

# The empty Windows Runtime string is not just a pretty face

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As I noted some time ago, the empty Windows Runtime string is represented by a null pointer. This has natural but perhaps surprising consequences: Even though it is a null pointer, the empty Windows Runtime string is a real string, with hopes and dreams. Or at least a length and data.

At the ABI level, `WindowsGetStringLen` reports that a null pointer string has a length of zero, and `WindowsGetStringRawBuffer` gives you a buffer that consists of a single null terminator.

Since an empty string and a null pointer are indistinguishable at the ABI layer, if you operate at the ABI layer (using raw `HSTRING` s) or at a thin projection layer (such as C++/CX and C++/WinRT), you can take advantage of this equivalence.

For starters, you don't need to check for a null pointer before trying to use the string, because a null pointer is a perfectly valid `HSTRING` .

|           |   |  |
|-----------|---|--|
| ABI       | <pre>if (s != nullptr &amp;&amp;     WindowsGetStringLen(s) ==     1)</pre> | <pre>if (s != nullptr &amp;&amp;     s ==     HStringReference(L"hi").Get())</pre> |
| C++/CX    | <pre>if (s != nullptr &amp;&amp;     s-&gt;Length() == 1)</pre>             | <pre>if (s != nullptr &amp;&amp;     s == L"hi")</pre>                             |
| C++/WinRT | <pre>if (s != hstring{} &amp;&amp;     s.size() == 1)</pre>                 | <pre>if (s != hstring{} &amp;&amp;     s == L"hi"sv)</pre>                         |

If you are checking for a nonempty string, you can just check for null. C++/WinRT and C++/CX even have special methods that tell you directly.

|  | Slower way | Quicker way |
|--|------------|-------------|
|--|------------|-------------|

|           |   |                                    |
|-----------|---|------------------------------------|
| ABI       | <code>if (WindowsGetStringLen(s) != 0)</code> | <code>if (s != nullptr)</code>     |
| C++/CX    | <code>if (s-&gt;Length() != 0)</code>         | <code>if (!s-&gt;IsEmpty())</code> |
| C++/WinRT | <code>if (s.size() != 0)</code>               | <code>if (!s.empty())</code>       |

**Related:** The C++/CX `String^` is not an object, even though it wears a hat.

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