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Thread: [\[VB.NET\] Multi-Threading \[TUT\]](#)

KingCobraXD - June 23, 2011, 1:50 pm

What is a multi-threaded application?

A multi-threaded application is an application that contains more than one thread.

Why are multi-threaded applications better than single-threaded applications?

A multi-threaded application has the ability to do many simultaneous things at once.

Example of a single-threaded application:

```
Code Sub Main()
```

```
    MsgBox("1")
```

```
    MsgBox("2")
```

```
End Sub
```

Basically, MsgBox("2") has to wait for the user to close/click OK on MsgBox("1") before it will show itself. It's like a step by step process and you can only do one thing at a time.

Example of a multi-threaded application:

```
Code Sub Main()
```

```
    Dim t1 As New Thread(AddressOf one)
```

```
    t1.Start()
```

```
    Dim t2 As New Thread(AddressOf two)
```

```
    t2.Start()
```

```
End Sub
```

```
Sub one
```

```
    MsgBox("1")
```

```
End Sub
```

```
Sub two
```

```
    MsgBox("2")
```

```
End Sub
```

This code will create t1 before t2. However, MsgBox("2") no longer needs to wait for the user to close/press OK on MsgBox("1") before it will show. Both these messageboxes will show around the same time.

In order to create a new thread, you would be required to something like this:

```
Code Dim t As New Thread(AddressOf NameOfSub)
```

```
t.Start()
```

It will run whatever is in the sub that you have specified when constructing the thread.

Is that all of threading?

No. Threading is a very useful tool but it is also a very confusing tool. Unfortunately, you are not allowed to edit GUI properties that aren't created in the same thread. Take a look at the code below:

```
Code Sub Main()
```

```
    Dim t1 As New Thread(AddressOf one)
```

```
    t1.Start()
```

```
    Dim t2 As New Thread(AddressOf two)
```

```
    t2.Start()
```

```
End Sub
```

```
Sub one
```

```

    Dim Form1 As New Form()
End Sub
Sub two
    Dim Form2 As New Form()
End Sub

```

Two threads are created and both of them create new forms. However, t1 will not be allowed to edit Form2 and t2 will not allowed to edit Form1.

NOTE: When an application runs, it creates its own main thread. The above code creates two threads but it actually has three threads running.

How do I manage to edit forms that aren't created in the same thread?

We use the invoke method along with delegates. Take a look at the code below:

```

Code Dim Form1, Form2 As Form()
Sub Main()
    Dim t1 As New Thread(AddressOf one)
    t1.Start()
    Dim t2 As New Thread(AddressOf two)
    t2.Start()
End Sub
Sub one
    Form1 = New Form()
    Invoke(New ChangeTextDelegate(AddressOf ChangeText), Form2, "Form2TextHere")
End Sub
Sub two
    Form2 = New Form()
End Sub
Delegate Sub ChangeTextDelegate(ByVal Frm As Form, ByVal txt As String)
Sub ChangeText(ByVal Frm As Form, ByVal txt As String)
    Frm.Text = txt

```

End SubIn the above code, Form2 was created on the second thread and was edited in the first thread. The Invoke method executes the specified Delegate.

NOTE: The Delegate and the Sub that is going to be executed MUST have the EXACT same parameters.

After invoking the delegate, we need to specify which sub is doing the editing by using AddressOf Operator (Code rewritten below).

Code Invoke(New ChangeTextDelegate(AddressOf ChangeText), Form2, "Form2TextHere")

Last, but not least, directly after the specified sub would be the parameter you want to pass into the sub.

NOTE: You can use MethodInvoker as a delegate without any parameters.

Example Code:

```

Code Dim Form1, Form2 As Form()
Sub Main()
    Dim t1 As New Thread(AddressOf one)
    t1.Start()
    Dim t2 As New Thread(AddressOf two)
    t2.Start()
End Sub

```

```

Sub one
    Form1 = New Form()
    Invoke(New MethodInvoker(AddressOf ChangeText))
End Sub
Sub two
    Form2 = New Form()
End Sub
Sub ChangeText()
    Form2.Text = "Form2TextHere"
End Sub
I hope you have learned a thing or two about threading. =)

```

Please leave a comment! It took me half an hour to write this out. It only takes you ten seconds to say THANKS.

© KingCobraXD

theonetrueace - June 23, 2011, 1:57 pm

Looks good so far. If you wanted to expand it you could talk about ThreadPools, the overhead associated with the creation and destruction of threads, ways of monitoring threads, etc. Just a suggestion, great thus far though. :)

Marvincmarvin. - June 23, 2011, 1:57 pm

```

Code Sub Main()
    For i = 1 To 666
        Dim t1 As New Thread(AddressOf one)
        t1.Background = True
        t1.Start()
    Next
End Sub

```

```

Sub one()
    MsgBox("Spam ?")
End Sub^
Would this code spam message boxes or am I not understanding ?

```

KingCobraXD - June 23, 2011, 2:01 pm

(Jun 23, 2011 01:57 PM)Marvincmarvin Wrote: [\[CITE\]](#) Code Sub Main()

```

    For i = 1 To 666
        Dim t1 As New Thread(AddressOf one)
        t1.Background = True
        t1.Start()
    Next
End Sub

```

```

Sub one()
    MsgBox("Spam ?")
End Sub^
Would this code spam message boxes or am I not understanding ?

```

Yes. It would. But it would take a lot of memory because it's creating so many threads. Try this code:

```

Code Sub Main()

```

```
Dim t1 As New Thread(AddressOf one)
t1.Background = True
t1.Start()
End Sub
```

```
Sub one()
    For i = 1 To 666
        MsgBox("Spam ?")
    Next
End Sub
```

(Jun 23, 2011 01:57 PM)theonetrueace Wrote: [\[CITE\]](#) Looks good so far. If you wanted to expand it you could talk about ThreadPools, the overhead associated with the creation and destruction of threads, ways of monitoring threads, etc. Just a suggestion, great thus far though. :)
Thanks. I will do that some other time. lol.

INFA?OUS - June 23, 2011, 2:04 pm

Good explanation on Multi-Threading. Good job.

Marvincmarvin. - June 23, 2011, 2:06 pm

If your spamming message boxes you mind as well spam threads ;P
~Thanks for the tutorial btw

shadow1992 - June 23, 2011, 3:49 pm

Why are you using "AddressOf" instead of "sub()"????
Wrong programming technique....

Manager - June 23, 2011, 4:03 pm

'How do I manage to edit forms that aren't created in the same thread?'
its called crossThread. and its mean that thread want change thing in second thread.
nice sample ... thread B want to change propertie in Thread A [main form -> some label]
so i have to use. this.invoke Or base.invoke
to run that operation in the main thread.
so now A will change the label.

KingCobraXD - June 23, 2011, 4:07 pm

(Jun 23, 2011 03:49 PM)shadow1992 Wrote: [\[CITE\]](#) Why are you using "AddressOf" instead of "sub()"????
Wrong programming technique....
Do some research. It's AddressOf....

W33DY - June 23, 2011, 4:15 pm

lol,u posted this what i need on my bday wow :)
thanks !
p.s i hope u release soon ShadowTech Rat

KingCobraXD - June 23, 2011, 4:50 pm

(Jun 23, 2011 04:15 PM)W33DY Wrote: [\[CITE\]](#) lol,u posted this what i need on my bday wow :)
thanks !
p.s i hope u release soon ShadowTech Rat
Lol. No prob. Happy BDay!

RDCA - June 23, 2011, 7:29 pm

Thanks for this. Actually I have looked into multi-threading before, but it didn't make perfect sense at

the time. But this does. Thank you a lot for this thread.

Jash - June 23, 2011, 8:16 pm

Fck, 'been looking for this for days.

christiano - June 23, 2011, 10:10 pm

Good Job mate, Appreciate it

Thanks!

Bigandrewgold - June 23, 2011, 10:44 pm

PHP Code

```
<?php
Sub Main()
    Dim t1 As New Thread(AddressOf one)
    t1.Start()
    Dim t2 As New Thread(AddressOf one)
    t2.Start()
End Sub
Sub one
    MsgBox("1")
End Sub
Sub two
    MsgBox("2")
End Sub
um, doesnt this code just create 2 MsgBox("1")'s instead one of each
```

Banks? - June 23, 2011, 10:52 pm

(Jun 23, 2011 10:44 PM)Bigandrewgold Wrote: [\[CITE\]](#) PHP Code

```
<?php
Sub Main()
    Dim t1 As New Thread(AddressOf one)
    t1.Start()
    Dim t2 As New Thread(AddressOf one)
    t2.Start()
End Sub
Sub one
    MsgBox("1")
End Sub
Sub two
    MsgBox("2")
End Sub
um, doesnt this code just create 2 MsgBox("1")'s instead one of each
Yeah because he didn't put the second one as AddressOf two. ?
```

Bigandrewgold - June 23, 2011, 10:54 pm

(Jun 23, 2011 10:52 PM)Banksy™ Wrote: [\[CITE\]](#) Yeah because he didn't put the second one as AddressOf two. ?

thats what i thought but i am on so many pain meds right now because of having my wisdom teeth pulled i wasnt for sure

KingCobraXD - June 24, 2011, 4:24 am

(Jun 23, 2011 10:44 PM)Bigandrewgold Wrote: [\[CITE\]](#) PHP Code

```
<?php
Sub Main()
    Dim t1 As New Thread(AddressOf one)
    t1.Start()
    Dim t2 As New Thread(AddressOf one)
    t2.Start()
End Sub
Sub one
    MsgBox("1")
End Sub
Sub two
    MsgBox("2")
End Sub
um, doesnt this code just create 2 MsgBox("1")'s instead one of each
Good Catch. Lol. I gotta edit that. =)
```

The-One - June 24, 2011, 4:53 am

Looks good king, saw this on TLF. Thanks for posting :D

KingCobraXD - June 28, 2011, 4:14 am

(Jun 24, 2011 04:53 AM)The-One Wrote: [\[CITE\]](#) Looks good king, saw this on TLF. Thanks for posting :D

Yea, I know. i posted it there too. =)

iVision - July 8, 2011, 9:07 am

Very nice!

I thought I did knew the basics of VB.net

But I didn't knew about this.

Its readable, useful, beginnerfriendly = Nice tutorial!

pr3fix - July 8, 2011, 9:43 am

This is not the best way to do it, I prefer Thread Pool.

Artisanal - February 10, 2013, 12:37 am

Nice tut man ?

It will help ...

4RG0S - February 10, 2013, 12:41 am

Great Tutorial, thank you for creating this :)

deiski - February 10, 2013, 12:59 am

(Feb 10, 2013 01:37 AM)Zombay Wrote: [\[CITE\]](#) Nice tut man ?

It will help ...

Great way to grave dig, also great way of avoiding the post count limit.

samo dz - November 21, 2014, 8:58 am

CONTACT ME IAM SIMPLE CODED VB.NET i need your help to build good RAT im frend of njq8

CONTACT ME IAM SIMPLE CODED VB.NET i need your help to build good RAT im frend of njq8
that is my facbook www.facebook.com/samo.ramos.7