What is the lpClass member of SHELLEXECUTEINFO used for?

devblogs.microsoft.com/oldnewthing/20100701-00

July 1, 2010

Raymond Chen

A customer reported problems launching the default Web browser with the `ShellExecute-Ex` function:

```
int _tmain(int argc, _TCHAR* argv[])
{
  SHELLEXECUTEINFO sei = {0};
  sei.cbSize = sizeof(sei);
  sei.nShow = SW_SHOWNORMAL;
  sei.lpFile = TEXT("www.microsoft.com");
  sei.fMask = SEE_MASK_CLASSNAME;
  sei.lpVerb = TEXT("opennew");
  sei.lpClass = TEXT("htmlfile");
  ShellExecuteEx(&sei);
  return 0;
}
```

This fails with `sei.hInstApp = SE_ERR_FNF`.

If you don't pass the `SEE_MASK_CLASSNAME` flag and leave `lpClass = NULL`, then the `ShellExecuteEx` function will try to figure out what your `lpFile` refers to, looking at the file extension, looking for the file on the `PATH`, and if all else fails, <u>trying some autocorrection</u>. In this case, the customer was relying on the autocorrection, since they left the `http://` prefix off their URL. One of the default autocorrection rules is that if the item that couldn't be launched begins with `www`, then try again with `http://` in front.

On the other hand, if you pass an explicit `lpClass`, then no name resolution is performed on the `lpFile`. You're saying "Don't do any sniffing and poking and autocorrection. I have already determined that this item should be executed according to the rules specified for `HKEY_CLASSES_ROOT\htmlfile`, so just follow the rules and don't question me."

No second-guessing means that the `ShellExecuteEx` function shrugged its shoulders and said, "Well, I don't see a file called `www.microsoft.com` in the current directory, so I will fail with a file-not-found error."

If you pass an explicit class, then `ShellExecuteEx` will treat your `lpFile` as if it were a file of that type. If you have something and you want all the standard detection logic to kick in, then don't specify a class.

Bonus reading: The above program is simplified to illustrate the topic. A real-life version of this program needs some other scaffolding.

Raymond Chen

Follow