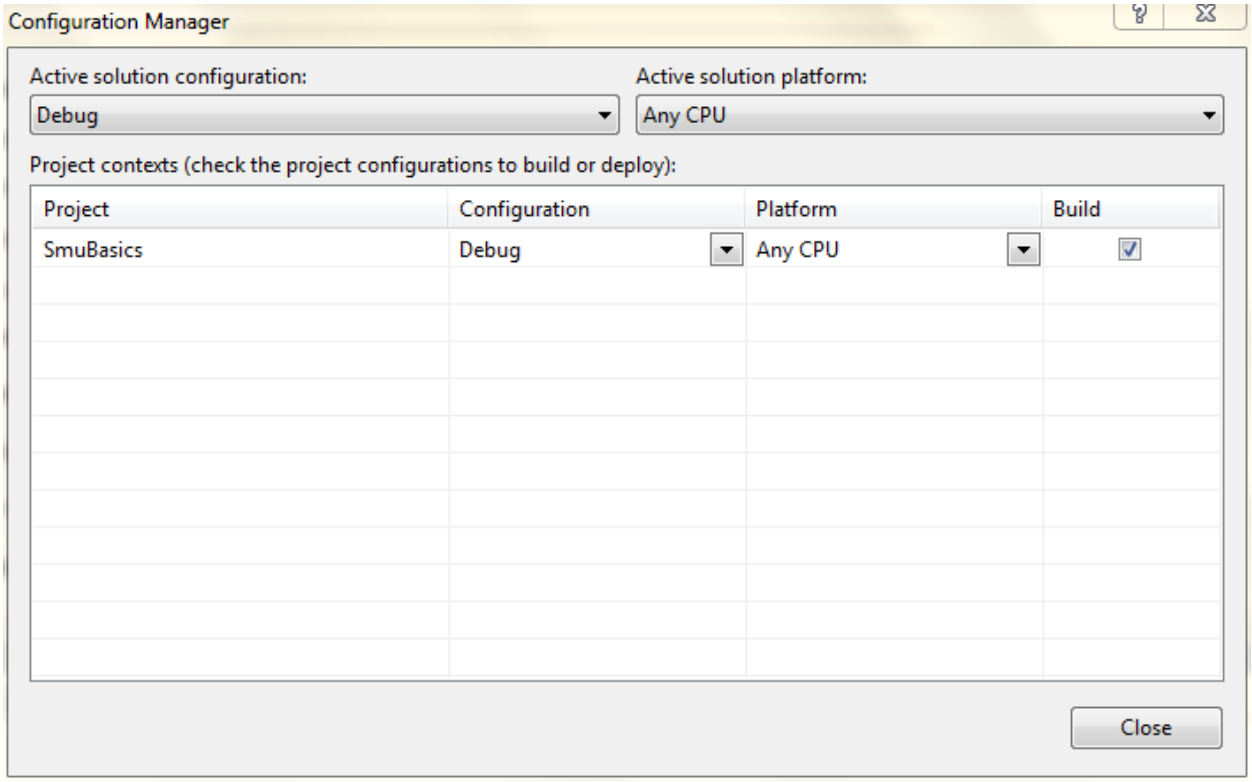


Figure 2: Configuration Manager

2. Go to "Active solution platform", and select "<New...>" to open the "New Solution Platform" dialog box.

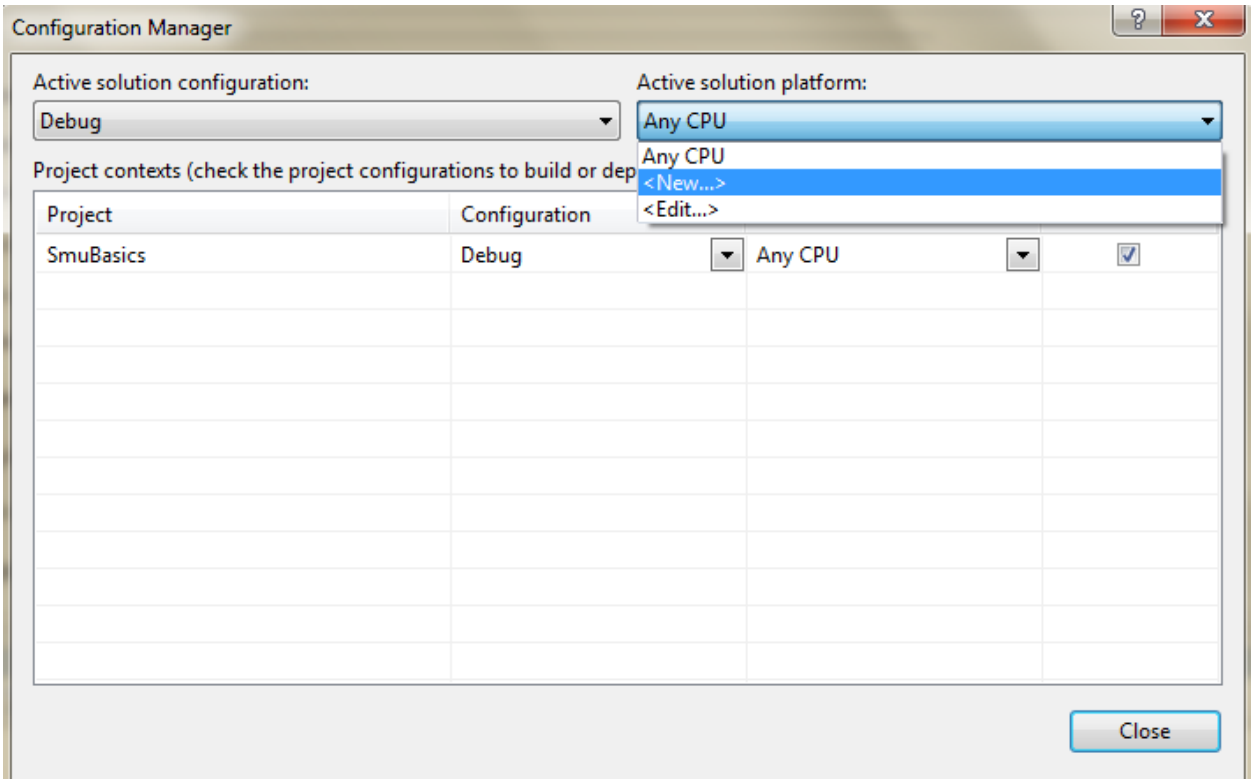


Figure 3: Select New Active Solution Platform

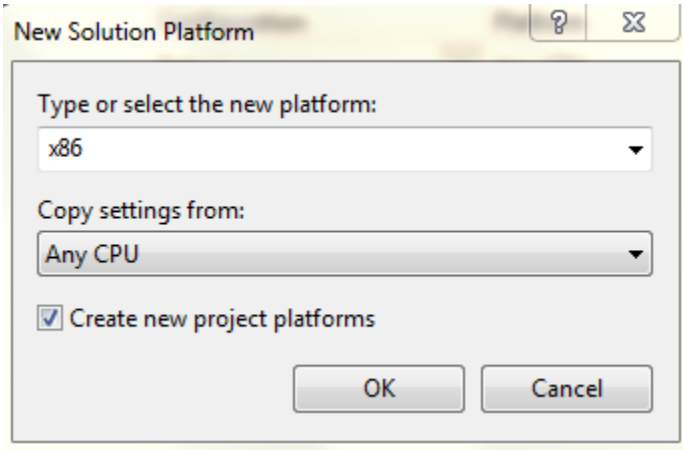


Figure 4: New Solution Platform Dialog Box

3. Select the new target platform from the drop-down list (x86 or x64), then click "OK". In this example, "x86" is selected.

4. The active solution platform will immediately become "x86". Click "Close" to complete the change.

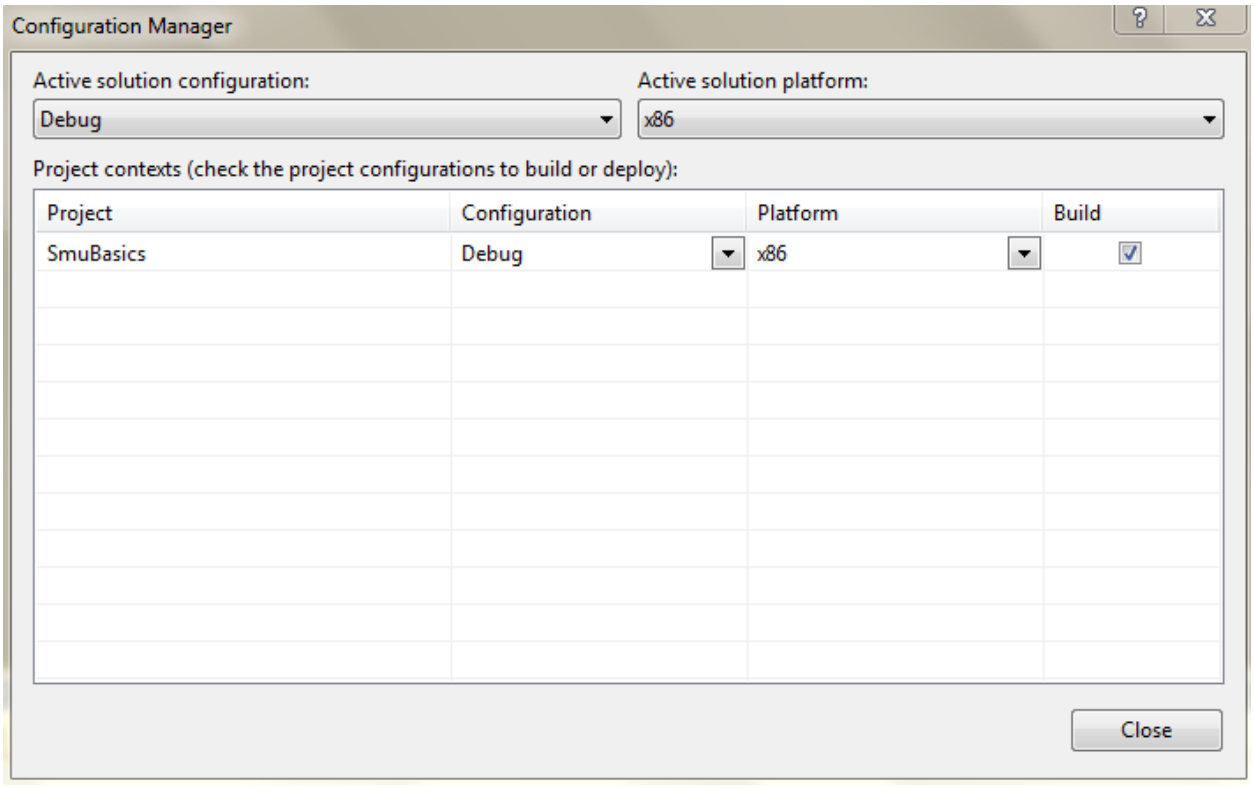


Figure 5: Target Platform is Changed Immediately

5. Ensure references to correct version of instrument software component and DLL (x86 or x64). Remove and add new reference if necessary.

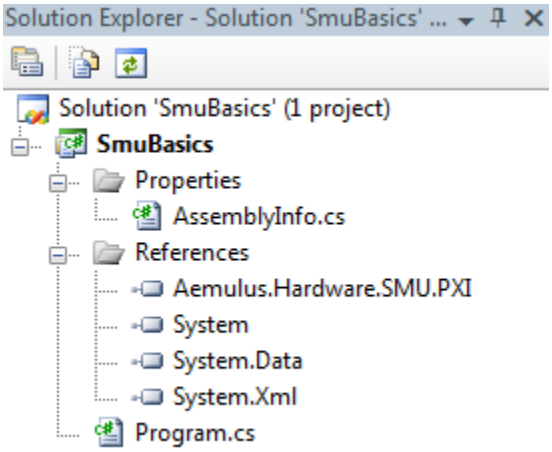


Figure 6: Dependencies must be from Same Target Platform

6. Rebuild the entire project solution.

## Section 3: CPP Projects

Unlike C# projects, there is no "Any CPU" setting. By default, the provided sample CPP projects are targeted to "Win32" platform. This is essentially "x86". Use configuration manager to change the target platform to "x64" when necessary, following the same steps in Section 2.

For native CPP projects, you need to load (`LoadLibrary`) the instrument DLL in the test program. Ensure the correct version is used (x86 or x64).

For CPP/CLR[1] projects, you need to ensure the correct reference is added and used, just like the C# projects. To add or remove references, follow steps below:

1. Right-click on project solution.
2. Select "Properties".
3. Select "Common Properties".
4. Click "Add New References".
5. Browse to location that keeps the required DLL.
6. Click "OK".

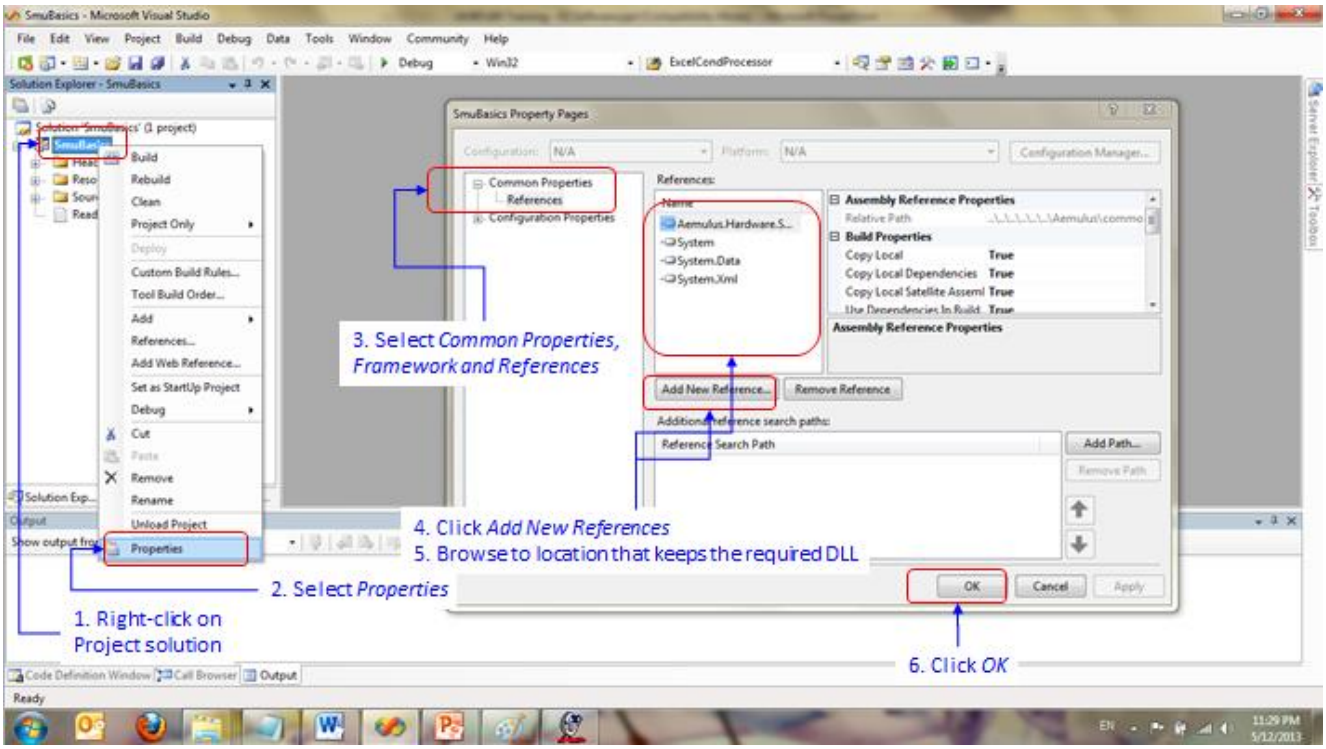


Figure 7: Steps to Edit References in CPP Projects

[1] C++/CLR is basically C++ with Microsoft extensions that allow you to write code targeting the .NET framework.

## Section 4: Revision History

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| 1.0 | MAY 2013 | INITIAL RELEASE |