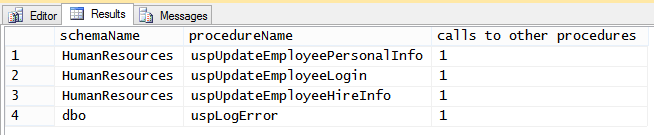
[Are You Programming In The Database?](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/)

FROM: http://michaeljswart.com/2016/04/are-you-programming-in-the-database/

Typically, T-SQL is not the best platform for programming (understatement). If you have many procedures that call other procedures, that’s a signal that you might be programming in the database.

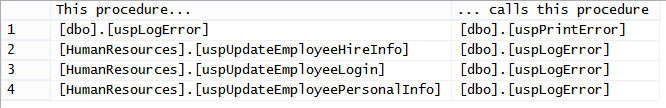
Find out using this query:

|  |
| --- |
| select  OBJECT\_SCHEMA\_NAME(p.object\_id) as schemaName,  OBJECT\_NAME(p.object\_id) as procedureName,  count(\*) as [calls to other procedures]  from sys.procedures p  cross apply sys.dm\_sql\_referenced\_entities(schema\_name(p.schema\_id) + '.' + p.name, 'OBJECT') re  where re.referenced\_entity\_name in (select name from sys.procedures)  group by p.object\_id  order by count(\*) desc; |

in Adventureworks, we see this result:  


To drill down into those results, use this query:

|  |
| --- |
| select distinct  QUOTENAME(OBJECT\_SCHEMA\_NAME(p.object\_id)) + '.'  + QUOTENAME(OBJECT\_NAME(p.object\_id)) [This procedure...],  QUOTENAME(OBJECT\_SCHEMA\_NAME(p\_ref.object\_id)) + '.'  + QUOTENAME(OBJECT\_NAME(p\_ref.object\_id)) [... calls this procedure]  from sys.procedures p  cross apply sys.dm\_sql\_referenced\_entities(schema\_name(p.schema\_id) + '.' + p.name, 'OBJECT') re  join sys.procedures p\_ref  on re.referenced\_entity\_name = p\_ref.name  order by 1,2 |

which gives results like this:  


Adventureworks seems just fine to me. Only four instances of procedures calling procedures. I looked at the database I work with most. Hundreds of procedures (representing 15% of the procedures) call other procedures. On the other end of the spectrum is Stackoverflow. I understand that they don’t use stored procedures at all.

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**11 Comments** [**»**](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#postcomment)

1. http://2.gravatar.com/avatar/895cb35204652b9c83d8768ebb77af94?s=32&d=mm&r=g

Good script. Fails when dependencies are on other datatabases. Yes, sadly we have plenty of those cases 

*Comment by Yarik — April 20, 2016 @* [*3:39 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183384)

1. http://1.gravatar.com/avatar/da64b07e0ad5e3bc04b9ac2f2e6a42fc?s=32&d=mm&r=g

Hi Yarik,  
Wow, cross-database procedure dependencies! That is a sad case. Out of curiosity how does the script fail? Do you get an error message? Or do you get less results than you expect?

*Comment by* [*Michael J. Swart*](http://michaeljswart.com) *— April 20, 2016 @* [*3:48 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183385)

1. http://2.gravatar.com/avatar/895cb35204652b9c83d8768ebb77af94?s=32&d=mm&r=g

Here are sample of the errors. From what I see, is on sp’s that have cross databases references:

The dependencies reported for entity “dbo.xxxxx” might not include references to all columns. This is either because the entity references an object that does not exist or because of an error in one or more statements in the entity. Before rerunning the query, ensure that there are no errors in the entity and that all objects referenced by the entity exist.

*Comment by Yarik — April 20, 2016 @* [*3:52 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183387)

1. http://2.gravatar.com/avatar/baf864eef0a26703bcdfbb9474e91696?s=32&d=mm&r=g

Hmm… I’m not sure how I feel about this. On one hand, I get what you’re saying. On the other though, I like DRY (Don’t Repeat Yourself). If you’ve already committed to writing stored procedures, why duplicate logic in them if you don’t have to? Also, “committed to writing procedures”… database jokes. 

*Comment by* [*Ben Thul*](http://www.spartansql.com) *— April 20, 2016 @* [*3:56 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183388)

1. http://1.gravatar.com/avatar/da64b07e0ad5e3bc04b9ac2f2e6a42fc?s=32&d=mm&r=g

I know what you’re saying Ben. In the Adventureworks case, I love the how they use a procedure to handle error logging. That’s a perfect example of DRY at work. So I guess I’m not advocating for less of those kind of procedures if it means copy-pasting everywhere.

I guess I’m advocating for keeping things as simple as possible in the database and keeping the complexity in the application or reporting layer. Ideally, procedures should do one logical thing. In the case of the Adventureworks procedures, they do one thing … plus error-handling which is perfectly acceptable. Another signal that things may be getting out of hand: If you ever find yourself stepping the TSQL debugger, or wishing for a TSQL call stack, then that’s programming. And personally I’ve had a lot more success and a lot less trouble when programming is done outside of the database.

*Comment by* [*Michael J. Swart*](http://michaeljswart.com) *— April 20, 2016 @* [*4:04 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183389)

1. http://2.gravatar.com/avatar/895cb35204652b9c83d8768ebb77af94?s=32&d=mm&r=g

I agree. We are slowly cleaning and reducing inter dependencies, but is a long work as it has impact on the app layer so we need to work together with developers to avoid breaking stuff.

*Comment by Yarik — April 20, 2016 @* [*4:18 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183390)

1. http://0.gravatar.com/avatar/37863797ee44c8521a4375c3a3153760?s=32&d=mm&r=g

If I may make a shameless plug here, my sp\_helpExpandView is built on using those DMVs. And as I discovered, works fine on stored procedures as well!

<https://sqlbek.wordpress.com/2015/03/04/sp_helpexpandview-well-i-didnt-expect-that/>

*Comment by* [*Andy (@SQLBek)*](http://sqlbek.wordpress.com) *— April 20, 2016 @* [*4:39 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183391)

1. http://2.gravatar.com/avatar/895cb35204652b9c83d8768ebb77af94?s=32&d=mm&r=g

Ok, found what was wrong. I was incorrect, not exactly the sp’s referencing other db’s but more related to this <https://technet.microsoft.com/en-us/library/cc879246(v=sql.105)>.aspx

*Comment by Yarik — April 20, 2016 @* [*9:14 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183401)

1. http://1.gravatar.com/avatar/da64b07e0ad5e3bc04b9ac2f2e6a42fc?s=32&d=mm&r=g

I have to be honest Yarik, I got the same error when preparing this post (three of them).  
I discovered that the error was in the definition of the sproc itself and decided to omit that fact because it might have been distracting to the blog post.   
Thanks for reporting back.

*Comment by* [*Michael J. Swart*](http://michaeljswart.com) *— April 20, 2016 @* [*9:20 pm*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183402)

1. http://0.gravatar.com/avatar/03cf7b9971a029e6fa191b434d30ffcc?s=32&d=mm&r=g

Same 200 here at DeploymentDB:

Msg 2020, Level 16, State 1, Line 1  
The dependencies reported for entity “dbo.RetrievePackages” do not include references to columns…

dbo.RetrievePackages has just one parameter @MacAddress.  
on this instance Microsoft SQL Server 2008 (SP3) – 10.0.5861.0 (X64)

The statement “Returns error 2020 when column dependencies cannot be resolved. This error does not prevent the query from returning object-level dependencies” here <https://msdn.microsoft.com/en-us/library/bb677185.aspx> is true,  
select \* from sys.dm\_sql\_referenced\_entities(‘dbo.RetrievePackages’, ‘OBJECT’)  
returns referenced OBJECTs, but stop the whole query executing.

*Comment by IL — April 21, 2016 @* [*5:32 am*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183414)

1. http://1.gravatar.com/avatar/da64b07e0ad5e3bc04b9ac2f2e6a42fc?s=32&d=mm&r=g

Hi IL,  
As I was saying to Yarik, it sounds like your procedure is referencing an object that is missing. I had the same experience.  
But you said that it stops the whole query from executing? I didn’t see that behavior. In SQL Server Management Studio, the query completes and the error is displayed in the messages tab, but the results tab still contains the rest of the results.

*Comment by* [*Michael J. Swart*](http://michaeljswart.com) *— April 21, 2016 @* [*8:45 am*](http://michaeljswart.com/2016/04/are-you-programming-in-the-database/#comment-183417)