using System.Runtime.InteropServices;

[DllImport("hook.dll")] //dll须放在运行文件目录下

public extern static bool StartHook(); //声明函数StartHook()

[DllImport("hook.dll")] 为特性，说明StartHook()来源于hook.dll文件

extern static 为必须的，声明函数为静态的

bool StartHook() 必须与dll的定义相同

对于dll的函数中有 参数 的，应用 CallingConvention = CallingConvention.Cdecl 特性例

c++

extern "C" \_declspec(dllexport) BOOL SetHookProcessName(char\* name);//设置挂钩进程名称

C#应该

[DllImport("hook.dll", CallingConvention = CallingConvention.Cdecl)]

public extern static bool SetHookProcessName(String name); //设置挂钩进程名称

c# string 传入 c++ 为 char\*

C++ char\* 传入 c# 为 intptr

**[C#与C++之间类型的对应](http://blog.csdn.net/JacksonH/archive/2005/07/27/436410.aspx)**

| **Windows Data Type** | **.NET Data Type** |
| --- | --- |
| BOOL, BOOLEAN | Boolean or Int32 |
| BSTR | String |
| BYTE | Byte |
| CHAR | Char |
| DOUBLE | Double |
| DWORD | Int32 or UInt32 |
| FLOAT | Single |
| HANDLE (and all other handle types, such as HFONT and HMENU) | IntPtr, UintPtr or HandleRef |
| HRESULT | Int32 or UInt32 |
| INT | Int32 |
| LANGID | Int16 or UInt16 |
| LCID | Int32 or UInt32 |
| LONG | Int32 |
| LPARAM | IntPtr, UintPtr or Object |
| LPCSTR | String |
| LPCTSTR | String |
| LPCWSTR | String |
| LPSTR | String or StringBuilder\* |
| LPTSTR | String or StringBuilder |
| LPWSTR | String or StringBuilder |
| LPVOID | IntPtr, UintPtr or Object |
| LRESULT | IntPtr |
| SAFEARRAY | .NET array type |
| SHORT | Int16 |
| TCHAR | Char |
| UCHAR | SByte |
| UINT | Int32 or UInt32 |
| ULONG | Int32 or UInt32 |
| VARIANT | Object |
| VARIANT\_BOOL | Boolean |
| WCHAR | Char |
| WORD | Int16 or UInt16 |
| WPARAM | IntPtr, UintPtr or Object |

另： 在进行string转换时，需要加入前缀[MarshalAs(UnmanagedType.LPStr)]lpdword 对应于 ref int

| **C/C++** | **C#** |
| --- | --- |
| HANDLE, LPDWORD, LPVOID, void\* | IntPtr |
| LPCTSTR, LPCTSTR, LPSTR, char\*, const char\*, Wchar\_t\*, LPWSTR | String [in], StringBuilder [in, out] |
| DWORD, unsigned long, Ulong | UInt32, [MarshalAs(UnmanagedType.U4)] |
| bool | bool |
| LP<struct> | [In] ref <struct> |
| SIZE\_T | uint |
| LPDWORD | out uint |
| LPTSTR | [Out] StringBuilder |
| PULARGE\_INTEGER | out ulong |
| WORD | uInt16 |
| Byte, unsigned char | byte |
| Short | Int16 |
| Long, int | Int32 |
| float | single |
| double | double |
| NULL pointer | IntPtr.Zero |
| Uint | Uint32 |

| **Wtypes.h** **中的非托管类型** | **非托管 C 语言类型** | **托管类名** | **说明** |
| --- | --- | --- | --- |
| HANDLE | void\* | System.IntPtr | 在 32 位 Windows 操作系统上为 32 位，在 64 位 Windows 操作系统上为 64 位。 |
| BYTE | unsigned char | System.Byte | 8 位 |
| SHORT | short | System.Int16 | 16 位 |
| WORD | unsigned short | System.UInt16 | 16 位 |
| INT | int | System.Int32 | 32 位 |
| UINT | unsigned int | System.UInt32 | 32 位 |
| LONG | long | System.Int32 | 32 位 |
| BOOL | long | System.Int32 | 32 位 |
| DWORD | unsigned long | System.UInt32 | 32 位 |
| ULONG | unsigned long | System.UInt32 | 32 位 |
| CHAR | char | System.Char | 用 ANSI 修饰。 |
| LPSTR | char\* | System.String 或   System.Text.StringBuilder | 用 ANSI 修饰。 |
| LPCSTR | Const char\* | System.String 或   System.Text.StringBuilder | 用 ANSI 修饰。 |
| LPWSTR | wchar\_t\* | System.String 或   System.Text.StringBuilder | 用 Unicode 修饰。 |
| LPCWSTR | Const wchar\_t\* | System.String 或   System.Text.StringBuilder | 用 Unicode 修饰。 |
| FLOAT | Float | System.Single | 32 位 |
| DOUBLE | Double | System.Double | 64 位 |