

Re: Tale of debugging and programming logic in c#/sql

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I've recently learned about NUnit.org. Learning to use it correctly is the next objective.

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"Irritable Bowel Syndrome" <jabailo@earthlink.net> wrote in message
news:J001c.2737$V97.1353@newsread1.news.pas.earthlink.net...
>
> Just finished off a production .NET web application written in c#.
>
> I set up a error handler in the global.asax which is triggered to iterate
> through the error stack and send it and other information to me in an
> email. This gives me logging and alerting and a record of usage ( by
> sending time ).
>
> After deploying the application I noticed intermittent errors in the Page
> Load event after the user logs on. I wasn't every user, but the errors
> occurred all day long. My error handler email shows two session
variables
> and the user name as well as the trace. The error was: Object reference
> not set to an instance of an object. If you've done any .NET, this can
> mean an uninitialized or null variable ( among other things) that is being
> used in a method or cast that a NULL cannot be used.
>
> I was puzzled. This would have been the very first thing after Forms
> Authentication -- and obviously, I would run through that step many many
> times both in the VS IDE and in QA. Occasionally my QA engineer would
see
> the problem, very infrequently, and report it to me. But then I could
> never reproduce it. And by the time I got back to him and asked him to
> show it to me, the problem didn't reappear.
>
> Then I noticed something. All the user names were multiwords -- that is,
I
> was always testing with something like /jb/ or /jbailo/ as the user name.
> In the error messages, the user name was Mary S. Rutherford. And the
spec
> said we would allow for a full name as the username. Aha! I have found
the
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> bug -- spaces and periods. To test, I entered my name, John A. Bailo and
> it threw the error. So I set up a parsing method to remove all
> non-alphanums from the user name. Testing again, I saw that my fix worked
> and I pushed it to production. I was anxious to find a fix, and I didn't
> do full testing. The login page was written poorly -- it was from an
> earlier release of the web application -- but we didn't have time to
change
> it. It used a composed String for the SQL command rather than a
> parameterized query.
>
> Waited a few hours and watched the errors. Nope. The production site was
> still generating errors. What was it, what was it??? Finally, I loaded
up
> VS.2003 and set some breakpoints. Instead of using my name, I used one of
> the names from the customers. BOOM! Now I saw it. The login page does
a
> INSERT if its a new user ( and a lookup if its a returning user). When
the
> INSERT statement ran with the user's name, it threw an error that said
> 'String or binary data may be truncated'. That's it. The spaces aren't
> the problem -- it was that the user name was TOO LONG! Checking the
> database, I see that yes, the username field was nchar(10)! Inserting a
> longer name threw the error.
>
> So what happened was: there is a Session variable that is created once
the
> user authenticates or creates a new login name -- it is based on an ID
> number generated in the database once the user's name and password are
> inserted. The INSERT never completed and so caused the session variable
> to be NULL and the first time it was accessed by another method -- it
threw
> the error.
>
> Why was I fooled? Because John A. Bailo with the spaces and period
removed
> is JOHNABAILO -- 10 characters!!! I /fixed/ the problem, but locally --
> not globally; only for people whose whole name is 10 chars or less after
> removing spaces and non-alphanums!
>
> Oh, and why didn't the error email show the actually error? Because I
had
> used a try/catch block for the login INSERT statement -- and I didn't put
> tracing or logging in the catch -- thus the statement threw an exception
> and proceeded on its merry way -- and later on in the code when the missing
> session variable threw an error -- I had no idea what the actual cause was
> -- though I spent a week trying to fix it with system level fixes such as
> explicit garbage collection and tweaking the IIS server.
>
> Oh -- the logic of programming... :D
>
> --
> W '04 <:> Open
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