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Introducing Python in Excel: The Best of Both Worlds for Data Analysis and Visualization

By  Stefan Kinnestrand

Published Aug 22 2023 06:00 AM

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Python is one of the most popular programming languages today, loved by businesses and students alike and Excel is an essential tool to organize, manipulate and analyze all kinds of data. But, until now, there hasn't been an easy way to make those two worlds work together.

Today, we are excited to introduce the Public Preview of **Python in Excel** – making it possible to integrate Python and Excel analytics within the same Excel grid for uninterrupted workflow.

Python in Excel combines Python's powerful data analysis and visualization libraries with Excel's features you know and love. You can manipulate and explore data in Excel using Python plots and libraries, and then use Excel's formulas, charts and PivotTables to further refine your insights.

Python in Excel: a powerful combination for data analysis a...



Work seamlessly

Now you can do advanced data analysis in the familiar Excel environment by accessing Python directly from the Excel ribbon. No set up or installation is required. Using Excel's built-in connectors and Power Query, you can easily bring external data into Python in Excel workflows.

We're partnering with Anaconda, a leading enterprise grade Python repository used by tens of millions of data practitioners worldwide. Python in Excel leverages Anaconda Distribution for Python running in Azure, which includes the most popular Python libraries such as pandas for data manipulation, statsmodels for advanced statistical modeling, and Matplotlib and seaborn for data visualization.

[To see examples of machine learning and visualization, and stay informed of updates, visit the Excel...](#)

Python in Excel.xlsx Public • Saved

File Home Insert **Formulas** Data Review View

Comments Share Catch up

Function Library Python (Preview) Formula Auditing Calculation

D3 : X ✓ 123 PY #Announcing Python in Excel!
 DataFrame=xl("A1:B10", headers=True)
 DataFrame.groupby('Category').agg('mean')

	A	B	C	D	E	F	G	H	I	J
1	Category	\$		DataFrame			Image			
2	Components	\$20					<p>Image size 447, 274 ANACONDA.</p>			
3	Bikes	\$17								
4	Accessories	\$ 9								
5	Bikes	\$ 9								
6	Clothing	\$ 8								
7	Accessories	\$ 4								
8	Clothing	\$ 4								
9	Components	\$ 3								
10	Components	\$ 1								
11										
12										
13										

Python in Excel +

Display Settings

Seamlessly aggregate and visualize your data with Python in Excel.

Collaborate easily

Share workbooks and Python analytics in your favorite tools like Microsoft Teams and Microsoft Outlook. Collaborate seamlessly with comments and @ mentions, and co-author with colleagues as you normally would in Excel. Teammates can refresh Python in Excel analytics for the most up-to-date information, even if they don't have Python in Excel activated.

Excel interface showing a Python DataFrame visualization and a comments pane.

DataFrame

Product	Region	Discount	Sales	Quantity
Road Bikes	North	Yes	\$ 8	87
Road Bikes	South	Yes	\$ 6	97
Road Bikes	West	Yes	\$ 5	90
Mountain Bikes	North	Yes	\$ 11	63
Mountain Bikes	West	No	\$ 8	82
Mountain Bikes	South	Yes	\$ 9	77
Wheels	North	No	\$ 2	120
Wheels	West	Yes	\$ 3	110
Wheels	South	Yes	\$ 2	103

Comments

Chris Cross (B2) *@Arlo Gaitaca* How does this analysis look?

Arlo Gaitaca (AG) Looks great!

Chris Cross (D2) *@Cole Orti* Any edits to the visualization?

August 16, 2023, 2:26 PM

Collaborate easily with comments and @ mentions

Get enterprise-level security automatically

Protecting your data is our utmost priority so we've infused security and privacy at the core of the design for Python in Excel. Python in Excel runs on the Microsoft Cloud with enterprise-level security as an M365 connected experience.

[Learn more about our Data Security here](#)

Excel interface showing a Python DataFrame visualization and a comments pane.

Formulas

```

#Announcing Python in Excel!
DataFrame=xl("ExcelTable[#All]", headers=True)
DataFrame.groupby('Region').agg('mean')

```

DataFrame

Product	Region	Discount	Sales	Quantity	Value	Category
Road Bikes	North	Yes	\$ 8	87	57	Bikes
Road Bikes	South	Yes	\$ 6	97	37	Bikes
Road Bikes	West	Yes	\$ 5	90	39	Bikes
Mountain Bikes	North	Yes	\$ 11	63	31	Bikes
Mountain Bikes	West	No	\$ 8	82	42	Bikes
Mountain Bikes	South	Yes	\$ 9	77	32	Bikes
Wheels	North	No	\$ 2	120	31	Components
Wheels	West	Yes	\$ 3	110	18	Components
Wheels	South	Yes	\$ 2	103	20	Components
Lights	West	Yes	\$ 5	75	16	Accessories
Lights	South	Yes	\$ 6	60	16	Accessories
Lights	North	Yes	\$ 7	60	27	Accessories
Brakes	North	No	\$ 3	68	24	Components
Brakes	West	No	\$ 4	100	21	Components
Brakes	South	Yes	\$ 2	120	21	Components
Helmets	West	Yes	\$ 8	55	18	Accessories
Helmets	South	No	\$ 9	50	19	Accessories
Helmets	North	Yes	\$ 10	40	20	Accessories

Visualizations: A grid of Python-generated plots including histograms, scatter plots, and violin plots, with a legend for Category (Bikes, Components, Accessories), Discount (Yes/No), and Region (North, South).

Visualize your data with Python plots

See what customers and partners are already saying about Python in Excel



MCKINNEY

McKinney - "The ability to run Python in Excel simplifies McKinney's reporting workflows. We used to manipulate data structures, filter, and aggregate data in a Jupyter Notebook, and build visuals in Excel. Now we can manage the entire workflow in Excel. This is going to make Excel that much more powerful and make Python more accessible across the organization. Python support is the most exciting update for Excel in my career!" - Greg Barnes, Executive Director of Data and Analytics



McGraw Hill - "McGraw Hill's ethos is education for all, and our partnership with Microsoft has helped improve student access to Excel tools, building career readiness. Python is one of the most in-demand skills we're hearing from colleges and universities, and we're thrilled that the Excel + Python pairing will provide educators and students with a powerful new gateway to move faster with analytics, enable greater collaboration and learning, and ultimately bridge students to even brighter futures." - Rebecca Olson, Sr. Portfolio Director



KPMG - "KPMG and Microsoft are making significant investments to deliver advanced cloud-based tax technologies. At KPMG, we're excited about the impact Python in Excel will have for our Tax clients. Backed by the data and security promises enabled by the Microsoft cloud, Python has the potential to enhance the Excel experience for advanced analytics while providing companies with transparency, simplicity and deeper insights into their financials." - Tejas Varia, Principal, Tax Data & Analytics

And we're just getting started. Stay tuned for more exciting news!

Supercharge your data analysis and tell better stories with Python in Excel.

Get started with Python in Excel

Python in Excel is rolling out to Public Preview for those in the Microsoft 365 Insiders program Beta Channel. This feature will roll out to Excel for Windows first, starting with build 16818, and then to the other platforms at a later date.

To use Python in Excel, join the [Microsoft 365 Insider Program](#). Choose the Beta Channel Insider level to get the latest builds of the Excel application.

[Skip to main content](#)

Once you've installed the latest Insider build of Excel, open a blank workbook, and take the following steps.

1. Select Formulas in the ribbon.
2. Select Insert Python.
3. Select the Try preview button in the dialog that appears.

Don't have it yet? It's probably us, not you. Features are released over time to ensure things are working smoothly. We highlight features that you may not have because they're slowly releasing to larger numbers of Insiders. Sometimes we remove elements for further improvement based on your feedback. Though this is rare, we also reserve the option to pull a feature entirely out of the product even if you, as an Insider, have had the opportunity to try it.

While in Preview, Python in Excel will be included with your Microsoft 365 subscription. After the Preview, some functionality will be restricted without a paid license. More details will be available before General Availability.

[Join the Microsoft 365 Insider Program](#). Be the first to see what's next in Microsoft 365 apps and services, share your feedback, and join our Insider community!

Sign up to be notified about future availability for Python in Excel.

What to expect next

As mentioned above, we're releasing Python in Excel as a Public Preview to the Insiders Beta Channel so you should expect new capabilities to light up soon. Stay tuned for updates on the following areas: improved editing experiences (such as autocomplete and syntax highlighting), default repairs, enhanced error behaviors, help and documentation, and more. In addition, to prevent abuse, the system currently has some data size and compute limitations that we will closely monitor and adjust.

We want your feedback! Excel and Python users can to give feedback directly within the application (go to Help > Feedback), suggest improvements on our [Feedback portal](#), or engage with our team on [GitHub](#).

Other resources

[Introduction to Python in Excel](#)

[Getting started with Python in Excel](#)

[Learn more about Anaconda](#)

👍 6 Likes

[12 Comments](#)



[Jan Karel Pieterse MVP](#)

Aug 22 2023 06:15 AM

Kudos to the team who made this happen!!!
[Skip to first comment](#)

 1 Like



[bilbreib](#) Occasional Visitor

Aug 22 2023 08:33 AM

Will this be part of Optional Connected Experiences or one of the other connected experience groups?

 0 Likes



[MgSam](#) Senior Member

Aug 22 2023 11:11 AM

Are there any plans to have the code be able to run locally? Being forced to run in Azure is pretty lame.

 1 Like



[Gareth54](#) Occasional Visitor

Aug 22 2023 12:29 PM

I was excited to try this but have been disappointed.

I have joined the insider beta channel. No python option in ribbon, take a tour button was there but did nothing and has now disappeared. typing 'python' into search gives 'insert python' action but this does nothing. typing '=PY' into a cell or the formula bar just gives '#NAME' error.

Please can you launch this properly.

 4 Likes



[PredragN](#) Occasional Visitor

Aug 22 2023 12:46 PM

Try now to update your Excel. This morning didn't work as it was just announced, but not deployed.

I just checked - still not there with the latest Beta preview.

 0 Likes



[HarryOtter](#) Senior Member

Aug 22 2023 01:35 PM

This looks awesome! I'll definitely use this in the future!

Quick question: If I understand the post right, Python will be used in the form of functions. Is there also an intention to utilize Python as an alternative for VBA? I have been using Python for automations in Excel with modules such as OpenPyxl, and have been wondering if Microsoft is planning a native implementation of Python for such purposes. Thanks!

👍 0 Likes



[IExce635](#) Occasional Visitor

Aug 22 2023 02:57 PM

How about including a macro recorder like vba has. A great learning tool from the old days.

👍 0 Likes



[Wonkeysmokes](#) Occasional Visitor

Aug 22 2023 03:51 PM

Thanks, or not from CyberSec. Years waiting for macros to be blocked by default. deprecating vba and now you add python. 1 step forward 2 steps back.

👍 0 Likes



[wqh222222](#) Occasional Visitor

Aug 22 2023 06:57 PM

got enrolled in beta chanel and got python in excel ribbon but still got nothing when using the samples and type "=PY" in formula bar.

👍 0 Likes



[Dao_Cute](#) Occasional Visitor

Aug 22 2023 06:59 PM

Kudos to the team!

👍 0 Likes



[Arnold_CleanData](#) Occasional Visitor

Aug 22 2023 10:32 PM

Are there any plans to introduce R as well?

👍 0 Likes



Taiwo Ayodeji Popoola Senior Member



This is a major game changer. Combing the "best of both world" for data analytics. Well done Team Microsoft.

👍 0 Likes

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