

Re: Function Warning – Null Reference

Source:

<http://www.tech-archive.net/Archive/DotNet/microsoft.public.dotnet.languages.vb/2007-01/msg01116.html>

- *From:* "Terry" <it@xx>
 - *Date:* Fri, 12 Jan 2007 11:45:08 -0000
-

Hi Stephany,

Excellent explanation, this makes sense to me;

```
If value Then
Return "Hello World!"
Else
Return String.Empty
End If
```

Thanks, regards
Terry

"Stephany Young" <noone@localhost> wrote in message
news:en2ivfeNHHA.5012@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

First of all, let's get some terminology straight. The warning states:

Warning 1 Function 'Dec2hms' doesn't return a value on all code paths. A null reference exception could occur at run time when the result is used.

Nowhere does it mention 'null pointer', it mentions 'null reference' and that is a completely different animal.

For the sake of your own sanity it is important to remember that, for the purpose of your learning curve, 'VB doesn't do pointers'.

Without going into the why's and wherefore's, some types in .NET are called value types. These include String, Integer, DateTime and Boolean among others. These are usually implemented as a Structure rather than as Class. A type implemented as a Class is usually called a reference type.

In general, you can assign Nothing to a variable of a reference type and that variable is considered to be unassigned.

When you assign Nothing to a variable of a value type, then, behind the scenes, the default value for that particular value type is substituted. The default value for a String is String.Empty, the default value for an

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Integer is 0, the default value for a DateTime is 01/01/0001, the default value for a Boolean is False and so on and so forth.

In VBA, you would have written a function something like:

```
Function Test() As String
```

```
Test = "Hello World!"
```

```
End Function
```

and you called it using something like:

```
x = Test()
```

The single statement in the function assigned a string as the return value of the function. It used a syntax where you assigned the value to the name of the function.

If you had coded the function as:

```
Function Test(ByVal flag As Boolean) As String
```

```
If value Then Test = "Hello World!"
```

```
End Function
```

Then the value "Hello World!" would be returned only if the parameter (flag) had a value of True. If it had a value of false then, the function 'fell through the logic' or 'took another path' and, because the type of the the return value was declared as string, an empty string was automatically returned.

In VB.NET, exactly the same thing applies, BUT, at compile time, you get a warning that, at least one of the paths through the logic does not explicitly set a return value.

To avoid this warning, I recommend that you get into the habit of always explicitly setting return values from functions, like:

```
Function Test(ByVal flag As Boolean) As String
```

```
If value Then
```

```
Return "Hello World!"
```

```
Else
```

```
Return String.Empty
```

```
End If
```

```
End Function
```

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Note that in Vb.Net, we assign the return value via the keyword 'Return' rather than assigning to the function name. It is functionally equivalent to, but probably more efficient:

```
Test = "Hello World!"  
Exit Sub
```

The real difference is that 'Return <value>' assigns the return value and returns immediately, all with a single statement.

"Terry" <new-grps@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message [news:%23eA2w\\$dNHHA.4604@xxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:%23eA2w$dNHHA.4604@xxxxxxxxxxxxxxxxxxxxxxxxxxxx)

Thanks Stephany,

I understand your explanation and what the warning is indicating. In order to remove the warning I would need to ensure the function does not return a null pointer. Is there a better syntax available giving a more complete solution?

My experience comes from VBA and I have just started out in VB and .NET. The structure and syntax is what I am trying to understand. The best way for me is to have some good books, try converting some VBA code and visit these newsgroups. Just wished I started 3 years ago.

Regards

<lord.zoltar@xxxxxxxx> wrote in message news:1168556090.645918.315190@xxxxxxxxxxxxxxxxxxxxxxxxxxxx

Stephany Young wrote:

Return hh & "h " & mm & "m " & ss & "s"

I don't know how much background you have in VB. I'll assume not much.

To clarify:

"Function 'Dec2hms' doesn't return a value on all code paths." means

that a function might not be returning a value along one of its possible paths of execution, and that a line of code that calls the

function could get a Null Pointer from the function. In VB and VB.NET,

A Sub (Subroutine) is a procedure which never returns a value. A

Function is a procedure that **MUST** return a value.

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To return a value from a function, use the keyword `Return` followed by the value or variable that is being returned.

Placing

`Return hh & "h " & mm & "m " & ss & "s"`

at the end of the function (right above "end function") should fix the problem.