

# How to set up a computer for building and developing the META tools

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## 1 Windows x64 Pro

Install Windows updates until your version is current.

## 2 Visual Studio 2008

Install Visual Studio 2008. Select the defaults, plus the x64 C++ compiler. Also install 2008 SP1

## 3 Windows Update

Install Windows Updates after installing Visual Studio 2008.

## 4 .NET Framework 3.5.1

Install .NET Framework 3.5.1 (aka .NET Framework 3.5 Service Pack 1). Download [here](#)

Note: on some machines, Visual Studio 2008 + Windows Updates installs .NET 3.5.1.

## 5 Visual Studio 2010

Select at least: C++, C#, Office Tools

## 6 VS2010 SP1

Use windows updates to get it and install it OR download it [here](#)

## 7 Python 2.7.3 x86

Python 2.7.3. Make sure the .py extension is associated with Python 2.7, and it is installed for All Users (NOT "just for me"). Download it here

## 8 pywin32 for Python 2.7

pywin32-214.win32-py2.7.exe from here

If not installed, you will get an error message something like this:

```
94>CustomBuild:
    Update the CyPhy2SLC_udm.mga with CyPhyML
    Traceback (most recent call last):
      File "SL_CodeGen\UpdateCyPhy2SLC_udm.py",
        line 4, in <module>
        import gme
    File
      "F:\SVN\META_trunk_dev\externals\common-scripts\gme.py",
        line 8, in <module>
        import win32com.client
    ImportError: No module named win32com.client
94>C:\Program Files
(x86)\MSBuild\Microsoft.Cpp\v4.0\Microsoft.CppCommon.targets(151,5):
error MSB6006: "cmd.exe" exited with code 1.
[F:\SVN\META_trunk_dev\src\CyPhy2SLC_CodeGen\UpdateCyPhy2SLC_udm.vcxproj]
```

## 9 WIX

Download 3.6 here

## 10 Java JDK 7u9+ x86

Download it here

Set environment variable JAVA\_HOME to the installed directory C:\Program Files (x86)\Java\jdk1.7.0\_09 (Note: the name of the subdirectory depends on what version you have installed.)

## 11 GME 13.1.10+

Download it here

## 12 UDM x64 3.2.11+

Download it here

## 13 GREAT 1.7.7+

Download it here

If not installed, you will get an error message like:

```
"C:\temp\meta\make.msbuild" (All target) (1) ->
"C:\temp\meta\src\CyPhyML-CyPhy2Code.sln" (Build
  target) (93:2) ->
"C:\temp\meta\src\CyPhy2SLC_CodeGen\CyPhy2SLC_CodeGen.vcxproj.metaproj"
  (default target) (95) ->
"C:\temp\meta\src\CyPhy2SFC_CodeGen\CyPhy2SFC_CodeGen.vcxproj.metaproj"
  (default target) (99) ->
"C:\temp\meta\src\CyPhy2SFC_CodeGen\CyPhy2SFC_CodeGen.vcxproj"
  (default target) (102) ->
(ClCompile target) ->
SF_CodeGen\GenCyPhy2SFC.cpp(29): fatal error C1083:
  Cannot open include file: 'GReATSort.h': No such
  file or directory
[C:\temp\meta\src\CyPhy2SFC_CodeGen\CyPhy2SFC_CodeGen.vcxproj]
```

```
892 Warning(s)
1 Error(s)
```

## 14 MATLAB

Install MATLAB. Then set the environment variable MATLAB\_PATH to your MATLAB installation, e.g. C:\Program Files\MATLAB\R2012b

If not set, you will get an error message like:

```
"c:\temp\meta\make.msbuild" (All target) (1) ->
"c:\temp\meta\externals\HCDDDES\MDL2MGACyPhyML.sln"
  (Build target) (83) ->
"c:\temp\meta\externals\HCDDDES\src\MDL2MGA\MDL2MGACyPhyML.vcxproj"
  (default target) (85) ->
(ClCompile target) ->
c:\temp\meta\externals\hcddes\src\mdl2mga\MatLabEngine.hpp(24):
  fatal error C1083: Cannot open include file:
  'engine.h': No such file or directory
[c:\temp\meta\externals\HCDDDES\src\MDL2MGA\MDL2MGACyPhyML.vcxproj]
911 Warning(s)
1 Error(s)
```

## 15 Windows updates

Install Windows updates until your version is current. Restart your computer.

## 16 Build

1. Open Visual Studio Command Prompt (2010) with "Run as administrator"
2. Run the make\_build\_only.cmd
3. Run the make\_installer.cmd if you would like to build an installer.

## 17 Issues

1. CyPhy2CAD etc. errors with IMgaFCOPtr problems. Uninstall GME then install it again, or Repair GME. (Note: Installing GReAT 1.7.6 causes this error. Be sure you have 1.7.7. Repairing GME should fix it. Reinstalling GReAT is not necessary.) Delete Referenceswitcher bin and obj and build.

```
"c:\Users\adam\svn\meta\trunk\make.msbuild" (All target) (1) ->
"c:\Users\adam\svn\meta\trunk\src\CyPhyML.sln" (Build target) (18) ->
"c:\Users\adam\svn\meta\trunk\src\CyPhyDSEConverter\CyPhyDSEConverter.vcxproj" (default target) (49) ->
(ClCompile target) ->
..\CyPhyToolbox\UdmGmeUtil.cpp(116): error C2664: 'ReferenceSwitcher::_ReferenceSwitcherInterpreter::SwitchReference' : cannot convert parameter 1 from 'IMgaFCOPtr' to 'MgaComponentLib::IMgaFCO *' [c:\Users\adam\svn\meta\trunk\src\CyPhyDSEConverter\CyPhyDSEConverter.vcxproj]
```

```
"c:\Users\adam\svn\meta\trunk\make.msbuild" (All target) (1) ->
"c:\Users\adam\svn\meta\trunk\src\CyPhyML.sln" (Build target) (18) ->
"c:\Users\adam\svn\meta\trunk\src\CyPhyMetricEvaluator\CyPhyMetricEvaluator.vcxproj" (default target) (35) ->
..\CyPhyToolbox\UdmGmeUtil.cpp(116): error C2664: 'ReferenceSwitcher::_ReferenceSwitcherInterpreter::SwitchReference' : cannot convert parameter 1 from 'IMgaFCOPtr' to 'MgaComponentLib::IMgaFCO *' [c:\Users\adam\svn\meta\trunk\src\CyPhyMetricEvaluator\CyPhyMetricEvaluator.vcxproj]
```

```
"c:\Users\adam\svn\meta\trunk\make.msbuild" (All target) (1) ->
"c:\Users\adam\svn\meta\trunk\src\CyPhyML.sln" (Build target) (18) ->
"c:\Users\adam\svn\meta\trunk\src\CyPhyElaborate\CyPhyElaborate.vcxproj" (default target) (34) ->
..\CyPhyToolbox\UdmGmeUtil.cpp(116): error C2664: 'ReferenceSwitcher::
```

```
_ReferenceSwitcherInterpreter::SwitchReference' : cannot convert parameter 1 from 'IMgaFCOPtr' to 'MgaComponentLib::IMgaFCO *' [c:\Users\adam\svn\meta\trunk\src\CyPhyElaborate\CyPhyElaborate.vcxproj]
```

```
"c:\Users\adam\svn\meta\trunk\make.msbuild" (All target) (1) ->  
"c:\Users\adam\svn\meta\trunk\src\CyPhyML.sln" (Build target) (18) ->  
"c:\Users\adam\svn\meta\trunk\src\CyPhyFormulaEvaluator\CyPhyFormulaEvaluator.vcxproj" (default target) (30) ->  
..\CyPhyToolbox\UdmGmeUtil.cpp(116): error C2664: 'ReferenceSwitcher::_ReferenceSwitcherInterpreter::SwitchReference' : cannot convert parameter 1 from 'IMgaFCOPtr' to 'MgaComponentLib::IMgaFCO *' [c:\Users\adam\svn\meta\trunk\src\CyPhyFormulaEvaluator\CyPhyFormulaEvaluator.vcxproj]
```

```
"c:\Users\adam\svn\meta\trunk\make.msbuild" (All target) (1) ->  
"c:\Users\adam\svn\meta\trunk\src\CyPhyML.sln" (Build target) (18) ->  
"c:\Users\adam\svn\meta\trunk\src\CyPhy2CAD\CyPhy2CAD.vcxproj" (default target) (61) ->  
..\CyPhyToolbox\UdmGmeUtil.cpp(116): error C2664: 'ReferenceSwitcher::_ReferenceSwitcherInterpreter::SwitchReference' : cannot convert parameter 1 from 'IMgaFCOPtr' to 'MgaComponentLib::IMgaFCO *' [c:\Users\adam\svn\meta\trunk\src\CyPhy2CAD\CyPhy2CAD.vcxproj]
```

2. ReferenceSwitcher error: any error message containing BF48BD03-072D-41A4-95F1-3200310005A1. This can happen if you attempt to compile without "Run as administrator". Delete Referenceswitcher bin and obj, Then run the make\_build\_only.cmd again
3. VS 2010 Service pack 1 is not installed

```
"D:\Projects\META\development\make.msbuild" (All target) (1) ->  
"D:\Projects\META\development\externals\desert\desertVS2010.sln"  
(Build target) (4) ->  
"D:\Projects\META\development\externals\desert\DesertD11\desert.vcxproj"  
(default target) (12)  
->  
(Link target) ->  
LINK : fatal error LNK1123: failure during conversion to COFF:  
file invalid or corrupt  
[D:\Projects\META\development\externals\desert\DesertD11\desert.vcxproj]
```

```
1 Warning(s)  
1 Error(s)
```