

ZERO TO HERO WITH SQL SERVER MANAGEMENT STUDIO

BY PINAL DAVE

INTRODUCTION

The world is full of interesting challenges and we are constantly running every single day chasing our dreams. Especially in the software ecosystem, it is not about literally our dreams but about the release scheduled in the next couple of months. We are on a constant run every single day and we stop appreciating the journey we are taking.

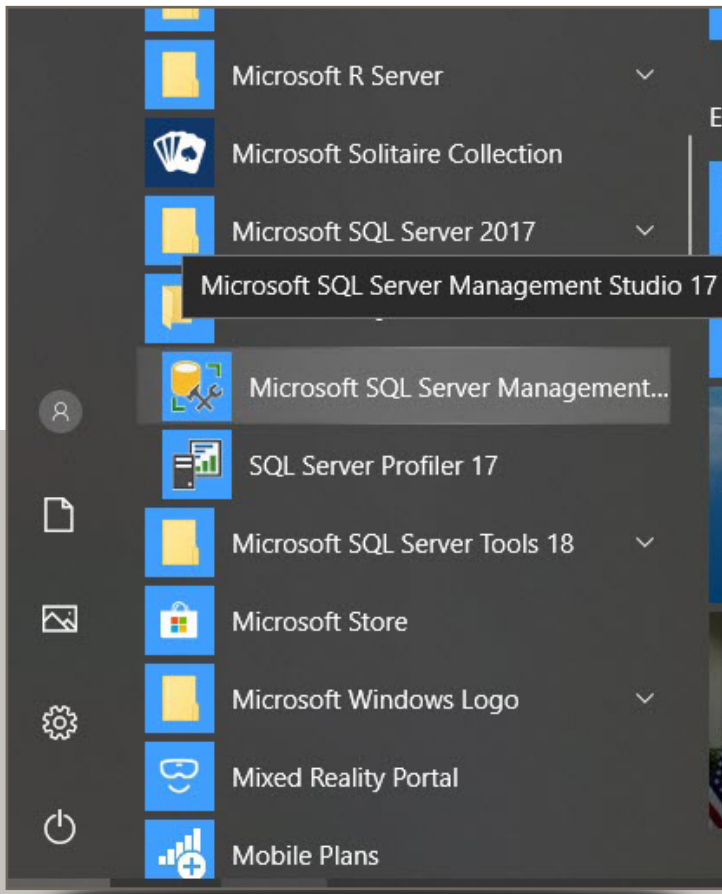
I am reminded of an interesting conversation I had with a friend a while back. In a casual visit with family, I saw his cousins had come over from out of country and they seemed to be really interested in a number local attractions in their short visit. I took note of a few names that came out in the interactions and promised my daughter to take her there soon. The whole incident made me think in a different way. After being in the city for more than 5 years, I am a long way from exploring what the city has to offer. Our lives are always in the fast lane and as mentioned before, we forget to enjoy and relish the journey. This analogy has so much to do with this whitepaper.

As a developer or DBA, we have spent our share of time working with SQL Server. In this process of working with SQL Server, the default tool of our choice is usually SQL Server Management Studio. Similar to the incident shared before, we spend so much time on this fun tool that we hardly appreciate or explore what the tool has to offer. In this whitepaper, we will look at some of the capabilities available with SQL Server Management Studio that will make each one of us more productive.



SSMS STARTUP

The most common way to invoke SSMS is using the shortcut from our start menu. If you are on a Windows 8 or 10 machine, then you can search for SQL Server Management Studio to invoke the program.

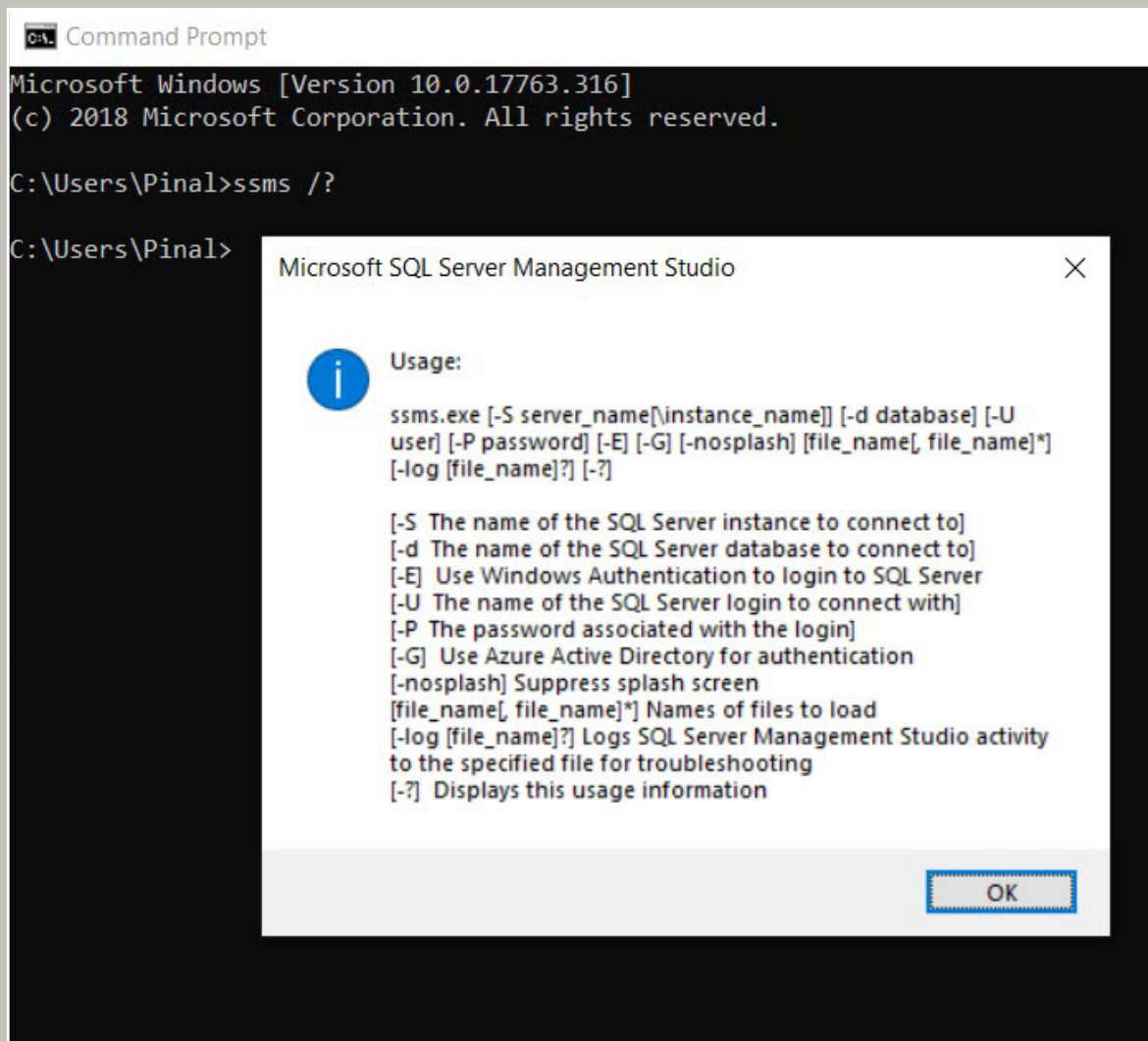


There is yet another method to invoke SSMS is using the command prompt. In fact, the shortcut is SSMS.

```
C:\> ssms
```

This will bring up the SSMS tool just like the shortcut we invoked before. The more interesting way to look at this shortcut is to check the various options available with SSMS command line parameters. To check them, use the following command:

```
C:\> ssms /?
```



This brings us the various options as shown. The most interesting option here is the capability to use the `-S` option for SQL Server Name and the steps it normally takes to make an SSMS session completely operational for work would include close to 3-4 clicks. If we use the `-E` option, then we can load the SQL Server Management Studio directly with a query window. This is the simplest way to get productive in one go.

Invoke SSMS with Integrated Authentication to the default server.

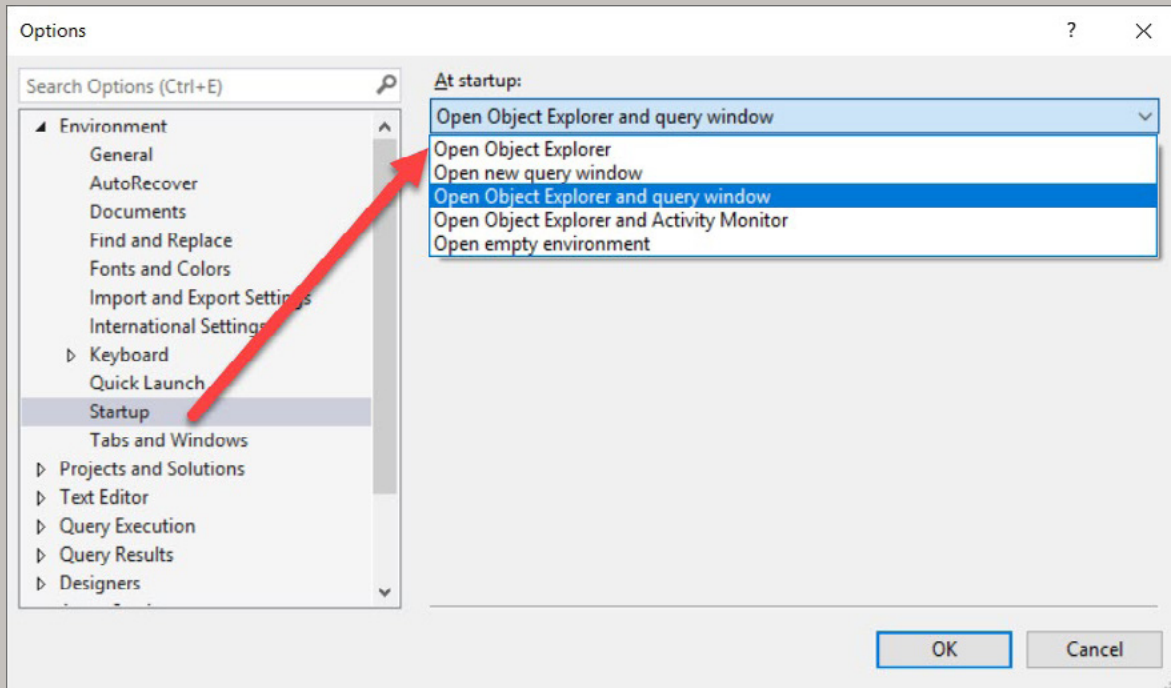
```
C:\> ssms -E
```

Invoke SSMS using Server name, UserName and Pwd.

```
C:\> ssms -S BigSQL -U Pinal -P C0mp!exPwd
```

Another extension to this tip is the ability to change how the SSMS Window starts.

If we check the **Tools > Options** Dialog box we can see:



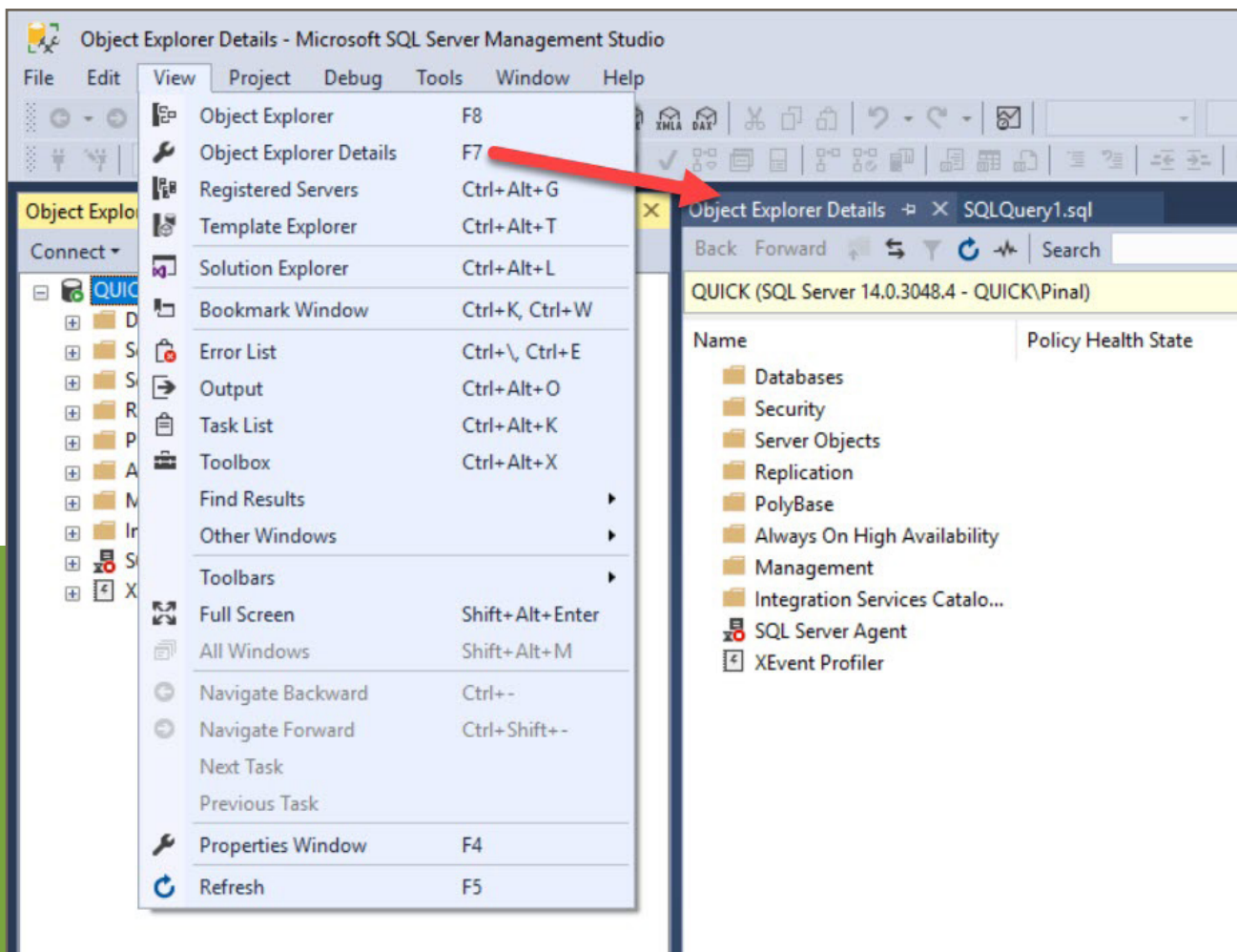
There are a number of options to choose from and the default is Open Object Explorer.

We have the choice to change any of the other values, and this will take effect next time we call SSMS.

OBJECT EXPLORER DETAILS

The best way to learn about the various capabilities of **Object Explorer Details** is by using them daily at your work. But how can one use them, if we are not sure of their capabilities? I have personally seen this Explorer as a productivity enabler.

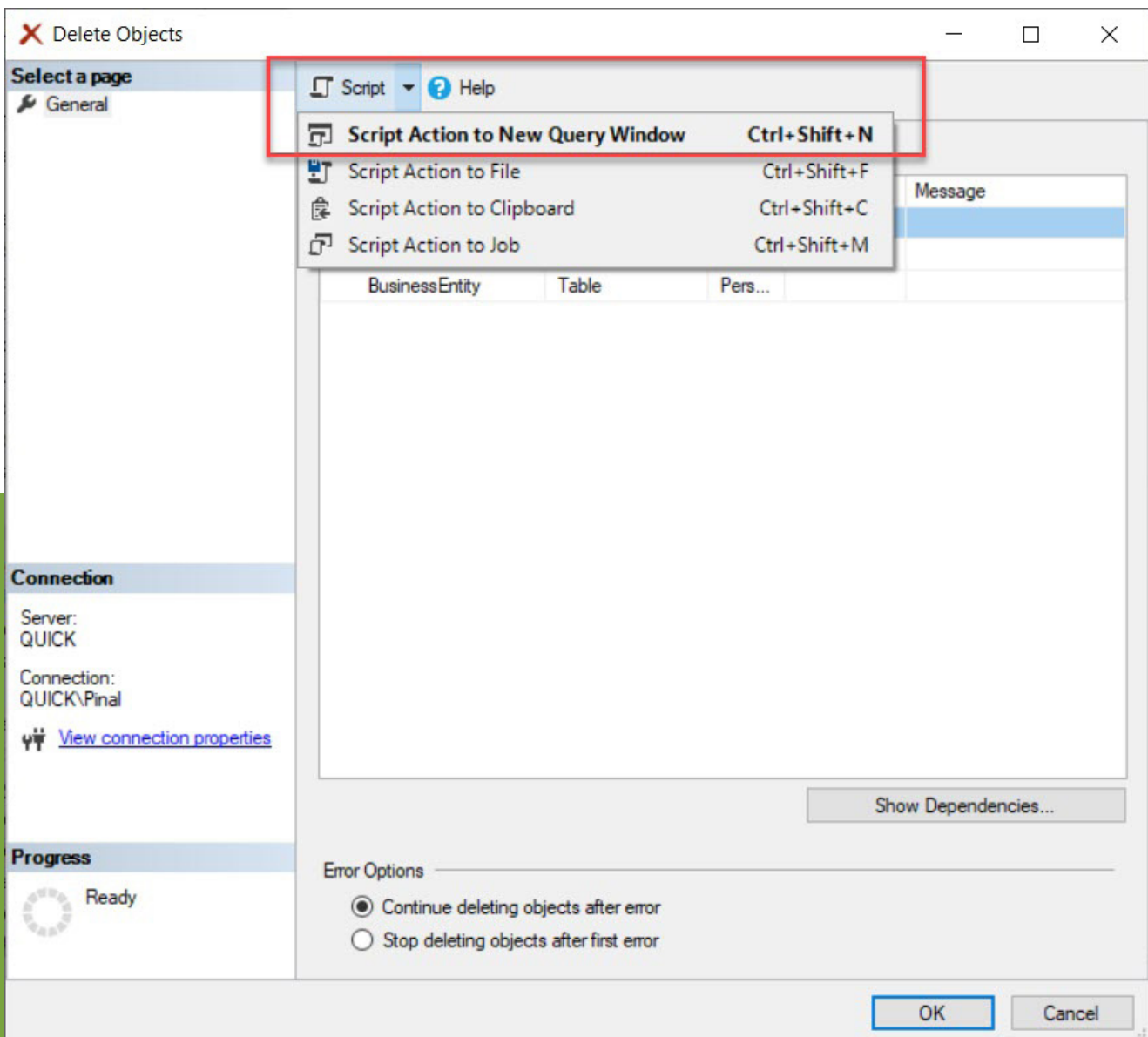
To bring up the **Object Explorer Details** pane, use the **F7** shortcut, or it can be accessed from **Toolbar > View > Object Explorer Details**. Whenever I talk about the Details pane, developers sometimes get confused with the standard **Object Explorer** pane that they are used to in general.



DELETE MULTIPLE OBJECTS

Personally, I have seen this as a neat trick to ask at the local user group meetups every now and then. The question I ask is, “Is there a way to drop multiple objects in one key stroke?” And the bonus trick question is, “Is there a way to script the drop of multiple objects in one key stroke?” Either way, the simple answer to this is with **Object Explorer Details**.

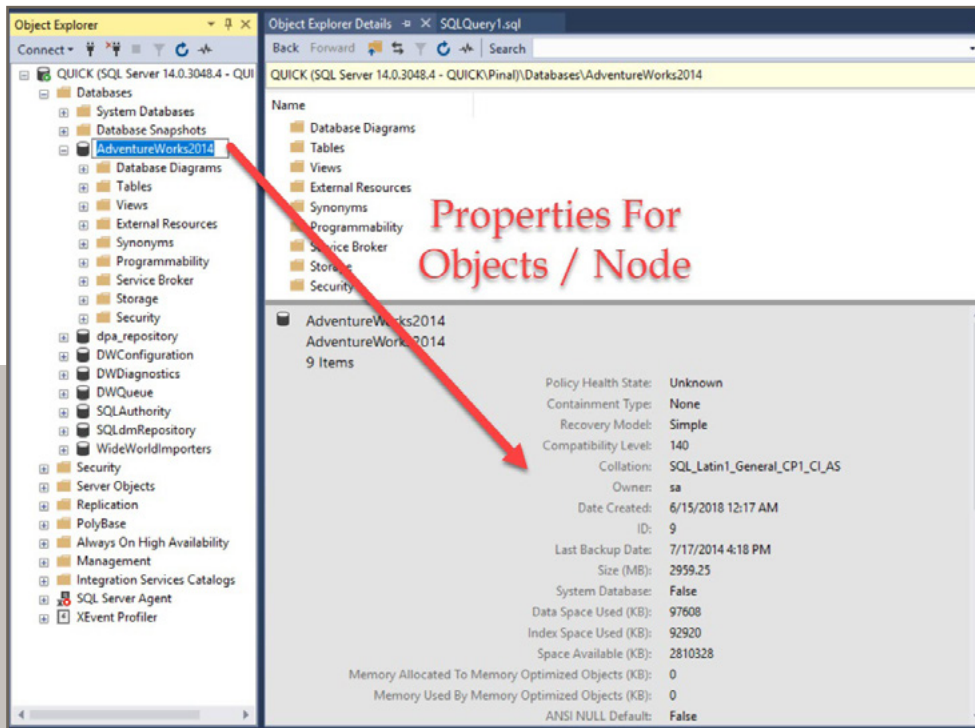
To achieve this, get to the correct folder from your **Object Explorer** – let us assume this to be the **Table** node. From the **Object Explorer Details** pane, select the two objects and press the **DELETE** key. We will be presented with a dialog to delete, and from the top toolbar, we can also script them out easily.



PROPERTIES FOR OBJECTS / NODE

Depending on where the **Object Explorer Details** node is, we can get some interesting and additional information which might take us a lot of time. Here are a couple of these details which I thought would be valuable to share.

The next two images show us completely different data because the first one is around Server Level information and the second is at an individual DB level.



All of these data are available in dynamic management views (DMVs). But as a DBA, having these handy in a single click via SQL Server Management Studio is really powerful. Think about questions like:

- How much RAM is on the Server?
- How many Databases are available on a given instance of Server?
- What is the Data Space used by each Database?
- How much free space is available on a given Database?
- When was the last backup taken for a given database?
- What are the recovery models and compatibility levels for current databases?

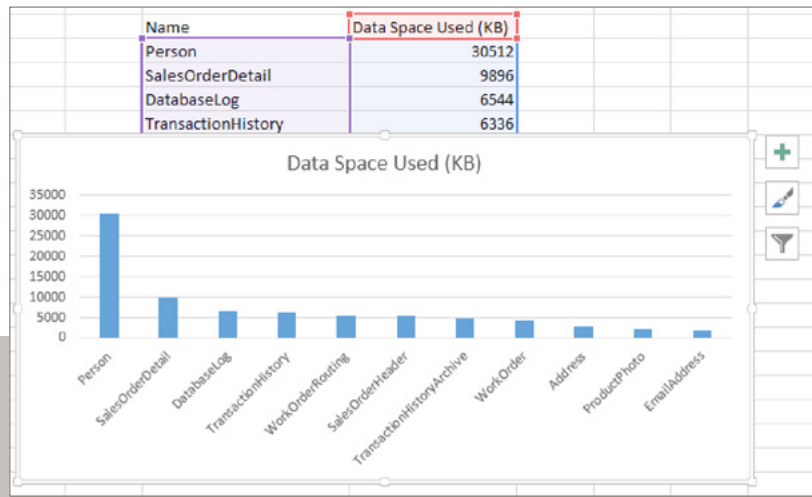
These are simple yet powerful answers we can get quickly using the details pane.

EXPLORING COPY DATA CAPABILITY

Think about a requirement to beautifully represent data about our database in a graphical form. For example, we want to build a graph of top 10 tables by size within our database. This can be easily achieved by performing the following steps:

1. Get to the Databases and then Tables folder in Object Explorer Details.
2. Right click the top ribbon and add column – Data Space Used (KB) to the details pane.
3. Remove other columns not of interest from the Object Explorer Details (with a right click like in Step 2)
4. Now click on this column to sort data in descending order.
5. Next select the top 10 or as many rows as desired.
6. Press Ctrl + C to copy the contents into the Clipboard. If you were wondering, yes – this does work.
7. Open Excel and paste the data.
8. Press Alt+F1 to build a graph.

Shown below is an output of the above steps from my AdventureWorks Database.



TYPE AND NAVIGATE

I have had the opportunity to work on databases that have several thousand tables and it is sometimes difficult to get to the object from the **Object Explorer** and **Object Explorer Details** because we need to scroll through tons of data. Lesser known is the trick that we can type the object name and both **Object Explorer** and **Object Explorer Details** can take us to that point directly.

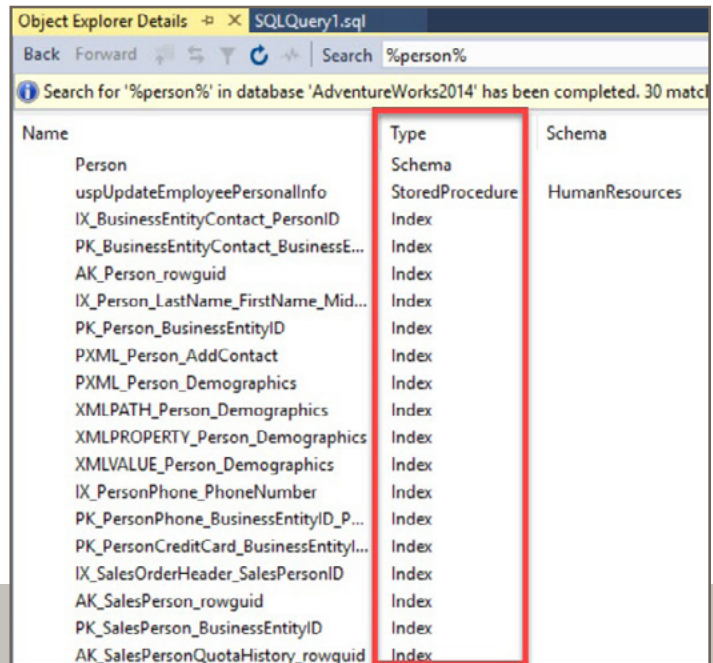
In this example, we can either type from the **Tables node** under **Object Explorer** or we can select the **Object Explorer Details** pane and type the object name. The end result for both is the same: we will automatically get scrolled to the point where the object is. The only difference being, in **Object Explorer** we need to also type the Schema name followed by the object, while in the Details pane we can directly type the Object name. Neat, isn't it?

SEARCHING OBJECTS FROM THE WHOLE DATABASE

Let us take a scenario where we need to search for a keyword across our database for objects having this keyword. Now we need to search across object types like Tables, Stored Procedures, Triggers, Synonyms, etc. This can be achieved using the **Object Explorer Details** Pane. There is a search bar right on the top and you can type the keywords into that box.

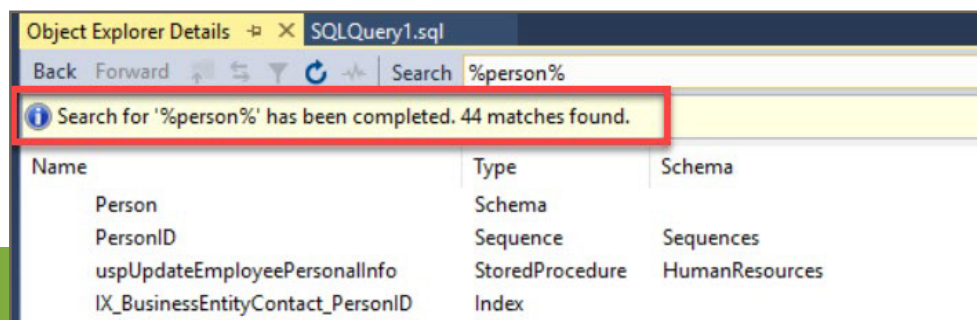
In this example, we have searched for the keyword “person” and we are using “%” as a wildcard character. This tells SQL Server Management Studio to display all the objects that have the word “person” in their name.

As we can see from the “**Type**” column, we have a mix of Indexes, Stored Procedures, and Schema as results of the search we just performed. The top bar shows that the “Search for ‘%person%’ in database ‘AdventureWorks2014’ has been completed.”



Name	Type	Schema
Person	Schema	
uspUpdateEmployeePersonalInfo	Stored Procedure	HumanResources
IX_BusinessEntityContact_PersonID	Index	
PK_BusinessEntityContact_BusinessE...	Index	
AK_Person_rowguid	Index	
IX_Person_LastName_FirstName_Mid...	Index	
PK_Person_BusinessEntityID	Index	
PXML_Person_AddContact	Index	
PXML_Person_Demographics	Index	
XMLPATH_Person_Demographics	Index	
XMLPROPERTY_Person_Demographics	Index	
XMLVALUE_Person_Demographics	Index	
IX_PersonPhone_PhoneNumber	Index	
PK_PersonPhone_BusinessEntityID_P...	Index	
PK_PersonCreditCard_BusinessEntityI...	Index	
IX_SalesOrderHeader_SalesPersonID	Index	
AK_SalesPerson_rowguid	Index	
PK_SalesPerson_BusinessEntityID	Index	
AK_SalesPersonQuotaHistory_rowguid	Index	

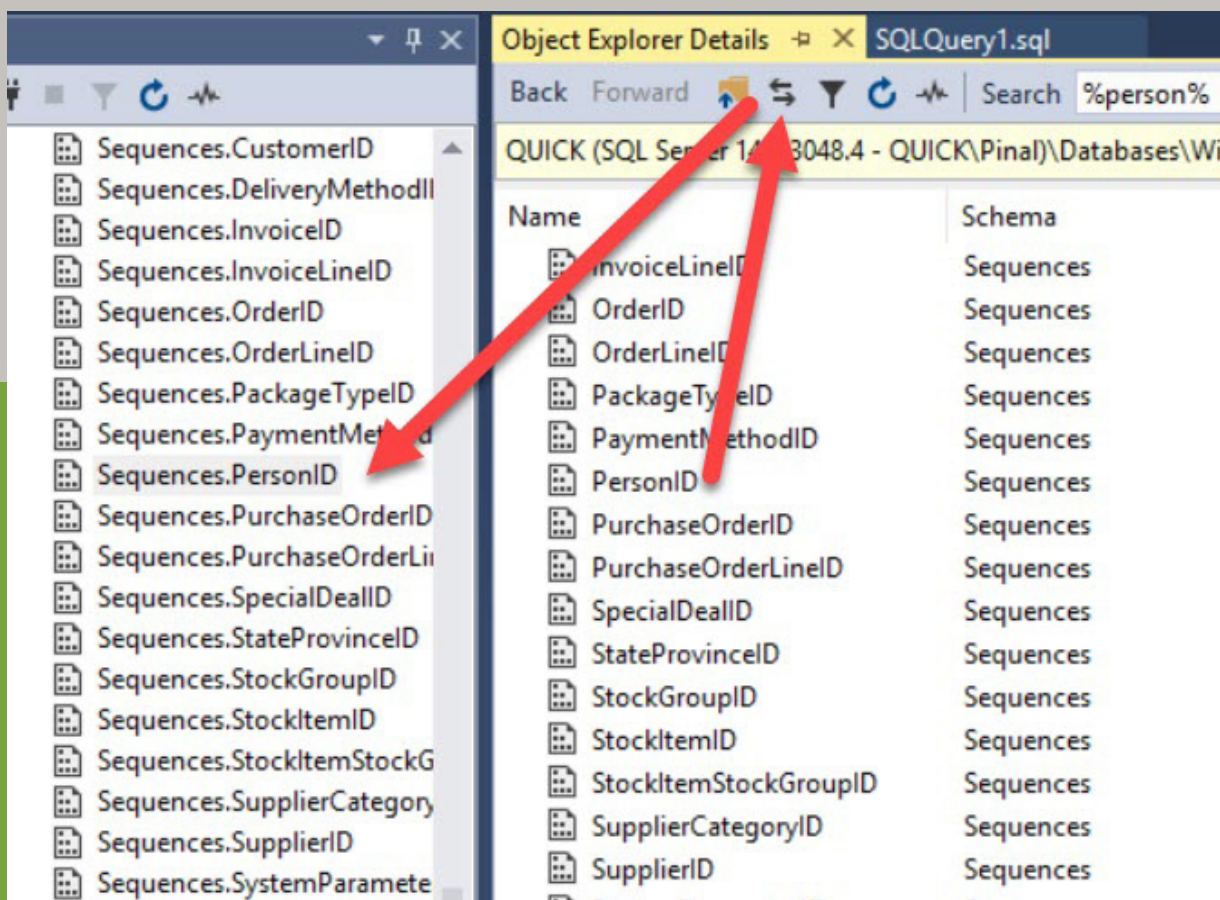
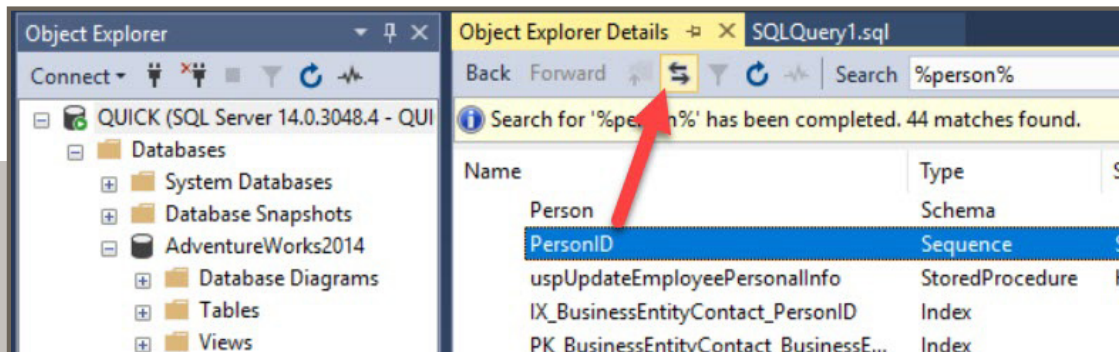
If you want, we can expand on this search capability and do the same search at an instance level. If we select the Server name under **Object Explorer** and perform a search here with wildcards, this search will happen across databases, across all objects. As you can see, the message is slightly different when compared to what we saw previously.



Name	Type	Schema
Person	Schema	
PersonID	Sequence	Sequences
uspUpdateEmployeePersonalInfo	Stored Procedure	HumanResources
IX_BusinessEntityContact_PersonID	Index	

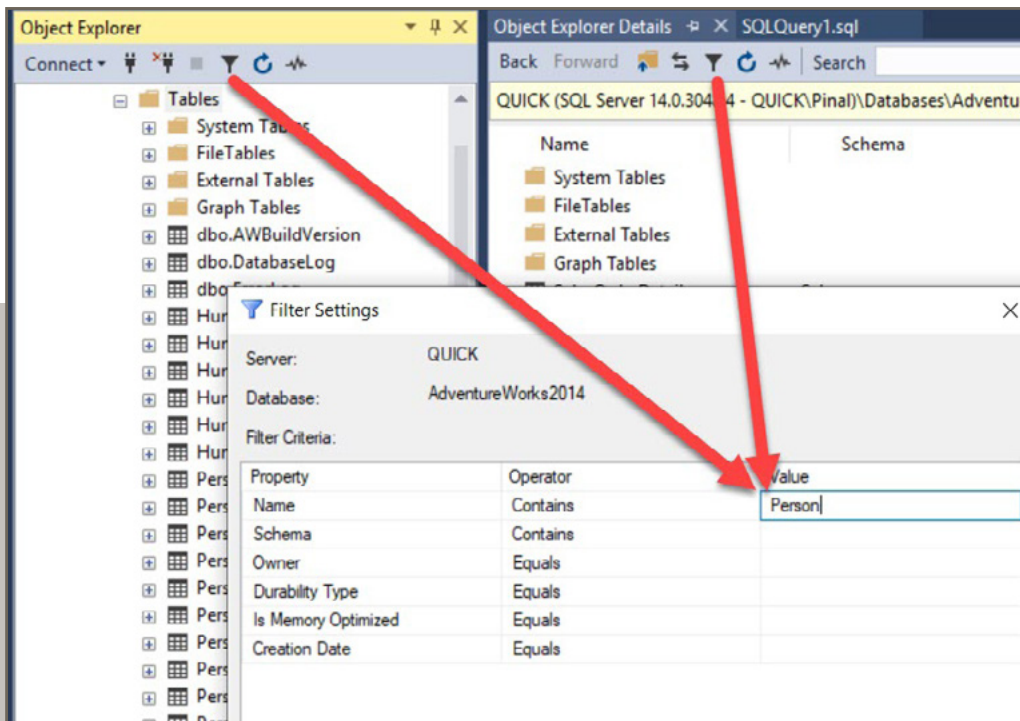
SYNC WITH OBJECT EXPLORER DETAILS

A lot of times when we start our work using **Object Explorer Details**, we can be working inside a shell that is not in sync with the **Object Explorer** pane. Sometimes we would love to get to that node on our **Object Explorer** pane, and this can be easily achieved using the **Sync** button on top of the **Object Explorer Details** pane.



KNOW YOUR FILTERS

If you work with enterprise level software, the chances of you dealing with hundreds of tables if not thousands is quite possible. I have seen developers and DBAs struggle with scrolling through tons of data. Earlier in this whitepaper we showed you ways to search, and type to get to the location. There is yet another method to work with the data, which is using Filters.



There are a couple of ways we can invoke the filters.

1. Use the Object Explorer to get to the given node and in the above example we are at the “**Tables**” node and we have used the “**Filter**” icon available in Object Explorer.
2. We can get the same effect of filter and the dialog from our “**Object Explorer Details**” pane. Similar to the earlier point, drill down to the node under question and then click on the “**Filter**” icon from the toolbar.

Adding a filter for an object like ‘Person’, ‘Sales’, or anything else will filter both on the **Object Explorer** pane and **Object Explorer Details** pane at the same time.

I highly recommend using this technique because we do not have to scroll through tons of data before narrowing down to our desired content.

CONCLUSION

Personal productivity is one of the key things a developer or a DBA loves to know about. In this whitepaper, I have covered some of the simplest of tricks using Object Explorer and Object Explorer Details that you can start using in your environment. These are simple yet powerful shortcuts that each one of us can use effectively and immediately for our work.

ABOUT THE AUTHOR

Pinal Dave is a SQL Server Performance Tuning Expert and an independent consultant. He has authored 11 SQL Server database books, 21 Pluralsight courses and has written over 4500 articles on the database technology on his blog at sqlauthority.com. Along with 16+ years of hands-on experience he holds a Masters of Science degree and a number of database certifications.



SQL Server Database Tuning

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- Access analysis history and view trends
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Start for FREE

The screenshot displays the IDERA SQL Doctor application interface. The top navigation bar includes 'Home', 'Community', 'License Info', and an 'Add Licenses' button. Below this is a menu bar with 'File', 'Edit', 'Tools', and 'Help'. The main interface is divided into several sections:

- Dashboard:** A tree view on the left showing a hierarchy of servers (SERVER_1 through SERVER_6) and analysis categories (All Analyses, Tuesday, Mar 21, 2017 3:06:03 PM, Applications, Categories, Databases, Logins, Recommendation, Prioritized Recommendation, Workstations, Sessions, Waits, Query Plan Stats).
- Overview for SERVER_1:** A central panel showing the status of the selected server. It includes a 'Refresh' button and a timestamp '3/22/2017 3:04 PM'. Below this are several sections with checkmarks indicating status: 'SQL Doctor Analysis (0 warnings)', 'Performance Metrics (0 warnings)', 'Drives / Storage (0 warnings)', and 'Disaster Recovery (1 warnings)'. Each section provides details about the current state and thresholds.
- Processes:** A table on the right showing a list of processes with columns for ProcessId and Name. The table includes processes like 'Idle', 'ReportingServicesService', 'SQLDoctor', 'System', 'smss', 'csrss', 'wininit', 'csrss#1', 'services', 'lsass', 'winlogon', 'svchost', 'svchost#1', and 'svchost#2'.
- Quick Findings:** A section at the bottom showing a list of findings, including 'The SQL Server user right "Lock Pages in Memory" is not being used', 'Single use Ad-hoc plans are using 22 MB of procedure cache', 'Disallow results from triggers is OFF', 'The Common Language Runtime (CLR) option is enabled', 'Authentication set to Mixed Mode', 'SQL Server password policy is vulnerable for login sa', and 'New cardinality estimator is not being used'.