[Introduction](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live)

[This is Glenn Berry with SQLskills. com](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=1.5) [and I'm recording this course for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=3.750000000000001) [Pluralsight. This is SQL Server 2014 DMV](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=5.678571428571428) [Diagnostic Queries - Part 2 and this is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=8.625) [the Introduction. So what am I going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=12.125) [talk about in this course? Well, it turns](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=14.5) [out that database performance issues are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=16.5) [immediately noticeable to everybody in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=18) [your organization. They can quickly affect](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=20.3076923076923) [multiple applications or the entire](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=23.07692307692306) [organization's business, and usually you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=25.05882352941176)[can't just reboot the database server and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=26.823529411764696) [hope that that fixes the problem, even](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=29.294117647058805) [though that's what a lot of people do when](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=31.086956521739122) [they have no other clue of what to do. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=33.043478260869556) [it turns out that DBA actually stands for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=35.416666666666664) [Default Blame Acceptor. I can't tell you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=38.74999999999998) [how many times I've heard, what's wrong](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=41.14285714285714)[with the database? What's wrong with the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=43.14285714285713) [database server? The database and the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=45.41176470588235) [database server is guilty until proven](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=47.52941176470587) [innocent. That's just the assumption](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=49.64705882352939) [you're going to run into in most](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=51.33333333333334) [organizations. So you're going to need](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=53.66666666666669) [tools and knowledge to help quickly](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=55.38888888888889) [determine the actual problem when your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=57.055555555555564) [application or website slows down. Maybe](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=58.722222222222236) [there's nothing wrong with the database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=60.57894736842106) [server or the database, and so you need to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=62.473684210526336) [have some evidence to prove that or if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=65.26086956521739) [there is something wrong with it, you want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=67.34782608695652) [to find out what is wrong, and then know what to do to fix it.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=0&mode=live&start=69.43478260869564)

[How Can You Find Performance Problems?](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live)

[So how can you find performance problems](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=1.9871667) [when things are going slowly and you're on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=3.9316111444444437) [the hot seat? Well, one of the first](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=6.153833366666666) [things I always like to do is pull up](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=7.987166700000001) [Windows Task Manager, especially in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=9.787166699999995) [Windows Server 2012 and newer. There's a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=10.787166699999991) [lot of very useful information about](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=13.087166699999997) [what's going on on the system as a whole](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=15.187166699999995) [and Windows Task Manager. And even older](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=18.2996667) [versions of Windows Server has some useful](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=20.4871667) [information, such as CPU utilization and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=22.6746667) [memory utilization and how much SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=24.931611144444446) [is using of the CPU utilization, you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=27.65383336666667) [get that all in a few seconds by looking](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=30.52050003333333) [at Windows Task Manager. The next thing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=32.920500033333326) [I'd like to look at real quickly is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=34.80534851818182) [Windows Resource Monitor, which you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=36.98716670000001) [get to from Task Manager. And I'll let you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=38.62353033636365) [drill in a little more deeply into CPU and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=41.0780757909091) [memory and disk utilization and kind of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=43.53262124545456) [get a high level view of what's going on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=45.44171215454547) [on the server as a whole. Next you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=48.67947439230771) [pull up Windows Performance Monitor and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=51.77664038421053) [look in any of the hundreds of counters](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=53.355587752631585) [that are available there, and a lot of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=55.460850910526325)[them are OS focused and a lot of them are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=57.35080306363636) [SQL Server focused, and so there's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=59.62353033636363) [different ones you might want to look at,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=60.9871667) [and you always want to have a baseline so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=62.51097622380952) [you know what your normal range of values](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=64.22526193809523) [are for those critical counters. The next](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=66.25032459473682) [thing you might want to look at is SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=68.46085091052626)[Server Management Studio - Activity](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=71.3401078764706) [Monitor. That's sort of a little used,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=73.10481375882357) [little known part of SQL Server Management](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=75.57540199411773) [Studio and it can give you some useful](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=77.84430955714288) [information pretty quickly. And then you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=80.13002384285721) [should always get in the habit of looking](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=81.55859527142857) [at the SQL Server error log because there](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=83.08240479523809) [may be some very useful information there](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=84.60621431904761) [about what's been going on on the server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=87.20938892222222) [recently and history, recent history, not](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=90.76494447777776) [just the last few minutes. Then, you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=93.32050003333333) [always pull up SQL Server Profiler. Now](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=95.98716669999996) [SQL Server Profiler has been deprecated](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=98.2871667) [since SQL Server 2012, but it still works](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=100.08716669999998) [and it's going to be in the product for a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=102.48716669999996) [number of versions until they finally rip](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=105.45775493529413) [it out at some point. And then you have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=107.51657846470592) [Extended Events, and that's a useful tool](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=109.9871667) [that takes a little bit of skill to learn,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=111.7371667) [but once you know how to use it, it can be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=113.9871667) [very, very useful for seeing what's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=116.48716670000007) [on in your server. And then there's my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=118.07807579090921) [favorite, DMV and DMO queries, and that's what this course is going to focus on.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=1&mode=live&start=122.9871667)

[DMV Queries to the Rescue!](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live)

[DMV Queries to the Rescue! This is a new](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=1.4975445) [feature that was added to SQL Server 2005,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=4.06897307142857) [so it's been around for a long time now.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=6.354687357142855) [Now there's been improvements and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=9.076491868421053) [additions to the DMV queries in each new](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=10.655439236842106) [major version of SQL Server. Now DMV and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=13.181755026315791) [DMO queries expose a wealth of very useful](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=16.44491292105263) [information, such as hardware details,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=19.81333397368422) [missing indexes, unused indexes, top](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=21.941988944444443) [waits, most expensive queries, and so you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=24.164211166666657) [can get a lot of good stuff just from](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=27.275322277777757) [running T-SQL queries that pull back](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=31.21183021428571) [information about your server. Now most](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=33.78325878571429) [DMV and DMO queries are very lightweight](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=36.23438660526316) [and easy to use; it doesn't require any](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=38.81333397368424) [learning curve to run a query if somebody](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=41.760702394736896) [else wrote it for you, and most of them](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=44.29754449999998) [require VIEW SERVER STATE permission in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=46.997544499999954) [order to pull back the information they](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=48.775322277777775) [need. And the information they pull back](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=50.719766722222225) [is not persisted between restarts. So, if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=52.664211166666675) [you want to cab training information and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=54.909309205882344) [keep track of what's going on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=57.37989744117645) [historically, you might want to write out](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=59.4975445) [the information you pull from the DMV](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=61.339649763157894) [queries to some sort of user database so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=63.18175502631579) [you can look at that over time. And you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=65.60280765789473) [can use something like my ServerMonitor](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=68.9185971315789) [database as a starting point for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=71.12912344736836)[collecting some instance-level metrics,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=72.96813273529413) [and you can download that from this link](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=74.14460332352944) [right there, and you can always add more](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=76.4975445) [functionality to it-- I just give you a starting point that's really easy to use.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=2&mode=live&start=78.4975445)

[DMV Diagnostic Query History](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live)

[DMV Diagnostic Query History. The first](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=1.6286112) [public version of these queries was](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=4.452140611764706) [available in April of 2009. And I built](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=7.275670023529413) [these queries as a result of my work at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=10.583156654545455) [NewsGator and I simply got tired of being](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=13.44679301818182) [asked what's wrong with the database, why](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=15.992247563636367) [is it slow, whenever something happened.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=18.44679301818182) [So I started building these queries and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=20.6286112) [I've added to them and improved them over](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=22.8161112) [time. So there's separate versions for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=25.3161112) [each major SQL Server version because if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=27.37861120000001) [you try to run the SQL Server 2014 version](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=29.82861120000002) [of these queries on SQL Server 2005,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=32.891769094736844) [you're going to have queries that don't](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=34.73387435789474) [work, so it's important you have the right](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=36.57597962105264) [version of the queries for whatever](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=38.6286112) [version of SQL Server you're running. So](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=40.1286112) [I've got one for SQL Server 2005, 2008,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=42.05718262857143) [2008 R2, and then 2012, and then the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=45.48575405714288) [latest ones for 2014, and I update these](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=48.91432548571432) [pretty much every month. And it's really](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=51.961944533333345) [important again that you use the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=54.295277866666694) [appropriate version of these queries. It](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=56.29527786666671) [should match your version of SQL Server.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=58.29527786666668) [And I actually have a query at the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=60.6286112) [beginning of each set that tries to makes](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=62.91432548571428) [sure that it does match. So the monthly](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=65.20003977142859) [updates and improvements that I add are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=67.77146834285713) [available on my website and then on the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=70.43813500952379)[SQL Skills website, so the links for those](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=73.48575405714283) [two are right here, and you can download these and they're both completely free.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=3&mode=live&start=79.6286112)

[Why Use DMV Diagnostic Queries?](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live)

[So why should you use these DMV Diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=2.4054112) [Queries? Well, they're relatively quick to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=5.072077866666667) [run and they're very easy to use. It](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=7.072077866666665) [doesn't require any special configuration](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=10.005411200000001) [or knowledge to run these queries. It does](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=12.005411200000003) [take some knowledge to properly interpret](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=15.105411199999999) [the results, but I have notes that go](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=17.205411200000004)[along with the queries, and by taking this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=20.005411200000015) [course you're going to learn how to better](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=22.24751646315789) [interpret the results, that's the whole](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=23.93172698947367) [point of the course. Now most of these](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=25.194884884210506) [queries are very lightweight. I'll point](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=27.950865745454543) [out some of the ones that might take](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=29.97683977142857) [longer, depending on how busy your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=32.26255405714285) [instance is and how fast your hardware is,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=33.97683977142856) [for example, but most of them come back](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=36.40541120000001) [just in a couple seconds or less. And they](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=39.072077866666696) [provide a lot of very valuable information](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=42.2804112) [about your hardware and your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=45.3429112) [instance-level configuration and your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=47.5304112) [database configuration, and how are things](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=49.072077866666675) [performing. So you have, again,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=51.07207786666669) [instance-level and database configuration](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=53.119696914285726) [information, and then we have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=54.83398262857145) [instance-level performance information](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=56.9768397714286) [that this course is going to cover in a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=57.93172698947369) [lot of detail, and then we have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=60.30014804210527) [database-level performance information](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=62.14225330526317) [that part 3 of this series is going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=63.072077866666675) [cover. So it's going to help you get](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=66.07207786666665) [closer to the root cause of many problems](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=68.1554112) [with your server, whether they're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=70.1554112) [configuration problems or performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=71.4054112) [problems. And that's much better than just](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=73.11969691428573) [guessing about performance issues or doing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=76.11969691428574) [Google or Bing searches trying to figure](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=78.40541119999999) [out what the problem is. These queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=80.73874453333329) [give you actual useful metrics that you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=84.4054112) [can use to focus your troubleshooting efforts much better.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=4&mode=live&start=91.4054112)

[Diagnostic and Corrective Process](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live)

[The Diagnostic and Corrective Process.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=1.7) [This is the process that I like to use](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=3.2261871578947363) [when I'm trying to correct a performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=5.973324042105264) [problem or figure out what's going on. So](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=8.13109014736842) [first, I assess the health of the database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=10.657405936842105) [server as a whole. I want to see how hard](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=13.18372172631579) [the disk is working, the processors, the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=15.954056654545461) [memory, and just see how the box is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=17.863147563636375) [running. Then I'm going to look at the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=19.9995112) [health of the SQL Server instance, if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=21.9995112) [there's only one instance, for example, or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=23.7495112) [if there's multiple instances. Then I'm](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=25.610622311111115) [going to drill into the health of the most](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=27.277288977777786) [important database or databases. You may](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=29.849511200000002) [have more than one that's putting a lot of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=31.94951120000001) [load on your instance. And I'll try to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=35.09951120000002) [figure out what's the biggest performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=37.69951119999999) [issues that I'm seeing, you know, at all](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=39.49951119999997) [these levels. And then I'll try to figure](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=41.89951119999995) [out what the root cause of that issue, if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=43.9995112) [possible, using these queries and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=46.2495112) [everything else that I can figure out. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=47.4995112) [then I'll apply some corrective action,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=50.0258269894737) [like adding a new index or changing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=51.920563831578974) [configuration setting. And then I'll](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=54.205393552941175) [repeat the process as needed until the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=55.97009943529411)[performance is acceptable, so this is an](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=58.44068767058822) [iterative process that might take more](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=60.69951119999999) [than one run through it to actually](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=62.49951119999997) [resolve the issue and get performance to an acceptable level.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=5&mode=live&start=64.59951119999995)

[Instance-Level Performance Queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live)

[Instance-Level Performance Queries. This](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=1.8413557) [is a group of queries that's a subset of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=3.253120405882353) [the complete set that I use to collect](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=6.429590994117645) [instance-level performance metrics. These](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=9.174689033333335) [can be run in the context of any database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=10.50802236666667) [on the instance, so it doesn't matter what](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=13.508022366666676) [database you're connected to; if you're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=15.5913557)[connected to master, that should be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=17.0913557) [perfectly fine for these queries, they're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=19.3413557) [not database specific. Now many SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=22.3413557) [instances have instance-level performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=25.25312040588235) [issues, so these queries are going to help](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=26.664885111764697) [you focus your tuning efforts in the right](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=29.488414523529393) [area, whether it's CPU or memory or disk](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=32.56357792222222) [or missing indexes, these things you will](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=35.67468903333331) [find with these queries. Now my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=38.31503991052633) [Pluralsight course, Scaling SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=40.525566226315824) [2012 - Part 1, covers some best practice](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=42.367671489473736) [instance-level performance considerations,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=45.48841452352942) [and you can find it at this link right](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=46.723708641176486) [there. And then you might want to take a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=50.42959099411768) [look at Joe Sack's Pluralsight course, SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=53.06357792222223) [Server: Common Performance Issue Patterns,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=55.00802236666668) [because it's a very valuable resource that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=56.472934647368426) [will also help with things you're going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=58.68346096315791) [run into over and over with SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=61.20977675263161) [that cause performance issues, and it's available at that link.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=6&mode=live&start=67.84135570000001)

[Summary](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live)

[So what have we covered in this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=1.7157224) [introductory module? DMV and DMO queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=4.049055733333334) [can help you detect many performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=6.049055733333332) [issues at the instance-level. They'll help](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=8.009840047058823) [you get to the root cause much more](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=9.774545929411769) [quickly than many other methods and it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=12.127487105882363) [definitely much better than just guessing.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=14.533904218181817) [They are very easy to use compared to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=16.7157224) [other diagnostic methods. There's no](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=19.624813309090907) [special configuration required and you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=21.382389066666665) [just need to make sure you have VIEW](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=23.049055733333326)[SERVER STATE permission to run most of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=25.715722399999983) [these queries. DMV and DMO information is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=28.315722399999995) [not persisted between restarts, so if you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=31.115722399999985) [want to keep this for historical purposes](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=33.91572239999998) [and to look at trending information, you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=36.03151187368421) [want to capture it and write it to a user](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=37.87361713684211) [database, such as my ServerMonitor database.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=7&mode=live&start=42.7157224)

[Course Structure](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live)

[So what's the course structure for this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=2.3208224) [course? Module 1, which you've just](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=4.654155733333334) [listened to, is the Introduction. Then](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=6.654155733333332) [Module 2 is going to cover Instance-Level](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=8.654155733333335) [Performance Queries Part 1 and Module 3](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=10.987489066666672) [will be Instance-Level Performance Queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=13.32082240000001) [Part 2. Now I've got a previously](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=15.144351811764707) [published course called SQL Server 2014:](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=18.02670475294117) [DMV Diagnostic Queries - Part 1 that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=20.49729298823528) [covers instance-level configuration](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=23.1958224) [queries, and if you haven't already done](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=24.3208224) [it, you might want to listen to that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=26.9458224) [course. And then I'll have an upcoming](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=29.531348715789463) [course called SQL Server 2014: DMV](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=31.741875031578925) [Diagnostic Queries - Part 3 that's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=33.6958224) [to cover database-level performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=36.3208224) [queries, so once that's available, you'll](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=37.8208224) [probably want to listen to that also so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=41.3208224) [you have all the diagnostic queries in the complete set.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m1-introduction&clip=8&mode=live&start=49.3208224)

[Instance-Level Performance Queries Part 1](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live)

[Introduction](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live)

[This is Glenn Berry with SQLskills. com,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=0) [and I'm recording this course for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=2.9999999999999996) [Pluralsight. This is SQL Server 2014 DMV](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=5.571428571428571) [Diagnostic Queries Part 2, and this is the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=8.823529411764707) [Instance-Level Performance Queries Part 1](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=12.588235294117649) [module. So instance-level performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=15.333333333333332) [queries are a group of queries that you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=17.125) [use to collect some instance-level](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=20.125) [performance metrics about whatever](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=22) [instance you're connected to when you run](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=23.230769230769226) [the queries. And they can be run in the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=25.384615384615373)[context of any database on the instance,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=27.33333333333333) [so it doesn't matter if you're connected](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=28.666666666666657) [to master or one of your user database,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=30) [they're not database specific Many SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=34) [Server instances that I've run into in my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=36.705882352941174) [career have instance-level performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=39.52941176470587) [issues, and these queries are going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=40.94117647058822) [help you focus your tuning efforts in the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=43.14285714285714) [right area, and that's the point of these](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=45.428571428571416) [queries. Now some more background about](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=47.714285714285694) [instance-level performance issues that you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=49.5625) [might want to think about and correct are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=51.125) [in my Pluralsight course, Scaling SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=53.92307692307692) [Server 2012 - Part 1. It covers some best](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=56.69230769230768) [practice instance-level performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=61.18181818181819) [considerations and configuration options,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=62.81818181818183) [and you can get that at this URL. Another](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=65) [really good resource is Joe Sack's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=68.17647058823535)[Pluralsight course, SQL Server: Common](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=70.29411764705891) [Performance Issue Patterns, and I think](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=71.94736842105262) [that's a very good course you might want to watch at this URL.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=0&mode=live&start=73.84210526315785)

[I/O Warnings](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live)

[I/O warnings. This query uses](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=2.068) [xp\_readerrorlogs in extended stored](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=4.568) [procedure to look for 15 second I/O](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=6.568) [warnings and the five most recent SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=10.068)[Server error logs. So this may take some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=12.168000000000005) [time to complete if your SQL Server error](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=14.56800000000001) [logs are very large. So, for example, if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=16.818) [your instance has been running for a long,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=18.818) [long time and you haven't recycled your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=20.818) [error logs, or if you have a lot of things](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=22.70436363636364) [going into the error log and they're just](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=25.431636363636375) [simply very large, it might take a few](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=27.693) [seconds for this query to complete. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=30.193) [one thing you might want to do is use](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=32.37234782608695) [global trace flag 3226 to help reduce the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=35.11147826086953) [size of your error logs, because that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=37.54626086956516) [keeps SQL Server from writing a message to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=39.66799999999999) [the error log every time you take a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=42.06799999999997) [database backup, that it's a successful](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=44.46799999999995) [backup. I always advice people to have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=46.468) [that trace flag on so you don't get those](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=48.91800000000001) [useless, basically, messages in your error](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=52.068) [log. So, anyways, this query helps you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=54.318) [understand your overall I/O performance,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=56.943) [and if you're seeing these 15 second I/O](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=58.69957894736842) [warnings that's a pretty clear sign of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=61.22589473684212) [very poor I/O performance. Now you want to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=63.43642105263161) [pay attention to which drives and which](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=66.40133333333331) [database files are involved when you see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=69.12355555555551) [those warnings. It may be that it's always](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=71.63942857142858) [a certain drive and a certain data file or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=73.92514285714292) [a certain log file or a tempdb file that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=76.49657142857154) [always seems to run into these 15 second](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=79.53858823529416)[I/O warnings. You also want to pay](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=82.36211764705891) [attention to the time of day when they](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=84.49657142857146) [occur. Maybe you always see them at 2:00](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=86.78228571428579) [a. m. when your database backups are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=88.65890909090913) [going, or maybe it's at 3:00 a. m. when](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=90.24981818181827) [DBCC CHECKDB is running. So if you see a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=92.43163636363636) [pattern, that can help you figure out what](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=95.7043636363636) [might be causing it. So, again, it might](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=98.61345454545447) [be a scheduled task or job that's causing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=101.33115789473682) [a temporary performance issue at a certain time every day, for example.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=1&mode=live&start=103.85747368421046)

[Demo: I/O Warnings](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live)

[In this demonstration, I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=2.069) [you how the I/O warnings DMV query works.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=3.935666666666666) [It's actually not a DMV query, it's an](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=6.069) [extended stored procedure that's reading](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=9.49757142857143) [xp\_readerrorlog. And depending on how big](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=11.640428571428574) [your error logs are and how many of them](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=13.205363636363634) [you have, this can take some time to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=15.250818181818174) [complete. So when I run this on my system,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=17.069) [it comes back with no results because I've](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=19.211857142857134) [got a very fast SSD in my workstation. So](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=21.116619047619032) [when you run this on a typical production](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=23.911105263157893) [system that's having lots of I/O](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=26.858473684210523) [bottlenecks and I/O slowness to the point](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=29.069) [where it's having 15 second I/O warnings](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=31.279526315789486) [written to the SQL Server error log, what](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=33.49005263157897) [you'll see actually is going to look like](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=36.06900000000001) [this. So it's going to show you how many](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=38.735666666666695) [times it had an occurrence of an I/O](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=41.25081818181819) [request taking longer than 15 seconds,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=43.43263636363638) [which is really a long, long time. And it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=45.069) [shows you what file, so in this case it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=47.932636363636384) [one of the tempdb data files on the R](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=50.796272727272765) [Drive, on this system right here, and it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=53.6599090909091) [shows you the time in another column of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=56.205363636363664) [this query. So what you want to do when](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=58.750818181818225) [you see this is see is it always the same](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=61.15595652173913) [file on the same drive? Is it the same](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=63.764652173913035) [time of day? So maybe you've got something](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=66.02138095238097) [that happens every day at 2:00 a. m.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=67.92614285714289) [that's putting a lot of stress on your I/O](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=69.83090476190482) [subsystem and you can see a pattern when](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=72.35471428571434) [you look at the results. Now ideally](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=74.64042857142867)[you're not going to see any results when](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=76.49005263157896) [you run this query, that's what you want,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=78.1742631578948) [because this is a really big strong](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=79.85847368421064) [warning of very poor I/O performance that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=82.06899999999997) [can be caused by a lot of different](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=84.40233333333327) [things. So, again, just because you see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=87.069) [this don't jump to the conclusion that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=89.64794736842103) [your I/O subsystem is slow, it could be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=92.22689473684206) [other things going on, but it's a pretty good indicator of a problem.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=2&mode=live&start=97.069)

[Drive-Level Latency](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live)

[Drive-Level Latency. This diagnostic query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=2.07) [uses the sys. dm\_io\_virtual\_file\_stats DMV](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=4.986666666666666) [joined with sys. master\_files. The MSDN](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=7.9033333333333315) [link for that is at that URL. It's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=10.543684210526315) [to return the drive-level read, write, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=13.859473684210524) [total latency in milliseconds, along with](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=16.403333333333332) [the average size of your reads and writes,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=18.403333333333325) [and total transfers in bytes at the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=21.069999999999983) [drive-level. It only returns results for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=23.470000000000006) [drives where you have SQL Server data or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=25.570000000000014) [log files, so if you have other logical](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=28.370000000000026)[drives on your server they're not going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=30.498571428571424) [show up in this query unless there are SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=32.40333333333333) [Server data or log files there. This query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=34.806842105263165) [is going to help you understand your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=37.75421052631582) [overall drive performance from a latency](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=40.3331578947369) [level. It's going to show you the latency](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=42.62555555555554) [information by drive, at the drive-level.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=45.73666666666663) [And generally speaking, above 20-25](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=48.07) [milliseconds is considered high latency,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=50.42294117647058) [but I've seen much higher than that. These](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=52.77588235294116) [results are going to be cumulative, since](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=56.28052631578947) [SQL Server has been running, so it's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=57.75421052631578) [to include all the file activity against](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=59.43842105263156) [all of your database files since SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=61.33315789473685) [Server has been running, so that's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=63.54368421052634) [to includes things like backups and index](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=65.75421052631579) [maintenance, along with your normal read](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=68.32) [and write activity \_\_\_\_\_ data and log](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=70.57) [files. It's going to help you characterize](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=73.06999999999998) [your workload from an I/O perspective, so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=75.40333333333328) [it's going to help you figure out, do I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=77.73666666666658) [have more of an OLTP workload with lots of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=80.6154545454545) [writes to the data files, or is it more of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=83.47909090909081) [a reporting workload with lots of long](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=86.73666666666664) [sequential reads from the data files?](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=89.06999999999994)[This'll help you figure that out a little bit.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=3&mode=live&start=91.07)

[Demo: Drive-Level Latency](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=1.5) [you the Drive-Level Latency diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=4.1029230769230765) [query. As we scroll up and down you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=5.962153846153847) [see this entire query up here, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=8.619714285714286) [basically what it's doing, it's reading](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=10.619714285714291) [sys. dm\_io\_virtual\_file\_stats joined with](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=12.334) [sys. master\_files, so you can see the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=14.733999999999998) [entire query there hopefully. And then](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=18.934000000000005) [when we actually run it it's going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=21.965578947368417) [us drive-level latency results since SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=24.807684210526297) [Server has been running, so however long](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=26.70242105263155)[SQL Server has been running it's going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=28.91294736842106) [show you every piece of file activity](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=31.43926315789476) [against that database file. So this is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=33.62811764705883) [going to include all your normal read,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=35.68694117647061) [write activity for normal workload, plus](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=37.745764705882394) [your backups and things like index](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=40.084) [maintenance, anything that's touching that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=42.709) [file. So the reason I bring this is up is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=44.8965) [that sometimes these latency figures might](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=48.03399999999998) [be higher than you expect, and they're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=49.83399999999996) [quite often going to be higher than what](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=51.778444444444446) [your SAN administrator might see, so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=53.55622222222222) [that's one way that you might be able to explain a discrepancy there.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=4&mode=live&start=54.889555555555546)

[I/O Latencies by Database File](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live)

[I/O Latencies by Database File. This query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=1.591) [also uses sys. dm\_io\_virtual\_file\_stats](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=5.898692307692306) [joined with sys. master\_files, and the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=8.360230769230766) [MSDN link for that is right there. It's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=10.791000000000002) [going to give you the file level, as](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=13.191000000000008) [opposed to drive-level, read, write, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=15.591) [total latency in milliseconds, along with](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=18.06158823529411) [the size of the file and the number of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=20.53217647058822) [reads and writes and total transfers for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=23.854157894736836) [that file, and all these numbers are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=26.0646842105263) [cumulative since SQL Server has been](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=28.27521052631576) [running. So this query is going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=30.433105263157895) [your overall database file I/O performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=33.380473684210536) [at the file-level. It shows you the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=35.591) [latency information by database file on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=37.92433333333335) [all of those other things such as numbers](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=39.924333333333365) [of reads and writes. And, again, latency](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=42.9035) [above 20-25 milliseconds is usually](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=45.966) [considered to be high latency. This is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=48.1535) [also going to help you characterize your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=50.591000000000015) [workload from an I/O perspective. So, for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=52.924333333333365) [example, you can look at a data file and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=55.13645454545455) [see is it getting more reads than writes,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=57.59100000000001) [and that'll help you decide whether it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=59.772818181818195) [more of an OLTP workload or more of a data](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=62.0646842105263) [warehouse reporting type of workload. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=65.74889473684206) [these latency numbers are going to give](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=67.97988888888888) [you some very useful metrics about your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=70.70211111111108) [storage subsystem from SQL Server's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=73.42433333333328) [perspective, so it's going to be very](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=75.25766666666665) [helpful for discussions you might have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=77.59099999999995) [later with your server administrator or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=79.59099999999992) [your SAN administrator. And one common](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=81.716) [pattern you'll see here is quite often](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=83.966) [you'll see very high write latency for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=86.591) [tempdb data files and high read latency for user database data files.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=5&mode=live&start=93.591)

[Demo: I/O Latencies by Database File](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=1.992) [you the I/O Stalls by File diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=4.325333333333334) [query. So as you can see here as I scroll](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=6.658666666666665) [back and forth, it's a fairly large query,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=9.037454545454544) [but it's basically just using sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=10.855636363636357) [dm\_io\_virtual\_file\_stats right there](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=12.742) [joined to sys. master\_files. So, again,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=14.992) [you can see the entire query right there,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=18.537454545454548) [and what this is going to do is give you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=20.719272727272735) [your average stalls per read and per](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=23.44654545454547) [write, and for total input/output for each](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=26.34494117647058) [database file on your instance. So when I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=29.639058823529393) [run the query you can see the results down](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=32.867) [here and it's got a number of columns that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=35.491999999999976) [it returns here, so I'll go through these.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=38.116999999999955) [Basically it's showing the database name](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=40.242) [for each one of the files and then it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=41.742) [going to show you the average read stall](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=43.992) [in ms and the average write stall in ms,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=46.65866666666668) [and then the average I/O stall, which is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=49.658666666666704) [basically these two combined together, in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=52.446545454545465) [ms. Then it shows you how large the file](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=54.628363636363666) [is in MB, and shows you where the file is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=57.391999999999975) [located at. And you can tell by the file](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=60.391999999999946) [extension or the type description whether](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=62.99199999999999) [it's a data file, such as right here, or a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=64.70628571428571) [log file. And then it's going to show you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=67.65866666666666) [the io stall reads in ms, and the number](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=70.65866666666662) [of reads, and then the write stalls and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=73.65866666666658) [the number of writes, and then the total](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=76.192) [I/O stalls and the total number of I/Os.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=78.59199999999997) [And then it's going to show you \_\_\_\_\_](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=80.992) [Resource Governor has been involved in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=83.51831578947365) [controlling I/O for that file, and this is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=85.41305263157888) [a new feature for SQL Server 2014. So](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=87.742) [you're going to get these columns for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=89.742) [every single database file on your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=91.492) [instance, and it sorts by the total I/O](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=93.59200000000003) [stall in milliseconds, so the ones that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=96.79200000000007) [come up at the top are seeing the highest latency at the file level.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=6&mode=live&start=101.992)

[Database Properties](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live)

[Database Properties. This query is going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=1.66) [to get some database properties from sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=3.7776470588235296) [databases, and then it's going to join to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=6.248235294117645) [sys. dm\_os\_performance\_counter to get some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=9.506153846153847) [transaction log usage information. The](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=11.813846153846155) [MSDN link for this is right there. So this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=13.96) [is going to give you some very important](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=16.660000000000007) [database property information for every](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=19.060000000000013) [single user and system database on the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=20.94571428571428) [current SQL Server instance. So there's a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=23.94571428571427) [lot of interesting properties you can get](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=26.765263157894736) [from this, such as log reuse wait](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=29.344210526315788) [description, which is very, very](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=31.92315789473684) [important, your database compatibility](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=33.660000000000004) [level, which is particularly important in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=34.99333333333335) [SQL Server 2014, your page verify option,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=36.99333333333336) [whether or not auto create statistics,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=40.326666666666654) [auto update statistics, asynchronously is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=43.52666666666664) [turned on or not, forced parameterization,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=46.19846153846154) [snapshot isolation, and read-committed](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=49.42923076923078) [snapshot isolation, whether or not auto](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=51.58307692307694) [close or auto shrink are turned on, both](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=53.8364705882353) [of which are quite evil, whether or not](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=56.18941176470591) [change data capture is enabled, your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=58.49333333333333) [target recovery time, and also whether or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=60.160000000000004) [not you're using the delayed durability](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=62.104444444444454) [feature in SQL Server 2014. So, again,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=63.99333333333334) [this is a very useful query for looking at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=66.32666666666664) [all of your databases and looking for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=69.35999999999999) [things that are just wrong, things that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=71.80999999999995) [need to be changed, it's a really easy way to spot that.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=7&mode=live&start=74.2599999999999)

[Demo: Database Properties](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live)

[In this demonstration I'm going to look at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=1.574) [database properties for all of the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=3.7962222222222217) [databases on this instance. So when you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=5.462888888888888) [run this query, it comes back and lists](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=7.473999999999999) [all of the databases in alphabetical](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=9.874000000000004) [order, and then shows you your recovery](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=11.674000000000008) [model whether it's FULL, SIMPLE or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=13.685111111111114) [BULK-LOGGED, and shows you whether or not](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=15.351777777777786) [the database is online or not. Then the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=17.296222222222234) [very next column that's really, really](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=19.784526315789464) [important in real life is your Log Reuse](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=21.679263157894717) [Wait Description, and that's going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=24.279882352941176) [you what's preventing the transaction log](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=26.750470588235284) [from being reused. And so quite often if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=28.868117647058806) [you're in FULL recovery model it's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=31.468736842105255) [to be LOG\_BACKUP, but if something is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=33.67926315789474) [going wrong you might see something else](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=35.974) [like database mirroring or replication,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=38.77399999999999) [for example, so you always want to take a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=40.77399999999998) [look at that. The next thing you want to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=42.74066666666665) [take a look at is how big are your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=44.24066666666663) [transaction logs and how much of them are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=46.01844444444444) [being used. So in this case, on my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=49.573999999999984) [AdventureWorksLT2008R2 database I'm using](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=53.12955555555553) [91% of my log and my Log Reuse Wait](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=54.773999999999994) [Description is LOG\_BACKUP, so basically I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=58.37399999999998) [almost have a runaway transaction log](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=60.77399999999997) [where the log is almost full and it hasn't](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=63.028545454545466) [been backed up in a while, and so I would](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=66.30127272727272) [want to do something about that in real](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=69.83715789473683) [life. Next it goes over here and shows the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=71.94242105263152) [DB Compatibility Level, so in this case](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=74.31084210526303) [it's in SQL Server 2012 mode. The other](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=76.78452631578945) [ones are in 2014 mode. It shows you your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=79.73189473684205) [Page Verify Option, which should be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=83.17400000000002) [CHECKSUM for all your database. And then](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=85.57400000000005)[you have a number of columns that show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=88.10031578947367) [whether or not auto\_create\_stats is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=90.20557894736835) [enabled, which I think should be enabled](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=91.52136842105253) [in most cases. Auto\_update\_stats, that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=93.80929411764704) [should be enabled in most cases in my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=95.86811764705878) [opinion. And then auto\_update\_stats\_async,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=99.16223529411756) [I think that should be enabled, especially](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=101.1893846153846) [for OLTP workloads. Then we get over to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=104.95861538461533) [where it lists is\_parameterization\_forced.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=108.04458823529413) [That's something that you don't want to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=109.22105882352943) [turn on without doing quite a bit of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=111.27988235294121) [testing, but in some cases it can be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=113.5184444444444) [helpful for performance. Then it gets into](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=115.74066666666657) [things like snapshot\_isolation,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=119.11945454545456)[read\_committed\_snapshot, is\_auto\_close\_on,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=121.02854545454548) [which it should not be on,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=122.30127272727276) [is\_auto\_shrink\_on, that should definitely](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=124.6851111111111) [not be on, otherwise Paul Randal is going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=125.79622222222218) [to come looking for you. Then it's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=128.01844444444436) [to show your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=130.824) [target\_recovery\_time\_in\_seconds, which is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=131.949) [a new feature they added in 2012. It's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=133.074)[going to show you whether or not change](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=135.71685714285712) [data capture is enabled for this database,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=138.00257142857134) [and then it's also going to show you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=140.0025714285713) [whether or not delayed\_durability is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=142.97400000000005) [enabled for this database, and also](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=144.97400000000007) [whether you have auto\_create\_stats](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=147.2406666666667) [incrementally turned on for this database.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=148.57400000000007) [So, again, this simple query tells you a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=150.574) [lot of useful information about all your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=153.24066666666675) [databases very quickly, and you can key in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=155.57400000000015) [on the things you want to pay special](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=158.0025714285714) [attention to, such as Log Reuse Wait](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=160.28828571428562) [Description, and the Page Verify Option,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=162.28828571428556) [and how full your log is, all those things](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=164.32399999999998) [are very useful information in your day-to-day operations as a DBA.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=8&mode=live&start=167.47399999999993)

[Missing Indexes for All Databases](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live)

[Missing Indexes for All Databases. This](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=2.147) [query gives you some very useful](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=4.547) [information about candidate "missing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=6.947000000000002) [indexes" for all of the databases on the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=8.4595) [current instance, not just a single](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=10.9595) [database. It uses three different DMVs](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=12.8345) [that do this. The first one is sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=15.647) [dm\_db\_missing\_index\_group\_stats, and the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=19.647) [MSDN link for that is right there. The](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=20.924777777777777) [next one is sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=24.03588888888889) [dm\_db\_missing\_index\_groups, and the MSDN](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=25.59144444444445) [link for that is right there. And then](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=27.147)[finally, it uses sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=30.647) [dm\_db\_missing\_index\_details, and there's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=32.397) [the URL for that. Now this query is both](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=33.7095) [very useful and potentially very](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=37.57557142857144) [dangerous. It can help you find missing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=39.718428571428596) [indexes that are going to have very high](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=42.14700000000001) [impact on your workload. But](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=44.8136666666667) [unfortunately, it encourages](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=46.81366666666666) [less-experienced DBAs and developers to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=48.813666666666656) [massively over-index their databases. It](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=52.14699999999998) [also sometimes recommends duplicate](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=55.147) [indexes, so it'll recommend an index](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=57.147) [that's basically the same as one you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=60.147) [already have, or it'll recommend lots of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=62.897000000000006) [indexes that are very similar, but not](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=65.347) [exactly duplicates, so you've got to be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=67.79699999999995)[careful when you look at the output here.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=69.43271428571425) [So you never want to just blindly create](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=71.147) [every single index that this thing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=73.81366666666663) [recommends. You want to use your judgment](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=75.8136666666666) [and experience as a DBA and what I'm](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=77.86128571428576) [trying to teach you in this class, to make](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=80.14700000000009) [useful new indexes and not just go crazy and over-index your database.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=9&mode=live&start=84.147)

[Demo: Missing Indexes for All Databases](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live)

[In this demonstration I'm going to talk](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=1.707) [about the Missing Indexes for All](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=3.765823529411764) [Databases query, and again, this uses](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=5.530529411764705) [three different DMVs to pull this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=7.443842105263157)[information that SQL Server keeps track of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=9.65436842105263) [any time any query is run. And one thing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=12.233315789473682) [that you need to keep in mind here is that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=15.106999999999998) [if you make a change to an index on a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=17.907000000000004) [particular table, all the missing index](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=20.707) [stats for that table get flushed out, so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=23.233315789473693) [if you really needed, say, three new](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=26.601736842105282) [indexes on a table and you added one, the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=29.252454545454547) [other two are going to disappear and it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=31.707000000000008) [going to take some time for that to come](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=33.888818181818195) [back, so keep that in mind. So, anyways,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=36.34336363636364) [when you run this it comes back and shows](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=38.52518181818183) [you a number of columns. And the first](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=41.05994117647059) [column here is something called the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=43.883470588235284)[index\_advantage, which is just a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=46.001117647058805) [calculated number based on the number of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=47.907) [user seeks times the average user cost,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=50.70699999999999) [and also the average user impact times 1%.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=53.50699999999998) [And the higher number you see here, the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=56.812263157894726) [more relevant that this might be, but](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=60.18068421052629) [you've got to keep in mind, how long has](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=62.921285714285716) [this instance been running? Has it been](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=64.84985714285713) [running just a few hours or even just a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=66.33199999999998) [day or two, or has it been running for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=68.20699999999994) [weeks or months, because the longer it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=70.0819999999999) [been running, the higher these Index](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=72.04033333333331) [Advantages will be, whereas on the other](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=74.04033333333328) [hand, if you just started this server a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=76.37366666666658) [few hours ago and you run this and you see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=78.61609090909086) [something with a very high number, that's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=81.34336363636352) [probably going to be extremely](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=83.37366666666665) [significant, so you want to look at that.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=85.0403333333333) [The next you want to look at when you look](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=87.707) [at these results is the last\_user\_seek](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=90.64817647058825) [time, and this is going to show you the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=92.41288235294121) [last time that SQL Server wanted this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=95.207) [index. So you want to look at that and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=97.3945) [decide, did it want this just a few](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=99.30700000000002) [seconds ago or a few minutes ago, or is it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=100.90700000000004) [two weeks ago or a month ago. And if you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=102.987) [run the query again, did it update and it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=105.787) [just wanted it a few seconds ago again. If](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=108.30700000000002) [that's the case, that means it's probably](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=110.75963157894734)[part of your regular workload and I'm](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=112.60173684210518) [going to take that into account and be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=114.44384210526303) [more likely to create that index, versus](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=117.15699999999995) [something that was wanted the last time,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=119.60699999999991) [say, a month ago, because that means it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=122.0227894736842) [probably just some ad-hoc query that's not](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=124.54910526315784) [run very often, or maybe it's some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=126.75963157894728) [reporting query that's not run very often,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=128.75963157894736) [so I am going to look at that. The next](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=130.6017368421053) [column is the Database Schema Table](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=133.2333157894737) [column, so it's going to show you which](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=134.8122631578948) [database we're talking about and which](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=136.9175263157896) [schema, and then which table in that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=138.75699999999998) [schema that we're talking about where it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=141.20699999999994) [thinks it wants an index. And we're going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=143.6569999999999) [to skip these column results for a second](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=146.70700000000002) [and go over here to the right. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=149.90700000000007) [starting at the very right-hand column,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=153.09588888888888) [this shows the avg\_user\_impact in percent,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=155.4292222222222) [so this means that the query optimizer](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=157.7625555555555) [thinks that whatever query triggered this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=160.64817647058823) [missing index result would be reduced in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=163.47170588235292) [cost by that number you see there in terms](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=166.76582352941173) [of percent, so it's claiming that whatever](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=170.28594736842112) [query triggered this would be reduced in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=172.86489473684225) [cost by 98. 02%, well that's pretty](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=175.707) [significant. But, of course, that's for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=179.207) [just one particular query. Now the next](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=181.4717058823529) [column over is the avg\_total\_user\_cost,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=183.94229411764695) [and this number doesn't mean anything by](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=185.707) [itself. The legend, which may or not be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=187.91752631578953) [true, is that this is based on some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=190.4438421052633)[developer at Microsoft back in 1997 or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=193.30700000000002) [something, what the cost was on that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=196.10700000000006) [machine way back then, and all it really](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=198.9070000000001) [means now is it's just a relative cost. So](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=201.84985714285716) [a higher number, such as 18, is more](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=205.082) [costly and more significant than a lower](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=208.082) [number such as 5. 4 or 0. 3, like you see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=210.707) [here. So when you take that into account](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=214.52518181818184) [that's sort of giving you an idea of how](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=216.70700000000008) [costly for the system is it to not have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=219.1615454545456) [this index. Now the next column is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=222.0403333333334)[user\_seeks, and that's the number of times](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=224.3736666666668) [that SQL Server has wanted this index, so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=226.707) [obviously a higher number is going to be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=228.92922222222217) [more significant, so you take all this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=231.15144444444434) [into account as you're thinking about,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=233.13557142857138) [okay, do I want to add this index or not.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=234.84985714285705) [Next, you want to start looking at these](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=237.707) [columns that it wants for the index, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=240.50699999999995) [it starts off with the equality\_columns.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=243.3069999999999) [And usually when I'm experimenting with](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=245.33857894736843) [creating a new index I'm going to just go](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=247.23331578947375) [with its recommendations, so whichever one](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=250.07542105263173) [shows up first here under equality\_columns](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=252.207) [will be the first column in my new index,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=254.457) [and then I'll add the next one. Then you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=257.5641428571428) [go to the inequality\_columns, and so I'm](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=260.1355714285713) [going to add that next if there's any](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=262.13557142857127) [there. And then you have included\_columns,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=264.3736666666666) [and the order on that doesn't matter for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=266.04033333333325) [included\_columns. And what you want to be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=268.3736666666666) [careful about is quite often SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=270.7069999999998)[will come back and say, hey, I want 10 or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=273.040333333333) [15 new indexes on this table, so you want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=275.9469999999998) [to look at them and see if maybe you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=278.46699999999953) [consolidate a number of those into a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=281.54033333333336) [single, wider index. So if you see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=284.45700000000016) [something where the columns that it wants](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=287.04033333333325) [are pretty much identical except maybe the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=289.37366666666645)[included\_columns are different, that's a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=291.707) [very good, easy way to consolidate and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=294.207) [create fewer, wider indexes. You also want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=297.707) [to go back and look and see how many](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=300.33199999999994) [indexes do I already have on this table,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=302.20699999999977) [and you want to think about and look at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=303.8736666666663) [some metrics to see how volatile that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=306.49271428571416) [table is. Is it seeing a lot of write](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=308.992714285714) [activity? Because every new index you add](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=311.91752631578953) [hurts your insert update delete](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=314.12805263157907) [performance. And if it's not very](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=315.707) [volatile, if it's mostly reads, then you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=317.91752631578936) [can feel free to add more indexes, but you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=320.4964736842103) [need to take that into account along with](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=323.30699999999996) [all of the other things you have looked at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=324.90699999999987) [from this query. And, again, don't make](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=326.707) [the mistake of just blindly adding](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=328.6514444444444) [everything that shows up from this query, that's a very common novice mistake.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=10&mode=live&start=330.318111111111)

[Getting VLF Counts](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live)

[Getting VLF Counts. This query simply](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=1.415) [calls DBCC LOGINFO for each database on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=4.238529411764706) [the current instance, and that's going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=7.53264705882353) [give you the number of virtual log files](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=10.54) [or VLFs in each database. High numbers of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=13.54) [VLFs can make your database recover take](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=16.204473684210527) [much longer than normal, so that's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=18.046578947368424) [to affect your database restore time and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=19.88868421052632) [also your fail-over time with traditional](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=22.7226923076923) [failover cluster. It also can affect your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=25.491923076923058) [transaction rollback time and anything](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=28.414999999999992) [that must read the log. It also has a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=30.414999999999985) [negative effect on write performance to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=33.645769230769226) [your transaction logs. Now Kimberly Tripp](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=35.491923076923065) [has a very good blog post from a few years](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=37.415000000000006) [ago that talks about this in great detail, and the URL is right there.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=11&mode=live&start=40.74833333333336)

[Demo: Getting VLF Counts](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live)

[In this demonstration I want to show you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=2.483) [the VLF Count query. Now this query is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=4.4830000000000005) [adapted from my friend Michelle Ufford's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=6.4830000000000005) [original query, and it's basically just](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=8.755727272727272) [doing sp\_MSforeachdb and running DBCC](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=12.573909090909092) [LOGINFO for each one of them, and building](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=15.188882352941178) [a temp table and returning the results. So](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=18.012411764705877)[when you run this, it shows you your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=20.833000000000002) [databases and their VLFCounts, sorted by](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=23.633000000000013) [the ones with the highest VLFCounts. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=25.733000000000022) [what you want to do with this when you see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=28.183000000000003) [this information is consider how big is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=31.683000000000018) [the log file, and if it's above a certain](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=34.133000000000024) [size then it's okay to have a somewhat](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=37.59411111111108) [higher VLFCount. But generally speaking,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=40.70522222222217) [unless you have very large transaction log](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=42.483000000000004) [files, I don't like to see this above](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=44.816333333333354) [about, say, 200 or 300, and if it's far](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=47.483) [above that you want to fix the problem.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=50.13005882352943) [And the way you go about doing that is, if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=52.483) [your database is in full recovery model,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=55.21027272727273) [you want to run a transaction log backup](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=57.119363636363644) [and then shrink the log file and then](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=59.68299999999999) [check the VLFCount again. And you may have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=62.88299999999998) [to repeat that two or even three times,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=65.57390909090907)[and then once you've done that your log](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=67.7557272727272) [file will be very, very small and might be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=69.93754545454533) [just 1 or 2 MB in size, and that's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=72.233) [to be too small for most people's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=74.733) [purposes. So then you're going to want to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=76.483) [explicitly grow it manually in relatively](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=79.77711764705879) [large chunks, anywhere from 1000 MB, 2000](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=82.24770588235288) [MB, or 4000 MB, but you really don't want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=85.08300000000003) [to go above that in most cases. And this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=88.68300000000008) [is going to depend on how fast your I/O](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=92.02845454545454) [subsystem is. And the reason for this is,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=94.48299999999993) [if you grow the transaction log in a large](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=96.66481818181806) [enough chunk, basically above 1000 MB,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=99.88300000000004) [then it's only going to add 16 VLFs each](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=102.28300000000007) [time you grow it, and so by growing it in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=105.81633333333333) [large chunks instead of having it grow in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=109.14966666666662) [very small increments like it does by](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=111.81633333333325) [default, you'll avoid having high numbers](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=114.54182352941174) [of VLFs, which have those negative effects](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=117.01241176470583) [of causing recovery to take longer and fail-over to take longer, for example.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=12&mode=live&start=120.483)

[CPU Usage by Database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live)

[CPU Usage by database. This query uses a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=2.26) [DMV and a DMF to return information about](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=5.628421052631577) [the CPU utilization for each database on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=8.996842105263152) [the current instance since it's been](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=11.714545454545453) [running. So the first one is sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=13.896363636363633) [dm\_exec\_query\_stats, and the URL for that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=16.66) [is right there. And then sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=19.05999999999999)[dm\_exec\_plan\_attributes, and the URL for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=21.510000000000005) [that is right there. Now this is going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=23.593333333333344) [tell you which databases on your instance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=26.648888888888894) [are using the most processor resources on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=28.593333333333344) [the instance. So that's important to do,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=30.62842105263158) [especially if you're seeing any signs of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=33.20736842105262) [CPU pressure, but I like to know this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=35.78631578947365)[regardless of whether I'm seeing CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=38.490769230769224) [pressure or not. It's also going to help](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=40.336923076923064) [you characterize your workload from a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=43.02470588235293) [processor perspective, so again you'll](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=45.142352941176455) [know which databases on your instance are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=46.90705882352939) [using the most CPU. Now this may change](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=49.15473684210527) [fairly often, so don't just run it once](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=51.68105263157897) [and think you know the answers, you want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=54.15999999999999) [to run this periodically, because based on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=56.55999999999997) [your workload these results are going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=58.65999999999995) [change, and again, they're cumulative since SQL Server's been running.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=13&mode=live&start=64.25999999999999)

[Demo: CPU Usage by Database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live)

[In this demonstration I want to show you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=1.7) [the CPU Usage by Database query. So you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=4.285142857142856) [can see that when I run this query it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=6.745739130434783) [comes back and shows me all the databases](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=9.093565217391303) [in my instance ranked by their total CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=11.180521739130429) [time in milliseconds, and then it breaks](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=13.724) [it down to a percentage. So quite often it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=16.349)[might be pretty obvious that you've got](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=19.27663157894737) [one database that's using most of your CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=21.118736842105267) [resources, but sometimes when you've got](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=23.224) [lots and lots of databases it's not quite](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=25.474) [so obvious. And the results from this are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=28.474) [going to change second by second over](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=31.223999999999993) [time, so don't just run it once and think](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=33.55733333333333)[you understand what's going on, you want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=36.51811764705882) [to run this periodically and see if it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=38.576941176470605) [changing. But hopefully as you do this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=40.92988235294121) [over time you'll have a pretty good idea](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=42.65257142857144) [of which databases are using the most CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=44.55733333333337) [resources, which is especially useful if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=46.576941176470584) [you're under CPU pressure, but I still](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=48.694588235294106) [think it's good information to know regardless of that.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=14&mode=live&start=51.165176470588214)

[I/O Usage by Database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live)

[I/O Usage by Database. This query uses a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=1.892) [DMF to return information about the total](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=4.83936842105263) [I/O usage for each database on the current](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=7.418315789473682) [instance. It uses sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=10.539058823529412) [dm\_io\_virtual\_file\_stats, and the MSDN](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=12.186117647058825) [link for that is right there. Now this is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=13.833176470588239) [going to tell you which databases are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=17.365684210526315) [using the most I/O resources on your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=19.944631578947366) [instance, so this is important to know if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=22.523578947368417) [you are seeing signs of I/O pressure, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=24.55866666666666) [even if you're not, it's still important](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=26.463428571428558) [to know. It also helps you characterize](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=28.22533333333333) [your workload from an I/O perspective, but](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=30.558666666666657) [a couple of caveats about this. First of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=32.89199999999999) [all, it's cumulative since SQL Server has](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=35.83644444444443) [been running, and also, it take into](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=38.55866666666663) [account everything that's been happening](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=41.267) [with that database, so things like backups](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=43.142) [and restores and running DBCC CHECKDB, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=45.767) [creating new indexes, and doing index](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=48.492) [maintenance, anything that affects I/O for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=50.89199999999999) [that database is going to be included. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=53.207789473684215) [you'll also notice that your larger](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=55.734105263157915) [databases are going to naturally use more](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=57.62884210526319) [I/O because of their size if you're doing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=59.8295) [things like backups, which you should be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=62.3295) [doing, so make sure you take that into account when you look at these results.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=15&mode=live&start=65.892)

[Demo: I/O Usage by Database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live)

[In this demonstration I'm going to talk](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=1.582) [about the I/O Usage By Database diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=3.915333333333334) [query. So this is looking at sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=6.248666666666666) [dm\_io\_virtual\_file\_stats, and it's going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=9.281999999999998) [to show you how many MB of I/O have been](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=11.081999999999995) [generated for this database since SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=15.582) [Server has been running, and it ranks them](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=17.160947368421056) [in order right here so it all gives you a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=19.266210526315795) [percentage breakdown. So, again, this is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=22.24866666666666) [cumulative since SQL Server has been](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=24.248666666666654) [running, and it also takes into account](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=26.248666666666647) [all the I/O activity that's happened on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=28.248666666666672) [that database, so that includes backups,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=30.193111111111122) [and index maintenance, running DBCC](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=32.04866666666667) [CHECKDB, anything that's touched that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=34.38200000000001) [database from an I/O perspective, so take](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=36.715333333333355) [that into account when you're looking at these results.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=16&mode=live&start=41.582)

[Total Buffer Usage by Database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live)

[Total Buffer Usage by Database. This query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=1.582) [uses a DMV to return very useful](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=4.304222222222222) [information about the total buffer pool](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=7.026444444444447) [usage for each database on the current](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=9.515333333333334) [instance. It looks at sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=12.782000000000002) [dm\_os\_buffer\_descriptors, and the URL for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=15.115333333333336) [that is right there. Now this is going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=16.724857142857143) [tell you which databases are using the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=19.296285714285705) [most buffer pool space on the instance.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=21.2962857142857) [This is very important to know if you are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=23.382000000000005) [seeing any signs of memory pressure, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=26.08200000000001) [even if you're not, I still want to know](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=28.082) [which databases are using most of my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=30.332) [buffer pool memory. It's also going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=32.082) [help you characterize your workload from a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=34.36771428571427) [memory perspective. I want to know, again,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=36.86771428571425) [which databases are using the most memory,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=38.89778947368421) [because maybe I want to do something about](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=40.73989473684211)[that if possible. Now this query can take](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=42.882) [some time to complete on a busy instance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=45.281999999999975) [with lots of memory in the buffer pool, so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=47.68199999999995) [don't be surprised if this takes quite a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=50.582000000000015) [while, 20, 30 seconds or even longer in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=53.2486666666667) [some cases, to come back on larger instances.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=17&mode=live&start=56.582)

[Demo: Total Buffer Usage by Database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=1.45) [you the total Buffer Usage by Database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=3.783333333333334) [query. Now this is looking at sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=6.116666666666665) [dm\_os\_buffer\_descriptors to figure out](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=8.567647058823528) [which databases are using the most memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=9.979411764705883) [in your SQL Server buffer pool. So when I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=12.45) [run this it comes back and shows me,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=15.313636363636364) [ordered by this Cached Size in MB, so in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=17.859090909090902) [my case tempdb is using 993 MB, and it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=20.841304347826092) [shows you the percentage of your buffer](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=23.971739130434802) [pool usage for each one of your databases.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=26.406521739130465) [And it's not uncommon to see fairly high](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=29.11666666666666) [usage by tempdb, but you want to look at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=31.783333333333317) [this and get an idea of which databases](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=34.722727272727276) [are using most of your memory, and then](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=36.90454545454546) [you want to do some further investigation](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=39.08636363636365) [to see if there's anything you can do,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=41.00555555555556) [such as data compression for example, if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=43.22777777777779) [you have Enterprise edition, to try to reduce that.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=18&mode=live&start=45.17222222222224)

[Top Waits](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live)

[Top Waits. This DMV query gives you some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=1.718) [very useful information about your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=5.482705882352942) [cumulate wait statistics since your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=7.835647058823531) [instance was last started, or since](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=10.172545454545455) [statistics were manually cleared. It uses](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=12.899818181818185) [sys. dm\_os\_wait\_stats, and the MSDN link](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=15.641076923076923) [for that is right there. Now this is going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=18.410307692307683) [to let you determine what SQL Server has](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=21.829111111111114) [spent the most time waiting on. This](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=24.051333333333343) [information can help you find the most](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=26.070941176470587) [important bottlenecks, but it's also very](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=28.541529411764696) [easy to misinterpret the information from](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=30.659176470588218) [this query and do what Paul Randal likes](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=32.843) [to call "knee-jerk" performance tuning,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=35.843) [where you see something and you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=37.718) [immediately assume there's a problem in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=39.48270588235296) [one specific area or maybe something else](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=41.247411764705916) [entirely. And there's a lot of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=43.593)[misinformation on the internet about what](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=46.218) [the different wait types mean and whether](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=48.843) [they're important or not, and what you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=51.08163636363637) [need to do to try to fix them, if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=52.990727272727284) [anything. And I always tell people, if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=55.445272727272744) [your server is running well, then this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=57.9285263157895) [query is not nearly as useful. I've had](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=60.507473684210574) [lots of people come up to me and talk](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=63.32669565217391) [about, well, why is this wait type the top](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=66.06582608695649) [wait type, and what should I do about it.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=68.80495652173907) [And if the server is running really well](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=70.86085714285714) [it's not nearly as important, but if the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=72.38466666666666) [server is not running well, these queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=74.10261538461539) [are a lot more useful. Now Paul Randal has](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=76.7949230769231) [an excellent Pluralsight course called,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=80.43228571428573) [SQL Server: Performance Troubleshooting](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=82.57514285714288) [Using Wait Statistics, that is a very,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=84.2894285714286) [very good resource in this area, and the URL for that is right there.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=19&mode=live&start=90.718)

[Demo: Top Waits](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live)

[In this demonstration I'm going to talk](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=1.91) [about the Top Wait Stats query. This query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=4.0638461538461526) [is fairly complex. It's looking at sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=6.752105263157894) [dm\_os\_wait\_stats, and then we filter out a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=9.699473684210522) [lot of what are considered to be benign](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=12.64684210526315) [wait types. If you don't do this, these](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=15.488947368421053) [benign wait types are usually going to far](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=18.015263157894726) [outweigh the actual important wait types](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=20.610000000000003) [to look at. So when you run this you want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=22.71000000000001) [to understand whether or not your server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=26.210000000000026) [is running well or not. If it's not](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=28.16) [running well, then this is much more](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=30.16) [relevant. So when I run this on my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=31.91) [workstation after I put a little bit of a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=34.34478260869563) [workload on it, I come back and I see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=37.08391304347821) [CXPACKET waits are my top Wait Type, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=39.76714285714285) [this is one of my particular favorite ones](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=42.05285714285713) [where there's a lot of bad information out](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=44.338571428571406) [there on the internet. Quite often you'll](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=47.12052631578949) [read on forums and blog posts that if you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=49.69947368421057) [see high CXPACKET weights you should](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=53.17315789473683) [reduce your \_\_\_\_\_ to 1 and that will fix](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=55.6994736842105) [it. Well sure enough that will get rid of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=59.48894736842101) [that Wait Type, but it's going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=62.015263157894736) [eliminate parallelism and it's going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=63.857368421052634) [usually cause your performance to be much](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=65.64684210526315) [worse. So don't just find the first thing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=68.22578947368417) [that you find on the internet and go by](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=71.17315789473678) [its advice, you want to do some more](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=73.24333333333333) [research and think about what you're doing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=74.76714285714284) [here before you make a change based on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=76.19571428571429) [these wait stats. And you want to look at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=78.48142857142862) [your Wait Types here and look at the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=81.05285714285725)[number of seconds here, and look at the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=83.57666666666664) [Wait Percentage, and also look and see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=86.24333333333327) [whether it's a resource wait or a signal](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=88.33857142857146) [wait. Signal waits are related to CPU time](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=90.62428571428579) [and resource waits are other things](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=93.71000000000004) [besides CPU. You also want to take a look](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=96.11000000000007) [at the number of waits and the average](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=99.2433333333333) [wait seconds for resources and for signal](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=101.90999999999993) [to decide whether or not this is something](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=104.16) [you want to look at, and what to do about](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=106.16) [it. These are all helpful resources. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=108.66) [underneath this query I've got links to a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=111.24333333333331) [number of useful resources such as the SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=114.3544444444444) [Server Wait Type Repository that Bob Ward](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=117.02111111111108)[started, but unfortunately never finished](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=118.96555555555548) [a few years ago, along with a number of useful white papers on this subject.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=20&mode=live&start=120.35444444444434)

[Signal Waits](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live)

[Signal Waits. This DMV query gives you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=2.178) [some useful information about your signal](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=4.2368235294117635) [waits and other resource waits. It breaks](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=6.001529411764704) [it down on a percentage basis and it uses](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=8.378) [sys. dm\_os\_wait\_stats, and the URL for it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=11.978000000000003) [is right there. Now signal waits are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=14.778000000000006) [CPU-related. It means you're waiting on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=17.648588235294113)[CPU time, and high signal waits are a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=20.119176470588222) [confirming indicator of CPU pressure.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=23.51133333333333) [Signal waits above about 15-20% of your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=25.733555555555544) [total wait time is usually a pretty good sign of CPU pressure on your instance.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=21&mode=live&start=28.844666666666644)

[Demo: Signal Waits](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=1.979) [you the Signal Waits query. And this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=3.729) [query, again, is looking at sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=5.756777777777778) [dm\_os\_wait\_stats, and it filters out all](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=8.090111111111113)[of what are generally considered to be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=10.42344444444445) [benign wait types. And so when you run](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=12.879000000000001) [this it breaks it down on a percentage](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=15.279000000000007) [basis of your total waits, which ones are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=17.679000000000013) [signal waits, which are CPU-related, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=20.701222222222224) [which ones are resource waits, which are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=23.03455555555556) [anything besides CPU. So when you run](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=25.79718181818182) [this, in my case, it comes back 36. 65%,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=28.66081818181819) [and that's quite high, and the reason for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=32.34263636363638) [this is that I was purposely hitting SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=35.379000000000005) [Server very hard from a CPU perspective](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=38.179000000000016) [with a load generator tool that I have. So](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=40.629000000000026) [I was pegging my CPU for some extended](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=43.888090909090934) [periods so I see very high signal CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=46.79718181818187) [waits. So, again, if you see other signs](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=49.715842105263164) [of CPU pressure, this query can help](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=52.66321052631582) [confirm whether or not most of your waits](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=55.2421578947369) [or a high percentage of your waits are CPU-related or not.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=22&mode=live&start=61.979)

[Summary](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live)

[So what have we covered in this module?](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=1.78) [Well, these DMV and DMO queries can help](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=4.306315789473684) [you detect most instance-level performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=6.832631578947369) [issues. They can help you focus your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=8.703076923076923) [performance troubleshooting efforts in the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=11.933846153846154) [right area, whether it's CPU, memory, or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=14.132941176470588) [disk. They're also going to help you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=16.603529411764708)[characterize your overall workload.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=19.074117647058817) [They're going to show you which databases](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=20.446666666666665) [are using the most CPU, the most I/O, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=22.77999999999999) [most memory resources. It's also going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=25.78) [help you figure out the type of your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=27.72444444444445) [overall workload that you're seeing on the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=29.94666666666668) [instance. Is it more of an OLTP workload](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=31.83263157894737) [or more of a reporting workload, or some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=33.93789473684211) [sort of a mixed workload? So you're going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=36.065714285714286) [to get a pretty good idea of how your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=38.35142857142856) [instance is running using these queries.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=40.922857142857126) [And many SQL Server user databases have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=42.94666666666666) [multiple properties that are set to what I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=45.66888888888886) [consider to be an inappropriate value.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=48.78) [That can also end up affecting your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=51.17999999999999) [instance performance. And many SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=53.97999999999998) [instances have performance issues that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=55.891111111111115) [you're going to be able to detect and diagnose using these queries.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=23&mode=live&start=57.28000000000001)

[What Is Next?](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live)

[So what is next? Module 3 is going to be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=1.554) [Instance-Level Performance Queries Part 2.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=5.554000000000001) [That's going to finish out all the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=7.554) [instance-level queries in this complete](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=9.707846153846157) [set. So we're going to cover connection](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=11.246307692307699) [counts, connection counts by IP address,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=14.02458823529412) [your average task counts, which is really](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=16.495176470588238) [useful. We're going to talk about your CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=19.259882352941172) [utilization history over the last several](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=22.08341176470587) [hours. We'll talk about your top worker](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=24.20105882352939) [time queries, system memory usage, process](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=27.377529411764716) [memory usage, your page life expectancy by](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=30.201058823529433) [NUMA node, memory grants pending, your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=33.495176470588234) [memory clerk usage, and then finally, ad](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=36.31870588235293) [hoc queries that have a use count of 1,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=39.61282352941174) [which is very important to know about if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=42.78127272727274) [you're seeing lots of ad hoc and repaired query usage in the plan cache.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m2-instance-perf1&clip=24&mode=live&start=45.326727272727304)

[Instance-Level Performance Queries Part 2](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live)

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This is SQL Server 2014 DMV](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=5.571428571428571) [Diagnostic Queries Part 2, and this is the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=8.823529411764707) [Instance-Level Performance Queries Part 2](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=12.588235294117649) [module. So what are we going to talk about](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=14.666666666666668) [in this module? Well instance-level](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=17.66666666666666) [performance queries are just a group of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=19.33333333333332) [queries that you can use to collect](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=21.5) [instance-level performance metrics. This](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=23.25) [is the second half of the set of these](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=24.318181818181817)[queries. And these can be run in the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=27.181818181818166) [context of any database on the instance,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=29.727272727272698) [so it doesn't matter if you're connected](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=31.666666666666664) [to master or a particular user database,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=33.222222222222214) [because these are all instance-level](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=34.777777777777764) [queries, they're not database specific](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=37) [whatsoever. And many SQL Server instances](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=39.5) [that I've run into in my career have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=41.764705882352935) [instance-level performance issues that you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=44.58823529411763) [can use to discover what's happening on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=46.36842105263158) [your server and focus your tuning efforts](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=48.94736842105266) [in the right area. My Pluralsight course,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=51.526315789473735) [Scaling SQL Server 2012 - Part 1 covers](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=54.400000000000006) [some best practices instance-level](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=58.133333333333354) [performance considerations, and the URL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=60) [for that is right here. You also might](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=61.499999999999986) [want to take a look at Joe Sack's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=64) [Pluralsight course, SQL Server: Common](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=66.66666666666663) [Performance Issue Patterns. That's a very](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=68.33333333333327) [valuable resource that lets you see things](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=70.33333333333331) [that might be happening on your server and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=72.66666666666661) [talks about different ways that you can fix them, and the URL is right there.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=0&mode=live&start=76)

[Connection Counts](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live)

[Connection Counts. This DMV query tells](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=1.4666667) [you which logins are connected, and how](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=3.5843137588235296) [they're connected, and how many sessions](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=6.054901994117645) [they have. It uses sys. dm\_exec\_sessions,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=8.407843170588235) [and the MSDN link for that is right there.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=11.231372582352941) [This query is going to help you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=15.4666667) [characterize your workload intensity. It](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=18.012121245454544) [also is going to help you determine](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=19.688888922222223) [whether or not you're seeing a normal](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=21.244444477777773) [level of activity. You should have a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=22.800000033333323) [pretty good idea of how many connections](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=24.577777811111115)[you typically have from your different](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=26.522222255555565) [logins, and if it's much different than](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=28.188888922222237) [the normal number, something has happened.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=29.9666667) [Maybe you're being attacked, maybe your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=31.4666667) [company ran a Super Bowl ad, but you want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=33.04561406842105) [to know that something has changed](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=35.414035121052635) [probably. It's also going to help you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=37.32380955714286)[troubleshoot connectivity and permissions](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=40.32380955714287) [issues. You can look at this query and see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=42.038095271428595) [which logins have active connections, so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=44.688888922222226) [that'll help you eliminate permissions](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=46.3555555888889) [issues when people claim they can't connect, for example.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=1&mode=live&start=48.4666667)

[Demo: Connection Counts](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=1.457189) [you the Connection Counts diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=3.611035153846153) [query. This runs against sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=5.14949669230769) [dm\_exec\_sessions, and when you run it, it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=6.790522333333332) [shows you how many connections you have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=9.123855666666666) [from each one of your logins, whether it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=11.457189) [a SQL Server login like sa or one of your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=13.857189000000005) [Windows logins, and it shows you the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=16.857189000000012) [program\_name that originated the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=19.332189) [connection and then your session\_count](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=20.832189) [over here. And, again, this helps you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=22.707189)[figure out whether you're seeing a normal](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=24.927777235294112) [workload and whether you're seeing the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=26.98660076470587) [normal types of connections that you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=29.457189) [expect, so that's mainly what I use it for.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=2&mode=live&start=35.457189)

[Connection Counts by IP Address](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live)

[Connection Counts by IP Address. This DMV](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=2.1846224) [query tells you which logins are connected](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=4.906844622222223) [by IP address, and how they are connected,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=7.629066844444448) [and how many connections they have open.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=10.4346224) [It uses two different DMVs. The first one](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=12.6221224) [is sys. dm\_exec\_sessions, and the MSDN](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=15.184622400000002) [link for that is right there. And then the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=17.1846224) [second one is sys. dm\_exec\_connections,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=20.184622399999995) [and the MSDN link for that one is right](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=21.851289066666656) [there. Now this is, again, going to help](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=24.851289066666645) [you characterize you're workload](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=27.517955733333324) [intensity, you know, you want to know how](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=28.851289066666652) [many connections you have from different](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=31.655210635294107) [middle-tier machines in particular. It's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=33.77285769411763) [quite common to have maybe a web farm with](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=35.46240017777778) [multiple web servers or multiple](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=37.96240017777779) [application servers that are connecting to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=39.35128906666668) [your database server, and having an idea](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=41.13199082105264) [of how many of those have connections open](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=43.342517136842126) [is very useful. So it's going to help you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=45.868832926315825) [see whether or not you're seeing a normal](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=48.28988555789474) [level of activity against your database](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=50.39514871578948) [server. It also helps you confirm](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=52.56923778461538) [connectivity to middle-tier machines. I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=55.33846855384614) [can't tell you how many times I've had](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=57.42271763809524) [developers and DevOp people come to me and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=59.32747954285717) [say that they couldn't connect to my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=61.232241447619096) [server from a particular web server and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=63.18462240000001) [application server. And if you run this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=65.51795573333332) [query and you see 20 connections from that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=67.3750985904762) [web server, well you know that it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=69.27986049523813) [working right and that there's no connectivity issue.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=3&mode=live&start=70.94652716190481)

[Demo: Connection Counts by IP Address](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=1.7) [you the Connection Counts by IP Address](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=3.85843194) [query. When you run this query, it shows](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=6.016863879999997) [you how many connections you have from](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=8.658544633333333) [each particular IP address. In my case all](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=10.99187796666667) [I have is local machine connections, so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=13.972270123529412) [the client\_net\_address shows as local](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=16.85462306470588)[machine, but if you run this and you've](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=18.913446594117637) [got remote connections, it'll show you the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=21.167316563157897) [IP address of each connection, and then](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=23.009421826315794) [it'll show you the originating program](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=24.8252113) [name, and then it shows you the name of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=26.3252113) [the machine that's connecting to you, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=28.5752113) [that's my local machine, and then it shows](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=30.658544633333328) [you the login\_name, and then finally the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=33.3252113) [connection count for that login. So,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=35.501681888235304) [again, this is very useful for confirming](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=37.26638777058826) [connectivity from remote machines such as](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=39.3252113) [web servers and application servers, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=41.9502113) [also just for judging whether you're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=44.5752113) [seeing a normal level of activity against](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=46.91344659411765)[your database server from all the other machines that are connecting to it.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=4&mode=live&start=48.972270123529434)

[Average Task Counts](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live)

[Average Task Counts. This DMV diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=2.0138669) [query helps you determine how busy your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=4.4138669) [system is. It uses sys. dm\_os\_schedulers,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=7.213866900000003) [and the MSDN link for that is right there.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=9.55232843846154) [Now this is going to show you average task](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=13.0138669) [counts across all of your schedulers. The](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=16.013866900000004) [first one is Avg Task Count, and that's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=18.299581185714285)[just sort of a general indicator of the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=20.585295471428562) [volume of tasks across all of your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=22.87100975714284) [schedulers. Sustained values above 10 are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=25.249161017647054) [often an indicator of blocking and locking](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=27.719749252941163) [and deadlock type issues, or it could just](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=30.602102194117624) [be that your server is extremely busy. Avg](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=33.51386689999999) [Runnable Task Count are tasks that are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=36.43491953157894) [waiting on CPU resources, and sustained](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=39.38228795263156) [values above 0 are a very strong indicator](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=41.90860374210523) [of CPU pressure. And then you have Avg](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=45.07269042941176) [Pending DiskIO Count, and that's pending](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=47.89621984117645) [pending I/Os that are waiting to be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=50.0138669) [completed, and sustained values above 0](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=52.59281426842107) [are an indicator of I/O pressure. And you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=54.80334058421057) [really need to run this query multiple](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=57.728152614285705) [times on a regular basis. I've got my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=60.22815261428568) [server monitor database, for example, that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=62.803340584210524) [I have out on the internet will run this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=64.38228795263157)[every minute and record the values for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=66.75070900526309) [these three things in a user database so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=69.01386689999997) [you can see the trend over time. But](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=71.6805335666666) [anyways, running it just once just gives](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=74.3296563736842) [you a snapshot of what's going on at that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=76.54018268947364) [exact instance, and you really need to run](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=79.38228795263149) [it multiple times so you have an accurate](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=81.59281426842101) [picture of what's happening with your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=83.69807742631569) [instance over time, so don't just run it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=86.0138669) [once and think there's no problem whatsoever.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=5&mode=live&start=94.0138669)

[Demo: Average Task Counts](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=1.8076447) [you the Avg Task Counts diagnostic query.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=3.807644699999999) [And, again, this is using sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=5.8076447) [dm\_os\_schedulers. When you run this,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=7.925291758823532) [you're going to see the instantaneous](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=9.689997641176475) [value for all of these, and this is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=11.8076447) [average across all the schedules in your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=14.093358985714293) [system, and so you need to run it multiple](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=16.093358985714296) [times to see what's happening over time.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=18.68999764117647) [Running it once is not good enough. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=20.748821170588226) [you can see now that my average task count](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=23.0576447) [is 3, which is quite low, because really](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=25.3076447) [nothing is happening on my system. If I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=27.3076447) [kick off a load, which I'll do in a few](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=29.111992526086947) [seconds here, you'll see that go up a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=31.28590556956519)[little bit. But high Avg Task Counts are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=33.14097803333333) [an indicator usually that you're system is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=35.80764470000002) [just either very busy or you're seeing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=38.14097803333337) [some sort of resource contention or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=40.27823293529413) [blocking that's causing the task counts to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=42.042938817647084) [be artificially high, and I usually don't](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=44.107644699999994) [get too concerned unless I see this above](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=46.207644699999975) [10 for a sustained period. Avg Runnable](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=48.60764469999995) [Task Count are tasks that are waiting for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=51.00764469999999) [CPU resources, and if you see that above 0](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=54.20764469999998) [that's a pretty good indicator of CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=57.8076447) [pressure. And then Avg Pending DiskIO](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=60.5298669222222) [Count means that you've got tasks waiting](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=62.86320025555551) [on I/O resources, and again, you don't](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=65.3076447) [want to see that above 0 either. So if I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=67.0576447) [go out here to my desktop and kick off my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=70.03491742727272) [little test query here, then what'll](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=74.12582651818178) [happen is this'll put some load on my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=76.58037197272722) [system. And if I go back to Management](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=79.17128106363633) [Studio and then run this query again, now](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=81.35309924545446) [we're seeing the Avg Task Count jump up to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=83.53491742727259) [5. And that's still not super high, but if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=85.98946288181813) [you've got a high load on your system](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=88.44400833636352) [you'll probably see it above this at some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=90.5971183842105) [point, and again, you want to monitor this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=92.70238154210519) [multiple times over an extended period, not just running it one time.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=6&mode=live&start=94.8076447)

[CPU Utilization History](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live)

[CPU Utilization History. This diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=2.0116114) [DMV is related to the operating system.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=4.5116114) [It's sys. dm\_os\_ring\_buffers, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=8.0116114) [unfortunately there's no documentation of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=10.344944733333335) [this on MSDN. This query gives you CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=13.261611400000005) [utilization history in one minute](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=17.28433867272727) [increments. It only goes back 256 minutes](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=19.557065945454536) [and it's going to show you the CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=22.011611399999992) [utilization by SQL Server, and it also](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=24.67827806666665) [shows you the total CPU utilization by all](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=27.0116114) [the other processes on your server, so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=29.11687455789474)[it's going to help you determine your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=30.958979821052637) [average CPU utilization over time going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=33.411611400000005) [back for the last 256 minutes. So you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=36.21161140000002) [easily capture this information and write](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=39.868754257142854) [it to a user database, and I do that in my](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=41.58303997142856) [server monitor database that you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=44.725897114285694) [download. This will give you some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=46.8866114) [long-term baseline and trending](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=49.1366114) [information. So what I usually do is I'll](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=50.6366114) [run this query and then copy the results](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=53.01161139999999) [into a spreadsheet, and then I'll do an](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=55.29732568571427) [auto average across the values and see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=57.707263573913046) [what the average was for CPU on SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=60.14204618260871) [and for all the other processes during](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=63.27248096521742) [that 256 minute period. So that's very](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=65.67827806666666) [useful to get an idea of what's been happening for roughly the last 4 hours.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=7&mode=live&start=68.01161139999996)

[Demo: CPU Utilization History](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=2.2435337) [you the CPU Utilization History query. Now](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=4.397379853846153) [this uses sys ring\_buffers to go back and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=6.611954752631579) [look at your CPU utilization in one minute](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=9.55932317368421) [increments over the past 256 minutes. For](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=12.50669159473684) [some reason that's all the further that it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=14.91020036666667) [goes back. So when you run this, it shows](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=17.576867033333333) [you your SQL Server Process CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=20.965755922222225) [Utilization in one minute increments right](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=23.29908925555556) [here, and then it shows you all the other](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=25.4935337) [processes that are running on your machine](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=27.7435337) [and how much CPU they're using in one](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=29.4935337) [minute increments, and then it shows you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=31.559323173684213) [the time right here that the measurement](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=33.40142843684211) [was taken. And you can look at this and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=35.2435337) [you can copy and paste the results into an](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=38.24353370000002) [Excel spreadsheet and then use the auto](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=41.24353370000004) [average function built into Excel to get](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=43.65529840588235) [an average value over that time. But you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=46.12588664117646) [can also scroll back and just look at it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=48.81496227142857) [and see when you might be seeing some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=51.38639084285713) [peaks here. So that's a very useful tool](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=53.67210512857141) [for that so instead of just looking at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=56.04353369999998) [Task Manager and seeing what's happening](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=58.44353369999996) [right now, you can go back nearly 4 hours](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=60.2435337) [and see what's been happening over that period.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=8&mode=live&start=69.2435337)

[Top Worker Time Queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live)

[Top Worker Time Queries. This diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=1.8144893) [query uses one DMV and two different DMFs.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=4.8144893) [The first one is sys. dm\_exec\_query\_stats,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=8.8144893) [and the MSDN link for that is right at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=10.932136358823533) [that URL. The second one is sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=14.108606947058831) [dm\_exec\_sql\_text, and the MSDN link for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=16.814489299999998) [that is that URL. And then finally, sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=19.21448929999999)[dm\_exec\_query\_plan, and the MSDN link for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=22.52877501428571) [that is right there. Now this query is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=25.100203585714272) [going to show you the most expensive](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=28.077647194736837) [queries and stored procedures from a CPU](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=30.2881735105263) [perspective total worker time across your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=32.498699826315764) [entire instance, so this is very handy](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=34.39343666842106) [when you've got lots of database s on your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=36.60396298421055)[instacne. Worker time equates to CPU cost,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=39.44606824736842) [so looking at total worker time helps you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=41.65659456315791) [figure out which queries are most](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=44.18291035263161) [expensive for your CPU. Now this only](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=46.28817351052633) [shows cached query plans since the last](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=48.867120878947404) [time SQL Server was restarted or since the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=51.44606824736848) [plans went into the cache. Cached query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=54.73115596666665) [plans can be cleared in several other](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=57.3144893) [ways, so just take that into account when](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=59.0644893) [you look at this, but it's still a very useful query.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=9&mode=live&start=61.0644893)

[Demo: Top Worker Time Queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=2.1733782) [you the Top Worker Time Queries diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=4.040044866666666) [query. And, again, this thing joins three](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=5.906711533333333) [separate DMVs and DMFs, and it's going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=8.699693989473682) [show you which queries are using the most](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=12.068115042105257) [worker time from your plan cache. So when](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=15.03052105714286) [I run this it comes back and shows me the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=17.316235342857144) [database involved, which is very useful](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=20.1733782) [information, and then it'll show you the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=22.506711533333334) [query text for the query or stored](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=25.22893375555556) [procedure. And then right here you see the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=27.840044866666663) [Total Worker Time, and this is in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=30.50671153333332) [microseconds, although it's only accurate](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=32.84004486666665) [to milliseconds. And this is the Total](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=34.284489311111116) [Worker Time, and that's how it's sorted,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=36.228933755555566) [and you can see these top three are quite](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=38.1733782) [a bit more expensive than the other ones](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=40.873378199999976) [in this list. And then you can see the Min](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=43.273378199999954)[Worker Time, the Avg Worker Time, and the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=46.173378199999995) [Max Worker Time for this particular query.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=48.45909248571427) [You can also see the Execution Count and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=50.5233782) [you can see the Avg Elapsed Time, the Avg](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=53.323378200000015) [Logical Reads, and the Avg Physical Reads](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=56.47337820000003) [for this query. And then you can even get](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=58.28448931111111) [to the Query Plan. If you click on this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=60.2844893111111) [link, it'll open up the query plan and you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=62.53701456363637) [can see the graphical query plan for it.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=64.9915600181818) [And then it shows you when the plan for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=67.1733782) [this was created. So this is a very useful](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=69.52120428695652) [query to help you find the most expensive](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=71.86903037391303) [queries. And if I'm seeing CPU pressure I](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=73.96285188421051) [definitely want to run this to get an](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=76.06811504210519)[understanding, okay, which queries across](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=78.1733782) [all of the databases on my instance are costing the most CPU work.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=10&mode=live&start=83.1733782)

[System Memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live)

[System Memory. This DMV returns some](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=2.0786227) [useful information about your system](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=4.3286227) [memory state at the operating system](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=6.2036227) [level. It uses sys. dm\_os\_sys\_memory, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=8.5786227) [the MSDN link for that is at that URL. Now](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=11.5786227) [this query returns a number of columns](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=16.411956033333333) [including the Physical Memory on the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=18.745289366666658)[machine in MB, the Available Memory on the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=20.74528936666665) [machine, the Total Page File size, the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=23.552306910526315) [Available Page File size, the size of the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=26.131254278947367) [System Cache, and then most importantly,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=29.0786227) [the System Memory State, and you want to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=32.0786227) [see a value of "Available physical memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=35.00169962307693) [is high". You don't want to see Available](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=36.617084238461565)[physical memory is steady or low. If you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=39.07862270000001) [see high, that means the OS is not](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=43.0786227) [complaining about being under memory pressure, which is what you want.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=11&mode=live&start=51.0786227)

[Demo: System Memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=1.6434561) [you the System Memory diagnostic query. It](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=3.797302253846153) [uses sys. dm\_os\_sys\_memory, and when you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=6.011877152631579) [run this it comes back and tells you how](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=8.222403468421051) [much physical memory you have in the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=11.53819294210526) [machine and MB. So I've got 32 GB of RAM](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=13.819926688235297) [in my workstation. It also shows you the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=16.761103158823534) [available memory, and again, this is the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=19.072027528571425) [OS level. Then it shows you the size of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=21.072027528571418) [your Page File, how much of that Page File](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=23.552547009090915) [is available, and how large your System](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=26.007092463636376) [Cache is. Finally, it shows you the System](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=27.88155133809524) [Memory State, and what you want to see is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=29.786313242857137) [what you see there, Available Physical](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=31.929170385714272) [Memory is high. You might see Available](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=33.9559561) [physical memory is stead or available](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=37.0184561) [physical memory is low, and you don't want](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=39.6434561) [to see either one of those because those](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=41.74871925789474) [are indicators that the OS is under memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=43.85398241578948) [pressure and it's going to want to signal](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=45.959245573684214) [SQL Server to release some memory, and so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=48.064508731578954) [you don't want to see that. And one way to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=50.16519523043478) [avoid that is to have lots of memory in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=52.77389088260869) [your machine, number one, and number two,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=55.121716969565206) [to set max server memory to an appropriate](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=57.31012276666668) [value inside of SQL Server so that the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=59.976789433333366) [operating system is less likely to be under memory pressure.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=12&mode=live&start=64.64345610000001)

[Process Memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live)

[Process Memory. This DMV returns](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=1.5162784) [information about your SQL Server process](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=3.575101929411764) [memory, so it shows you how SQL Server is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=6.045690164705883) [using memory. It uses sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=9.77943629473684) [dm\_os\_process\_memory, and the MSDN link](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=11.884699452631574) [for that is at that URL. This query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=13.989962610526309) [returns a number of columns including your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=17.116278400000002) [SQL Server Memory Usage in MB, and you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=19.216278400000007) [want to use that value instead of whatever](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=21.616278400000013) [Task Manager might report, you really](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=24.3912784) [can't believe Task Manager, particularly](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=26.6412784) [if you have 'Lock pages in memory'](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=28.5162784) [enabled. It also shows you your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=31.1412784) [large\_page\_allocations in kb, your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=33.3912784) [locked\_page\_allocations in kb, so you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=34.81039604705882) [see whether or not 'Locked pages and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=36.57510192941178) [memory' is enabled or not from this query.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=38.63392545882356) [It's also going to show you your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=40.94484982857142) [page\_fault\_count, your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=42.944849828571414) [memory\_utilization\_percentage, your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=43.5162784) [available\_commit\_limit in kb, your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=45.5162784) [process\_physical\_memory\_low flag, and then](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=49.5162784) [your process\_virtual\_memory\_low flag. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=52.18294506666667) [you want to see 0 for both of those last two, meaning they are not low.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=13&mode=live&start=53.51627840000001)

[Demo: Process Memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=1.7498007) [you the Process Memory diagnostic query.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=3.903646853846153) [This uses sys. dm\_os\_process\_memory, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=5.7498007) [when you run this it comes back and tells](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=7.694245144444446) [you exactly how much memory SQL Server is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=11.19424514444445) [using, and you should believe this rather](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=13.926271288235297) [than whatever Task Manager might be](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=15.985094817647067) [telling, this is much more accurate. It's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=17.7498007) [also going to show you whether or not](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=20.3748007) [large\_page\_allocations are being used and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=23.3748007)[locked\_page\_allocations. So if you see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=25.30535625555556) [these both as 0, this tells you that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=27.249800700000005) ['Locked pages in memory is not enabled and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=30.36091181111112) [large page is not enabled either in this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=32.4998007) [case. It's going to show you the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=34.4998007) [page\_fault\_count and the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=37.14980069999999) [memory\_utilization\_percentage. I usually](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=38.34980069999999) [don't worry too much about those, or even](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=39.365185315384615) [really this one. And the ones I do worry](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=41.82672377692307) [about are process\_physical\_memory\_low,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=44.46408641428571) [this is a flag, it's either going to be 0](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=45.321229271428564) [or 1, and process\_virtual\_memory\_low. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=48.17837212857141) [so as long as these are both 0, that's SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=49.74980070000001) [Server telling you that it's not under](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=53.083134033333366) [internal memory pressure, which again is what you want to see.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=14&mode=live&start=56.7498007)

[Page Life Expectancy by NUMA Node](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live)

[Page Life Expectancy, or PLE, by NUMA](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=2.0777563) [Node. This query returns page life](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=5.025124721052631) [expectancy by NUMA nose and it uses sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=7.551440510526312)[dm\_os\_performance\_counters, which you can](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=11.000833223076924) [get from this MSDN link right there. Now](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=12.84698706923077) [you're only going to get one row for each](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=16.427756300000002) [NUMA node in your system, and older](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=19.577756300000015) [symmetrical multi processor systems are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=22.027756300000025) [only going to have one row, because they](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=23.693140915384614) [didn't have NUMA. And virtual machines may](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=26.154679376923067) [only have one NUMA node depending on how](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=28.188867411111115) [they were configured at the hypervisor](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=30.411089633333344) [level, so you need to take this into](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=32.0777563) [account when you're looking at the results](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=34.299978522222226) [from this query. Now page life expectancy](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=36.244422966666676) [is one way of measuring memory pressure.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=38.89593811818181) [You need to monitor your normal PLE range](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=42.0777563) [at different times in the day and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=44.477756299999974) [different days of the week, and watch it](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=46.577756299999955) [over time to see what your range is and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=49.0152563) [what the trends are. Higher values are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=51.8277563) [always better than lower values, and you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=54.025124721052634) [want to make sure that you don't believe](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=56.23565103684212) [any outdated guidance out on the internet](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=58.76196682631582) [about 300 being a "good" value, in other](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=61.28828261578949) [words, if you're above 300 everything is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=64.23565103684214) [great and if you're below 300 everything](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=66.80502902727272) [is terrible. 300 is a really low value](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=69.35048357272724) [that was valid back when servers had a lot](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=71.79204201428576) [less memory than they do now. 300 is so](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=74.36347058571438) [low that I would be pretty upset if I saw](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=76.95275630000002)[300 on most servers that have a decent amount of memory nowadays.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=15&mode=live&start=79.86942296666673)

[Demo: Page Life Expectancy by NUMA Node](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=1.6997341) [you the PLE by NUMA Node diagnostic query.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=3.5664007666666664) [This uses sys. dm\_os\_performance\_counters,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=5.6997341) [and when you run this it shows you your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=7.477511877777778) [PLE value for each NUMA node in your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=11.47751187777778) [system. Now my workstation only has one](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=14.699734100000002) [processor so I only have one NUMA node,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=17.033067433333333) [and older SMP systems will only have one](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=19.6997341) [row here because they don't support NUMA.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=22.366400766666658) [And if you're running SQL Server on a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=24.6997341) [virtual machine, depending on how the VM](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=26.985448385714278) [was set up at the hypervisor level, you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=28.98544838571427) [may only have one row here, so just take](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=31.299734100000002) [that into account when you're looking at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=33.99973409999998) [these results. And it shows you the name](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=36.099734099999964) [of your server and then the object\_name of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=37.962891994736836) [the performance counter you're looking at,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=39.64710252105262) [and the instance\_name of it, and then here](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=41.0747341) [is the Page Life Expectancy in seconds.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=44.0747341) [And you can see this value is going up as](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=46.6997341) [I continue to talk, and that's the normal](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=48.97246137272727) [behavior for an idle system. Higher values](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=50.79064319090908) [are better than lower values, but again,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=52.962891994736836) [don't get hung up on that old 300 value as](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=55.91026041578945)[being a gateway between good and bad](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=60.6997341) [values, you really want to watch the trend on your system over time.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=16&mode=live&start=67.6997341)

[Memory Grants Pending](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live)

[Memory Grants Pending. This query returns](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=2.2939119) [the current number of memory grants](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=4.411558958823529) [pending on your SQL Server instance. It](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=6.5292060176470565) [uses sys. dm\_os\_performance\_counters, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=9.227245233333333) [the MSDN link for that is at that URL.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=11.0939119) [This is a good measure of memory pressure](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=15.2939119) [if it's very extreme, because any value](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=17.960578566666662) [above 0 is a very strong indicator of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=20.293911899999987) [memory pressure, it's basically SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=23.151054757142855) [screaming that it's under memory pressure.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=25.722483328571418) [It's pretty unusual in my experience, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=28.2939119) [bad, to see values that are above 0. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=30.627245233333326) [you need to run this query multiple times,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=33.66233295263158) [since the results will change instance by](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=36.60970137368424) [instance, and so if you just run it once](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=39.188648742105315) [and it says 0, that's not necessarily an](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=41.72248332857144) [indicator that you are not seeing memory grants pending.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=17&mode=live&start=43.62724523333337)

[Demo: Memory Grants Pending](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=1.6017897) [you the Memory Grants Pending diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=3.660613229411764) [query, and this uses sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=5.425319111764704) [dm\_os\_performance\_counters, and it's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=7.147244245454546) [looking at the Memory Grants Pending](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=8.783607881818181) [counter. When you run this, it's going to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=12.056335154545451) [come back and tell you the name of your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=14.001789699999994) [server, the object\_name you're looking at,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=15.801789699999988) [and then the value of Memory Grants](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=17.190024994117646) [Pending, and you want this to be 0. And](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=19.248848523529404) [most of the time it will be 0, but you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=21.881789700000002)[need to run it multiple times and see if](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=24.681789700000014) [it's popping above 0 ever. And unless your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=27.201789700000024) [server is under pretty extreme memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=29.48414264117647) [pressure, you won't see it go above 0, and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=31.248848523529404) [if it does, that's just basically, again,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=33.879567477777776) [SQL Server screaming that it's under](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=35.824011922222226) [memory pressure, so that's something you definitely want to pay attention to.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=18&mode=live&start=37.4906785888889)

[Memory Clerk Usage](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live)

[Memory Clerk Usage. This is a DMV query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=1.7) [that returns very useful information about](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=4.621536177777777) [total memory usage by each memory clerk on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=6.812688311111113) [your system. It uses sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=9.873456400000002) [dm\_os\_memory\_clerks, and the MSDN link for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=11.873456400000004) [that is at that URL. This is going to help](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=14.273456400000006) [you see what part of SQL Server is using](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=17.744044635294113) [the most memory. MEMORYCLERK\_SQLBUFFERPOOL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=20.391103458823515) [should be the highest consumer of memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=21.7734564) [in SQL Server 2012 and 2014. This is a new](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=25.2734564) [memory clerk that was added in SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=29.2734564) [2012, and that's just basically showing](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=31.2734564) [you how much memory your buffer pool is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=32.7734564) [using, which is a good thing. One other](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=34.98774211428571) [thing you want to look out for is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=37.273456399999986) [CACHESTORE\_SQLCP, and that's for cached](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=39.80678973333333) [query plans that are ad hoc or prepared](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=42.47345639999999) [queries, and you want to watch out for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=46.74012306666664) [high values there where lots of memory is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=48.86436549090909) [being used on these ad hoc and prepared](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=50.6825473090909) [queries that often have a use count of 1,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=52.546183672727274)[and that's a very common problem with a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=55.000729127272734) [lot of SQL Server workloads. You can set](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=57.18254730909092) ['optimize for ad hoc workloads' to 1 to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=59.60678973333334) [help control this a little bit, but a lot](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=62.27345640000003) [of times you just have to run a DBCC](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=65.2734564) [command periodically to flush out this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=67.97345639999998) [particular part of the plan cache to avoid bloating over time.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=19&mode=live&start=69.77345639999996)

[Demo: Memory Clerk Usage](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=2.2282898) [you the Memory Clerk Usage diagnostic](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=4.2282898) [query. This uses sys. dm\_os\_memory\_clerks](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=5.942575514285713) [to show you what parts of the system are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=7.491447694736842) [using the most memory on your SQL Server](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=10.333552957894737) [instance. So when you run this it shows](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=12.799718371428574) [you the Memory Clerk Type and then the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=15.085432657142865) [Memory Usage in MB for that memory clerk.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=17.37114694285715) [And if you're running SQL Server 2012 or](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=19.89495646666666) [newer, you want to see](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=22.561623133333317)[MEMORYCLEAR\_SQLBUFFERPOOL using the most](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=24.2282898) [memory, that's your SQL Server buffer pool](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=25.828289799999993) [and you want that to use a lot of memory.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=28.628289799999983) [And what you're also going to see fairly](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=32.62828979999999) [often is high values for CACHESTORE\_SQLCP.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=35.82828979999998) [And that's ad hoc and prepared query plans](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=38.2282898) [that are in your plan cache, and quite](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=40.628289799999976) [often this gets very large, and it's a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=43.02828979999995) [waste of memory in many cases because a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=45.394956466666656) [lot of times these plans only have a use](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=47.72828979999997) [count of 1. Now one way you can control](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=50.35328979999995) [that is to enable 'optimize for ad hoc](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=53.22828980000001) [workloads' at the instance-level. That'll](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=55.8949564666667) [help a little bit, but quite often you're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=57.561623133333335) [going to have to run a DBCC command to flush out the ad hoc and prepared plans.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=20&mode=live&start=60.22828980000002)

[Ad Hoc Queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live)

[Ad Hoc Queries. This diagnostic query uses](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=1.7992454) [a DMV and a DMF that return information on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=4.74661382105263) [cached query plans. The first one is sys.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=8.536087505263152)[dm\_exec\_cached\_plans, and the MSDN link](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=11.9867454) [for that is at this URL. Next you have](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=14.1742454) [sys. dm\_exec\_sql\_text, and the MSDN link](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=18.199245399999995) [for that is at that URL. Now this is going](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=20.999245399999985) [to help you find large, single-use cached](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=25.062403294736836) [ad hoc and prepared query plans that are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=27.272929610526297) [wasting space in the plan cache, and this](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=29.7992454) [is a very common problem with SQL Server.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=32.2992454) [You'll often find anywhere from 4 to 6 to](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=34.7992454) [8 GB or more, in some cases, of memory](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=38.0719726727273) [being used by these single-use cached](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=41.3446999454546) [plans that are very unlikely to be reused](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=43.57702317777777) [so they're just wasting memory on your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=46.688134288888854) [server. So what you can do about this is](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=49.410356511111054) [try converting those queries to stored](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=52.91035651111108) [procedures or parameterized queries. That](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=55.2436898444444) [can help out a lot with this issue. You](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=57.0492454) [can also turn on the "optimize for ad hoc](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=59.2992454) [workloads" instance-level setting. This](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=61.5492454) [will help a little bit, but ultimately you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=62.681598341176475) [may have to just flush those periodically](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=65.03453951764708) [using DBCC FREESYSTEMCACHE ('SQL PLANS'),](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=67.2992454) [and I have a lot of customers, for](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=69.7992454) [example, that every day they run an agent](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=73.7992454) [job to just do this and flush this out.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=76.3992454) [Otherwise, again, you have a lot of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=78.7992454) [bloating for this particular memory clerk.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=81.49155309230771) [So you might want to take a look at](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=83.7992454) [Kimberly Tripp's Pluralsight course, SQL](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=86.29924539999995) [Server: Optimizing Ad Hoc Statement](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=87.6881342888888) [Performance, at that URL to get some ideas about how to better control this issue.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=21&mode=live&start=89.7992454)

[Demo: Ad Hoc Queries](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live)

[In this demonstration I'm going to show](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=1.7865121) [you the Ad Hoc Queries diagnostic query.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=3.786512099999999) [And what this query is doing, it's looking](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=5.7865121) [for single-use query plans that are ad hoc](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=8.733880521052631) [or prepared, that are wasting lots of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=11.681248942105261) [memory in your plan cache. So when you run](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=13.695603009090906) [this, it's going to come back and show you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=15.741057554545446)[the query text, which you can copy and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=17.7865121) [paste out of here into another query](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=20.2865121) [window. It's going to show you whether](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=22.4740121) [it's a compiled plan or not, and then the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=24.2865121) [objtype, whether it's Prepared or Adhoc,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=26.5365121) [and then right here is the size of the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=28.143654957142857) [query plan in bytes. So it sorts so the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=31.357940671428576) [largest ones are the top of the result](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=34.09085992608696) [set, and this just gives you the top 50](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=36.17781644782608) [here. And quite often when you run this on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=38.5256425347826) [a real server you'll see the same query,](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=41.07222638571428) [or very similar queries show up over and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=43.35794067142856) [over and over again. And usually that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=45.95317876666666) [means that your developers are using](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=48.67540098888886) [something like Entity Framework or just](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=51.008734322222175) [hand-coding their SQL queries so they're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=52.89762321111112) [ad hoc queries, and the only thing that's](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=54.56428987777779) [different is one or two characters for a](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=56.7865121)[parameter that's concatenated onto the](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=60.21508352857145) [query, that's sort of the definition of an](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=62.3579406714286) [ad hoc query. So, again, you can enable](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=65.23651209999998) ['optimize for ad hoc workloads' and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=68.03651209999994) [that'll help this a little bit if you're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=70.02460733809524) [running SQL Server 2008 or newer, or you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=71.92936924285716) [might have to run DBCC FREESYSTEMCACHE](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=73.83413114761909) [('SQL Plans') to flush out all of this.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=75.4180910473684) [Another thing you might do after you do](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=77.94440683684205) [some testing is turn on forced](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=80.47072262631569) [parameterization for a particular](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=82.55121798235297) [database, but you really want to test that](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=83.96298268823534) [because sometimes that has a bad effect on](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=86.7865121) [performance. So, again, this helps you](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=89.7338805210526) [find these big ad hoc query plans that are](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=91.94440683684205) [using memory in your plan cache, and basically wasting that memory.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=22&mode=live&start=97.7865121)

[Course Summary](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live)

[Course Summary. So what have we covered in](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=1.5477566) [this course? We've gone through a set of](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=3.947756599999999) [queries that you can use to detect most](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=6.347756599999998) [instance-level performance issues. They](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=9.147756600000001) [can also help you find instance-level](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=10.747756600000002) [settings that may be incorrect. They're](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=13.147756600000005) [going to help you figure out performance](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=15.4227566)[information about your processors, your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=18.0477566) [memory, and your storage subsystem.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=19.9227566) [They're also going to help you find your](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=21.7977566) [instance-level bottlenecks that warrant](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=24.7977566) [more detailed investigation and](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=26.135991894117645) [troubleshooting. So what you want to do](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=27.312462482352935) [after you run all these queries is watch](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=29.371286011764692) [Part 1 of this course and then watch Part](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=31.820483872727266) [3 that's going to be coming out quite](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=34.68412023636365) [soon. So, again, I thank you very much for listening to this course. Thanks a lot.](https://app.pluralsight.com/player?course=sql-server-2014-dmv-diagnostic-queries-part2&author=glenn-berry&name=sql-server-2014-dmv-diagnostic-queries-part2-m3-instance-perf2&clip=23&mode=live&start=37.22957478181821)