

(February 9<sup>th</sup>, 2022)

If you know someone who would benefit from being an Insider, feel free to forward this PDF to them so they can sign up [here](#).



Note: As an Insider, you can read all prior Insider newsletters [here](#).

## Quick Tips for our Insider friends!

This newsletter is coming to you from Redmond, where we're working on some brand new classes that we'll be offering in a few months!

## SQLskills News

### SQLskills Insider Sessions!

We wrote about the motivation behind our Insider Sessions and you can register for just one, or the entire series here: <https://www.SQLskills.com/iSessions>. We've started them back up in 2022 but we're going to cut back on the frequency. **But, the best news is that we've posted all of the prior sessions online for streaming. For free!** Just go to the completed sessions and you'll find all of the resources, and the videos! Enjoy.

As for the rest of this year, we'll do roughly one a month. Here's the next one:

- **SQLskills Insider Session: Eliminating Low Hanging Fruit for Faster Performance with Jonathan Kehayias**
  - 10-11:30am Pacific on Wednesday, February 16, 2022 – [details](#)

You can also review all the videos we've already posted through the main page [here](#).

Our thought: block some time – EVERY WEEK! **Dedicate 2 hours a week to Improving Your SQL skills with SQLskills!** Join us when it makes sense (hopefully always! 😊) or, read blog posts, review topics of interest, go spelunking in the documentation on a topic that's always interested you. Stay fresh, stay current – stay ahead of the competition!

Block some time NOW, register online, and when a session is planned to run, we'll send you a meeting link with joining instructions.

## Book Review

The latest book I've read is Jack Challoner's [The Atom: A Visual Tour](#). After reading Challoner's excellent book [The Cell: A Visual Tour of the Building Block of Life](#) last year, I thought I'd revisit my high school physics and chemistry with this book. I was not disappointed – it was as good as The Cell. From Amazon: "The Atom investigates the quest to identify the smallest, most

fundamental constituents of matter—and how that quest helps us to understand what everything is made of and how it all works. Challoner covers a wide range of topics—including the development of scientific thinking about atoms and the basic structure of atoms; how atomic interactions account for the familiar properties of everyday materials; the power of the atomic nucleus; and what the mysterious quantum realm of subatomic particles can tell us about the very nature of reality." Highly recommended!

### **The Curious Case of...**

*This section of the newsletter explains recent problems we've helped with on client systems or been asked about over email or #sqlhelp; they might be something you're experiencing too.*

The Curious Case in the [last newsletter](#) led to a question about whether there's a cache of uncompressed column values when data compression is used. You can read my answer [here](#)...

### **Ponderings...**

*(I last ran this editorial in 2014, but several questions last week prompted me to run it again – enjoy!)*

Not a very long one this time... but a very important one IMHO.

If you had to tell your business owners that all data/transactions/records from the last month are completely lost, how would they react? How would your business's clients/customers react?

Not very well, is the likely response. Such a scenario would likely lead to customer losses and therefore monetary losses for the business. Additionally, it would likely result in job losses for those responsible.

So I'm really, really shocked that I continue to get emails every week from people where they've had some nasty infrastructure failure (*Edit 2022: or victim of a ransomware attack*) and the most recent valid backup that works is weeks or more old. It just boggles my mind that businesses today aren't aware of the need for good disaster recovery preparedness – having valid backups and knowing how to use them to recover.

I've written about this type of thing in our newsletter before I would guess that there are still a bunch of you out there that this scenario could happen to.

You might think that performance is more important but really nothing is more important than business continuity. Poor performance could lead to a gradual loss of clients and business income but complete data loss (or a month's data loss) could lead to the business failing very quickly, and you losing your job.

I advocate turning on two trace flags on every SQL Server instance in the world: 1118 that disables single-page allocations in tempdb (*Edit 2022: for servers prior to SQL Server 2016*), and 3226 that disables backup success messages. You should enable trace flag 3226 so your error log isn't flooded with success messages and you're able to more easily see backup failures.

You should also make sure that your full backups aren't too far apart. There's no really good way to say exactly how often you should take full backups, it's a gut feel thing. For me, I wouldn't be comfortable unless a full backup is being taken at least weekly. Doesn't matter how big the database is, weekly is my minimum. If you say that the database is many terabytes and you have no space, my counter is that you should either archive more aggressively or get more space.

You could reduce data loss through log backups but I've also heard of many broken log backup chains through log backup loss or damage. What could help here are differential backups; however, the costs/benefits of performing differentials also depend on the relative data churn. If your data churn isn't high, then consider bi-weekly full backups twice-weekly differential backups. Remember, you can also programmatically determine when to do a differential with my differential change script [here](#).

You always need to be considering how old your full backup is though, as that's the starting point for any restore sequence. And you should also make sure that your backups are valid. Kimberly always likes to say that "you don't have a backup until you've restored it".

Bottom line: backups and backup validation are the most important responsibilities of a DBA. You really don't want to be sending me email asking for help recovering a corrupt database.

**Call to action:** For every database that you're responsible for, ask yourself two questions: When was the last successful full backup? When was the last successful test restoration of a full restore sequence? If the answer to either of those questions is more than 1-2 weeks, then I think you're doing it wrong in your environment (unless you have good reasons why).

## **#TBT**

*(Turn Back Time...) Blog posts we've published since the previous newsletter plus some older resources we've referred to recently that you may find useful.*

The theme for #TBT is communication skills so here are some resources for you:

- My Pluralsight course on [Communications: How to Talk, Write, Present, and Get Ahead!](#) that has 2.5 hours covering skills for communicating, running and attending meetings, all forms of writing from emails to articles, and how to write and deliver presentations
- And a bunch of blog posts:

- [\*Public Speaking: A Primer\*](#)
- [\*Ignorance is not stupidity\*](#)
- [\*It depends. It really, really does.\*](#)
- [\*RTFM. No seriously, R.T.F.M. Then ask your question.\*](#)
- [\*Learning to listen\*](#)
- [\*How to ask questions politely and correctly\*](#)
- [\*How to answer questions politely and correctly\*](#)

Posts since the last newsletter:

- Paul: [\*The Curious Case of... data compression caching\*](#)
- Paul: [\*The SQL Server Transaction Log, Part 1: Logging Basics\*](#) (on SQLperformance.com)
- Paul: [\*The SQL Server Transaction Log, Part 2: Log Architecture\*](#) (on SQLperformance.com)
- Paul: [\*A Complete Introduction to SQL Server Transactions\*](#) (on the SentryOne blog)

I hope you find these useful and interesting!

### **Video Demo**

In SQL Server 2017 information about statistics considered during optimization was added to execution plans, providing information that can be extremely useful when troubleshooting performance and tuning queries. But reviewing the information in the XML can be a bit clunky, which is why in this last Insider video by Erin she'll share a method to programmatically get the statistics data from a plan to make your query tuning efforts a bit easier.

The video is 6 minutes long and you can get it in MP4 format [here](#).

The demo code is [here](#).

Enjoy!

### **Upcoming SQLskills Events**

We've moved all our classes to 2022 – schedule details will be published shortly.

With our new streaming system, you can now choose to attend a live, online event or purchase a recording to watch at your leisure, either individually or as part of a bundle. And all attendees of live events get lifetime access to the class recordings too!

To help your boss understand the importance of focused, technical training, we've also added a few items to help you justify spending your training dollars with us:

- [Letter to your boss explaining why SQLskills training is worthwhile](#)
- [Community blog posts about our classes](#)
- [Immersion Event FAQ](#)

## **LIVE, Online Immersion Events:**

Spring 2022

- Details coming soon.

You can get all the details on our [training options page](#) or just go directly to our [new shop](#).

## **Summary**

We hope you've enjoyed this issue - we really enjoy putting these together.

If there is anything else you're interested in, we'd love to hear from you - [drop us a line](#).

Thanks,  
Paul and Kimberly

[Paul@SQLskills.com](mailto:Paul@SQLskills.com) and [Kimberly@SQLskills.com](mailto:Kimberly@SQLskills.com)