

# Power BI documentation for business users

As a business user or consumer, you receive dashboards and reports from colleagues. You work in Power BI to review and interact with this content to make business decisions.

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# The Power BI service for business users

Article • 03/30/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

You live in a data culture where business decisions are based on facts, not opinions. You need data to make these decisions, and your colleagues don't let you down. They send you all types of reports, spreadsheets, emails with charts, and even printed handouts.

As the data piles up, it becomes harder to find what you need quickly, and you worry that you might not have the most recent information.



## Overview of the Power BI service

Power BI makes your job easier and more impactful. All the content you receive becomes charts and graphs that visualize your data for you. Instead of long lists or tables of numbers and words, your data insights are beautiful, colorful, and compelling visuals. They tell stories about your data.



Open the Power BI service in a browser or on a mobile device. You and your colleagues work from the same trusted dashboards and reports. Power BI updates the data automatically, so you're always working with the freshest content.



The content isn't static, so you can dig in and look for trends, insights, and other business intelligence. Slice and dice the content, and even ask it questions in your own words. Or, sit back and let your data discover interesting insights, send you alerts when data changes, or email reports to you on a schedule that you set. All your content is available to you anytime, in the cloud or on-premises, from any device. That's just the beginning of what Power BI can do.

## Are you a Power BI business user?

How you interact with Power BI depends on your job role. As a consumer or business user, you receive content, like dashboards, reports, and apps, from colleagues. You work in the Power BI service, which is the online or mobile version of Power BI. You review and interact with your content to make business decisions.

As a business user, you don't have access to all the capabilities of Power BI. That's ok, because your job isn't building dashboards and reports. You use the Power BI service for analysis, monitoring, exploration, and decision making.

You might hear the term "Power BI Desktop" or just "Desktop." Designers use this stand-alone tool to build and share dashboards and reports. It's important to know that there are other Power BI tools out there, but if you're a business user, you typically work only with the Power BI service. Because you are working with content that is shared with you, at least one of the following is true:

- You have a Power BI Pro or Premium Per User (PPU) license.
- Your organization has a Power BI Premium subscription, and the content that's shared with you comes from Premium capacity.

### Note

Users with PPU capacity subscriptions can't share content with users who have a Pro or free license.

For more information about licenses and subscriptions, see [Which license do I have?](#)

# Safely interact with content

As you filter, slice, subscribe, and export, your work doesn't impact the underlying dataset or the original shared content, like dashboards, reports, and apps.

You can't corrupt your data. Power BI is a great place to explore and experiment without worrying that you might break something.

That doesn't mean that you can't save your changes. You can, but those changes only affect your view of the content. To revert to the default view, you can select the **Reset** button.



## Next steps

[Take a tour of the Power BI service for business users](#)

[Power BI service training for business users](#)

[Terminology and concepts for Power BI business users](#)

# Basic concepts for the Power BI service business user

Article • 11/10/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

Use this article to familiarize yourself with some of the terms and concepts associated with the Power BI service. Understanding these terms and concepts will make it easier for you to read through the other Power BI articles and to work in the Power BI service ([app.powerbi.com](http://app.powerbi.com)).



This article assumes that you've already read the [Power BI overview](#) and have identified yourself as a [Power BI business user](#). *Business users* receive Power BI content, like dashboards, reports, and apps, from *creator* colleagues. *Business users* work with [the Power BI service](#) ([app.powerbi.com](http://app.powerbi.com)), which is the website-based version of Power BI.

## This article isn't about Power BI Desktop

You'll undoubtedly hear the term "Power BI Desktop" or just "Desktop." It is the stand-alone tool used by *designers* who build and share dashboards and reports with you. It's important to know that there are other Power BI tools out there. But, as long as you're a *business user*, you'll typically work with the Power BI service. This article applies only to the Power BI service.

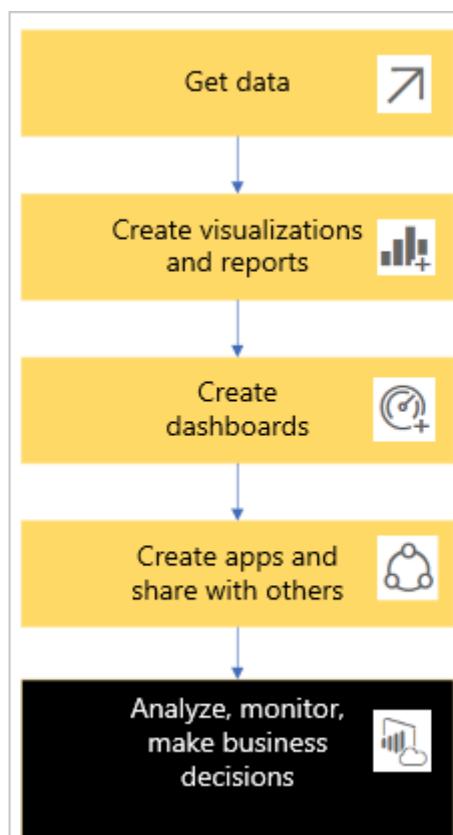
For more information about the full suite of Power BI tools, see [What is Power BI?](#).

## Let's get started

To follow along, open [app.powerbi.com](http://app.powerbi.com) in your browser.

There are many objects and concepts that make up the Power BI service, too many to cover in a single article. So we'll introduce you to the most common: ***visualizations***, ***dashboards***, ***reports***, ***apps***, and ***semantic models***. These are sometimes referred to as ***Power BI content***. Content exists in ***workspaces***.

A typical Power BI workflow involves all of the building blocks: A Power BI *designer* (yellow in diagram below) collects data from *semantic models*, brings it into Power BI Desktop for analysis, creates *reports* full of *visualizations* that highlight interesting facts and insights, pins visualizations from reports to *dashboards*, and shares the reports, and dashboards with business users like you (black in diagram below). There are many different ways that a designer can share content with you: as individual pieces of content, content bundled together in an *app*, or by giving you permissions to a workspace where the content is stored. (Don't worry, we'll talk about the different ways that content is shared later in this article.)



At its most basic:



- A **visualization** (or *visual*), is a type of chart built by Power BI *designers*. The visuals display the data from *reports* and *semantic models*. Because they are highly interactive, you can slice, filter, highlight, change, and even drill into visualizations.

For more info, see [Interact with Visuals in reports, dashboards, and apps](#).



- A **semantic model** is a container of data. For example, it might be an Excel file from the World Health Organization. It could also be a company-owned database of customers or it might be a Salesforce file. Semantic models are managed by *designers*.



- A **dashboard** is a single screen with *tiles* of interactive visuals, text, and graphics. A dashboard collects your most important metrics, on one screen, to tell a story or answer a question. The dashboard content comes from one or more reports and one or more semantic models.

For more info, see [Dashboards for the Power BI service business users](#).



- A **report** is one or more pages of interactive visuals, text, and graphics that together make up a single report. Power BI bases a report on a single semantic model. Often, the *designer* organizes report pages to address a central area of interest or answer a single question.

For more info, see [Reports in Power BI](#).



- An **app** is a way for *designers* to bundle and share related dashboards, reports, and semantic models together. *Business users* receive some apps automatically but can go search for other apps created by colleagues or by the community. For example, out-of-the-box apps are available for external services you may already use, like Google Analytics and Microsoft Dynamics CRM.

To be clear, if you're a new user and you've logged in to the Power BI service for the first time, you probably won't see any shared dashboards, apps, or reports yet.

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## Workspaces

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# Semantic models

A *semantic model* is a collection of data that *designers* import or connect to and then use to build reports and dashboards. As a *business user*, it's possible that you'll never interact directly with semantic models, but it's still helpful to learn how they fit into the bigger picture.

Each semantic model represents a single source of data. For example, the source could be an Excel workbook on OneDrive, an on-premises SQL Server Analysis Services tabular dataset, or a Google Analytics dataset. Power BI supports more than 150 data sources and is always adding more.

When a designer shares an app with you, or gives you permissions to a workspace, you can look up which semantic models are being used, but you won't be able to add or change anything in the semantic model. This means that as you interact with dashboards and reports, the underlying data is safe because changes you make do not affect the database.

One semantic model...

- Can be used over and over by report designers to create dashboards, reports, and apps
- Can be used to create many different reports
- Visuals from that one semantic model can appear on many different dashboards



To learn more about semantic models, visit these articles:

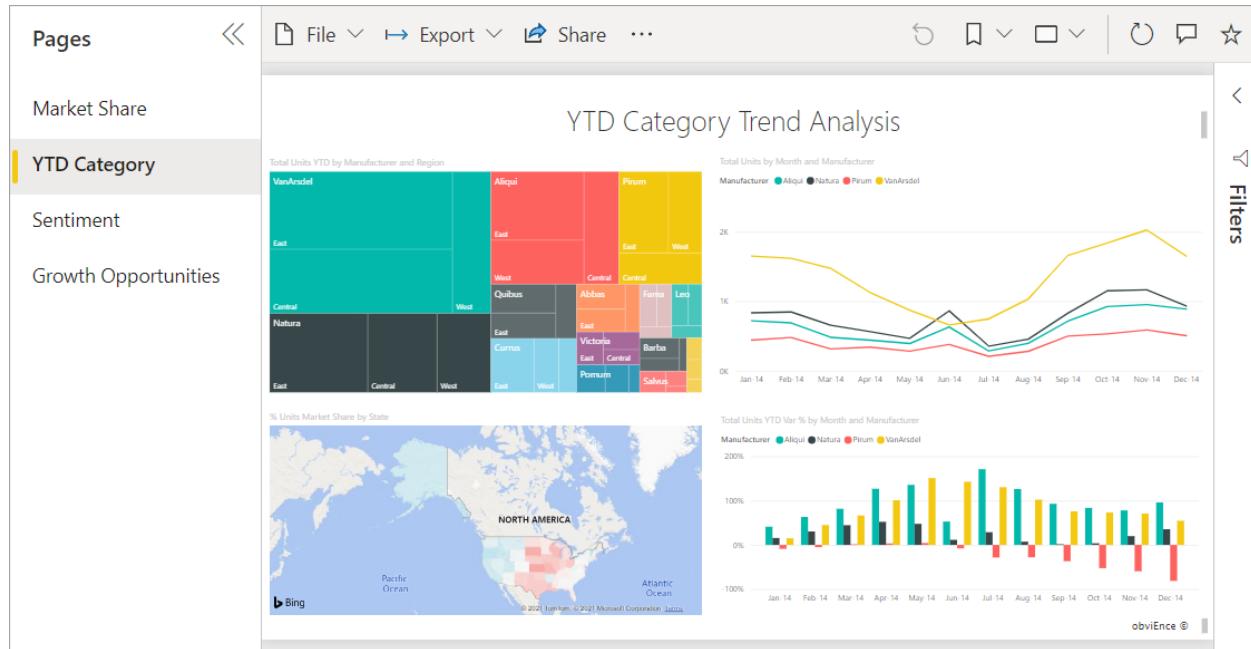
- [How do designers assign permissions to semantic models](#)
- [How semantic models are shared with colleagues](#)

On to the next building block -- visualizations.

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## Reports

A Power BI report is one or more pages of visualizations, graphics, and text. All of the visualizations in a report come from a single semantic model. *Designers* build reports and share them with others; either individually or as part of an app. Typically, *Business users* interact with reports in *Reading view*.



One report...

- Can be created using data from only one semantic model. Power BI Desktop can combine more than one data source into a single semantic model in a report, and that report can be imported into Power BI.
- Can be associated with multiple dashboards (tiles pinned from that one report can appear on multiple dashboards).
- Can be part of multiple apps.

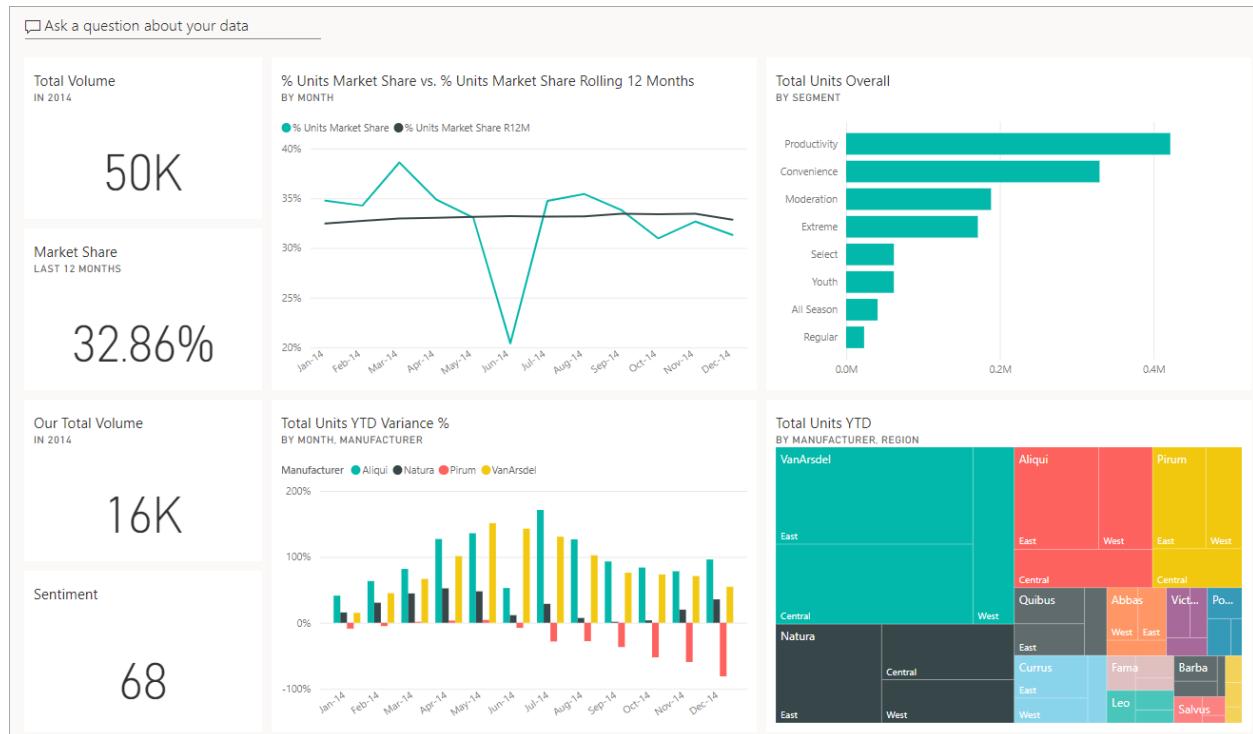


## Dashboards

A dashboard represents a customized graphical view of some subset of the underlying semantic model(s). *Designers* build dashboards and share them with *business users*; either individually or as part of an app. If a *business user* is given permissions to the

report, they can build their own dashboards too. A dashboard is a single canvas that has *tiles*, graphics, and text.

Dashboards can look similar to a report page. Just a few of the differences are that dashboards have a natural language query field in the upper left corner, and when you select a visual tile you are transported to the underlying report or URL or query. For more explanation, see [Reports versus dashboards](#).



A *tile* is a rendering of a visual that a *designer pins*, for example, from a report to a dashboard. The majority of pinned tiles show a [visualization](#) that a designer created from a semantic model and pinned to that dashboard. A tile can also contain an entire report page and can contain live streaming data or a video. There are many ways that *designers* add tiles to dashboards, too many to cover in this overview article. To learn more, see [Dashboard tiles in Power BI](#).

*Business users* can't edit dashboards. You can however add comments, view related data, set it as a favorite, subscribe, and more.

What are some purposes for dashboards? Here are just a few:

- to see, in one glance, all the information needed to make decisions
- to monitor the most-important information about your business
- to ensure all colleagues are on the same page; viewing and using the same information

- to monitor the health of a business or product or business unit or marketing campaign, and so on
- to create a personalized view of a larger dashboard -- all the metrics that matter to you

ONE dashboard...

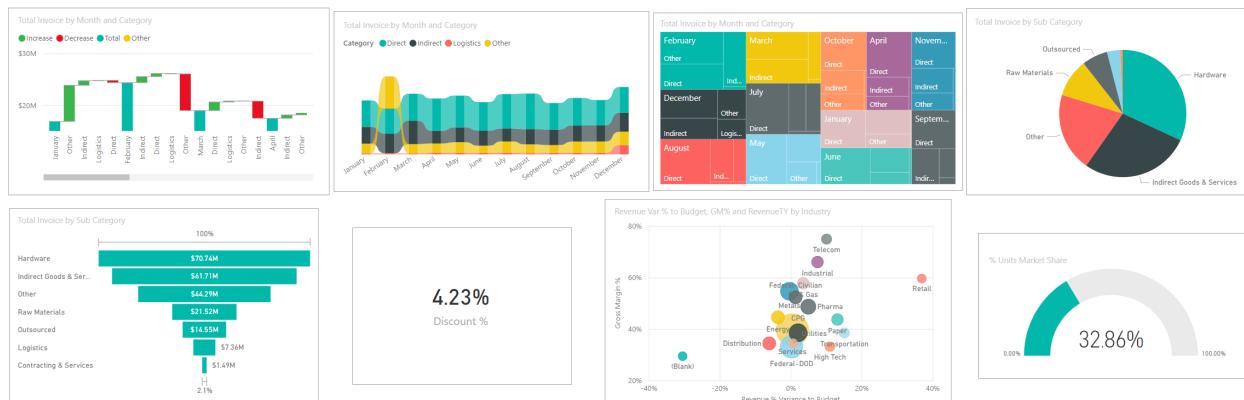
- can display visualizations from many different semantic models
- can display visualizations from many different reports
- can display visualizations pinned from other tools (for example, Excel)



## Visualizations

Visualizations (also known as visuals) display insights that Power BI discovers in the data. Visualizations make it easier to interpret the insight, because your brain can comprehend a picture quicker than it can comprehend a spreadsheet of numbers.

Just some of the visualizations you'll come across in Power BI are: waterfall, ribbon, treemap, pie, funnel, card, scatter, and gauge.



See the [full list of visualizations included with Power BI](#).

## Custom visuals

If you receive a report with a visual you don't recognize, and you don't see it included in the [full list of visualizations included with Power BI](#), likely it's a *custom visual*. Custom visuals are created by Power BI community members and submitted to Power BI for use in reports.

## Apps

These collections of dashboards and reports organize related content together into a single package. Power BI *designers* build them in workspaces and share apps with individuals, groups, entire organizations, or the public. As a *business user*, you can be confident that you and your colleagues are working with the same information; a single trusted version of the truth.

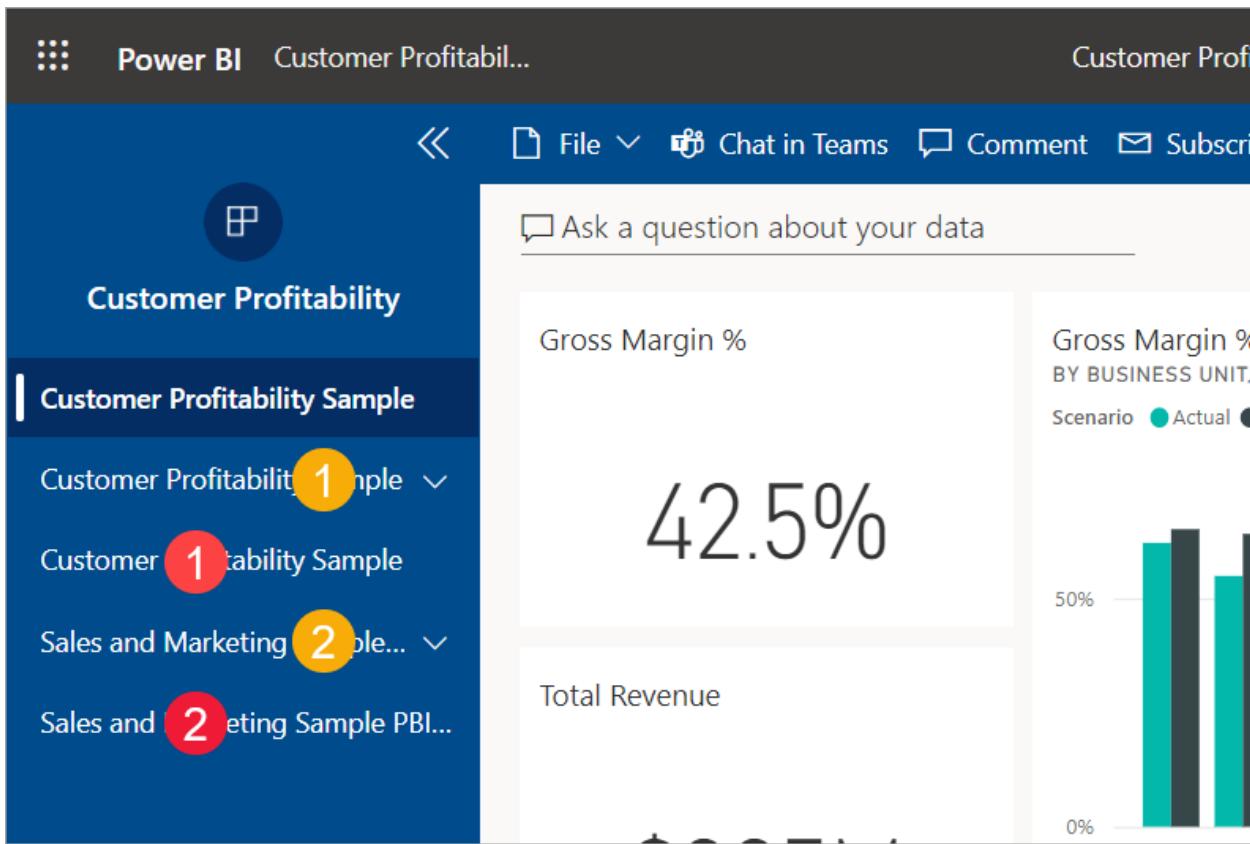
Sometimes, the app's workspace itself is shared, and there can be many people collaborating and updating both the workspace and the app. The extent of what you can do with an app will be determined by the permissions and access you are given.

### Note

The use of apps requires a Power BI Pro or Premium Per User (PPU) license, or for the app workspace to be stored in Premium capacity. [Learn about licenses](#).

Apps are easy to find and install in the [Power BI service](#) and on your mobile device. After you install an app, you don't have to remember the names of a lot of different dashboards and reports. They're all together in one app, in your browser, or on your mobile device.

This app has two dashboards and two reports that make up a single app. If you were to select the arrow to the right of a report name, you'd see a list of pages that make up that report.



Whenever the app is updated, you automatically see the changes. Also, the designer controls the schedule for how often Power BI refreshes the data. You don't need to worry about keeping it up-to-date.

You can get apps in a few different ways:

- The app designer can install the app automatically in your Power BI account.
- The app designer can send you a direct link to an app.
- You can search from within the Power BI service for apps available to you from your organization or from the community. You can also visit [Microsoft AppSource](#), where you will see all the apps that you can use.

In Power BI on your mobile device, you can only install apps from a direct link, and not from AppSource. If the app designer installs the app automatically, you'll see it in your list of apps.

Once you've installed the app, just select it from your Apps list and select which dashboard or report to open and explore first.

The screenshot shows the Power BI Apps interface. On the left, a sidebar menu includes Home, Favorites, Recent, Create, Datasets, Goals, and Apps (which is highlighted with a red border). Below these are Shared with me, Deployment pipelines, Learn, Workspaces (with My workspace), and Get data. The main area displays six app cards arranged in two rows of three. Each card features an icon, the app name, and a date. The first row contains: Opportunity Analysis (MAY 5, 2021), Procurement Analysis (MAY 5, 2021), and Retail (MAY 7, 2021). The second row contains: Retail Analysis (MAY 5, 2021), Smartsheet (VERSION 8, MAY 5, 2021), and Supplier Quality Analysis (MAY 5, 2021). A search bar at the top right says 'Search content...' and a 'Get apps' button is also present.

Now that you've been introduced to the building blocks that make up the Power BI service for business users, continue learning using the links below. Or, [start using the Power BI service](#) with some sample data.

## Next steps

- Review and bookmark the [Glossary](#)
- Take a [tour of the Power BI service](#))
- Read the [overview of Power BI written especially for business users](#)
- Watch a video in which Will reviews the basic concepts and gives a tour of the Power BI service.

### ⓘ Note

This video might use earlier versions of Power BI Desktop or the Power BI service.

[https://www.youtube-nocookie.com/embed/B2vd4MQrz4M ↗](https://www.youtube-nocookie.com/embed/B2vd4MQrz4M)

# Quickstart: learn about the Power BI capabilities for *business users*

Article • 11/10/2023

**APPLIES TO:** Power BI service for *business users* Power BI service for designers & developers Power BI Desktop Requires Pro or Premium license

This quickstart demonstrates how to interact with the Power BI service to discover data-driven business insights. This article isn't intended to be a deep dive, but rather a quick trip through many of the actions available for Power BI **business users**.

If you're not signed up for the Power BI service, [sign up for a free trial](#) before you begin.

## What is Power BI?

Power BI is a collection of software services, apps, and connectors that work together to turn your unrelated sources of data into coherent, visually immersive, and interactive insights. Whether your data is a simple Excel spreadsheet, or a collection of data from different data sources, Power BI lets you easily connect to your data sources, visualize (or discover) what's important, and share that with anyone or everyone you want.



Open the Power BI service, in a browser or on a mobile device. You and your colleagues work from the same trusted apps, dashboards, and reports, that update and refresh automatically, so you're always working with the freshest content.

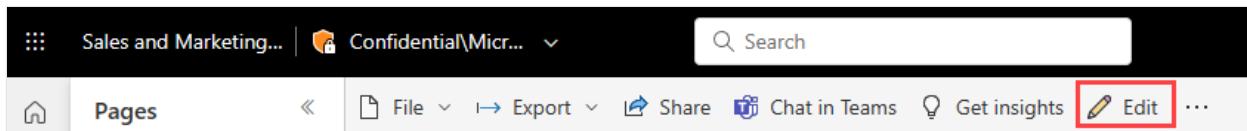
## Reading view

There are two modes for interacting with reports in the Power BI service: Editing view and Reading view. If you are a *business user*, then you are more likely to use Reading view to consume reports created by others. Editing view is used by report *designers*, who

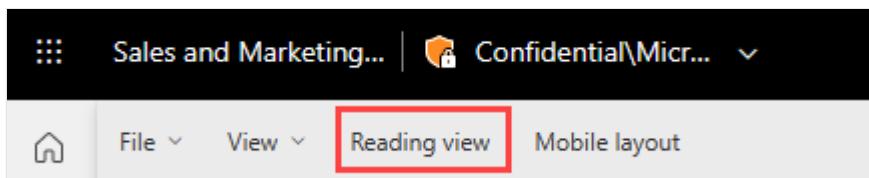
create the reports and share them with you. Reading view is your way to explore and interact with reports created by colleagues.

## Select Editing view and Reading view

Most reports open in Reading view. To switch from Reading view to Editing view, select **Edit** from the action bar. If **Edit** is grayed out, that means that you don't have permissions to edit the report.



To switch back to Reading view, select **Reading view** from the action bar.



Even in Reading view, the content isn't static. You can dig in, looking for trends, insights, and other business intelligence. Slice and dice the content, and even ask it questions using your own words. Or, sit back and let your data discover interesting insights for you; send you alerts when data changes, and email reports to you on a schedule you set. All your data, any time, in the cloud or on-premises, from any device.

Read on to learn about these features and more.

## Power BI content

When we use the term "content" in Power BI, we're referring to reports, dashboards, and apps. These are the building blocks you use to explore your data and make business decisions.

### ⓘ Note

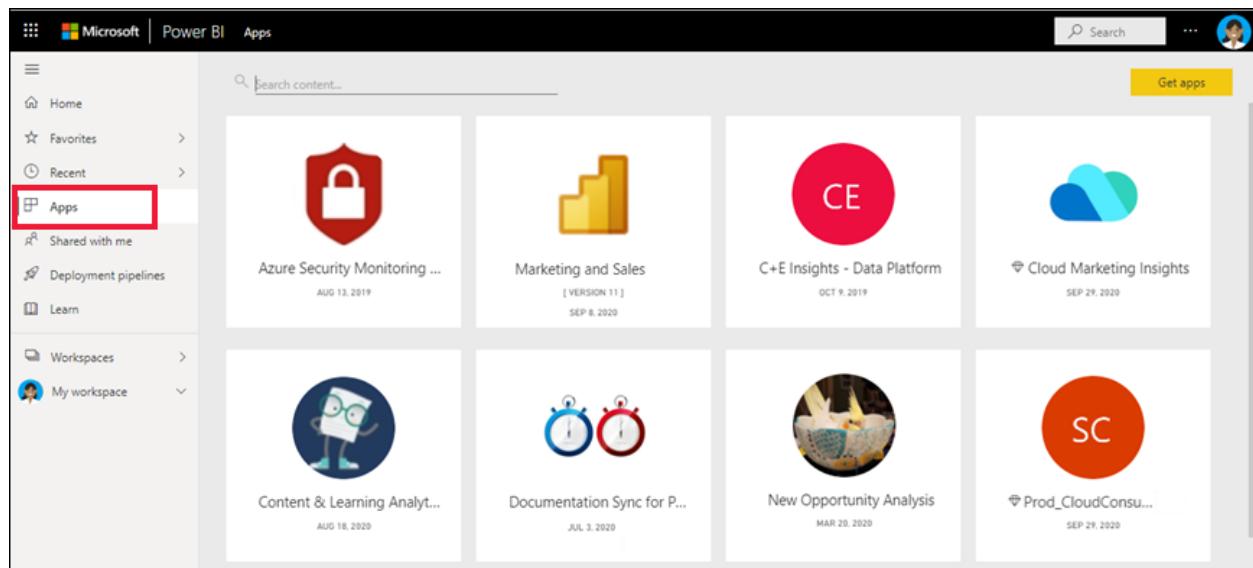
Dashboards, reports, and apps can be viewed and shared on mobile devices, too.

## Apps

An *app* is a Power BI content type that combines related dashboards and reports, all in one place. An app can have one or more dashboards and one or more reports, all

bundled together. Apps are created by Power BI *designers* who distribute and share the apps with *business users* like you.

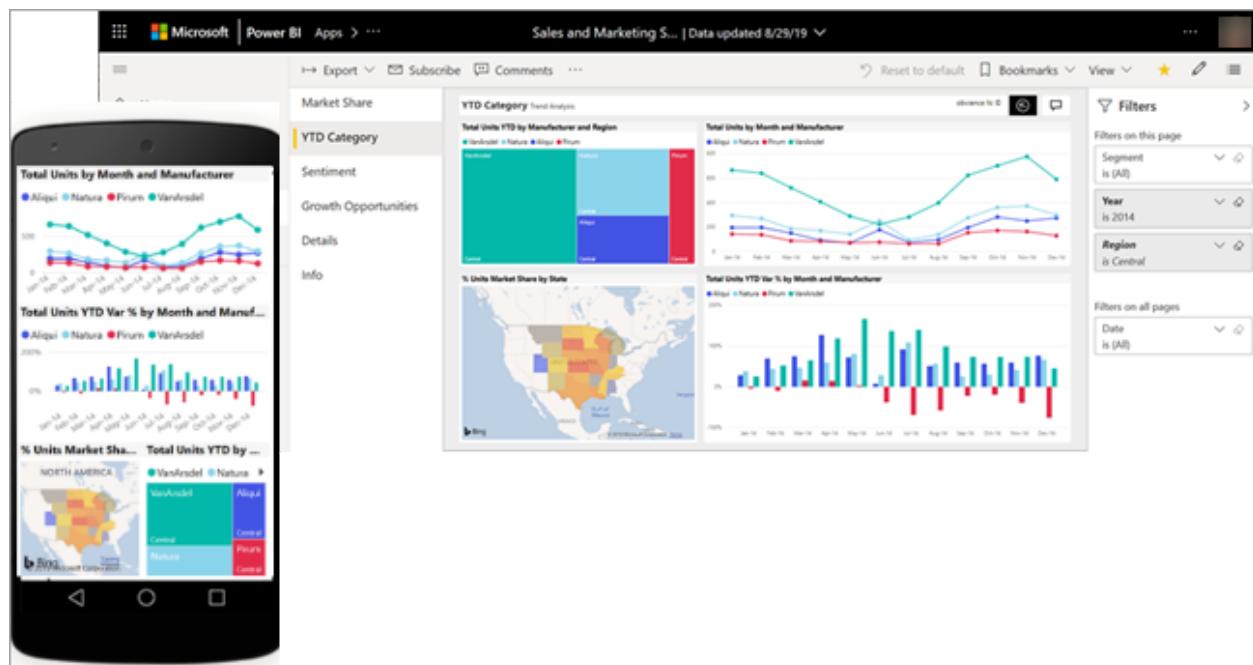
One way to view your apps is to select **Apps** from the nav pane and choose an app to open.



To learn more about viewing apps, see [Power BI apps](#)

## Reports

A Power BI report is a multi-perspective view into a semantic model, with visuals that represent different findings and insights from that semantic model. A report can have a single visual or pages full of visuals. Reports are created by Power BI *designers* who distribute and share the reports with *business users* like you.

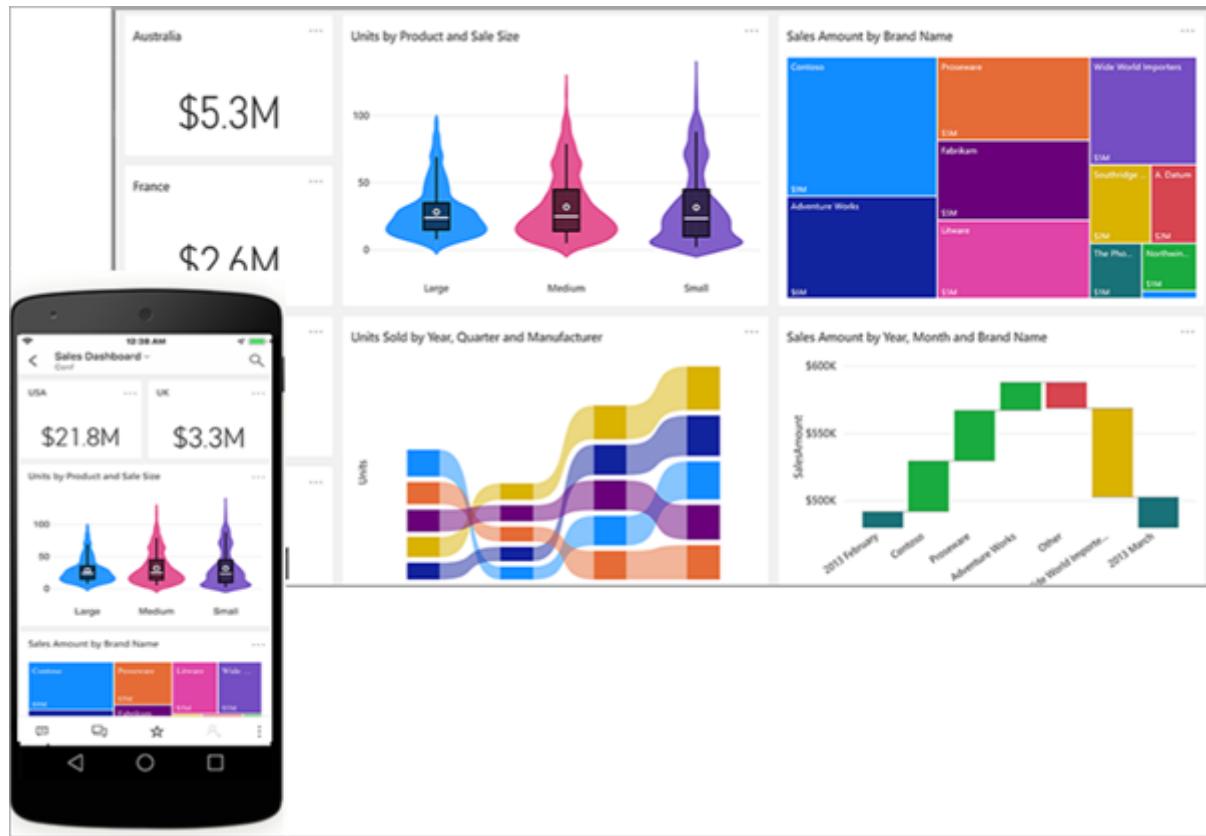


To learn how to view reports, see [Power BI reports](#)

# Dashboards

A Power BI dashboard is a single page, often called a canvas, that uses visualizations to tell a story. Because it is limited to one page, a well-designed dashboard contains only the most-important elements of that story.

The visualizations you see on the dashboard are called tiles and are pinned to the dashboard by report *designers*. In most cases, selecting a tile takes you to the report page where the visualization was created.



To learn how to view dashboards, see [Power BI dashboards](#)

## Interact in the Power BI service

### Collaborate with colleagues

Skip the email. Add a personal comment or start a conversation with colleagues about a dashboard, right there on that dashboard. The comment feature is just one of the ways you can collaborate with others.

## Comment on specific visuals



Learn more about [commenting](#)

## Sit back and let Power BI work for you

Two of the ways that the Power BI service does the work for you is with subscriptions and alerts.

### Subscribe to a dashboard (or report)

It's not necessary to open Power BI to monitor a dashboard. You can subscribe instead, and Power BI emails you a snapshot of that dashboard on a schedule you set.

Microsoft Power BI Marketing and Sales Ignite

File Chat in Teams Comment Subscribe ...

Ask a question about your data

Marketing and Sales

Total Category Volume % Units Market Share R12M ar

Marketing and sales

Sales and Marketing Sample... ▾

50K

% Units Market Share

35% 30%

● % Units Market Share ● % Units

% Units Market Share



## Subscription for Sales and Marketing



Microsoft Power BI (No Reply)

To Michele



If there are problems with how this message is displayed, click [here](#) to view it in a web browser.



Marketing and sales.png

359 KB

Microsoft

Power BI

### Marketing and sales

[Go to the dashboard >](#)



You're receiving this email because you subscribed to the 'Marketing and sales'

[Manage subscription >](#)

[Privacy Statement](#)

Microsoft Corporation, One Microsoft Way, Redmond, WA 98052



Learn more about [Power BI subscriptions](#)

## Get alerts when your data reaches a threshold

Your data is live, and your visuals update automatically. If you want to get notified when data changes above or below a threshold you set, use data alerts. Alerts work on gauges, KPIs, and cards.



Power BI sends you an email when the value increases or decreases past the limit you set.

## Alert for Sentiment



Microsoft Power BI (No Reply)  
To Michele



4:20 PM

If there are problems with how this message is displayed, click here to view it in a web browser.



Power BI

## Alert for Sentiment

- Dashboard: Marketing and sales
- Measure: Alert for Sentiment
- Current value: 67.8289578361177
- Threshold: 70

[Go to dashboard >](#)

[Get Insights >](#)

[Privacy Statement](#)

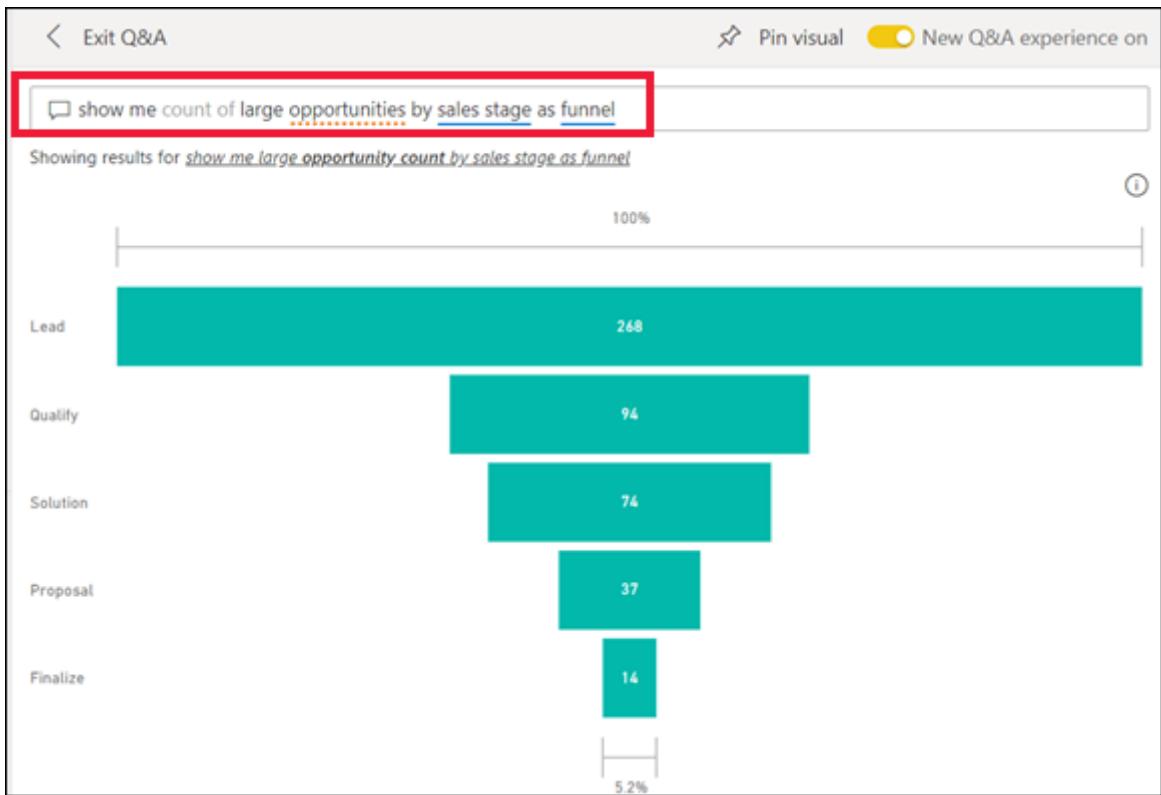
Microsoft Corporation, One Microsoft Way, Redmond, WA 98052



Learn more about [Power BI alerts](#)

## Use Q&A to ask questions using natural language

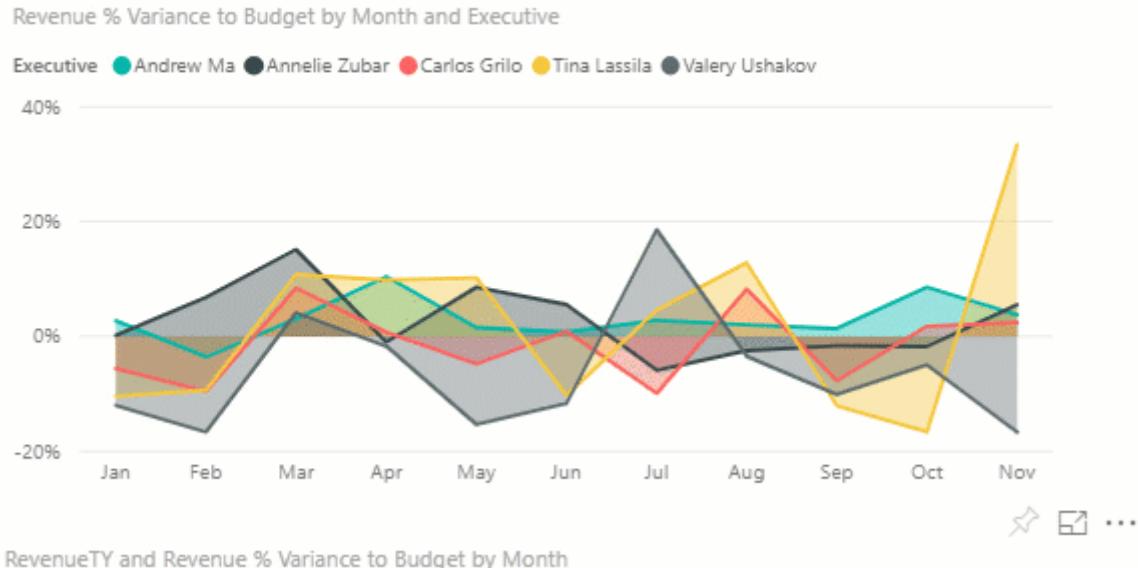
Sometimes the fastest way to get an answer from your data is to ask a question using natural language. The Q&A question box is available at the top of your dashboard. For example, "show me count of large opportunities by sales stage as a funnel."



[Learn more about Power BI Q&A](#)

## Display details on a visualization

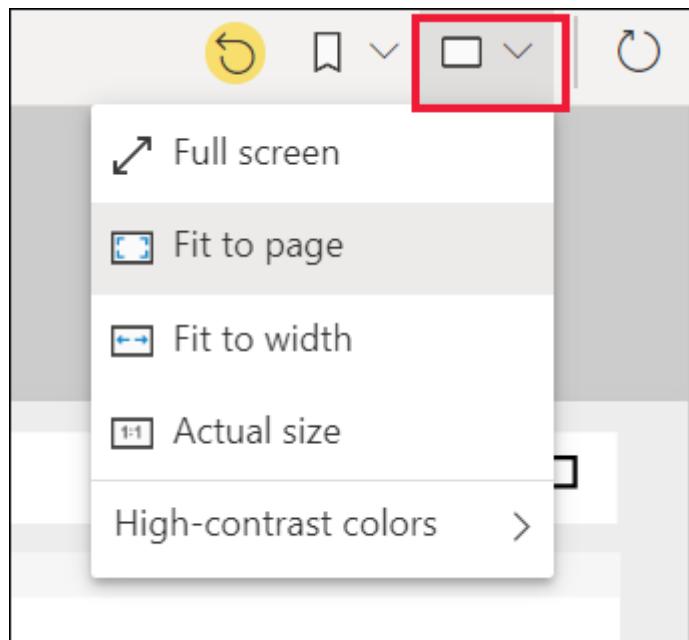
Visuals are made up of datapoints, and by hovering over a datapoint, you can view the details.



## Adjust the display dimensions

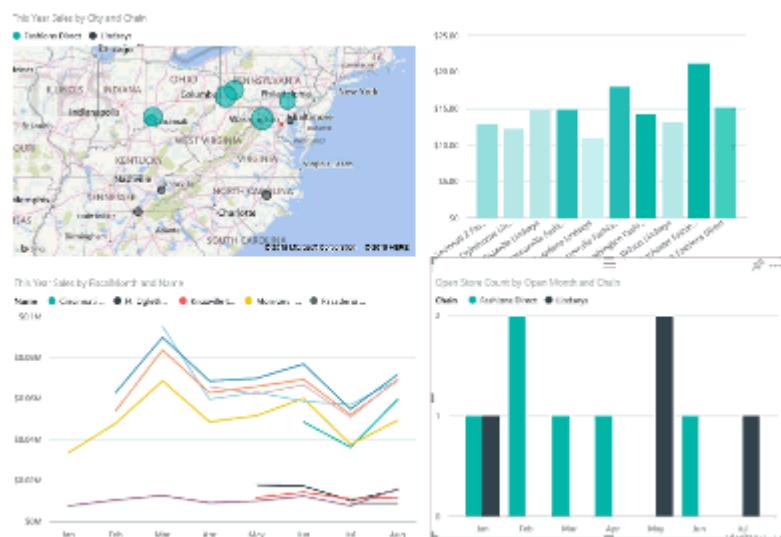
Reports are viewed on many different devices, with varying screen sizes and aspect ratios. The default rendering may not be what you want to see on your device.

To adjust, from the upper right menu bar select the **View** icon and choose one of the display options.



## See how all the visuals on a page are interconnected

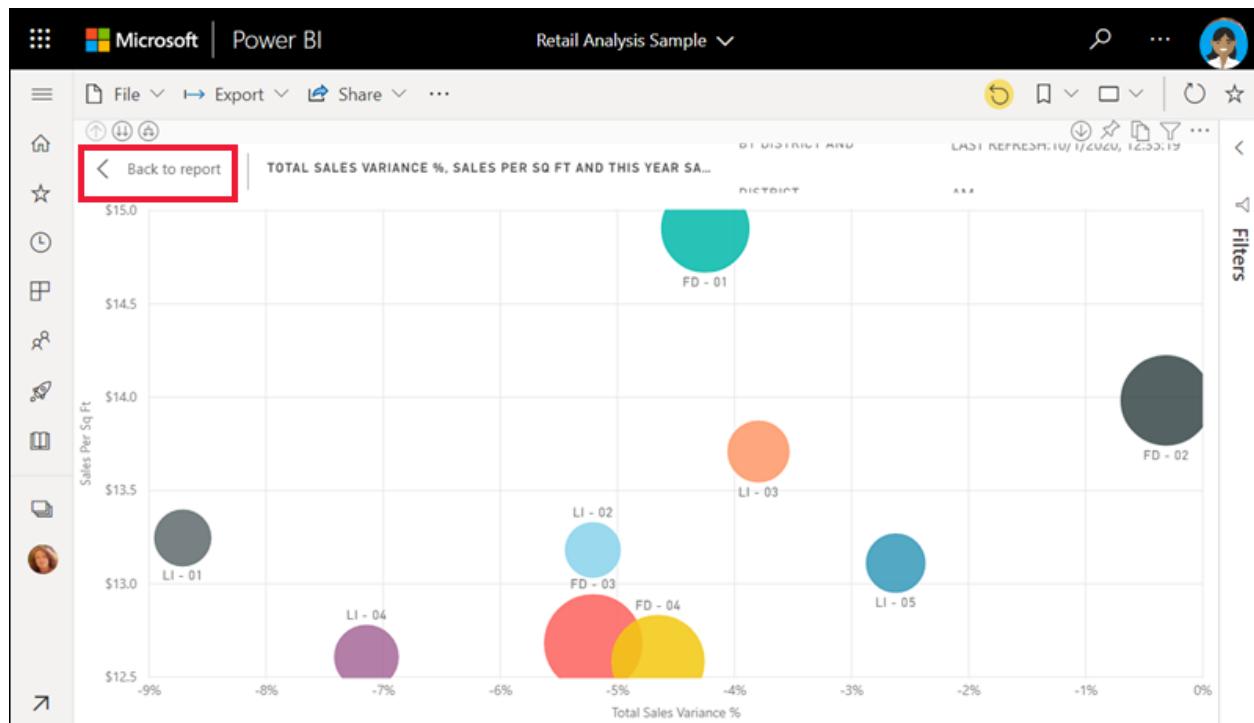
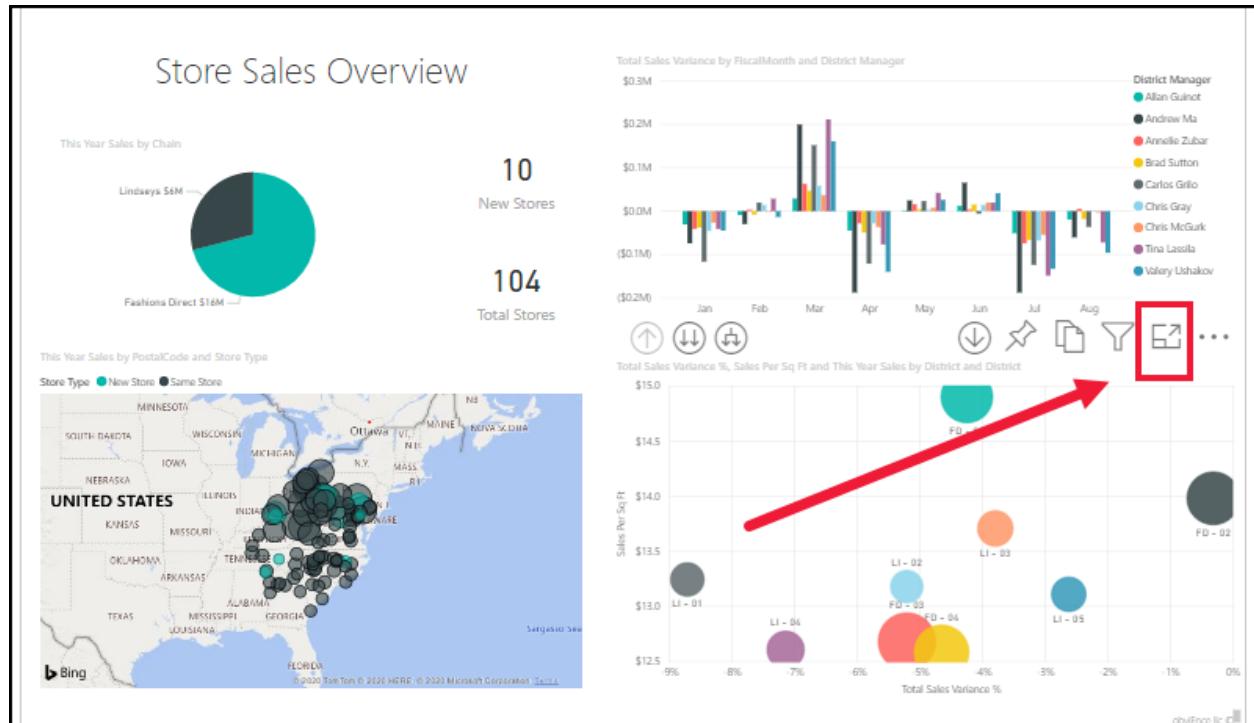
Cross-highlight and cross-filter the related visualizations on a report page. The visualizations on a single report page are all "connected" to each other. What this means is that if you select one or more values in one visualization, other visualizations that use that same value will change based on your selection.



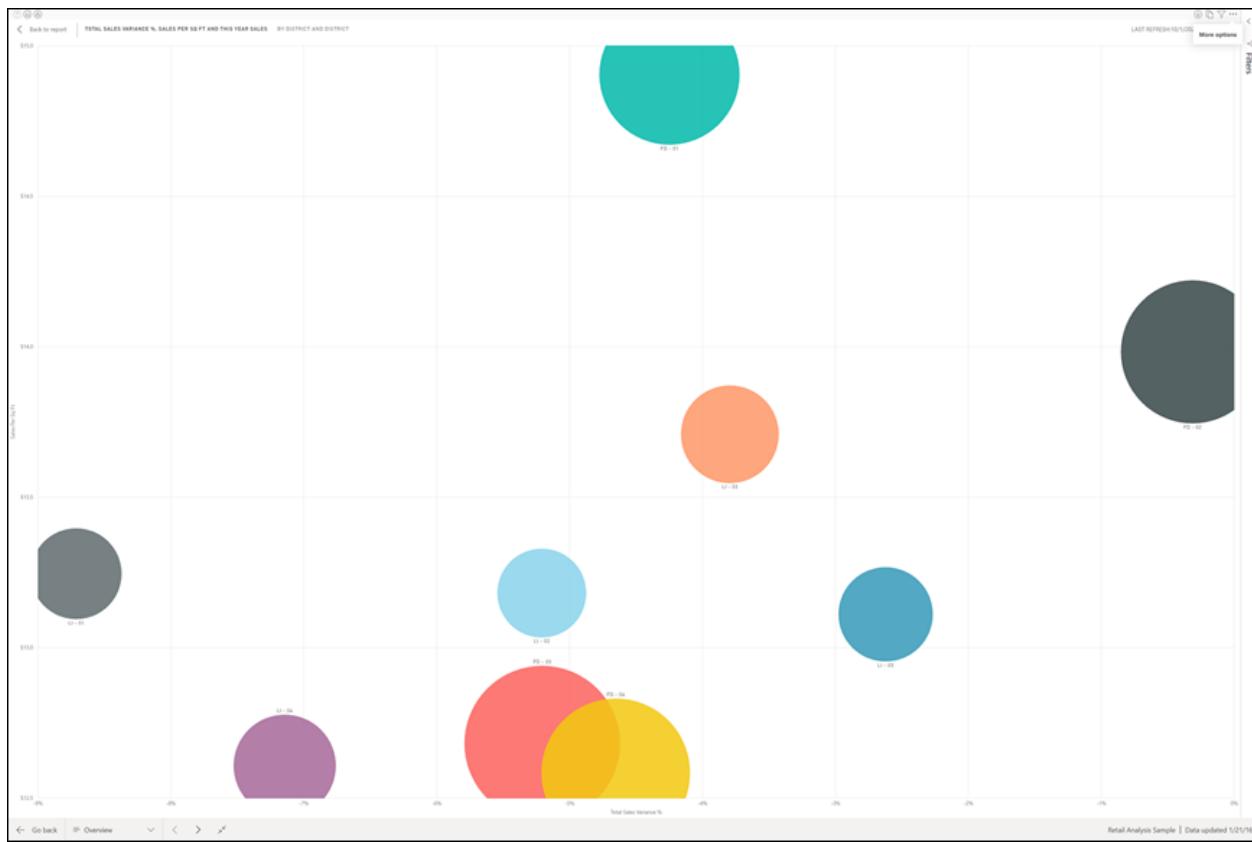
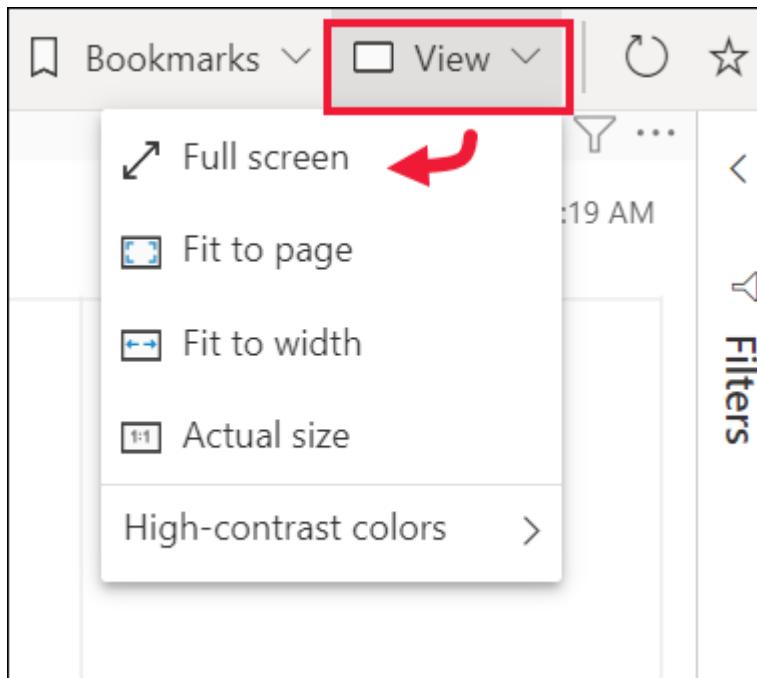
Learn more about [visual interactions](#)

# Zoom in on individual visuals

Hover over a visual and select the **Focus mode** icon . When you view a visualization in Focus mode, it expands to fill the entire report canvas.



To display that same visualization without the distraction of menu bars, filter pane, and other chrome -- select **Full screen** from the View dropdown.



Learn more about [focus mode](#) and [full screen mode](#)

## Sort a visualization

Visuals on a report page can be sorted and saved with your changes applied.

Hover over a visual to make it active, and select **More options (...)** to open sorting options.

# Revenue Analysis

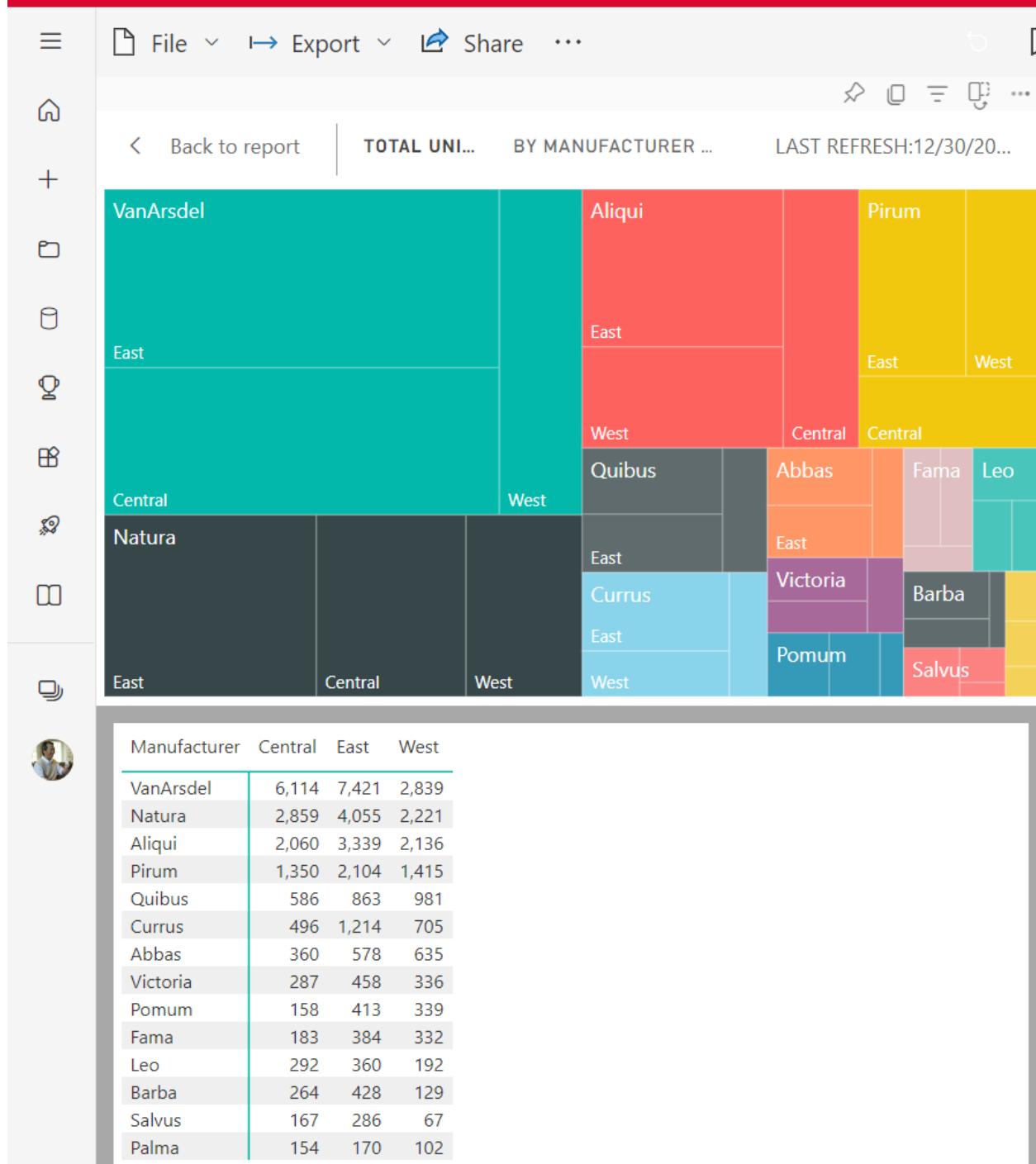


Learn more about [sorting visuals](#)

## Show the data used to create a visualization

A Power BI visualization is constructed using data from underlying semantic models. If you're interested in seeing behind-the-scenes, Power BI lets you *display* the data that is being used to create the visual. When you select **Show as a table**, Power BI displays the data below (or next to) the visualization.

With a visual active, select **More options (...)** and choose **Show as a table**.



## Export data to Excel

In addition to showing the data that is used to create a visual, you can also export that data and view it in Microsoft Excel. When you export to Excel, you're creating a separate document, a spreadsheet that isn't part of Power BI. Any changes that you make in the Excel file won't impact the data in Power BI. Whether you want to take a closer look at the data, or you want to use the data in another application or for another purpose, Power BI gives you that flexibility. For more information, visit [Export the data that was used to create a visualization](#).

Exporting isn't limited to individual visuals; you can export entire reports to Excel or PowerPoint to share with your colleagues. For more information, see [Analyze in Excel](#) and [Power BI in PowerPoint](#).

This article has been a quick overview of just some of the things *business users* can do with the Power BI service.

## Clean up resources

- If you connected to an app, from the nav pane, select **Apps** to open the Apps content list. Hover over the app to delete, and select the trashcan icon.
- If you imported or connected to a Power BI sample report, from the nav pane, open **My workspace**. Using the tabs at the top, locate the dashboard, report, and semantic model, and select the trashcan icon for each.

## Next steps

[Power BI for business users](#)

# Tutorial - Getting around in Power BI service

Article • 11/10/2023

Now that you know the [basics of Power BI](#), let's take a look around the **Power BI service**. As mentioned in the previous article, colleagues on your team might spend all of their time in [Power BI Desktop](#), combining data and creating reports, dashboards, and apps for others. They're *designers* and *creators*. You, on the other hand, might spend all of your time in the Power BI service, viewing and interacting with content created by others (**consuming experience**). You're a *business user*. This tutorial is for *business users* of the Power BI service.

## Prerequisites

- If you're not signed up for Power BI, [sign up for a free trial](#) before you begin.
  - You can work through this tutorial by using sample content from the Power BI website.
  - Read [Power BI service basic concepts](#).
  - Viewing Power BI content (reports, dashboards, apps) created by *designers* requires one of two conditions:
    - a Power BI Pro or Premium Per User (PPU) license
    - Your organization to have a Power BI Premium subscription, and the content to be shared with you from Premium capacity.
- [Learn about licenses and subscriptions.](#)

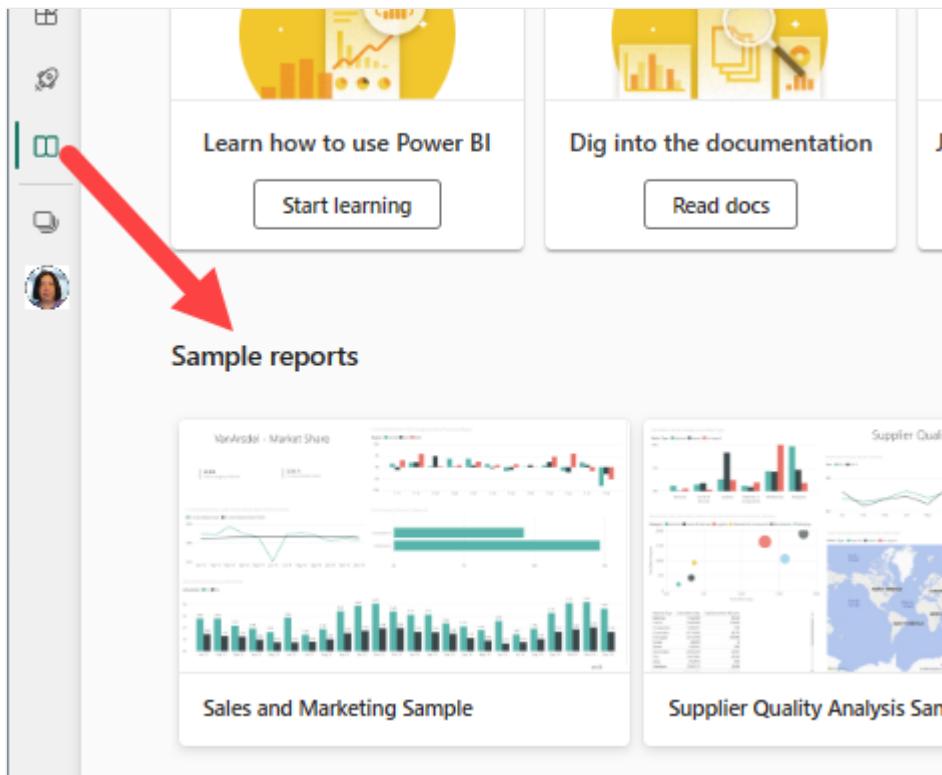
For the purposes of this tutorial, we aren't requiring either of these conditions to be met. Microsoft has made sample content available to you directly from the Power BI service interface. We'll use this sample content to learn our way around the Power BI service.

## Open the Power BI service

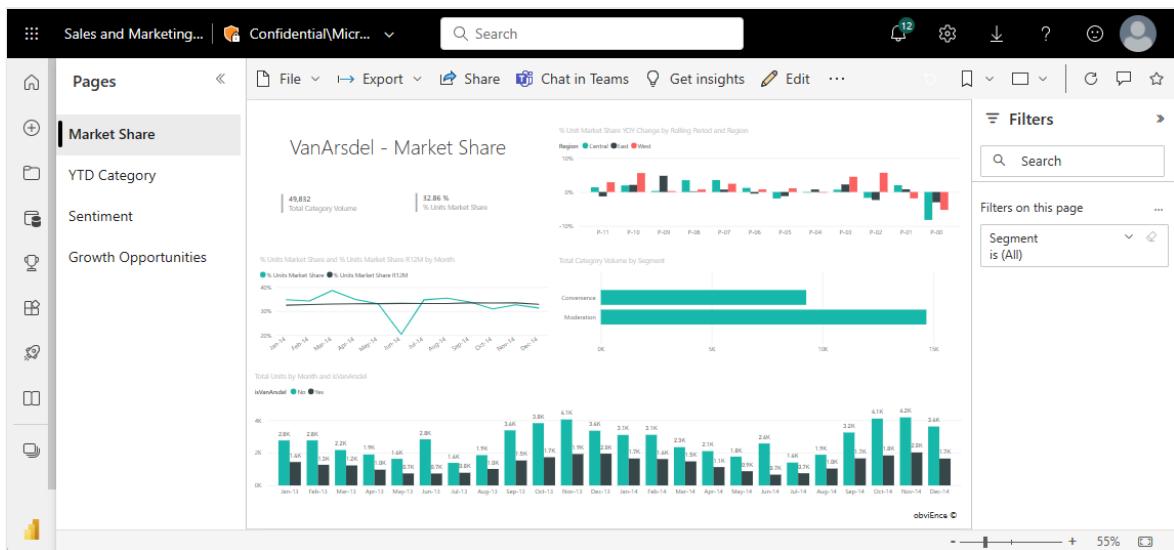
1. To begin, open the Power BI service ([app.powerbi.com](http://app.powerbi.com)), and sign in if you're prompted.

The screenshot shows the Microsoft Power BI Home page. At the top, there's a banner with the text "Good morning, Zalan" and "Find and share actionable insights to make data-driven decisions". Below the banner, there's a sidebar with icons for Home, Favorites, Frequent, Recent, My apps, From external orgs, and a search bar. The main content area has two sections: "Favorites + frequent" and "Featured". In "Favorites + frequent", there are four cards: "Purnima less than 10" (blue circle icon), "1 - Power BI Articles" (teal circle icon), "AAIG Trending Travel Report (6)" (blue circle icon), and "Custom Visuals" (blue circle icon). In "Featured", there are four cards: "Hello from MSDigital" (blue circle icon) by Pradtanna K, "UsageFrequency PowerBI retention report" (grid icon) by Megan B, "PowerBIWebMetrics Web Metrics Report for Power BI" (bar chart icon) by Megan B, and "Covid-19 US Tracking Sample app that tracks Covid-19 cases in the US" (grid icon) by 2 years ago. At the bottom, there's a section for "Recent" apps, showing one item: "Sales and Marketing sample 04/01/2022, 1..." which is an App type opened 2 days ago.

2. Select **Learn** and in the **Learning center**, scroll down to **Sample reports**. Select the right arrow until you get to **Sales and Marketing Sample**. Select the sample report.



The Sales and Marketing Sample report opens.



3. The Power BI service installs the sample in **My workspace**, your private sandbox for learning and experimenting. Only you can see your workspace. Select **My workspace** to see details about this sample report.

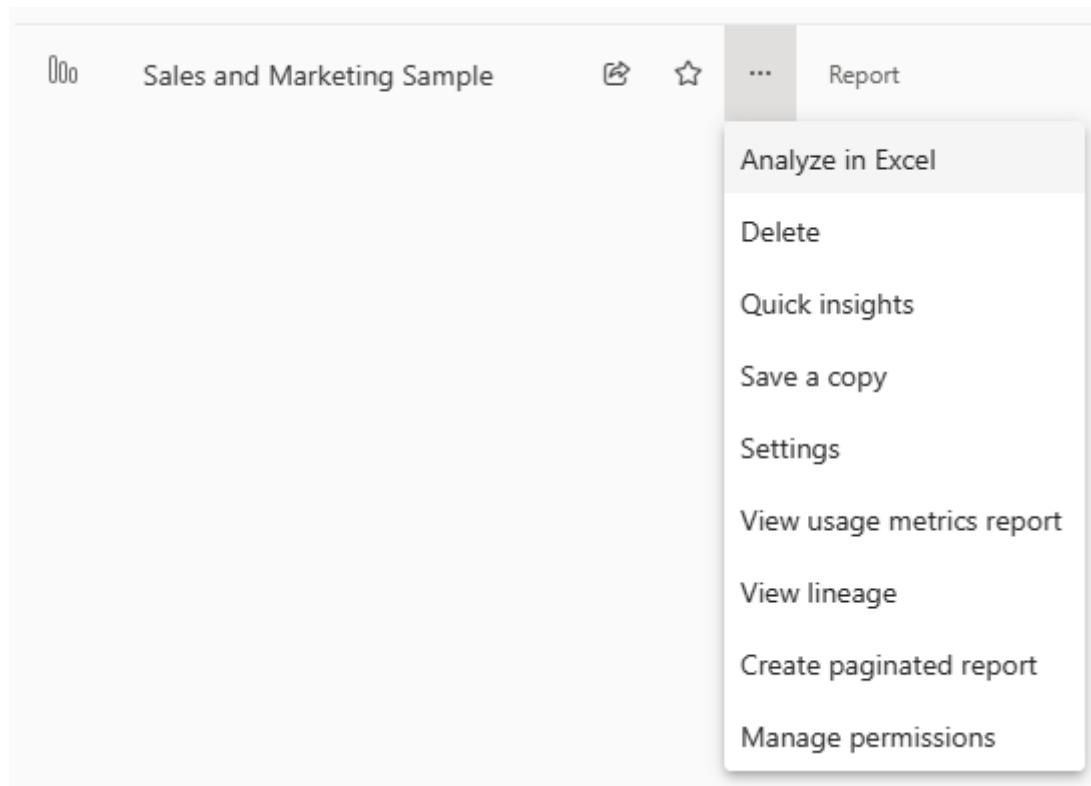
The sample includes one report, one dashboard, and one semantic model. Most content shared with business users doesn't include direct access to the underlying semantic models, but the samples, which are designed for all users, include semantic models.

## View workspace content

The sample content is organized within the context of a workspace. Every business user has at least one workspace, and it's called **My workspace**. You can acquire more workspaces when designers share content with you. For example, if designers assign you access permissions to one of their workspaces, that workspace will show up in your Power BI site.

**My workspace** stores all of the content that you own and create. Think of it as your personal sandbox or work area for your own content. Any sample data that you download from the Power BI Learning Center, is saved in your **My workspace**.

A workspace is much more than a simple listing of content. On this page, you can learn a lot about the workspace's dashboards, reports, and semantic models. Workspace owners assign permissions to content in a workspace. Your permissions may allow you to take **More actions (...)** on the content in a workspace. Since we're using sample content that is saved in your **My workspace**, you have owner-level permissions by default.



From a workspace, you can open a dashboard or report by selecting it from the list. You can favorite a dashboard or report by hovering and selecting the star icon. If a workspace owner gave you [sharing permissions](#), you can share from here as well.

Learn more about [Workspaces](#).

## Open a dashboard and a report

A dashboard is a single page that shows visualizations of the most important elements from one or more report.

1. The Sales and marketing sample has one dashboard. Select the name of the dashboard to open it.

## Related content



### Sales and Marketing Sample

#### My workspace

##### DASHBOARDS

Sales and Marketing Sample



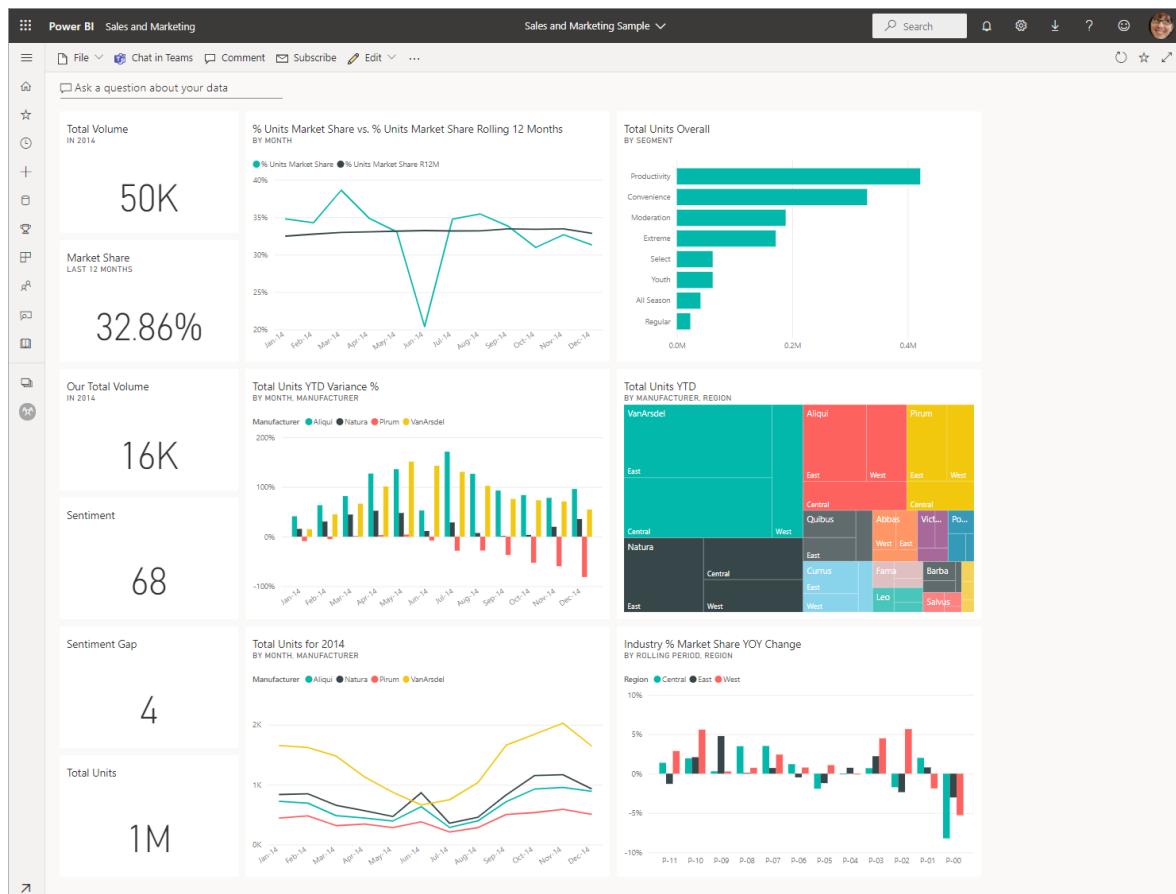
##### DATASETS

Sales and Marketing Sample

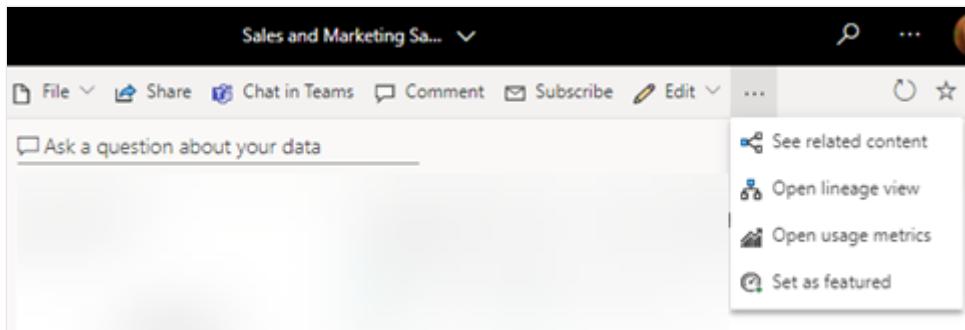


Last refresh: 2/2/2023, 12:01:02 PM

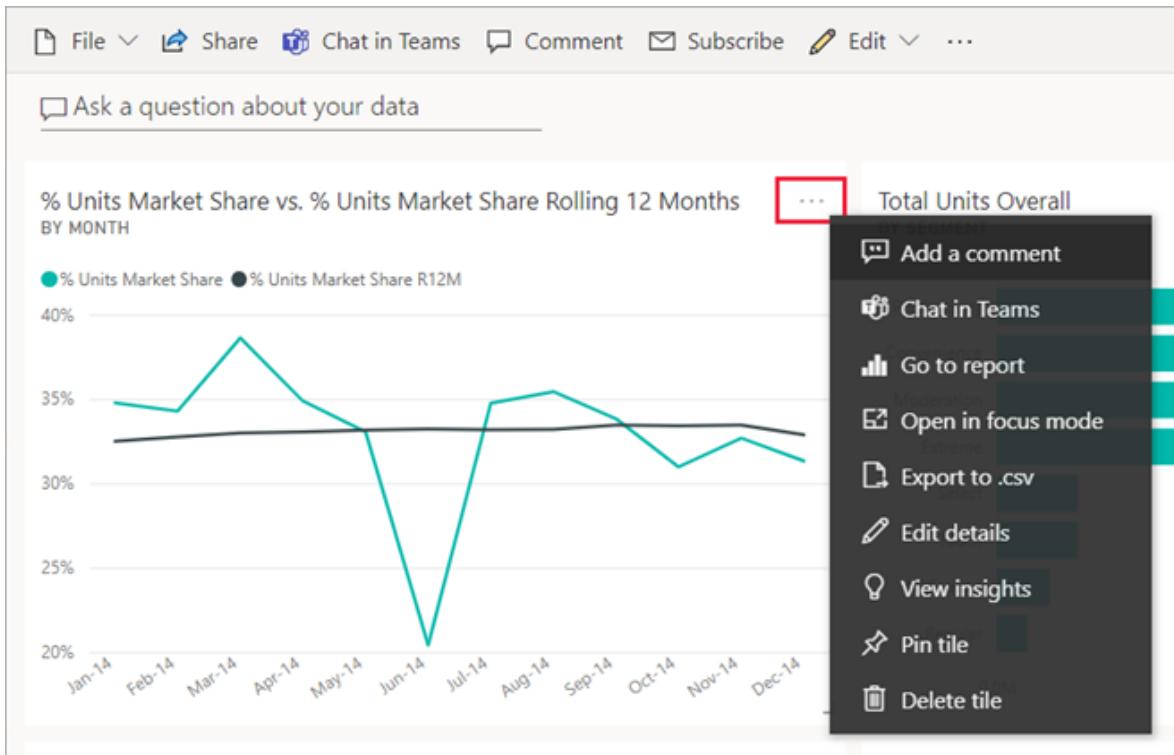
2. The dashboard opens in the Power BI service. Dashboards are something that differentiates the Power BI service from Power BI Desktop. [Learn about dashboards.](#)



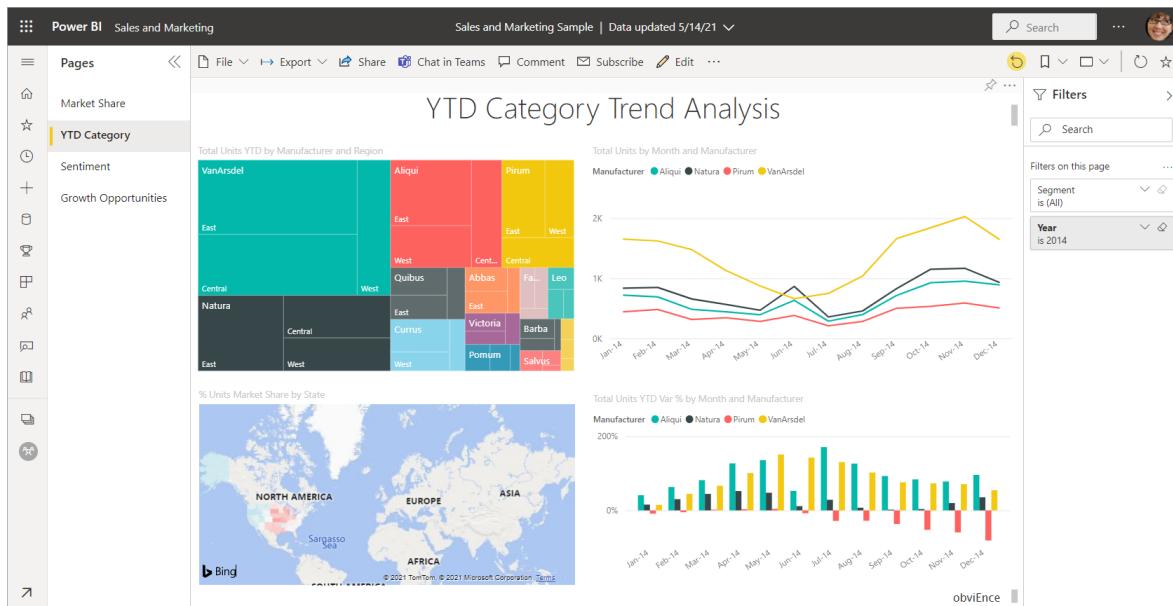
3. The actions you can take on a dashboard are displayed in the top menu bar. Select **More options (...)** to see the complete list.



4. The visuals on the dashboard are arranged as *tiles*. Hover over a dashboard tile and select **More options (...)** to see the options you have for interacting with that tile.



5. Select a dashboard tile to open the report that was used to create that tile. The report opens to the page that contains the visual that is on the tile. Here, I've selected the dashboard tile with the treemap. The Power BI service opens the YTD Category report page.



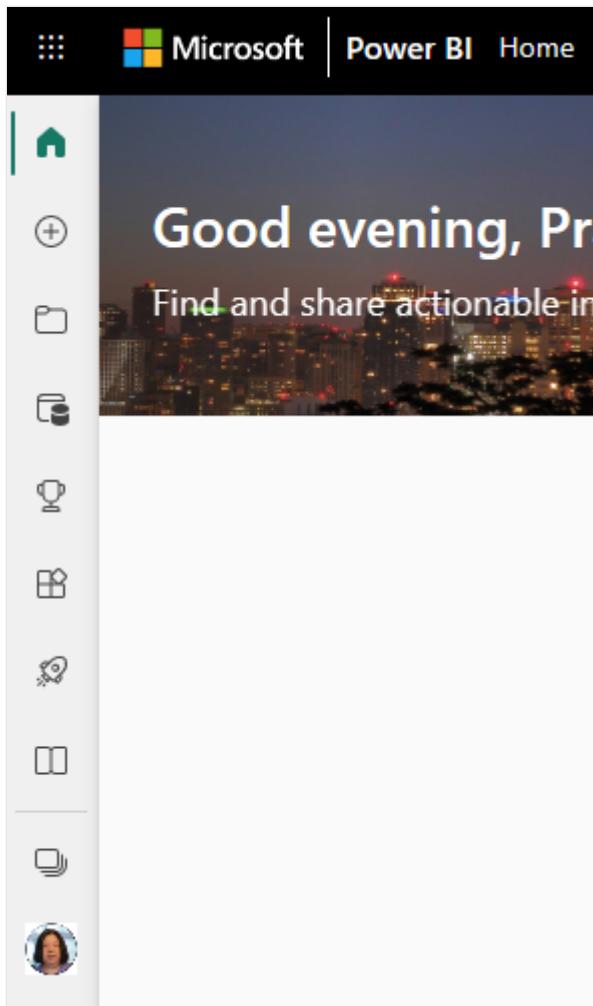
A report is made up of one or more pages. In most cases, each page is designed to tell a story and that story is told with visualizations, text, shapes, and images.

Reports have several sections. On the left is the clickable list of report pages. Across the top, is the menu bar containing actions you can take with the report. The options available will depend on the role and permission the report *designer* assigned to you. On the right side is the **Filters** pane. And the center canvas contains the report itself. Similar to the dashboard, there are actions that you can take for the entire report, for individual visuals, and also for a single report page.

Learn more about [Power BI reports](#).

## Using the left navigation pane (nav pane)

The nav pane will become more useful as colleagues share content with you. In this section of the tutorial, we'll look at the Power BI service for a *business user* who works with colleagues who've shared lots of reports, dashboards, and apps.



The top icon in the nav pane is your **Power BI Home**. It's the default landing page when you log in to the Power BI service. Home is a great starting point for viewing and navigating your content. **Home** bring together the searching and sorting tools, the nav pane, and a canvas with *cards* that you can select to open content. At first, you might not have many cards on your Home canvas, but that will change as you start to use Power BI with your colleagues.

The screenshot shows the Microsoft Power BI Home page. At the top, there's a banner with the text "Good morning, Zalan" and "Find and share actionable insights to make data-driven decisions." Below the banner is a "Favorites + frequent" section with four cards: "Purnima less than 10" (blue icon), "1 - Power BI Articles" (teal icon), "AAIG Trending Travel Report (6)" (blue icon), and "Custom Visuals" (blue icon). The "Featured" section follows, displaying four reports from other users: "Pradtanna K featured this report a year ago" (blue icon), "Megan B featured this report a year ago" (teal icon with a chart thumbnail), "Megan B featured this report a year ago" (blue icon with a chart thumbnail), and "Hello from MSDigital" (blue icon with a clock icon). Below the featured section is a "Recent" section with a table showing one item: "Sales and Marketing sample 04/01/2022, 1..." (App type, opened 2 days ago, location Apps, endorsement and sensitivity are listed as "—"). The bottom of the page includes navigation icons for Home, Plus, Folder, Magnifying glass, Refresh, Down arrow, Question mark, and User profile.

Recent

Favorites

My apps

From external orgs

Filter by keyword

Filter

	Name	Type	Opened	Location	Endorsement	Sensitivity
	Sales and Marketing sample 04/01/2022, 1...	App	2 days ago	Apps	—	—

To learn more, see [Power BI Home](#)

## Browse



See your full list of favorites, recent, and shared content by selecting **Browse** on the nav pane. Here you find content lists that provide details about reports, apps, and dashboards.

The screenshot shows the Microsoft Power BI service interface. On the left, there's a navigation pane with icons for Home, Create, and Browse. The 'Browse' icon is highlighted with a red box. The main area is titled 'Browse' and has sections for 'Recent', 'Favorites', and 'Shared with me'. Under 'Recent', there are two items: 'Sales and Marketing Sample' (Report, opened 2 minutes ago) and 'My workspace' (Workspace, opened 2 minutes ago). A search bar at the top right says 'Search'.

For more information, see [Recent content](#), [Favorite dashboards, reports, and apps](#), and [Dashboards and reports that have been shared with me](#).

## Open Apps



Go directly to your apps by selecting **Apps** on the navigation pane. You might not have any apps yet, but this is the content area that will store all apps that have been shared with you or that you've installed.

For more information, see [Apps in Power BI](#).

## Open the Learning center



For new users, the Learning center is especially helpful, with getting started content, samples, and links to videos.

## Search and sort content



When you're new to the Power BI service, you only have a few pieces of content. But as colleagues begin sharing data with you and you begin downloading apps, you might end up with long lists of content. That's when you find searching and sorting extremely helpful.

Search is available from almost every part of the Power BI service. Just look for the search box or search magnifying glass icon.

In the Search field, you can type all or part of the name of a dashboard, report, workbook, app, or owner. Power BI searches all of your content.

The screenshot shows the Power BI search interface. At the top, there is a search bar with the text "Procurement" and a magnifying glass icon. To the right of the search bar are buttons for "X" and "→". Further right is a user profile picture of a person with glasses. Below the search bar, a list of results is displayed:

- Procurement Analysis Sample from App: Procurement Analysis
- Procurement Analysis Sample from Workspace: Procurement Analysis
- Procurement Analysis Sample from App: Procurement Analysis
- Procurement Analysis Sample from Workspace: Procurement Analysis
- Procurement Analysis

At the bottom of the list, there is a link: "See more results for **Procurement**".

There are also many ways to sort content. Hover over column headers and look for arrows indicating that the column can be sorted. Not all columns can be sorted.

Name	Type ↑	Owner
Sales and Marketing Sample	Dashboard	Sales an
Sales and Marketing Sample	Report	Sales an
Sales and Marketing Sample	Dataset	Sales an

Or, look for the search **Filters** near the upper right corner of your content lists. Find content quickly by filtering categories, like type of content or owner.

The screenshot shows the Power BI search interface. At the top, there is a trial notice "Trial: 50 days left", a search bar with a magnifying glass icon labeled "Search", and a user profile picture. Below the search bar is a "Filter by keyword" input field and a red-bordered "Filter" button. A dropdown menu titled "Type" is open, listing options: "Workspace", "Dashboard", "App", "Report", and "Dataset". Below this are sections for "Time" and "Owner", each with a dropdown arrow. The background shows a blurred view of a dashboard or report.

For more information, see [Navigation for Power BI business users: global search](#).

## Find the owner

And we'll end this tutorial with a helpful tip. If you have questions about a dashboard, report, app, or other content--you can look up the owner. With the content open, select the title menu to display the owner's contact link. The owner or contact may be a person or a group.

The screenshot shows the Power BI title menu for a dashboard named "Sales and Marketing Sample". The title menu includes options like "File", "Share", "Chat in Teams", and "Comm". Below the title, it says "Ask a question about your data". To the right, a dropdown menu displays the owner information: "Title" (Sales and Marketing Sample), "Contact" (Megan Bowen), and "More" (with a "View on..." link). The "Contact" section is highlighted with a red box around the dropdown arrow.

## Clean up resources

You can now delete the sample report, dashboard, and semantic model from your [My workspace](#) if you wish.

1. Open the Power BI service ([app.powerbi.com](https://app.powerbi.com)) and select **My workspace**.
2. Hover over the report and select **More options (...)** > **Delete**. Repeat to remove the dashboard and semantic model.

The screenshot shows the Power BI service interface. On the left, there's a sidebar with icons for various services: Browse, Data hub, Metrics, Apps, Deployment pipelines, Learn, and Workspaces. The 'Workspaces' icon is highlighted with a red box. The main area has tabs for All, Content, and Datasets + dataflows, with 'All' selected. It lists two items under 'Name': 'Sales and Marketing Sample' (Report type) and another 'Sales and Marketing Sample' (Report type). For the first item, a context menu is open, also highlighted with a red box, showing options like 'Analyze in Excel', 'Delete' (which is selected), 'Quick insights', 'Save a copy', 'Settings', 'View usage metrics report', 'View lineage', 'Create paginated report', and 'Manage permissions'. The 'Delete' option is clearly visible within this menu.

## Next steps

[Learn about the Power BI capabilities for business users](#)

# Find your dashboards, reports, and apps

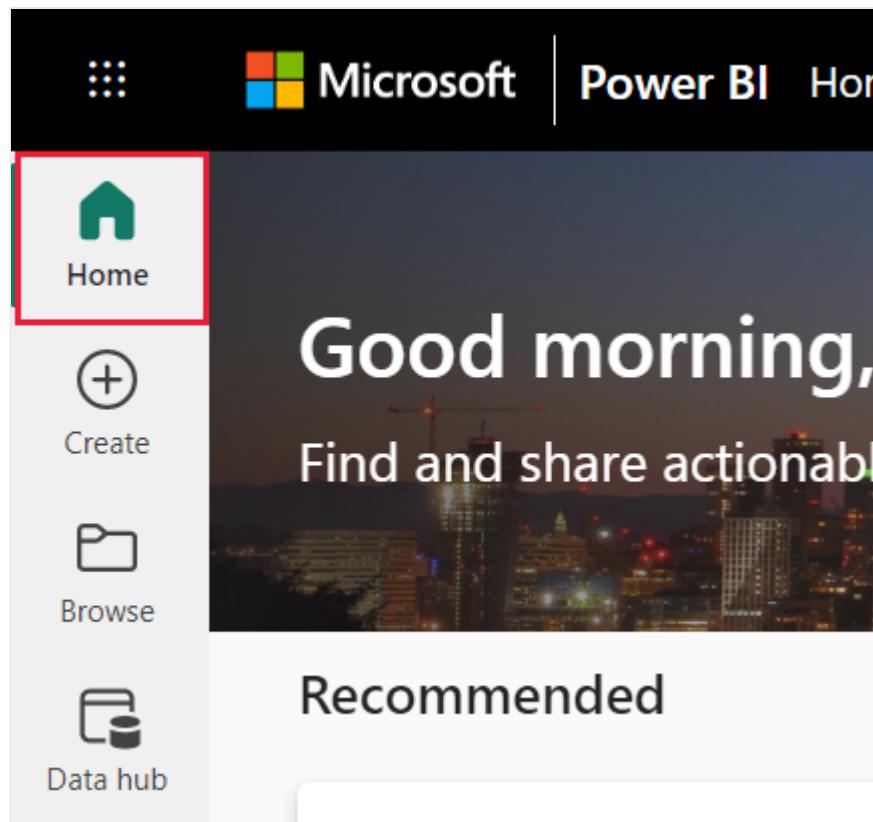
Article • 03/17/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

In Power BI, the term *content* refers to visuals, like apps, dashboards, and reports. Content is created by Power BI designers who share it with their colleagues. Your content is accessible and viewable in the Power BI service, and often the best place to start working in the Power BI service is from Power BI Home.

## Explore Power BI Home

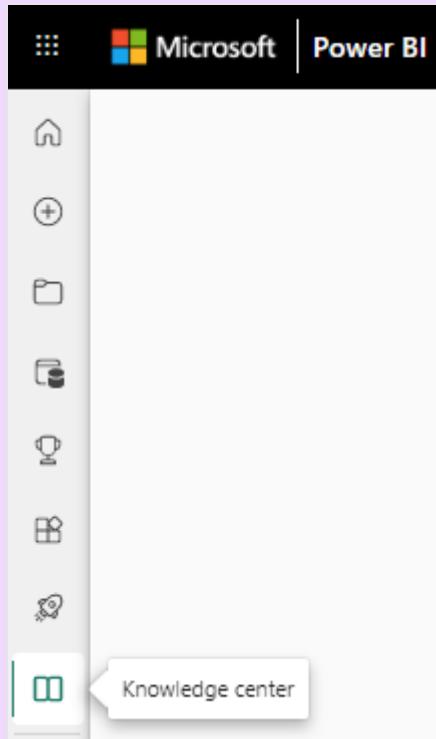
After you sign in to the Power BI service, select **Home** from the navigation pane.



Your Home page opens. The layout and content on Home is different for every user. New users have less content, but that changes as they use Power BI more often. Only the content that you can access appears on your Home. For example, if you don't have permissions to a report, that report doesn't appear on Home.

 **Note**

The **Getting started** section on Home is being deprecated mid December 2022. The articles and modules included in **Getting started** will continue to be available from the Power BI online documentation. The sample reports are already available from the **Learning/Knowledge center**.



## Simplified layout and Expanded layout

Your Home view depends on the layout you select. The **Simplified** view is the default. This view shows **Recommended** content at the top with tabs for **Recent**, **Favorites**, and **My apps** below. **Recommended** content might include content that:

- you've marked as a favorite
- you visit often
- is visited often by colleagues in your organization
- has been featured on Home
- is used frequently by your closest colleagues
- is Getting started content

The following example shows a **Simplified** layout for a new user.

The screenshot shows the Power BI Home page in Simplified layout. At the top, there's a search bar and a 'New report' button. Below that, a 'Recommended' section displays five tiles: 'Getting started with Power BI', 'Explore this data story', 'Explore this data story', 'Getting started with Power BI', and 'Explore this data story'. Underneath these is a navigation bar with 'Recent', 'Favorites', 'My apps', a search bar, and a 'Filter' button. The main area features a large yellow folder icon with three dots, labeled 'Find recently opened content here'. A note below it says: 'Once you've opened some Power BI content, come back to Recents to find it again easily.' To the right is a magnifying glass icon.

The next example shows a **Simplified** layout for an experienced user.

The screenshot shows the Power BI Home page in Expanded layout. At the top, there's a search bar and a 'New report' button. Below that, a 'Page layout' menu is open, showing 'Simplified' (which is checked) and 'Expanded'. The 'Recommended' section is identical to the previous screenshot. Below it is a table of recent items:

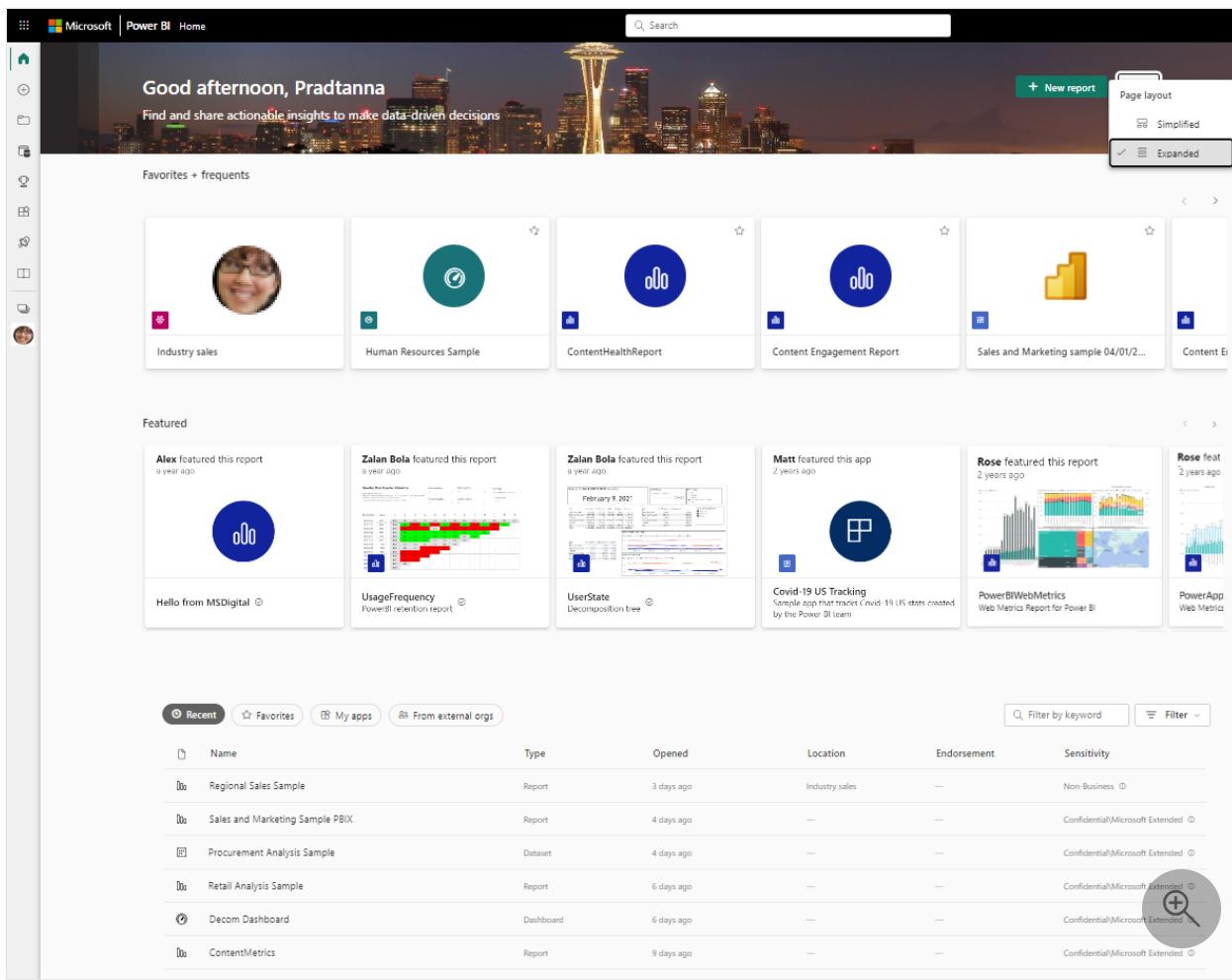
Name	Type	Opened	Location	Endorsement	Sensitivity
Retail Analysis Sample	Report	10 months ago	TestWorkspace	—	—
RetailAnalysisSampleWorkspace	Workspace	a year ago	Workspaces	—	—
TestWorkspace	Workspace	a year ago	Workspaces	—	—
TestDashboard	Dashboard	a year ago	TestWorkspace	—	—
My workspace	Workspace	a year ago	Workspaces	—	—
TestWorkspace	App	a year ago	Apps	—	—

Below the table is a navigation bar with 'Recent', 'Favorites', 'My apps', a search bar, and a 'Filter' button. To the right is a magnifying glass icon.

The **Expanded** layout includes a different set of information. If you select the **Expanded** view from the View menu, the expanded layout becomes your default Home layout.

This view includes **Favorites + frequent** and **Featured** at the top, with tabs for **Recent**, **Favorites**, **My apps**, and **From external orgs** below.

The following example shows the **Expanded** view for an experienced user.



## Locate content from your Home canvas

Power BI Home offers three ways of locating and viewing your content. All three approaches access the same pool of content in different ways. Searching is sometimes the easiest and quickest way to find something, while other times, selecting a card on the Home canvas is your best option.

- The Home canvas shows your favorite, frequent, recent, recommended, apps and workspaces. If you're new to the Power BI service, you also have Getting started content. Select a card, or an item in a list, to open it.
- Along the left side is a navigation pane, referred to as the nav pane. The nav pane has the same content as Home, but it's organized differently. Select **Browse** to see your recent, favorite, and shared content. Select **Data hub** to see data available to you from across your organization. Select **Apps** to see a list of apps available to you. And select **Knowledge/Learning center** to see learning materials, sample reports, and training.
- At the top of Home, you can search for content by title, name, or keyword in the global search box.

The following sections review these options for finding and viewing content.

# Home canvas

On the Home canvas, you can view all the content that you have permission to use. Your Home canvas updates the Getting started content, samples, and learning resources. At first, you might not have much content, but that changes as you start to use Power BI with your colleagues.

As you work in the Power BI service, you receive dashboards, reports, and apps from colleagues, and Power BI Home fills in with content. Over time, it might resemble the following Expanded layout example.

The screenshot shows the Power BI Home canvas with the following sections:

- Favorites + frequent**: A grid of six cards with black stars:
  - Custom Visuals
  - Events Calendar
  - Human Resources Sample
  - InvoicingStatus\_May
  - LeadGen.xlsx
  - Marketing
- Featured**: A grid of six cards:
  - Alex featured this report 11 months ago
  - Svetlana featured this report a year ago
  - Svetlana featured this report a year ago
  - Matt featured this report a year ago
  - Matt featured this report a year ago
  - Matt fea 2 years ago
- Recent**: A table of recent items:

Name	Type	Opened	Location	Endorsement	Sensitivity
Contributor Insights	Report	23 hours ago	—	Confidential\Microsoft Ext...	○
KPIs_Tracker	Report	a day ago	—	Confidential\Microsoft FTE	○
Human Resources Sample	Dashboard	2 days ago	Microsoft Design	—	—
My workspace	Workspace	2 days ago	Workspaces	—	—
Procurement	Report	6 days ago	My workspace	—	—
Dashboards	App	6 days ago	Apps	—	—

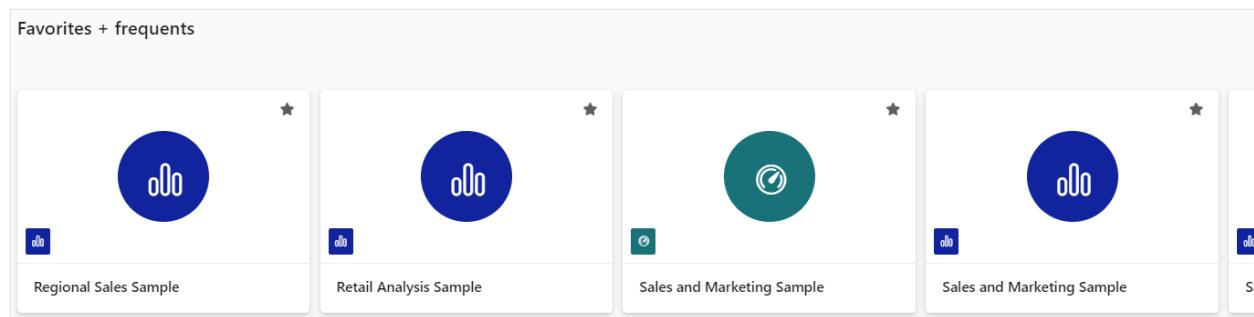
Your Home landing page might look different. Power BI optimizes Home based on your usage, settings, and the layout you select.

## Most important content at your fingertips

### Favorites and frequent

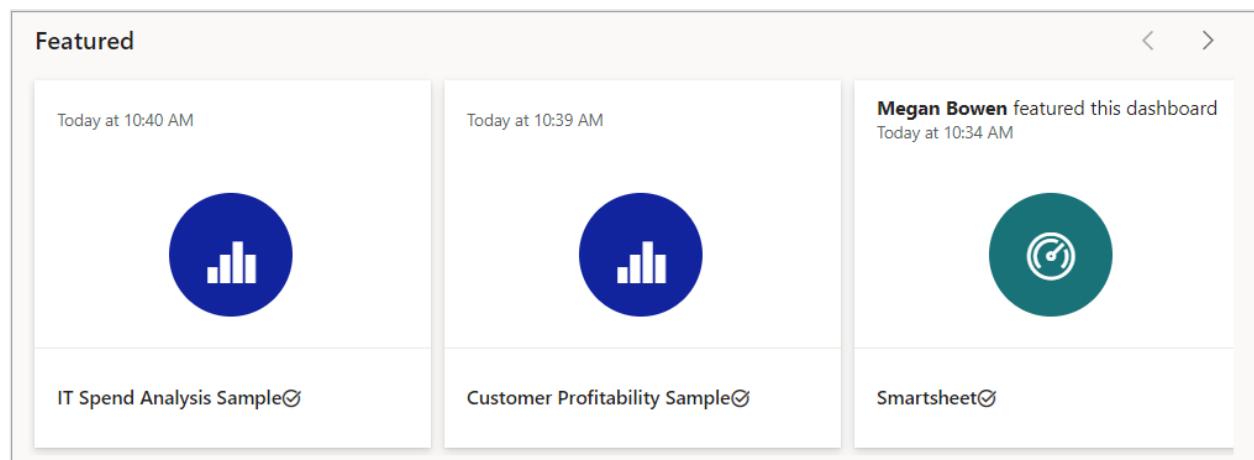
The **Favorites and frequent** section of your Home contains links to the content that you visit most often or that you've tagged as a **favorite**. These cards have black stars

because they're tagged as favorites.



## Featured

The **Featured** section contains content that your administrator or colleagues have promoted to your Home. Typically, the content that they feature is important or helpful for you to do your job. In this example, the featured content includes metrics to track success. Unless it's been disabled by your administrator, any user with Administrator, Member, or Contributor permissions to a workspace can feature content on Home. For more information about featuring content on Home, see [Feature content on colleagues' Power BI Home](#).



## Recents, My apps, and Favorites

The next section of your Home contains two or more tabbed lists.

- **Recent** is the content you've visited most recently. Notice the timestamp for each item.
- The **My apps** section lists [apps that have been shared with you](#) or that you've [downloaded from AppSource](#). The most recent apps are listed here.
- **From external orgs (Preview)** lists shared datasets available from other tenants. Use this list to discover and connect to data from external providers.

- In some scenarios, you'll also see a tab for content that you've tagged as **Favorites**.

The screenshot shows the Power BI navigation pane with the 'Recent' tab selected. The interface includes a search bar at the top right and filter options. Below the tabs, there's a table with columns for Name, Type, Opened, Location, Endorsement, and Sensitivity. The table lists various items such as 'My workspace', 'Retail Analysis Sample', 'Google Analytics', and several 'Sales and Marketing' related items.

	Name	Type	Opened	Location	Endorsement	Sensitivity
	My workspace	Workspace	54 seconds ago	Workspaces	—	—
	Retail Analysis Sample	Report	2 minutes ago	My workspace	—	—
	Google Analytics	App	10 days ago	Apps	—	—
	Sales and Marketing sample 11/3/2022, 4:...	App	10 days ago	Apps	—	—
	Sales Analytics for Dynamics 365 Sales	App	10 days ago	Apps	—	—
	Power BI Log Analytics for Analysis Service...	App	10 days ago	Apps	—	—
	Sales and Marketing Sample	Report	16 days ago	Sales and Market...	—	—
	Sales and Marketing	Workspace	16 days ago	Workspaces	—	—
	Sales and Marketing Sample PBIX	Report	16 days ago	Sales and Market...	—	—
	Sales and Marketing sample 11/3/2022, 4:...	Workspace	16 days ago	Workspaces	—	—

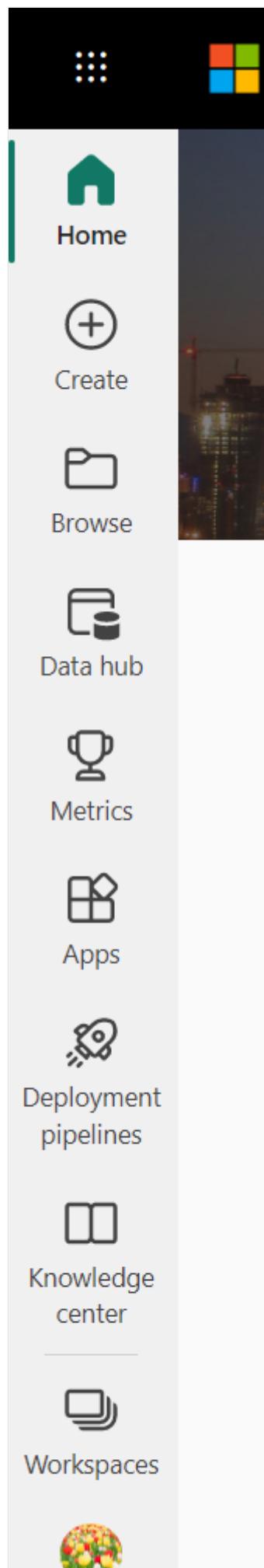
## Getting started learning resources

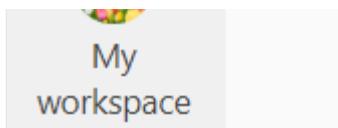
The exact resources that appear depend on your activity, settings, and Power BI administrator. If you're a new user, Getting started content is under **Recommended** in the **Simplified** layout. A **Getting started with Power BI** section is in the **Expanded** layout. If you want to remove the Getting started tabs in the **Expanded** layout, select **Hide getting started**.

The screenshot shows the 'Getting started with Power BI' section in the expanded layout. It features three main tabs: 'Power BI basics', 'Sample reports', and 'How to create reports'. The 'Sample reports' tab is currently selected. Below the tabs, there are three preview cards: 'Opportunity Analysis Report', 'Regional Sales Sample', and 'IT SPEND ANALYSIS SAMPLE PBIX'. Each card displays a small portion of a Power BI report with various charts and data tables.

## Explore the navigation pane

The nav pane classifies your content in ways that help you find what you need quickly.





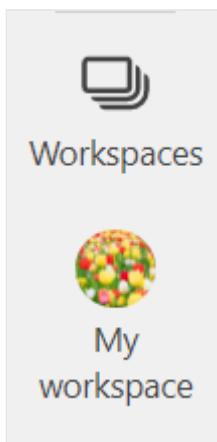
Use the nav pane to locate and move between dashboards, reports, apps, and other content. Occasionally, using the nav pane is the quickest way to get to content. The nav pane is there when you open your Home landing page and remains there as you open other areas of the Power BI service. It can be collapsed by selecting this icon .

The nav pane organizes your content into containers that are similar to what you've already seen on the Home canvas: Favorites, Recent, Apps, Datasets, Metrics, Shared with me, and workspaces. The Browse page contains your Recent, Favorites, and Shared with me. Select a container to see all the content.

Quickly find the content you want on the nav pane. Content is organized similar to the Home canvas, but shows lists instead of cards.

## Workspaces

Every Power BI service user has one **My workspace**. **My workspace** only contains content that you download from Microsoft samples or that you create yourself. For many business users, **My workspace** is empty and remains empty. If you're a brand new user, you only have one workspace called **My workspace**.



The following example shows what your workspace looks like if it's empty.



### Add content to this workspace

Save reports, dashboards, datasets, and workbooks to this workspace by making something new or uploading existing files.

[Add content](#)

If someone in your organization adds you to a workspace, it appears in your list of workspaces. Over time, you might have more than one workspace. For example, your coworkers can add you to a workspace by giving you a role, such as Member, Contributor, or Viewer. If you [download a template app](#) from outside your organization, you get an app and a new workspace. You can also create workspaces if you have a Power BI Pro or Premium Per User license. To open a workspace, select it from the nav pane.

A screenshot of the Microsoft Power BI web interface. The top navigation bar is black with the Microsoft logo and the words "Power BI" and "Browse". On the far left is a vertical navigation pane with three items: "Home" (with a house icon), "Create" (with a plus icon), and "Browse" (with a folder icon). The main content area has a title "Workspaces" and a search bar labeled "Search". Below that is a card titled "My workspace" with a small circular profile picture. At the bottom of the page, there is a footer bar with icons for "MSX Leader Insights" and "Diamond".

The screenshot shows the Power BI navigation pane on the left and a list of workspaces on the right. The 'Workspaces' item in the nav pane is highlighted with a red border. The list of workspaces includes:

- Data hub
- Metrics
- Apps
- Deployment pipelines
- Knowledge center
- Workspaces** (highlighted with a red border)
- My workspace

On the right, each workspace entry has a circular icon with two people and a name next to it. Some entries have additional icons: 'Azure Decom' has a blue circle with 'AD'; 'MSX Insights PRD', 'Next Best Workload', and 'SMC Analytical Framework' have diamond icons.

Workspace	Icon	Notes
1ES_CredentialReporting	Two people	
1ES_LiveSecretsReporting	Two people	
Aquent vendor team – DevRel C+L	Two people	
Azure Decom	Two people (blue AD)	AD
Collaboration Reports	Two people	
Dynamics Performance Test Results	Two people	
Events	Two people	
FY22 Adv Spec Tracker	Two people	
MSX Insights PRD	Two people	◆
Next Best Workload	Two people	◆
SMC Analytical Framework	Two people	◆

The workspace opens on your canvas, and the name of the workspace is listed on your nav pane. When you open a workspace, you can view its content. It includes content such as dashboards, reports, worksheets, and dataflows. In the following example, the **Events** workspace is open and it contains several types of content.

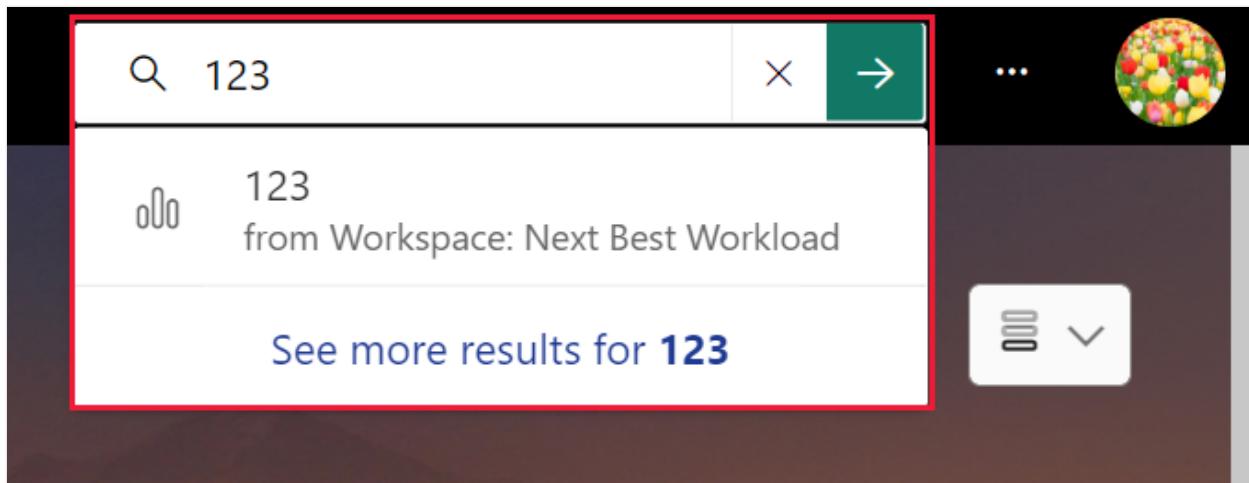
The screenshot shows the Microsoft Power BI interface with the title "Events". On the left, there's a vertical navigation bar with icons for Home, Create, Browse, Data hub, Metrics, Apps, Deployment pipelines, Knowledge center, Workspaces, and Events. The "Events" icon is highlighted with a red box. The main area displays a table with columns: Name, Type, and Owner. The table contains the following data:

	Name	Type	Owner
	123	Report	Next Bes
	aaa	Scorecard	Next Bes
	aaa	Dataset	Next Bes
	AB testing MSN-MSX Livesite Event Impact Estimat...	Dataset	Next Bes
	Automation_Test	Report	Next Bes
	Automation_Test	Dataset	Next Bes
	base+nwl	Report	Next Bes
	base+nwl	Dataset	Next Bes
	CM reports	Report	Next Bes

## Search all your content

Sometimes, the fastest way to find your content is to search for it. For example, if a dashboard you haven't used in a while isn't showing up on your Home canvas. Or, if your colleague shared something with you, but you don't remember what it's named or what type of content they shared. Sometimes, you might have so much content that it's easier to search for it rather than scrolling or sorting.

To search, use the search field, which is in the upper right corner of the Home menu bar. Enter the full or partial name of the content you're looking for. You can also enter your colleague's name to search for content that they've shared with you. The search finds matches in all the content that you own or have access to.



## Considerations and limitations

The ability to hide items on Power BI Home is deprecated. If you previously hid items, they remain hidden. To manage your hidden items, select **Settings > Settings > General > Hidden items**.

A screenshot of the 'General' settings page in Power BI. The top navigation bar includes links for General, Alerts, Subscriptions, Dashboards, Datasets, Workbooks, and Reports. The 'General' tab is selected and underlined. On the left, there is a sidebar with links for Privacy, Language, Close account, Developer, ArcGIS Maps for Power BI, and Hidden items. The 'Hidden items' link is highlighted with a red box. The main content area is titled 'Hidden items' and contains the sub-instruction 'Manage hidden items on your home page'. It features a 'Show items' button and a large yellow circular icon with a folder and three dots, accompanied by the text 'You don't have any hidden items yet'.

## Next steps

Overview of the [Power BI basic concepts](#)

# Interact with the Power BI service as a Free user

Article • 12/15/2022

**APPLIES TO:**  Power BI service for **business users**  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

As a Power BI service user with a free license, you explore content (such as reports, apps, scorecards, dashboards, and more) in order to make business decisions. That content is created by *designers* who have Power BI Pro or Premium Per User (PPU) licenses. In order to share it with users with free licenses, designers need to publish that content to a group workspace backed by a Premium capacity. Premium capacity provides the benefit of unlimited content sharing. Sometimes, designers share content by sending you links to content such as a Power BI app [Apps in the Power BI service](#), and sometimes the [content automatically installs](#) and appears in Power BI under [Apps](#) or [Browse > Shared with me](#).

There are many different ways designers can share content. But this article is for Power BI users with a free license, and therefore only describes how "free users" receive and interact with content. For more information on other ways to share content, see [Ways to share your work in Power BI](#).

The screenshot shows the Microsoft Power BI service interface. At the top, there's a dark blue header with the Microsoft logo, the text 'Power BI Browse', and a search icon. On the left, a vertical sidebar has icons for Home, Plus (New), Recent, Favorites, and Shared with me (which is highlighted with a grey box). The main area has two sections: 'Browse' on the left and 'Shared with me' on the right. The 'Shared with me' section lists four items: '002', '01', 'All Features - V2', and 'API Usage'. Each item has a small icon and a 'Name' column.

Name
002
01
All Features - V2
API Usage

In the [previous article](#), you learned that what you can do with dashboards, reports, and apps (content) in the Power BI service depends on three things: your licenses, your [roles](#) and [permissions](#), and where content is stored.

This article lists which features in the Power BI service are available to users with Free licenses.

 **Note**

In sovereign cloud environments with Power BI Premium capacity, all users can view content without needing an assigned license.

## Quick review of terminology

Let's review some Power BI concepts before we get to the list. This will be a quick review and if you need more details, visit [Licenses for consumers](#) or [Power BI basic concepts](#).

## Workspaces and roles

Collaborating and sharing in workspaces requires that workspace owners, who have Pro or Premium Per User (PPU) licenses, assign you a *role* in that [workspace](#).

Roles determine who can do what in that workspace. Free users are assigned the **Viewer** role. Being assigned any other role requires that a free user upgrade to Pro or PPU.

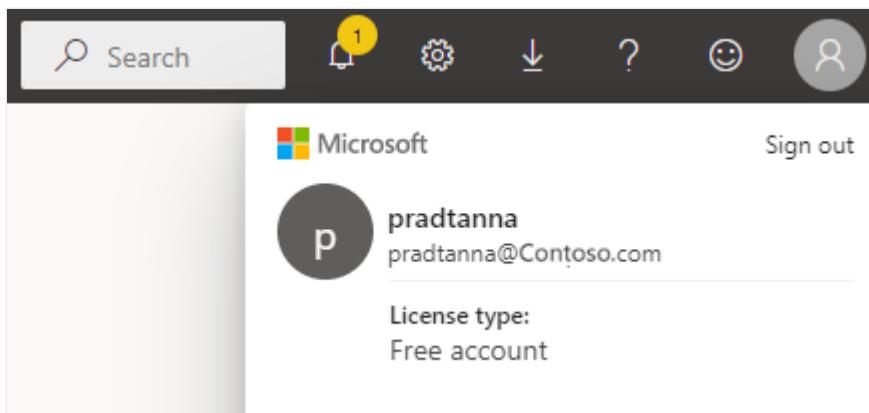
## Premium capacity

When an organization has a Premium capacity subscription, admins and Pro users can assign workspaces to the Premium capacity. Content in workspaces hosted in Premium capacity can be accessed by users with any Power BI license as long as they have appropriate permissions to access the content.

## Licenses

Each Power BI service user has at least one of the following: a free license, a Power BI Pro license, a Premium Per user license. As long as your colleagues use Premium capacity workspaces to share content, free users can view and interact with that content.

To find out what type of license is assigned to your account, select your profile picture from the page header in [Power BI service](#). If **Pro account** or **Premium Per User account** is displayed, you can share content with other users. When **Free** is shown, you can only create content in My Workspace and consume content that is hosted in a Premium workspace. Select **View account** to see more details about your account.



## Power BI feature list for users with a free license

The following chart identifies which tasks can be performed by a user with a **free** license interacting with content in their own **My Workspace** or in **Premium** capacity.

The first column represents a free user only working with content in **My workspace**. This user cannot collaborate with colleagues in the Power BI service. Colleagues cannot directly share content with this user, and this user cannot share from **My workspace**.

The second column represents a free user working with content in a workspace that is saved in Premium capacity. This free user:

- has a free user license type
- is part of an organization that has a Premium capacity subscription
- gets content (apps, dashboards, reports, etc.) from Pro or PPU users who share that content using group workspaces in Premium capacity.
- is assigned the **Viewer** role to those app workspaces.

### ⓘ Note

Content hosted in a PPU workspace can only be used by users with PPU licenses.

## Legend

- feature is available in the current scenario
- ✗ feature is not available in the current scenario
- MWO feature availability is limited to **My workspace**. Content in **My workspace** is for the owner's personal use and cannot be viewed by anyone else in Power BI.
- \* access to this feature can be turned on or off by a Pro user or an admin.

## Feature list

Features	Scenario 1: Power BI Free user who has no access to content hosted in Premium capacity.	Scenario 2: Power BI Free user with Viewer permissions to content stored in Premium capacity.
<b>Apps</b>		
Installs automatically	✗	● *
Open	✗	●
Favorite	✗	●
Edit, update, republish	✗	✗
Create new app	✗	✗
AppSource: download and open	✗	✗
Organization store: download and open	✗	●
Reshare an app	✗	●
<b>Workspaces in Premium capacity</b>		
Create, edit, or delete workspace or content	✗	✗
Add endorsements	✗	✗
Open and view	✗	●
Read data stored in workspace dataflows	✗	●
<b>Dashboards</b>		
Receive, view, and interact with dashboards from colleagues	✗	●

Features	Scenario 1: Power BI Free user who has no access to content hosted in Premium capacity.	Scenario 2: Power BI Free user with Viewer permissions to content stored in Premium capacity.
Add alerts to tiles	MWO	
View and respond to comments from others: add your own comments		
Save a copy	MWO	
Copy visual as an image?	MWO	
Create, edit, update, delete	MWO	
Export tile to .csv	MWO	
Favorite	MWO	
Full screen and focus modes	MWO	
Global search		
Insights on tiles	MWO	
Q&A: use on dashboard	MWO *	
Q&A: add featured and saved questions		
Q&A: review asked questions		
Pin tiles from Q&A or reports	MWO	
Print	MWO *	
Refresh	MWO	
Reshare		
Subscribe yourself	MWO *	

Features	Scenario 1: Power BI Free user who has no access to content hosted in Premium capacity.	Scenario 2: Power BI Free user with Viewer permissions to content stored in Premium capacity.
Subscribe others	✗	✗
View dashboards that have been embedded into PowerApps or SharePoint pages	✗	●
<b>Datasets</b>		
Add, delete, edit	MWO	✗
Create a report in another workspace based on a dataset in this workspace	✗	✗
Insights on datasets	MWO	✗
Schedule refresh	MWO	✗
Analyze in Excel	MWO	● *
Create a report	MWO	✗
Create a paginated report	MWO	✗
Share	✗	✗
Manage permissions	✗	✗
Save a copy	✗	✗
Create from template	✗	✗
<b>Reports</b>		
Receive reports from colleagues	✗	●
Analyze report in Excel	MWO *	● *
View bookmarks created by others, and add your own bookmarks	✗	●

Features	Scenario 1: Power BI Free user who has no access to content hosted in Premium capacity.	Scenario 2: Power BI Free user with Viewer permissions to content stored in Premium capacity.
View and respond to comments from others: add new comments		
Change display dimensions	MWO	
Save a copy		
Copy visual as an image*		
Cross-highlight and cross-filter report visuals	MWO	
Drill	MWO	
Drillthrough	MWO *	
Embed (publish to web, public)	MWO *	
Export summarized data from report visuals*	MWO	
Export underlying data from report visuals*	MWO	
Favorite the report	MWO	
Filters: change types	MWO *	
Filters: interact	MWO	
Filters: persistent	MWO *	
Search on the filter pane	MWO *	
Full screen and focus modes	MWO	
Insights on reports <sup>1</sup>	MWO	
Lineage view	MWO	

Features	Scenario 1: Power BI Free user who has no access to content hosted in Premium capacity.	Scenario 2: Power BI Free user with Viewer permissions to content stored in Premium capacity.
Export to PDF*	MWO	
Performance Inspector	MWO	
Export to PowerPoint*	MWO	
Promote content to Home		
Print report pages*		
Interact with Q&A visual	MWO	
QR Code	MWO	
Refresh	MWO	
Share content with external users		
Share: allow others to reshare items		
Show as table (show data)	MWO	
Slicers: add or delete	MWO	
Interact with slicers	MWO	
Sort report visuals	MWO	
Subscribe yourself to reports*	MWO	
Subscribe others to reports		
View related	MWO	
View reports that have been embedded into PowerApps or SharePoint pages		

Features	Scenario 1: Power BI Free user who has no access to content hosted in Premium capacity.	Scenario 2: Power BI Free user with Viewer permissions to content stored in Premium capacity.
Visuals: change types in reports	MWO *	 *
Change visual interactions	MWO	
Visuals: add new	MWO	
Visuals: add new fields	MWO	
Visuals: change type	MWO	
Visuals: hover to reveal details and tooltips	MWO	

## Next steps

[Power BI for business users](#)

# Sign in to the Power BI service

Article • 11/10/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

## Power BI accounts

Before you can sign in to Power BI, you need an account. There are two ways to get a Power BI account. Your organization can purchase Power BI licenses for its employees or individuals can sign up for [free trials or personal licenses](#). This article covers the first scenario.

## Sign in for the first time

After you have an account set up, you can sign in and get started in the Power BI service.

### Step 1: Open the Power BI service

The Power BI service runs in a browser.

- If you've received an email from a colleague, with a link to a dashboard or report, select the link to [Open this report](#) or [Open this dashboard](#).

Pradeep Gupta has shared Power BI Report 'Retail Analysis Sample' with you

Microsoft Power BI <no-reply-powerbi@microsoft.com>

Tue 6/15/2021 2:08 PM

To: Megan Bowen

Microsoft Power BI

## Pradeep Gupta shared this Power BI Report with you

Retail Analysis Sample

[Open this report >](#)

Download the Power BI app to access this report from your mobile device.

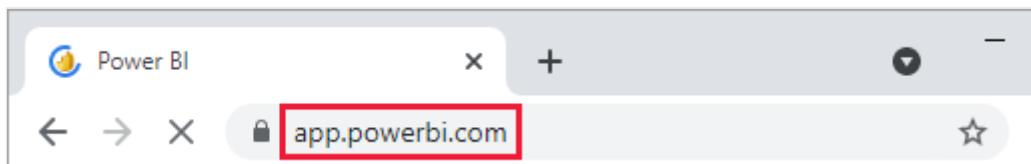
[Download on the App Store](#) [Get it from Microsoft](#) [Get it on Google Play](#)

[Privacy Statement](#)

Microsoft Corporation, One Microsoft Way, Redmond, WA 98052

Microsoft

- Otherwise, open your favorite browser and type [app.powerbi.com](http://app.powerbi.com).



## Step 2: Type your email address

1. The first time you sign in, Microsoft asks if you already have a Microsoft 365 account. Select **SIGN IN**.



## Already have an account?

SIGN IN

## New to Power BI?

Power BI transforms your company's data into rich visuals for you to collect and organize so you can focus on what matters to you. Stay in the know, spot trends as they happen, and push your business further.

TRY FREE

2. Enter your Microsoft 365 account password. It's the same email and password that you use for other Microsoft products, like Outlook and Office. Depending on how your account is set up, you might be prompted to enter a code that's sent to your email or mobile device.

The screenshot shows the Microsoft sign-in process in two steps:

- Step 1: Sign in**
  - Microsoft logo
  - Sign in button
  - Email input field: meganb@M365x447726.onmicrosoft.com
  - Links: "Can't access your account?", "Sign in with Windows Hello or a security key (?)"
  - Next button
- Step 2: Enter password**
  - CONTOSO demo logo
  - Email placeholder: ← meganb@m365x447726.onmicrosoft.com
  - Enter password button
  - Password input field
  - Forgot my password link
  - Sign in button

A red arrow points from the "Next" button on the left to the "Enter password" button on the right, indicating the flow between the two steps.

Sometimes, your global administrator assigns you a license and sends you an email with this information. Look in your inbox for a welcome email and follow the instructions to sign in for the first time. Use this email account for your sign-in.

## Step 3: Review the terms and conditions

Review the terms and conditions. If you agree, select the checkbox and then select Start.

# Almost there

You're signed in as pradtanna@onmicrosoft.com

Microsoft will send you promotions and offers about Microsoft products and services for businesses. You can unsubscribe anytime.

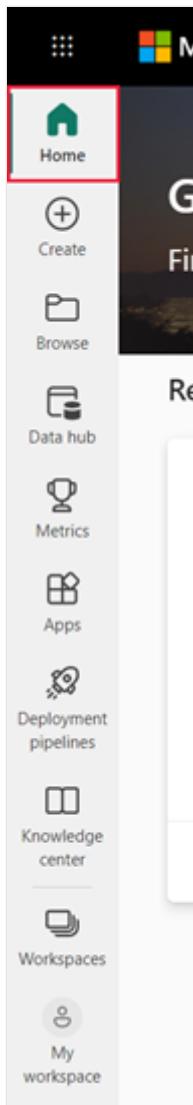
I would like Microsoft to share my information with select partners so I can receive relevant information about their products and services. To learn more, or to unsubscribe at any time, view the [Privacy Statement](#).

By choosing **Start**, you agree to our [terms and conditions](#) and [Microsoft Privacy Policy](#) and acknowledge that your email address is associated with an organization (and is not a personal use or consumer email address). You also understand an administrator of your organization may assume control over your account and data and that your name, email address, and trial organization name will be visible to other people in your organization. [Learn more](#).

**Start** 

## Step 4: Review your Home landing page

On your first visit, Power BI opens your **Home** landing page. If **Home** doesn't open, select it from the navigation pane.



On Home, you can see all the content that you have permission to use. There might not be much content at first, but that changes as you continue to use Power BI with your colleagues. You can find the report that your colleague emailed to you under **Recent** on the **Home** page.

Name	Type	Opened	Location	Endorsement	Sensitivity
Retail Analysis Sample	Report	21 minutes ago	My workspace	—	Confidential/Micr... ⓘ
Sales and Marketing Sample	Report	an hour ago	My workspace	—	Confidential/Micr... ⓘ

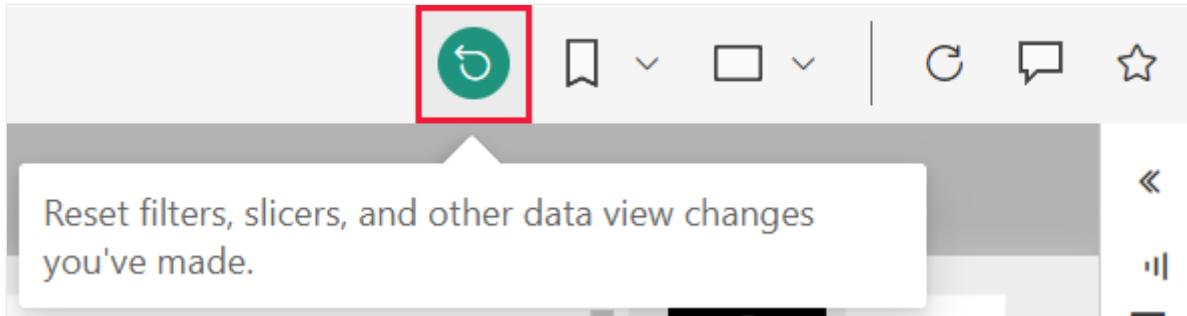
Reports shared with you're also stored under **Shared with me** on the **Browse** page.

## Safely interact with content

As a business user, others share content with you and you interact with that content to view data and make business decisions. As you filter, slice, subscribe, export, and resize,

your changes don't impact the underlying semantic model or the original shared content. Power BI is a safe space where you can explore and experiment.

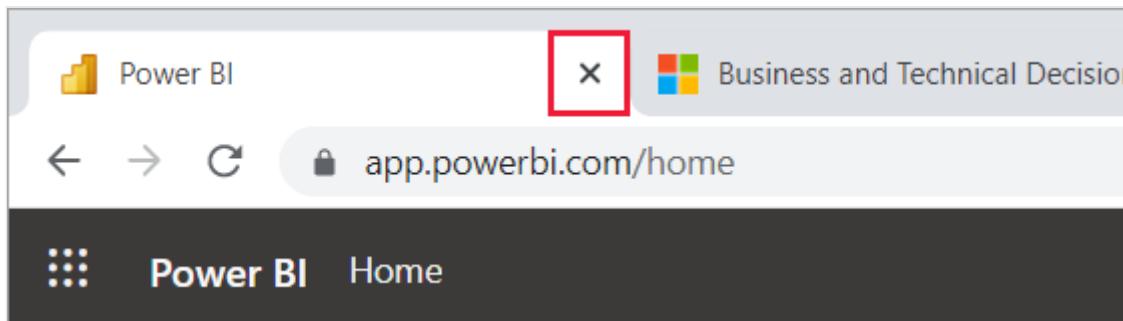
That doesn't mean that you can't save your changes. You can, but those changes only affect your view of the content. To revert to the default view, select the **Reset** button.



## Sign out of the Power BI service

When you close or sign out of the Power BI service, your changes are saved so you can pick up where you left off.

To close Power BI, close the browser tab where you're working.



If you share a computer, we recommend signing out each time you close Power BI. In the upper right corner, select your profile picture, and then choose **Sign out**.

The screenshot shows the Microsoft Power BI sign-in page. At the top, it displays "Trial: 38 days left" and a search icon. To the right is a user profile picture with a red box around it, followed by three dots and a "Sign out" button with a red box around it. Below this, the Microsoft logo is on the left, and "Sign in" is on the right. A circular profile picture for "Lee Gu" is shown, with "LG" initials inside. The email address "LeeG@M365x127329.OnMicrosoft.com" is listed next. A horizontal line separates this from the license information. Below the line, "License type: Free account" is displayed. Another horizontal line separates this from the trial status. The "Trial Status: 38 days left" message is on the left, and a "Cancel trial" link is on the right. Below this, there are two links: "Buy Pro now" with a blue square icon and "View account" with a blue square icon.

Trial:  
38 days left

Microsoft

Sign out

Lee Gu  
LeeG@M365x127329.OnMicrosoft.com

License type:  
Free account

Trial Status:  
38 days left

Cancel trial

Buy Pro now

View account

## Troubleshooting

- If you've signed up for Power BI as an individual, sign in with the email address that you used to sign up.
- Some people use more than one Power BI account. If you do, you're prompted to select an account from a list when signing in.

## Next steps

[View a Power BI app](#)

# Licenses and subscriptions for business users

Article • 10/28/2023

**APPLIES TO:** ✓ Power BI service for *business users* ✗ Power BI service for designers & developers ✗ Power BI Desktop ✗ Requires Pro or Premium license

As a [business user](#), you use the Power BI service to explore reports and dashboards so you can make data-backed business decisions. If you've been using Power BI for a while, you've probably discovered that there are some features that only work if you have a certain type of license, subscription, or permissions.

What you can do in the Power BI service depends on three things:

- The type of license and subscription you're using
- Where the content is stored
- The roles and permissions you're assigned



This article describes the capabilities of each license type and how the location where content is stored affects what you can do with it. You learn how to look up your license

and subscription information, and figure out where your content is stored. For more information about roles and permissions, see [Collaborate in workspaces](#).

## Licenses

Each user of the Power BI service has either a *free* license, a *Pro* license, or a *Premium per-user* license. If you're a Power BI business user, you're probably using a free license that's managed by your Power BI administrator.

It's possible to have more than one license at the same time. The service always delivers you the experience equal to the most permissive license you currently have.

### Note

- A **Power BI Pro** or Premium Per User (PPU) license is needed for publishing content to a Power BI app workspace.
- Only **P SKUs** and **F SKUs** larger than F32 allow free Power BI users to consume Power BI apps and shared content in Power BI service. Smaller **F SKUs** require a Pro license to consume Power BI content.

## Power BI Premium capacity subscription

Premium is an organizational subscription that provides a way to store content in a virtual container called a capacity. With Premium capacity, anyone with permissions, whether they're inside or outside your organization, can view content stored in this virtual container. It isn't required that they purchase an individual Power BI Pro or Premium per-user license.

Premium capacity enables widespread distribution of content by Pro users without requiring Pro licenses for the recipients who view the content. The person who is creating the content in the Premium capacity uses a Pro license to connect to data sources, model data, and create reports and dashboards that are saved to a workspace in Premium capacity. Users without a Pro license can still access a workspace that's in Power BI Premium capacity, as long as they're assigned a [role in that workspace](#). When users without a license attempt to access a workspace associated with a Premium capacity, they will be prompted to upgrade to Pro, Premium, or Trial. If the workspace owner creates an app based on content in that workspace, users without a Pro license can still view that app in Premium capacity, as long as they've been given a role that has permissions for that app.

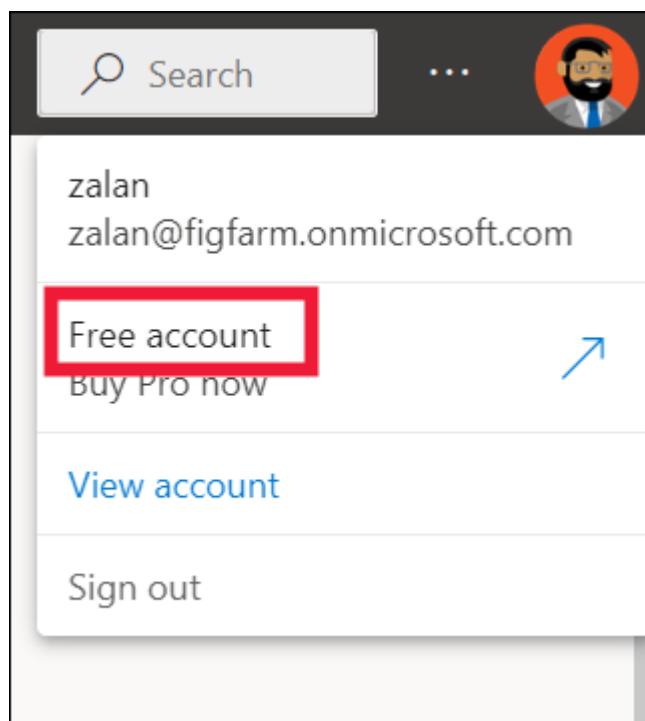
Within those workspaces, designers assign roles, like **Viewer**, **Contributor**, **Member**, and **Administrator**. The roles designers assign to their colleagues, and the license the colleagues have, determine the extent to which those colleagues can interact with the content. For more information, see [workspace permissions and roles](#).

When a designer creates and publishes an app, they grant access to individuals or entire organizations. The extent to which you can interact with the app's content depends on the specific access permissions given to you. For example, you might be given access to view the app, connect to the underlying datasets, make copies of reports, or share the content.

For more info about Premium capacity, see [What is Microsoft Power BI Premium?](#).

## Find out which licenses you have

To display your account information, select your profile picture in the upper right corner. In the following screenshot, you can see that a user named Zalan uses a free license. Other types of licenses are Pro and Premium per-user. To see more details about your account, select **View account**.



## Identify content hosted in Premium capacity

There are a couple of ways to identify content that's stored in Premium capacity. One way is to look for apps and app workspaces with a diamond icon. The diamond indicates that the content is stored in Premium capacity.

In the following image, two of the apps are stored in Premium capacity.

The screenshot shows the Power BI service interface. On the left, a sidebar lists various options: Home (highlighted with a red box), Create, Browse, Data hub, Metrics, Apps, Deployment pipelines, Knowledge center, and Workspaces. In the center, there's a callout box with the text "Try out an interactive report" and a bar chart icon. To the right, a section titled "My workspace" is shown. Below these, a navigation bar has three buttons: "Recent", "Favorites", and "My apps" (highlighted with a red box). The main area displays a table of apps:

	Name	Description
	BIM Analytics	The BIM Ana
	Data & AI ACR/ADS	ACR/ADS Co
	Employee Learning Insights BI	Employee Le
	Microsoft Project for the Web 11/18/2022, 10:35:5...	Project for th
	Template Apps Exploration Tool 11/18/2022, 11:15:...	Connect to N

If the designer places a workspace in Premium capacity, a user with a free license can view shared content, collaborate with colleagues, and work with the apps, dashboards, and reports in that workspace. The Power BI administrator and content designer set the permissions for the user.

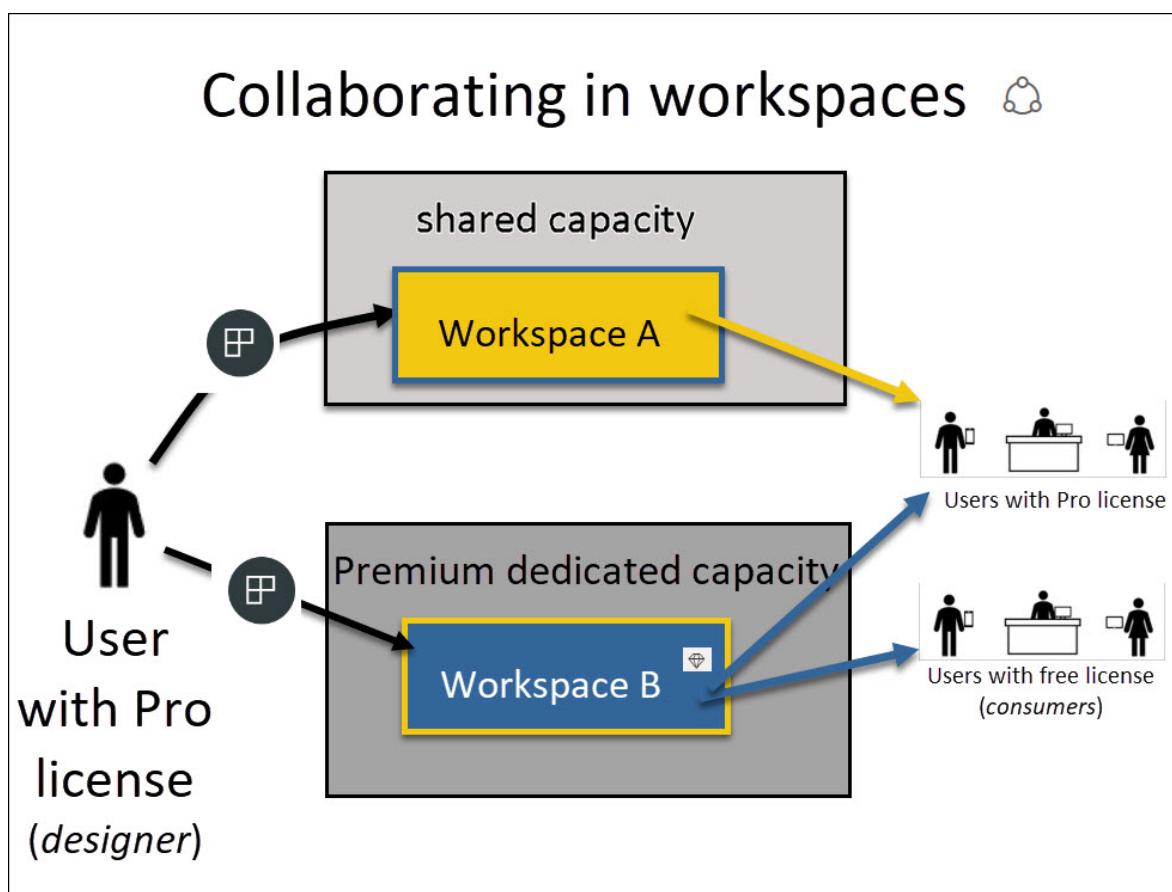
## Put it all together

There are many ways organizations set up their Power BI subscriptions and licenses. From a business user's perspective, a common scenario is when an organization buys a Premium subscription, the administrator assigns Pro licenses to a small group of users, and all the other users have free licenses. Typically, the administrator assigns the Pro licenses to the employees who create and share content. The Pro users create **workspaces** and add dashboards, reports, datasets, apps, and other content to those workspaces. To allow free users to collaborate in those workspaces, the administrator or Pro user then assigns the workspaces to Premium capacity.

License type	Not in Premium capacity	Premium capacity
Free	Use as a personal sandbox to create content for yourself and interact with that content. A free license is a great way to try out the Power BI service. You can't consume content from anyone else or share your content with others.	Interact with content that's assigned to Premium capacity and shared with you. Free, Premium per-user, and Pro users can collaborate without requiring the free users to have Pro accounts.
Pro	Collaborate with Premium per-user and Pro users by creating and sharing content.	Collaborate with free, Premium per-user, and Pro users by creating and sharing content.

In the following diagram, the left side represents Pro users who create and share content in app workspaces.

- **Workspace A** wasn't created in Premium capacity.
- **Workspace B** was created and saved in Premium capacity. This workspace has a diamond icon.

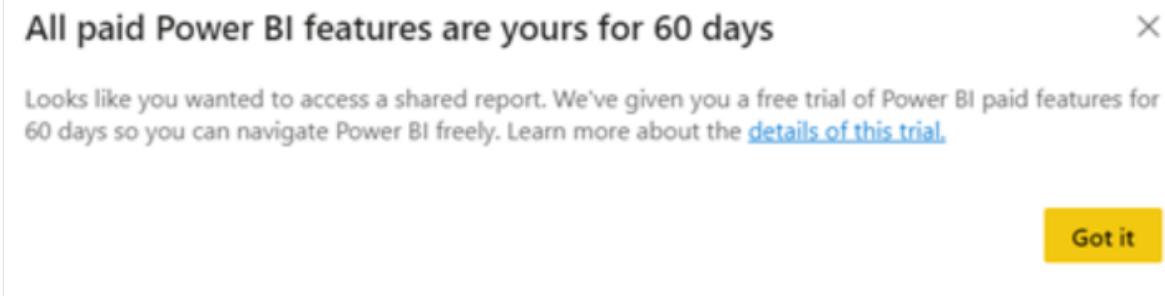


The Power BI Pro designer can share and collaborate with other Pro users in either of the workspaces. The Power BI Pro user can only share and collaborate with free users by using Workspace B, which is in Premium capacity. The designer assigns roles to collaborators within the workspace. Your role determines what actions you can take.

Power BI business users are usually assigned the Viewer role. For more information, see [Permissions in the workspaces](#).

## Considerations and limitations

- It's possible to have more than one Power BI license. The Power BI service always delivers the experience equal to the best license that you currently have. For example, if you have both a Pro and a free license, the Power BI service uses the Pro license.
- If you want to create and share content, or open content that someone else shared with you, you must have a Pro license or a Premium per-user license. You might be able to sign up for a free 60-day trial of the Power BI Premium per-user paid version. If your organization has self-service trials enabled, you can select the upgrade dialog that appears in the Power BI service when you try to use a Pro feature.



When the 60-day trial expires, your license reverts back to the previous version, either free or Pro, and you no longer have access to features that require a Power BI Premium per-user license. If you want to continue with a Premium per-user or a Pro license, contact your administrator or IT Help Desk about purchasing an upgrade. If you don't have an administrator or IT Help Desk, visit the [Power BI pricing page](#).

- If you sign up for a free license by selecting a Try it free button, it never expires unless you cancel it. If your trial upgrade ends or if your organization removes your Pro or Premium license, your free license is still available to you.
- A free user license for the Power BI service is perfect for someone exploring or using it for personal data analysis and visualizations by using **My workspace**. A free standalone user doesn't use Power BI to collaborate with colleagues. Standalone users with free licenses can't view content shared by others or share their own content with other Power BI users.

# Next steps

- Am I a Power BI business user?
- Learn about workspaces
- Features for free users

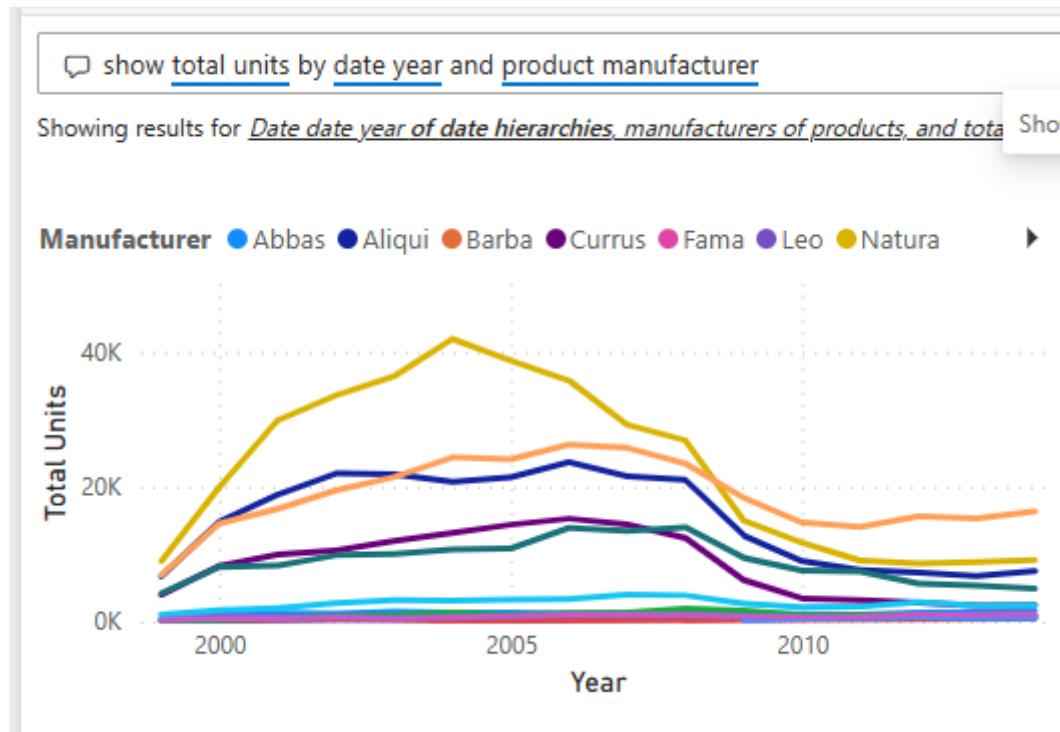
# Q&A for Power BI business users

Article • 09/29/2023

APPLIES TO:  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

## What is Q&A?

Sometimes the fastest way to get an answer from your data is to ask a question using natural language. For example, "show total units by year and product manufacturer."



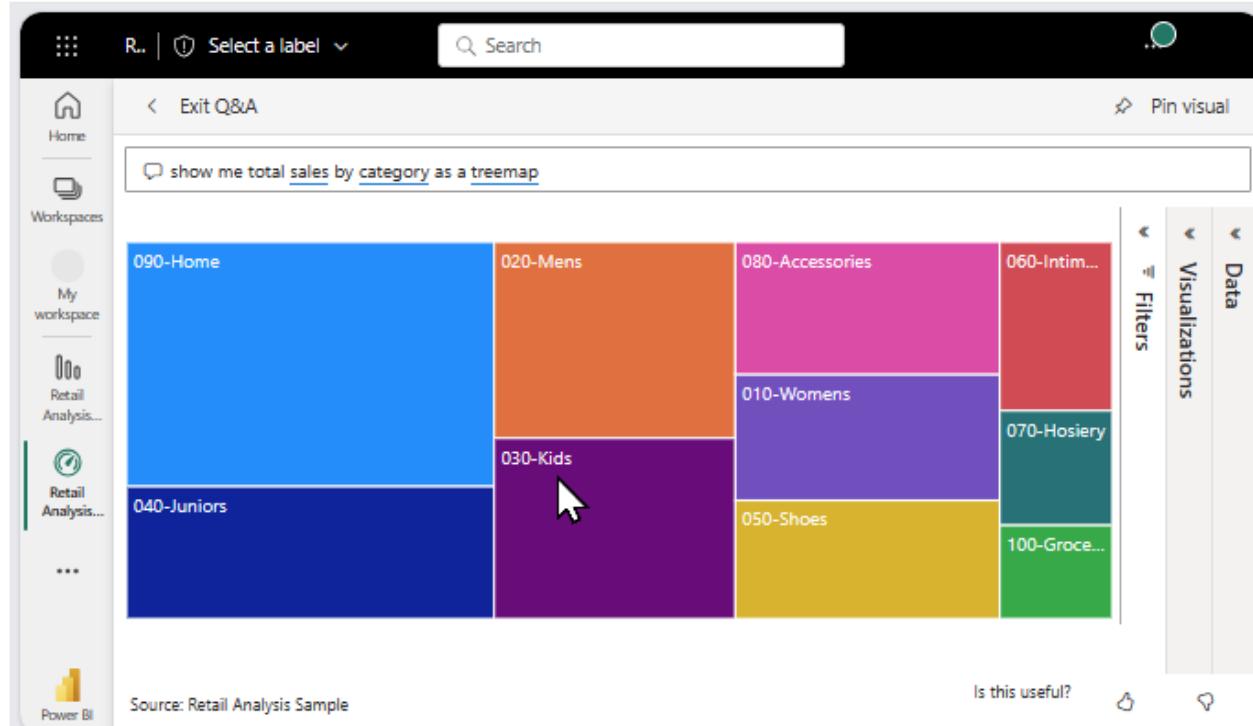
Use Q&A to explore your data using natural language capabilities and receive answers in the form of charts and graphs. Unlike a search engine, Q&A only provides results about the data in Power BI semantic models.

To learn how to use Q&A, see [Explore your data and create visuals using Q&A](#)

## Which visualizations does Q&A use?

Q&A picks the best visual based on the data. Sometimes data is defined as a certain type or category, which helps Q&A know how to display it. For example, if data is defined as a date type, it's more likely to be displayed as a line chart. Data that is categorized as a city is more likely to be displayed as a map.

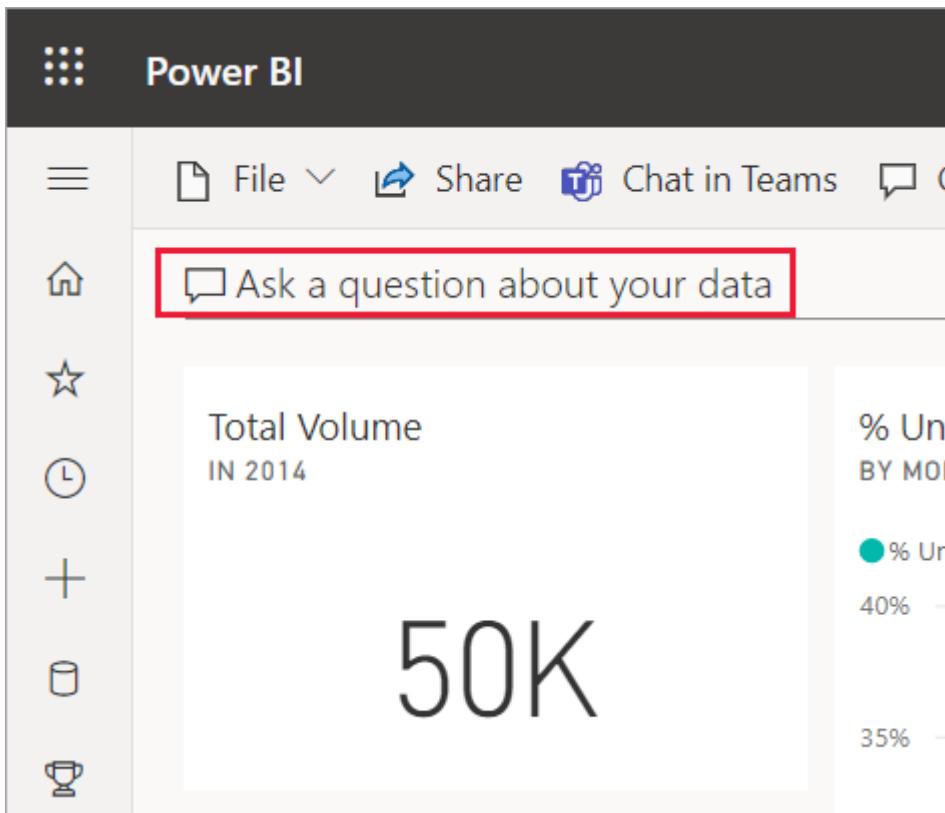
If you want a specific type of visual, tell Q&A which one to use by adding it to your question. For example, "show me total sales by category as a treemap". But keep in mind that it isn't always possible for Q&A to display the data using the visual type you requested. Q&A prompts you with a list of workable visual types.



## Where can I use Q&A?

### Use Q&A on a dashboard

Q&A is available on dashboards in the Power BI service, and at the bottom of the dashboard in Power BI mobile. If the dashboard designer has given you edit permissions, save the visual by [pinning it to your dashboard](#).



To learn more, see [Use Q&A on a dashboard](#)

## Use Q&A in a report

Q&A is available in reports if the report designer added a specific type of interactive visual called a [Q&A visual](#) or added a [Q&A button](#). Ask natural language questions and create new report visuals that represent the answers to your questions. If you have edit permissions for the report, turn the results into a new visual in the report.

A screenshot of the Q&amp;A interface within a report. At the top, there's a button labeled "Ask a question about your data". Below it, a section says "Try one of these to get started" with four blue buttons: "top geo states by total units YTD", "top geo states by total units ytd var %", "what is the total category volume by geo state", and "what is the total OTHER units YTD by geo state". At the bottom right, there's a link "Show all suggestions".

To learn more, see [Use Q&A in a report](#)

## Use Q&A in mobile apps and embedded reports

Q&A is available in [Power BI iOS apps](#) and in [Power BI embedded analytics](#) as well.

## Considerations and limitations

**Question:** I don't see Q&A on this dashboard.

**Answer 1:** If you don't see a question box, check your settings. Select the **Settings** icon in the upper right corner of your Power BI toolbar.



Choose **Power BI Settings > Dashboards**. Make sure there's a check mark next to **Show the Q&A search box on this dashboard**.

A screenshot of the Power BI Settings interface. The top navigation bar has tabs: General, Alerts, Subscriptions, **Dashboards**, Datasets, Workbooks, Dataflows, and App. The 'Dashboards' tab is selected. On the left, a sidebar shows a list with 'Marketing and sales' selected. The main content area is titled 'Settings for Marketing and sales'. It contains a 'Q&A' section with a description: 'Allow people to use natural language to ask questions about their data and let them create new visuals from it.' Below the description is a link 'Learn more'. At the bottom is a checkbox labeled 'Show the Q&A search box on this dashboard' which is checked.

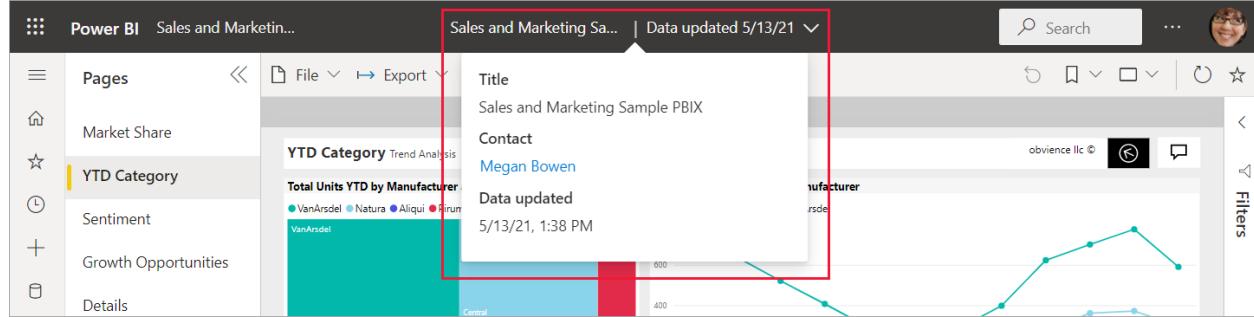
**Answer 2:** Sometimes you don't have access to the settings. If the dashboard owner or your administrator turned Q&A off, check with them to see if it's OK to turn it back on. To look up the owner, select the name of the dashboard from the top menu bar.

A screenshot of the 'Marketing and sales' dashboard properties dialog box. The title bar says 'Marketing and sales ▾'. The 'Title' field is set to 'Marketing and sales'. The 'Contact' field is set to 'Megan Bowen'. There are other fields like 'Owner' and 'Last modified' which are partially visible.

**Question:** I'm not getting the results I'd like to see when I type a question.

**Answer:** Select the option to contact the report or dashboard owner. You can find the report or dashboard owner from the Q&A dashboard page or the Q&A visual. Or, you

can look up the owner from the Power BI header. There are many things the owner can do to improve the Q&A results. For example, the owner can rename columns in the semantic model to use terms that are easily understood (`CustomerFirstName` instead of `CustFN`). Since the owner knows the semantic model, they can also come up with helpful questions and add them to the Q&A suggested questions.



## Privacy

Microsoft might use your questions to improve Power BI. For more information about how Microsoft uses your questions, see the [Microsoft Privacy Statement](#) for more information.

## Next steps

To learn how to ask your own natural language questions and create answers in the form of visuals, see [Use Q&A on a dashboard](#) or [Use Q&A in a report](#).

For tips on forming questions, see [How to ask questions with Q&A](#).

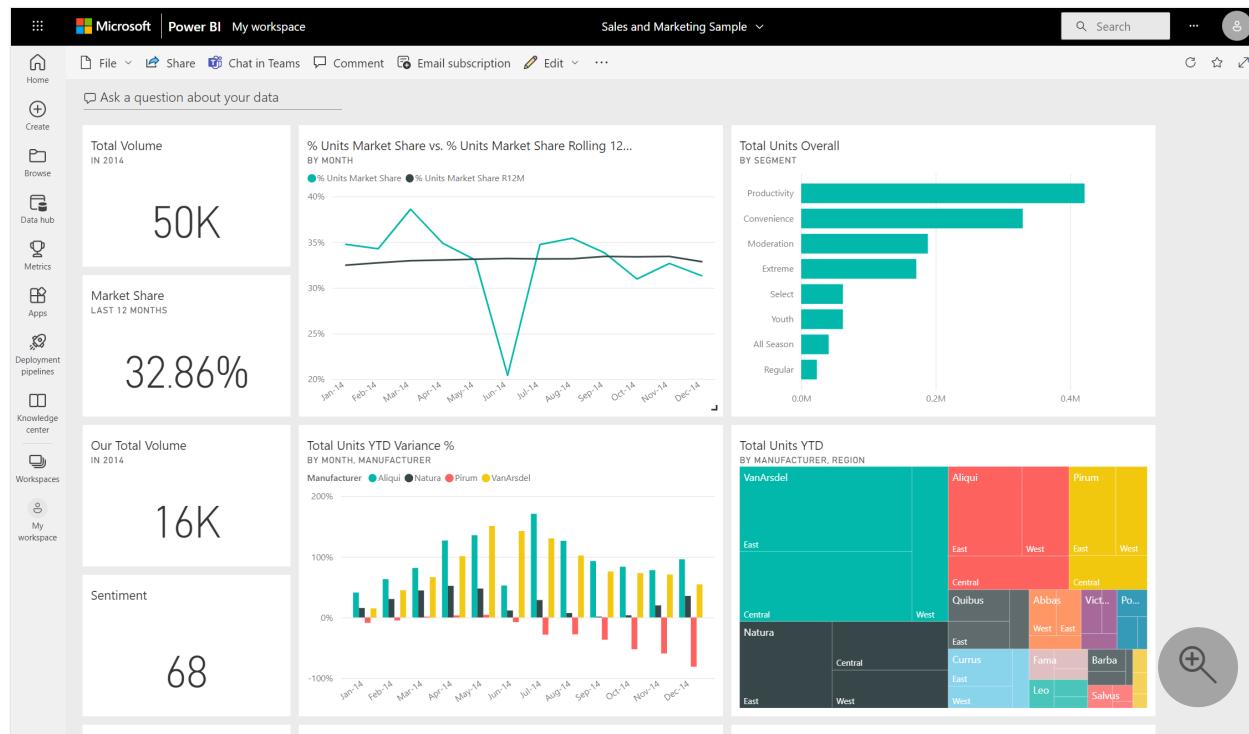
If you have edit permissions, learn how to [create a Q&A visual on a dashboard](#) and [add a Q&A visual in a report](#).

# Dashboards for business users of the Power BI service

Article • 12/25/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

A Power BI *dashboard* is a single page, often called a canvas, that uses visualizations to tell a story. Because it's limited to one page, a well-designed dashboard contains only the most important elements of that story.



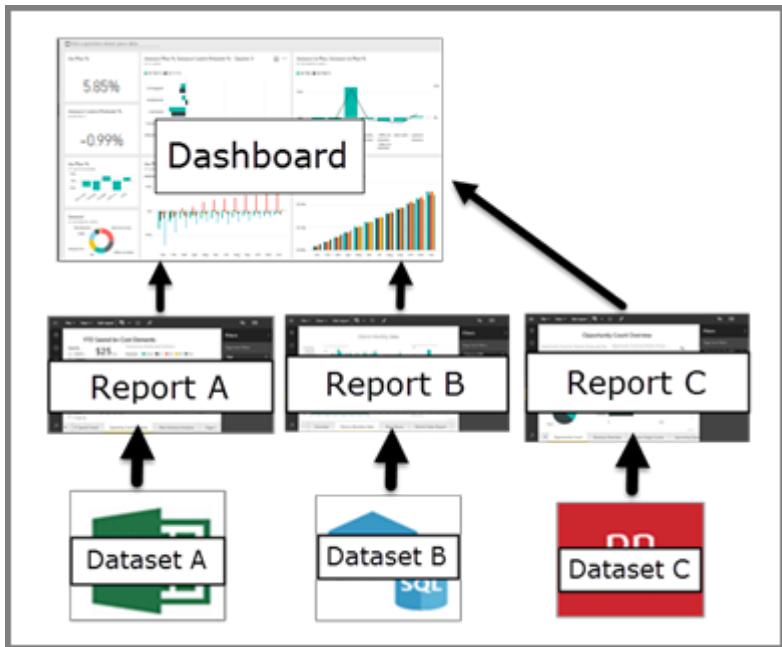
The visualizations on the dashboard are called *tiles*. Report designers *pin* tiles to the dashboard. In most cases, selecting a tile takes you to the report page where the visualization was created. If you're new to Power BI, start with [Power BI basic concepts](#) to get a good foundation. Hovering over an element on a dashboard displays a tooltip.

## ⓘ Note

You can view and share dashboards on [mobile devices](#).

To view dashboards that colleagues share with you, you must have a Pro or Premium Per User (PPU) license or the content must be shared with you from a workspace in Premium capacity. For more information, see [Power BI license types](#).

The visualizations on a dashboard come from reports, and each report is based on one semantic model. You can think of a dashboard as an entryway into the underlying reports and semantic models. Select a visualization to take you to the report that was used to create it.



## Advantages of dashboards

Dashboards are a great way to monitor your business, find answers, and see your most important metrics at a glance. The visualizations on a dashboard can come from one or more underlying semantic models or reports. A dashboard can combine on-premises and cloud data, which provides a consolidated view regardless of where the data lives.

A dashboard isn't just a pretty picture, it's an interactive canvas. The tiles update as the underlying data changes.

## Dashboards vs. reports for Power BI business users

How you interact with Power BI depends on your job role. As a consumer or business user, you receive content, like dashboards, reports, and apps, from colleagues who are designers. Reports can be confused with dashboards because they're both canvases filled with visualizations, but there are major differences from a Power BI business user's point of view. The following table shows an overview of the different capabilities of dashboards and reports.

[+] Expand table

Capability	Dashboards	Reports
Pages	One page	One or more pages
Ask a question about your data (Power BI Q&A) field	Yes, almost always available	No Q&A field
Data sources	One or more report or semantic model per dashboard	A single semantic model per report
Filtering	No, you can't filter or slice	Yes, there are many ways to filter, highlight, and slice
Set alerts	Yes, you can create email alerts when certain conditions are met	No, you can't set alerts
Can see underlying semantic model tables and fields	No. Can export data but can't see the semantic model tables and fields in the dashboard itself	Yes. Can see semantic model tables and fields and values that you have permissions to see

## Related content

- [View a dashboard.](#)
- Learn about [dashboard tiles](#) and what happens when you select one.
- Track and receive email alerts for individual dashboard tiles by [Creating alerts on tiles.](#)
- Learn how to use [Power BI Q&A](#) to ask a question about your data and get the answer in the form of a visualization.

 **Tip**

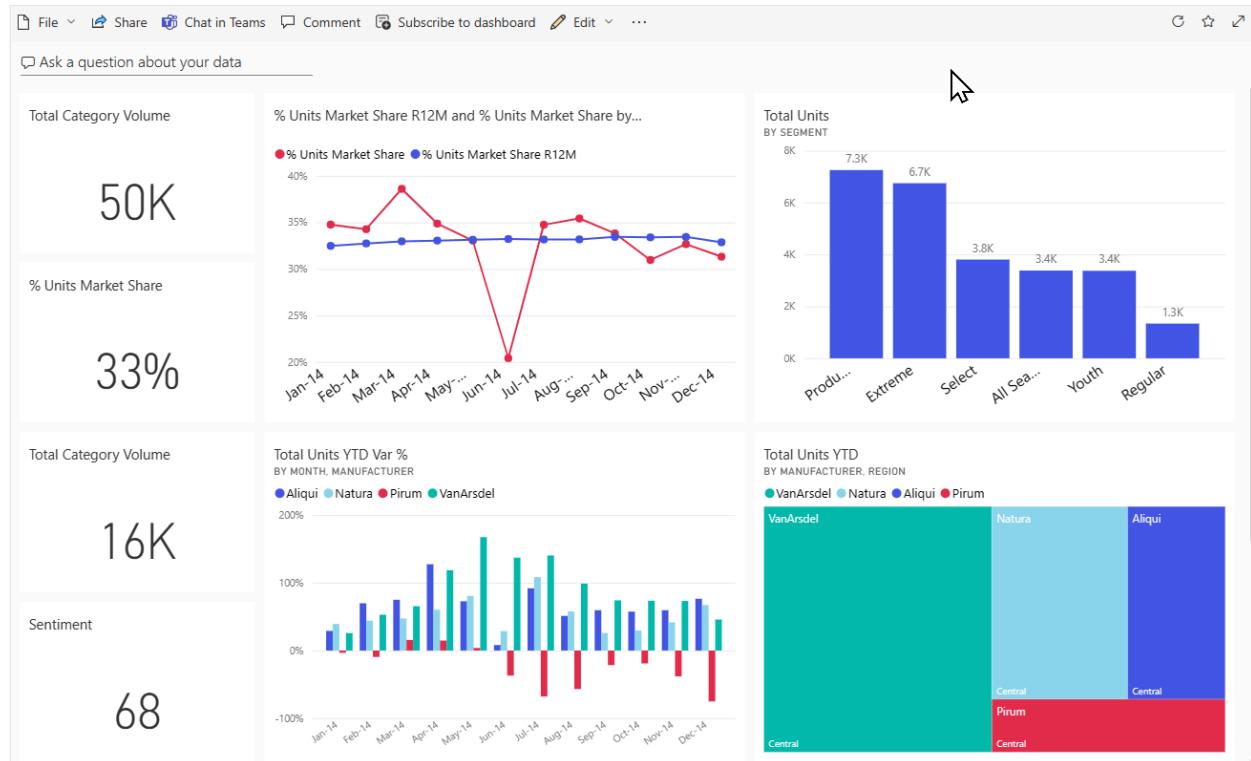
Use the table of contents available on this page to find even more information.

# View a dashboard

Article • 11/10/2023

**APPLIES TO:** Power BI service for *business users* Power BI service for designers & developers Power BI Desktop Requires Pro or Premium license

Power BI *business users* spend a lot of time viewing dashboards. Dashboards are designed to highlight specific information from the underlying reports and semantic models. And Power BI business users rely on that information for tracking, monitoring, answering questions, testing, and more--in order to make data-driven business decisions.



A Power BI Pro or Premium license is required for both sharing a dashboard and viewing a shared dashboard. [Which license do I have?](#).

# Open a dashboard

Dashboards can be opened from many locations in the Power BI service. One way to open a dashboard is to select and open a workspace.

	Name	Type	Owner	Ref
	Retail Analysis Sample	Dashboard	—	—
	Sales and Marketing Sample	Dashboard	Michele	—
	Supplier Quality Analysis Sample	Dashboard	Michele	—
	Artificial Intelligence Sample	Report	Michele	7/27/2018
	Competitive Marketing Analysis	Report	Michele	7/27/2018
	Customer Profitability Sample	Report	Michele	1/17/2018

If that workspace contains a dashboard, you see the following icon.



Once you identified a dashboard, open it by selecting it and the dashboard fills your Power BI canvas.

On the left navigation pane, view and open dashboards from:

- **Home**
- **Browse**,
  - **Recent** - if you recently visited a dashboard
  - **Favorites** - if you [set a dashboard as a favorite](#)
  - **Shared with me** - if a colleague [shared a dashboard with you](#)
- **Data hub** - contains content from across your organization
- **Apps** - most apps contain both dashboards and reports
- **Workspaces**, including **My workspace** - if you downloaded any of the [Power BI samples](#) or other content or if colleagues have shared content with you.

## Next steps

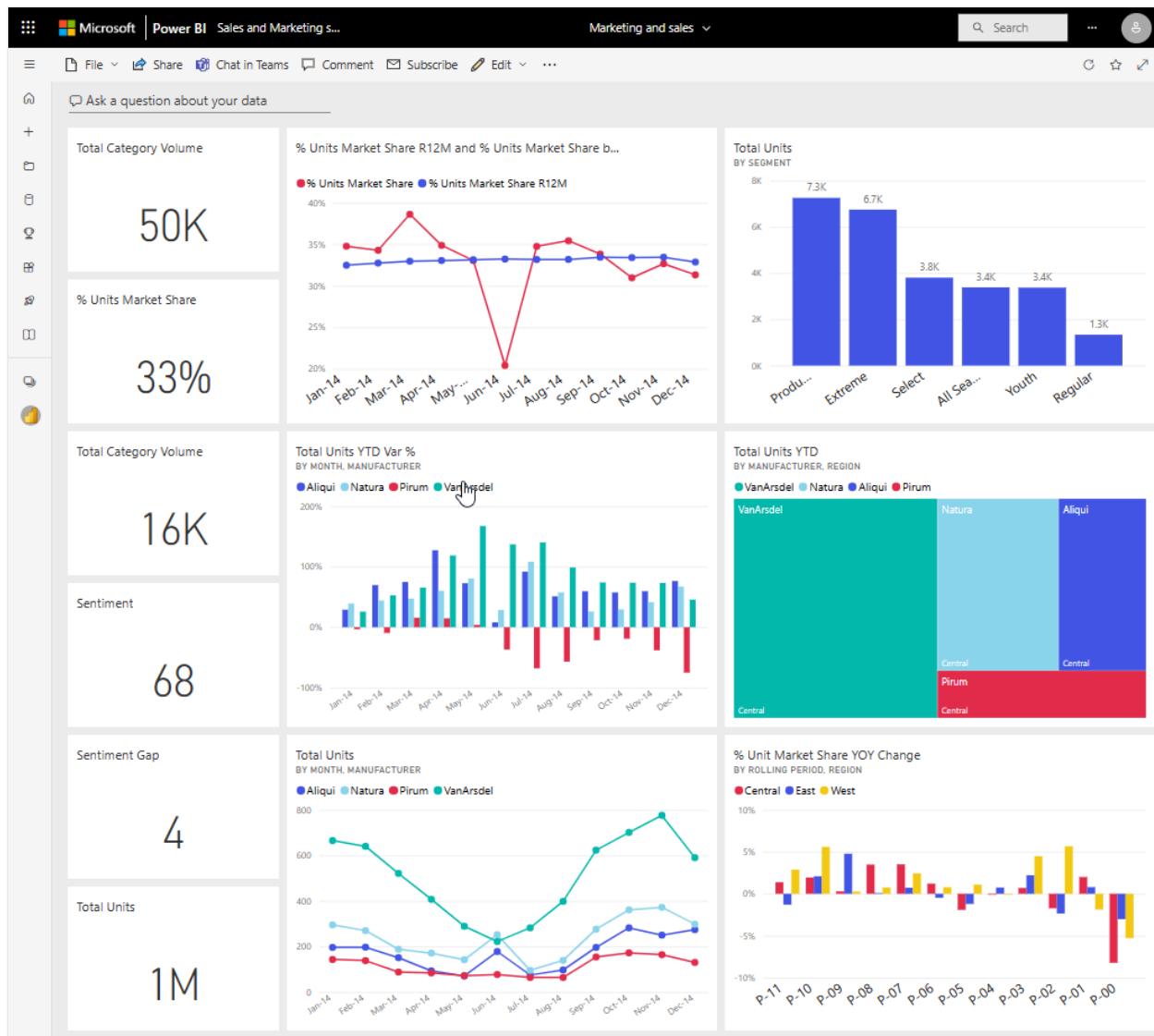
- Back to [dashboard overview](#).
- Get comfortable with dashboards by taking a tour of one of our [sample dashboards](#).
- Learn about [dashboard tiles](#) and what happens when you select one.

# Dashboard tiles in Power BI

Article • 06/13/2023

APPLIES TO: Power BI service for *business users* Power BI service for designers & developers Power BI Desktop Requires Pro or Premium license

A tile is a snapshot of your data, pinned to a dashboard by a *designer*. *Designers* can create tiles from a report, dataset, dashboard, the Power BI Q&A question box, Excel, SQL Server Reporting Services (SSRS), and more. This screenshot shows many different tiles pinned to a dashboard.

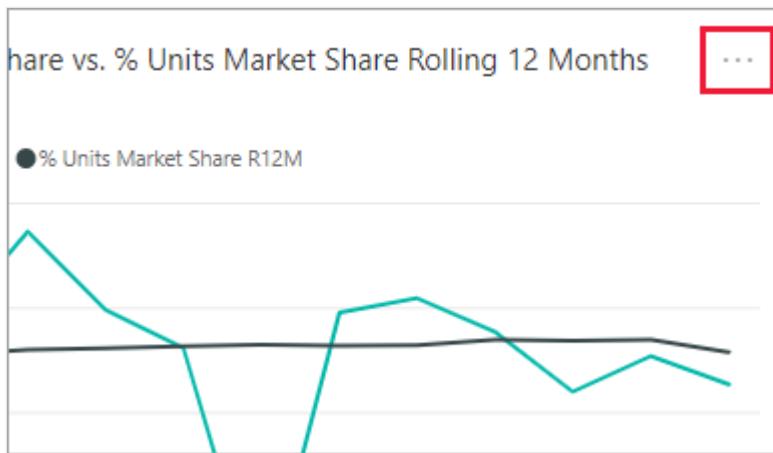


Besides tiles pinned from reports, *designers* can add standalone tiles directly on the dashboard using **Add tile**. Standalone tiles include: text boxes, images, videos, streaming data, and web content.

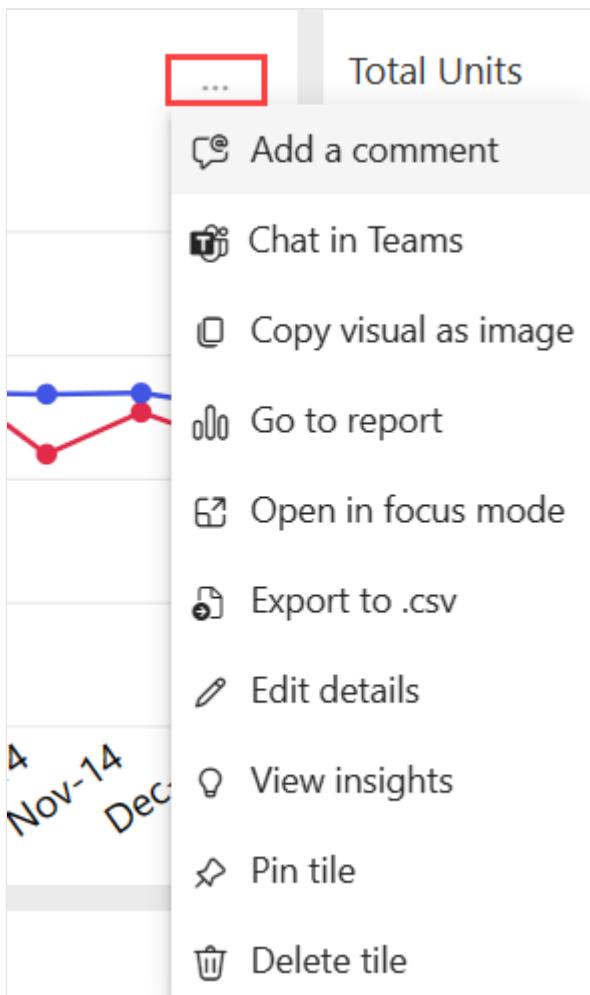
Need help with understanding the building blocks that make up Power BI? See [Basic concepts for the Power BI service business user](#).

# Interacting with tiles on a dashboard

1. To display the ellipsis, hover over the tile.



2. Select the ellipses to open the tile action menu. The options available vary by your permissions, the visual type, and the method used to create the tile.



Some of the actions available from these menus are:

- Open the report that was used to create the tile 
- View the tile in focus mode 

- [View insights](#) 
- [Add a comment and start a discussion](#) 
- [Export the data to Excel](#) 

3. To close the action menu, select a blank area in the canvas.

## Select a tile

When you select a tile, what happens next depends on how the tile was created and if it has a [custom link](#). If it has a custom link, selecting the tile takes you to that link. Otherwise, selecting the tile takes you to the report, Excel Online workbook, SSRS report that is on-premises, or Q&A question that was used to create the tile.

### Note

The exception to this is video tiles added to dashboards by *designers*. Selecting a video tile (that was created this way) causes the video to play right there on the dashboard.

## Considerations and troubleshooting

- If nothing happens when you select a tile, or you receive an error message, here are some possible reasons:
  - The report that was used to create the visualization wasn't saved, or has been deleted.
  - The tile was created from a workbook in Excel Online, and you don't have at least Read permissions for that workbook.
  - If the tile is created from SSRS, and you don't have permission to access the SSRS report. Or, if you don't have access to the network where the SSRS server is located.
- For tiles created directly on the dashboard using **Add tile**, if a custom hyperlink has been set, selecting the title, subtitle, or tile opens that URL. Otherwise, by default, selecting one of these tiles created directly on the dashboard for an image, web code, or text box produces no action.
- If the original visualization used to create the tile changes, the tile doesn't change. For example, if the *designer* pinned a line chart from a report and then changed the line chart to a bar chart, the dashboard tile continues to show a line chart. The data refreshes, but the visualization type doesn't.

- If a workspace is moved to Premium capacity, the existing dashboard refresh cache doesn't move with the workspace. The new cache is created the first time a user visits the dashboard in the new Premium capacity. After that, every data refresh will refresh the cache and update the data.
- If a tile is pinned from a workbook, you can't turn off the display of the title and subtitle. The option to **Edit details > Display title and subtitle** is greyed out.

## Next steps

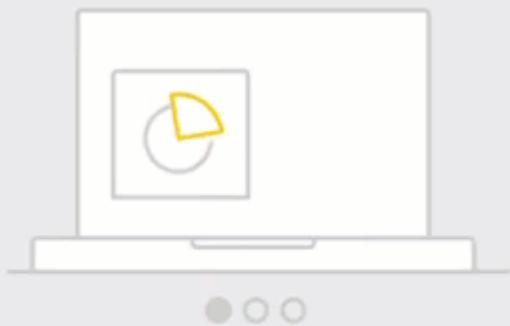
- [Data refresh in Power BI](#)
- [Basic concepts for the Power BI service business user](#)

# Add comments to a dashboard or report

Article • 11/09/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

Add a personal comment or start a conversation about a dashboard or report with your colleagues. The **comment** feature is just one of the ways a *business user* can collaborate with others.



## Note

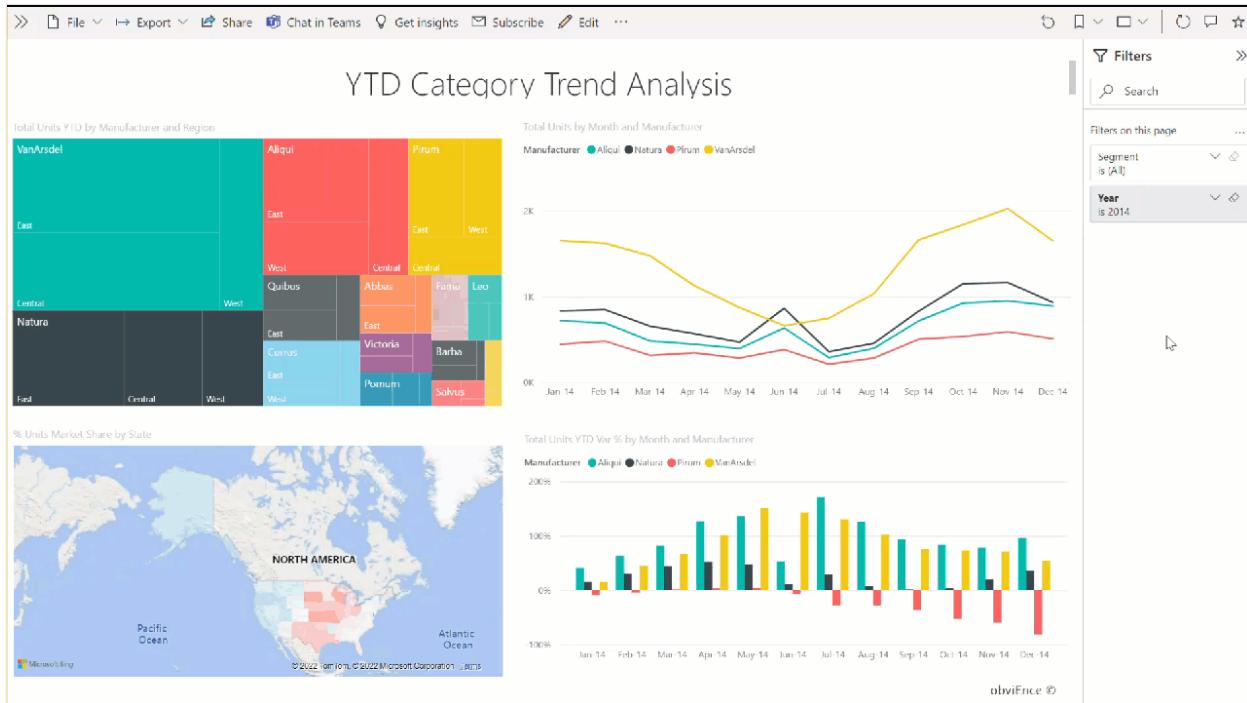
Collaborating with others, including adding comments to shared reports, requires a Power BI Pro license or for the content to be hosted in Power BI Premium capacity.

[Which license type do I have?](#)

## How to use the Comments feature

Comments can be added to an entire dashboard, individual visuals on a dashboard, a report page, a paginated report, and individual visuals on a report page. Add a general comment or add a comment targeted at specific colleagues. Comments can be up to 2,000 characters, including @mentions of other users and spaces.

When you add a comment to a report, Power BI captures the current filter and slicer values, and creates a [bookmark](#). So, when you select or respond to a comment, the report page or report visual might change to show you the filter and slicer selections that were active when the comment was first added.



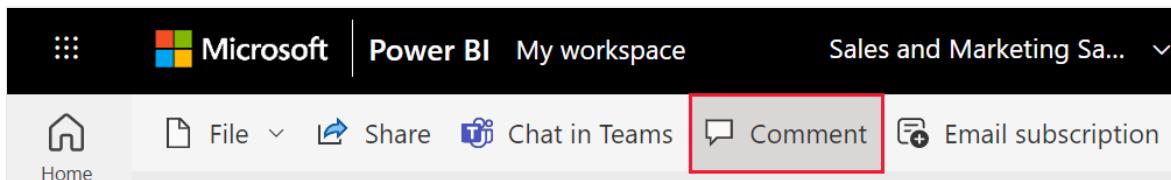
Why is this feature important? If a colleague applied a filter that revealed an insight to share with the team, the comment might not make sense without that filter selected.

If you're using a paginated report, you can only leave a general comment about your report. Support for leaving comments on individual paginated report visuals isn't available.

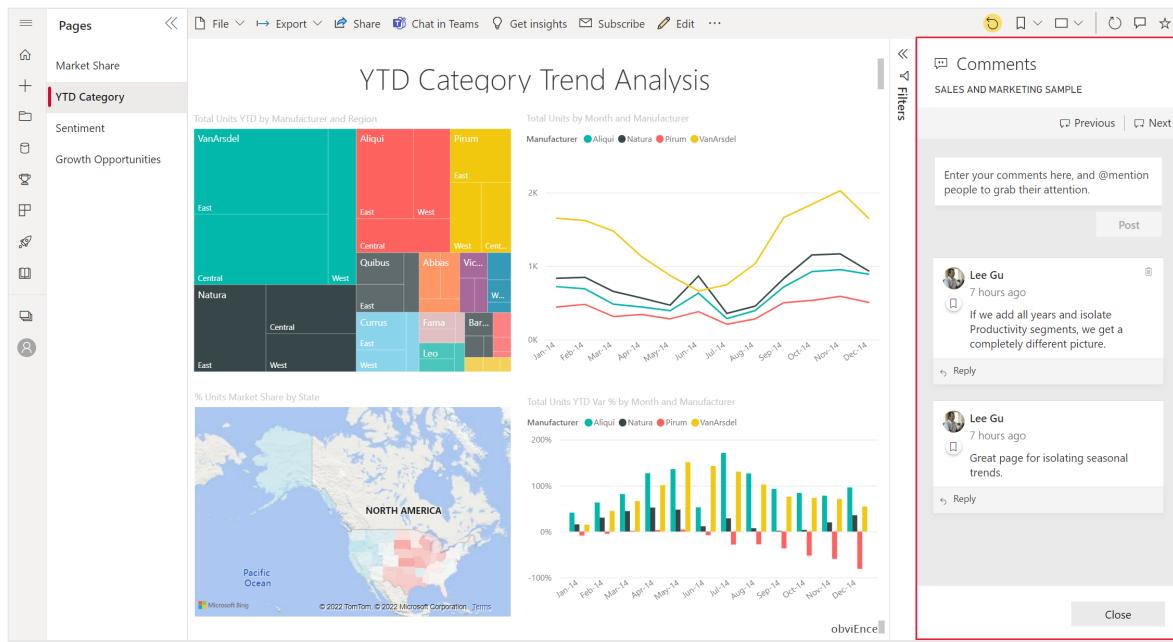
## Add a general comment to a dashboard or report

The process for adding comments to a dashboard or report is similar. In this example, we're using a dashboard.

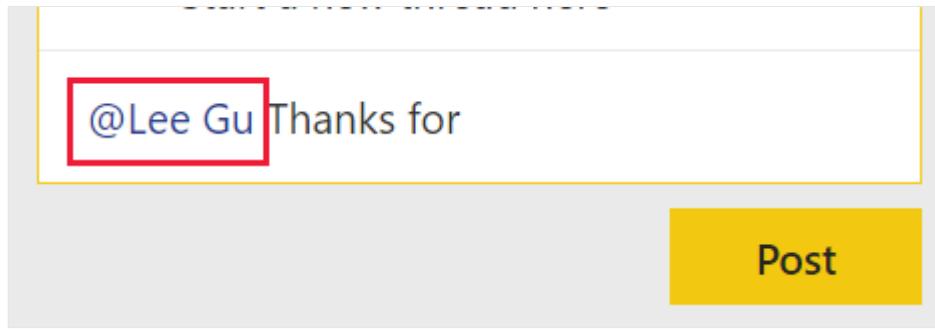
1. Open a Power BI dashboard or report and select the **Comment** icon. This action opens the Comments section.



Here we see that the dashboard creator has already added a general comment. Anyone with access to this dashboard can see this comment.



2. To respond, select **Reply**, type your response, and then select **Post**.



By default, Power BI directs your response to the colleague who started the comment thread, which is Lee in this case.



Lee Gu

now



If we add all years and isolate Productivity segments, we get a completely different picture.



Alex Wilber

now

@Lee Gu Thanks for adding the filters. Did you notice the Natura spike in June of '04?

↪ Reply

3. If you want to add a comment that isn't part of an existing thread, enter your comment in the upper text field.

## Comments

SALES AND MARKETING SAMPLE

 Previous |  Next

Start a new thread here

**Post**



**Lee Gu**

now



If we add all years and isolate Productivity segments, we get a completely different picture.



**Alex Wilber**

now

@Lee Gu Thanks for adding the filters. Did you notice the Natura spike in June of '04?

 Reply



**Lee Gu**

The comments for this dashboard now look like the following example.

## Comments

SALES AND MARKETING SAMPLE

 Previous |  Next

Enter your comments here, and  
@mention people to grab their attention.

Post



Alex Wilber

now



Start a new thread here

↪ Reply



Lee Gu

45 minutes ago



If we add all years and isolate  
Productivity segments, we get a  
completely different picture.



Alex Wilber

45 minutes ago

@Lee Gu Thanks for adding the  
filters. Did you notice the Natura  
spike in June of '04?

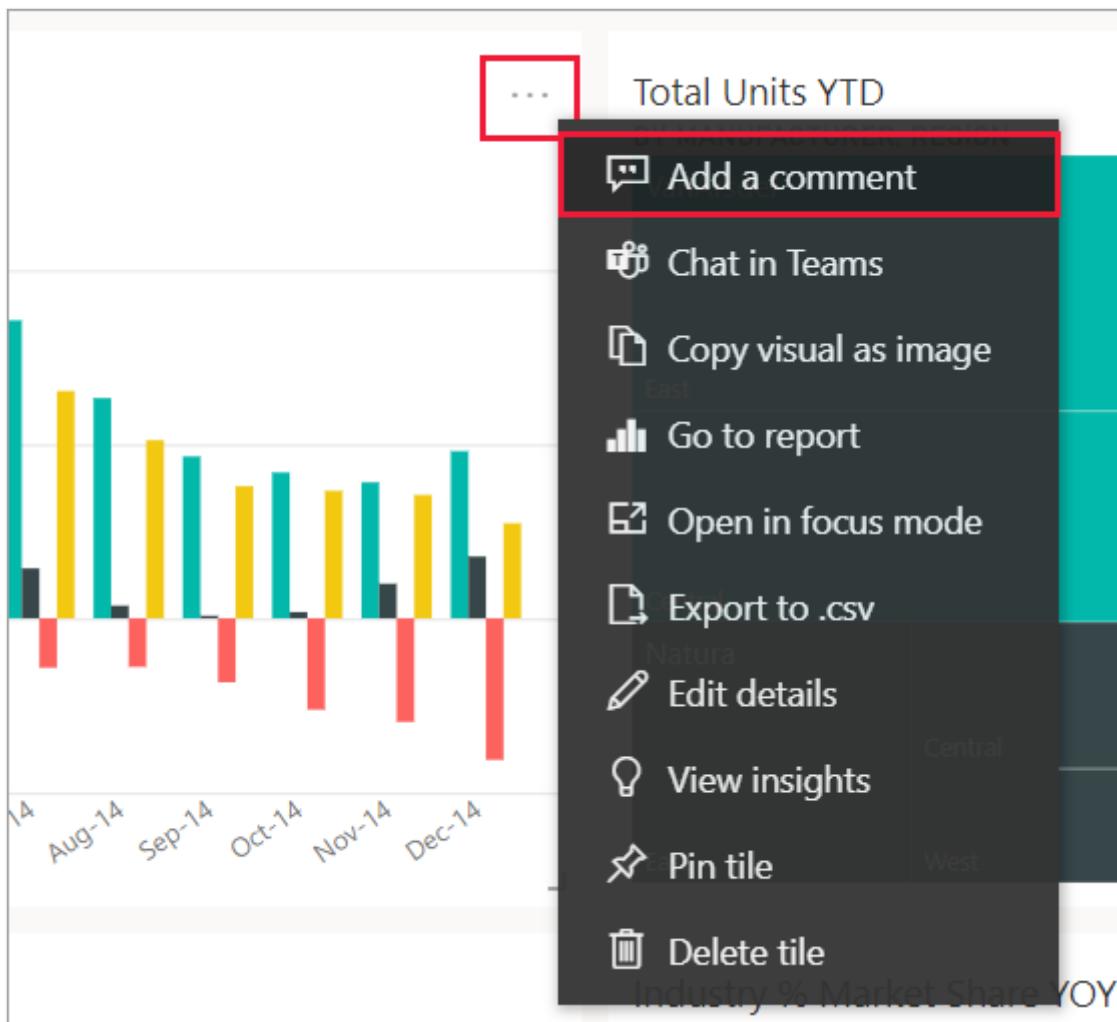
↪ Reply

## Add a comment to a specific dashboard or report visual

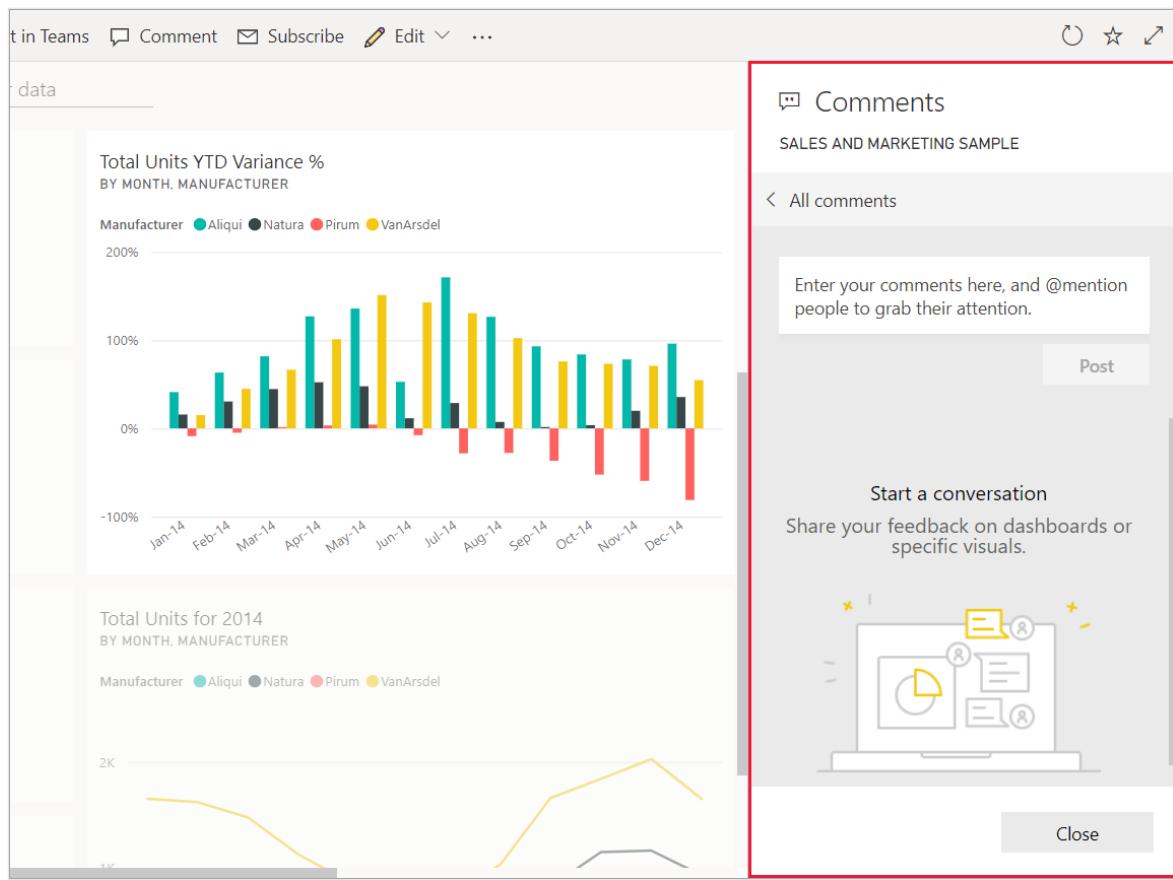
In addition to adding comments to an entire dashboard or to an entire report page, you can add comments to individual dashboard tiles and individual report visuals. The processes are similar, and in this example we're using a dashboard.

1. Hover over the visual and select **More options (...)**.

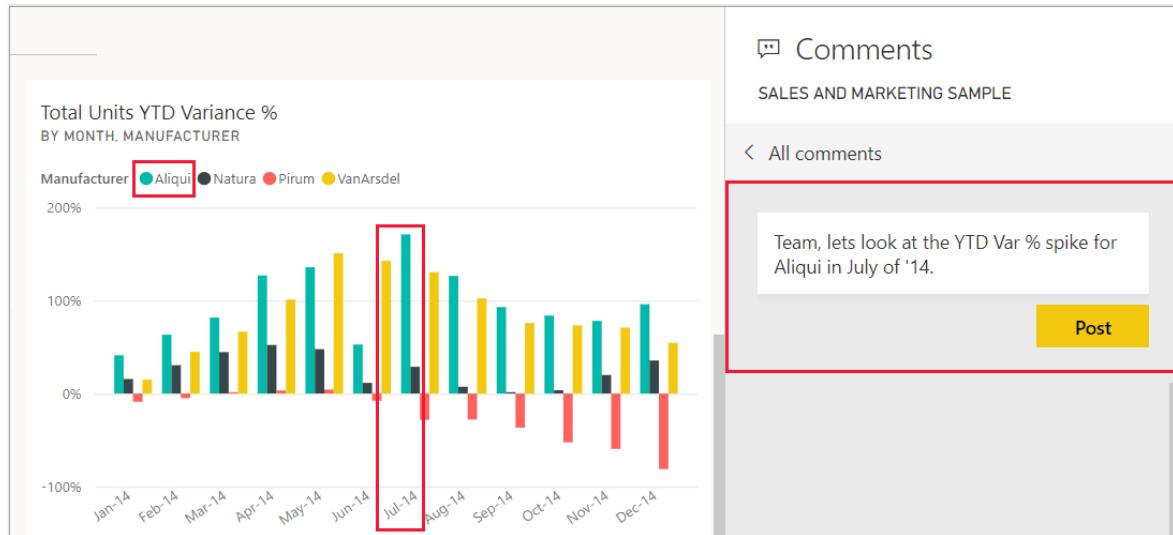
2. From the menu, select **Add a comment**.



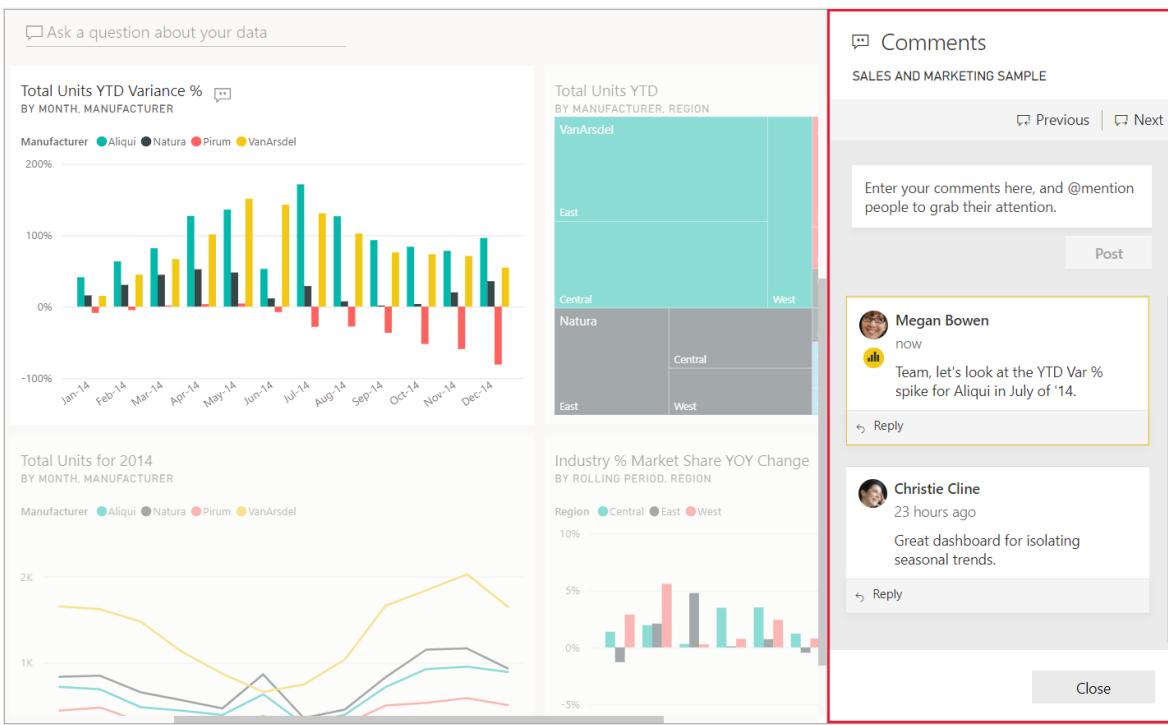
3. The **Comments** section opens, and the other visuals on the page are greyed out. This visual doesn't have any comments yet.



#### 4. Enter your comment and select Post.



- On a report page, when you select a comment on a visual, that visual is highlighted (see the following example).
- On a dashboard, the chart icon shows that a comment is tied to a specific visual. Comments that apply to the entire dashboard don't have a special icon. Selecting the chart icon highlights the related visual on the dashboard.

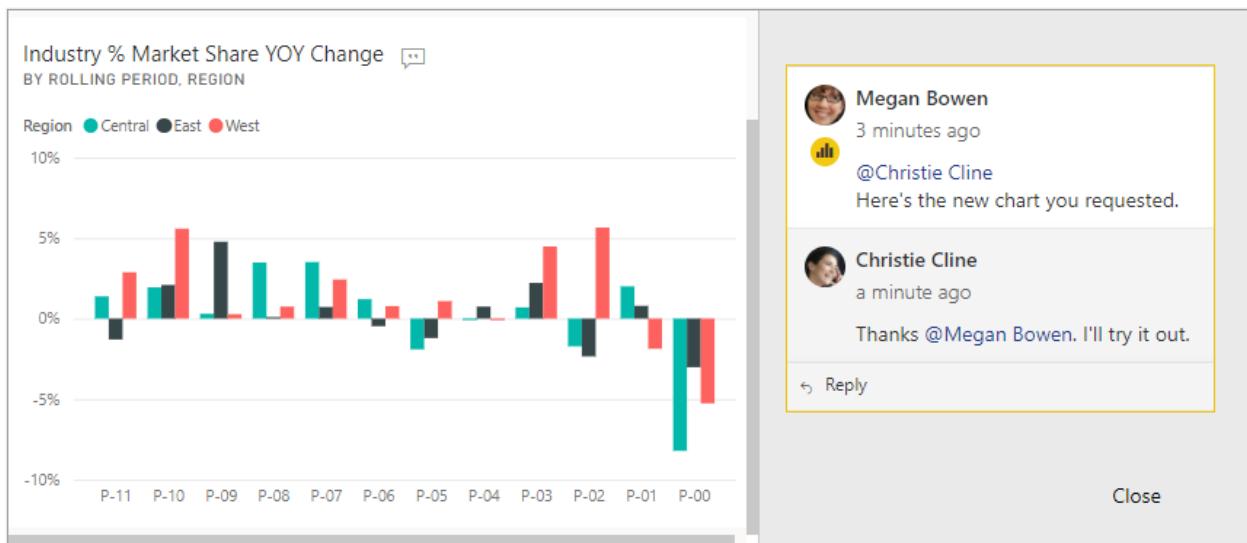


5. Select **Close** to return to the dashboard or report.

## Get your colleagues attention by using the @ symbol

Whether you're creating a dashboard, report, tile, or visual comment, grab your colleagues' attention by using the "@" symbol. When you type the "@" symbol, Power BI opens a dropdown menu where you can search for and select individuals from your organization. Any verified name prefaced with the "@" symbol appears in blue font. The @mentioned individuals immediately receive an e-mail in their inbox. If they're using a Power BI Mobile app, they receive a push notification on their device. They can open the report or dashboard directly from the notification, see the comment, view the data, and reply accordingly.

Here's a conversation I'm having with the visualization *designer*. They're using the @ symbol to ensure I see the comment. I receive a notification and select the link to open this dashboard and the relevant conversation.



## Considerations and troubleshooting

- Users with edit access to the report settings can disable the commenting feature. Select **File > Settings** and deselect *Allow people to comment on this report or dashboard*.

### Settings for Retail Analysis Sample

Comments

Allow people to comment on this dashboard.

- Comments are limited to 2,000 characters, including @mentions of other users and spaces.
- The maximum number of conversations on a dashboard or report is 100. The maximum number of comments per conversation is 1000. To add a new conversation or comment, delete prior conversations or comments.
- Bookmarks aren't captured when you reply to a conversation. Only the first comment in a conversation creates a bookmark.

- If you're using a paginated report, you can only leave a general comment about your report. Support for leaving comments on individual paginated report visuals isn't available.

## Next steps

Back to [visualizations for business users](#)

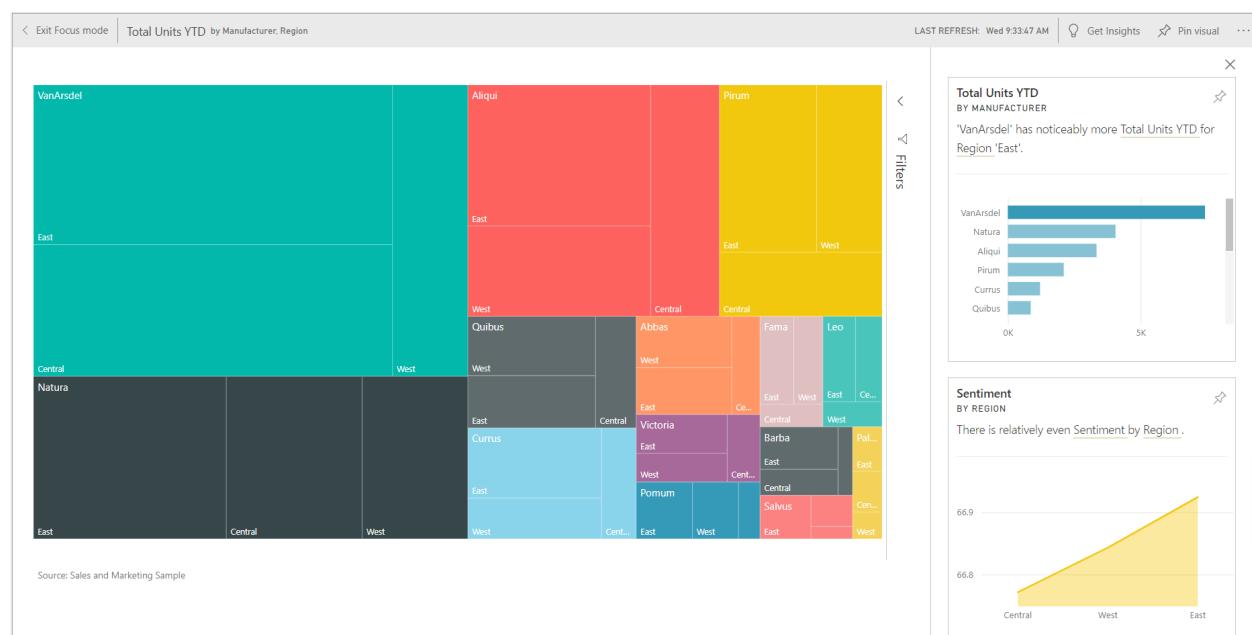
[Select a visualization to open a report](#)

# View data insights on dashboard tiles with Power BI

Article • 11/10/2023

**APPLIES TO:** ✓ Power BI service for *business users* ✓ Power BI service for designers & developers ✗ Power BI Desktop ✓ Requires Pro or Premium license

Each visual tile on your dashboard is a doorway into data exploration. For more information, see [Dashboard tiles in Power BI](#). When you select a tile, it opens a report or Q&A ([Q&A for Power BI Business users](#)), where you can filter and dig into the semantic model behind the report. And when you run insights, Power BI does the data exploration for you.



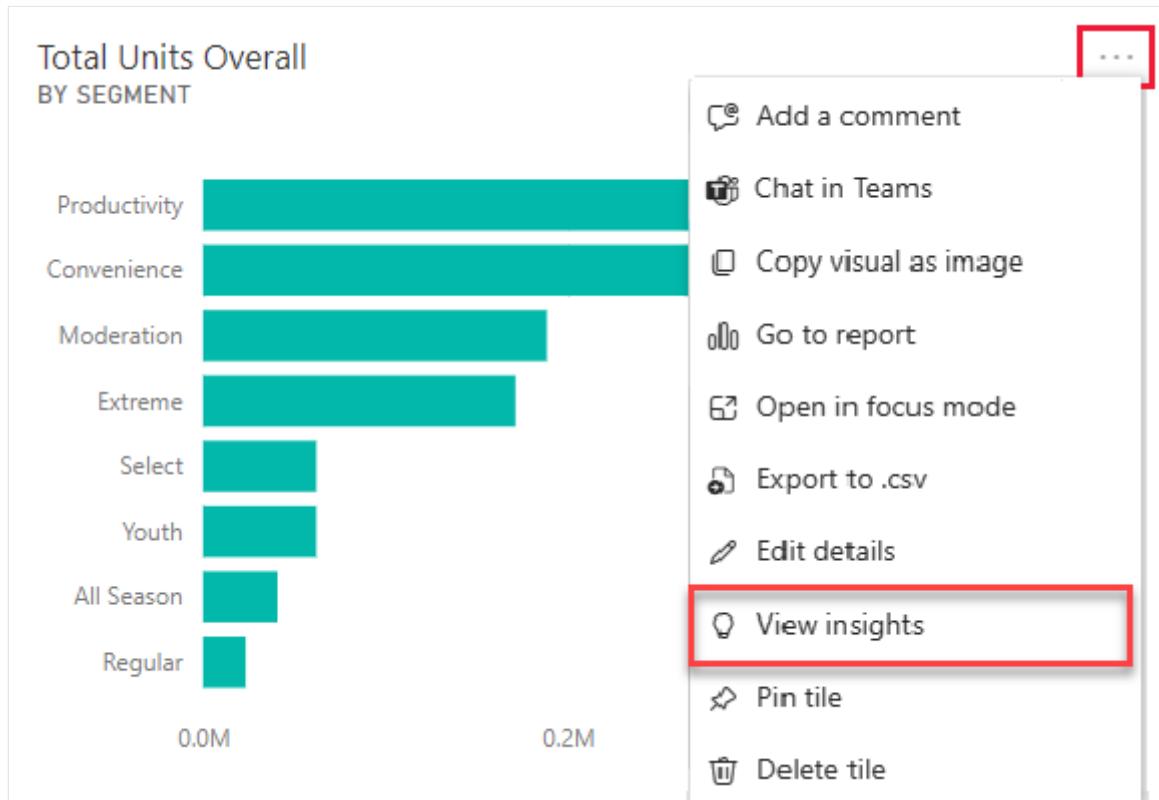
When you run insights on tiles, Power BI looks at the data used to render that tile. If Power BI finds interesting facts or trends in that data, you'll see those facts or trends in the form of interactive visuals. Insights can run on a specific dashboard tile and you can even run insights on an insight!

The insights feature is built on a growing set of advanced analytical algorithms developed in conjunction with Microsoft Research that allows people to find insights in their data in new and intuitive ways. For more information, see [Types of insights supported by Power BI](#). The dashboard insights feature is similar to the semantic model **quick insights** feature. To see how to run quick insights on an entire semantic model, see [Generate data insights on your semantic model automatically with Power BI](#).

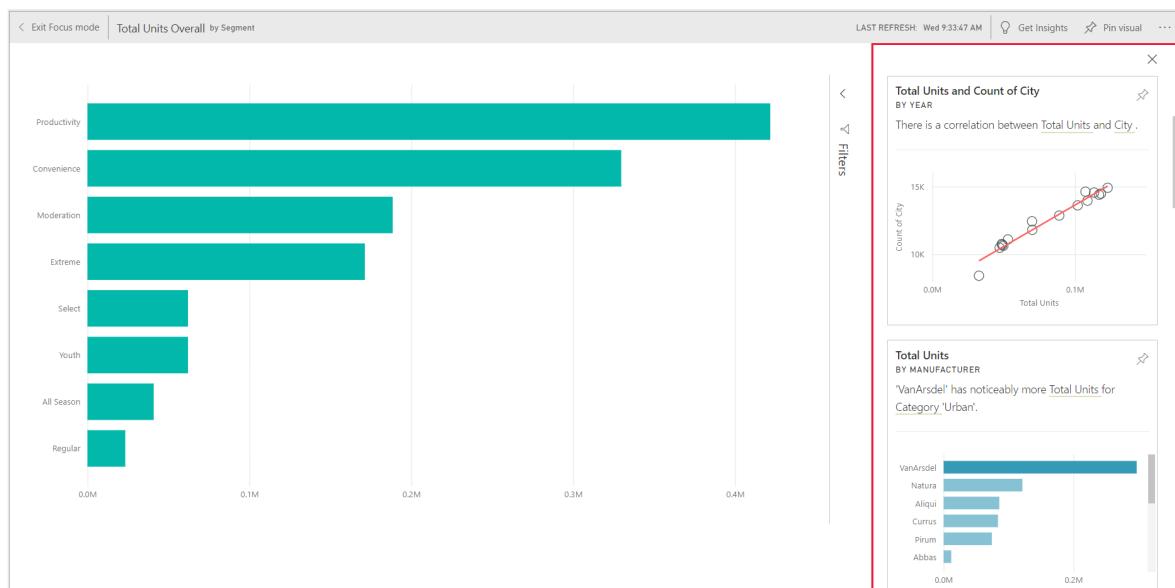
## Run insights on a dashboard tile

When you run insights on a dashboard tile, Power BI searches just the data used to create that single dashboard tile.

1. Open a dashboard. For more information, see [Dashboards for business users of the Power BI service](#).
2. Hover over a tile, select the **More options (...)** feature on the tile, then choose **View insights** from the dropdown menu.



3. The tile opens in Focus mode with the insights cards displayed along the right. For more information, see [Display content in more detail: focus mode and full screen mode](#).

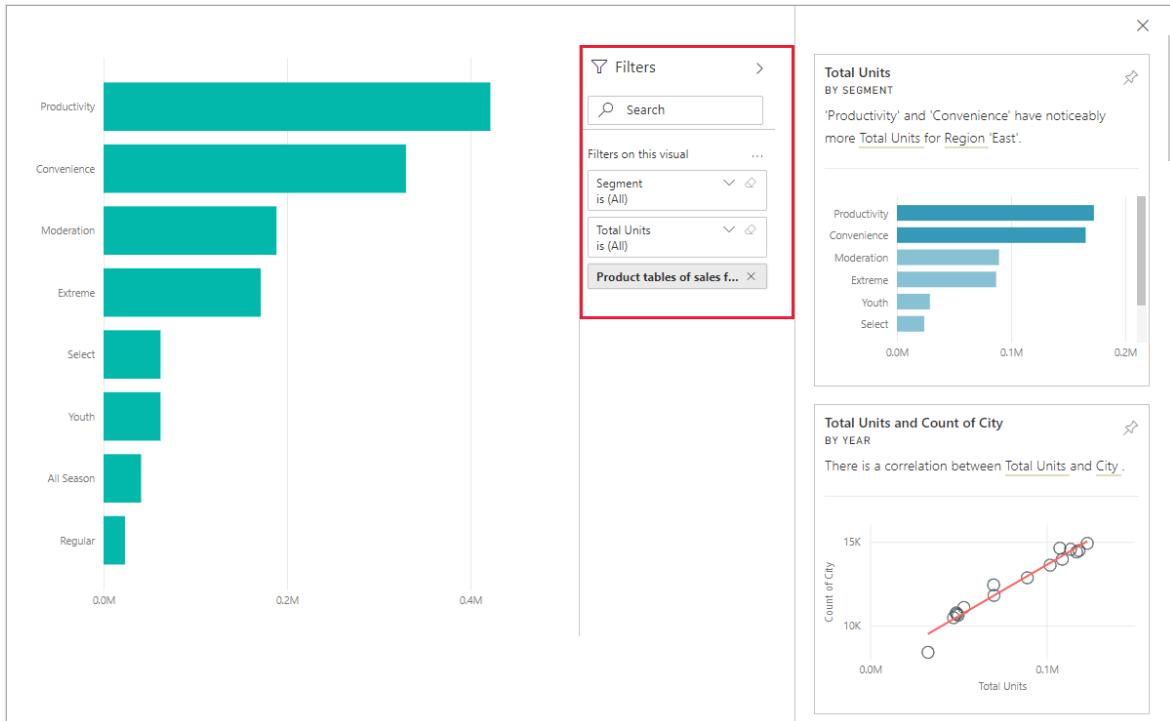


4. After you decide which insight card to explore, select it. You'll see the selected insight appear on the left, and new insight cards, based solely on the data in that single insight, display along the right.

## Interact with the insight cards

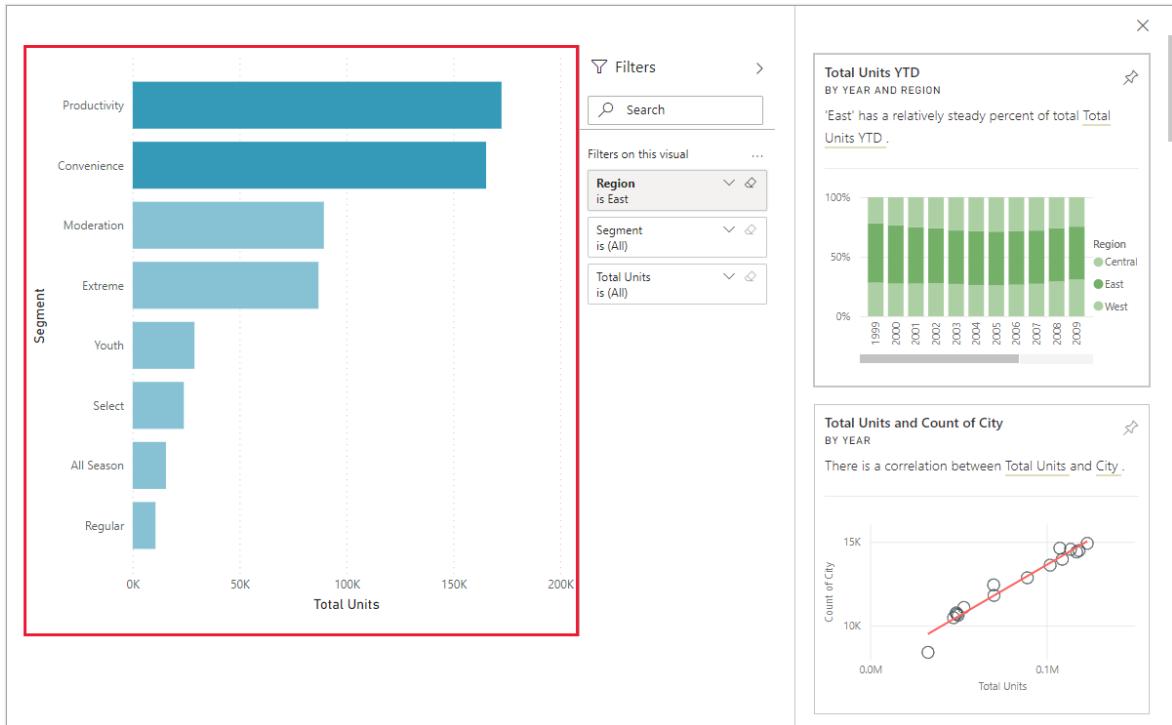
Now that you have an insight open, you can continue exploring.

- Filter the visual on the canvas. To see the filters, go to the Filter's pane and select the arrow in the upper right corner.



- You can run insights on the insight card itself. This is often referred to as **related insights**. To do this, select an insight card to make it active. It will move to the left side of the report canvas, and new cards, based solely on the data in that single

insight, will display along the right.



To return to your report, select **Exit Focus mode**, located in the upper left corner of the screen.

## Considerations and troubleshooting

**View insights** doesn't work with all dashboard tile types. For example, it isn't available for Power BI custom visuals, streaming data, DirectQuery tiles, or data protected with RLS (row-level security).

## Next steps

- Use the Analyze feature to explain fluctuations in report visuals
- Types of insights supported by Power BI

# Tutorial: Set alerts on Power BI dashboards

Article • 03/17/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

Set alerts in the Power BI service to notify you when data on a dashboard changes above or below limits you set. Alerts can be set on tiles pinned from report visuals or from Power BI Q&A, and only on gauges, KPIs, and cards.



Alerts only work on data that is refreshed. When data refreshes, Power BI looks to see if an alert is set for that data. If the data has reached an alert threshold, an alert is triggered.

This tutorial covers the following.

- ✓ Who can set alerts
- ✓ Which visuals support alerts
- ✓ Who can see my alerts
- ✓ Do alerts work on Power BI Desktop and mobile
- ✓ How to create an alert
- ✓ Where will I receive my alerts

## Prerequisites

- A Power BI license. If you're not signed up for Power BI, [sign up for a free trial ↗](#) before you begin.
- Access to a dashboard with one of the following types of tile: gauge, KPI, or card.
- A dataset that refreshes.

## Who can set alerts

Alerts can be created in the Power BI service by customers with any license type. Set alerts on dashboard tiles:

- that you have created and saved in [My workspace](#)
- that have been shared with you in a [Premium reserved capacity](#).
- in any workspace you can access, if you have a Power BI Pro or Premium Per User (PPU) license.

## Who can see alerts I create?

Only you can see the alerts you set, even if you share your dashboard. Data alerts are fully synchronized across platforms; set and view data alerts in the Power BI service, [in the Power BI mobile apps](#), and in Power BI for Teams.

### Warning

These alerts provide information about your data. If you view your Power BI data on a mobile device and that device gets stolen, we recommend using the Power BI service to turn off all alerts.

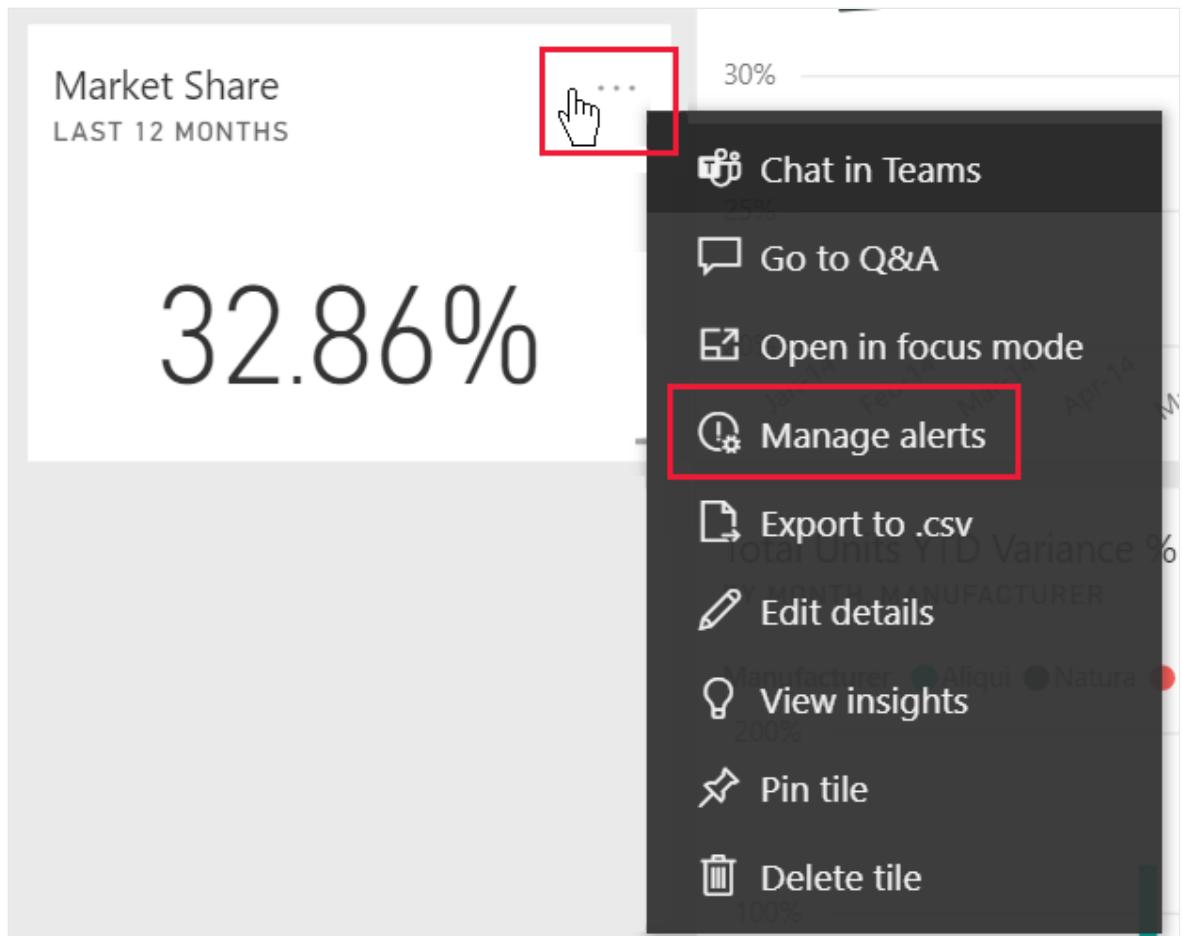
## Add an alert to a dashboard tile

Alerts can be set on three types of tiles (gauges, KPIs, and cards) on a Power BI dashboard. This tutorial uses the Sales and Marketing sample. To follow along, [get the sample](#).

1. From a dashboard gauge, KPI, or card tile, select the ellipsis.



2. Select the alert icon  , or [Manage alerts](#), to add one or more alerts for the **Market share** card.



3. On the **Manage alerts** pane, select **+ Add alert rule**. Ensure the slider is set to **On**, and give your alert a title. Titles help you easily recognize your alerts.

MARKET SHARE

## Manage alerts

+ Add alert rule

^ Alert for Market Share Delete

Active  On

Alert title

Set alerts rule for

Condition	Threshold

[Use Microsoft Power Automate to trigger additional actions](#)

Save and close Cancel

4. Scroll down and enter the alert details. In this example we'll create an alert that notifies us once a day if our market share increases to 40% (.4) or higher. Alerts will appear in our Notification center. We'll have Power BI send us an email as well.

Condition	Threshold
Above	.4

#### Maximum notification frequency

- At most every 24 hours
- At most once an hour

Alerts are only sent if your data changes.

By default, you'll receive notifications on the service in the notification center.



Send me email, too

[Use Microsoft Power Automate to trigger additional actions](#)

**Save and close**

**Cancel**

5. Select **Save and close**.

## Receiving alerts

When the data being tracked reaches one of the thresholds you've set, several things happen. First, Power BI checks to see if it has been more than an hour, or more than 24 hours (depending on the option you selected), since the last alert was sent. As long as the data is past the threshold, you'll get an alert.

Next, Power BI sends an alert to your Notification center and, optionally, in email. Each alert contains a direct link to your data. Select the link to see the relevant tile.

1. If you've set the alert to send you an email, you'll find something like this in your Inbox. This is an alert we set for the **Sentiment** card.

## Alert for Sentiment



Microsoft Power BI (No Reply)

To Michele



4:20 PM

[i If there are problems with how this message is displayed, click here to view it in a web browser.](#)



Power BI

## Alert for Sentiment

- Dashboard: Marketing and sales
- Measure: Alert for Sentiment
- Current value: 67.8289578361177
- Threshold: 70

[Go to dashboard >](#)

[Get Insights >](#)

[Privacy Statement](#)

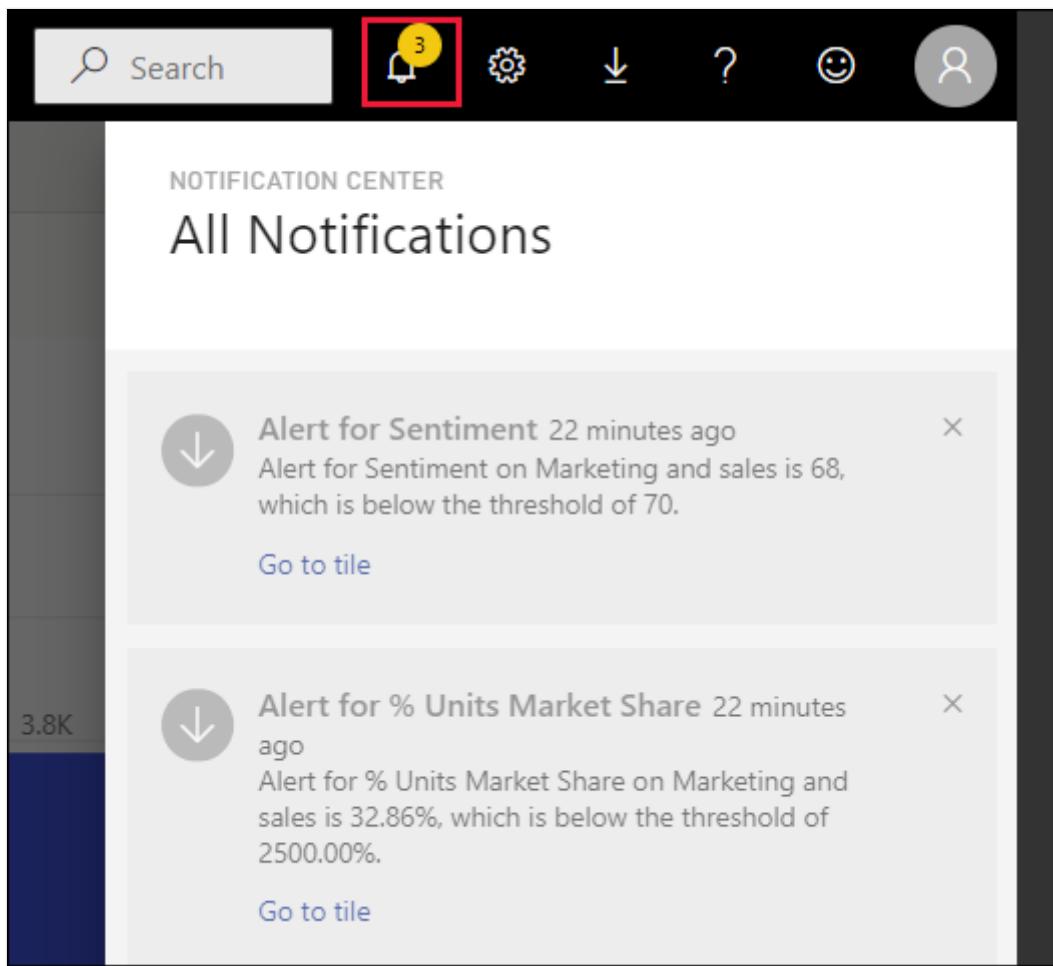
Microsoft Corporation, One Microsoft Way, Redmond, WA 98052



2. Power BI also adds a message to your **Notification center**.



3. Open your Notification center to see the alert details.



## Managing alerts

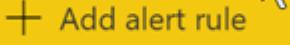
There are many ways to manage your alerts: from the dashboard tile itself, from the Power BI Settings menu, on an individual tile in the [Power BI mobile app on the iPhone](#) or in the [Power BI mobile app for Windows 10](#).

### From the tile itself

1. If you need to change or remove an alert for a tile, re-open the **Manage alerts** window by selecting the alert icon . All the alerts that you've set for that tile are displayed.

MARKET SHARE

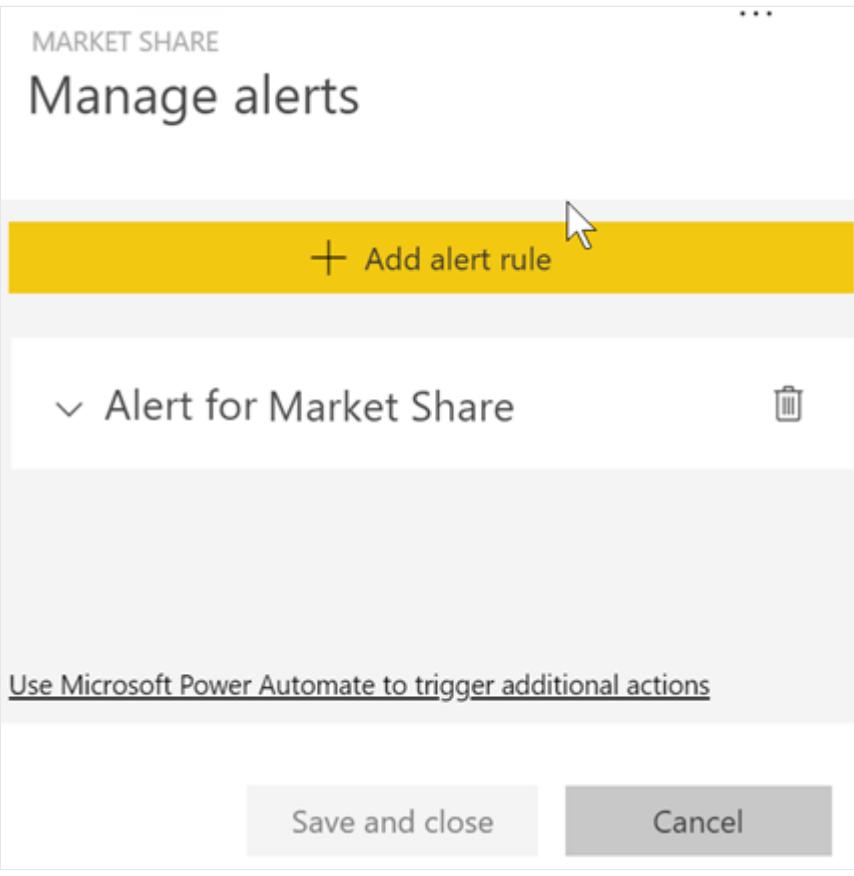
## Manage alerts

 Add alert rule

▼ Alert for Market Share 

Use Microsoft Power Automate to trigger additional actions

 Save and close  Cancel



2. To modify an alert, select the arrow to the left of the alert name.

 Alert for Market Share 



3. To delete an alert, select the trashcan to the right of the alert name.

▼ Alert for Market Share 



## From the Power BI settings menu

1. Select the gear icon from the Power BI menubar.



2. Under **Settings** select **Alerts**.

The screenshot shows the 'Alerts' section of the Power BI interface. At the top, there are tabs for General, Alerts, Subscriptions, Dashboards, Datasets, and Workbooks. The 'Alerts' tab is selected and highlighted with a red box. Below the tabs, it says 'My workspace'. There is a table with three columns: ALERT, DASHBOARD, and DATE CREATED. The first row contains 'Alert for Market Share', 'Sales and Marketing Sample', and 'May 7, 2021, 2:54:25 PM'. To the right of this row are three buttons: a yellow switch labeled 'On', a blue 'Edit' button, and a blue 'Delete' button. The second row contains 'Alert for Sentiment', 'Sales and Marketing Sample', and 'May 7, 2021, 2:55:06 PM'. To the right of this row are three buttons: a yellow switch labeled 'On', a blue 'Edit' button, and a blue 'Delete' button.

ALERT	DASHBOARD	DATE CREATED
Alert for Market Share	Sales and Marketing Sample	May 7, 2021, 2:54:25 PM
Alert for Sentiment	Sales and Marketing Sample	May 7, 2021, 2:55:06 PM

3. From here you can turn alerts on and off, open the **Manage alerts** window to make changes, or delete the alert.

## Considerations and limitations

- If you are unable to set an alert for a gauge, KPI, or card, contact your Power BI admin or IT help desk for help. Sometimes alerts are turned off or unavailable for your dashboard or for specific types of dashboard tiles.
- Alerts only work on data that is refreshed. They do not work on static data. Most of the samples supplied by Microsoft are static.
- The ability to receive and view shared content requires a Power BI Pro license, a Premium Per User license, or for the report to be saved in Premium reserved capacity. For more information, read [Which license do I have?](#).
- Alerts can be set on visuals created from streaming datasets that are pinned from a report to a dashboard. Alerts can't be set on streaming tiles created directly on the dashboard using **Add tile > Custom streaming data**.

## Clean up resources

Instructions for deleting alerts are explained above. In brief, select the gear icon from the Power BI menubar. Under **Settings** select **Alerts** and delete the alert.

[Set data alerts on your mobile device](#)

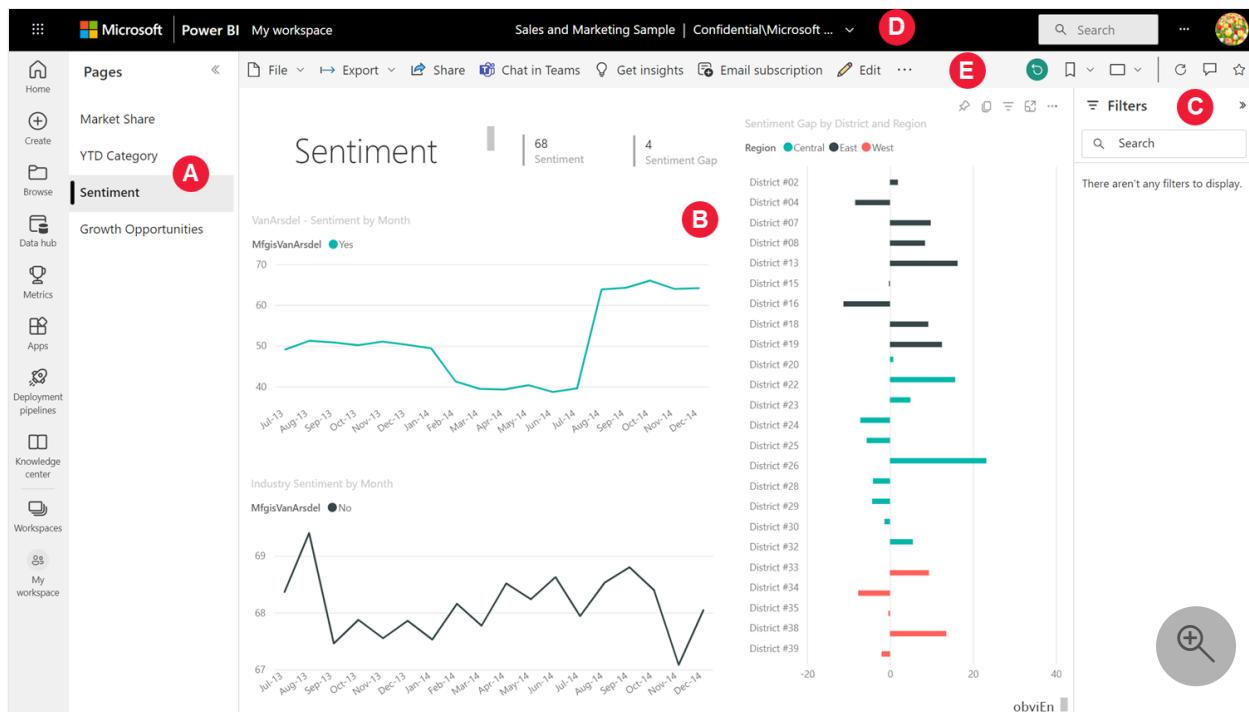
# Reports in Power BI

Article • 11/10/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop

A Power BI report is a multi-perspective view into a semantic model, with visuals that represent findings and insights from that semantic model. A report can have a single visual or many pages full of visuals. Depending on your job role, you might be someone who designs reports, or you might be a business user who consumes reports. This article is for business users.

## The parts of a report



- A. This report has four pages (or tabs). The example shows the **Sentiment** page.
- B. This page has five visuals and a page title.
- C. The **Filters** pane shows any applied filters. To collapse the **Filters** pane, select the arrow (>).
- D. The Power BI banner shows the name of the report and the last updated date. Select the arrow to open a menu that shows the name of the report owner.
- E. The action bar contains actions to take on this report. For example, you can add a comment, view a bookmark, or export data from the report. Select **More options (...)** to see a list of report functions.

If you're new to Power BI, read [Basic concepts for the Power BI service business users](#) to get a good foundation. You can view, share, and annotate reports on mobile devices. For more information, see [Explore reports in the Power BI mobile apps](#).

## Advantages of reports

Power BI bases a report on a single semantic model. Report designers create the visuals in a report to represent pieces of information. The visuals aren't static. They update as the underlying data changes. You interact with the visuals and filters as you dig into the data to discover insights and find answers. Like a dashboard, a report is interactive and customizable. The extent of what you can do with a report depends on your role and the permissions the report designer assigns to you.

## Safely interact with content

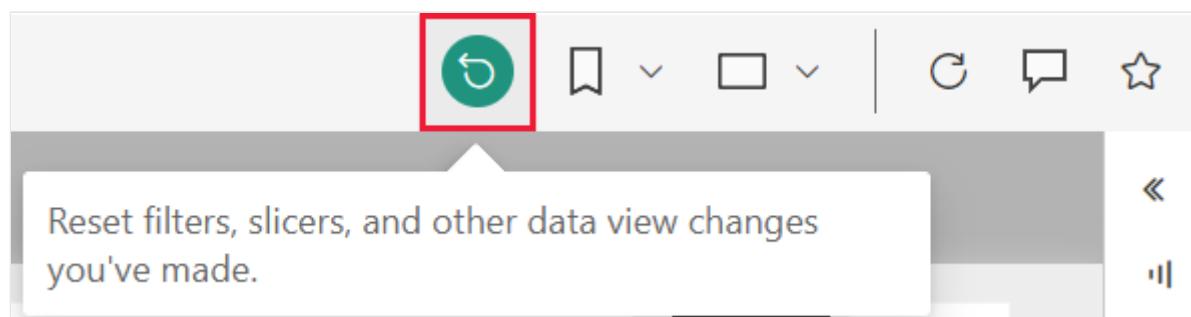
As you explore and interact with your content by filtering, slicing, subscribing, and exporting, you can't corrupt the reports. Your work doesn't affect the underlying semantic model or the original shared dashboards, reports, and apps.

### Note

You can't damage your data. The Power BI service is a great place for you to explore and experiment without worrying about breaking something.

## Save your changes or revert to the default settings

Your changes won't affect underlying data, but that doesn't mean you can't save your changes. You can, but those changes only affect your view of the content. To revert to the default view of the report, select the **Reset** icon.



# Dashboards versus reports

[Dashboards](#) can be confused with reports because they're both canvases filled with visualizations, but there are major differences. The following table shows an overview of the different capabilities of dashboards and reports:

Capability	Dashboards	Reports
Pages	One page	One or more pages
Data sources	One or more report or semantic model per dashboard	A single semantic model per report
Filtering	No, you can't filter or slice	Yes, there are many ways to filter, highlight, and slice
Set alerts	Yes, you can create email alerts when certain conditions are met	No, you can't set alerts
Can see underlying semantic model tables and fields	No. Can export data but can't see the semantic model tables and fields in the dashboard itself	Yes. Can see semantic model tables and fields and values that you have permissions to see
Customization	No	Yes, you can filter, export, view related content, add bookmarks, generate QR codes, and analyze in Excel

## Next Steps

Depending on your role, you may be a *designer*, someone who creates reports for your own use or to share with colleagues. You'll want to learn how to create and share reports.

Or you may be a *business user*, someone who receives reports from others. You'll want to learn how to understand and interact with the reports. If you're a report *business user*, these links are for you:

- Start with a [tour of the Power BI service](#), so you know where to find reports and report tools.
- Learn how to [open a report](#) and all the [interactions available to business users](#).
- Get comfortable with reports by taking a tour of a [sample](#).
- Explore [Dashboards in the Power BI service](#).
- To see which semantic model the report is using and which dashboards are showing visuals from the report, see [View related content in the Power BI service](#).

## Tip

If you didn't find what you're looking for here, use the table of contents on this page to browse more articles.

# View a report in the Power BI service for business users

Article • 11/16/2023

**APPLIES TO:**  Power BI service for ***business users***  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

A Power BI report is one or more pages of organized visuals. Power BI designers create reports and [share them directly](#) with business users, or add them to an [app](#). You must have a Power BI Pro or Premium Per User license to open a report that has been shared with you, unless the report is stored in [Premium capacity](#). A user with any Power BI license can have access to reports stored in Premium capacity or in their own My workspace. For more information, see [Licenses and subscriptions for business users](#).

Explore the following guidance to learn how to open a report from the [Browse](#) page and from a dashboard.

## Open a report that was shared with you

Power BI designers can share a report with you by sending an email link or by adding the report to your Power BI content. These reports are located under **Shared with me** in the **Browse** tab.

1. Open the Power BI service ([app.powerbi.com](http://app.powerbi.com)), and sign in if you're prompted.
2. On the navigation pane, select **Browse**, and on the **Browse** page, select **Shared**.

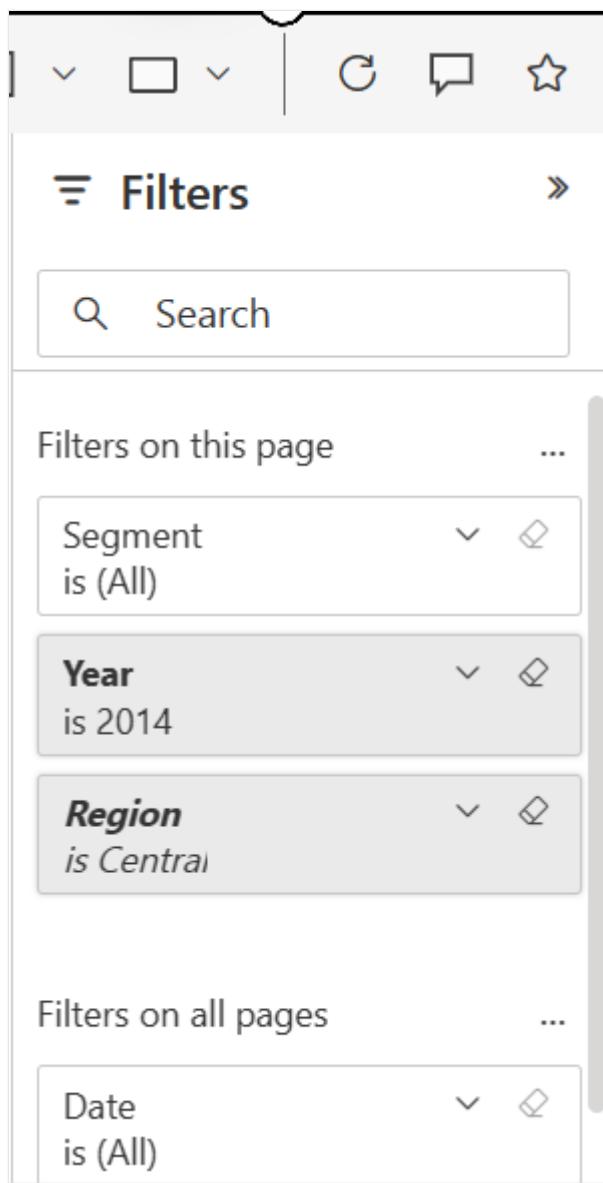
The screenshot shows the Microsoft Power BI interface. On the left, there's a sidebar with icons for Home, Create, Browse (which is highlighted with a red box), Data hub, Workspaces, My workspace, and Power BI. The main area is titled 'Browse' and shows sections for 'Recent', 'Favorites', and 'Shared'. A red arrow points from the 'Shared' button in the sidebar to the 'Shared' section in the main area. The 'Shared' section lists several reports with their names, types, shared status, and last updated dates. One report, 'Sales and Marketing Sample PBIX', has a red arrow pointing to its name.

	Name	Type	Shared	Share
	Content Engagement Report	Report	2 days ago	Megan
	Content Portfolio Dashboard	Report	5 days ago	Zalan B
	TrainScheduleStatus	Report	6 days ago	Pradtar
	DocsVerbatims	Report	8 days ago	Zalan B
	Microsoft Learn - Training Dashboard	Report	8 days ago	Zalan B
	Sales and Marketing Sample PBIX	Report	9 days ago	Microsc
	Feature Utilization	Report	9 days ago	Megan
	Retail Analysis Sample	Report	10 days ago	Microsc

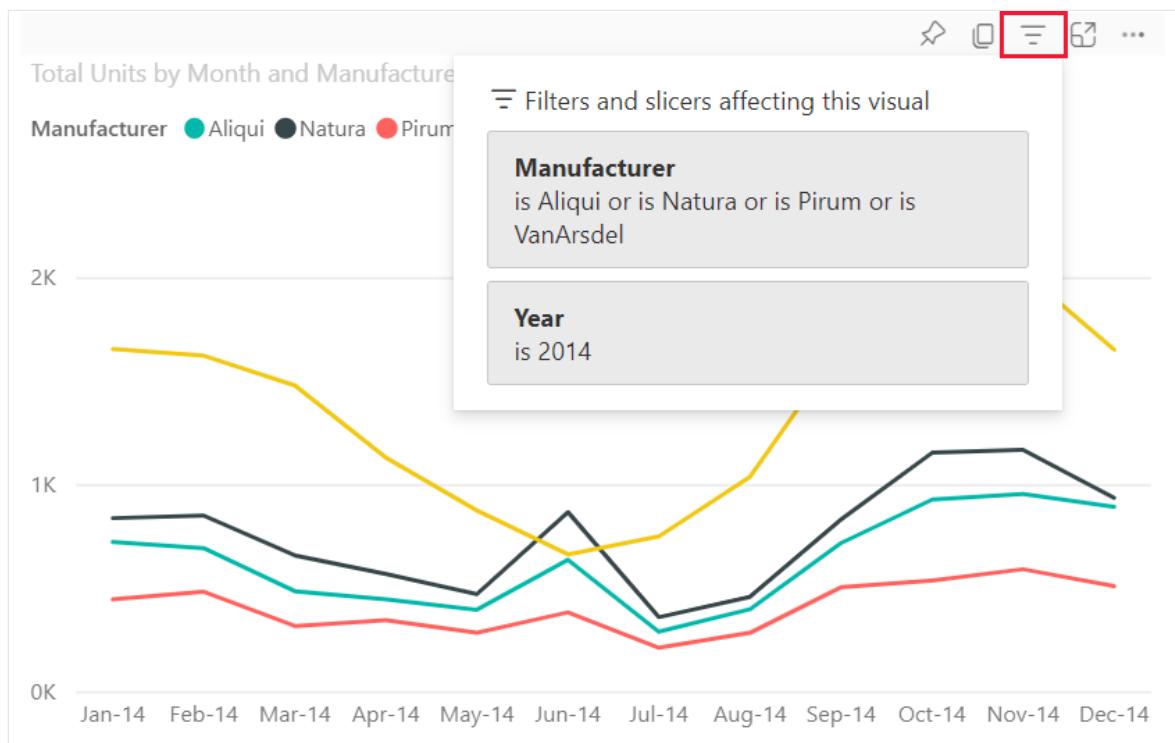
3. The report icon is displayed next to the report name. Open the **Sales and Marketing Sample** report.
4. Notice the tabs along the left side. Each tab represents a report page. Select the **YTD Category** tab to open the **YTD Category Trend Analysis** page.

The screenshot shows a Power BI report page for 'Sales a...'. The left sidebar shows tabs for 'Pages' (highlighted with a red box) and other sections like 'Market Share', 'Sentiment', 'Growth Opportunities', 'Details', and 'Info'. The main area displays four visualizations: a treemap chart for 'Total Units YTD by Manufacturer and Region', a line chart for 'Total Units by Month and Manufacturer', a map for '% Units Market Share by State', and a bar chart for 'Total Units YTD Var % by Month and Manufacturer'. A 'Filters' pane is visible on the right side.

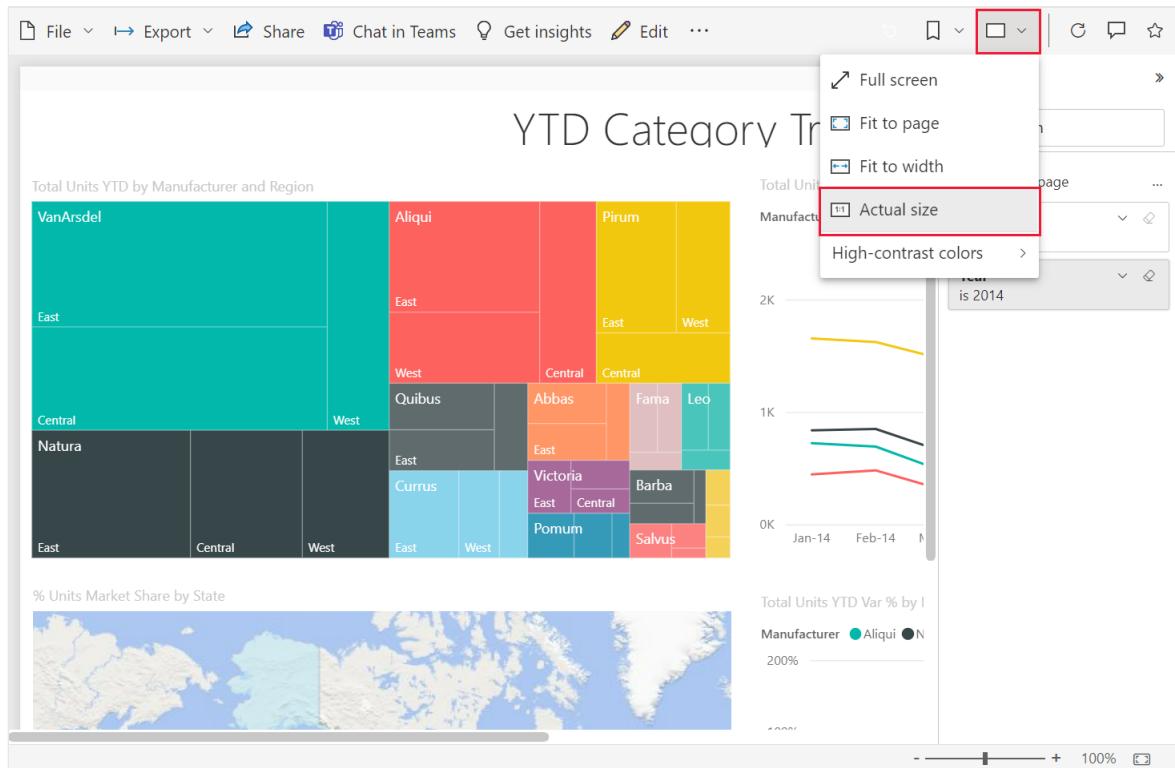
5. Expand the **Filters** pane along the right side. Filters that are applied to this report page, or to the entire report, are displayed here. You can change these filters to see the impact on your visuals and report.



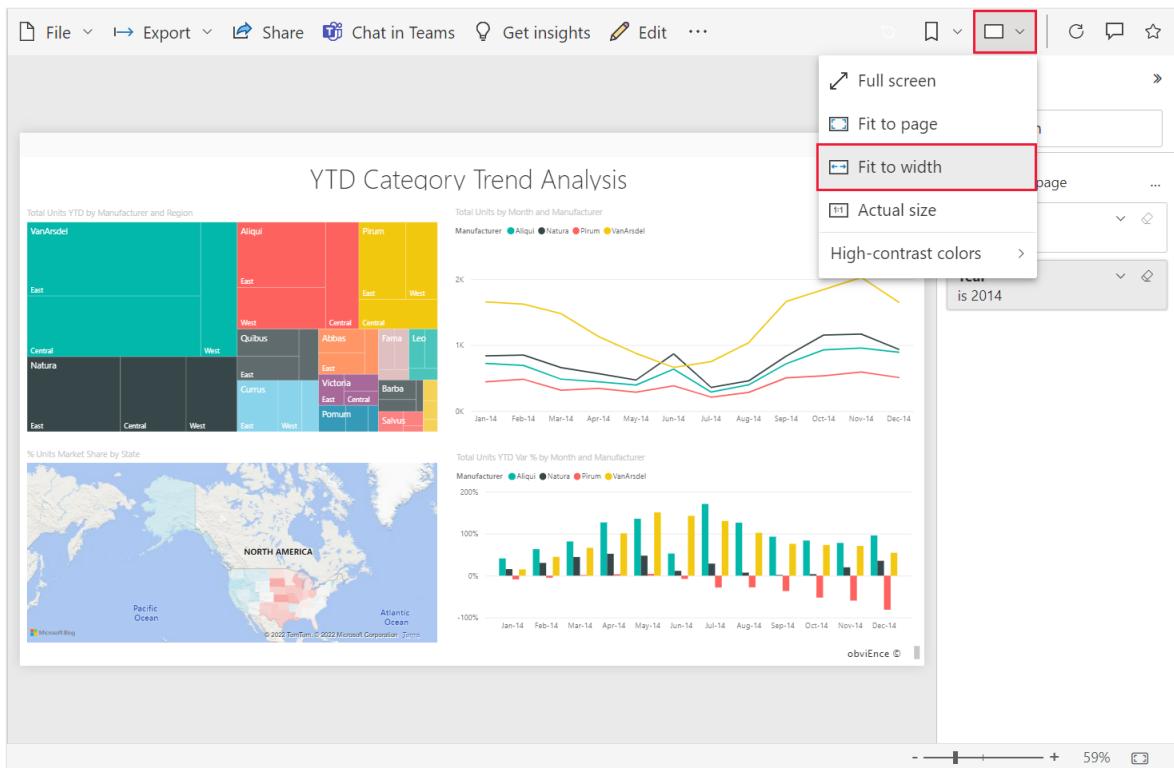
6. Hover over a visual to show the actions you can perform. To see the filters applied to a specific visual, select the filter icon.



7. You can also change the display (zoom) of the report page. On the action bar, select the **View** icon, and then select **Actual size**. Notice the difference that view option makes in how Power BI displays your report.



8. On the action bar, select the **View** icon, and then select **Fit to width**. Notice the difference that view option makes in how Power BI displays your report.



There are many ways for you to interact with a report to discover insights and make business decisions. Other articles about Power BI reports are available in the table of contents.

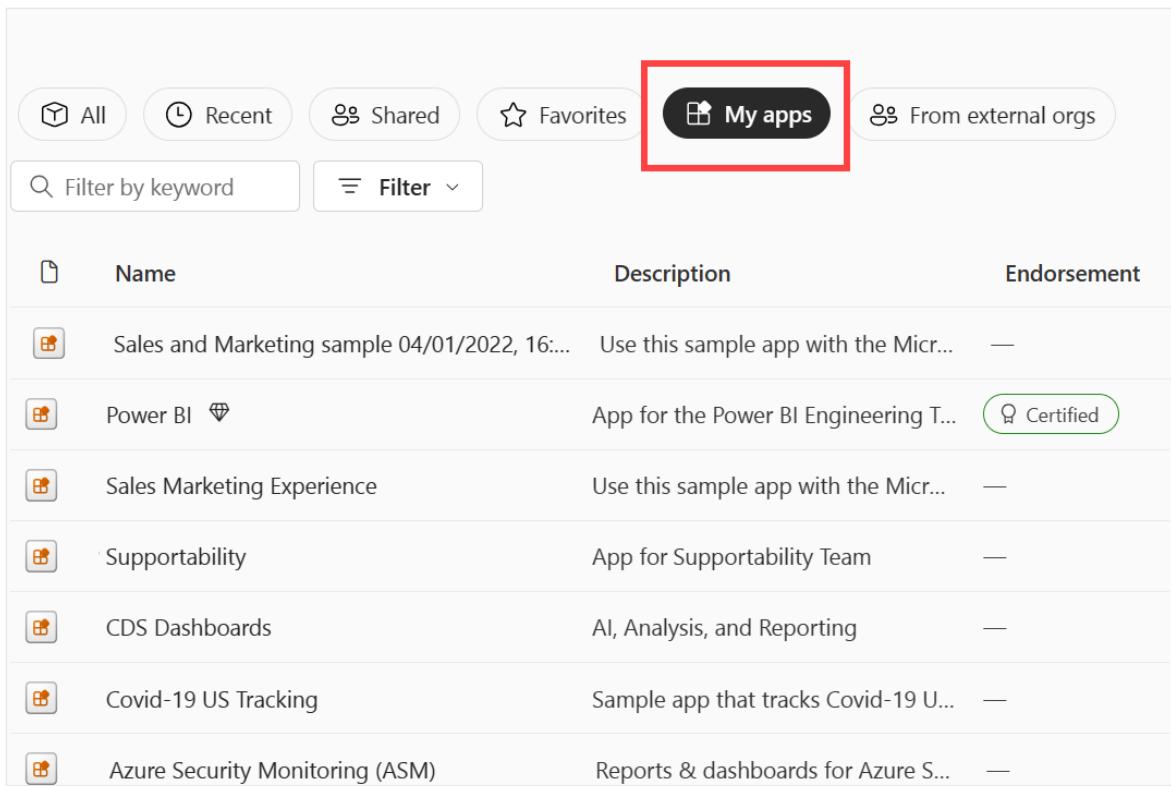
## Open a report that's in an app

The apps you receive from colleagues are located on the **Home** page and in the **Apps** container on your navigation pane. An [app](#) is a collection of dashboards and reports that a Power BI designer compiles for you.

You must have a Power BI Pro license to open an app unless the app workspace is stored in [Premium capacity](#). A user with any Power BI license can have access to reports stored in Premium capacity.

Follow along with Microsoft sample content.

1. In your browser, go to [appsource.microsoft.com](https://appsource.microsoft.com).
2. Search for "Sales & Marketing" and select **Microsoft sample - Sales & Marketing**.
3. Select **Get it now > Continue > Install** to install the app in your Apps container.
4. Go back to Home by selecting **Home** from the navigation pane.
5. Scroll down and select **My Apps**.



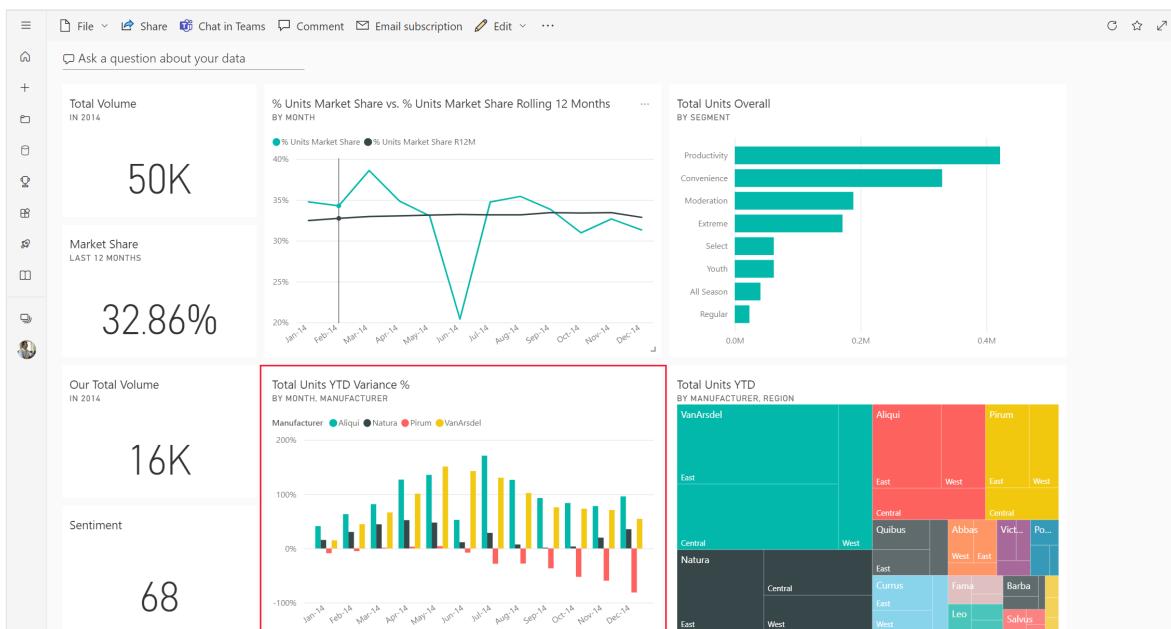
All	Recent	Shared	Favorites	My apps	From external orgs
Filter by keyword		Filter			
	Name	Description		Endorsement	
	Sales and Marketing sample 04/01/2022, 16:...	Use this sample app with the Micr...			
	Power BI	App for the Power BI Engineering T...		Certified	
	Sales Marketing Experience	Use this sample app with the Micr...			
	Supportability	App for Supportability Team			
	CDS Dashboards	AI, Analysis, and Reporting			
	Covid-19 US Tracking	Sample app that tracks Covid-19 U...			
	Azure Security Monitoring (ASM)	Reports & dashboards for Azure S...			

6. Select your new **Sales and Marketing** app to open it. Depending on the options set by the app designer, the app opens to a dashboard or a report. This app opens to a dashboard.

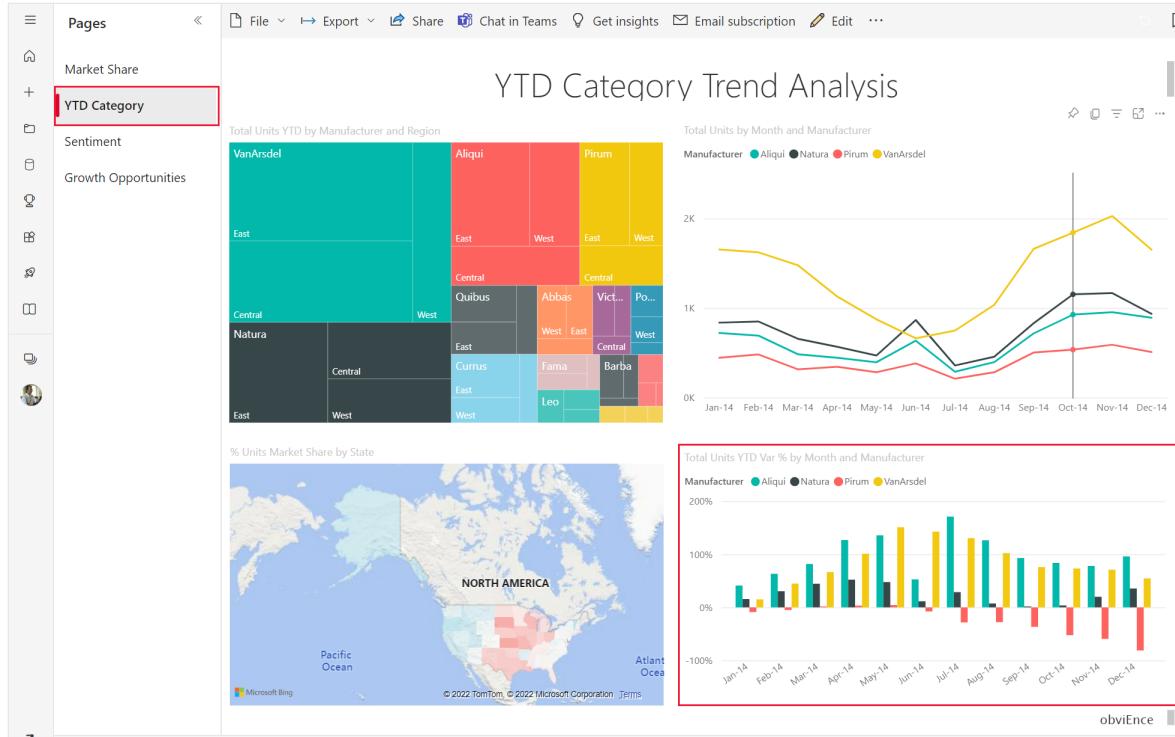
## Open a report from a dashboard

Most dashboard **tiles** are pinned from reports. Selecting a tile opens the report that was used to create the tile.

1. From the **Sales and Marketing** dashboard, select the *Total Units YTD Variance %* column chart tile.



2. The associated report opens to the *YTD Category Trend Analysis* page because this is the report page where the chart is located.



### ➊ Note

Not all tiles lead to a report. If you select a tile that was **created with Q&A**, the Q&A screen opens. If you select a tile that was **created using the dashboard Add tile widget**, a video, website, or other content might open.

## More ways to open a report

As you get more comfortable navigating the Power BI service, you'll figure out workflows that are best for you. A few other ways to access reports:

- Using [the related content pane](#)
- In an email, when someone [shares with you](#) or you [set an alert](#)
- From your [Notification center](#)
- From a [workspace](#)

## Next steps

[Open and view a dashboard](#)

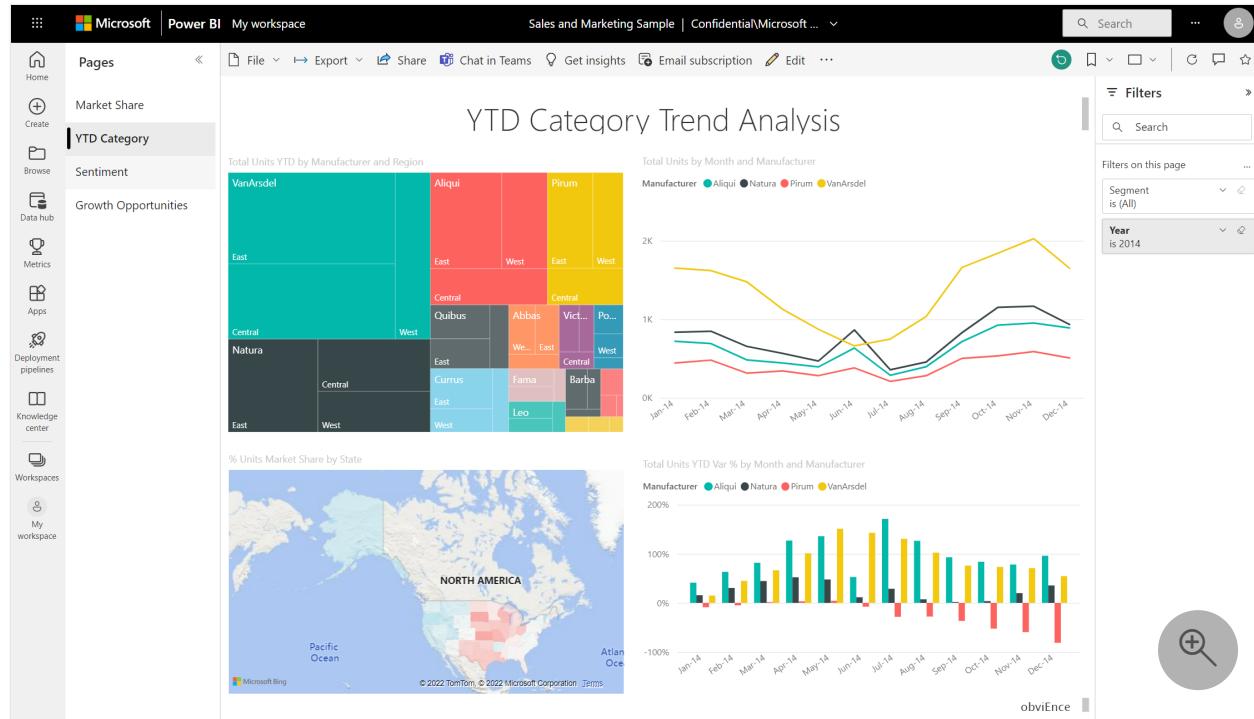
[Explore the report Filters pane](#)

# Change the display of a report page

Article • 02/14/2023

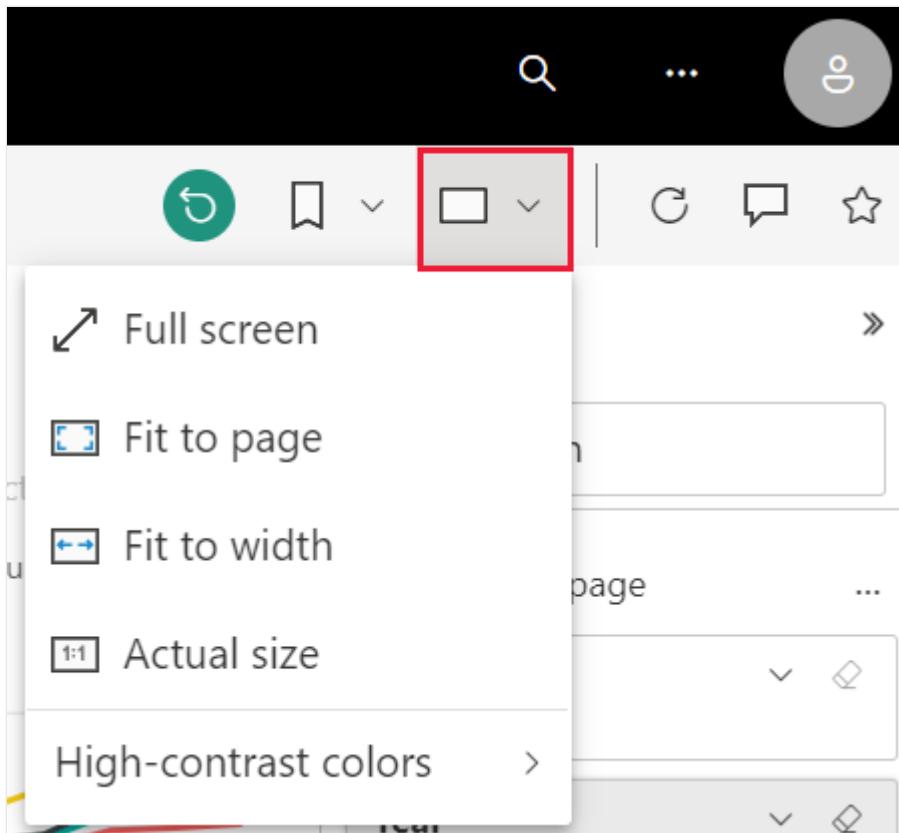
**APPLIES TO:** ✓ Power BI service for *business users* ✓ Power BI service for designers & developers ✗ Power BI Desktop ✓ Requires Pro or Premium license

You can view reports on many devices with varying screen sizes and aspect ratios. Learn how to change the display of a report page, so it fits your needs.

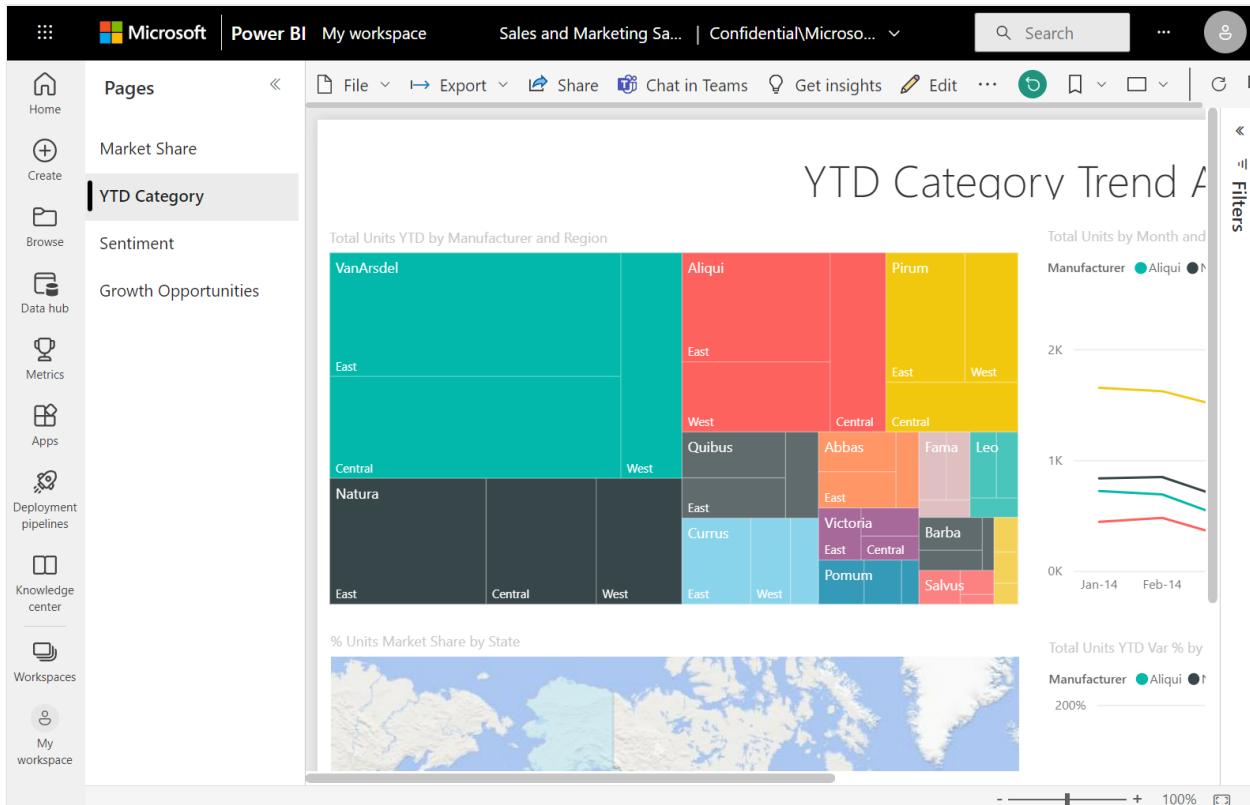


## Explore the View menu

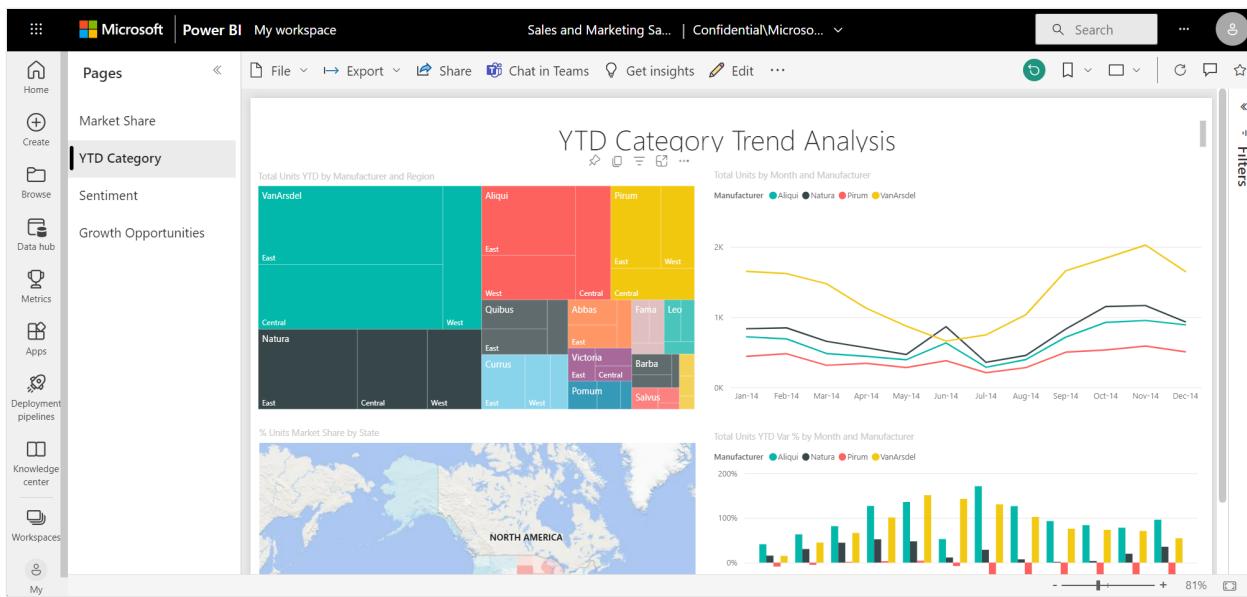
The options in the **View** menu give you flexibility to display report pages at the size and width you choose.



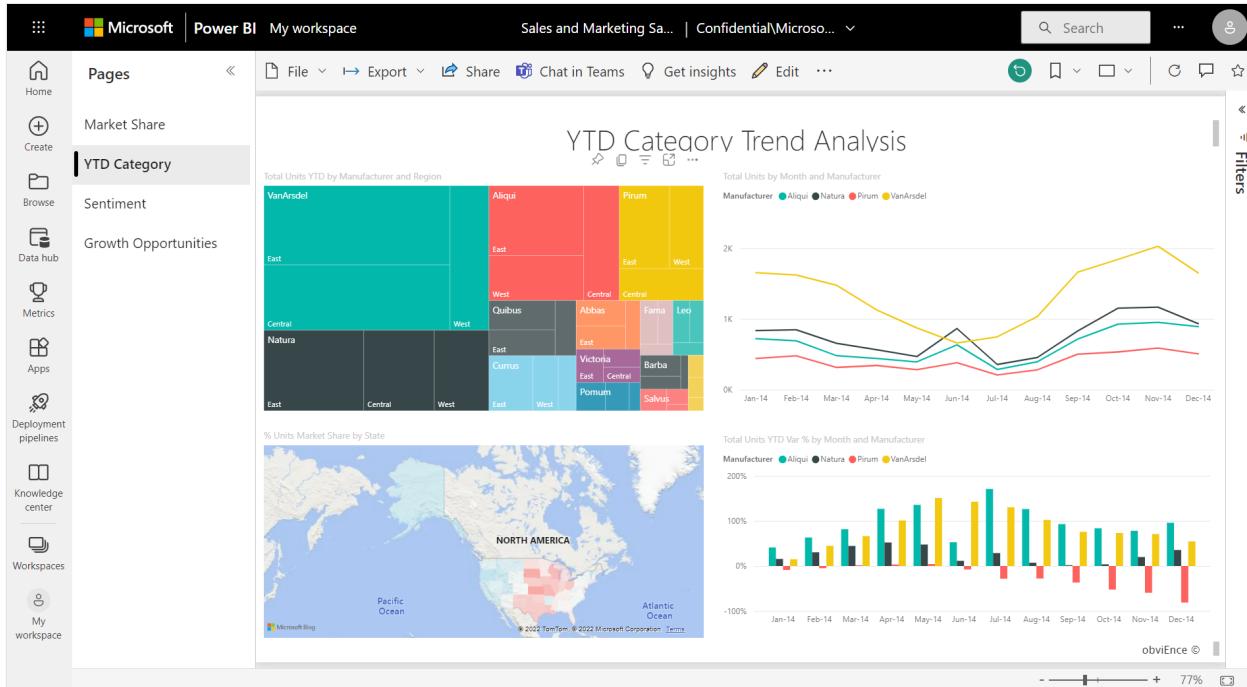
If you view a report on a small device, it might be hard to see titles and legends. Select **View > Actual size** to increase the size of the report page. Use the scroll bars to move around the report.



Fit the report to your screen width by selecting **Fit to width** from the **View** menu. Because it adjusts the width and not the height, you might need to use the vertical scroll bar.



If you don't want any scroll bars, but you want to make the best use of your screen size, select **Fit to Page** from the **View** menu.



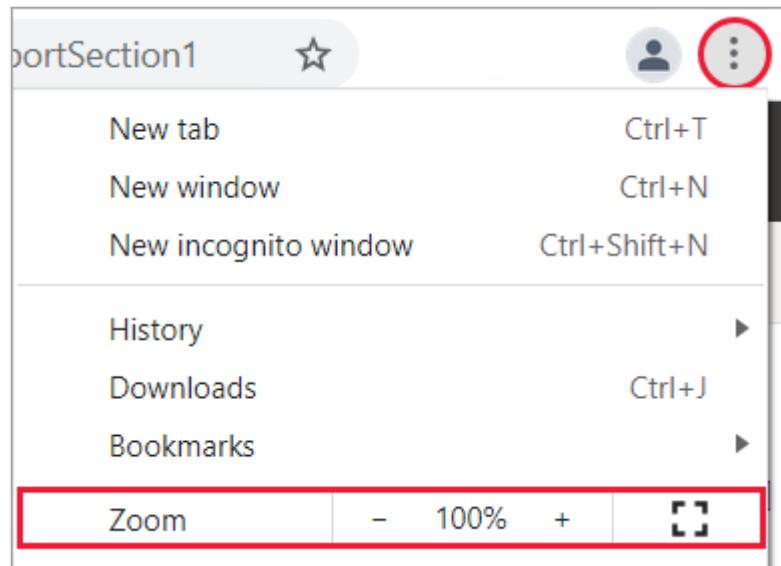
Change your display colors by selecting **High contrast colors** in the **View** menu. Select one of the options, such as High-contrast #1, High-contrast #2, High-contrast black, or High-contrast white. This feature gives people with impaired vision options to see the reports better. The example below is the High-contrast #1 option.

Select **Full screen** in the **View** menu to display your report page without menu bars and headers. Full screen is a good choice for small screens where the details might be hard to see. Full screen can also be a good choice when projecting report pages on a large screen for people to view but not interact with.

When you exit the report, your **View** settings aren't saved. The changes revert to the default view settings. If you want to save these settings, you can preserve them as a [bookmark](#).

# Use your browser to change page display

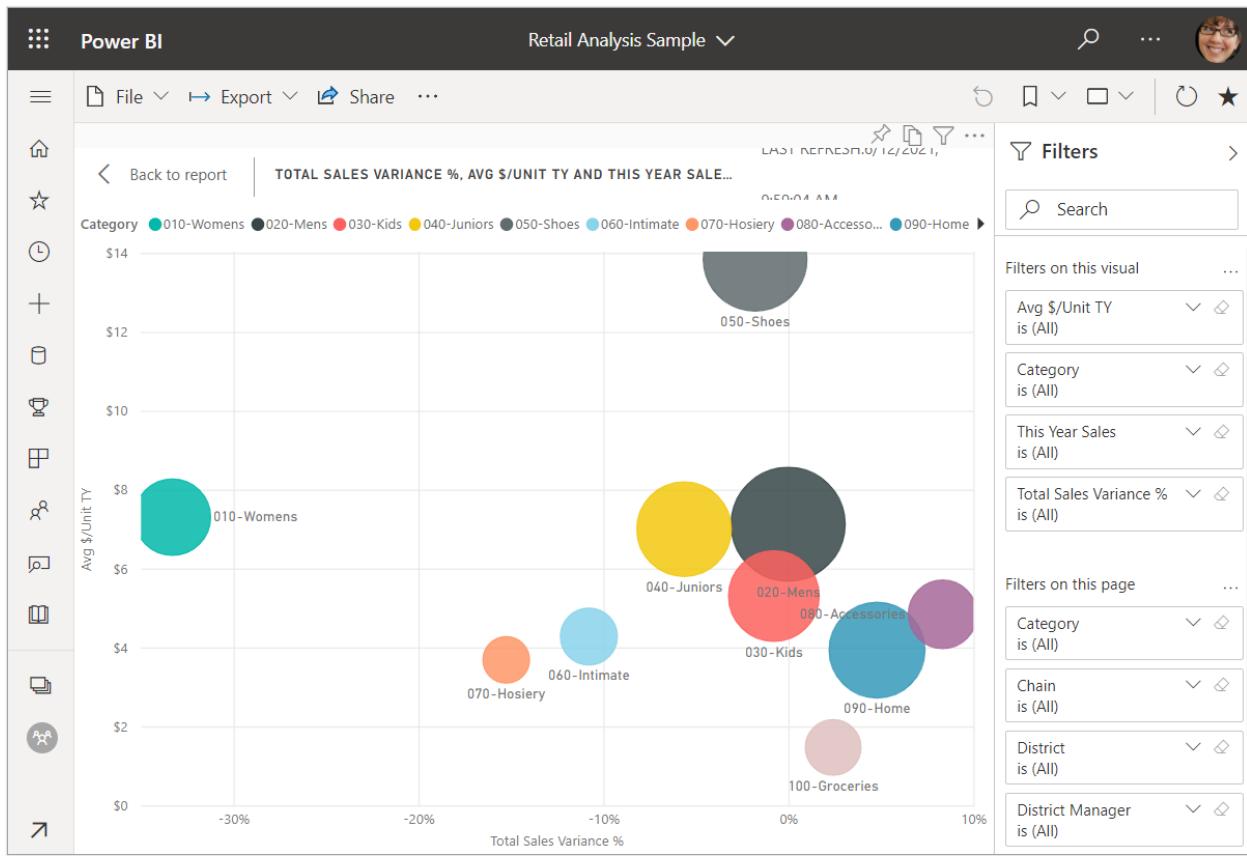
Use the zoom controls in your browser to increase or decrease the available canvas area. Decreasing the zoom expands the available canvas area, and increasing the zoom decreases the available canvas area.



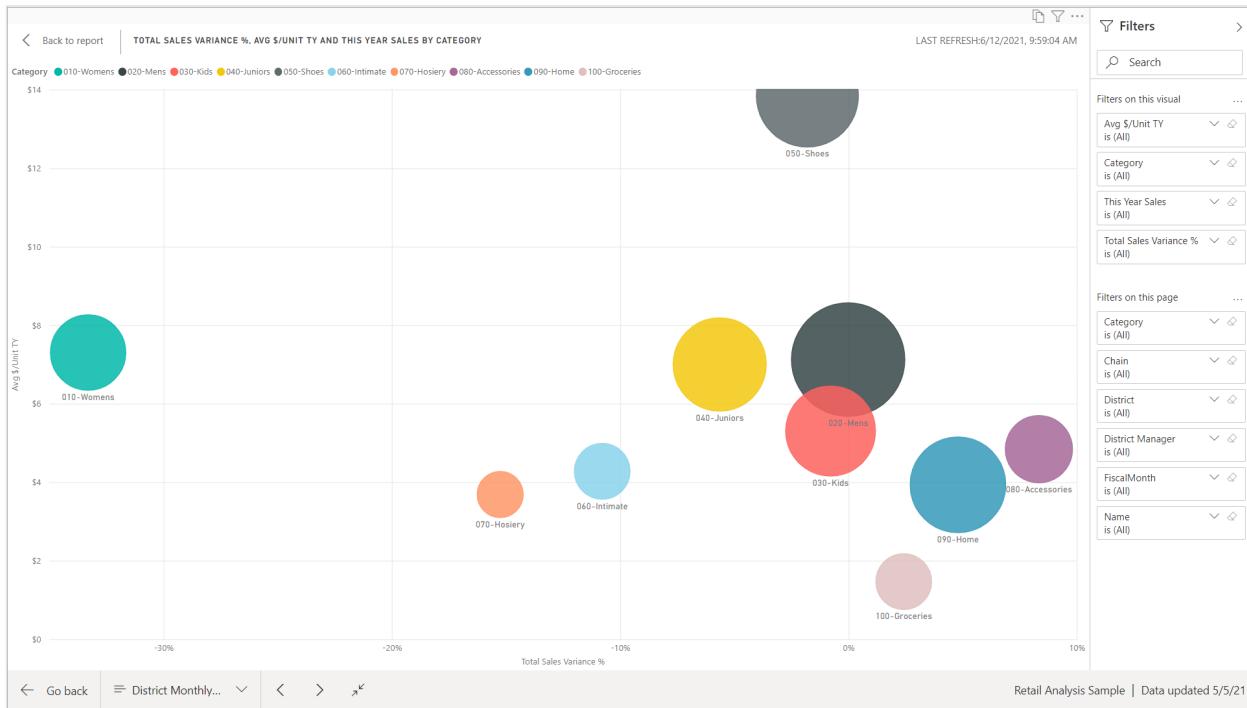
## Zoom in on a visual

Sometimes it's difficult to see the details in a visual. You can focus on one visual by itself to make it bigger by using Focus mode. For more information, see [Focus mode and Full screen mode](#).

The following example shows a visual in Focus mode.



The next example shows a visual in Full screen mode.



## Next steps

- Compare focus mode and full screen mode
- Take a tour of the report Filters pane

# Change how a chart is sorted in a Power BI report

Article • 11/10/2023

APPLIES TO:  Power BI service for **business users**  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

## Important

This article is for Power BI service users who don't have edit permissions for a report or semantic model. If you're a report designer, administrator, or owner, see [Sort one column by another column in Power BI](#) for information that is more relevant to you.

In the Power BI service, you can highlight important information in a visual by sorting data fields, like numeric data (such as sales figures) or text data (such as state names). After you sort a visual, you can [save a personalized version](#) of your changes. The Power BI service provides flexibility and quick menus that allow you to efficiently sort your visuals.

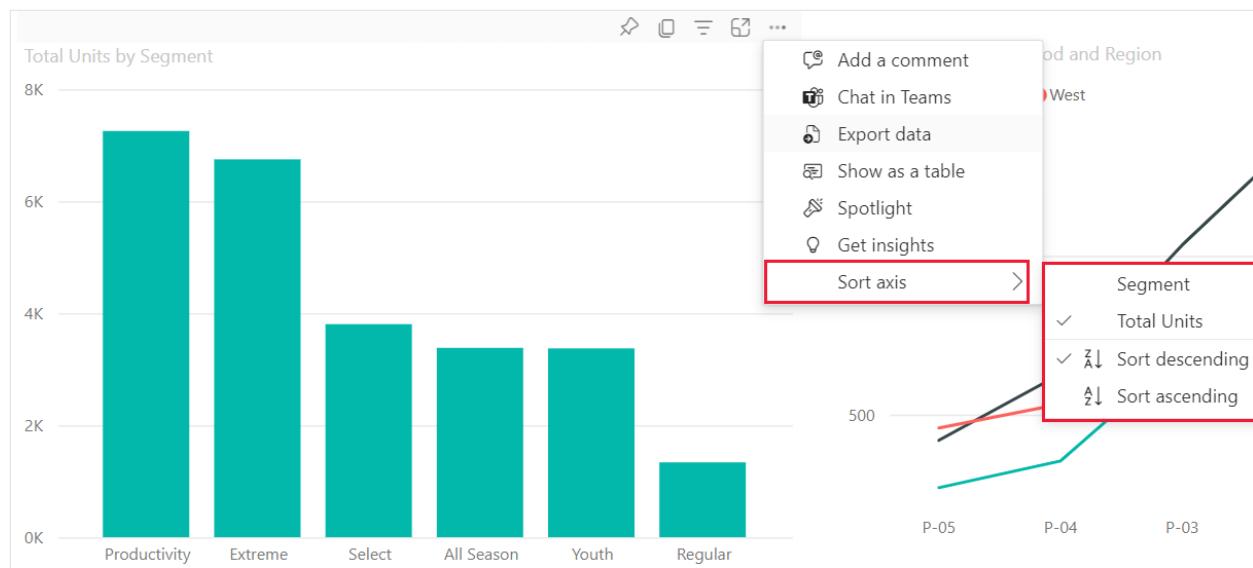
In a Power BI report, you can sort most visuals by one, and sometimes two fields, but some visuals can't be sorted, like treemaps, filled maps, scatter charts, gauge charts, waterfall charts, cards, and visuals on a dashboard.

This video demonstrates sorting features, like how to change the sort order, and introduces other features that are available in the Power BI service.

<https://www.microsoft.com/en-us/videoplayer/embed/RWRpNT?postJs||Msg=true> ↗

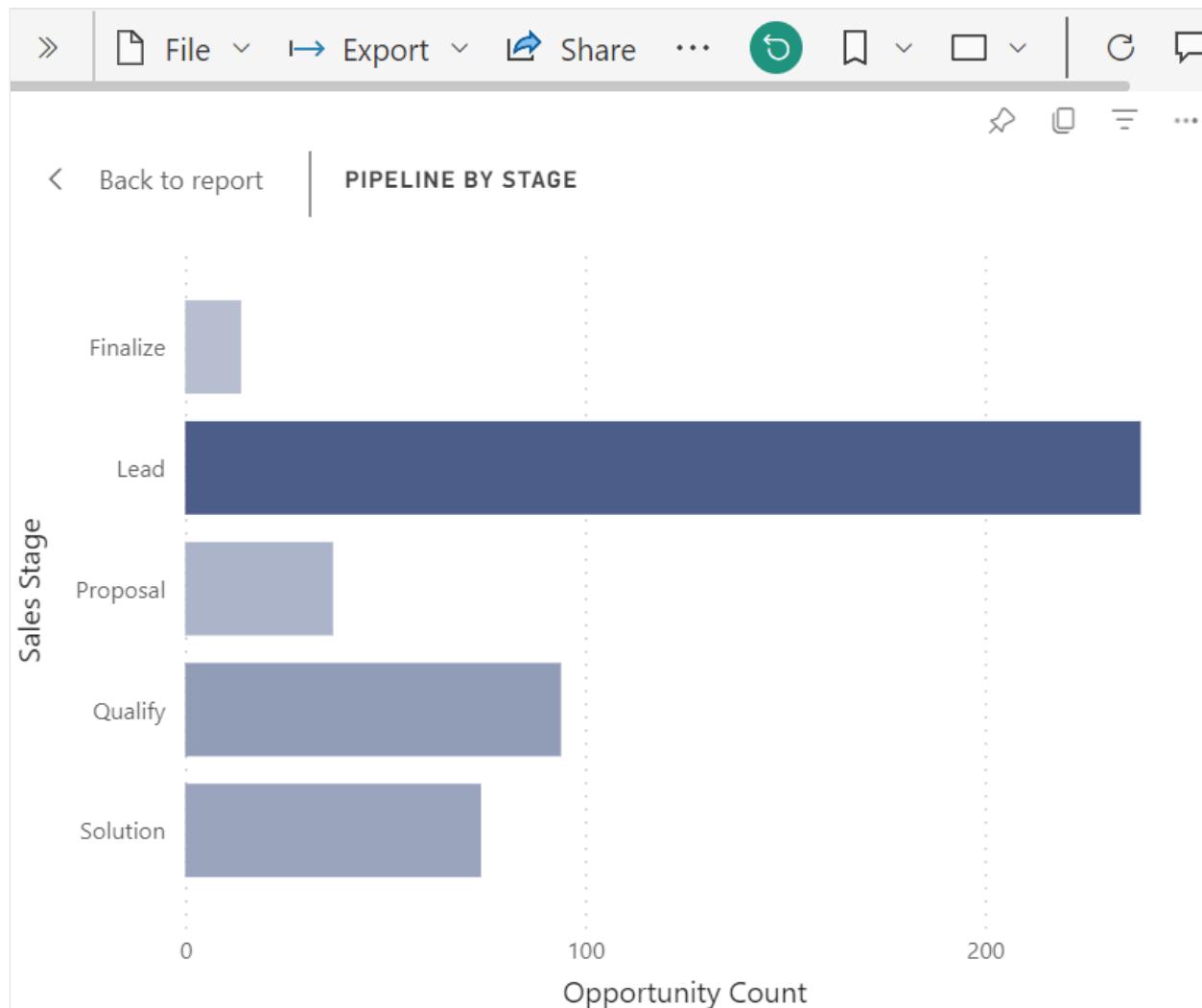
## Get started

To choose a sorting option, open any report that you've created or that has been shared with you, select a visual that can be sorted, and choose **More options (...)**. Depending on the type of visual, the sorting options are **Sort descending**, **Sort ascending**, **Sort by** and **Sort axis**.

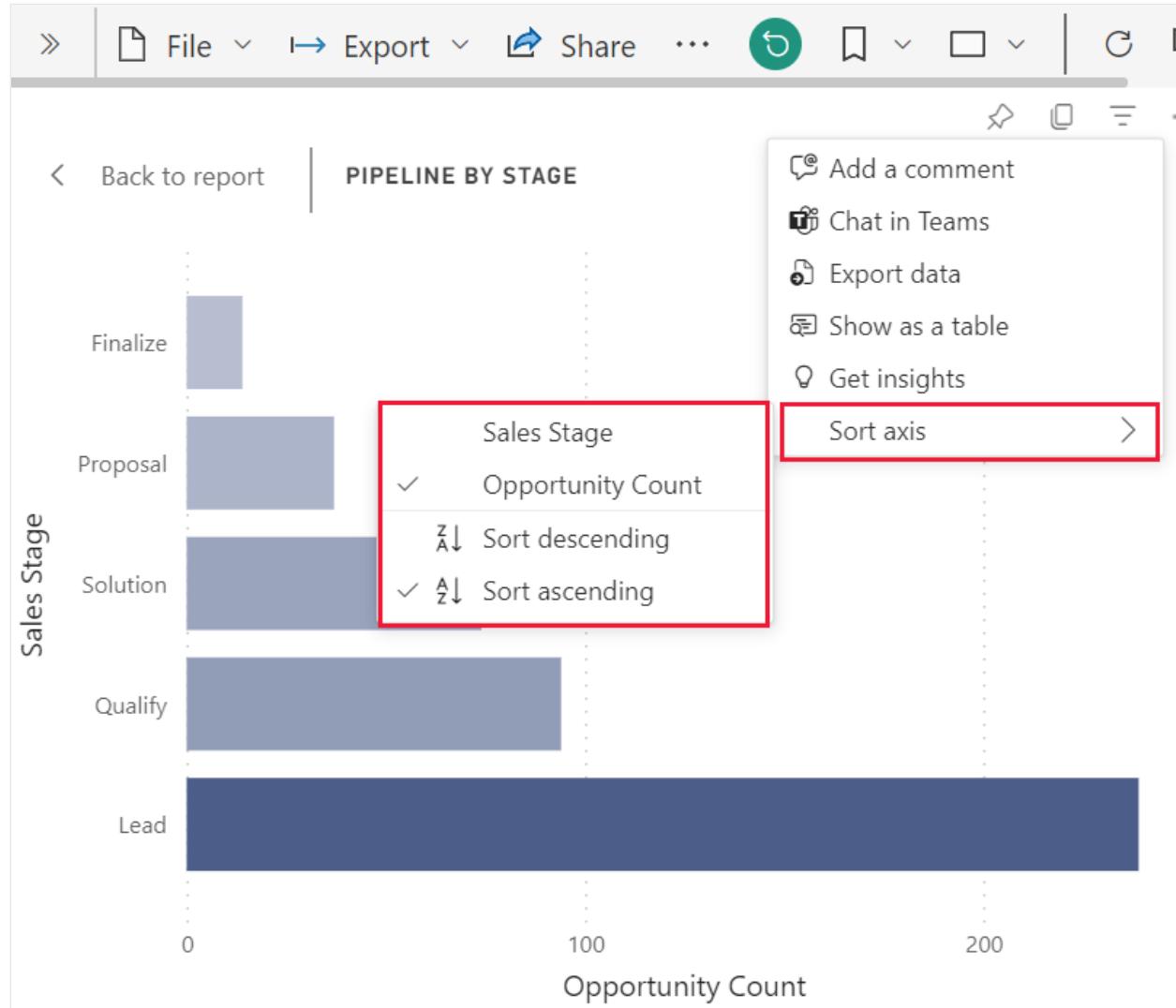


## Sort alphabetically or numerically

Visuals can be sorted alphabetically by the names of the categories in the visual or by the numeric values of each category. For example, in this chart's Y-axis, the **Sales Stage** is sorted alphabetically.



To change the sort from a category (Sales Stage) to a value (Opportunity Count), select **More actions (...)**, **Sort axis**, and then select **Sort ascending** or **Sort descending**. The following example shows the visual sorted by **Opportunity Count** in ascending order. The field and order that are sorted are indicated with a checkmark.



## Sort by multiple columns

The data in this table is sorted by **Number of customers**. The small arrow in the column header indicates that the column is sorted. The arrow points down because the column is sorted in descending order.



Number of Customers	Product	Total Revenue	Executive
30	Primus	\$55,961,396	Andrew Ma
17	MI-72	\$664,935	Andrew Ma
13	Primus	\$64,781,560	Carlos Grilo
9	Gladius	\$55,760,290	Annelie Zubar
9	Gladius	\$3,336,146	Carlos Grilo
8		\$2,846,610	Carlos Grilo
8		\$17,162,683	Valery Ushakov
7		\$17,026,576	Tina Lassila
7	Doroga	\$7,362,616	Andrew Ma
5	Sova	\$455,668	Carlos Grilo
5	Sova	\$3,215,194	Tina Lassila
4		\$903,019	Annelie Zubar
2		\$676,726	Andrew Ma
2	Gunner	\$17,190	Andrew Ma
2	MI-72	\$25,615	Annelie Zubar
2	Sova	\$4,840,440	Annelie Zubar
1	Gunner	\$49,800	Allan Guinot
1	Gunner	\$11,310	Valery Ushakov
1	Primus	\$111,225	Tina Lassila
90		<b>\$235,208,999</b>	

You can sort multiple columns to create a sorting sequence. To add more columns to the sort order, select the Shift key while also selecting the column header you would like to add next in the sort order. For example, if you select **Number of customers** and then select Shift and **Total revenue**, then the table is sorted first by customers, then by revenue. The red outlines show areas where the sort order changed.

Number of Customers	Product	Total Revenue	Executive
30	Primus	\$55,961,396	Andrew Ma
17	MI-72	\$664,935	Andrew Ma
13	Primus	\$64,781,560	Carlos Grilo
9	Gladius	\$55,760,290	Annelie Zubar
9	Gladius	\$3,336,146	Carlos Grilo
8		\$17,162,683	Valery Ushakov
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7		\$17,026,576	Tina Lassila
7	Doroga	\$7,362,616	Andrew Ma
5	Sova	\$3,215,194	Tina Lassila
5	Sova	\$455,668	Carlos Grilo
4		\$903,019	Annelie Zubar
2	Sova	\$4,840,440	Annelie Zubar
2		\$676,726	Andrew Ma
2	MI-72	\$25,615	Annelie Zubar
2	Gunner	\$17,190	Andrew Ma
1	Primus	\$111,225	Tina Lassila
1	Gunner	\$49,800	Allan Guinot
1	Gunner	\$11,310	Valery Ushakov
90		\$235,208,999	

If you select Shift and then select the same column a second time, the sort direction (ascending or descending) is changed. If you select Shift and select a column you've previously added to the sort order, that column moves to the back of the sort order.

## Save your sort order changes

Power BI reports retain the filters, slicers, sorting, and other data view changes that you make, even if you're working in [Reading view](#). So, if you navigate away from a report, and return later, your sorting changes are saved. To revert your changes back to the report designer's settings, select **Reset to default** from the top menu on the report page.



Reset to default

The report designer can prevent changes from being saved. If they do, the **Reset to default** button is greyed out.

You can also save your changes with [bookmarks](#). If the report designer enables the **Personalize visual** feature for the report, you can change the sort order of a visual and

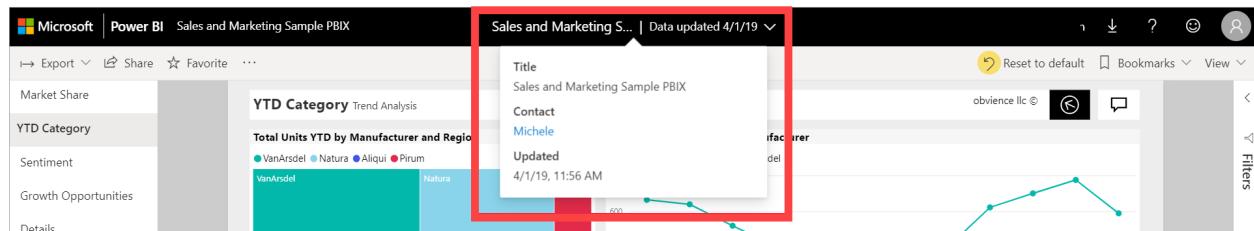
save it as a bookmark. If you see the personalize visual icon  in the visual's header, this feature is enabled. You don't need edit permissions to use this feature.

For more information, see [Personalize visuals in a report](#).

## Sort by other criteria

Sometimes you want to sort your data by using a field that isn't included in the visual. For example, you might want to sort by month in sequential order (and not in alphabetical order) or you might want to sort by entire numbers instead of by digit (example, 0, 1, 9, 20 and not 0, 1, 20, 9).

- To learn how to sort by a different field in the semantic model, see [Sort one column by another column in Power BI](#). To use this feature, you must have edit permissions for the report.
- If you're the report designer, you can create new columns in the semantic model to address sorting issues with values, such as dates and numbers. The designer's contact information is listed in the report title's menu.



## Next steps

More about [Interactions with visuals in reports, dashboards, and apps](#).

[Basic concepts for the Power BI service business user](#).

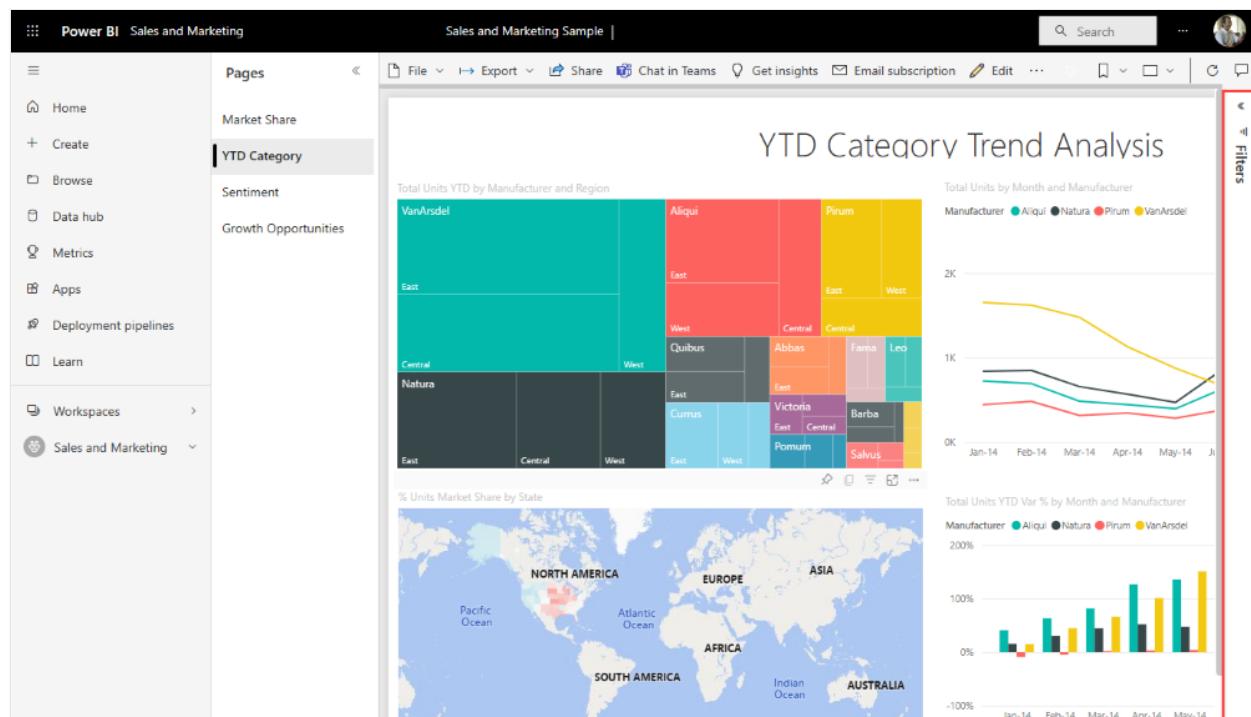
# Take a tour of the report Filters pane

Article • 03/23/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

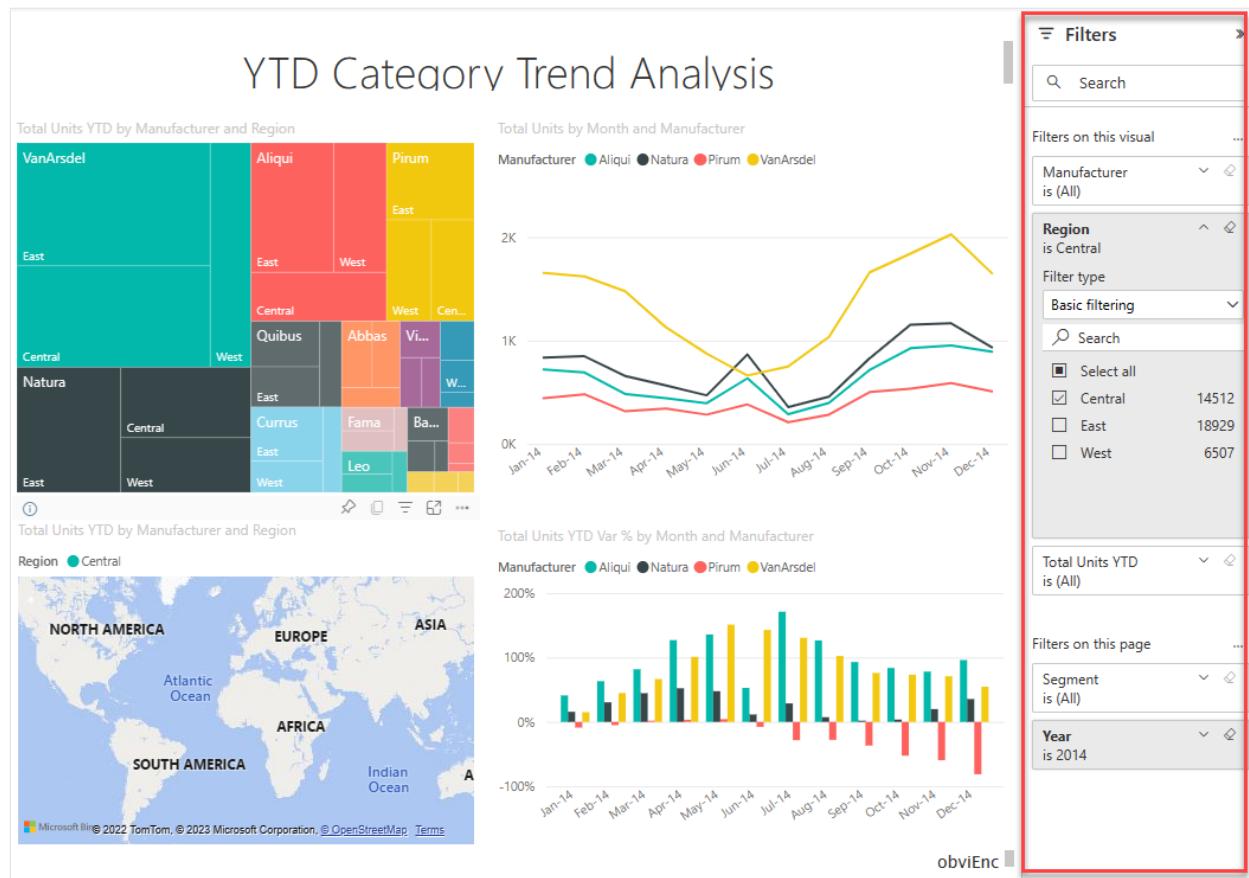
This article explains how to use the report **Filters** pane in the Power BI service. You can use filters to discover new insights in your data.

There are many different ways to filter data in Power BI. For example, you can filter data by selecting data points on a report visual to filter other visuals on the page—this is called **cross-filtering** and **cross-highlighting**. For more information, see [How visuals cross-filter each other in a Power BI report](#).



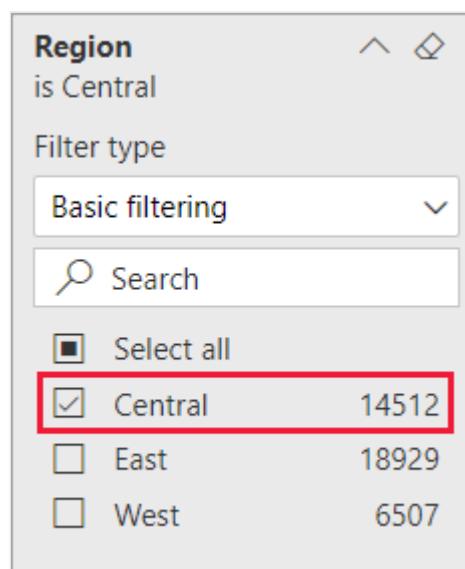
## Work with the report Filters pane

When a colleague shares a report with you, make sure to look for the **Filters** pane. Sometimes it's collapsed along the right edge of the report. Select the Filers pane to expand it.



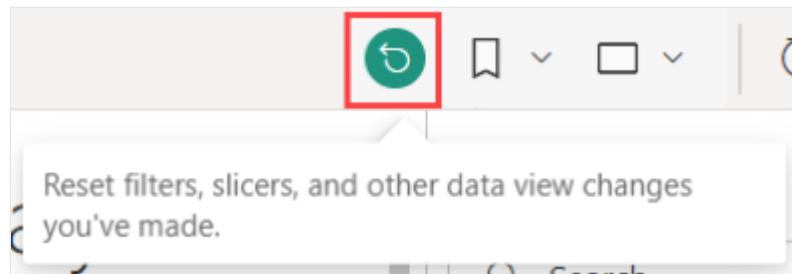
The **Filters** pane contains filters that the report *designer* adds to the report. *Business users* can interact with the existing filters and save changes. However, they can't add new filters to the report. In the previous example, the designer added three page-level filters: **Segment is All**, **Year is 2014**, and **Region is Central**. You can interact and change these filters, but you can't add a fourth page-level filter.

Some of the filters are shaded, and some aren't. If a filter is shaded, it means a filter has been applied, and some data is excluded. In the following example, the **Region** filter card is shaded and expanded. The **Central** option is the only option selected from the dropdown. Since Region is under the **Filters on this page** heading, all visuals on this page aren't displaying. The data from **West** and **East** regions are excluded.



In the Power BI service, reports keep any changes you make in the **Filters** pane. The service carries those changes through to the mobile version of the report.

To reset the **Filters** pane to the designer's defaults, select the **Reset** icon from the top menu bar.



 **Note**

If you don't see the **Reset to default** option, the report *designer* might have disabled it. The *designer* can lock specific filters so that you can't change them.

## View all the filters for a report page

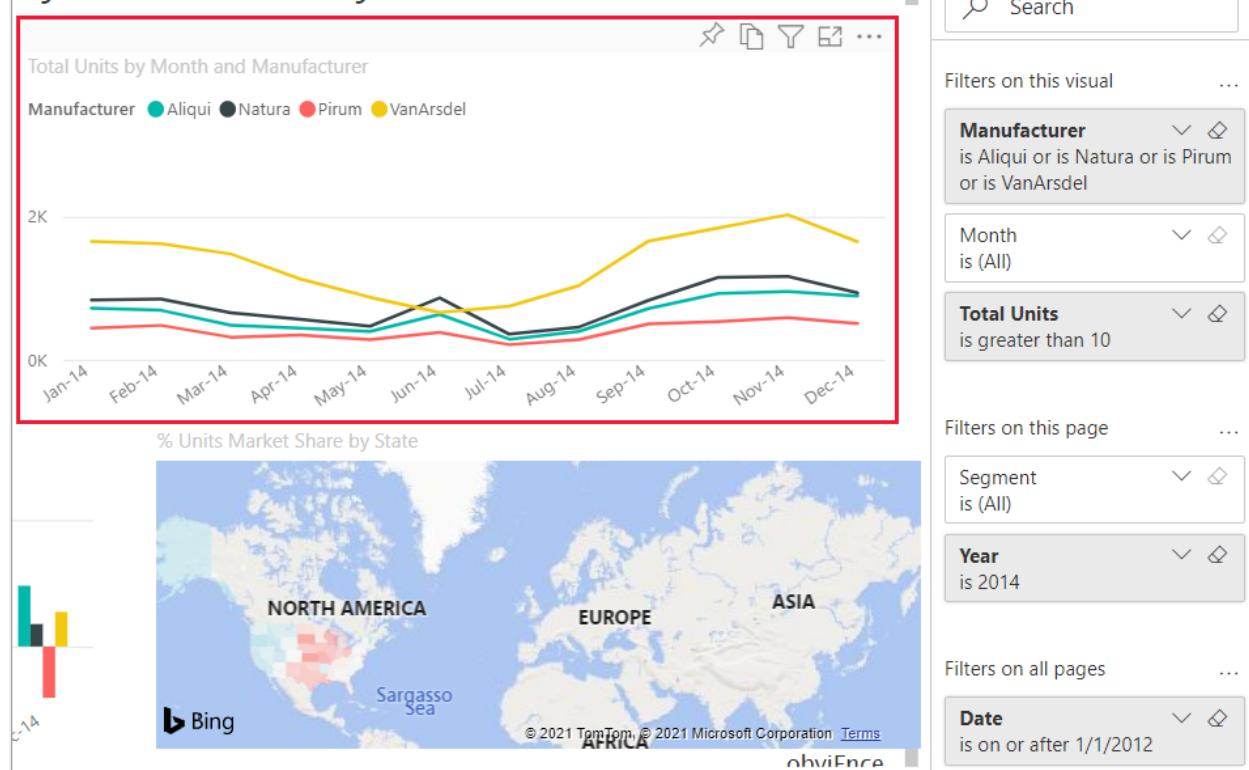
The **Filters** pane displays all filters added by the designer to the report. The **Filters** pane is also the area where you can view information about the filters and interact with them. You can save changes or use **Reset to default** to revert to the original filter settings.

If there are changes you'd like to save, you can also create a personal bookmark. For more information, see [Bookmarks in the Power BI service](#).

The **Filters** pane displays and manages several types of report filters: report, report page, and visual.

In the following example, you can see a visual that has three filters: **Manufacturer**, **Month**, and **Total units**. The report page also has filters listed under the **Filters on this page** heading. The entire report has a filter for **Date**, listed under **Filters on all pages**.

# January Trend Analysis

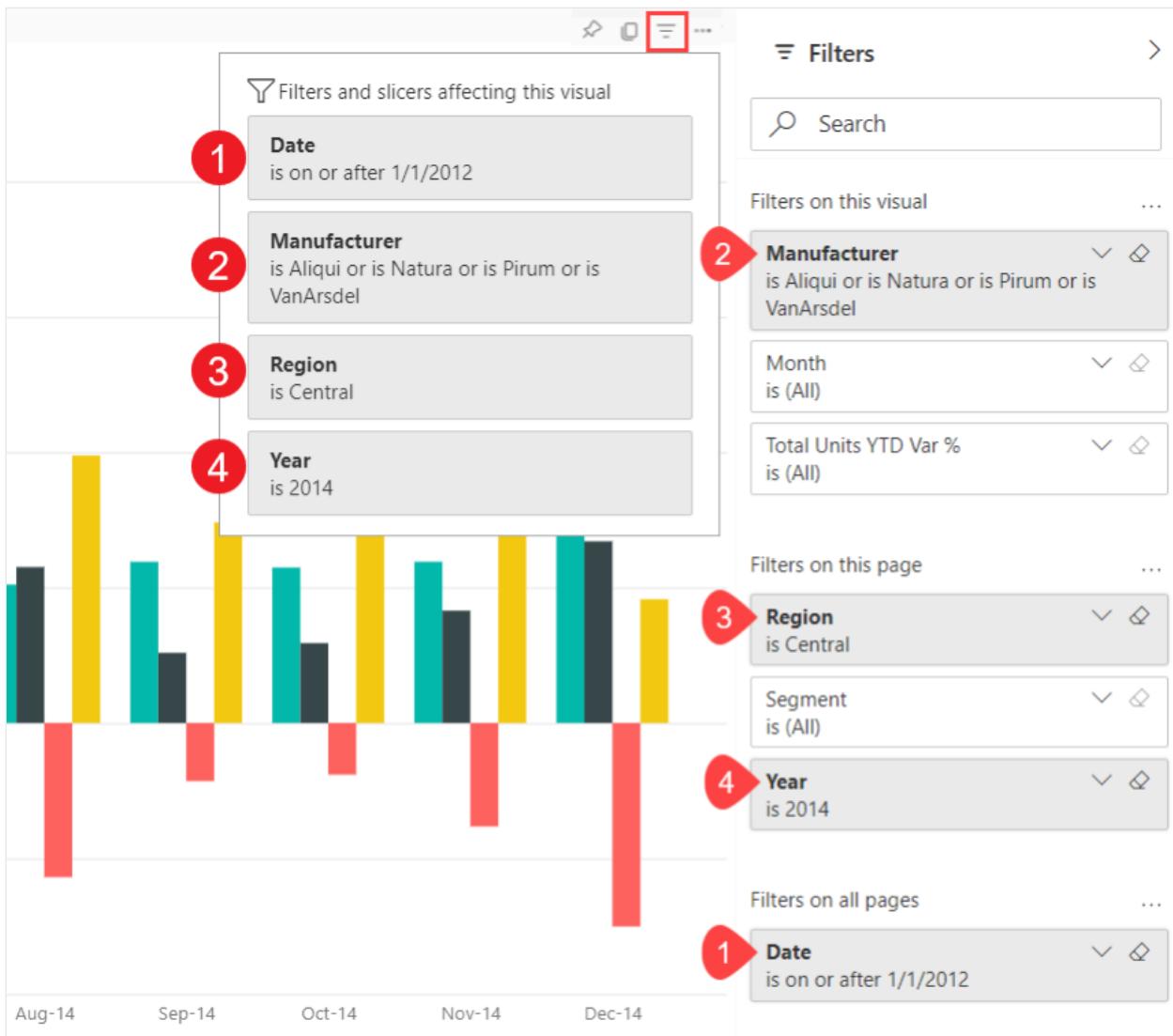


Some of the filters have (All) next to them. (All) means all values are being included in the filter. In the previous screenshot, Segment(All) tells us this report page includes data about all the product segments.

Anyone with permissions to view this report can interact with these filters.

## View filters applied to a visual

To get a closer look at the filters affecting a specific visual, hover over the visual to reveal the filter icon . Select that filter icon to see a pop-up window with all the filters and slicers affecting that visual. The filters in the pop-up window are the same filters displayed on the Filters pane, plus any other filters affecting the selected visual.



Types of filters in the pop-up window include:

- Basic filters
- Slicers
- Cross-highlighting
- Cross-filtering
- Advanced filters
- Top N filters
- Relative Date filters
- Sync-slicers
- Include/Exclude filters
- Filters passed through a URL

In this example:

1. **Date** is a filter applied to all pages in this report.
2. **Manufacturer** is **VanArsdel**, **Natura**, **Aliqui**, or **Pirum** is a filter applied to this visual.

3. Region is Central and Year is 2014 are filters applied to this report page.

4. Year is a filter applied on this report page.

## Search in a filter

Sometimes a filter can have a long list of values. Use the search box to find and select the value you want.

The screenshot shows a 'Filters on this page' panel. At the top is a 'Segment' filter with '(All)' selected. Below it is a 'Filter type' dropdown set to 'Basic filtering'. A search bar contains the text 'pro', which is highlighted with a red rectangle. Below the search bar is a list of items: 'Productivity' with a count of 598. To the left of the search bar is a small magnifying glass icon.

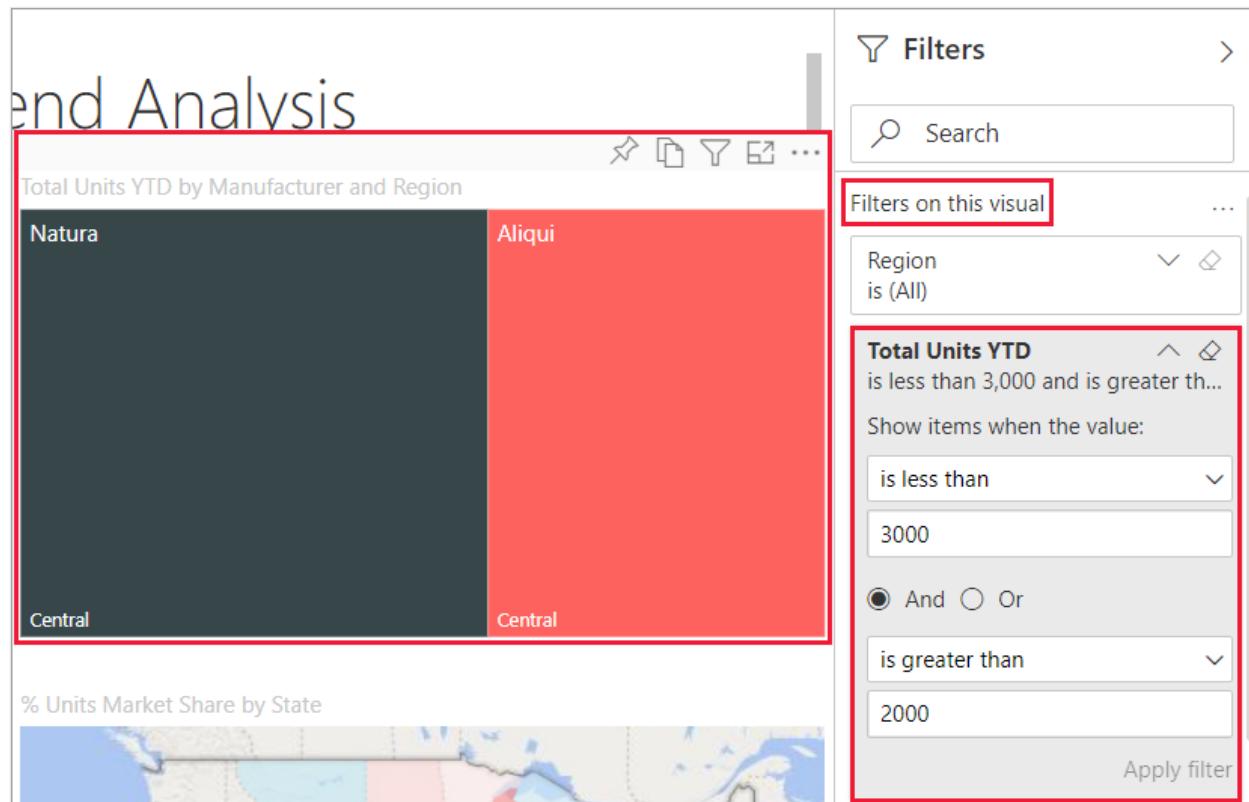
## Display filter details

To understand a filter, expand it and look at the available values and counts. To expand the filter, select the arrow next to the filter name.

The screenshot shows a detailed view of a 'Region' filter. The filter name 'Region' is at the top, followed by the value 'is Central' and an expand arrow (highlighted with a red rectangle). The 'Filter type' is 'Basic filtering'. A search bar contains the placeholder 'Search'. Below are four filter options: 'Select all' (unchecked), 'Central' (checked, count 14512), 'East' (unchecked, count 18929), and 'West' (unchecked, count 6507).

## Change filter selections

One way to search for data insights is to interact with the filters. You can change filter selections by using the drop-down arrow next to the field name. Depending on the filter and type of data that Power BI is filtering, your options range from simple selections from a list, to identifying ranges of dates or numbers. See the advanced filter example. Notice the change in the **Total Units YTD** filter on the treemap between 2,000 and 3,000. This change removes Pirum and VanArsdel from the treemap.

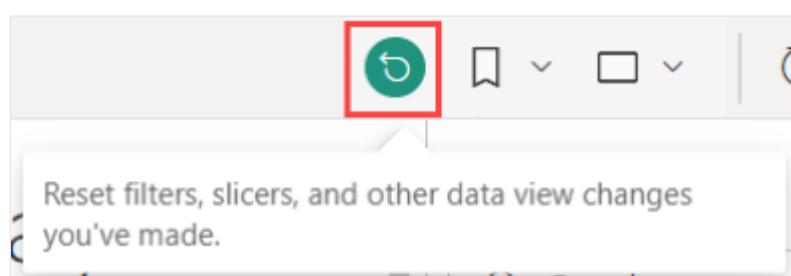


### 💡 Tip

To select more than one filter value at a time, hold down the **CTRL** key. Most filters support multi-select.

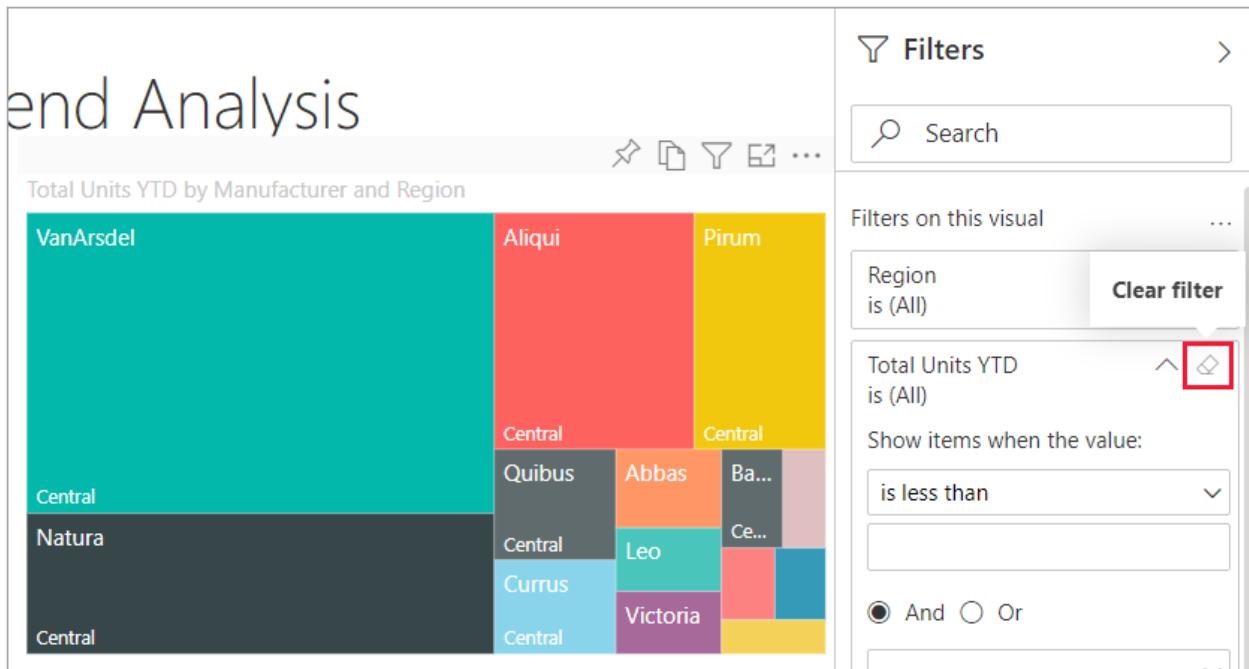
## Reset filter to default

If you don't want to keep the changes you've made to the filters, select the **Reset** icon from the top menu bar. This selection reverts the filters to their original state, as set by the report designer.



## Clear a filter

To reset a filter to (All), clear it by selecting the eraser icon next to the filter name.



## Next steps

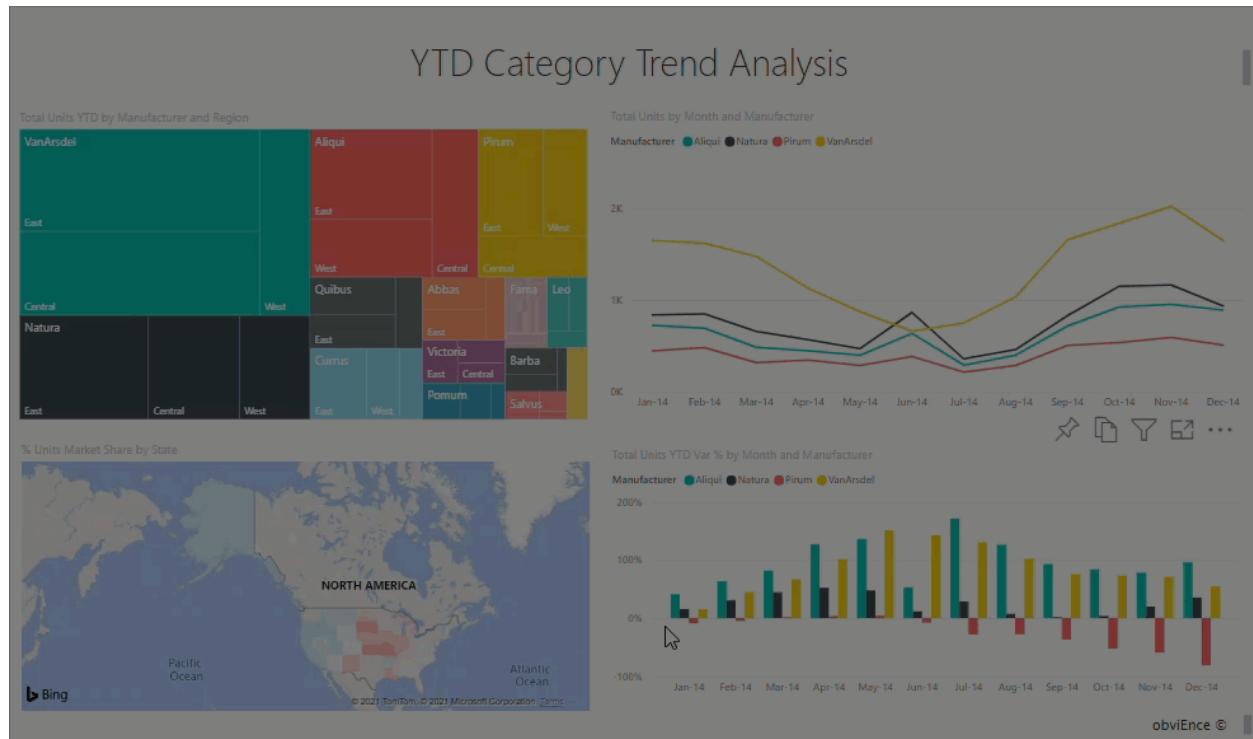
- How visuals cross-filter each other in a Power BI report

# How visuals cross-filter each other in a Power BI report

Article • 03/17/2023

APPLIES TO:  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

One of the great features of Power BI is the way all visuals on a report page are interconnected. If you select a data point on one of the visuals, all the other visuals on the page that contain the same data change based on your selection.



## How visuals interact with each other

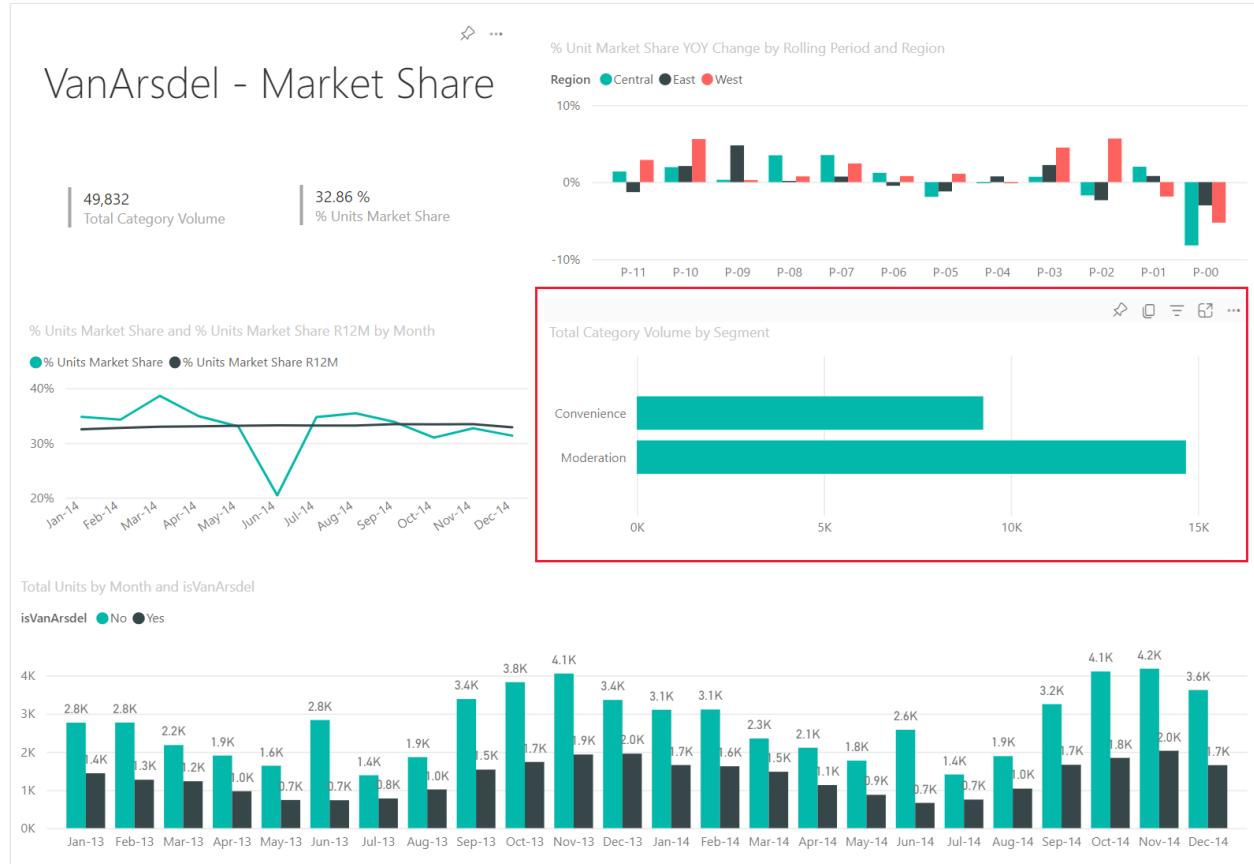
By default, selecting a data point in one visual on a report page will cross-filter or cross-highlight the other visuals on the page. The report *designer* sets how the visuals on a page interact. *Designers* have options to turn visual interactions on and off, and to change the default cross-filtering, cross-highlighting, and [drilling](#) behavior.

If you haven't encountered hierarchies or drilling yet, you can learn all about them by reading [Drill down in Power BI](#).

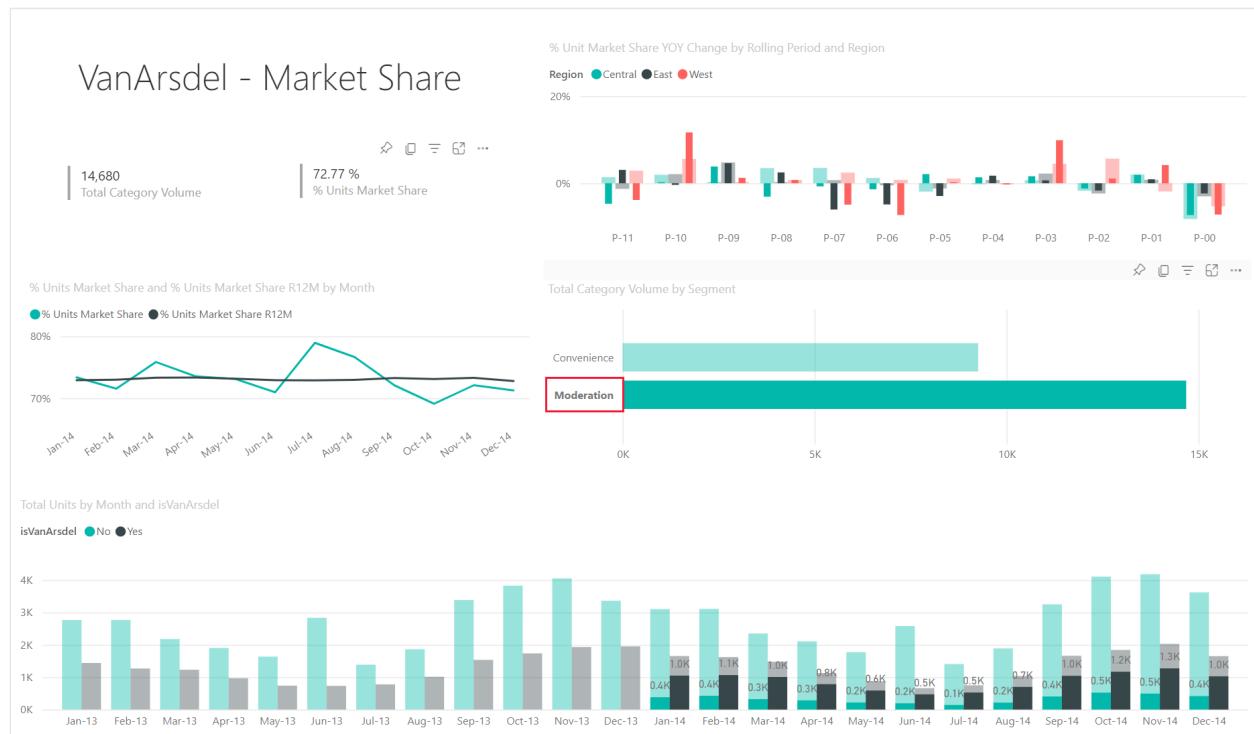
## Cross-filter and cross-highlight

Cross-filtering and cross-highlighting can be useful to identify how one value in your data contributes to another. The terms *cross-filter* and *cross-highlight* are used to distinguish the behavior described here from what happens when you use the **Filters** pane to filter and highlight visuals.

The following report pages show examples of cross-filtering and cross-highlighting. The **Total Category Volume by Segment** bar chart has two values, **Moderation** and **Convenience**.



In the following example, **Moderation** is selected.

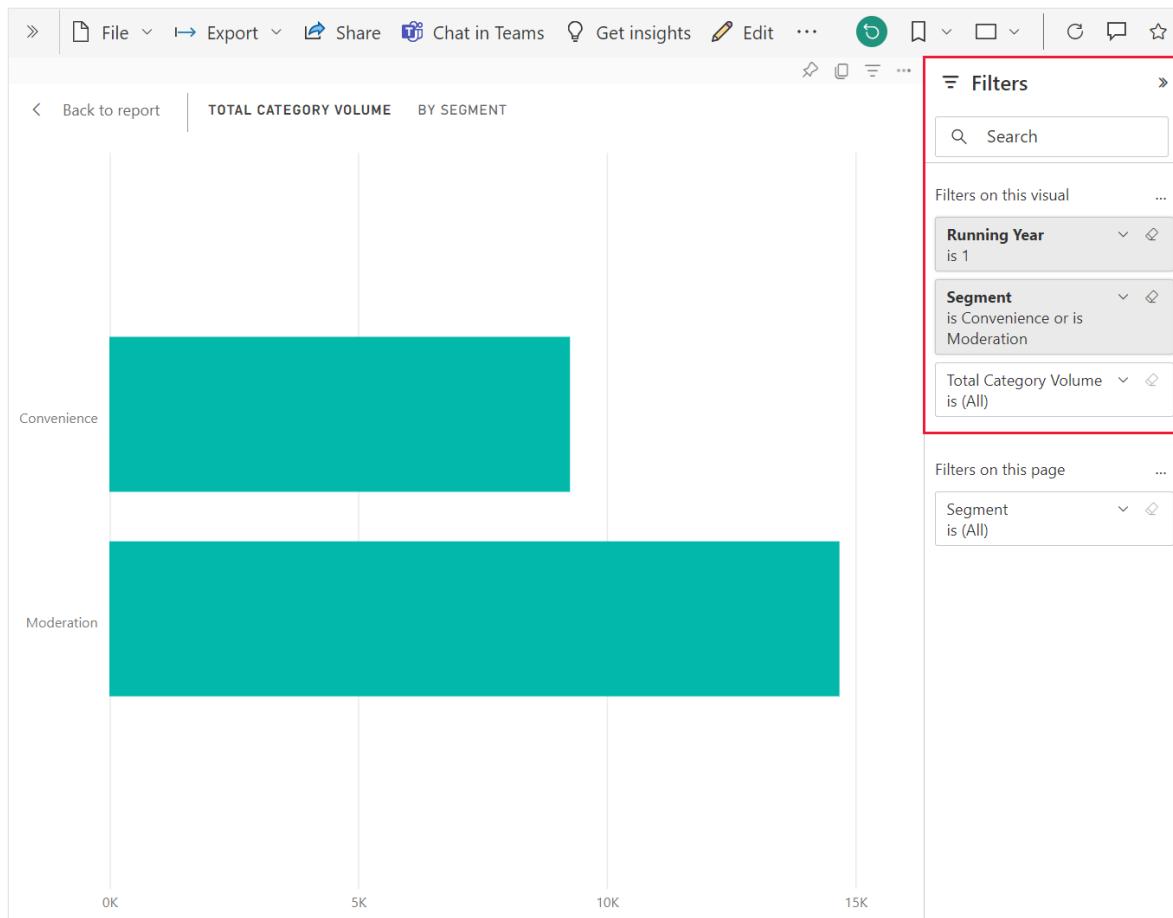


Because **Moderation** is selected on the bar chart:

- **Cross-filtering** removes data that doesn't apply. Selecting **Moderation** in the bar chart cross-filters the line chart. The line chart now only displays data points for the Moderation segment.
- **Cross-highlighting** retains all the original data points but dims the portion that doesn't apply to your selection. Selecting **Moderation** in the bar chart cross-highlights the column chart. The column chart dims all the data that applies to the Convenience segment and highlights all the data that applies to the Moderation segment.

## Considerations and troubleshooting

- If your report has a visual that supports **drilling**, by default, drilling one visual has no effect on the other visuals on the report page. However, the report *designer* can change this behavior, so check your drillable visuals to see if **drilling filters other visuals** has been enabled by the report *designer*.
- Visual-level filters are retained when cross-filtering and cross-highlighting other visuals on the report page. So, if VisualA has visual-level filters applied by the report designer or by you, and you use VisualA to interact with VisualB, visual-level filters from VisualA will be applied to VisualB.



- If the tables have no hierarchical relationships, slicing up the measures (often referred as complex slicers) might result in an error. If you have access to the logs, you'll see the message "Measures are not allowed with complex slicers unless they have a filter context change". To avoid this situation, don't use complex slicers or remodel the relationships to get the desired output.

## Next steps

[Take a tour of the report Filters pane](#)

# Slicers in the Power BI service

Article • 11/30/2020

APPLIES TO:  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license



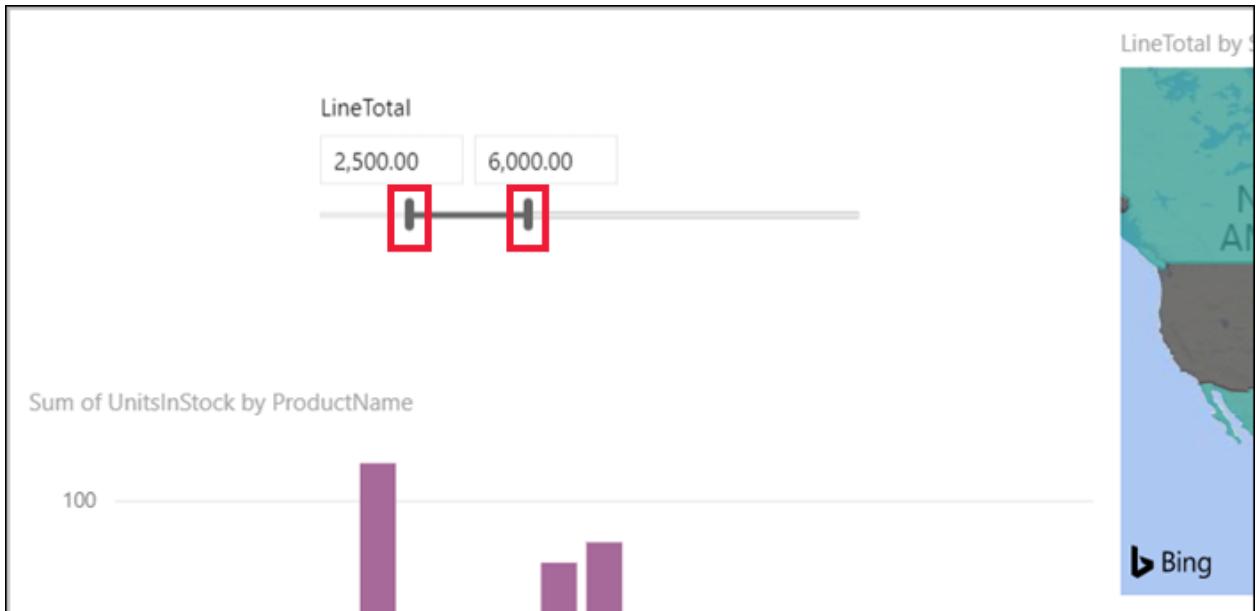
A slicer is a type of visual that filters the other visuals on a report page. When using Power BI reports, you'll discover many types of slicers. The image, above, shows the same slicer but with different selections. Notice how each selection filters the other visuals on the page.

## How to use slicers

When creating reports, *designers* add slicers to help tell a story and to give you tools to explore your data.

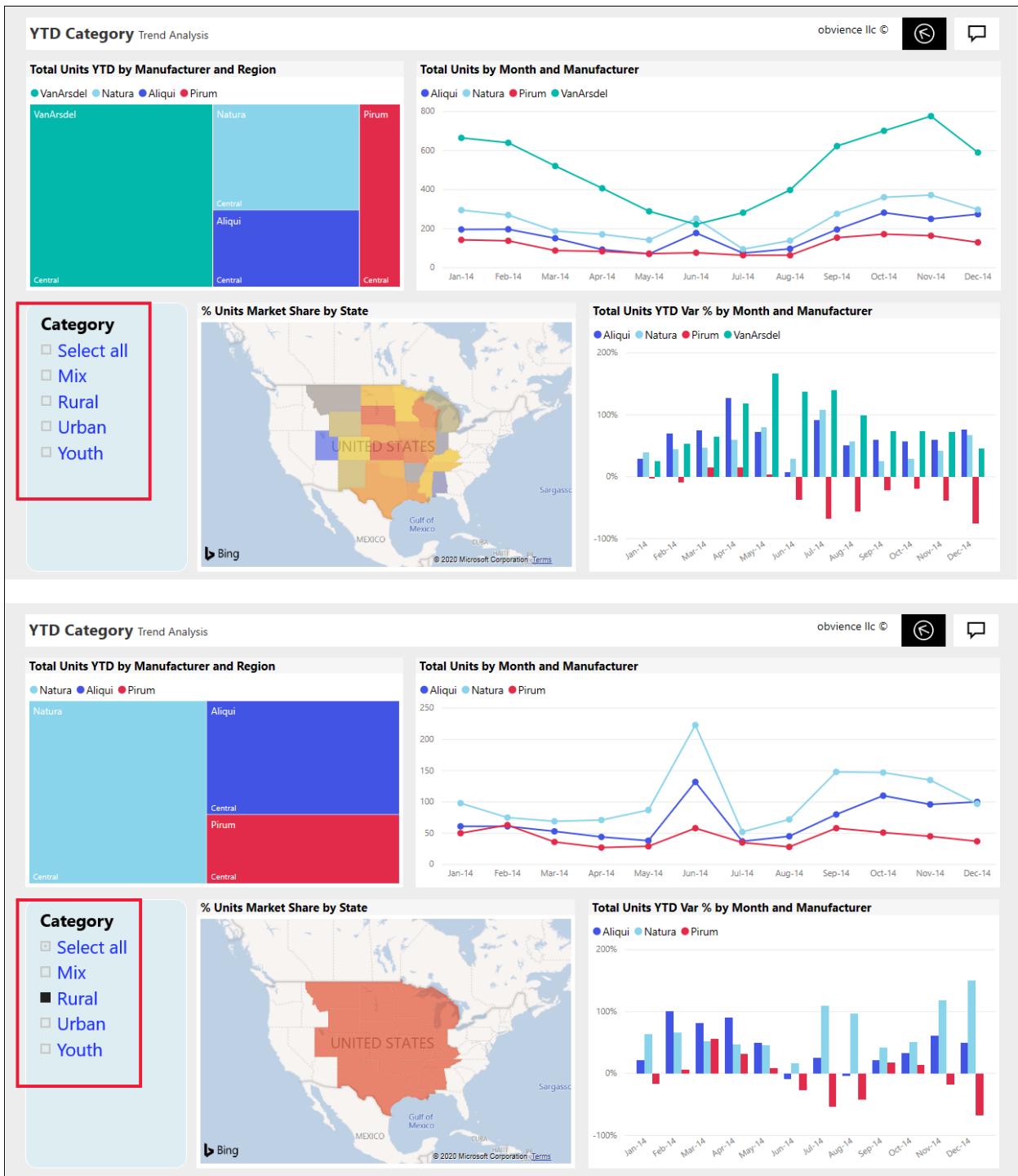
### Numeric range slicer

The numeric range slicer helps you explore quantitative data such as total sales by geography, units in stock, and order date. Use the handles to select a range.



## Basic vertical checkbox slicer

In a basic checkbox slicer, select one or more checkboxes to see the impact on the other visuals on the page. To select more than one, use CTRL-select. Sometimes, the report *designer* will set the slicer to only allow you to select one value at a time.



## Image and shape slicers

When the slicer options are images or shapes, making your selections is similar to using checkboxes. You can choose one or more image or shape to apply the slicer to the other visuals on the page.



ShipCountry

A horizontal button bar labeled 'ShipCountry'. It contains six individual country buttons: Argentina, Austria, Belgium, Brazil, Canada, and Denmark. To the right of the Denmark button is a right-pointing arrow symbol.

District Manager

A 4x2 grid of names for district managers. The names are arranged as follows:

Row 1	Column 1	Column 2
Select all	Brad Sutton	Tina Lassila
Allan Guinot	Carlos Grilo	Valery Ushakov
Andrew Ma	Chris Gray	
Annelie Zubar	Chris McGurk	

Hierarchy slicer

In a slicer with a hierarchy, use the chevrons to expand and collapse the hierarchy. The header updates to show your selections.

**Category, Segment: Multiple selections**

- Select all
- Mix
- Rural
- Urban
  - Convenience
  - Extreme
  - Moderation
  - Regular
- Youth

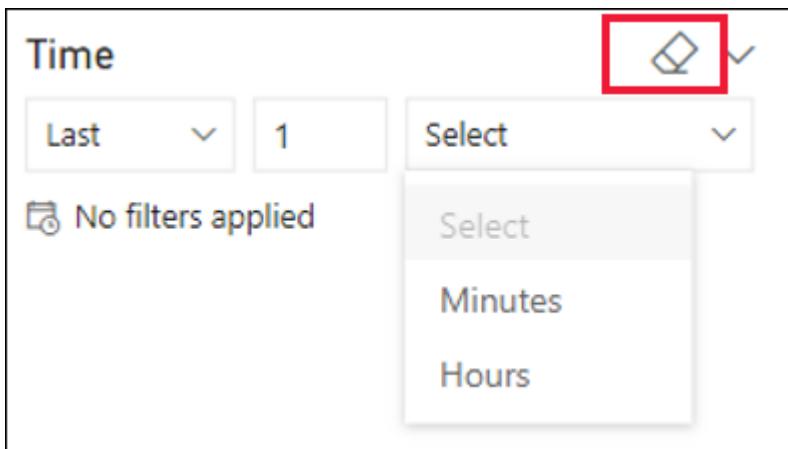
## Relative time slicer

With emerging fast refresh scenarios, the ability to filter to a smaller window of time can be very useful. Using the relative time slicer, you can apply time-based filters to any date or time data in your report. For example, you can use the relative time slicer to show only video views within the last 2 days, hours, or even minutes.



## Deactivate a slicer

To deactivate a slicer, select the eraser icon.



## Next steps

For more information, see the following articles:

[Visualization types in Power BI](#)

# Identify and use buttons in the Power BI service

Article • 03/23/2023

In the reports you receive from colleagues, you might have noticed buttons and wondered how to use them. Some buttons have words, some have arrows, others have graphics, and some even have dropdown menus. This article shows you how to recognize and use buttons.

For information on how to add buttons to reports, see [Create buttons in Power BI reports](#).

## How to recognize a button

A button can resemble a shape, image, or icon from a report page, but if an action occurs when you select it, then it's probably a button.

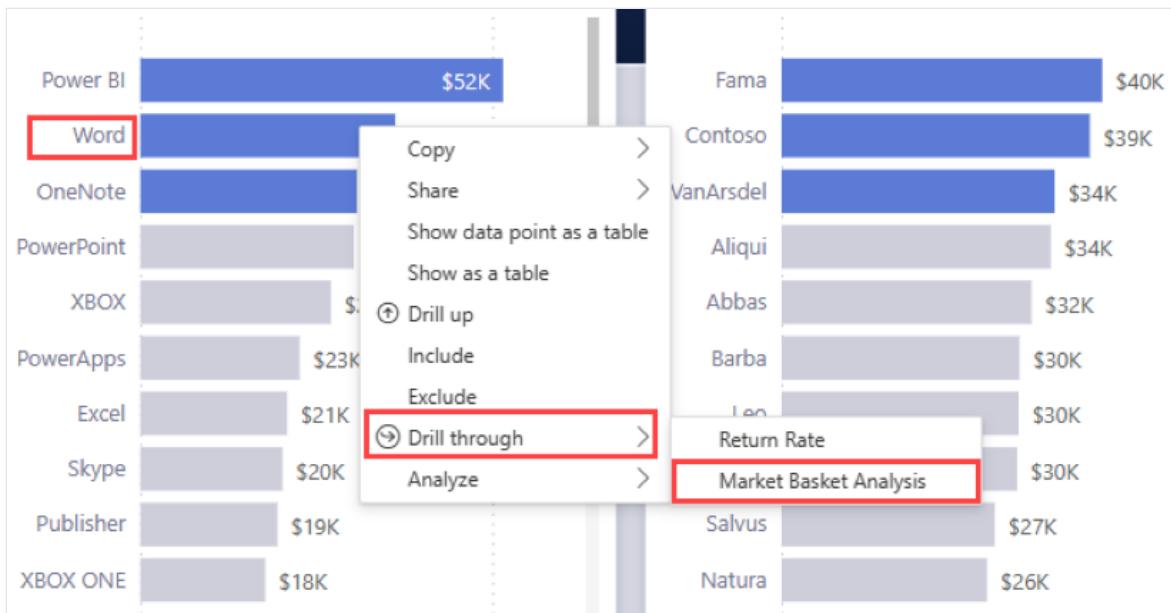
## Types of buttons

Report creators add buttons on reports to help you with navigation and exploration. Here are some button types: back, bookmark, arrow, Q&A, help, and blank.

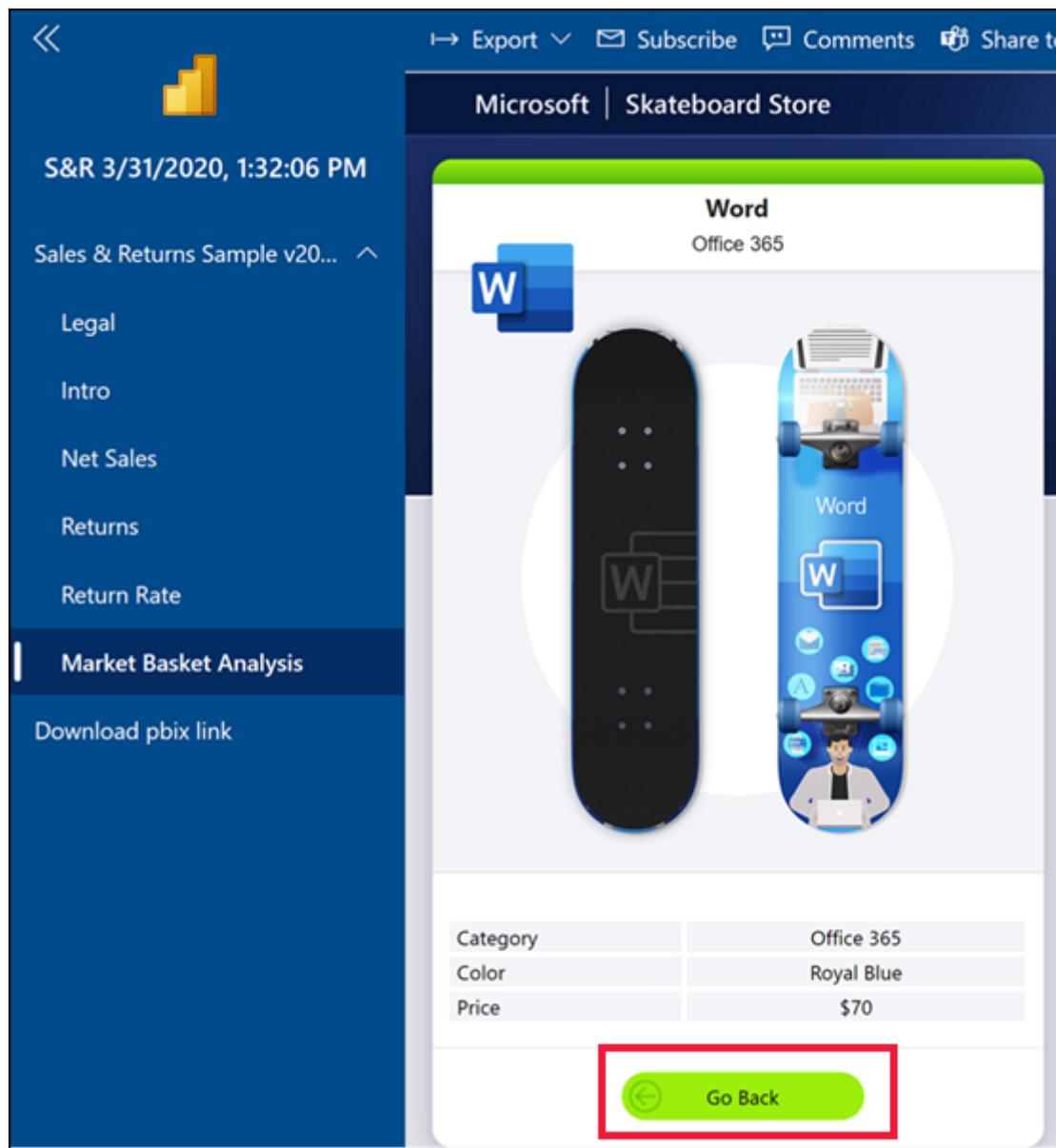
### Back buttons

A back button can have an arrow icon. When you select it, Power BI takes you to the previous page. Back buttons are often used with drillthrough. Here's an example of the steps of a back button used with drillthrough.

1. Select **Word** in the bar chart and drill through to **Market basket analysis**.



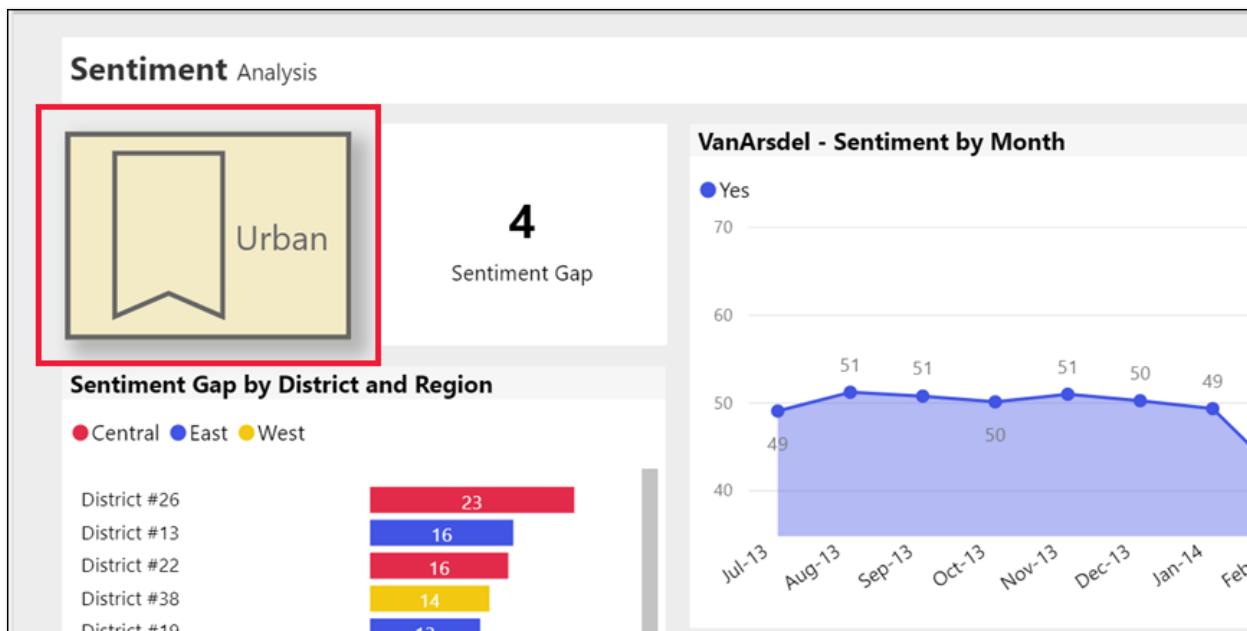
2. Power BI opens the *Market basket analysis* report page and uses the selections made on the source page to filter what displays on the destination page. In this example, the **Market basket analysis** report page is filtered for **Word**.
3. Select the back button labeled **Go back** to return to the previous page.



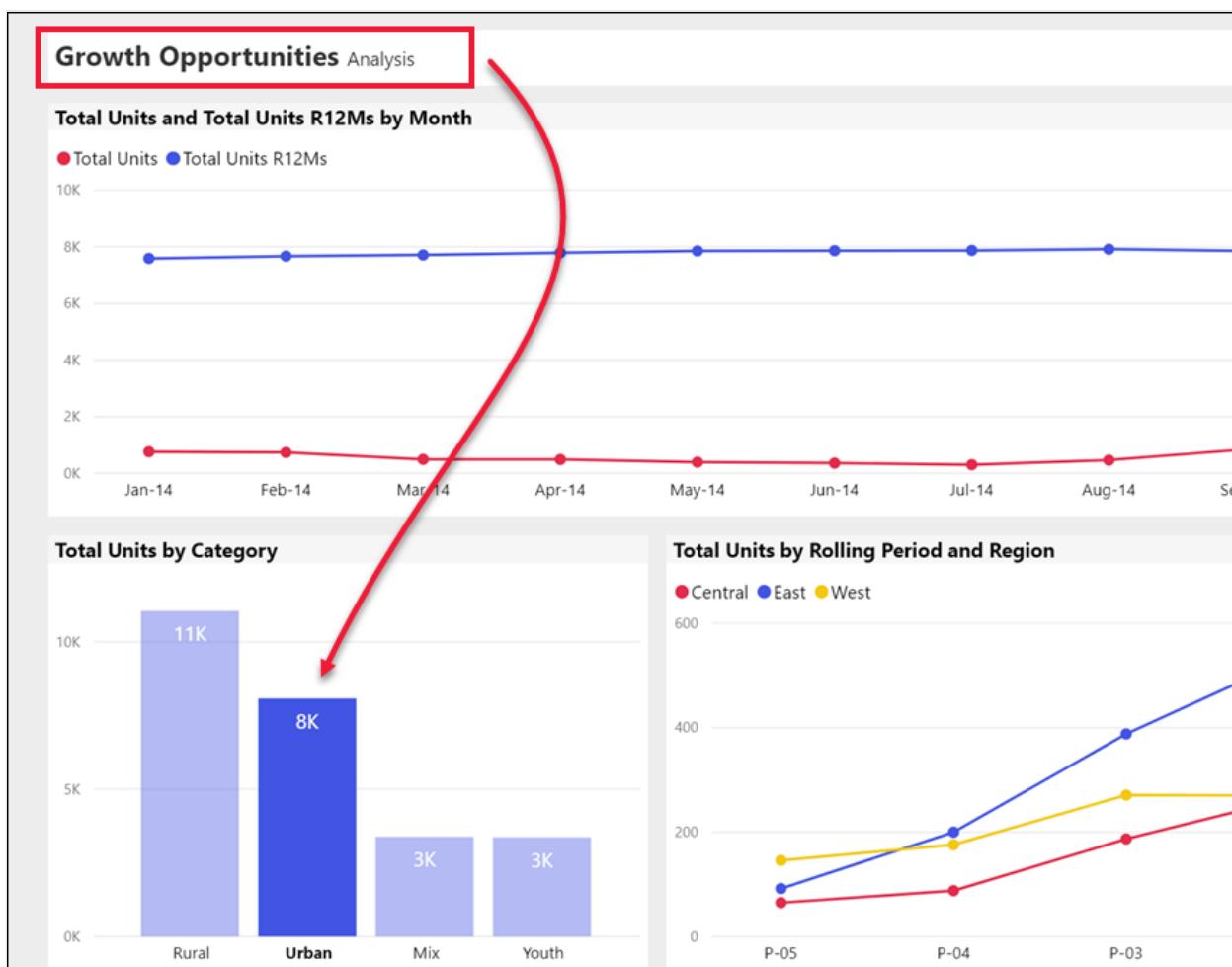
## Bookmark buttons

Report *designers* often include bookmarks with their reports. You can view the list of report bookmarks by selecting **Bookmarks** from the upper right corner. When a report designer adds a bookmark *button*, it's just an alternate way to navigate to a particular report page associated with that bookmark. The page has the applied filters and settings captured by the bookmark. For more information, see [Bookmarks in the Power BI service](#).

In the following example, the button has a bookmark icon and the bookmark name *Urban*.



When selected, the bookmark button takes you to the location and settings defined for that bookmark. In this example, the bookmark is on the *Growth opportunities* report page that's cross-filtered for **Urban**.



## Drillthrough buttons

There are two ways to drill through in the Power BI service. Drilling through takes you to a different report page. The data on that destination page displays according to the filters and selections you've made on the source page.

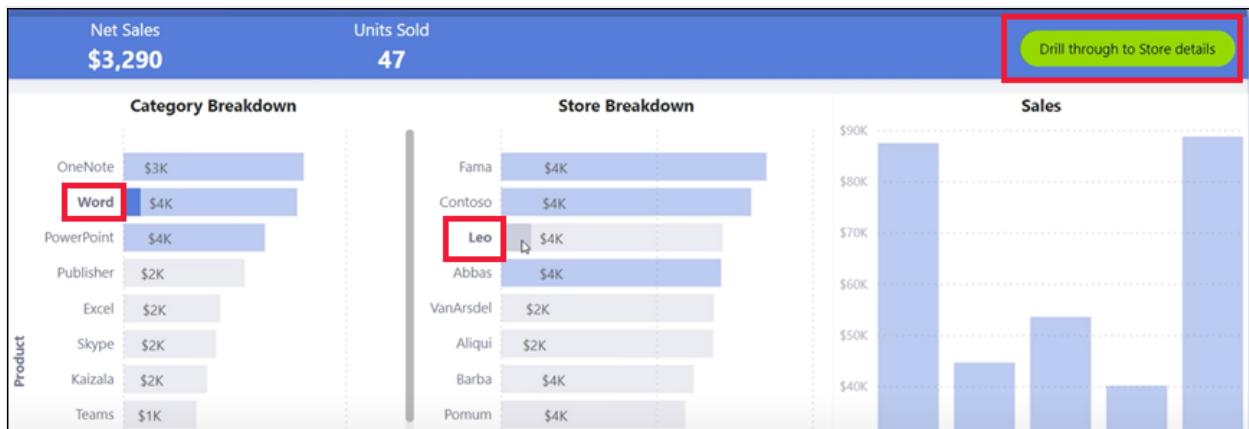
One way to drill through in a report is to right-click a data point in a visual, select **Drill through**, and choose the destination. For more information on this method, see [Back buttons](#). The second method report designers use is to add a drillthrough *button*. The button makes the action more obvious and calls attention to important insights.

Drillthrough buttons can have more than one prerequisite. If you don't fulfill all the prerequisites, the button won't work. Let's look at an example.

Here the drillthrough button is designed to take you to the *Store details* page. Hovering over the button reveals a tooltip with the prerequisites. You need to select both a store and a product. Until you select one of each, the button remains inactive.



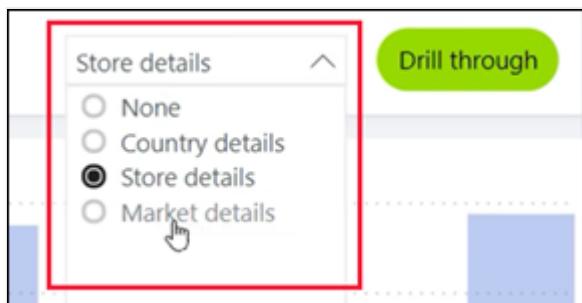
After you select one product (**Word**) and one store (**Leo**), the button changes color, signifying it's now active.



Selecting the drillthrough button takes you to the *Store* report page. The *Store* page displays according to your filters of **Word** and **Leo**.

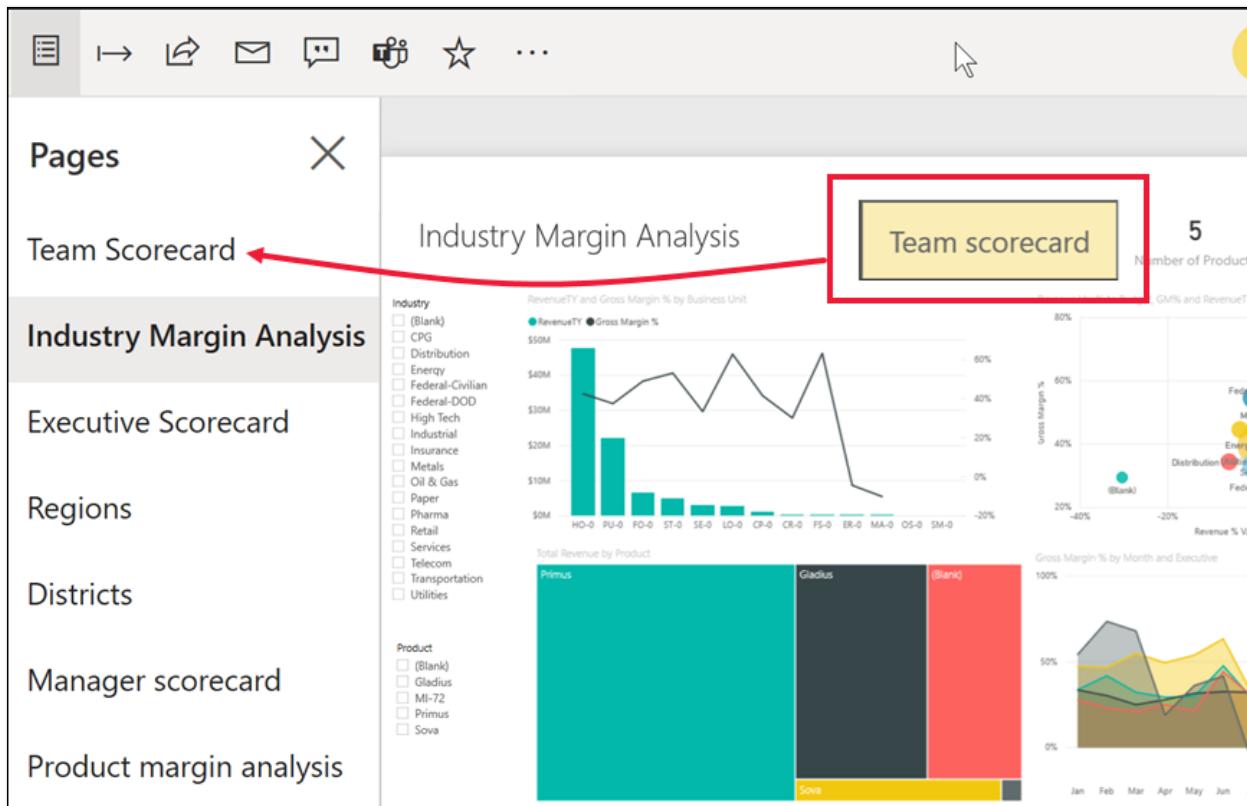
Date	Status	Unit
Sunday, June 2, 2019	Returned	1
Sunday, June 2, 2019	Sold	7
Sunday, June 9, 2019	Sold	6
Sunday, June 16, 2019	Returned	1
Sunday, June 16, 2019	Sold	10
Sunday, June 23, 2019	Returned	1
Sunday, June 23, 2019	Sold	8
Sunday, June 30, 2019	Returned	5
Sunday, June 30, 2019	Sold	16
<b>Total</b>		<b>55</b>

Drillthrough buttons can also have dropdown menus that offer a choice of destinations. After you've made your selections on the source report page, select the destination report page for the drillthrough. The following example shows the selection change to drill through to the *Market details* report page.



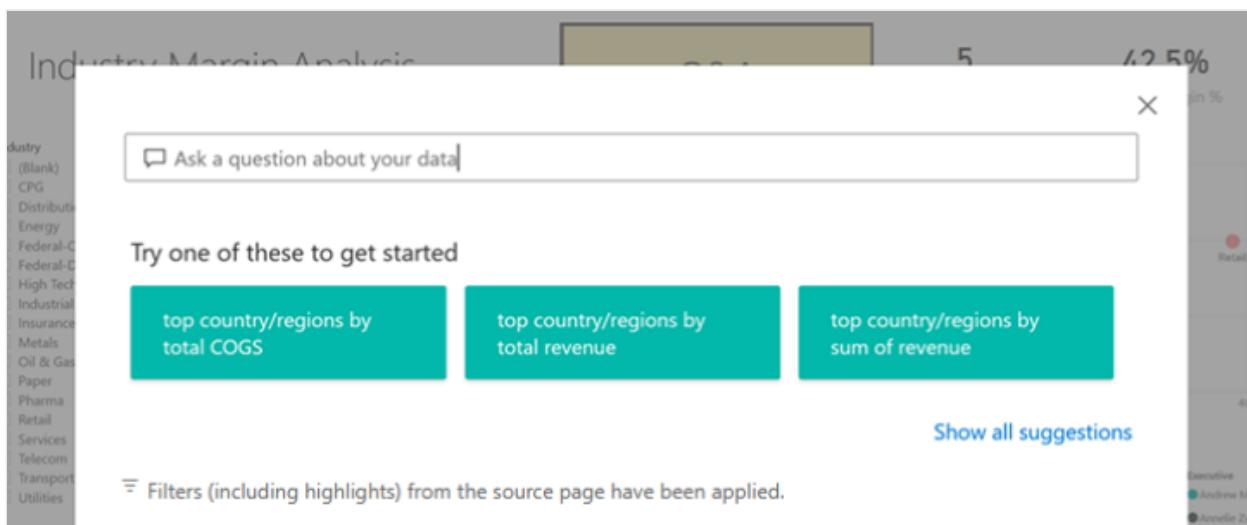
## Page navigation

Page navigation buttons take you to a different page in the same report. Report designers often create navigation buttons to tell a story or guide you through the report insights. In the following example, the report designer added a button on each report page. The button takes you back to the first page (the top-level summary page) of the report. The page navigation button is helpful when there are multiple pages in a report.



## Q&A buttons

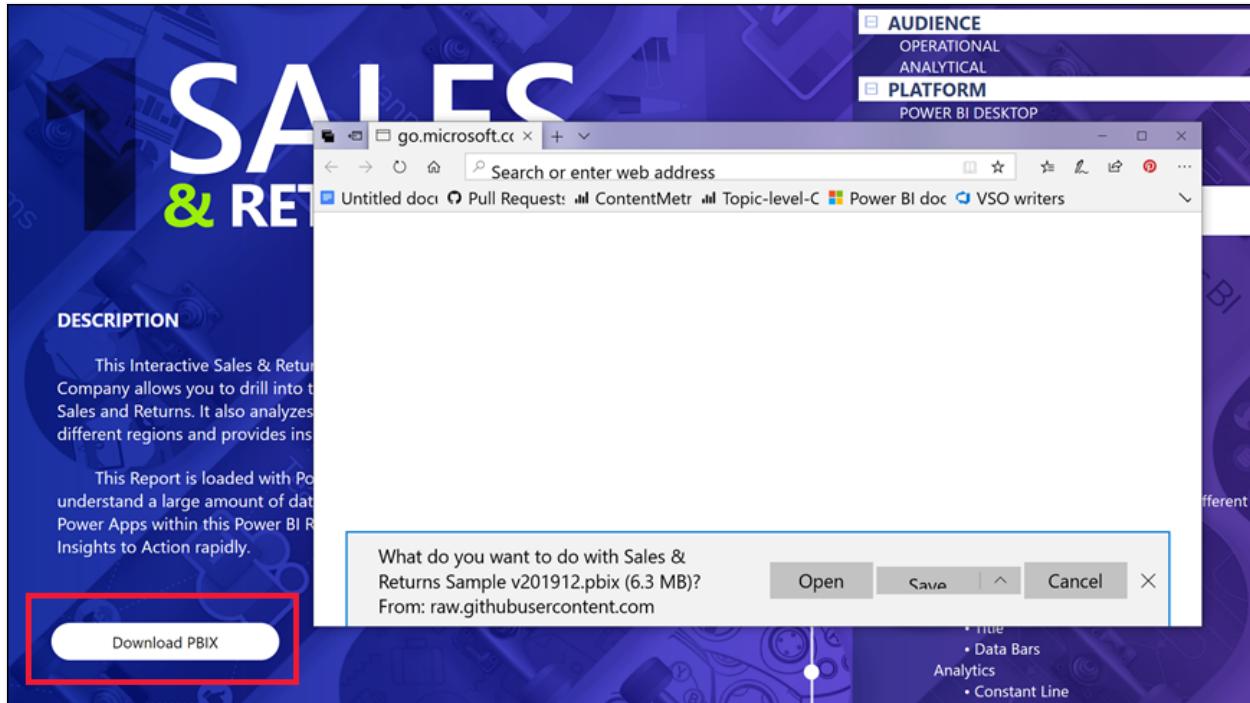
If you select a Q&A button it opens the Power BI Q&A Explorer window. The Q&A window displays on top of the report page and closes when you select the X. For more information, see [Q&A for Power BI business users](#).



## Web URL

Web URL buttons open a new browser window. Report designers might add this type of button as a reference source, to link to the corporate website or a help page, or even as a link to a different report or dashboard. In the following example, the Web URL button lets you download the source file for the report.

Since the page opens in a separate window, close the window, or select your Power BI tab to return to the Power BI report.



## Next step

- Bookmarks in the Power BI service
- Drill mode in the Power BI service

# Bookmarks in the Power BI service

Article • 07/19/2023

**APPLIES TO:** Power BI service for *business users* Power BI service for designers & developers Power BI Desktop Requires Pro or Premium license

## Introduction to bookmarks

A bookmark captures the state of a report page. It includes the settings you've made to filters, slicers, and visuals on that page. After the report page is set the way you want, give it a friendly name. Now you can easily return to that state of the report page. Select a bookmark, and Power BI takes you back to that view.

## Types of bookmarks

There are two types of Power BI bookmarks: *personal* and *report*. *Report* bookmarks are added to reports by report *designers*. When the designers share their reports with colleagues, the bookmarks travel with the report. Everyone who can open and view that report can also see and use the report bookmarks. *Personal* bookmarks can be created by anyone who can open a report, they don't even require edit permissions. However, if you create personal bookmarks and share your report, the personal bookmarks don't travel with the report. Personal bookmarks are for your use only.

### Tip

There are some ways for you to share your personal bookmarks with others. See [Sharing personal bookmarks](#) later in this article for tips and tricks.



This article explains how to create and use *personal* bookmarks. It also explains how to interact with *report* bookmarks that have been created by others and shared with you. Viewing shared reports and report bookmarks requires one or both of the following prerequisites:

- a Power BI Pro or a Premium Per User (PPU) license [Which license do I have?](#)
- for the report to be saved in Premium capacity and shared with you.

If you're designing reports and creating report bookmarks for others to use, see [Create report bookmarks](#).

## Other articles about bookmarks

- In the Power BI service and Power BI Desktop, report owners can create *report bookmarks*. For more information, read about [report bookmarks](#).
- If you have edit permissions to the report, you can quickly build a [bookmark navigation experience](#). Bookmark navigation is available for both personal and report bookmarks. Each bookmark is converted to a customizable button or dropdown menu.

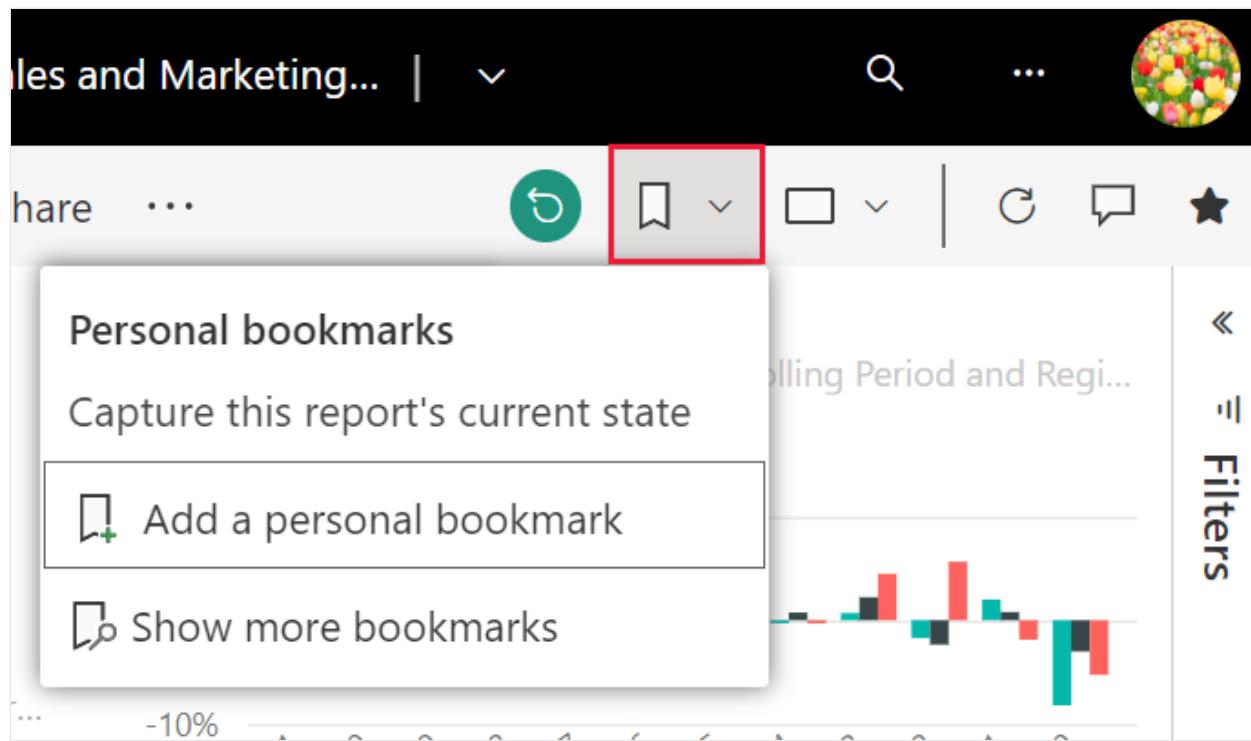
## Use personal bookmarks to save insights and build stories in Power BI

There are many uses for personal bookmarks. If you discover an interesting insight and want to preserve it, create a personal bookmark so you can return later. If you need to leave and want to preserve your current work, create a personal bookmark. You can even make a personal bookmark your default view of a report, so each time you return that view of the report page opens first.

You can also create a collection of personal bookmarks and arrange them in the order you want. Then you can step through each bookmark in a presentation to highlight a series of insights that tell a story. This feature works like a slideshow, where you select an arrow to go forward or backward. There's a limit of 20 personal bookmarks per report. For more information about creating a bookmark slide show, see [Bookmarks as a slide show](#).

## Open the Bookmarks pane

To open the **Bookmarks** pane, start on a report page and select the bookmarks icon  and choose either **Add a personal bookmark** or **Show more bookmarks**.



## Create personal bookmarks in the Power BI service

If you can view a report, then you can also add personal bookmarks. The maximum number of personal bookmarks per report is 20. When you create a bookmark, the following elements are saved with the bookmark:

- The current page
- Filters
- Slicers, including slicer type (for example, dropdown or list) and slicer state
- Visual selection state (such as cross-highlight filters)
- Sort order
- Drill location

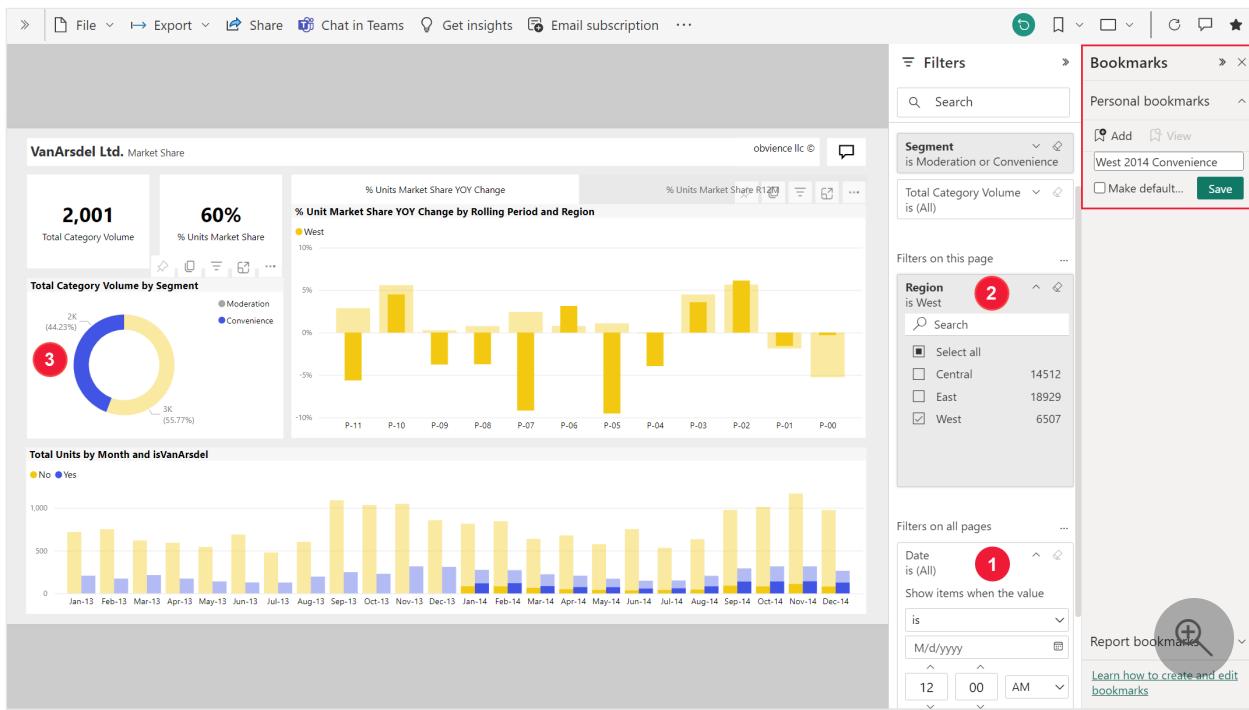
If you have edit permissions to a report, you can set and save other elements that are saved with a bookmark. For example, you can decide which visuals on the page are visible when the bookmark is selected. To learn more about the *report* bookmarks and the Selection pane, see [Using the Selection pane](#)

## Create two different personal bookmarks

Configure a report page the way you want it to appear in the bookmark. The following example has filters applied to the default report page:

1. Date is changed to include All dates.

2. Region filter is changed to include only West .
3. A specific data point on the doughnut chart visual is selected. This selection cross-filters and cross-highlights the other visuals on the report canvas.

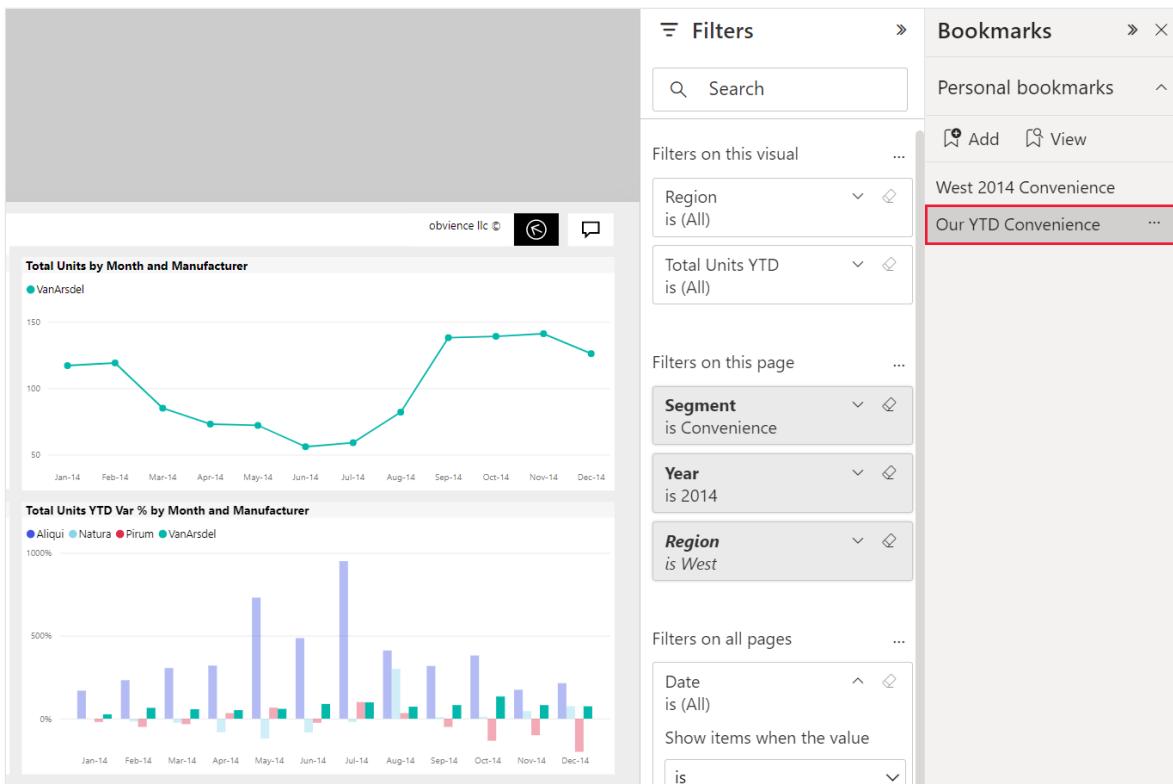


## Create the first bookmark

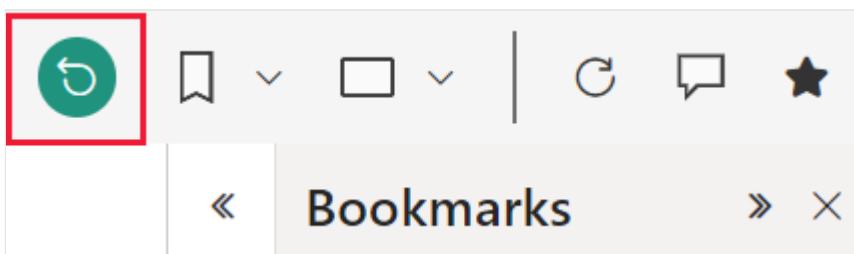
1. After your report page and visuals are arranged how you want them, from the **Bookmarks** pane, select **Personal bookmarks > Add**.
2. The personal bookmark gets a generic name, or you can enter a name. Select **Save**. To *rename, make default, delete, or update* your bookmark, select the ellipses next to the bookmark's name.

## Create the second bookmark

1. Open a different report page and create another personal bookmark. The bookmark in the following example captures the YTD information for the VanArsdel company.

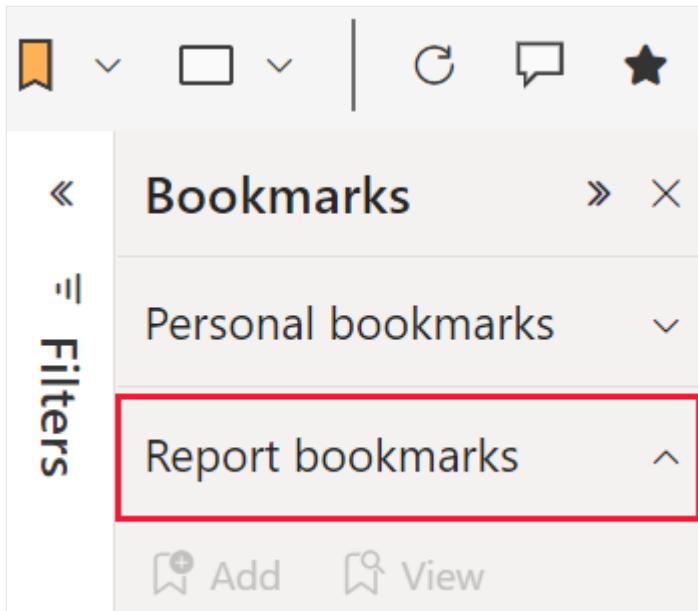


2. Now that you have two bookmarks, switch between them by selecting the bookmark in the **Bookmarks** pane.
3. To return to the original published view of the report, select the **Reset** icon, and then select **Reset** on the dialog.



## Open report bookmarks

To view the report bookmarks created by the report *designer*, from the **Bookmarks** pane, select **Report bookmarks**.

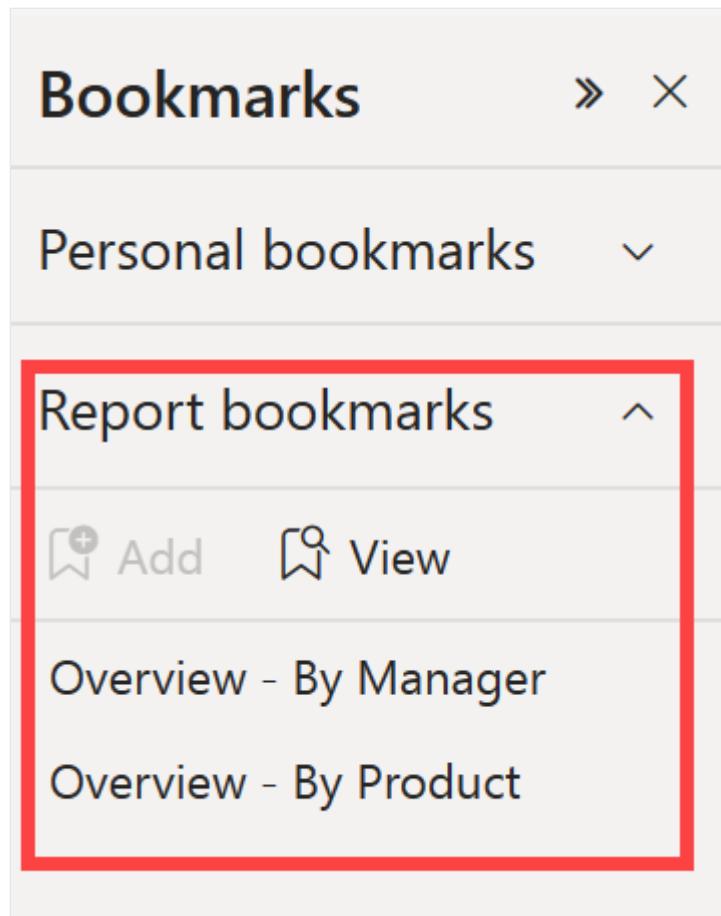


### ⓘ Note

To view shared reports, you will need a Power BI Pro or Premium Per User license, or for the report to be saved in Premium capacity. To learn more, see [Licensing](#).

## Report bookmarks

If the report *designer* included report bookmarks, you find them under the **Report bookmarks** heading. This report page has two report bookmarks: Overview- By Manager and Overview-By Product.

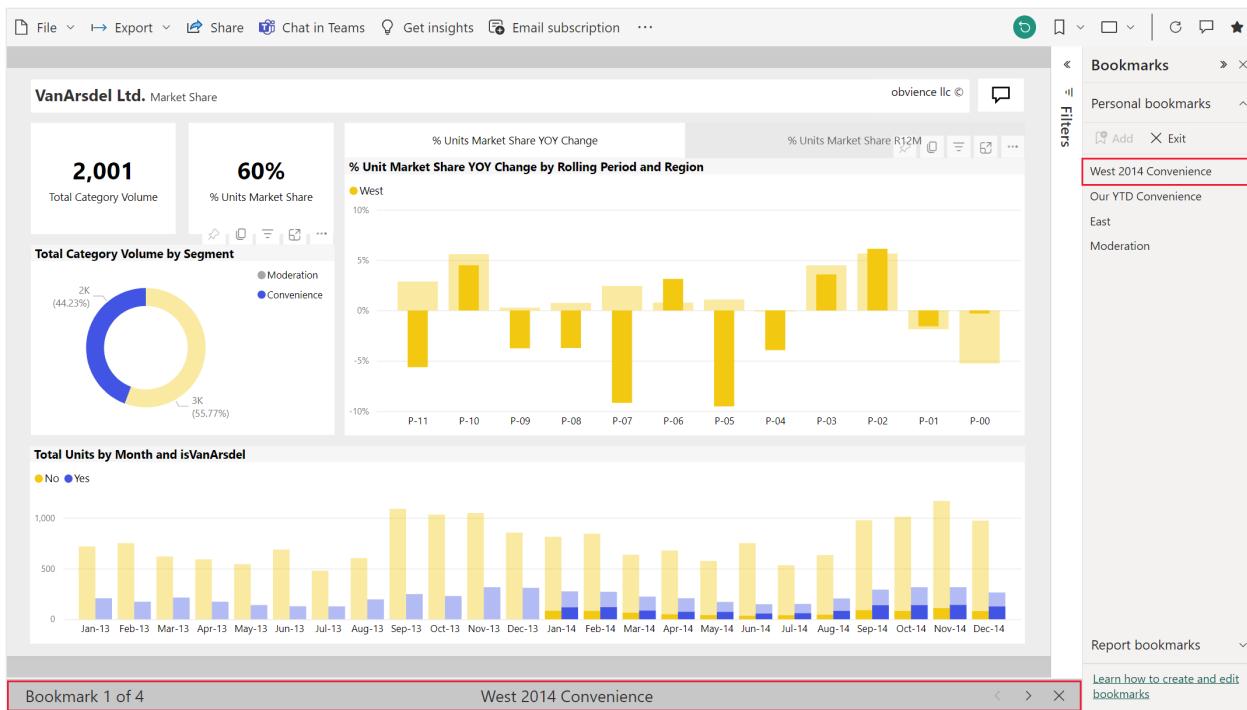


## Bookmarks as a slideshow

To present or view bookmarks in order, select **View** from the **Bookmarks** pane to begin a slideshow.

When in **View** mode, notice the following features:

- The name of the bookmark appears in the bookmark title bar, which appears at the bottom of the canvas.
- The bookmark title bar has arrows where you can move to the next or previous bookmark.
- To exit **View** mode, select **Exit** from the **Bookmarks** pane, or select the **X** in the bookmark title bar.



In **View** mode, you can close the **Bookmarks** pane to provide more space for your presentation. While in **View** mode, all visuals are interactive and available for cross-highlighting, like they are when interacting with them in other modes.

## Share changes

While you can't directly share your personal bookmarks with others, there are some workarounds. These workarounds require that you have one or both of the following:

- Pro or PPU license
- Permissions to content saved in a workspace in Premium capacity

Here are a few ways you can share your view with others:

- **Share your active view.** If you have a personal bookmark active when you share a report, recipients who have read access to the report see the bookmarked version of that report page. Recipients don't see your bookmark in their "Personal bookmarks" list. They see the result of your personal bookmark.

This personalized view of the report doesn't override the designer's original report or the designer's *report* bookmarks. Sharing with colleagues who don't already have read access requires reshare permissions. If you're unable to share your view of the report, contact the report owner to request reshare permission.

When you share the report, you can choose to include your changes.

Send link ... X

Sales and Marketing Sa...

 Specific people can view and share >

ⓘ People with this link can view this report and use the data associated with it, regardless of its sensitivity label.

 Megan X

Enter a name or email address

---

Add a message (optional)

Include my changes ⓘ

Send

 Copy link

 Mail

 Teams

 PowerPoint

- **Chat in teams.** Similar to the previous method, with a personal bookmark active, you can share a report in Microsoft Teams. Select **Chat in Teams** from More

options on the top menu. In the **Chat in Teams** dialog, enter the name of the Team or Channel that you want to share to. Select **Share**. You can also copy and share the URL from the **Chat in Teams** dialog. For more information, see [Share personal bookmarks in Teams chat](#).

- **Use the comment feature.** With a personal bookmark active, add a comment. When other users select the comment, the current view is saved for them to view. For more information, see [Add comments to dashboards and reports](#).

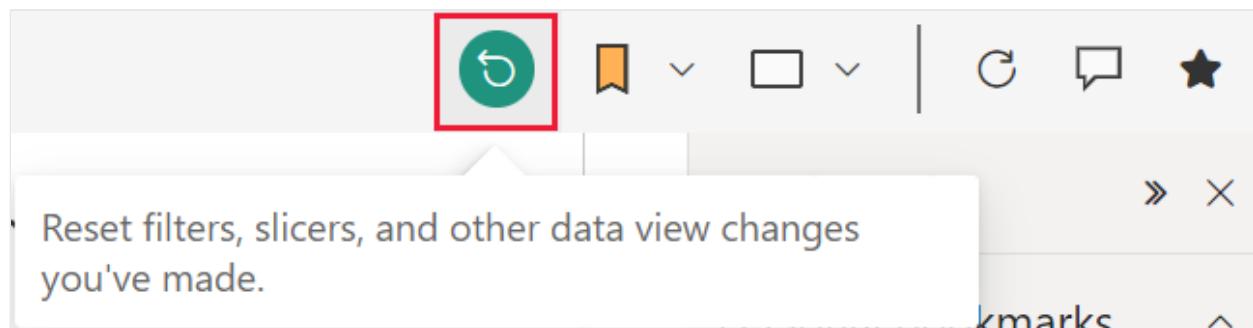
If you make changes to your personal bookmark after you share a report, it has no effect on your recipients' view. For example, if you share a report with a 2021 date filter applied and then change the year to 2022 in your bookmark, your recipient still sees the 2021 filter.

 **Note**

To share reports, you will need a Power BI Pro or Premium Per User license, or for the report to be saved in reserved capacity. To learn more, see [Licensing](#).

## Reset all your changes to a report

From the upper-right corner of your report canvas, select **Reset to default**. This action removes all your changes in the report and sets it back to the designer's last saved view of the report. Resetting the report doesn't delete the bookmarks.



## Considerations and limitations

In this release of **personal bookmarks**, there are a few considerations and limitations to keep in mind.

- The bookmark captures the state of the page at the time the bookmark was created. When someone selects the bookmark, Power BI attempts to show them that bookmark in its original report state. However, there are situations where

showing the bookmark isn't possible. For example, if the report owner changes the name of a field that is used by the bookmark, Power BI will no longer display visuals, filters, or slicers that use that field. Certain visuals will display no data for the renamed field. Filtered or sliced visuals will revert to the default view.

- Most Power BI custom visuals should work well with personal bookmarking. If you run into trouble with bookmarking and a Power BI custom visual, contact the creator of that visual, and ask them to add support for bookmarks.
- Generally, your personal bookmarks aren't affected if the report *designer* updates or republishes the report. However, if the designer makes major changes to the report, such as removing fields used by a personal bookmark, you'll receive an error message the next time you attempt to open that bookmark.
- Report bookmarks and personal bookmarks created in Power BI Desktop or in the Power BI service are recognized in the Power BI mobile apps for iOS and Android tablets and phones, and in the Power BI Windows app. However, bookmarks can't be created in these apps. For information about using bookmarks in the Power BI mobile apps and the Power BI Windows app, see [Reports in the mobile apps - bookmarks](#).
- Because personal bookmarks capture the exploration state of the current page, personal bookmarks don't capture changes to other pages. For example, if you have sync-slicers in your report and you personalize the sync-slicer to use a different field and capture a personal bookmark, then the personal bookmark only captures the slicer change on the current page.
- You can create up to 20 bookmarks for a single report.

## Next steps

[Personalize visuals in a report](#)

# Add spotlights to Power BI reports

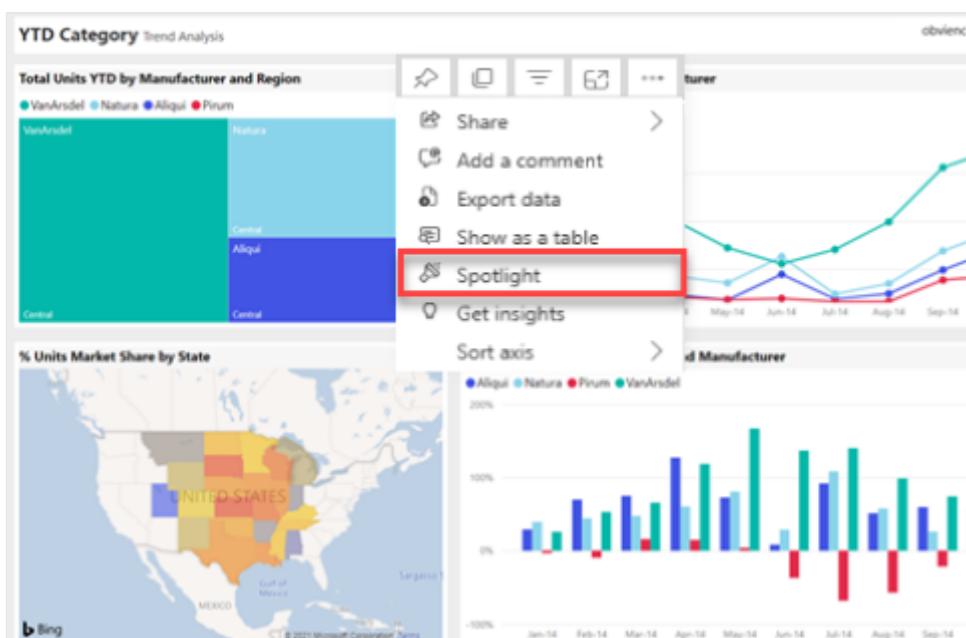
Article • 01/30/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

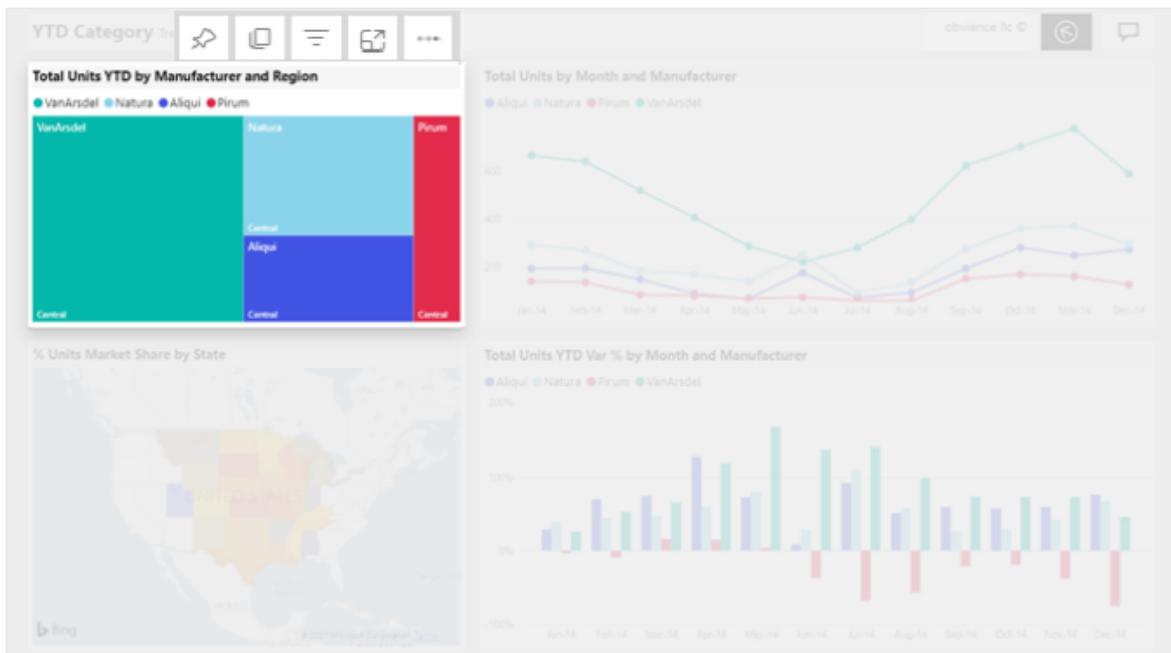
With spotlight, you can draw attention to a specific visual on a report page. If the spotlight mode is selected when you add a bookmark, that mode is retained in the bookmark.

## Add a spotlight

1. [Open a report](#) in the Power BI service.
2. Decide which visual you'd like to highlight on the report page. Select the **More options (...)** dropdown, then choose **Spotlight**.



3. The selected visual is highlighted, which causes all other visuals on the page to fade to near transparency.



## Next steps

- Display content in more detail: focus mode and full screen mode

# Set alerts on Power BI reports (public preview)

Article • 12/20/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

With Data Activator, you can set data alerts on the reports that you're interested in following. Read more about it in [What is Data Activator?](#)

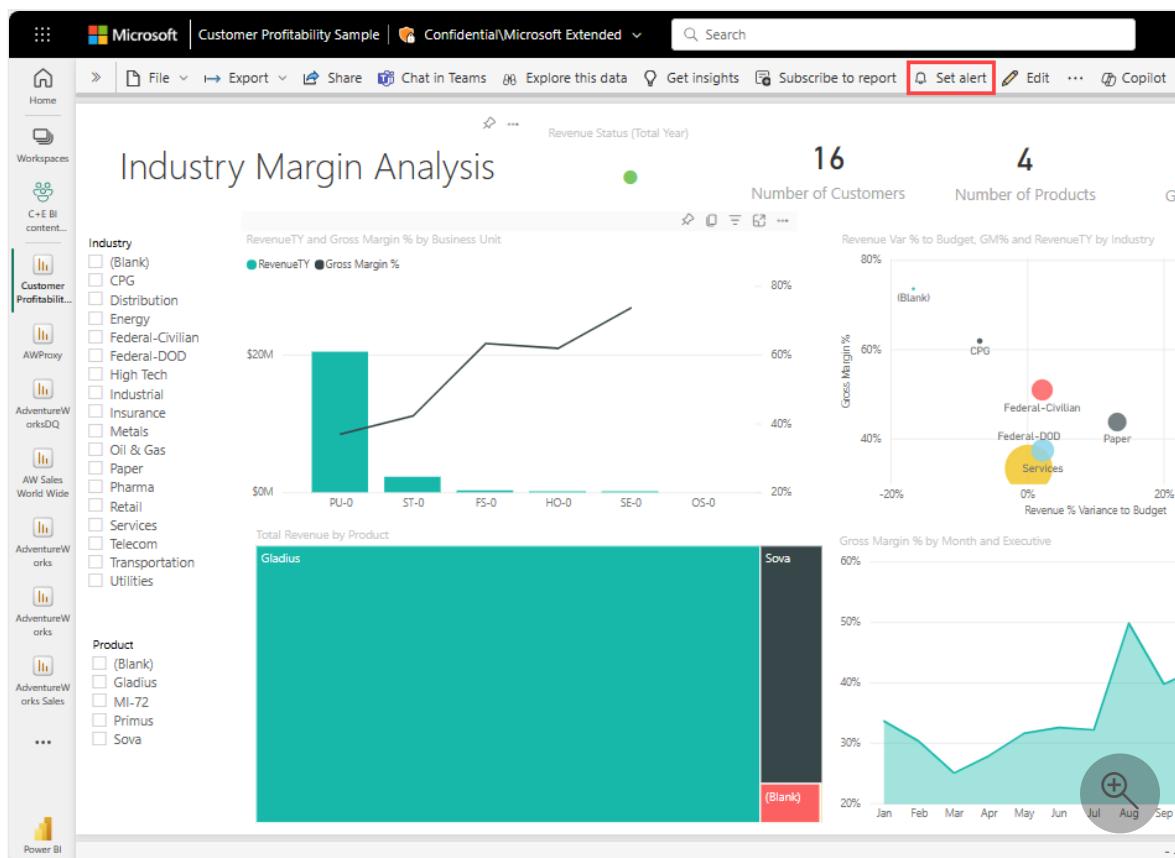
## Prerequisites

- You need to have write permission for a workspace with a Fabric capacity license.

You can sign up for a [Microsoft Fabric free trial](#).

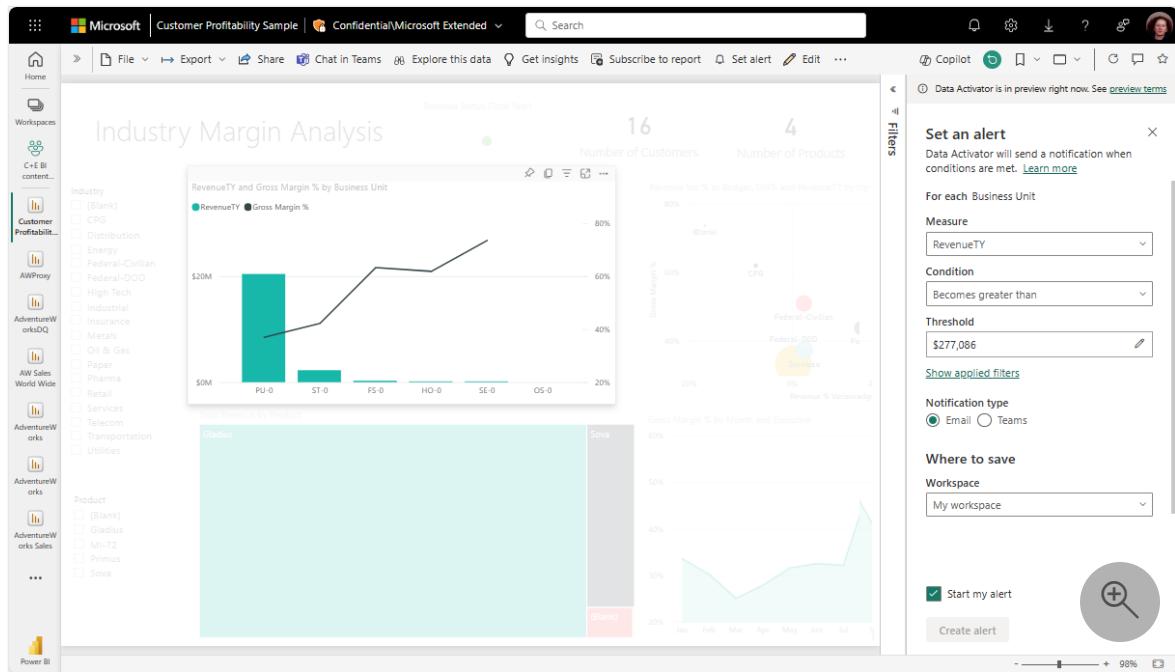
## Set a data alert

1. From the visual context menu or report toolbar, tap a visual in the report, and then select **Set alert**.



A pane opens where you can set the measure you want to monitor in that visual, and the conditions you want to detect.

2. In the Set an alert pane, choose:



- A measure to monitor.
- A condition to evaluate.
- A threshold to pass.

3. Decide whether to be notified by email or in Teams.

4. Save the alert to a workspace with a Fabric capacity license.

5. Select Start my alert, then select Create alert.

Power BI creates a Data Activator reflex and connects it to the data in your Power BI semantic model. Data Activator automatically starts monitoring your data and notifies you when the condition is met.

## Customize the trigger

You can further customize the trigger to:

- Watch for more complex conditions
- Notify different users
- Even launch a Power Automate workflow.

For more information, read the [Data Activator](#) documentation.

# Next steps

- Data Activator

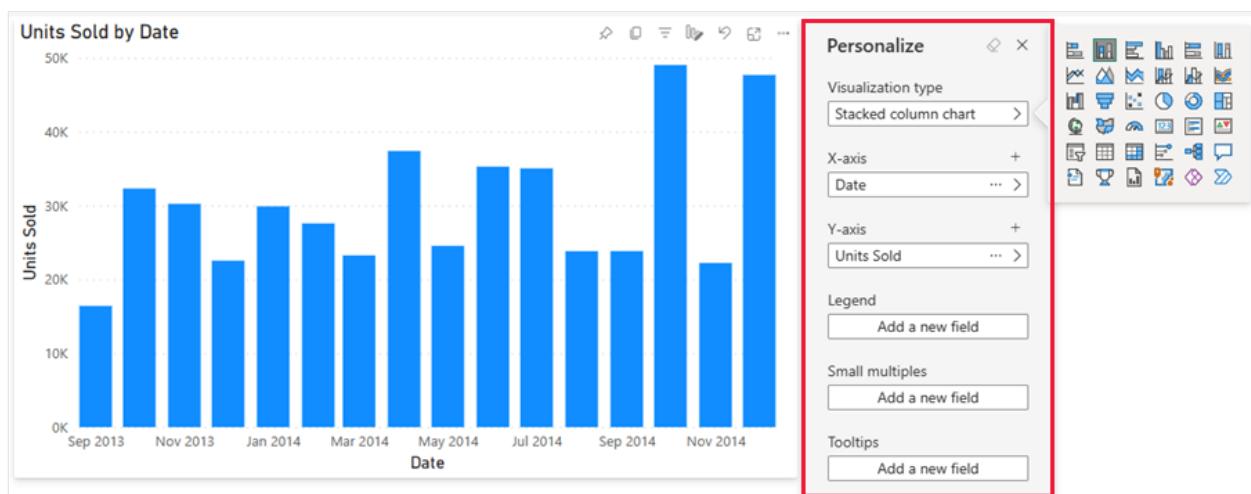
# Personalize visuals in a report

Article • 03/20/2023

**APPLIES TO:** Power BI service for *business users* Power BI service for designers & developers Power BI Desktop Requires Pro or Premium license

It's hard to make one visual that satisfies everyone's requirements. But, when a colleague shares a report with you, you might want to make changes to the visuals—without having to ask your colleague to make the changes for you.

Maybe you'd like to swap what's on the axis, change the visual type, or add something to the tooltip. With the **Personalize this visual** feature, make the changes yourself and when you have the visual the way you want it, save it as a [bookmark](#) to come back to. You don't even need edit permission for the report.



## What you can change

This feature helps you gain further insights through ad-hoc exploration of visuals on a Power BI report. The following are some of the modifications that you can make. The available options vary by visual type.

- Change the visualization type.
- Swap out a measure or dimension.
- Add or remove a legend.
- Compare two or more measures.
- Change aggregations, and more.

Not only does this feature allow for new exploration capabilities, it also includes ways for you to capture and share your changes:

- Capture your changes.

- Share your changes.
- Reset all your changes for a report.
- Reset all your changes for a visual.
- Clear out your recent changes.

### ⓘ Important

The ability to personalize a visual must be enabled by the report *designer*. If you don't see the **Personalize this visual**  icon, then the report designer didn't enable this feature for the current report. Check with the report owner or your Power BI administrator to have the feature enabled. To display contact information for the report owner, select the name of the report from the Power BI menu bar.

## Personalize visuals in the Power BI service

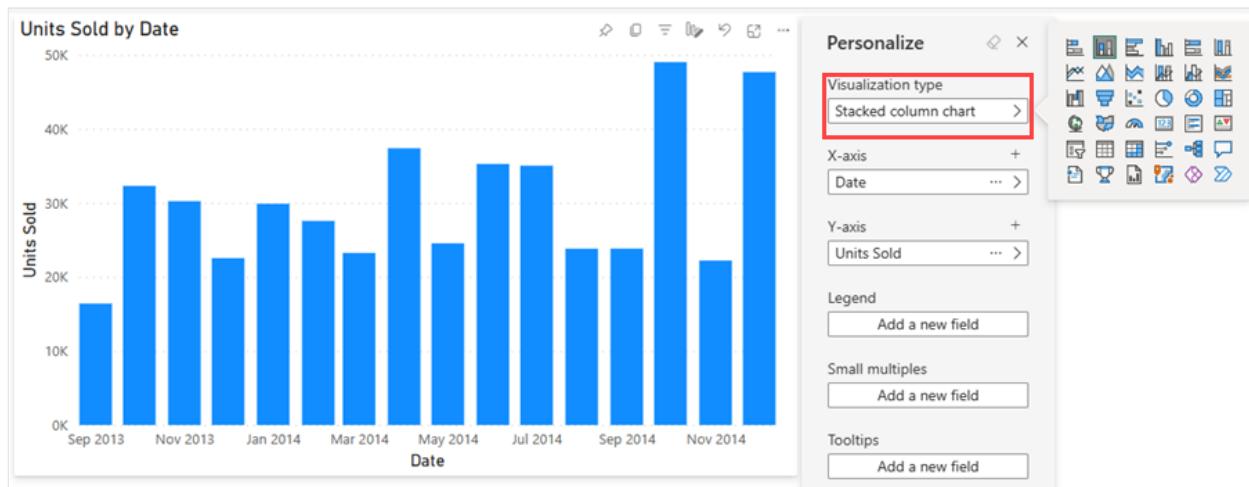
By personalizing a visual, you can explore your data in many ways, without leaving [report reading view](#). The following examples show different ways you can modify a visualization to meet your needs.

1. Open a report in reading view in the Power BI service.

2. In the menu bar for the visual, select the **Personalize this visual**  icon.

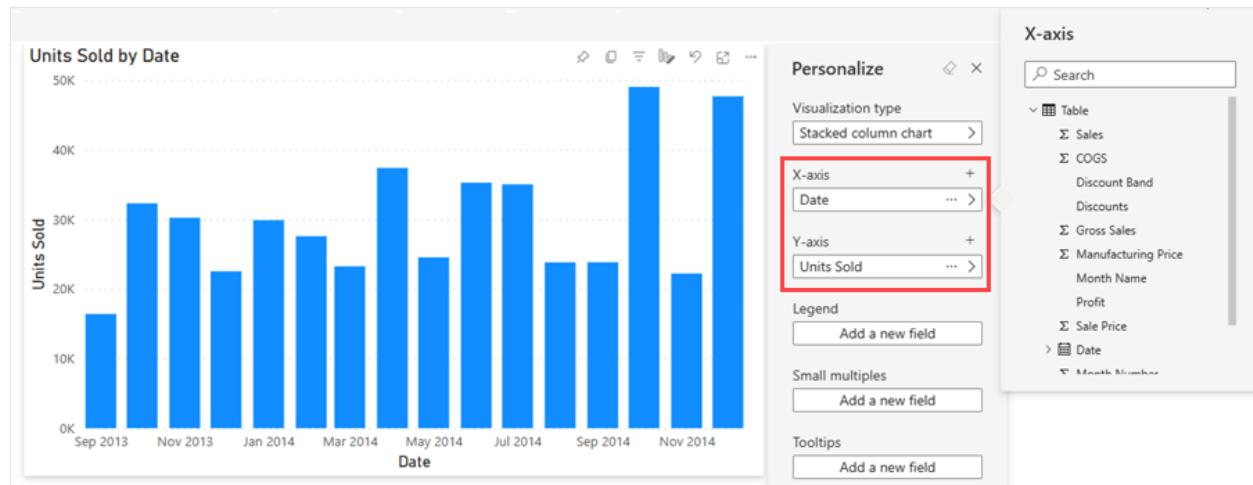
## Change the visualization type

Do you think the data would display better as a Stacked column chart? Change the **Visualization type**.



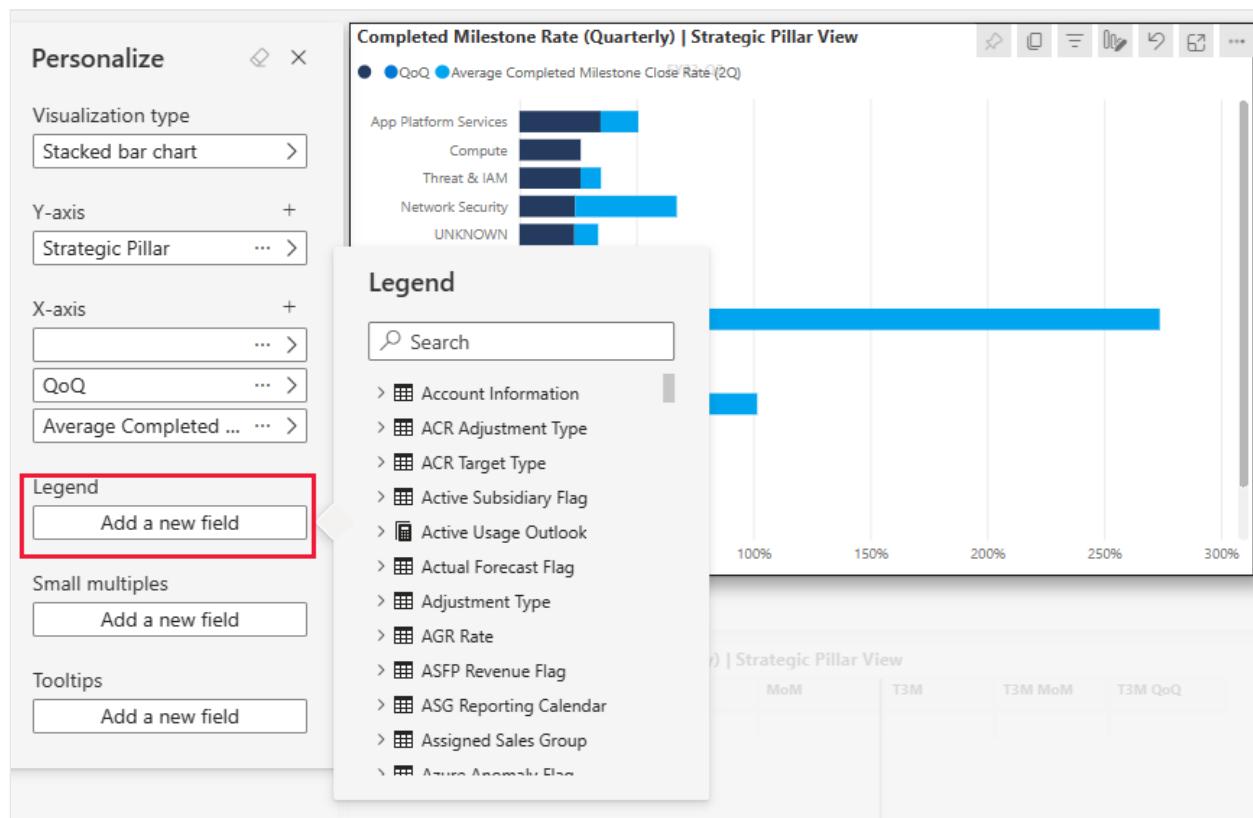
## Swap out a measure or dimension

Replace the field being used for the X axis or Y axis by selecting the field that you want to replace, then selecting a different field.



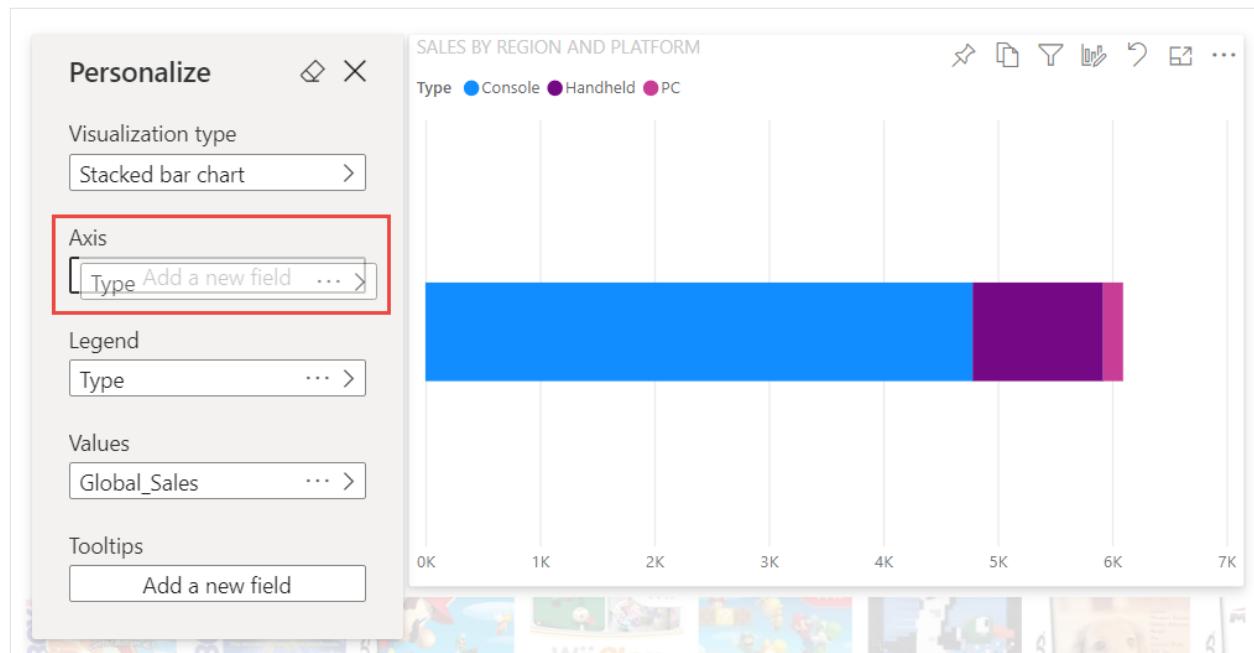
## Add or remove a legend

By adding a legend, you can color-code a visual based on a category. In this example, we're color-coding based on company name.



## Change the placement of fields

By using drag and drop, you can change the placement of fields within the same visual property or even across different visual properties. For example, you can quickly move a field in the legend to the axis of a visual.



You can also quickly reorder the columns of a table or matrix.

Year	Type	Genre	Publisher	Name	Platform	Company	Global Sales
1985	Console	Action	Nintendo	Nintendo Entertainment System	NES	Nintendo	5.35
1985	Console	Platform	Nintendo	Nintendo Entertainment System	NES	Nintendo	41.74
1985	Console	Puzzle	Nintendo	Nintendo Entertainment System	NES	Nintendo	2.14
1985	Console	Racing	Nintendo	Nintendo Entertainment System	NES	Nintendo	4.16
1985	Console	Shooter	Nintendo	Nintendo Entertainment System	NES	Nintendo	29.58
1985	Console	Sports	Nintendo	Nintendo Entertainment System	NES	Nintendo	9.38
1986	Console	Action	Capcom	Nintendo Entertainment System	NES	Nintendo	2.78
1986	Console	Action	Hudson Soft	Nintendo Entertainment System	NES	Nintendo	1.15
1986	Console	Fighting	Namco Bandai Games	Nintendo Entertainment System	NES	Nintendo	1.05
1986	Console	Platform	Hudson Soft	Nintendo Entertainment System	NES	Nintendo	1.50
1986	Console	Platform	Konami Digital Entertainment	Nintendo Entertainment System	NES	Nintendo	1.20
1986	Console	Platform	Nintendo	Nintendo Entertainment System	NES	Nintendo	6.54
1986	Console	Shooter	Capcom	Nintendo Entertainment System	NES	Nintendo	1.00
1986	Console	Shooter	Konami Digital Entertainment	Nintendo Entertainment System	NES	Nintendo	2.56
1987	Console	Action	Nintendo	Nintendo Entertainment System	NES	Nintendo	9.24
1987	Console	Fighting	Nintendo	Nintendo Entertainment System	NES	Nintendo	5.42
1987	Console	Platform	Capcom	Nintendo Entertainment System	NES	Nintendo	0.81
Total							6,096.52

Personalize

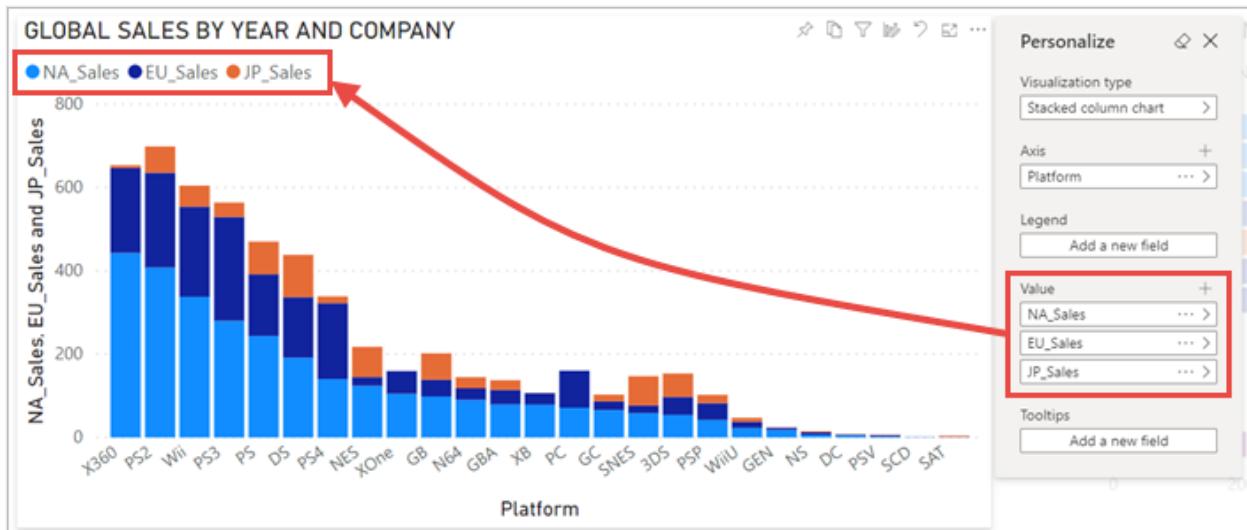
Visualization type  
Table

Values  
Release Date - Year ... >  
Global Sales ... >  
Type ... >  
Genre ... >

Publisher ... >  
Name ... >  
Platform ... >  
Company ... >  
Global Sales ... >

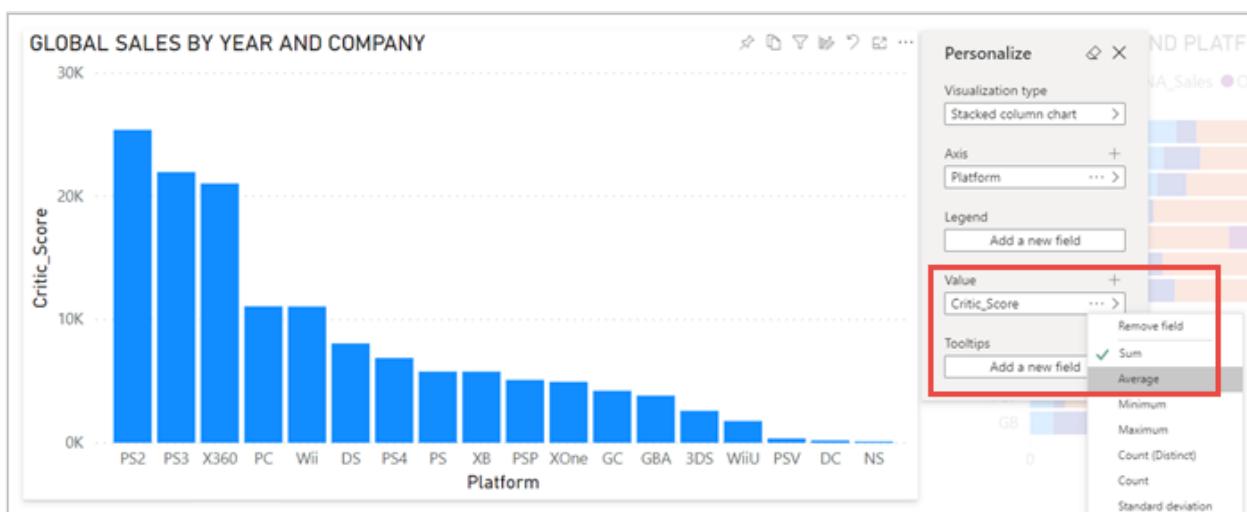
## Compare two or more different measures

Compare and contrast values for different measures by using the + icon to add multiple measures for a visual. To remove a measure, select **More options (...)** and choose **Remove field**.



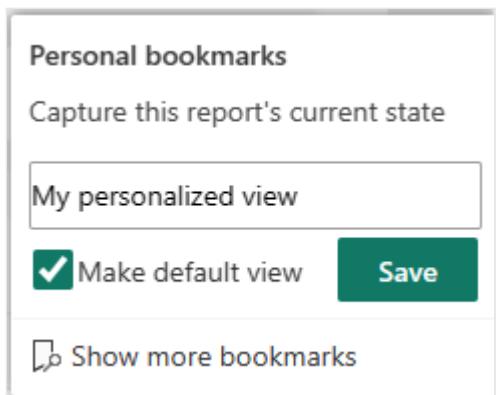
## Change aggregations

Change how a measure is computed by changing the aggregation in the **Personalize** pane. Select **More options (...)** and choose the aggregation to use.



## Capture changes

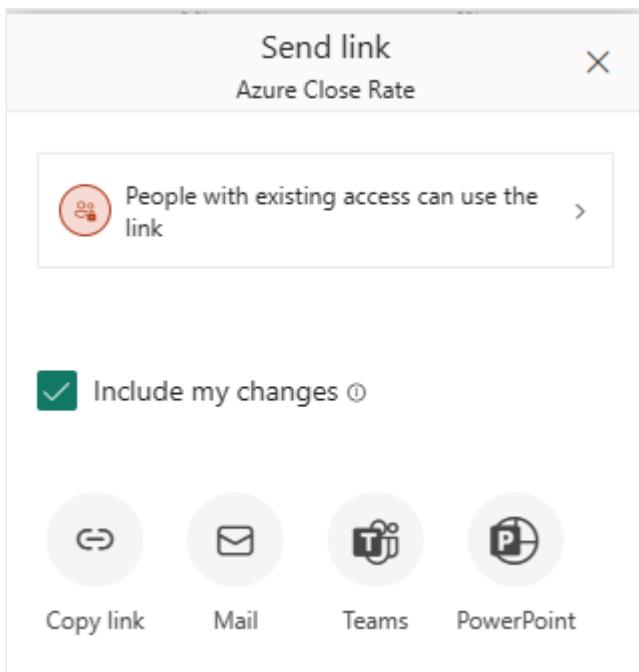
Using personal bookmarks, capture your changes so you can return to your personalized view. Select **Bookmarks > Personal bookmarks** and give the bookmark a name.



You can also make the bookmark your default view.

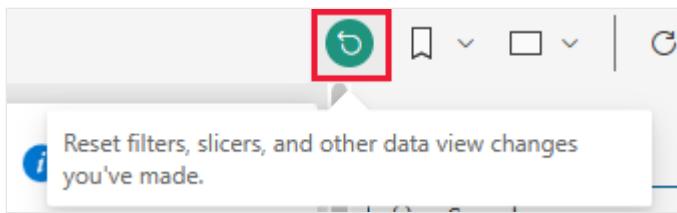
## Share changes

If you've read and re-share permissions, when you share the report you can choose to include your changes. This personalized version does not overwrite the author's version. The colleague who is viewing your personalized report can select **Reset to default** and return to the author's version of the report. If the colleague has editing permissions, they can save your personalized version as a new report.



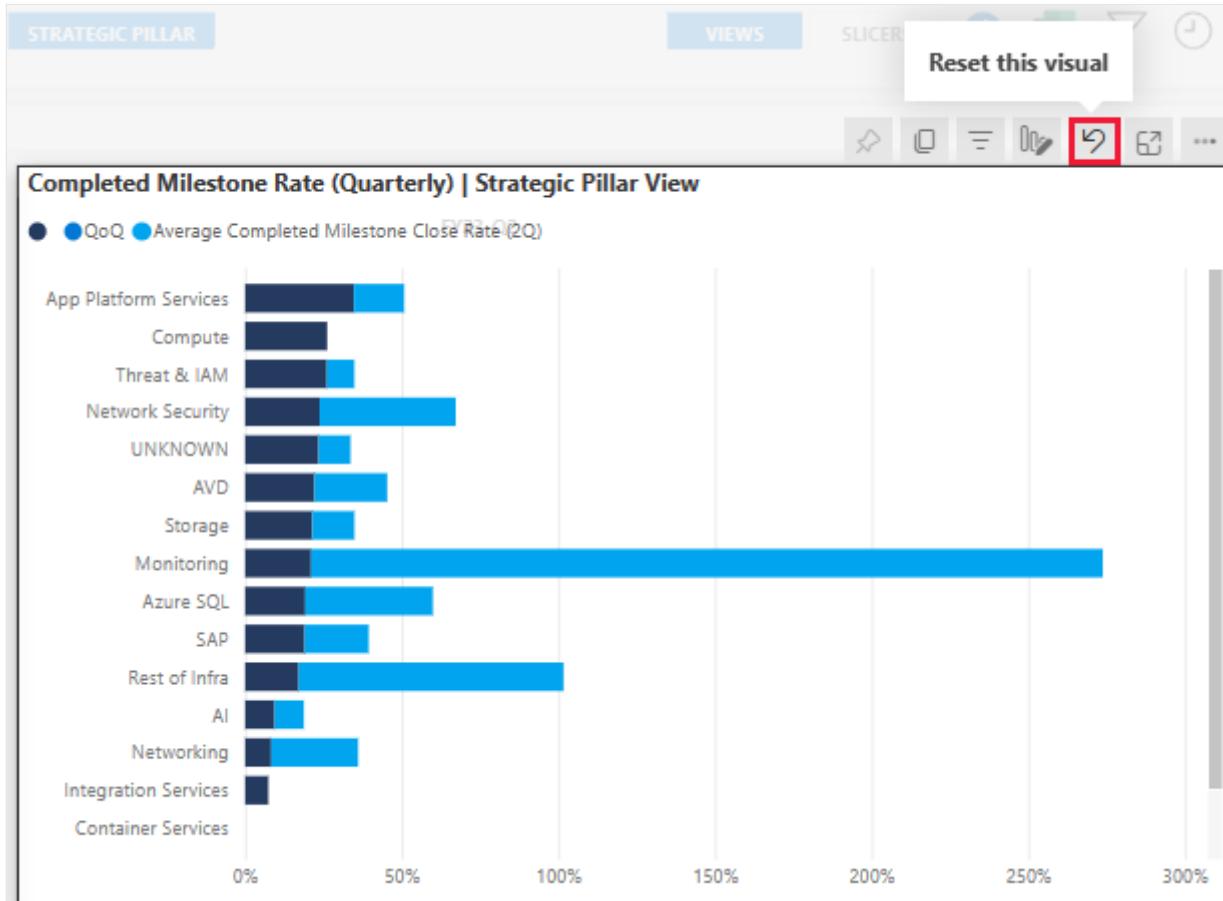
## Reset all your changes to a report

From the upper-right corner of your report canvas, select **Reset to default**. This removes all your changes in the report and sets it back to the author's last saved view of the report.



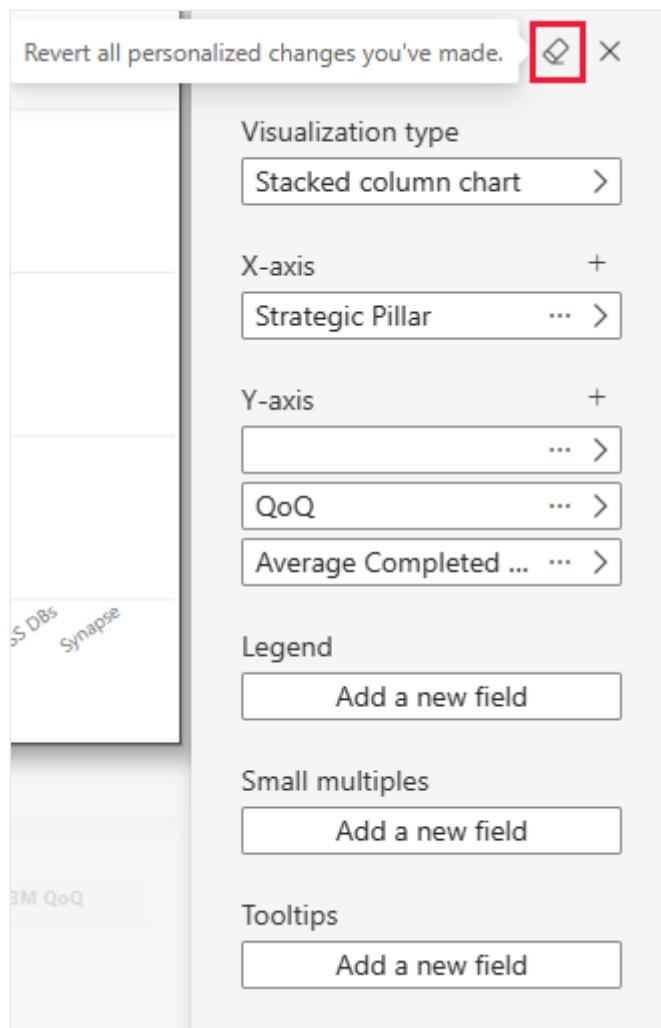
## Reset all your changes to a visual

From the menu bar for the visual, select **Reset this visual** to remove all your changes to a particular visual and set it back to the author's last saved view of that visual.



## Clear recent changes

Select the eraser icon to clear all changes since you opened the **Personalize** pane.



## Considerations and limitations

Currently the feature has a few limitations to be aware of.

- **Personalize this visual** can be turned off for an entire report or for a particular visual. If you don't have an option to personalize a visual, check with your Power BI admin or the report owner. To display contact information for the report owner, select the name of the report from the Power BI menu bar.
- User explorations don't automatically persist. You need to save your view as a personal bookmark to capture your changes.
- This feature is supported in the Power BI mobile apps for iOS and Android tablets and in the Power BI Windows app; it isn't supported in the Power BI mobile apps for phones. However, any change to a visual you save in a personal bookmark while in the Power BI service is respected in all the Power BI mobile apps.

## Next steps

- [Copy and paste a report visualization](#)
- More questions? [Ask the Power BI Community](#) ↗



# Explore your data in the Power BI service (preview)

Article • 12/14/2023

In Power BI, sometimes you just want to do some ad hoc exploration of your data. Maybe you're an analyst who just got access to a new semantic model or data source, and you want to spend time learning about it before you build a report off it. Or maybe you're a business user who needs to answer a specific question about the data to include in a PowerPoint presentation, but the report you're using doesn't answer your exact question. Creating a new report from scratch in these cases is a big hurdle, when you just need a quick answer or screenshot for a slide deck.

The screenshot shows the Power BI Explore interface titled "Explore Hawaii Tourism (preview)". The top navigation bar includes "Save", "Open in new tab", and "Share" buttons. Below the navigation is a "Data" pane on the right containing a "Choose data" section with a search bar and a list of available data sources: Islands, Major Market Areas, Trip Purpose Statistics (selected), Date, From, Island, New or Repeat Vi..., Trip Purpose, Trip Purpose Detail, and Visits. A "Rearrange data" pane on the far right shows the current visualization setup: Y-axis set to "Trip Purpose" and X-axis set to "Sum of Visits". The main workspace contains a "Matrix" view showing the sum of visits by trip purpose, and a "Visual" view showing a horizontal bar chart titled "Sum of Visits by Trip Purpose" where "Pleasure/Vacation" has the highest value (approx. 16.9M).

Trip Purpose	Sum of Visits
Pleasure/Vacation	16944186
Honeymoon/Get Married	3056337
Visit Friends/Rel.	1753340
Other	1584275
Mtgs/Conventions/Incentive	1204607
Sport Events	199353
Total	24812206

Sum of Visits by Trip Purpose

Trip Purpose	Sum of Visits
Pleasure/Vacation	~16.9M
Honeymoon/Get Married	~3.0M
Visit Friends/Rel.	~1.75M
Other	~1.58M
Mtgs/Conventions/Incentive	~1.2M

Introducing the public preview of the new Explore feature, where you have a lightweight and focused experience to explore your data. Similar to exporting your data and building a PivotTable in Excel, now directly within Power BI you can quickly launch Explore to begin creating a pair of a matrix and a visual to get the answers you need without all the extra complexity of reports.

# Get started

1. [Find a dataset or report](#) you'd like to explore.
2. [Begin exploring by building your matrix or PivotTable](#) by adding fields from the data pane.

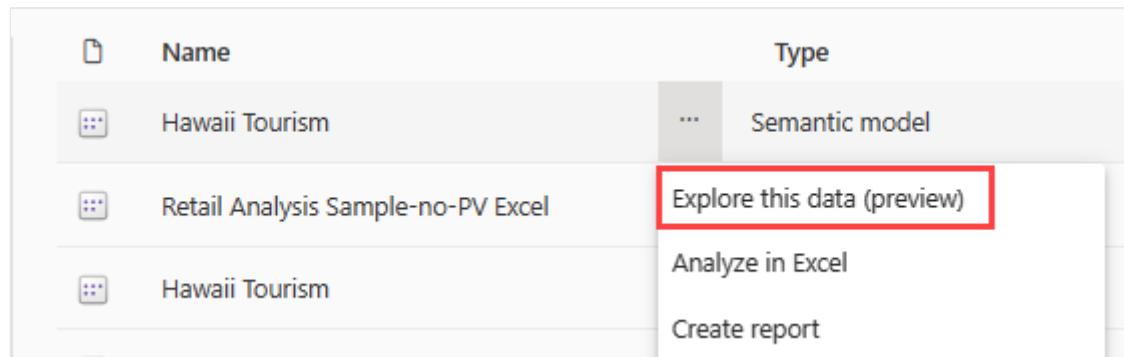
 Note

A matrix is like a [PivotTable in Excel](#).

3. [Add filters if you need them.](#)
4. [Save and share your exploration.](#)

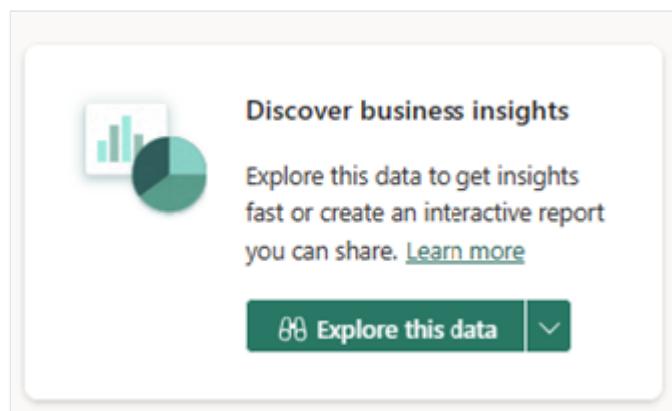
## 1. Find a dataset or report you'd like to explore

For a given dataset, report, or datamart, begin your exploration by selecting the **More options (...)** menu from a workspace list or the data hub list view.



Name	Type
Hawaii Tourism	Semantic model
Retail Analysis Sample-no-PV Excel	<a href="#">Explore this data (preview)</a>
Hawaii Tourism	Analyze in Excel Create report

You also see this option in the Data hub details page as part of the **Discover business insights** action card:



## In a report

Or you may want to explore the underlying data behind a report. You can begin exploration from the report **More options (...)** menu in a workspace list, or the **Explore this data** option on the report menu bar.



## In a datamart

What if while working with a datamart, you'd like to visualize and explore the subset of the data produced from an ad-hoc query you just ran. You have the option to use the new **Explore** feature to dig into your query results as well.

A screenshot of the Power BI service interface. At the top, there is a title bar with 'SQL query 1'. Below it, a query editor shows a single line of SQL: '1 select \* from Customer'. Underneath the editor, there are tabs for 'Messages' and 'Results', with 'Results' being the active tab. On the far right of the results area, there is a 'Download Excel file' button and a 'Explore this data' button, which is also highlighted with a red rectangular box. Below the results area, there are two columns of data headers: 'CustomerKey' and 'Customer ID', each with a small icon and the text 'ABC'.

## 2. Begin exploring by building your matrix or visual

Regardless of where you start from, when you launch the explore experience you land in the new focused view. Your data is on the right, and you can edit, drag and drop, or select fields to start building a matrix or visual.

Explore Hawaii Tourism (preview)

Save Add filter Remove filters

Matrix Sort Drill

Select or drag data to the canvas to start exploring.

Visual

Data

Choose data

Search

Dates

Expenditure Statistics

Island Weather

DATE

Index

NAME

Season

TAVG

TMAX

TMIN

Islands

Average Temp

Island Friendly N...

Island Name

Major Market Areas

Region

Trip Purpose Statistics

Date

From

Island

New or Repeat Vi...

Trip Purpose

Rearrange data

From a dataset, the Explore experience starts with a matrix. That's often a first step, to explore by building out a matrix or PivotTable, to better understand what's available or get down to the right subset of data before visualizing. On the other hand, if you're coming from a datamart, you're coming from a grid view of the data already, so you start off with a visual instead.

You can expand the visual representation of the matrix on the lower part of the dialog. This visual maps to the same data as what you show in the matrix. As you modify the fields you're exploring, it automatically updates and selects the best visual for that set of fields.

Explore Hawaii Tourism (preview)

Save ▾ Open in new tab Share

Add filter Remove filters

### Matrix

Trip Purpose	Sum of Visits
Pleasure/Vacation	16944186
Honeymoon/Get Married	3056337
Visit Friends/Rel.	1753340
Other	1584275
Mtgs/Conventions/Incentive	1204607
Sport Events	199353
<b>Total</b>	<b>24812206</b>

Visual | Sort ▾ Drill ▾

### Sum of Visits by Trip Purpose

Trip Purpose	Sum of Visits
Pleasure/Vacation	16944186
Honeymoon/Get Married	3056337
Visit Friends/Rel.	1753340
Other	1584275
Mtgs/Conventions/Incentive	1204607

Data

Choose data

Search

- Islands
- Major Market Areas
- Trip Purpose Statistics
  - Date
  - From
  - Island
  - New or Repeat Vi...
  - Trip Purpose
  - Trip Purpose Detail
  - Visits

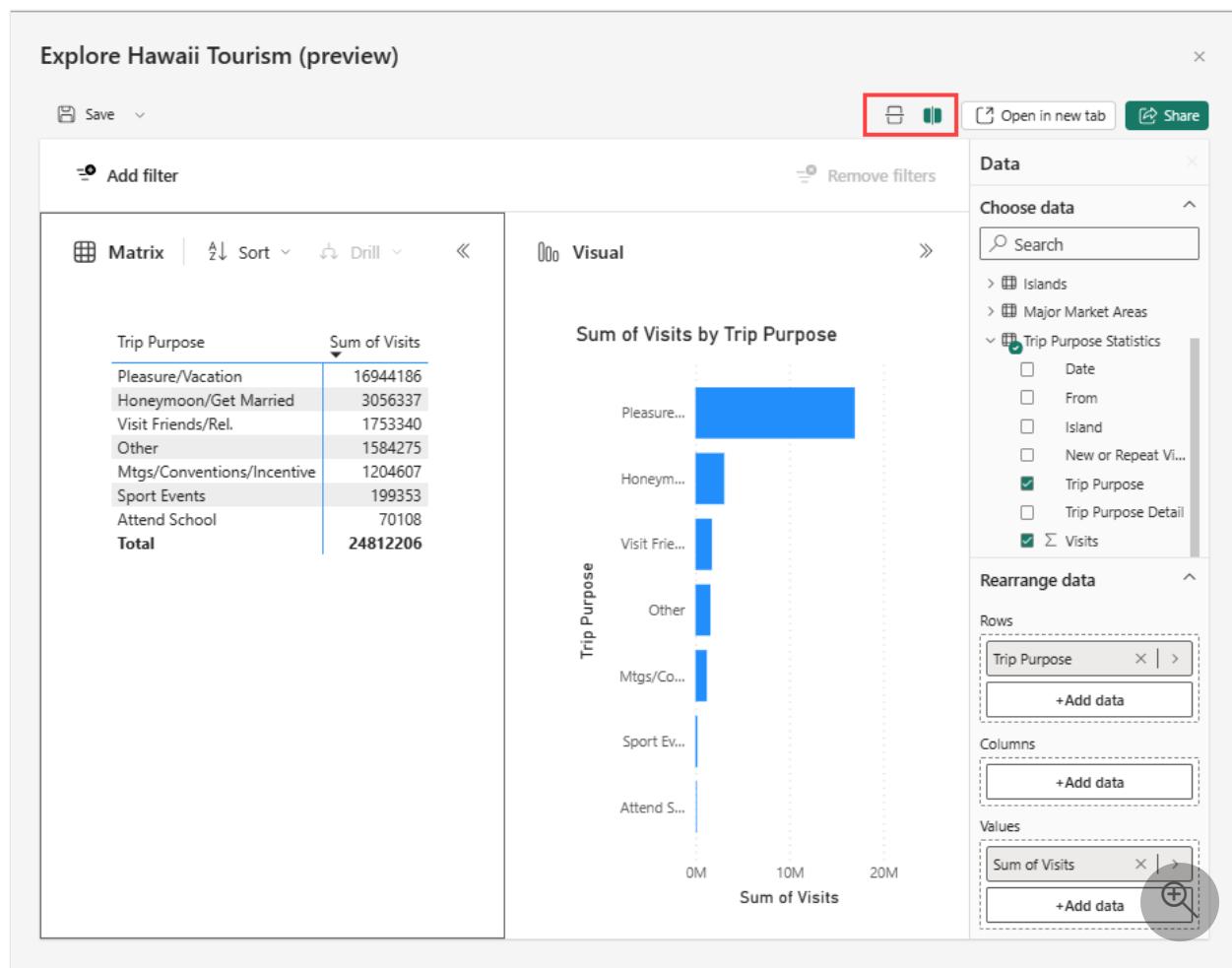
Rearrange data

Y-axis: Trip Purpose

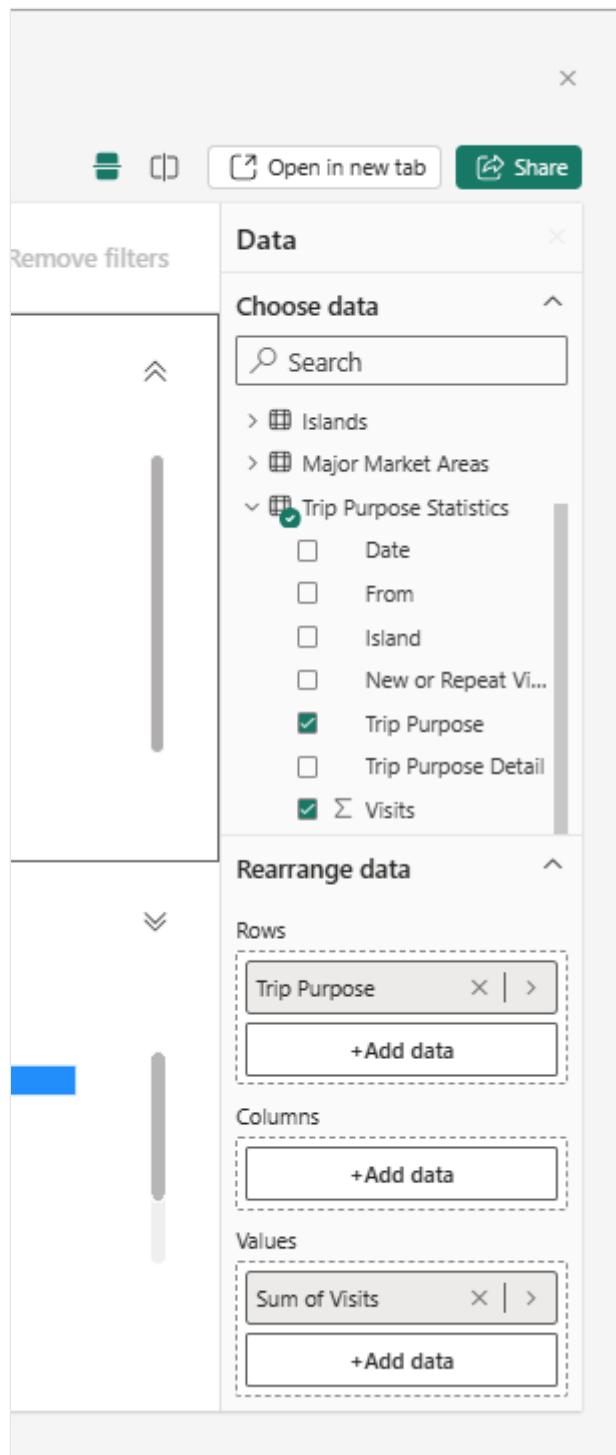
X-axis: Sum of Visits

Legend

If you prefer, you can swap the layout to show the visual and matrix side by side instead of one on top of the other by using the layout buttons in the top right to adjust the orientation.



To adjust which fields are located on the rows and columns, use the field wells in the **Rearrange data** section of the data pane. You only see the field wells of one visual, either the chart or the matrix.



To see the other field wells, select the visual you want to edit. You know which one you're editing by the black outline.

Explore Hawaii Tourism (preview)

Save ▾ Open in new tab Share

Add filter Remove filters

### Matrix

Trip Purpose	Sum of Visits
Pleasure/Vacation	16944186
Honeymoon/Get Married	3056337
Visit Friends/Rel.	1753340
Other	1584275
Mtgs/Conventions/Incentive	1204607
Sport Events	199353
<b>Total</b>	<b>24812206</b>

Choose data

Search

- Islands
- Major Market Areas
- Trip Purpose Statistics**
  - Date
  - From
  - Island
  - New or Repeat Vi...
  - Trip Purpose**
  - Trip Purpose Detail
  - Visits

Rearrange data

Y-axis: Trip Purpose

X-axis: Sum of Visits

Legend

Just as when you were editing the matrix and the visual updated automatically, as you edit the visual, your matrix updates to reflect the same data. This update applies not only to the fields used, but also interactions like sorting and drilling. Assuming the visual can accurately reflect the sort or drill state, it updates appropriately.

For example, these visuals have a date hierarchy and you want to drill down to quarters.

Explore Hawaii Tourism (preview)

Save ▾ Open in new tab Share

Add filter Remove filters

### Matrix

Year	Sum of Visits
2017	10536990
2016	9819487
2018	4455729
<b>Total</b>	<b>24812206</b>

Visual | Drill ▾

Sum of Visits by Year

Year 2018 2017 2016

0M 2M 4M 6M 8M 10M Sum of Visits

Drill up  
↓ Drill down mode  
↔ Go to next level (highlighted)  
↓ Expand one level down

Data

Choose data

Search

Dates

- Date
- Date Hierarchy
- Year
- Quarter
- Month
- Day
- Number of Months

Expenditure Statistics

Island Weather

Rearrange data

Y-axis

Date	X
Year	X
Quarter	X >
Month	X
Day	X

+Add data

X-axis

Sum of Visits	X
---------------	---

Sum of Visits

When you do so on the visual, the matrix also updates accordingly.

Explore Hawaii Tourism (preview)

Save ▾ Open in new tab Share

Add filter Remove filters

### Matrix

Quarter	Sum of Visits
Qtr 1	7534345
Qtr 2	6829688
Qtr 3	5266545
Qtr 4	5181628
<b>Total</b>	<b>24812206</b>

Visual | Drill ▾

Sum of Visits by Quarter

Quarter Qtr 1 Qtr 2 Qtr 3 Qtr 4

0M 2M 4M 6M 8M Sum of Visits

Data

Choose data

Search

Dates

- Date
- Date Hierarchy
- Year
- Quarter
- Month
- Day
- Number of Months

Expenditure Statistics

Island Weather

Rearrange data

Y-axis

Date	X
Year	X
Quarter	X >
Month	X
Day	X

+Add data

X-axis

Sum of Visits	X
---------------	---

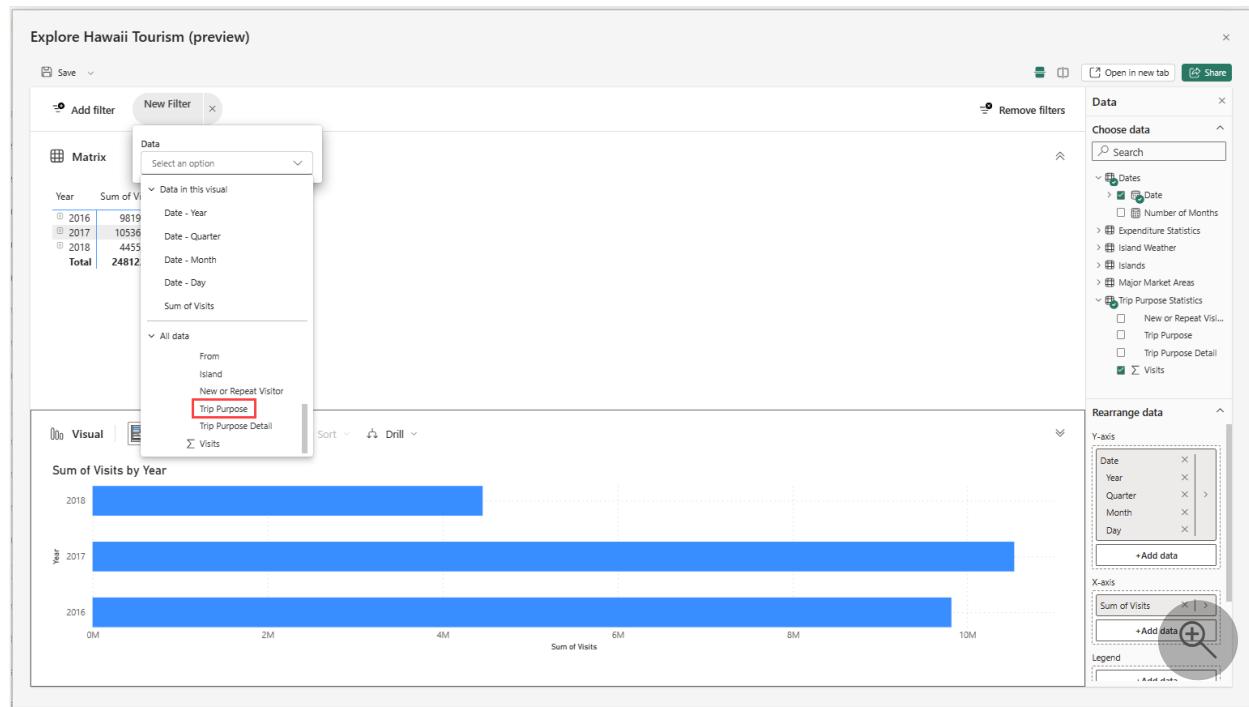
Sum of Visits

## (!) Note

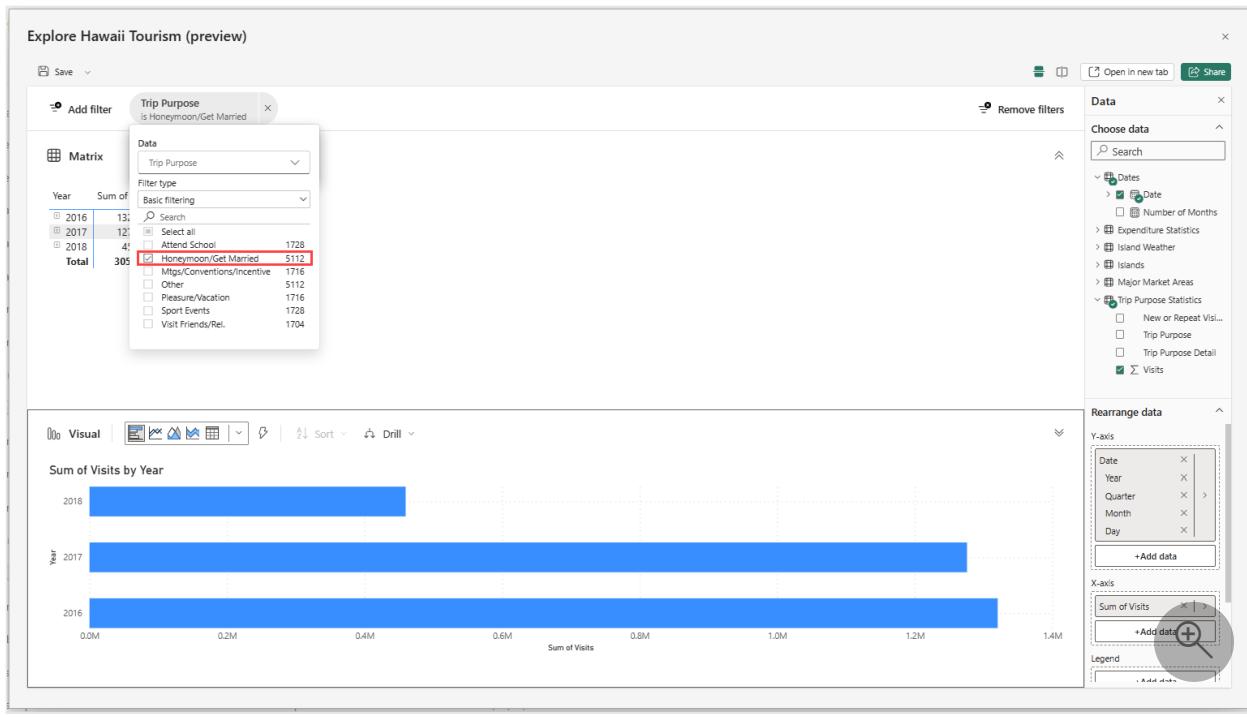
Certain matrix configurations can't currently be visualized in other chart types. Depending on the situation, a visual may not be rendered or the sort and drill state may not apply. For example, if you expand one specific row in the matrix, that won't apply in the visual, because that interaction within other visual types isn't currently supported.

## 3. Add filters if you need them

As you build out your exploration, you can also take advantage of a new filtering experience. Select the **Add filter** button on the top left to quickly add filters on the fields already in your visual or pick from any fields in your dataset in the **All data** section.



In this exploration experience, the filters are added as pills at the top of view, so you can easily see what the current filter state is and quickly modify it on the fly.



## 4. Save and share your exploration

### Save your exploration

To save and share your exploration, select the **Save** button in the upper-left corner. In the dialog, you can name the exploration, pick a workspace to save it to, and add a sensitivity label, if applicable.

#### Note

You can only save explorations to workspaces in a Premium capacity at this time.

Explore Hawaii Tourism | Non-Business

Save

Add filter Trip Purpose is Honeymoon/Get Married

Remove filters

Matrix

Year	Sum of Visits
2016	1320592
2017	1276026
2018	459719
Total	3056337

Save this exploration

Enter a name for your exploration\* Explore-Hawaii-tourism

Select it to a workspace POWER BI

Sensitivity\* Public

Save Cancel

Sum of Visits by Year

2018 1.2M  
2017 1.3M  
2016 1.4M

Year 0.0M 0.2M 0.4M 0.6M 0.8M 1.0M 1.2M 1.4M Sum of Visits

Choose data

Data

Date

Number of Months

Expenditure Statistics

Island Weather

Rearrange data

Y-axis Date, Year, Quarter, Month, Day

X-axis Sum of Visits

## Share your exploration

Now you're ready to share your exploration with others. Select the **Share** button in the upper-right corner.

Select **People in your organization can view**.

Create and send link

Explore-Hawaii-tourism

People in your organization can view

Enter a name or email address

Add a message (optional)

Send

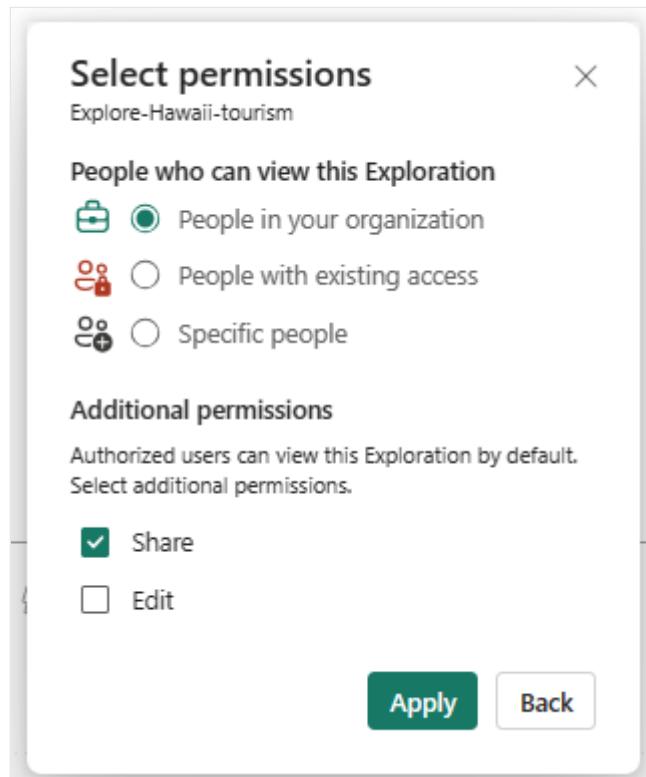
Copy link

by Email

by Teams

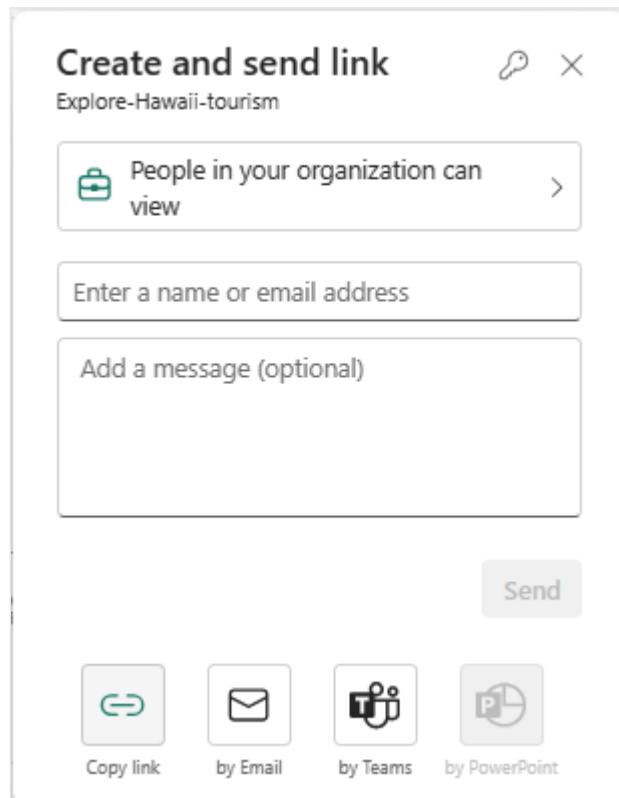
by PowerPoint

Choose your audience and their permissions, and select **Apply**.



Provide email addresses and a message, then select **Send**.

Or select **Copy link** and send it by another means.



Continue to add your recipients' email addresses and share. You should be immediately prompted to share the underlying dataset so the recipients can view the contents of

your exploration. If you're not prompted, ensure that you [share the dataset](#) with read permissions.

### ⓘ Note

Usually for reports, sharing the underlying dataset is done behind the scenes.

You may want to save your exploration as a report instead. You can do so by choosing **Save**, then **Save as report**. This saves your exploration as a single page report matching the layout when saved. For example, if you're viewing both the matrix and the visual, you get one page with a matrix on the top half and the visual on the bottom half of the page.

You can share this new report as with other reports by using the **Share** button.

## Considerations and limitations

### To create

- Exploration authors need build permissions on the dataset to create an exploration and open the Explore dialog.
- When you save, the destination workspace must be in a Premium capacity.
- Changing a sensitivity label on a dataset doesn't currently propagate down to the exploration that you create for it.
- There is currently a known issue when you attempt to save an exploration from the Datamart SQL editor entry point.
- Explore isn't currently supported for streaming datasets.
- If you save to **My workspace**, you may need to refresh your page to see the newly saved exploration artifact.

### To share

- Exploration users need a Power BI Pro or PPU license to share.
- When you share, Power BI prompts you to grant build permissions to the underlying dataset so the recipient can view. If you skip this second dialog, the recipient can't see the exploration and has to ask you for permissions.
- Explorations aren't currently shown in lineage view as related to the dataset.

### To open a saved exploration

- Currently, you can't open an exploration on a mobile device in the Power BI mobile app.

## Entry points

Explore isn't currently available from datasets and reports on the Power BI service Home or Create pages.

## Supported visuals

All native visuals are supported with the exception of these visuals:

- Matrix
- Q&A
- Smart narratives
- Metrics
- Paginated reports
- Power Apps
- Power Automate

## Next steps

[Personalize visuals in a report](#)

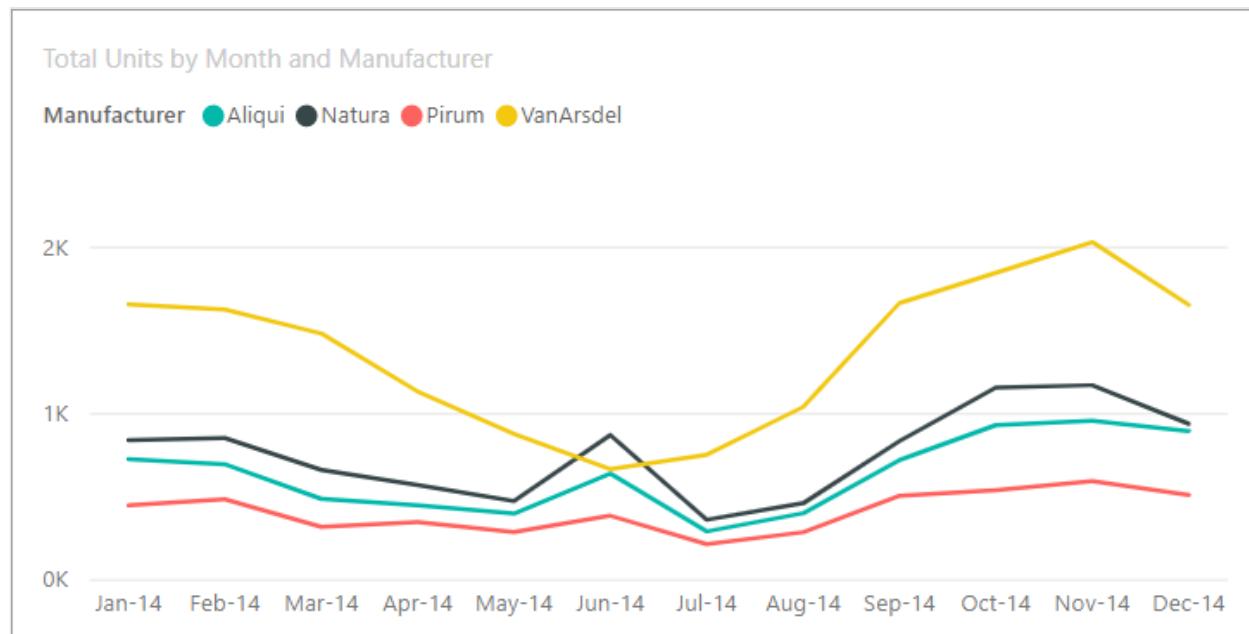
# Use the Analyze feature to explain fluctuations in report visuals

Article • 02/23/2023

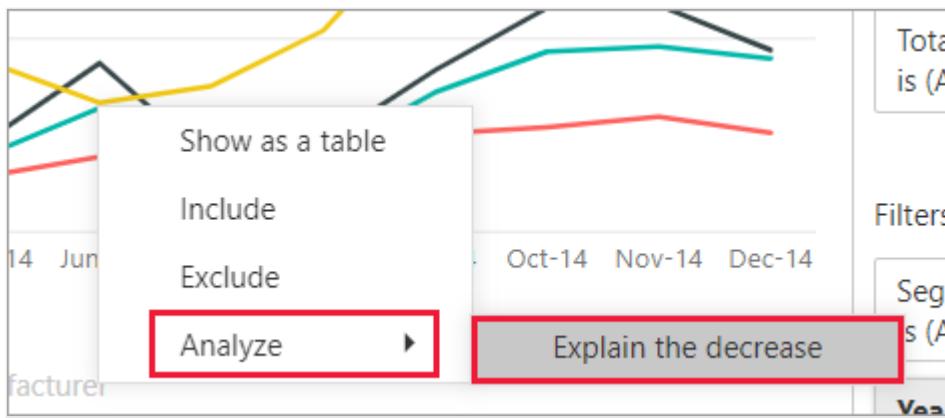
**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

When there are large increases and sharp drops in values on report visuals, you might wonder about the cause of such fluctuations. With **Analyze in the Power BI service**, you can easily find the reason.

For example, consider the following visual that shows *Total units* by *Month* and *Manufacturer*. VanArsdel is outperforming its competitors but has a deep dip in June 2014. In such cases, you can explore the data and help explain the change that occurred.



You can ask the Power BI service to explain increases, decreases, or unusual distributions in visuals, and get fast, automated, insightful analysis about your data. Right-click on a data point, select **Analyze > Explain the decrease** (or increase if the previous bar was lower), or **Analyze > Find where this distribution is different**. Then the insight is displayed in an easy-to-use window.



The Analyze feature is contextual, and is based on the immediately previous data point—such as the previous bar or column.

#### ! Note

This feature is in preview, and is subject to change. The insight feature is enabled and on by default (you don't need to check a Preview box to enable it).

## Which factors and categories are chosen

After examining different columns, Power BI selects and displays those factors that show the biggest change to relative contribution. For each, the values that have the most significant change to contribution are called out in the description. In addition, the values that have the largest actual increases and decreases are also called out.

To see all of the insights generated by Power BI, use the scrollbar. The order is ranked with the most significant contributor displayed first.

## Using insights

To use insights to explain trends seen on visuals, right-click on any data point in a bar or line chart and select **Analyze**. Then choose an option that appears: **explain the increase**, **explain the decrease**, or **explain the difference**.

Power BI then runs its machine learning algorithms over the data and populates a window with a visual and a description. The description details which categories most influenced the increase, decrease, or difference. In the following example, the first insight is a waterfall chart.

Here's the analysis of the 24.28% decrease in Total Units between May-14 VanArsdel and Jun-14 VanArsdel



### Total Units

BY MONTH, MANUFACTURER AND STATE



'FL', 'TX', and 'CA' had the largest decrease among State . The relative contributions made by 'LA', 'OH', and 'NC' changed the most.

● Increase ● Decrease ● Total ● Other

900

873

800

-17

700

-19

600

-20

500

-24

400

-34

300

-98

200

661

100

May-14  
VanArsdel

NC

LA

CA

TX

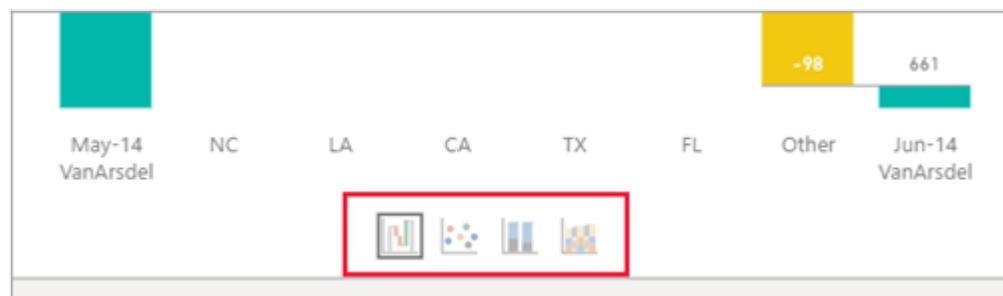
FL

Other

Jun-14  
VanArsdel



Select the small icons at the bottom of the waterfall visual to have insights display a scatter chart, stacked column chart, or ribbon chart.



Use the *thumbs up* and *thumbs down* icons at the top of the page to provide feedback about the visual and the feature.

Here's the analysis of the 24.28% decrease in Total Units between May-14 VanArsdel and Jun-14 VanArsdel



### Total Units

BY MONTH, MANUFACTURER AND STATE



'FL' 'TX' and 'CA' had the largest decrease among State. The relative contributions

You can use insights when your report is in Reading or Editing view. It's versatile for analyzing data and creating visuals you can easily add to your reports. If the report is open in Editing view, you see a plus icon next to the thumb icons. Select the plus icon to add the insight to your report as a new visual.

Here's the analysis of the 24.28% decrease in Total Units between May-14 VanArsdel and Jun-14 VanArsdel



Add to page

### Total Units

BY MONTH, MANUFACTURER AND STATE



'FL' 'TX' and 'CA' had the largest decrease among State. The relative contributions

## Details of the results returned

The details returned by insights are intended to highlight the differences between the two time periods to help you understand the change between them.

You can think of the algorithm like this—it takes all the other columns in the model and calculates the breakdown by that column (for the *before* and *after* time periods) to determine how much change occurred in that breakdown. Then returns those columns with the biggest change. In the previous example, *State* is selected in the waterfall insight, as the contribution made by Louisiana, Texas, and California fell from 13% to 19% from June to July. This change contributed the most to the decrease in *Total units*.

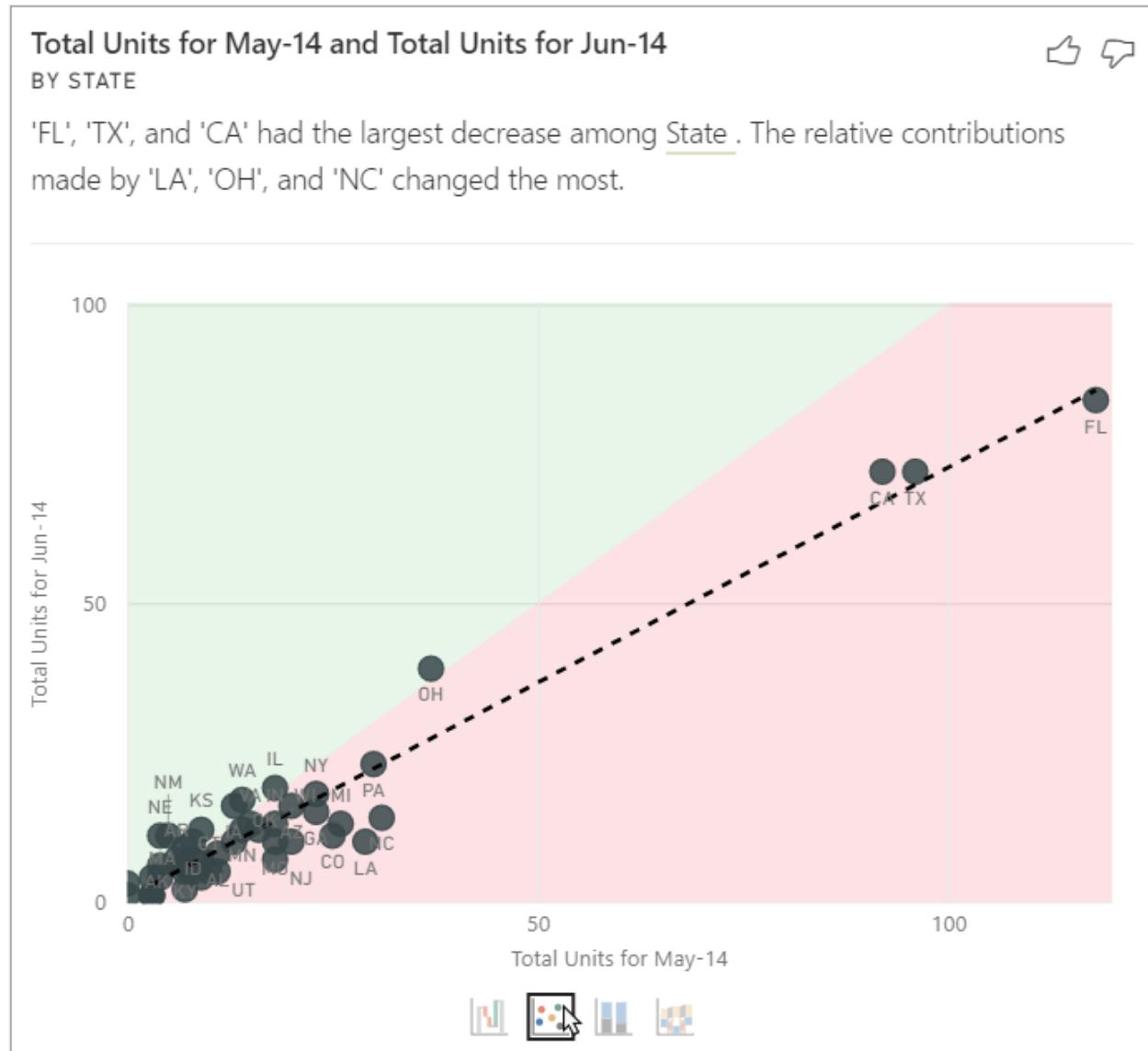
For each insight returned, there are four visuals that can be displayed. Three of those visuals are intended to highlight the change in contribution between the two periods, such as the explanation of the increase from *Qtr 2* to *Qtr 3*. The ribbon chart shows change both before and after the selected data point.

## The scatter plot



The scatter plot visual shows the value of the measure in the first period (x-axis) against the value of the measure in the second period (y-axis) for each value of the column (*State* in this case). Data points are in the green region if they've increased and in the red region if they've decreased.

The dotted line shows the best fit, and data points above this line increased by more than the overall trend and those below it by less.



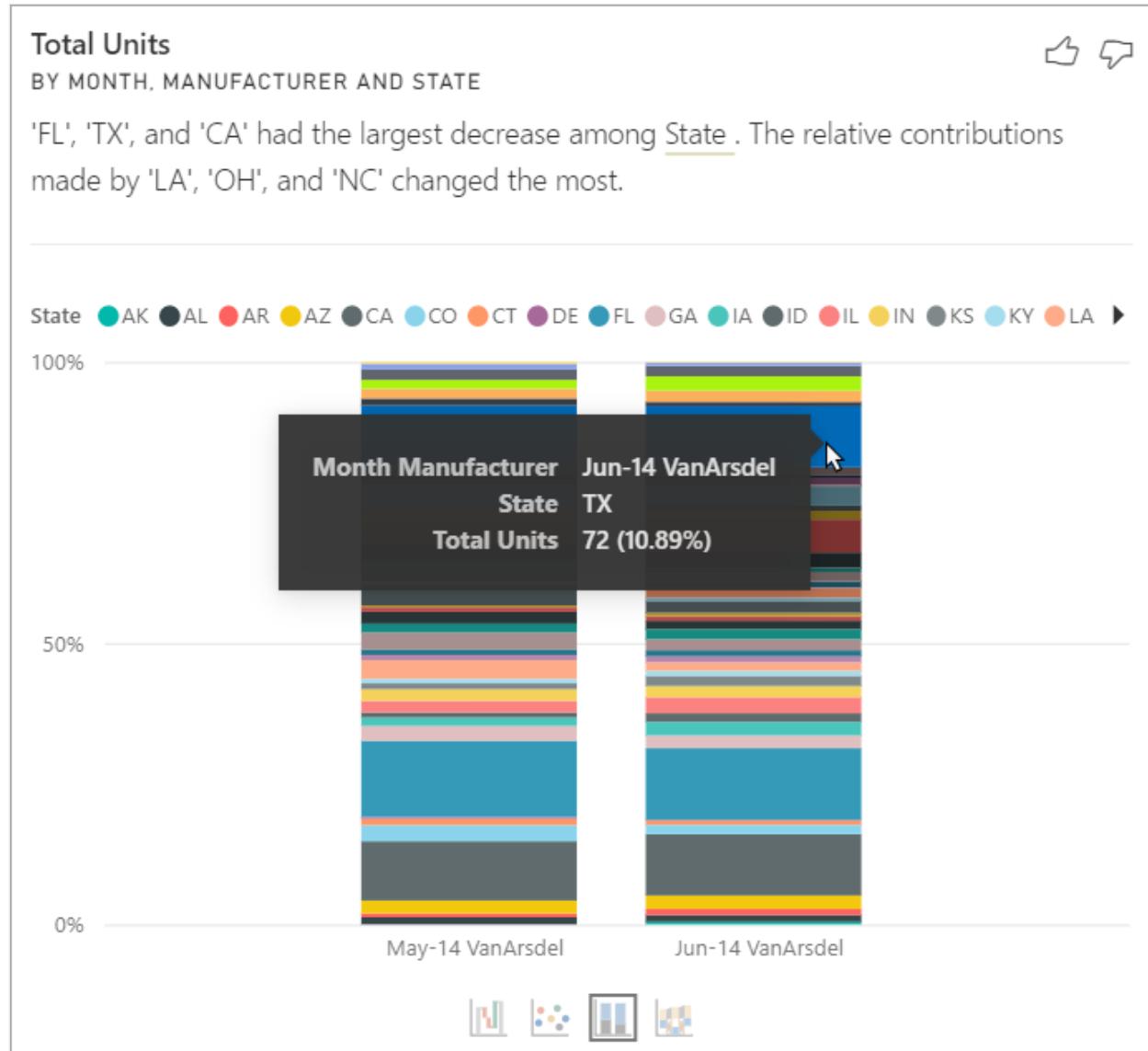
Data items whose value was blank in either period won't appear on the scatter plot.

## The 100% stacked column chart



The 100% stacked column chart visual shows the value of the contribution to the total (100%) for the selected data point and the previous. This allows side-by-side comparison of the contribution for each data point. In the following example, tooltips

shows the actual contribution for the selected value of Texas. Because the list of states is long, tooltips helps you see the details. With the use of tooltips, you see that Texas contributed about the same percent to the total units (31% and 32%), but the actual number of total units decreased from 89 to 71. Remember, the Y axis is a percentage, not a total, and each column band is a percentage, not a value.



## The ribbon chart



The ribbon chart visual shows the value of the measure before and after. It helps show the changes in contributions when the *ordering* of contributors changed (for example, *LA* dropped from number two contributor to number eleven). *TX* is represented by a wide ribbon at the top, signifying that it is the most significant contributor before and after. The drop shows that the value of the contribution dropped both during the selected period and after.

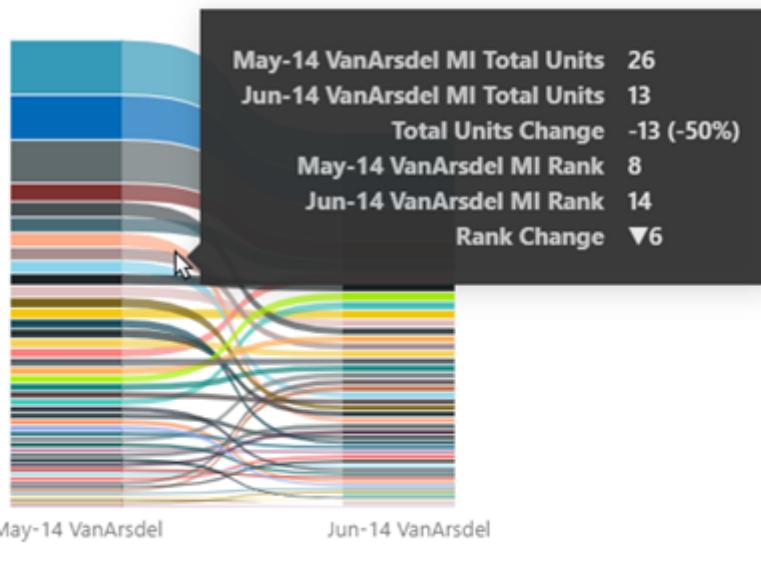
## Total Units

BY MONTH, MANUFACTURER AND STATE



'FL', 'TX', and 'CA' had the largest decrease among State. The relative contributions made by 'LA', 'OH', and 'NC' changed the most.

State AK AL AR AZ CA CO CT DE FL GA IA ID IL IN KS KY LA ►



## The waterfall chart



The fourth visual is a waterfall chart, showing actual increases or decreases between the periods. This visual clearly shows one significant contributor to the decrease for June 2014—in this case, **State**. And the particulars of **State**'s influence on total units are that declines in Louisiana, Texas, and Colorado played the most significant role.

Here's the analysis of the 24.28% decrease in Total Units between May-14 VanArsdel and Jun-14 VanArsdel



### Total Units

BY MONTH, MANUFACTURER AND STATE

'FL', 'TX', and 'CA' had the largest decrease among State . The relative contributions made by 'LA', 'OH', and 'NC' changed the most.

● Increase ● Decrease ● Total ● Other

900

873

800

-17

700

-19

600

-20

500

-24

400

-34

300

-98

200

661

100

May-14  
VanArsdel

NC

LA

CA

TX

FL

Other

Jun-14  
VanArsdel



## Considerations and limitations

Since these insights are based on the change from the previous data point, they aren't available when you select the first data point in a visual.

The **Analyze** feature isn't available for all visual types.

The following list is the collection of currently unsupported scenarios for the **Analyze** feature (**Explain the increase**, **Explain the decrease**, **Find where the distribution is different**):

- TopN filters
- Include or exclude filters.
- Measure filters
- Non-numeric measures

- Use of "Show value as."
- Filtered measures. Filtered measures are visual level calculations with a specific filter applied (for example, *Total Sales for France*) and are used on some of the visuals created by the insights feature.
- Categorical columns on X-axis unless it defines a sort by column that is scalar. If using a hierarchy, then every column in the active hierarchy has to match this condition.
- RLS or OLS enabled data models

## Next steps

- [Waterfall charts in Power BI](#)
- [Scatter charts, bubble charts, and dot plot charts in Power BI](#)
- [Visualizations in Power BI reports](#)
- [Create ribbon charts in Power BI](#)

# Visualization types in Power BI

Article • 10/27/2023

APPLIES TO: Power BI Desktop Power BI service

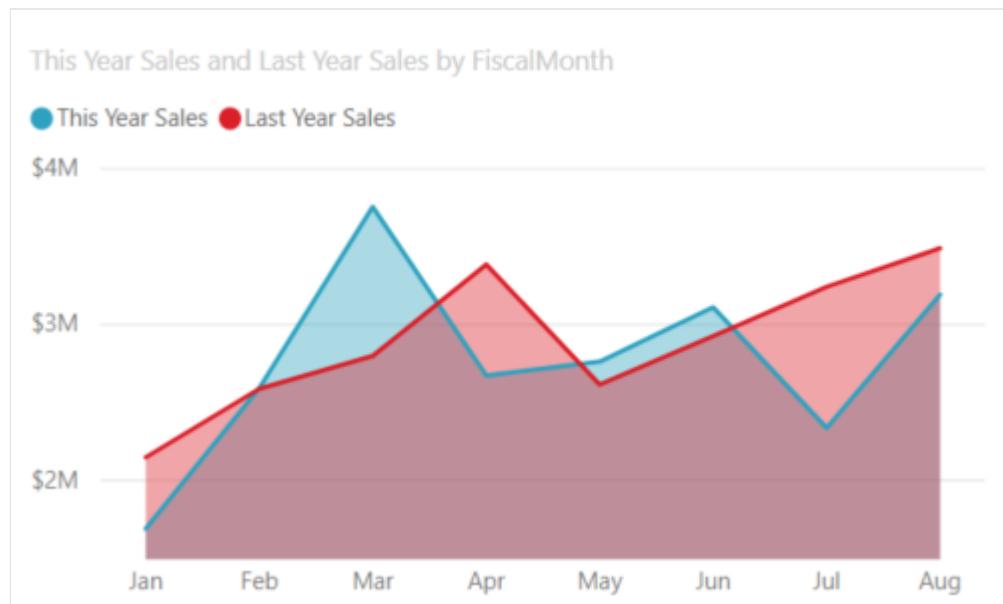
This article lists visualizations available in Power BI. We'll be adding new visualizations, stay tuned!

And check out the [Microsoft AppSource](#), where you'll find a growing list of [Power BI visuals](#) you can download and use in your own dashboards and reports. Feeling creative? [Learn how to create and add your own visuals to this community site.](#)

## Visualizations in Power BI

All of these visualizations can be added to Power BI reports, specified in Q&A, and pinned to dashboards.

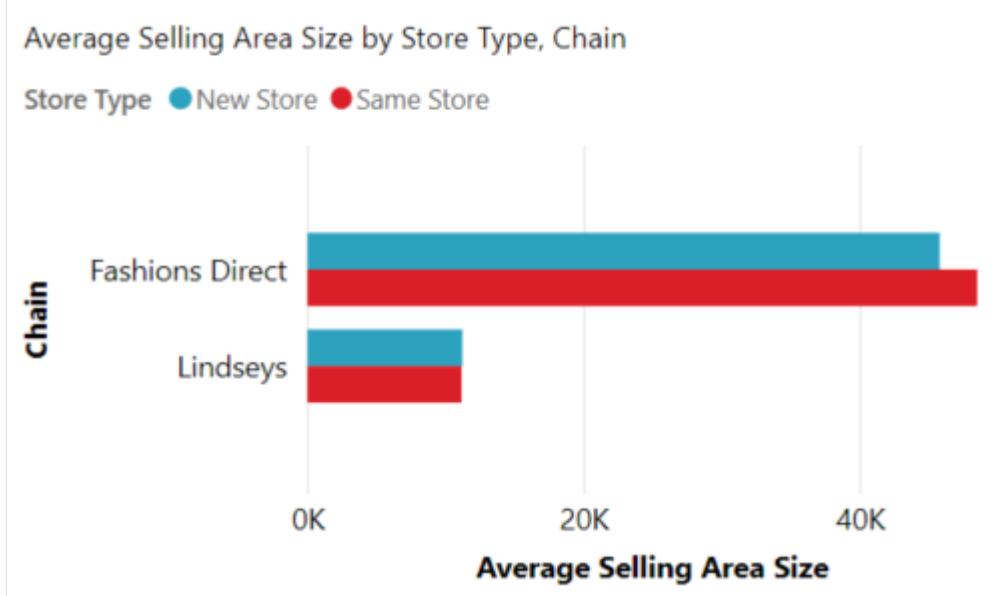
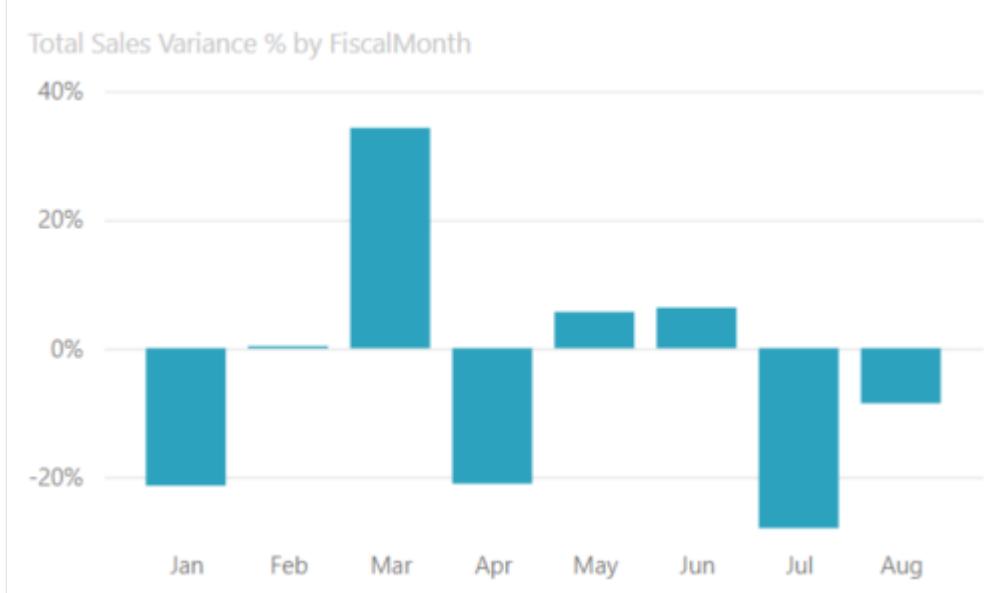
## Area charts: Basic (Layered) and Stacked



The basic area chart is based on the line chart with the area between the axis and line filled in. Area charts emphasize the magnitude of change over time, and can be used to draw attention to the total value across a trend. For example, data that represents profit over time can be plotted in an area chart to emphasize the total profit.

For more information, see [Basic Area chart](#).

## Bar and column charts



Bar charts are the standard for looking at a specific value across different categories.

## Cards

### Multi row

030-Kids

\$5.30

Average Unit Price

Multi row cards display one or more data points, one per row.

## Single number

104

Total Stores

Single number cards display a single fact, a single data point. Sometimes a single number is the most important thing you want to track in your Power BI dashboard or report, such as total sales, market share year over year, or total opportunities.

For more information, see [Create a Card \(big number tile\)](#).

## Combo charts



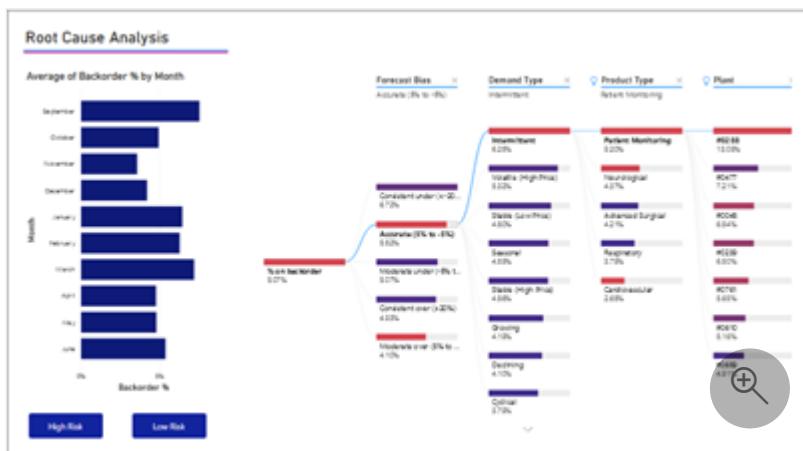
A combo chart combines a column chart and a line chart. Combining the two charts into one lets you make a quicker comparison of the data. Combo charts can have one or two Y axes, so be sure to look closely.

Combo charts are a great choice:

- When you have a line chart and a column chart with the same X axis.
- To compare multiple measures with different value ranges.
- To illustrate the correlation between two measures in one visual.
- To check whether one measure meets the target which is defined by another measure.
- To conserve canvas space.

For more information, see [Combo charts in Power BI](#).

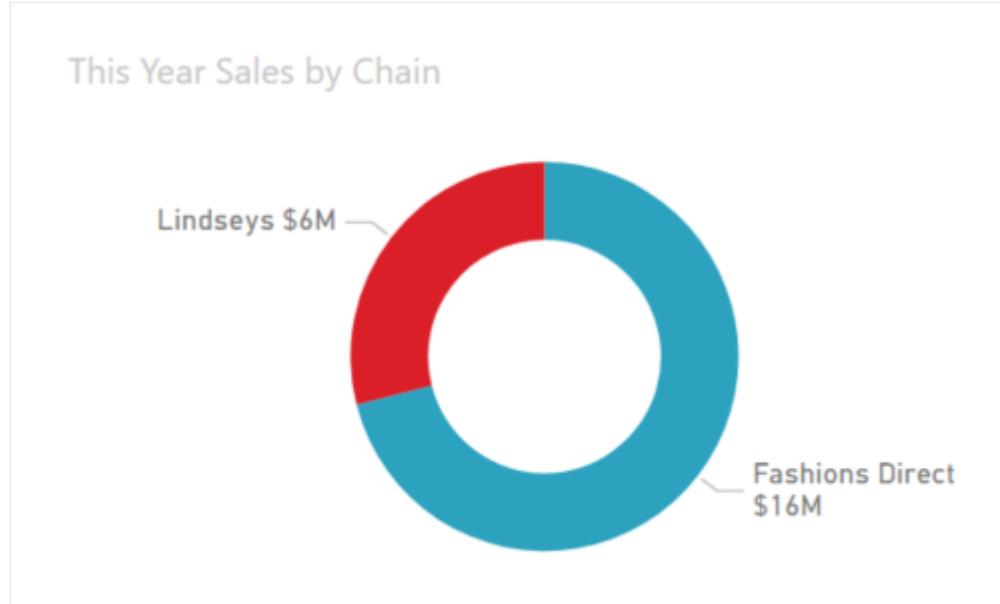
## Decomposition tree



The decomposition tree visual lets you visualize data across multiple dimensions. It automatically aggregates data and enables drilling down into your dimensions in any

order. It is also an artificial intelligence (AI) visualization, so you can ask it to find the next dimension to drill down into based on certain criteria. This makes it a valuable tool for ad hoc exploration and conducting root cause analysis.

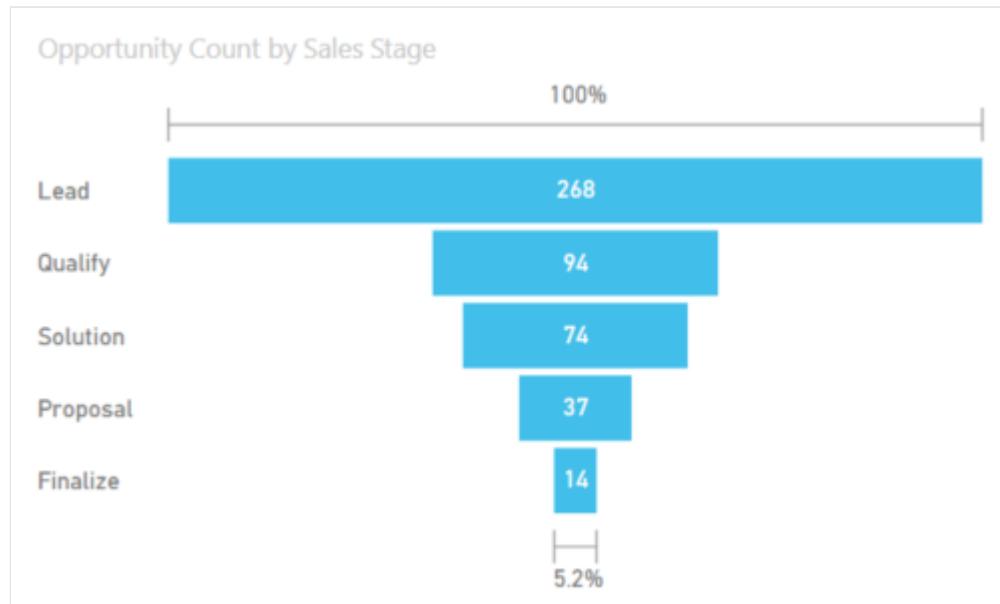
## Doughnut charts



Doughnut charts are similar to pie charts. They show the relationship of parts to a whole. The only difference is that the center is blank and allows space for a label or icon.

For more information, see [Doughnut charts in Power BI](#).

## Funnel charts



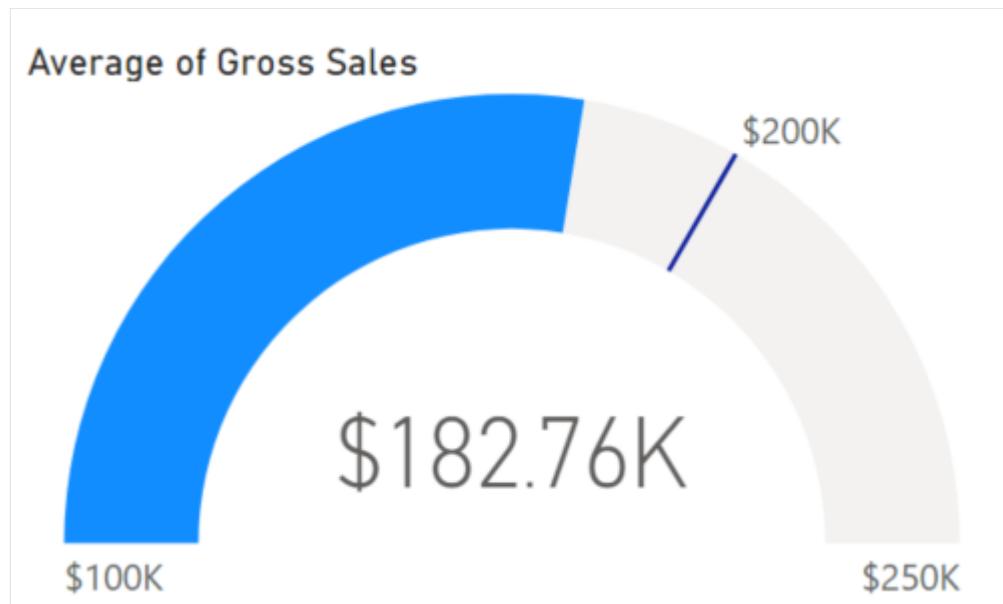
Funnels help visualize a process that has stages, and items flow sequentially from one stage to the next. One example is a sales process that starts with leads and ends with

purchase fulfillment.

For example, a sales funnel that tracks customers through stages: Lead > Qualified Lead > Prospect > Contract > Close. At a glance, the shape of the funnel conveys the health of the process you're tracking. Each funnel stage represents a percentage of the total. So, in most cases, a funnel chart is shaped like a funnel -- with the first stage being the largest, and each subsequent stage smaller than its predecessor. A pear-shaped funnel is also useful -- it can identify a problem in the process. But typically, the first stage, the "intake" stage, is the largest.

For more information, see [Funnel Charts in Power BI](#).

## Gauge charts



A radial gauge chart has a circular arc and displays a single value that measures progress toward a goal. The goal, or target value, is represented by the line (needle). Progress toward that goal is represented by the shading. And the value that represents that progress is shown in bold inside the arc. All possible values are spread evenly along the arc, from the minimum (left-most value) to the maximum (right-most value).

In the example above, we are a car retailer, tracking our Sales team's average sales per month. Our goal is 200,000 and represented by the location of the needle. The minimum possible average sales is 100,000 and we've set the maximum as 250,000. The blue shading shows that we're currently averaging approximately \$180,000 this month. Luckily, we still have another week to reach our goal.

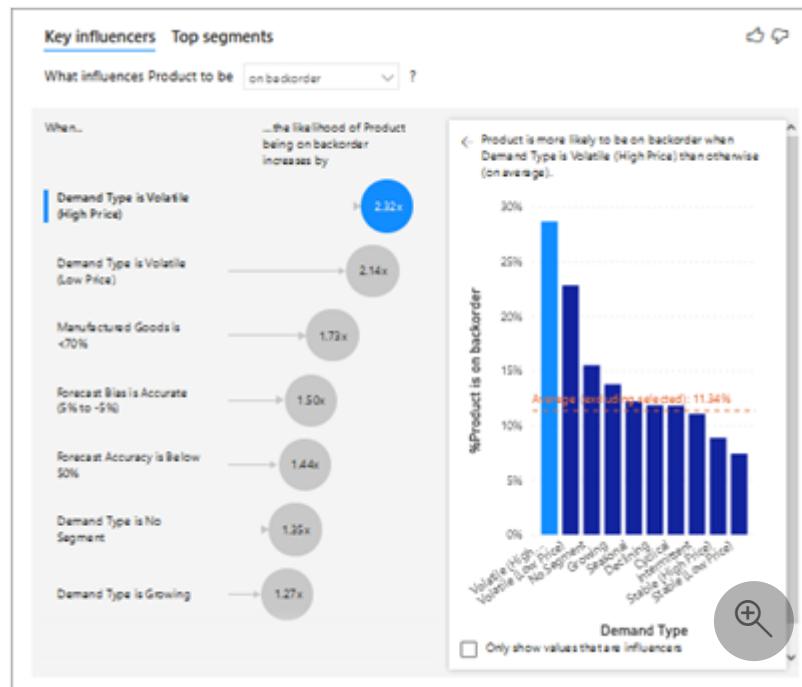
Radial gauges are a great choice to:

- Show progress toward a goal.

- Represent a percentile measure, like a KPI.
- Show the health of a single measure.
- Display information that can be quickly scanned and understood.

For more information, see [Gauge Charts in Power BI](#).

## Key influencers chart



A key influencer chart displays the major contributors to a selected result or value.

Key influencers are a great choice to help you understand the factors that influence a key metric. For example, *what influences customers to place a second order or why were sales so high last June*.

For more information, see [Key influencer charts in Power BI](#)

## KPIs



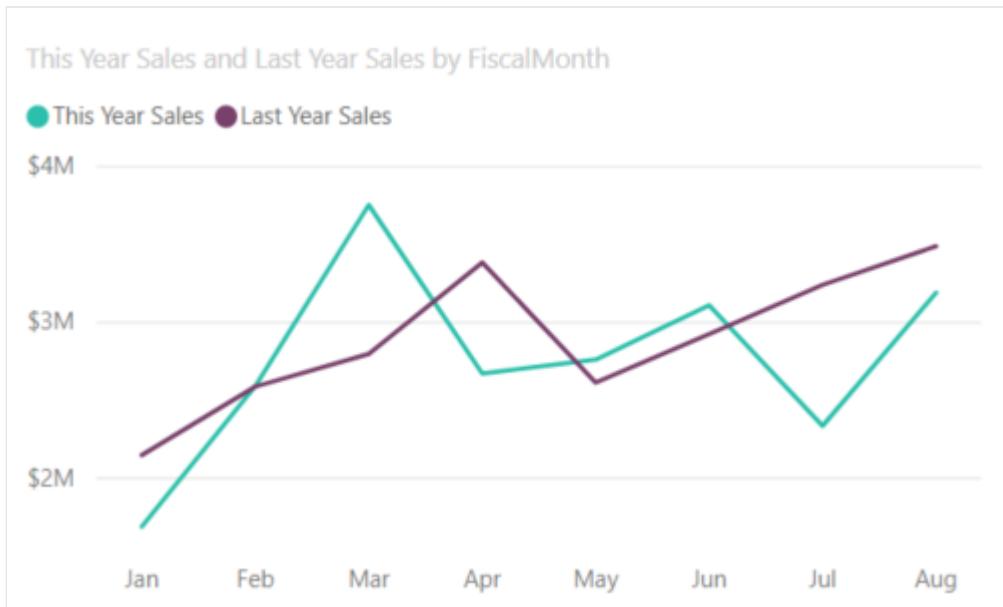
A Key Performance Indicator (KPI) is a visual cue that communicates the amount of progress made toward a measurable goal.

KPIs are a great choice:

- To measure progress (what am I ahead or behind on?).
- To measure distance to a metric (how far ahead or behind am I?).

For more information, see [KPIs in Power BI](#).

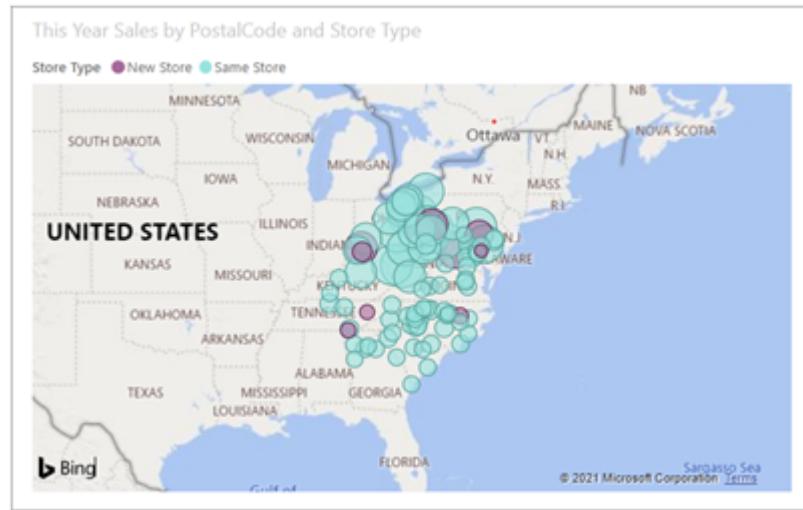
## Line charts



Line charts emphasize the overall shape of an entire series of values, usually over time.

## Maps

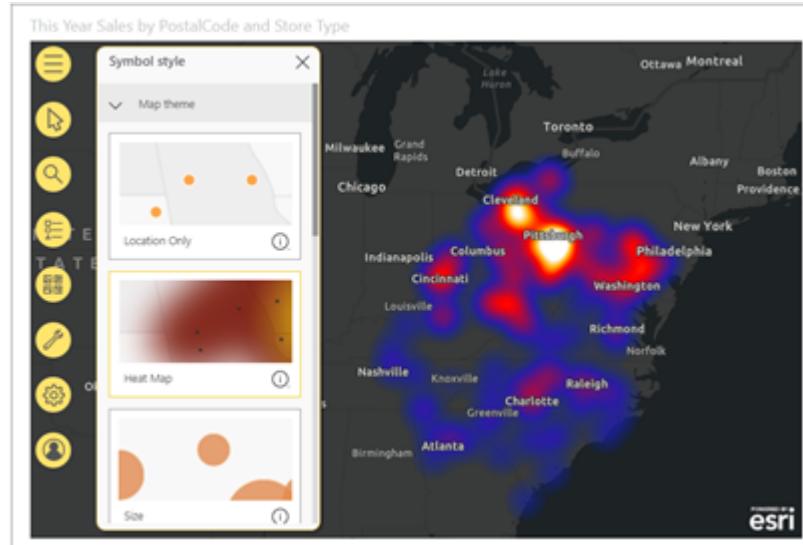
## Basic map



Use a basic map to associate both categorical and quantitative information with spatial locations.

For more information, see [Tips and tricks for map visuals](#).

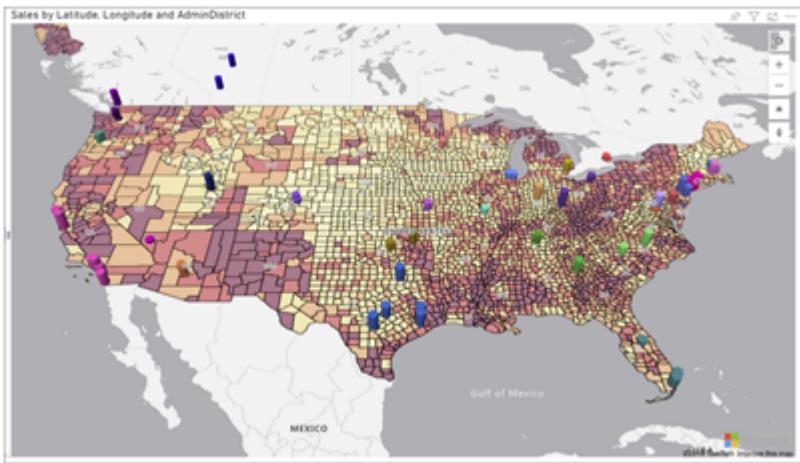
## ArcGIS map



The combination of ArcGIS maps and Power BI takes mapping beyond the presentation of points on a map to a whole new level. The available options for base maps, location types, themes, symbol styles, and reference layers creates gorgeous informative map visuals. The combination of authoritative data layers (such as census data) on a map with spatial analysis conveys a deeper understanding of the data in your visual.

For more information, see [ArcGIS maps in Power BI](#).

## Azure map

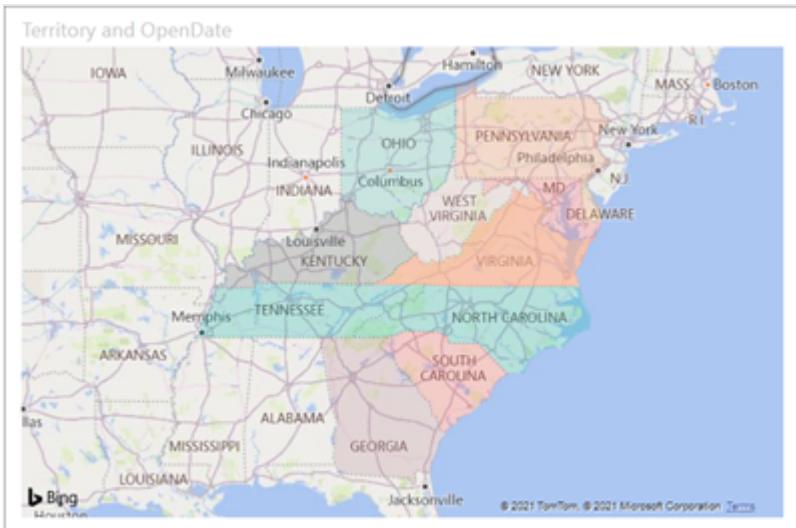


### 💡 Tip

Used to associate both categorical and quantitative information with spatial locations.

For more information, see [Azure Maps visual for Power BI](#).

## Filled map (Choropleth)



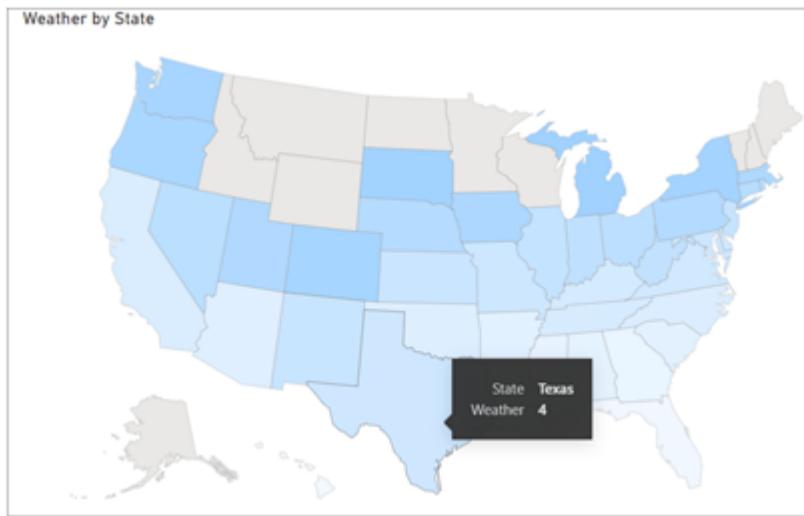
A filled map uses shading or tinting or patterns to display how a value differs in proportion across a geography or region. Quickly display these relative differences with shading that ranges from light (less-frequent/lower) to dark (more-frequent/more).

### 💡 Tip

The more intense the color, the larger the value.

For more information, see [Filled Maps in Power BI](#).

## Shape map



Shape maps compare regions on a map using color. A shape map can't show precise geographical locations of data points on a map. Instead, its main purpose is to show relative comparisons of regions on a map by coloring them differently.

For more information, see [Shape Maps in Power BI](#).

## Matrix

Region	Rows	Central	East	West	Total	
Sales Stage	Opportunity Count	Revenue	Opportunity Count	Revenue	Opportunity Count	Revenue
Lead	102	\$507,574,417	114	\$473,887,837	52	\$256,199,114
Qualify	29	\$111,715,461	50	\$195,892,154	15	\$52,442,363
Solution	29	\$100,743,789	30	\$134,347,170	15	\$53,441,501
Proposal	14	\$46,722,869	13	\$39,370,924	10	\$43,032,669
Finalize	5	\$23,302,246	5	\$30,696,428	4	\$21,176,185
Total	179	\$790,058,782	212	\$894,594,513	96	\$426,251,832
					487	\$2,116,905,127

The matrix visual is a type of table visual (see [Tables](#) in this article) that supports a stepped layout. A table supports two dimensions, but a matrix makes it easier to display data meaningfully across multiple dimensions. Often, report designers include matrixes in reports and dashboards to allow users to select one or more element (rows, columns, cells) in the matrix to cross-highlight other visuals on a report page.

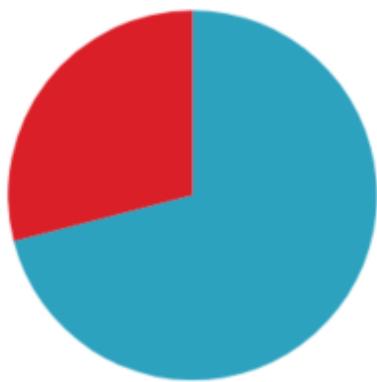
### Tip

The matrix automatically aggregates the data and enables drilling down into the data.

For more information, see [Matrix visuals in Power BI](#).

## Pie charts

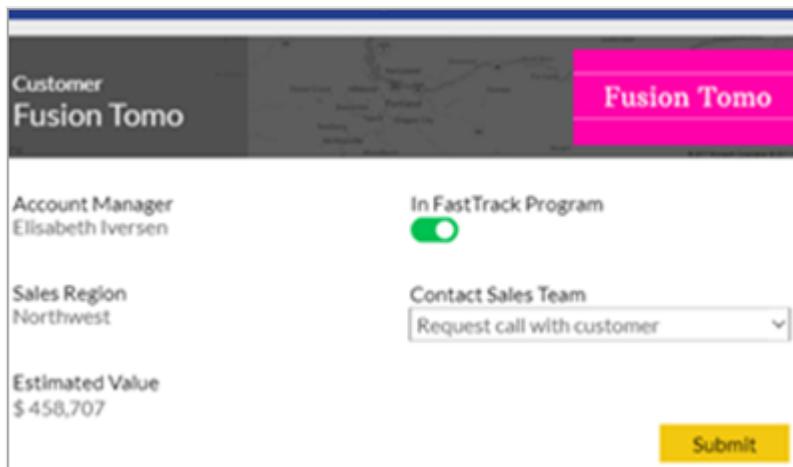
This Year Sales by Chain



Chain ● Fashions Direct ● Lindseys

Pie charts show the relationship of parts to a whole.

## Power Apps visual



Report designers can create a Power App and embed it into a Power BI report as a visual. Consumers can interact with that visual within the Power BI report.

For more information, see [Add a Power Apps visual to your report](#).

## Q&A visual

① Help Q&A understand people's questions better by adding synonyms

Add synonyms now



Ask a question about your data



Try one of these to get started

what is the total store  
by city

what is the total sales  
by category

what is the total sales LY  
by category

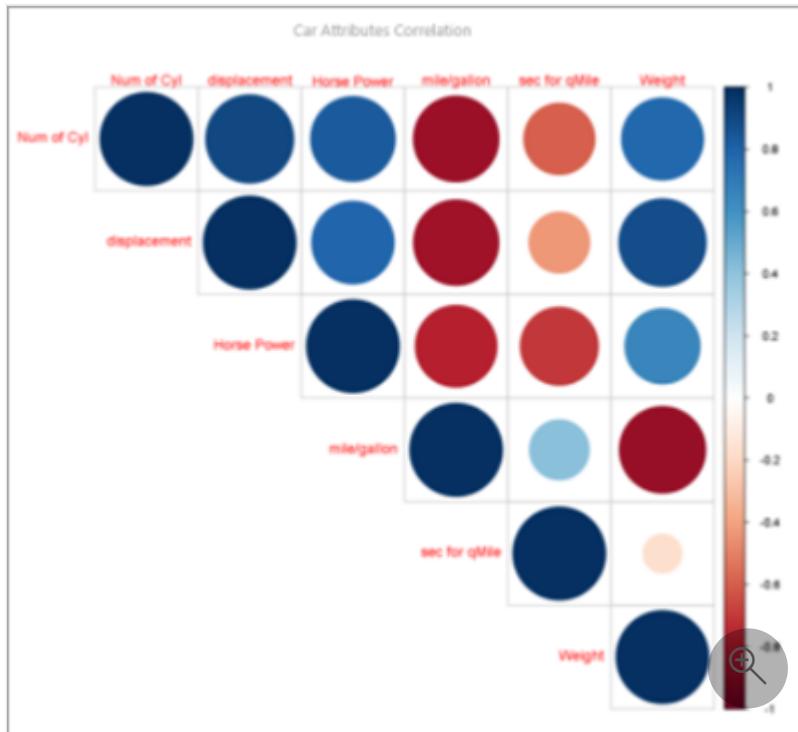
Show all suggestions

### Tip

Similar to the [Q&A experience on dashboards](#), the Q&A visual lets you ask questions about your data using natural language.

For more information, see [Q&A visuals in Power BI](#).

## R script visuals



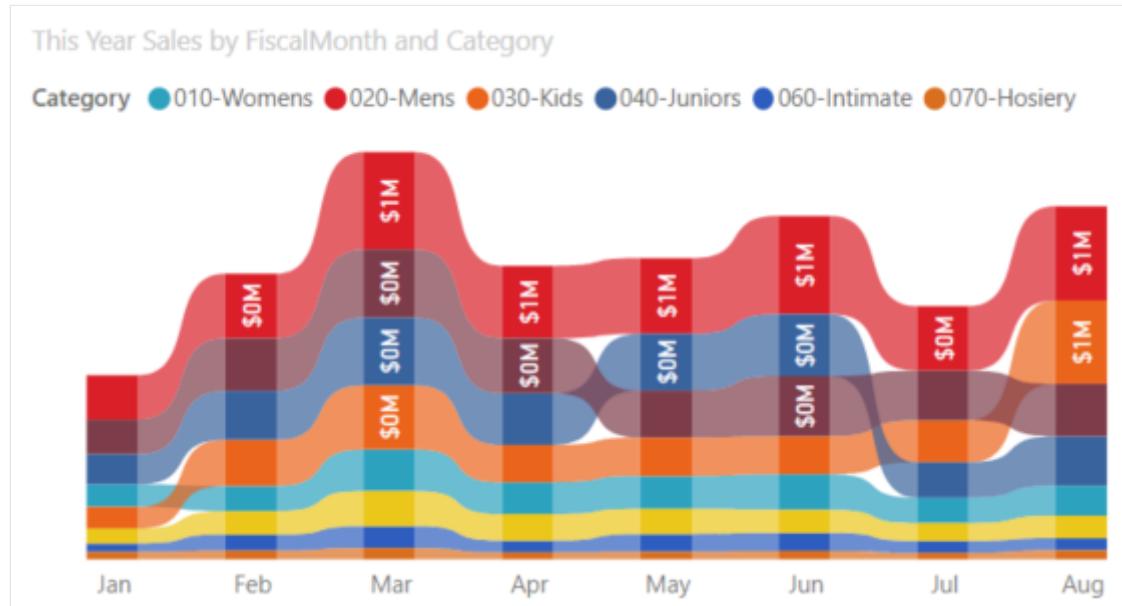
### Tip

Visuals created with R scripts, commonly called *R visuals*, can present advanced data shaping and analytics such as forecasting, using the rich analytics and

visualization power of R. R visuals can be created in Power BI Desktop and published to the Power BI service.

For more information, see [R visuals in Power BI](#).

## Ribbon chart



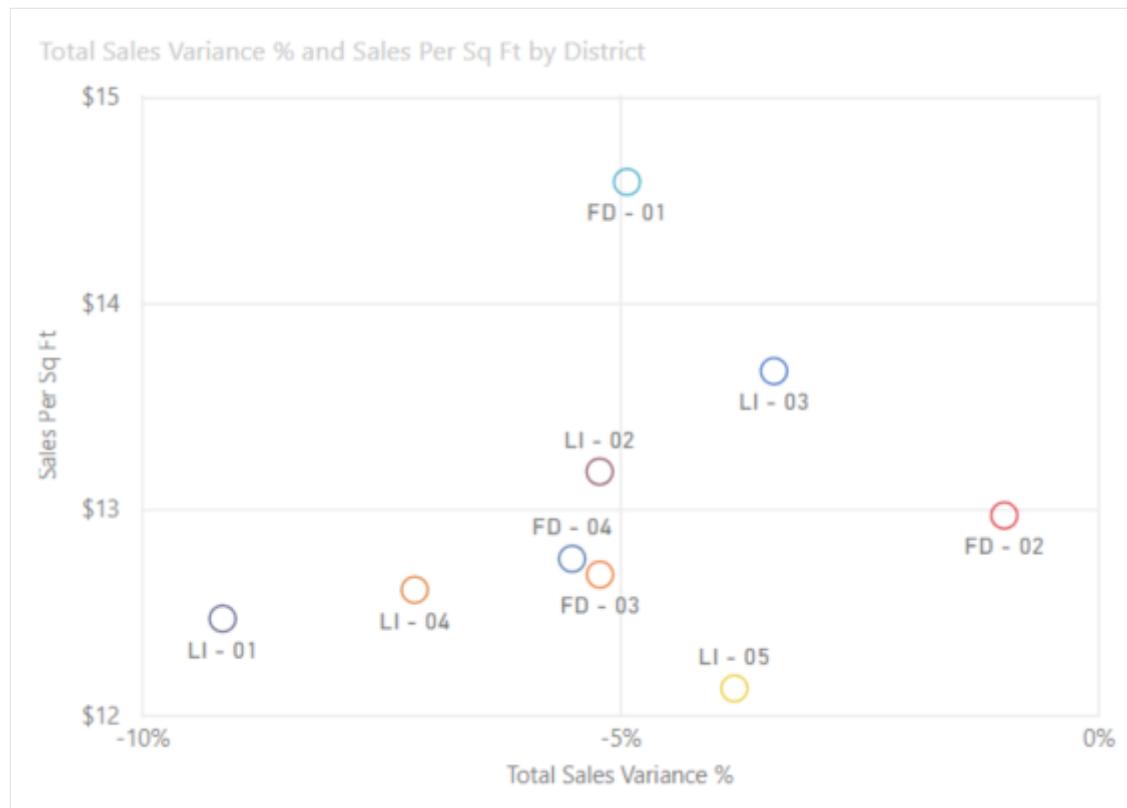
Ribbon charts show which data category has the highest rank (largest value). Ribbon charts are effective at showing rank change, with the highest range (value) always displayed on top for each time period.

For more information, see [Ribbon charts in Power BI](#).

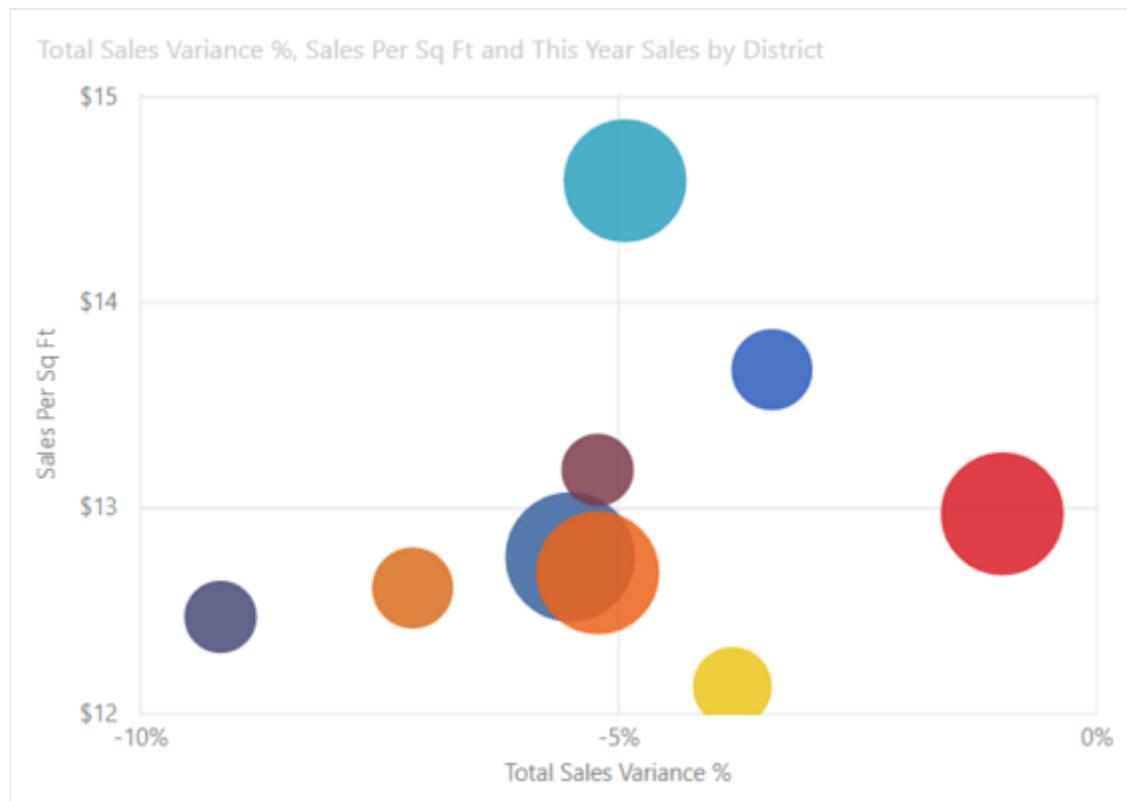
## Scatter

### Scatter, bubble, and dot plot chart

A scatter chart always has two value axes to show one set of numerical data along a horizontal axis and another set of numerical values along a vertical axis. The chart displays points at the intersection of an x and y numerical value, combining these values into single data points. These data points might be distributed evenly or unevenly across the horizontal axis, depending on the data.



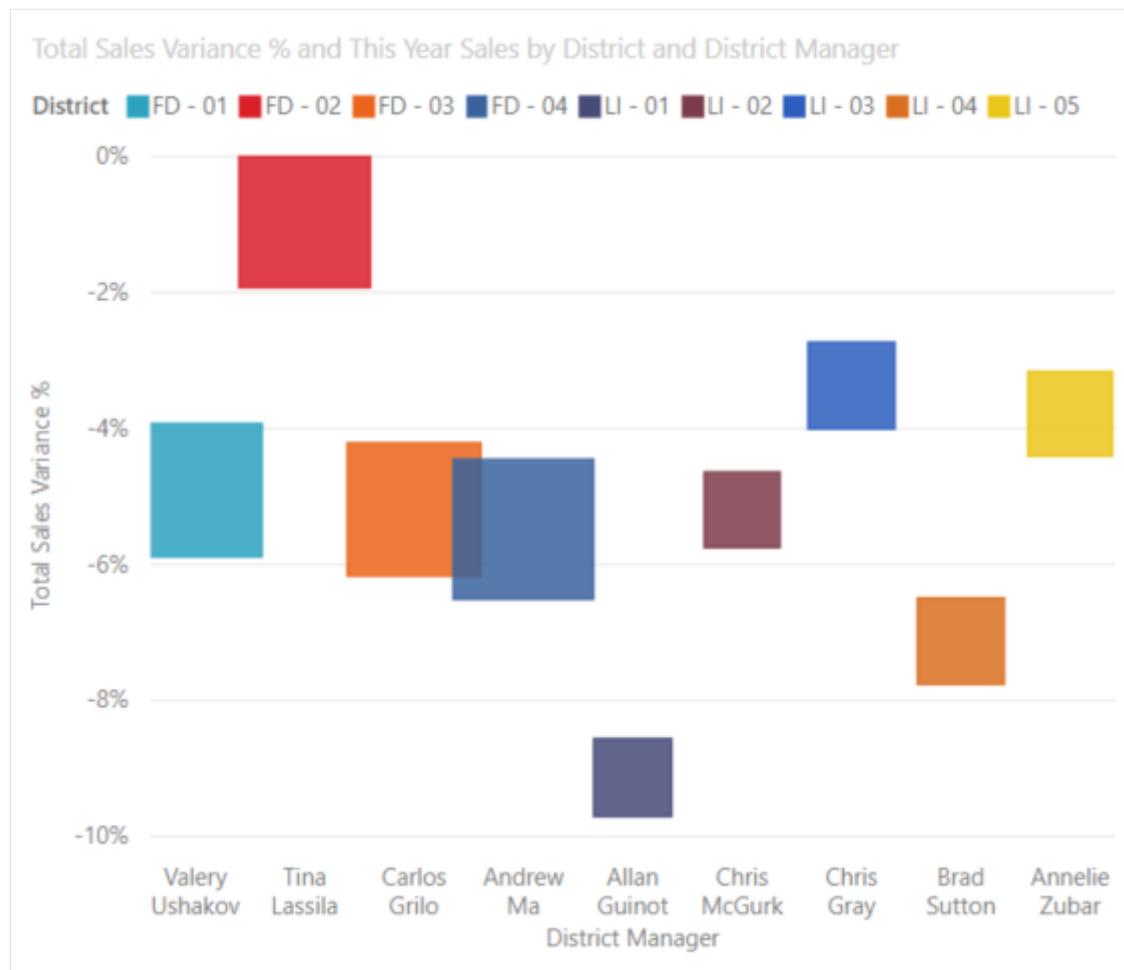
A bubble chart replaces data points with bubbles, with the bubble size representing an additional dimension of the data.



Both scatter and bubble charts can also have a play axis, which can show changes over time.

A dot plot chart is similar to a bubble chart and scatter chart except that it can plot numerical or categorical data along the X axis. This example happens to use squares

instead of circles and plots sales along the X axis.



For more information, see [Scatter charts in Power BI](#).

## Scatter-high density

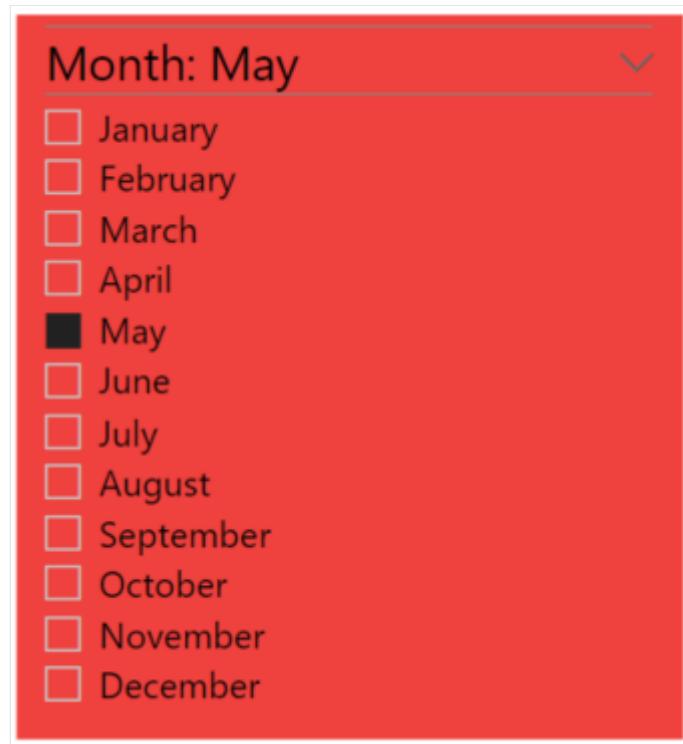


By definition, high-density data is sampled to create visuals reasonably quickly that are responsive to interactivity. High-density sampling uses an algorithm that eliminates overlapping points, and ensures that all points in the data set are represented in the visual. It doesn't just plot a representative sample of the data.

This ensures the best combination of responsiveness, representation, and clear preservation of important points in the overall data set.

For more information, see [High Density Scatter charts in Power BI](#).

## Slicers



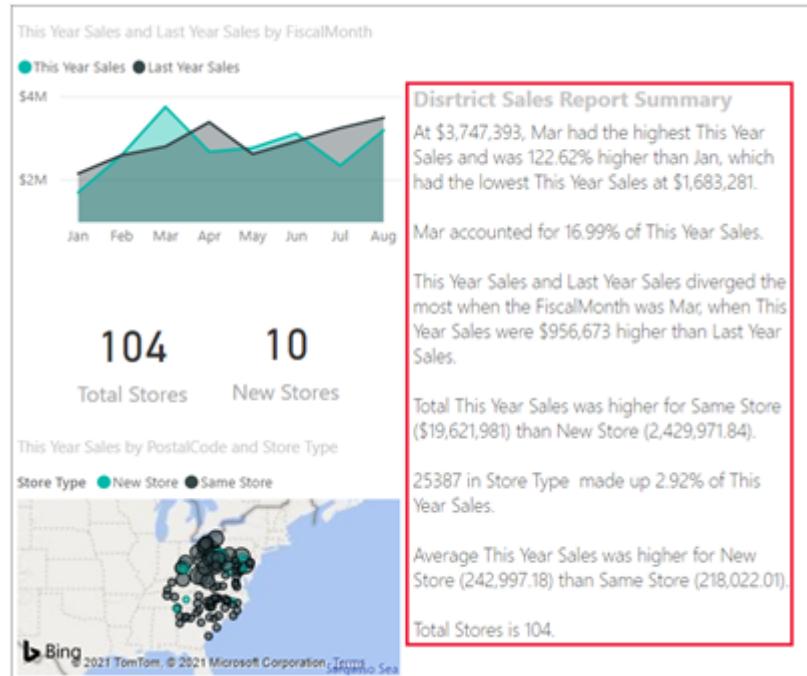
A slicer is a standalone chart that can be used to filter the other visuals on the page. Slicers come in many different formats (category, range, date, etc.) and can be formatted to allow selection of only one, many, or all of the available values.

Slicers are a great choice to:

- Display commonly used or important filters on the report canvas for easier access.
- Make it easier to see the current filtered state without having to open a drop-down list.
- Filter by columns that are unneeded and hidden in the data tables.
- Create more focused reports by putting slicers next to important visuals.

For more information, see [Slicers in Power BI](#).

# Smart narrative



The Smart narrative adds text to reports to point out trends, key takeaways, and add explanations and context. The text helps users to understand the data and identify the important findings quickly.

For more information, see [Create smart narrative summaries](#).

## Standalone images



A standalone image is a graphic that has been added to a report or dashboard.

For more information, see [Add an image widget to a dashboard](#).

## Tables

Category	This Year Sales Status	Average Unit Price	Last Year Sales	This Year Sales	This Year Sales Goal
080-Accessories	Green	\$4.84	\$1,273,096	\$1,379,259	\$1,273,096
090-Home	Green	\$3.93	\$2,913,647	\$3,053,326	\$2,913,647
100-Groceries	Green	\$1.47	\$810,176	\$829,776	\$810,176
020-Mens	Yellow	\$7.12	\$4,453,133	\$4,452,421	\$4,453,133
030-Kids	Yellow	\$5.30	\$2,726,892	\$2,705,490	\$2,726,892
050-Shoes	Yellow	\$13.84	\$3,640,471	\$3,574,900	\$3,640,471
010-Womens	Red	\$7.30	\$2,680,662	\$1,787,958	\$2,680,662
040-Junior	Red	\$7.00	\$3,105,550	\$2,930,385	\$3,105,550
060-Intimate	Red	\$4.28	\$955,370	\$852,329	\$955,370
070-Hosiery	Red	\$3.69	\$573,604	\$486,106	\$573,604
Total	Yellow	\$5.49	\$23,132,601	\$22,051,952	\$23,132,601

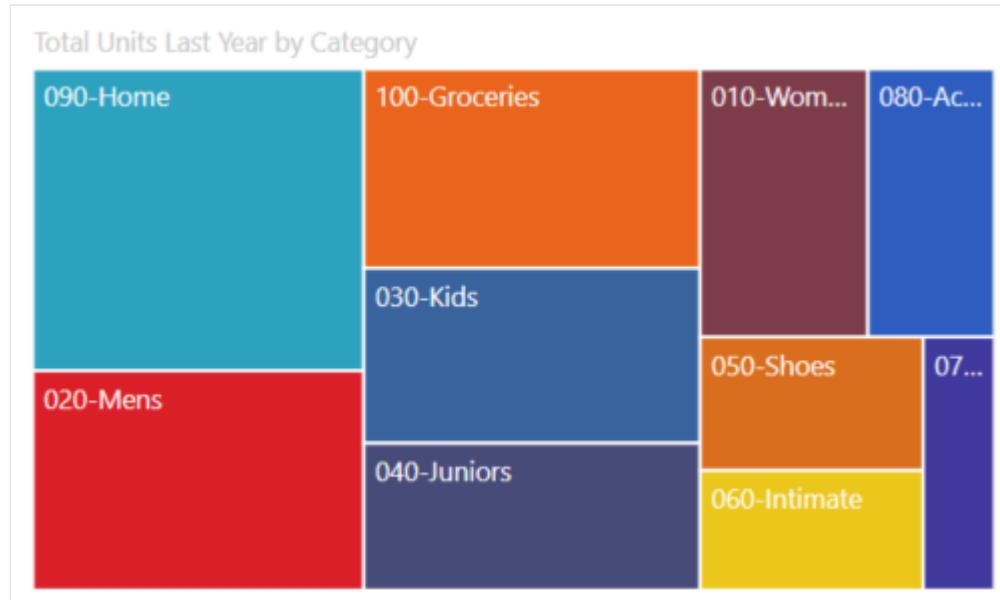
A table is a grid that contains related data in a logical series of rows and columns. It might also contain headers and a row for totals. Tables work well with quantitative comparisons where you are looking at many values for a single category. For example, this table displays five different measures for Category.

Tables are a great choice:

- To see and compare detailed data and exact values (instead of visual representations).
- To display data in a tabular format.
- To display numerical data by categories.

For more information, see [Working with tables in Power BI](#).

## Treemaps



Treemaps are charts of colored rectangles, with size representing value. They can be hierarchical, with rectangles nested within the main rectangles. The space inside each

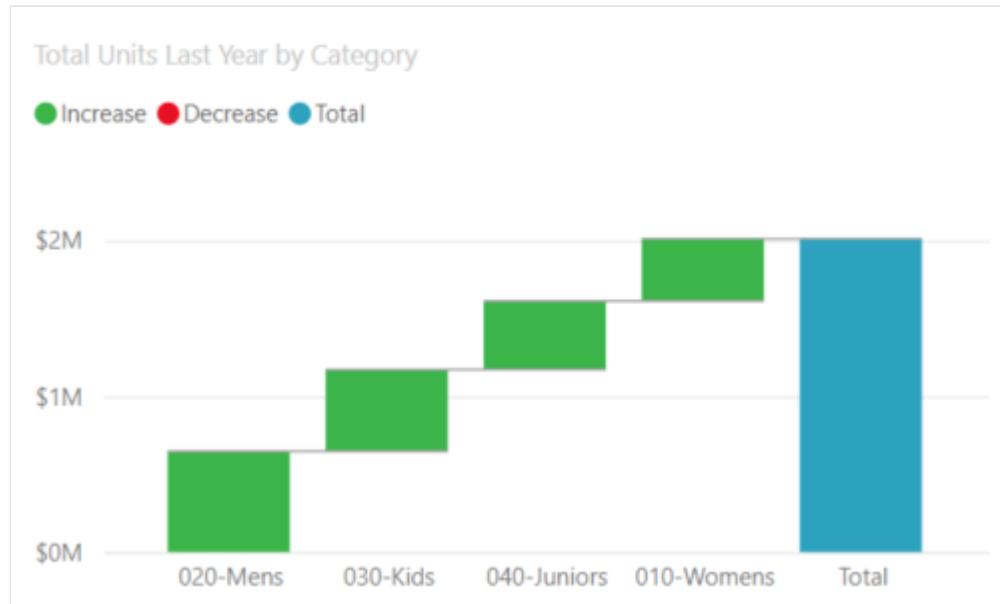
rectangle is allocated based on the value being measured. And the rectangles are arranged in size from top left (largest) to bottom right (smallest).

Treemaps are a great choice:

- To display large amounts of hierarchical data.
- When a bar chart can't effectively handle the large number of values.
- To show the proportions between each part and the whole.
- To show the pattern of the distribution of the measure across each level of categories in the hierarchy.
- To show attributes using size and color coding.
- To spot patterns, outliers, most-important contributors, and exceptions.

For more information, see [Treemaps in Power BI](#).

## Waterfall charts



A waterfall chart shows a running total as values are added or subtracted. It's useful for understanding how an initial value (for example, net income) is affected by a series of positive and negative changes.

The columns are color coded so you can quickly tell increases and decreases. The initial and the final value columns often start on the horizontal axis, while the intermediate values are floating columns. Because of this "look", waterfall charts are also called bridge charts.

Waterfall charts are a great choice:

- When you have changes for the measure across time or across different categories.
- To audit the major changes contributing to the total value.

- To plot your company's annual profit by showing various sources of revenue and arrive at the total profit (or loss).
- To illustrate the beginning and the ending headcount for your company in a year.
- To visualize how much money you make and spend each month, and the running balance for your account.

For more information, see [Waterfall charts in Power BI](#).

## Next steps

[Visualizations in Power BI reports](#) [Power BI Visuals Reference from sqlbi.com](#), guidance for picking the right visual for your data

# Drill mode in the Power BI service

Article • 12/25/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

This article shows you how to use the *drill mode* in the Microsoft Power BI service. You can explore in-depth details about your data by using the drill-down, drill-up, and expand features on your visual. To learn how to create a hierarchy, read [Hierarchies in Power BI](#)

## Drill mode requirements

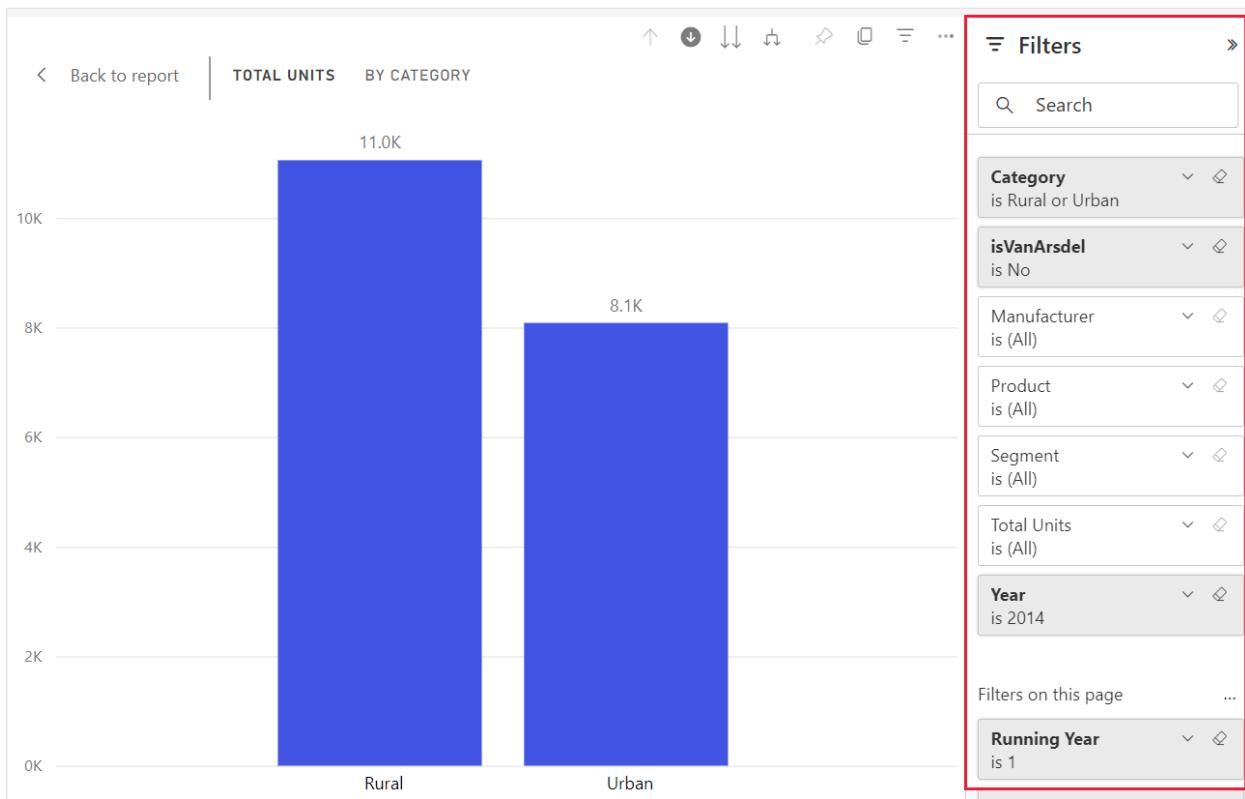
To use the drill mode, the Power BI visual must have an explicit or implicit hierarchy. Report designers often add explicit date hierarchies to reports. Those hierarchies are marked with the hierarchy icon. A common date hierarchy is one that contains fields for the year, quarter, month, and day. A report might have implicit hierarchies too. These informal hierarchies don't have the icon. But the relationship, and therefore a drill path, exists. For example, you might have a visual that shows the number of medals won in a sports competition. The drill path in this example is the sport, which has specific unique types of the sport, and the events. By default, the visual shows the medal count by sport, like gymnastics, skiing, and aquatics. Then, you can select one of the visual elements, like a bar, line, or bubble, to display the individual sports. For example, selecting the aquatics element shows you data for swimming, diving, and water polo. Then, selecting the diving element opens the next level in the hierarchy and shows you details for springboard, platform, and synchronized diving events.

You can tell if a visual has a hierarchy by hovering over it. If the drill control options appear in the action bar, your visual has a hierarchy.



## Drill down and up

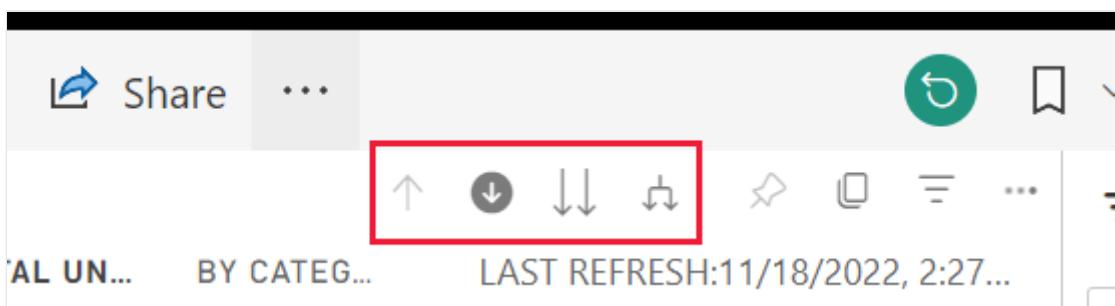
The following example is a bar chart that has a hierarchy made up of category, manufacturer, segment, and product. The bar chart shows the total number of units sold in the year 2014 by category. Category is the top level of the hierarchy. The chart is filtered by the categories Rural and Urban.



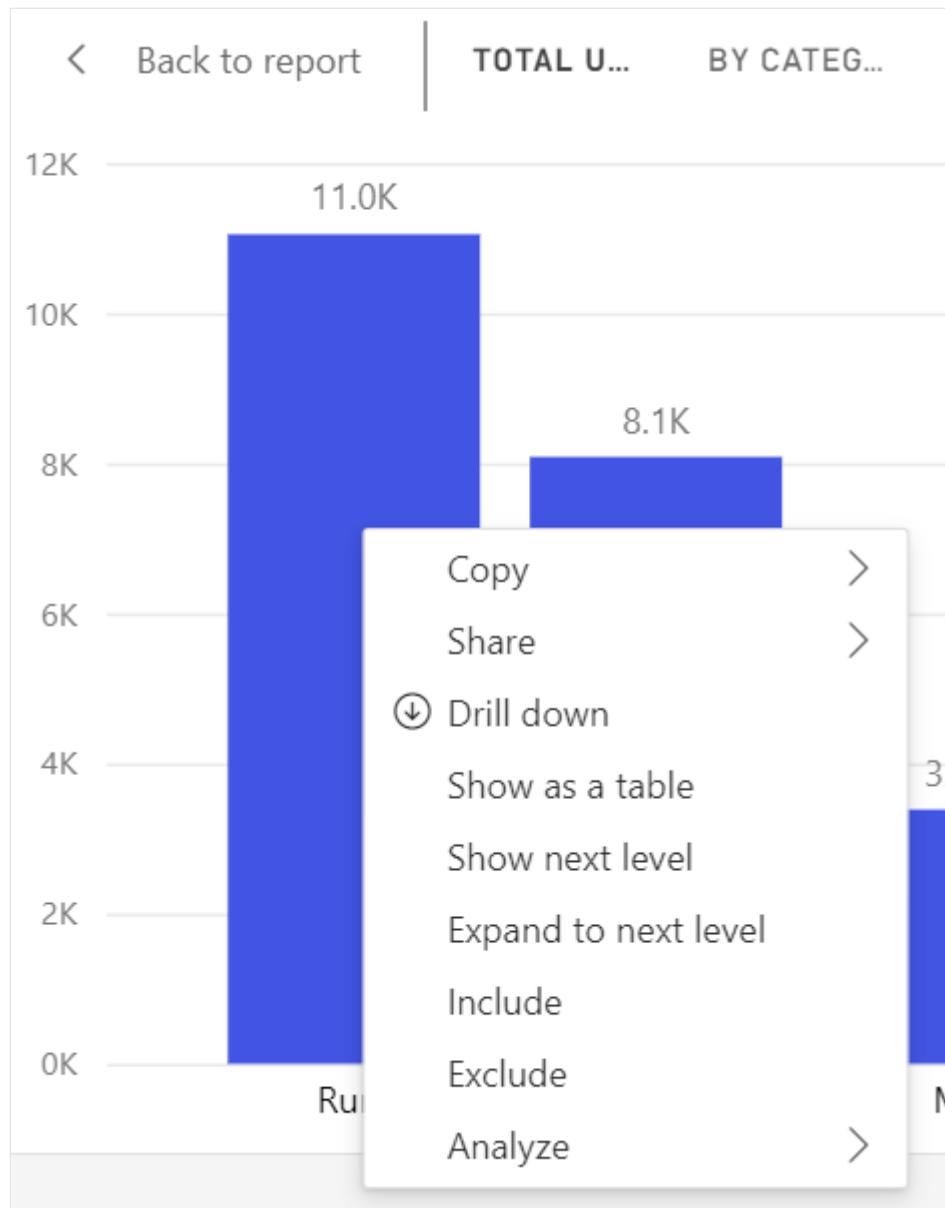
## Ways to access the drill features

There are two ways to access the drill-down, drill-up, and expand features for visuals.

One way is to hover over a visual to use the icons in the action bar. Turn on the drill-down option by selecting the single downward arrow. The grey background indicates that the drill-down option is turned on.



Another way to access the drill features is by right-clicking a data point on the visual to open a menu with available options.

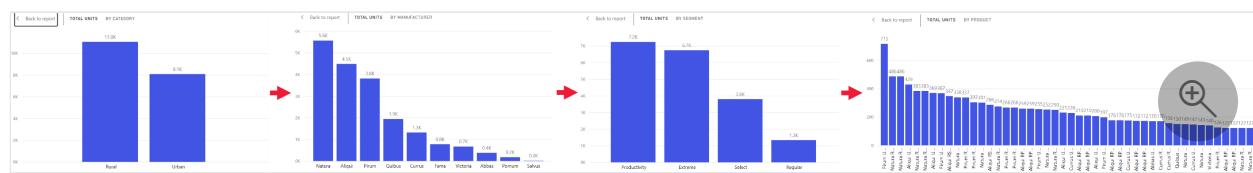


## Drill down all fields at once

There are many ways to drill into your visual. Selecting the double arrow drill-down icon



takes you to the next level in the hierarchy. For example, if you're at the category level, you can drill down to the manufacturer level, then the segment level, and, finally, the product level for all categories. Each step in the path shows you new information.



To go up a level in the hierarchy, select the drill-up icon.



## Drill down one field at a time

The double arrow drill-down icon drills down all fields on the canvas at once. This example shows how to drill down one field at a time.

1. From the category level, where the chart shows Rural and Urban, select the drill-down icon  to turn it on.

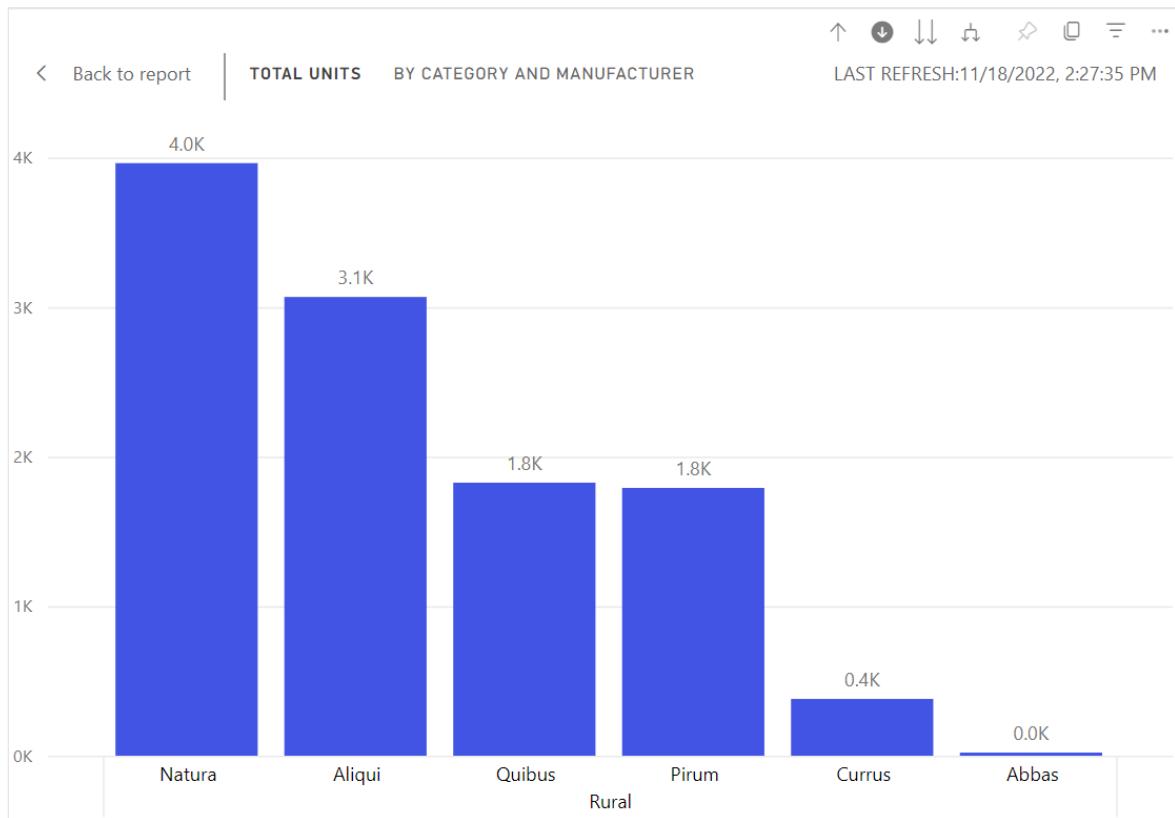
Now you have the option of drilling down **one field at a time** by selecting a visual element, like a bar, bubble, or leaf.



#### Note

If you don't turn on the drill-down option and you select a visual element, it cross-filters the other charts on the report page rather than drilling down.

2. Select the bar for Rural. The bar chart now shows all the Rural manufacturers.

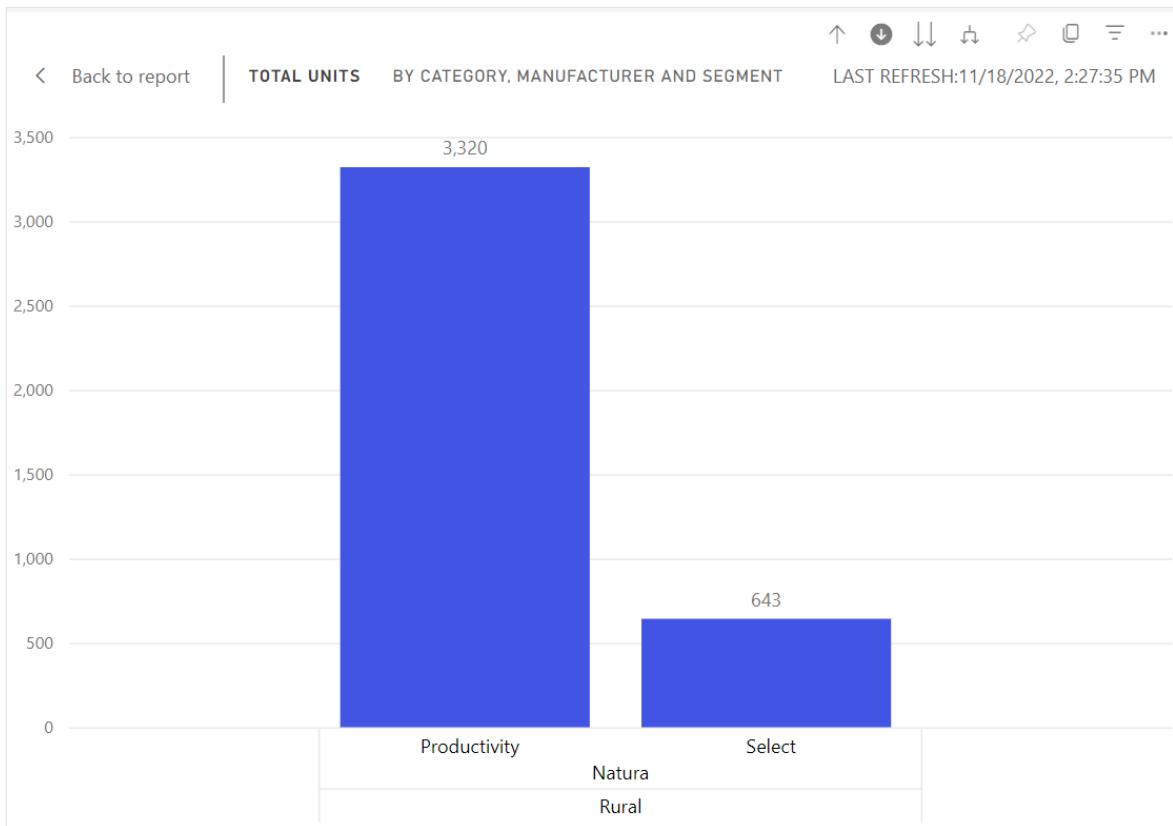


3. At this point, you can:

- Continue drilling down for Rural.

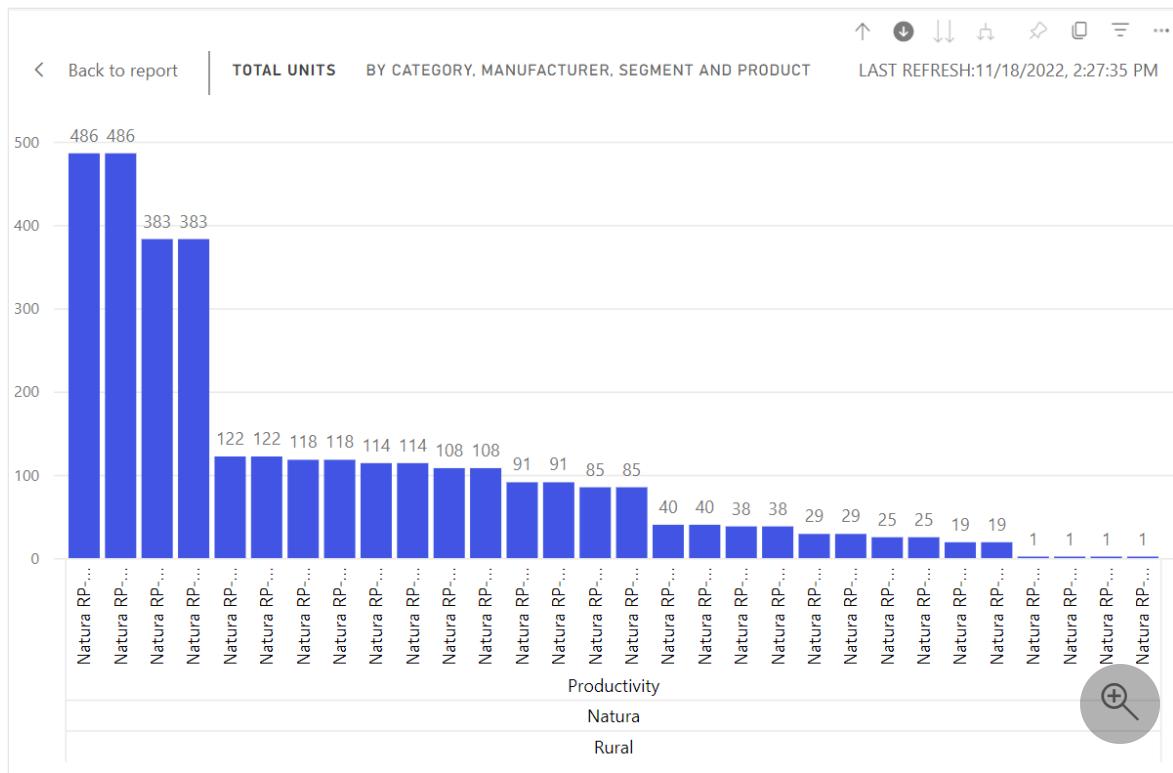
- Drill down for a particular Rural manufacturer.
- Expand.

Continue to drill down one field at a time by selecting **Natura**. The bar chart now shows the segments for the Natura manufacturer in the Rural category.



Notice that the title changes to show which level you are on as you drill down and back up again.

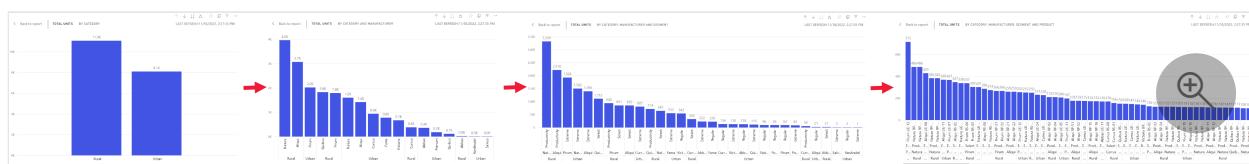
4. Drill down to the products by selecting the **Productivity** bar. Now you are at the product level.



## Expand fields



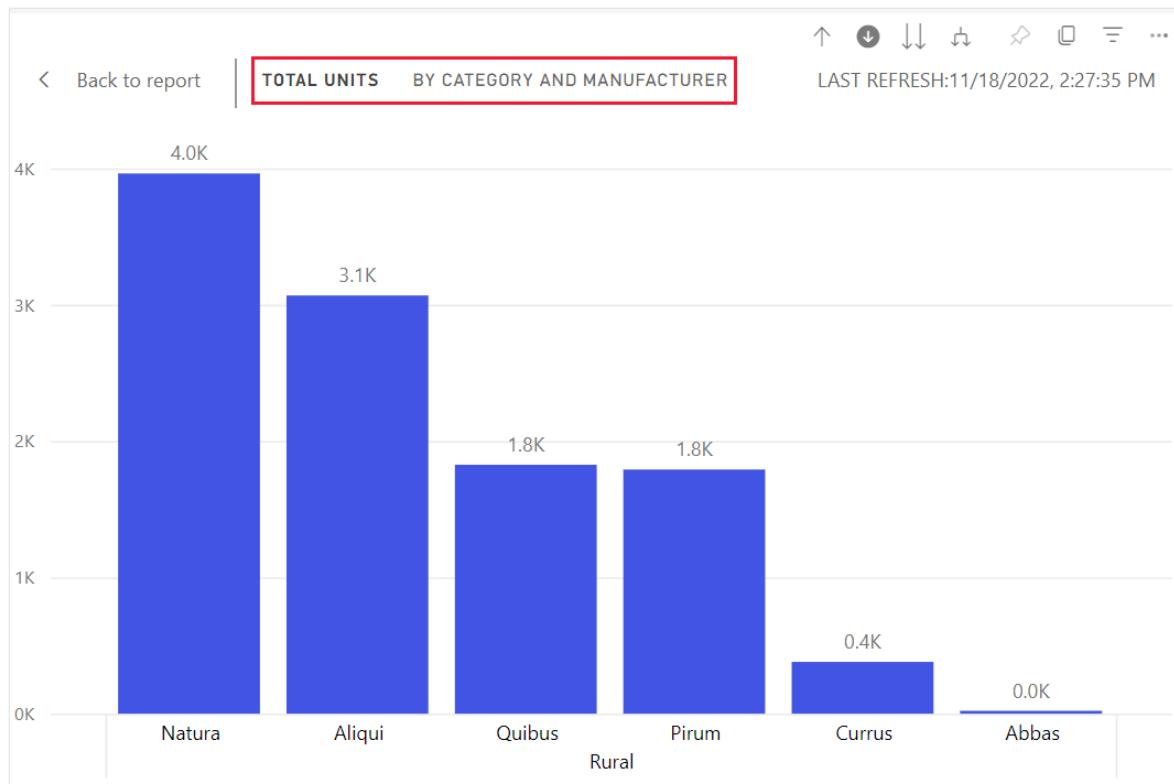
The **Expand** option adds another hierarchy level to the current view. If you're at the category level, which shows Rural and Urban, you can expand all current bars at the same time. The first time you expand, the manufacturer is added for both Rural and Urban. Expand again and, in addition to the manufacturer, segment data is added for both Rural and Urban. Each step in the path shows the previous information and adds on one level of new information.



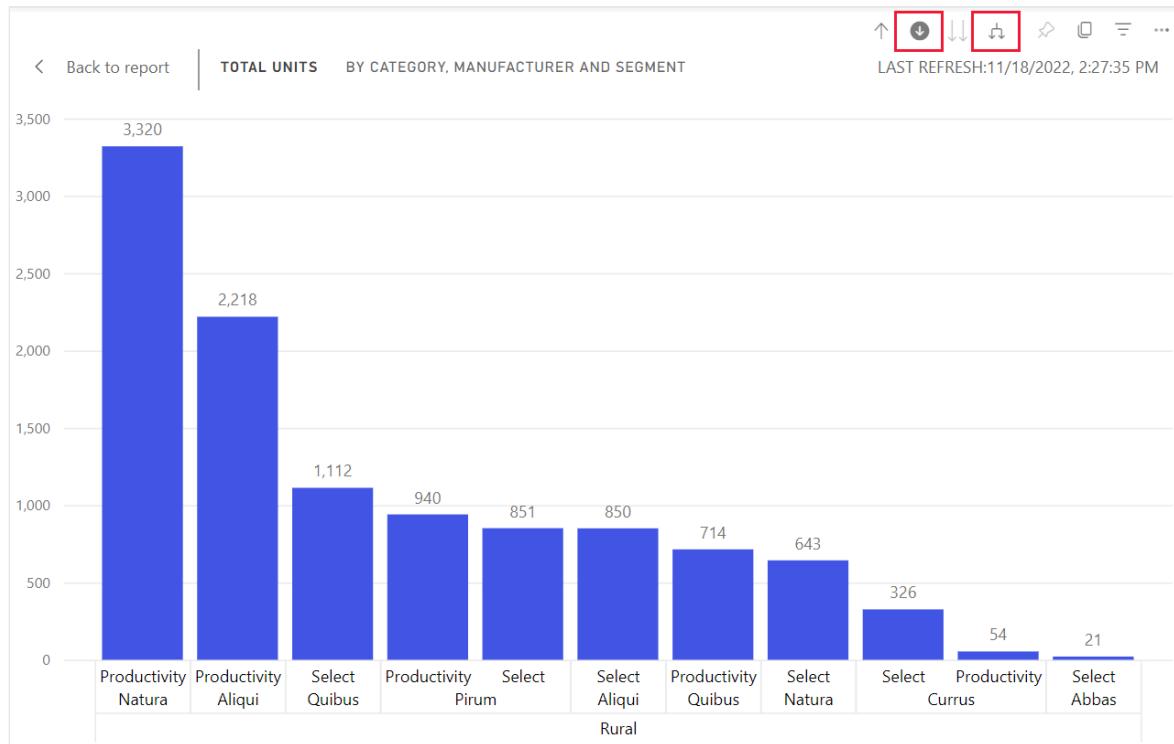
## Expand all fields at once

The following example shows how to use this feature to expand all fields at one time.

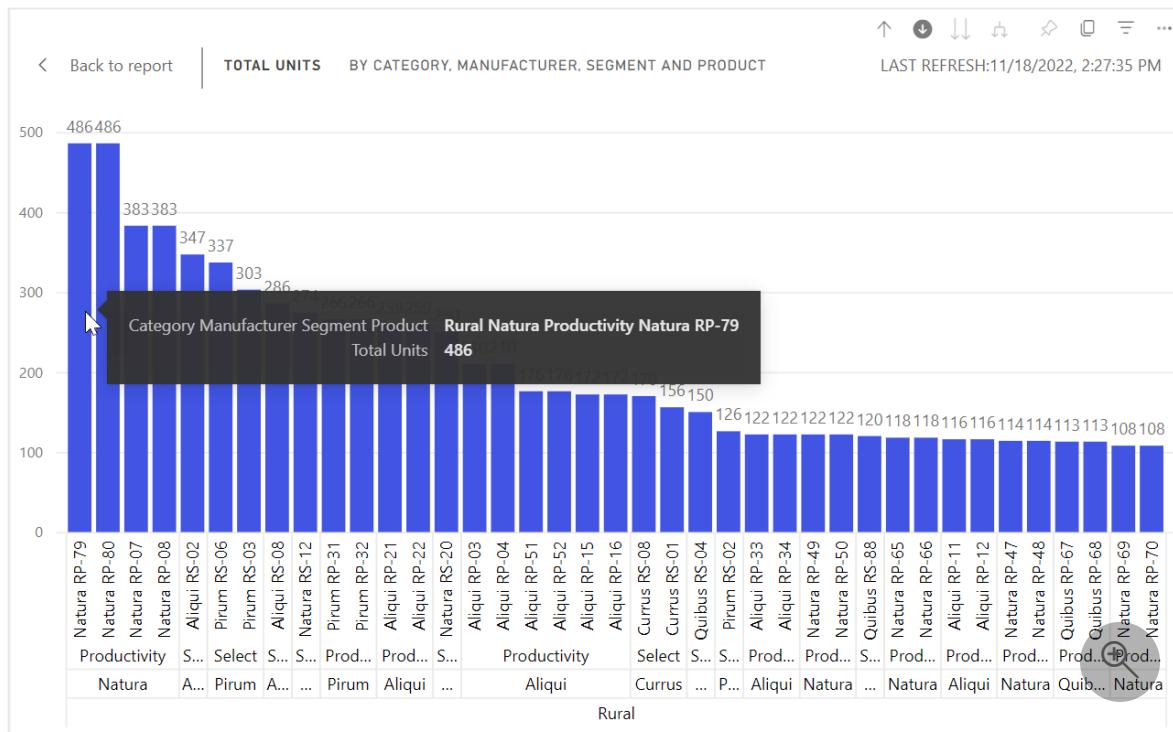
- From the previous step, select the drill-up arrow until you reach the second level, **Total Units by Category and Manufacturer**.



2. Confirm that the drill-down option is still turned on and select the expand down icon. The bar chart shows more detail. It now shows category, manufacturer, and segment.



3. Select the expand down icon one more time to display all four hierarchy levels of detail for Rural. To see more detail, hover over a bar.



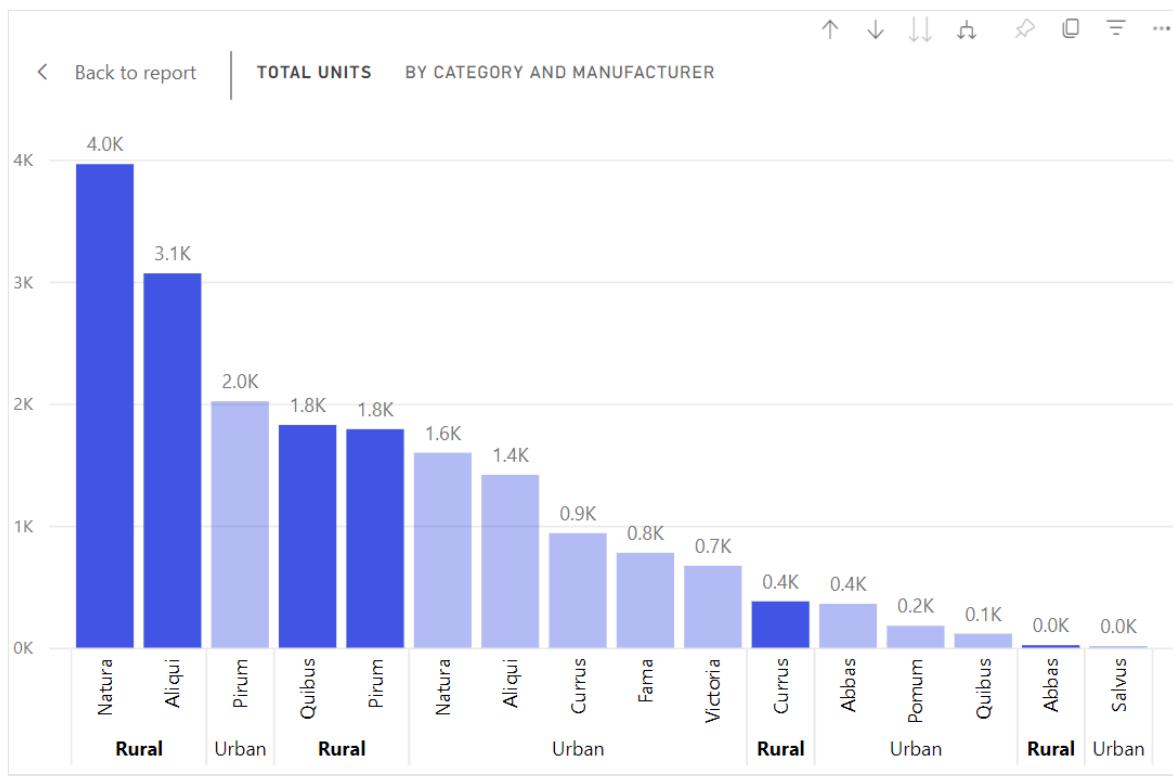
## Expand one field at a time

To get detailed data for one field, you can expand down one level in the hierarchy.

1. From the previous step, select the drill-up icon until you reach the category level.
2. With the drill-down icon turned off, select the Rural bar, and then select the  expand down icon.



On the next level, the data for the field you selected is emphasized.

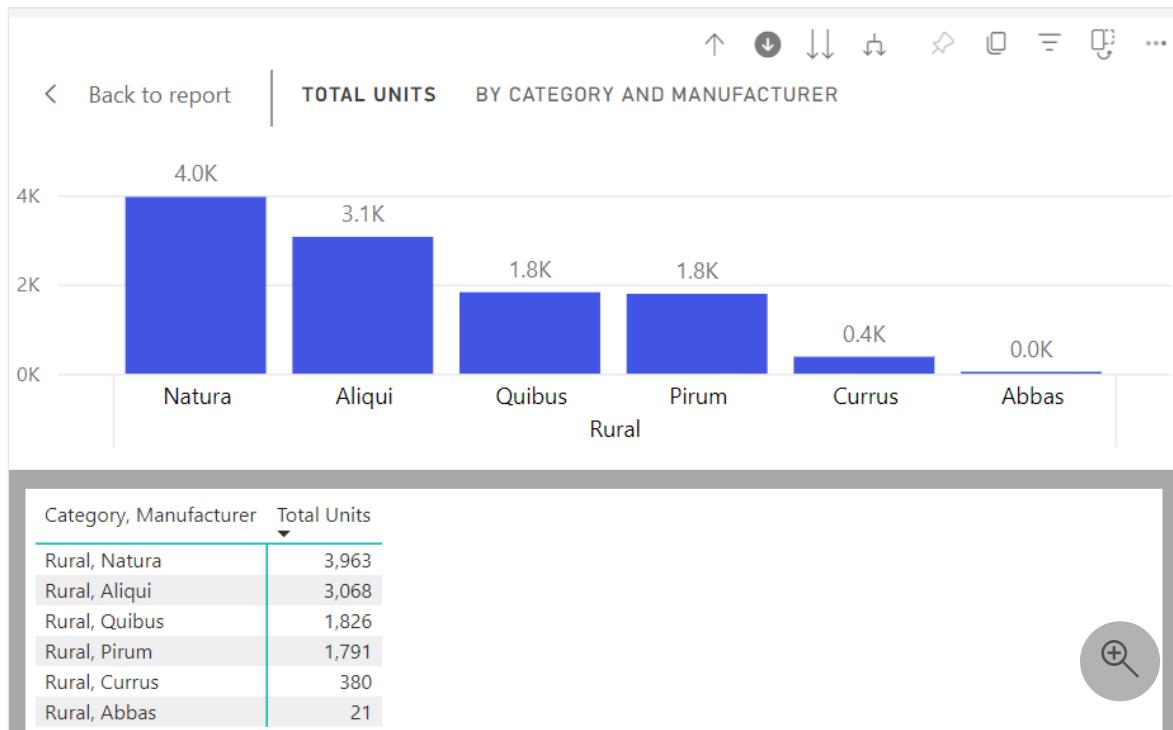
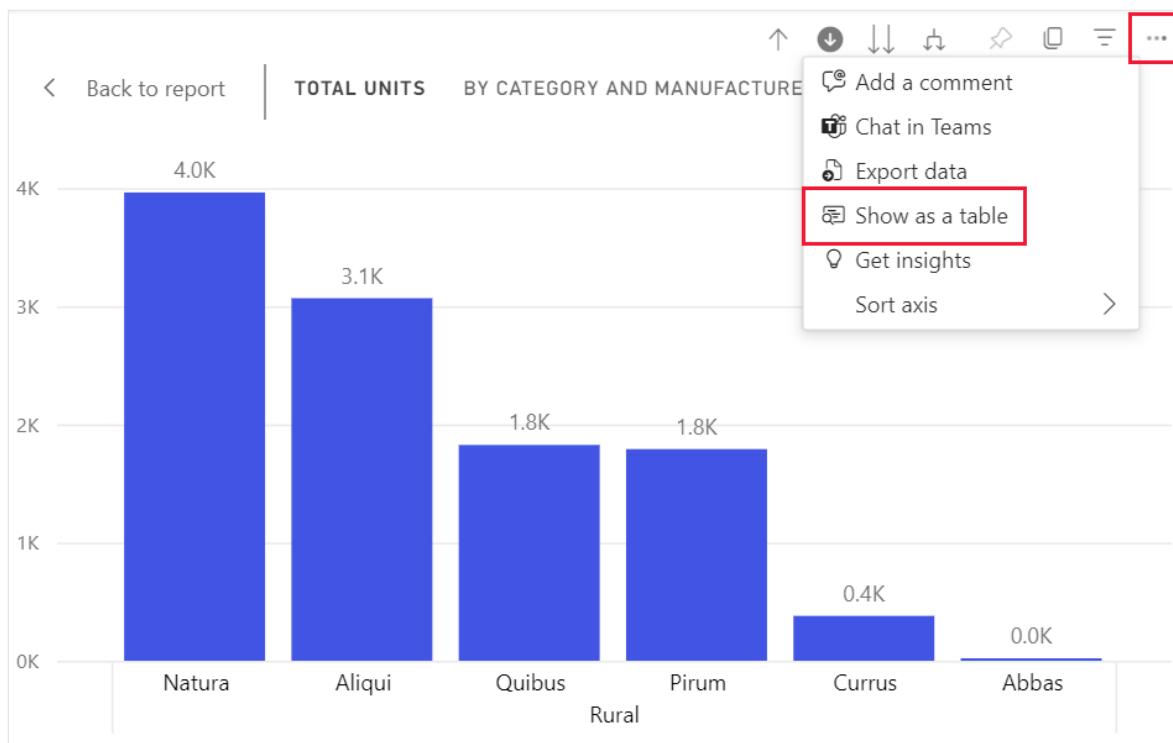


When you drill down, you only go to the next level of the hierarchy. When you expand, you go to the next level of the hierarchy while also preserving the data of the level you're on.

## Show the data in a table as you drill

Use **Show as a table** to get a look behind the scenes. Each time you drill or expand, **Show as a table** displays the data used to build the visual. This feature makes it easier to see how hierarchies, drill, and expand work together to build visuals.

1. In the upper right corner, select **More options (...)**, and then select **Show as a table**.



2. Select the double arrow icon to drill down all fields at once. Watch the data in the table change to reflect the data that's being used to create the bar chart. The following table shows the results of drilling down all fields at once from the category level to the product level.

The first table represents the top level of the hierarchy. It shows the categories Rural and Urban. The next three tables represent the bar chart's data as you drill down all levels at once, from category to manufacturer to segment to product.

Category	Total Units	Manufacturer	Total Units	Segment	Total Units	Product	Total Units
Rural	11,049	Natura	5,561	Productivity	7,246	Pirum UE-13	715
Urban	8,081	Aliqui	4,485	Extreme	6,745	Natura RP-79	486
		Pirum	3,811	Select	3,803	Natura RP-80	486
		Quibus	1,941	Regular	1,336	Aliqui UE-06	429
		Currus	1,319			Natura RP-07	383
		Fama	778			Natura RP-08	383
		Victoria	672			Aliqui UE-11	369
		Abbas	381			Pirum UE-07	367
		Pomum	180			Aliqui RS-02	347
		Salvus	2			Natura UE-11	338
						Pirum RS-06	337
						Pirum RS-03	303
						Natura UE-17	301
						Aliqui RS-08	286
						Natura RS-12	274
						Pirum RP-31	266

## Considerations and limitations

- By default, drilling doesn't filter other visuals in a report, but the report designer can change this setting. As you drill, look to see if the other visuals on the page are cross-filtering or cross-highlighting.
- To view a report that is shared with you, a Power BI Pro or Premium license is required, or the report must be stored in Power BI Premium capacity. For more information, see [Find out which licenses you have](#).

## Related content

[Using inline hierarchies](#)

[Set and use date tables](#)

[Power BI - Basic Concepts](#)

More questions? [Visit the Power BI Community](#) ↗

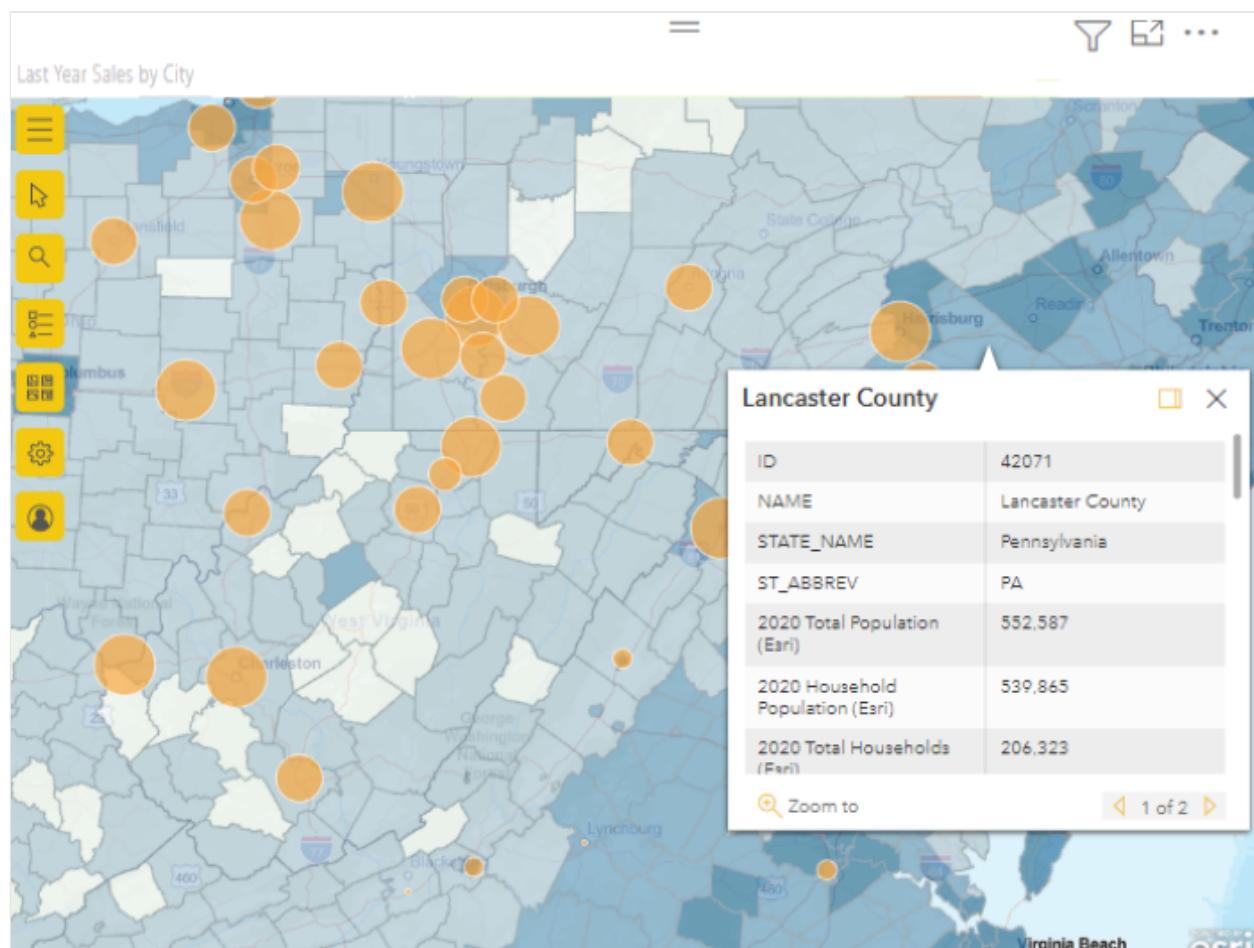
# Interact with an ArcGIS map in Power BI

Article • 03/09/2023

This article describes different ways a business user can consume ArcGIS Maps in the Power BI service. ArcGIS Maps in Power BI is also available on Power BI Desktop and mobile. Once a creator shares an ArcGIS map with you, there are many ways to interact with that map. For more information, see [Create ArcGIS maps in Power BI](#).

ArcGIS for Power BI is a map visualization used to enrich data, reports, and dashboards. ArcGIS for Power BI adds geographic, location, and regional demographic data, smart map themes, and analytic features such as drive time, infographics, and points of interest. Combining authoritative data layers on an ArcGIS for Power BI map with spatial analysis provides more complex insight onto your Power BI data.

For example, you can use ArcGIS for Power BI to provide regional insight into sales figures. The following ArcGIS map shows regional sales by size against a demographic layer of the 2020 Esri Diversity Index. An interactive tooltip for Lancaster County shows total population, household population, and total households for the selected area.



Tip

To learn more, explore [Esri's Get Started page for the ArcGIS for Power BI visual](#), or visit [Esri's Marketing site](#) to see examples and read testimonials. For training and documentation, see [Esri's online help](#).

## User consent

Here are some things you should know if this is your first time using ArcGIS for Power BI. ArcGIS Maps for Power BI is provided by [Esri](#). Your use of ArcGIS Maps for Power BI is subject to Esri's [terms](#) and [privacy policy](#). Power BI users wanting to use the ArcGIS Maps for Power BI visuals need to accept the consent dialog.

## Interact with an ArcGIS map

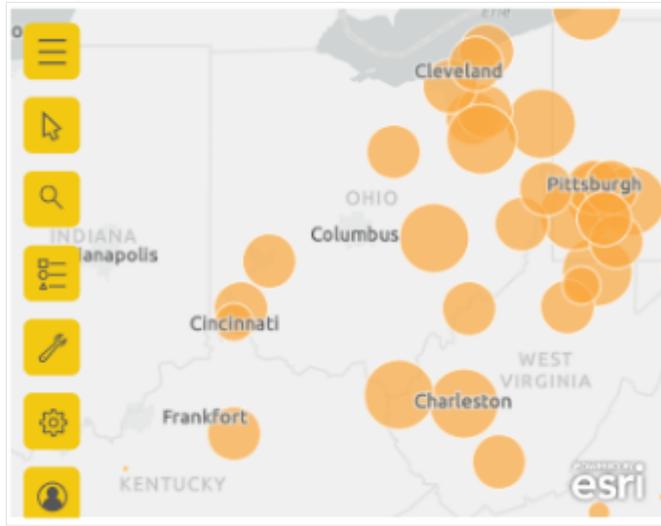
The features available depend on whether you're the report designer (person who made the map) or a business user (someone shared an ArcGIS map with you). If you're interacting with an ArcGIS map as a business user, you're more likely to use Reading view to consume ArcGIS Maps in the Power BI serve. Here are the actions available to you:

Action	Premium customer (with view permissions)	Power BI Pro customer
<a href="#">View the data used to create the visual</a>	Y	Y
<a href="#">Subscribe for reports and dashboards</a>	Y	Y
<a href="#">See the map in focus mode and full screen mode</a>	Y	Y
<a href="#">View related content</a>	Y	Y
<a href="#">Interact with the filters set by the report designer</a>	Y	Y
<a href="#">Share the report</a>	Y	Y
<a href="#">Export the underlying data</a>	N	Y
<a href="#">Get usage metrics</a>	N	Y
<a href="#">Publish to the web</a>	N	Y
<a href="#">Save a copy</a>	N	Y

# Display the Map tools

When you first open an ArcGIS for Power BI map visualization in Reading view, the Map tools button is typically collapsed.

Select the map tools button  to expand the tools.



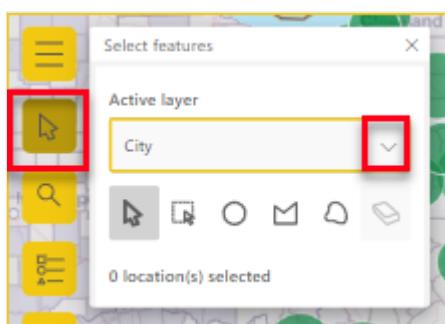
The map tools expand to show the available options. When selected, each tool opens a task pane that provides detailed options.

## Tip

Esri provides [comprehensive documentation about using ArcGIS for Power BI](#).

## Select locations

There are multiple ways to select locations on the map. The options available depend on the type of layer selected. If the map contains more than one layer, the selection tool will apply the action to the active layer. A maximum of 250 data points can be selected at a time. For more information, see [Select locations on the map](#).



- ☞ **Single select.** This is the default tool. You can select individual data points and individual features.
- ☞ **Select by rectangle.** With this tool, you can draw a rectangle on the map and select the contained data points and features. Use **CTRL** to add or remove selections.
- ☞ **Select by circle.** With this tool, you can draw a circular shape on the map and select the contained data points and features. Use **CTRL** to add or remove selections.
- ☞ **Select by polygon.** With this tool, you can draw boundaries or polygons within reference layers to select contained data points and features. Double-click your mouse to complete a selection. Use **CTRL** to enable snapping.
- ☞ **Select by freehand polygon.** With this tool, you can draw a freehand shape on the map and select the contained data points and features. Use **CTRL** to add or remove selections.
- ☞ **Select by reference layer.** This tool is only visible if there's a reference layer on the map and that reference layer is the active layer. Select features on the reference layer to highlight them. For more information, see [Work with map layers—ArcGIS for Power BI](#).
- ☞ **Drive time select** This tool is only visible if there's a search area layer (buffer or drive time area) on the map and the search area layer is the active layer. Draw to select data points and features within the defined area. For more information, see [Find Nearby Locations](#).
- ☞ **The eraser tool.** This tool clears all selections. It's only active after selections have been made on the map.

## Pin a location

Pin a specific address, place, or point of interest on the map. In this example, we're looking for the Washington Monument.

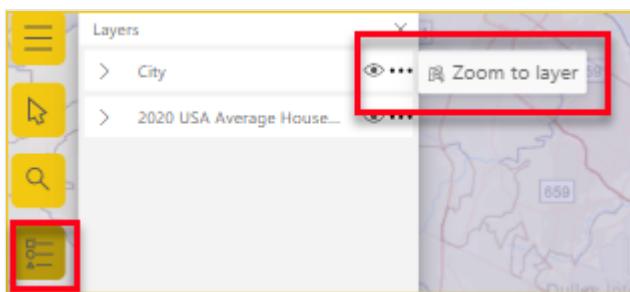
1. Expand the map tools  and select the Search button  to open the search pane.
2. Type the keywords **Washington Monument** in the search field. Keywords can include an address, place, or point of interest. As you type, recent searches or suggestions based on similar keywords appear.
3. From the results list, choose **Washington Monument, 2 15th St NW, Washington DC 20024 USA** and select **Close**. A symbol appears on the map, and the map automatically zooms to the location, pinning it during your session. Pins remain in place on the map only during the current session. You can't save a pinned location with the map. For more information, see [Pin a location—ArcGIS for Power BI](#).

# View, show, or hide layers

As a business user, you can show or hide a layer, change the sequence in which a layer is shown, and zoom to a layer's data boundaries. To view your map's layers, follow these steps:

Expand the map tools  and select the Layers button  to open the **Layers** pane.

- To hide a layer, select the **Hide** button.
- To show a hidden layer, select the **Show** button .
- To change the sequence in which a layer is shown on the map, for example, to display a Demographic reference layer on top of the data layer, drag the reference layer to the top of the list of layers in the **Layers** pane.
- To zoom to the extent of the layer's data boundaries, select **More options (...)** and select **Zoom to layer**.



You can also use the **Filters** pane to filter layer content on your ArcGIS for Power BI map based on the available data added by the report designer.

## Note

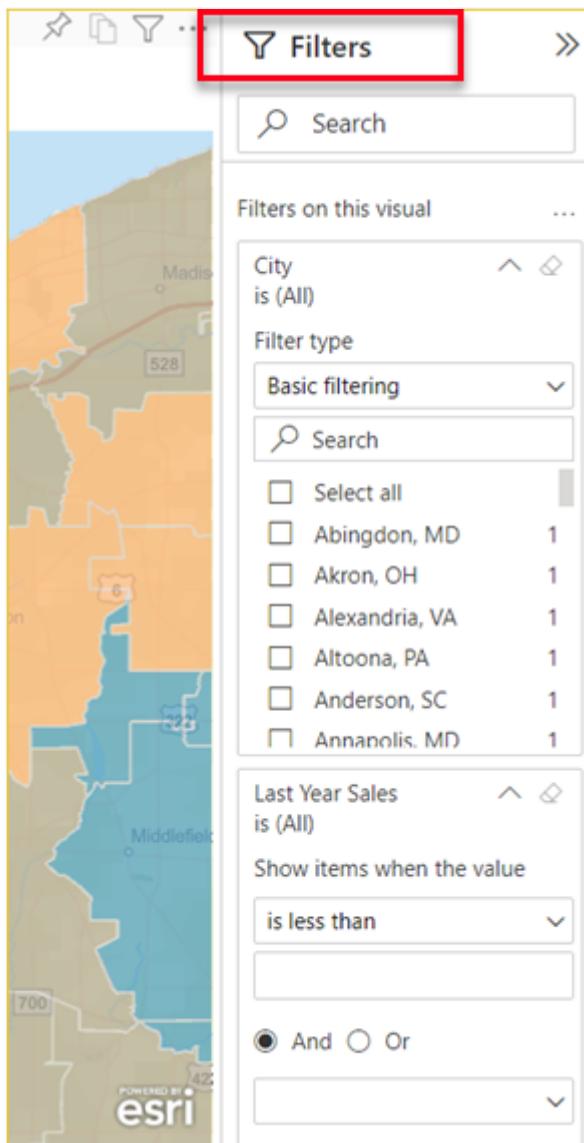
If you find that you can't perform these tasks, it may be that the report designer has disabled these features. Contact the report designer if you have questions.

For more information about working with layers, visit [Work with map layers—ArcGIS for Power BI](#).

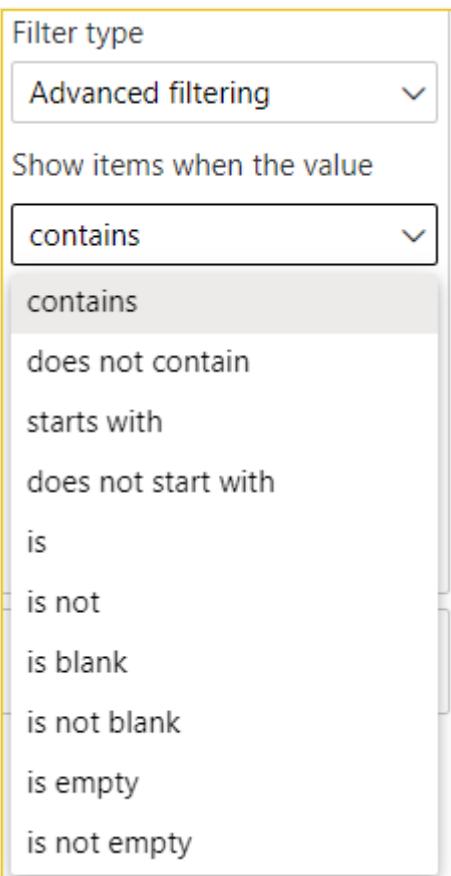
## Filter map layers

The **Filters** pane contains data added by the report designer. There are many different ways to filter your map content.

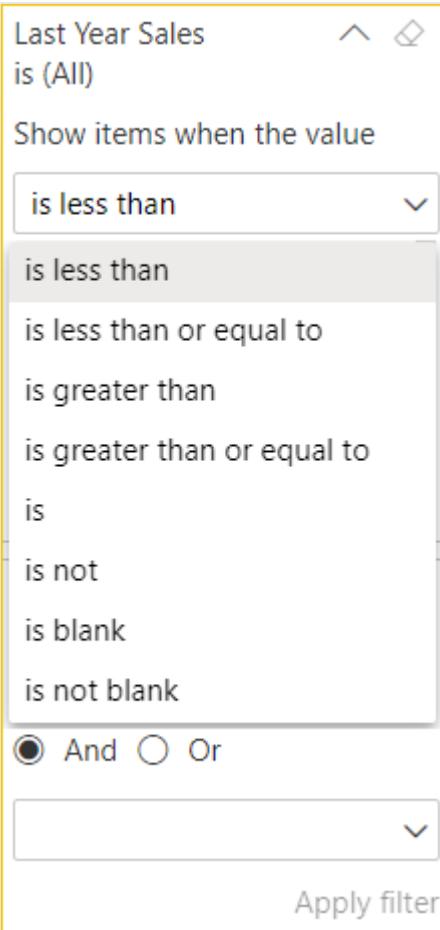
1. Expand the **Filters** pane to the right of the map visualization.



2. Select fields to filter the map. Use **Basic filtering**, to choose from data shown on the map. Use **Advanced filtering** to narrow content by specific parameters.



3. Some filters have value parameters (Boolean) available.



4. When you've selected your filter options, select **Apply filter**. The map is filtered by your selections.

# Change the basemap

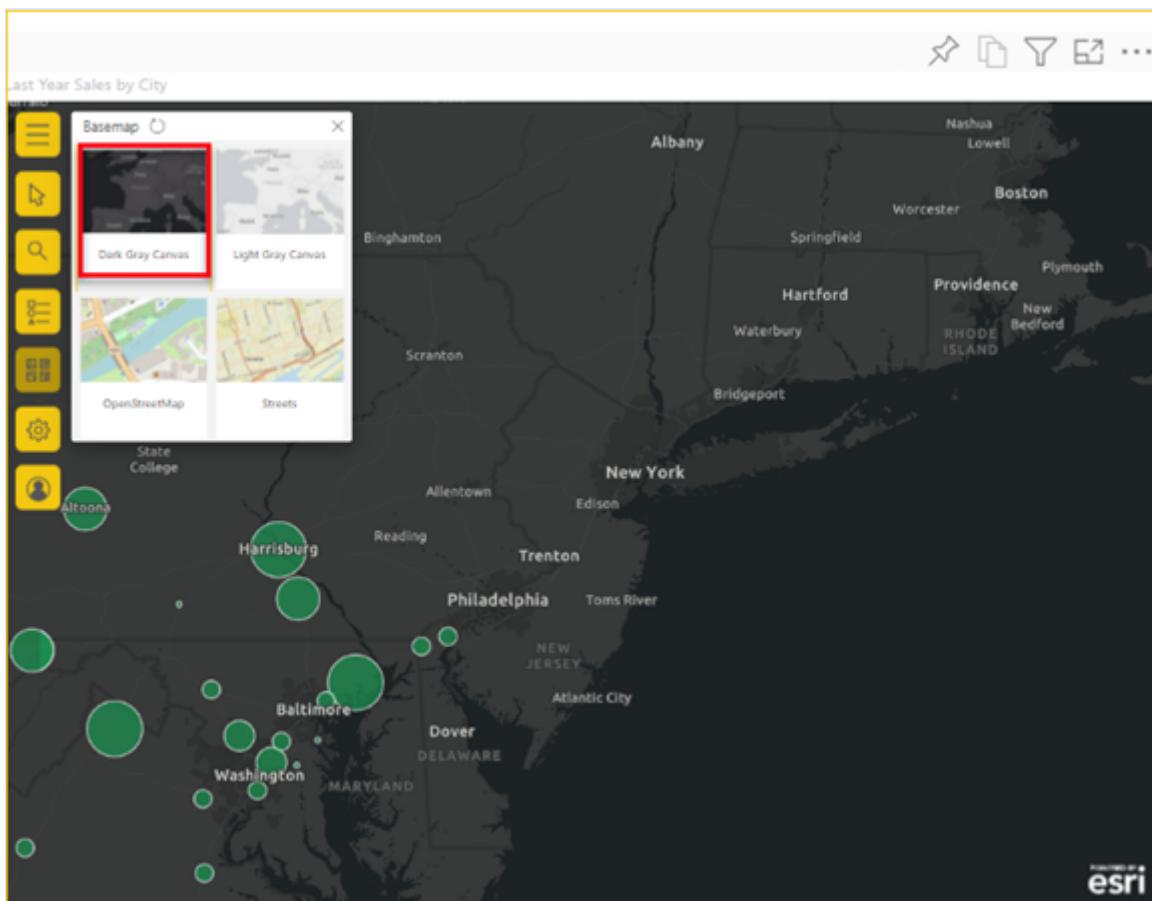
A basemap provides a background, or visual context, for the data in a map. For example, a basemap that shows streets can provide context for address data. As a Power BI business user, there are four basemaps provided: Dark Gray Canvas, Light Gray Canvas, OpenStreetMap, and Streets.

## ⓘ Note

For access to basemaps, the report designer must make them available when designing the report. If the basemaps are unavailable, you will not see the **Basemap** button in the Map tools.

To change the basemap, follow these steps:

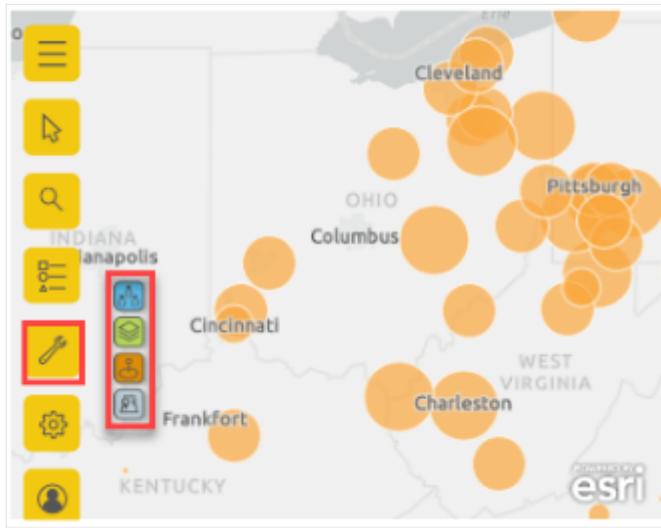
1. Expand the map tools  and select the **Basemap** button  to display the gallery of available basemaps.
2. Select the **Dark Gray Canvas** basemap.



3. The map updates to the new basemap. For more information, see [Change the basemap—ArcGIS for Power BI ↗](#).

# Select Analysis tools

This tool option appears only if the report designer includes data to perform a Find Similar analysis. For more information on the features of the Analysis tools, see [Create ArcGIS in Power BI](#).



**Infographics.** With this tool, you can provide interactive cards with specific details about the areas on the map.

**Reference Layer.** With this tool, you can add a demographic layer to help contextualize your data from Power BI or add a reference layer from ArcGIS to enrich your data.

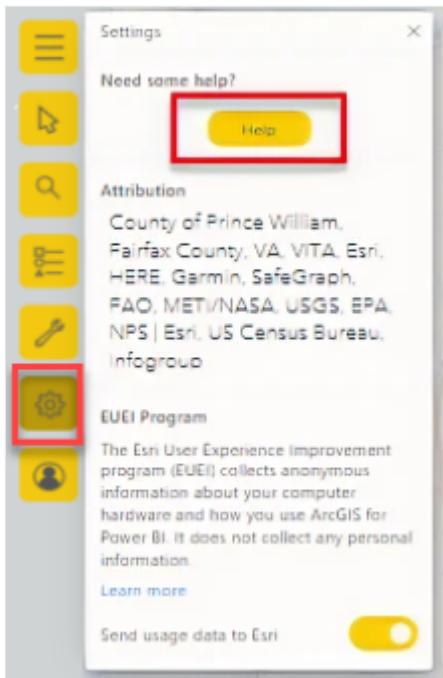
**Buffer/Drive time.** With this tool, you can find locations on your map within a specific distance, or ring buffer, of the point of origin.

**Find similar.** With this tool, you can quickly identify locations with attributes comparable to those locations currently selected on the map.

## Get help

Esri provides comprehensive online documentation for ArcGIS for Power BI. To access the ArcGIS for Power BI online help from the visualization, follow these steps:

1. Expand the map tools and select the **Settings** button .
2. In the **Settings** pane, select the **Help** button.



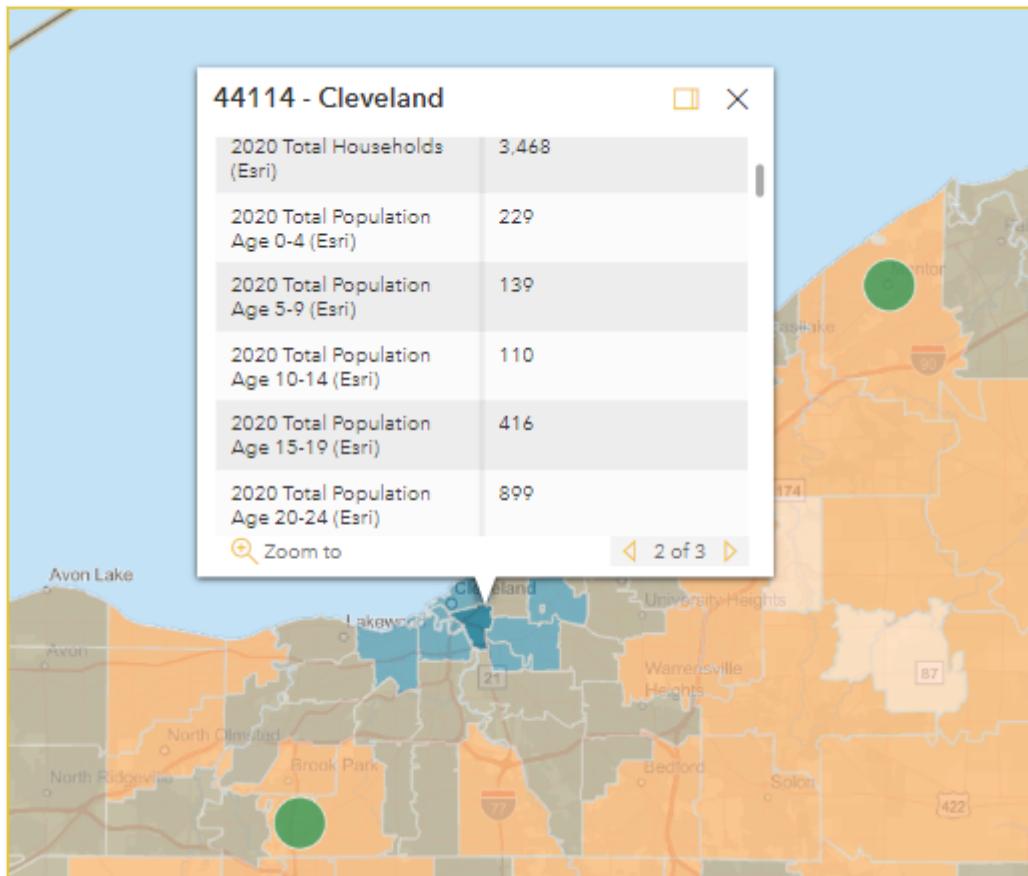
3. Select **OK** in the confirmation window that appears. The ArcGIS for Power BI online help opens in a browser window. Then you can:

- Find answers to frequently asked questions about ArcGIS for Power BI.
- Report issues, find the latest information, ask questions, and find answers on the Power BI community thread related to ArcGIS for Power BI.
- Suggest improvements by submitting it to the Power BI Ideas list.

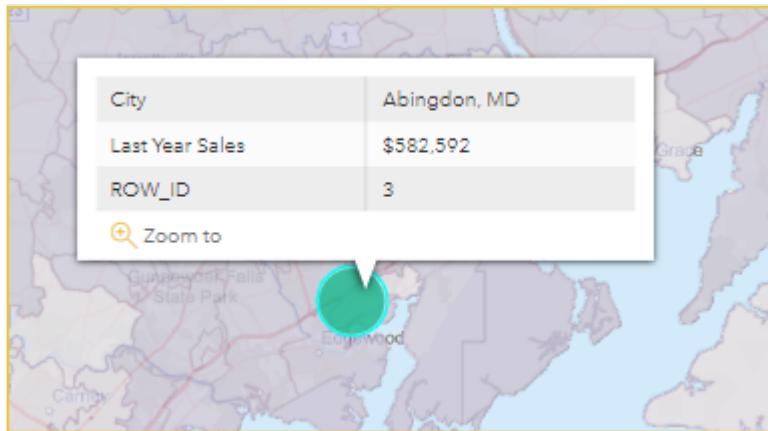
On the **Settings** pane, you can also view attribution for your map, read about the Esri EUEI (End User Experience) program, and turn **Send usage data to Esri** on or off.

## Use tooltips

If the map has a reference layer and the report designer has added tooltips, you can select a location to display its details. The following example shows a tooltip for the **Cleveland, Ohio, 2020 Total Population** broken down by five-year age increments.

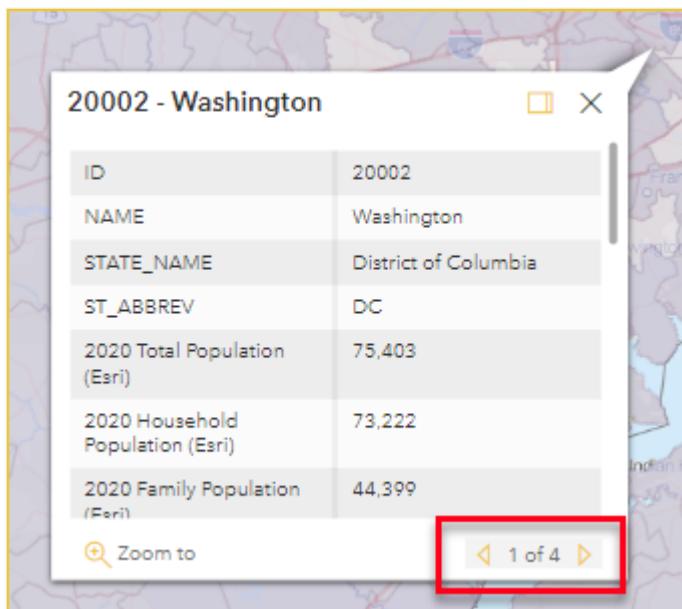


Hover your pointer over basemap location symbols to display symbol details in a tooltip.



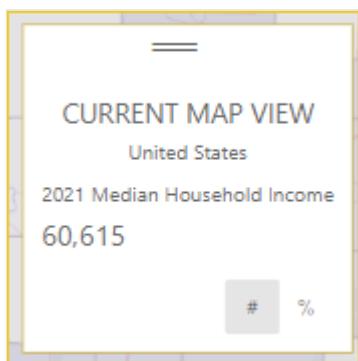
### 💡 Tip

You might have to zoom in to select a specific location. If there are overlapping locations, Power BI will present you with more than one tooltip at a time. Select the arrows to move between the tooltips.



## Use infographics

If the report designer adds an Infographics layer to the ArcGIS map, you'll see additional data displayed in the upper right corner of the map. Here's an example where the report designer added the **2021 Median Household Income**.



## Considerations and Limitations

ArcGIS Maps for Power BI is available in the following services and applications:

Service/Application	Availability
Power BI Desktop	Yes
Power BI service (app.powerbi.com)	Yes
Power BI mobile applications*	Yes

<b>Service/Application</b>	<b>Availability</b>
Power BI publish to web	Yes, for designers signed in to a <a href="#">valid licensed ArcGIS account</a> .
Power BI Embedded	Yes, for designers signed in to a <a href="#">valid licensed ArcGIS account</a> .
Power BI service embedding (powerbi.com)	No
Power BI Report Server	Yes, when signed into a valid ArcGIS Enterprise account through Report Server (online environment only). Not supported in a disconnected environment or with ArcGIS Online. Accessing Report Server with ArcGIS for Power BI consumes ArcGIS credits. For more information about credits, see <a href="#">Understand credits</a>

\*In mobile environments, you can view maps created using the ArcGIS for Power BI visualization included with Power BI (Standard account). Maps that contain premium content from ArcGIS aren't supported in mobile environments.

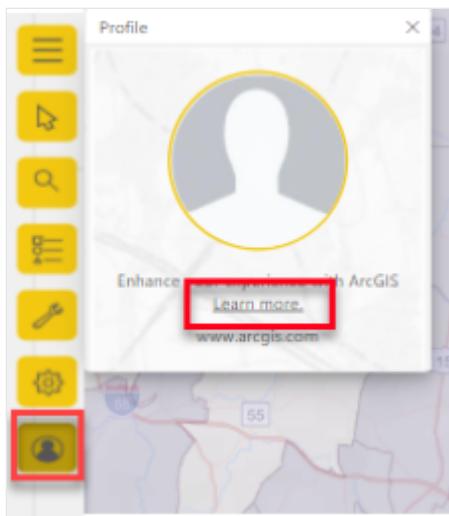
In services or applications for which ArcGIS for Power BI isn't available, ArcGIS visualizations will show as an empty visual with the Power BI logo.

### How do ArcGIS Maps for Power BI work together?

ArcGIS Maps for Power BI is provided by [Esri](#). When you provide your consent, any data you use that is connected to the map visualization is sent to Esri's services for geocoding. This means that location information is transformed into latitude and longitude coordinates that can be represented on a map. Through ArcGIS for Power BI, Esri provides services to enrich your data. These include basemaps, spatial analytics, location services, demographic data, and other authoritative data layers. ArcGIS for Power BI interacts with Power BI using an SSL connection protected by a certificate provided and maintained by Esri. For more information about ArcGIS Maps for Power BI, see [Esri's ArcGIS Map for Power BI product page](#).

### What is an ArcGIS account?

Esri offers an Esri [ArcGIS account](#) through ArcGIS for Power BI. Adding an ArcGIS account to Power BI can greatly enhance your mapping visualization capabilities by adding an extensive library of data reference layers and geo enrichment.



Power BI doesn't send personal information about you to Esri. This is a separate relationship with a third-party vendor. Once you add ArcGIS account content to your ArcGIS for Power BI visualization, you'll have access to all the Esri content and data associated with your account, role, and organization. Any other Power BI user with whom you share that data—whether within your organization or the public—might also need an ArcGIS account to view shared, potentially licensed content. For details about account types and data limitations, see [ArcGIS for Power BI online help](#).

For technical or detailed questions about ArcGIS for Power BI, see [ArcGIS for Power BI get started](#) or reach out to [Esri Technical Support](#).

The following table compares the standard features available to all Power BI users to those features available to users signed in to a valid, licensed ArcGIS account.

Feature	Standard, included with Power BI	Requires ArcGIS account
Basemaps	Four basic basemaps	All Esri basemaps, access to your organization's basemaps, custom basemaps.
Geocoding	3,500 locations per map, 10,000 locations per month	10,000 locations per map, no monthly limit
Reference layers	10 curated reference layers that contain U.S. demographic data and publicly shared feature layers in ArcGIS	Access to all global web maps and layers as defined by your ArcGIS organization or account. This includes access to ArcGIS Living Atlas of the World maps and layers (feature services) and publicly shared feature layers in ArcGIS.

Feature	Standard, included with Power BI	Requires ArcGIS account
Infographics	A curated gallery of U.S. demographic data variables, a maximum of two variables, support for drive time and radius settings	Access to all global demographic data variables as defined by your ArcGIS organization or account. This includes access to the ArcGIS GeoEnrichment data browser, a maximum of five variables, and support for all distance and travel settings.

### The ArcGIS map is not showing up

In services or applications where ArcGIS Maps for Power BI isn't available, the visualization will show as an empty visual with the Power BI logo.

### I'm not seeing all of my information on the map

When geocoding latitude and longitude on the map, up to 30,000 data points are displayed. When geocoding data points such as zip codes or street addresses, only the first 15,000 data points are geocoded. Geocoding place names or countries/regions aren't subject to the 15,000 address limit.

### Is there any charge for using ArcGIS Map for Power BI?

ArcGIS Maps for Power BI is available to all Power BI users at no extra cost. It's a component provided by Esri, and your use is subject to the terms and privacy policy provided by Esri, as noted earlier in this article. If you sign up for an [Esri ArcGIS account](#), there are [costs associated](#).

### I'm getting an error message about my cache being full

This is a bug that is being addressed. In the meantime, select the link in the error message for instructions on clearing your Power BI cache.

### Can I view my ArcGIS maps offline?

No, Power BI needs network connectivity to display the maps.

## Next steps

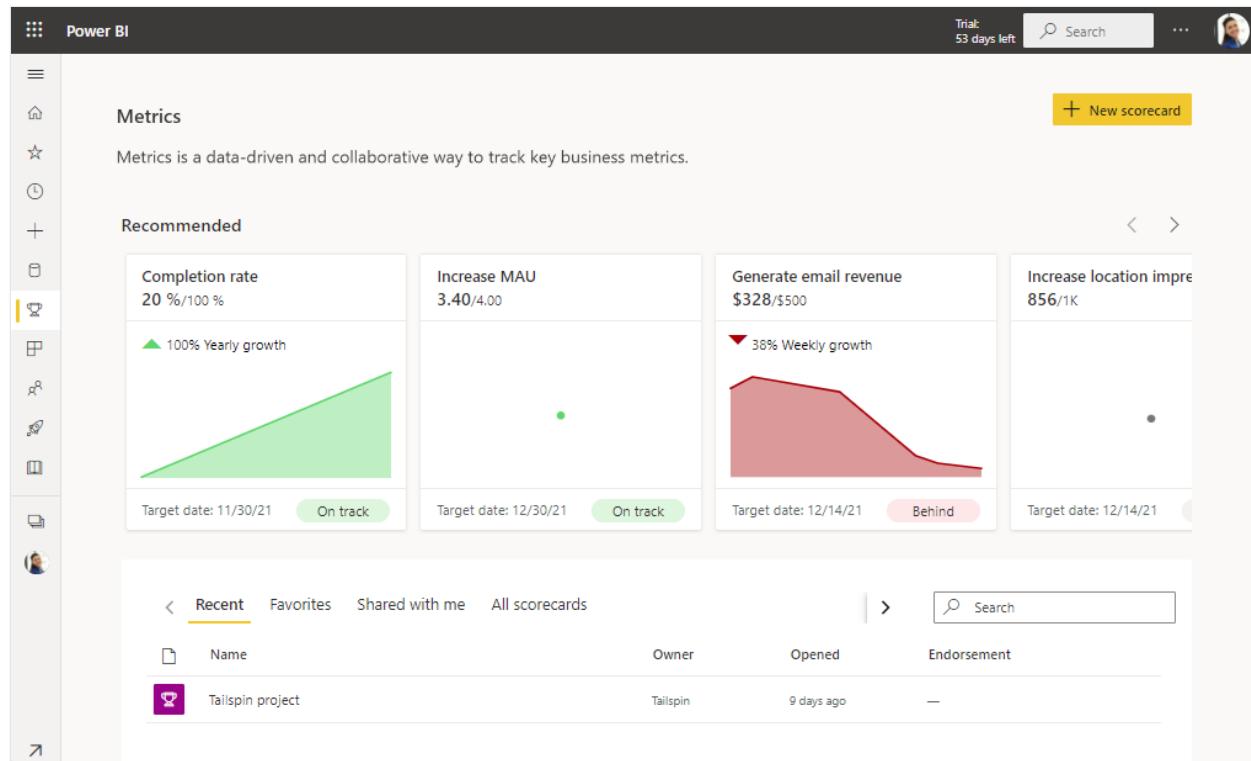
- Get started: [Esri documentation and tutorials for ArcGIS for Power BI](#).
- More questions? [Try asking the community thread related to ArcGIS Maps for Power BI](#).
- [ArcGIS Map for Power BI product page](#)

# Get started with metrics in Power BI

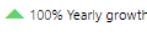
Article • 11/10/2023

APPLIES TO:  Power BI Desktop  Power BI service

Metrics in Power BI let customers curate their metrics and track them against key business objectives, in a single pane. This feature enhances data culture by promoting accountability, alignment, and visibility for teams and initiatives within organizations.



The screenshot shows the Power BI Metrics service interface. At the top, there's a navigation bar with icons for Home, Metrics, Recommended, Recent, Favorites, Shared with me, All scorecards, and a search bar. The main area is titled "Metrics" and contains a brief description: "Metrics is a data-driven and collaborative way to track key business metrics." Below this is a section titled "Recommended" featuring four cards:

- Completion rate**: 20 %/100 %,  100% Yearly growth, Target date: 11/30/21, Status: On track.
- Increase MAU**: 3.40/4.00,  Target date: 12/30/21, Status: On track.
- Generate email revenue**: \$328/\$500,  38% Weekly growth, Target date: 12/14/21, Status: Behind.
- Increase location impre**: 856/1K,  Target date: 12/14/21.

Below the recommended cards is a "Recent" section listing a single item: "Tailspin project" by Tailspin, opened 9 days ago.

## More articles about metrics

This article covers the basics of using metrics in the Power BI service. See the other articles about metrics for more detail:

- [Create scorecards and manual metrics in Power BI](#)
- [Create metrics that are connected to an existing report visual](#)
- [Get started with hierarchies in Power BI scorecards](#)
- [Stay on top of your metrics](#)
- [Follow your metrics](#)
- [Keep on top of your metrics on the go in the Power BI mobile apps, too](#)
- [Protect your scorecards with goal-level permissions](#)
- [Arrange metrics and columns in scorecards](#)
- [Customize statuses in scorecards](#)
- [Get notifications in Teams about changes to metrics](#)

# License requirements

Metrics are a Pro feature. Users can access various aspects of the experience depending on their license.

Permission	Minimum requirements
Author and share scorecards and metrics, and perform check-ins	Power BI Pro license
View scorecards and metrics	Power BI Premium capacity + Free user OR Power BI Pro license
View scorecard samples and author scorecards in My Workspace	Free user

If you don't meet the minimum requirements for any of these, contact your Power BI administrator before you begin.

## Explore the Metrics hub page

After you sign in to the Power BI service, select Metrics from the navigation pane. Power BI displays your Metrics hub page. The layout and content in the Metrics page is different for every user. As a new user, your Metrics page will be empty, as shown the following image.

The screenshot shows the Power BI Metrics landing page. At the top, there's a navigation bar with icons for Home, Favorites, Shared with me, All scorecards, and a search bar. A trial status "Trial: 51 days left" is also visible. The main area is titled "Metrics" and describes it as a data-driven way to track key business metrics. Below this is a "Recommended" section featuring five cards:

- Create your own scorecard**: A yellow circle with a trophy icon and a plus sign, with the text "Let's create your scorecard today".
- Education Sample**: A blue card showing "45 percent of K-12 schools using..." with a green line chart showing "31% Monthly growth".
- Sales Sample**: A purple card showing "Achieve a monthly revenue of \$5..." with a green line chart showing "4% Monthly growth".
- Marketing Sample**: A green card showing "Implement 20 new channels to d..." with a green line chart showing "15/20".
- Human Res**: A pink card showing "Achieve 88/90" with a small green line chart.

Below the recommended section, there are tabs for "Recent" (which is selected), "Favorites", "Shared with me", and "All scorecards". A large yellow button labeled "+ New scorecard" is located at the bottom right of the main content area.

## Recommended

The top section contains all the metrics that matter the most to you, and the scorecard samples. Power BI curates these metrics automatically, based on metrics that you're assigned to, you've edited, or you've performed a recent check-in. If you don't have any scorecards yet, you see the samples there.

This screenshot is identical to the one above, but the first card in the "Recommended" section, "Create your own scorecard", is highlighted with a red rectangular border. The rest of the interface is the same, including the navigation bar, the "Metrics" introduction, and the other four sample scorecards.

A metric must have at least two values, **Current** and **Target**, to show up in this section.

## Recent, Favorites, Shared with me, and All Scorecards

The next section is a tabbed list.

A screenshot of the Microsoft Scorecard navigation bar. It features four tabs at the top: "Recent" (underlined), "Favorites", "Shared with me", and "All scorecards". To the right of the tabs is a search bar with a magnifying glass icon and the placeholder text "Search". Below the tabs is a yellow button with a plus sign and the text "New scorecard". The main area displays a table with two rows. The columns are labeled "Name", "Owner", "Opened", "Endorsement", and "Sensitivity". The first row shows "Northwind" as the name, "Sales & Returns" as the owner, "a day ago" as the opened date, and two dashes for endorsement and sensitivity. The second row shows "Sales & Returns scorecard" as the name, "Sales & Returns" as the owner, "a day ago" as the opened date, and two dashes for endorsement and sensitivity.

- **Recent** are the scorecards you've visited most recently. Each item has a timestamp.
- **Favorites** are the scorecards you've starred.

A screenshot of the Microsoft Scorecard interface. The "Shared with me" tab is selected, showing a list of scorecards. The first item in the list is "Northwind". To the right of each scorecard entry are several icons: a blue folder icon, a blue trophy icon, a blue edit icon, a blue delete icon, a blue star icon, and the text "Sales". A tooltip "Add to Favorites" with a blue arrow points to the star icon for the "Northwind" entry.

- **Shared with me** contains scorecards that your colleagues have shared with you.
- **All scorecards** lists all the scorecards you have access to.

## Change the scorecard view

When you're viewing your scorecard, you can also change the view from **List view** to **Compact view**, which is currently in preview.

A screenshot of a Microsoft Scorecard interface. At the top, there's a toolbar with icons for notifications, settings, download, help, and user profile. Below the toolbar is a search bar with the placeholder "Filter by keyword". Underneath the search bar is a progress summary: "0" items, "On track" status, and three buttons for "Progress", "Trend", and "Due". To the right of the progress summary is a "View" dropdown menu. The menu is open, showing three options: "List view" (selected and highlighted with a red box), "List view", and "Compact view (preview)". The "Compact view (preview)" option is also highlighted with a red box.

Compact view adjusts to various screen sizes and supports resizing columns. You can do everything you can do in list view, except editing and creating a new metric.

## Frequently asked questions (FAQ)

## Why don't I see history for my metric when I connect to a Power BI data point?

You don't see a history for a single data point because we only pull history for time series data. To see the history of your metric when you connect to time series data, select **Track all data in this time series** when you connect.

## I'm connecting to time series data and still don't see the history of the metric. Why not?

We don't pull in the history of time series if we only have a partial date, for example, day of the week or month. We can only pull in the history of a time series when we have a full date to track, such as day, month, and year.

## Why aren't my metrics getting updated over time in my scorecard?

There are a few reasons why your metric may not be getting updated:

- It's a manual metric: Manual metrics aren't updated automatically as they're not connected to a data source with regular refreshes. To create a history for a manual metric, do regular check-ins.
- You don't have scheduled refresh for the semantic model: Metric values are only updated as often as the semantic model is refreshed. If you don't have a scheduled refresh on your semantic model, you don't see any updates in the metric value. Learn about [scheduled refresh](#).
- Metrics don't get updated if they're created from a push dataset.

## I'm trying to create a metric but I can't connect to a report. Why do I see a yellow warning icon?

To connect your current value or target to data, you need build permissions for that report. Learn about [build permissions](#).

## I shared a scorecard but my users can't do check-ins and add notes. Why not?

Currently, users need to have edit permissions for the scorecard to add check-ins. Updated scorecard and metric-level permissions are in the works. They'll allow check-in permissions without edit permissions for the scorecard.

## Why can't I update the value as part of my check-in?

You can only update values in manual metrics. If a metric value is connected to data, you can't update it manually. The data is pulled directly from the report and is updated as often as the semantic model refreshes.

## How often do metrics update in the scorecard?

Metrics only update as often as the data updates in the semantic model. We support connecting via import, live connection, and DirectQuery. Additionally, we take snapshots of the metrics data at a maximum daily cadence, and always retain the last updated value for a given day. The snapshots are always available in the underlying semantic model we create, which you can then build content on top of.

### I changed the tracking cycle of my metric. Why does the data still look the same?

Changing the tracking cycle only changes the trend that you see below your value/target area. Changing this setting doesn't impact refreshes on the data or when your data is updated in the metrics.

### Why don't I see the Power BI workspace I'm looking for when I create a scorecard?

In order to create a scorecard in a workspace, you need a contributor or owner role in that workspace. Learn about [roles in workspaces](#).

Scorecards do have metric-level permissions roles. While workspace permissions give view or build access to the workspace, metric-level permissions restrict access. Certain people can only see certain metrics and perform check-ins within a scorecard. Read more about [metric-level permissions in scorecards](#).

## Issues and limitations

- Metrics don't yet support bring your own key (BYOK).
- Metrics don't yet support row-level security (RLS).
- For now, the maximum number of submetric levels is four.
- Metrics don't support publish-to-web.
- Business-to-business sharing (sharing across tenants) isn't supported.
- Scorecards aren't supported in a [Multi-Geo capacity](#).
- Scorecards aren't supported in [embedded analytics](#).

## Next steps

- [Create scorecards and manual metrics in Power BI](#)
- [Create connected metrics in Power BI](#)
- [Stay on top of your metrics in Power BI](#)
- [Protect your scorecard with metric-level permissions](#)
- [Metrics admin settings](#)

More questions? [Try the Power BI Community](#).

# Stay on top of your metrics

Article • 03/17/2023

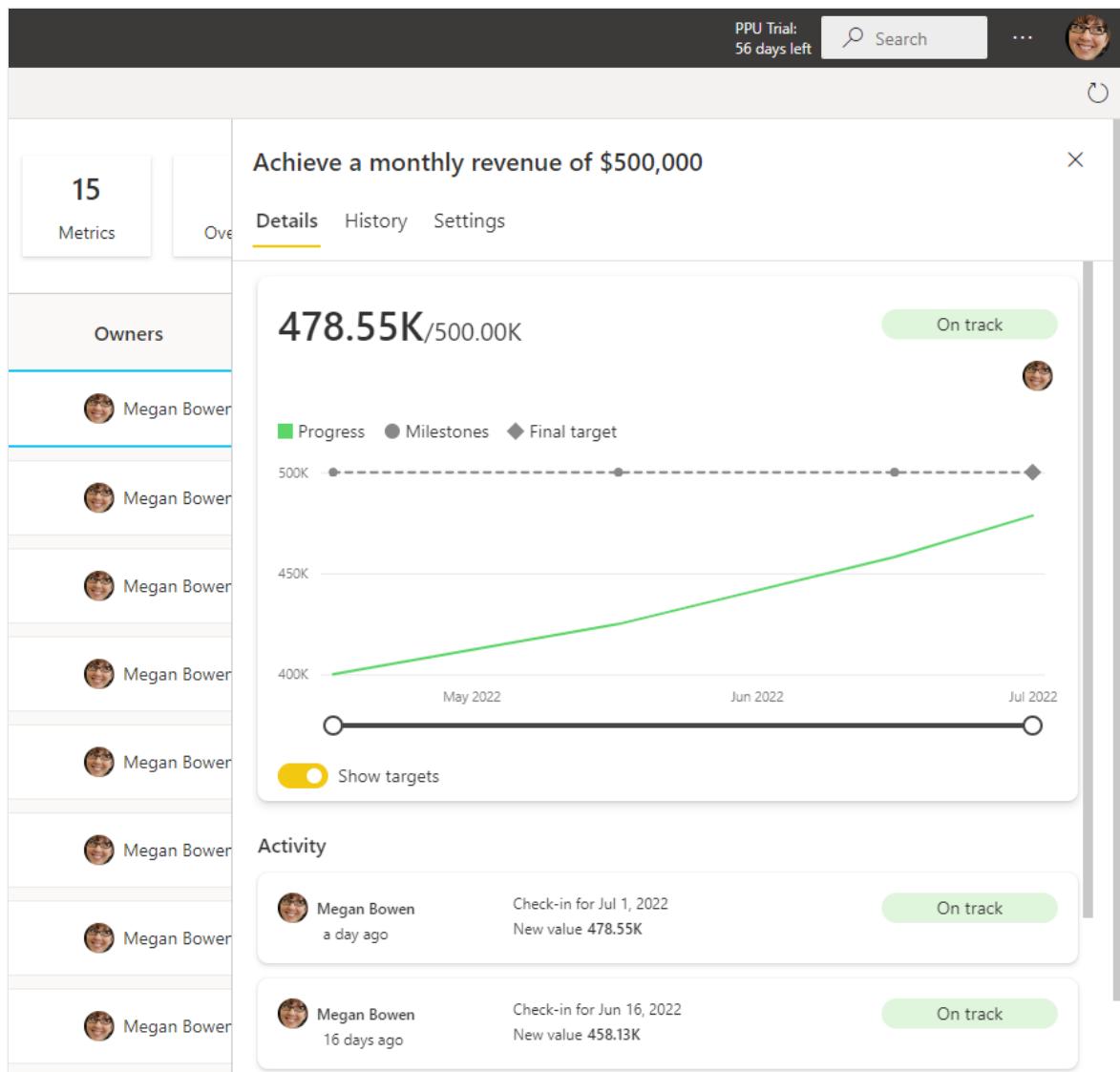
**APPLIES TO:**  Power BI Desktop  Power BI service

Metrics in Power BI let your customers curate their metrics and track them against key business objectives, in a single pane. In addition to seeing all your metrics in one view, scorecards make it easy for you to dig deeper into the data, update your metrics, make notes on important events. These features are covered in this article. You can also [follow your metrics](#), to be notified when they change.

## View metric details

The metrics Details pane provides the entire history for the metric from the start date, including check-ins, status changes, and relevant notes.

- To access the details pane, open a scorecard and select the metric name. Power BI automatically shows the details pane.



## Filtering and keyword search

You can filter scorecards to metrics labeled as a particular status. Selecting the summary cards at the top of the scorecard makes it easy to see what is on track or at risk.

This metric is *at risk*.

The screenshot shows a Power BI Scorecard titled "Sales Sample". At the top, there are seven status boxes: Metrics (15), Overdue (1), Behind (3), At risk (1), On track (7), Not started (0), and Completed (3). Below this is a table with columns: Name, Owners, Status, Value, Progress, and Due date. A single row is visible: "Improve the overall sales funnel" owned by Megan Bowen, marked as "At risk", with a due date of Dec 31, 2023.

This metric is *behind*.

The screenshot shows the same Power BI Scorecard after applying a filter for the keyword "behind". The table now displays five rows of tasks: "Improve the overall sales funnel" (At risk), "Continue to have over 20000 active prospects in the funnel" (Behind, 14K/20K, + 27% DoD), "Streamline the sales lead process" (On track), "Follow up inquiries by sales team within 12 hours" (Behind, 17/12, - 6% DoD), and "Reduce overall wait-time for calls" (Behind, 4/0, - 20% DoD). Each row includes a progress bar and a due date of Dec 31, 2023.

There's also a keyword search that filters the scorecard down to metrics that match the keyword. Select the **Filter** icon above the first metric and type the keywords you're looking for. The scorecard filters to show those results, without losing the context of any parent/child metric relationships, making it easy to quickly find a particular metric and see how it's doing.

The scorecard before filtering.

Power BI

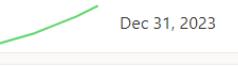
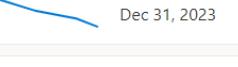
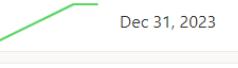
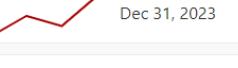
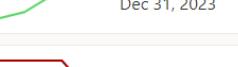
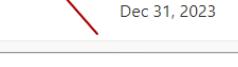
PPU Trial: 56 days left

Share Chat in Teams Create a flow Edit

### Sales Sample

Sample scorecard to track sales metrics

Show filters

Name	Owners	Status	Value	Progress	Due date
Achieve a monthly revenue of \$500,000	Megan Bowen	On track	478.55K/500.00K ↑ 4% MoM		Dec 31, 2023
Launch all promised products this year	Megan Bowen	On track			Dec 31, 2023
Reduce the number of sales cycle days to 20	Megan Bowen	Completed	19/20 ↓ 14% MoM		Dec 31, 2023
Upsell new premium features to 20% of existing customers	Megan Bowen	On track	17/20 ↑ 0% WoW		Dec 31, 2023
Improve the overall sales funnel	Megan Bowen	At risk			Dec 31, 2023
Continue to have over 20000 active prospects in the funnel	Megan Bowen	Behind	14K/20K ↑ 27% DoD		Dec 31, 2023
Streamline the sales lead process	Megan Bowen	On track			Dec 31, 2023
Achieve 3500 sales calls per quarter	Megan Bowen	On track	2.88K/3.50K		Dec 31, 2023
Follow up inquiries by sales team within 12 hours	Megan Bowen	Behind	17/12 ↓ 6% DoD		Dec 31, 2023

The scorecard filtered to *Premium*.

Power BI

PPU Trial: 56 days left

Share Chat in Teams Create a flow Edit

### Sales Sample

Sample scorecard to track sales metrics

Show filters

premium

Name	Owners	Status	Value	Progress	Due date
Achieve a monthly revenue of \$500,000	Megan Bowen	On track	478.55K/500.00K ↑ 4% MoM		Dec 31, 2023
Upsell new premium features to 20% of existing customers	Megan Bowen	On track	17/20 ↑ 0% WoW		Dec 31, 2023

## Update manual values

1. In a scorecard, select the metric name.
2. In the Details pane, select **New check-in**.

3. Complete the following actions in any order:

**Choose a date.**

Enter a new or updated value.

## Select a status.

Optionally, include a note.

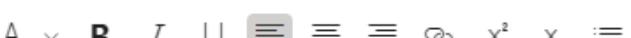
Activity

New check-in

Update the metric value and status, and share details in a note

7/1/2022  500 

Hide note 



Looks good!

#### 4. Select **Save**.

## Activity

New check-in

---

 Megan Bowen now	Check-in for Jul 1, 2022 New value 500	On track	⋮
 Megan Bowen now	Looks good!	⋮	⋮

## Update connected values

1. In a scorecard, select the metric name.

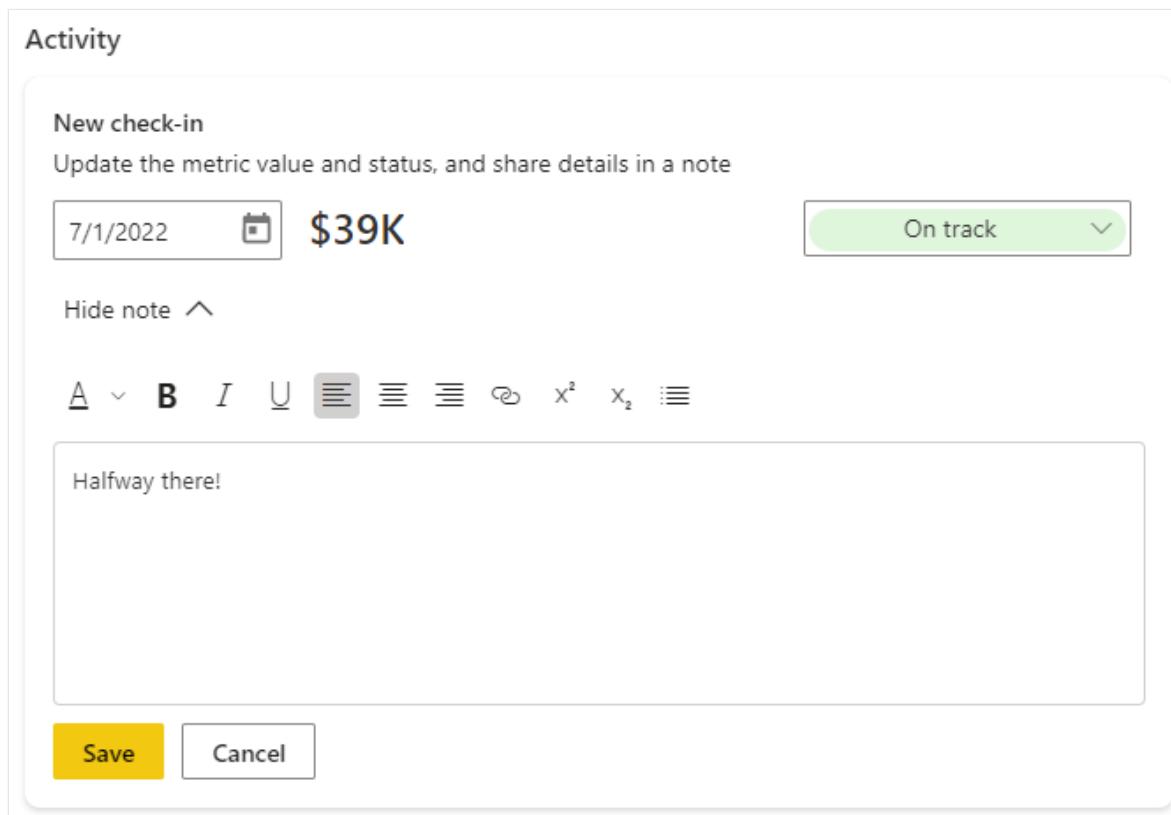
2. In the Details pane, select **New check-in**.

3. Complete the following actions in any order:

Choose a **date**. Choosing a date auto-populates the value for that day. You can't override a connected value.

Select a **status**.

Optionally, include a **note**.



4. Select **Save**.

## Next steps

- [Get started with metrics in Power BI](#)
- [Create scorecards and manual metrics in Power BI](#)
- [Create connected metrics in Power BI](#)

More questions? [Try the Power BI Community](#).

# View hierarchies in Power BI metrics

Article • 11/10/2023

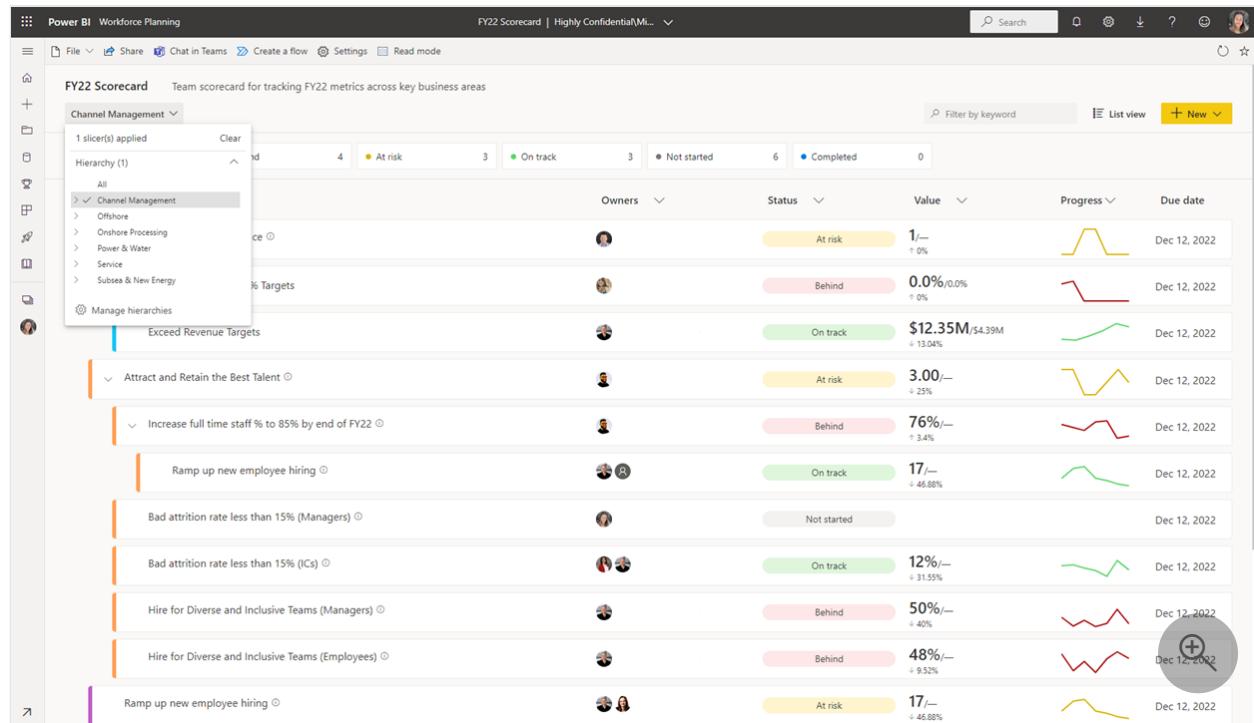
APPLIES TO: ✖ Power BI Desktop ✓ Power BI service

Metrics support cascading scorecards that roll up along hierarchies you set up in your scorecard. You can view and interact with hierarchies in scorecards two different ways.

- [Scorecard list view](#)
- [Heatmap view](#)

## Scorecard list view

To view your hierarchical scorecard, you can use the slicer to navigate to whichever level of your hierarchy you want to view. From here you can do things like open the details pane, go to a report, and perform check-ins, just like any other scorecard view.



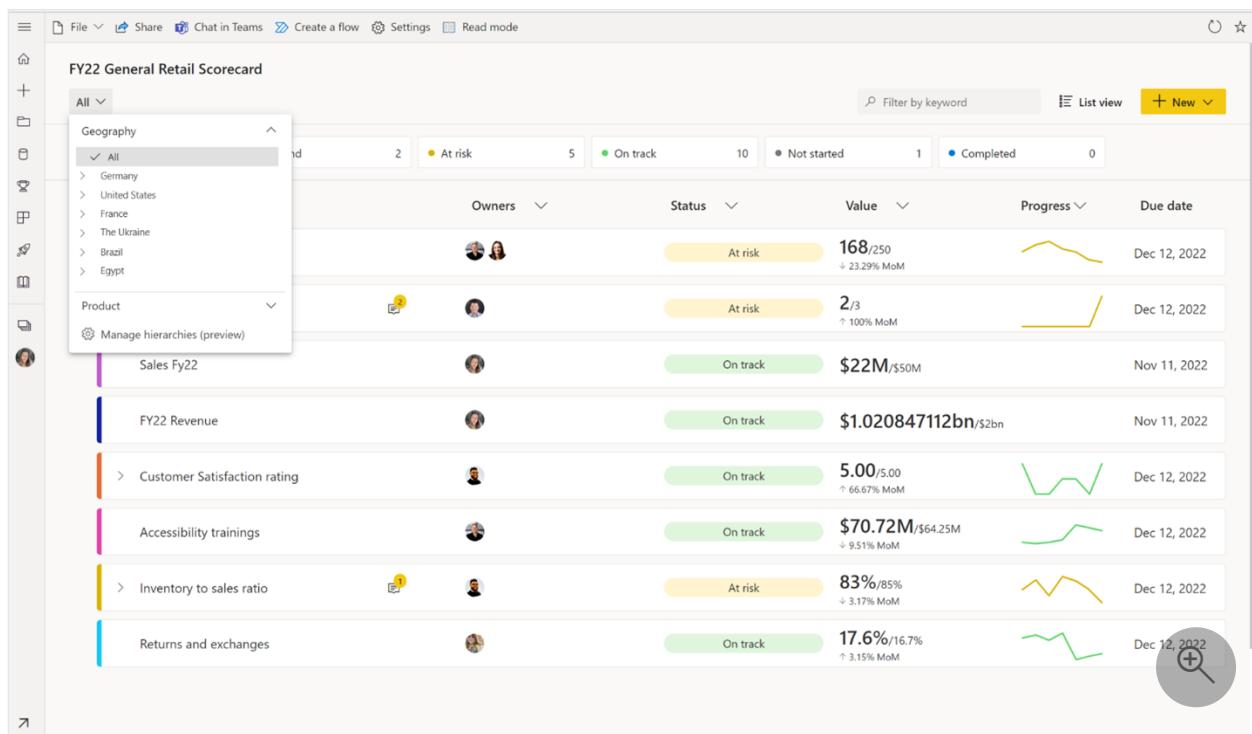
All connected values, mapped owners, and statuses dictated by rules will reflect the appropriate data at each hierarchy level, so long as the relationships exist. There needs to be a relationship between the hierarchy level fields in the underlying semantic models to correctly filter the values. Manual metrics will be indicated by an information icon showing which values are manual for that metric.

**Name**

Current value (added manually)  
Target value (added manually)

Feature usage ⓘ

You can view intersections of multiple hierarchies. For example, you can look at a cross section between one selection from product, and one selection from the geography hierarchy, indicated in the slicer name as shown in the following images.



Here the header within a scorecard restates the two levels of the hierarchy that a user chose, Germany and Laptops.

## Heatmap view

By selecting **Heatmap** from the view options, you can start to build a custom heatmap view that allows side by side comparison of different hierarchy levels. This experience is exposed in read mode, so consumers can also do their own exploration using the pane, showing and comparing different segments, though saving and sharing views aren't yet supported.

Name	Totals	Channel Mana...	Offshore	P-001	P-005	On
Deliver Financial Performance	2/3 On track	1/— At risk	2/— On track	2/— On track	2/— On track	2/— On track
Exceed Gross Margin % Targets	17.6%/16.7% On track	0.0%/0.0% Behind	0.0%/0.0% Behind	0.0%/0.0% Behind	0.0%/0.0% Behind	0.0%/0.0% Behind
Exceed Revenue Targets	\$70.72M/\$64.25M On track	\$12.35M/\$4.39M On track	\$22.19M/\$21.36M On track	\$911.04K/\$810.11K On track	\$135.45K/\$117.39K On track	\$135.45K/\$117.39K On track
Attract and Retain the Best Talent	5.00/5.00 On track	3.00/— At risk	5.00/— On track	2.00/— Behind	2.00/— Behind	2.00/— Behind
Increase full time staff % to 85% by end of FY22	83%/85% At risk	76%/— Behind	71%/— Behind	50%/— Behind	50%/— Behind	50%/— Behind
Ramp up new employee hiring	168/200 Behind	17/— On track	11/— On track	2/— On track	2/— On track	2/— On track
Bad attrition rate less than 15% (Managers)	14%/15% On track	—/— Not started	—/— Not started	—/— Not started	—/— Not started	—/— Not started
Bad attrition rate less than 15% (ICs)	16%/15% Behind	12%/— At risk	14%/— At risk	25%/— Behind	25%/— Behind	25%/— Behind
Hire for Diverse and Inclusive Teams (Managers)	49%/50% At risk	50%/— Behind	83%/— Behind	33%/— Behind	33%/— Behind	33%/— Behind
Hire for Diverse and Inclusive Teams (Employees)	47%/50% On track	48%/— Behind	65%/— Behind	100%/— Behind	100%/— Behind	100%/— Behind
Ramp up new employee hiring	168/250 At risk	17/— At risk	11/— At risk	2/— At risk	2/— At risk	2/— At risk
Nurture Future Project Pipeline	2/2 On track	—/— Not started	—/— Not started	—/— Not started	—/— Not started	—/— Not started
Backlog Forecasted Revenue	\$372M/\$300M On track	\$63M/— Not started	\$121M/— Not started	\$7M/— Not started	\$2M/— Not started	\$2M/— Not started
Opportunity Forecasted Revenue	\$510M/\$500M On track	\$77M/— Not started	\$202M/— Not started	\$6M/— Not started	\$2M/— Not started	\$2M/— Not started
Compliance reaches grade B	C/B At risk	—/— Not started	—/— Not started	—/— Not started	—/— Not started	—/— Not started

You can also customize what information to show in each metric box by selecting the slicer dropdown, then selecting **Open display settings**. This is a great view to use in business reviews.

Power BI Workforce Planning FY22 Scorecard | Highly Confidential\Mi... ▾

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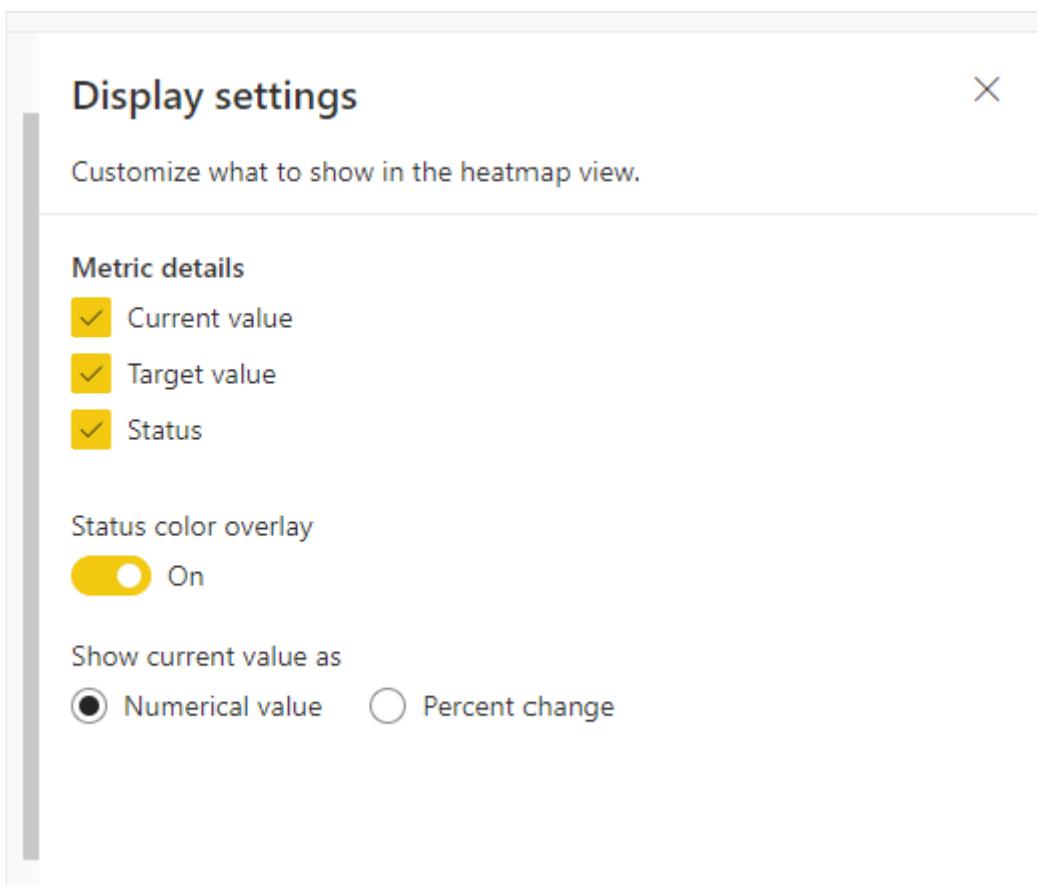
FY22 Scorecard Team scorecard for tracking FY22 metrics across key business areas

Add columns ▾

Customize heatmap Open display settings

	Totals ▾
Deliver financial performance ⓘ	2/3 At risk
Exceed Revenue targets	\$70.72M/\$64.25M On track
Exceed Gross margin % targets	17.6%/16.7% On track
Attract and Retain the Best Talent ⓘ	5.00/5.00 On track
Increase full time staff % to 85% by end of FY22 ⓘ	83%/85% At risk
	...

Customize the heatmap view in the **Display settings** dialog box.



## Additional considerations for viewing a hierarchy

- Premium or PPU workspace is required.
- There are data limits on hierarchies:

- Up to 10,000 items per hierarchy (across all semantic models)
  - Up to five hierarchies
  - Up to five levels per hierarchy
- Permissions can't be set at a hierarchy level – metric level permissions are set at the scorecard and applied to all hierarchy views.
- Data connections are evaluated by impersonating the hierarchy owner/creator where row-level security (RLS) may apply. This does not change metric level permissions.
- Dynamic and static RLS is supported but it is routed through the hierarchy creator. All scorecard viewers impersonate the hierarchy creator's access.
- Hierarchy permissions can't be set at a specific hierarchy level. Metric level permissions are inherited from the original scorecard and are applied at all levels, and RLS via the hierarchy creator dictate permissions.
- Non-admin users may experience refresh issues when setting up hierarchies on a semantic model with dynamic RLS.
- Manual metrics are indicated by an information icon showing which values are manual for that metric.
- Notifications regarding status changes on child scorecard levels aren't triggered.
- There is a limit of one selection per hierarchy for viewing a hierarchical scorecard.
- History for hierarchical metrics isn't supported because data is always queried live from the semantic model, instead of cached when the semantic model refreshes.
- Saving and sharing heatmap views isn't yet supported.

## Next steps

- [Get started with cascading scorecards in Power BI](#)
- [Scenarios: When to use hierarchies in Power BI scorecards](#)

# Paginated reports in the Power BI service

Article • 03/17/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

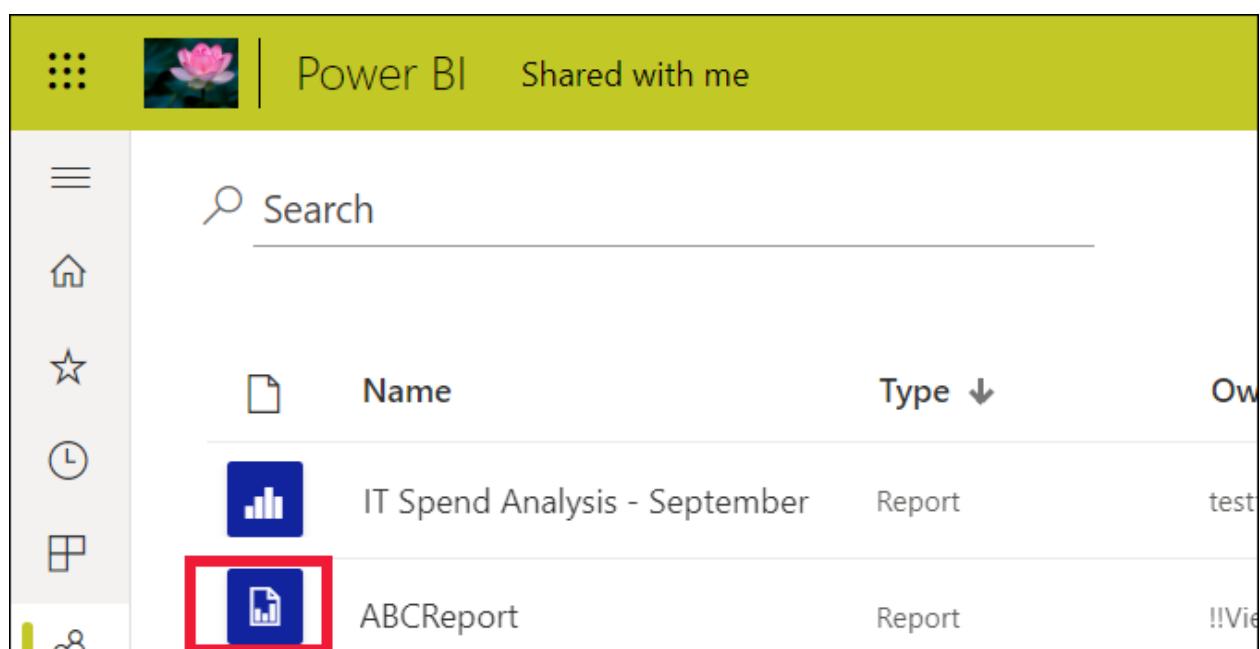
There are two types of reports available on Power BI, [Power BI reports](#) and *paginated reports*.

Power BI reports are optimized for exploration and interactivity. A sales report where different salespeople want to slice the data in the same report for their specific region/industry/customer and see how the numbers change would be best served by a Power BI report.

*Paginated reports* are well suited for viewing reports as pages, printing as PDF, exporting to Excel, or generating documents. A sales detail report where you want to see row-level detail data for specific region/industry/customer and perhaps export it to Excel or print as accessible PDF would be best served by a paginated report.

## Identify a paginated report

In content lists and on your Home landing page, paginated reports can be identified by their icon  . A paginated report can be shared with you directly, or as part of a [Power BI app](#). If the report *designer* gave you permissions, you'll be able to re-share the paginated report and subscribe yourself and others.



Name	Type	Ow
IT Spend Analysis - September	Report	test
ABCReport	Report	!!Vie

# What is a paginated report?

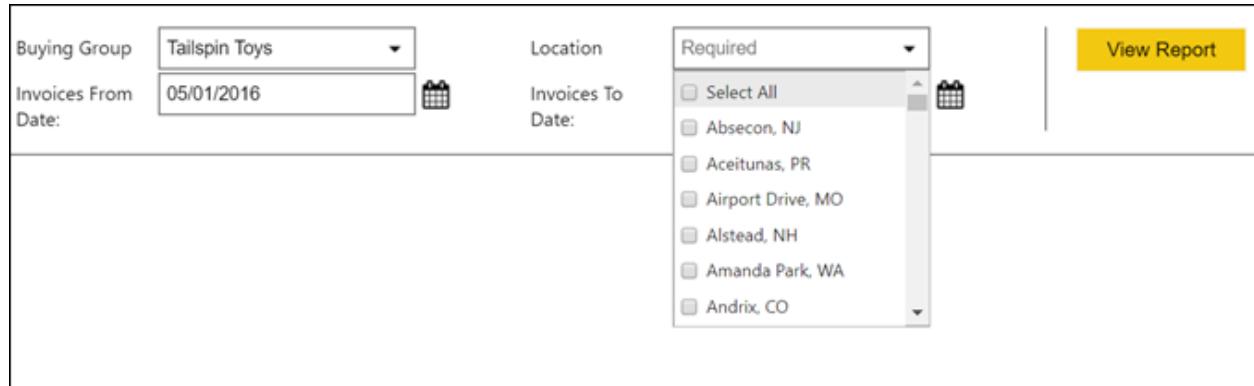
These reports are called *paginated* because they're formatted to fit well on a printed page. One advantage is that they display all the data in a table, even if the table spans multiple pages. Report *designers* can control the report page layout exactly.

Paginated reports are best for scenarios that require a highly formatted, pixel-perfect output optimized for printing or PDF generation. A profit and loss statement is a good example of the type of report you would probably want to see as a paginated report.

## How do paginated reports work?

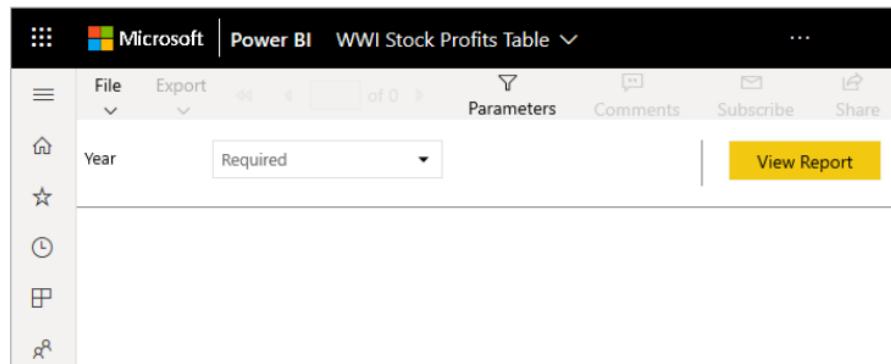
When report *designers* create a paginated report, they're really creating a *report definition*. It doesn't contain the data. It specifies where to get the data, which data to get, and how to display the data. When you run the report, the report processor takes the report definition, retrieves the data, and combines it with the report layout to generate the report. Sometimes, the report displays default data. Other times you need to enter parameters before the report can display any data.

Select a paginated report to open it in the Power BI service. If it has parameters, you need to select them before you can view the report.



And that's typically the extent of the interaction - setting the parameters. If you're a billing analyst, you might use paginated reports to create or print invoices. If you're a sales manager, you might use paginated reports to view orders by store or sales person.

This simple paginated report generates profit by year after you select the Year parameter.

A screenshot of the Microsoft Power BI web interface showing the results of the report. The "Year" parameter is set to "2015", which is highlighted with a red box. The main area displays a table with two columns: "Stock Item" and "Sum Profit". The table lists various items and their corresponding profits for the year 2015.

Stock Item	Sum Profit
20 mm Double sided bubble wrap 50m	1782040
Air cushion machine (Blue)	1329768
32 mm Anti static bubble wrap (Blue) 50m	1120560
10 mm Anti static bubble wrap (Blue) 50m	1094580
20 mm Anti static bubble wrap (Blue) 50m	927780
32 mm Double sided bubble wrap 50m	922730
10 mm Double sided bubble wrap 50m	885430
32 mm Anti static bubble wrap (Blue) 20m	456000
32 mm Double sided bubble wrap 20m	445970
Void fill 400 L bag (White) 400L	435120

Compared to paginated reports, Power BI reports are much more interactive. Power BI reports allow for ad hoc reporting, and support more types of visuals, including custom visuals.

## Interact with a paginated report

The way you interact with a paginated report is different from other reports. You can do things like print, bookmark, export, and comment, but there's less interactivity. Often, paginated reports require input from you to populate the report canvas. Other times the report displays default data and you can enter parameters to see different data.

## Print a paginated report

*Paginated* reports are formatted to fit well on a page and to print well. What you see in the browser is what you see when you print. Plus, if the report has a long table, the entire table prints, even if it spans multiple pages.

Paginated reports can have many pages. For example, this report has 563 pages. Each page is laid out exactly, with one page per invoice and repeating headers and footers. When you print this report, you'll get page breaks between invoices.

Microsoft Power BI WWI - Account Statement ...

File Export <> 400 of 563 Parameters Comments Subscribe Share

Buying Group: Tailspin Toys Location: Absecon, NJ, Aceitunas, PR, ... View Report

Invoices From: 5/1/2016 To Date: 5/31/2016

## Buying Group Account Statement

Invoice Range: May 01, 2016 to May 31, 2016  
 Buying Group: Tailspin Toys, 201 Customers Selected

Floor 20, Import Plaza  
 105 Silk Road  
 Tradesville  
 WA 99999



Invoice No: 72327-69322

Invoice 2 of 3

Invoice Date:	May 12, 2016	Delivery Time:	11:45 May 13, 2016
Purchase Order No:	13494	Received By:	Steven Frasier
Billed To:	Tailspin Toys (Head Office)		
Delivery Information:	Shop 251, 835 Bach Crescent		

Item	Quantity	Unit Price	Tax	LineTotal
RC vintage American toy coupe with remote control (Red) 1/50 scale	8	\$30.00	\$36.00	\$276.00
3 kg Courier post bag (White) 300x190x95mm	125	\$0.66	\$12.38	\$94.88
Developer joke mug - understanding recursion requires understanding recursion (White)	2	\$13.00	\$3.90	\$29.90
<b>TOTAL</b>			<b>\$52.28</b>	<b>\$400.78</b>

Generated 11/26/2019 4:59:49 PM Page 400

## Navigate the paginated report

In this sales order report, there are three parameters: Business type, Reseller, and Order number.

The screenshot shows a Microsoft Power BI report titled "Sales Order". At the top, there are three dropdown menus: "Business" (set to "Value Added Reseller"), "Reseller" (set to "Active Life Toys"), and "Order" (set to "SO47398"). A red arrow points from the "Order" dropdown to a yellow "View report" button. Below the header, the report title is "Sales Order SO47398". On the left, there's a sidebar with icons for Home, Refresh, Filter, and User. The main content area shows the following details:

DATE	MAR, 01, 2015					
TO	AW00000461 ACTIVE LIFE TOYS 55 Standish Court Mississauga, ON, L5B 3V4 Canada					
YOUR REF	PO10614138214					
PRODUCT	QTY	EXTENDED	DISC	SALES	TAX	FREIGHT
01 Road-250 Red, 48	3	4,398.03	0.00	4,398.03	351.84	109.95
02 Men's Bib-Shorts, L	4	215.98	0.00	215.98	17.28	5.40

To change the information shown, enter new values for the three parameters and select **View report**. Here, we've selected **Specialty bike shop**, **Alpine Ski House**, and order number **SO46085**. Select **View report** to refresh the report canvas with the new sales order.

The screenshot shows a Microsoft Power BI report titled "Sales Order". The "Business" and "Reseller" dropdowns are set to "Specialty Bike Shop" and "Alpine Ski House" respectively. The "Order" dropdown is open, showing a list of order numbers: SO50300, SO49141, SO48055, SO47035, SO46085, SO45324, and SO44548. A red box highlights the "Order" dropdown and its list. A red arrow points from the "Order" dropdown to a yellow "View report" button. The main content area shows the following details:

DATE	MAR, 01, 2015
TO	AW00000461

The new sales order shows the parameters we selected.

The screenshot shows a Power BI report titled "Sales Order SO46085". At the top, there are navigation links for Microsoft, Power BI, and WWI Sales, along with a search bar and user profile. The main content area displays the sales order details: Date (NOV, 01, 2014), To (ALPINE SKI HOUSE, 7505 Laguna Boulevard, Elk Grove, CA, 95624, United States), and Your Ref (PO4698157727). Below this is a table of products ordered:

PRODUCT	QTY	EXTENDED	DISC	SALES	TAX	FREIGHT
01 Road-650 Red, 48	1	419.46	0.00	419.46	33.56	10.49
02 Road-650 Black, 58	2	838.92	0.00	838.92	67.11	20.97
03 Road-450 Red, 58	3	2,624.38	0.00	2,624.38	209.95	65.61
<b>TOTAL</b>	<b>6</b>	<b>3,882.76</b>	<b>0.00</b>	<b>3,882.76</b>	<b>310.62</b>	<b>97.07</b>

At the bottom, it says "Sales Order SO46085" and "Page 1 of 1".

Some paginated reports have many pages. Use the page controls to navigate through the report.

The screenshot shows a paginated report with a red box highlighting the page navigation controls. It indicates page 4 of 9.

## Export the paginated report

You have a variety of options for exporting paginated reports, including PDF, Word, XML, PowerPoint, and Excel. When you export, as much of the formatting as possible is preserved. Paginated reports exported to Excel, Word, PowerPoint, MHTML, and PDF, for example, keep their formatting.

Export ▾



1 of 1



Microsoft Excel (.xlsx)



PDF (.pdf)



Accessible PDF (.pdf)



Comma Separated Values (.csv)



Microsoft PowerPoint (.pptx)



Microsoft Word (.docx)



Web Archive (.mhtml)



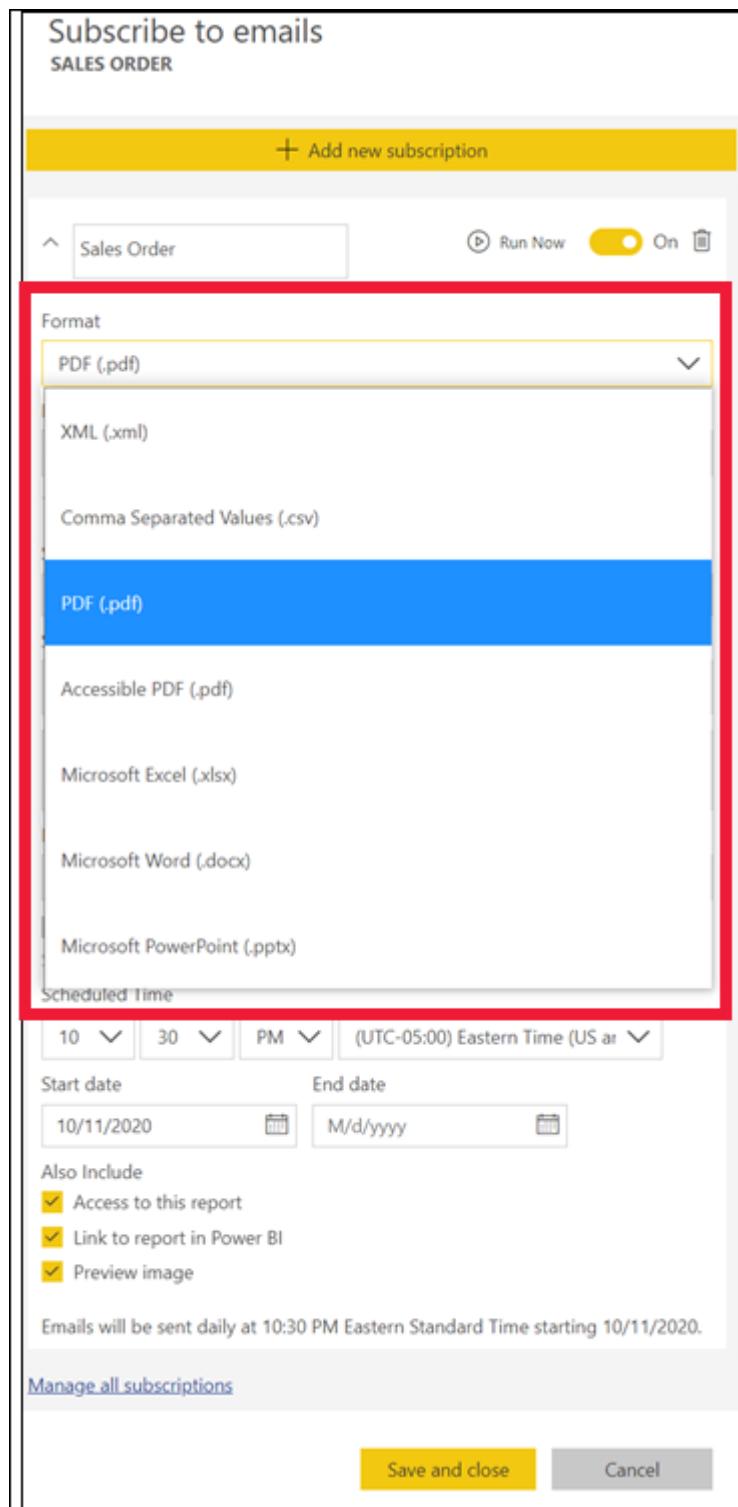
XML (.xml)

The screenshot displays three versions of a Sales Order report for Adventure Works:

- Word Document:** Shows the report in Microsoft Word's Protected View, with a yellow bar at the top warning "PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay here".
- Excel Spreadsheet:** Shows the report in Microsoft Excel, with the title "Sales Order" and reference "SO47398". The data includes product details like Road-250 Red, 48, and a total amount of \$60,281.31.
- Power BI Report:** Shows the report in a browser-based Power BI interface. It includes a header with the date (MAR, 01, 2015), recipient (ACTIVE LIFE TOYS), and reference (PO10614138214). The main content is a table of sales items with columns for Product, QTY, Extended, DISC, SALES, TAX, and FREIGHT.

## Subscribe to the paginated report

When you subscribe to a paginated report, Power BI sends you an email with the report as an attachment. When you set up your subscription, you choose how often you want to receive the emails: daily, weekly, hourly, or monthly. The subscription contains an attachment of the entire report output, up to 25MB in size. Export the entire report, or choose the parameters ahead of time. Choose from many attachment types, like Excel, PDF, and PowerPoint.



## Considerations and troubleshooting

- A paginated report can appear blank until you select parameters and choose **View report**.
- If you don't have any paginated reports, check out these [sample paginated reports](#) that you can import to your workspace.

## Next steps

- Power BI reports
- Paginated reports in Power BI: FAQ
- More questions? Try the [Power BI Community](#).

# View a paginated report in the Power BI service

Article • 12/01/2023

In this article, you learn about viewing a paginated report in the Power BI service. Paginated reports are reports created in Report Builder. They can be uploaded to any Power BI workspace.



Paginated reports have their own icon .

You can also export paginated reports to many formats:

- Microsoft Excel
- Microsoft Word
- Microsoft PowerPoint
- PDF (and [Accessible PDF, or PDF/UA](#))
- Comma-separated values
- XML
- Web archive (.mhtml)

## View a paginated report

1. Open the Power BI service, then select the paginated report in the workspace.

The screenshot shows the Microsoft Power BI workspace interface. On the left, there's a sidebar with icons for Home, Create, Browse, Workspaces, Paginated Reports..., Employee Sales..., and more. The main area is titled "Paginated Reports Samples" and contains a list of reports. The first item, "Employee Sales Summary New", is highlighted with a red box. The list includes:

Name	Type
Employee Sales Summary New	Report
Invoice	Report
Labels	Report
Letter	Report
MickeyIdCard	Report
MickeyIdCardNoDefault	Report

- If the report has **Required** parameters, they won't appear when you first open it. Select **Parameters**, then select **View Report**. You see a notification of the fields required to open the report. You can change the parameters at any time.

The following example shows a report with a parameter that requires you to select a month.

The screenshot shows the "Employee Sales Summary New" report in the Power BI interface. The report has a parameter for "Report Month" set to "July". The main content includes a chart titled "Yearly Sales Comparison" and a table of sales data:

**Report Month:** July

**Report Year:** 2012

**Employee Sales Summary New**

**July 2012 Sales Report**  
David Campbell

**Yearly Sales Comparison**

In Thousands

Order #	Category	Sales
SO47349	Components	1561.636400
	Total	1561.636400
SO47443	Components	531.639500
	Clothing	799.541300
	Bikes	6187.473200

- When you have a multiple-page report, use the page through feature. You can use the arrows at the top of the page or type a page number in the box. The following example shows where to find the page through feature.

The screenshot shows a report interface with a search bar at the top. The search bar has a red box around it, indicating where to type the search term. Below the search bar are filters for 'Report Month' (July), 'Report Year' (2012), and 'Employee' (David Campbell). The report title is 'July 2012 Sales Report' and the author is 'David Campbell'. The Adventure Works Cycles logo is visible.

4. To Search, type all or part of the content you're looking for in the report. You're searching for the content across all the pages of the report.

The screenshot shows a report interface with a search bar containing the term 'compo' (with a red box around it). Below the search bar are filters for 'Report Month' (July), 'Report Year' (2012), and 'Employee' (David Campbell). The report includes a chart titled 'Yearly Sales Comparison' comparing sales between 2011 (blue line) and 2012 (orange line) in thousands of dollars. The chart shows sales fluctuating throughout the year. To the right of the chart is a table of sales data for three specific orders (SO47349, SO47443, SO47448) broken down by category and total sales.

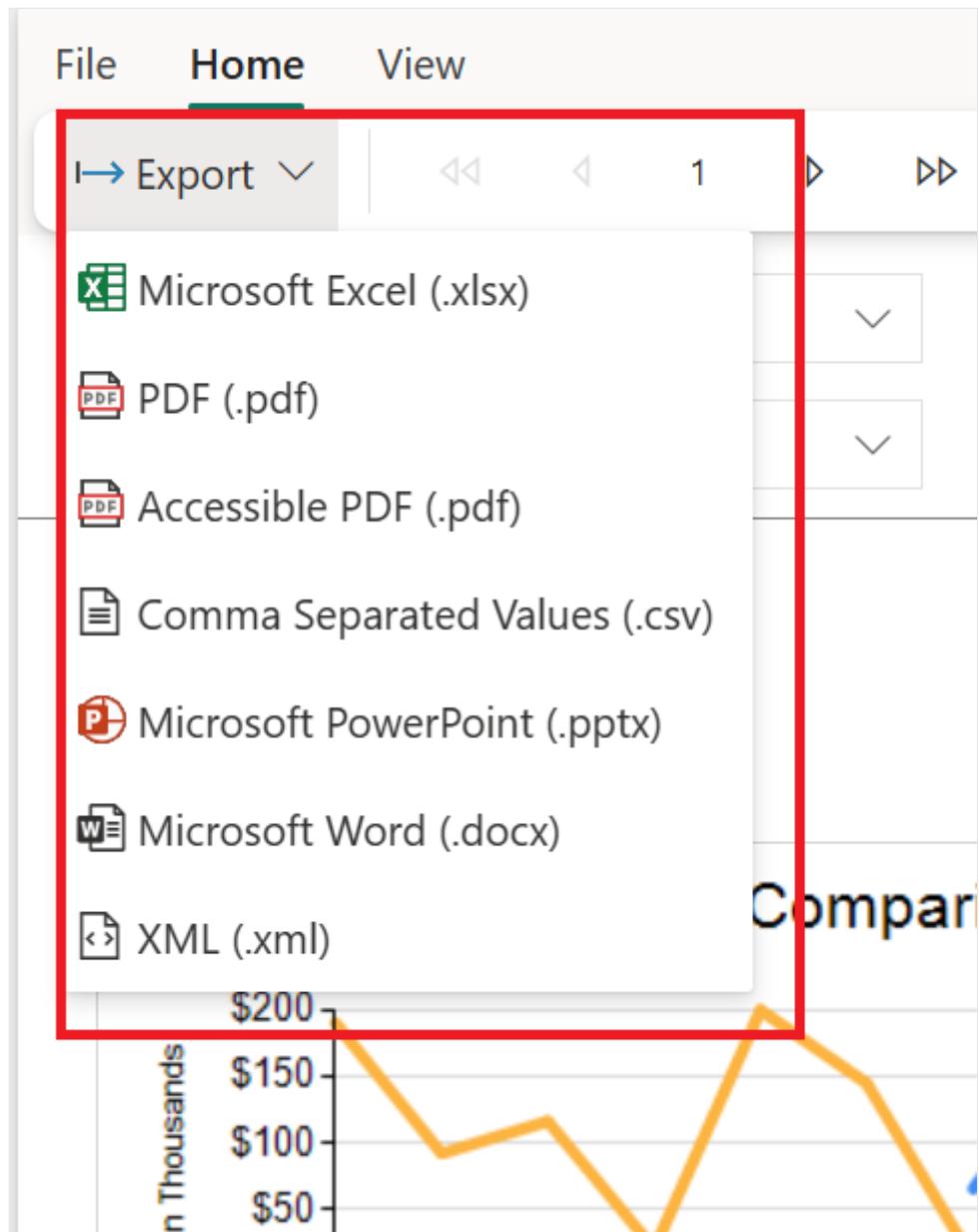
Order #	Category	Sales
SO47349	Components	1561.636400
	Total	<b>1561.636400</b>
SO47443	Components	531.639500
	Clothing	799.541300
	Bikes	6187.473200
	Accessories	100.932500
	Total	<b>7619.586500</b>
SO47448	Components	869.687700
	Bikes	1242.851800
	Total	<b>2112.539500</b>

5. You can also sort by selecting the sort icon on the report.

The screenshot shows a report interface with a sort icon (red box) on the column header of the 'Category' column in the sales table. The table is sorted by Category. The report includes a chart titled 'Yearly Sales Comparison' comparing sales between 2011 (blue line) and 2012 (orange line) in thousands of dollars. The chart shows sales fluctuating throughout the year. The report title is 'July 2012 Sales Report' and the author is 'David Campbell'. The Adventure Works Cycles logo is visible.

Order #	Category	Sales
SO47349	Components	1561.636400
	Total	<b>1561.636400</b>
SO47443	Components	531.639500
	Clothing	799.541300
	Bikes	6187.473200
	Accessories	100.932500
	Total	<b>7619.586500</b>

6. To export your report to a different format, select Export. Then choose the format you want to use from the dropdown menu.



## Considerations and limitations

- You can only search in "Web layout."
- You need at least one letter, number, or character to search.
- Search doesn't work if there are over 300 rows per page.
- You can only sort on one column at a time.

## Next steps

[Paginated reports in the Power BI service](#)

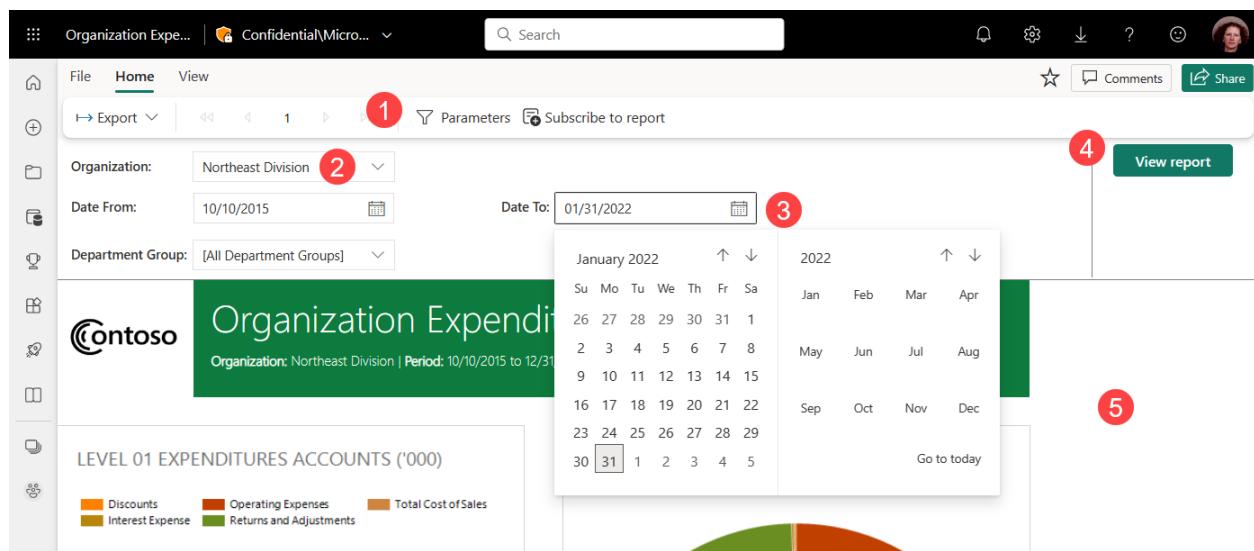
# View parameters for paginated reports in the Power BI service

Article • 03/17/2023

In this article, you learn how to interact with parameters for paginated reports in the Power BI service. A report parameter provides a way to filter report data. Parameters offer a list of available values. You can choose one or many values, or type in a parameter text box to search for values. Sometimes parameters have a default value, and sometimes you have to choose a value before you see the report.

When you view a report that has parameters, the report viewer toolbar displays each parameter so you can interactively specify values. The following illustration shows the parameter area for a report with parameters for **Buying Group**, **Location**, a **From Date**, and a **To Date**.

## Parameters pane in the Power BI service



1. **Parameters pane** Select **Parameters** to show or hide the Parameters pane.
2. **Organization parameter** The Organization parameter is set to allow you to select only one value.
3. **Date From / Date To parameters** The two date parameters have default values. To change the date, type a date in the text box, choose a date in the calendar, or select **Go to today**.
4. **View Report** After you enter or change parameter values, select **View Report** to run the report.

**5. Default values** If all parameters have default values, the report runs automatically on first view. The parameters in this report have default values, so you see the report with those values.

## Next steps

[Paginated reports in the Power BI service](#)

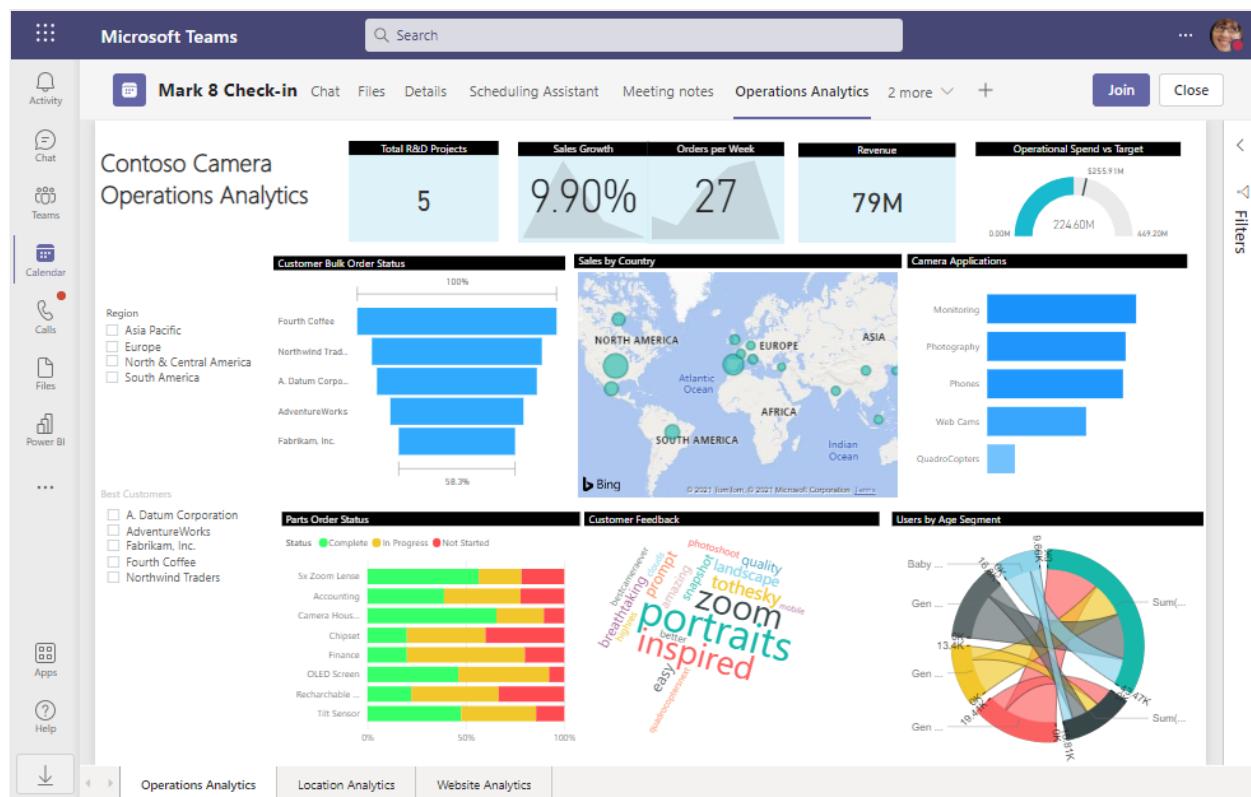
# Use data to make meetings productive in Microsoft Teams

Article • 01/25/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

In meetings, keeping everyone on track towards shared objectives is important. Use data, trends, and metrics to show the impact of the work you and your team are doing.

It's easy to use Power BI in meetings to help keep crucial data top of mind. It helps everyone know which data is the most important and builds skills that help your team make agile decisions based on your progress toward objectives. By staying focused on driving towards measurable outcomes, your team gains a sense of the positive impact of their work.



Here's how you can use data before, during, and after your meetings.

- **Before the meeting.** Add the reports and scorecards directly to the meeting invite so everyone can access to them.
  - **During the meeting.** Open and present these reports from the calendar. You can even use chat to share more reports and scorecards or to find answers to questions raised in the meeting.

- **After the meeting.** Send a summary with the key results discussed and actions the team decided to take to help achieve the desired outcomes.

## Ask data-driven questions

Here some questions you can add to your meeting agenda to start discussion and determine the best actions to take to achieve your desired outcomes:

- Are we making progress toward our objectives as quickly as we expected to?
- What actions can we take in the next week or month that are most likely to improve our metrics?
- What metrics can we start tracking to get a better sense if we're making progress towards our desired outcomes?

Review your data weekly, or at least monthly, to get in the habit of asking questions and discussing the best actions to take in the next week or two. It will help the team learn to leverage data as they plan their work.

## Before the meeting

To get ready for the meeting, add a Power BI report or scorecard to the meeting invite. Review the data in the report or scorecard and encourage other participants to do the same. Then everyone is ready for the meeting.

## Add Power BI

Here's how to add a Power BI report or scorecard to a meeting.

1. Schedule a meeting in Teams.
2. Send the meeting invite.
3. Select **Edit** to open the meeting in the calendar. You only see the option to edit if you're the meeting organizer.

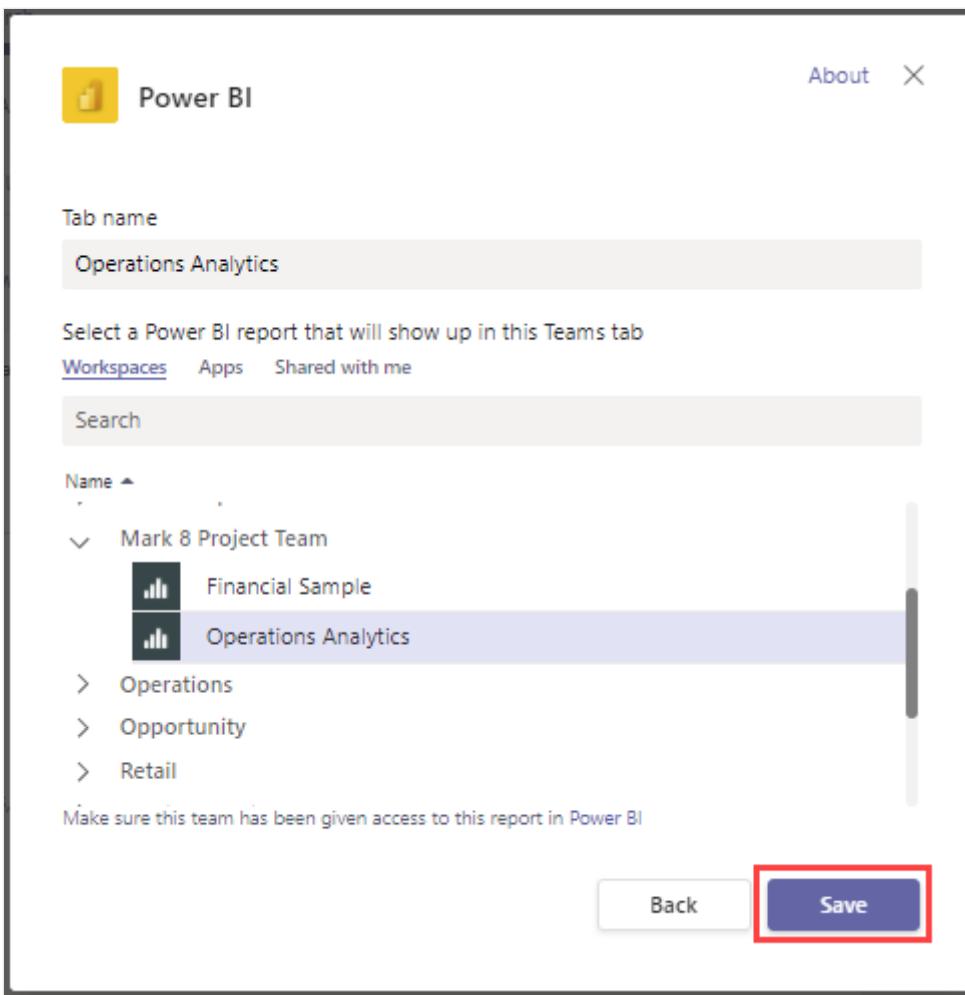
The screenshot shows the Microsoft Teams calendar interface. A meeting titled "X1050 Marketing sync" is listed for Wednesday, September 1, 2021, from 2:00 PM to 2:30 PM. The meeting details include "Mark 8 Project Team / General" and "Megan Bowen". To the right of the calendar, a modal window titled "Tailspin toys status" is open, showing the meeting details and a red box highlighting the "Edit" button.

4. Select the + Add a tab button to add the Power BI tab to the meeting.

The screenshot shows the Microsoft Teams meeting details page for the "Tailspin toys status" meeting. The "Details" tab is selected. A red box highlights the "+ Add a tab" button located in the top right corner of the meeting controls.

5. Navigate to a report or scorecard and select it.

6. Select Save.



7. See [Give team members permission](#) in the "Lead data-driven discussions in Microsoft Teams" article for how to share with your colleagues.
8. Add an agenda item to the meeting to review and discuss the data.

## Review the data

It's a good idea to review your data in Power BI before a meeting.

1. Open the meeting from the calendar.
2. Open the Power BI tab that has the report or scorecard.
3. Review the report or scorecard.

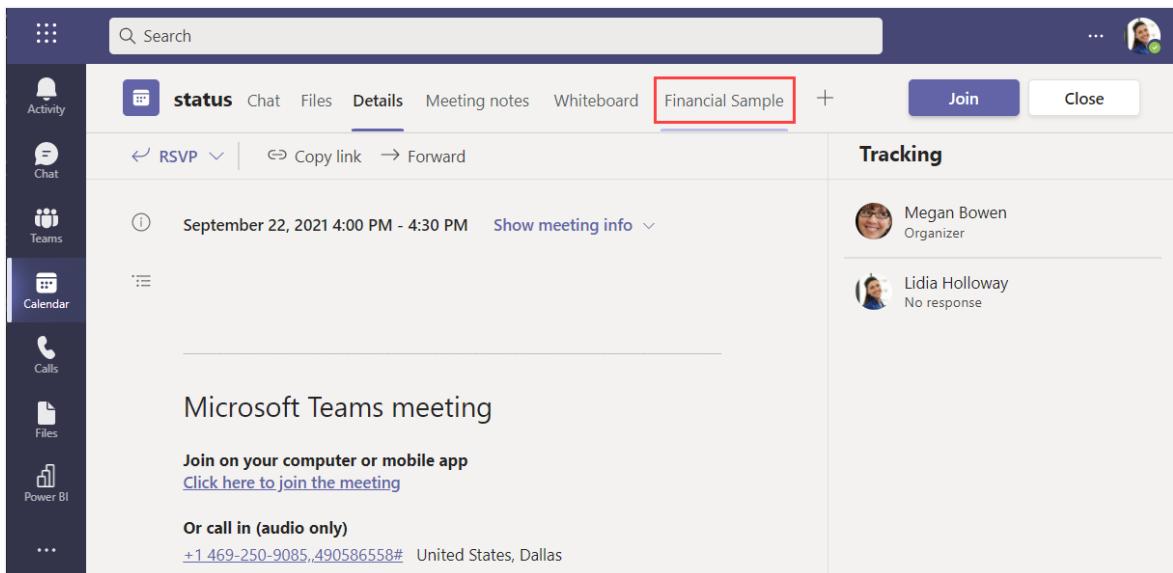
Consider setting a reminder for your meeting so attendees can also pre-read the data before the meeting. It helps everyone be aware of the latest data and improves the discussion during the meeting.

## During the meeting

When you're in a meeting, data can help guide the discussion or answer questions raised by attendees. It's easy to present data in Power BI during the meeting, share links

to data with meeting attendees, and find data that can answer questions.

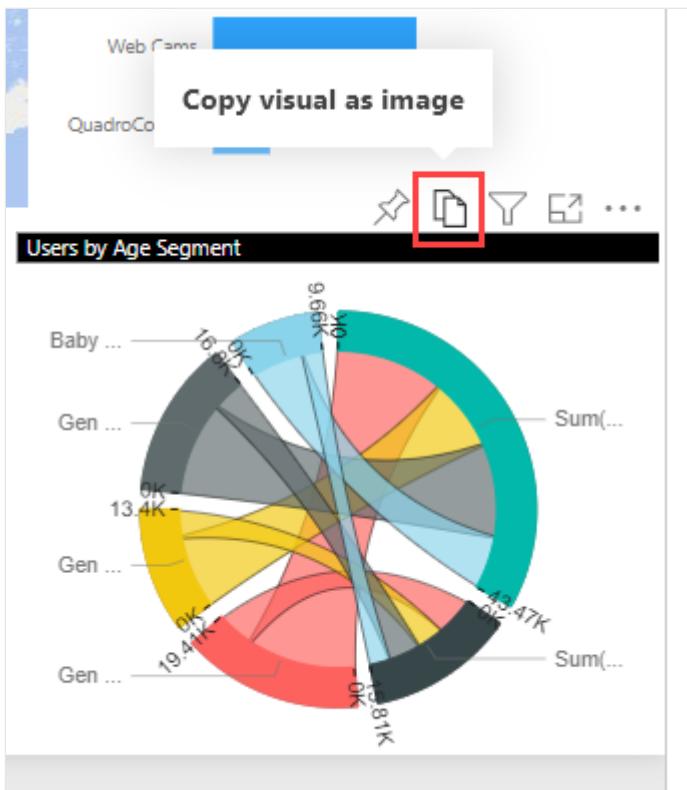
1. After joining the meeting, navigate to the Teams window.
2. Open the calendar in Teams.
3. Open the meeting in the calendar.
4. Anyone in the meeting can select the Power BI tab to view the report you added to the meeting.



5. Use the meeting window to present your screen.

## Capture visuals that are important for everyone to see

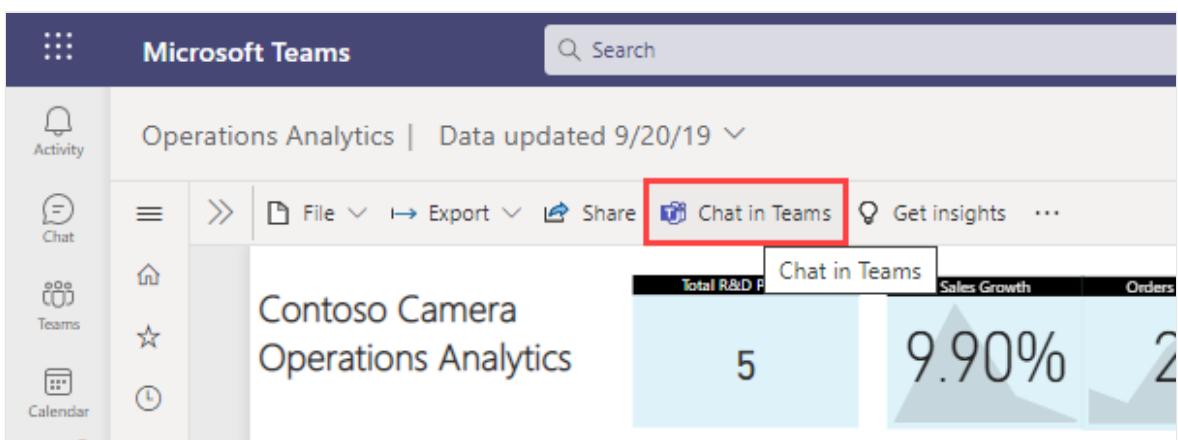
1. View the report in the Power BI app in Teams.
2. Select a visual.
3. Select **Copy visual as image** to copy the visual.



4. Paste the visual into the meeting chat.

## Send a message in the meeting chat from a report

1. View the report in the Power BI app in Teams or in the Power BI service.
2. Select the report or a specific visual.
3. Select the **Chat in Teams** button.

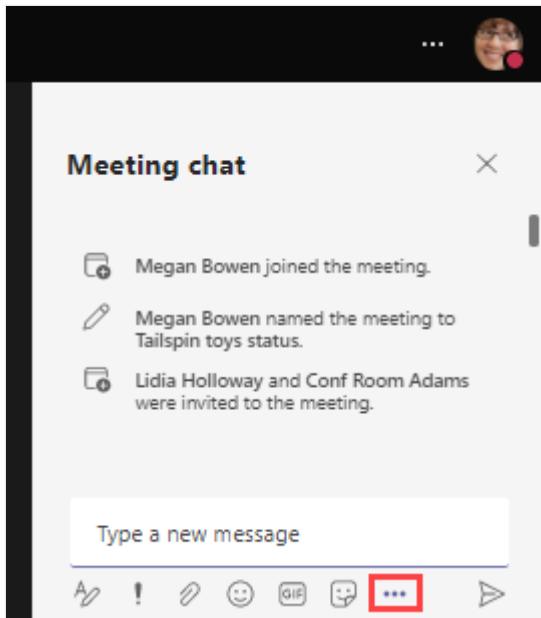


4. Select the meeting name to send to.
5. Type your message above the link that's provided.
6. Select Send.

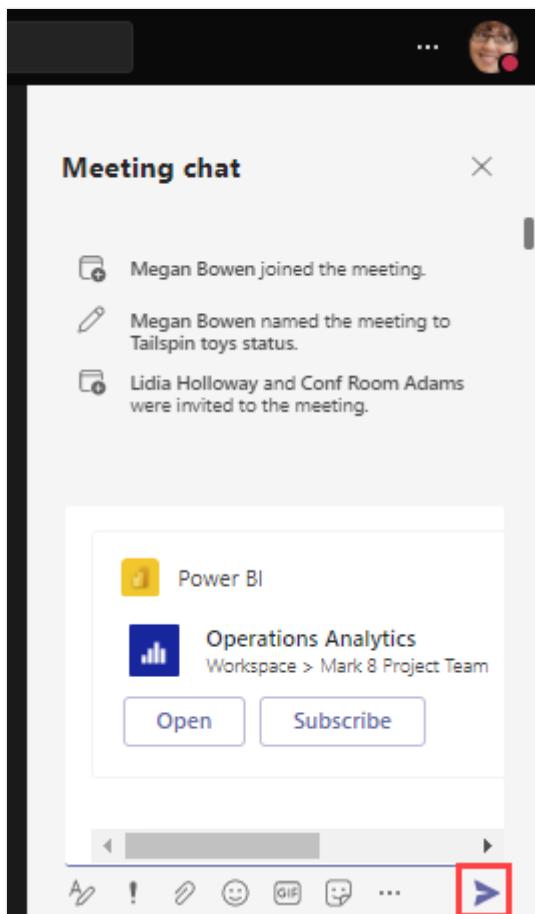
Your message appears as part of the meeting chat. Attendees can open it to see the data with the filters and slicers applied.

## Answer questions with data in chat

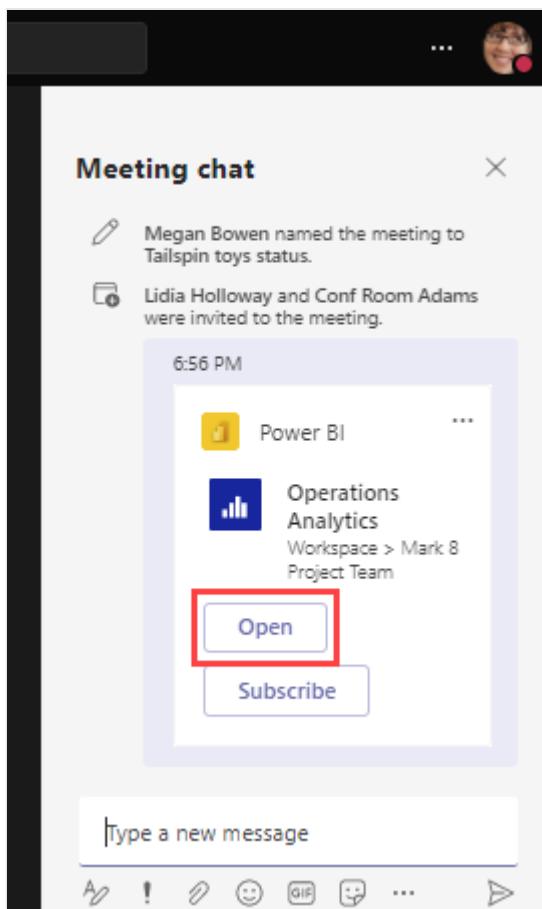
1. Open the meeting chat.
2. Select **Messaging extensions (...)**.



3. Select **Power BI**.
4. Search for content, or select from your list of recent items.
5. Pick a Power BI item.
6. Select **Send**.



7. Select Open.



# After the meeting

It's useful to share a summary of the most important data points discussed and the actions the team will take to help achieve outcomes. If you captured visuals during the meeting in chat, you can pull those into a meeting summary post in chat or a follow-up message.

Consider using key data points to create metrics and track them in a scorecard. Consistently tracking progress against a metric through a series of meetings is a great way to keep your team or project on track.

## Next steps

- [Add the Power BI app to Microsoft Teams](#)
- [Use Power BI metrics to improve results in Microsoft Teams](#)
- [Lead data-driven discussions in Microsoft Teams](#)
- [Create reports from data in Microsoft Teams](#)
- [Analyze your Teams collaboration data](#)

# Use Power BI metrics to improve results in Microsoft Teams

Article • 07/08/2022

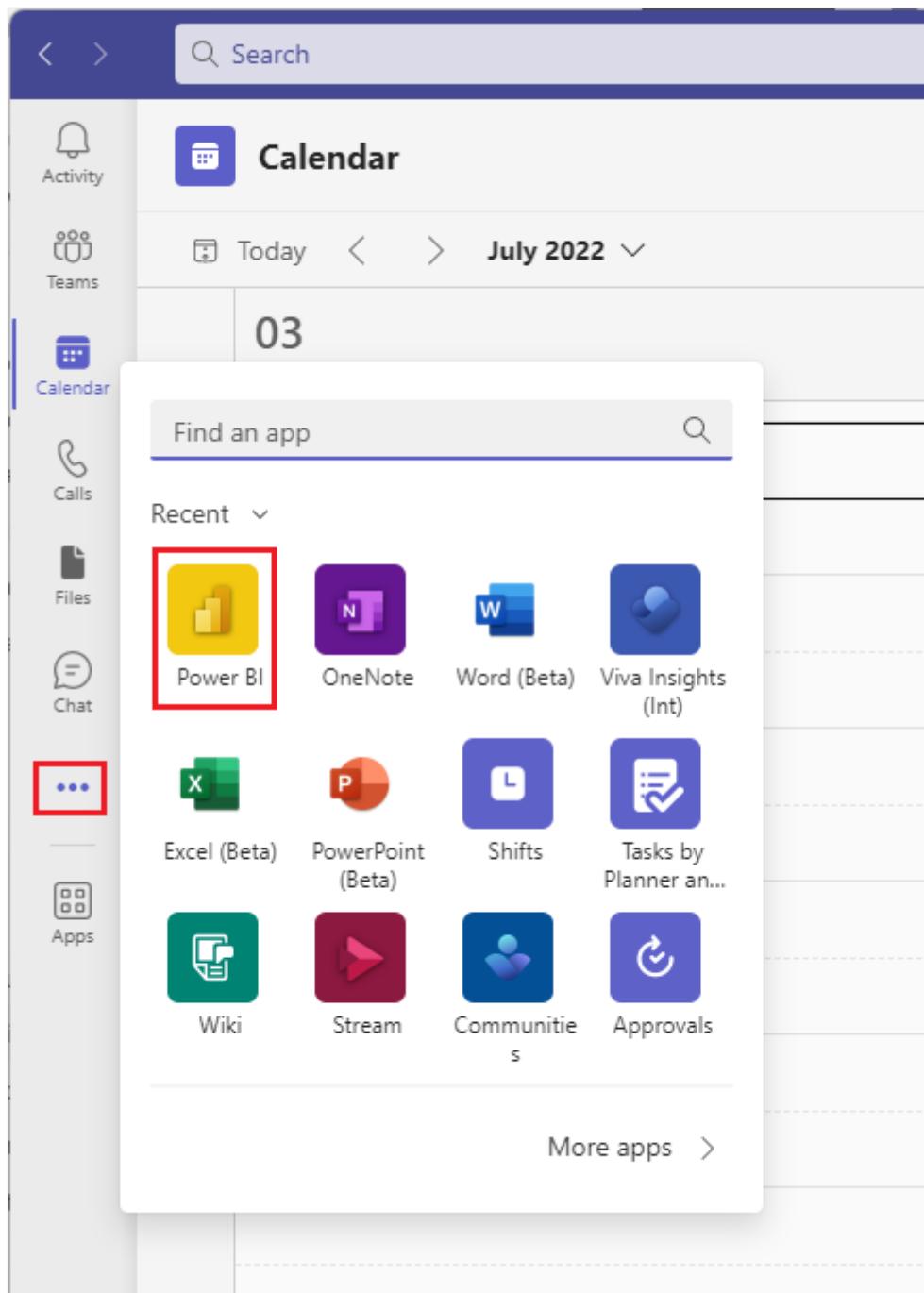
**APPLIES TO:**  Power BI Desktop  Power BI service

Your team benefits from having clear and measurable objectives. Tracking metrics in Microsoft Teams with your team helps the team stay on track, promoting accountability, alignment, and visibility. By tracking progress towards key objectives together, the team can engage in creative and agile decision-making that helps achieve objectives faster.

It takes just a minute to create a metric in Power BI. Each metric has a name, owner, the current value, the target, and a status. You can even add start and end dates for the metric. Submetrics help you track key objectives that are needed to support a bigger metric.

## Add the Power BI personal app to Teams

- In Microsoft Teams, select **More added apps ... > Power BI**.

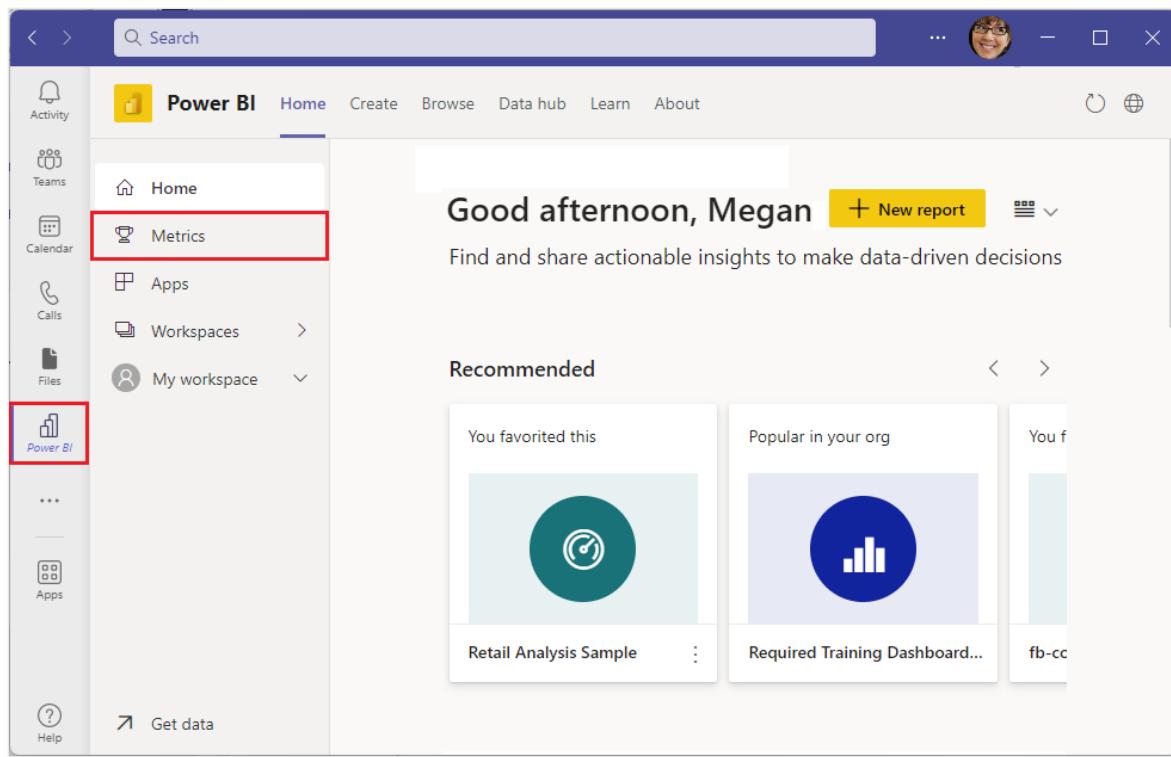


Now Power BI opens right inside Microsoft Teams.

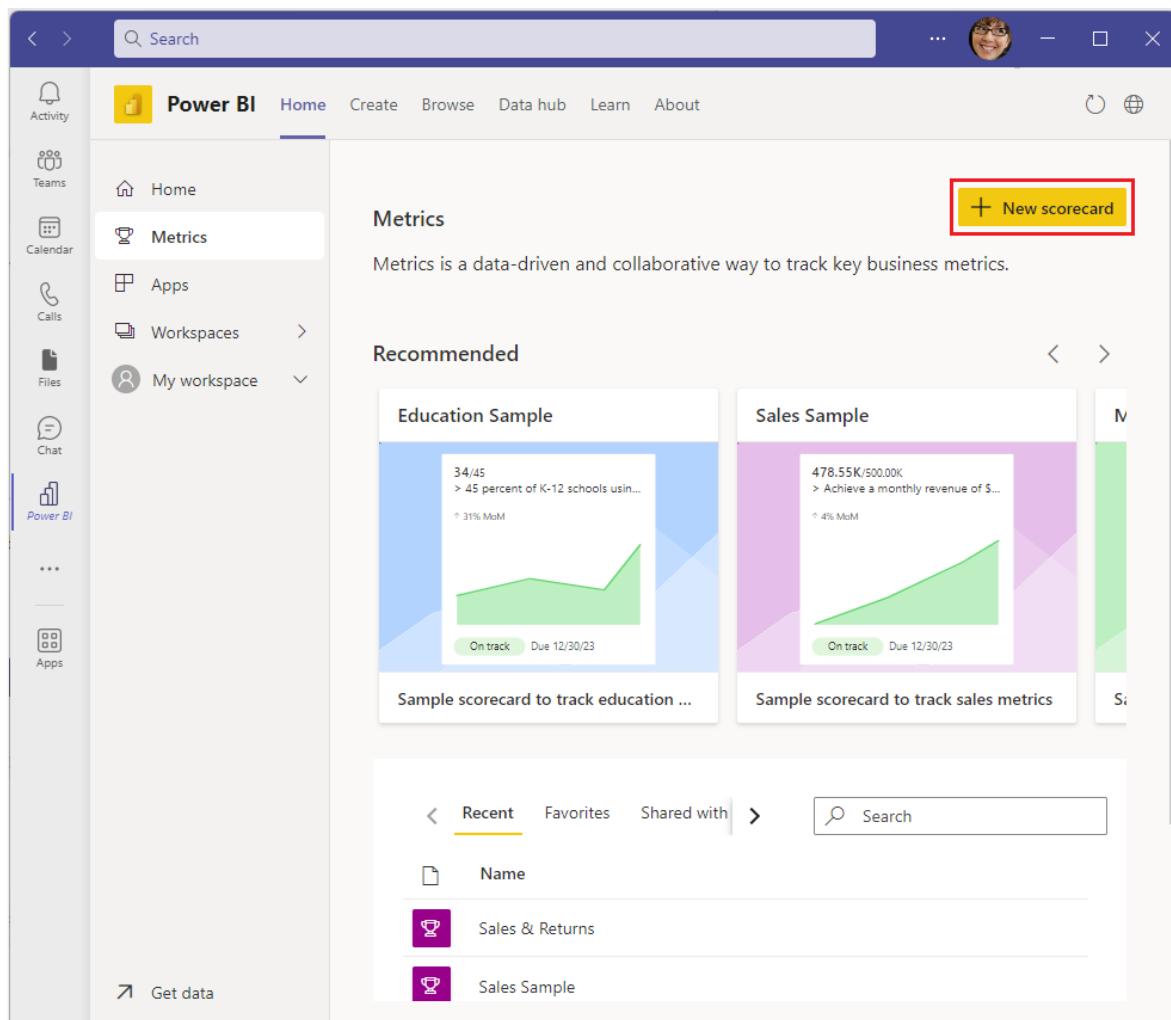
## Create your first metric in a scorecard

It's simple to start tracking metrics by creating a scorecard.

1. Open Power BI in Teams.
2. Select Metrics in the navigation pane to open the Metrics hub.

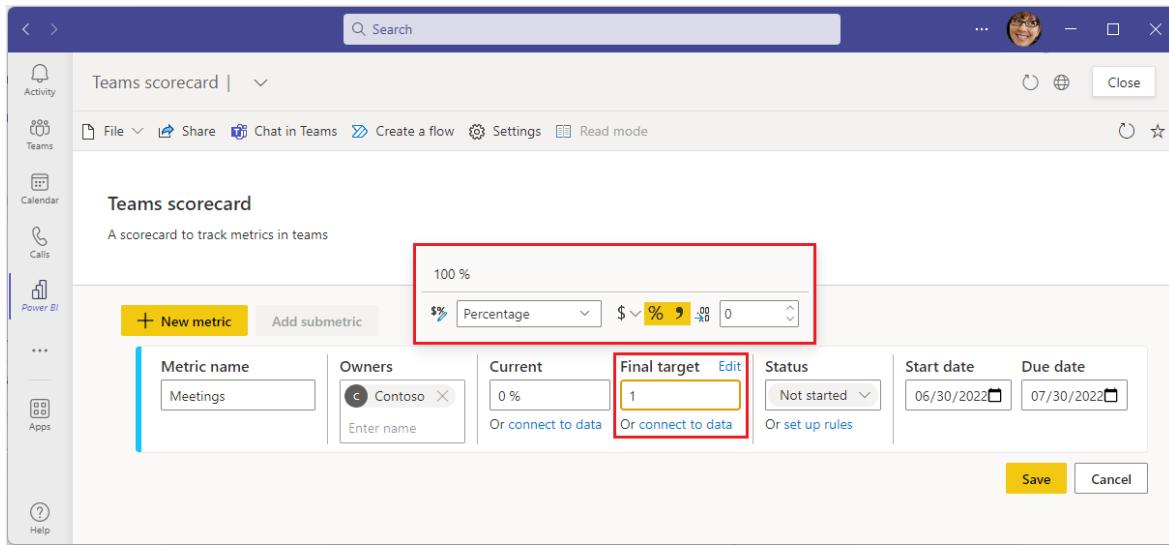


### 3. Select New scorecard.

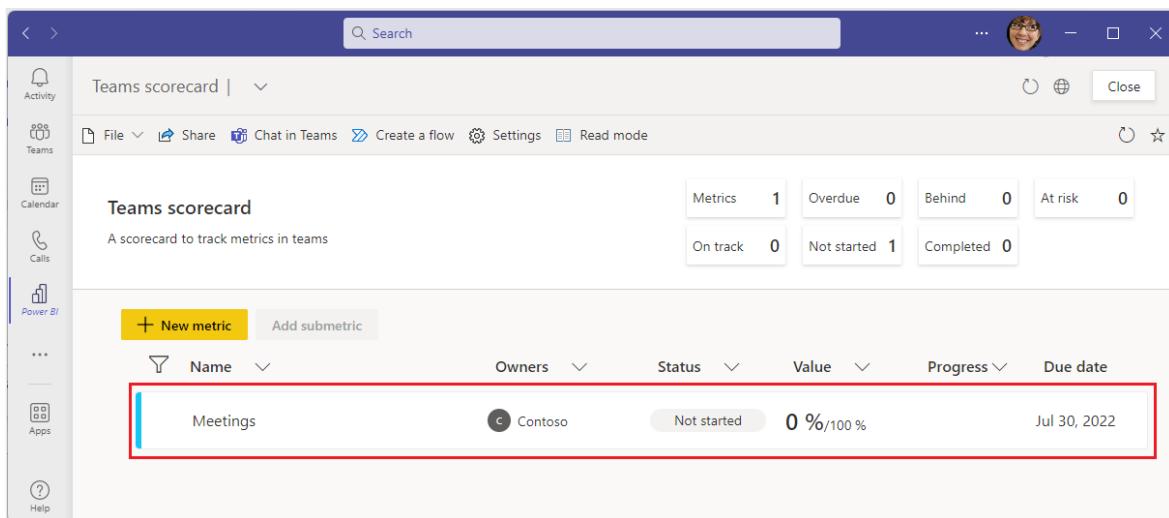


### 4. Give the scorecard a name and description.

5. Create a metric in the scorecard, with a **Metric name**, **Owners**, **Current** and **Final target** values, **Status**, **Start date**, and **Due date**. You can type in numbers, or select **connect to data** to get values from your reports.



## 6. Select Save.



After you've saved your scorecard with its metrics, you can share with your team by adding it to a Teams meeting, channel, or chat as a tab or as a link in the meeting chat. Read more about [creating scorecards and metrics in Power BI](#).

## Track metrics with your team

To keep your metrics top of mind for your team, add your scorecards as tabs to your channels and meetings.

1. Open a channel or meeting.
2. Select the **+ Add a tab** button and add the Power BI tab.

The screenshot shows the Microsoft Teams interface. On the left, the sidebar lists 'Your teams' with 'A team' selected. The main content area shows a 'Content' tab with a '+' button highlighted by a red box. Below it, a card for 'Teams scorecard' is displayed, describing it as 'A scorecard to track metrics in teams'. Metrics are shown as 1 (Overdue 0, Behind 0, At risk 0), and status is 'On track 0'.

3. Pick a scorecard. If you keep **Post to the channel about this tab** selected, Teams adds a post to the chat, about the new tab.

4. Select Save.

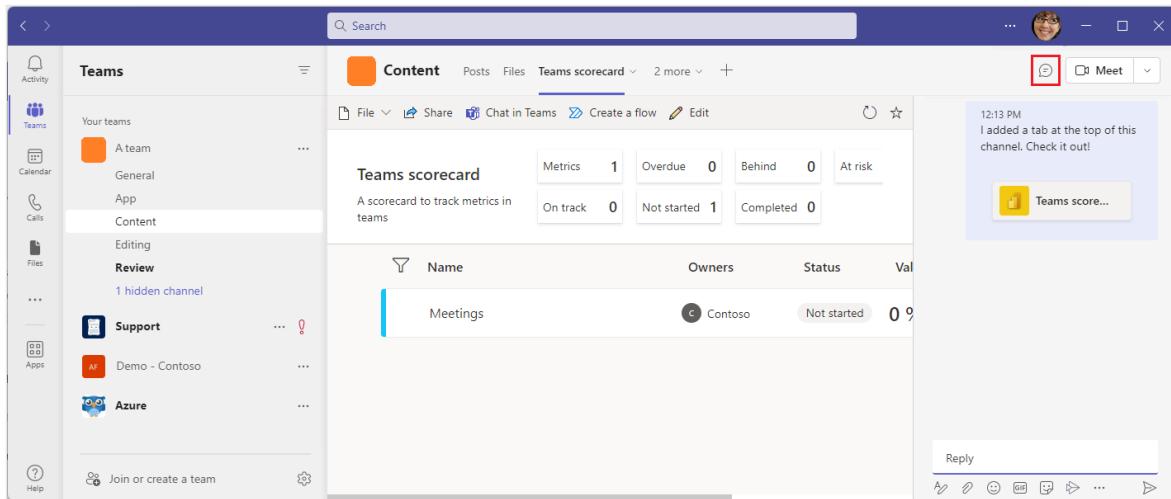
The screenshot shows the Power BI editor. A tab named 'Teams scorecard' is selected. The 'Save' button is highlighted by a red box. The 'Post to the channel about this tab' checkbox is checked. The right side of the screen shows the Microsoft Teams channel where the scorecard will be posted.

5. Now you see the scorecard as a tab in the channel.

The screenshot shows the Microsoft Teams channel. The 'Teams scorecard' tab is visible at the top of the list of tabs. The 'Meet' button is highlighted by a red box. The 'Teams scorecard' card is displayed, showing its purpose and current status.

6. You may need to share it with colleagues. See [Give team members permission](#) in the "Lead data-driven discussions in Microsoft Teams" article for how to share with your colleagues.

7. Open the chat window in Teams to see the post about the scorecard.



## Make tracking metrics part of your team rhythm

Make keeping your metrics up to date easier with just a little more work. Here are a few capabilities to explore:

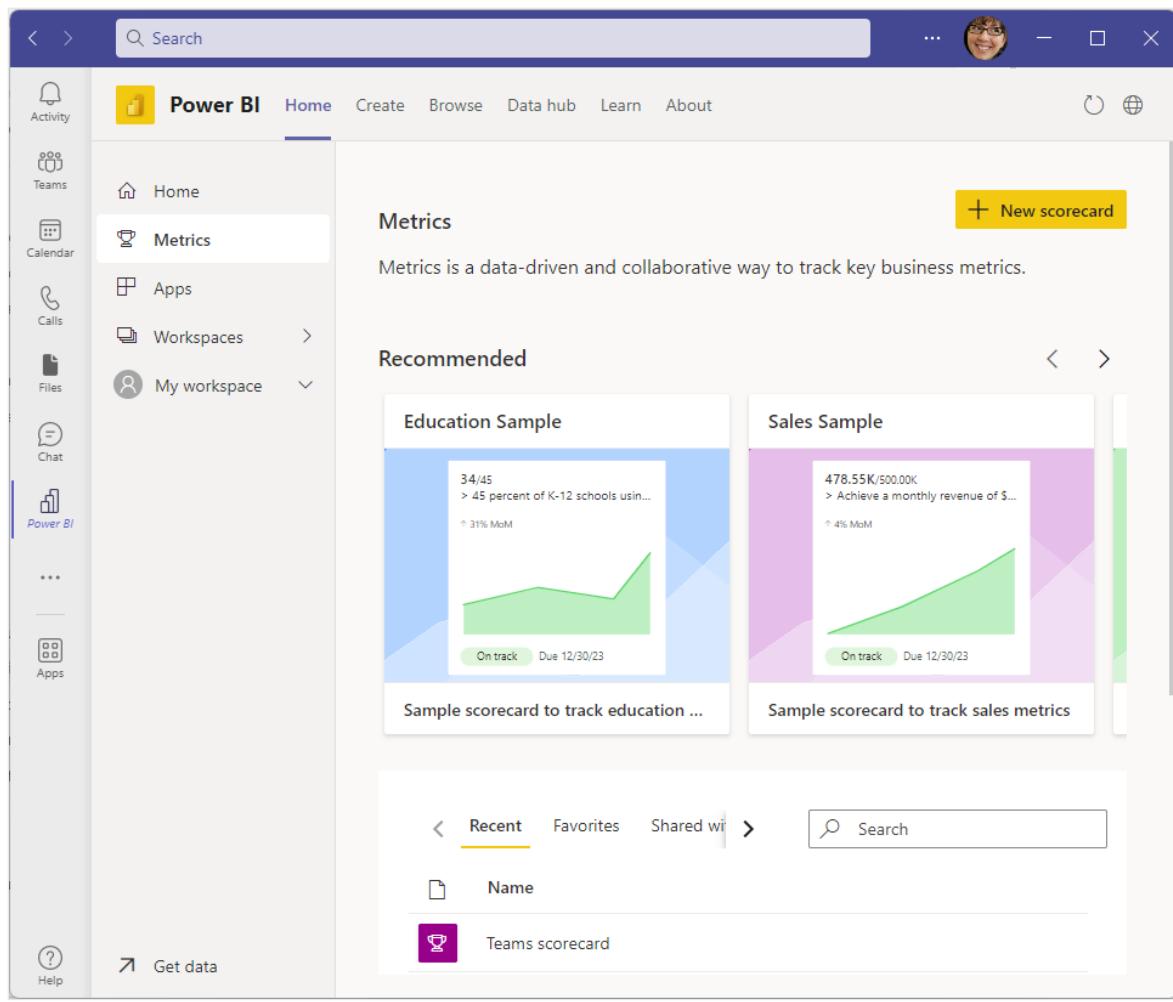
- Use check-ins for metrics to share context about metrics. When your team encourages and reviews check-ins on metrics, they can share the reasons behind the numbers so they're visible to everyone.
- Automatically update your goals' current values. When you connect your metric to a report, whenever the data in the report refreshes, the goal's current value is automatically kept up to date.
- Set the metric status automatically. You can create automated rules to set the status of metrics, so the goal's status always reflects the data correctly.

These capabilities help your team save time by eliminating manual updates, and help keep scorecards fully updated.

## Find all your metrics in the Metrics hub

Each project and organization can have its own metrics. You can find all your metrics in one place in the Metrics hub that is part of the Power BI app for Microsoft Teams. Here's how to find it.

1. Open the Power BI app for Teams from the Teams left navigation.
2. Select **Metrics** in the Power BI navigation pane to open the Metrics hub.



## Next steps

- Add the Power BI app to Microsoft Teams
- Create scorecards and metrics in Power BI
- Use data to make better meetings in Microsoft Teams
- Share a data-driven discussion in Microsoft Teams
- Create reports from data in Microsoft Teams
- Analyze your Teams collaboration data

# Lead data-driven discussions in Microsoft Teams

Article • 02/23/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

Data helps everyone get on the same page before important decisions. Sharing data with your team is important and easy with Power BI in Microsoft Teams. You can share data in Teams in channels, in chats, and in meetings.

## Share in channels, chats, and meetings

1. Open the channel, chat, or meeting where you'd like to share.
2. Select the **+ Add a tab** button and add the Power BI tab.
3. Pick the Power BI item you'd like to share.
4. Select **Save**.

[Workspaces](#)[Apps](#)[Shared with me](#)

Search

Name ▾

- > MSX Insights PRD
- > Next Best Workload
- ▽ Sales and Marketing sample 1/17/2023, 12:19:28 PM
  - Sales and Marketing Sample PBIX
  - > SMC Analytical Framework
  - > Solutions [DataverseADL]

Tab name

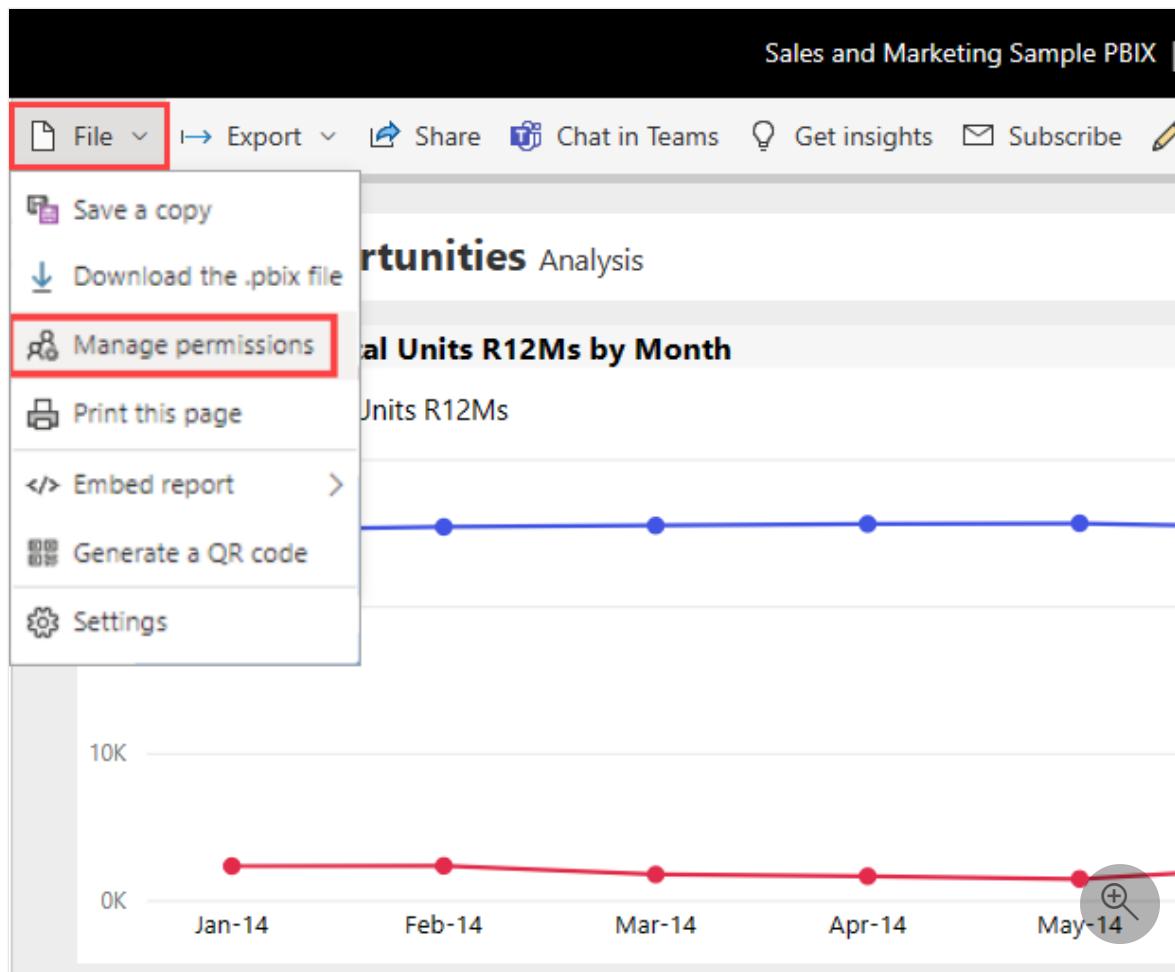
 [Manage permissions in Power BI >](#) Show action bar Post to the chat about this tab[Back](#)[Save](#)

You can share in channels, meetings, and even in chats.

## Give team members permission

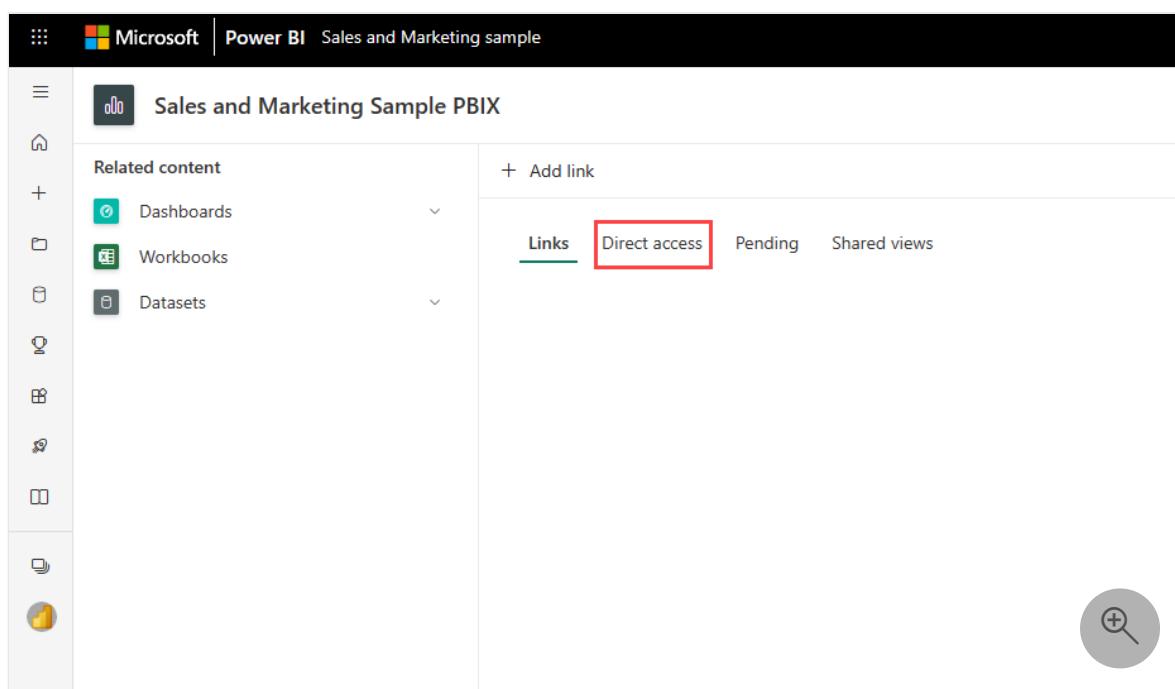
Make sure your team has permission to the report or scorecard by sharing it with them.

1. Open the item in Power BI in Teams, or in the Power BI service, and select **File > Manage Permissions**.



If you don't see this option, you might not have permission to share the item. If you do not, don't worry. The attendees can request access themselves when they try to view the report.

## 2. Select Direct access.



## 3. Select Add user.

The screenshot shows the 'Sales and Marketing Sample PBIX' in the Power BI interface. On the left, there's a sidebar with icons for Dashboards, Workbooks, and Datasets. The main area has a header 'Sales and Marketing Sample PBIX'. Below it, a section titled 'Related content' lists 'Dashboards', 'Workbooks', and 'Datasets'. To the right, there's a 'Direct access' section with tabs for 'Links', 'Direct access' (which is underlined), 'Pending', and 'Shared views'. A red box highlights the '+ Add user' button. Below this, a table shows 'People and groups with access' with one entry: 'Mark & Project Team'. At the bottom right is a magnifying glass search icon.

4. Add the names of your colleagues. Decide what permissions you want them to have, whether to send them an email, and select **Grant access**.

The screenshot shows the 'Grant people access' dialog box. It starts with a search bar containing 'Alex Wilber'. Below it is a text input field 'Enter a name or email address'. Underneath are three checked checkboxes: 'Allow recipients to share this report', 'Allow recipients to build content with the data associated with this report', and 'Send an email notification'. There's also an optional message input field 'Add a message (optional)'. At the bottom are two buttons: 'Grant access' (in green) and 'Cancel'.

## Chat about data with rich links and cards

When discussing data, it's important that your colleagues can open the underlying data to see and explore trends. This helps them answer questions and understand the full context of requests you're making. It's also an easy way to encourage more use of data in decision making.

## Discussing data is easy

1. Open a report in the Power BI app in Teams, or in the Power BI service.
2. (Optional) If you want, select a specific visualization, and then click **Chat in Teams**.

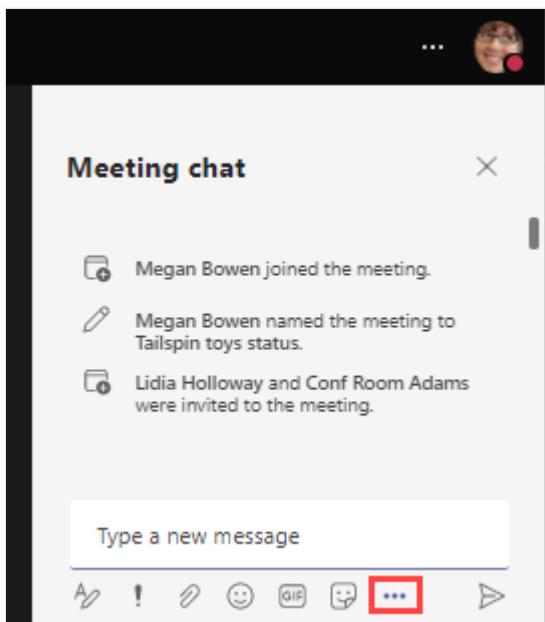
Region	Manufacturer	Product	Total Category Volume
East	Natura		81,620
	Aliqui		76,706
	VanArsdel		51,118
Currus	Currus UE-05		6,892
	Currus UE-14		4,860
	Currus UE-15		4,679
	Currus UE-24		4,621
	Currus UC-25		2,361
	Currus UC-26		1,349
	Currus MA-09		1,254
	Currus UM-02		1,212
	Currus MA-13		1,018
	Currus UC-18		1,012
	Currus UC-19		1,011
	Currus UC-21		938
	Currus RP-09		781
	Currus RP-10		781
	Currus YY-03		767
	Currus RS-01		755
	Currus RS-08		600
	Currus RP-17		597
	Currus RP-18		597
	Currus UC-02		541
Currus UM-01		515	
Currus MA-05		460	

3. Send a message to a channel where you work with your team.

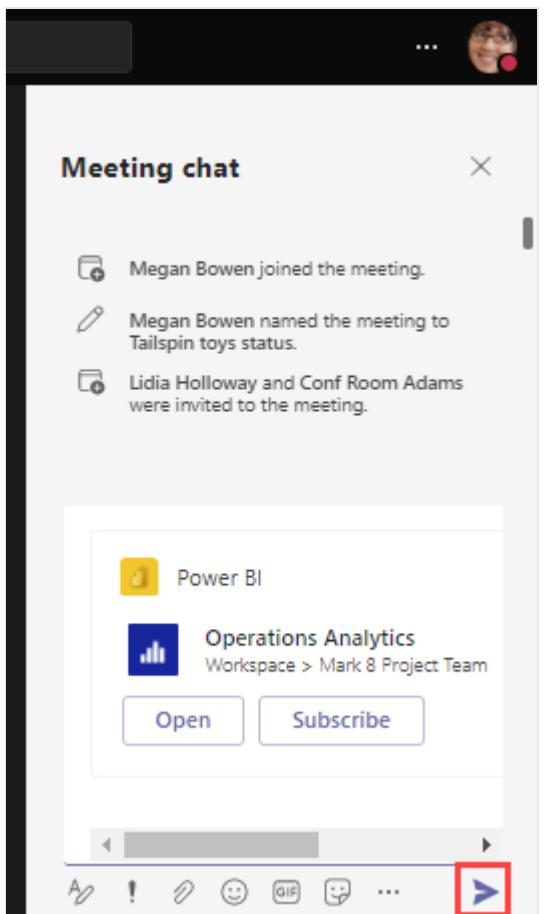
The link will include the full context of the data you were looking at, including the page, the visual, and any filters you applied. When your colleagues open the link, they quickly see the data you're referring to.

## Send your colleagues links to reports

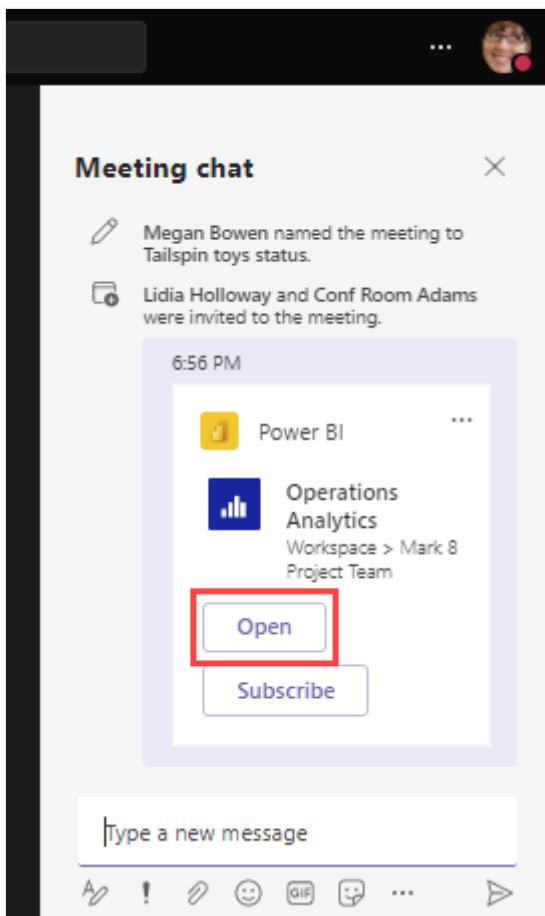
1. In the Teams channel or chat, start a new conversation.
2. In the command bar for the editor, select **Messaging extensions (...)**.



3. Select Power BI.
4. Search for the content you want to share, or select from your list of recent items.
5. Pick a Power BI item.
6. Select Send.



A rich card is added to the conversation, making it easy for anyone to open the item.



It's a great way to help without leaving the conversation, and saves everyone time.

## Create rich cards to paste in chat

If you use Power BI in a web browser, it's easy to send a link to a colleague.

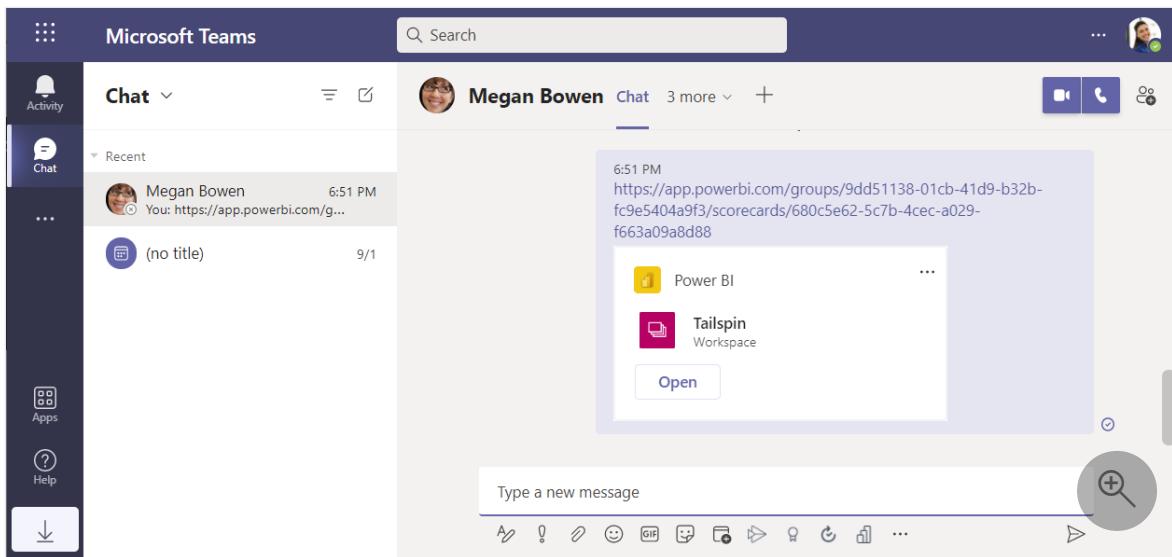
1. Open a report in the Power BI service in the browser, and copy the link.

A screenshot of a Microsoft Edge browser window. The address bar shows a URL starting with "app.powerbi.com/groups/9dd51138-01cb-41d9-b32b-fc9e5404a9f3/scorecards/680c5e62". A red box highlights this URL. The main content area shows a "Tailspin project" dashboard with metrics like "Goals: 1", "On track: 1", and "At risk: 0". Below the dashboard is a table with one row: "Completion rate" by "Megan Bowen" (status "On track", value "10 %/100 %", due date "Oct 1, 2021"). A circular button with a plus sign and a magnifying glass icon is visible in the bottom right corner of the dashboard area.

2. Start a conversation and paste the link. Teams automatically creates a rich card.

3. Select Send.

4. Your colleague sees a rich card with a link to open the report.



## Next steps

- Add the Power BI app to Microsoft Teams
- Use data to make better meetings in Microsoft Teams
- Use Power BI metrics to improve results in Microsoft Teams
- Create reports from data in Microsoft Teams
- Analyze your Teams collaboration data

# Create reports from data in Microsoft Teams

Article • 11/10/2023

**APPLIES TO:** ✓ Power BI service for *business users* ✗ Power BI service for designers & developers ✗ Power BI Desktop ✓ Requires Pro or Premium license

It's easy to create Power BI reports in Microsoft Teams. This article has a few examples of reports you can create. When you're ready, you can also use tools like Power BI Desktop for more advanced report authoring.

## Create an automatic report from data you have

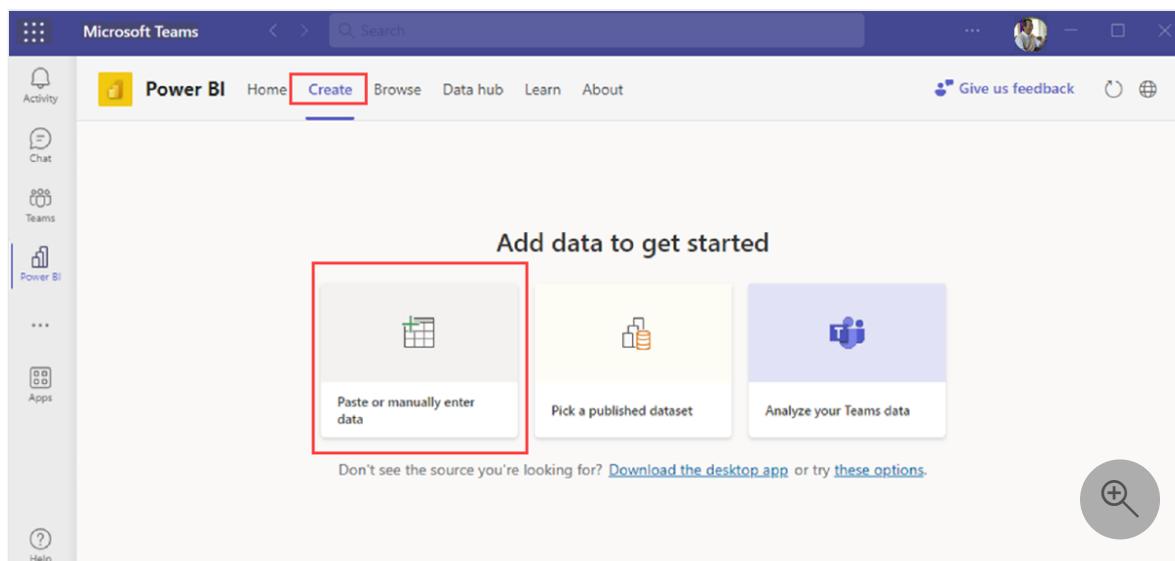
If you have a table with data, such as an Excel spreadsheet, and want to try visualizing in Power BI, create your report with the help of Microsoft Teams. You can start in Microsoft Teams or the Power BI service.

### Create an automatic report with Microsoft Teams

1. Open the Power BI app from Microsoft Teams.

Need to install the Power BI app? [Install the app, then pin it](#) to the Teams navigation pane.

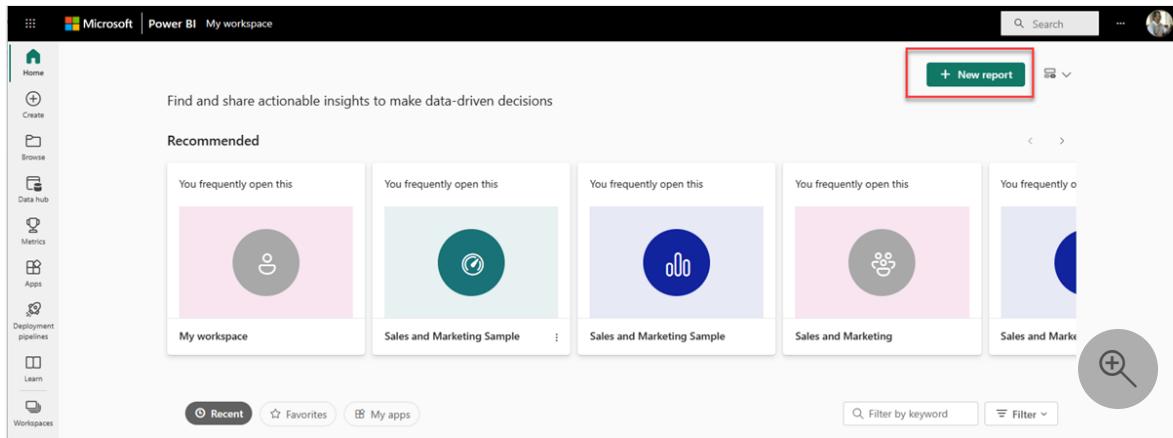
2. Select the **Create** tab, then choose **Paste or manually enter data** to open the Power BI service on your browser.



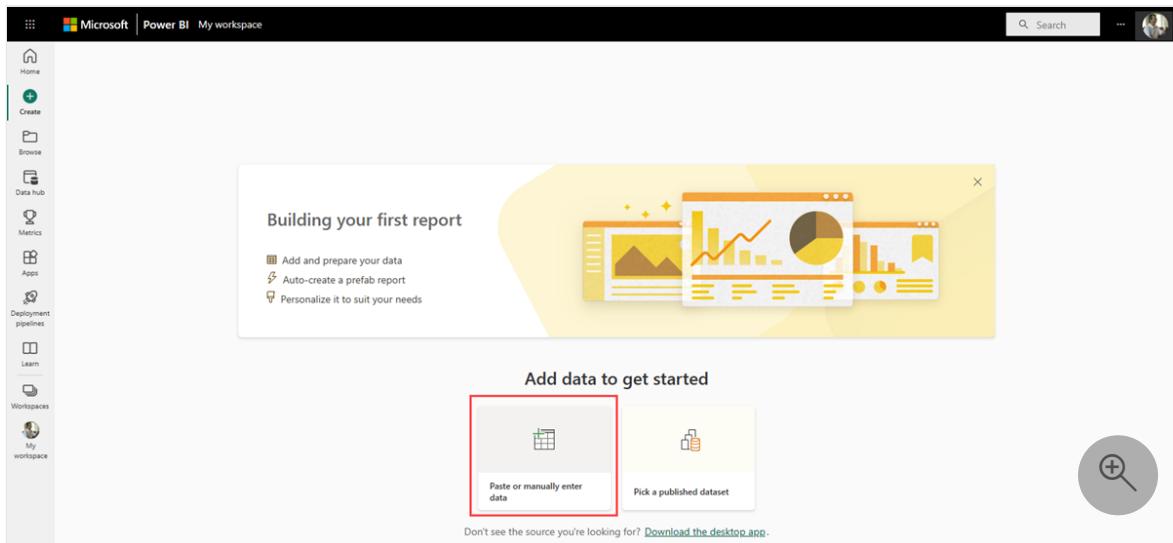
3. After the Power BI service opens in your browser, go to Step 3 in [Create an automatic report with the Power BI service](#) to finish creating your report.

## Create an automatic report with the Power BI service

1. Open the Power BI service.
2. Select the **New report** button.



3. Select Paste or manually enter data.

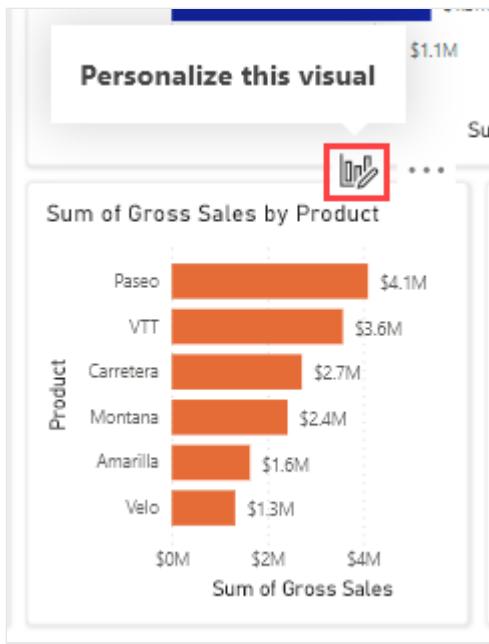


4. Copy the data or spreadsheet you want to visualize, then select the first cell in the Power Query dialog box and paste the data.
5. Select **Use first row as headers** from the dropdown menu if you want to apply the setting. Then name your table and choose **Auto-create report**.

## 6. Set a sensitivity label, if prompted.

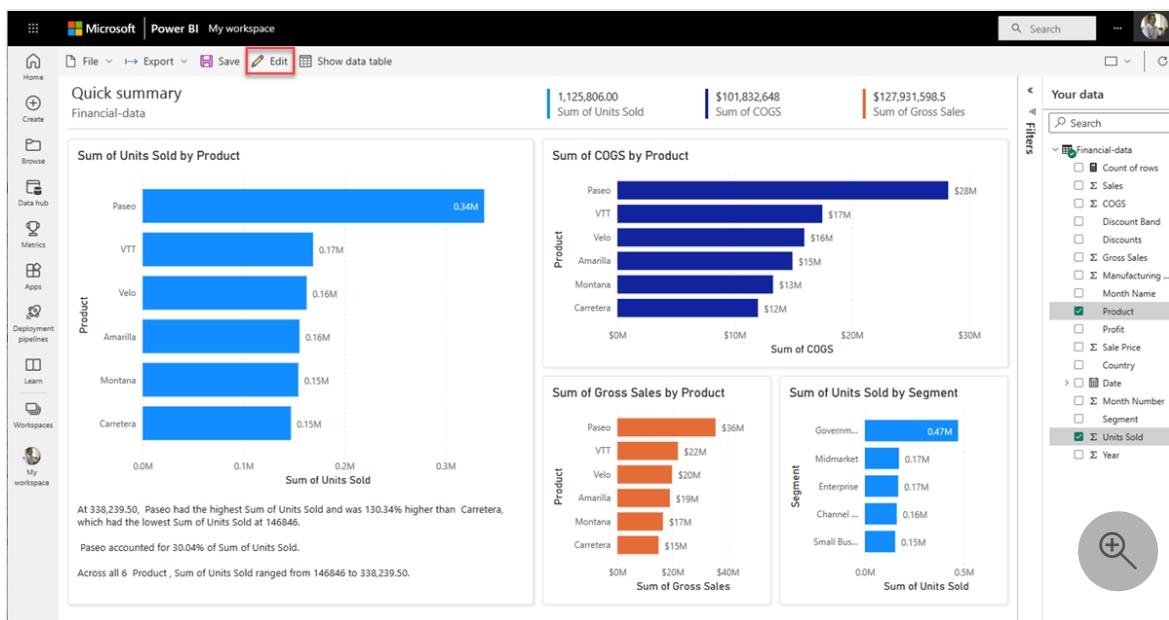
Power BI automatically analyzes and visualizes your data in a prebuilt report.

## 7. Customize your visuals. If you want to customize a single visual on your report, select the **Personalize this visual** icon.



8. Save the report.

9. After you save the report, you can customize the whole report by selecting **Edit**.



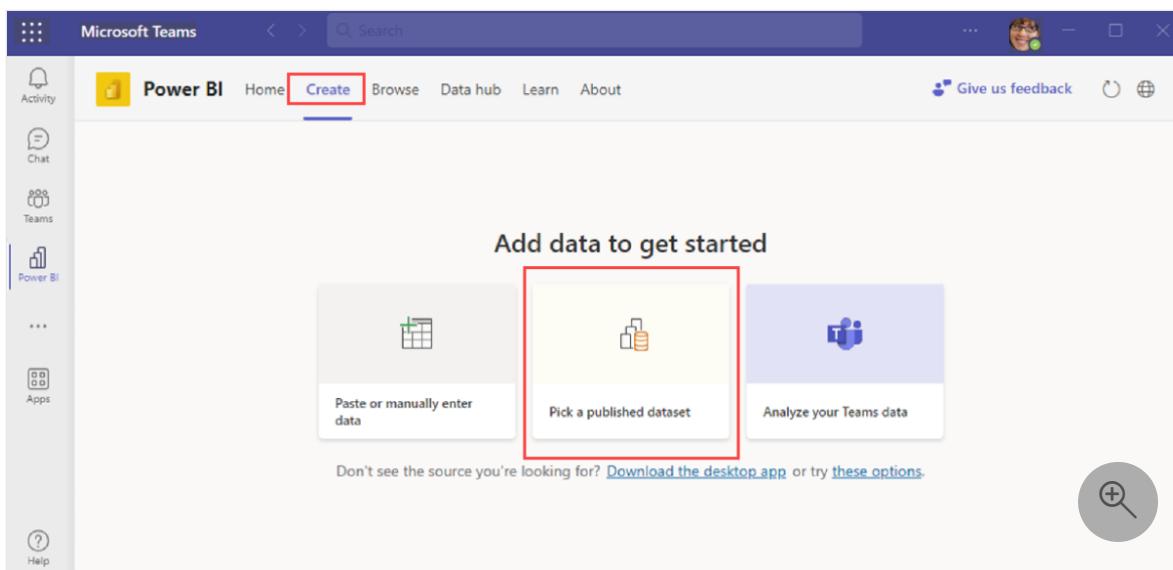
When you're done, save and share the report with your colleagues in Teams.

## Create a report from a semantic model in your organization

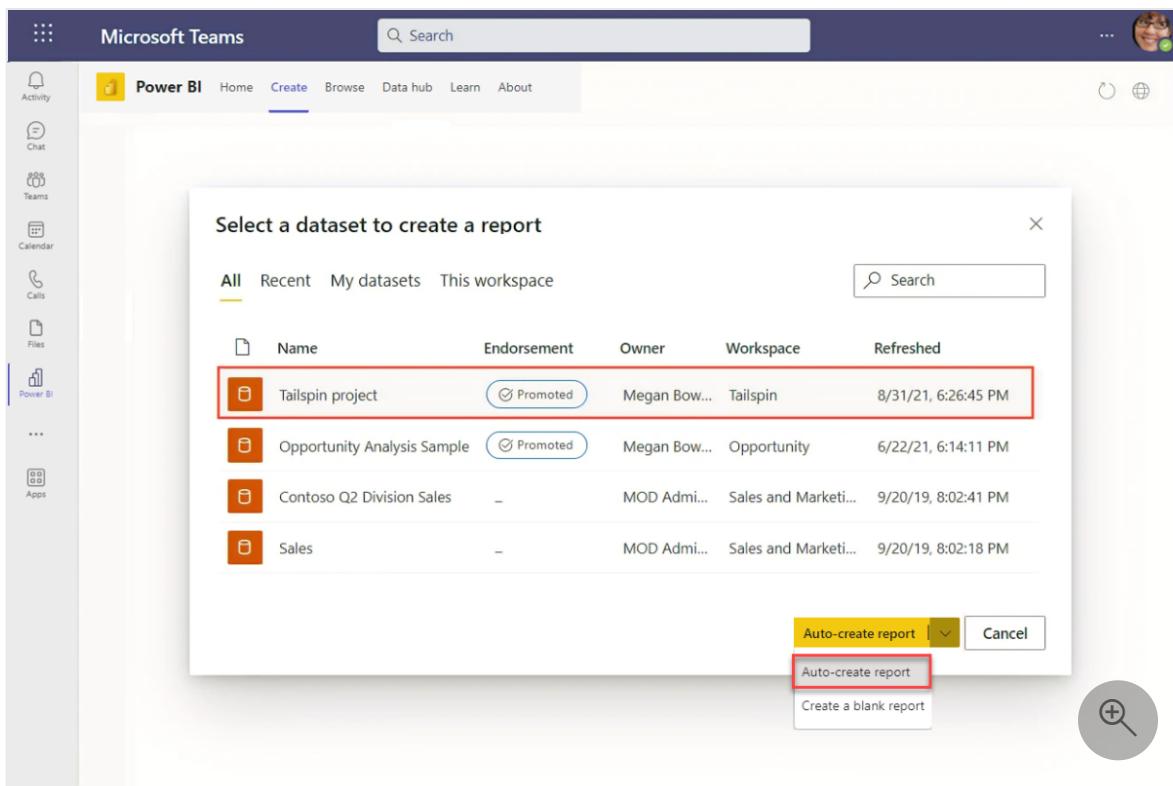
Many organizations share semantic models that you can use to build your reports. These semantic models are great because they offer up-to-date authoritative data. Semantic models marked *certified* or *promoted* are likely to be higher quality and better maintained, so your reports keep working longer.

To build a report from a semantic model shared with you, follow these steps.

1. Open the Power BI app for Microsoft Teams.
2. Select the **Create** tab > **Pick a published semantic model**.



3. Select a semantic model > **Auto-create report**.



4. Start exploring the data.
  - Use visualizations like charts, tables, and maps to show data in various ways.
  - Select data points to see other visuals update to filter data to your selection. Change formatting to make the report useful and readable by your colleagues.
5. After you complete your work, save and share the report.

# Explore semantic models and reports shared with you

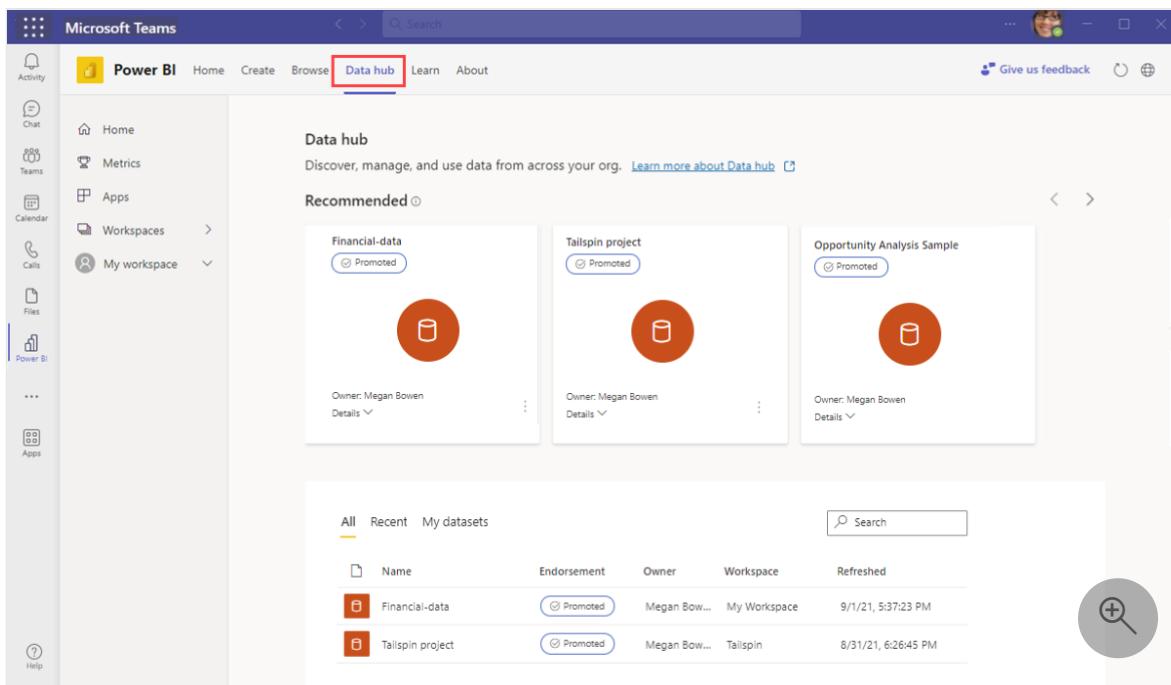
It's easy to find all the semantic models your organization has shared with you. They're in the OneLake data hub in the Power BI app for Microsoft Teams. Again, semantic models marked *certified* or *promoted* are likely to be higher quality and better maintained.

1. Open the Power BI app for Microsoft Teams.

Need to install the Power BI app? [Install the app, then pin it](#) to the Teams navigation pane.

2. Go to the **OneLake data hub** tab.

3. Select a semantic model from the list or from the recommended semantic models.



4. Explore the **Semantic model details** page.

The screenshot shows the Microsoft Teams interface with a Power BI dataset named "Revenue Opportunities" selected. The dataset details pane shows it was last refreshed on 12/21/22 at 1:25:30 PM. It includes options to "Visualize this data" (Create a report), "Share this data" (Share dataset), and "Explore related reports". A sidebar titled "Tables" lists various tables available for selection: Account, Fact, Opportunity, Partner, Product, and SalesStage. A search icon is also present.

- Discover prebuilt reports that use the semantic model.
- Create a report in Power BI from the semantic model with **Create a report**.
- Share data and give people access to the semantic model to work.
- Select a table or column to export data or select more than one table to create a paginated report.

When you find interesting reports relevant to your team, bring them into your collaboration. Add them to channels, meetings, and chats as tabs or in a conversation.

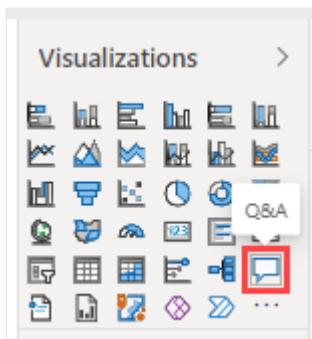
## Enhance reports in the Power BI service and in Teams

It's easy to keep working on your reports right in the Power BI service and Power BI in Teams. Take advantage of the artificial intelligence capabilities built into Power BI.

### Q&A visual

For example, ask a question about your data by adding a *Q&A visual*, where you can ask natural language questions and get answers in the form of a visual.

1. In the Visualizations pane, select the Q&A icon.



Power BI generates a list of suggested questions you can choose from or type your own.

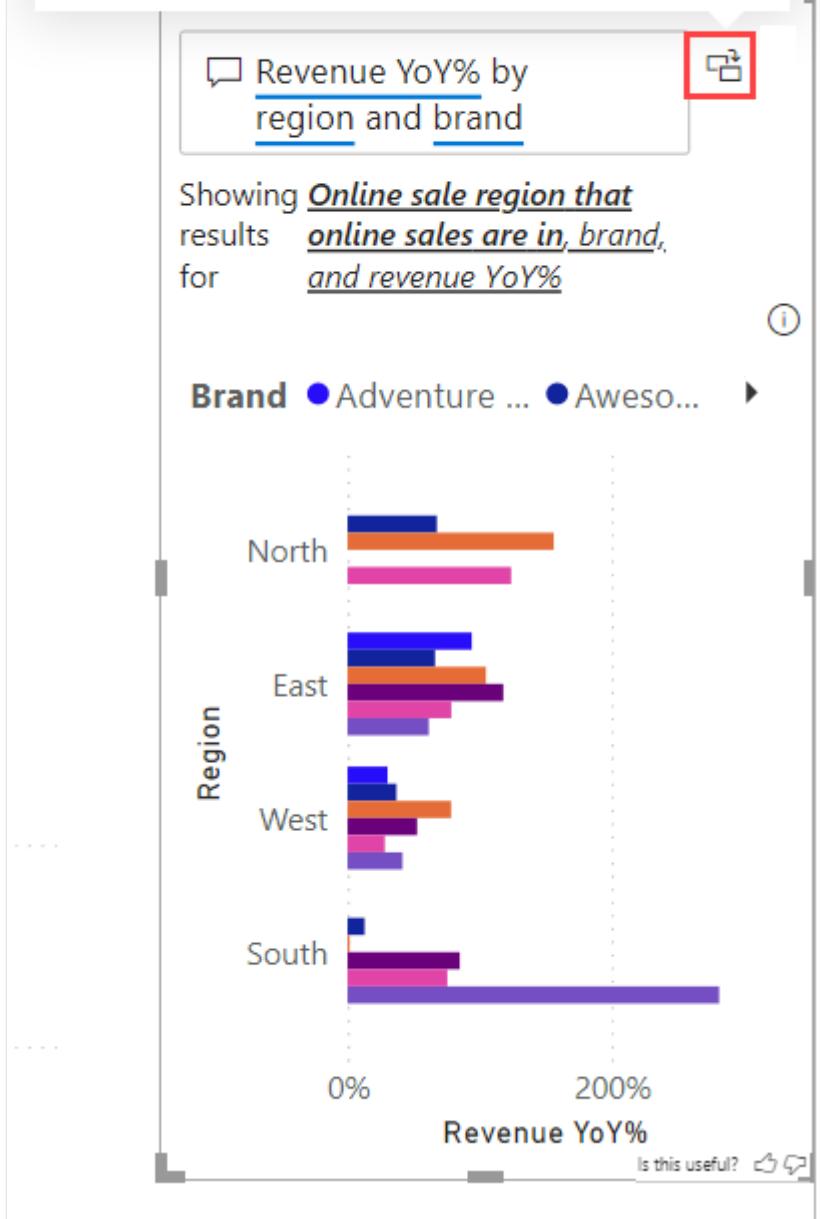
The screenshot shows the Power BI desktop interface with the 'Visualizations' pane open on the right. The main area displays a 'Try one of these to get started' section with five suggested Q&A visual cards:

- Cancellations and average revenue per transaction by city
- Average purchase size by customer segment
- Top 5 cities by sales for the last year
- Number of website visits and sales amount by customer
- Revenue YoY% by region and brand

The 'Visualizations' pane on the right lists various visual types with their corresponding icons. Below the icons is a 'Filters' section and a search bar. On the far right of the pane, there are several settings with toggle switches, all currently set to 'On': General, Question field, Suggestions (which is turned on), Title, Background, Lock aspect, Border, and Shadow.

2. If you like the visual that Power BI creates, you can convert it from a Q&A visual to a standard visual on the page.

Turn this Q&A result into a standard visual.

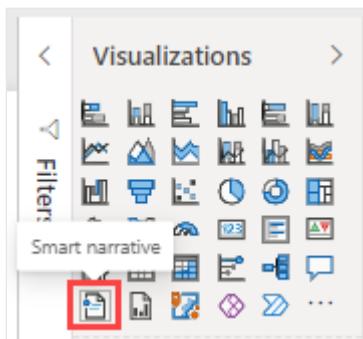


For more information, see [Create a Q&A visual in a report in Power BI](#).

## Smart narrative visual

You can also easily create a *smart narrative* visual, a dynamically generated text box that provides relevant insights that you can customize.

1. In the Visualizations pane, select the **Smart narrative** visual icon.



Power BI generates a text description of key takeaways in your report.

The screenshot shows a Power BI dashboard with the following components:

- Top Row:** Four KPI cards: "Number of visits" (61K), "Average daily and unique users" (353), "Average duration (min)" (2.95), and "Average conversion rate (%)" (31.15).
- Middle Row:**
  - A horizontal bar chart titled "Age by page" comparing Gen X, Gen Y, and Baby Boomers.
  - A vertical bar chart titled "Tweets by country and sentiment" showing percentages for North America, Europe, Asia, Africa, and South America.
  - A world map showing tweet locations with orange dots.
  - A bar chart titled "Unique Visitors, Daily Users and Return ..." comparing Desktop, Mobile, and Tablet.
- Right Side:** A "Format text box" pane with settings for "General", "Title", "Background", "Border", "Shadow", and "Visual height". A red box highlights the text box area.
- Generated Text (in red box):**
  - At 20031, HomePage had the highest Visits and was 66.45% higher than Shipping Details, which had the lowest Visits at 12032.
  - Visits and total Average of Duration (min) are negatively correlated with each other.
  - HomePage accounted for 32.77% of Visits.
  - Visits and Average of Duration (min) diverged the most when the Page was HomePage, when Visits were 20028 higher than Average of Duration (min).
  - Gen Z (2000s - now) had the highest Unique Visitors at 5058, followed by Gen X (60 - 80s), Gen Y (80 - 2000s), and Baby Boomers (45 - 60s).
  - Across all 4 Age Segment, Unique Visitors ranged from 2747 to 5058.
  - Complete had the highest total Count of Sentiment at 59, followed by In Progress at 42 and Not ...

1. You can add a visual to a page and it will automatically generate a text summary of the data.
2. You can edit the visual, change the way it looks, and change the inline values it generates.

For more information, see [Create smart narrative summaries](#).

## Create sophisticated reports in Power BI Desktop

Power BI Desktop is a downloadable Windows app to make sophisticated reports. It's like PowerPoint, but it uses data visualizations to help you gain insights into your data. Power BI Desktop has powerful capabilities like data import, cleaning, modeling, and much more.

To get started with Power BI Desktop, follow these steps.

1. Install Power BI Desktop. You can download it from the [Microsoft Store](#).

[Get Power BI Desktop](#)

2. Create a report in Power BI Desktop.

In the following tutorial sample, you prepare and model your data. Then create a report based on the model you've created. You can't do both tasks in a report in the Power BI service.

[Tutorial: From dimensional model to stunning report in Power BI Desktop](#)

3. [Publish the report](#) to the Power BI service.

4. Share the report with your colleagues in Teams.

## Next steps

- [Add the Power BI app to Microsoft Teams](#)
- [Use data to make meetings productive in Microsoft Teams](#)
- [Use Power BI metrics to improve results in Microsoft Teams](#)
- [Lead data-driven discussions in Microsoft Teams](#)
- [Analyze your Teams collaboration data](#)

# Analyze your Teams collaboration data

Article • 01/27/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

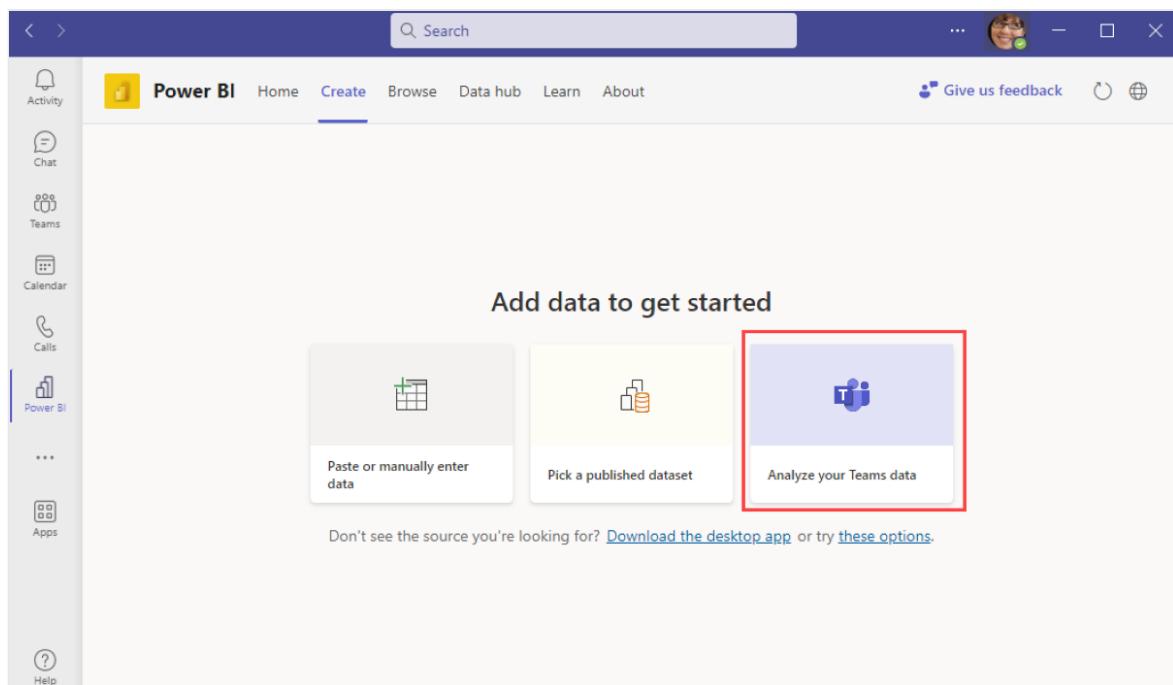
Many of us spend a lot of time collaborating in Microsoft Teams. With Power BI, you can get insights into where you're spending your time and how you and your team collaborate. By reviewing this data, you and your team can plan improved ways of working to be more responsive, agile, and productive.

To get insights about collaboration in Microsoft Teams, follow these steps.

1. Open the Power BI app for Microsoft Teams.

Need to install the Power BI app? [Install the Power BI app](#), then pin it to the Teams navigation pane.

2. Go to the **Create** tab and select **Analyze your Teams data**.



3. Explore your usage in the automatically generated report.

4. Explore engagement in the teams you participate in.

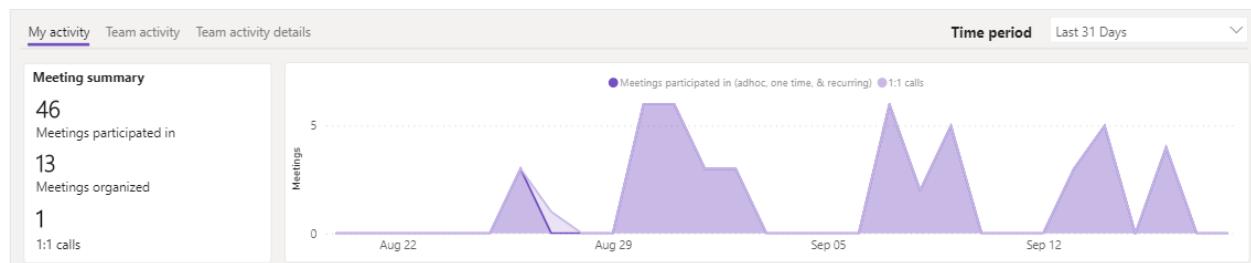
The report is saved in your Power BI account and stays refreshed. You can come back every few days to see how your actions change the trends. When working in a team, it's great to discuss the data and ways to improve.

# Questions to ask about your collaboration

## Am I effective in meetings?

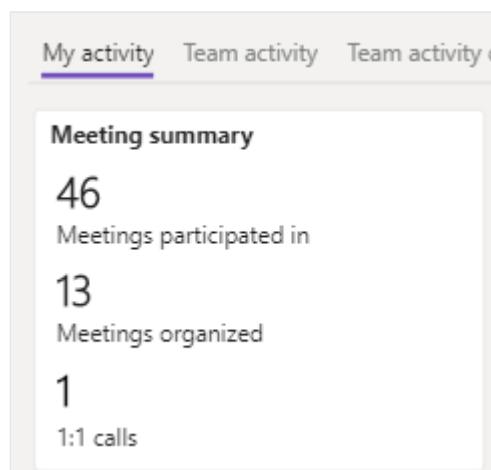
When looking at your meeting participation, you can see where you spend your time. Look at whether you spend most of your time in meetings or if you have enough focus time to get work done. You can see if you're mostly participating in or organizing meetings. Depending on your organization and your role, the balance of what's "right" might change, but it's important to ask the following questions:

- Are the meetings I'm in clearly furthering the objectives of my role and my organization?
- Am I setting the pace of delivery effectively by organizing important meetings to support my objectives?



## Am I building relationships with my colleagues?

Remote and hybrid work enables many of us to work from anywhere, which can impact the relationships we have with colleagues. It helps to build strong relationships with colleagues to succeed, overcome challenges, and build a cohesive work environment. Look at the 1:1 calls metric to see if you're making the connections you need for the future.



## Am I using chat effectively?

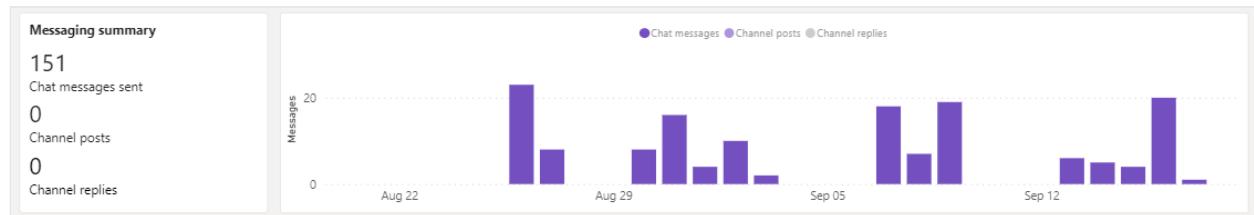
Chat experiences help us communicate quickly with others without interrupting their flow of work. Chat messages are fast, easy to write, and allow the recipient to multi-task by responding when they're able. To use chat effectively, consider how you're using chat across the experiences Teams offers.

### 💡 Tip

Start a chat with a coworker by stating why you're contacting them, rather than just typing "Hi" or "Are you busy?" Just ask your question. That way, they can respond quickly rather than wait for you to ask the question.

## Am I sending too many chats?

Look at the number of chat messages you send in a day and the trend. If you're sending numerous messages (20, 30, 40, 50), see what they were and review them. Consider whether a meeting or a 1:1 call could have achieved the same outcome while creating a stronger connection with your colleague. You may even want to send a document rather than writing chats. Consider asking your colleague which option is the most effective for them.



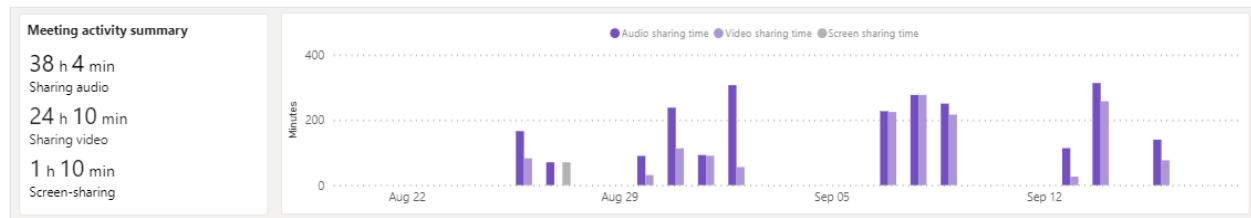
## Am I using channels effectively?

Teams and channels help keep your entire workgroup or project team up to date. Sometimes it's easier to message someone directly instead of posting in a channel. This practice can raise challenges since others teammates lack visibility into work happening around them and don't have the opportunity to offer input. It's also harder for them to help and finish something when someone goes on vacation. If you're primarily using Chats, consider if Channels would be a good option to add to your collaboration habits.

## Am I using in-meeting experiences in the best way?

Looking at meeting activities such as audio, video, and screen sharing, you can gain insight into how effectively you're using in-meeting experiences. If you're sharing audio but not video, you may be missing opportunities to make a stronger connection with

other meeting attendees. If you're screen sharing a lot, it could indicate that you're driving the discussion forward in these meetings.

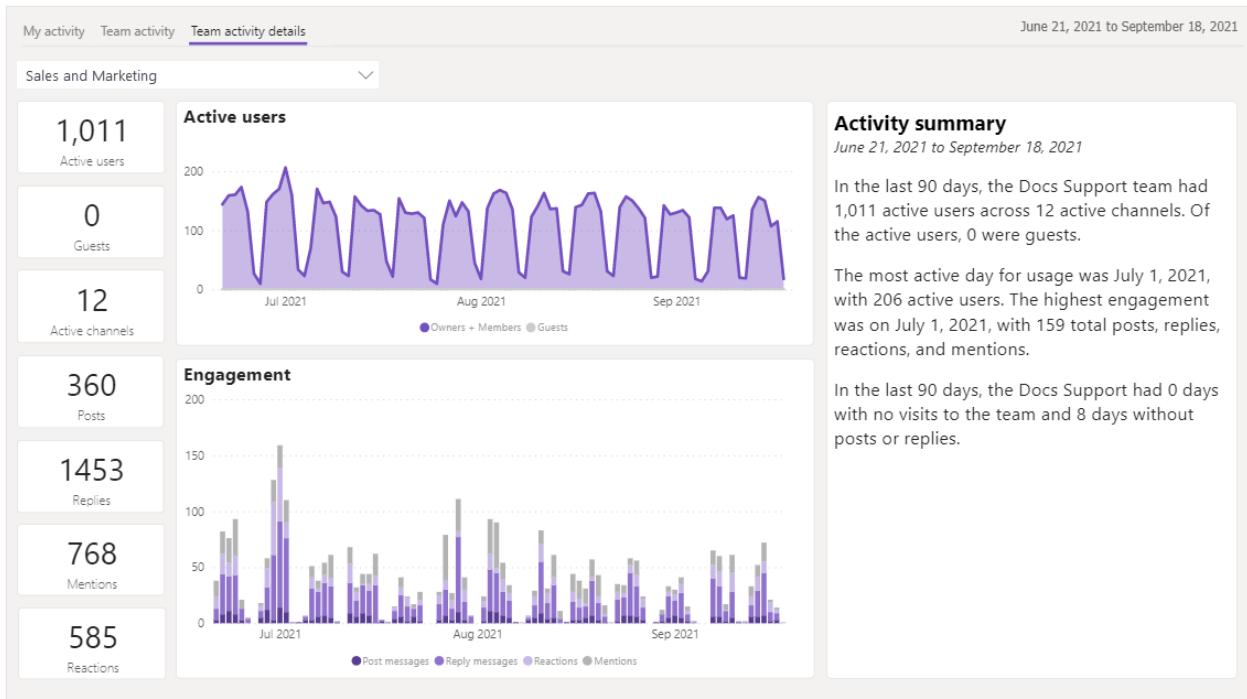


## Understand activity in teams you access and own

Sometimes where you work is as important as how you work. The **Teams activity** view gives you a summary of how your teams collaborate. You can quickly see which teams you might be overlooking and which ones you might close. If multiple teams cover the same topic, consider merging them to help everyone work together.

Team activity details										June 21, 2021 to September 18, 2021	
Team name	Posts and replies last 7 days	Active users	Guests	Active channels	Total Posts	Total Replies	Meetings organized	Days without active users	Days without posts or replies		
Customer Profitability	403	2,707	3	4	1,260	3322	12	0	2		
Public Relations	110	1,011	0	12	360	1453	0	0	8		
Sales and Marketing	61	325	0	9	56	166	4	1	30		
Retail Analysis	40	19,869	3	66	188	309	2	0	12		
Store Portal	35	2,855	1895	27	135	380	0	0	3		
Leadership	32	859	0	22	79	150	0	0	32		
Human Resources	6	334	0	11	33	77	0	1	40		

When you view the details for a specific team, you can get more detailed usage data. As a team owner, you might show this view in a meeting to seek input to improve your collaboration. It's also a great way to evaluate if you should retire a team with few active users or low engagement.



## Next steps

- Add the Power BI app to Microsoft Teams
- Use data to make meetings productive in Microsoft Teams
- Use Power BI metrics to improve results in Microsoft Teams
- Lead data-driven discussions in Microsoft Teams
- Create reports from data in Microsoft Teams

# How to determine that content is up to date

Article • 01/30/2023

**APPLIES TO:** ✓ Power BI service for *business users* ✓ Power BI service for designers & developers ✗ Power BI Desktop ✗ Requires Pro or Premium license

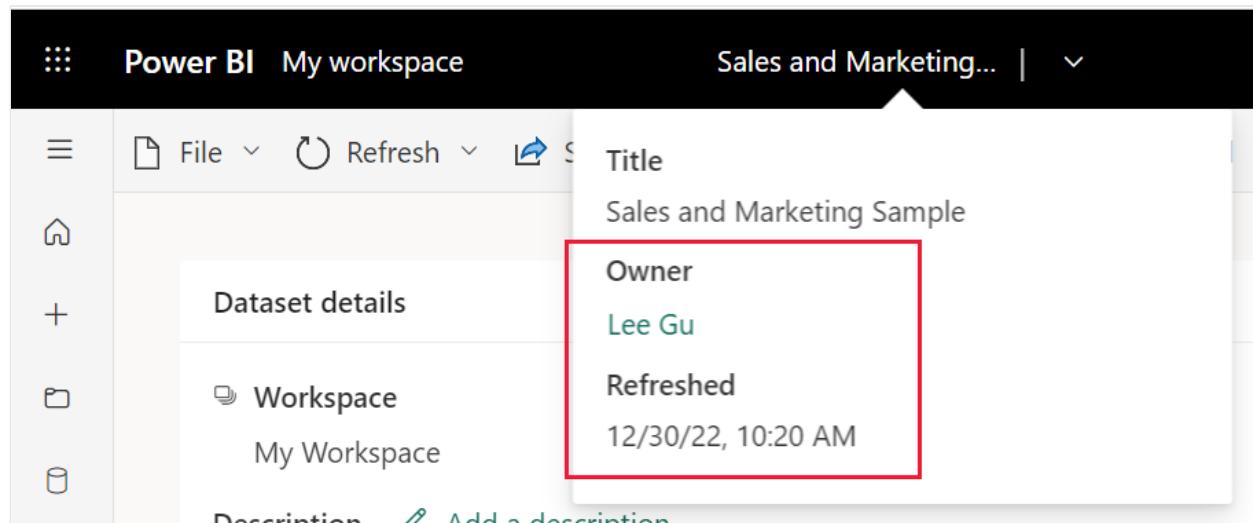
This article shows you how to determine when your content was last updated or refreshed and also suggests ways to stay in sync with your most important data.

## Timestamps in the Power BI service

As a business user, you interact with content that's created by designers and made available to you. The content contains timestamps, so you know when it was published, shared, or last updated. Knowing that you're working with the freshest content gives you confidence and is often critical in making the right decisions.

What can you do to ensure you're using the latest content? In most cases, you don't need to do anything at all. Any content, like apps, dashboards, scorecards, or reports, that's been shared with you is automatically refreshed and updated on a schedule that's set by the designer. The designer either manually updates content, or they can update it automatically by setting an automated refresh schedule.

If you have questions about content freshness, contact the designer directly. The examples below show you how to identify and contact the owner of your content.



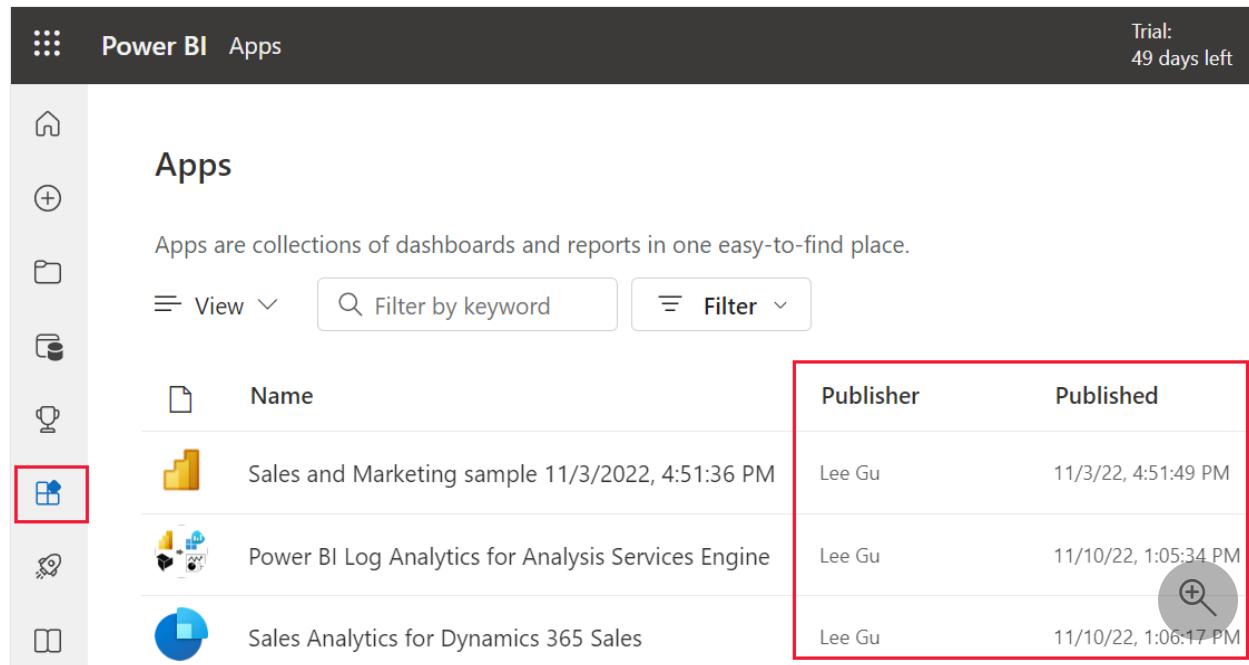
## Different types of timestamps

Power BI adds date and time information when content is published, shared, updated, and refreshed. The type of date depends on the content. For example, apps have a published date and the content within an app has an updated date. Other types of content have shared and refreshed dates.

It's less helpful to know which type of timestamp goes where, and more helpful to know where to find a timestamp. The following are general guidelines to help you determine the freshness of your content.

## Content lists

In a list of content in the Power BI service, there's an owner column and a timestamp column. The type of owner and timestamp depends on the content. The following example shows the Publisher name and Published date on the Apps page.

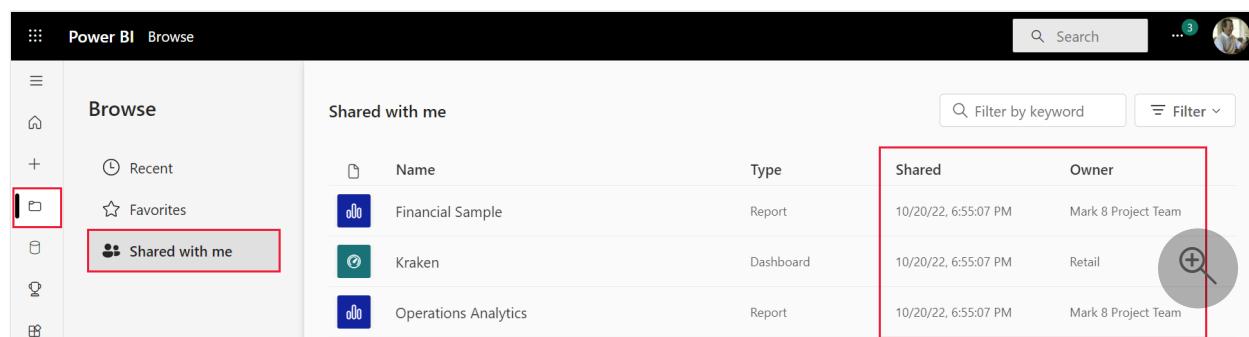


The screenshot shows the Power BI Apps page. On the left is a vertical navigation bar with icons for Home, Plus, Folder, Copy, Delete, and a red-highlighted icon for 'Shared with me'. The main area has a title 'Apps' and a subtitle 'Apps are collections of dashboards and reports in one easy-to-find place.' Below this are filters for 'View' and 'Filter by keyword'. A table lists three apps:

Name	Publisher	Published
Sales and Marketing sample	Lee Gu	11/3/22, 4:51:49 PM
Power BI Log Analytics for Analysis Services Engine	Lee Gu	11/10/22, 1:05:34 PM
Sales Analytics for Dynamics 365 Sales	Lee Gu	11/10/22, 1:06:17 PM

A red box highlights the 'Published' column, and a magnifying glass icon is in the bottom right corner of the table.

The next example shows the Owner of the content and the Shared date when you go to the Browse page and then the Shared with me tab.



The screenshot shows the Power BI Browse page with a red box around the 'Shared with me' tab in the navigation bar. The main area has a title 'Browse' and a subtitle 'Shared with me'. It includes a search bar and filter buttons. A table lists three items:

Name	Type	Shared	Owner
Financial Sample	Report	10/20/22, 6:55:07 PM	Mark 8 Project Team
Kraken	Dashboard	10/20/22, 6:55:07 PM	Retail
Operations Analytics	Report	10/20/22, 6:55:07 PM	Mark 8 Project Team

A red box highlights the 'Owner' column, and a magnifying glass icon is in the bottom right corner of the table.

The final example shows a content list in a workspace. The Owner of the content, the Refreshed date, and the date of the Next refresh are listed.

All Content Datasets + dataflows

	Name	Type	Owner	Refreshed	Next refresh
	Marketing and sales	Dashboard	Marketing and Sales f...	—	—
	Sales and Marketing	Report	Marketing and Sales f...	1/31/22, 7:46:57 AM	2/7/22, 7:30:00 AM
	Sales and Marketing	Dataset	Marketing and Sales f...	1/29/22, 11:40:16 AM	2/5/22, 11:30:00 AM
	ContentMetrics	Dataset	BACX Content Analyti...	1/31/22, 12:17:37 PM	1/31/22, 4:30:00 PM
	Industry Solutions	Report	BACX Content Analyti...	12/4/21, 4:14:17 AM	—
	Industry Solutions	Dataset	BACX Content Analyti...	12/4/21, 4:14:17 AM	N/A

The designer sets up the refresh schedule for content. Some content gets updates continually and other content might refresh daily, weekly, or not at all. Not all content is scheduled for refreshing, so you might see empty entries. If an error occurs during a refresh, an error icon appears in the timestamp column.

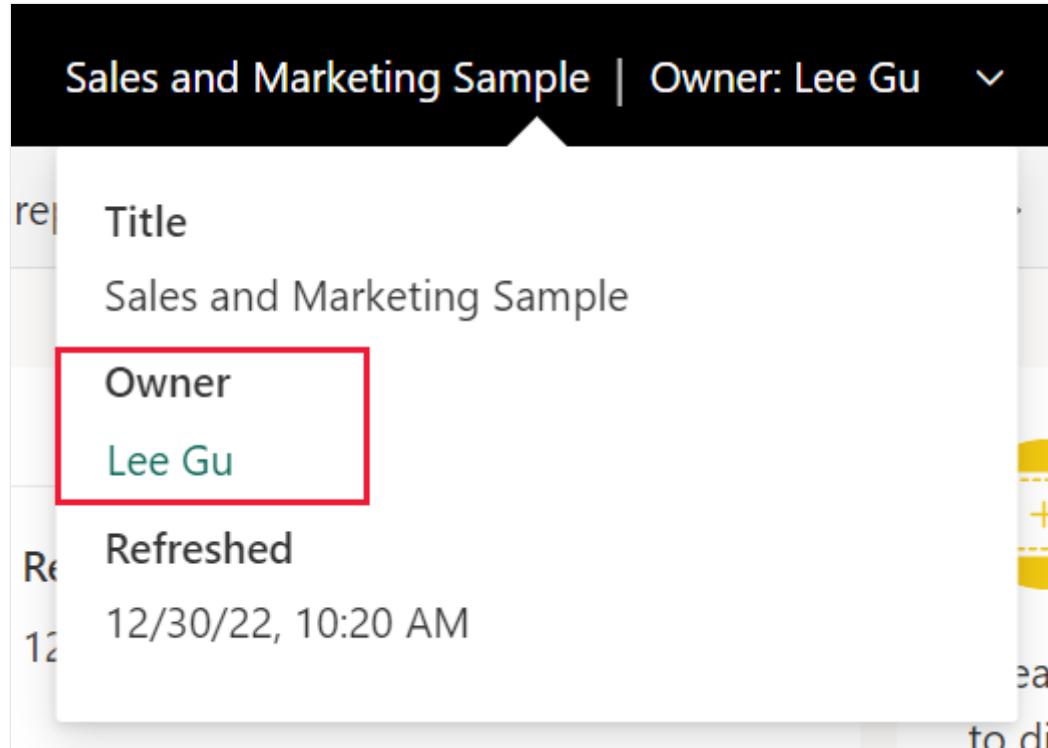
## View reports

In a report, there's an arrow on the title bar. Select the arrow to see contact information and a timestamp. Dashboards, worksheets, and scorecards show the owner but not a timestamp. Select the **Owner** or **Contact** link if you have questions or suggestions for the owner of the report.

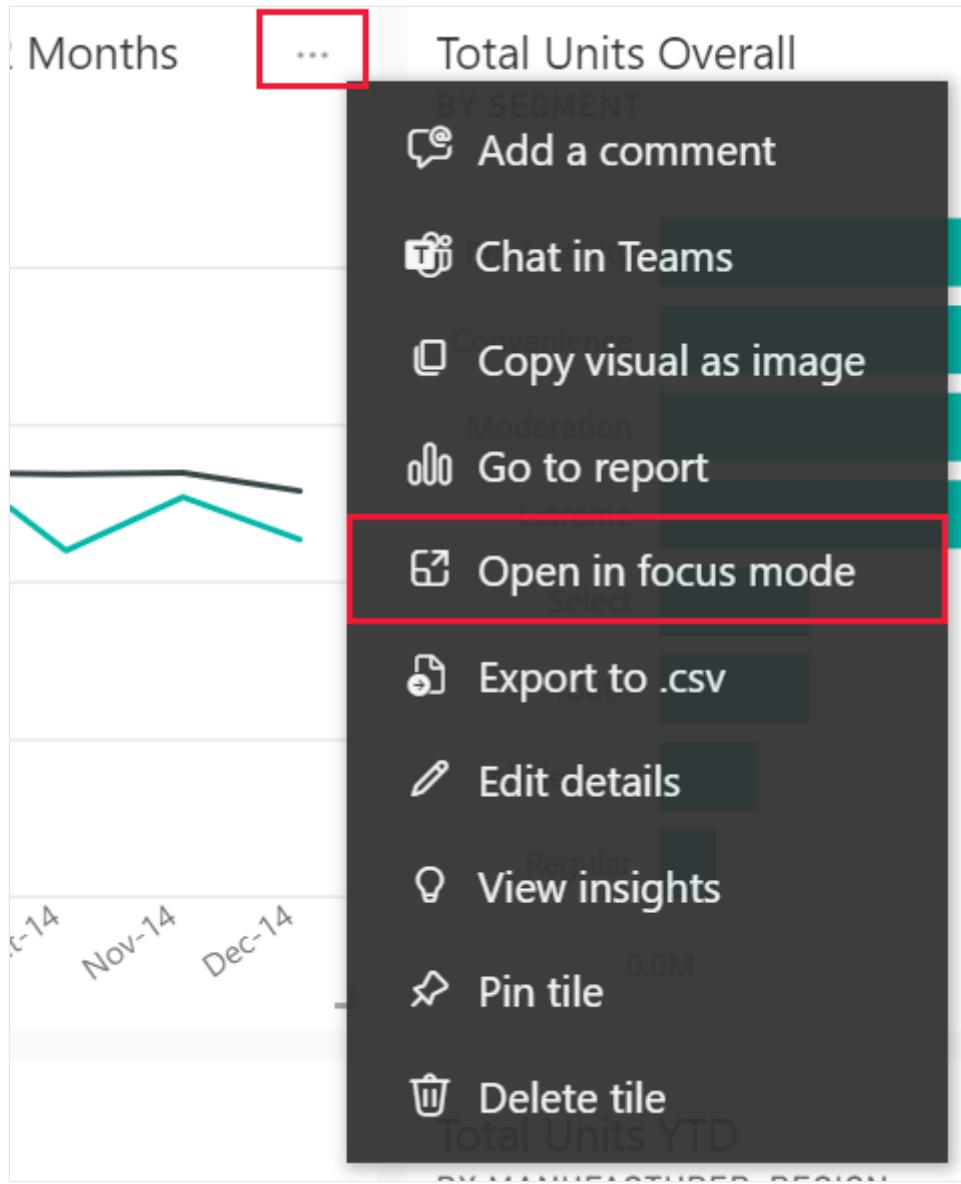
The screenshot shows a Power BI report interface. At the top, the title "Sales and Marketing Sample" is displayed next to a timestamp "Data updated 12/30/22". A dropdown arrow is visible to the right of the timestamp. Below the title, the report content includes a "Title" section with the text "Sales and Marketing Sample". In the "Contact" section, the name "Lee Gu" is listed. A timestamp "Data updated 12/30/22, 10:20 AM" is also present. The entire contact information block is highlighted with a red rectangle.

# View dashboards

The dashboard title menu shows a contact, but not a timestamp. However, you can view the last refresh date for individual dashboard tiles and for the underlying dataset.



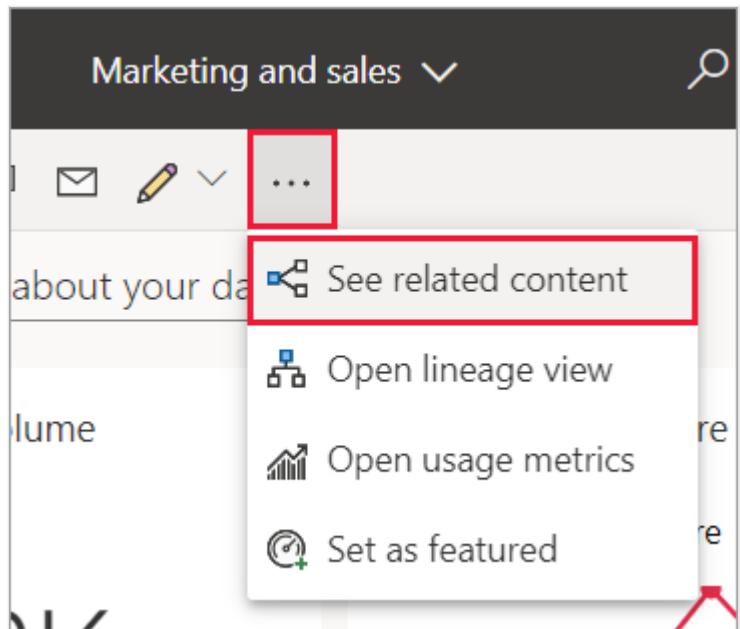
1. View a tile in Focus mode to see the Last refresh timestamp. On a dashboard tile, select **More options (...)** and choose **Open in focus mode**.



The last refresh date is in the upper right corner. If you don't see it, expand your browser to make it wider.



2. Return to the dashboard, select **More actions (...)**, and then select **See related content** from the Power BI upper menu bar.



The **Related content** pane shows the last refresh information for the dashboard or report's underlying dataset.

## Related content

X

Sales and Marketing Sample

▼ My workspace

### REPORTS

Sales and Marketing Sample



Sales and Marketing Sample



### DATASETS

Sales and Marketing Sample



Last refresh: 12/30/2022, 10:20:19 AM

Show in lineage view

Close

## Stay in sync with your content

There are built-in Power BI features available that can help you stay up-to-date with your most important content.

## Set data alerts

To be notified if data goes above or below a specified limit, [Create a data alert](#) for a dashboard. It's easy to stay up-to-date by using data alerts. Adjust your settings, so

Power BI sends you an email if a value on a dashboard passes a specific threshold. For example, receive an alert if inventory falls below 25 units or if sales exceed stated goals.

## Subscribe to see changes

Another way to stay up-to-date is to subscribe to a report or dashboard. Instead of logging in to view a report or dashboard, have a snapshot sent to you on a schedule that you set. For more information, see [subscribe to dashboards and reports](#).

## Considerations and limitations

Each individual piece of content within an app has its own updated date and owner. That information might be different from the published date and app owner for the entire app.

## Next steps

[Create a data alert](#)

[Subscribe to dashboards and reports](#)

[View related content](#)

# Display content in more detail: focus mode and full screen mode

Article • 12/22/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

## Note

This video might use earlier versions of Power BI.

<https://www.youtube-nocookie.com/embed/dtdLul6otYE> ↗

You want your reports, dashboards, visuals, and tiles to display a certain way. Power BI offers you many options to get it just right. Two of those options: the **View** menu and **Focus mode**, are discussed in this article. Used together, you can achieve the display that you want. And these display options aren't just for viewing, you can interact with the reports, dashboards, and visuals in all of these display modes. Most of these display options are also available in Power BI Desktop.

## Focus mode versus full screen mode

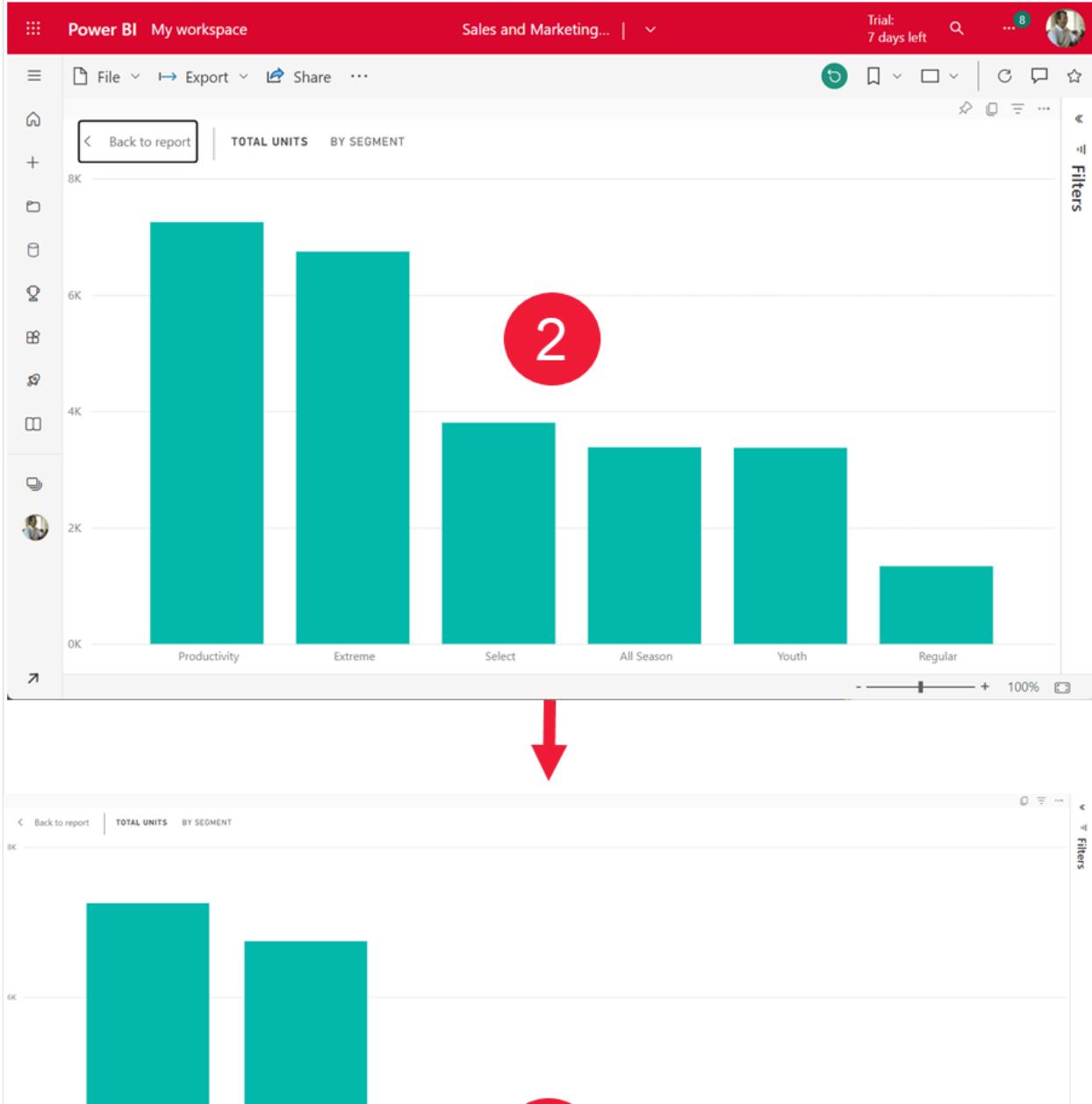
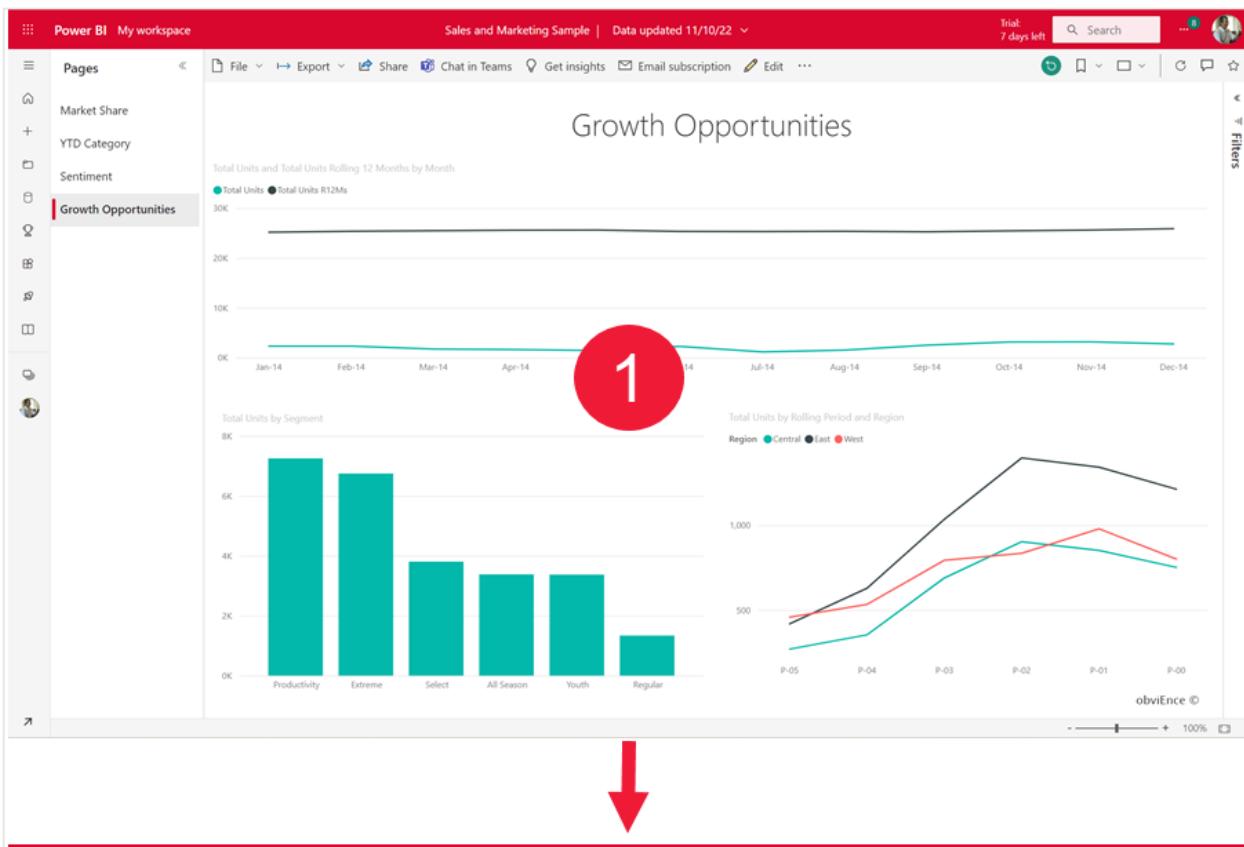
Focus mode and full screen mode are two different ways to see more detail in your visuals, reports, and dashboards. Full screen mode is applied to the current contents of a report canvas or dashboard. It removes all the panes surrounding your content. Focus mode is applied to individual report visuals or dashboard tiles. It enlarges the tile or visual along with filters, menus, and navigation panes. Let's take a closer look at the similarities and differences.

 Expand table

Content	Focus mode	Full screen mode
Dashboard	No	Yes
Report page	No	Yes
Report visual	Yes	Yes, if it's already in focus mode and therefore the only visual on the report canvas.
Dashboard tile	Yes	No

<b>Content</b>	<b>Focus mode</b>	<b>Full screen mode</b>
Windows 10 mobile	No	Yes

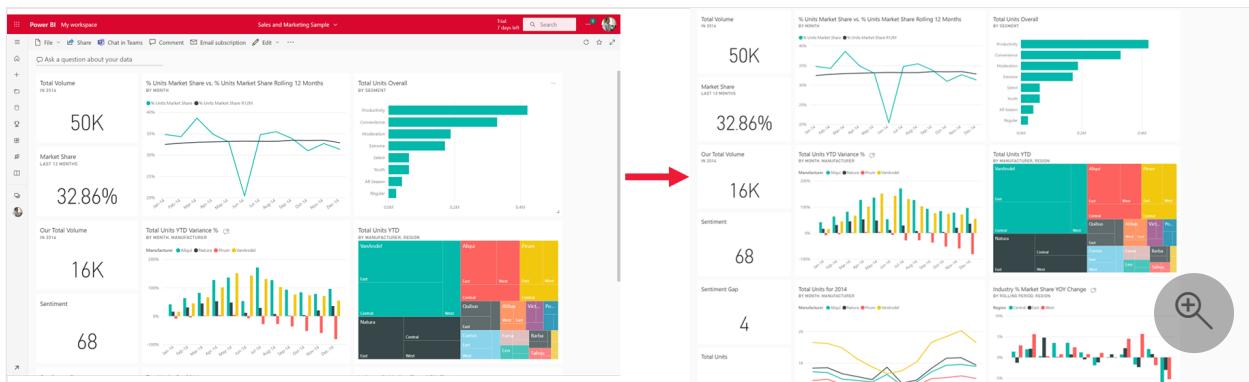
In the following example, we started with a report (1), opened one of the visuals in focus mode (2) and then opened that same visual in full screen mode (3).





0c503460d027dc8fd874b257f9554b0d6c46955a

## When to use full screen mode



Display your Power BI service content (dashboards, report pages, and visuals) without the distraction of menus and nav panes. You get an unadulterated, full view of your content at a glance, all the time. This view is sometimes referred to as TV mode.

If you're using the Power BI windows app, [Screenshot of full screen in Power BI Windows app](#).

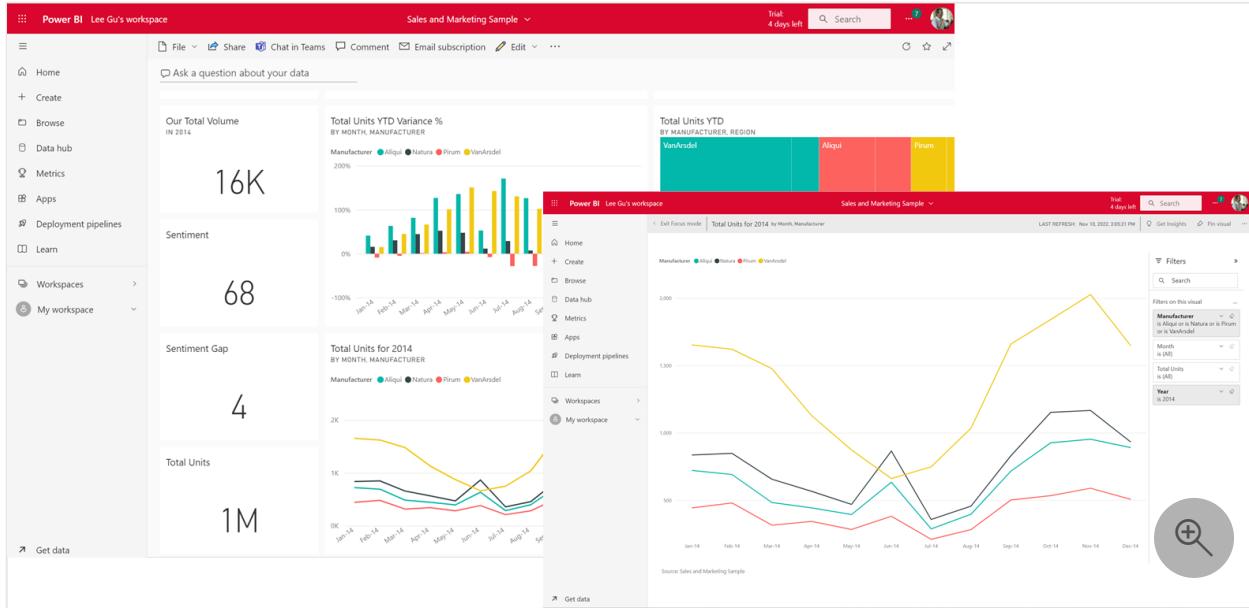
Use full screen mode to:

- Present your dashboard, visual, or report at a meeting or conference.
- Display in an office on a dedicated large screen or projector.
- View on a small screen.
- Review in locked mode--you can touch the screen or mouse over tiles without opening the underlying report or dashboard.

## When to use focus mode

**Focus** mode lets you expand (pop out) a visual or tile to see more detail. Maybe you have a dashboard or report that is a little crowded and you want to zoom in on only one

visual. This function is a perfect use of focus mode.

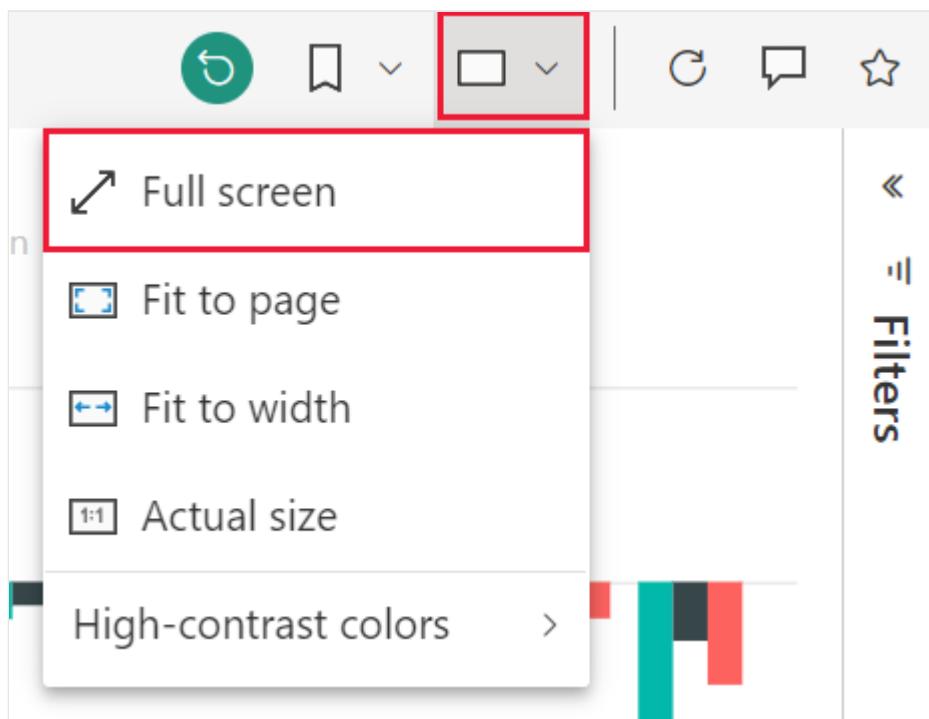


While in focus mode, you can interact with any filters that were applied when this visual was created.

## Work in full screen mode

Full screen mode is available for dashboards and report pages.

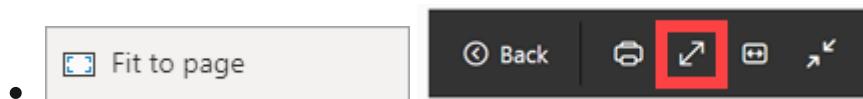
- To open a dashboard in full screen mode, select the full screen icon  from the top menu bar.
- To open a report page in full screen mode, select **View > Full screen**.



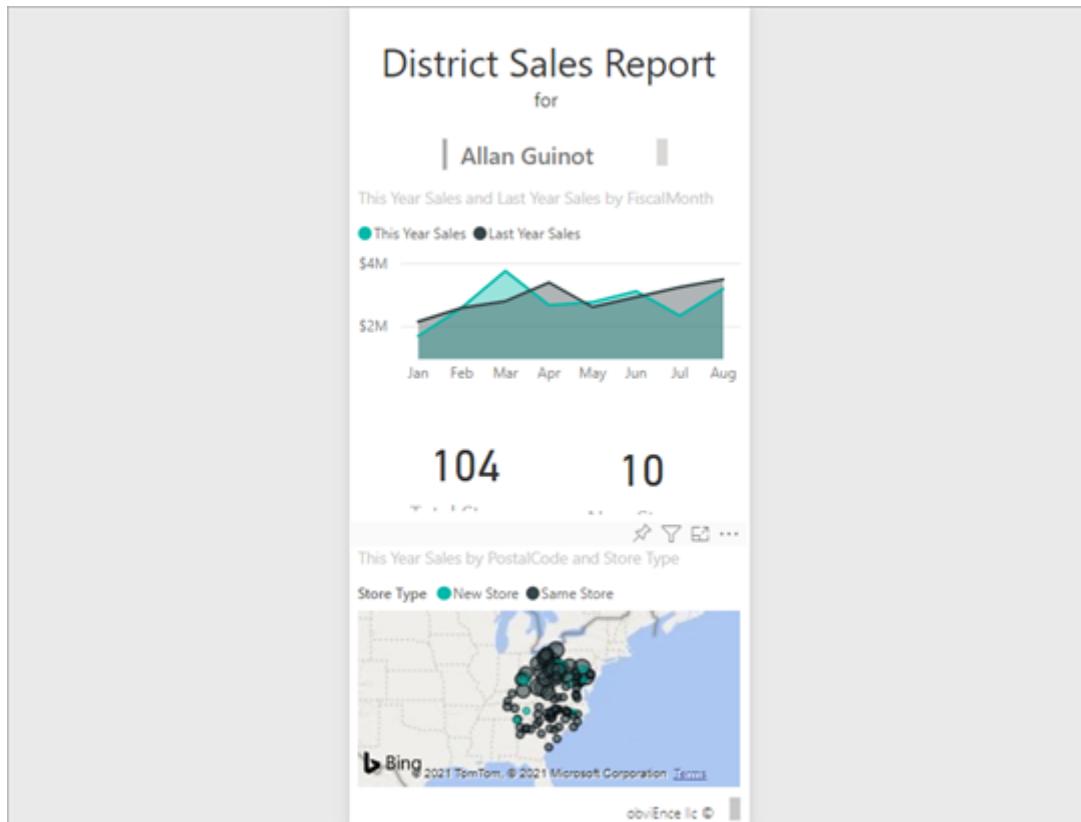
- To see a visual in full screen mode, first open it in focus mode so that it's the only visual on the report page. Then open that report page in full screen mode.

Your selected content fills the entire screen. When you're in full screen mode, navigate using the menu bar at the bottom. If you don't see menu options for a dashboard, move your cursor, and the menu appears. Because full screen is available for such a wide variety of content, the navigation options vary. Some of the options are:

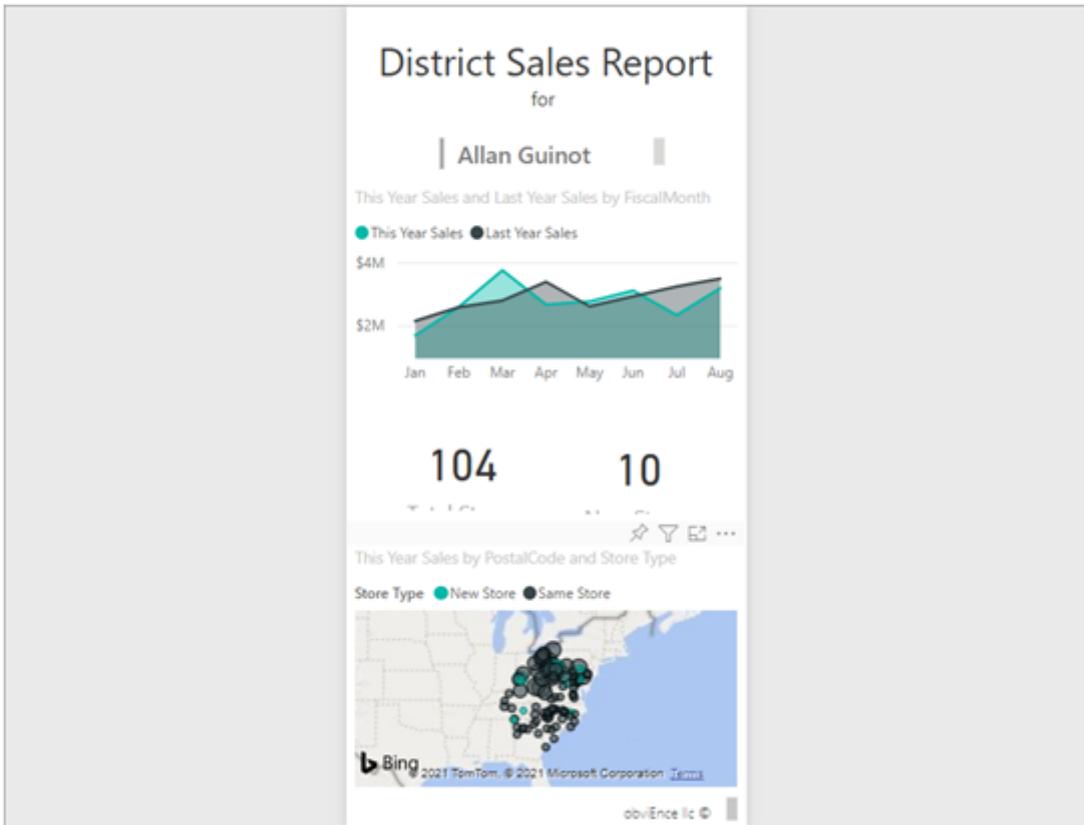
- Select the **Back**, **Go back**, or **Back to report** button to navigate to the previous page in your browser. If the previous page was a Power BI page, it too displays in full screen mode. Full screen mode persists until you exit out.



- Use the **Fit to page** or **Fit to screen** option to display your selected content at the largest size possible without resorting to scrollbars.



- Sometimes you don't care about scrollbars, but you want the dashboard to fill the entire width of the available space. Select the **Fit to width** button.

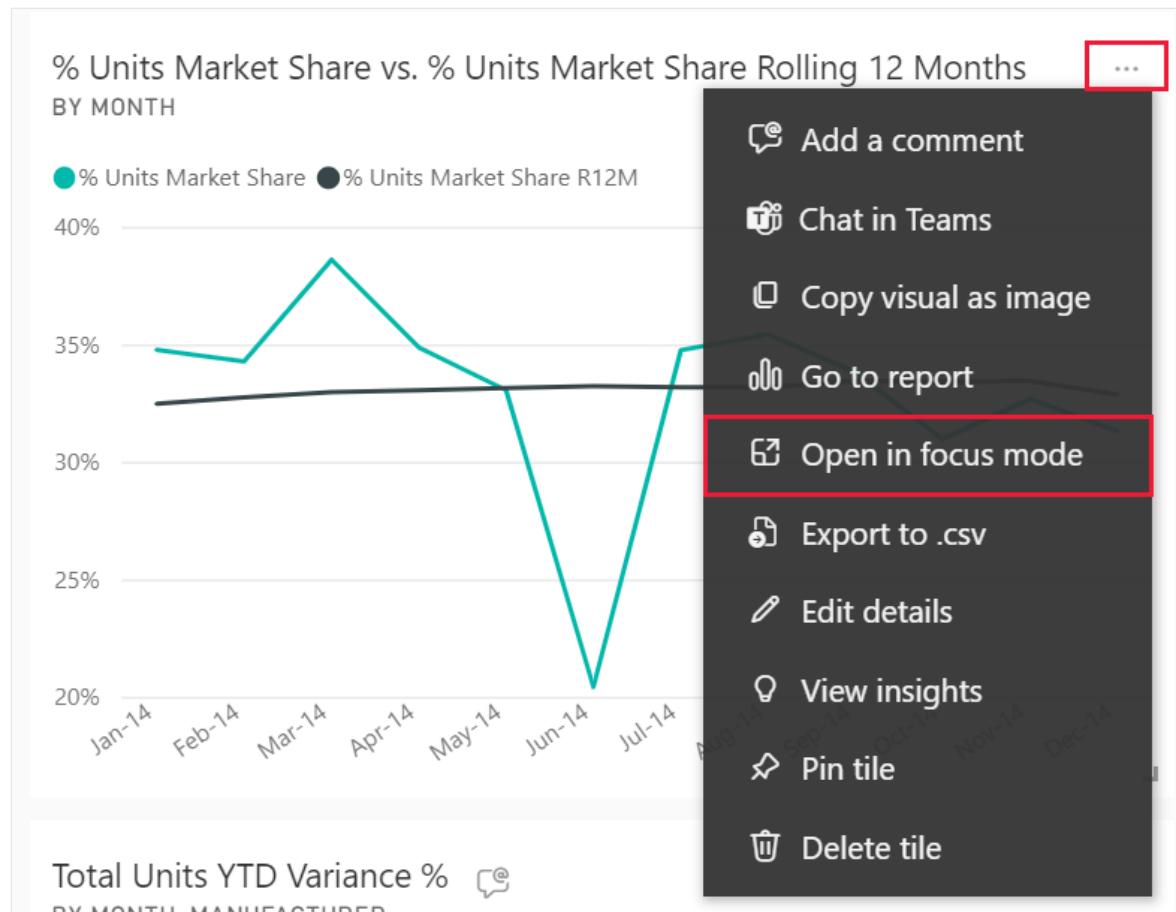


- In full screen reports, use these arrows to move between the pages in the report. Each page displays in full screen mode. Full screen mode persists until you exit full screen mode.
- To exit full screen mode, select the **Exit full screen** icon.

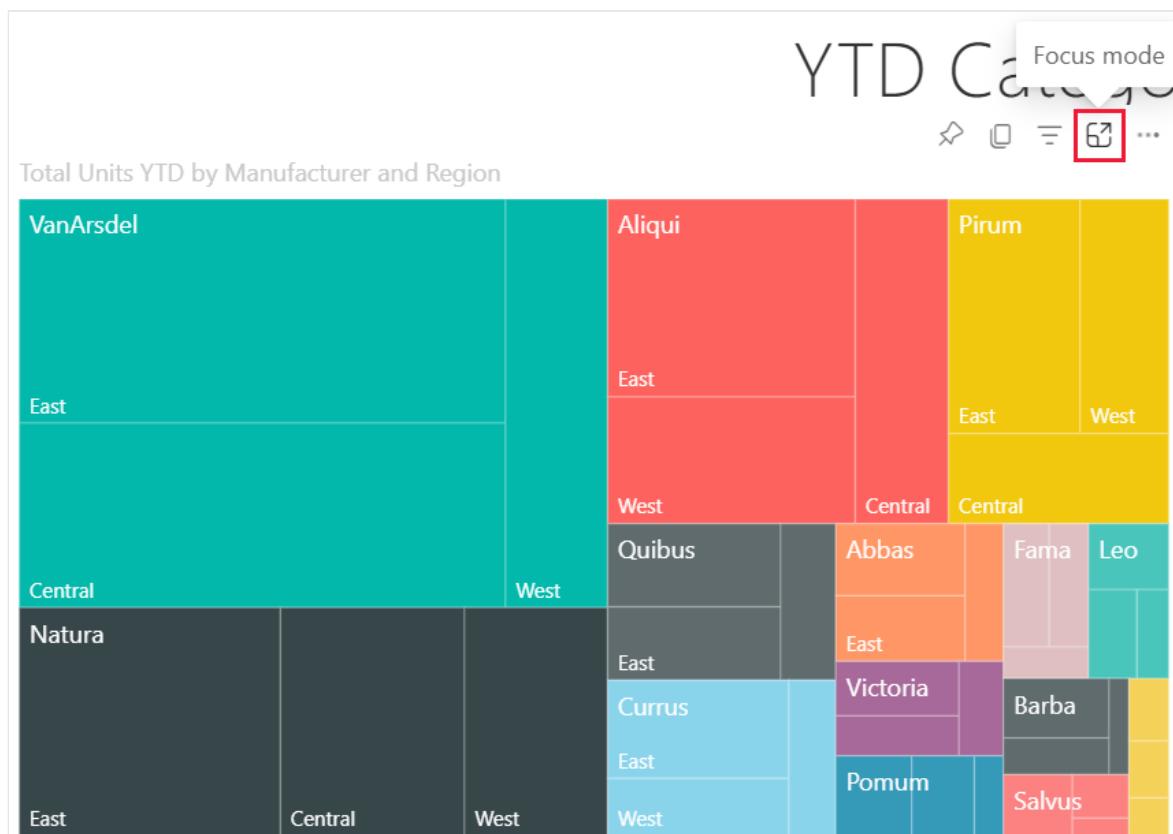
## Work in focus mode

Focus mode is available for dashboard tiles and report visuals.

- To open a dashboard tile in focus mode, hover over a tile, select **More options (...)** and choose **Open in focus mode**.

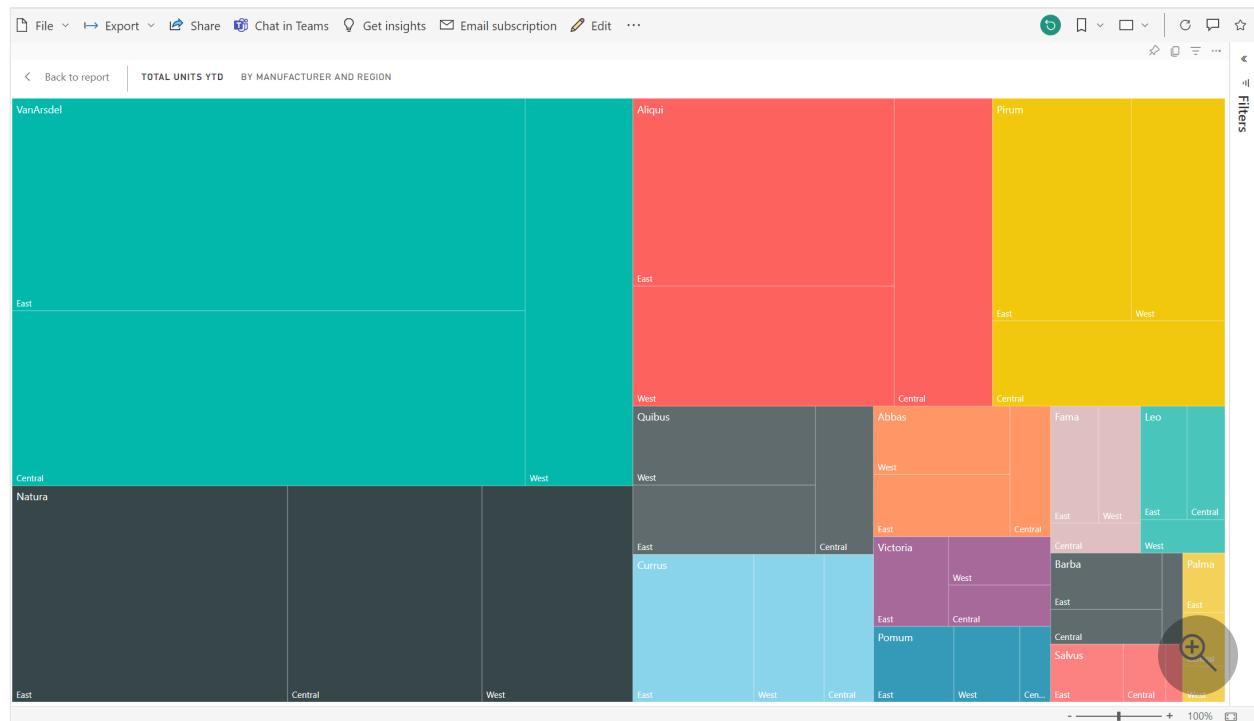
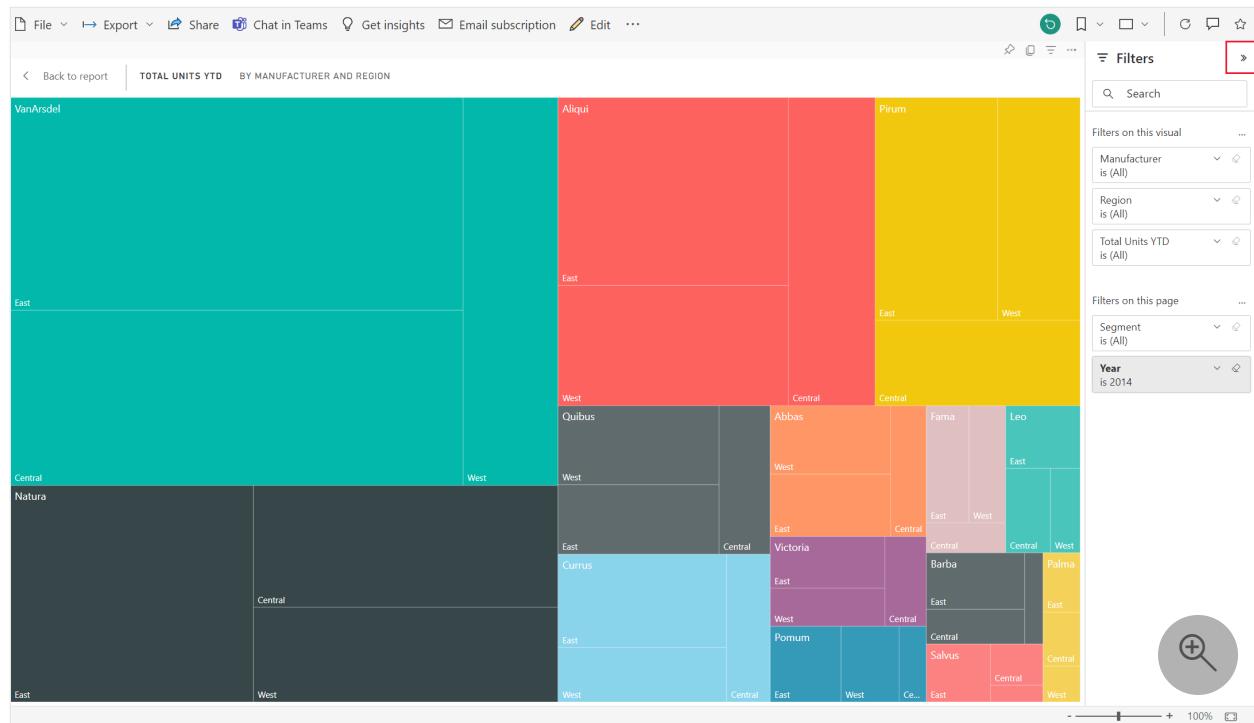


- To open a report visual in focus mode, hover over the visual and select the **Focus mode** icon.



The visual opens and fills the entire canvas. Notice that your report canvas still has a **Filters** pane that you can use to interact with the visual. The **Filters** pane can be

collapsed.



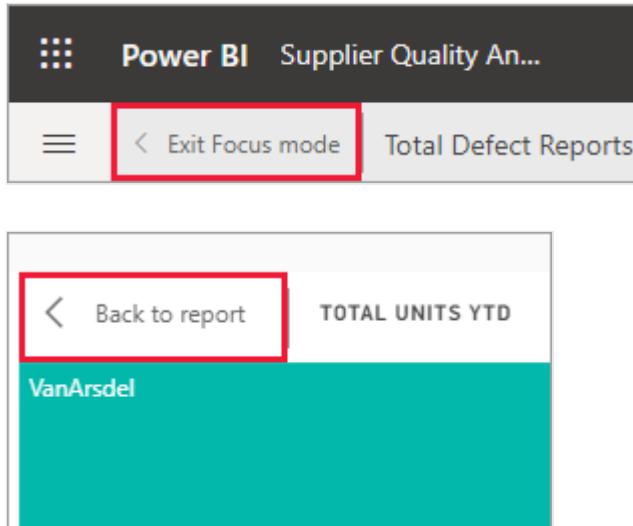
Explore further by [modifying the filters](#) and looking for interesting discoveries in your data. In [reading view](#), you can't add new filters, change the fields being used in the visuals, or create new visuals. However, you can interact with the existing filters, cross-filter, pin, subscribe, comment, and much more.

For a dashboard tile, your changes can't be saved. For a report visual, any modifications you make to the existing filters are saved when you exit Power BI. If you don't want

Power BI to remember your modifications, select the **Reset to default** button.



Leave focus mode and return to the dashboard or report by selecting either **Exit focus mode** or **Back to report** (in the upper left corner of the visual).



## Considerations and troubleshooting

- When using focus mode with a visual in a report, you can view and interact with all filters: Visual level, Page level, Drillthrough, and Report level.
- When using focus mode with a visual on a dashboard, you can view and interact with only the Visual level filter.

## Next step

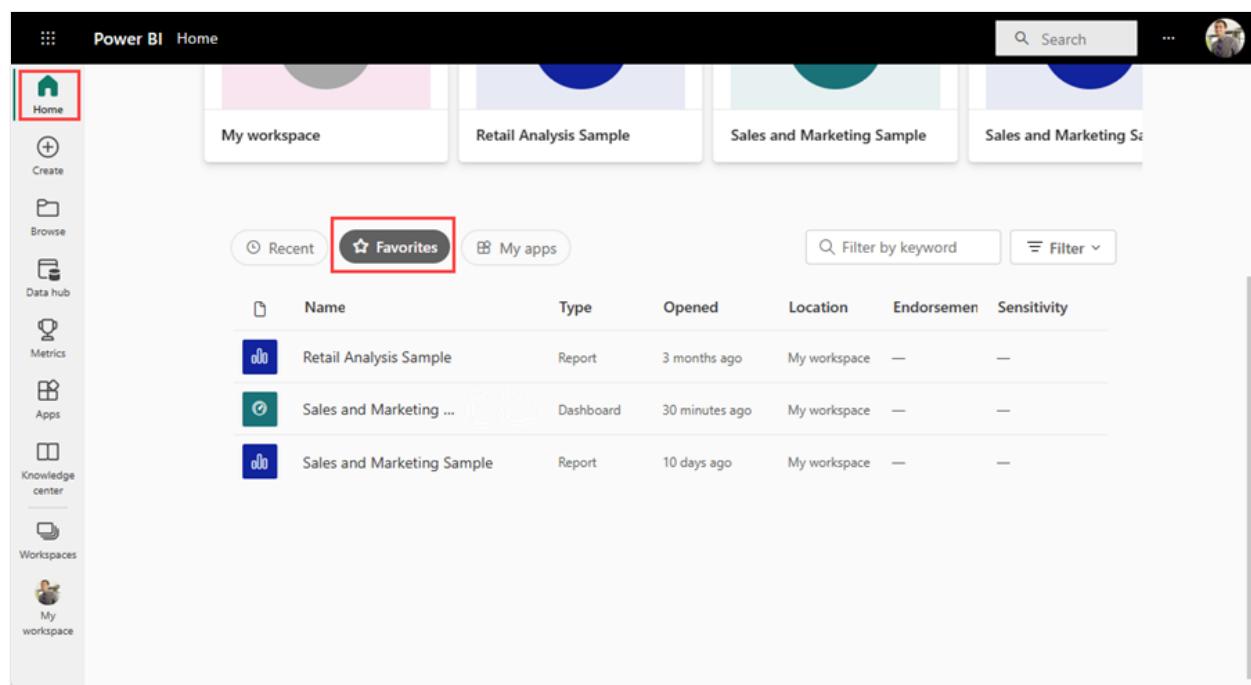
[Change the View settings for reports](#)

# Favorite dashboards, reports, and apps in the Power BI service

Article • 03/17/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

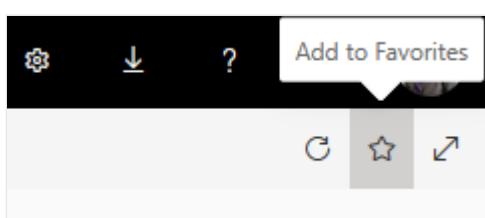
When you make content a *favorite*, you can access it quickly from the **Favorites** content list. Favorites are typically content that you visit most often and are identified with a filled star.



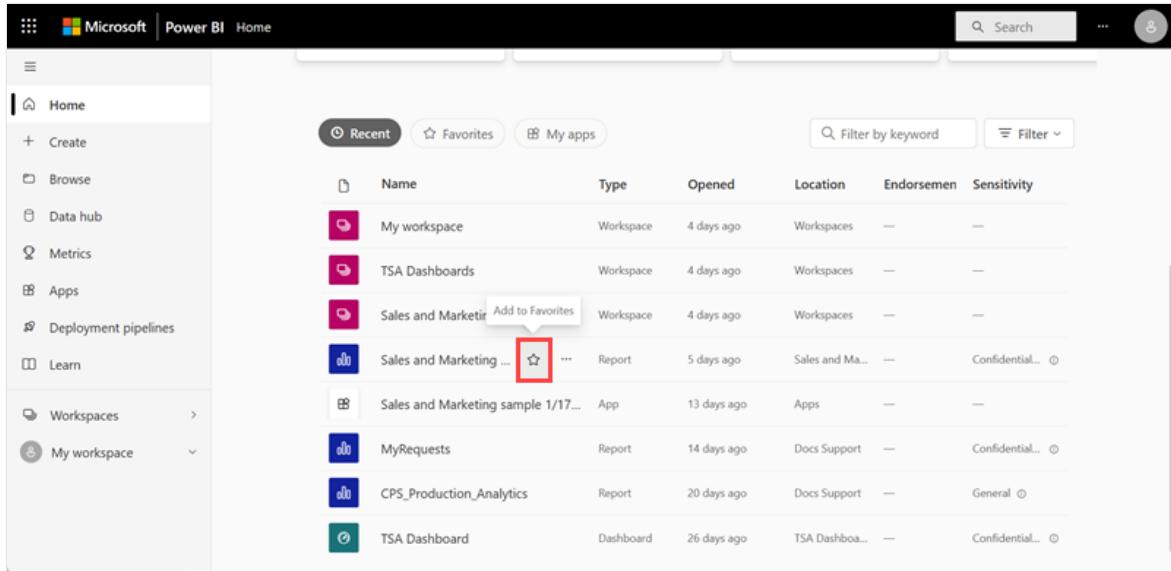
The screenshot shows the Power BI Home interface. On the left is a sidebar with icons for Home (highlighted with a red box), Create, Browse, Data hub, Metrics, Apps, Knowledge center, Workspaces (highlighted with a red box), and My workspace. The main area displays four sample workspaces: My workspace, Retail Analysis Sample, Sales and Marketing Sample, and Sales and Marketing S. Below these are navigation tabs: Recent, Favorites (highlighted with a red box), and My apps. There are also search and filter buttons. The Favorites list table has columns for Name, Type, Opened, Location, Endorsement, and Sensitivity. It contains three items: Retail Analysis Sample (Report, 3 months ago, My workspace, —, —), Sales and Marketing ... (Dashboard, 30 minutes ago, My workspace, —, —), and Sales and Marketing Sample (Report, 10 days ago, My workspace, —, —).

## Add a dashboard or report as a favorite

1. Open a dashboard or report that you use often. Even content that has been shared with you can be a favorite.
2. From the upper menu bar of the Power BI service, select **Add to Favorites** or the star  icon.



You can also favorite a dashboard or report from anywhere you see the star icon, such as Home, Recent, Apps, and Shared with me.



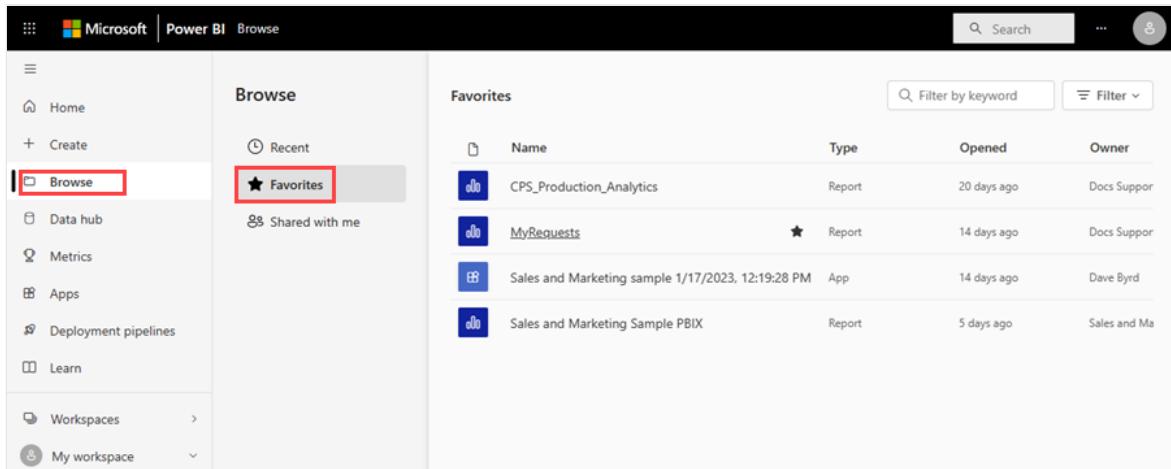
The screenshot shows the Microsoft Power BI Home interface. On the left is a navigation pane with options like Home, Create, Browse, Data hub, Metrics, Apps, Deployment pipelines, Learn, Workspaces, and My workspace. The main area has tabs for Recent, Favorites (which is highlighted with a red box), and My apps. Below these are search and filter tools. The main content area displays a table of items with columns for Name, Type, Opened, Location, Endorsemen, and Sensitivity. One item, "Sales and Marketing ...", has a star icon in its row, which is also highlighted with a red box. A tooltip for this star icon says "Add to Favorites".

Name	Type	Opened	Location	Endorsemen	Sensitivity
My workspace	Workspace	4 days ago	Workspaces	—	—
TSA Dashboards	Workspace	4 days ago	Workspaces	—	—
Sales and Marketin...	Workspace	4 days ago	Workspaces	—	—
Sales and Marketing ...	Report	5 days ago	Sales and Ma...	—	Confidential... ⓘ
Sales and Marketing sample 1/17...	App	13 days ago	Apps	—	—
MyRequests	Report	14 days ago	Docs Support	—	Confidential... ⓘ
CPS_Production_Analytics	Report	20 days ago	Docs Support	—	General ⓘ
TSA Dashboard	Dashboard	26 days ago	TSA Dashboa...	—	Confidential... ⓘ

## Work with favorites

You have several options for viewing your favorites.

1. To see all the content that you've added as favorites, on the Browse pane, click the **Favorites** tab.

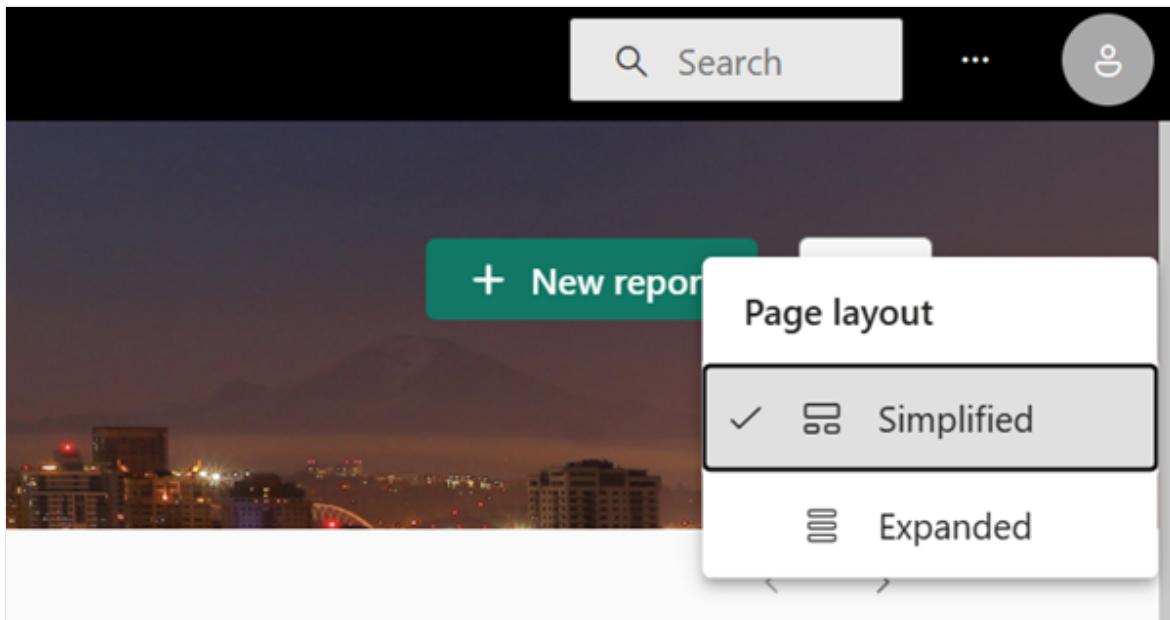


The screenshot shows the Microsoft Power BI Browse pane. On the left is a navigation pane with Home, Create, and Browse selected (highlighted with a red box). The main area has tabs for Recent, Favorites (which is highlighted with a red box), and Shared with me. The right side shows a table of favorites with columns for Name, Type, Opened, and Owner. Items listed include CPS\_Production\_Analytics, MyRequests, Sales and Marketing sample 1/17/2023, 12:19:28 PM, and Sales and Marketing Sample PBIX.

Name	Type	Opened	Owner
CPS_Production_Analytics	Report	20 days ago	Docs Suppor
MyRequests	Report	14 days ago	Docs Suppor
Sales and Marketing sample 1/17/2023, 12:19:28 PM	App	14 days ago	Dave Byrd
Sales and Marketing Sample PBIX	Report	5 days ago	Sales and Ma

From here, you can take action. You can open a favorite, identify owners, and even share favorites with your colleagues.

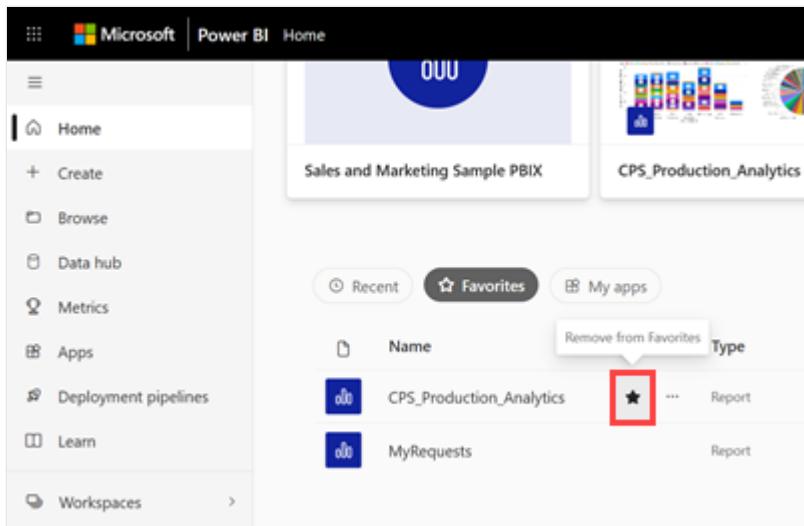
2. Favorites are also available from Power BI Home. If you've selected the **Expanded** display mode, your favorites are listed in the **Favorites + frequent** section. If you've selected the **Simplified** display mode, your favorites are listed in the **Favorites** tab.



A screenshot of the Microsoft Power BI Home page. On the left, there is a sidebar with navigation links such as Home, Create, Browse, Data hub, Metrics, Apps, Deployment pipelines, Learn, Workspaces, and My workspace. The "Workspaces" link has a dropdown arrow indicating it has sub-options. In the center, there is a "Recommended" section with three cards: "You frequently open this" (Sales and Marketing Sample PBIX), "You favorited this" (CPS\_Production\_Analytics), and "Your organization featured this" (Covid-19 US Tracking, Decom Dashboard). Below this, there is a "Favorites" section with tabs for "Recent" and "Favorites" (which is highlighted with a red box). A table lists favorite items: CPS\_Production\_Analytics (Report, opened 20 days ago, location Docs Support, endorsement none, sensitivity General) and MyRequests (Report, opened 14 days ago, location Docs Support, endorsement none, sensitivity Confidential/Micr...).

## Unfavorite content

If you no longer use a report, dashboard, or app as often as you used to, you can unfavorite it. When you unfavorite content, it's removed from your Favorites list but not from Power BI. Just select the black star to turn it back to a white star.



## Considerations and limitations

- When you favorite an app, it automatically favorites all the reports and dashboards for that app. It isn't possible to favorite individual app reports or dashboards.

## Next steps

- Basic concepts for the Power BI service business user
- More questions? Ask the [Power BI Community](#).

# Print from the Power BI service

Article • 12/22/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

Print an entire dashboard, a dashboard tile, a report page, or a report visual from the Power BI service. If your report has more than one page, you need to print each page separately. Printing isn't available from Power BI Desktop.

## Print considerations

Report *designers* create most Power BI dashboards and reports for use online. They look amazing on any device used to view them. However, when it comes time to print the content, you might not get the results you want.

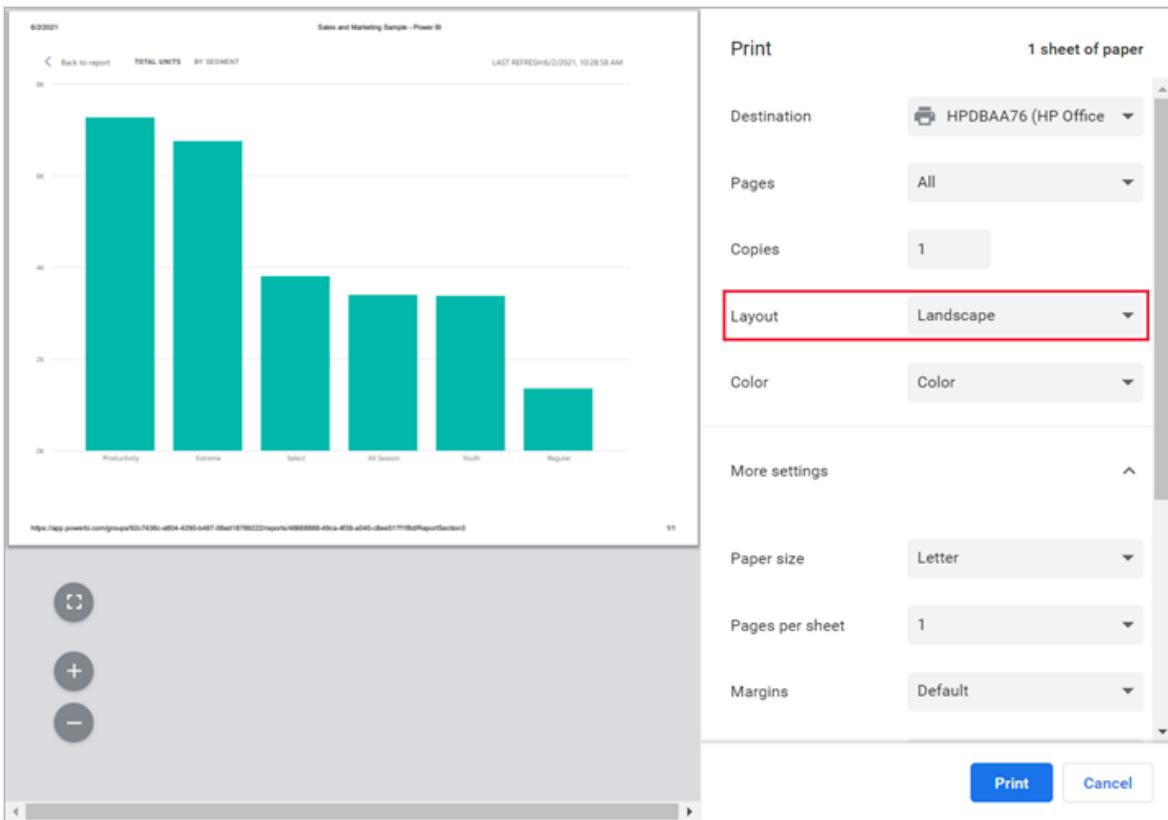
You can make changes to your browser and print settings to adjust the print job. But to ensure your printouts match what you see in your browser, consider [exporting to PDF](#) and then printing the PDF instead.

## Adjust your browser print settings

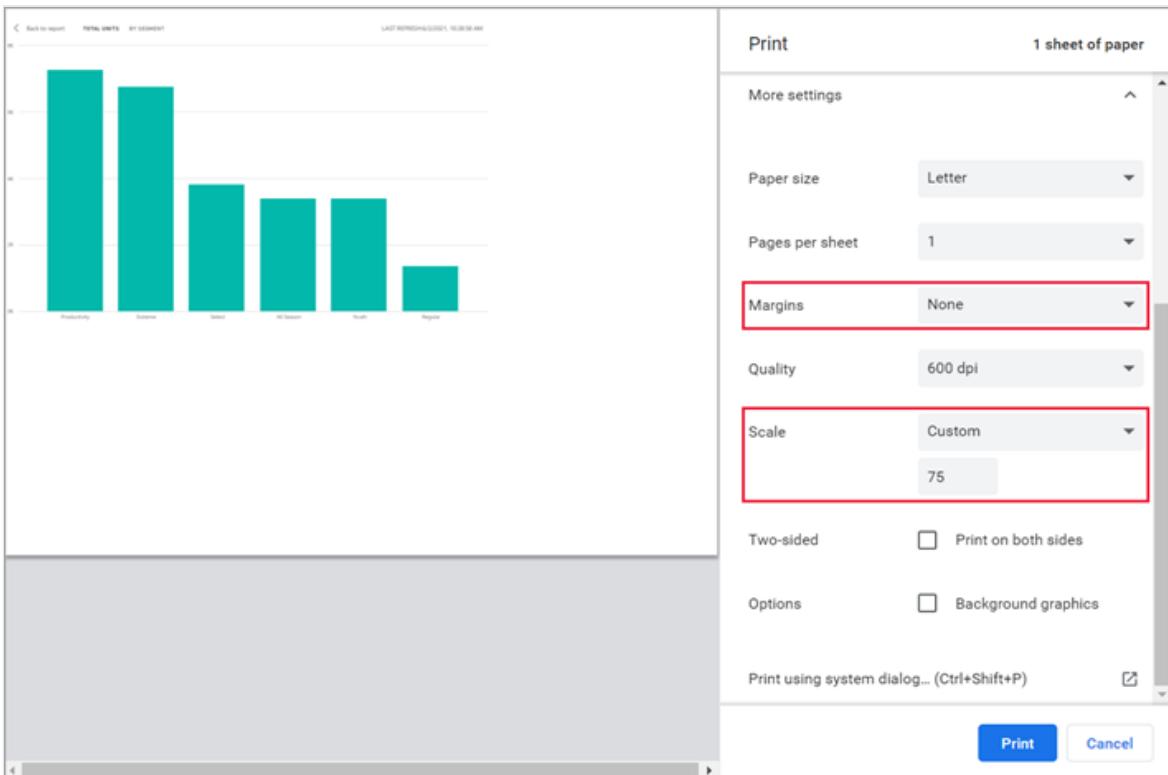
When you print from Power BI, your browser opens a Print window. Every browser has a different Print window, but they all have similar options available to use and control the look of your printout.

Here are a few quick tips you can use to format your printout.

1. Use the **Landscape** layout if your dashboard, report, or visual is wider than it's tall.



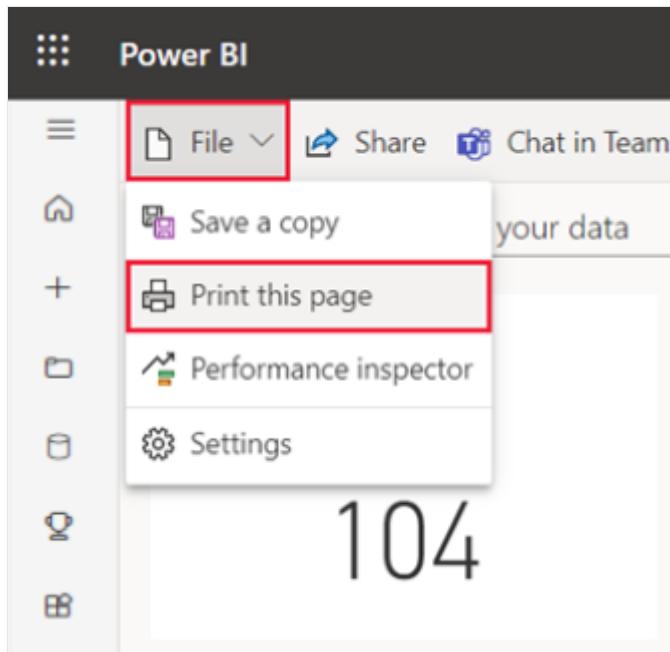
2. Adjust the margins and scale settings to fit more onto a printed page. For example, if your tile doesn't fit on the page, you might want to change the scale to 75%.



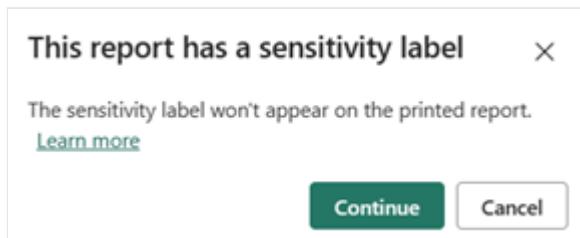
Experiment with your browser's settings until you get the look you like. Some browsers even have options to print background graphics.

# Print a dashboard

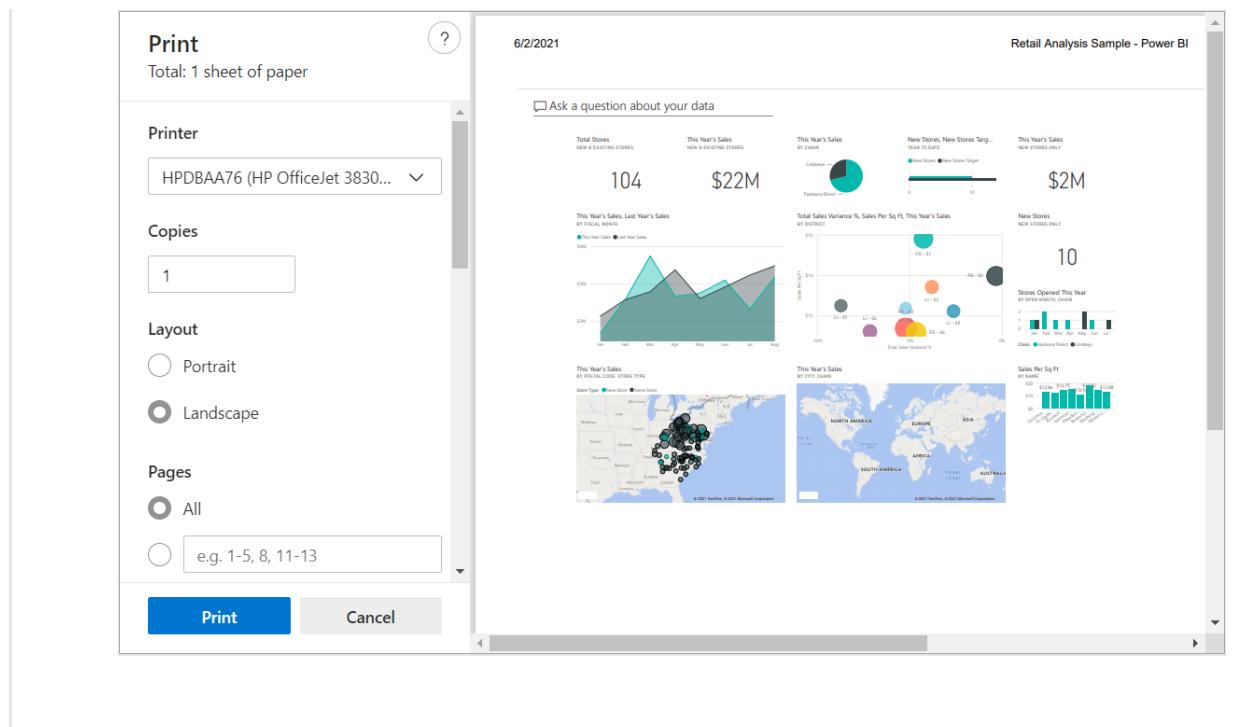
1. Open the dashboard that you'd like to print.
2. In the upper left corner, select **File > Print this page**.



3. If your report has a sensitivity label, decide whether you should print the report or not.



4. Adjust your print settings.
5. Select **Print**.



## Considerations and troubleshooting

Q: Why can't I print all the report pages at once?

A: Report pages can only be printed one page at a time.

Q: Why can't I print to PDF?

A: You have this option only if you already configured the PDF driver in your browser. If you don't see this option, your administrator might have disabled print to PDF.

Q: Why doesn't my browser match the screenshots when I select **Print**?

A: The Print screens vary by browser and software version.

Q: Why am I having scaling and orientation issues (such as incorrect scaling or the dashboard doesn't fit on the page)?

A: We can't guarantee the printed copy is exactly the same as it appears in the Power BI service. Things like scaling, margins, visual details, orientation, and size aren't controlled by Power BI. Try adjusting the print settings for your browser. Some of the print settings we suggest include page orientation (portrait or landscape), margin size, and scale. If these setting adjustments don't help, refer to the documentation for your specific browser.

Q: Why don't I see the print option when I hover over the visual in full screen mode?

A: Go back to the dashboard or report in default view and reopen the visual in Focus mode and then Full screen mode.

## Next step

- Share Power BI reports and dashboard with coworkers and others
- More questions? [Ask the Power BI Community](#)

# See related content in the Power BI service

Article • 11/10/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

The **Related content** pane shows you how your Power BI service content -- dashboards, reports, and semantic models -- are interconnected. The **Related content** pane is also a launching pad for taking action. From here you can do things like open a dashboard, open a report, generate insights, analyze the data in Excel, and more.

In the Power BI service, reports are built on semantic models, report visuals are pinned to dashboards, and dashboard visuals link back to reports. But how do you know which dashboards are hosting visuals from your Marketing report? And how do you locate those dashboards? Is your Procurement dashboard using visuals from more than one semantic model? If so, what are they named and how can you open and edit them? Is your HR semantic model being used in any reports or dashboards at all? Or, can it be moved without causing any broken links? Questions like these can be answered on the **Related content** pane. Not only does the pane display the related content, it also allows you to take action on the content and easily navigate between the related content.

The screenshot shows the Power BI service interface with the 'Sales and Marketing Sample' workspace selected. On the left, there's a sidebar with navigation links: Home, Create, Browse, Data hub, Metrics, Apps, Knowledge center, Workspaces, and My workspace. The main area displays three visualizations: 'Total Volume IN 2014' (50K), 'Market Share LAST 12 MONTHS' (32.86%), and 'Our Total Volume IN 2014' (16K). A 'Related content' pane is open on the right, titled 'Sales and Marketing Sample'. It contains sections for 'My workspace', 'REPORTS', 'DATASETS', and a note about the last refresh. The 'REPORTS' section lists two reports, each with a preview icon, edit icon, and delete icon. The 'DATASETS' section lists one dataset with similar icons. At the bottom of the pane are 'Show in lineage view' and 'Close' buttons.

## Note

The related content feature does not work for streaming semantic models.

## See related content for a dashboard or report

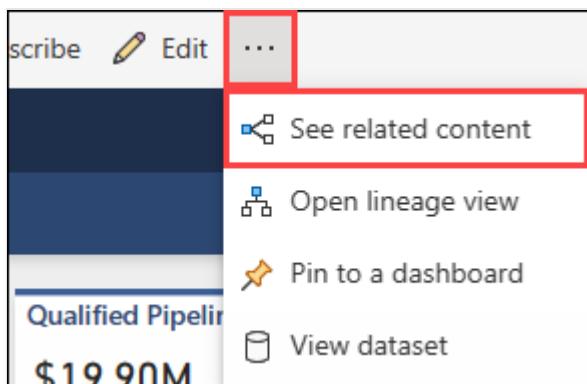
In the following video, watch Will view related content for a dashboard. Then follow the step-by-step instructions after the video to try it out yourself with the Sales and Marketing Sample.

### ⓘ Note

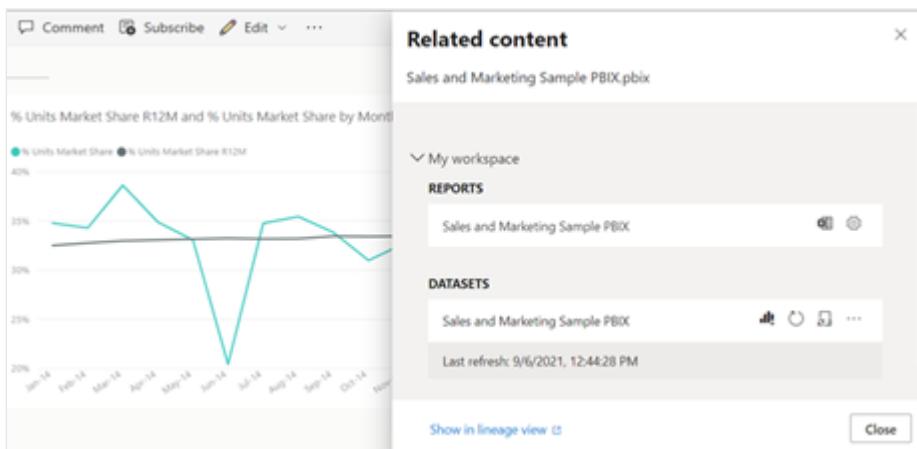
This video might use earlier versions of Power BI Desktop or the Power BI service.

<https://www.youtube-nocookie.com/embed/B2vd4MQrz4M#t=3m05s> ↗

With a dashboard or report open, select **More options (...)** in the menu bar, and choose **See related content** from the dropdown.



The **Related content** pane opens. For a dashboard, it shows all the reports that have visualizations pinned to the dashboard and their associated semantic models. For this dashboard, there are visualizations pinned from only one report and that report is based on only one semantic model. If you look at the image at the beginning of this article, you'll see related content for a dashboard that has visualizations pinned from two reports, and one semantic model.



From here, you can take direct action on the related content, depending on your permissions. For example, select a report or dashboard name to open it. For a listed report, select an icon to open and edit the settings for the report, [get insights](#), and more. For a semantic model, review the last refresh date and time, [analyze in Excel](#), [get insights](#), refresh, and more.

## Considerations and limitations

- If you don't see "See related", look for the icon instead  . Select the icon to open the **Related content** pane.
- To open related content for a report, you need to be in [Reading view](#).
- The related content feature doesn't work for streaming datasets.

## Next steps

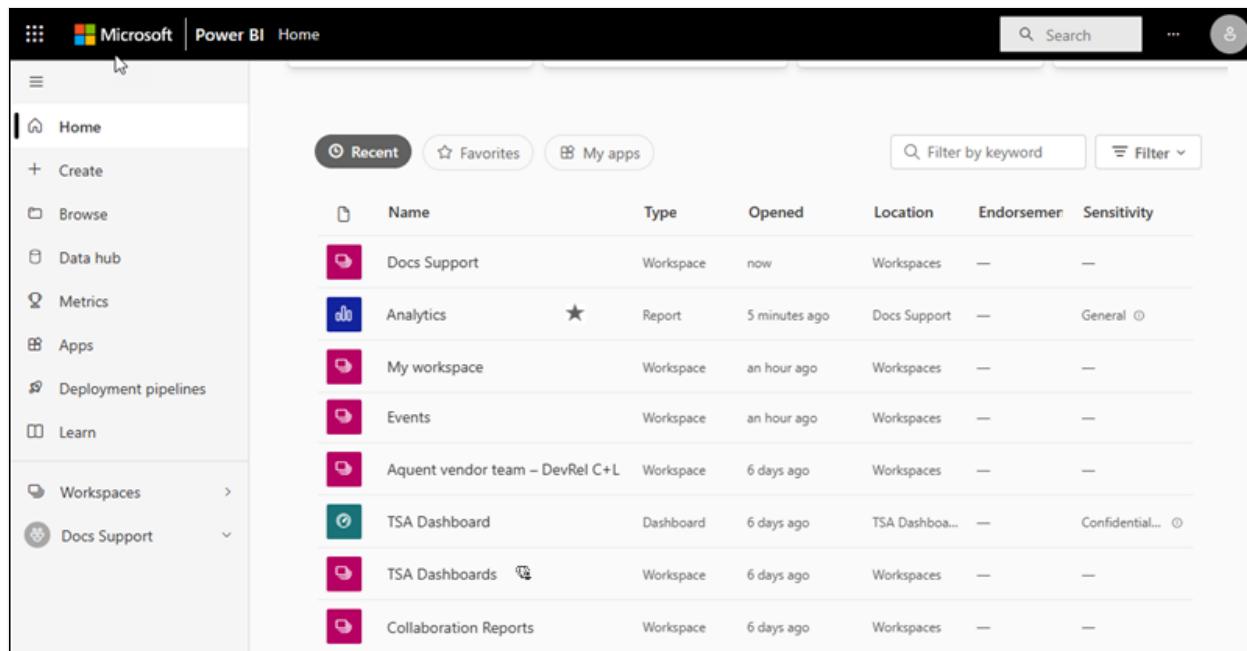
- [Tutorial: Get started creating in the Power BI service](#)
- More questions? [Ask the Power BI Community](#) ↗

# Recent content in the Power BI service

Article • 11/10/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

**Recent** content contains the last items you visited in the Power BI service. Recent content includes: dashboards, reports, apps, semantic models, workspaces, and workbooks. When you select **Recent** on the Home pane, Power BI displays this content in descending order by date. To change the sort order, select one of the headings and choose ascending or descending.



The screenshot shows the Microsoft Power BI service interface. On the left is a navigation sidebar with options like Home, Create, Browse, Data hub, Metrics, Apps, Deployment pipelines, Learn, Workspaces (with a dropdown for 'Docs Support'), and Docs Support. The main area has tabs for 'Recent', 'Favorites', and 'My apps'. Below is a table titled 'Recent' with columns: Name, Type, Opened, Location, Endorsement, and Sensitivity. The table lists several items:

Name	Type	Opened	Location	Endorsement	Sensitivity
Docs Support	Workspace	now	Workspaces	—	—
Analytics	Report	5 minutes ago	Docs Support	—	General ⓘ
My workspace	Workspace	an hour ago	Workspaces	—	—
Events	Workspace	an hour ago	Workspaces	—	—
Aquent vendor team – DevRel C + L	Workspace	6 days ago	Workspaces	—	—
TSA Dashboard	Dashboard	6 days ago	TSA Dashbo...	—	Confidential... ⓘ
TSA Dashboards	Workspace	6 days ago	Workspaces	—	—
Collaboration Reports	Workspace	6 days ago	Workspaces	—	—

Any items that are marked as **favorites** have a star icon ★, while items that are stored in **Premium capacity** have a diamond icon ⚙️.

## Search and sort your list of recent content

If your lists get long, use the **Filter by keyword** field, **Filter** button, and column sorting function to find what you need.

- Enter a keyword into the **Filter by keyword** field to show only recent content that includes that keyword.
- Use the Filter drop-down to sort your content according to the value of the **Type**, **Opened**, or **Endorsement** column.
- Click a column heading to display a sorting arrow. In this example, hovering over **Location** reveals an arrow —recent content can be sorted alphabetically by

location content type.

Recent content		
Location ↑	Endorsement	Sensitivity
Docs Support	—	General ⓘ
TSA Dashboa...	—	Confidential... ⓘ
Workspaces	—	—
Workspaces	—	—

In the following video, watch Amanda demonstrate some of the features for navigating your content in the Power BI service.

 **Note**

This video uses earlier versions of Power BI Desktop and Power BI service.

<https://www.youtube-nocookie.com/embed/G26dr2PsEpk> ↗

## Actions available from the Recent content list

The actions available to you depend on the settings assigned by the content designer. Some of your options might include:

- Select the star icon to [favorite a dashboard, report, or app](#) .
- Some dashboards and reports can be reshared .
- [View insights](#) that Power BI finds in the report data .

## Next steps

- Learn about [Power BI service apps](#).
- More questions? [Ask the Power BI Community](#) ↗.

# Navigation for Power BI business users: global search

Article • 12/22/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

When you're new to the Power BI service, you have only a few pieces of content (dashboards, reports, apps). But as colleagues begin sharing content with you and you begin downloading apps, you can end up with long lists of content. That's when you find searching and sorting helpful.

## Search for content

Search is available from almost every part of the Power BI service. Just look for the



search box or search icon.

In the **Search** field, type all or part of the name of a dashboard, report, workbook, workspace, app, or owner. Power BI searches all of your content.

A screenshot of the Power BI service interface. At the top, there is a dark navigation bar with a search bar containing the text "Sales". Below the search bar, there are several icons: a bell, gear, download, help, smiley face, and a user profile picture. The main content area shows a list of search results for "Sales". The results include: "Sales and Marketing" (with a document icon), "Sales and Marketing sample 11/" (with a document icon), "Sales and Marketing Sample from Workspace: Sales and Marketing" (with a document icon), "Marketing and sales from App: Sales and Marketing sampl..." (with a document icon), and "Marketing and sales from Workspace: Sales and Marketing..." (with a document icon). A green button labeled "+ New report" is visible. To the right, there is a sidebar with a message: "You frequently open t..." followed by a large grayed-out area. At the bottom left of the main content area, there is a link "See more results for Sales".

Sales

Sales and Marketing

Sales and Marketing sample 11/...

Sales and Marketing Sample from Workspace: Sales and Marketing

Marketing and sales from App: Sales and Marketing sampl...

Marketing and sales from Workspace: Sales and Marketing...

+ New report

You frequently open t...

See more results for Sales

In some Power BI areas, such as workspaces, you find two different **Search** fields. The **Search** field in the menu bar searches all of your content while the **Search** field on the workspace canvas searches only that workspace.

The screenshot shows the Power BI interface with a workspace titled "test". At the top, there is a search bar with the placeholder "Search" and a red box highlighting it. To the right of the search bar, there is a trial status message "Trial: 59 days left" and a user profile icon. Below the search bar, there is a navigation bar with icons for Home, Create, Browse, Workspaces, and a gear icon. The main content area displays a list of items with columns for Name, Type, Owner, and Refreshed. A red box highlights the "Filter by keyword" input field and the "Filter" button.

Name	Type	Owner	Refreshed
Human Resources Sample	Dashboard	test	—

### ⓘ Note

Search is disabled for **B2B guest users**. If a guest user enters a search term, no results are shown.

## Sort content lists

If you have only a few pieces of content, sorting isn't necessary. But when you have long lists of dashboards and reports, sorting helps you find what you need. For example, this **Shared with me** content list has many items.

The screenshot shows the Power BI "Browse" page. On the left, there is a sidebar with icons for Home, Create, Browse, Data hub, Metrics, Apps, Deployment pipelines, and Learn. The "Browse" section is expanded, showing "Recent", "Favorites", and "Shared with me", with "Shared with me" highlighted by a red box. The main content area is titled "Shared with me" and contains a table of items. A red box highlights the "Name" column header, which has a downward arrow indicating it can be sorted. The table includes columns for Name, Type, Shared, and Owner. The items listed are: Usage Metrics Report (Report, Sales and Marketing), Sales and Marketing Sample PBIX (Report, Sales and Marketing), Sales and Marketing Sample (Dashboard, Sales and Marketing), Sales and Marketing Sample (Report, Sales and Marketing), Report Usage Metrics Report (Report, Sales and Marketing), Report Usage Metrics Report (Report, Mark 8 Project Team), and Operations Usage Metrics (Report, Mark 8 Project Team).

Name	Type	Shared	Owner
Usage Metrics Report	Report	10/25/22, 1:24:56 PM	Sales and Marketing
Sales and Marketing Sample PBIX	Report	11/3/22, 10:56:15 AM	Sales and Marketing
Sales and Marketing Sample	Dashboard	11/11/22, 11:22:57 AM	Sales and Marketing
Sales and Marketing Sample	Report	11/11/22, 11:22:57 AM	Sales and Marketing
Report Usage Metrics Report	Report	10/25/22, 1:24:56 PM	Sales and Marketing
Report Usage Metrics Report	Report	10/25/22, 1:24:56 PM	Mark 8 Project Team
Operations Usage Metrics	Report	10/25/22, 1:24:56 PM	Mark 8 Project Team

Right now, this content list is sorted alphabetical by name, from Z to A. To change the sort criteria, select the arrow to the right of **Name**.

	Name	
	Usage Metrics Report	
	Sales and Marketing Sample PBIX	
	Sales and Marketing Sample	
	Sales and Marketing Sample	
	Report Usage Metrics Report	
	Report Usage Metrics Report	
	Operations Usage Metrics	

Sorting is also available in workspaces. In this example, the content is sorted by the **Refreshed** date. To set sorting criteria for workspaces, select a column header, and then select again to change the sorting direction.

All	Name	Type	Owner	Refreshed	Next refresh	Endorsement	Sensitivity
	Sales and Marketing Sample	Report	Sales and Marketing	11/11/22, 11:22:57 AM	—	—	—
	Sales and Marketing Sample	Dataset	Sales and Marketing	11/11/22, 11:22:57 AM	N/A	—	—
	Contoso Q2 Division Sales	Dataset	Sales and Marketing	9/20/19, 9:02:41 PM	N/A	—	—
	Sales	Dataset	Sales and Marketing	9/20/19, 9:02:18 PM	N/A	—	—
	Sales and Marketing Sample	Dashboard	Sales and Marketing	—	—	—	—

Not all columns can be sorted. Hover over the column headings to discover which can be sorted.

## Filter content lists

Another way to locate content quickly is to use the content list **Filter**. Display the filters by selecting **Filter** from the upper right corner. The filters available depend on your location in the Power BI service. This example is from a **Recent** content list. It allows you to filter the list by content **Type**, **Time**, or **Owner**.

The screenshot shows the Power BI service interface with the 'Recent' content list. At the top, there is a search bar labeled 'Search' and several icons: a bell, a gear, a download arrow, a question mark, and a user profile. Below the header, there is a 'Filter by keyword' search bar and a red-bordered 'Filter' button. A dropdown menu titled 'Filter' is open, containing the following options:

- Reset all filters
- Type
  - Workspace (selected)
  - Dashboard
  - App
  - Dataset
  - Report
- Time
- Owner

## Limitations

- Search isn't enabled for B2B users
- Search currently supports only English characters
- Global search is currently supported only in Public cloud

## Next step

- Change how a chart is sorted in a Power BI report
- More questions? [Ask the Power BI Community](#)

# Opt in for Power BI service preview features

Article • 10/25/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

## What are *preview features*?

As we make improvements to the Power BI service, we'll release some new functionality as *preview features*. Preview features can be turned on and off, giving you the opportunity to try them out.

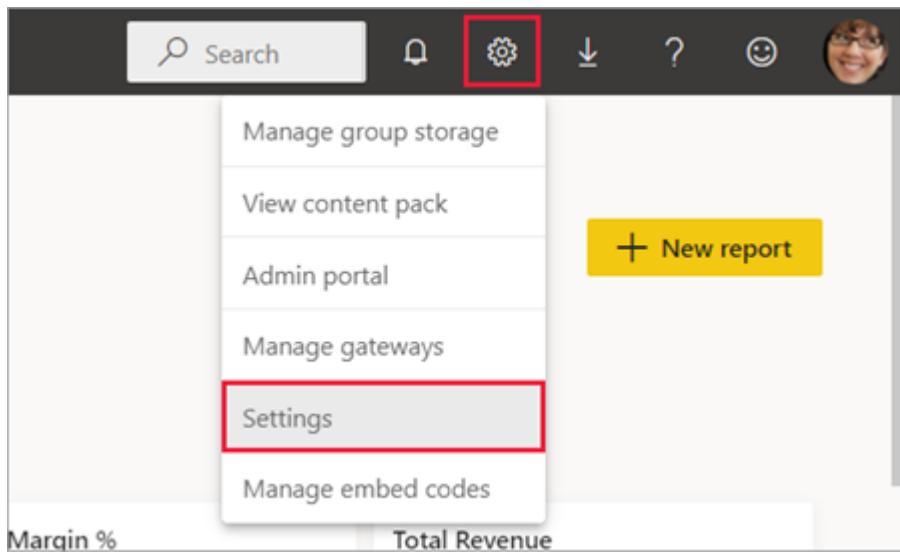
Some preview features can be toggled on and off from your Power BI dashboard, Home, or report itself. While other preview features are made available from your *Settings* menu. This article shows you how to access preview features via the Settings menu.

Preview features come with some disclaimers. Preview features:

- Aren't meant for production use.
- Aren't supported by Microsoft Support for production use. Microsoft Support is, however, eager to get your feedback on the preview functionality, and might provide best-effort support in certain cases.
- May have limited or restricted functionality.
- May not be available in all geographic areas.

## Find previews and turn them on (and off)

1. Open your Settings menu by selecting the gear icon in the upper-right corner of your Power BI screen and choosing **Settings**.



2. Select the **General** tab. If previews exist, you'll either see an option for **Preview features** or you'll see a preview feature listed on the left.
3. Select the **On** radio button, or mark the checkbox, to try out the new experience. Then select **Apply**.
4. To turn off preview features, follow steps 1-3 above, and in step 3, choose **Off**, or remove the checkmark, and select **Apply**.

Have questions or feedback? [Visit the Power BI community forum ↗](#).

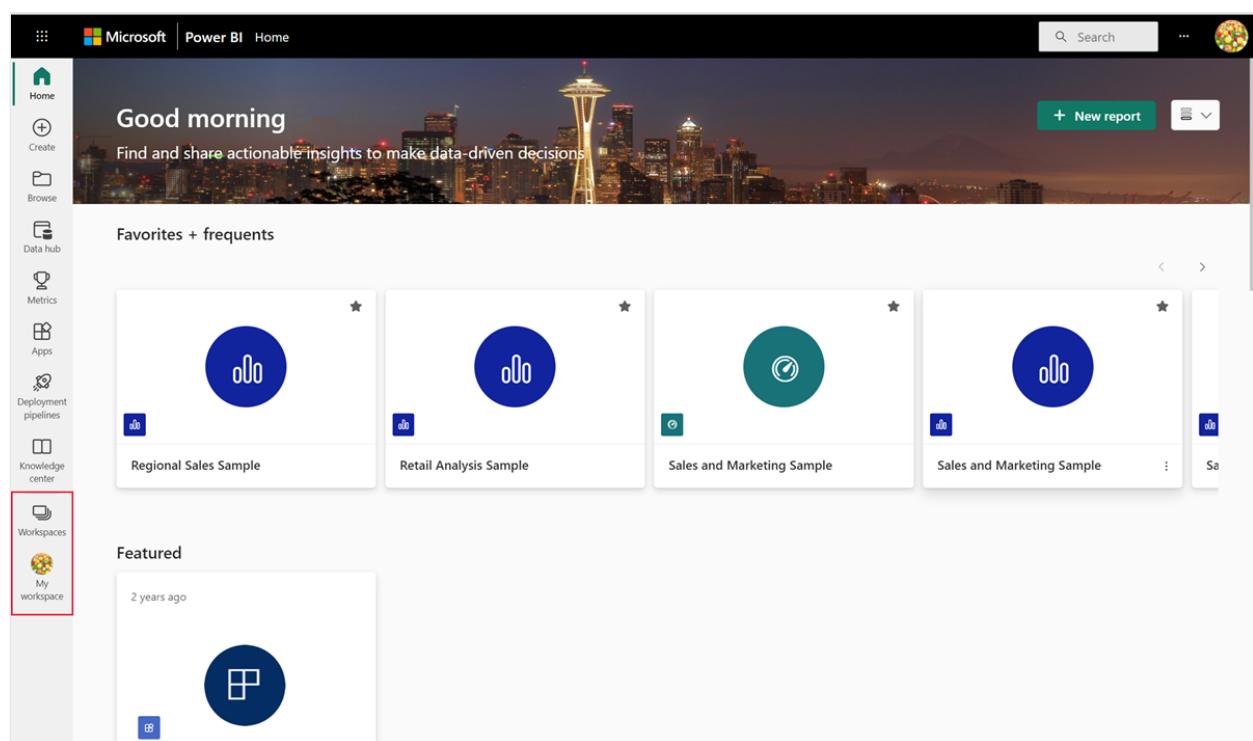
# Collaborate in workspaces

Article • 01/13/2023

*Workspaces* are places to collaborate with colleagues on specific content. Workspaces are created by Power BI *designers* to hold collections of dashboards and reports. The designer can then share the workspace with colleagues. Designers can also bundle a collection of dashboards and reports into an *app* and distribute it to the entire community, to their organization, or to specific people or groups. Certain types of apps, called *template apps*, create a workspace when the app is installed. [Learn more about apps.](#)

Everyone using the Power BI service also has a **My workspace**. My workspace is your personal sandbox where you can create content for yourself.

You can see your workspaces in Power BI by selecting **Workspaces** from your navigation pane.



## Types of workspaces

My **Workspace** stores all the content that you own and create. Think of it as your personal sandbox or work area for your own content. For many Power BI *business users*, **My workspace** remains empty because your job doesn't involve creating new content. *Business users*, by definition, consume data created by others and use that data to make business decisions. If you find that you're creating content, consider reading [the Power BI articles for designers](#) instead.

**Workspaces** contain all the content for a specific app. When a *designer* creates an app, they bundle together all the content that's necessary for that app to be utilized. Content might include dashboards, reports, and datasets. Not every app will contain these three pieces of content. An app might contain only one dashboard, or three of each content type, or even 20 reports. It all depends on what the *designer* includes in the app. Commonly, app workspaces shared with *business users* don't include the datasets.

The following **Azure Decom** workspace contains several reports and a dashboard.

The screenshot shows the Microsoft Power BI workspace interface. On the left, there is a sidebar with various navigation options: Home, Create, Browse, Data Hub, Metrics, Apps, Department pipelines, Knowledge center, Workspaces, and Azure Decom. The 'Azure Decom' option is highlighted with a red box. Below the sidebar is a search bar labeled 'Search'. The main area is titled 'Workspaces' and shows a list of workspaces. One workspace, 'Azure Decom', is also highlighted with a red box. To the right of the workspace list is a table showing the details of the workspace content:

Type	Owner	Refreshed	Next refresh	Endorsement	Sensitivity
Report	Azure Decom	12/27/22, 11:07:00 AM	—	—	Highly Confidential\
Report	Azure Decom	1/6/21, 6:31:19 PM	—	—	Confidential\Micros
Report	Azure Decom	1/6/21, 6:27:52 PM	—	—	Confidential\Micros
Dashboard	Azure Decom	—	—	—	Confidential\Micros
Report	Azure Decom	12/28/22, 10:07:37 AM	—	—	General \O
Report	Azure Decom	12/15/22, 7:55:20 PM	—	—	General \O
Report	Azure Decom	12/27/22, 9:06:56 PM	—	—	Confidential\Micros
Report	Azure Decom	12/27/22, 7:05:29 PM	—	—	Confidential\Micros

## Permissions in the workspaces

Access permissions determine what you can do in a workspace, so teams can collaborate. When *designers* grant access to a workspace, they add individuals or groups to one of the workspace roles: **Viewer**, **Member**, **Contributor**, or **Admin**.

As a Power BI *business user*, you'll typically interact in workspaces using the **Viewer** role. But a *designer* could also assign you to the **Member** or **Contributor** role. The **Viewer** role lets you view and interact with content (dashboards, reports, apps) created by others and shared with you. And because the **Viewer** role can't access the underlying dataset, it's a safe way to interact with content and not have to worry that you'll "hurt" the underlying data.

For a detailed list of what you can do as a *business user* with the **Viewer** role, see [Power BI features for business users](#).

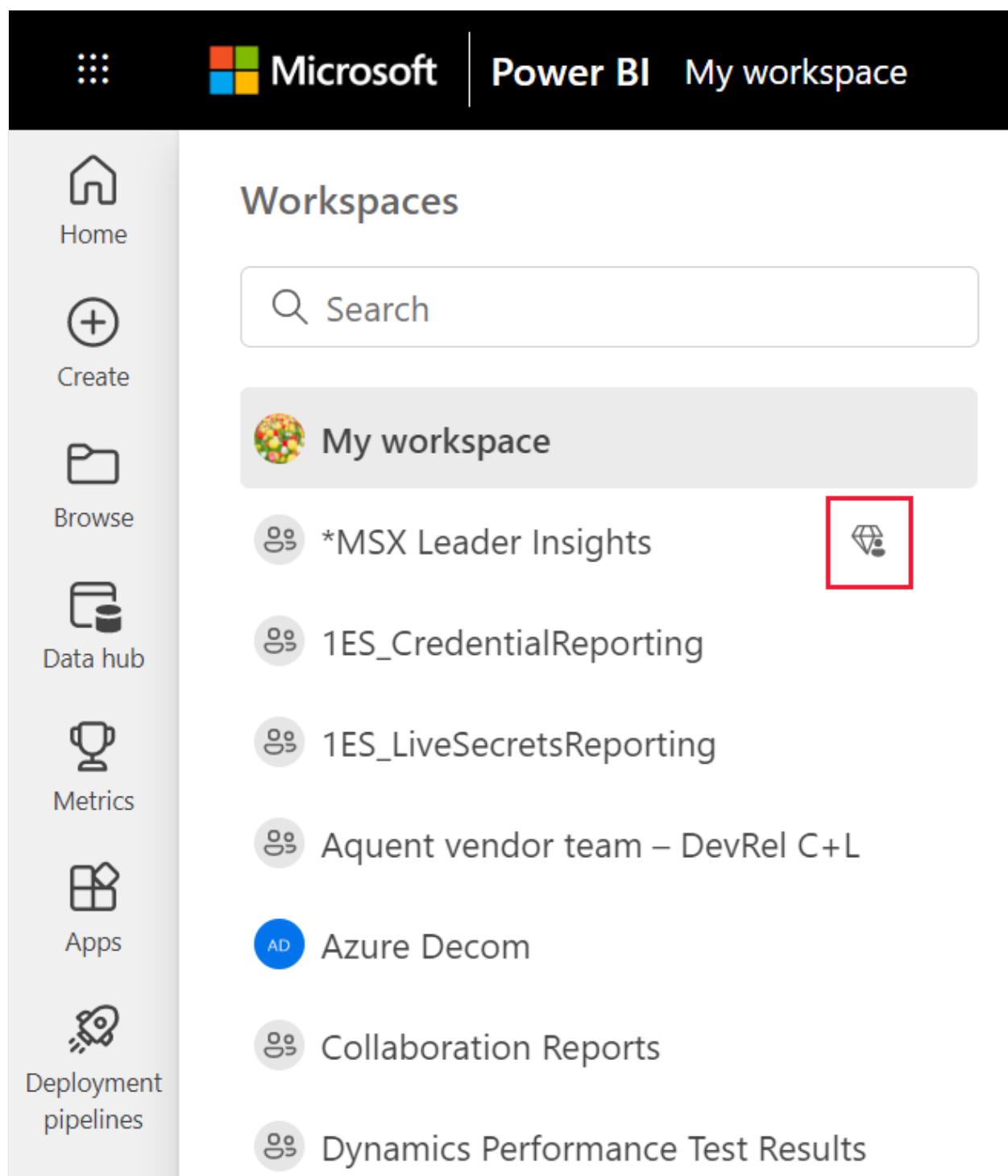
For a detailed list of all four roles and their capabilities, see [Workspace roles](#).

# Licensing, workspaces, and capacity

Licensing also plays a part in determining what you can and can't do in a workspace. Many features require the user to have a Power BI Pro or Premium Per User (PPU) license or for the workspace to be stored in Premium capacity.

Often, *business users* work with a free license. [Learn more about licensing](#). If the content isn't stored in Premium capacity, the business user won't have access.

If the workspace is stored in Premium capacity, *business users* will be able to view and interact with the content in that workspace. This icon  identifies Premium workspaces. This icon  identifies Premium Per User workspaces.



The screenshot shows the Microsoft Power BI interface. At the top, there's a navigation bar with the Microsoft logo, 'Power BI', and 'My workspace'. On the left, a sidebar lists navigation options: Home (with a house icon), Create (with a plus icon), Browse (with a folder icon), Data hub (with a document and database icon), Metrics (with a trophy icon), Apps (with a grid icon), and Deployment pipelines (with a rocket icon). The main area is titled 'Workspaces' and contains a search bar. Below it, a list of workspaces is shown:

- My workspace (highlighted with a red box)
- \*MSX Leader Insights
- 1ES\_CredentialReporting
- 1ES\_LiveSecretsReporting
- Aquent vendor team – DevRel C+L
- Azure Decom (marked with an AD badge)
- Collaboration Reports
- Dynamics Performance Test Results

Knowledge center

Workspaces

My workspace

Events

FY22 Adv Spec Tracker

MSX Insights PRD

Next Best Workload

SMC Analytical Framework

Solutions [DataverseADL]

TSA Dashboards

+ New workspace

To learn more, see [Which license do I have?](#).

## Next steps

- Apps in Power BI
- Questions? [Try asking the Power BI Community](#) ↗

# Apps in Power BI

Article • 03/17/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

## What is a Power BI app?

Power BI designers create official packaged content, then distribute the content to a broad audience organized as an *app*. Apps are created in workspaces where members can collaborate on Power BI content with their colleagues. They publish the finished app to individuals, large groups of people in an organization, or an entire organization. An app can have permissions that are different than the permissions set on a workspace. This capability makes it easier for designers to manage permissions on an app.

An app combines related content, like dashboards, spreadsheets, datasets, and reports, all in one place. An app has one or more of each content type bundled together. There are many ways a designer can share an app. You can learn more about how apps are shared in the [Get a new app](#) section below.

There's a unique type of app called a [template app](#). A Power BI Pro or Premium Per User license is required to install, customize, and distribute a template app. Power BI partners use the content from template apps to build and package analytical data into a new app. They then deploy that app to other Power BI tenants through an available platform, like AppSource or their own web service.

## App designers and app users

Depending on your role, you might be a designer who creates apps for your own use or to share with colleagues. Or, you might be a business user who receives and downloads apps created by others. The resources in this article are for business users.

Viewing and opening an app requires certain permissions. The recipient must have a Power BI Pro or Premium Per User (PPU) license, or the app must be shared with the recipient in a type of cloud storage called **Premium capacity**. To learn more about licenses and Premium capacity, see [Licensing for the Power BI service](#).

## Advantages of apps

Apps are an easy way for designers to share many types of content at one time. App designers create dashboards and reports and then bundle them together into an app. The designers share or publish the app to a location where you, the business user, can access it. It's easier to find and install content in the [Power BI service](#) or on your mobile device when it's organized together as an app. After you install an app, you don't have to remember the names of several dashboards or reports because they're all together in one app. You can easily access the app in your browser or on your mobile device.

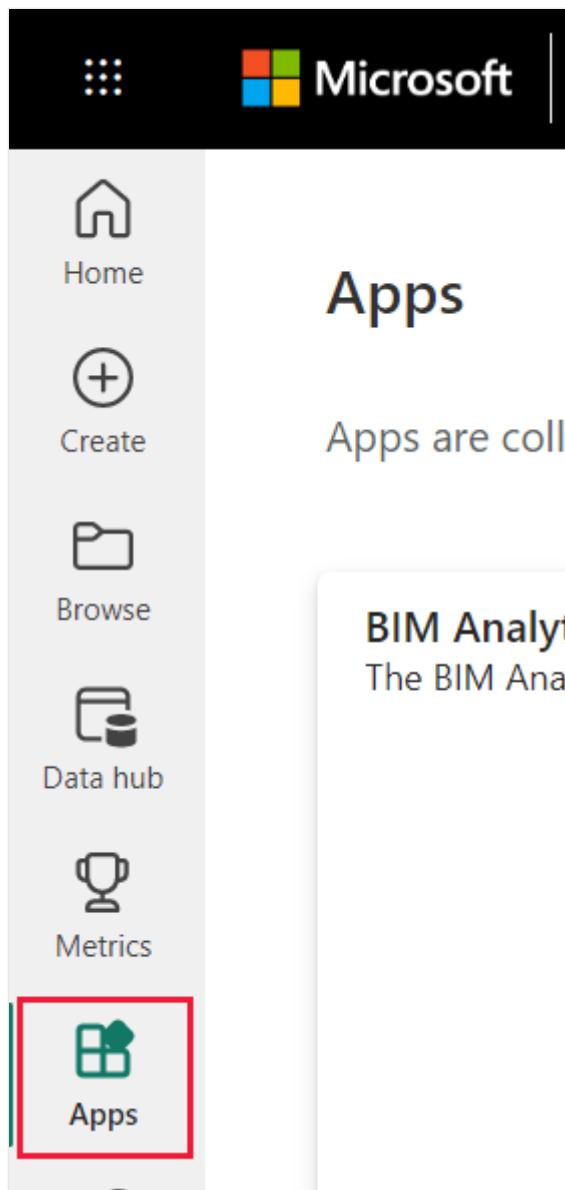
When the app author releases updates, you get a notification or you automatically see the changes. The author controls how often the data is scheduled to refresh, so you don't need to worry about keeping it up to date.

## Get a new app

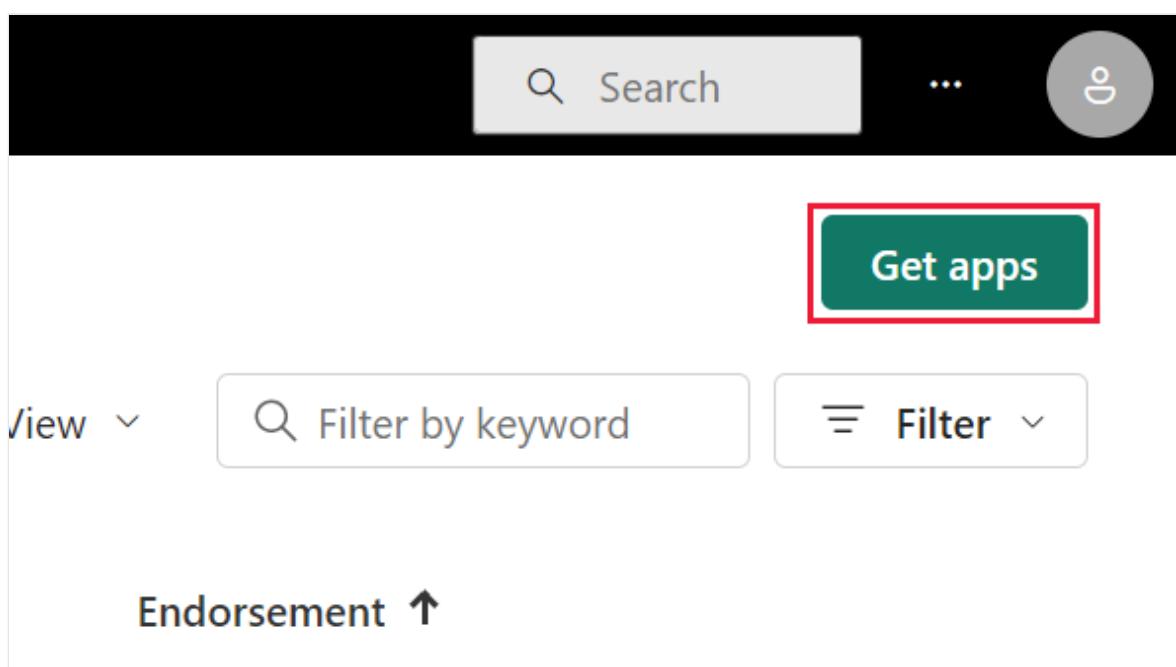
There are several ways to get a new app. You can search, find, and install apps in the apps marketplace, or app designers can share apps with you.

### Find and install apps from the Power BI apps marketplace

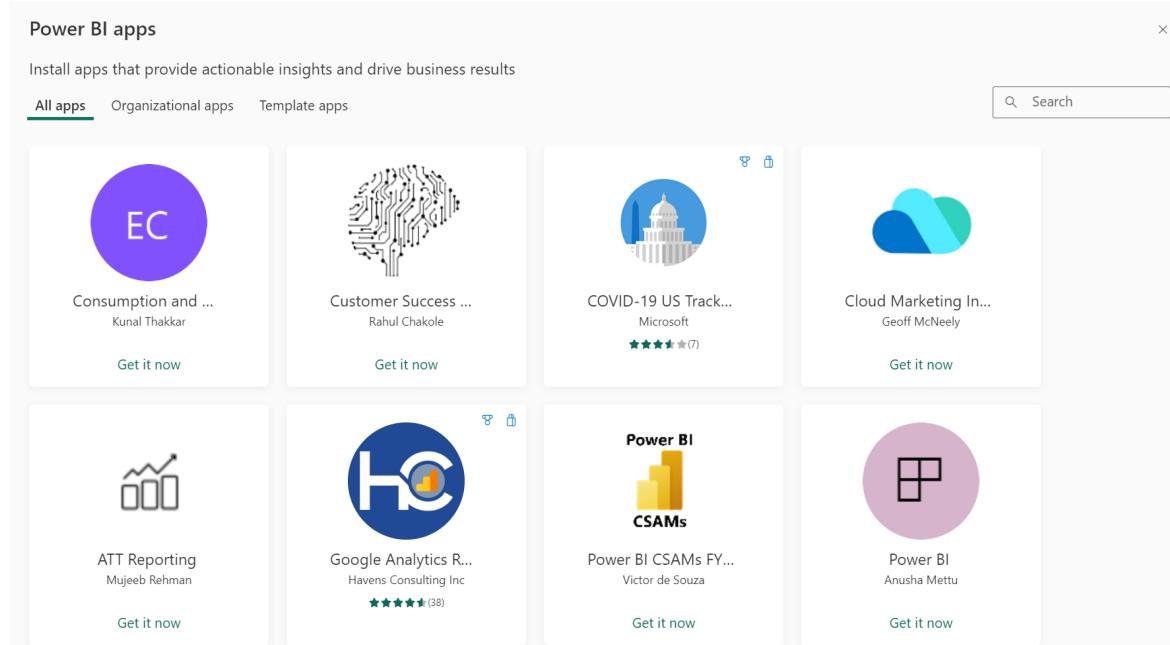
1. To find apps in the apps marketplace, select **Apps** on your navigation pane.



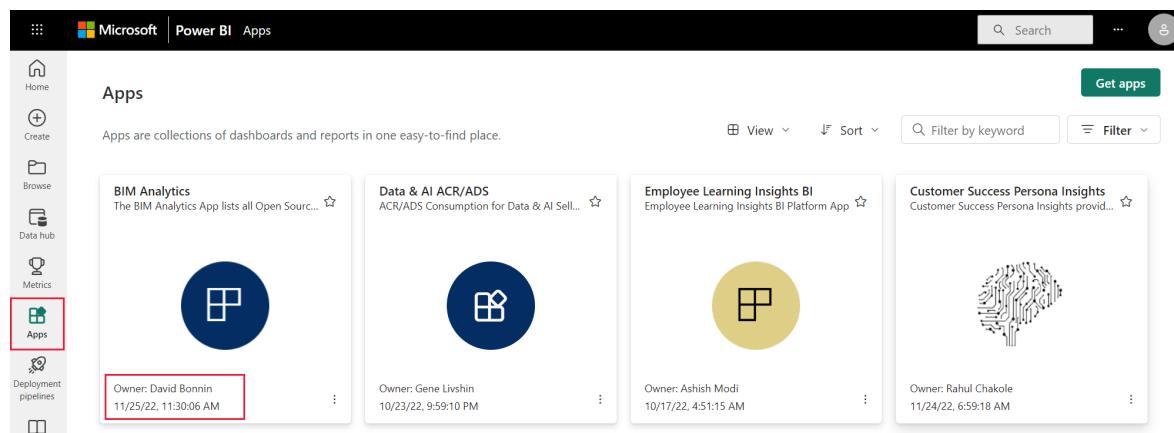
2. On the Apps page, select **Get apps**.



3. Browse through the list of apps in the Power BI apps marketplace until you find one to install. **Organizational apps** are only available to people in your company. **Template apps** are published by Microsoft and the community, and they're available for any Power BI user with a Pro license to install.



4. After you install an app, it's available in your **Apps** content list. Select **Apps** in the navigation pane to display your apps. The last updated date and the owner are on the bottom of each app card.



For detailed step-by-step instructions for getting and exploring an app, see [Install and use apps with dashboards and reports in Power BI](#).

There are a few other ways to get apps. Some of these ways are listed below.

- The app designer can install the app automatically in your Power BI account. The next time you open the Power BI service, the new app is in your Apps content list.
- The app designer can email you a direct link to an app. Selecting the link opens the app in the Power BI service.

- In Power BI on your mobile device, you can only install an app from a direct link, and not from the apps marketplace. If the app author installs the app automatically, it's available in your list of apps.

## Next steps

- [Install and use apps with dashboards and reports in Power BI](#)
- [Other ways to share content](#)

# Install and use apps with dashboards and reports in Power BI

Article • 11/07/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

Now that you have a [basic understanding of apps](#), you can learn how to open and interact with them.

## Ways to get a new app

You can get a new app:

- From the Power BI apps marketplace in the Power BI service.
- By using a direct link to an app that you receive from the app designer.
- When an app designer in your organization installs the app automatically in your Power BI account.

With Power BI mobile, you can only install an app from a direct link. The Power BI apps marketplace isn't available in Power BI mobile. If the app designer installs the app automatically, you'll see it in your list of apps.

## Apps and licenses

Not all Power BI users can view and interact with apps. If you have a free license, you can open apps that are stored in Premium capacity and that are shared with you. If you have a Pro license or a Premium Per User license, you can open apps that are shared with you.

So, if you can't open an app, contact your administrator or help desk. For information about licensing, see [Power BI licensing](#).

## Get the app from the Power BI apps marketplace

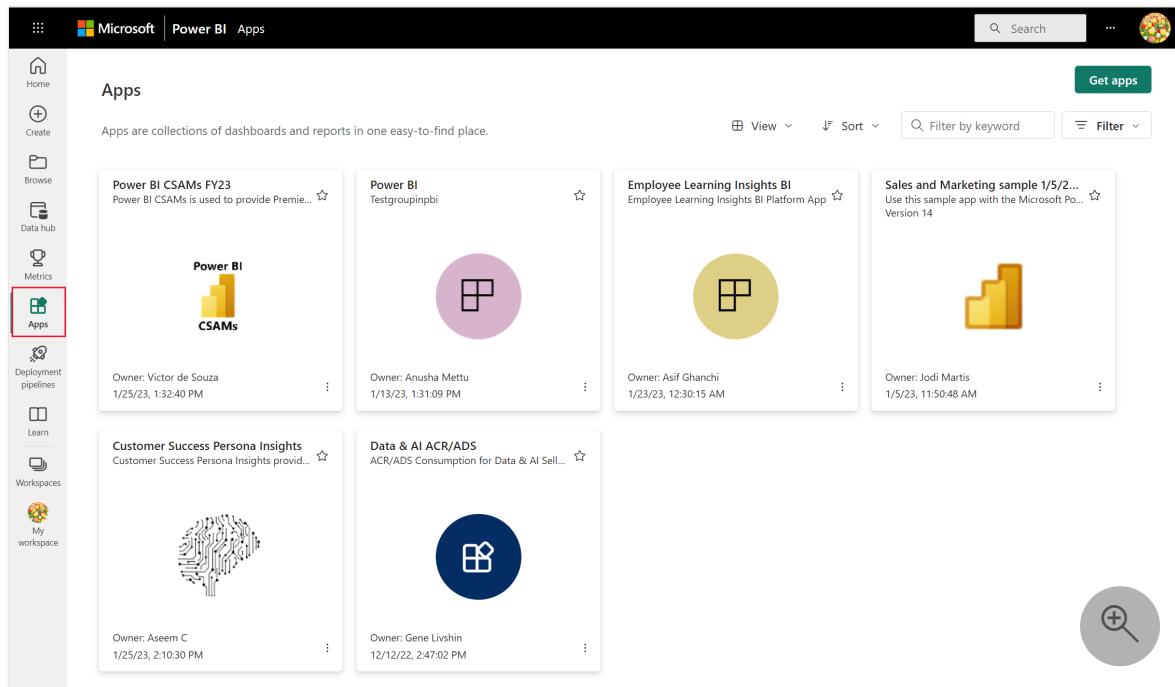
You can find and install apps from the Power BI apps marketplace. In the apps marketplace, you'll find both organizational apps and template apps.

- An *organizational app* is available to Power BI users in your organization. These apps also include pre-built dashboards and reports that you can use as-is or customize and share. Your organization might have apps for things like tracking sales, measuring performance, or analyzing hiring success.
- A *template app* comes with pre-built dashboards and reports that you can use to connect to many of the services you use to run your business, such as SalesForce, Microsoft Dynamics, and Google Analytics.

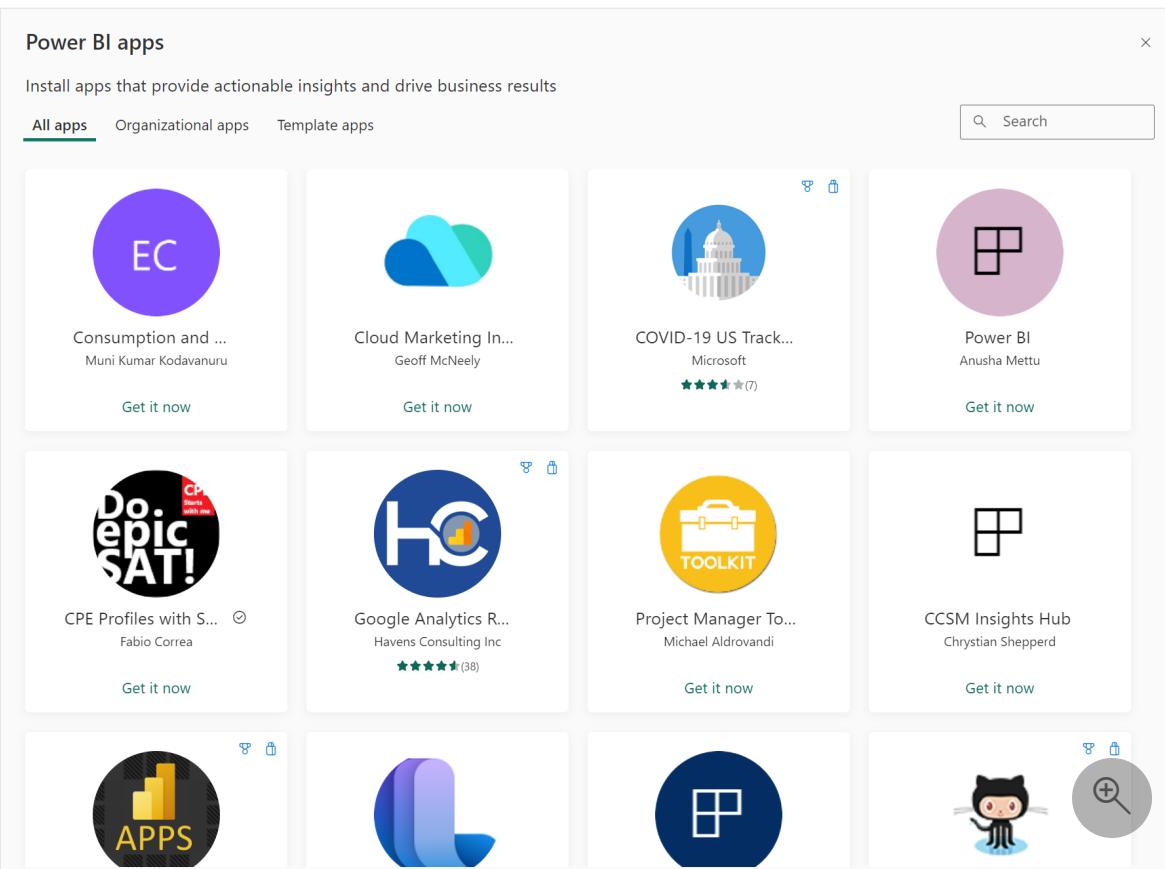
1. To install an app, [sign in to the Power BI service](#) if prompted.

2. Select **Apps > Get apps**.

If you're brand new to Power BI, your App page looks like the following example. If you already have apps installed, select **Get apps** from the upper right corner of the page.



3. The Power BI apps marketplace opens.



Three tabs are available for you to use:

- **All apps** - Browse both template apps and all the organizational apps that are available to you. Template apps are distinguished by the shopping bag icon in the upper right corner of their tiles.
- **Organizational apps** - Browse organizational apps that have been shared with you.
- **Template apps** - Browse template apps that are hosted on AppSource.

Alternatively, you can use the search box to get a filtered selection of apps. Type part of the name of an app or category, such as finance, analytics, or marketing, to make it easier to find the item you're looking for.

The search box is sensitive to the tab you have open. Only apps of the selected type are returned. If the **All apps** tab is open, both organizational and template apps are returned. It can be confusing when an organizational app and a template app have the same name. Just remember that the template app tiles have a shopping bag icon in the top right corner.

4. When you find the app that you want, select **Get it Now** to install it.



The screenshot shows the Microsoft Sales app page in the AppSource marketplace. At the top, there's a navigation bar with 'AppSource' and 'Apps for Power BI'. Below it, the app's title 'Microsoft Sales' is displayed with a subtitle 'Microsoft retail app'. A yellow bar chart icon is shown next to the title. To the right, there's a rating of '3.7 (14)' with five blue stars. Below the title, there are two tabs: 'Overview' (which is selected) and 'Reviews'. A large red button labeled 'Get It Now' is prominently displayed. On the left side, there are sections for 'Pricing' (Free), 'Products' (Power BI apps), and a 'Sample app for Microsoft' section which includes a brief description and a link to the Power BI service.

- If you're installing an organizational app, it will immediately be added to your list of apps.
- If you're installing a template app, you'll be taken to the template app offering in AppSource. See [an example](#) of how to download and install a sample template app from the Power BI apps marketplace. The app is installed, along with a workspace of the same name.

 **Note**

If you're using a free user license, you can download apps but you can't view them unless you upgrade to a Power BI Pro or Premium Per User license or unless the app is stored in a Premium capacity. For more information, see [Licenses for business users](#).

## Install an app from a direct link

You can also install an organizational app from a direct link:

- **On your computer.** When you select the link in an email, the [Power BI service](#) opens the app in your browser.

- On your iOS or Android mobile device. When you select the link in an email on your mobile device, the app installs automatically and opens in the mobile app. You might have to sign in first.

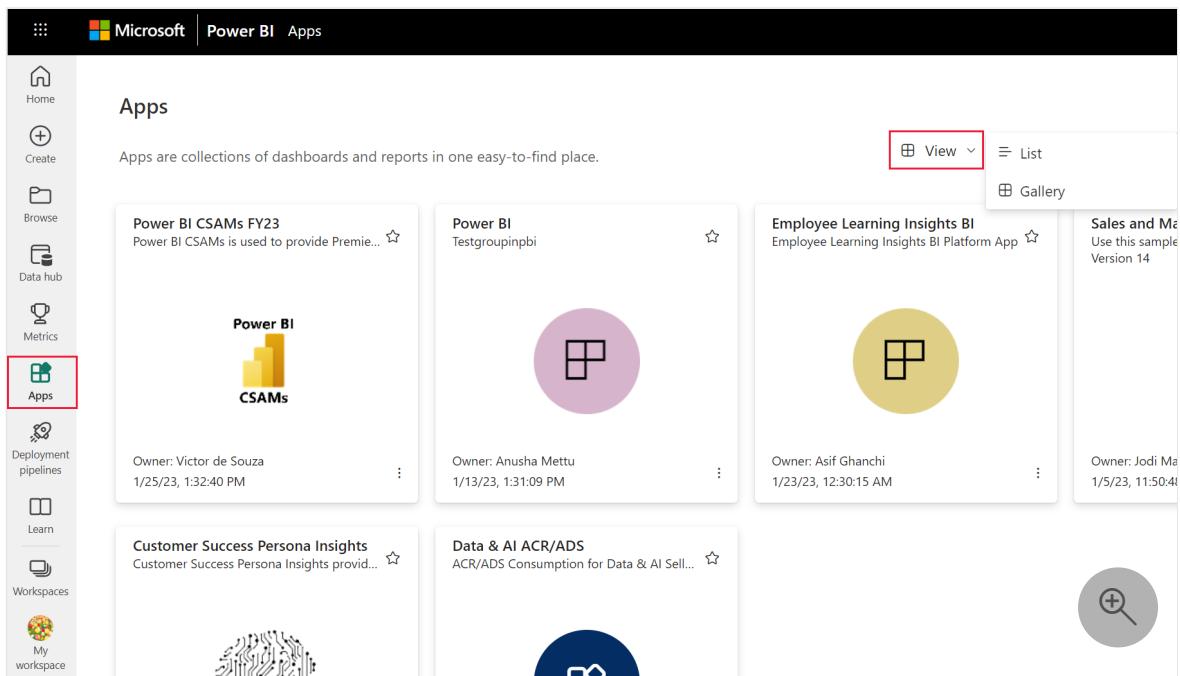
## Interact with the dashboards and reports in the app

Take some time to explore the data in the dashboards and reports that make up the app. You have access to all of the standard Power BI interactions, such as filtering, highlighting, sorting, and drilling down. The extent of what you can do with an app is controlled by the permissions that the *designer* assigned to you. How you can interact with the app's dashboards and reports is controlled by the access and roles that the *designer* assigned to you.

Still a little confused by the difference between dashboards and reports? Learn more about [dashboards](#) or [reports](#) in Power BI.

## Open an app

1. After you install an app or receive an app from a colleague, view it in your Apps content list by selecting **Apps** from the navigation pane. The following example shows the App page view set to **Gallery**. You can select **View** and then choose **List** to see your apps as a list.



2. Select the app to open it. Depending on the app, you might receive a prompt that looks similar to the following example. Some apps ask you for contact information

(name and email) or for product details (customer ID, subscription number, or parameters). Many apps load with sample data and provide a link for you to connect your own data. For guidance on which option to select, see [Install template apps](#).

## Get started with your new app

Explore your app with sample data, go to the workspace to customize as needed and share with your organization, or connect your data to get up and running.

**Connect your data**  
Connect to a data source to view your new app with your own data.



**Explore with sample data**  
Open your new app to start exploring with sample data.



**Customize and share**  
Your app comes with a workspace, so you can customize and share it, just like an app you built yourself.



**Connect**      **Explore app**      **Edit workspace**

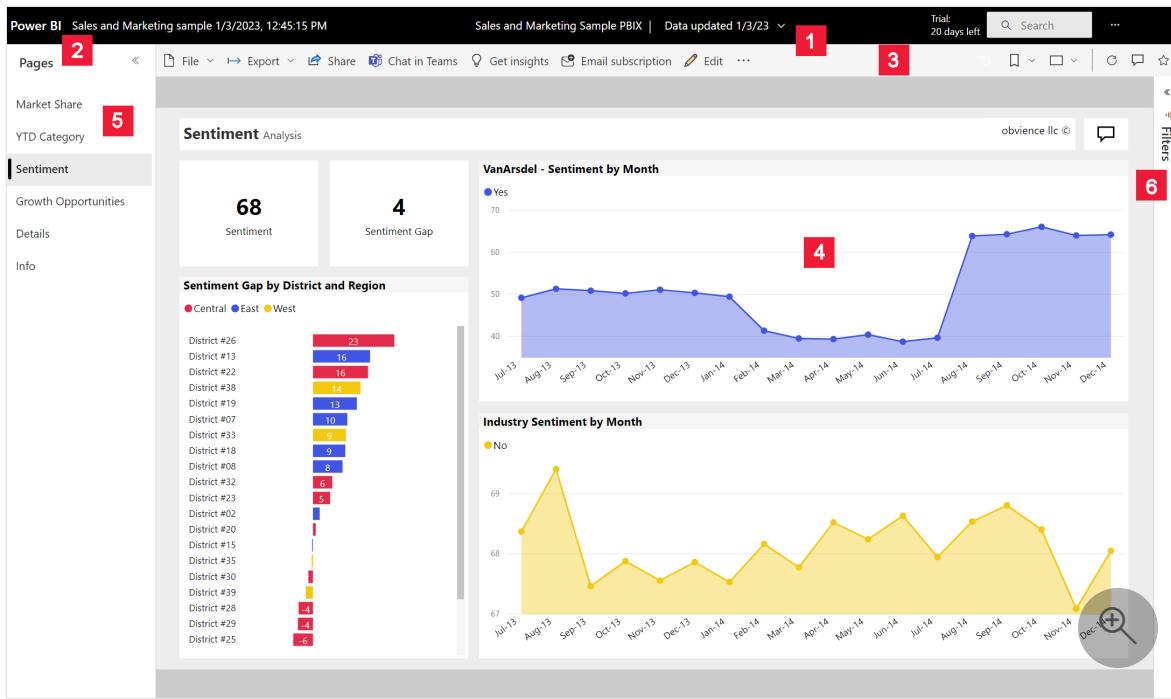
3. Select the app card to open it.

**Sales and Marketing sample 1/3/2...**  
Use this sample app with the Microsoft Po...   
Version 14



Owner: Adele Vance  
1/3/23, 12:22:27 PM 

4. The **Sales and Marketing Sample** app opens to a report. The layout might look different if your app opens to a dashboard. If you select a report in the dashboard, the layout will look like the following example.



Apps have different layouts, visuals, colors, and options, but they all have most of the features shown in this example:

1. Name of the app and last updated time. Select the dropdown arrow to look up the owner and Help contact.
2. Select **Power BI** to return to [Home](#).
3. Your menu bar.
4. The report page canvas.
5. The app navigation pane. Below the name of the app is the list of content. This app has one report with six pages. Select a report page name to open it. We currently have the *Return rate* page open.
6. Select the arrow to expand the **Filters** pane.

You can explore the associated workspace if you've been given access. When you install or download a template app, the Power BI service creates a workspace for you. When you install an organizational app, it might not include access to the workspace. For more information, see [Collaborate in workspaces](#). Select **Power BI** (number 2) to return to [Home](#) and choose [Workspaces](#).

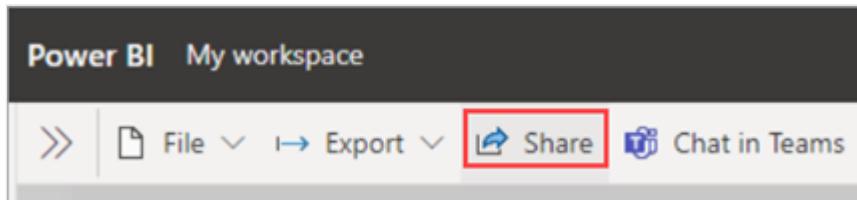
The screenshot shows the Microsoft Power BI interface. At the top, there's a navigation bar with icons for Home, Create, Browse, Data hub, Metrics, Apps, Deployment pipelines, Learn, Workspaces, and a workspace named "Sales and Marketing sample 1/5/2023, 11:50:38 AM". Below the navigation bar is a search bar with "Sales and Marketing sample 1/5/2023, 11:50:38 AM" and dropdown menus for "New" and "Upload". To the right are "View" and "Filters" buttons. The main area has tabs for "All", "Content", and "Datasets + dataflows", with "All" selected. A table lists two items:

	Name	Type	Owner	Refreshed
	Sales and Marketing Sample PBIX	Report	Sales and Marketing ...	1/5/23, 11:50:41 AM
	Sales and Marketing Sample PBIX	Dataset	Sales and Marketing ...	1/5/23, 11:50:41 AM

## Share reports and dashboards from an app

You can share reports and dashboards that are in an app the same way you share any other report or dashboard:

- Open the report or dashboard, and select **Share**.



See the article [Share Power BI reports and dashboards with coworkers and others](#) for more information.

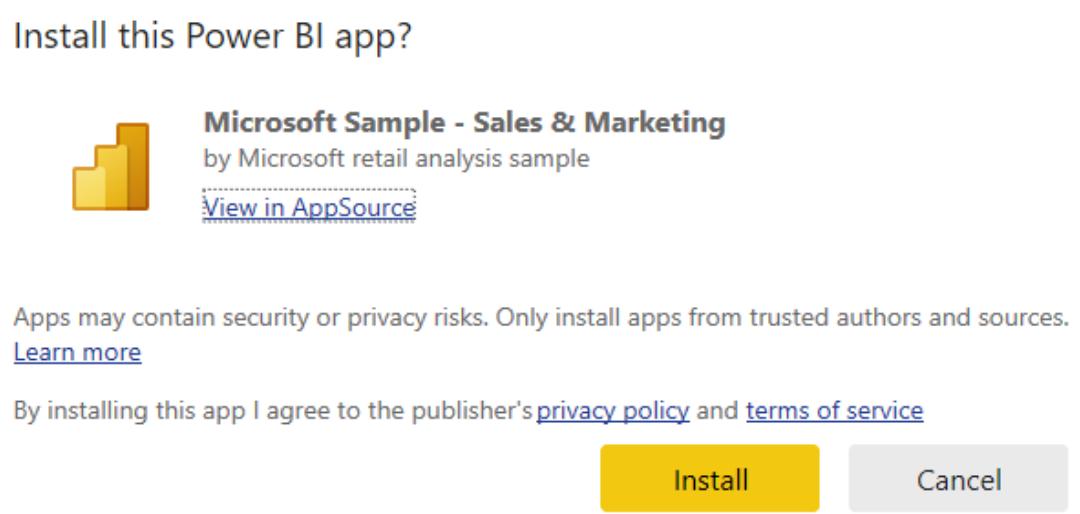
## Get an update of an app

Sometimes app designers release new versions of their apps. How you get the new version depends on how you received the original.

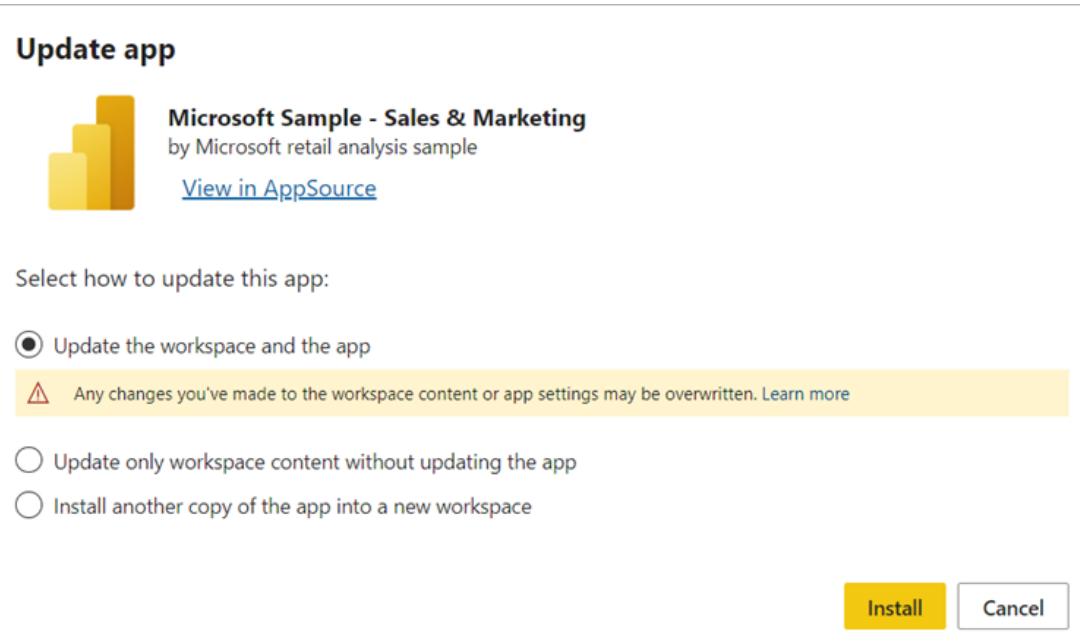
- If you got the app from your organization, the update to the new version is automatic and you don't have to do anything.

- If you got a template app from AppSource, the next time you open the app you'll see a notification banner. The notification lets you know that a new version is available.

1. Select **Get it** to update.
2. When prompted to install the updated app, select **Install**.



3. Because you already have a version of this app, you can decide whether you want to replace the existing version, update only the workspace content *without* updating the app, or install the updated app in a new workspace.



### (!) Note

Installing a new version overwrites any changes you might have made to the app's reports and dashboards. To keep your updated reports and dashboards, save them under a different name or in a different location before installing.

4. Once you've installed the updated version, select **Update app** to complete the update process.

## Considerations and troubleshooting

- The ability to install apps can be turned on and off by your Power BI administrator. Contact your IT department or help desk if you need this feature enabled.
- The use of apps requires either a Pro or Premium Per User license or for the app to be stored in a workspace in Premium shared capacity. [Learn about licenses](#).

## Next steps

- [Back to the apps overview](#)
- [View a Power BI report](#)
- [Other ways content is shared with you](#)

# Discover data items using the data hub

Article • 11/10/2023

The data hub helps you find, explore, and use data items in your organization, such as semantic models, datamarts, and their related reports. It provides information about the data items as well as about reports built using those items. In this way, report consumers can find reports based on trustworthy data.

This article explains what you see on the data hub and describes how to use it. For more details and advanced features available on the data hub, see [Data discovery using the data hub](#).

## Find the data you need

The data discovery experience starts on the data hub. To get to the data hub:

- In the Power BI service left navigation pane, select **Data hub**.
- In the Power BI app in Teams, select either the **Data hub** tab or **Data hub** in the navigation pane.

The image below shows the OneLake data hub in the Power BI service.

The screenshot shows the Power BI Data hub interface. The left sidebar includes links for Home, Create, Browse, Data hub (which is selected and highlighted in blue), Metrics, Apps, Knowledge center, Workspaces, and My workspace. The main area has a header "Data hub" with a sub-header "Discover, manage, and use data from across your org." and a "Learn more" link. Below this is a "Recommended" section with five cards, each featuring a dataset icon and the name "Sales and Marketing Sample". The cards also show the owner as "Alex Wilber" and provide "Details" and "..." buttons. Below this is a search bar with a magnifying glass icon and the word "Search". The main content area displays a table of data items. The table has columns: Name, Type, Owner, Location, Refreshed, Endorsement, and Sensitivity. The rows list datasets: "Opportunity Analysis Sample" (Dataset, Alex Wilber, My Workspace, 10/31/22, 1:33:16 PM, -, -); "Sales and Marketing Sample" (Dataset, Alex Wilber, My Workspace, 11/10/22, 9:27:48 AM, -, -); "Sales and Marketing Sample" (Dataset, Alex Wilber, My Workspace, 11/3/22, 10:52:45 AM, -, -); "Regional Sales Sample" (Dataset, Alex Wilber, My Workspace, 11/3/22, 1:56:08 PM, -, -); "Sales and Marketing Sample P..." (Dataset, Alex Wilber, Sales and Marketing ..., 11/3/22, 10:56:15 AM, -, -); and "Retail Analysis Sample" (Dataset, Alex Wilber, My Workspace, 11/3/22, 1:56:40 PM, -, -). At the bottom of the table are buttons for "All", "My data", and "Endorsed in your org", along with a "Filter by keyword" search bar and a "Filter" button.

Name	Type	Owner	Location	Refreshed	Endorsement	Sensitivity
Opportunity Analysis Sample	Dataset	Alex Wilber	My Workspace	10/31/22, 1:33:16 PM	-	-
Sales and Marketing Sample	Dataset	Alex Wilber	My Workspace	11/10/22, 9:27:48 AM	-	-
Sales and Marketing Sample	Dataset	Alex Wilber	My Workspace	11/3/22, 10:52:45 AM	-	-
Regional Sales Sample	Dataset	Alex Wilber	My Workspace	11/3/22, 1:56:08 PM	-	-
Sales and Marketing Sample P...	Dataset	Alex Wilber	Sales and Marketing ...	11/3/22, 10:56:15 AM	-	-
Retail Analysis Sample	Dataset	Alex Wilber	My Workspace	11/3/22, 1:56:40 PM	-	-

The data hub shows a selection of recommended data items and a list of all the data items in the organization that you have permissions to access. If [semantic model](#)

[discoverability](#) is enabled for your account, you also see semantic models that you don't have access to.

Continue learning about the OneLake data hub and explore additional information, including how to select a semantic model, how to explore reports built using a semantic model, and how to create a new report yourself.

## Next steps

- Learn about [Data discovery using the data hub](#)
- Learn how to [Find your dashboards, reports, and apps](#)

# Connect to the services you use with Power BI

Article • 01/09/2023

With Power BI, you can connect to many of the services you use to run your business, such as Salesforce, Microsoft Dynamics, and Google Analytics. Power BI starts by using your credentials to connect to the service. It creates a Power BI *workspace* with a dashboard and a set of Power BI reports that automatically show your data and provide visual insights about your business.

Sign in to Power BI to view all of the services you can connect to. Select **Apps > Get apps**.

**Power BI apps**

Install apps that provide actionable insights and drive business results

All apps    Organizational apps    Template apps

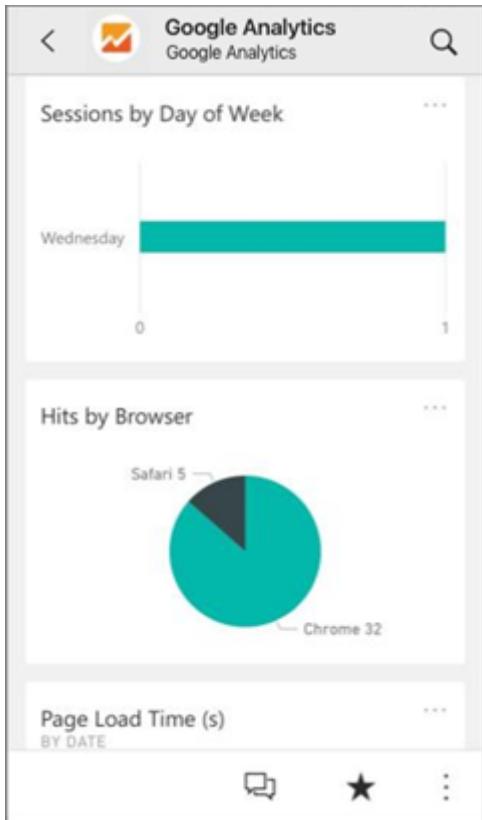
Search

The screenshot shows a grid of 12 app cards:

- Cloud Marketing In... (Geoff McNeely) - Get it now
- MAI\_Prod\_CloudCo... (Uma Gollu) - Get it now
- COVID-19 US Track... (Microsoft) - ★★★★☆(7)
- Consumption and ... (Muni Kumar Kodavanuru) - Get it now
- Global EBC Reports (Dilip Mishra) - Get it now
- Google Analytics R... (Havens Consulting Inc) - ★★★★☆(38)
- Events Measurement (Mikiko Jama) - Get it now
- Consumption Enga... (Niharika Anand) - Get it now
- APPS
- GP
- Advanced
- Github

Show endorsed apps only

After you install the app, you can view the dashboard and reports in the app and the workspace in the Power BI service (<https://powerbi.com>). You can also view them in the Power BI mobile apps. In the workspace, you can modify the dashboard and reports to meet the needs of your organization, and then distribute them to your colleagues as an *app*.



## Get started

1. Select Apps in the navigation pane, then choose Get apps in the upper-right corner.

The screenshot shows the Power BI service interface. On the left, the navigation pane has a sidebar with various options: Home, Create, Browse, Data hub, Metrics, Apps (which is highlighted with a red box), Deployment pipelines, and Learn. On the right, the main area is titled "Apps" and describes them as collections of dashboards and reports. It features a "Get apps" button (also highlighted with a red box). Below it, there are two sample app cards: "New Opportunity Analysis opportunity" (with a bird icon) and "Covid-19 US Tracking" (with a blue circular icon).

2. In Power BI apps, select the Apps tab, and search for the service you want.

## Power BI apps

Install apps that provide actionable insights and drive business results

All apps

Organizational apps

Template apps

Search

# Edit the dashboard and reports

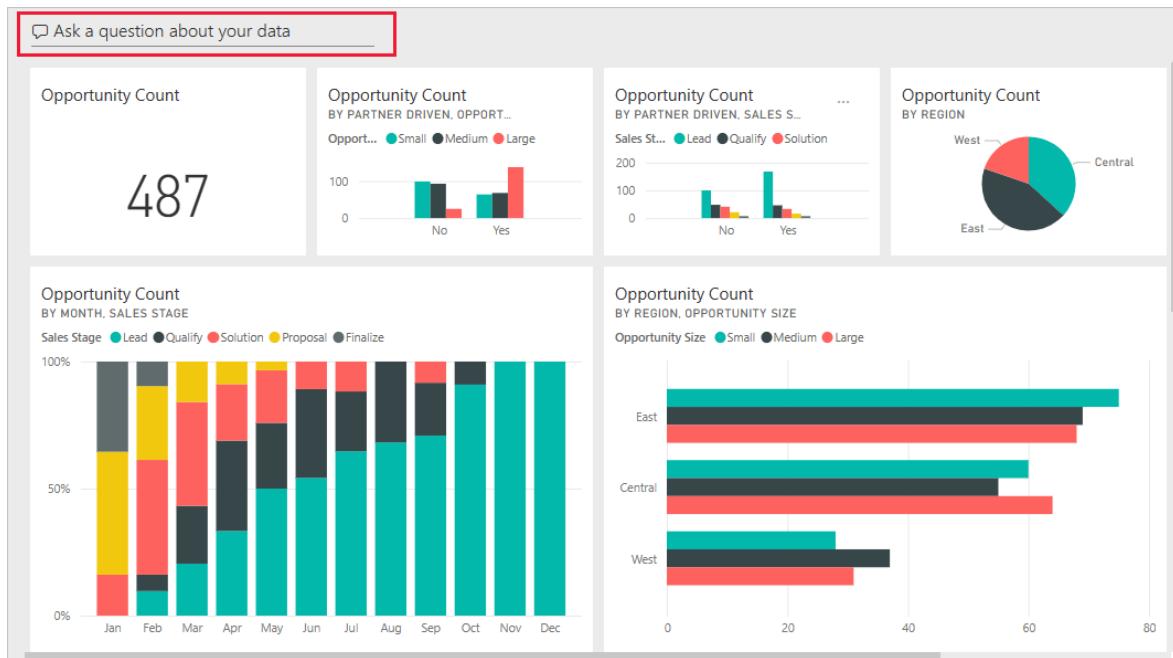
When the import is complete, the new app appears on the Apps page.

1. Select Apps in the navigation pane, then choose the app.

The screenshot shows the Power BI Apps interface. On the left, a navigation pane includes options like Home, Create, Browse, Data hub, Metrics, Apps (which is highlighted with a red box), Deployment pipelines, Learn, Workspaces, and My workspace. The main area is titled 'Apps' and contains a brief description: 'Apps are collections of dashboards and reports in one easy-to-find place.' Below this are filter options for View, Sort, and a search bar labeled 'Filter by keyword'. A green 'Get apps' button is in the top right. The list of apps includes:

- New Opportunity Analysis** (highlighted with a red box): opportunity. It has a thumbnail image of a cake, a creation date of 6/3/21, 2:51:09 PM, and a three-dot menu icon.
- Covid-19 US Tracking**: Sample app that tracks Covid-19 US stats ...
- Salesforce Analytics - Sales Manager**: Analyze your Salesforce marketing perfor... Version 11. It features a yellow bar chart and a blue cloud icon.
- Google Analytics template app 1/6...**: Evaluate the performance of your website ... Version 7. It features a monitor icon with a chart.

2. You can ask a question by typing in the Q&A box, or select a tile to open the underlying report.



Change the dashboard and report to fit the needs of your organization. Then [distribute your app to your colleagues](#)

## What's included

After connecting to a service, you see a newly created app and workspace with a dashboard, reports, and dataset. The data from the service is focused on a specific scenario and might not include all the information from the service. The data is scheduled to refresh automatically once per day. You can control the schedule by selecting the dataset.

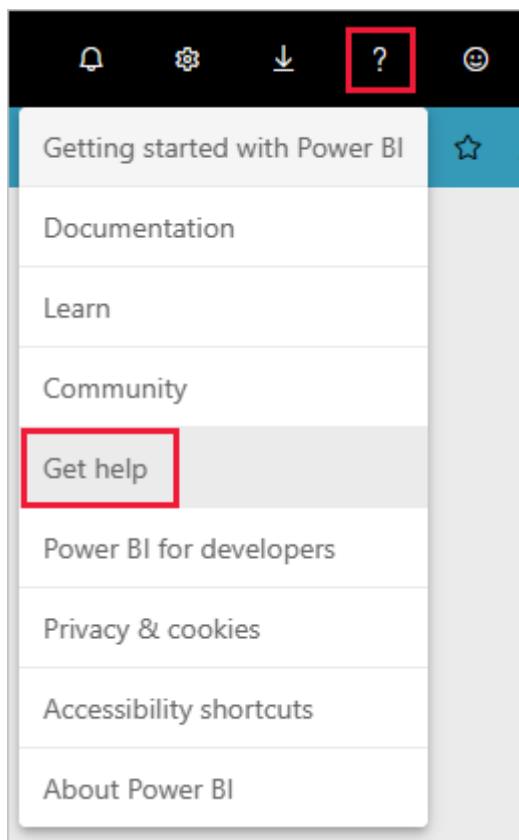
You can also [connect to many services in Power BI Desktop](#), such as Google Analytics, and create your own customized dashboards and reports.

For more information on connecting to specific services, see the individual help pages.

## Troubleshooting

**Empty tiles:** While Power BI is first connecting to the service, you might see an empty set of tiles on your dashboard. If you still see an empty dashboard after two hours, it's likely the connection failed. If you didn't see an error message with information on correcting the issue, file a support ticket.

- Select the question mark icon (?) in the upper-right corner > **Get help**.



**Missing information:** The dashboard and reports include content from the service focused on a specific scenario. If you're looking for a specific metric in the app and don't see it, add an idea on the [Power BI Support](#) page.

## Suggesting services

Do you use a service you'd like to suggest for a Power BI app? Go to the [Power BI Support](#) page and let us know.

If you're interested in creating template apps to distribute yourself, see [Create a template app in Power BI](#). Power BI partners can build Power BI apps with little or no coding, and deploy them to Power BI customers.

## Next steps

- [Distribute apps to your colleagues](#)
- [Create workspaces in Power BI](#)
- Questions? [Try asking the Power BI Community](#)

# Install and use the sample Sales and Marketing app in the Power BI service

Article • 02/03/2023

**APPLIES TO:**  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

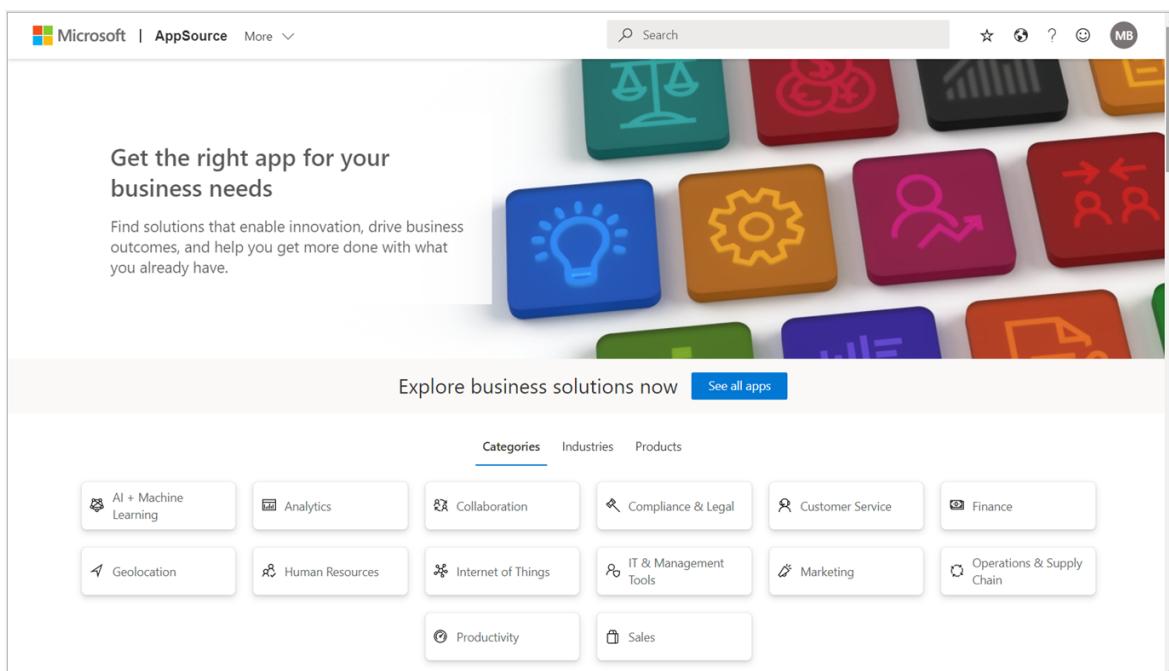
Now that you have a [basic understanding of how to get Power BI content](#), let's use Microsoft AppSource to get the Marketing and Sales template app. The Marketing and Sales template app contains sample data that you can use to explore the Power BI service. This particular app has one dashboard and several report pages.

## ⓘ Important

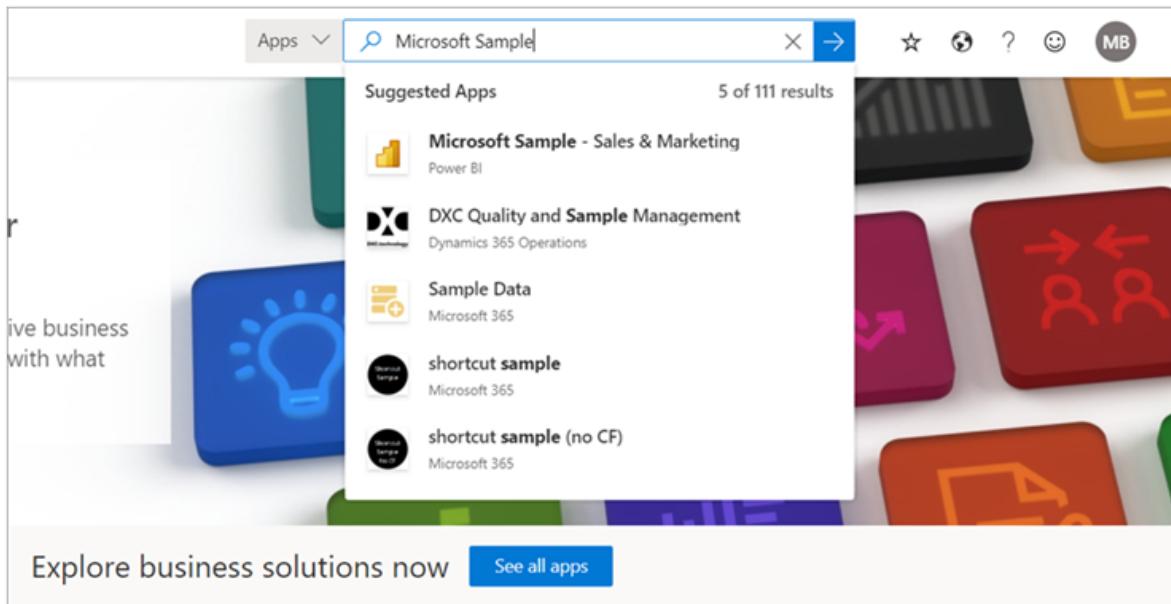
Installing this app from Microsoft AppSource requires that you have a **Power BI Pro or Premium Per User** license. For more information, see [licenses](#).

## Get the app from Microsoft AppSource

1. Open <https://appsource.microsoft.com>.



2. In the search box, enter **Microsoft sample** and select **Microsoft sample - Sales & Marketing**.



3. Optionally, read through the overview and reviews, and take a look at the images. Then, select **Get it now**.

A screenshot of the Microsoft Sample - Sales &amp; Marketing app page on AppSource. The page title is 'Microsoft Sample - Sales &amp; Marketing'. It features a thumbnail image of three yellow bars, a brief description 'Microsoft retail analysis sample', and a category 'Power BI apps'. Below this, there is a rating section showing 3.7 (14 Ratings) and two buttons: 'Get it now' (highlighted with a red border) and 'Save to my list'. At the bottom of the page, there are tabs for 'Overview' (which is selected), 'Reviews', and 'Details + support'. The 'Overview' tab contains a section titled 'Sample app for Microsoft Power BI - Sales &amp; Marketing' with a detailed description of the app's purpose and data source.

4. Confirm that you want to install this app.

## Install this Power BI app?



**Microsoft Sample - Sales & Marketing**  
by Microsoft retail analysis sample

[View in AppSource](#)

Apps may contain security or privacy risks. Only install apps from trusted authors and sources.

[Learn more](#)

By installing this app I agree to the publisher's [privacy policy](#) and [terms of service](#)

[Install](#)

[Cancel](#)

5. The Power BI service displays a success message once the app is installed. Select **Go to app**. Or select the app itself from your **Apps** container. Depending on how the designer created the app, either the app dashboard or app report displays.

The screenshot shows the Power BI Apps interface. On the left, a sidebar menu includes Home, Favorites, Recent, Create, Datasets, Goals, and Apps (which is highlighted with a red box). Below these are Shared with me, Discover, Learn, Workspaces (with My workspace dropdown), and Get data. The main area displays several app cards. One card for 'Sales and Marketing sample' (Version 14, May 13, 2021) has its icon and title highlighted with a red box. Other cards include Smartsheet (Version 8, May 5, 2021), Supplier Quality Analysis (Approved, May 5, 2021), Xero (Version 14), Zendesk (Version 4), and a 'Get more apps from Microsoft AppSource' button.

6. This template app is set to open to the dashboard. The app *designer* could have set the app to open to one of the report pages instead.

The screenshot shows the 'Sales and Marketing sample' app dashboard. The left sidebar lists Marketing and sales, Sales and Marketing Sample..., Market Share, YTD Category, Sentiment, Growth Opportunities, Details, and Info. The main area features several reports: 1. A chart titled 'Total Category Volume' showing a value of 50K. 2. A line chart titled '% Units Market Share R12M and % Units Market Share by Month' showing market share percentages over time. 3. A bar chart titled 'Total Units BY SEGMENT' showing unit counts for Production, Extreme, Select, All Segments, Youth, and Regular segments. 4. A chart titled 'Total Category Volume' showing a value of 16K. 5. A chart titled 'Total Units YTD BY MANUFACTURER. REGION' showing unit counts for VanArdsel, Natura, Aliqui, and Pirum. The top right corner shows the status 'Marketing and sales | Data updated 5/13/21'.

# Interact with the dashboards and reports in the app

Take some time to explore the data in the dashboards and reports that make up the app. You have access to all of the standard Power BI interactions such as filtering, highlighting, sorting, and drilling down. If you are confused by the difference between dashboards and reports, see the [article about dashboards](#) and the [article about reports](#).

## Next steps

- View [Apps in Power BI](#)
- View a report in the Power BI service for business users
- Display the dashboards and reports that have been shared with me

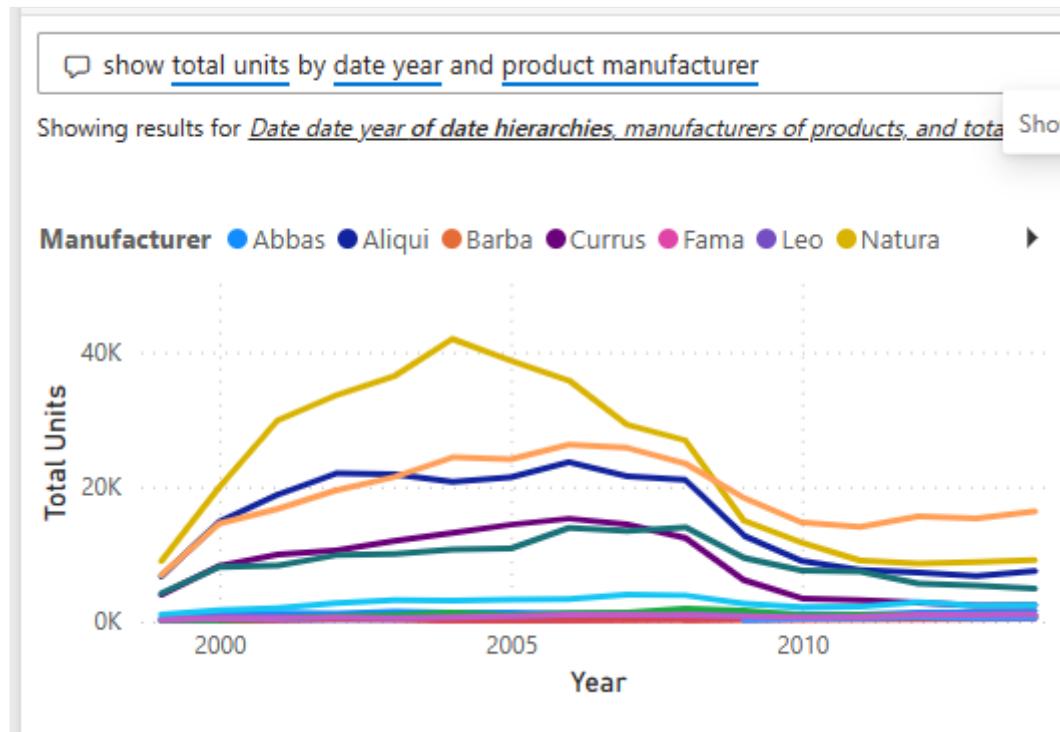
# Q&A for Power BI business users

Article • 09/29/2023

APPLIES TO:  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

## What is Q&A?

Sometimes the fastest way to get an answer from your data is to ask a question using natural language. For example, "show total units by year and product manufacturer."



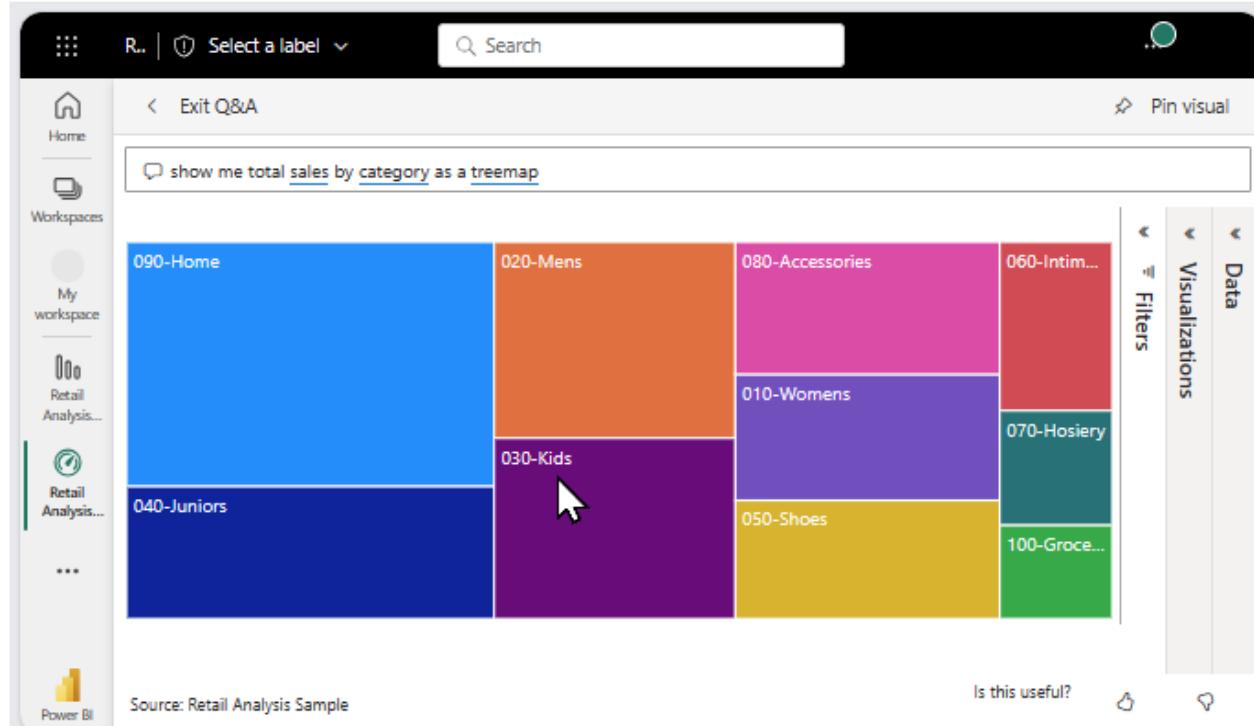
Use Q&A to explore your data using natural language capabilities and receive answers in the form of charts and graphs. Unlike a search engine, Q&A only provides results about the data in Power BI semantic models.

To learn how to use Q&A, see [Explore your data and create visuals using Q&A](#)

## Which visualizations does Q&A use?

Q&A picks the best visual based on the data. Sometimes data is defined as a certain type or category, which helps Q&A know how to display it. For example, if data is defined as a date type, it's more likely to be displayed as a line chart. Data that is categorized as a city is more likely to be displayed as a map.

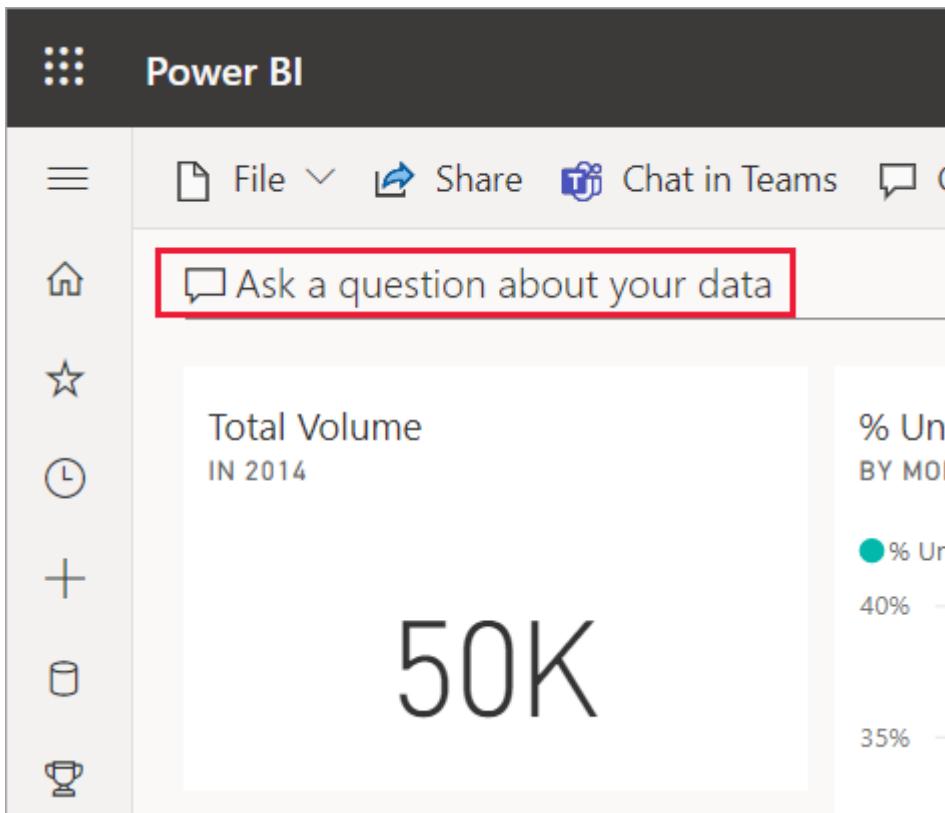
If you want a specific type of visual, tell Q&A which one to use by adding it to your question. For example, "show me total sales by category as a treemap". But keep in mind that it isn't always possible for Q&A to display the data using the visual type you requested. Q&A prompts you with a list of workable visual types.



## Where can I use Q&A?

### Use Q&A on a dashboard

Q&A is available on dashboards in the Power BI service, and at the bottom of the dashboard in Power BI mobile. If the dashboard designer has given you edit permissions, save the visual by [pinning it to your dashboard](#).



To learn more, see [Use Q&A on a dashboard](#)

## Use Q&A in a report

Q&A is available in reports if the report designer added a specific type of interactive visual called a [Q&A visual](#) or added a [Q&A button](#). Ask natural language questions and create new report visuals that represent the answers to your questions. If you have edit permissions for the report, turn the results into a new visual in the report.

A screenshot of the Q&amp;A interface within a report. At the top, there's a button labeled "Ask a question about your data". Below it, a section says "Try one of these to get started" with four blue buttons: "top geo states by total units YTD", "top geo states by total units ytd var %", "what is the total category volume by geo state", and "what is the total OTHER units YTD by geo state". At the bottom right, there's a link "Show all suggestions".

To learn more, see [Use Q&A in a report](#)

## Use Q&A in mobile apps and embedded reports

Q&A is available in [Power BI iOS apps](#) and in [Power BI embedded analytics](#) as well.

## Considerations and limitations

**Question:** I don't see Q&A on this dashboard.

**Answer 1:** If you don't see a question box, check your settings. Select the **Settings** icon in the upper right corner of your Power BI toolbar.



Choose **Power BI Settings > Dashboards**. Make sure there's a check mark next to **Show the Q&A search box on this dashboard**.

A screenshot of the Power BI Settings interface. The top navigation bar has tabs: General, Alerts, Subscriptions, **Dashboards**, Datasets, Workbooks, Dataflows, and App. The 'Dashboards' tab is selected. On the left, a sidebar shows a list with 'Marketing and sales' selected. The main content area is titled 'Settings for Marketing and sales'. It contains a 'Q&A' section with a description: 'Allow people to use natural language to ask questions about their data and let them create new visuals from it.' Below this is a link 'Learn more'. At the bottom is a checkbox labeled 'Show the Q&A search box on this dashboard' which is checked.

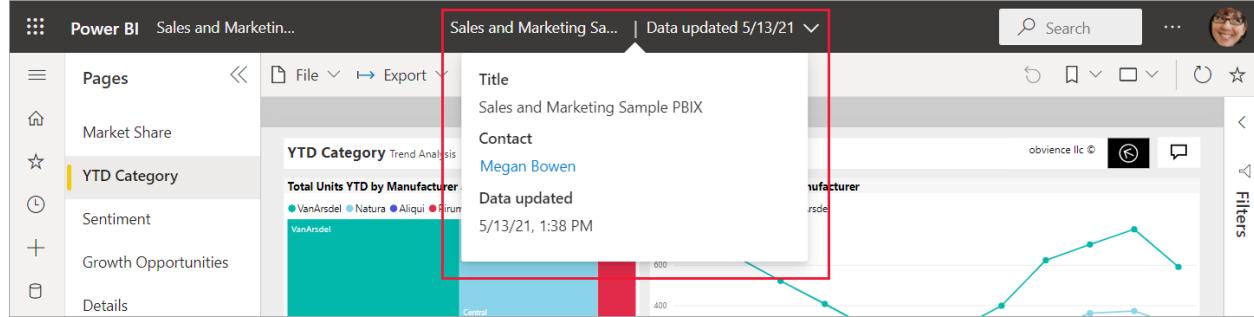
**Answer 2:** Sometimes you don't have access to the settings. If the dashboard owner or your administrator turned Q&A off, check with them to see if it's OK to turn it back on. To look up the owner, select the name of the dashboard from the top menu bar.

A screenshot of a 'Marketing and sales' dashboard's properties dialog box. The title bar says 'Marketing and sales ▾'. The 'Title' field is set to 'Marketing and sales'. The 'Contact' field is set to 'Megan Bowen'. There are other fields like 'Owner' and 'Last modified' which are partially visible.

**Question:** I'm not getting the results I'd like to see when I type a question.

**Answer:** Select the option to contact the report or dashboard owner. You can find the report or dashboard owner from the Q&A dashboard page or the Q&A visual. Or, you

can look up the owner from the Power BI header. There are many things the owner can do to improve the Q&A results. For example, the owner can rename columns in the semantic model to use terms that are easily understood (`CustomerFirstName` instead of `CustFN`). Since the owner knows the semantic model, they can also come up with helpful questions and add them to the Q&A suggested questions.



## Privacy

Microsoft might use your questions to improve Power BI. For more information about how Microsoft uses your questions, see the [Microsoft Privacy Statement](#) for more information.

## Next steps

To learn how to ask your own natural language questions and create answers in the form of visuals, see [Use Q&A on a dashboard](#) or [Use Q&A in a report](#).

For tips on forming questions, see [How to ask questions with Q&A](#).

If you have edit permissions, learn how to [create a Q&A visual on a dashboard](#) and [add a Q&A visual in a report](#).

# Tutorial: Use Power BI Q&A to explore your data and create visuals on a dashboard

Article • 11/10/2023

APPLIES TO:  Power BI Desktop  Power BI service

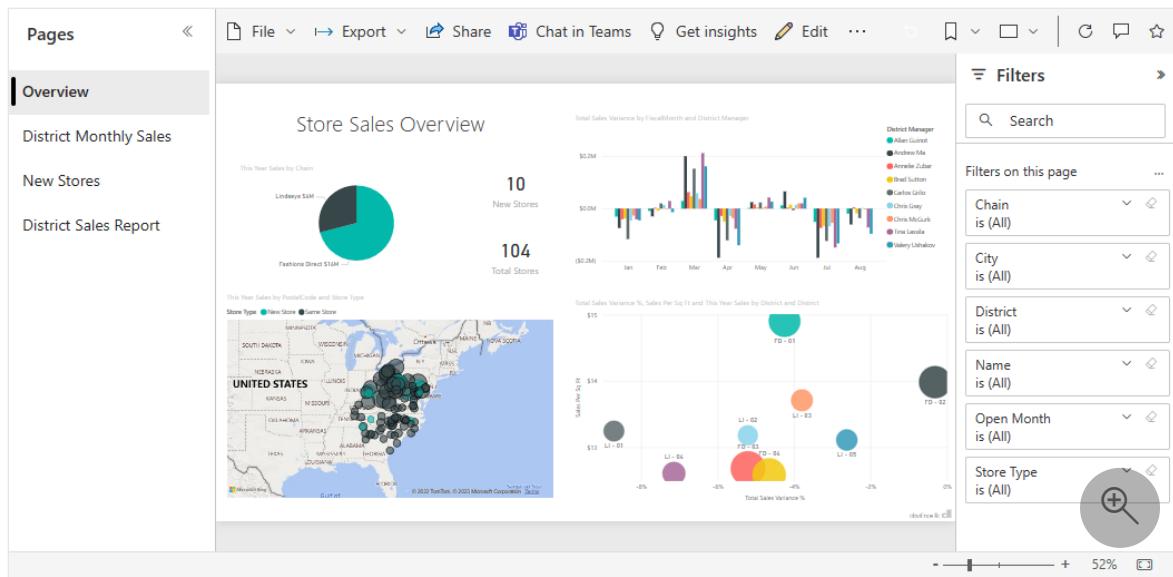
Q&A is available throughout Power BI, and this article focuses on using Q&A on a dashboard. We import a sample and use Q&A to explore our data and pin interesting findings to our dashboard.

## Prerequisites

- Read the Q&A intro article [Q&A for Power BI business users](#).
- Sign up for a [free or trial license for the Power BI service](#).
- Open the Power BI service in a browser.
- [Download and open the Retail analysis sample](#).

## Import the sample in the Power BI service

1. Open the Power BI service ([app.powerbi.com](http://app.powerbi.com)), and select **Learn** in the left navigation pane.
2. On the **Learning center** page, under **Sample reports**, scroll until you see the **Retail Analysis Sample**.
3. Select the sample. It opens in Reading mode.

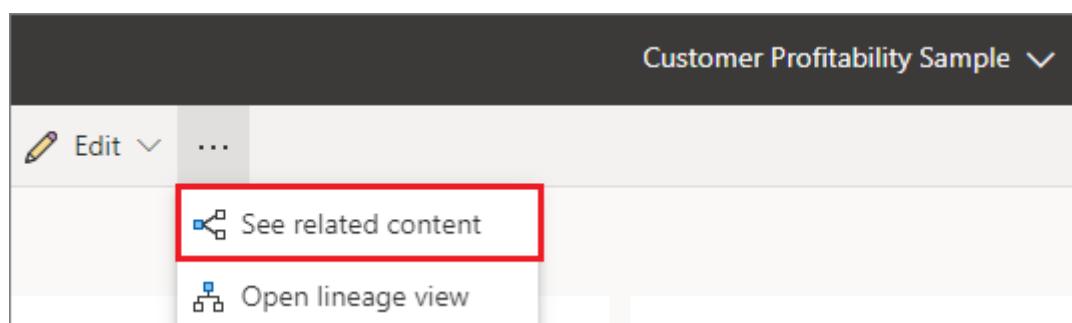


4. Select **My workspace** in the left navigation pane and scroll until you find the Retail Analysis sample. Power BI imports the built-in sample, adding a new dashboard, report, and semantic model to the current Retail Analysis workspace.

All	Content	Datasets + dataflows		
	Name	Type	Owner	Refreshed
	Retail Analysis Sample	Dashboard	MOD Administrator	—
	Retail Analysis Sample	Report	MOD Administrator	2/22/23, 3:52:21 PM
	Retail Analysis Sample	Dataset	MOD Administrator	2/22/23, 3:52:21 PM

## Get started using Q&A on a dashboard

In the Power BI service (app.powerbi.com), a dashboard contains tiles pinned from one or more semantic models, so you can ask questions about any of the data contained in any of those semantic models. To see what reports and semantic models were used to create the dashboard, select **More options (...)** from the menu bar, and then choose **See related content**.



When you type a question, Power BI looks for the best answer using any semantic model that has a tile on that dashboard. If all the tiles are from *semantic modelA*, then your answer comes from *semantic modelA*. If there are tiles from *semantic modelA* and *semantic modelB*, then Q&A searches for the best answer from those two semantic models.

### 💡 Tip

Be careful. If you only have one tile from *semantic modelA* and you remove it from your dashboard, Q&A will no longer have access to *semantic modelA*.

In our example, most of the tiles on this dashboard are from the Retail analysis sample. To help form your questions, get familiar with the Retail analysis sample content. Take a look at the visuals on the dashboard and in the report. Get a feel for the type and range of data that is available to you. Optionally, read the article that describes the sample, [Retail Analysis sample for Power BI: Take a tour](#).

### ⓘ Note

If you already feel comfortable with the data, just place your cursor in the question box to open the Q&A screen.

For example:

- If a visual's axis labels and values include "sales", "account", "month", and "opportunities", then you can confidently ask questions such as: "Which *account* has the highest *opportunity*" or "show *sales* by month as a bar chart."
- If your semantic model has website performance data for Google Analytics, you can ask Q&A about time spent on a web page, number of unique page visits, and user engagement rates. Or, if you're querying demographic data, you might ask questions about age and household income by location.

Once you're familiar with the data, head back to the dashboard and place your cursor in the question box. The Q&A screen opens.

< Exit Q&A

Ask a question about your data

Try one of these to get started

what is the total store by city	what is the average unit price by category	what is the total sales variance by category	what is the average selling area size by city
top buyers by average unit price	top categories by total units last year	what is the total sales variance by store open month	what is the gross margin variance to last year by store type
what is the sales per sq ft by chain	total selling area size by territory		

Show fewer suggestions

Don't see the Q&A box? See [Considerations and limitations in the Q&A for Power BI business users](#) article.

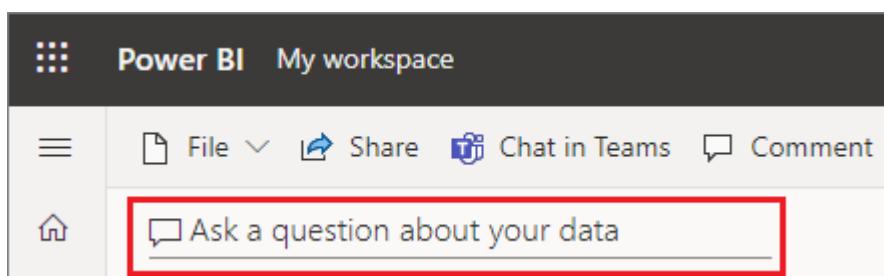
## Use Q&A on a dashboard in the Power BI service

The Q&A field is where you type your question using natural language. It's located in the upper-left corner of your dashboard. Q&A recognizes the words you type and figures out where, and in which semantic model, to find the answer. [Q&A also helps you form your question with autocomplete, restatement, and other textual and visual aids.](#)

Let's try it out.

## Create a visual using the Q&A field on a dashboard

1. Open a dashboard and place your cursor in the Q&A field.



Even before you start typing, Q&A displays a new screen with suggestions to help you form your question. You see phrases and complete questions containing the names of the tables in the underlying semantic models and might even see complete questions listed if the semantic model owner has created [featured questions](#).

< Exit Q&A

Ask a question about your data

Try one of these to get started

what is the total store by city

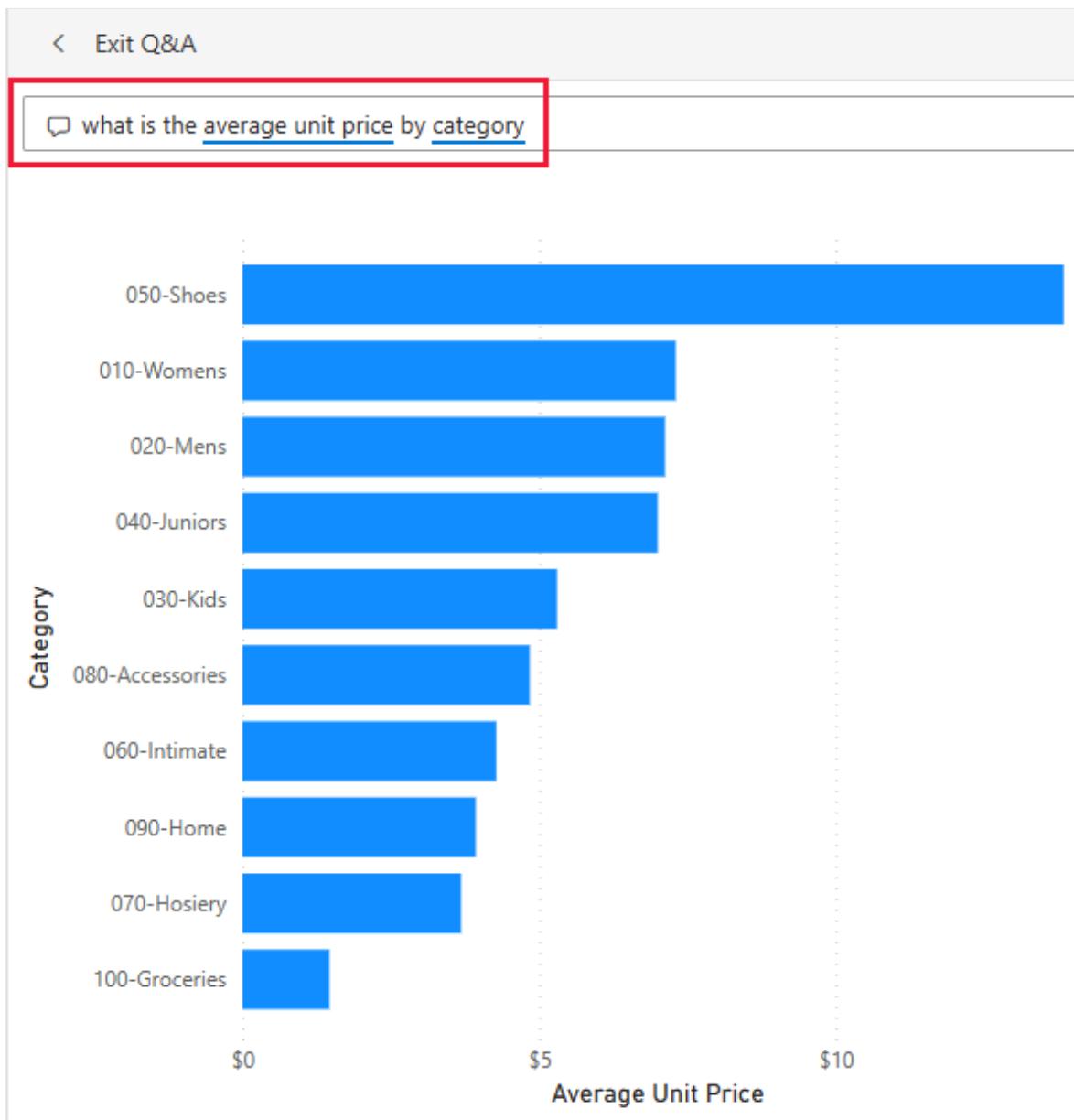
what is the average unit price by category

what is the total sales variance by category

what is the average selling area size by city

Show all suggestions

2. You can select any of these options to add them to the question box and then refine the question to find a specific answer.



3. If you're unsure what type of questions to ask or terminology to use, expand **Show all suggestions** or look through the other visuals in the report. These techniques get you familiar with the terms and content of the semantic model.

The screenshot shows the Power BI Q&A interface. At the top, there's a button to 'Exit Q&A'. Below it is a text input field with a microphone icon and the placeholder 'Ask a question about your data'. A section titled 'Try one of these to get started' contains eight suggestions arranged in a 3x3 grid (with the bottom-right spot empty). Each suggestion is a small card:

- what is the total store by city
- what is the average unit price by category
- what is the total sales variance by category
- what is the average selling area size by city
- top segments by average unit price last year
- what is the gross margin last year by category
- what is the average unit price last year by segment
- what is the gross margin variance to last year by segment
- what is the sales per sq ft by chain
- total selling area size

At the bottom right of the suggestions area is a link 'Show fewer suggestions'.

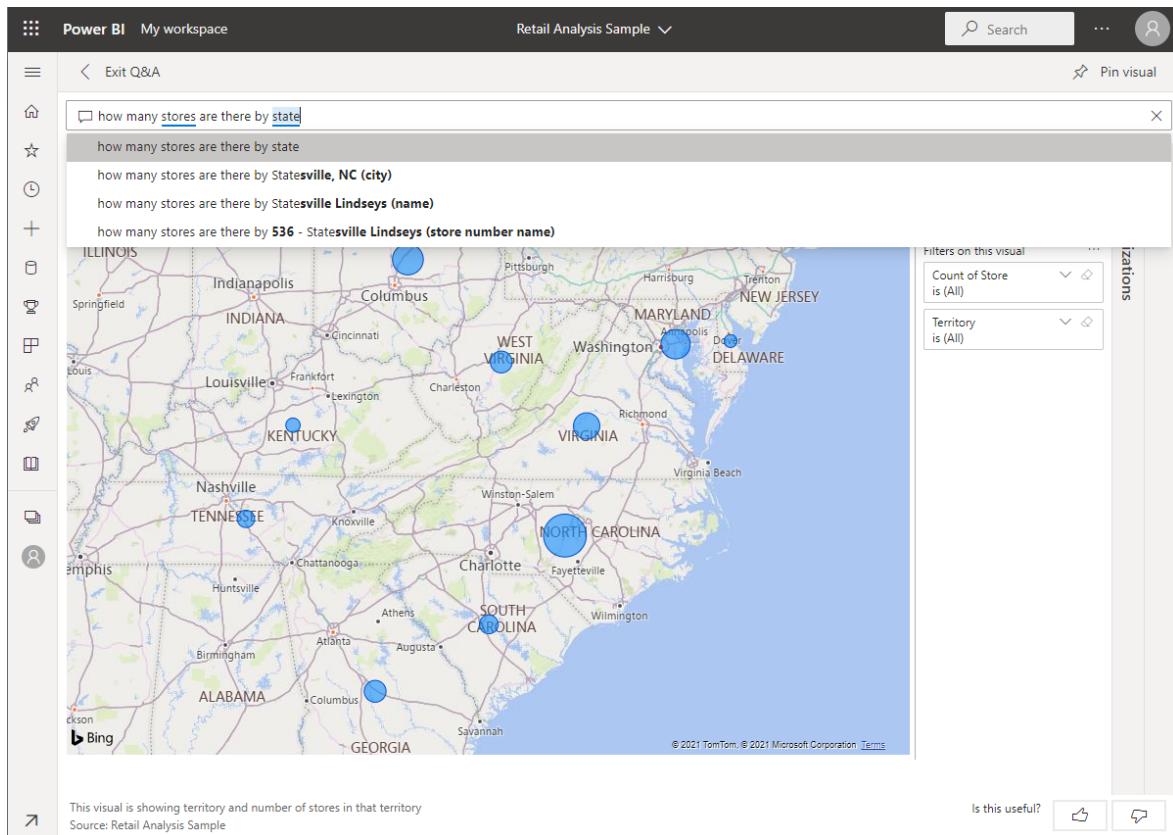
4. Choose one of these questions as a starting point or begin typing your own question and select from the dropdown suggestions.

The screenshot shows the Power BI Q&A interface with a typed question 'how many stores' highlighted with a red box. A dropdown menu below the input field lists several autocomplete suggestions related to store counts:

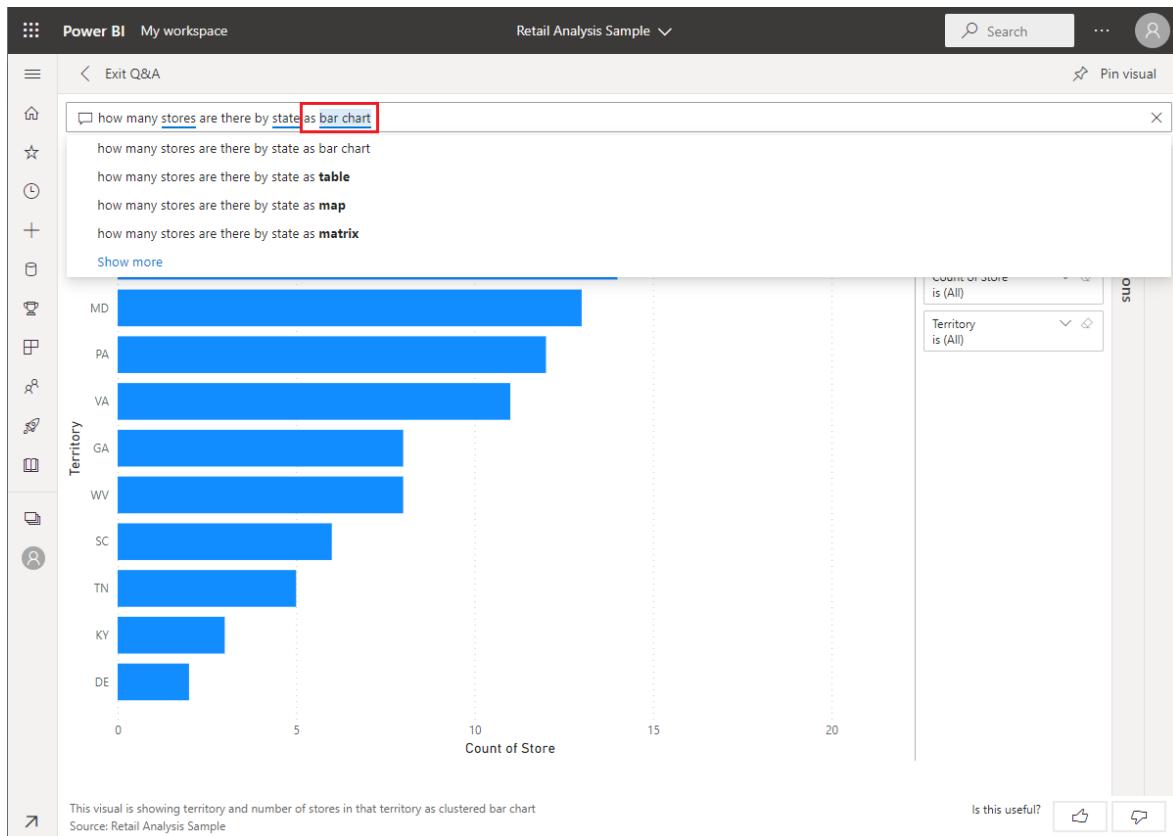
- how many stores are Same Store
- how many stores are managed
- how many stores were opened
- how many stores are named Weirton Fashions Direct
- how many stores are named 2 - Weirton Fashions Direct
- how many stores are in WV
- how many stores are in 26032
- how many stores are in Weirton, WV
- how many stores by district table
- how many stores by store type

On the right side of the screen, the result '104' is displayed with the label 'Count of Store'.

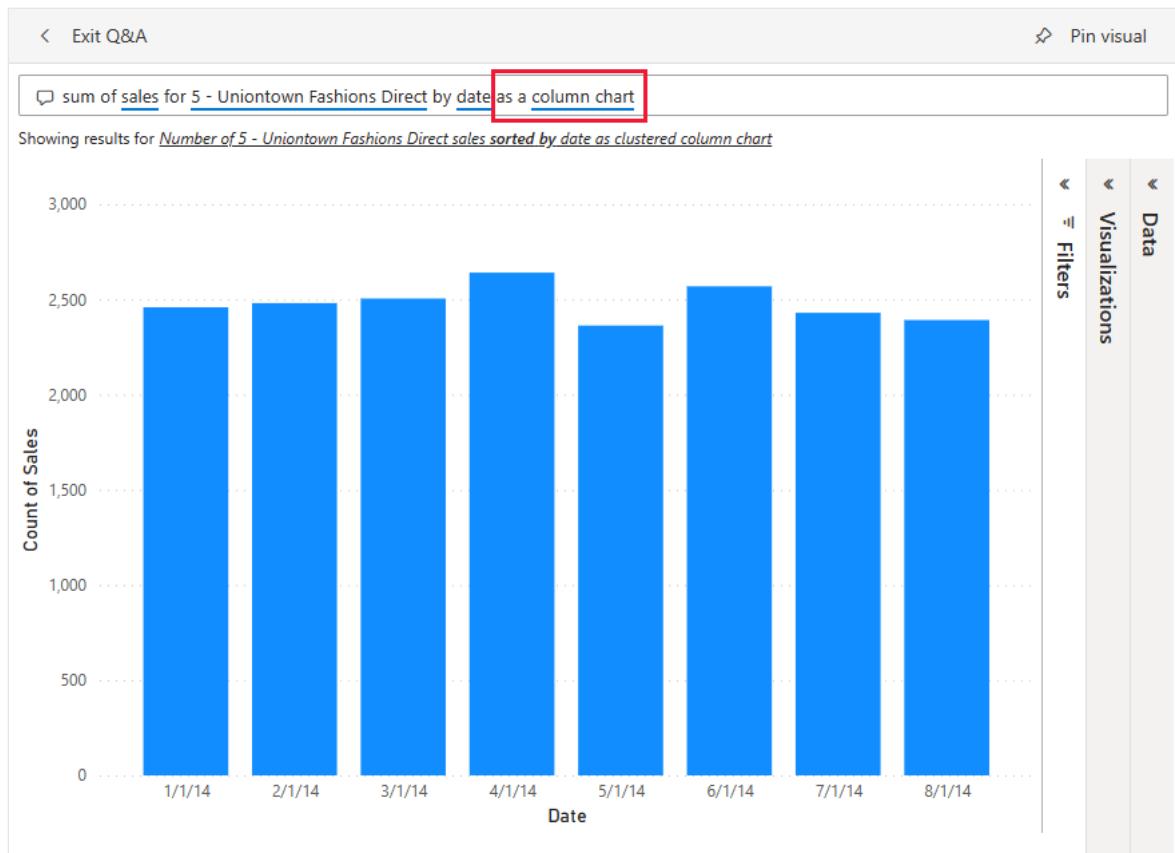
5. As you type a question, Power BI helps you with autocomplete, visual cues, restatement, and feedback. Power BI also picks the best visualization to display your answer.



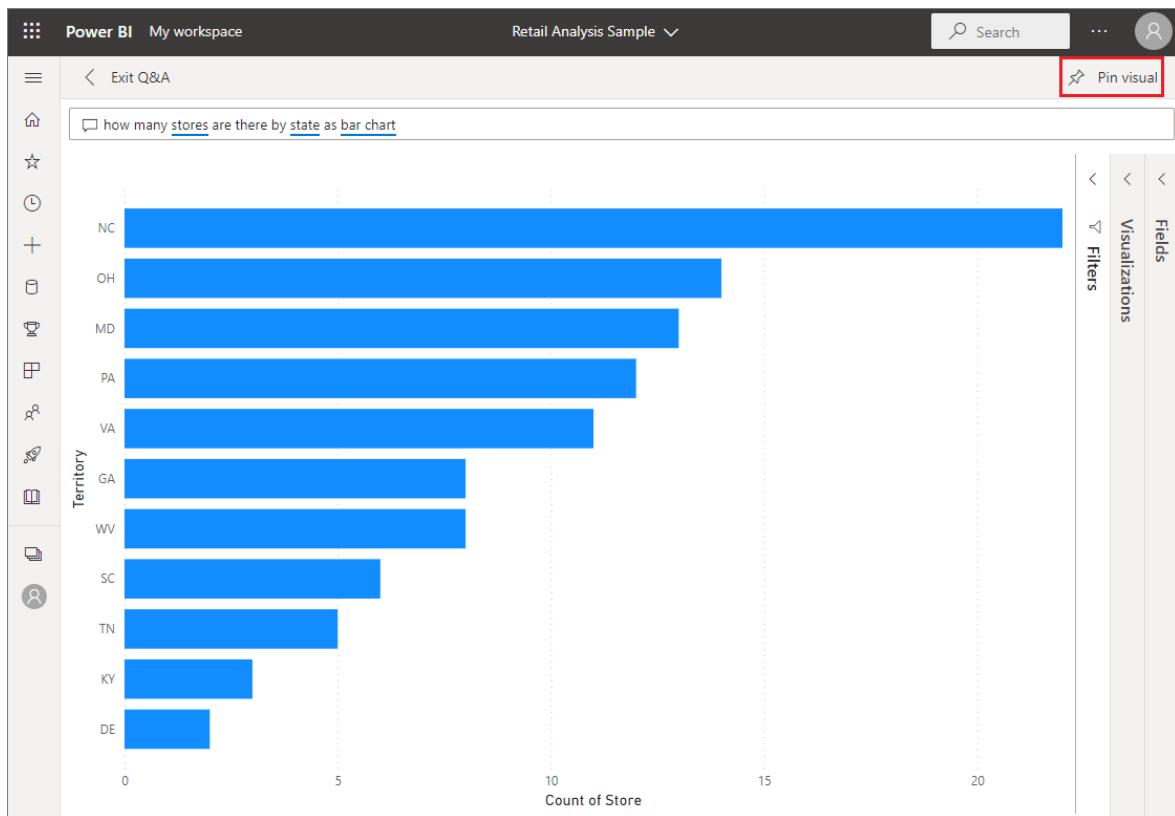
## 6. The visualization changes dynamically as you modify the question.



## 7. Don't like the default visualization that Power BI Q&A chose? Edit the natural language question to include the visualization type that you'd prefer.



8. When you're happy with the result, pin the visualization to a dashboard by selecting the pin icon in the top right corner. If the dashboard was shared with you, or is part of an app, you might not be able to pin.



## Considerations and limitations

- If you've connected to a semantic model using a live connection or gateway, Q&A needs to be [enabled for that semantic model](#).
- At the current time, Power BI Q&A only supports answering natural language queries asked in English. There's a preview available for Spanish that your Power BI administrator can enable.

## Next steps

- [Q&A for Power BI business users](#)
- [Tips for asking questions in Power BI Q&A](#)
- [Make Excel data work well with Q&A in Power BI](#)
- [Enable Q&A for live connections in Power BI](#)
- [Pin a tile to the dashboard from Q&A](#)

# Tips for asking questions in Power BI

## Q&A

Article • 01/30/2023

**APPLIES TO:** Power BI service for *business users* Power BI service for designers & developers Power BI Desktop Requires Pro or Premium license

## Words and terminology that Q&A recognizes

The list of keywords on this page isn't exhaustive. The best way to see if Power BI recognizes a keyword is to try it out by typing it in the question box. If the word or term is grayed out, then Power BI doesn't recognize it.

The list below uses present tense, but all tenses are recognized in most cases. For example, "is" includes: **are, was, were, will be, have, has, had, will have, has got, do, does, and did**. And "sort" includes: **sorted and sorting**. Power BI also recognizes and includes singular and plural versions of a word.

### Note

Q&A is also available in the [Microsoft Power BI app for iOS on iPads, iPhones, and iPod Touch devices](#).

Category	Keywords
Aggregates	total, sum, amount, number, quantity, count, average, most, least, fewest, largest, smallest, highest, biggest, maximum, max, greatest, lowest, littlest, minimum, min
Articles	a, an, the
Blank and Boolean	blank, empty, null, prefixed with "non" or "non-", empty string, empty text, true, t, false, f
Comparisons	vs, versus, compared to, compared with
Conjunctions	and, or, each of, with, versus, &, and, but, nor, along with, in addition to
Contractions	Q&A recognizes almost all contractions, try it out. Here are a few examples: didn't, haven't, he'd, he's, isn't, it's, she'll, they'd, weren't, who's, won't, wouldn't

Category	Keywords
Dates	Power BI recognizes most date terms (day, week, month, year, quarter, decade, ...) and dates written in many different formats (see <i>Relative dates</i> ). Power BI also recognizes the following keywords: MonthName, Days 1-31, decade. Examples: January 3rd of 1995, January 3rd 1995, Jan 03 1995, 3 Jan 1995, the 3rd of January, January 1995, 1995 January, 1995-01, 01/1995, names of months
Relative dates	today, right now, current time, yesterday, tomorrow, the current, next, the coming, last, previous, ago, before now, sooner than, after, later than, from, at, on, from now, after now, in the future, past, last, previous, within, in, over, N days ago, N days from now, next, once, twice.
	Example: count of orders in the past 6 days.
Equality (Range)	in, equal to, =, after, is more than, in, between, before  Examples: Order year is before 2012? Price equals between 10 and 20? Is the age of John greater than 40? Total sales in 200-300?
Equality (Value)	is, equal, equal to, in, of, for, within, is in, is on  Examples: Which products are green? Order date equals 2012. Is the age of John 40? Total sales that aren't equal to 200? Order date of 1/1/2016. 10 in price? Green for color?
Names	If a column in the dataset contains the phrase "name" (for example, EmployeeName), Q&A understands the values in that column are names. You can ask questions like "which employees are named robert."
Pronouns	he, him, himself, his, she, herself, her, hers, it, itself, its, they, their, them, themselves, theirs, this, these, that, those
Query commands	sorted, sort by, direction, group, group by, by, show, list, display, give me, name, just, only, arrange, rank, compare, to, with, against, alphabetically, ascending, descending, order
Range	greater, more, larger, above, over, >, less, smaller, fewer, below, under, <, at least, no less than, >=, at most, no more than, <=, in, between, in the range of, from, later, earlier, sooner, after, on, at, later than, after, since, starting with, starting from, ending with
Times	am, pm, o'clock, noon, midnight, hour, minute, second, hh:mm:ss  Examples: 10 pm, 10:35 pm, 10:35:15 pm, 10 o clock, noon, midnight, hour, minute, second.
Top N	(order, ranking): top, bottom, highest, lowest, first, last, next, earliest, newest, oldest, latest, most recent, next

Category	Keywords
Visual types	all visual types native to Power BI. If it's an option in the Visualizations pane, then you can include it in your question. The exception to this rule is <a href="#">Power BI custom visuals</a> that you've manually added to the Visualization pane.
Wh (relationship, qualified)	when, where, which, who, whom, how many, how much, how many times, how often, how frequently, amount, number, quantity, how long, what

## Q&A helps you phrase the question

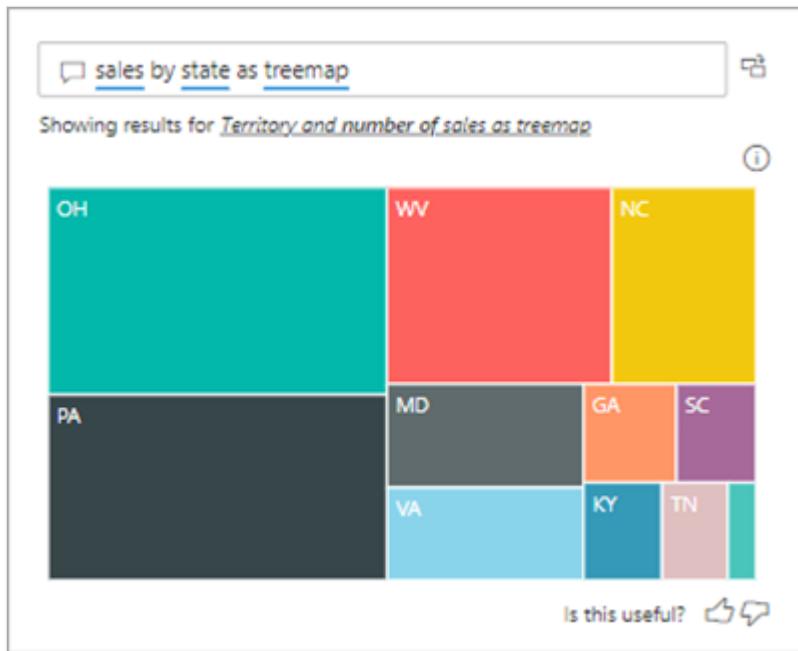
Q&A does its best to understand and answer the question being asked. It tries to understand in several ways. For all of these phrasings, you can accept the action in full, in part, or not at all. As you type your question, Q&A:

- Autocompletes words and questions. It uses various strategies, including autocompleting recognized words, stored questions, and previously used questions that returned valid responses. If more than one autocomplete option is available, they're presented in a dropdown list.
- Corrects spelling.
- Provides a preview of the answer in the form of a visual. The visual updates as you type and edits the question (it doesn't wait for you to press Enter).
- Suggests replacement terms from the underlying dataset(s) when you move the cursor back in the question box.
- Restates the question based on the data in the underlying dataset(s). Q&A replaces the words you used with synonyms from the underlying dataset(s). By reading the restatement, you know whether Q&A understood your question or not.
- Adds a double underline to words it doesn't understand.
- Adds a single underline to words it does understand.
- Allows you to contact the report or dashboard owner when your term isn't found or your question doesn't get results.

## Tell Q&A which visual to use

When typing natural language queries with Power BI Q&A, you can specify the visual type in your query. For example:

*"sales by state as treemap"*



## Don't stop now

After Q&A displays your results, keep the conversation going! Use the interactive features of the visual and of Q&A to uncover more insights.

## Next steps

- Go to [Q&A for Power BI business users](#)
- See [Basic concepts for the Power BI service business user](#)
- More questions? [Ask the Power BI Community](#)

# Glossary for business users of the Power BI service

Article • 11/13/2023

The Power BI service can introduce terminology that is unfamiliar or confusing. The glossary is a great place to look up terminology—you might want to bookmark it. Another great resource for learning about the building blocks that make up Power BI service is [Basic concepts for the Power BI service business user](#). The article gives a high level overview of the Power BI *pieces* and how they're connected.

This glossary is a community effort. If you don't see a word here, please ask us to add it (you can use the documentation feedback button at the bottom of this article).

## A

### account

Use your work or school account to sign in to Power BI. Administrators manage work or school accounts in Azure Active Directory. Your level of access is determined by the Power BI license associated with that account and the capacity type where content is stored. See *license* and *Premium*.

### Admin portal

The location where Power BI admins manage users, features, and settings for Power BI in their organization.

#### ⓘ Note

Microsoft 365, Azure, and PowerApps use Admin center.)

### aggregates

When the values of multiple rows are grouped together as input on criteria to form a single value of more significant meaning or measurement. Only implicit measures (see definition) can be aggregated.

### aggregation

The reduction of rows in underlying data sources to fit in a model. The result is an aggregate.

## **alert, alerts**

A feature that notifies users of changes in the data based on limits they set. Alerts can be set on tiles pinned from report visuals. Users receive alerts on the service and on their mobile app.

## **annotate**

To write lines, text, or stamps on a snapshot copy of a tile, report, or visual on the Power BI mobile app for iOS and Android devices.

## **app, apps**

A bundle of dashboards, reports, and semantic models. It also refers to the mobile apps for consuming content, such as the Power BI app for iOS.

## **AppSource**

Centralized online repository where you can browse and discover dashboards, reports, semantic models, and apps to download.

## **ArcGIS for Power BI**

ArcGIS is a mapping and analytics platform created by the company Esri. The name of the visual included in the Power BI visuals library is called ArcGIS for Power BI.

## **Auto Insights**

Auto Insights are now called *Quick Insights*.

# **B**

## **BI**

Business intelligence.

## **bookmark**

A view of data captured in the Bookmarks pane of a report in Power BI Desktop or service. In Desktop, the bookmarks are saved in the *.pbix* report file for sharing on the Power BI service.

## **breadcrumbs**

The navigation at the top left to quickly navigate between reports and dashboards.

# C

## calculation

A mathematical determination of the size or number of something.

## capacity

[Power BI Premium] Data models running on hardware fully managed by Microsoft in Microsoft cloud data centers to help ensure consistent performance at scale. BI solutions are delivered to the entire organization regardless of Power BI license.

## card (visual type)

A Power BI [visualization type](#).

## card (Power BI Home)

Power BI Home displays rectangular and square pictures that represent dashboards, reports, apps, and more. These pictures are referred to as *cards*.

## certified custom visual

A Power BI custom visual that met requirements and passed strict security testing.

## connect live

A method of connecting to SQL Server Analysis Services data models. Also called a live connection.

## connector

Power BI Desktop includes an ever-growing collection of data connectors that are built to connect to a specific data source. Examples include: GitHub, MailChimp, Power BI dataflows, Google Analytics, Python, SQL Server, Zendesk, and more than 100 additional data sources.

## container

The areas on the navigation pane are *containers*. In the nav pane you find containers for: Browse, Data hub, Apps, Metrics, Deployment pipelines, Learn, Workspaces, and Home.

## content

Content for the Power BI service is generally dashboards, reports, and apps. It can also include workbooks and semantic models.

## content list

The content index for an app.

## content view

The view that lists Power BI content you created or content that designers shared with you.

## continuous variable

A continuous variable can be any value between its minimum and maximum limits, otherwise it's a discrete variable. Examples are temperature, weight, age, and time. Continuous variables can include fractions or portions of the value. The total number of blue skateboards sold is a discrete variable since we can't sell half a skateboard.

## correlation

A correlation tells us how the behavior of things is related. If their patterns of increase and decrease are similar, then they're positively correlated. And if their patterns are opposite, then they're negatively correlated. For example, if sales of our red skateboard increase each time we run a TV marketing campaign, then sales of the red skateboard and the TV campaign are positively correlated.

## cross-filter

Applies to visual interactions. Cross-filtering removes data that doesn't apply. For example, selecting **Moderation** in the doughnut chart cross-filters the line chart. The line chart now displays only data points that apply to the Moderation segment.

## cross-highlight

Applies to visual interactions. Cross-highlighting retains all the original data points but dims the portion that doesn't apply to your selection. For example, selecting **Moderation** in the doughnut chart cross-highlights the column chart. The column chart dims all the data that doesn't apply to the Moderation segment, and highlights all the data that does apply to the Moderation segment.

## custom visual

Visuals that the community and Microsoft create. They can be downloaded from the Microsoft Store for use in Power BI reports.

# D

## **dashboard**

In the Power BI service, a dashboard is a single page, often called a canvas that uses visualizations to tell a story. Because it's limited to one page, a well-designed dashboard contains only the most important elements of that story. Dashboards can be created and viewed only in the Power BI service, not in Power BI Desktop. For more information, see [Basic concepts for the Power BI service business user](#).

## **data connector**

See *connectors*.

## **data model, Excel data model**

In Power BI content, a data model refers to a map of data structures in a table format. The data model shows the relationships that are being used to build databases. Report designers, administrators, and developers create and work with data models to create Power BI content.

## **dataflow**

Dataflows ingest, transform, integrate, and enrich big data by defining data source connections, Extract Transform Load (ETL) logic, refresh schedules, and more. Formerly called "data pool."

## **dataset**

Refer to [semantic model](#).

## **diamond**

Power BI Premium. The shape of the icon that signifies a workspace is a Premium capacity workspace.

## **dimension**

Dimensions are categorical (text) data. A dimension describes a person, object, item, product, place, and time. In a semantic model, dimensions are a way to group *measures* into useful categories. For our skateboard company, some dimensions might include looking at sales (a measure) by model, color, country/region, or marketing campaign.

## **drill up, drill down, drillthrough**

In Power BI, "drill down" and "drill up" refer to the ability to explore the next level of detail in a report or visual. "Drill through" refers to the ability to select a part of a visual and be taken to another page in the report, filtered to the data that relates to the part

of the visual you selected on the original page. Drill to details commonly means to show the underlying records.

## E

### Editing view

The mode in which report *designers* can explore, design, build, and share a report.

### ellipsis

(...) menu. Selecting an ellipsis displays the menu options. Also referred to as the **More actions** or **More options** menu, depending on the menu options.

### embed code

A common standard across the internet. In Power BI, the customer can generate an embed code and copy it to place content such as a report visual on a website or blog.

### embedded

See *Power BI Embedded*.

### embedding

In the Power BI developer offering, the process of integrating analytics into apps using the Power BI REST APIs and the Power BI SDK.

### environment

[Power BI Desktop, Power BI Mobile, the Power BI service, and others] Another way to refer to one of the Power BI tools. It's OK to use Power BI environment (tenant) in documentation where it might help business analysts who are familiar with the term tenant to know it's the same thing.

### explicit measures

Power BI uses explicit measures and implicit measures (see definition). Explicit measures are created by report designers and saved with the semantic model. They're displayed in Power BI as fields, and can therefore be used over and over. For example, a report designer creates an explicit measure *TotalInvoice* that sums all invoice amounts. Colleagues who use that semantic model, and who have edit access to the report, can select that field and use it to create a visual. When an explicit measure is added or dragged onto a report canvas, Power BI doesn't apply an aggregation. Creating explicit measures requires edit access to the semantic model.

# F

## **favorite, unfavorite**

Verb meaning to add to the Favorites list for quick access to frequently visited dashboards and reports in Power BI. When you no longer want them as a favorite, you unfavorite them.

## **filter versus highlight**

A filter removes data that doesn't apply. A highlight grays out the data that doesn't apply.

## **focus mode**

Use focus mode to pop out a visual or tile to see more detail. You can still interact with the visual or tile while in focus mode.

## **free account**

See *account*.

## **full screen, full-screen mode**

Use full screen mode to view Power BI content without the distraction of menus and navigation panes. Full screen is sometimes referred to as TV mode.

# G

## **gateways or on-premises data gateways**

A bridge to underlying data sources. It provides quick and secure data transfer between the Power BI service and on-premises data sources that support refresh. Usually managed by IT.

# H

## **high-density visuals**

Visuals with more data points than Power BI can render. Power BI samples the data to show the shape and outliers.

## **Home**

The default landing page for Power BI service users. Doesn't modify anything. Can be called Power BI Home or simply Home.

## I

### implicit measures

Power BI uses implicit measures and explicit measures (see definition). Implicit measures are created dynamically. For example, when you drag a field onto the report canvas to create a visual. Power BI automatically aggregates the value using one of the built-in standard aggregations (SUM, COUNT, MIN, AVG, and others). Creating implicit measures requires edit access to the report.

### insights

See *quick insights*.

## J

## K

### KPIs

Key performance indicators. A type of visual.

## L

### left navigation (left nav)

This term was replaced with *nav pane* but might still appear in some documentation. The controls along the left edge of Power BI service. First instance: navigation pane. Subsequent mentions or tight spaces: nav pane.

### license

Your level of access is determined by the Power BI license associated with your account and the capacity type where content is stored. For example, in shared capacity, a user with a Power BI Pro license can collaborate only with users who are also assigned a Pro license. In shared capacity, a free license enables access to only the user's personal workspace. However, when content is in Premium capacity, users with a Pro license can share that content with users who are assigned a free license. A license is assigned to a

user and can be a free or Pro license. Depending on how the license was acquired, it might be paid or unpaid. The accounts are either per-user or organizational. Per-user accounts are available as *free* or *Pro*. A Power BI *free* user is either using stand-alone Power BI Desktop or is using Power BI service stand-alone or is using Power BI service within an organization that has a Premium organizational subscription. The Power BI per-user *Pro* account is a paid monthly subscription that allows for collaboration and sharing of content with other *Pro* users. The organizational *Premium* (also known as *Premium capacity*) subscription adds a layer of features on top of per-user licenses. For example, *free* per-user account holders within an organization that has a *Premium* subscription, are able to do more with Power BI than *free* users without *Premium*. For example, *free* users in *Premium* organizational accounts, can collaborate with colleagues and can view content hosted on Power BI Premium capacity.

## **list page or content list**

One of the section pages for the elements in the nav pane. For example, Create, Data hub, or My workspace.

# **M**

## **measure**

A measure is a quantitative (numeric) field that can be used to do calculations. Common calculations are sum, average, and minimum. For example, if our company makes and sells skateboards, our measures might be number of skateboards sold and average profit per year.

## **Microsoft R (R)**

R is a programming language and software environment for statistical computing and graphics.

## **mobile app**

Apps that allow you to run Power BI on iOS, Android, and Windows mobile devices.

## **modeling**

[Power BI Desktop] Getting the connected data ready for use in Power BI. This includes creating relationships between tables in multiple data sources, creating measures, and assigning metrics.

## **My workspace**

The workspace for each Power BI customer to use to create content. If they want to bundle anything created here into an app, and they have *designer* permissions, they upload it to the appropriate workspace or create a new one.

## N

### **native**

Included with the product. For example, Power BI comes with a set of *native* visualization types. But you can also import other types, such as Power BI visuals.

### **navigation pane or nav pane**

The controls along the left edge of the Power BI service. First instance: navigation pane. Subsequent mentions or tight spaces: nav pane.

### **notification**

Messages sent by and to the Power BI Notification center.

### **Notification center**

The location in the service where messages are delivered to users, such as notice of sunsetting certain features.

## O

### **OneDrive for work or school vs OneDrive**

OneDrive is a personal account and OneDrive for work or school is for work accounts.

### **on-premises**

The term used to distinguish local computing (in which computing resources are located on a customer's own facilities) from cloud computing.

### **on-premises data gateways**

See *gateways* or *on-premises data gateways*.

## P

### **PaaS**

Platform as a service, for example, Power BI Embedded.

## page

Reports have one or more pages. Each tab on the report canvas represents a page.

## paginated reports

Paginated reports are designed to be printed or shared. They're called *paginated* because they're formatted to fit well on a page. They display all the data in a table, even if the table spans multiple pages. You can control their report page layout exactly. Power BI Report Builder is the standalone tool for authoring paginated reports.

## pbviz

The file extension for a Power BI custom visual.

## pbix

The file extension for a Power BI Desktop file (letters pronounced individually as P-B-I-X).

## permissions

What a user can and can't do in Power BI is based on permissions. As a *consumer* you don't have the same permissions as a *designer*, *administrator*, or *developer*.

## phone report

The name for a Power BI report that's formatted for viewing on a phone.

## phone view

The user interface in the Power BI service for laying out a phone report.

## pin, unpin

The action a report *designer* takes when placing a visual, usually from a report, onto a dashboard.

## Power BI, Power BI service, Power BI Desktop, Power BI mobile

Some of the Power BI offerings. *Power BI* is the general term. It's often used in place of a full product name, such as *Power BI service* and *Power BI mobile*, after the first mention of the full product name.

## Power BI Desktop

Also referred to as *Desktop*. The free Windows application of Power BI you can install on your local computer that lets you connect to, transform, and visualize your data. Used by report designers and admins. For more information, see [What is Power BI](#).

### **Power BI Embedded**

A product used by developers to embed Power BI dashboards and reports into their own apps, sites, and tools.

### **Power BI Premium**

An add-on to the Power BI Pro license that enables organizations to predictably scale BI solutions through the purchasing of reserved hardware in the Microsoft cloud. See *account* and *license*.

### **Power BI Pro**

A monthly per-user license that provides the ability to build reports and dashboards, collaborate on shared data, keep data up-to-date automatically, audit and govern how data is accessed and used, and the ability to package content to distribute (Power BI apps). See *account* and *license*.

### **Power BI Report Builder**

It's a free, standalone Windows Desktop application used for authoring paginated reports. Used by report designers. For more information, see [Power BI Report Builder](#). Power BI Report Builder can be downloaded from the Power BI site.

### **Power BI Report Server**

An on-premises report server with a web portal in which you display and manage reports and KPIs. It allows organizations to build distributed, hybrid BI systems (a mix of cloud and on-premises deployments).

### **Power BI service**

An online SaaS (software as a service). For more information, see [What is Power BI](#).

### **Premium workspace**

A workspace running in a capacity, signified to customers by a diamond icon.

### **Pro license or Pro account**

See *account* and *license*.

### **publish**

Power BI service report *designers* bundle the contents of a Power BI workspace to make it available to others as a Power BI app. Power BI Desktop report *designers* use publish to refer to sending a Power BI Desktop report in *.pbix* format to the Power BI service so that they can build dashboards from it and easily share it with others.

## Q

### Q&A

The Power BI feature that allows natural language questions about a semantic model and get responses in the form of visualizations. Appears in the Power BI service and Desktop.

#### **Q&A virtual analyst**

[Power BI Mobile] For iOS, the conversational UI for Q&A.

### QR codes

[Power BI Mobile] A matrix barcode that can be generated for dashboards or tiles in the Power BI service to identify products. QR codes can be scanned with a QR code reader, or with the Power BI Mobile app on iOS or Android, to link directly to the dashboard or tile.

### **query string parameter**

In the broadest sense, a query string recovers information from a database. Add one to a URL to prefilter the results seen in a Power BI report.

### **Quick Insights**

Quick Insights refer to automatically generated insights that reveal trends and patterns in data.

## R

### **Reading view**

Read-only view for reports (as opposed to *Editing View*).

### **real-time streaming**

The ability to stream data and update dashboards in real time from sources such as sensors, social media, usage metrics, and anything else from which time-sensitive data

can be collected or transmitted.

## **recent**

The container on the home page that holds all the individual items that were accessed last.

## **related content**

Shows the individual pieces of content that contribute to the current content. For example, for a dashboard, you can see the reports and semantic models providing the data and visualizations on the dashboard.

## **relative links**

Links from dashboard tiles to other dashboards and reports that are shared directly or distributed through a Power BI app. Relative links enable richer dashboards that support drillthrough.

## **report**

A multi-perspective view into a single semantic model, with visualizations that represent different findings and insights from that semantic model. Can have a single visualization or many, a single page, or many pages.

## **report editor**

The report editor is the tool in which new reports are created and changes are made to existing reports by *report designers*.

## **report measures**

Also called custom calculations. Excel calls these *calculated fields*. See also *measures*.

## **responsive visuals**

Visuals that change dynamically to display the maximum amount of data and insights, no matter the screen size.

## **row-level security (RLS)**

Power BI feature that enables database administrators to control access to rows in a database table based on the characteristics of the user executing a query (for example, group membership). Administrators can configure RLS for data models imported into Power BI with Power BI Desktop.

# S

## SaaS

Software as a service is a way of delivering applications over the internet as a web-based service. Also referred to as: web-based software, on-demand software, or hosted software.

## screenshot

Simple screenshots of a report can be emailed using the send a screenshot feature.

## semantic model

A **semantic model** is a collection of data used to create visualizations and reports.

## Desktop or Power BI Desktop

Free Power BI tool used primarily by report designers, admins, and developers.

## service

See *Power BI service*. A standalone resource available to customers by subscription or license. A service is a product offering delivered exclusively via the cloud.

## settings

The location for Power BI users to manage their own general settings, such as whether to preview new features, set the default language, close their account, and more. Also, users manage individual settings for content assets, alerts, and subscriptions.

Represented by a cog icon.

## share, sharing

In Power BI, sharing typically means directly sharing an individual item (a dashboard or report) with one or more people by using their email address. Requires a Power BI Pro license for sender and recipient. On mobile devices, share can refer to native OS share functionality, such as "annotate and share."

## Shared with me

The container in the nav pane that holds all the individual items that were directly shared by another Power BI user.

## snapshot

In Power BI, a snapshot is a static image compared with a live image of a tile, dashboard, or report.

### **SQL Server Analysis Services (SSAS)**

An online analytical data engine used in decision support and business analytics, providing the analytical data for business reports and client applications such as Power BI, Excel, Reporting Services reports, and other data visualization tools.

### **SQL Server Reporting Services (SSRS)**

A set of on-premises tools and services to create, deploy, and manage report servers and paginated reports.

### **streaming data**

See *real-time streaming*.

### **subscriptions, subscribe**

You can subscribe to report pages, apps, and dashboards and receive emails containing a snapshot. Requires a Power BI Pro license.

### **summarization**

[Power BI Desktop] The operation being applied to the values in one column.

## **T**

### **tiles**

Power BI dashboards contain report tiles.

### **time series**

A time series is a way of displaying time as successive data points. Those data points could be increments such as seconds, hours, months, or years.

## **U**

## **V**

### **value, values**

Numerical data to be visualized.

## **visual, visualization**

A chart. Some visuals are: bar chart, treemap, doughnut chart, map.

## **visual interaction**

One of the great features of Power BI is the way all visuals on a report page are interconnected. If you select a data point on one of the visuals, all the other visuals on the page that contain that data change, based on that selection.

## **Visualizations pane**

Name for the visualization templates that ship in the shared report canvas for Power BI Desktop and the Power BI service. Contains small templates, also called icons, for each native visualization type.

# **W**

## **workbook**

An Excel workbook to be used as a data source. Workbooks can contain a data model with one or more tables of data loaded into it by using linked tables, Power Query, or Power Pivot.

## **workspace**

Containers for dashboards, reports, and semantic models in Power BI. Users can collaborate on the content in any workspace except My workspace. The contents can be bundled into a Power BI app. Workspaces stored in Premium capacity can be shared with free users. Personal workspaces (under My workspace) can be hosted in Premium capacity.

# **X**

## **x-axis**

The axis along the bottom, the horizontal axis, of a line graph.

# **Y**

## **y-axis**

The axis along the side, the vertical axis, of a line graph.

Z

## Next steps

- Basic concepts for Power BI service consumer

# Frequently asked questions about Power BI

FAQ

APPLIES TO:  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

## What's the Microsoft Power BI service?

The Power BI service is a cloud-based business analytics service that enables anyone to visualize and analyze data with greater speed, efficiency, and understanding. It connects users to a broad range of cloud-based and on-premises data through easy-to-use dashboards, interactive reports, and compelling visualizations that bring data to life. For more information, see [What is Power BI](#).

## What's a Power BI business user?

The way you interact with Power BI will depend on your job role. As an end user or *business user*, you're the person who receives content (dashboards, reports, and apps) from colleagues. If you work in the online or mobile version of Power BI, then you're using the Power BI service to review and interact with content to make business decisions. For more information, see [Power BI for business users](#).

## What's the difference between Power BI Pro and Power BI Premium?

Power BI Pro is an individual user license that allows access to all content and capabilities in the Power BI service. You can even share content and collaborate with other Pro users. Only Pro users can publish content to other workspaces, share dashboards, and subscribe to dashboards and reports.

Power BI Premium provides a capacity to deliver more consistent performance. It also supports larger data volumes in Power BI. For individual users, Premium enables widespread distribution of content by Pro users, and doesn't require per-user Pro licenses for recipients viewing the content. This means *business users* can collaborate with colleagues and view and interact with dashboards, reports, and apps that have been shared with them.

To learn more, see [What type of license do I have?](#)

# What if I have questions about Power BI Premium?

For questions related to Power BI Premium, see [Power BI Premium FAQ](#).

## What is Power BI Desktop?

Power BI Desktop is a free application you can install on your computer. Power BI Desktop works cohesively with the Power BI service. Data scientists, report designers, admins, and developers work with Power BI Desktop to produce reports and make them available to the Power BI service *business users* like you. For more information, see [What is Power BI Desktop](#).

## What do I need as a business user to get started with the Power BI service?

If your company has purchased Power BI licenses or a Premium capacity account, all you'll need to start is a Web browser and credentials. To log in, you'll use your work email address and a password (set by your Power BI administrator).

You can also sign up for the Power BI service as an individual. For more information, see [the Power BI self-service sign-up process](#).

## Why do I have to sign up with my work email?

Power BI doesn't support email addresses provided by consumer email services or telecommunications providers. To learn more, see [the Power BI self-service sign-up process](#).

## Does Power BI support mobile devices?

Yes. Power BI has native apps for Android phones and tablets, iOS devices, and Windows 10 devices. Download one of the [Power BI mobile apps](#) from its respective store.

- [Apple App Store](#)

- [Google Play ↗](#)
- [Windows Store ↗](#)

## What do I need to install to use Power BI?

To use the Power BI service for free, you need a Web browser and email, then download the Power BI mobile apps from their respective stores (also for free).

- [Apple App Store ↗](#)
- [Google Play ↗](#)
- [Windows Store ↗](#)

## Where do I get started with Power BI?

The following resources are available to help get you started:

- [Power BI Blog ↗](#)
- [Webinars](#)
- [Getting started videos on our YouTube Channel ↗](#)
- [Get started with Power BI as a \*business user\* article](#)
- [Join our community ↗](#) and ask questions
- See [10 tips for getting help](#) for more suggestions

## Which browsers does Power BI support?

Here's a complete list of [supported browsers for Power BI](#).

## What regions and languages does Power BI support?

Here's a complete list of [regions and languages supported by Power BI](#).

## Where can I learn more about security?

Learn more about Power BI security, privacy, and compliance here:

- This [Power BI Security](#) white paper

- This [Power BI security support article](#)

# How do I undo in Power BI?

Like many other Microsoft services and software, Power BI provides an easy way to undo your last command.

- To **undo** your last action or last few actions, press CTRL+Z.

## Next steps

- [What is a Power BI business user?](#)
- [How does a business user interact with Power BI?](#)
- More questions? [Try asking the Power BI Community](#) ↗
- Still have an issue? Visit the [Power BI support page](#) ↗

# Supported browsers for Power BI

Article • 12/06/2022

Power BI is designed to work with any of the supported modern browsers mentioned below. However, performance differs depending on your choice of a browser. If you're using Internet Explorer in particular, which is no longer supported by Power BI, you might encounter worse performance. We strongly recommend a supported modern browser, like Microsoft Edge. If you still encounter unacceptable performance, test other supported modern browsers to see if they provide better results for your Power BI solution.

Power BI supports these browsers on all platforms where they're available:

- Microsoft Edge.
- Chrome desktop latest version.
- Safari Mac latest version.
- Firefox desktop latest version. Firefox might change the fonts used in Power BI.

## ⓘ Note

Power BI doesn't run in any browsers in iOS10 or previous versions.

## Fonts

Power BI uses the Segoe UI font for text as its default, and the Din font for numbers, and other fonts when creating reports, dashboards, and other items. These fonts might not be available on non-Windows computers such as Macs. As a result the font, alignment of items, and visuals for the same report look different when viewed on a Windows computer versus a Mac.

The Calibri and Cambria fonts are only installed on Macs that have Microsoft Office installed. They aren't included in the default set of fonts on Macs.

If you're creating reports viewed on Mac computers, select fonts that display properly on Macs.

The following links provide information about which fonts are available on Macs. The links aren't maintained by Microsoft, and are provided only for reference and further reading.

- [List of typefaces included with macOS ↗](#)

- Where to find Calibri and Cambria for Macs ↗
- How to fix missing Calibri, Cambria and Segoe UI fonts on a Mac ↗

## Next steps

- [What is Power BI?](#)
- [Ask the Power BI Community ↗](#)
- Still have an issue? Visit the [Power BI support page ↗](#)

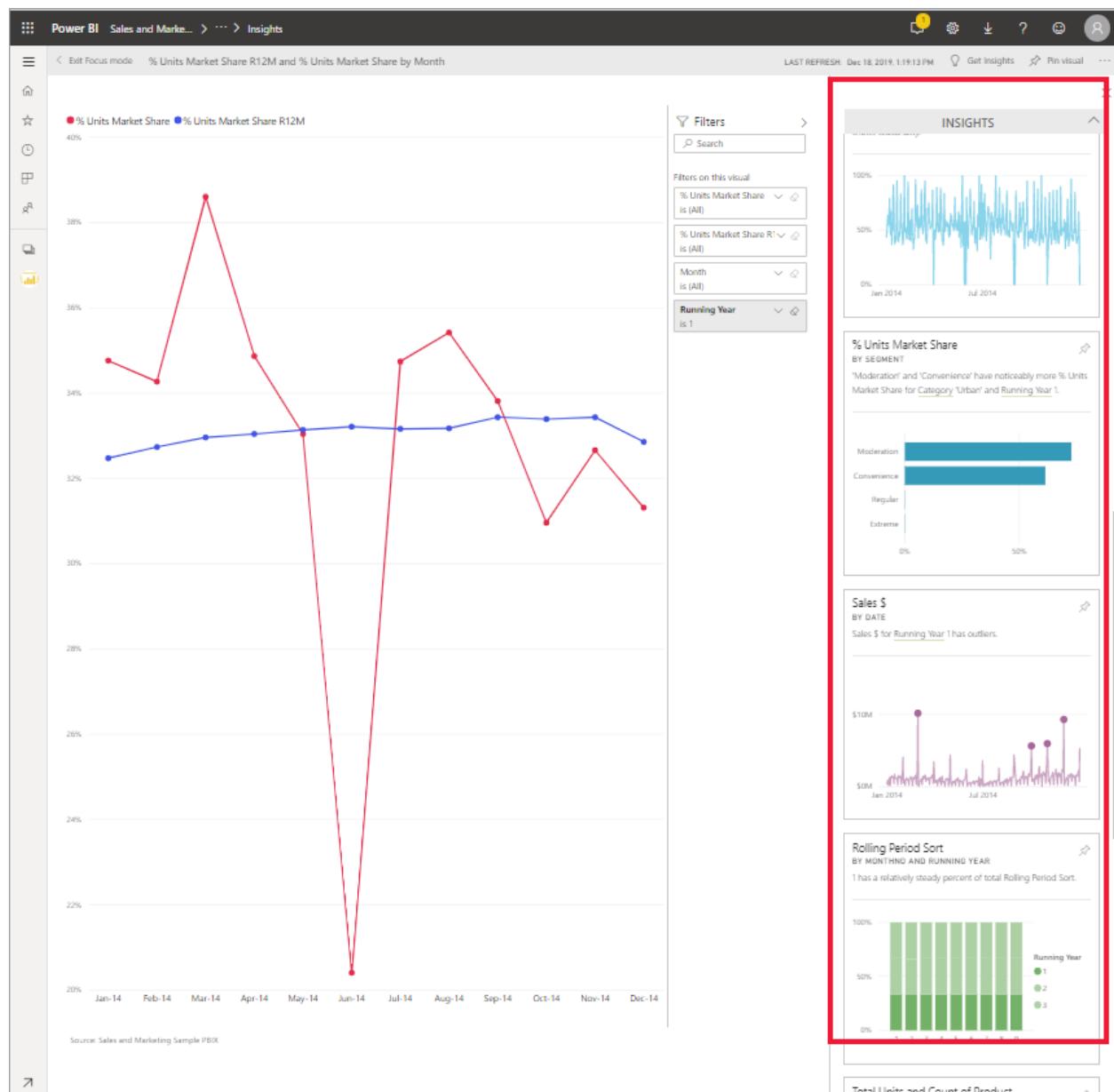
# Types of insights supported by Power BI

Article • 01/17/2023

APPLIES TO:  Power BI service for *business users*  Power BI service for designers & developers  Power BI Desktop  Requires Pro or Premium license

You can ask Power BI to look through your data and find interesting trends and patterns. These trends and patterns are presented as visuals called *Insights*. Insights are available for visuals on dashboards, visuals in reports, and entire report pages.

To learn how to use Insights, see [View data insights on dashboard tiles with Power BI](#).



## How does Insights work?

Power BI searches different subsets of your dataset and applies a set of sophisticated algorithms to discover potentially interesting insights. You can run Insights on dashboard tiles, report visuals, and report pages.

## Some terminology

Power BI uses statistical algorithms to uncover Insights. The algorithms are listed and described in the next section of this article. Before we get to the algorithms, here are definitions for some terms that might be unfamiliar.

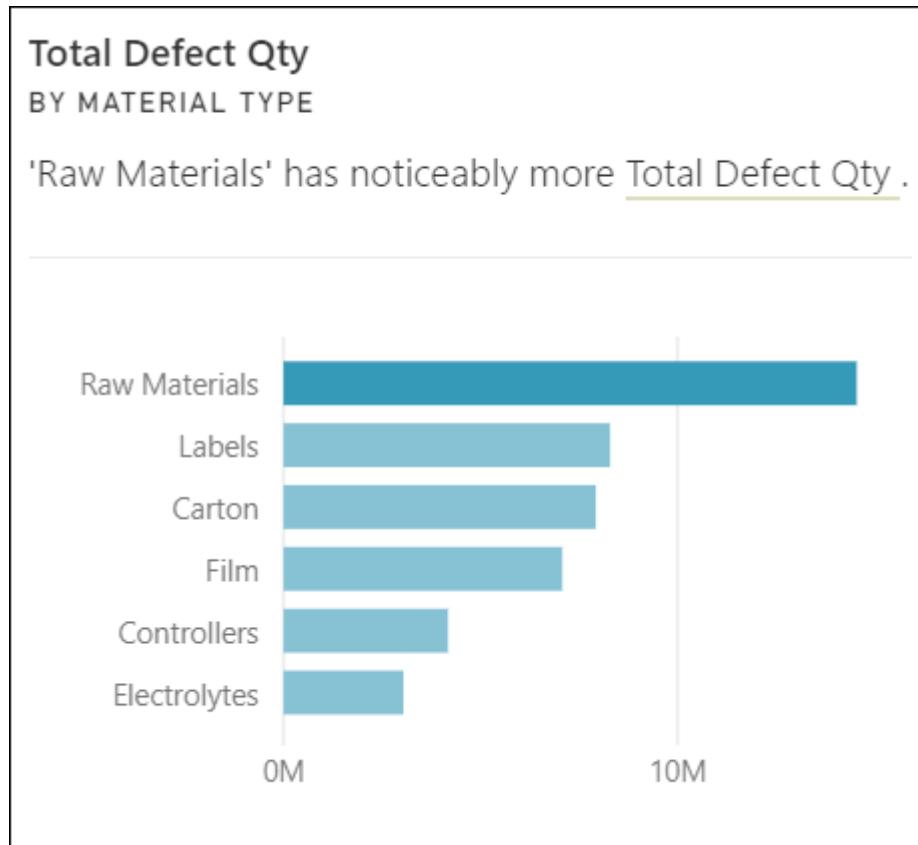
- *Measure* - A measure is a quantitative (numeric) field that can be used to do calculations. Common calculations are sum, average, and minimum. For example, if our company makes and sells skateboards, our measures might be number of skateboards sold and average profit per year.
- *Dimension* - Dimensions are categorical (text) data. A dimension describes a person, object, item, products, place, and time. In a dataset, dimensions are a way to group *measures* into useful categories. For our skateboard company, some dimensions might include looking at sales (a measure) by model, color, country/region, or marketing campaign.
- *Correlation* - A correlation tells us how the behavior of things relate. If their patterns of increase and decrease are similar, they're positively correlated. If their patterns are opposite, they're negatively correlated. For example, if sales of red skateboards increase each time we run a tv marketing campaign, sales of the red skateboards and the tv marketing campaign are positively correlated.
- *Time series* - A time series is a way of displaying time as successive data points. Those data points could be increments such as seconds, hours, months, or years.
- *Continuous variable* - A continuous variable can be any value between its minimum and maximum limits, otherwise it's a discrete variable. Examples are temperature, weight, age, and time. Continuous variables can include fractions or portions of the value. The total number of blue skateboards sold is a discrete variable since we can't sell half a skateboard.

## What types of insights can you find?

For reports, Power BI proactively performs analyses for anomalies, trends, and KPIs. Within dashboard tiles Power BI can find 10 types of Insights.

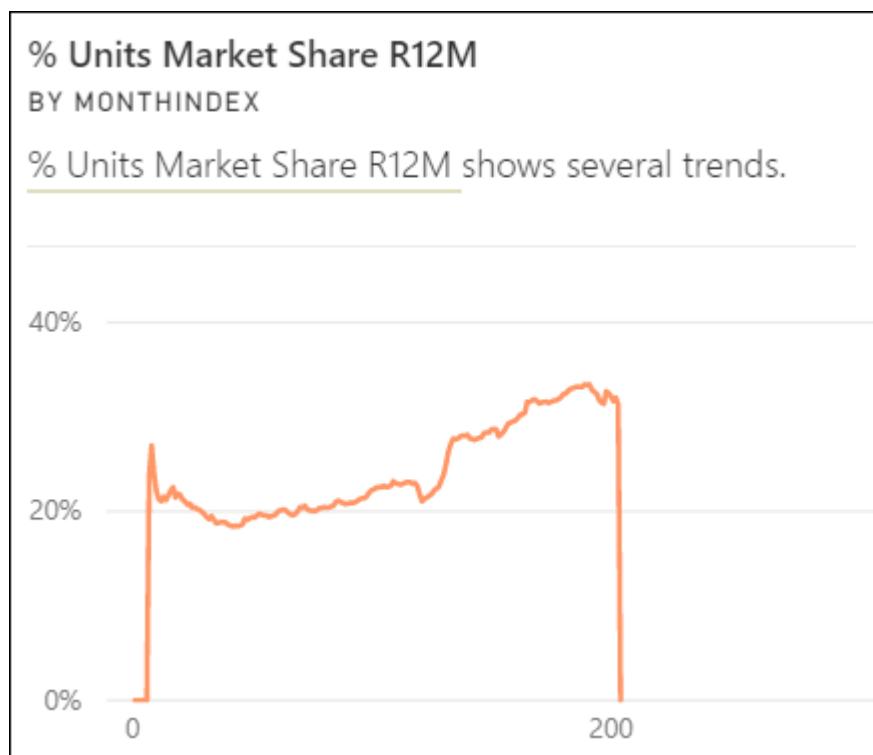
## Category outliers (top/bottom)

Highlights cases where one or two categories have much larger values than other categories.



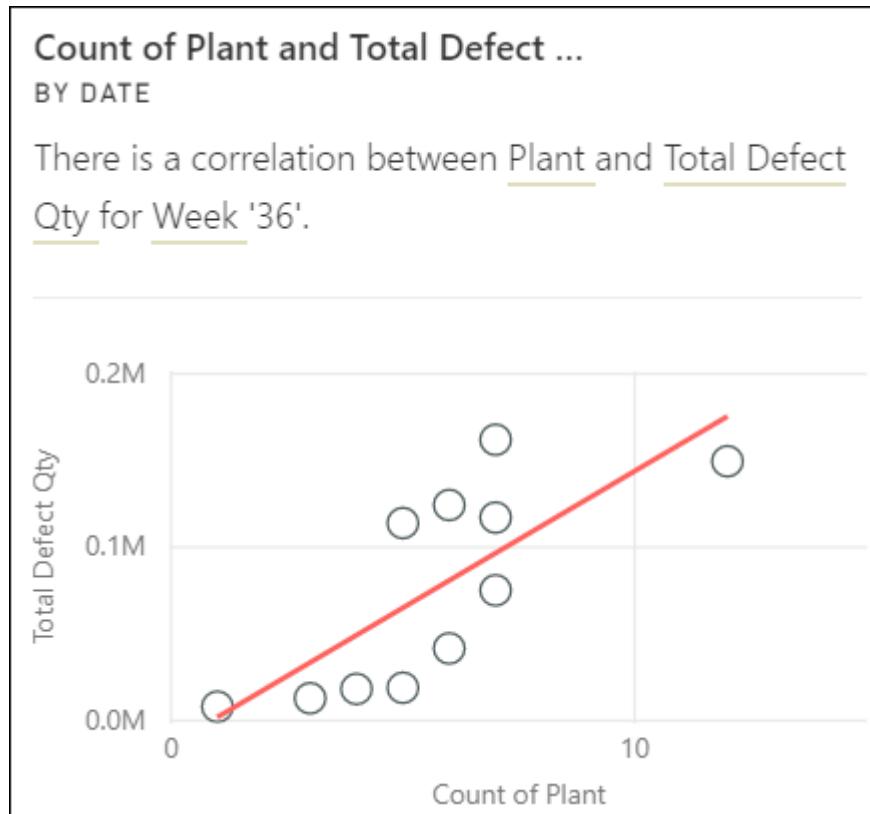
## Change points in a time series

Highlights when there are significant changes in trends in a time series of data.



## Correlation

Detects cases where multiple measures show a similar pattern or trend when plotted against a category or value in the dataset.



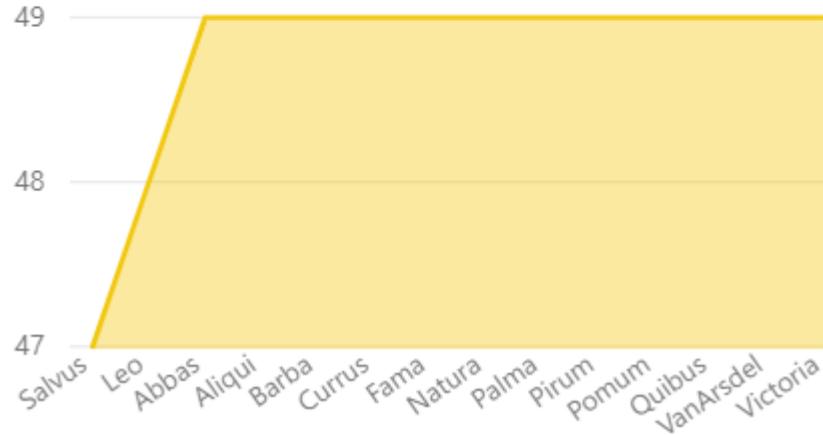
## Low Variance

Detects cases where data points for a dimension aren't far from the mean, so the *variance* is low. Let's say you have the measure "sales" and a dimension "region". And looking across the region you see that there's little difference between the data points and the mean (of the data points). The insight triggers when the variance of sales across all regions is below a threshold. In other words, when sales are similar across all regions.

## Count of State

BY MANUFACTURER

There is relatively even State by Manufacturer.



## Majority (Major factors)

Finds cases where most of a total value can be attributed to a single factor when broken down by another dimension.

## Count of Plant

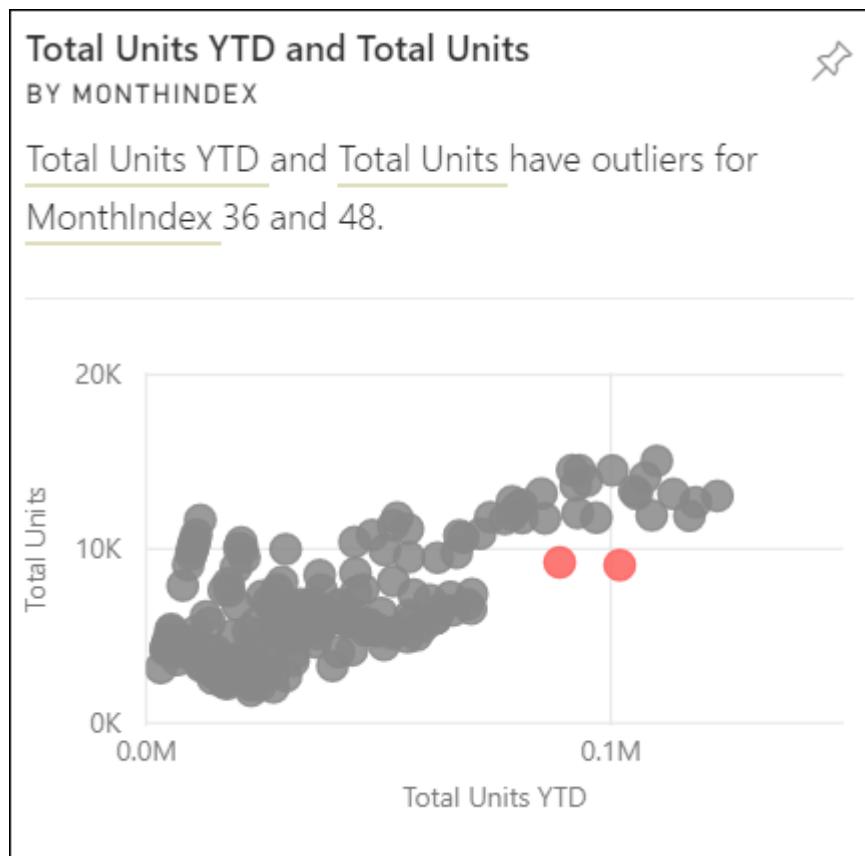
BY CATEGORY

'Logistics' accounts for the majority of Plant for Vendor 'Reddit' and Week '36'.



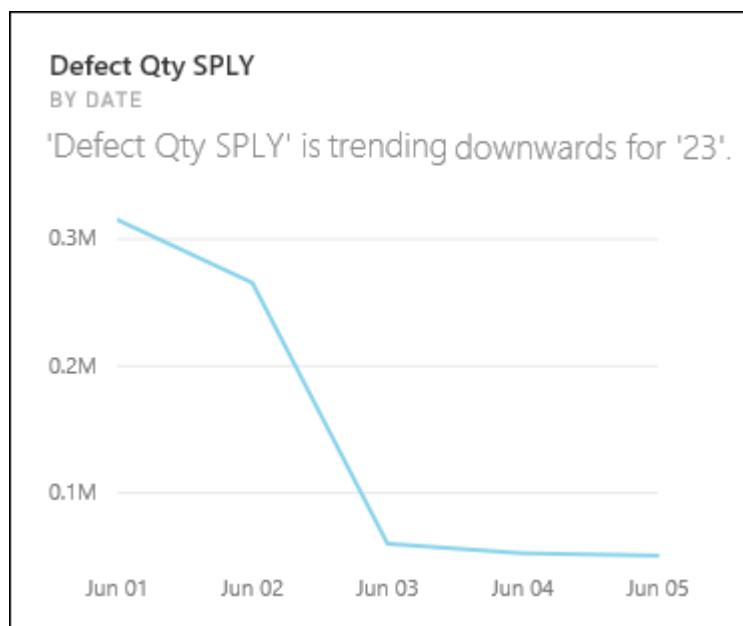
## Outliers

This insight type uses a clustering model to find outliers in non-time series data. Outliers detect when there are specific categories with values significantly different than the other categories.



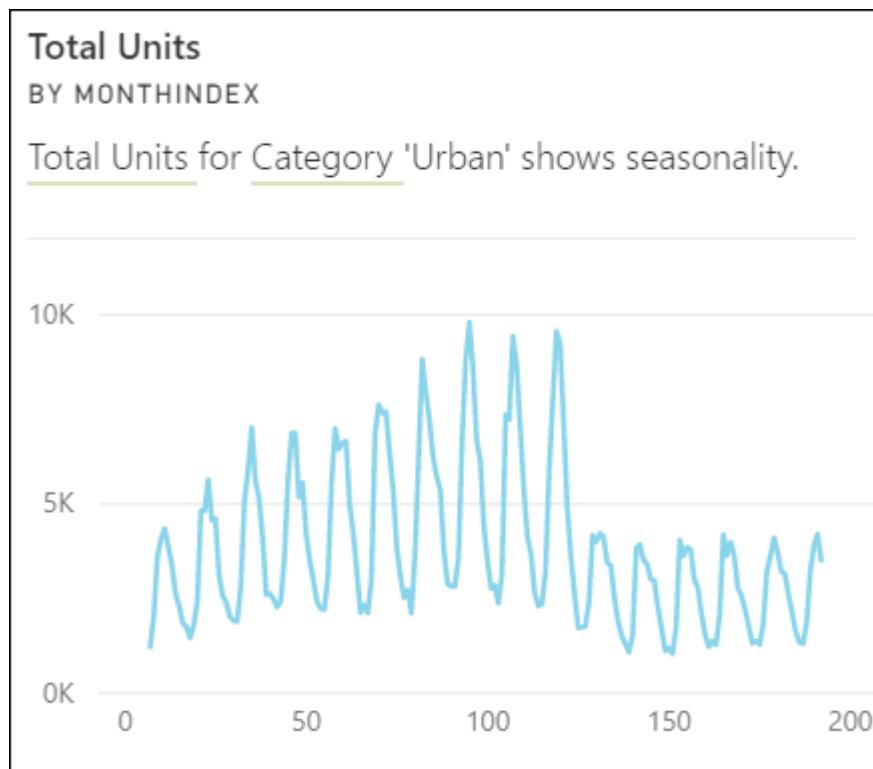
## Overall trends in time series

Detects upward or downward trends in time series data.



## Seasonality in time series

Finds periodic patterns in time series data, such as weekly, monthly, or yearly seasonality.



## Steady share

Highlights cases where there's a parent-child correlation between the share of a child value in relation to the overall value of the parent across a continuous variable. The steady share insight applies to the context of a measure, a dimension, and another date/time dimension. This insight triggers when a particular dimension value, for example "the east region", has a steady percentage of overall sales across that date/time dimension.

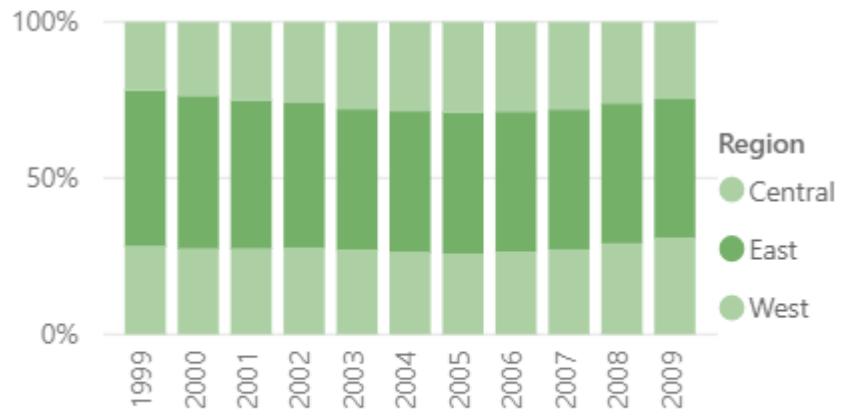
The steady share insight is similar to the low variance insight, because they both relate to the lack of variance of a value across time. However, the steady share insight measures the lack of variance of the **percentage of overall** across time, while the low variance insight measures the lack of variance of the absolute measure values across a dimension.

## Total Units

BY YEAR AND REGION

'East' has a relatively steady percent of total Total

Units for Category 'Urban'.



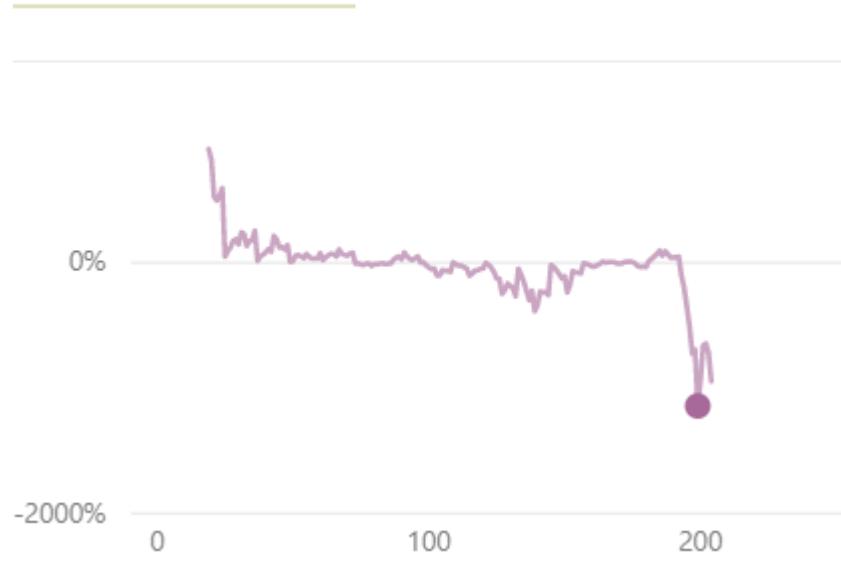
## Time series outliers

For data across a time series, detects when there are specific dates or times with values significantly different than the other date/time values.

## Total Units YTD Var %

BY MONTHINDEX

Total Units YTD Var % has outliers.



## Next steps

[View data insights on dashboard tiles with Power BI](#)

More questions? Ask the [Power BI Community](#) ↗