

In C#, how do I get the descriptive text for an HRESULT?

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Suppose your C# code manages to find in its hands a COM `HRESULT` value. How do you convert that to a descriptive string?

One idea is to p/invoke to the `FormatMessage` function, but that's awfully cumbersome. Maybe we can live off the land.

```
using System;
using System.Runtime.InteropServices;

class Program
{
    public static string MessageFromHRESULT(int hr)
    {
        return Marshal.GetExceptionForHR(hr).Message;
    }

    public static void Main()
    {
        var E_BOUNDS = unchecked((int)0x8000000B);
        System.Console.WriteLine(MessageFromHRESULT(E_BOUNDS));
    }
}
```

The result:

```
The operation attempted to access data outside the valid range (Exception from
HRESULT: 0x8000000B)
```

We ask the `Marshal` class to create an exception from the `HRESULT` and extract the `Message` from it. This does do more work than necessary, because it also does additional exception-related stuff, like capturing the COM error context into the exception object. This is wasted work, but on the other hand, the convenience is hard to beat.

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