

Happy New Year!

After introducing Excel 2019 last time out, we welcome 2019 this month. There'll be some big SumProduct celebrations at the end of the year, but that's a story for another time...

In this month's newsletter we look at an Excel icon in an instance (that's two items, not one!) and announce a new home in Sydney. We've even a new series starting for 2019: Power Pivot Principles – check it out below. There's also our regular series on Power Pivot, Power Query, Power BI Updates, VBA, Keyboard Shortcuts and the ever-accumulating A to Z of Excel Functions to keep you informed as the New Year beckons.

We wish you all the best for 2019.

Liam Bastick, Managing Director, SumProduct



New Excel Icon



It's been six years since Microsoft last changed its icon set – about the same time our first newsletter launched! Whilst Liam may refuse to change the photo on the front page to show how time has ravaged him, Microsoft has been more honest.

Strong colours have always been at the core of the Office brand, and Microsoft has gone on record that these new icons are a chance to evolve their [colour] palette. The new icons are intended to be "...bolder, lighter and friendlier – a nod to how Office has evolved...".

The latest designs separate the letter and the symbol in the icons into two panels to add depth, for better 3D imagery. Further, prior Office icons had a spreadsheet outline for Excel, which has now been replaced by individual

cells for Excel. The aim is to apparently focus on the content rather than any specific format, which is the direction the software is heading. That's right, Microsoft is using its icons for a soft cell (*groan – Ed.*).

The letter-to-symbol ratio has changed as well. Traditionally, the letter occupied two-thirds of the icon, and the symbol took up one-third. This has been modified to emphasise the symbol because while the letter represents the tool itself, the symbol is intended to spark user creativity.

It's not just about Excel. There's a whole new icon set that will begin rolling out across platforms in the coming months, starting with mobile and web. You have been warned!

New Year, New Addresses

Sydney

Suite 803, Level 8
276 Pitt Street
Sydney NSW 2000
+61 2 8599 7502



Some “personal” news this month – we’ve changed addresses in Sydney! We have now moved into larger premises in order to provide bigger and better training and to accommodate our expanding team. Please make a note of the new address.

Melbourne’s main address changes for 2019 too, but this is more administrative in nature. We request all mail correspondence should go to our Collins Street address (Level 9, 440 Collins Street, Melbourne, VIC 3000) rather than our registered office address.

ALternative Excel in an Instance

Picture the scene. 2018 has just finished, you’ve just installed Excel 2019 and you need to compare the last two years’ results before you can take a well-earned New Year break. With deadlines galore, you suddenly have that annoying “blue circle of death” on a whited-out screen. For

example, you could be running a long macro, manipulating large volumes of data or are refreshing Power Query / Get & Transform. During an intensive task in one spreadsheet, other spreadsheets cannot be used – because the resources are all tied up. You *want* to go home...



That’s because you are using what is known as the same *instance* of Excel. But it doesn’t have to be this way. In fact, you may not be familiar with the term, but you are probably aware of a workaround already. Let me explain.

Working with multiple screens has been with us for many years as they have become cheaper to purchase and make it easier for us to do our work. However, Excel didn’t necessarily keep up with the price reductions. If you worked with Excel, all of your files had to be displayed on one screen (unless you were very inventive) – because they were all running from the same initiation of the program – an *instance*. To circumvent this, you opened Excel again *et voila!* you could have Excel omnipresent across your display surfaces.

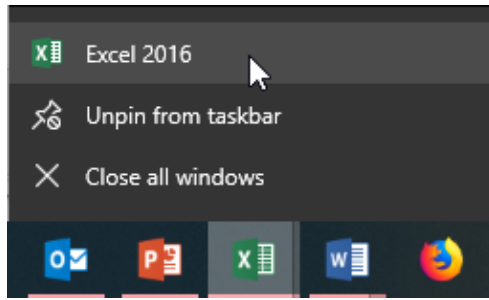
With the advent of Excel 2013, we forgot this trick. Microsoft made our lives easier by allowing you to put Excel on two or more screens from the same instance. You could link to sheets on other screens (something you cannot do with multiple instances. All was *good* in the world again.

However, Excel 2013 onwards never ignored its origins. You could still open a separate instance: you just had to do it *differently*. And there were more ways to do it too. So, if you find yourself stuck with Excel running a resource-intensive task, here’s how you can open a second independent Excel application in an instance (get it?).

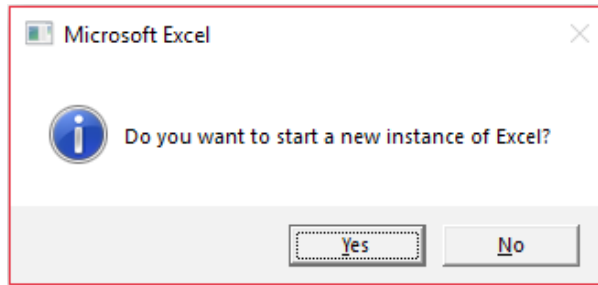
I offer you no less than four alternatives.

1. An ALternative Experience

Right click on the Excel icon in the taskbar. As the menu appears, hold down the **ALT** key and left-click on the 'Excel' menu option (Excel 2016 pictured).



Continue to hold down the **ALT** key until the below window pops up. Press 'Yes' to open a new instance.



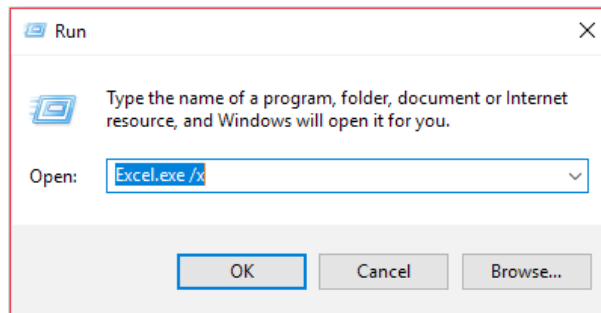
In fact, you can also hold down the **ALT** key, hover your mouse over the Excel icon in the taskbar and click your scroll-button. This has the same effect and takes even less clicks for those that are scared they might tire themselves out unnecessarily.

2. Run Away with Excel

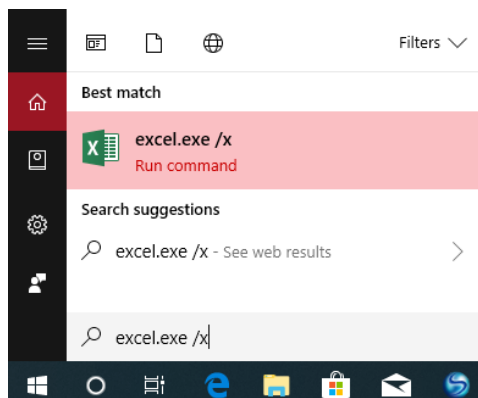
You can use the Run window, by clicking on 'Start' (depending upon which version of Windows you have and entering 'Run' or by right-clicking on that



Windows icon in Windows 10 and selecting 'Run'. Then you type in 'Excel.exe /x' and press **ENTER** viz.



In fact, if you have Cortana, you can even just type the text directly in:



However you do it, a new Excel instance will open.

3. Using VBA

For those so inclined, you can write a macro in Visual Basic for Applications (VBA). Simply run the code below to open a second Excel instance.

```
Sub OpenNewExcelInstance()  
  
Dim xlApp As Excel.Application  
Set xlApp = New Excel.Application  
xlApp.Workbooks.Add  
xlApp.Visible = True  
Set xlApp = Nothing  
  
End Sub
```

Do note, this method does not show a pop-up dialog to indicate you have initiated a new instance.

4. Most Dangerous: Use the Registry

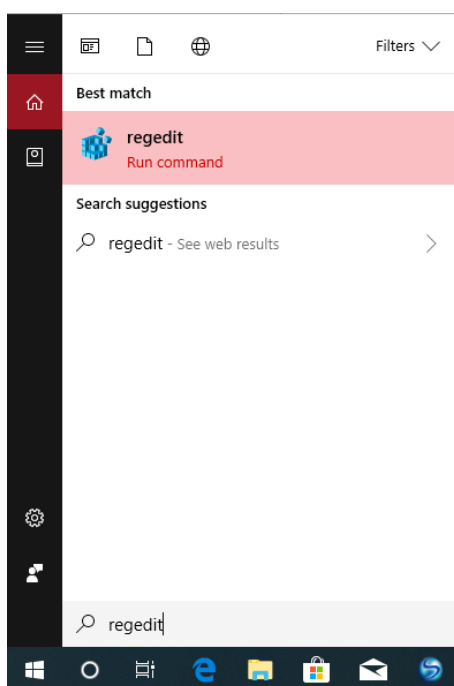
You can force Excel to open a new instance by default. I show this for completion, but be very careful working with the registry. It's a great way to make friends with your local IT department and learn how to re-format your hard drive. However, whilst this approach is inherently the most dangerous / complex, it's the only one where you can make Excel open a new instance each time.

Having said that, this method only works when you use the Excel icon to open a new spreadsheet. When opening a new spreadsheet from within

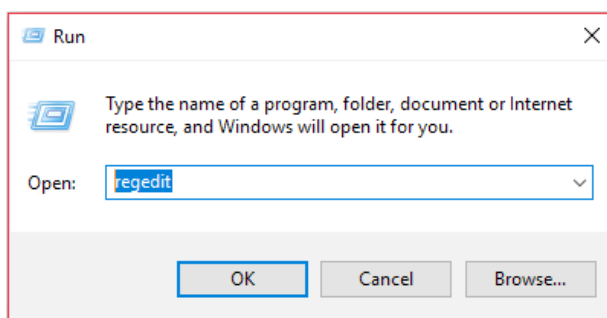
a file from File Explorer or by using **File -> Open** in Excel, the file still opens in the current Excel instance.

Never edit the registry without creating a backup. Adjusting the wrong entries may cause serious problems (no, I don't mean "opportunities"). Therefore, to create a backup:

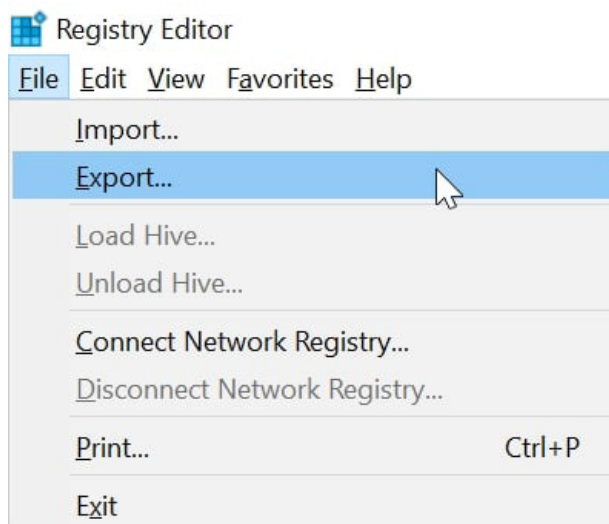
Click 'Start' (or the Windows key), then type 'Regedit' and finally click on 'Regedit' in the search results:



You can just type 'regedit' in the 'Run' dialog as well:

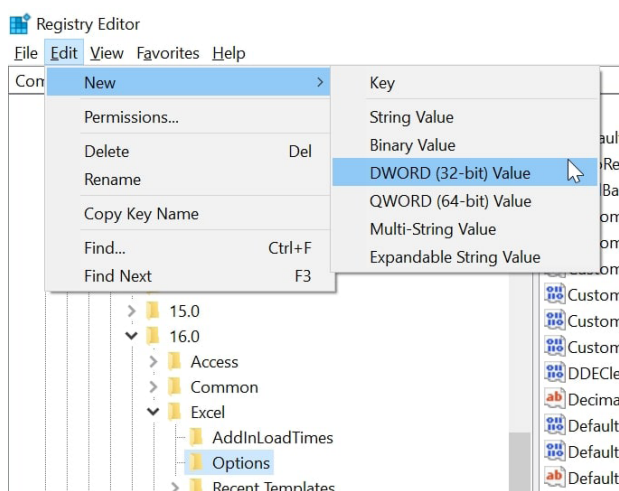


Press **File** -> **Export** -> Select **Export Range 'All'** -> Save the backup in a safe location:



Now you may wreak havoc. To edit the registry:

- close all instances of Excel
- open the Registry Editor (as explained in the backup step)
- go to **HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\Excel\Options** (this is for Excel 2016; for Excel 2013, use **HKEY_CURRENT_USER\Software\Microsoft\Office\15.0\Excel\Options**)
- click 'Edit' in the menu, press 'New', and select 'DWORD (32-bit) Value' (this seems to be what you must do even if you are using 64-bit Excel)



- name the entry '**DisableMergeInstance**', press **ENTER**
- right-click the entry **DisableMergeInstance**, and select 'Modify'
- in the 'Value' data box, enter 1 and click OK.

Next time you open a new Excel window using the taskbar icon, it will open in a new instance.

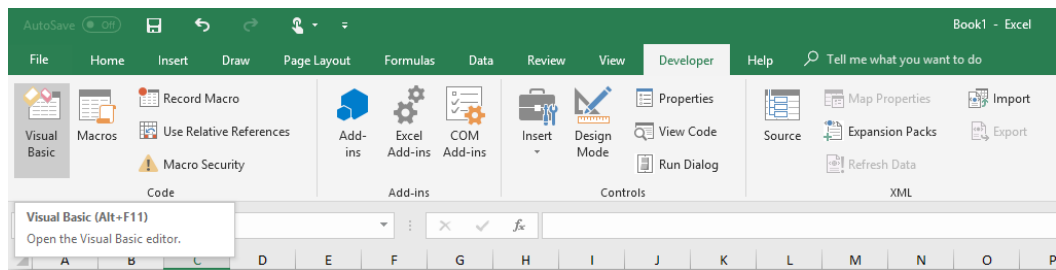
Word to the Wise

In all instances (sorry, I couldn't resist the pun), use **CTRL+ TAB** to switch you from one file to the next file within the same instance.

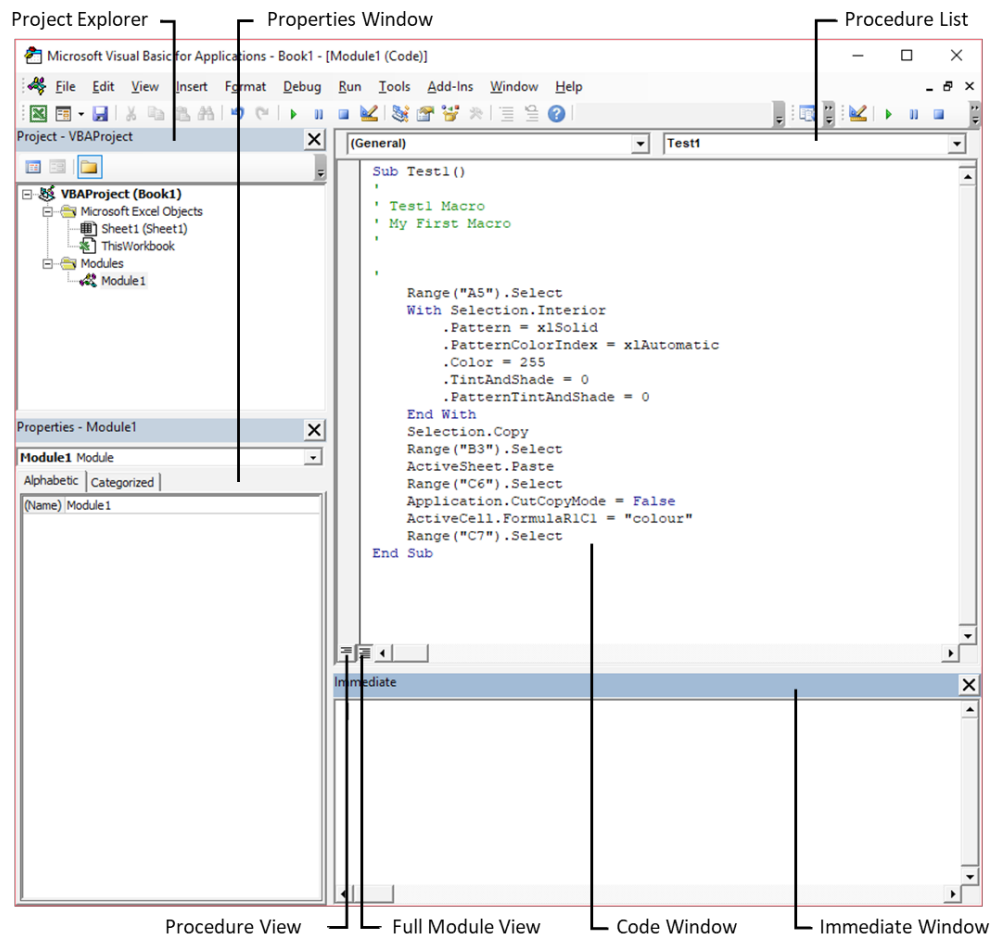
Visual Basics

It's not all about the Power Tools, you know. We thought we'd run a "basic" series going through the rudiments of Visual Basic for Applications (VBA) as a springboard for newer users. This month, we actually at the VBA Editor.

Using the 'View Macros' option is one way to get to the VBA Editor. However, it is also accessible from Excel via the 'Developer' tab in the Ribbon. Under the 'Code' category on the 'Developer' tab, clicking on the 'Visual Basic' button will take us directly into the VBA Editor:



Alternatively, **ALT + F11** is the keyboard shortcut to enter the Microsoft Visual Basic for Applications editor (known as the “VBA Editor”). Let’s review the Visual Basic Editor and familiarise ourselves with the different components.



Many of these terms are self-explanatory but let me go through some of them.

- The **Code Window** is where procedures appear, *i.e.* macros that have been recorded and stored are also displayed here. The code window is also where we can write code for our macros
- The **Procedure List** is visible at the top-right of the Code Window. From this list, navigation to any procedure in the active module is quick and easy. Also notice the view options at the bottom of the screen. When we have several macros in a module, it can be helpful to view them one at a time
- **Full Module View** allows us to switch between viewing the ‘Full Module view’ and single procedure view with just a click of a button
- The **Immediate Window** is used to debug and evaluate expressions, execute statements, print variable values *etc.* It allows us to enter expressions to be evaluated or executed by the development language during debugging
- **Project Explorer** is where we see the list of all VBA projects that are currently open or loaded. All open documents, as well as open or loaded document templates, appear here, regardless of whether they contain macros or not. They can be easily collapsed or expanded to view the modules and objects that it contains

For modules, the **Properties Window** is generally used only to edit the module name. Module naming rules are the same as macro naming rules – no spaces or special characters and the name must begin with a letter. However, for some object types (such as UserForms), the ‘Properties Window’ becomes extremely important because it’s populated with many settings that we can edit directly in that window, like the height and width of a UserForm or the value to display on a form control.

More next month.

Power Pivot Principles

A New Year, a new series. We've been running the Power Query / Get & Transform series in our newsletter for some time now, so we thought it might be worth commemorating the start of 2019 with a new serial on its sister feature, Power Pivot...

Want to create a PivotTable where formatting "sticks" and data may be referenced from a myriad of various sources at the same time? Want to analyse PivotTable outputs but frustrated with the limitations of calculated fields or the **GETPIVOTDATA** function? If so, then Power Pivot is for you!



In this series, we will be sharing with you how to use Power Pivot, as well as some little tips and tricks here and there about the tool. So, to start it all off, we take a look this month at what is Power Pivot.

Power Pivot is a COM add-in tool in Excel which may be used to transform large volumes of data into sophisticated data models, allowing you to perform powerful data analysis.

Power Pivot offers several features unavailable in "standard" Excel. One such feature is the ability to compile data from multiple sources and combine them into one interrelated database. Another useful feature is it can create calculations called a 'measure'. Measures calculations are used in data analysis, with some of the more common measures being sums, averages or counts. Simple and more complex calculations may be created using **Data Analysis eXpressions (DAX)** formulae.

Measures may be developed and stored locally in a file to create summaries, forecasts and insights.

Power Pivot also possesses the ability to compress the data in Excel as an internal database – known as the "Data Model" – where you may store millions of rows of data. The small file sizes make it easier to share workbooks with colleagues, with the added benefit of isolating the external database to prevent corruption. And what's more, it's easy to use!

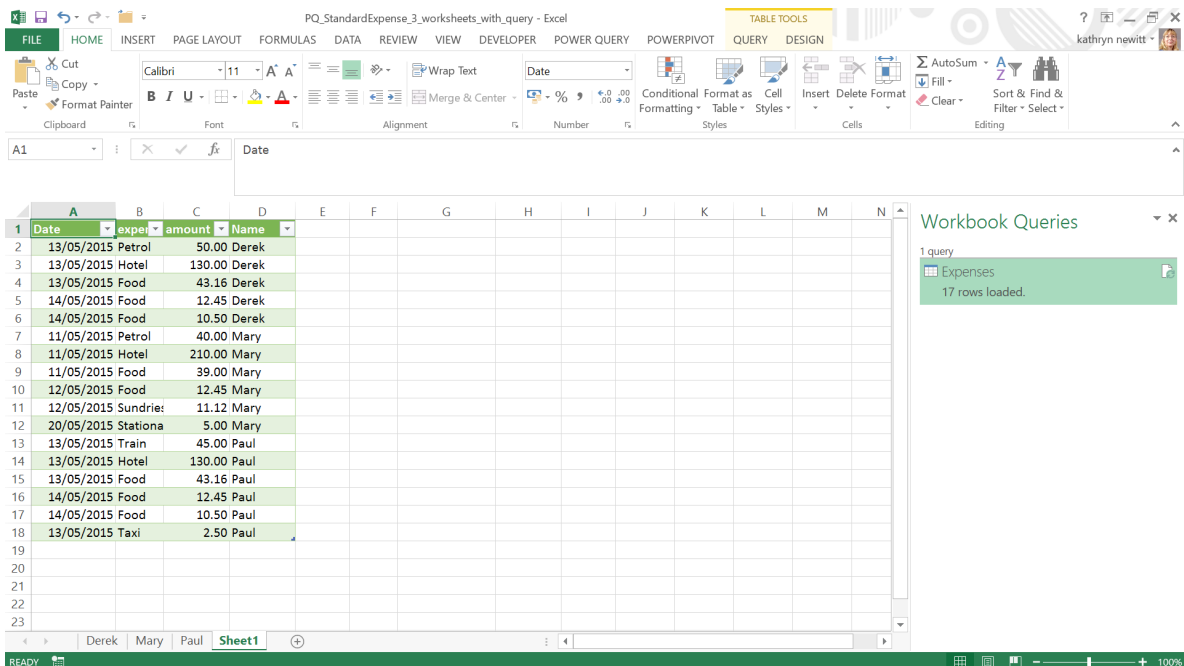
Hopefully, we have piqued your interest in Power Pivot, with its features and utilities. Stay tuned for next month's article on which versions of Excel Power Pivot is actually compatible with – because it changed a while back...

Power Query Pointers

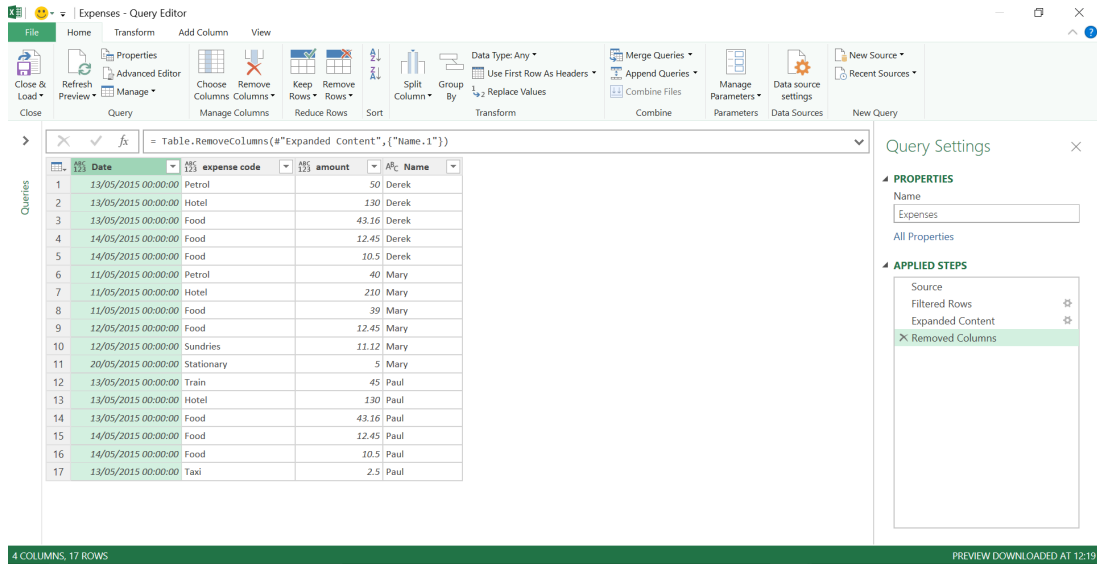
Each month we'll reproduce one of our articles on Power Query (Excel 2010 and 2013) / Get & Transform (Excel 2016) from www.sumproduct.com/blog. If you wish to read more in the meantime, simply check out our Blog section each Wednesday. This month, we look at extracting start and end dates.

For those following the series, past articles have often dipped into the expense accounts of (fictional) salespeople. For today's scenario, we will extract the start and end date of the employees' expense period to show how easy it is when we use the grouping functionality in Power Query.

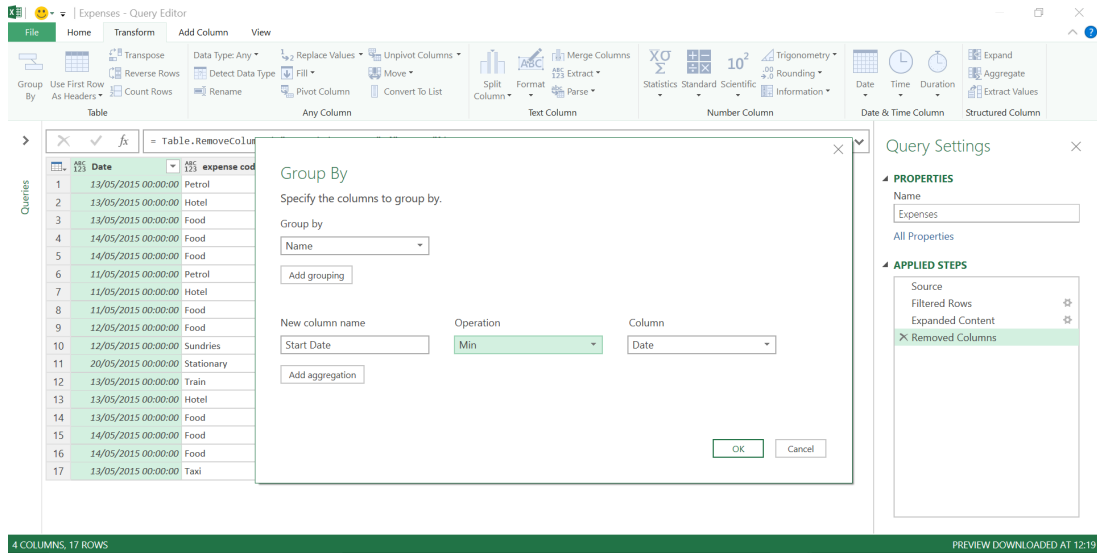
The sheet below was created using a combined expense query, previously derived in this newsletter series, viz.



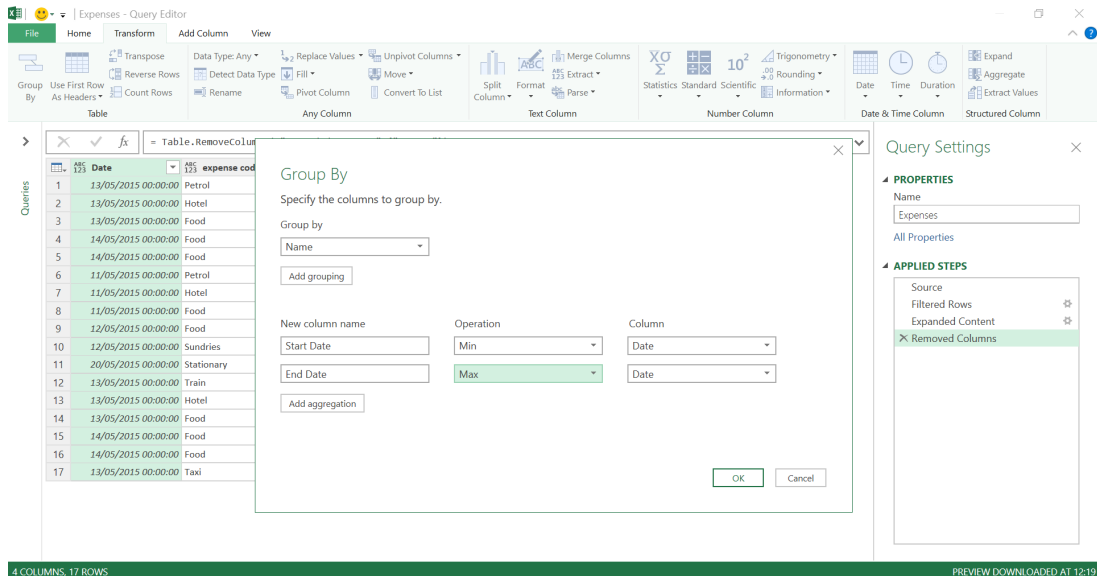
We already have the 'Expenses' query, so let's begin by double clicking on the query to get into the 'Query Editor' screen:



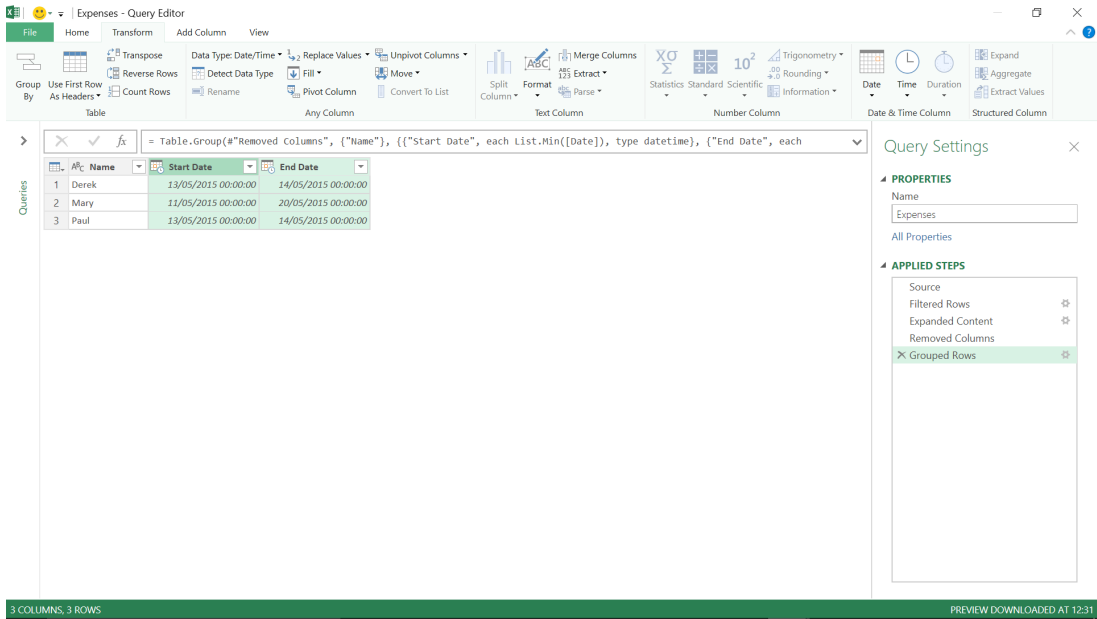
Previously, we looked at using grouping to simplify data, and here we'll be using a similar technique. On the 'Transform' tab, let's choose 'Group By'. Since we are looking for the period for each person, the grouping will be driven by my **Name** column. We'll need to find the start and end date for their expense period. We'll begin by entering the first grouping level, naming the column 'Start Date' and making it a minimum of the date:



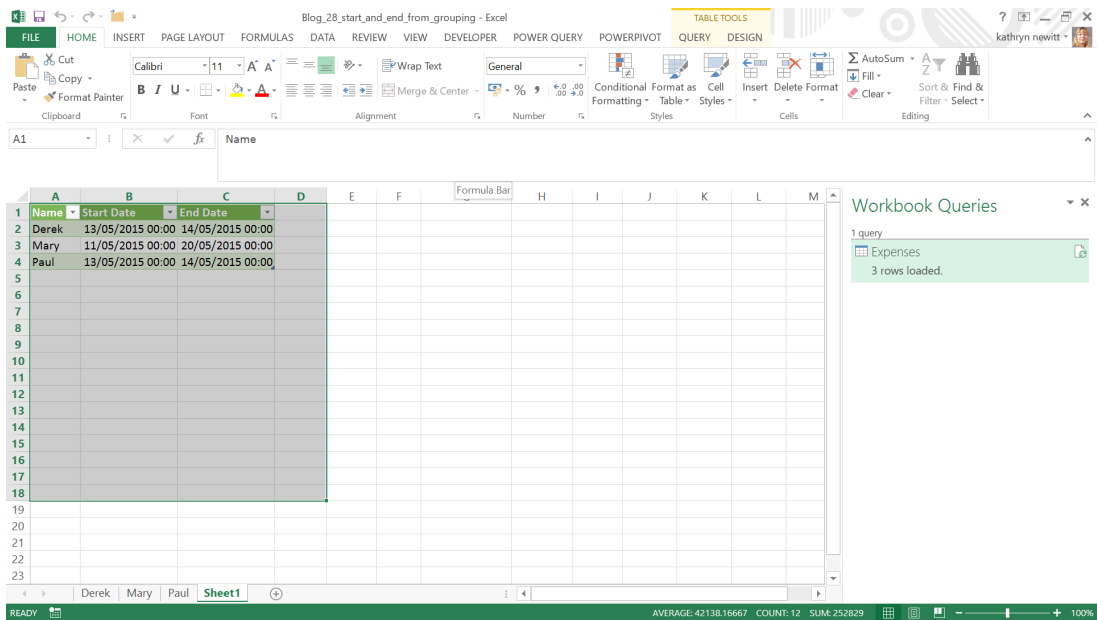
So far so good, so what? Now we need to get the end date, so let's create another grouping level using the 'Add aggregation' button. This will also act on the **Date** column, this time taking the maximum value:



Now all we need to do is click 'OK' to see what happens.



It all looks good, so I have a result which can be loaded into an Excel sheet.



More next month!

December Updates for Power BI Desktop

Clearly, there were Christmas parties to go to and New Year celebrations. Consequently, the list of December updates was a little smaller than usual. We're not complaining – it takes me less time to write it! Here's the updates for December:

Report

- Smart guides for aligning objects on a page
- ArcGIS Maps for Power BI updates
- Fields list accessibility support
- Set tab order for objects on a page
- Tooltips for button visuals
- Updated icons for "Visual interactions"

Analytics

- Live Connect support for Q&A (Preview)

Modelling

- DAX formula bar updates
- Data view accessibility support

Custom visuals

- Blpm: Interactive directed flow graph

Data connectivity

- AtScale connector (Beta)
- Oracle Essbase connector (Beta)

Data preparation

- Fuzzy merge - support for Top N best matches

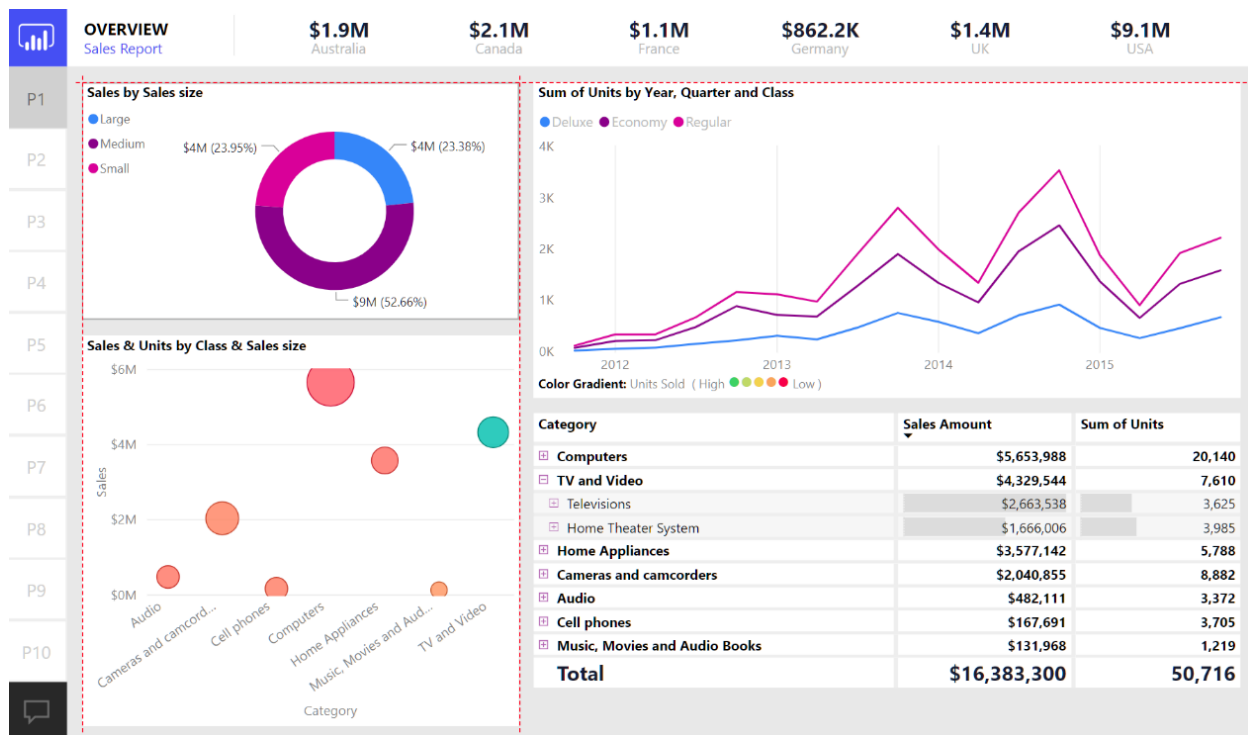
Other

- High contrast support for all panes and report footer
- Updated keyboard shortcuts dialog.

Let's go through each new feature in turn.

Smart guides for aligning objects on a page

Similar to PowerPoint, you'll now see smart alignment guides when moving objects on your report page to help you align everything on your page. These smart guides will appear any time you drag or resize something on your page. When you move an object near another one, it will snap into a position aligned with the other object.



If you decide you don't want the smart guides, you can turn them off in the 'Report settings' page of the 'Options' dialog.

ArcGIS Maps for Power BI updates

There are several updates to ArcGIS Maps for Power BI, which offers enhanced mapping and analysis capabilities, demographic data and visualisations. These include:

- **Find locations with similar attributes:** The 'Find Similar' tool can identify important locations in your data. You start by selecting one or more points of interest, or reference locations, defining up to five dimensions that you want to use in analysis, and then 'Find Similar' will calculate the 10 locations on your map that are most like the reference locations you defined. You can then use Infographics cards to learn more about the demographics around each of your results, create drive time areas to get a sense of what is within driving distance of each of these locations, or even use the 'Find Similar' tool itself to filter your report and gain more insights. Most importantly, all of the calculations are performed on your machine, so you can be sure your confidential data remains protected
- **Boundary Data for over 130 countries:** The 'Location type' tool allows you to create maps using standard administrative boundaries for over 130 countries. To improve the accuracy of your data analysis, there is now more boundary data available. For example, you can now find boundary data for not only seven, but also 11-digit SLA codes for Australia
- **Better user interface:** You can now just hover over the selection tool icon to see the entire toolbar. What's more, tabs in the side pane scroll so you can see the entire text easily.

Should you be an ArcGIS Maps for Power BI Plus user, there's more features:

- **Infographic Data for over 130 countries:** The ArcGIS Maps for Power BI Plus subscription unlocks access to a lot more Esri-curated geographic content, including infographic data on income, expense, race, education, health and other demographics
- **Pin maps with up to 5000 addresses:** ArcGIS maps for Power BI lets you geocode up to 1,500 addresses per map, but with a Plus subscription you can do even more with your data and add up to 5,000 addresses to every map.

Fields list accessibility support

The 'Fields list' pane is now fully accessible. You may navigate around the pane using just your keyboard and a screen reader and use the context menu to add fields to your report page.

The following keyboard shortcuts can also be used in the 'Fields list':

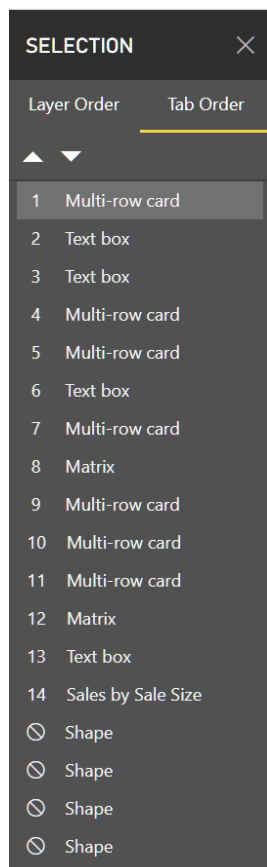
- Move focus along the pane: **TAB**
- Select a field: **ENTER / SPACE**
- Collapse all tables: **ALT + SHIFT + 1**
- Expand all tables: **ALT + SHIFT + 9**
- Collapse a single table: **Left Arrow key**
- Expand a single table: **Right Arrow key**
- Open a context menu: **SHIFT + F10 or Context key**

Microsoft has also added new options to the context menu to add the field to the report page, to the different filter buckets, and the drillthrough bucket. With these updates, all the panes are now fully accessible.

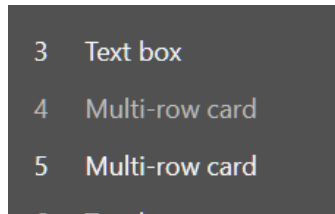
Set tab order for objects on a page

The default tab order for objects on a page is the creation order. However, you might wish to change that. You can now set your own custom tab order for the report page. To set the tab order, open the 'Selection' pane and switch the from the default 'Layer Order' to the 'Tab Order'.

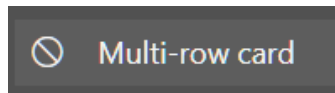
You can drag and drop the fields to reorder the 'Tab Order'.



Things that are currently hidden are also dimmed in this view, since things that are hidden are automatically skipped.

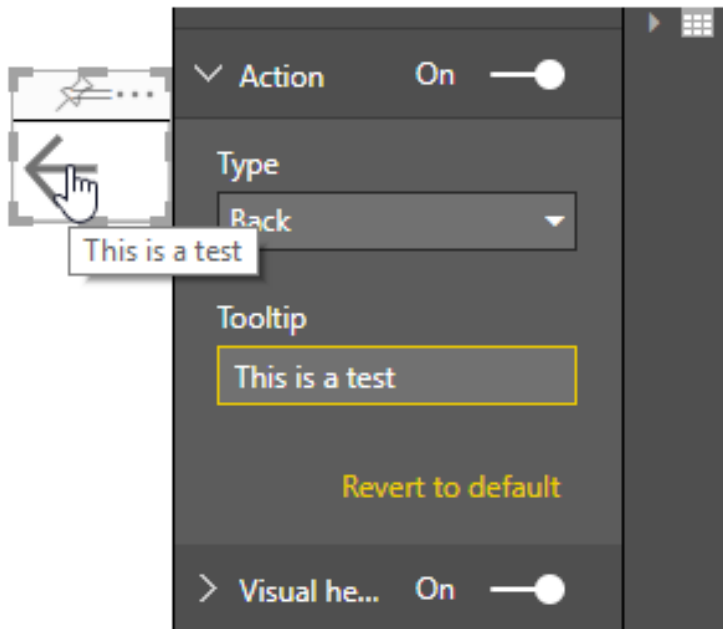


You may also mark something that should be skipped in the tab order by hovering over the number and clicking the 'Skip' icon. Once you mark something to be skipped, it will never be in the 'Tab Order', even if it is visible on the report. If you have a lot of shapes on your report for purely decorative reasons, it might be a good idea to skip these items.



Tooltips for button visuals

If you've used the button visuals to add navigation, Q&A or information to your report, you might wish to customise the tooltip for the button. To do this, look in the 'Action' card of any button visual and you will see a 'Tooltip' option. This lets you put in text that will be used in place of the 'CTRL + Click here to follow link' tooltip you see by default.



Updated icons for "Visual interactions"

If you've used the 'Visual Interactions' feature to control whether selecting items in a visual cross-filters or cross-highlights other charts, you'll notice changes have been made to the icons that are visible when in 'Edit interactions' mode:



These should make it clearer whether the currently selected visual is filtering or highlighting other charts, particularly with last month's Preview of the new on-visual filter restatement.

Live Connect support for Q&A (Preview)

You can now use Q&A with Live Connect. All Q&A functionality, including Q&A to create visuals and the Q&A explorer, will work for most Live Connect scenarios. The only situations that Q&A will still be disabled are:

- Live Connecting to the Power BI service
- Live Connecting to a multidimensional AS on-prem
- Live Connecting to Analysis Services with versions earlier than SQL 2016 RTM V 13.0.1601.5 or a model with compatibility level less than 1103.

Do note that this is a Preview feature, so you'll first need to turn it on in the 'Options' dialog.

DAX formula bar updates

The DAX formula bar has had several updates in this release. The first is that you can now zoom on the formula bar, using either **CTRL + /** - keys or the **CTRL + Mouse Wheel**. This is great if the font size is too small or you need to present the DAX to a large group.

```
1 U Vs Goal = DIVIDE(SUM(Sales[Units]),(DIVIDE(CALCULATE(SUM(Sales[Units])),PREVIOUSYEAR
```

The second update is that you can now use a much larger view of the DAX formula bar. When expanding the DAX editor, the formula bar now takes up almost the full height of the Power BI Desktop, instead of the static 11 lines that was used previously.

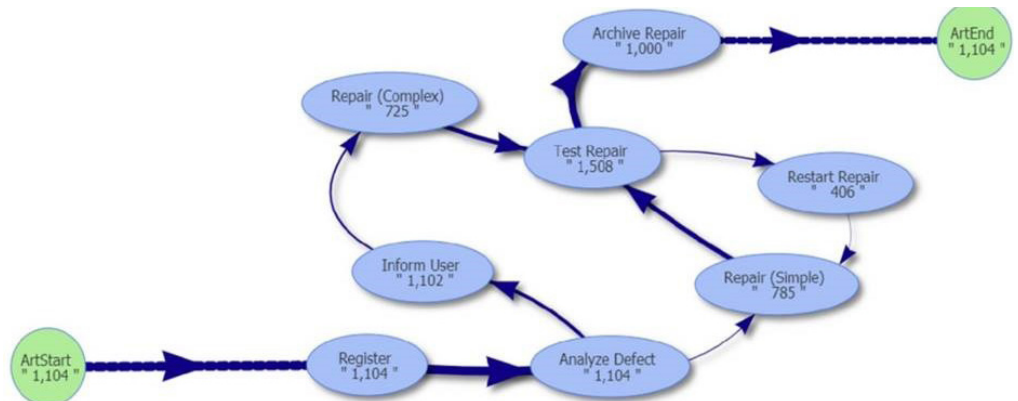


Data view accessibility support

The 'Data' view is now fully accessible. You can navigate around areas of the 'Data' view using **CTRL + F6**. The data grid region also supports table style navigation, namely arrow keys to move around, **PgUp / PgDn** support, **Home / End** and **CTRL + Home / CTRL + End** support. You can also trigger the context and filter menus with the keyboard. The 'Data' view also supports screen readers and high contrast.

Blpm: Interactive directed flow graph

The Blpm: Interactive directed flow graph custom visual (by Mohammad Reza Harati Nik) shows an interactive direct flow graph. This visual is meant to help you better understand the process model of the data, especially for event logs.

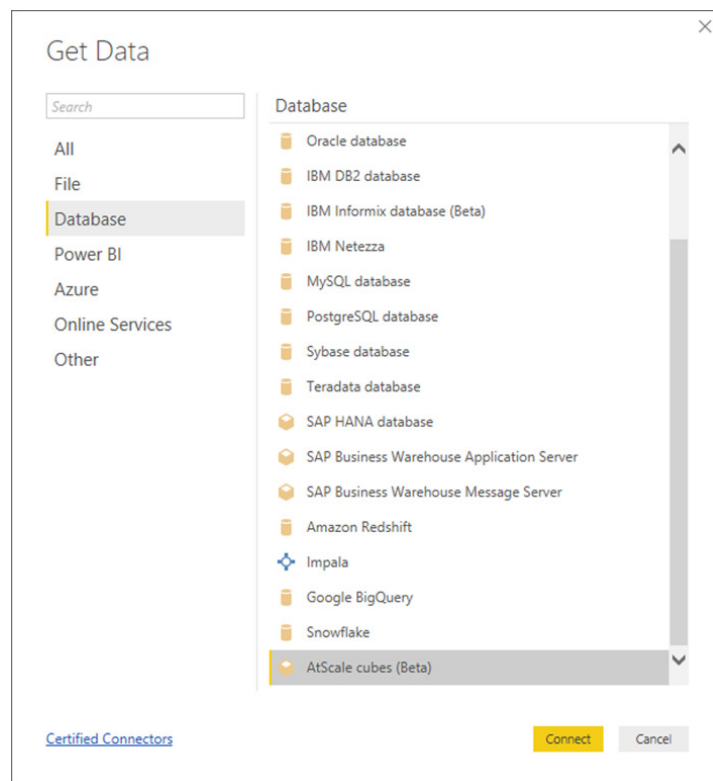


You can download this custom visual from AppSource (download from <https://appsource.microsoft.com/en-us/product/power-bi-visuals/WA104381928?src=office&tab=Overview>).

AtScale connector (Beta)

This update provides a new connector that enables you to connect to AtScale as a multidimensional source. This new connector, which Microsoft has developed in collaboration with AtScale, allows you to build Import and DirectQuery-based reports on top of AtScale's data.

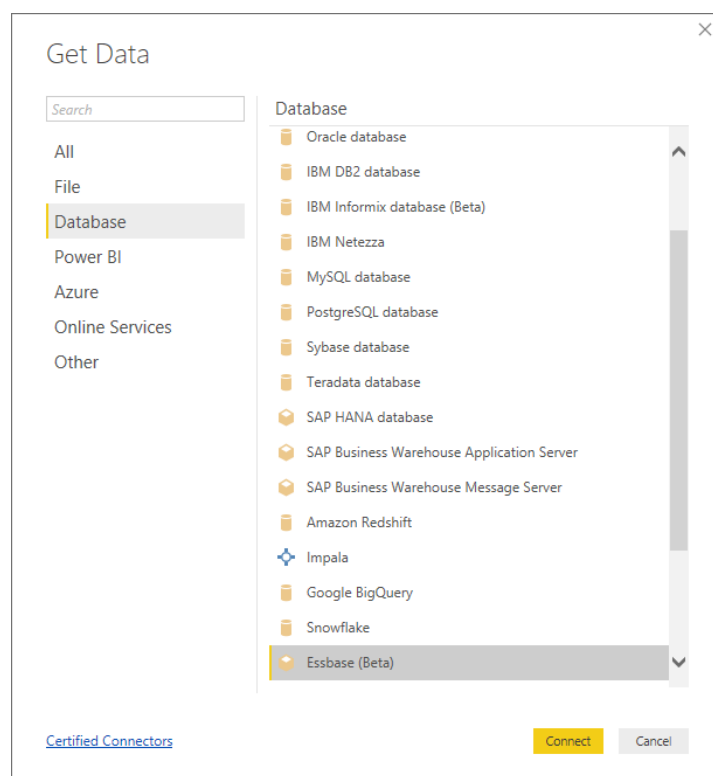
The new AtScale connector can be found under the 'Databases' category within the 'Get Data' dialog:



This connector is currently only available in Power BI Desktop. Microsoft has stated that support for it in the Power BI Service "...is expected to become available in a few months...".

Oracle Essbase connector (Beta)

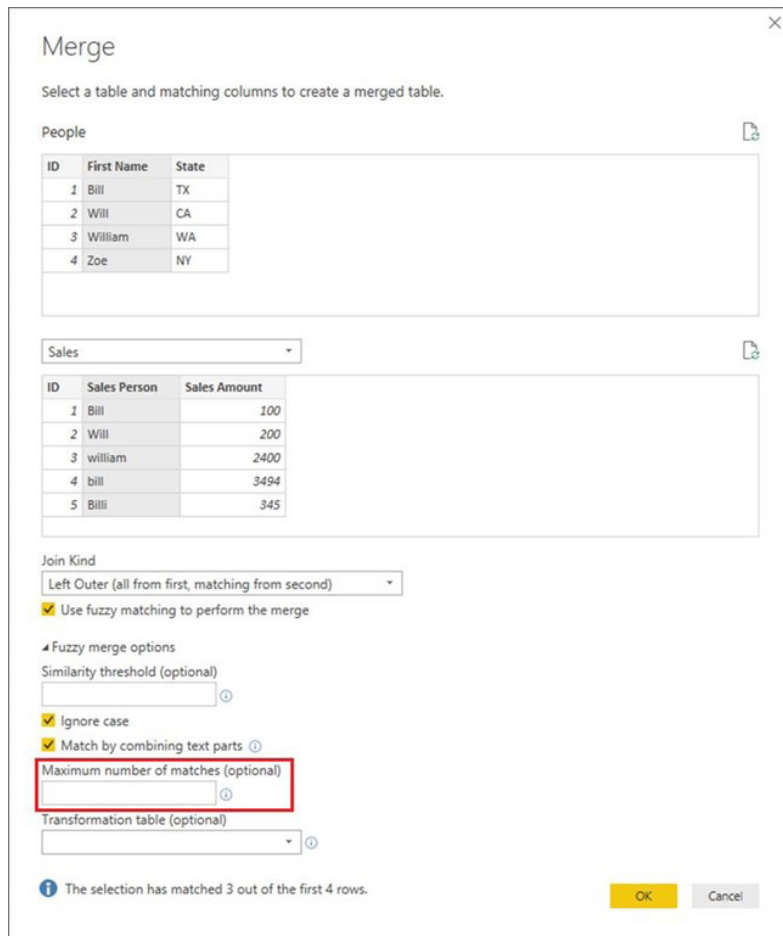
Another new data connector in this update, the Oracle Essbase connector allows you to connect to Oracle Essbase and build Import reports. The new Essbase connector can be found under the 'Databases' category within the 'Get Data' dialog:



Again, this connector is currently only available in Power BI Desktop and similar to the AtScale connector, support for it in the Power BI Service is expected to become available in a few months' time. It's also notes that support for Direct Query is also planned in a future release.

Fuzzy merge - support for Top N best matches

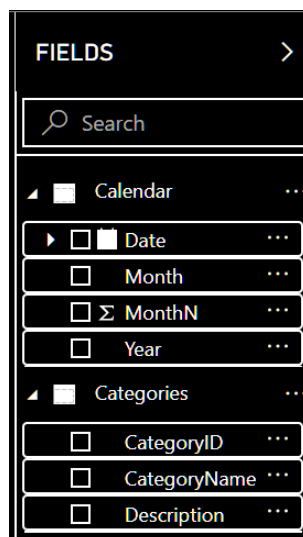
Back in October, Microsoft introduced a Public Preview of the new Fuzzy Matching capabilities within the 'Merge Queries' transformation. This update enhances this feature to provide support for returning the Best N Matches, allowing you to specify a maximum number of matches to return.



There are further capabilities planned (such as returning the 'Similarity Score' for each match) in future releases, so stay tuned.

High contrast support for all panes and report footer

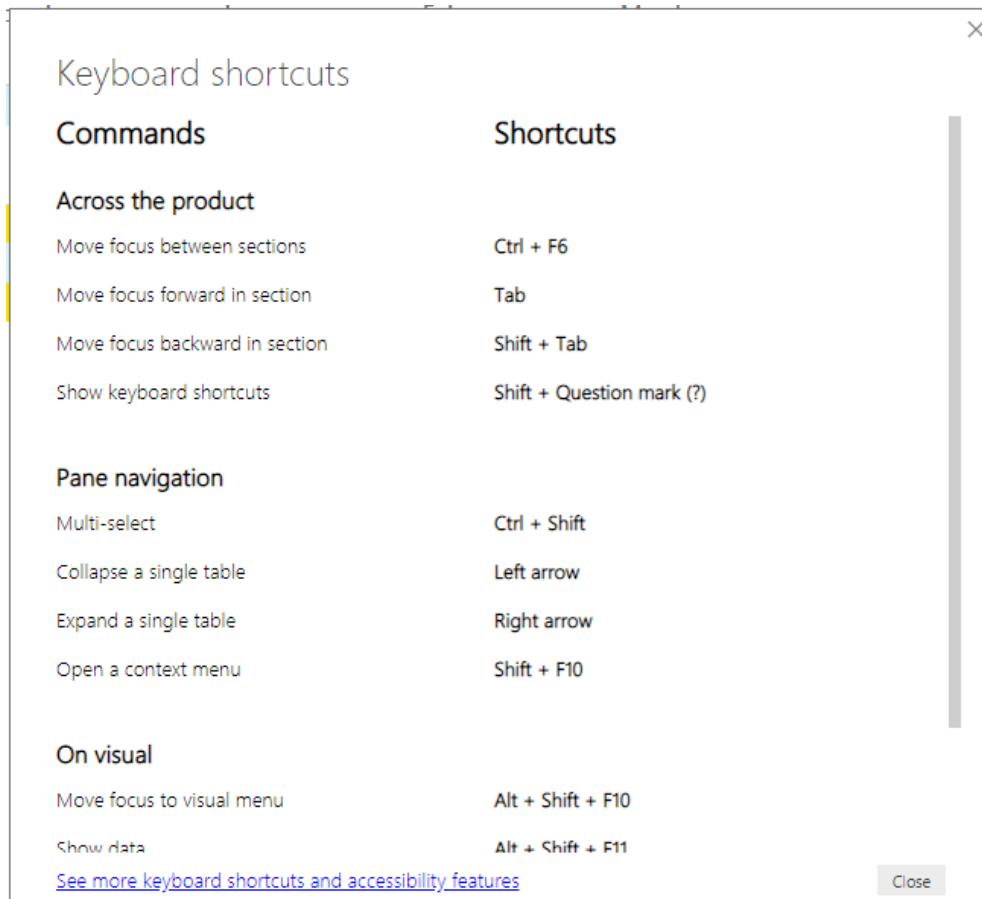
All the panes in Power BI Desktop, the page switcher, and their contents are now compatible with high contrast modes.



That's definitely better for my eyes.

Improved keyboard shortcuts dialog

Microsoft continues to improve the overall experience for navigating around Power BI Desktop using a keyboard, and this update adds some more shortcuts for getting around the panes, visuals etc. You can press '?' to open this cheat-sheet – a revamped shortcut dialog:



In fact, just for those who like that sort of thing, here's the current list of keyboard shortcuts as cited by Microsoft in various locations. We're not saying it's exhaustive but we cannot find a better list:

Shortcut	Action
ALT + Click	Insert cursor in DAX Editor
ALT + Down Arrow key	Move line down in DAX Editor
ALT + ENTER	New line starting from first of line in DAX Editor (no indent)
ALT + I	Restart intellisense
ALT + SHIFT + A	To comment / uncomment (toggle) a portion of code
ALT + SHIFT + Down Arrow key	Copy line down in DAX Editor
ALT + SHIFT + F10	Move focus to 'Visual' menu
ALT + SHIFT + F11	Show data
ALT + SHIFT + Right Arrow key	Select nearest word and expand selection in DAX Editor
ALT + SHIFT + Up Arrow key	Copy line up in DAX Editor
ALT + Up Arrow key	Move line up in DAX Editor
CTRL + ALT + Down Arrow key	Enter multiple lines of code at once in DAX Editor
CTRL + ALT + Up Arrow key	Enter multiple lines of code at once in DAX Editor
CTRL + C	Copy
CTRL + D	Highlight the current word, CTRL + D again to find / highlight the same next word. Continue pressing CTRL + D to find / highlight all same words, then start typing to replace all words at once

Shortcut	Action
CTRL + DELETE	Delete a word in the DAX Editor
CTRL + ENTER	Insert line below in DAX Editor
CTRL + F2	Select all occurrences of current word in DAX Editor
CTRL + F6	Move focus between sections
CTRL + G	Go to line number in DAX Editor
CTRL + I	Select current line in DAX Editor
CTRL + K + C	Comment multiple lines in DAX Editor
CTRL + K + U	Uncomment multiple lines in DAX Editor
CTRL + Right Arrow key	Interact with a Slicer
CTRL + SHIFT	Multi-select
CTRL + SHIFT + B	Move an object down in the layering ('Selection' pane)
CTRL + SHIFT + ENTER	Insert line above in DAX Editor
CTRL + SHIFT + F	Move an object up in the layering ('Selection' pane)
CTRL + SHIFT + K	Delete multiple lines in DAX Editor
CTRL + SHIFT + L	Select all occurrences of current selection in DAX Editor
CTRL + SHIFT + S	Hide / show (toggle) an object ('Selection' pane)
CTRL + SHIFT + \	Jump to matching bracket in DAX Editor
CTRL + SPACE	Multi-select objects
CTRL + V	Paste
CTRL + '+'	Comment / uncomment all lines including a desired word
CTRL + [Outdent line in DAX Editor
CTRL +]	Indent line in DAX Editor
CTRL + /	Comment multiple lines in DAX Editor
CTRL + \	Uncomment multiple lines in DAX Editor
ENTER	Select or de-select an object
F6	Activate 'Selection' pane
Left Arrow key	Collapse a single table
Right Arrow key	Expand a single table
SHIFT + ENTER	Creates line break with auto-indent
SHIFT + F10	Open a context menu
SHIFT + TAB	Move focus backward in section or decrease indent (context specific)
SHIFT + ?	Show keyboard shortcuts
SPACE	Select or de-select an object
TAB	Move focus forward in section
Windows Context Key + F10	Open a context menu

That's it for this month. Microsoft has announced that the next update will only be a Power BI Desktop for Report Server update as they have a break to see in the New Year too. We can't argue with that. More anon.

Update Update



One of the most common questions we get here at SumProduct HQ is, "why haven't I got the latest function / feature / Power Query Editor / ad lib to fade?". Sometimes, your particular set-up doesn't allow you to have the latest and greatest (sorry Mac users), but there are ways you can optimise your set-up by ensuring you know how to update Office / Windows for your machine.

Now we appreciate many readers will be held ransom by their IT department's policies and procedures, but for those of you with more leeway, please find below how to make sure your update settings are optimised.

MICROSOFT OFFICE

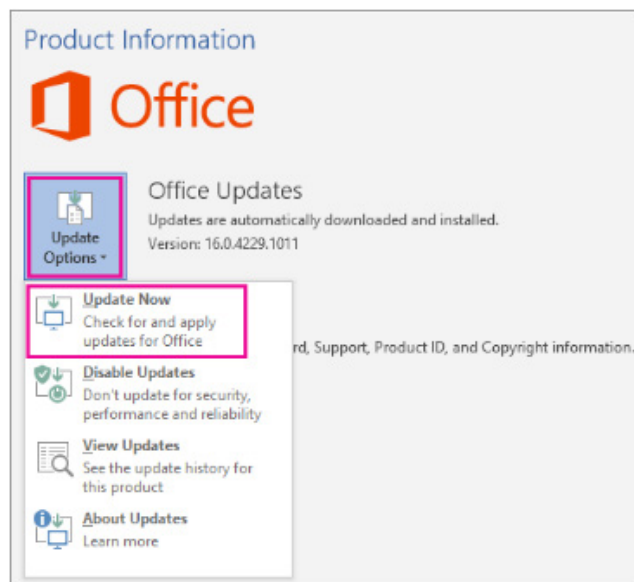
Office from the Microsoft Store

If you purchased Office from the Microsoft Store app on your Windows device, you can update Office from the same place:

1. Exit all Office apps
2. Open the Microsoft Store app by typing 'Microsoft Store' into the taskbar search and press **ENTER**
3. Click on the  icon and make sure you're signed into the Microsoft account associated with your Office license
4. Click on the  icon and choose 'Downloads and Updates'
5. Click 'Get Updates'.

Other Office Versions Later than Office 2013

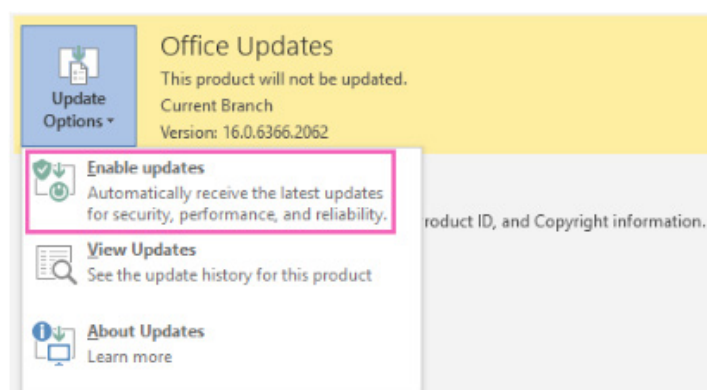
1. Open any Office app, such as Excel (obviously!), and create a new document
2. Go to **File > Account** (or 'Office Account' if you opened Outlook by mistake)
3. Under **Product Information**, choose **Update Options > Update Now**. Note: You may need to click 'Enable Updates' first if you don't see the **Update Now** option right away



4. Close the '**You're up to date!**' window after Office is done checking for and installing updates
5. You can also use the 'Update Options' button to 'Disable Updates' or to 'View Updates' that were previously installed.

Office 2013

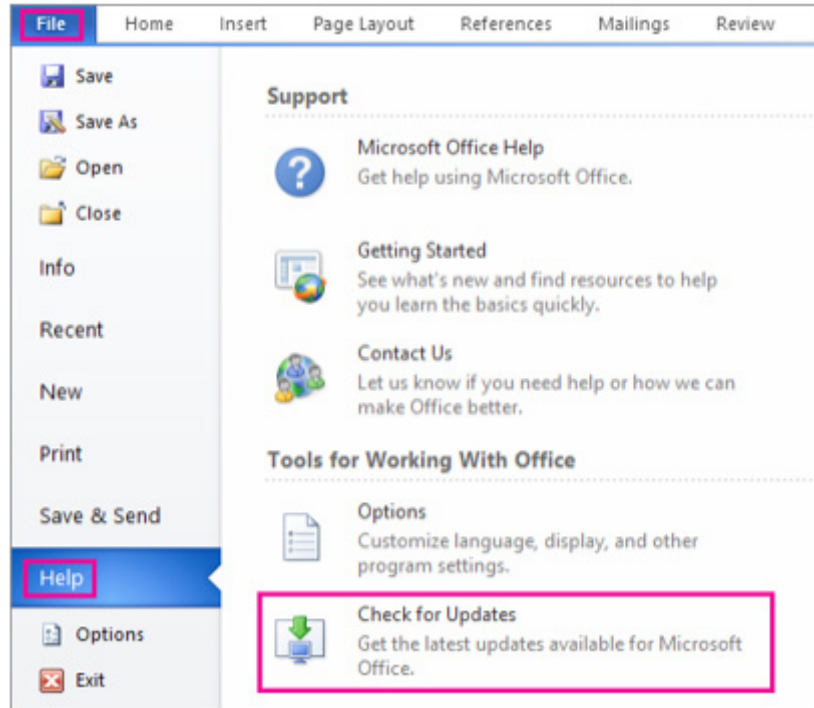
1. Open any Office 2013 application, such as Excel, and create a new document
2. Click **File > Account** (or 'Office Account' if you opened Outlook 2013)
3. Under **Product Information**, choose **Update Options**
4. Click **Enable Updates** if the option is available



5. Choose **Update Now** to manually check for and install Office updates
6. Close the **'You're up to date!'** window after Office is done checking for and installing updates.

Office 2010

1. Open any Office 2010 application, such as Excel 2010, and create a document
2. Go to **File > Help > Check for Updates**
3. Choose **Install Updates** or **Check for Updates**. If neither option is available, follow the additional steps provided in the pop-up window that appeared after you chose **Check for Updates**.

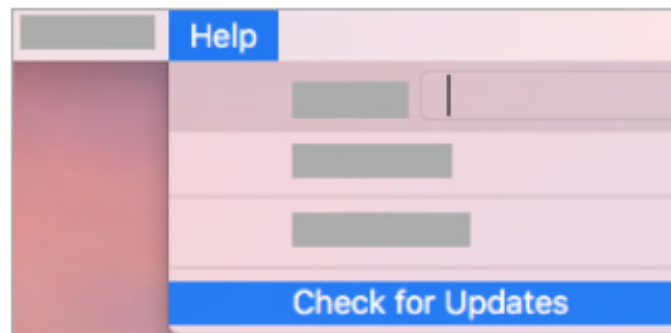


Office 2007 and Earlier

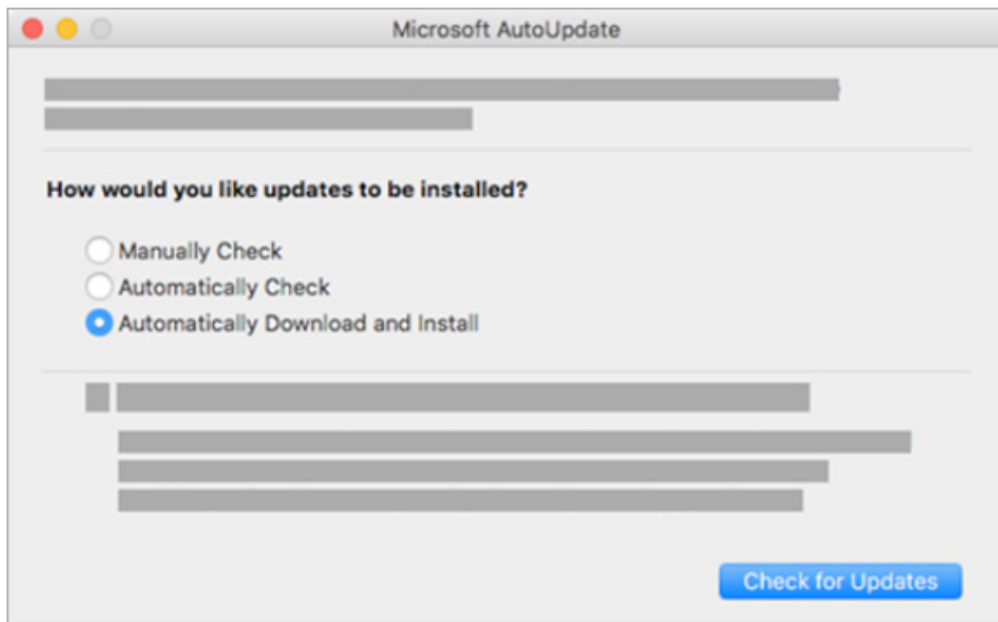
You're joking, right? Microsoft no longer supports Excel 2007 and earlier. Assuming you don't want multiple emails sent by mates asking for help stranded in countries you have never heard of, you might wish to consider upgrading to a newer version of Office.

Office for Mac

1. Open any Office application, such as Excel
2. On the top menu, go to **Help > Check for Updates**. If you don't see **Check for Updates** on the **Help** menu, you will need to download the latest version of the Microsoft AutoUpdate tool first



3. Under **'How would you like updates to be installed?'**, select **Automatically Download and Install**

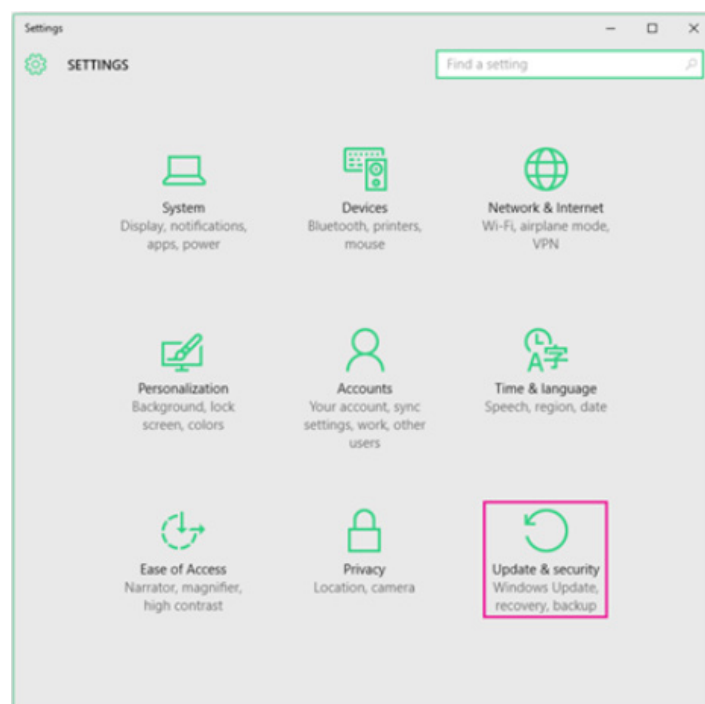
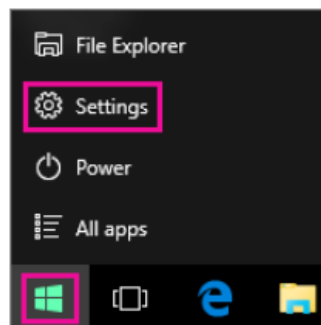


4. Select **Check for Updates**. If an update is available for your version of Office, you'll see a link to a website with more information about the update.

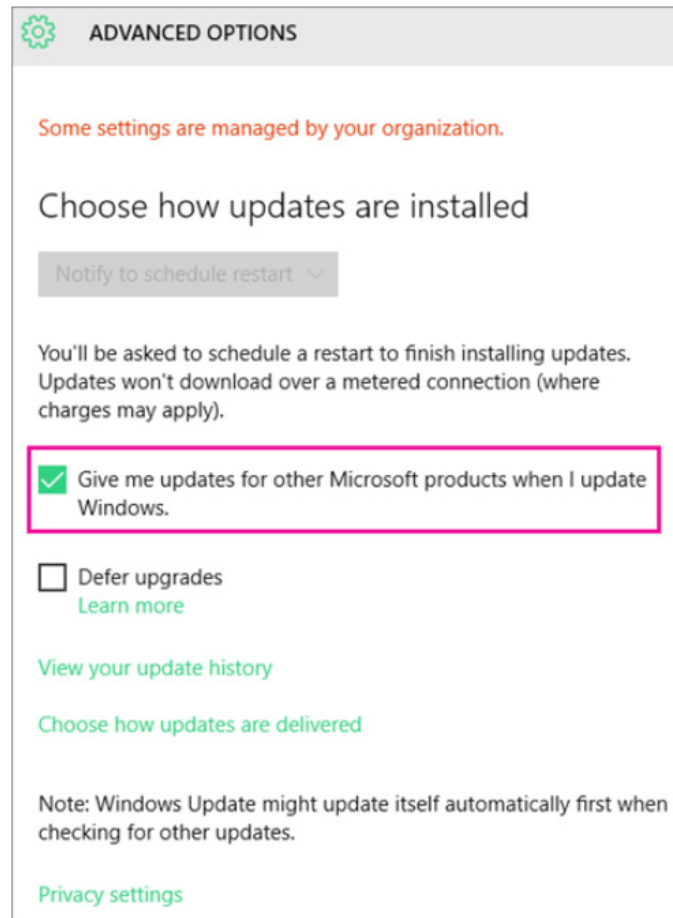
MICROSOFT WINDOWS

Windows 10

1. Open 'Windows Update' by choosing **Start > Settings > Update and security**

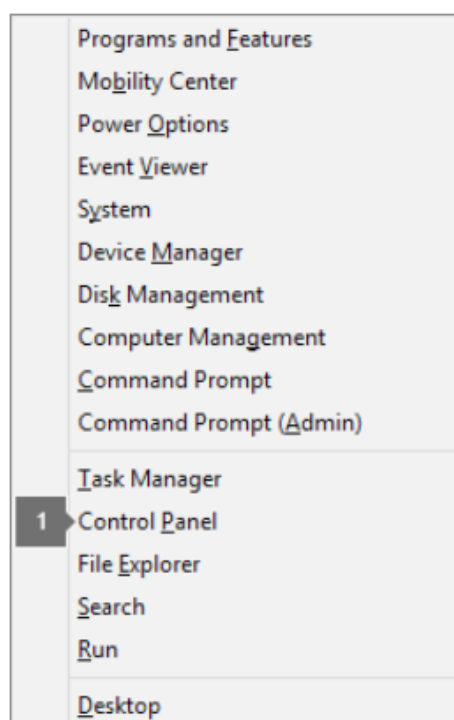


2. Choose **Advanced options**
3. Under **Choose how updates are installed**, choose the options that you want, including checking the **Give me updates for other Microsoft products when I update Windows box** so you can get Office updates.



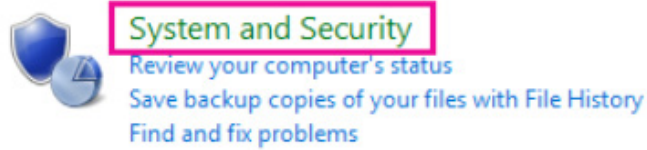
Windows 8 / 8.1

1. Open Control Panel by pressing the **Windows Logo key + X** to see a list of commands and options, and then click **Control Panel**

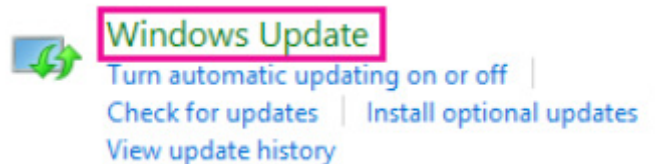


2. Choose System and Security

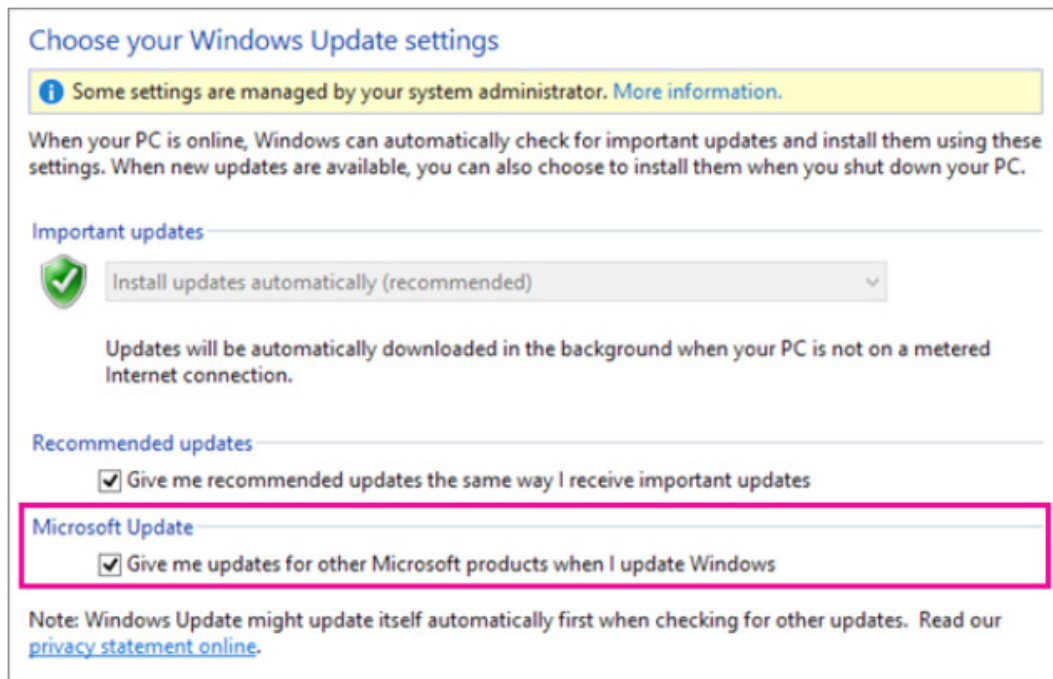
Adjust your computer's settings



2. 3. Choose Windows Update

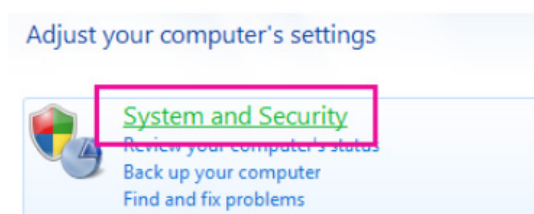


4. Choose **Change settings** and choose or change the settings you want. Be sure to select the **Give me updates for other Microsoft products when I update Windows** box so you can get Office updates. Also, remember that your computer has to be turned on at the time you selected to install these new updates.

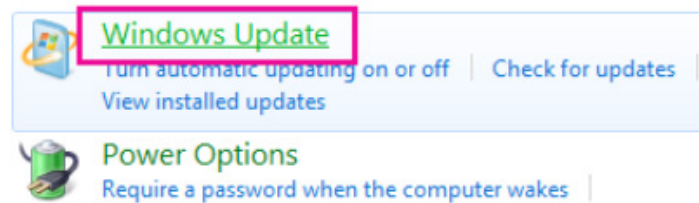


Windows 7

1. Close all open programs
2. Choose **Start > Control Panel**
3. Choose **System and Security** (which you see when you view **Control Panel by Category**)

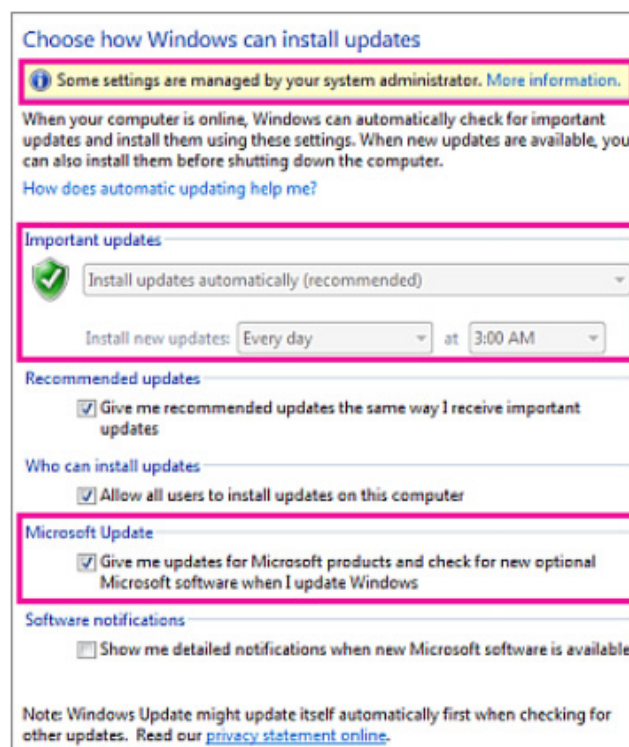


4. Choose **Windows Update**



5. In the left-hand pane, choose **Change Settings**

6. Under **Important Updates**, choose **Install updates automatically**, and under **Microsoft Update** check the **Give me updates for Microsoft products and check for new optional Microsoft software when I update Windows** box to get the Office updates. Your IT department might set automatic updates for you. If they do, you'll see the message in the yellow bar, and you won't be able to use the Important Updates list or Set dates and times, like so:



7. Select any other options, and remember your computer has to be on at the time you selected to install new updates. Some other tips you might wish to consider:
- o If you view the items in 'Control Panel' by their icons instead of categories, you choose **System > Windows Update > Change Settings**
 - o You'll receive updates for Office, Windows, and other products like Zune (*really!?*)
 - o Updates come in three categories: 'Important', 'Recommended' and 'Optional'. You'll only receive the 'Important' updates unless you select the second option **Give me recommended updates the same way I receive important updates**
 - o It's a good idea to install the 'Recommended' updates. The 'Optional' updates may be things you don't need, like the ability to change the language in your Office programs. It doesn't hurt to install them, but you have to get those updates manually.

Windows Vista

Do make sure you have enough power left in your elastic bands that power your wind-up PC, if you are using this... To turn on automatic updates in Windows Vista:

1. Choose **Start**, point to **All Programs**, and then choose **Windows Update**
2. Do any of the following:
 - o If updates need to be installed, choose **Install updates**
 - o To start checking for updates, choose **Check for updates**
 - o For more information, choose **View available updates**.

In the **Windows Update dialog box**, you can choose the links to make changes or learn more about the update process:

- **Check for updates:** search for available updates
- **Change settings:** select options for how your computer receives updates from Microsoft
- **View update history:** view what has been installed and the status of those installations
- **Restore hidden updates:** hide updates from your computer and install them later
- **Updates:** frequently asked questions: learn more about the update process.

Windows XP

To turn on automatic updates in Windows XP, find a grandparent who remembers what the password was for that machine first. Then:

1. Choose **Start > Control Panel**
2. Choose **Performance and Maintenance**, and then double-click **System**
3. In the **'System Properties'** dialog box, choose the **Automatic Updates** tab. If you are using the 'Classic' view, double-click **System** and then click the **Automatic Updates** tab
4. Choose the settings you want to use
5. Choose **Apply > OK**.

Earlier Versions of Windows

Good luck!

The A to Z of Excel Functions: CUMIPMT

This function returns the cumulative interest paid ("cumulative interest payment") on a loan between a designated **start_period** and **end_period** given a constant periodic discount rate.

Repayment Example
SP CUMIPMT Example.xlsm
[Navigator](#)

Error Checks:

1. Summary

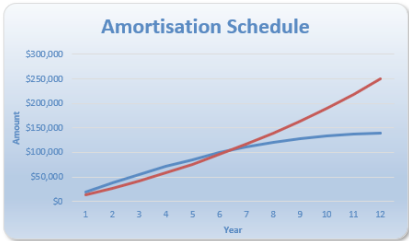
Key Inputs

Data

Loan Amount: \$ 250,000
Annual Interest Rate: 8%
Term of Loan in Years: 12

Analysis

Monthly Payment: \$ 2,706.13
No. of Payments: 144
Total Payment: \$ 389,682.93
Total Interest: \$ 139,682.93



2. Amortisation Schedule

Calculation Tables

Results

Month	Payment	Interest	Principal	Balance
1	\$ 2,706.13	\$ 1,666.67	\$ 1,039.46	\$ 248,960.54
2	\$ 2,706.13	\$ 1,659.74	\$ 1,046.39	\$ 247,914.14
3	\$ 2,706.13	\$ 1,652.76	\$ 1,053.37	\$ 246,860.77
4	\$ 2,706.13	\$ 1,645.74	\$ 1,060.39	\$ 245,800.38
5	\$ 2,706.13	\$ 1,638.67	\$ 1,067.46	\$ 244,732.91
6	\$ 2,706.13	\$ 1,631.55	\$ 1,074.58	\$ 243,658.34
7	\$ 2,706.13	\$ 1,624.39	\$ 1,081.74	\$ 242,576.59
8	\$ 2,706.13	\$ 1,617.18	\$ 1,088.95	\$ 241,487.64
9	\$ 2,706.13	\$ 1,609.92	\$ 1,096.21	\$ 240,391.43
10	\$ 2,706.13	\$ 1,602.61	\$ 1,103.52	\$ 239,287.90
11	\$ 2,706.13	\$ 1,595.25	\$ 1,110.88	\$ 238,177.02
12	\$ 2,706.13	\$ 1,587.85	\$ 1,118.28	\$ 237,058.74

Year	Cumulative Interest	Cumulative Principal	Balance
1	\$ 19,532.32	\$ 12,941.26	\$ 237,058.74
2	\$ 37,990.52	\$ 26,956.64	\$ 223,043.36
3	\$ 55,285.45	\$ 42,135.29	\$ 207,864.71
4	\$ 71,320.56	\$ 58,573.75	\$ 191,426.25
5	\$ 85,991.28	\$ 76,376.61	\$ 173,623.39
6	\$ 99,184.38	\$ 95,657.09	\$ 154,342.91
7	\$ 110,777.21	\$ 116,537.84	\$ 133,462.16
8	\$ 120,636.94	\$ 139,151.68	\$ 110,848.32
9	\$ 128,619.74	\$ 163,642.46	\$ 86,357.54
10	\$ 134,569.81	\$ 190,165.96	\$ 59,834.04
11	\$ 138,318.45	\$ 218,890.90	\$ 31,109.10
12	\$ 139,682.93	\$ 250,000.00	\$ -

The CUMIPMT function employs the following syntax to operate:

CUMIPMT(rate, nper, pv, start_period, end_period, type)

The CUMIPMT function has the following arguments:

- **rate:** this is required and represents the interest rate
- **nper:** this is also required and represents the total number of payment periods
- **pv:** this is required and represents the present value of the amount under finance
- **start_period:** this is required and represents the first period in the calculation. Payment periods are numbered beginning with 1
- **end_period:** this is required and represents the last period in the calculation
- **type:** this is required and represents the timing of the payment.

Type	Timing
0 (zero)	Payment at the end of the period
1	Payment at the beginning of the period

It should be further noted that:

- you ensure that you are consistent about the units you use for specifying **rate** and **nper**. If you make monthly payments on a four-year loan at an annual interest rate of 10%, use 10%/12 for rate and 4*12 for **nper**. If you make annual payments on the same loan, use 10% for rate and 4 for **nper**
- if **rate** ≤ 0, **nper** ≤ 0, or **pv** ≤ 0, **CUMIPMT** returns the #NUM! error value
- if **start_period** < 1, **end_period** < 1, or **start_period** > **end_period**, **CUMIPMT** returns the #NUM! error value
- if **type** is any number other than 0 or 1, **CUMIPMT** returns the #NUM! error value.

Please see our example below:

	A	B	C
1	Data	Description	
2	9%	Annual interest rate	
3	30	Years of the loan	
4	\$125,000	Present Value	
5	0	Timing	
6			
7			
8	Formula	Description	Result
9	=CUMIPMT(A2/12,A3*12,A4,13,24,0)	Total interest paid in year 2 on a monthly basis.	\$ 11,135.23
10	=CUMIPMT(A2,A3,A4,2,2,0)	Total interest paid in year 2 on an annual basis.	\$ 11,167.47
11			

Other key points:

- to get a monthly rate, divide the interest rate by 12 (the number of months in a year) and multiply the years the money is paid out by 12 in order to get the number of payments
- in Excel Online, to view the result in its proper format, select the cell, and then on the 'Home' tab and in the 'Number' group, click the arrow next to 'Number Format' and select 'General'.

The A to Z of Excel Functions: CUMPRINC

This function "partners" CUMIPMT and returns the cumulative principal repaid on a loan between a designated **start_period** and **end_period** given a constant periodic discount rate.

The CUMPRINC function employs the following syntax to operate:

CUMPRINC(rate, nper, pv, start_period, end_period, type)

The **CUMPRINC** function has the following arguments:

- **rate**: this is required and represents the interest rate
- **nper**: this is also required and represents the total number of payment periods
- **pv**: this is required and represents the present value of the amount under finance
- **start_period**: this is required and represents the first period in the calculation. Payment periods are numbered beginning with 1
- **end_period**: this is required and represents the last period in the calculation
- **type**: this is required and represents the timing of the payment.

Type	Timing
0 (zero)	Payment at the end of the period
1	Payment at the beginning of the period

It should be further noted that:

- make sure that you are consistent about the units you use for specifying **rate** and **nper**. If you make monthly payments on a four-year loan at an annual interest rate of 12 percent, use 12%/12 for **rate** and 4*12 for **nper**. If you make annual payments on the same loan, use 12% for **rate** and 4 for **nper**
- if **rate** ≤ 0, **nper** ≤ 0, or **pv** ≤ 0, **CUMPRINC** returns the #NUM! error value
- if **start_period** < 1, **end_period** < 1, or **start_period** > **end_period**, **CUMPRINC** returns the #NUM! error value
- if **type** is any number other than 0 or 1, **CUMPRINC** returns the #NUM! error value.

Please see the example below:

	A	B	C
1	Data	Description	
2	9%	Annual interest rate	
3	30	Years of the loan	
4	\$125,000	Present Value	
5	0	Timing	
6			
7			
8	Formula	Description	Result
9	<code>=CUMPRINC(A2/12,A3*12,A4,13,24,0)</code>	Total principal paid in year 2 on a monthly basis.	\$ 934.11
10	<code>=CUMPRINC(A2,A3,A4,2,2,0)</code>	Total principal paid in year 2 on an annual basis.	\$ 999.58
11			

Other key points:

- you divide the interest rate by 12 (the number of months in a year) to get a monthly rate, and you multiply the years the money is paid out by 12 to get the number of payments
- in Excel Web App, to view the result in its proper format, select the cell, and then on the 'Home' tab and in the 'Number' group, click the arrow next to 'Number Format' and select 'General'.

More Excel Functions next month...

Upcoming SumProduct Training Courses

Location	Course	Date	Duration
Sydney	Power Pivot, Power Query and Power BI	21 - 23 Jan 2019	3 Days
Melbourne	Power Pivot, Power Query and Power BI	29 - 31 Jan 2019	3 Days
Sydney	Excel Tips & Tricks	4 Feb 2019	1 Day
Sydney	Financial Modelling	5 - 6 Feb 2019	2 Days
Brisbane	Excel Tips & Tricks	11 Feb 2019	1 Day
Brisbane	Financial Modelling	12 - 13 Feb 2019	2 Days
Melbourne	Excel Tips & Tricks	19 Feb 2019	1 Day
Melbourne	Financial Modelling	20 - 21 Feb 2019	2 Days
Perth	Excel Tips & Tricks	25 Feb 2019	1 Day
Perth	Financial Modelling	26 - 27 Feb 2019	2 Days
Melbourne	Power Pivot, Power Query and Power BI	11 - 13 Mar 2019	3 Days

Key Strokes

Each newsletter, we'd like to introduce you to useful keystrokes you may or may not be aware of. This month, it's time we realise we started this month's newsletter with **ALT** so we thought we had better finish with that same useful key too – and perhaps invite it to a function...

Keystroke	What it does
ALT + F1	Insert Chart as an Object
ALT + F2	Save As
ALT + F4	Close Application
ALT + F5	Refresh
ALT + F6	Switch to VBA Integrated Development Environment (IDE) (if open already)
ALT + F8	Run Macro
ALT + F11	Show VBA Integrated Development Environment (IDE)

There are over 540 keyboard shortcuts in Excel. For a comprehensive list, please download our Excel file at www.sumproduct.com/thought/keyboard-shortcuts. Also, check out our new daily **Excel Tip of the Day** feature on the www.sumproduct.com homepage.

Our Services

We have undertaken a vast array of assignments over the years, including:

- **Business planning**
- **Building three-way integrated financial statement projections**
- **Independent expert reviews**
- **Key driver analysis**
- **Model reviews / audits for internal and external purposes**
- **M&A work**
- **Model scoping**
- **Power BI, Power Query & Power Pivot**
- **Project finance**
- **Real options analysis**
- **Refinancing / restructuring**
- **Strategic modelling**
- **Valuations**
- **Working capital management**

If you require modelling assistance of any kind, please do not hesitate to contact us at contact@sumproduct.com.

Link to Others

These newsletters are not intended to be closely guarded secrets. Please feel free to forward this newsletter to anyone you think might be interested in converting to "the SumProduct way".

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