C-Hook add-in project Post-Build Events

Contents

OVERVIEW

Post-Build Events for Mastercam C-Hook add-in projects.

If the C-Hook add-in project targets Mastercam 2022 (or higher), the default install location is the user's My Mastercam 202#\Mastercam**Add-Ins** folder. (New in Mastercam 2022)

If it targets a version of Mastercam earlier than 2022, the Post-Build will revert to using the **chooks** folder as the destination to place the add-in's files.

You can also force the use of the **chooks** folder by a setting within the scripts.

There are two Post-Build Event batch files:

1> Post-Build-InstallAddIn.bat
2> Post-Build-InstallResources.bat (This is only included in Resources only projects)

The first handles the main project of a C-Hook solution. It installs the resulting DLL file and FT file (if one exists) to Mastercam. Either to the **Add-Ins** or **chooks** folder.

The second is used if your project has separate resource DLL projects that contain language specific resources used by your add-in. It installs the resulting DLL file to a language sub-folder within the **Add-Ins** or **chooks** folder.

INSTALLATION

A project created using one of the Mastercam C-Hook New Project Templates will already have the Pre and Post-Build Event script. If you are adding these build scripts to a project, just copy them into the folder of your project and set the Build Events options of your project in Visual Studio.

NEW ADD-INS FOLDER LOCATIONS

Starting with **Mastercam 2022** your add-in can be installed in an **Add-Ins** folder.

These **Add-Ins** folders are in addition to the **chooks** folder Mastercam has always had.

The Mastercam 2022 product installer will create an **Add-Ins** folder in the user's **My Mastercam 2022\Mastercam** folder.

There can also be an **Add-Ins** folder in the **Shared Mastercam 2022** folder.
Note that the product installer does not create this folder.
You can select to have the Post-Build use the Shared Add-Ins folder and it will create the folder if it does not already exist.

If the Post-Build Event is enabled it copies your add-in's DLL and FT files one of the locations.
The default behavior is.
If your project targets Mastercam version 2022 (or higher), it will copy the add-in's DLL and FT files to your **My Mastercam 2022\Mastercam\Add-Ins** folder.
To use the **Shared Mastercam 2022\Add-Ins** folder see the UseSharedAddInsFolder option.

If your project targets a version of Mastercam prior to 2022, it will copy the add-in's DLL and FT files to the **Program Files\Mastercam 20##\Mastercam\chooks** folder.

This means that Mastercam now searches 3 folders for Function Table (FT) files on startup.
If first looks for the FT files in the **chooks** folder and then searches the **Add-Ins** folders.

Though using an Add-Ins folder is optional, it offers some advantages for you.

- The **Add-Ins** folders are accessible to all users, unlike the **chooks** folder which is under Program Files and may require administrator privileges to install the add-in there.
- This allows for separation of user installed add-ins and the add-ins that are installed by Mastercam itself.

The order in which these folders are searched is.

1> The **chooks** folder.
2> The **Add-Ins** folder (if it exists) located in the **Shared Mastercam 2022** folder.
3> The **Add-Ins** folder located in the **My Mastercam 2022\Mastercam** folder.

Note that if the same command function is defined in a FT file read in an earlier folder, it will be overridden. For more information see the **Function Identification** section in the **Function Table.pdf**

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BUILD EVENT SCRIPT OPTIONS

The Post-Build batch file has options you can use to override default behavior as desired.

```
REM -----------------------
REM C-Hook Add-In Post-Build
REM -----------------------
REM ---------------------------------------------------------------------------
REM The Post-Build Event in the Visual Studio project should be like this.
REM call Post-Build-Install.bat "$(ProjectName)" "$(Configuration)" "$(MastercamDir)"
REM ---------------------------------------------------------------------------
REM --------------------------------------------------------------------
REM Set the following line to "true" to enable script debug outputs.
REM ====================================
set _Post_Build_Debug_="false"
REM ====================================
REM --------------------------------------------------------------------
REM This script copies the files from the project to the Mastercam folders.
REM The default destination starting with Mastercam 2022 is the user's
REM "My Mastercam 20##\Mastercam\Add-Ins" folder.
REM Or you can have this post-build use the "Shared Mastercam 20##Add-Ins"
REM folder if desired. See the _UseSharedAddInsFolder_ switch below.
REM Or you can have the post-build use the "chooks" folder if desired.
REM See the _UseCHooksFolder_ switch below.
REM --------------------------------------------------------------------
REM Depending on the _UseSharedAddInsFolder_ setting.
REM We need to locate the user's "My Mastercam 20##" folder,
REM or the Shared Mastercam 20## folder.
REM First, we look at the supplied MastercamDir path to find the "20##" version number.
REM This is used to build up the "path" for the Registry search that is
REM used to find the user's My Mastercam "Add-Ins" folder.
REM If we do not find what we are looking for in the MastercamDir path,
REM the setting _Mastercam_Version_ here will be used as a fall-back.
REM ====================================
set _Mastercam_Version_="Mastercam 2022"
REM ====================================
REM --------------------------------------------------------------------
REM If you wish to force use the "chooks" folder as the destination,
REM set this _UseCHooksFolder switch to "true".
REM If the found or set Mastercam_Version is less than '2022',
REM this script automatically forces _UseCHooksFolder_="true"
REM NOTE: Copying to the "chooks" folder may fail!
REM If administrator privileges are required and
REM you do not have those privileges and
REM Visual Studio is not running "as admin".
REM ====================================
set _UseCHooksFolder_="false"
REM ====================================
REM --------------------------------------------------------------------
REM If not using the "chooks" folder as the destination,
REM you can choose between the "Shared Mastercam 202#" folder,
REM or the "My Mastercam 202#\Mastercam\Add-Ins" folder.
REM ====================================
```

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```
set _UseSharedAddInsFolder_="false"
REM ===================================
REM ------------------------------------------------------------------
REM If you do want to place your add-in files in a "project name"
REM sub-folder of the destination folder, set this option to "true".
REM NOTE: If this is "true" you may need to adjust the paths to your
REM add-in's DLL in the (FT) Function Table file of your add-in.
REM ===================================
set _UseSubFolder_="false"
REM ===================================
```

POST-BUILD RESULTS

Here is an example of what you would see in Visual Studio's Output Window when you build a solution containing a separate language resource project.

```
1>------ Rebuild All started: Project: BasicGeometry, Configuration: Release x64 ------
2>------ Rebuild All started: Project: BasicGeometryRes_en, Configuration: Release x64 --
1>
1>Pre-Build-CheckFolder
1>Checking folder-> C:\Program Files\Mastercam 2022\Mastercam\sdk\
1>
1>StdAfx.cpp
2>BasicGeometryRes_en.vcxproj ->
E:\CODE\Samples\CHookAPI\BasicGeomertryRes_en\Release\BasicGeometryRes.dll
2>
2>Post-Build-InstallResources
2>Created folder: C:\Users\me\Documents\My Mastercam 2022\Mastercam\Add-Ins\en
2>Copied: "Release\BasicGeometryRes.dll" -> "C:\Users\me\Documents\My Mastercam
2022\Mastercam\Add-Ins\en\BasicGeometryRes.dll"
2>
1>Automatically linking with BCGCBPRO3040U142.lib
1>BasicGeometry.cpp
1>main.cpp
1>   Creating library x64\Release\BasicGeometry.lib and object
x64\Release\BasicGeometry.exp
1>Generating code
1>Previous IPDB not found, fall back to full compilation.
1>All 194 functions were compiled because no usable IPDB/IOBJ from previous compilation
was found.
1>Finished generating code
1>BasicGeometry.vcxproj -> E:\CODE\Samples\CHookAPI\x64\Release\BasicGeometry.dll
1>
1>Post-Build-InstallAddIn
1>Copied: "x64\Release\BasicGeometry.dll" -> "C:\Users\me\Documents\My Mastercam
2022\Mastercam\Add-Ins\BasicGeometry.dll"
1>Copied: "BasicGeometry.ft" -> "C:\Users\me\Documents\My Mastercam 2022\Mastercam\Add-
Ins\BasicGeometry.ft"
1>
========== Rebuild All: 2 succeeded, 0 failed, 0 skipped ==========
```

If for some reason the Post-Build Events cannot determine the path to the specified **Add-Ins** folder, it falls back to installing the files to the **chooks** folder and notes this situation in Visual Studio's Output Window.

Here we are building a project and Mastercam 2022 has either.

- Has not been installed yet.
- Or if installed has not yet been run.
  (The data being looked for in the Registry is created on the *first* startup of Mastercam.)

```
1>------ Rebuild All started: Project: BasicGeometry, Configuration: Release x64 ------
2>------ Rebuild All started: Project: BasicGeometryRes_en, Configuration: Release x64 --
1>
1>Pre-Build-CheckFolder
1>Checking folder-> C:\Program Files\Mastercam 2022\Mastercam\sdk\
1>
1>StdAfx.cpp
2>BasicGeometryRes_en.vcxproj ->
E:\CODE\Samples\CHookAPI\BasicGeomertryRes_en\Release\BasicGeometryRes.dll
2>
2>Post-Build-InstallResources
2>**********************************************************
2>User's My Mastercam 20## path was not found in the Registry!
2>Forcing UseCHooksFolder option to be "true"
2>**********************************************************
2>Created folder: C:\Program Files\Mastercam 2022\Mastercam\chooks\en
2>Copied: "Release\BasicGeometryRes.dll" -> "C:\Program Files\Mastercam
2022\Mastercam\chooks\en\BasicGeometryRes.dll"
2>
1>Automatically linking with BCGCBPRO3040U142.lib
1>BasicGeometry.cpp
1>main.cpp
1>  Creating library x64\Release\BasicGeometry.lib and object
x64\Release\BasicGeometry.exp
1>Generating code
1>Previous IPDB not found, fall back to full compilation.
1>All 194 functions were compiled because no usable IPDB/IOBJ from previous compilation
was found.
1>Finished generating code
1>BasicGeometry.vcxproj -> E:\CODE\Samples\CHookAPI\x64\Release\BasicGeometry.dll
1>
1>Post-Build-InstallAddIn
1>**********************************************************
1>User's My Mastercam 20## path was not found in the Registry!
1>Forcing UseCHooksFolder option to be "true"
1>**********************************************************
1>Copied: "x64\Release\BasicGeometry.dll" -> "C:\Program Files\Mastercam
2022\Mastercam\chooks\BasicGeometry.dll"
1>Copied: "BasicGeometry.ft" -> "C:\Program Files\Mastercam
2022\Mastercam\chooks\BasicGeometry.ft"
========== Rebuild All: 2 succeeded, 0 failed, 0 skipped ==========
```

VISUAL STUDIO BUILD EVENTS

To use the post-build event in your project.

This shows the setting needed in the project for the post-build event used in the main project of the add-in. The one the generate the add-in's DLL
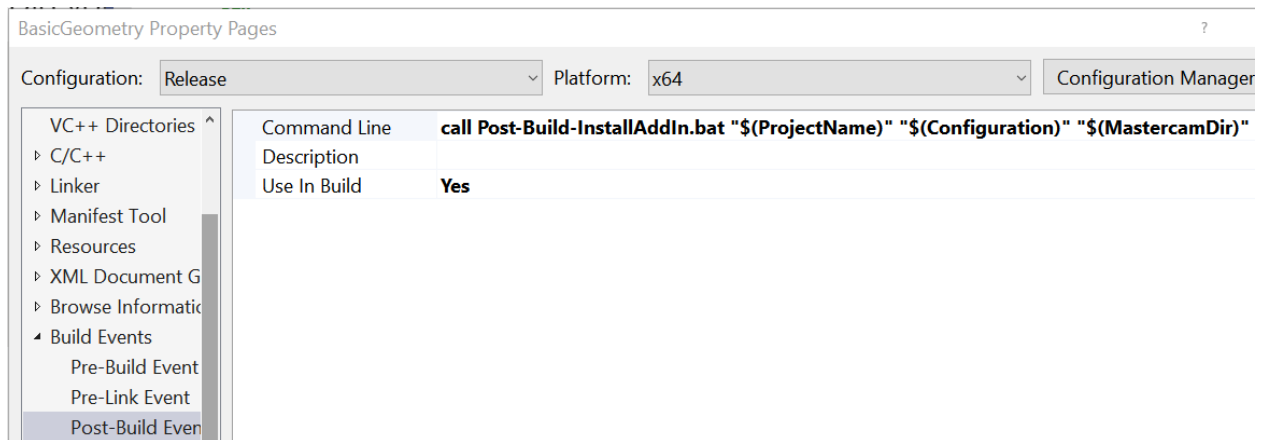
This shows the setting needed in the project for the post-build event used in any language resource only projects. This is for a project that generates a separate language specific resource DLL.
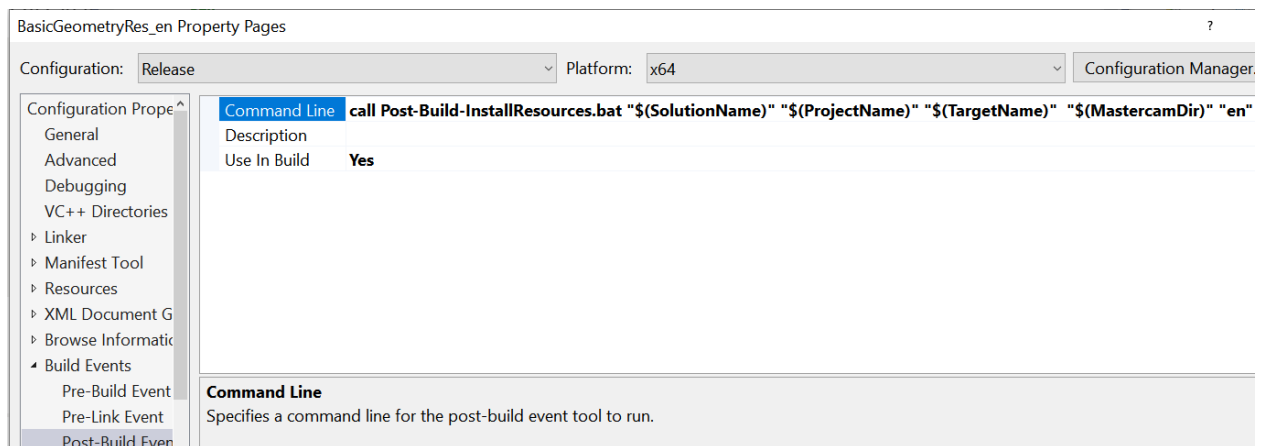
Note that last parameter here "en". This can be optional, as the resources post-build script can determine the language ID from the ProjectName – if you have named the project using a *language ID*. e.g., BasicGeometryRes_en

If you encounter any issues with what is (or not) documented here, please let us know!

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