Contents

The Power BI service for business users

12/15/2022 • 3 minutes to read • Edit Online

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 only work with the Power BI service.

When you work with shared content, you meet one of the following requirements:

- 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.

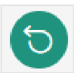
For more information about licenses and subscriptions, see Which license do I have?

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

12/15/2022 • 9 minutes to read • Edit Online

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).

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), 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.

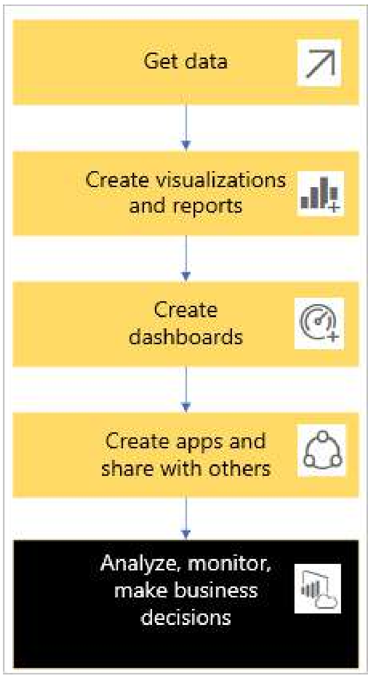
For more information about the full suite of Power BI tools, see What is Power BI?.

Let's get started

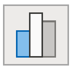
To follow along, open app.powerbi.com in your browser.

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 ***datasets***. 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 *datasets*, 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:

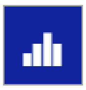
-  a ***visualization*** (or *visual*), is a type of chart built by Power BI *designers*. The visuals display the data from *reports* and *datasets*. Because they are highly interactive, you can slice, filter, highlight, change, and even drill into visualizations.

  For more info, see Interact with Visuals in reports, dashboards, and apps.

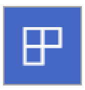
-  A *dataset* is a container of data. For example, it might be an Excel file from the World Health Organization. It could also be a company-owned database of customers or it might be a Salesforce file. Datasets are managed by *designers*.

-  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 datasets.

  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 dataset. 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 datasets 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.

Workspaces

Datasets

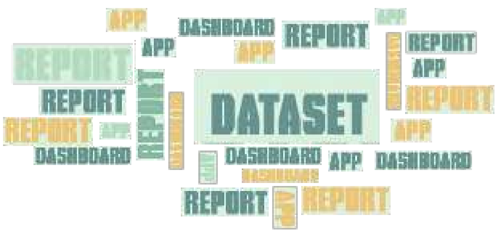
A *dataset* is a collection of data that *designers* import or connect to and then use to build reports and dashboards. As a *business user*, it's possible that you'll never interact directly with datasets, but it's still helpful to learn how they fit into the bigger picture.

Each dataset 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 datasets are being used, but you won't be able to add or change anything in the dataset. 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 dataset...

- 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 dataset can appear on many different dashboards



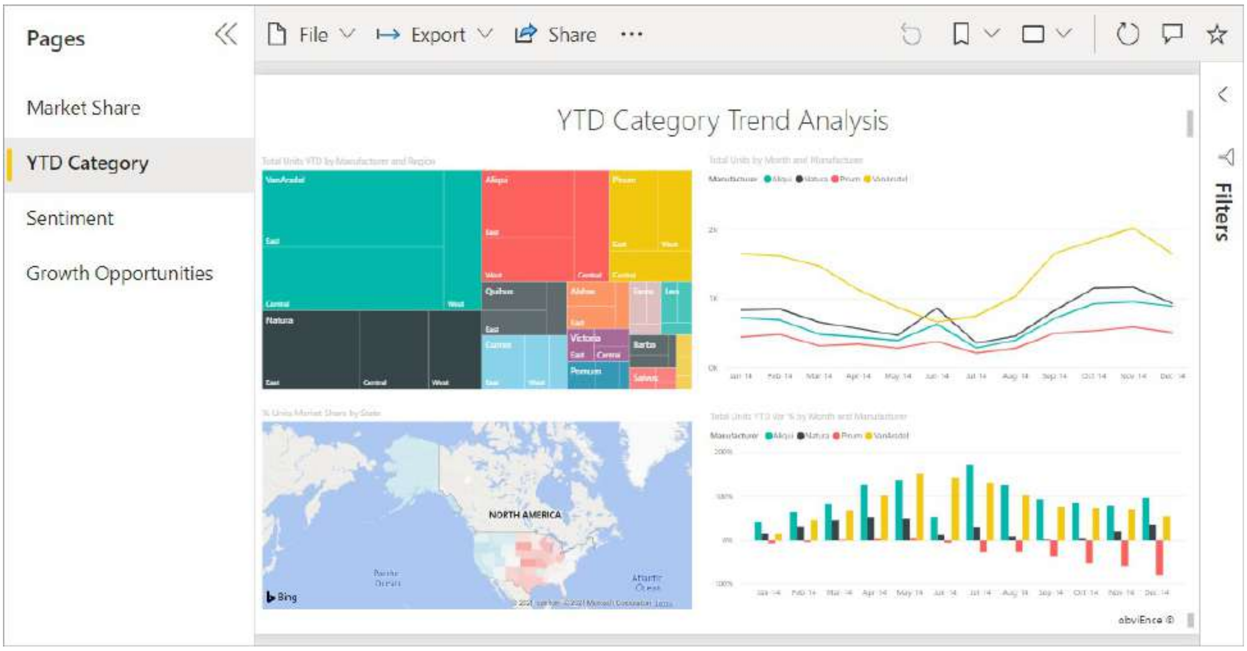
To learn more about datasets, visit these articles:

- How do designers assign permissions to datasets
- How datasets are shared with colleagues

On to the next building block -- visualizations.

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 dataset. *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*.



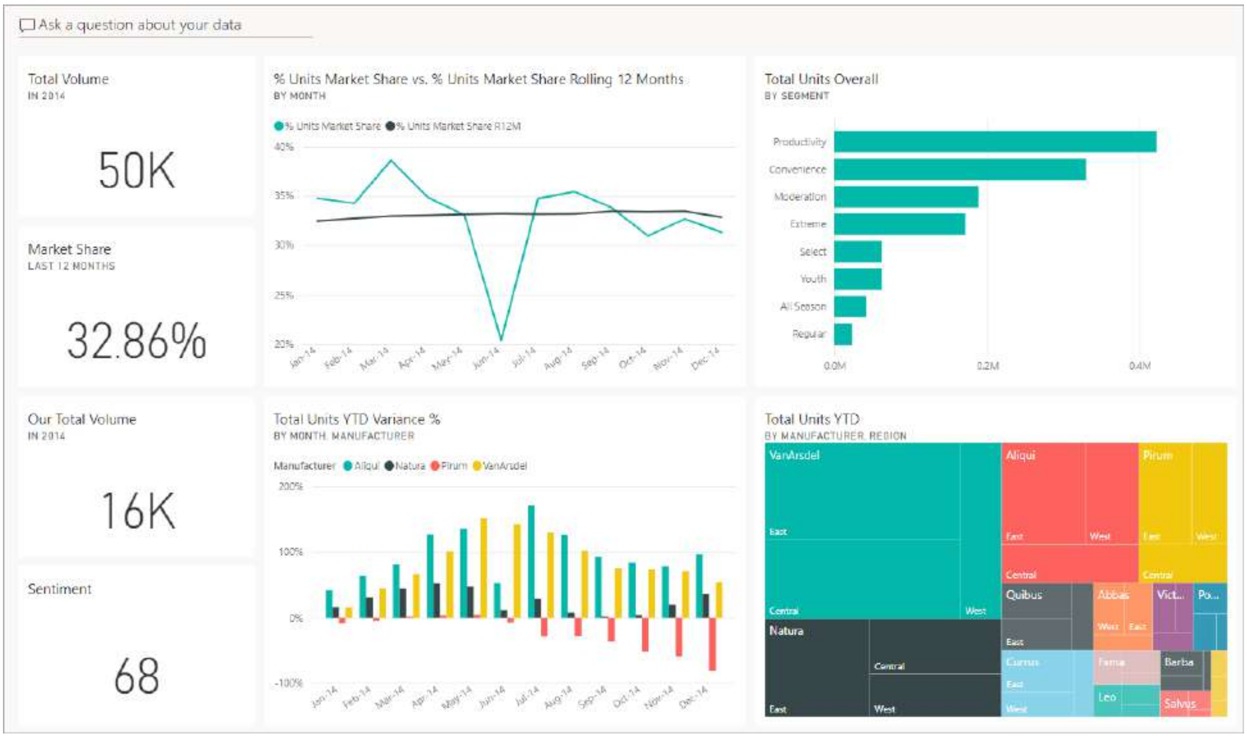
One report...

- Can be created using data from only one dataset. Power BI Desktop can combine more than one data source into a single dataset 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 dataset(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 dataset 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

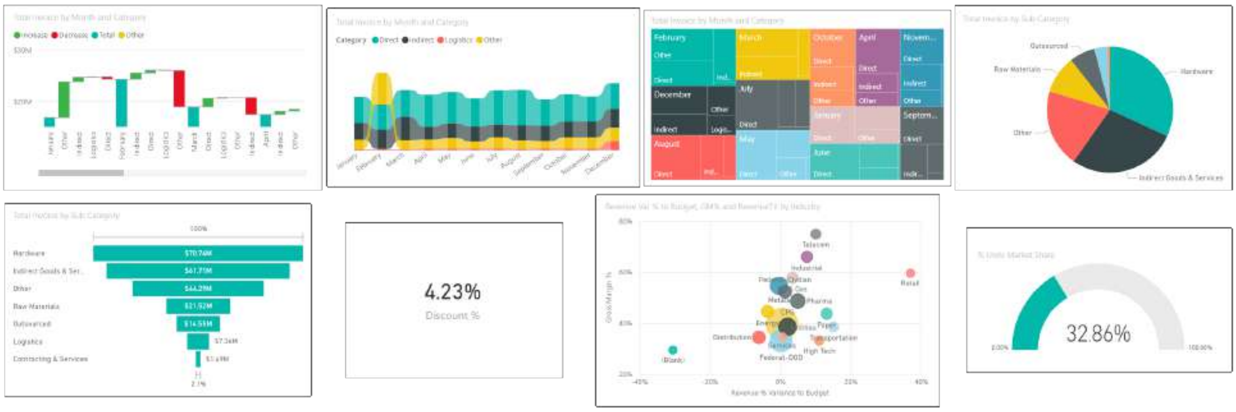
ONE dashboard...

- can display visualizations from many different datasets
- 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

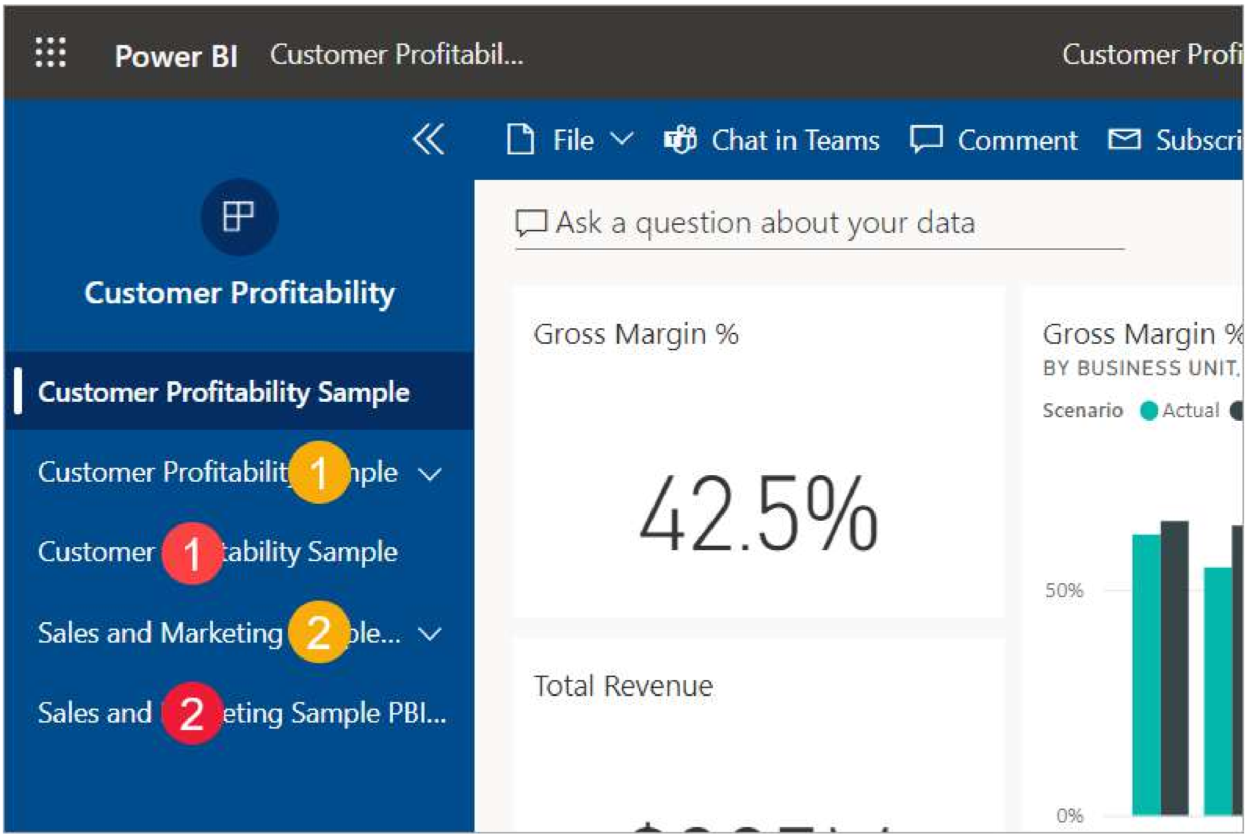
These collections of dashboards and reports organize related content together into a single package. Power BI *designers* build them in workspaces and share apps with individuals, groups, entire organizations, or the public. As a *business user*, you can be confident that you and your colleagues are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



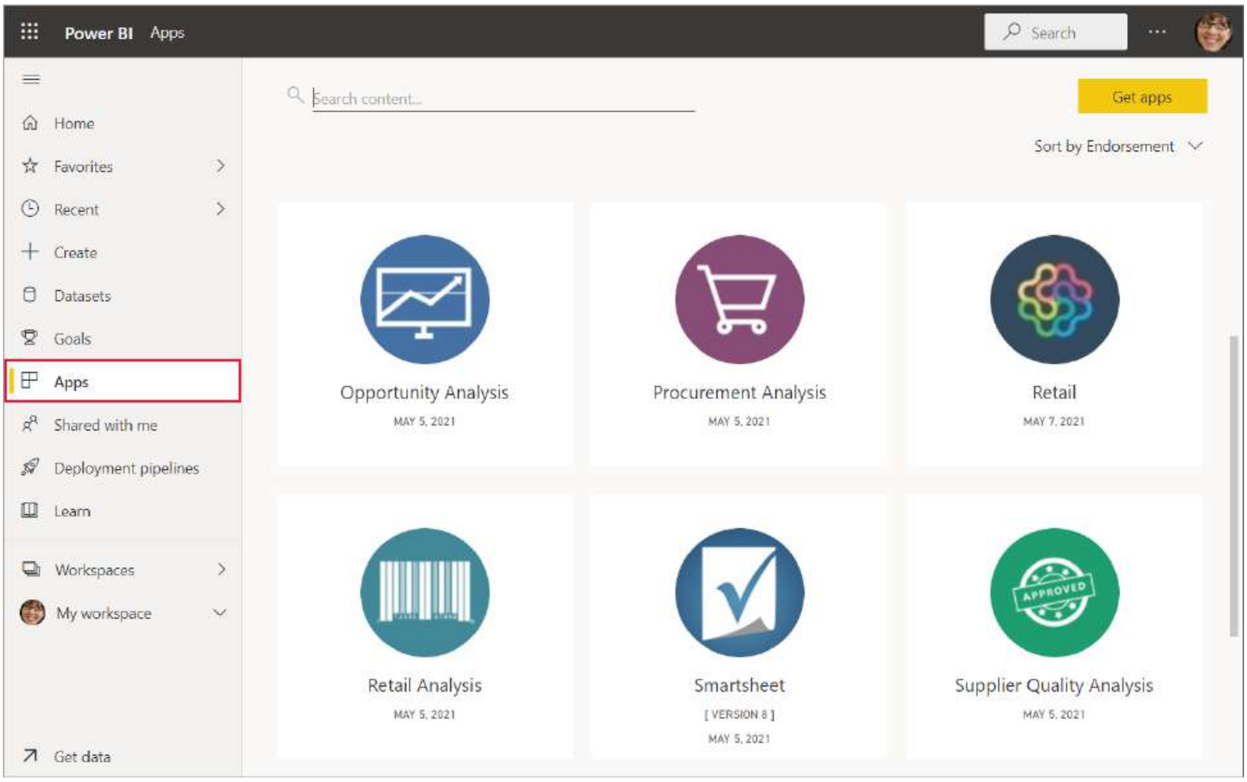
Whenever the app is updated, you automatically see the changes. Also, the designer controls the schedule for how often Power BI refreshes the data. You don't need to worry about keeping it up-to-date.

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.



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.com/embed/B2vd4MQrz4M

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

12/15/2022 • 7 minutes to read • Edit Online

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

In this quickstart, you'll learn how to interact with Power BI 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 Power BI, 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.

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 and more.

Power BI content

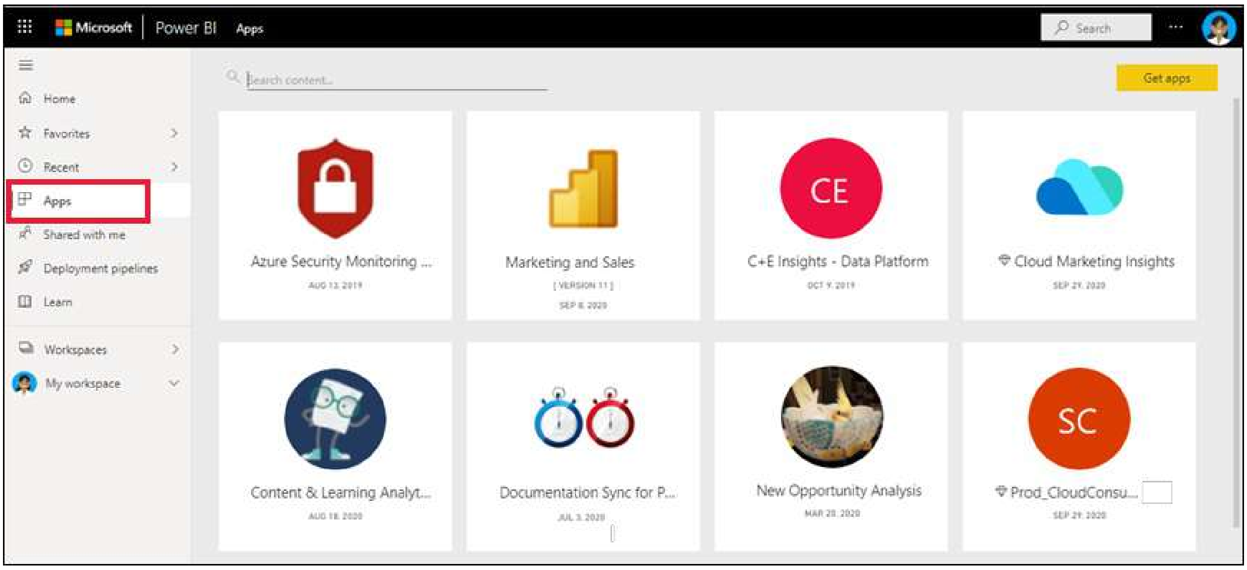
When we use the term "content" in Power BI, we're referring to reports, dashboards, and apps. These are the building blocks you'll use to explore your data and make business decisions.

> **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

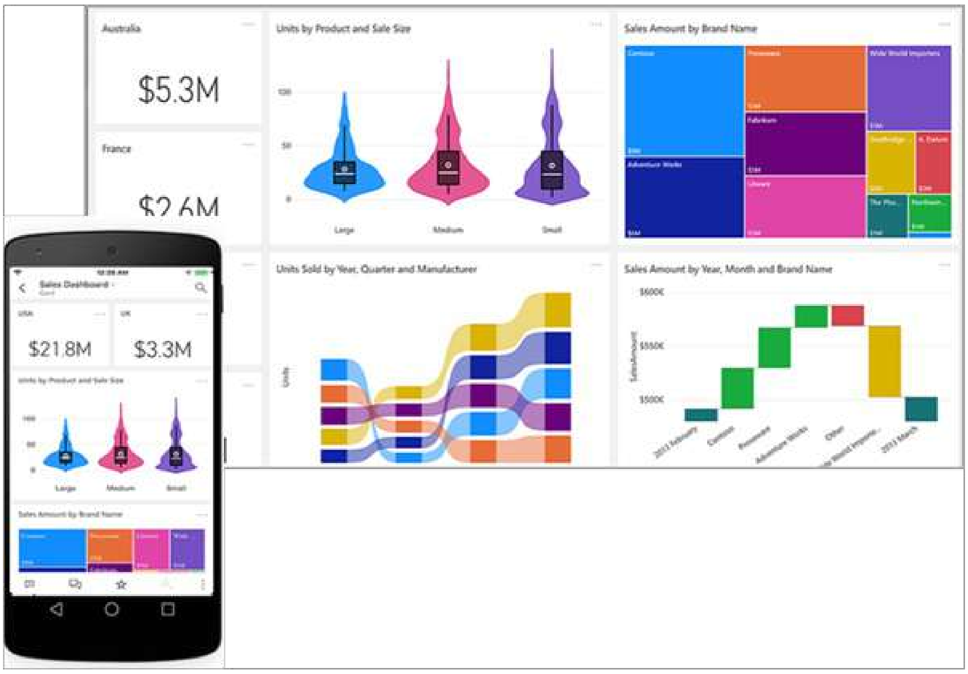
A Power BI report is a multi-perspective view into a dataset, with visuals that represent different findings and insights from that dataset. A report can have a single visual or pages full of visuals. Reports are created by Power BI *designers* who distribute and share the reports with *business users*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

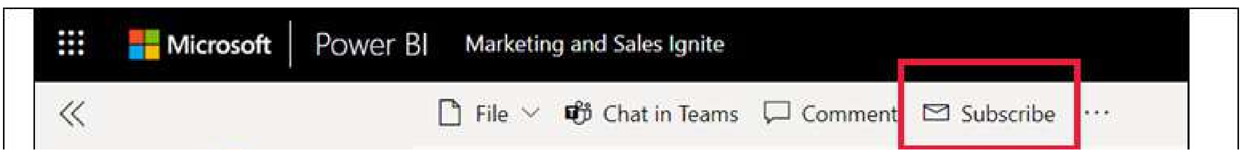
Learn more about commenting

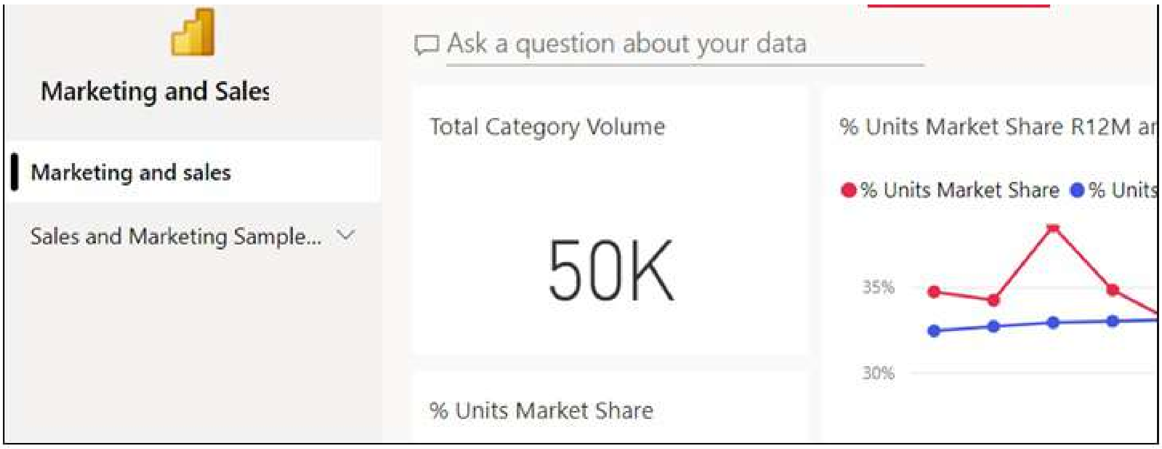
Sit back and let Power BI work for you

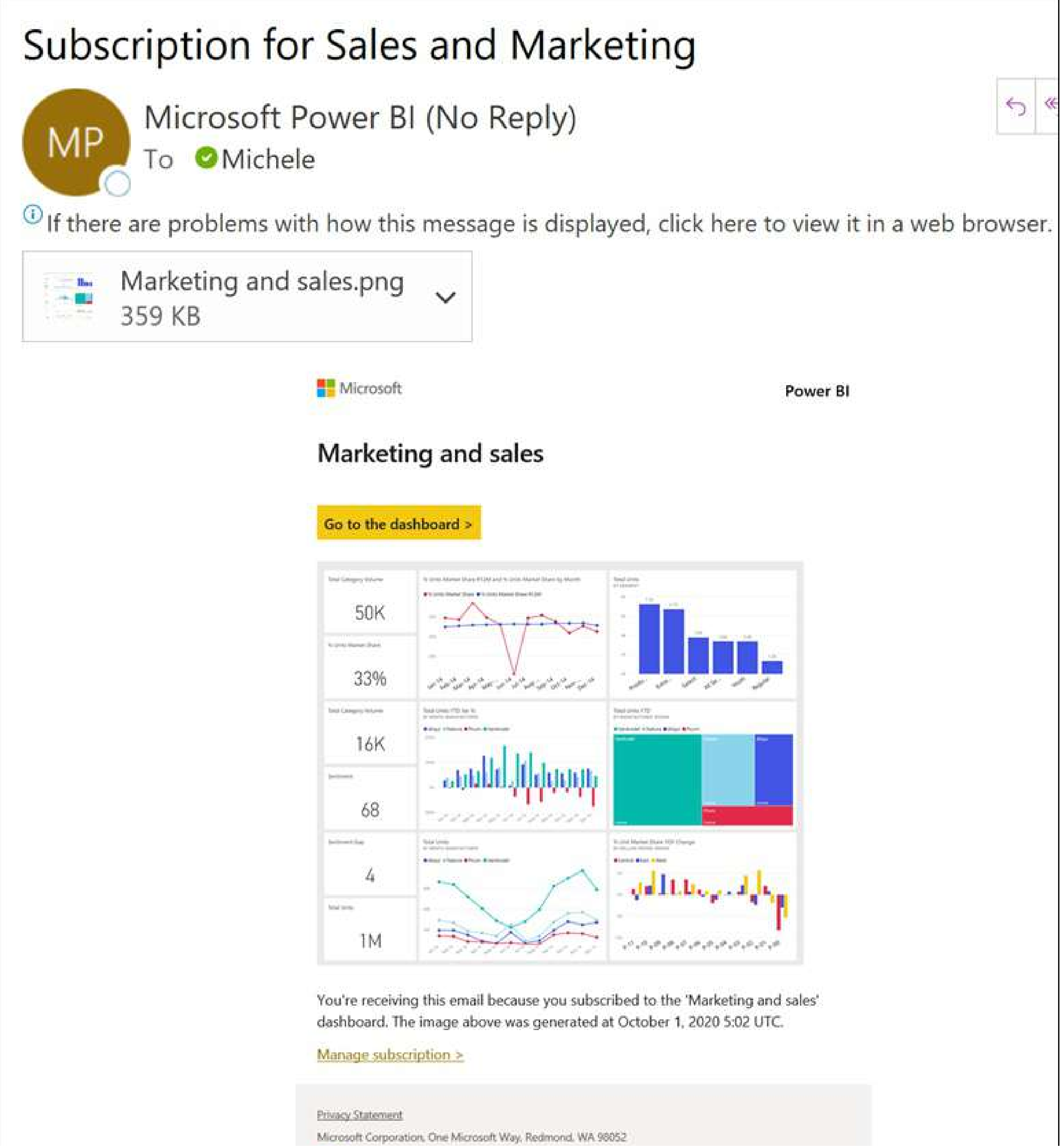
Two of the ways that the Power BI service does the work for you is with subscriptions and alerts.

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 will email you a snapshot of that dashboard on a schedule you set.




Marketing and Sales
Ask a question about your data
Total Category Volume
% Units Market Share R12M ar
% Units Market Share
% Units
50K
35%
30%
Marketing and sales
Sales and Marketing Sample...
% Units Market Share


Subscription for Sales and Marketing
MP
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 >
50K
33%
16K
68
4
1M
You're receiving this email because you subscribed to the 'Marketing and sales' dashboard. The image above was generated at October 1, 2020 5:02 UTC.
Manage subscription >
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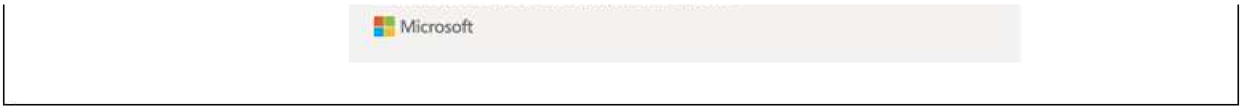
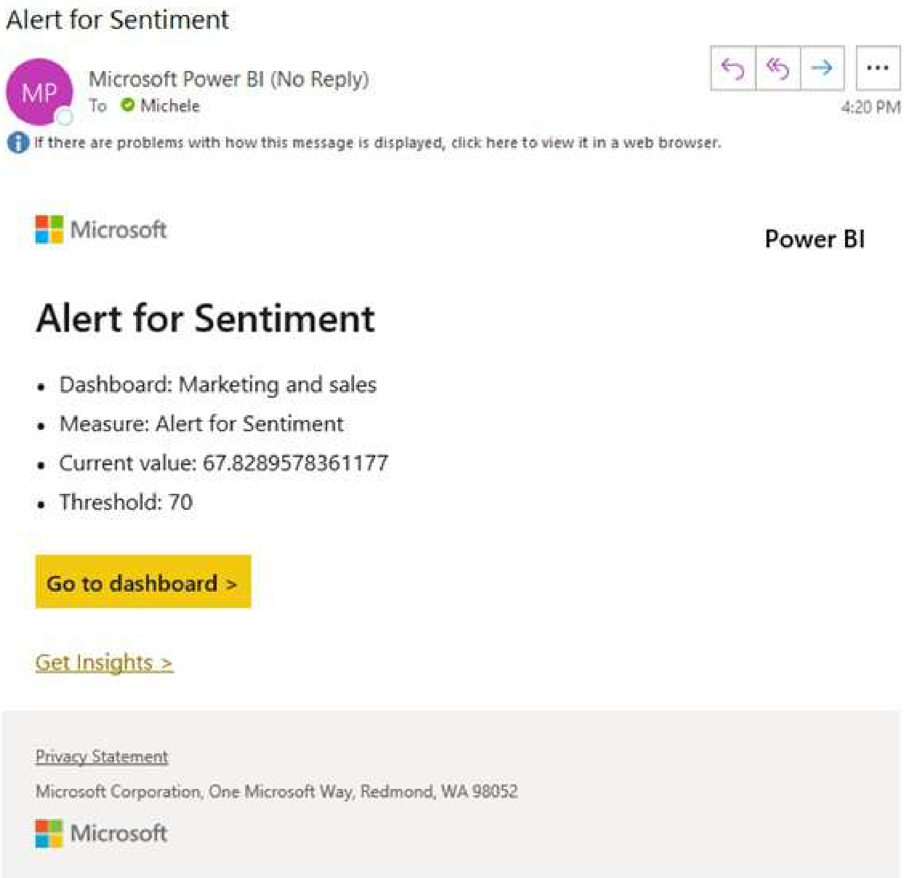


Learn more about Power BI subscriptions

Get alerts when your data reaches a threshold

Your data is live, and your visuals update automatically to reflect this. 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.

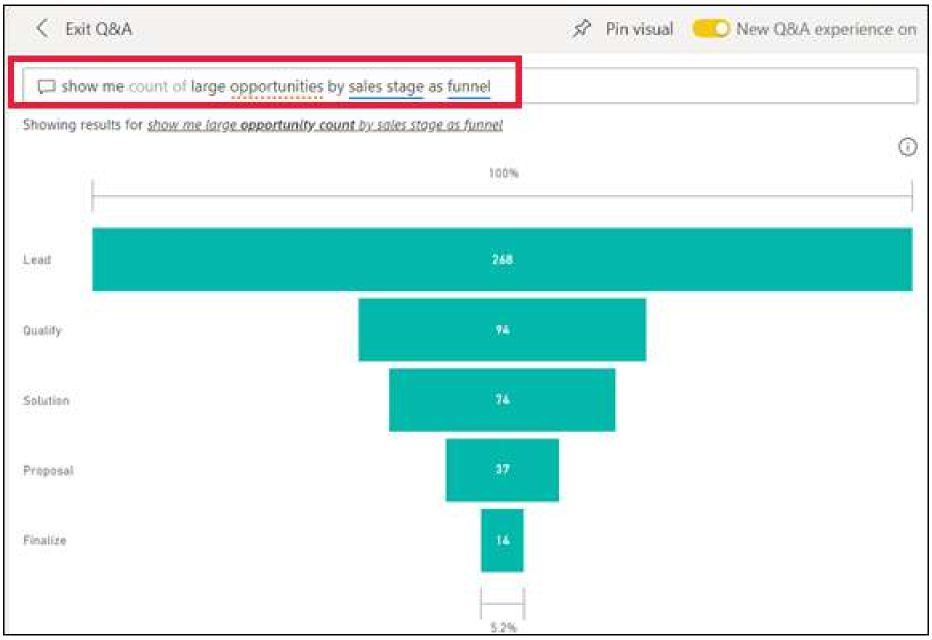
Power BI sends you an email when the value increases or decreases past the limit you set.



Learn more about Power BI alerts

Use Q&A to ask questions using natural language

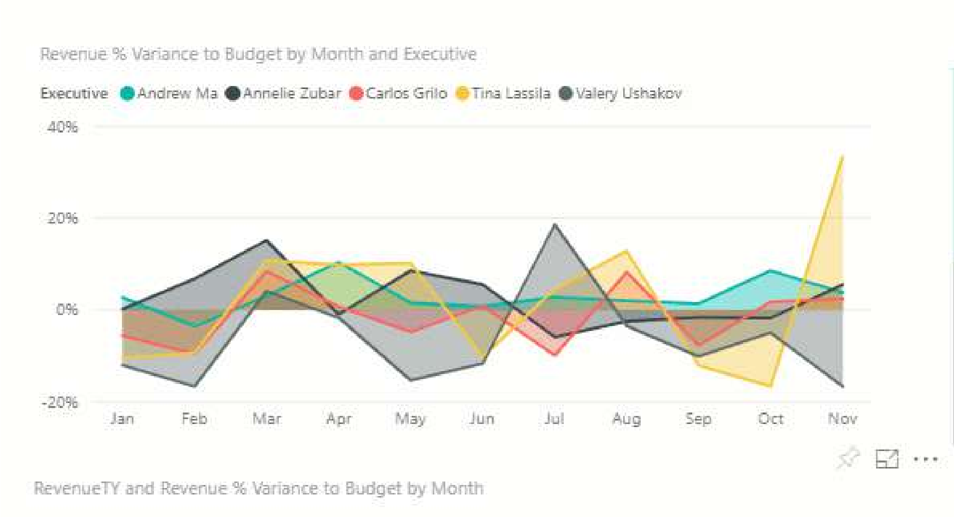
Sometimes the fastest way to get an answer from your data is to ask a question using natural language. The Q&A question box is available at the top of your dashboard. For example, "show me count of large opportunities by sales stage as a funnel."



Learn more about Power BI Q&A

Display details on a visualization

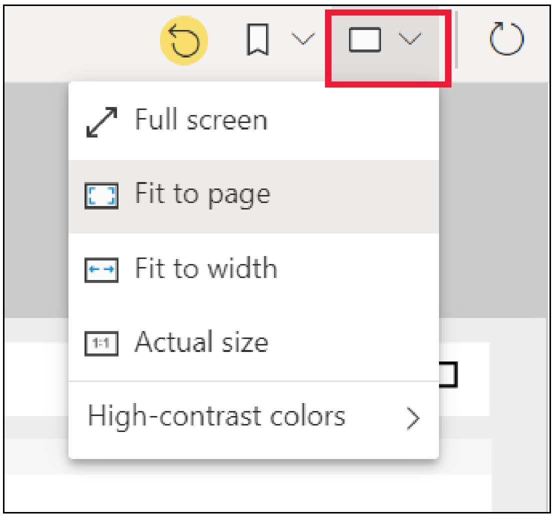
Visuals are made up of datapoints, and by hovering over a datapoint, you can view the details.



Adjust the display dimensions

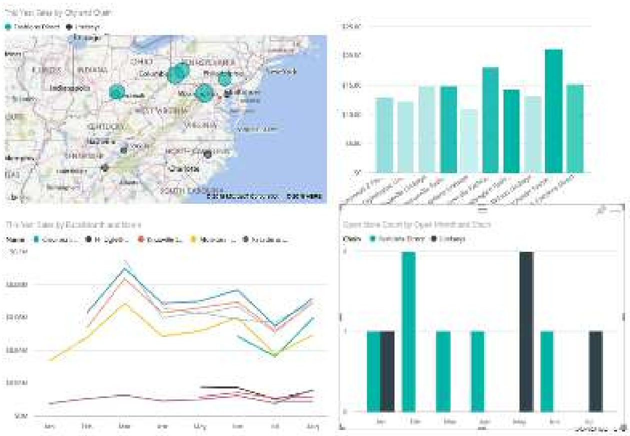
Reports are viewed on many different devices, with varying screen sizes and aspect ratios. The default rendering may not be what you want to see on your device.

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

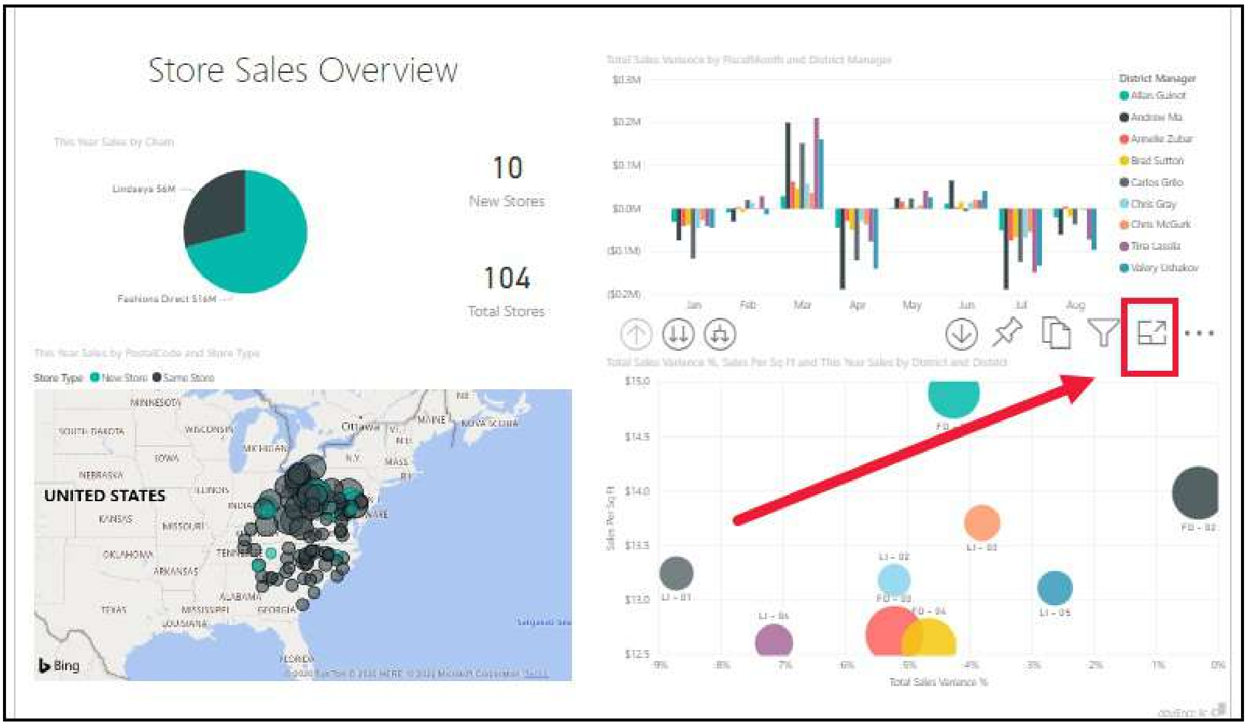
Cross-highlight and cross-filter the related visualizations on a report page. The visualizations on a single report page are all "connected" to each other. What this means is that if you select one or more values in one visualization, other visualizations that use that same value will change based on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

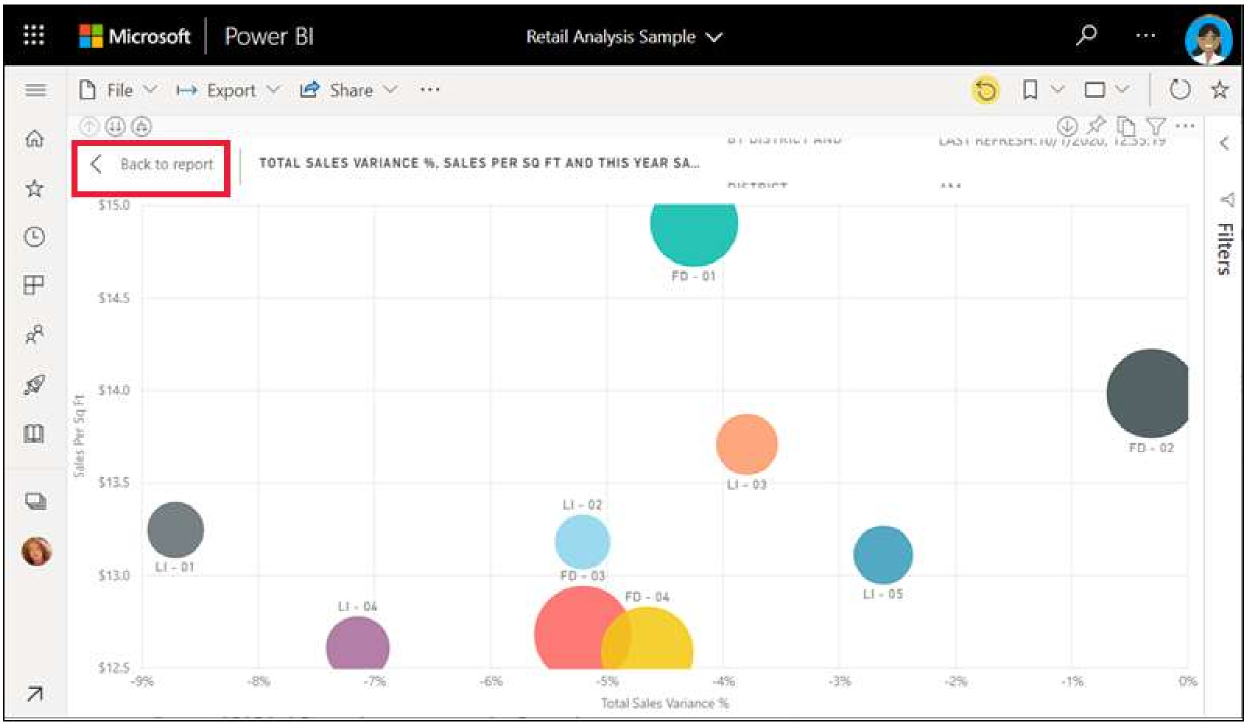


Learn more about visual interactions

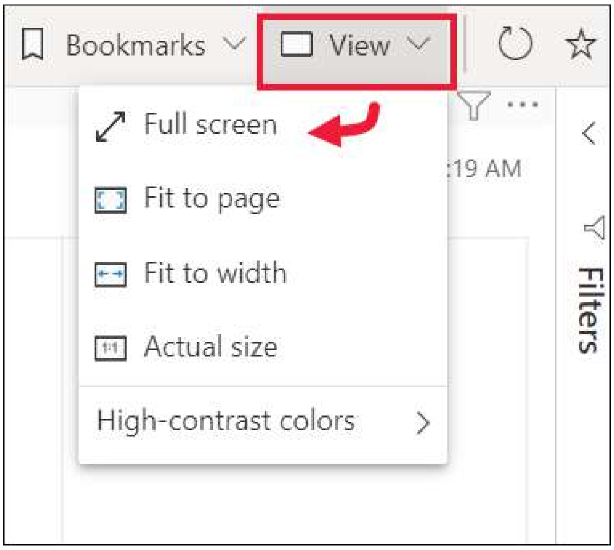
Zoom in on individual visuals

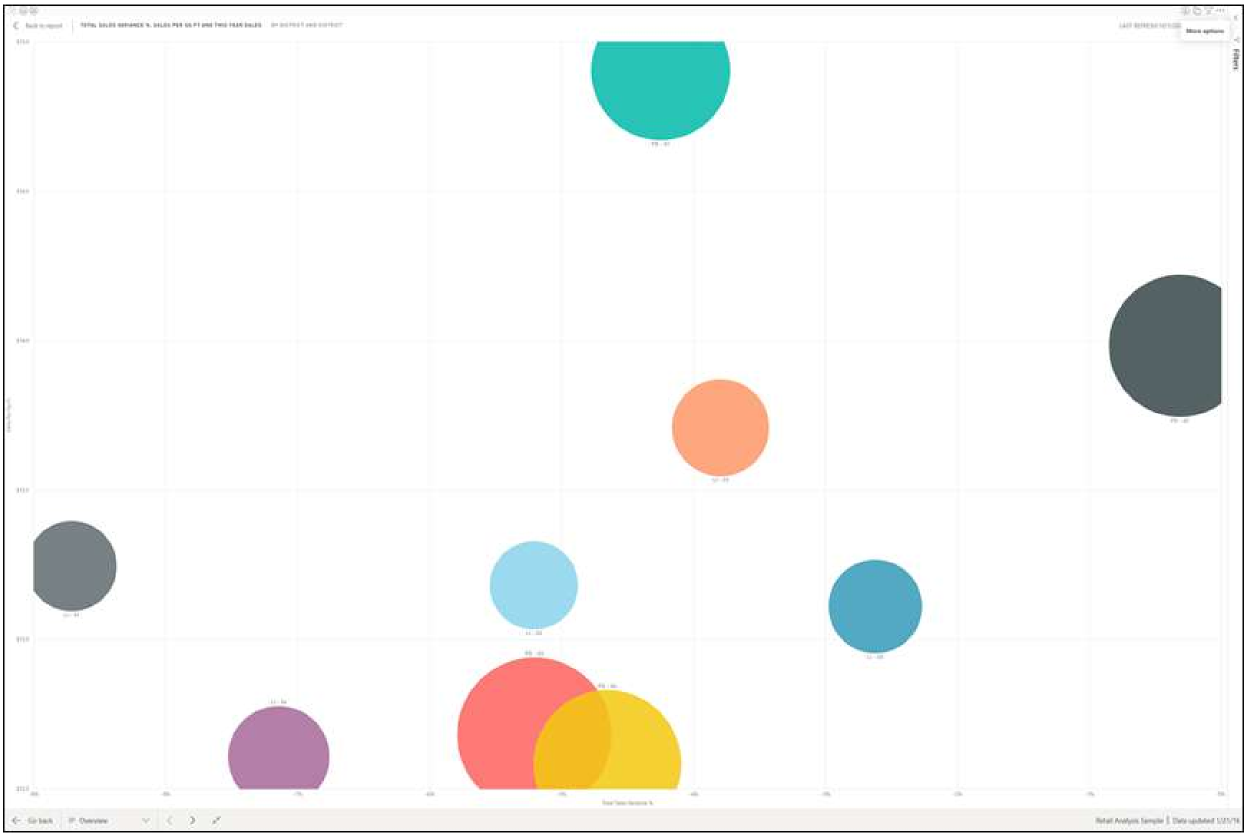
Hover over a visual and select the **Focus mode** icon . When you view a visualization in Focus mode, it expands to fill the entire report canvas as shown below.





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



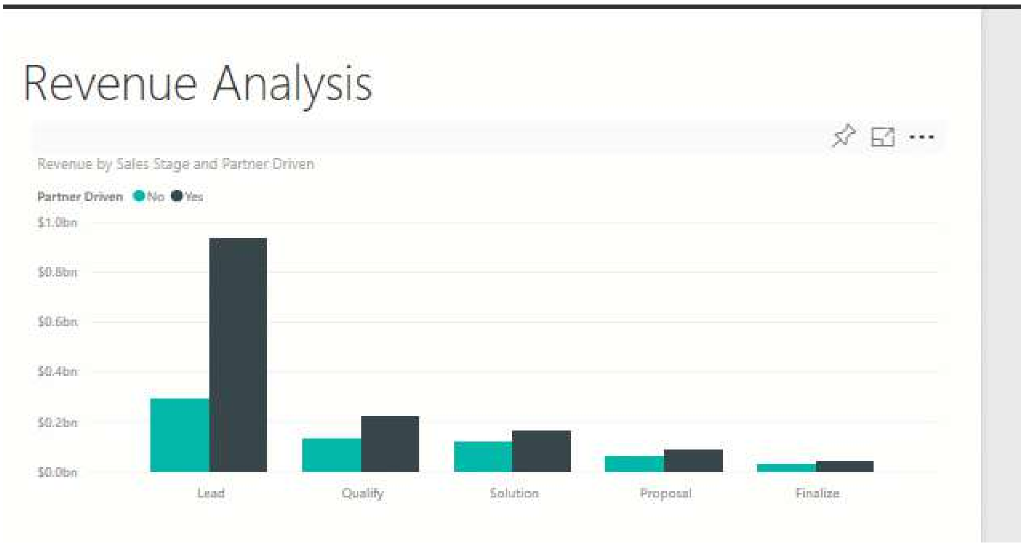


Learn more about focus mode and full screen mode

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.

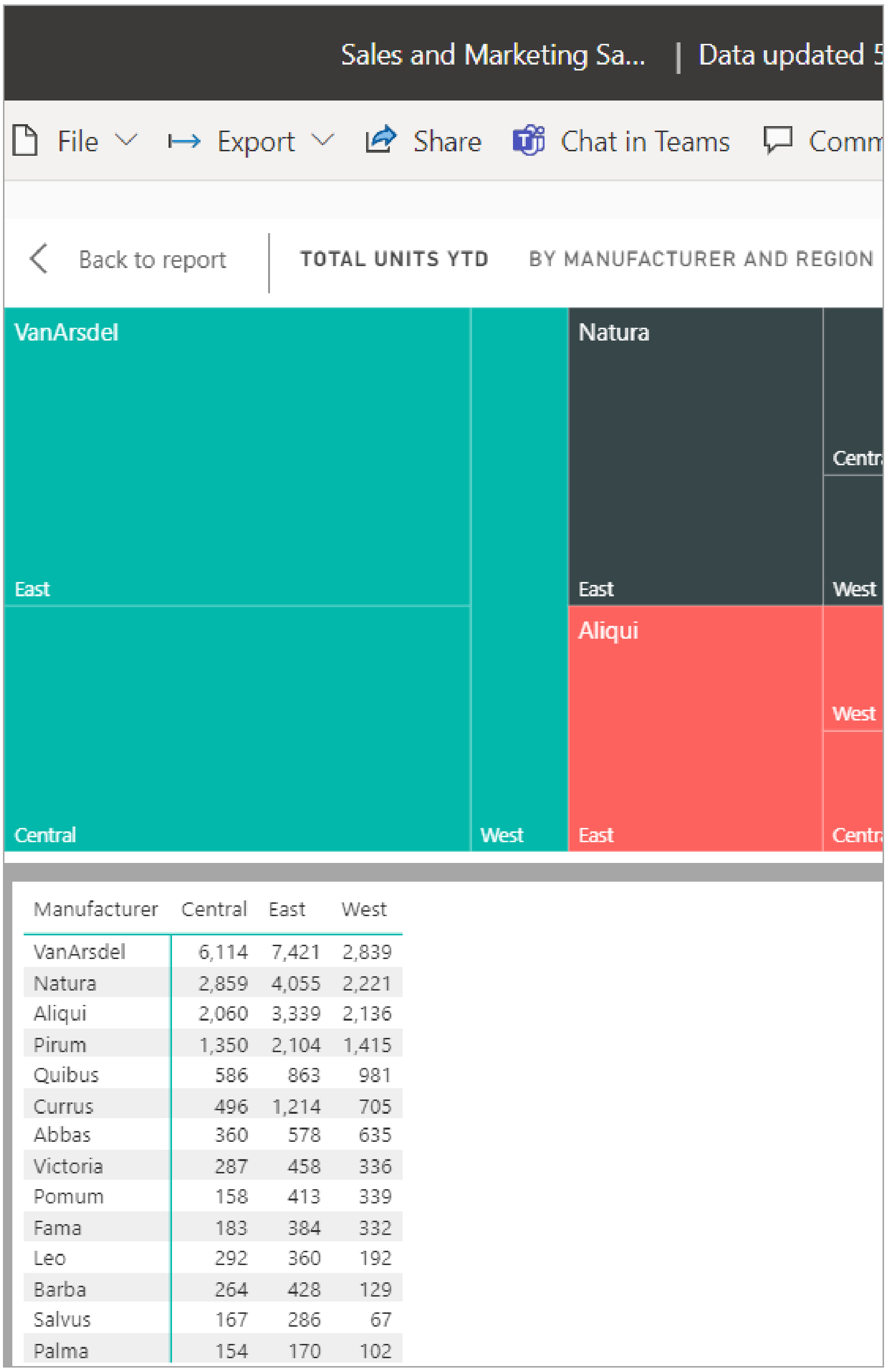


Learn more about sorting visuals

Show the data used to create a visualization

A Power BI visualization is constructed using data from underlying datasets. 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 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 dataset, and select the trashcan icon for each.

Next steps

Power BI for business users

Tutorial - Getting around in Power BI service

12/15/2022 • 7 minutes to read • Edit Online

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*. 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*.

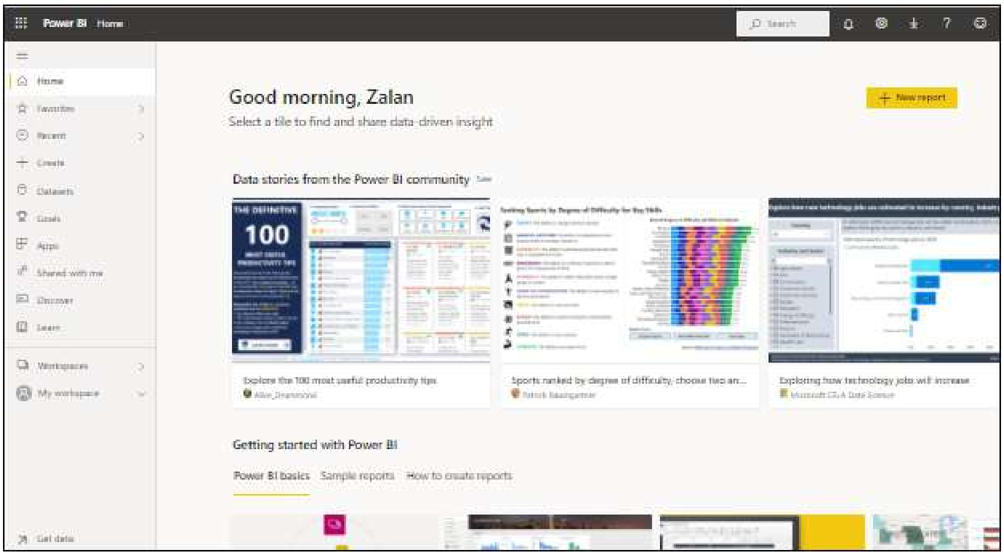
Prerequisites

- If you're not signed up for Power BI, sign up for a free trial before you begin.
- 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.

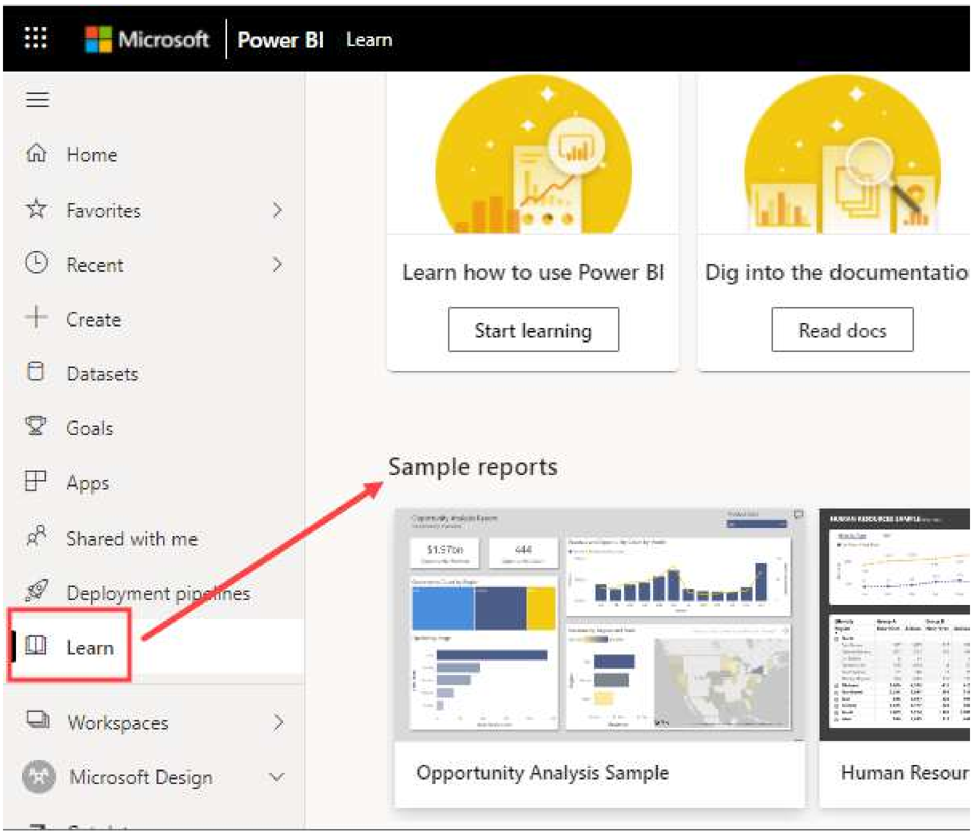
  For the purposes of this tutorial, we aren't requiring either of these conditions to be met. Microsoft has made sample content available to you directly from the Power BI service interface. We'll use this sample content to learn our way around the Power BI service.

Open the Power BI service

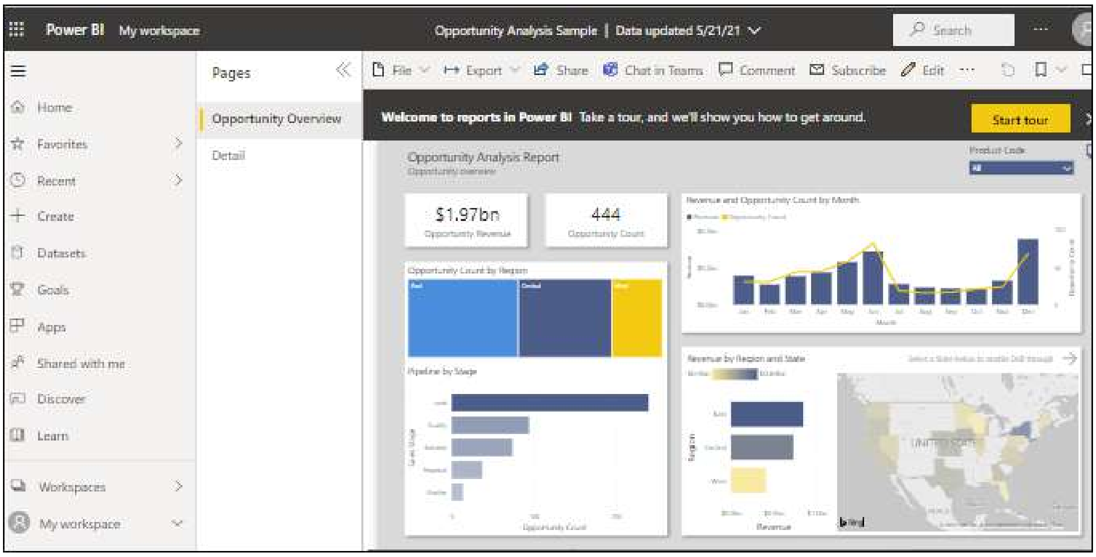
To begin, open the Power BI service (app.powerbi.com).



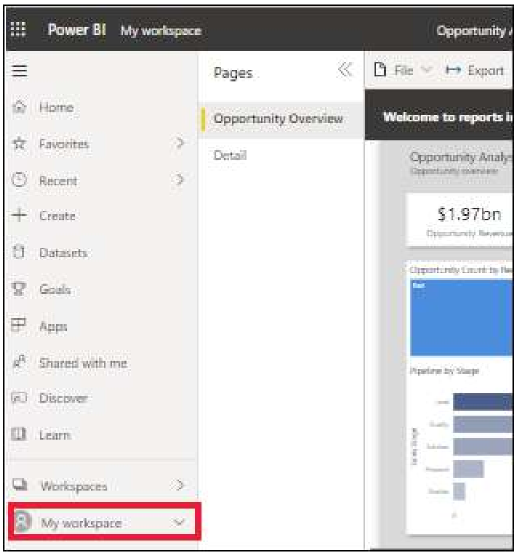
1. If the left navigation pane is collapsed, select the nav pane icon to expand it.
2. Select **Learn** and scroll down to **Sample reports**. We'll grab some sample data to use for our tour of the Power BI service. There are all types of sample data provided for you to explore, and this time we'll use the data about opportunity analysis.



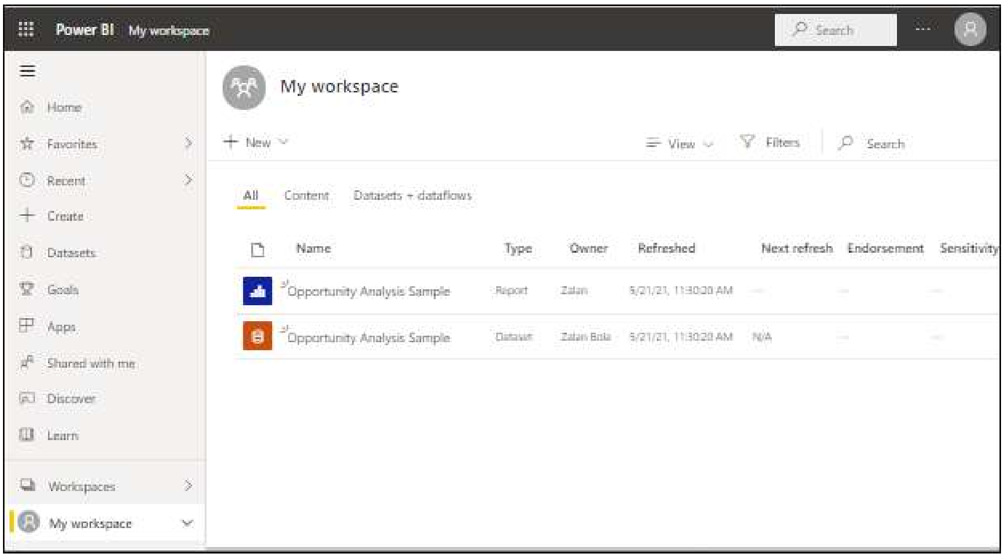
3. Select the sample to open it. The Opportunity analysis sample report opens in the Power BI service.



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



The sample includes one report and one dataset. Typically, *business users* won't receive datasets, but this sample is designed for all users and it does include one.



As a *business user*, most content that is shared with you won't include direct access to the underlying datasets. Because the Power BI samples are created for all Power BI customers, datasets are included.

View content (dashboards and reports)

Content is organized within the context of a workspace. Every business user has at least one workspace, and it's called **My workspace**. When *designer* colleagues share content with you, you may end up with more workspaces. For example, if a *designer* assigns you access permissions to one of their workspaces, that workspace will show up in your Power BI site.

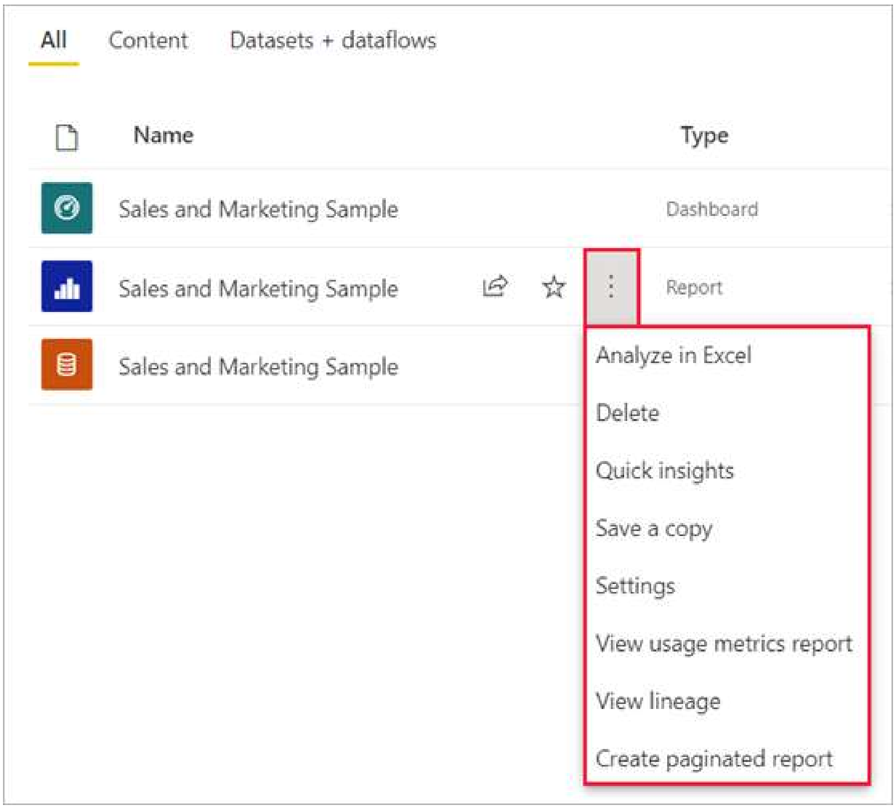
My workspace stores all the content that you own and create. Think of it as your personal sandbox or work area for your own content. For many Power BI *business users*, **My workspace** remains empty because your job doesn't involve creating new content. *Business users*, by definition, consume data 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 *report creators*.

A workspace is much more than a simple listing of content. On this page, you can learn a lot about the workspace's dashboards and reports.

In this section of the tutorial, we'll put the *Opportunity analysis* sample aside for a while, and look at a workspace that has both a dashboard and a report. If you'd like to follow along, scroll down to the lower left corner of the Power BI service and select **Get data** > **Samples** > **Sales and Marketing Sample** > **Connect**.

Reopen **My workspace** to see your new content.

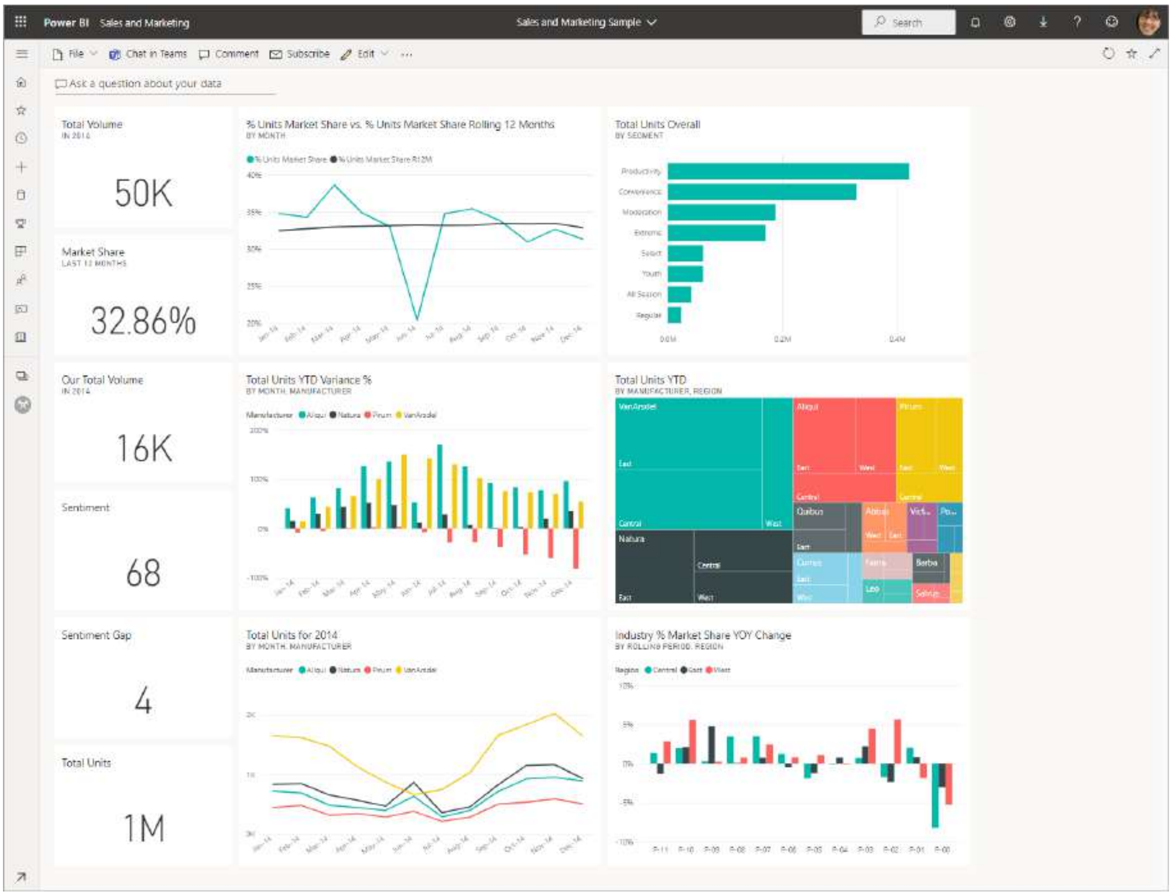
A workspace is one of the paths into your data. From a workspace, you can open a dashboard or report by selecting it from the list. You can favorite a dashboard or report by hovering and selecting the star icon. If the *designer* gave you sharing permissions, you can share from here as well.



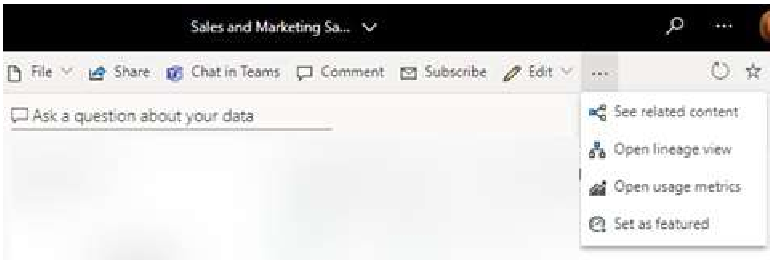
Let's start by opening a dashboard.

1. Select the name of the dashboard to open it.

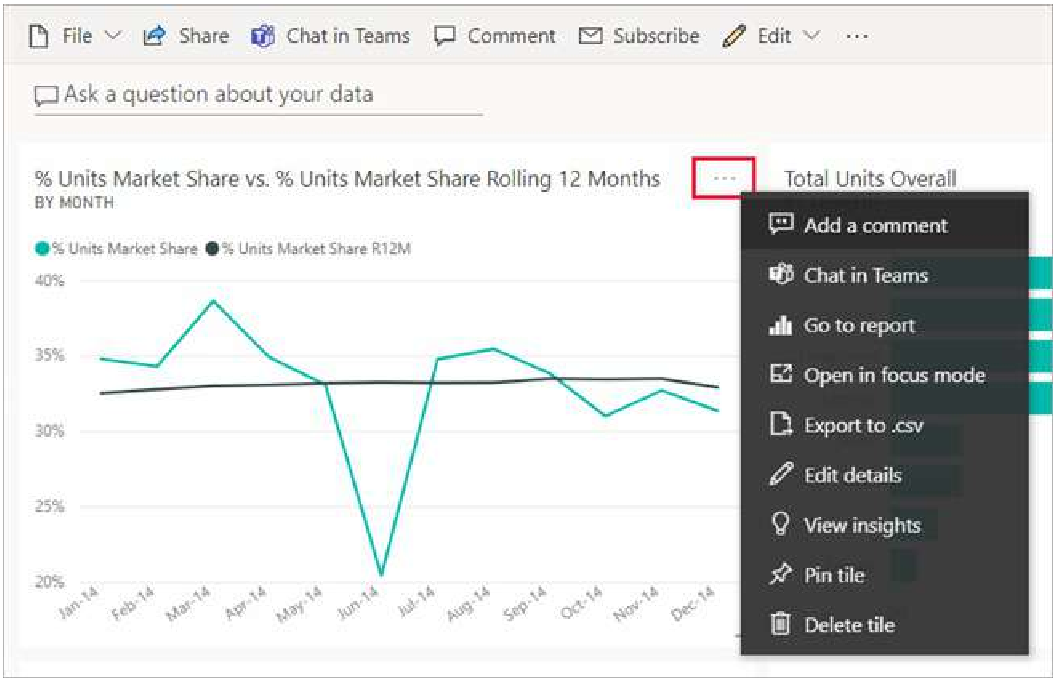
2. The dashboard opens in the Power BI service. Dashboards are something that differentiates the Power BI service from Power BI Desktop. Learn about dashboards.



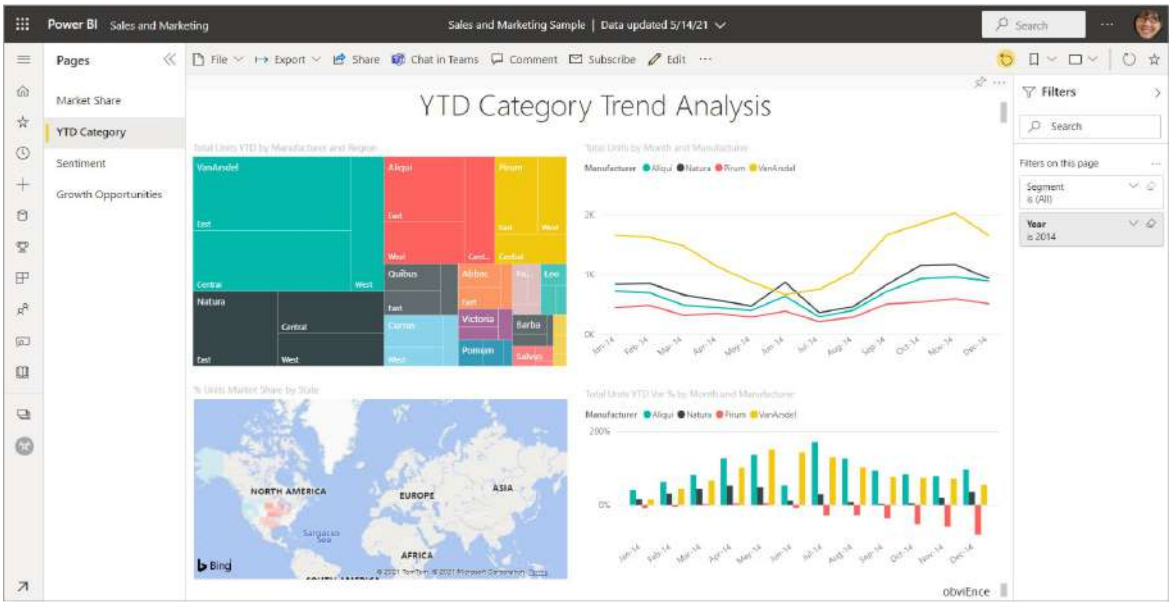
3. The actions you can take on a dashboard are displayed in the top menu bar. Select **More actions (...)** to see the complete list.



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.



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.

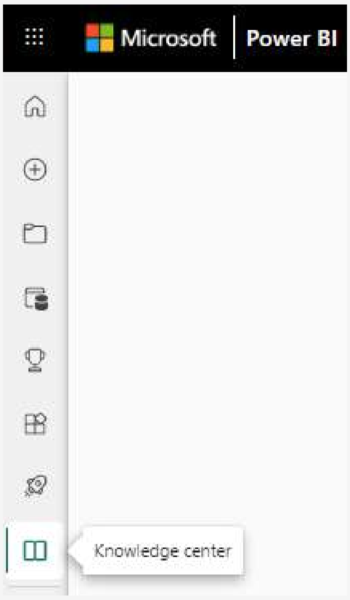
Learn about reports Power BI reports. Learn more about workspaces Workspaces.

Using the left navigation pane

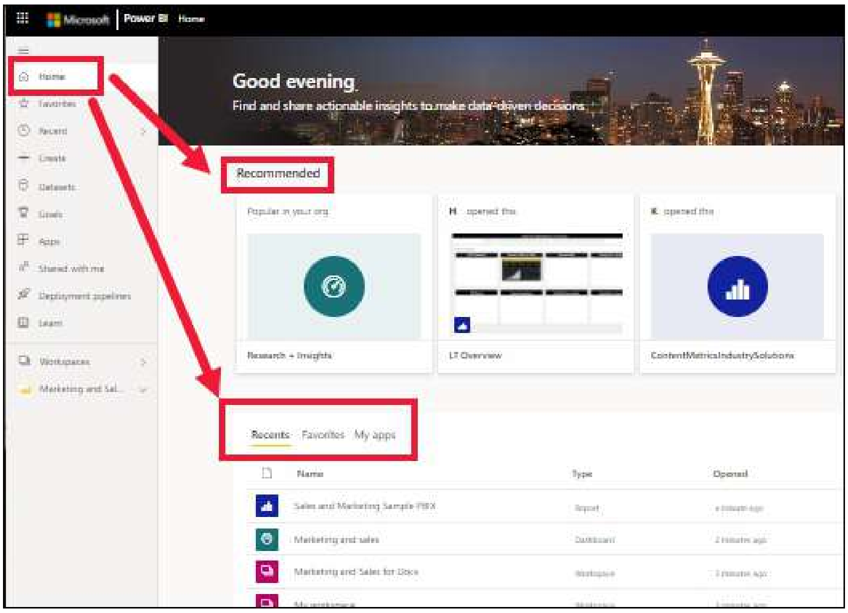
The nav pane will become more useful as colleagues share content with you. In this section of the tutorial, we'll look at a dashboard and report that belong to a Power BI *business user* who has a lot of shared content.

1. **Home** is the default landing page when you log in to the Power BI service. Home is a great jumping off point and alternate way to navigate your content. Content on Home is organized several different ways: by recommended, favorites, recent, and apps. For new users, the **Getting started** section is especially

helpful, with tabs containing samples, documentation, and training content. Just select an item to open it.

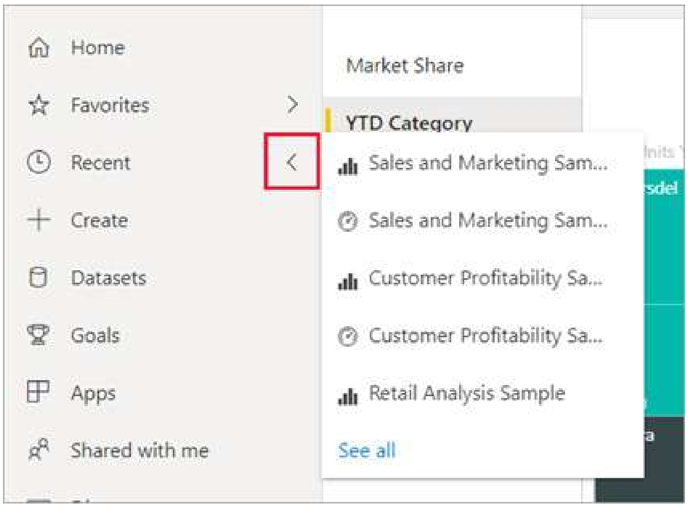
> **NOTE**
>
> The **Getting started** section on Home is being deprecated in mid December 2022. The articles and modules included in **Getting started** will continue to be available from the Power BI online documentation. The sample reports are already available from the **Learning/Knowledge center**.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

Home brings together the searching and sorting tools, the nav pane, and a canvas with *cards* that you can select to open your dashboards, reports, and apps. 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. Your Home canvas also updates with recommended content and learning resources.

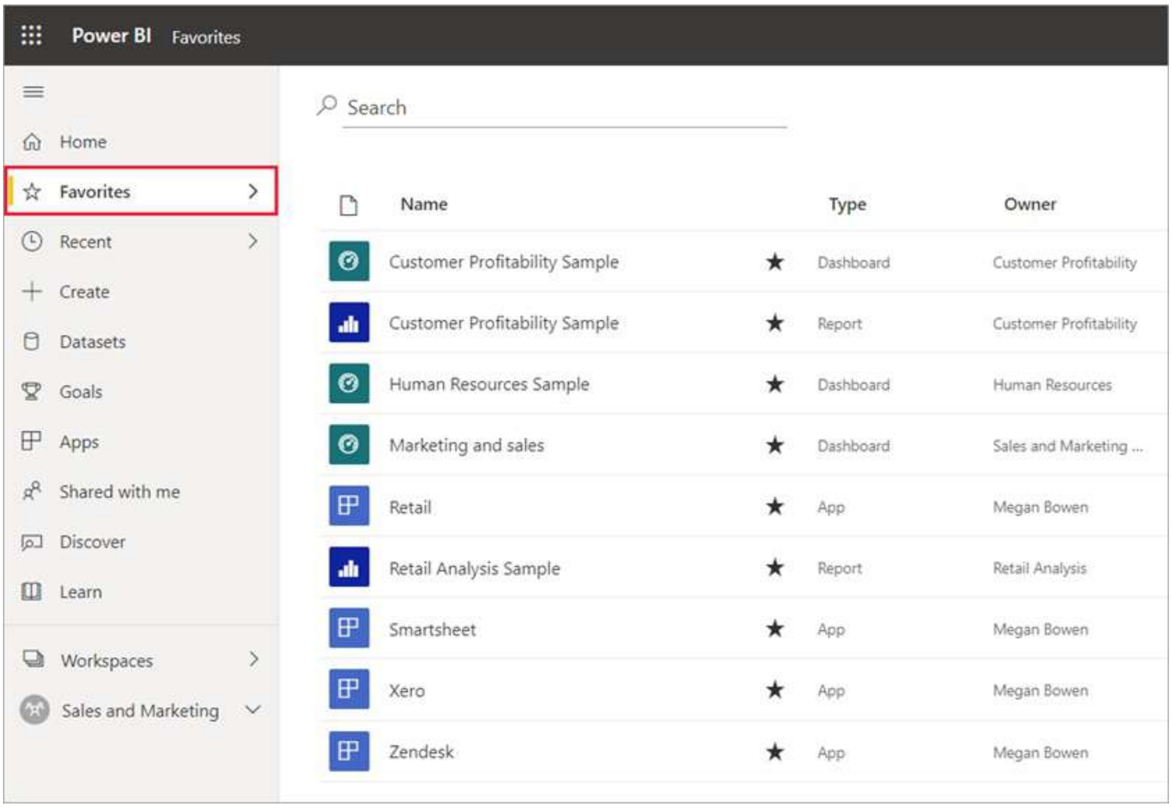


To learn more, see Power BI Home

2. **Favorites** and **Recent** both have arrows. Select an arrow to quickly see the top five favorites or five most recently visited content. From the flyout, select content to open it.



To see your full list of favorites or recents, select the word or icon. These content lists provide more details about the reports, apps, and dashboards.



To learn more, see Recents in Power BI and Favorites in Power BI.

3. Select **Apps** to display all apps that have been shared with you or that you have installed. And select **Shared with me** to see dashboards and reports that have been shared with you. Since you're just starting out with the Power BI service, these content areas will be empty.

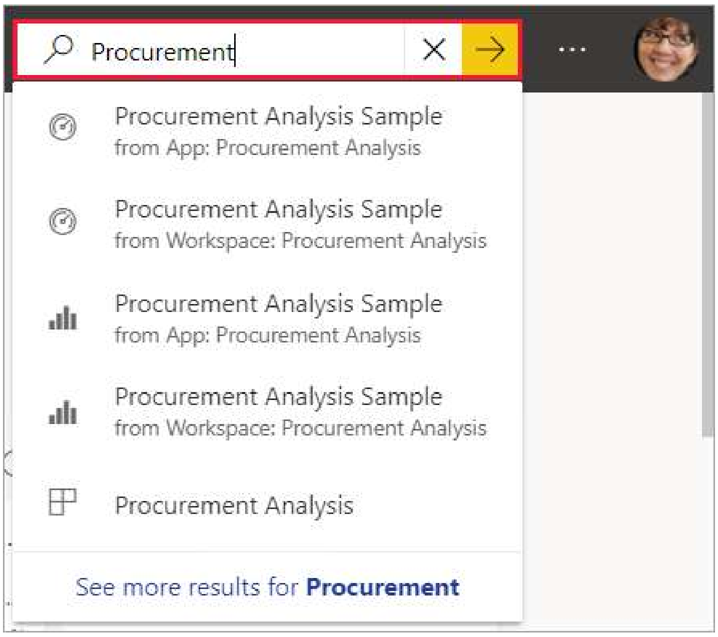
   Learn about Apps and Shared with me.

Search and sort content

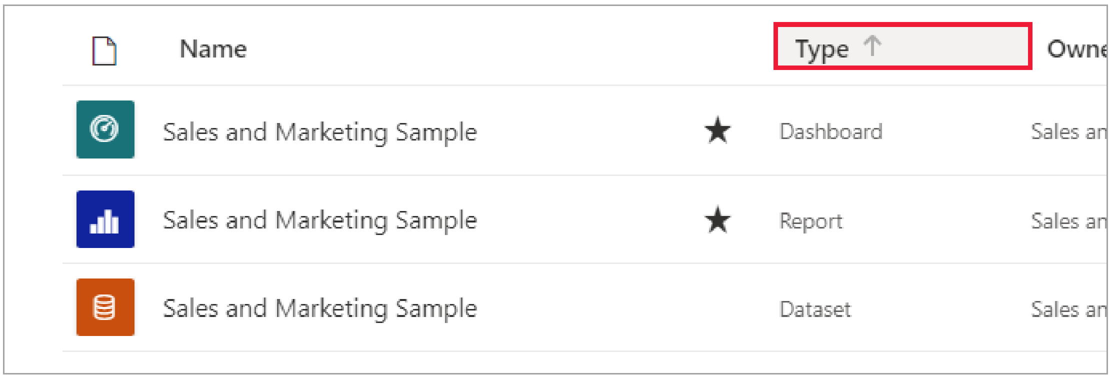
When you're new to the Power BI service, you'll have only a few pieces of content. But as colleagues begin sharing content with you and you begin downloading apps, you may end up with long lists of content. That's when you'll find searching and sorting extremely helpful.

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

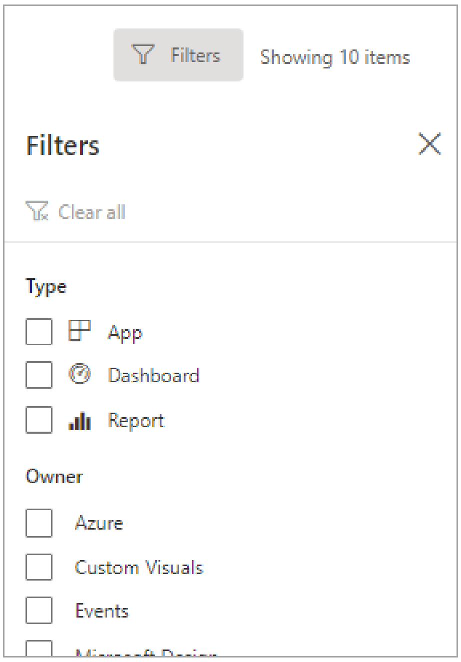
In the Search field, type all or part of the name of a dashboard, report, workbook, app, or owner. Power BI searches all of your content.



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.



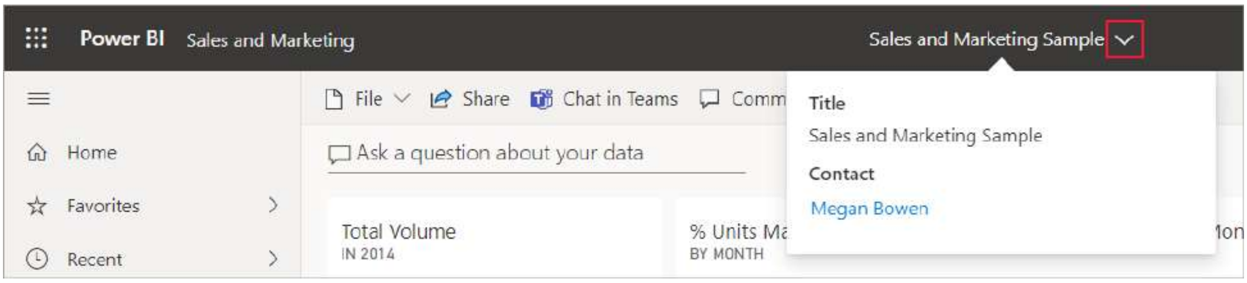
Or, look for the Search **Filters** near the upper right corner of your content lists. Find content quickly by filtering for things like type of content or owner.



To learn more, see Power BI navigation: search and sort

Find the owner

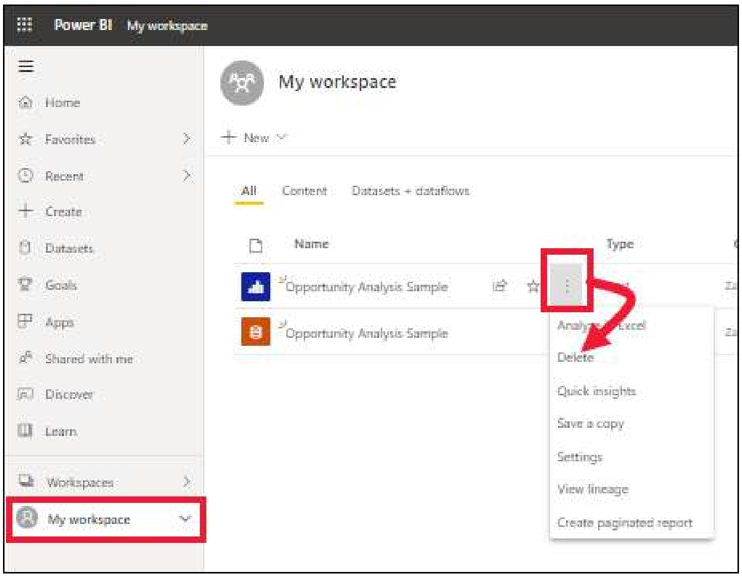
And we'll end this tutorial with a helpful tip. If you have questions about a dashboard, report, or app--you can look up the owner. With the content open, select the title dropdown to display the owner. The owner may be a person or a group.



Clean up resources

After you finish this tutorial, you can delete the sample report and dataset, if you wish.

1. Open the Power BI service (app.powerbi.com) and sign in.
2. Open Power BI Home, scroll down and select **My workspace**.
3. Hover over the report or dataset and select **More options (...)** > **Delete**. Repeat until both are removed.



Next steps

[Reading view in Power BI service]

Find your dashboards, reports, and apps

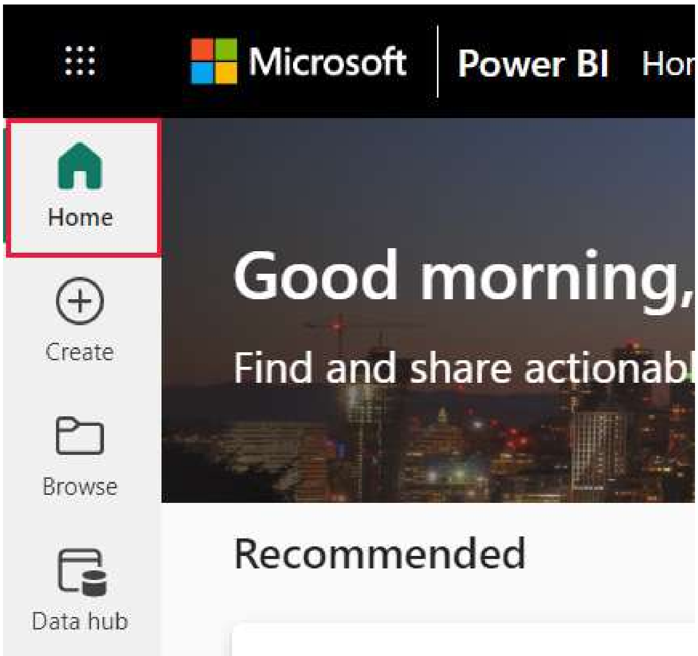
12/15/2022 • 7 minutes to read • Edit Online

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

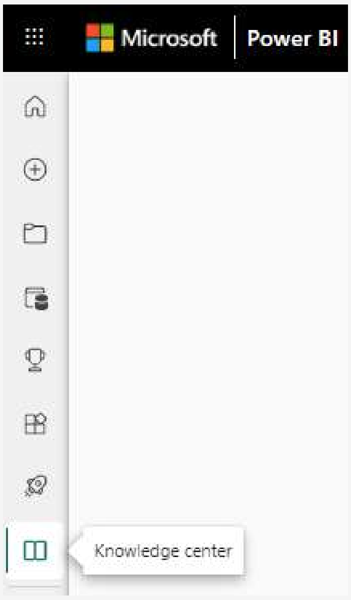
After you sign in to the Power BI service, select **Home** from the navigation pane.



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**.

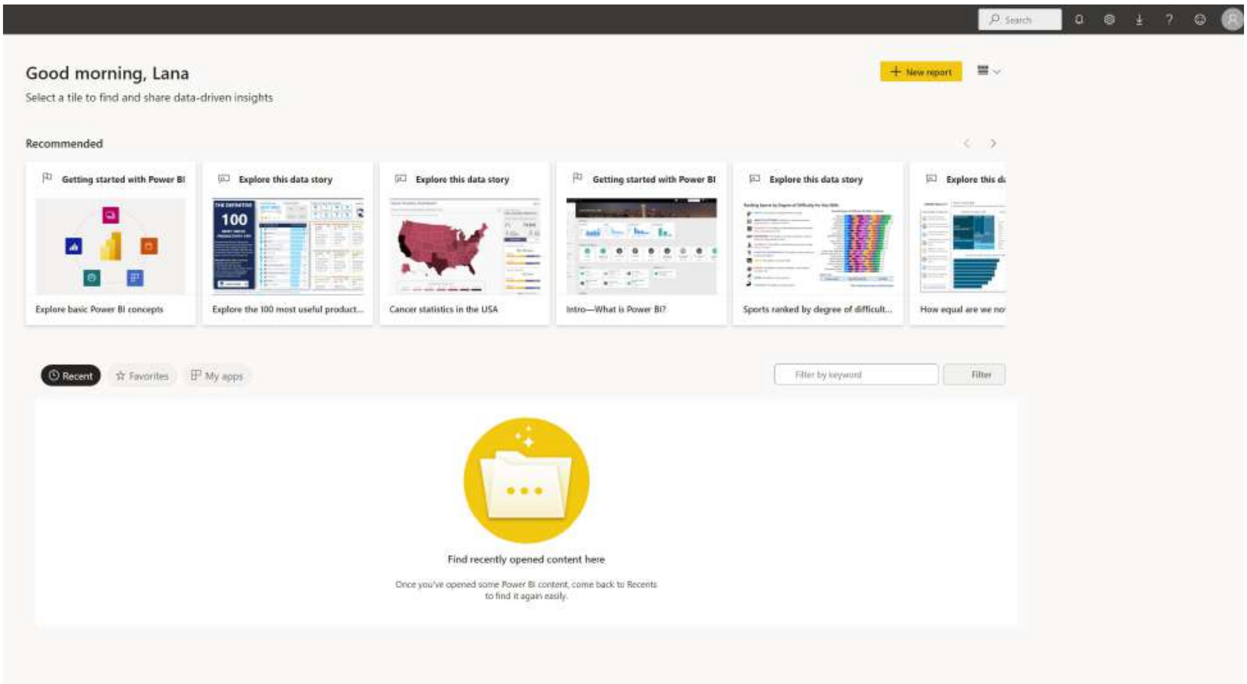


Simplified layout and Expanded layout

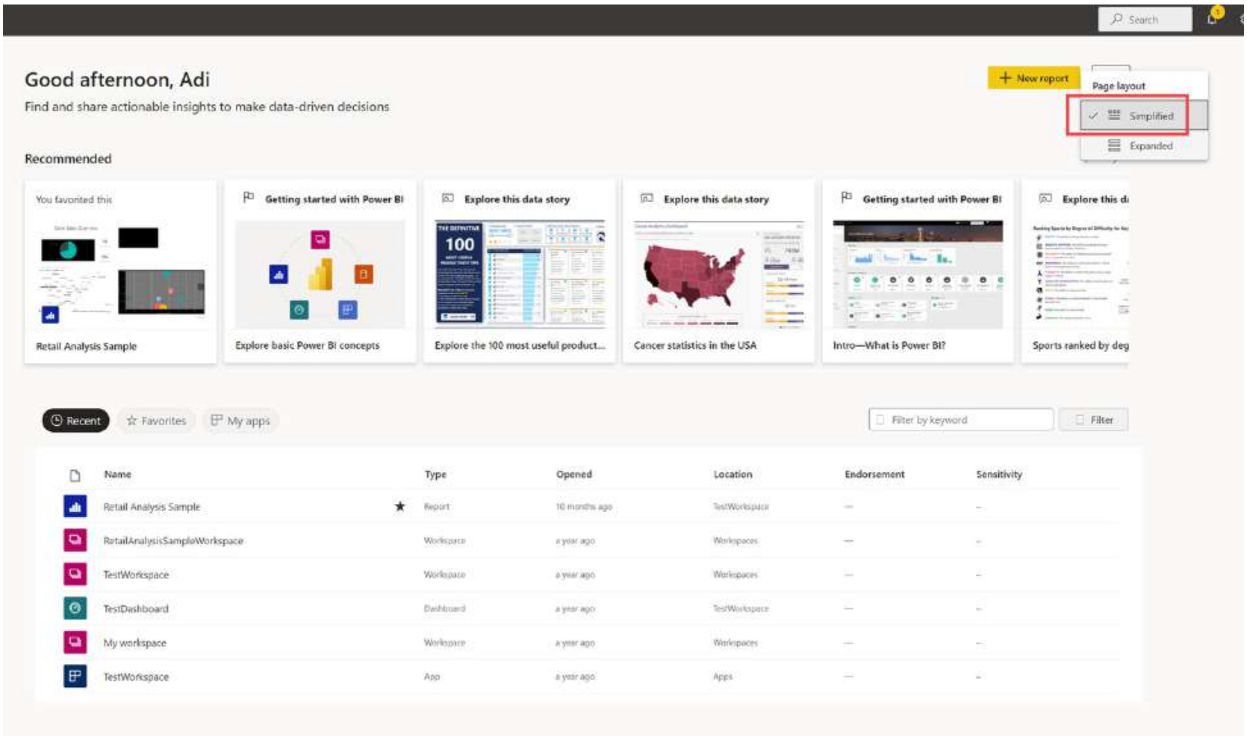
Your Home view depends on the layout you select. The **Simplified** view is the default. This view shows **Recommended** content at the top with tabs for **Recent**, **Favorites**, and **My apps** below. **Recommended** content might include content that:

- 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.



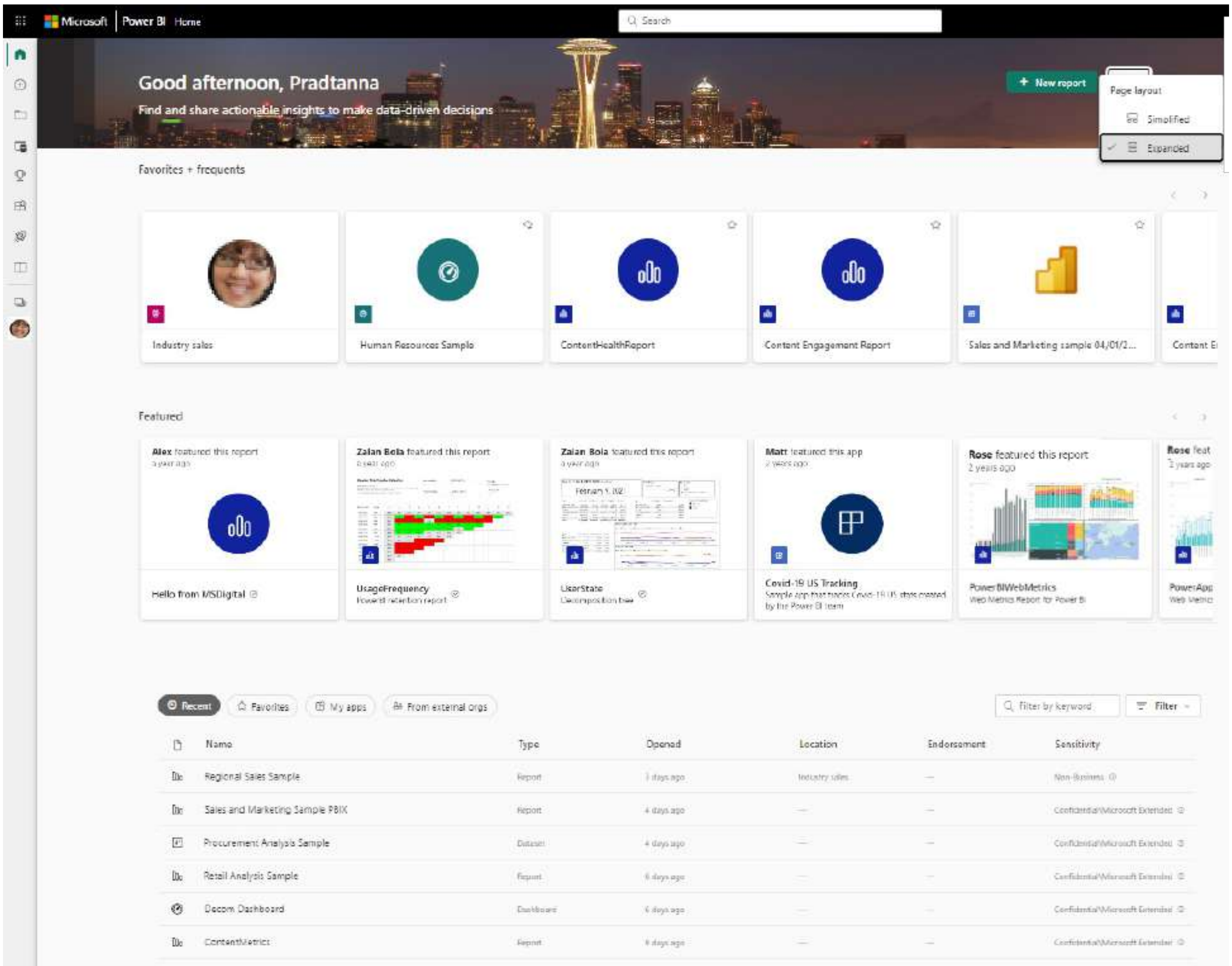
The next example shows a **Simplified** layout for an experienced user.



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 + frequents** 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.

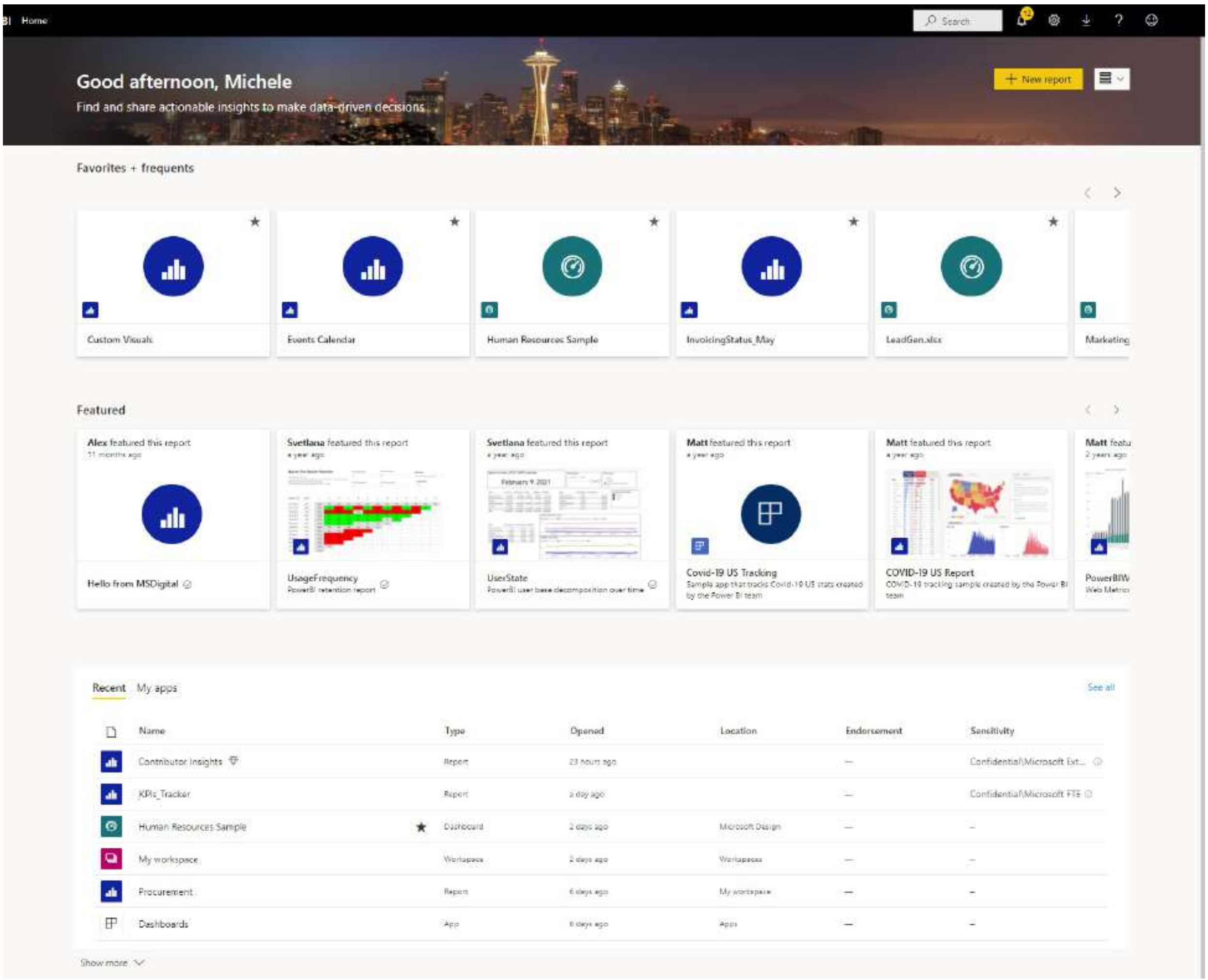
- The Home canvas shows your favorite, frequent, recent, recommended, apps and workspaces. If you're new to the Power BI service, you also have Getting started content. Select a card, or an item in a list, to open it.
- Along the left side is a navigation pane, referred to as the nav pane. The nav pane 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.

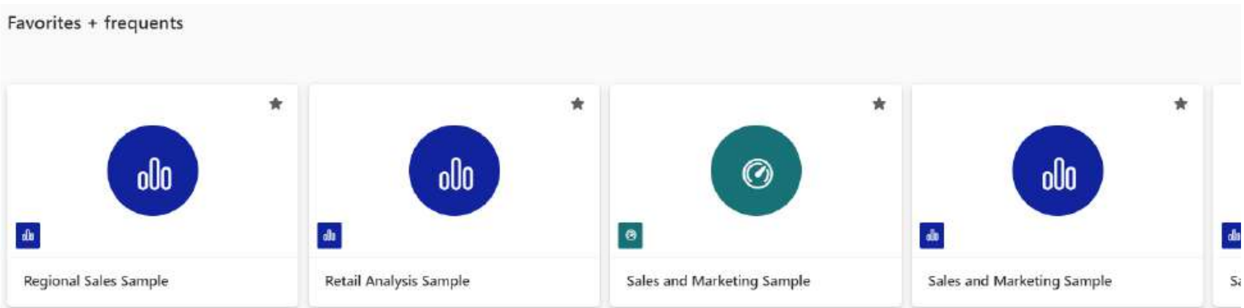


Your Home landing page might look different. Power BI optimizes Home based on your usage, settings, and the layout you select.

Most important content at your fingertips

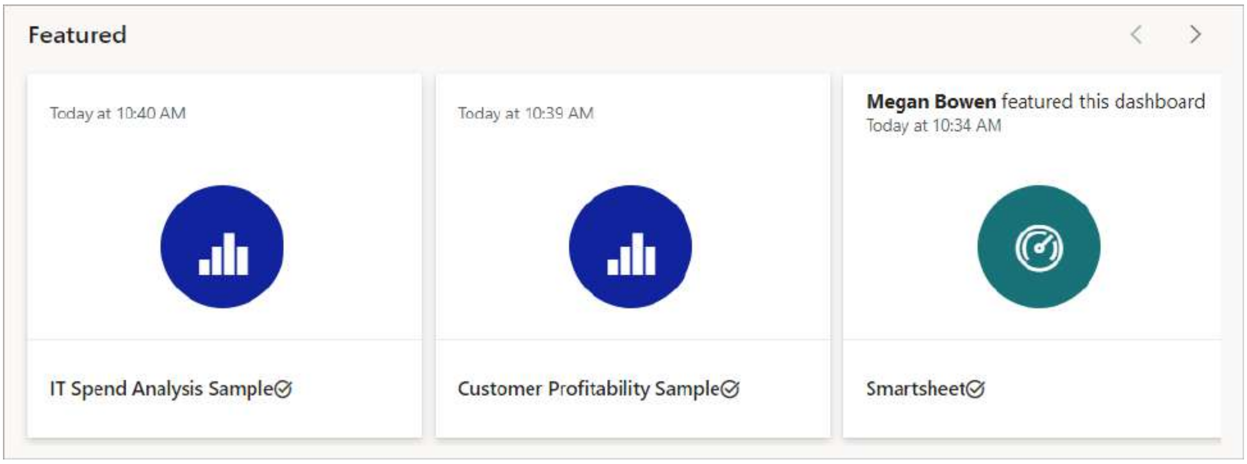
Favorites and frequents

The **Favorites and frequents** 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

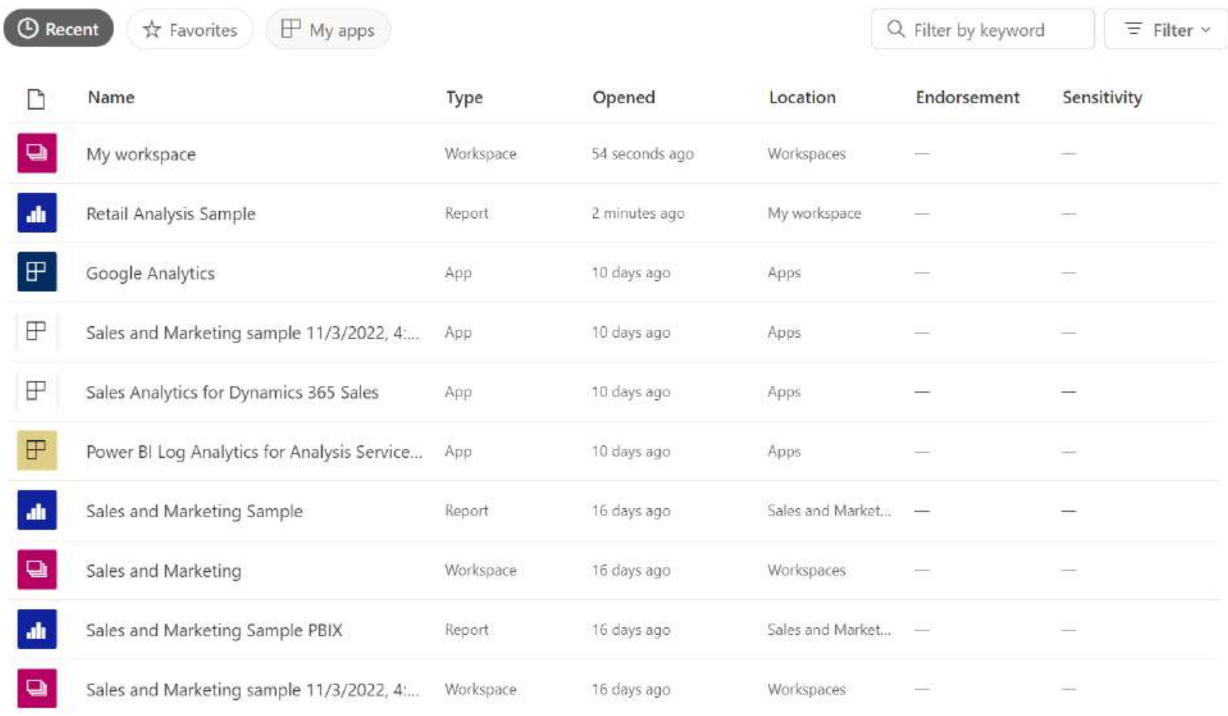
The **Featured** section contains content that your administrator or colleagues have promoted to your Home. Typically, the content that they feature is important or helpful for you to do your job. In this example, the featured content includes metrics to track success. Unless it's been disabled by your 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.



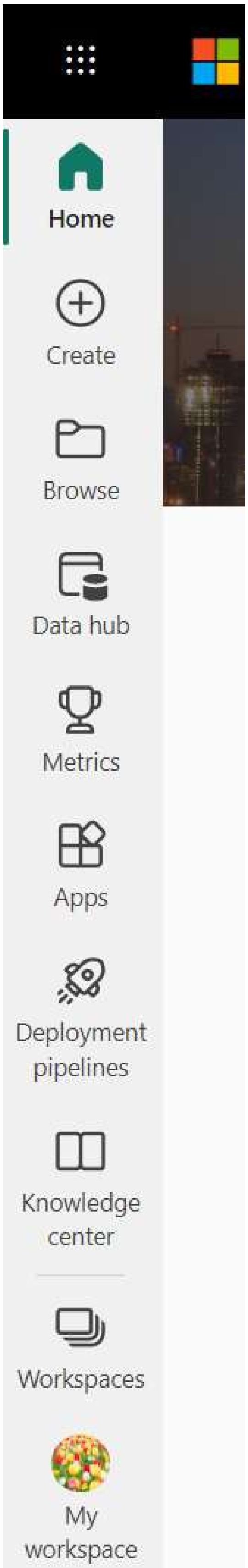
Name	Type	Opened	Location	Endorsement	Sensitivity
My workspace	Workspace	54 seconds ago	Workspaces	—	—
Retail Analysis Sample	Report	2 minutes ago	My workspace	—	—
Google Analytics	App	10 days ago	Apps	—	—
Sales and Marketing sample 11/3/2022, 4:...	App	10 days ago	Apps	—	—
Sales Analytics for Dynamics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

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 .

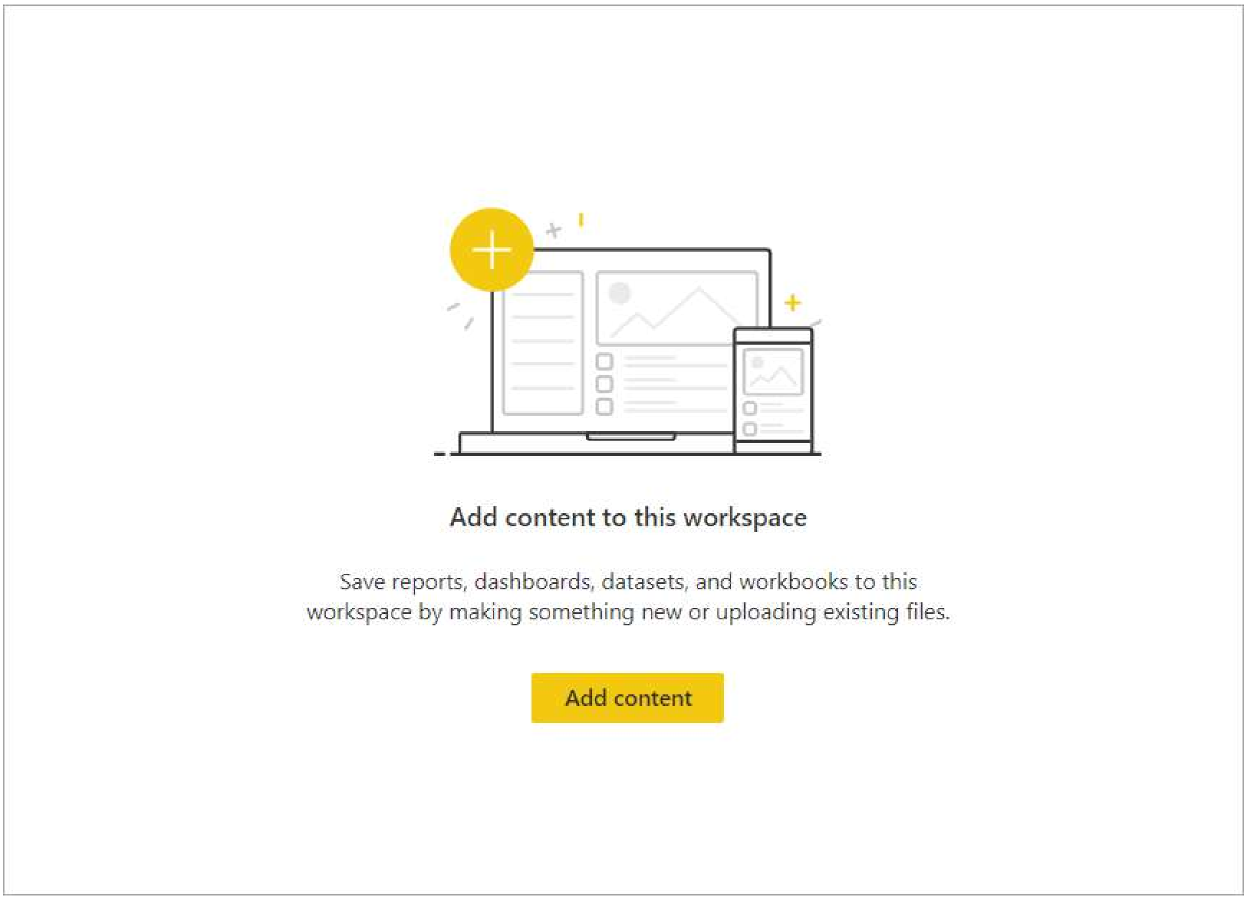
The nav pane organizes your content into containers that are similar to what you've already seen on the Home canvas: Favorites, Recent, Apps, Datasets, Metrics, Shared with me, and workspaces. The Browse page contains your Recent, Favorites, and Shared with me. Select a container to see all the content.

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

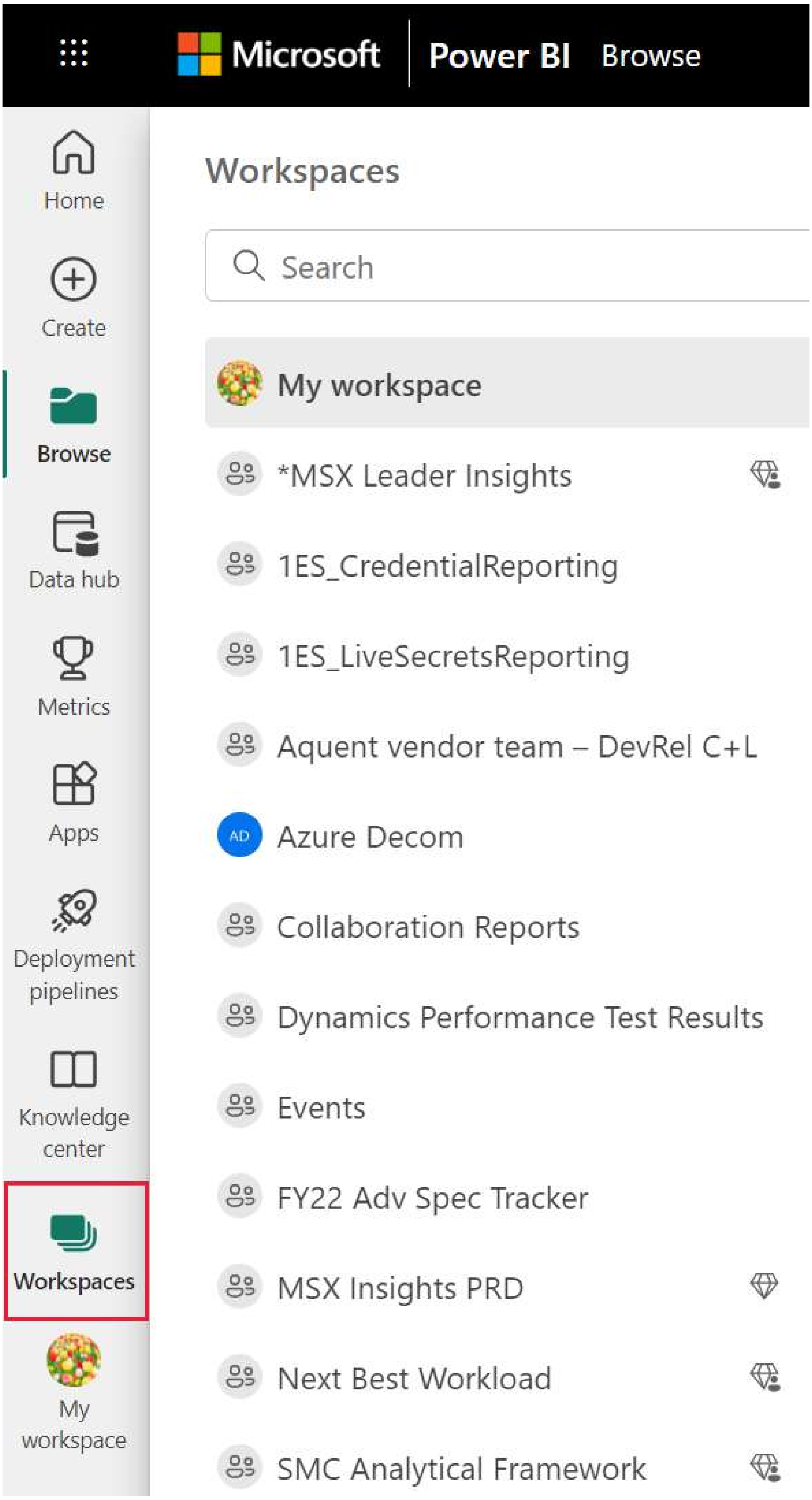
Workspaces

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**.

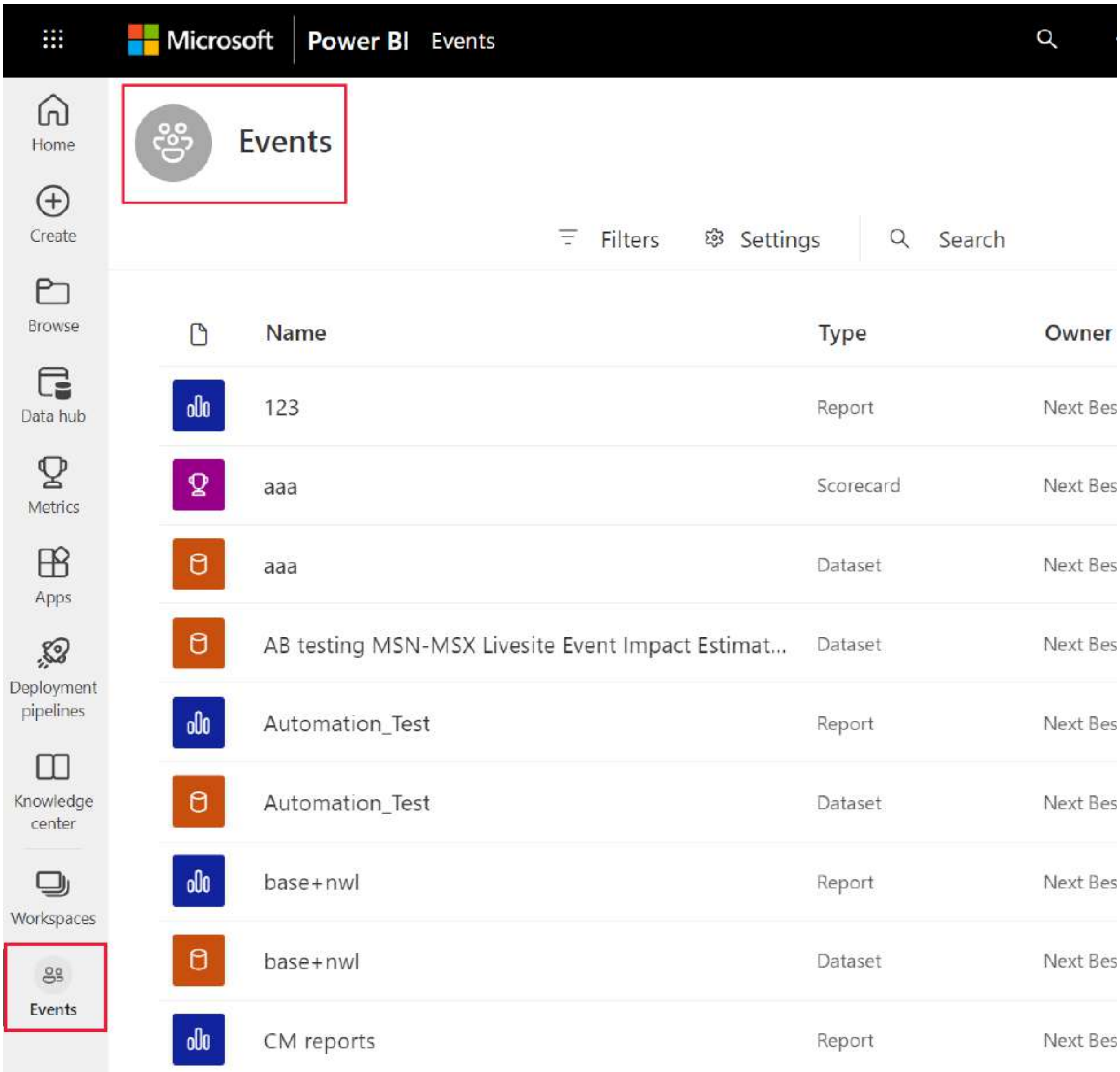
The following example shows what your workspace looks like if it's empty.



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.



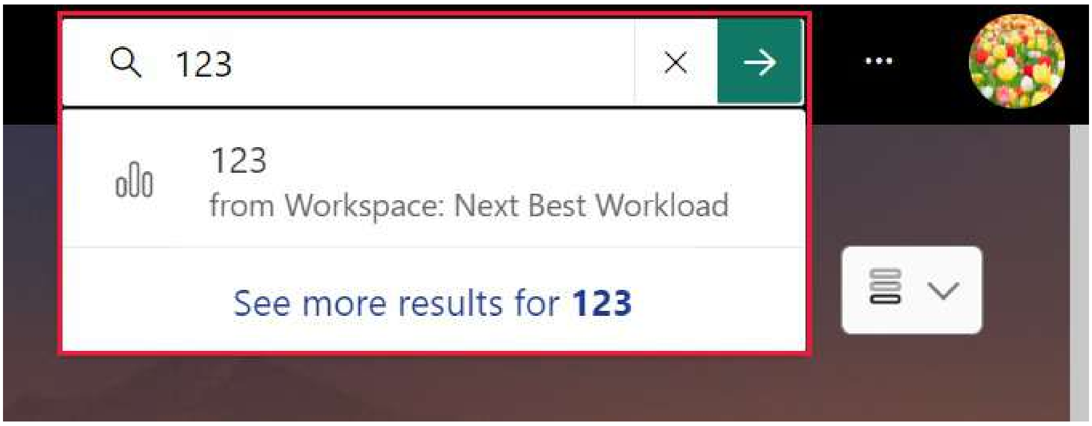
The workspace opens on your canvas, and the name of the workspace is listed on your nav pane. When you open a workspace, you can view its content. It includes content such as dashboards, reports, worksheets, and dataflows. In the following example, the **Events** workspace is open and it contains several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



Search all your content

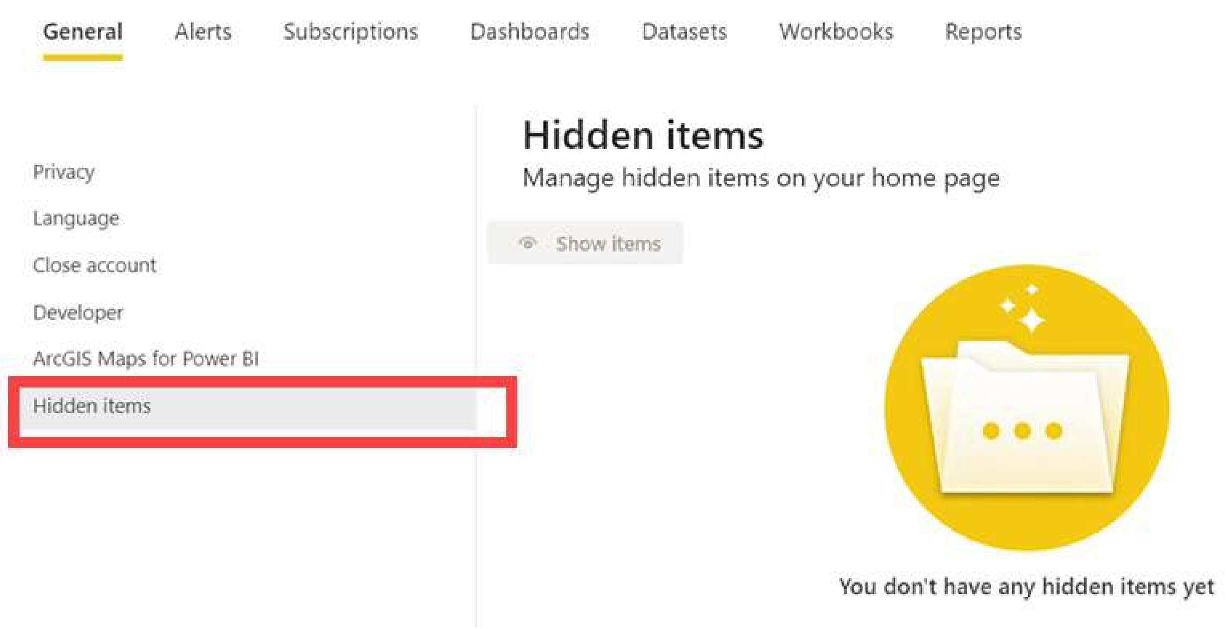
Sometimes, the fastest way to find your content is to search for it. For example, if a dashboard you haven't used in a while isn't showing up on your Home canvas. Or, if your colleague shared something with you, but you don't remember what it's named or what type of content they shared. Sometimes, you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



Next steps

Overview of the Power BI basic concepts

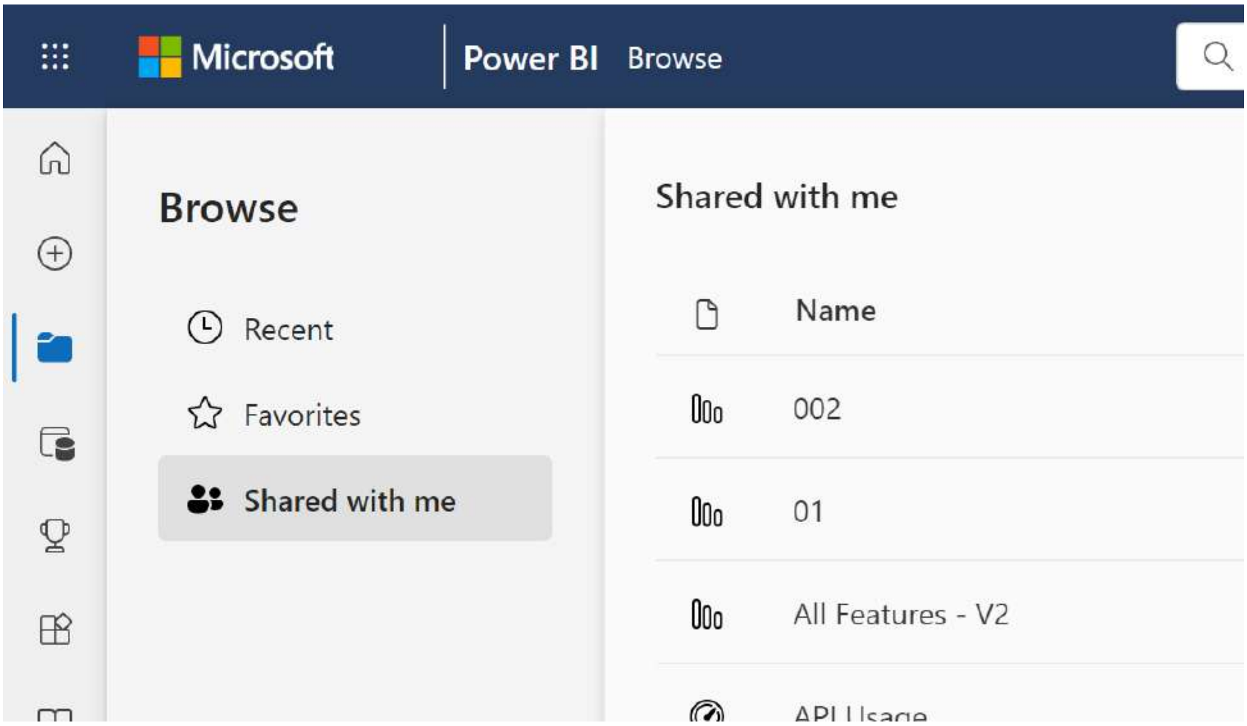
Interact with the Power BI service as a *Free user*

12/15/2022 • 5 minutes to read • Edit Online

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.



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.

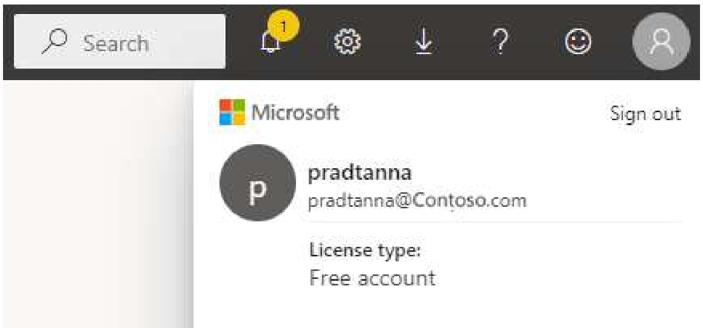
Premium capacity

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.
Apps		
Installs automatically	✗	●*
Open	✗	●
Favorite	✗	●
Edit, update, republish	✗	✗
Create new app	✗	✗
AppSource: download and open	✗	✗
Organization store: download and open	✗	●
Reshare an app	✗	●
Workspaces in Premium capacity		
Create, edit, or delete workspace or content	✗	✗
Add endorsements	✗	✗
Open and view	✗	●
Read data stored in workspace dataflows	✗	●

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.
Dashboards		
Receive, view, and interact with dashboards from colleagues	✗	●
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	✗	●
Datasets		
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	✗	✗
Reports		
Receive reports from colleagues	✗	●
Analyze report in Excel	MWO*	●*
View bookmarks created by others, and add your own bookmarks	✗	●
View and respond to comments from others: add new comments	✗	●
Change display dimensions	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.
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[1]	MWO	●
Lineage view	MWO	✗
Export to PDF*	MWO	●
Performance Inspector	MWO	●
Export to PowerPoint*	MWO	●
Promote content to Home	✗	✗

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.
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	✗	●
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

12/15/2022 • 2 minutes to read • Edit Online

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.

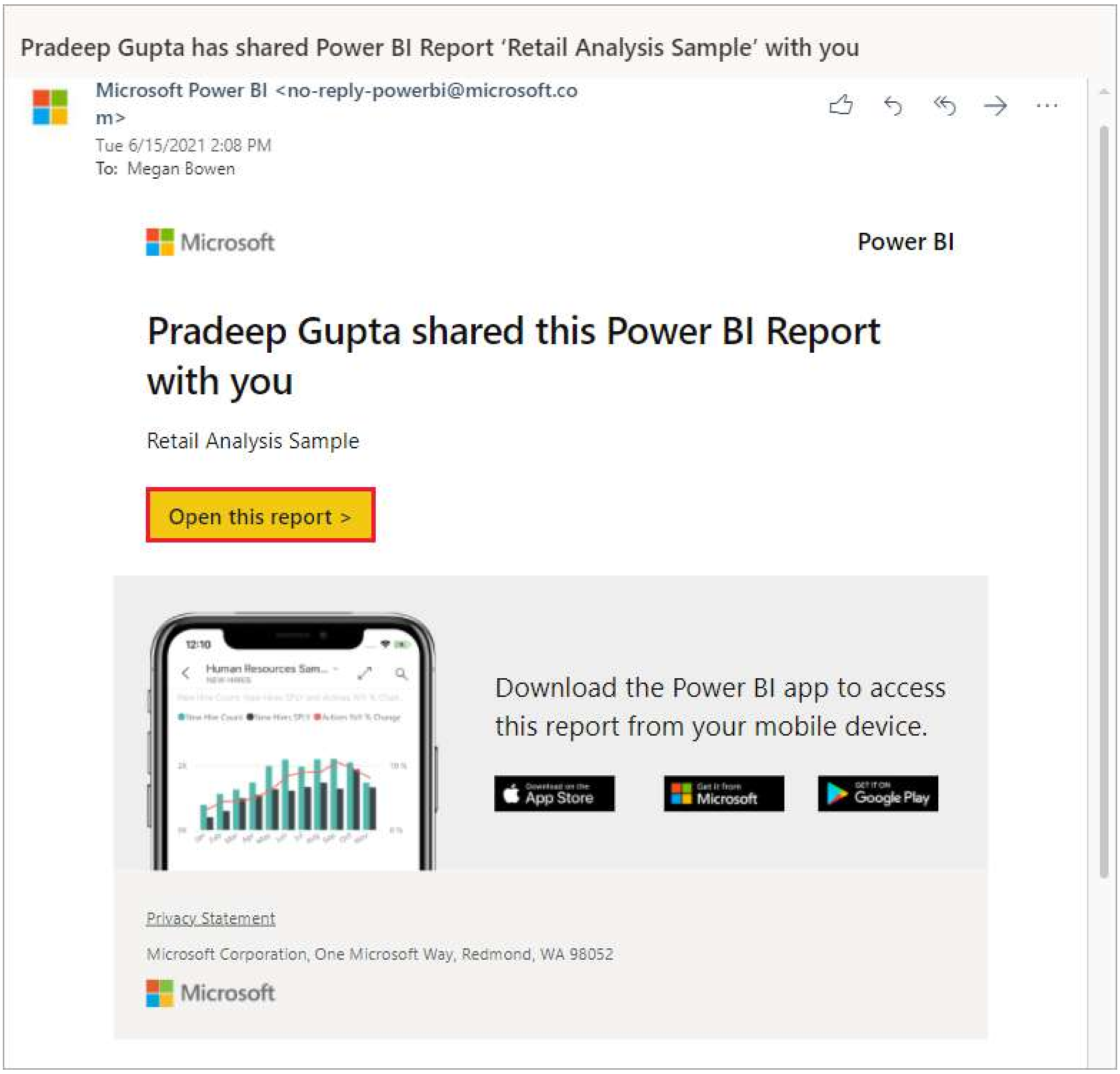
Sign in for the first time

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.

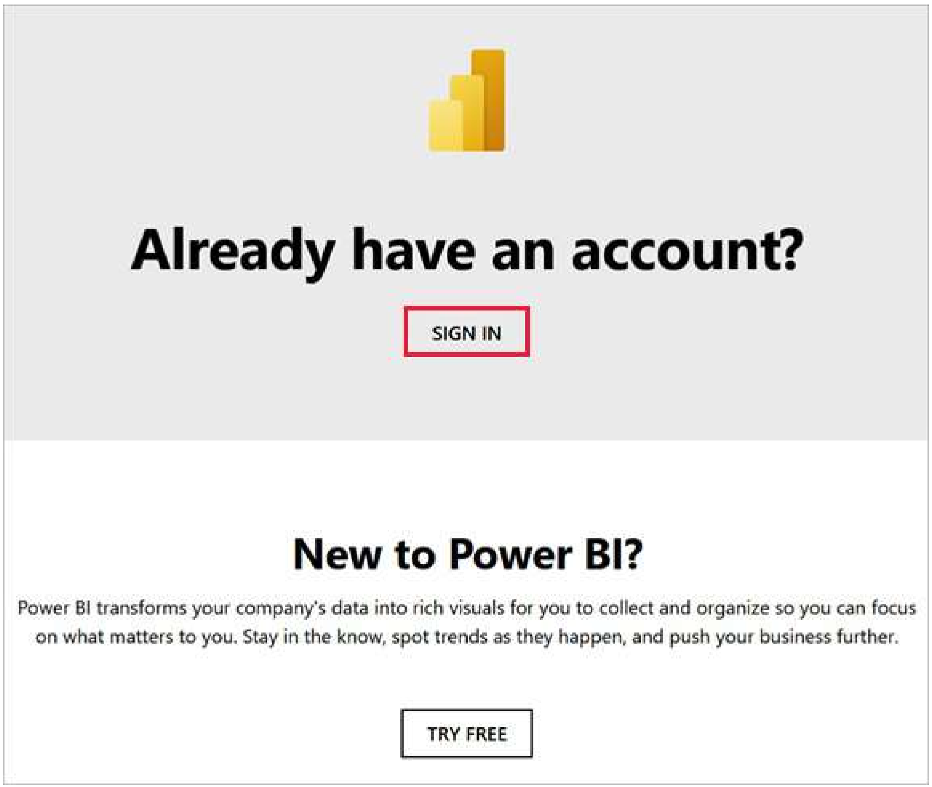
- If you've received an email from a colleague, with a link to a dashboard or report, select the link to **Open this report** or **Open this dashboard**.



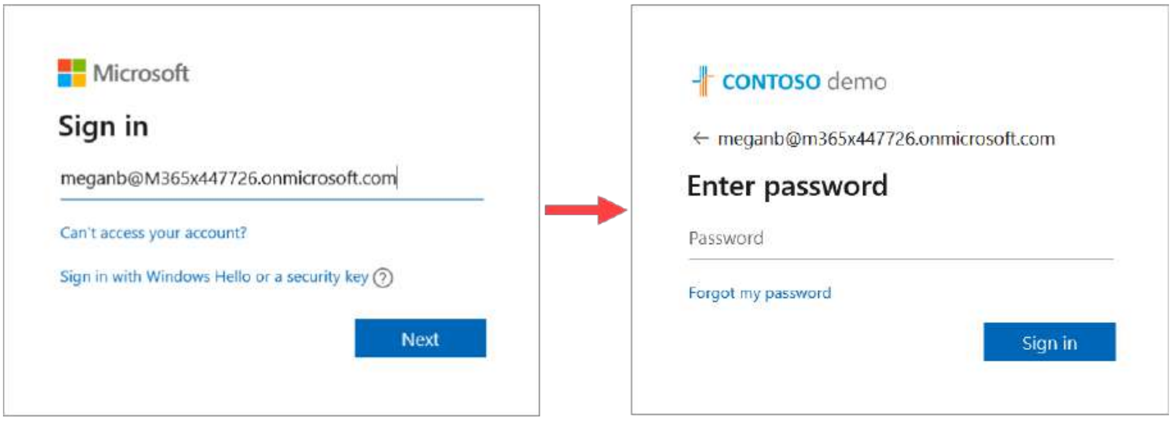
- Otherwise, open your favorite browser and type **app.powerbi.com**.

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**.



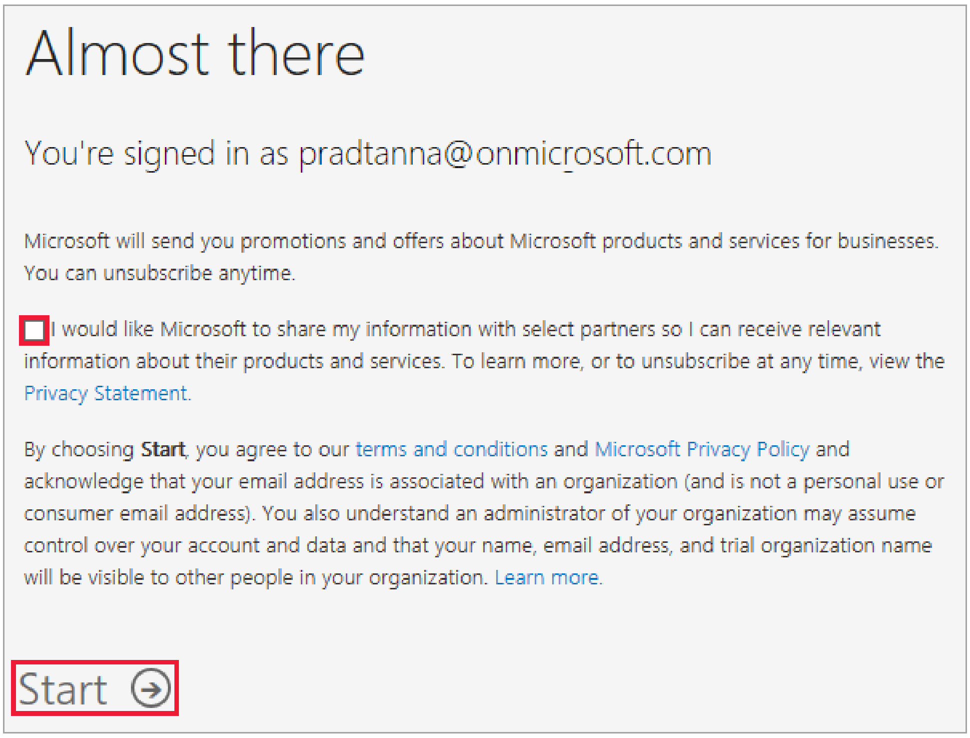
2. Enter your Microsoft 365 account password. It's the same email and password that you use for other Microsoft products, like Outlook and Office. Depending on how your account is set up, you might be prompted to enter a code that's sent to your email or mobile device.



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.

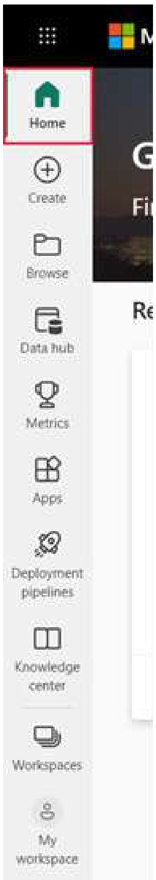
Step 3: Review the terms and conditions

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

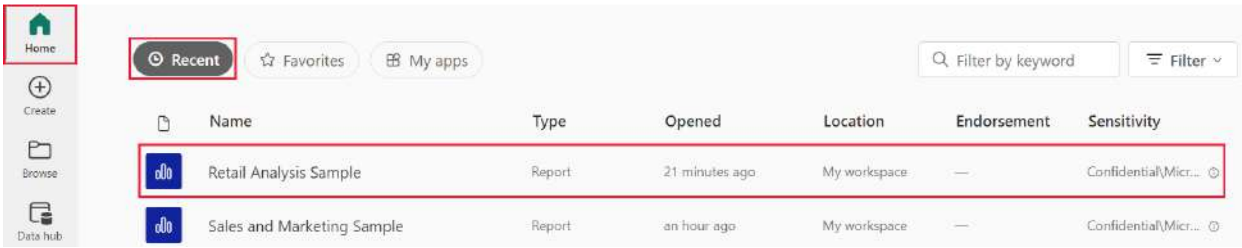


Step 4: Review your Home landing page

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.

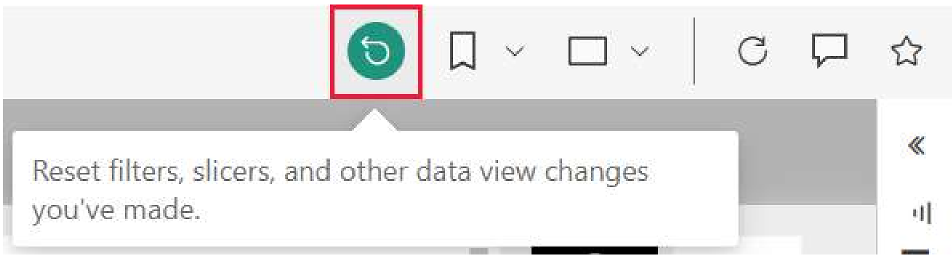


Reports shared with you're also stored under **Shared with me** on the **Browse** page.

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 dataset or the original shared content. Power BI is a safe space where you can explore and experiment.

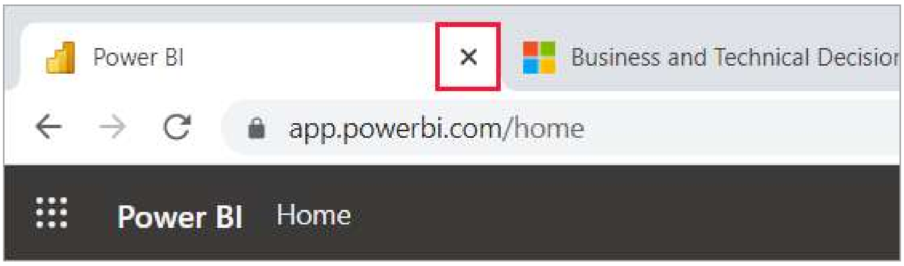
That doesn't mean that you can't save your changes. You can, but those changes only affect your view of the content. To revert to the default view, select the **Reset** button.



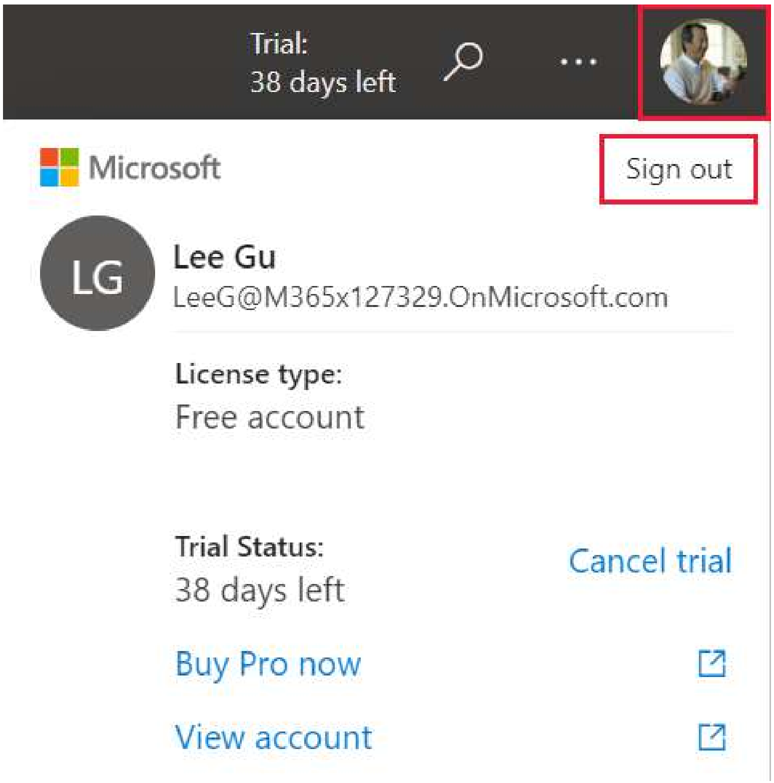
Sign out of the Power BI service

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**.



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*

12/15/2022 • 6 minutes to read • Edit Online

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, or have been chatting with your *designer* colleagues, 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 content is stored, and
- the roles and permissions you're assigned.

In this article, we describe the capabilities of each license type and how *where content is stored* can affect *what you can do with it*. You'll also learn how to look up your license and subscription and figure out where your content is stored. For more information about roles and permissions, see workspace roles.

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 is managed by your Power BI admin.

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.

Power BI Premium capacity subscription

Premium is an organizational *subscription* that provides a different 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 Premium capacity, without purchasing individual Power BI Pro or Premium per-user licenses.

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 licenses 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. 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 permissions for that app.

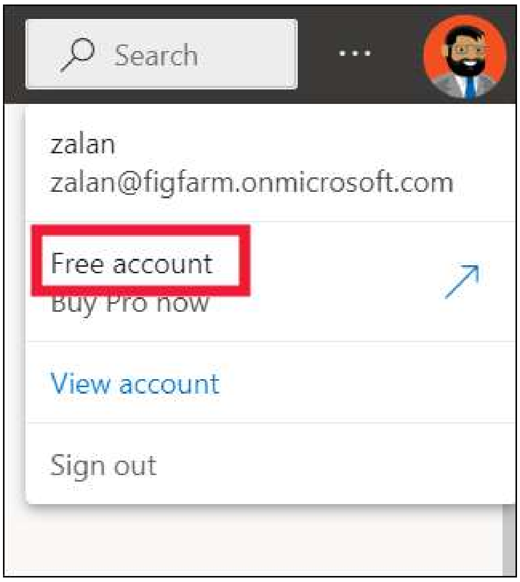
Within those workspaces, designers assign roles, like **Viewer**, **Contributor**, **Member**, and **Administrator**. These roles determine the extent to which colleagues can interact with the content. For more information, see workspace permissions and roles.

When a designer creates and publishes an app, they grant access to entire organizations or individuals. The extent to which you can interact with the app's content depends on the specific access permissions given to you. For example, you may 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

Select your profile picture to display account information. Zalan is using a free license. Other types of licenses are: **Pro** and **Premium per user**.

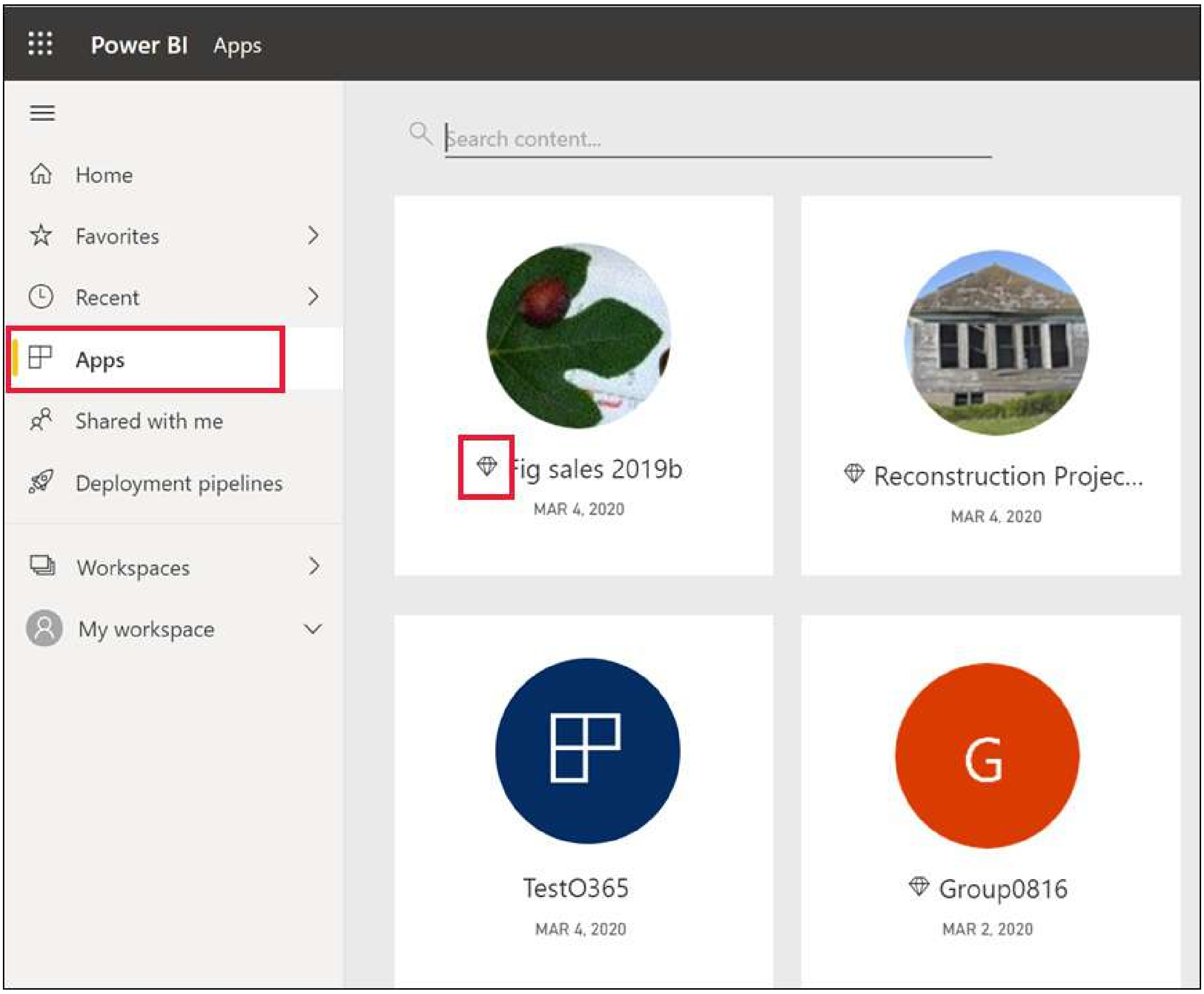


To see additional details about your account, select **View account**.

Identify content hosted in Premium capacity

There are a couple of ways to identify content that is 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 image below, three of the apps are stored in Premium capacity.



If you're a user with a free license, as long as the *designer* places the workspace in a Premium capacity, you have the ability, **within that workspace**, to view shared content, collaborate with colleagues, work with the app dashboards and reports, and more. The extent of your permissions is set by your Power BI administrator and by the content designer.

Putting it all together

There are many different ways organizations organize their Power BI subscriptions and licenses. From a *business users* perspective, one of the most common scenarios is when an organization buys a Premium subscription, the admin assigns Pro licenses to a small group of users, and all the other users work with free licenses. Typically, the admin assigns the Pro licenses to the employees who will be creating and sharing content. The Pro users create workspaces and add content (dashboards, reports, datasets, apps) to those workspaces. To allow free users to collaborate in those workspaces, the admin or Pro user then assigns the workspaces to a *Premium capacity*.

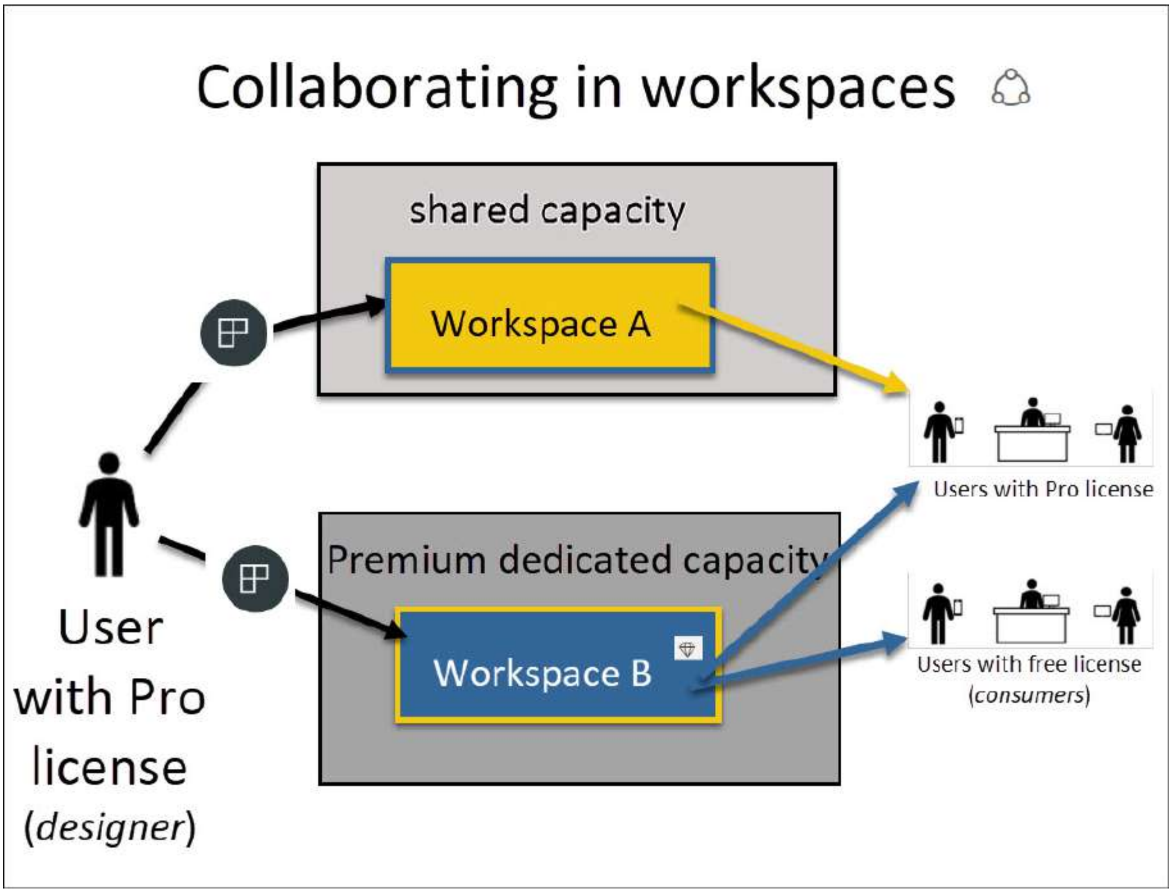
LICENSE TYPE	NOT IN PREMIUM CAPACITY	PREMIUM CAPACITY
Free	Use as a personal sandbox where you create content for yourself and interact with that content. A free license is a great way to try out the Power BI service. You can't consume content from anyone else or share your content with others [1]	Interact with content 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.

LICENSE TYPE	NOT IN PREMIUM CAPACITY	PREMIUM CAPACITY
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.

[1] See Considerations and troubleshooting.

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

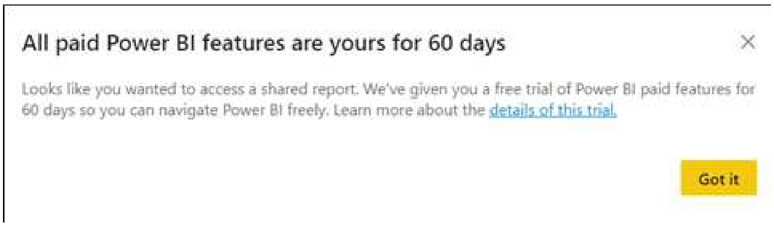
- **Workspace A** was not created in a Premium capacity.
- **Workspace B** was created and saved in a Premium capacity. This workspace has a diamond icon.



The Power BI Pro *designer* can share and collaborate with other Pro users in either of the workspaces. But, the only way the Power BI Pro user can share and collaborate with free users is by using Workspace B, which is in a Premium capacity. Within the workspace, the designer assigns roles to collaborators. Your role determines what actions you can take within the workspace. Power BI *business users* are usually assigned the *Viewer* role. To learn more about roles, see Workspaces for Power BI business users.

Considerations and troubleshooting

- It's possible to have more than one Power BI license. The Power BI service will always deliver 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 will use the Pro license.
- If you want to create and share content (dashboards, reports, apps), or open content that someone else shared with you, then you need to have a Pro user license or a Premium per user license. You may be able to sign up for a free 60-day individual trial of the paid version of Power BI Premium Per User. If your organization has enabled self-service trials, select the upgrade dialog that appears in the Power BI service whenever 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. After your trial license reverts, 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 admin or IT Help Desk, visit the Power BI pricing page.

- If you signed up for a free license on your own by selecting a *Try it free* type of button, it never expires. So if you upgrade to a trial or your organization provides you with a Pro or Premium Per User license, and then your trial ends or your organization removes your Pro license, you still have the free license to fall back on - unless you cancel the license.
- [1] A free user license for the Power BI service is perfect for someone exploring or using it for personal data analysis and visualizations using **My workspace**. A free standalone user isn't using 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
- View Power BI business user features by license type

Q&A for Power BI business users

12/15/2022 • 4 minutes to read • Edit Online

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, "what were total sales last year."

Use Q&A to explore your data using intuitive, natural language capabilities and receive answers in the form of charts and graphs. Q&A is different from a search engine -- Q&A only provides results about the data in Power BI datasets.

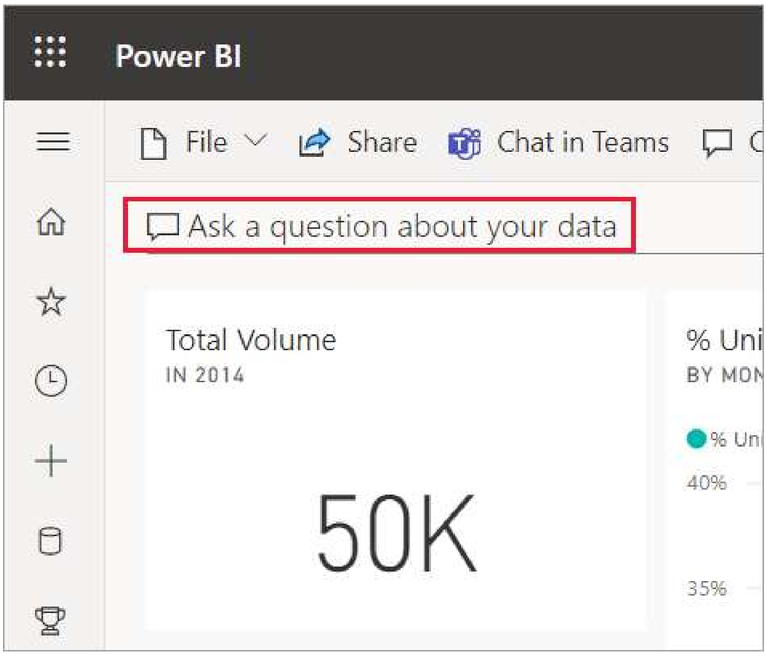
Which visualization does Q&A use?

Q&A picks the best chart or graph based on the data being displayed. Sometimes data in the underlying dataset is defined as a certain type or category and this helps Q&A know how to display it. For example, if data is defined as a date type, it is 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.

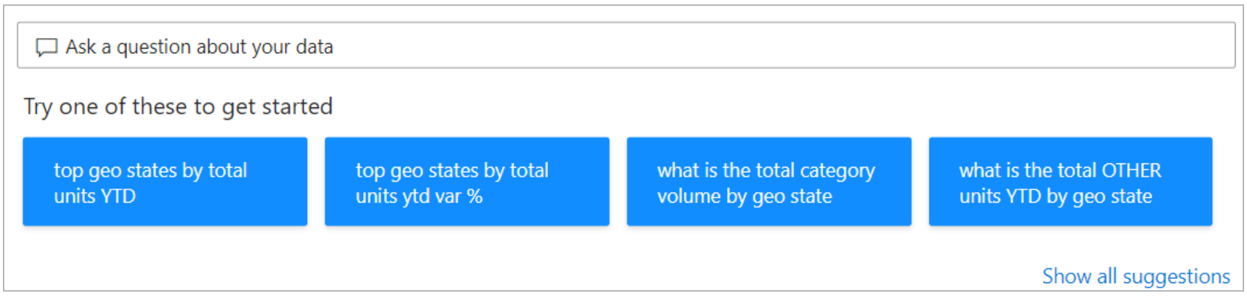
You can also tell Q&A which visual to use by adding it to your question. But keep in mind that it may not always be possible for Q&A to display the data using the visual type you requested. Q&A will prompt you with a list of workable visual types.

Where can I use Q&A?

You'll find Q&A on dashboards in the Power BI service, and at the bottom of the dashboard in Power BI mobile. Unless the designer has given you edit permissions, you'll be able to use Q&A to explore data but won't be able to save any visualizations created with Q&A.

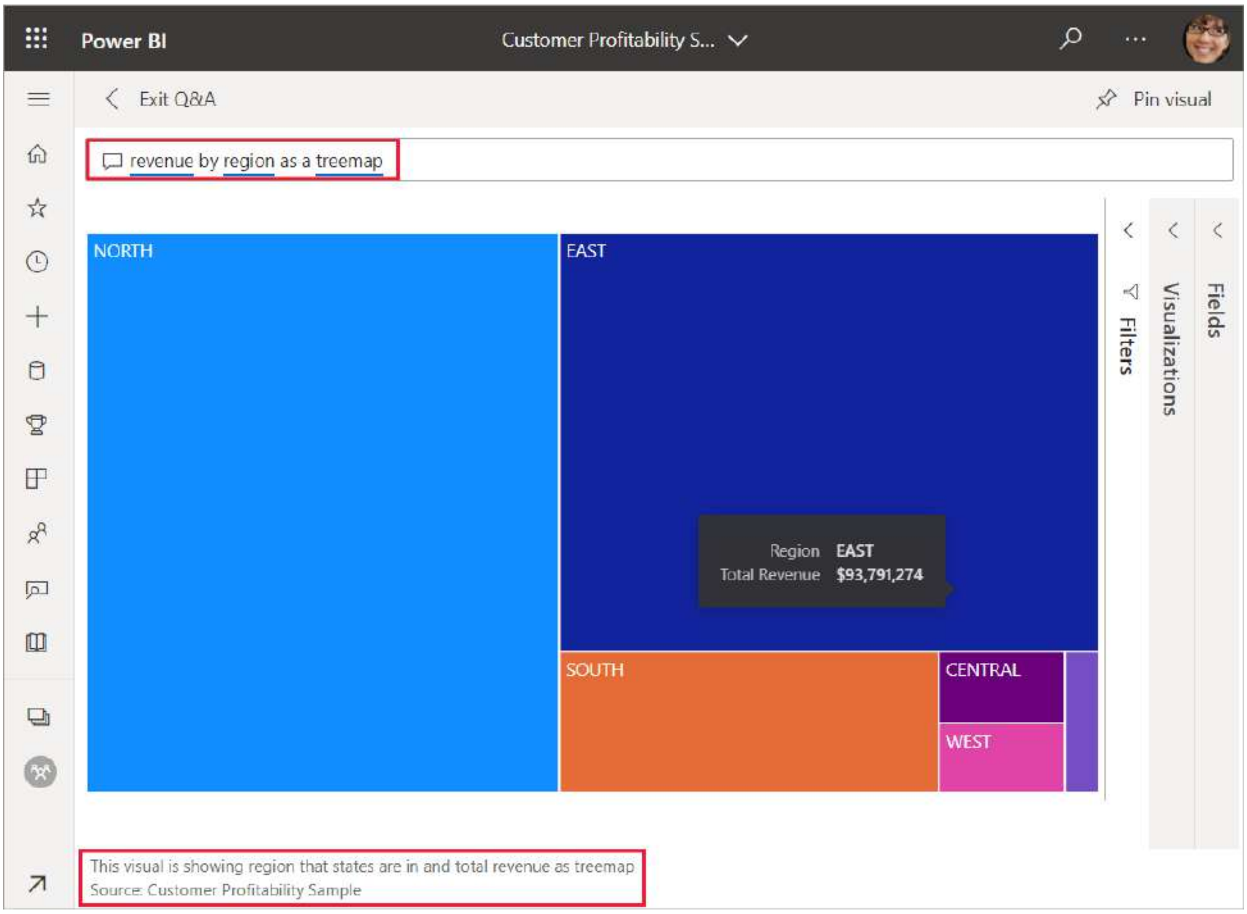


You'll also find Q&A on reports, if the report *designer* added an interactive Q&A visual.



Q&A on dashboards

Power BI Q&A is available with a Pro or Premium license. Q&A in the Power BI mobile apps and Q&A with Power BI Embedded are covered in separate articles. At the current time, **Power BI Q&A** only supports answering natural language queries asked in English, although there is a preview available for Spanish that can be enabled by your Power BI administrator.



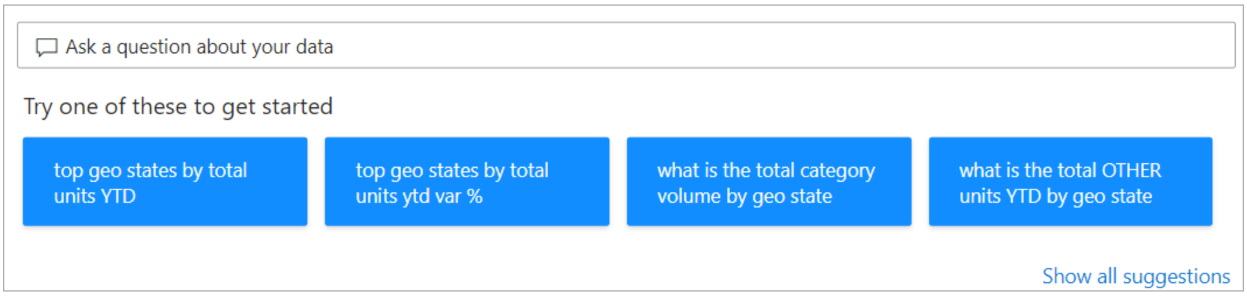
Asking the question is just the beginning. Have fun traveling through your data refining or expanding your question, uncovering trust-worthy new information, zeroing in on details and zooming out for a broader view. You'll be delighted by the insights and discoveries you make.

The experience is truly interactive...and fast! Powered by an in-memory storage, response is almost instantaneous.

The Q&A visual in Power BI reports

In Power BI reports, there is a specific type of interactive visual called the Q&A visual. When a report designer adds this visual to a report, report end users can ask natural language questions and create a new report visual that represents the answer to that question. The Q&A visual behaves like other visual in a report, it can be cross-filtered/cross-highlighted and also supports bookmarks and comments.

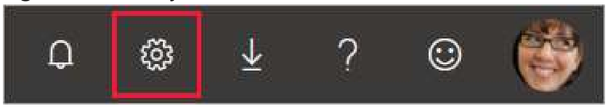
You can identify a Q&A visual by its question box across the top. This is where you'll enter or type questions using natural language. The Q&A visual can be used over and over again to ask questions about your data. When you leave the report, the Q&A visual resets to its default.



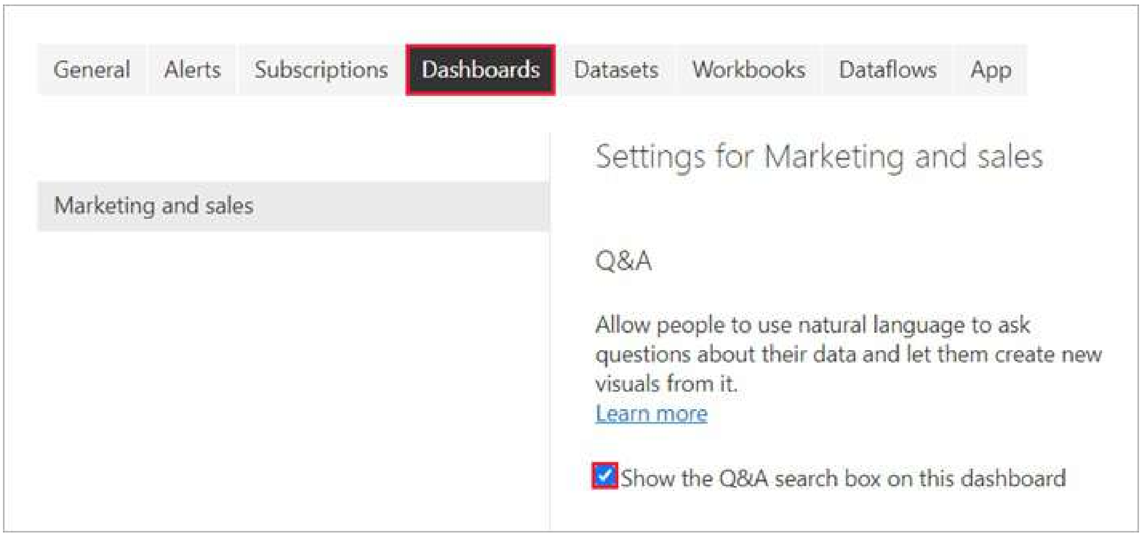
Considerations and troubleshooting

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

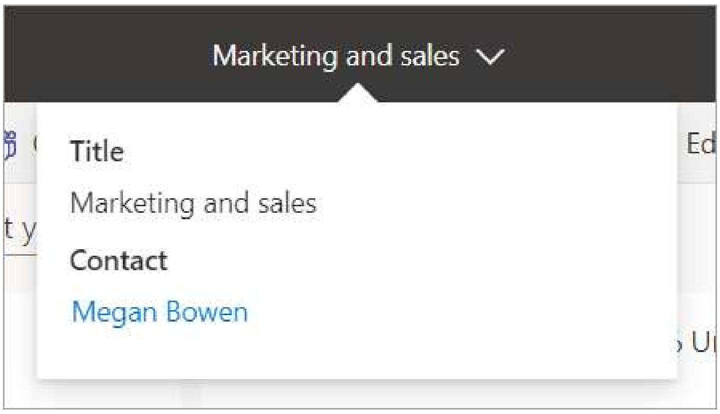
Answer 1: If you don't see a question box, first check your settings. To do this, select the cog icon in the upper right corner of your Power BI toolbar, or from the **More options** (...) dropdown menu.



Then choose **Settings** > **Dashboards**. Make sure there is a check mark next to **Show the Q&A search box on this dashboard**.



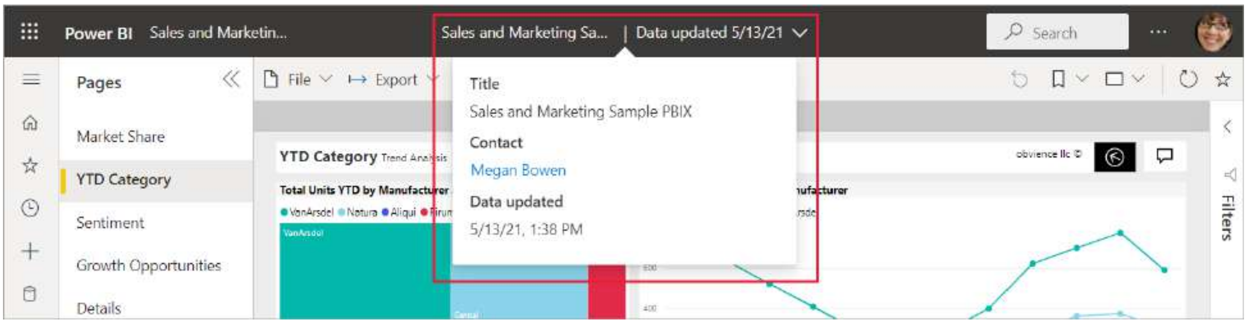
Answer 2: Sometimes you won't have access to the settings. If the dashboard owner or your administrator turned Q&A off, check with them to see if it's OK to turn it back on. To look up the owner, select the name of the dashboard from the top menu bar.



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 do this directly 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 dataset to use terms that are easily understood (`CustomerFirstName` instead of `CustFN`). Since the owner knows the dataset really well, they can also come up with helpful questions and add them to the Q&A suggested questions.



Privacy

Microsoft may use your questions to improve Power BI. Please review the Microsoft Privacy Statement for more information.

Next steps

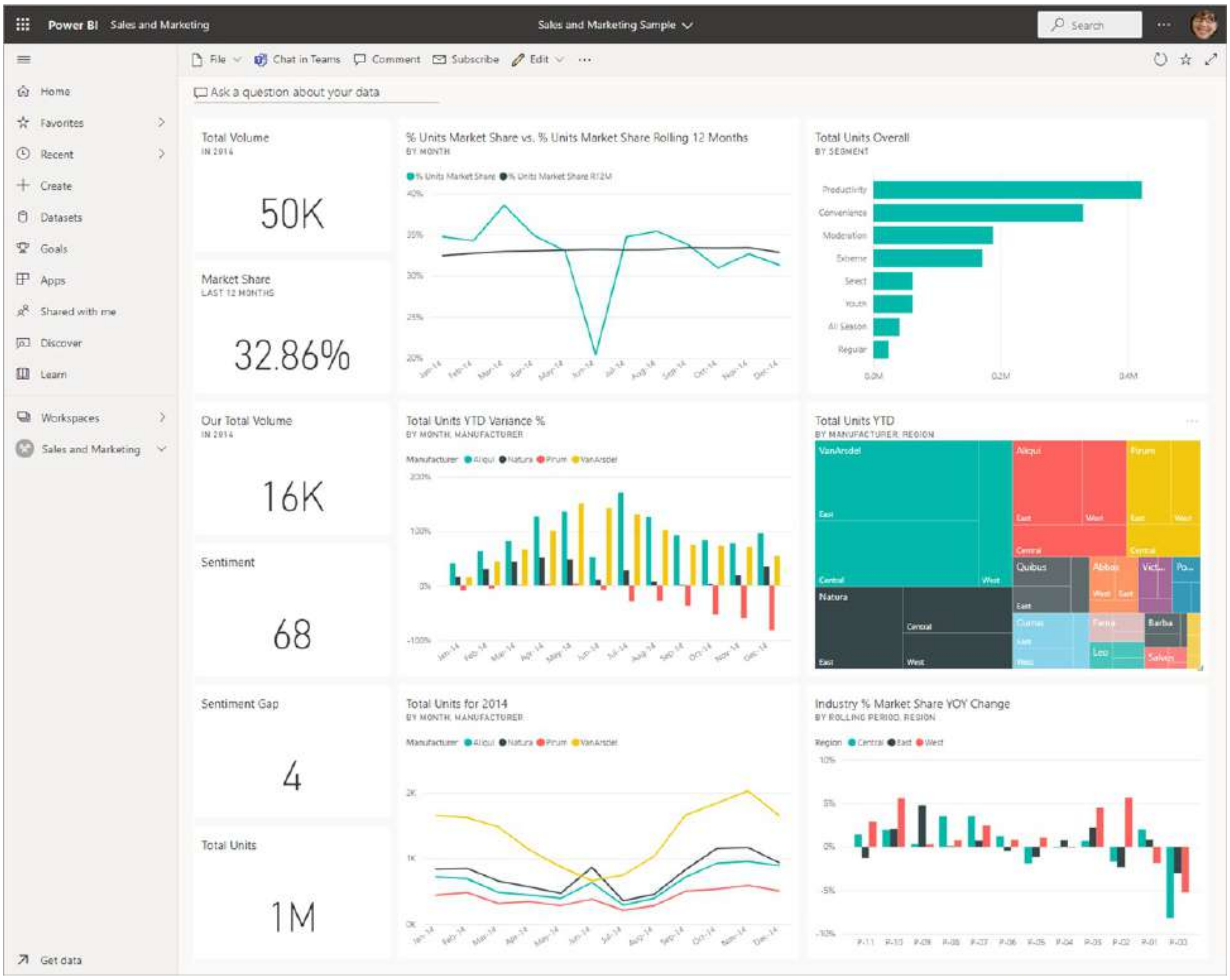
Learn how to ask your own natural language questions and create answers in the form of visuals. Q&A Tutorial

Dashboards for business users of the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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

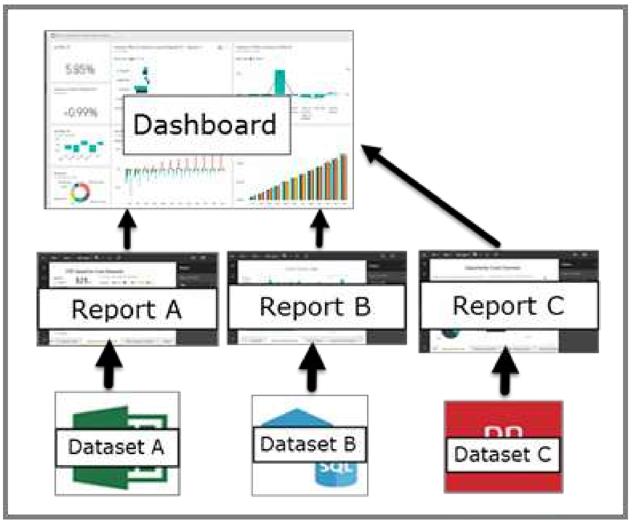
A Power BI ***dashboard*** is a single page, often called a canvas, that uses visualizations to tell a story. Because it is limited to one page, a well-designed dashboard contains only the most-important elements of that story.



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. If you're new to Power BI, you can get a good foundation by reading Power BI basic concepts.

> **NOTE**
>
> Dashboards can be viewed and shared on mobile devices.
>
> For colleagues to be able to share dashboards with you, your version of Power BI must be "Pro" or "Premium." For more information, see Power BI license types.

The visualizations on a dashboard come from reports and each report is based on one dataset. In fact, one way to think of a dashboard is as an entryway into the underlying reports and datasets. Selecting a visualization takes you to the report that was used to create it.



Advantages of dashboards

Dashboards are a wonderful way to monitor your business, to look for answers, and to see all of your most-important metrics at a glance. The visualizations on a dashboard may come from one underlying dataset or many, and from one underlying report or many. A dashboard can combine on-premises and cloud data, providing a consolidated view regardless of where the data lives.

A dashboard isn't just a pretty picture; it's interactive and the tiles update as the underlying data changes.

Dashboards versus reports for Power BI *business users*

The way you interact with Power BI will depend on your job role. As a consumer or *business user*, you are the person who receives content (dashboards, reports, and apps) from *creator* colleagues. Reports are often confused with dashboards since they too are canvases filled with visualizations. But there are some major differences from a Power BI *business user* point of view.

CAPABILITY	DASHBOARDS	REPORTS
Pages	One page	One or more pages
Ask a question about your data (Power BI Q&A) field at top	almost always	no
Data sources	One or more reports and one or more datasets per dashboard	A single dataset per report
Filtering	Can't filter or slice	Many different ways to filter, highlight, and slice
Set alerts	Can create alerts to email you when certain conditions are met	No
Featured	Can set one dashboard as your "featured" dashboard	Cannot create a featured report
Can see underlying dataset tables and fields	No. Can export data but can't see tables and fields in the dashboard itself.	Yes. Can see dataset tables and fields and values.

Dashboard designers and dashboard business users

As a Power BI ***business user***, you receive dashboards from *designers*. Continue learning about dashboards with these topics:

- View a dashboard
- Learn about dashboard tiles and what will happen when you select one.
- Want to track an individual dashboard tile and receive an email when it reaches a certain threshold? Create alerts on tiles.
- Have fun asking your dashboard questions. 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**
>
> If you didn't find what you're looking for here, use the Table of Contents to the left.

Next steps

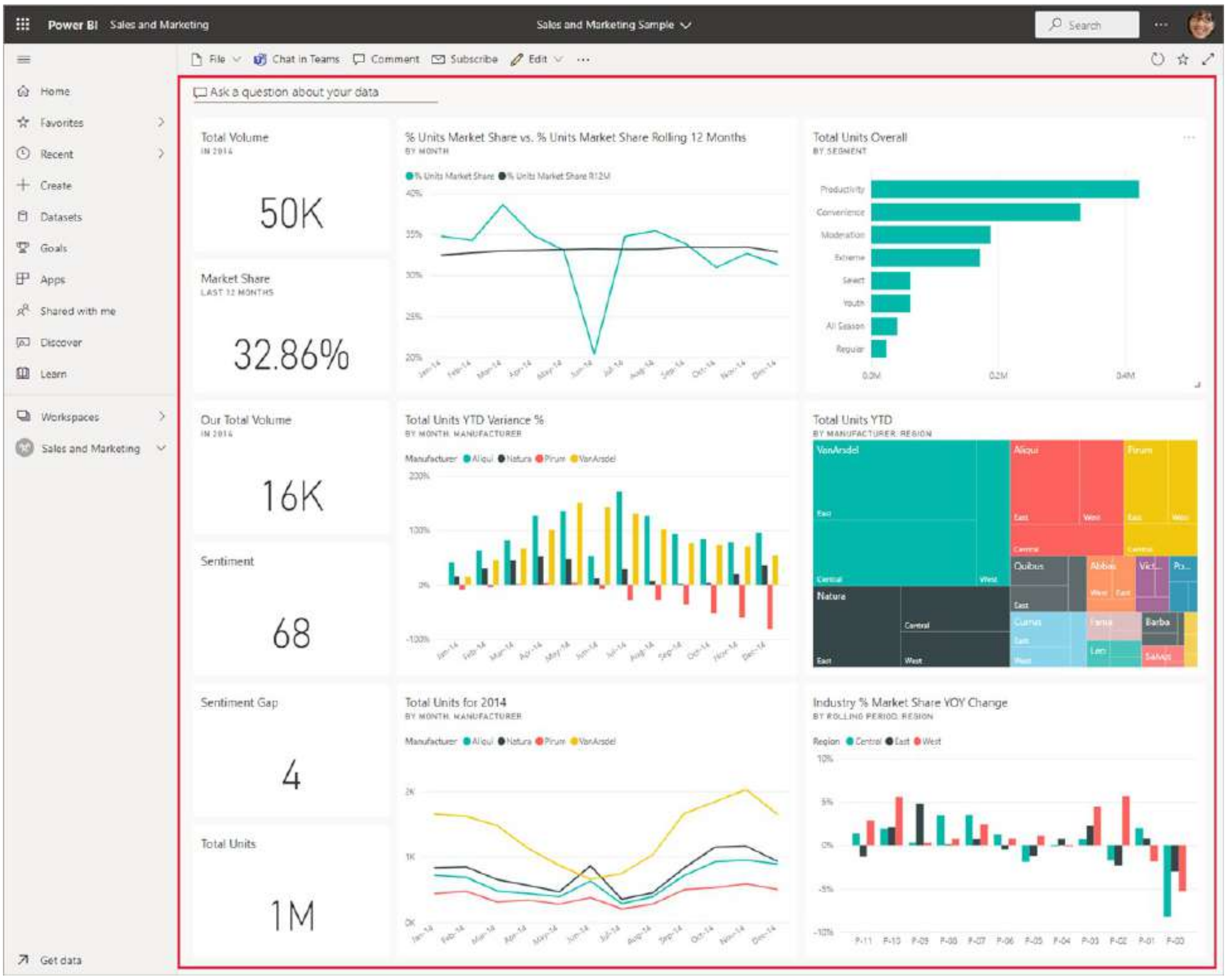
View a dashboard

View a dashboard

12/15/2022 • 2 minutes to read • Edit Online

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

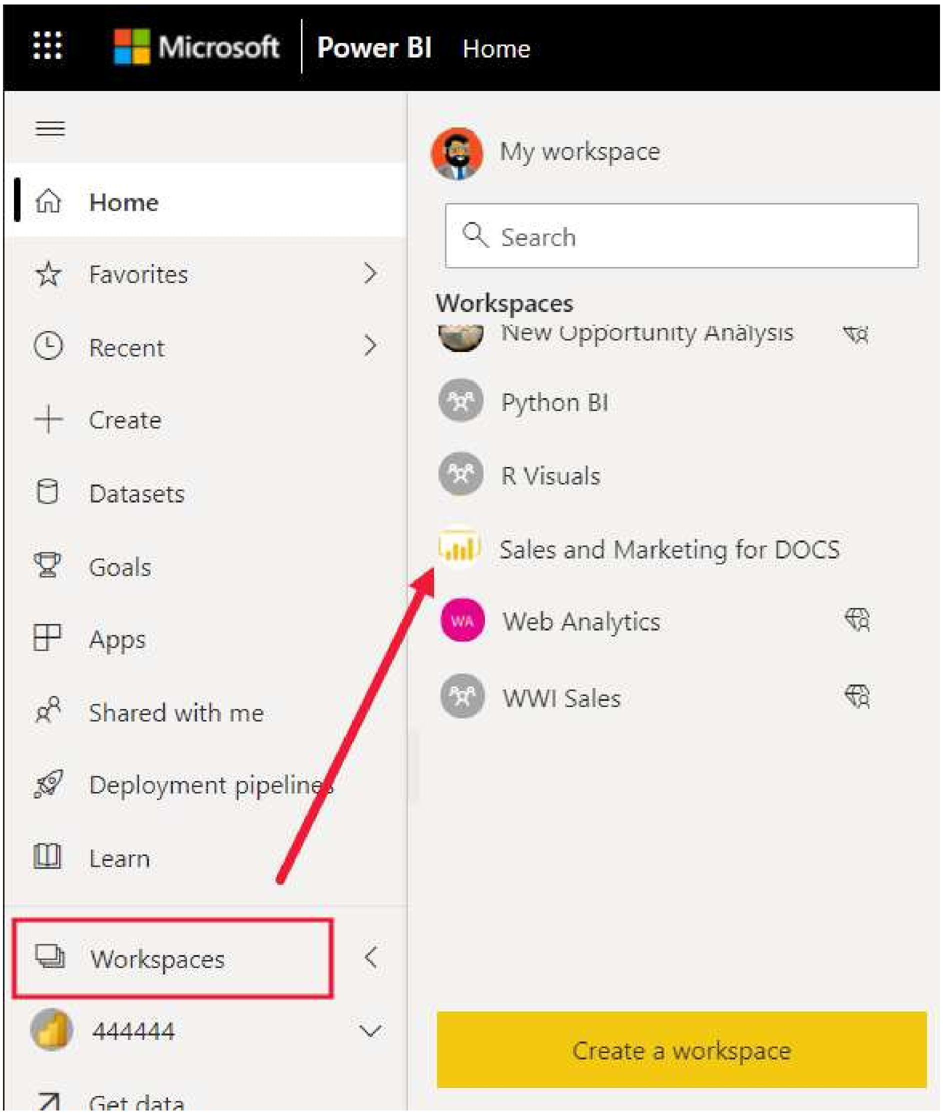
Power BI *business users* spend a lot of time viewing dashboards. Dashboards are designed to highlight specific information from the underlying reports and datasets. And Power BI business users rely on that information for tracking, monitoring, answering questions, testing, and more -- in order to make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



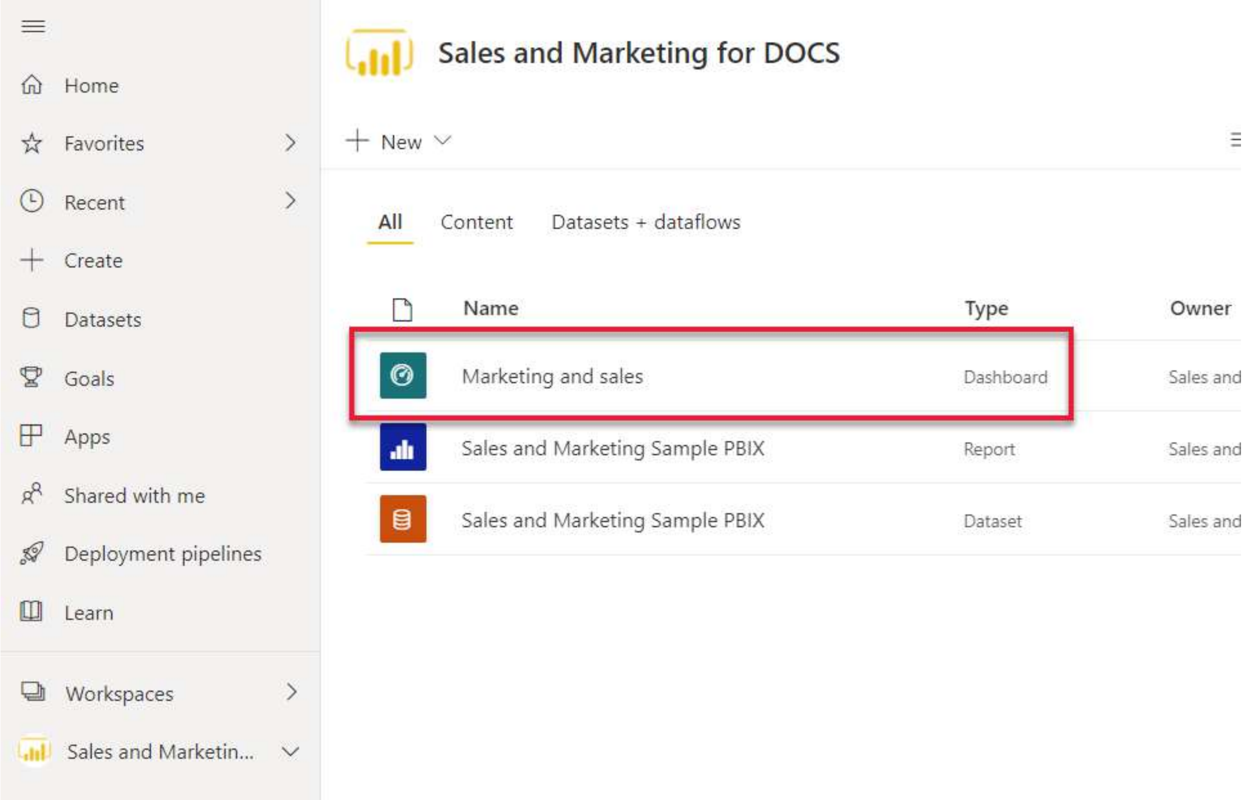
A Power BI Pro or Premium license is required for both sharing a dashboard and viewing a shared dashboard. Which license do I have?.

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.



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



Once you've identified a dashboard, open it by selecting it and the dashboard will fill your Power BI canvas.

You may find dashboards in all of the containers in the nav pane.

- **Home**
- **Favorites** - if you've set a dashboard as a favorite
- **Recent** - if you've recently visited a dashboard
- **Apps** - most apps contain both dashboards and reports
- **Shared with me** - if a colleague has shared a dashboard with you
- **My workspace** - if you've downloaded any of the Power BI samples

Next steps

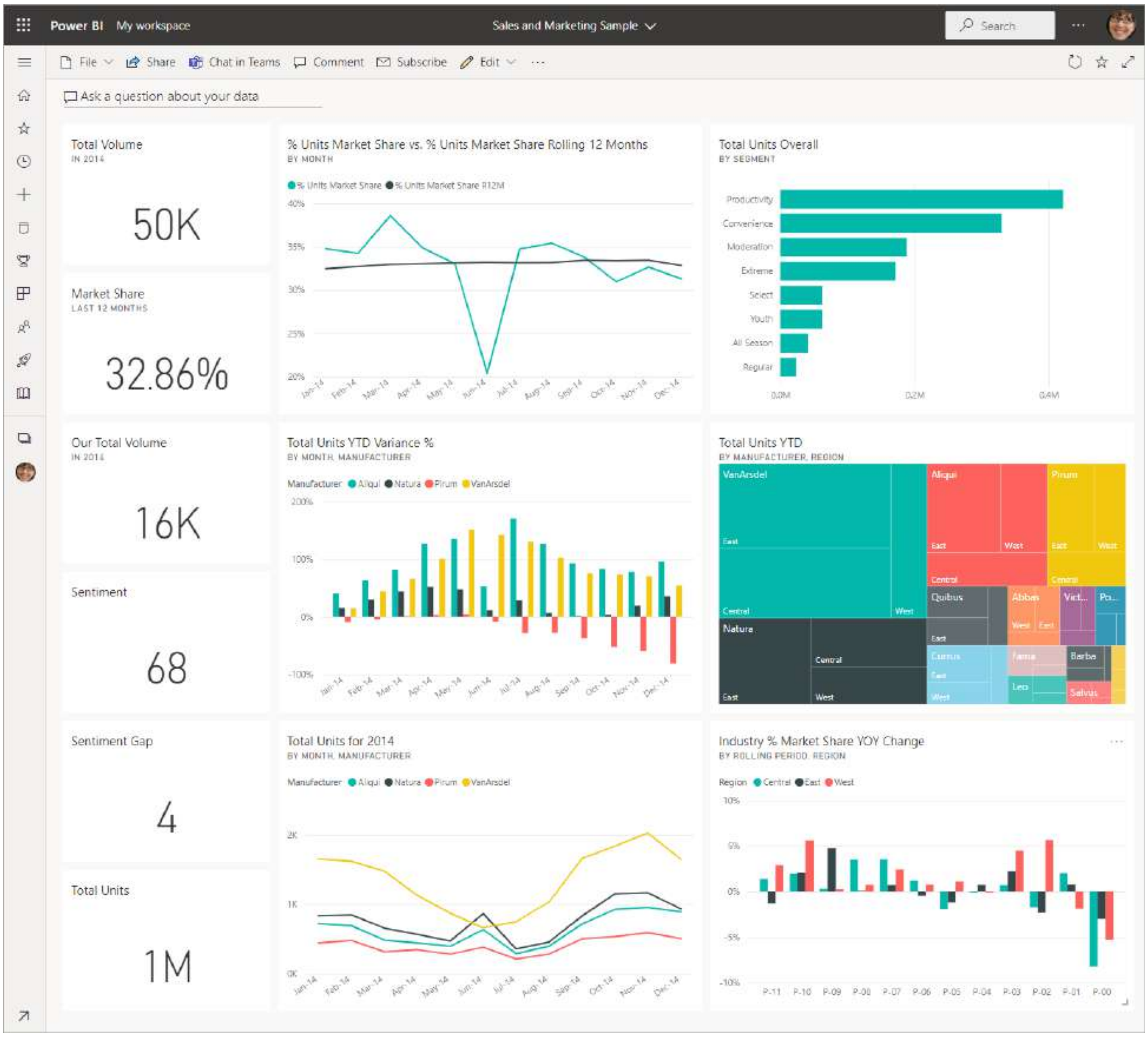
- Back to dashboard overview
- Get comfortable with dashboards by taking a tour of one of our sample dashboards.
- Learn about dashboard tiles and what will happen when you select one.

Dashboard tiles in Power BI

12/15/2022 • 3 minutes to read • Edit Online

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 Q&A question box, Excel, SQL Server Reporting Services (SSRS), and more. This screenshot shows many different tiles pinned to a dashboard.

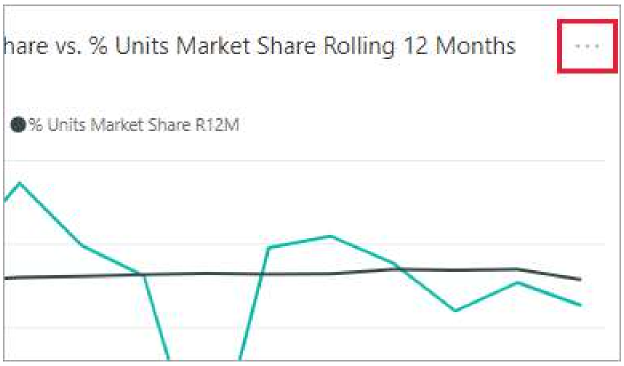


Besides tiles pinned from reports, *designers* can add standalone tiles directly on the dashboard using **Add tile**. Standalone tiles include: text boxes, images, videos, streaming data, and web content.

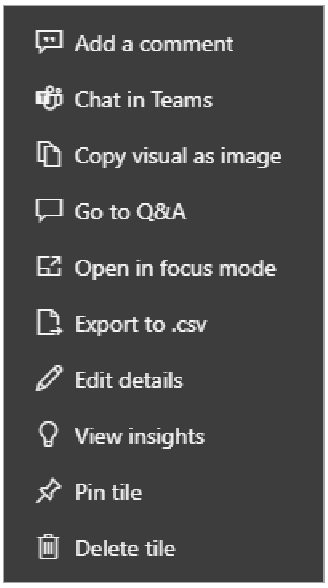
Need help understanding the building blocks that make up Power BI? See Power BI - Basic Concepts.

Interacting with tiles on a dashboard

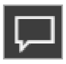
1. Hover over the tile to display the ellipses.



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. For example, the menu items available for tiles pinned from Q&A are different than the tiles pinned from a report. Here is an action menu for a tile created using Q&A.



Some of the actions available from these menus are:

- Open the report that was used to create the tile 
- Open the Q&A question that was used to create the tile 
- View the tile in focus mode 
- View insights 
- Add a comment and start a discussion 
- Manage alerts set on a dashboard tile 
- Open the data in Excel 

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

Select (click) 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 (click) a tile, or you receive an error message, here are some possible reasons:
  - The report that was used to create the visualization was not saved, or has been deleted.
  - The tile was created from a workbook in Excel Online, and you do not have at least Read permissions for that workbook.
  - If the tile was created from SSRS, and you don't have permission to the SSRS report or 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, and or tile will open 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 does not.
- If a workspace is moved to Premium capacity, the existing dashboard refresh cache does not move with the workspace. The new cache will be 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.

Next steps

Data refresh

Power BI - Basic Concepts

Add comments to a dashboard or report

12/15/2022 • 4 minutes to read • Edit Online

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

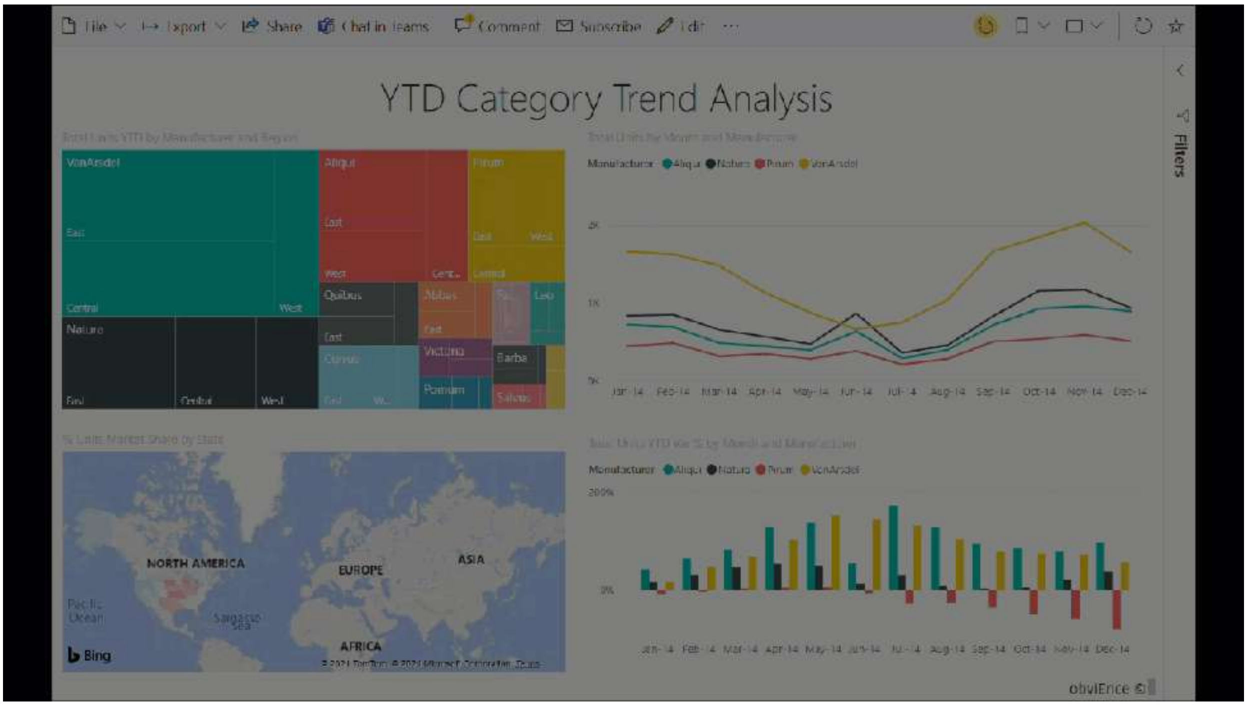
Add a personal comment or start a conversation about a dashboard or report with your colleagues. The **comment** feature is just one of the ways a *business user* can collaborate with others.

> **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, to individual visuals on a dashboard, to a report page, to a paginated report, and to individual visuals on a report page. Add a general comment or add a comment targeted at specific colleagues. Comments can be up to 2000 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. This means that when you select or respond to a comment, the report page or report visual may change to show you the filter and slicer selections that were active when the comment was first added.



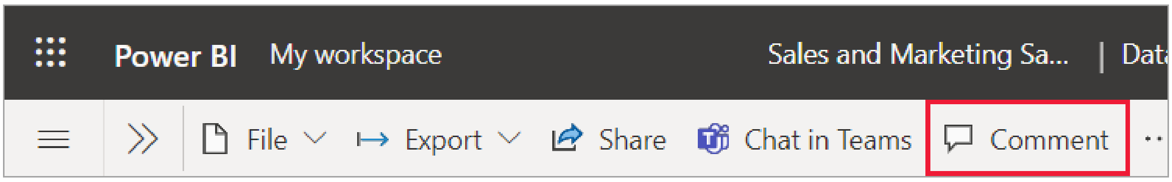
Why is this important? Say a colleague applied a filter that revealed an interesting insight that they want to share with the team. Without that filter selected, the comment might not make sense.

If you are using a paginated report, you may only leave a general comment about your report. Support for leaving comments on individual paginated report visuals is not available.

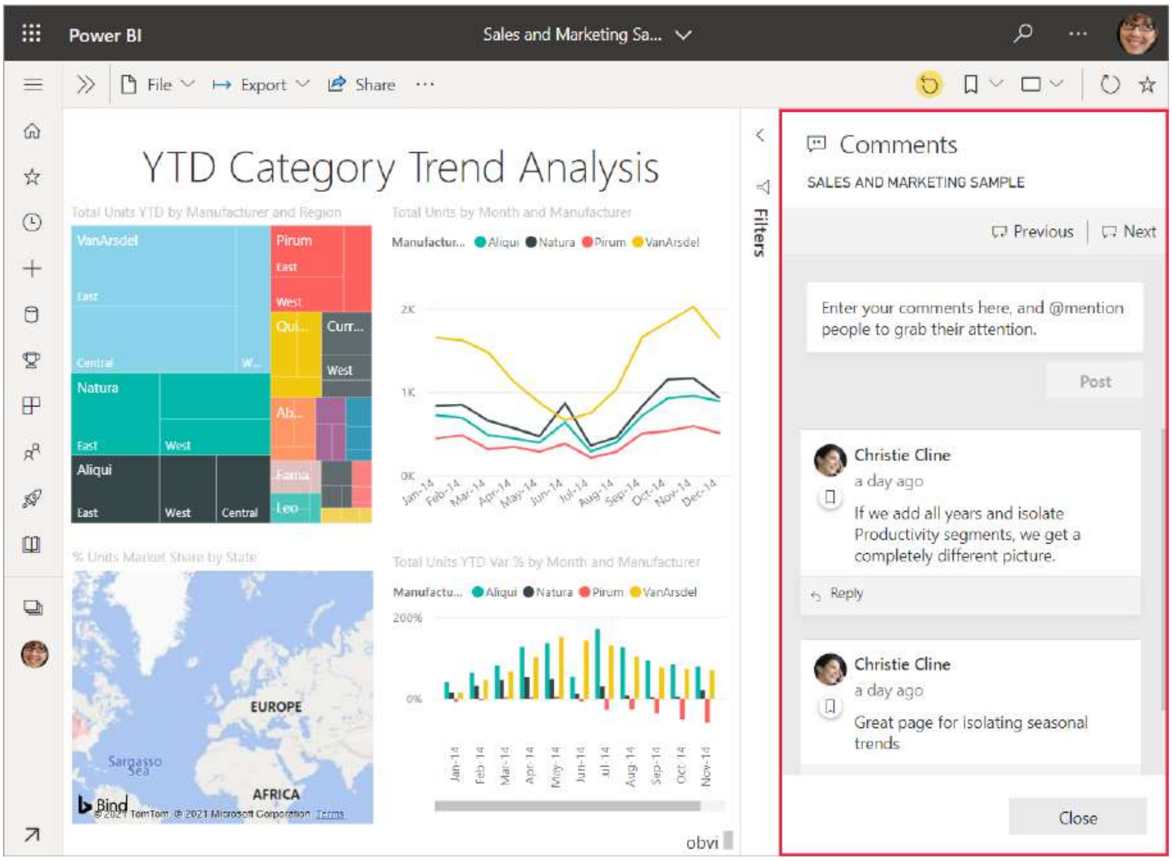
Add a general comment to a dashboard or report

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

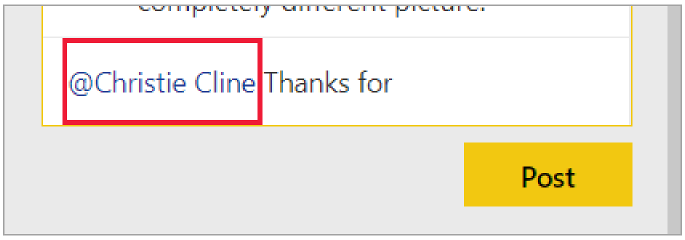
1. Open a Power BI dashboard or report and select the **Comment** icon. This opens the Comments dialog.

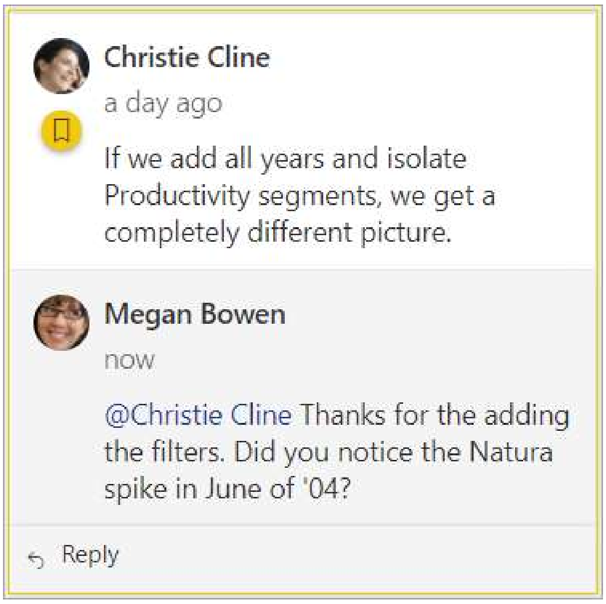
   Here we see that the dashboard creator has already added a general comment. Anyone with access to this dashboard can see this comment.



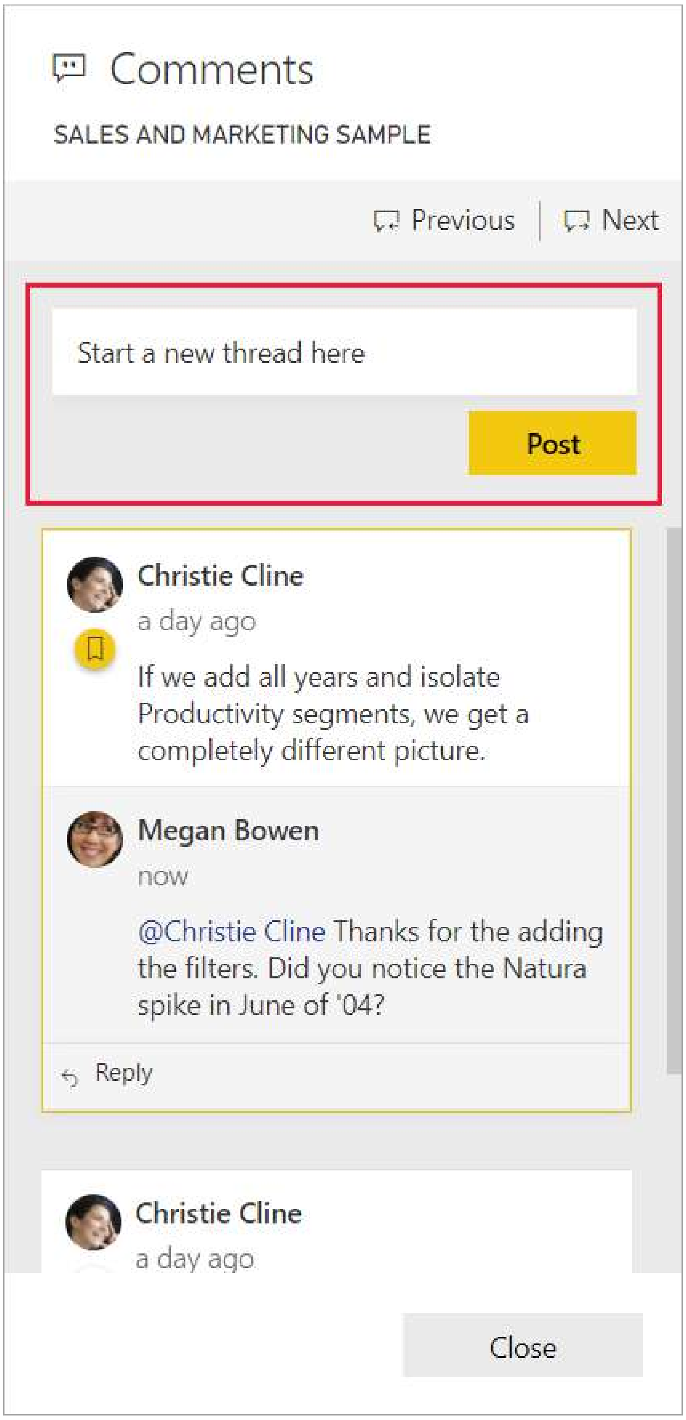
2. To respond, select **Reply**, type your response, and select **Post**.



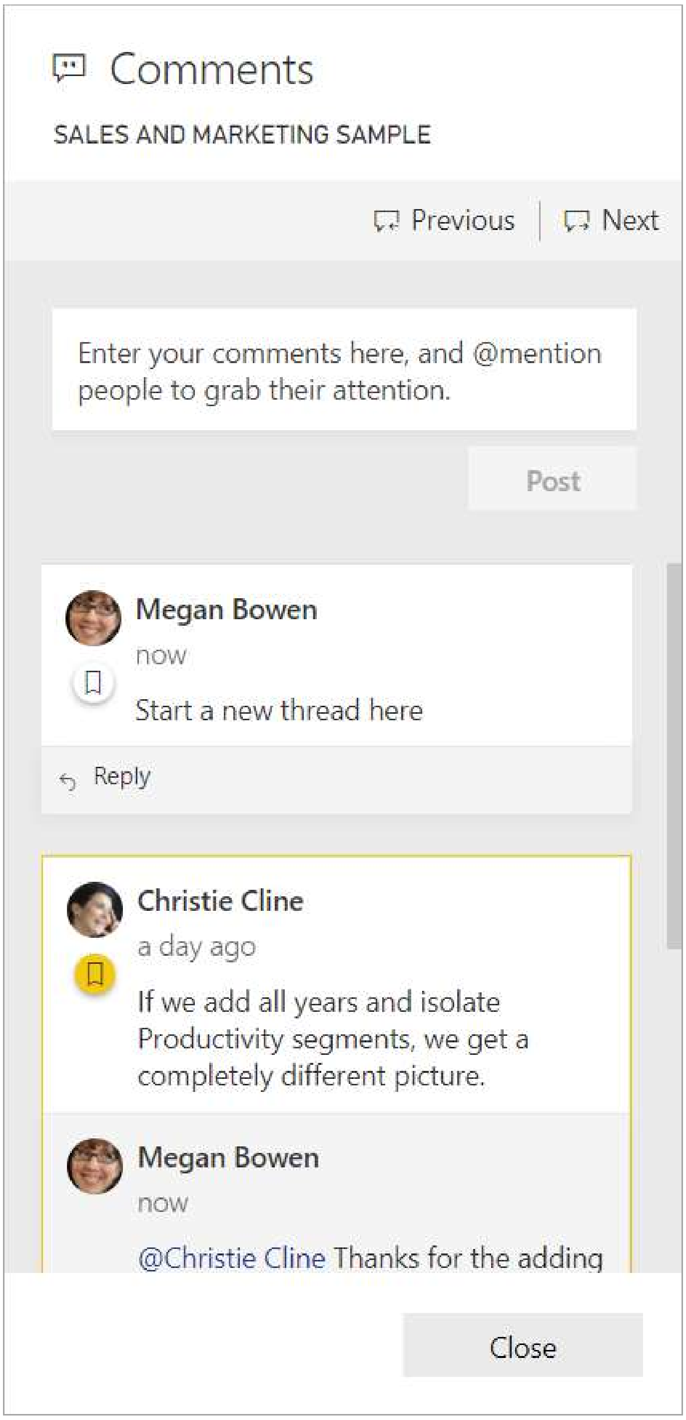
By default, Power BI directs your response to the colleague who started the comment thread, in this case Aaron.



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



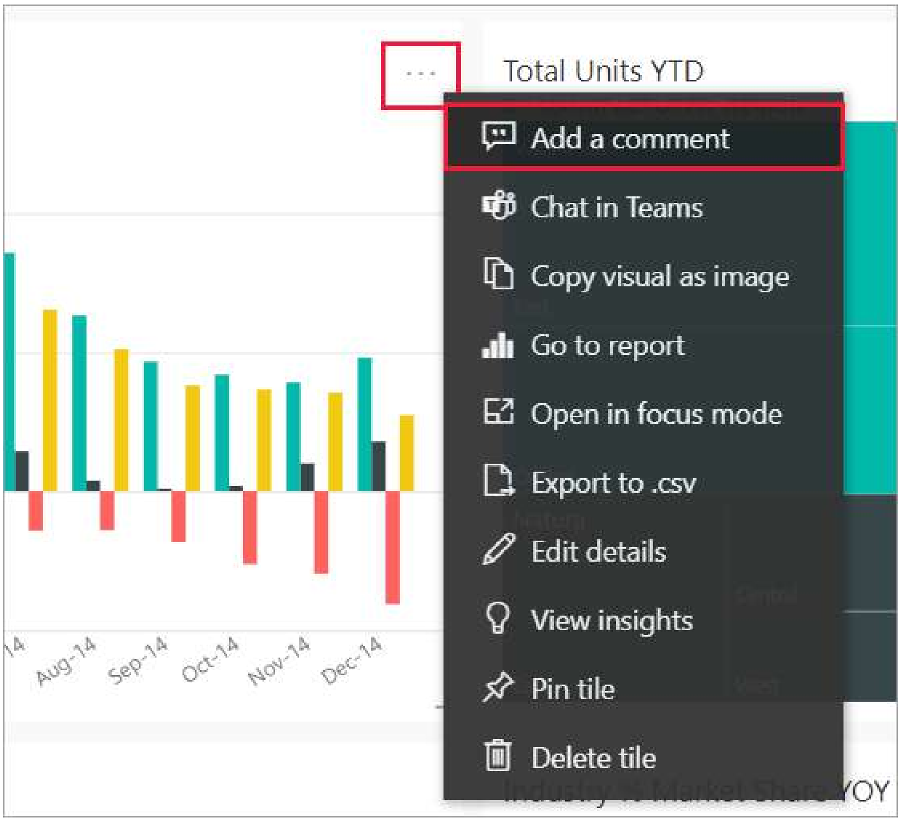
The comments for this dashboard now look like this.



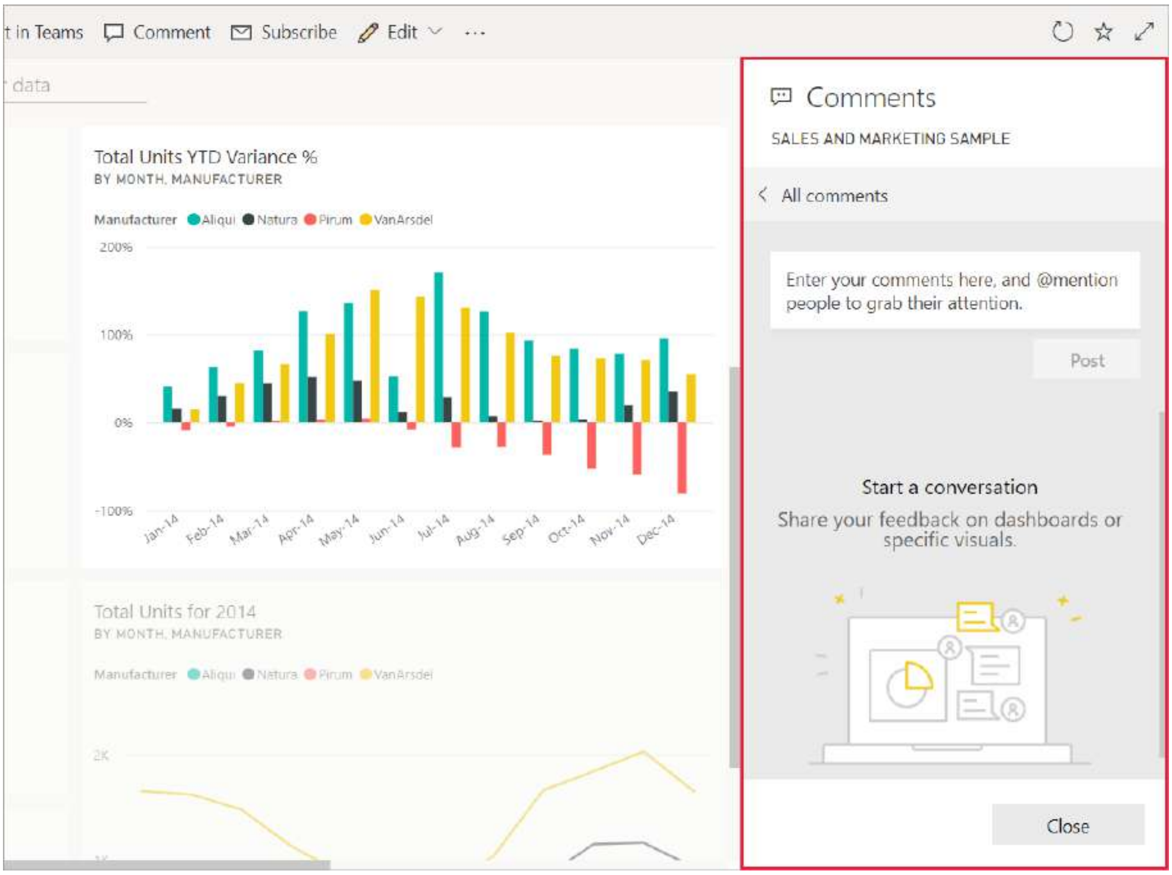
Add a comment to a specific dashboard or report visual

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 report.

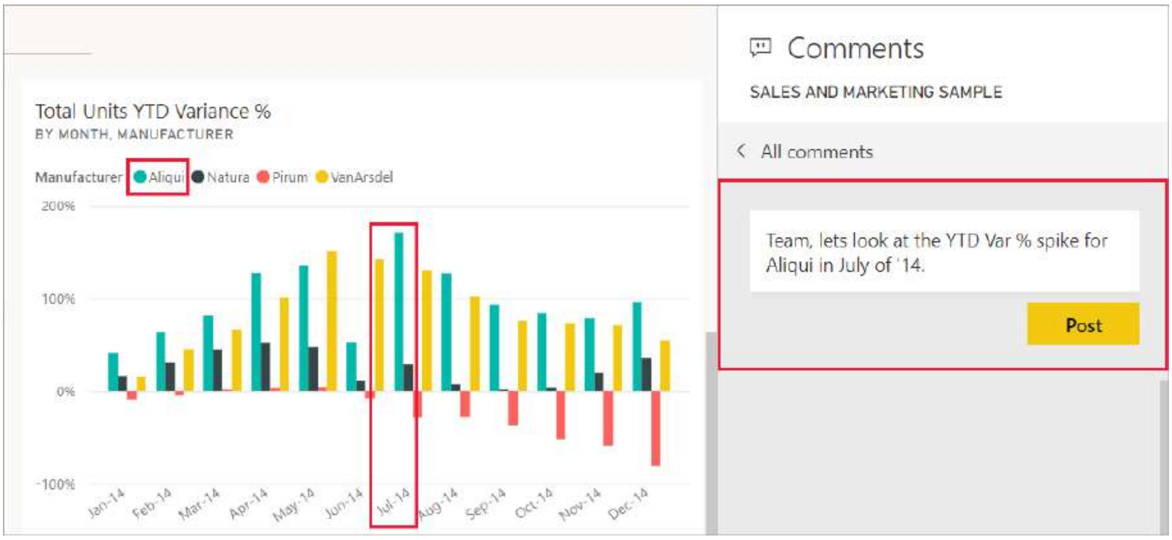
1. Hover over the visual and select **More options** (...).
2. From the dropdown, select **Add a comment**.



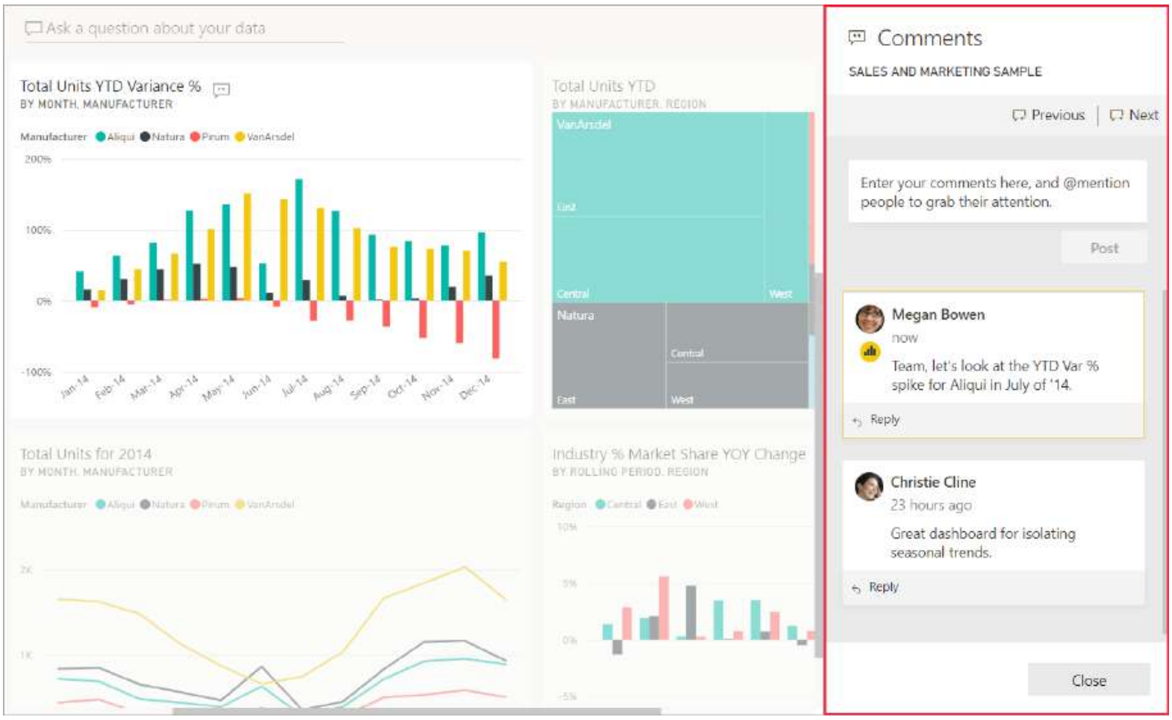
3. The **Comments** dialog opens, and the other visuals on the page are greyed out. This visual doesn't have any comments yet.



4. Type your comment and select **Post**.



- On a report page, selecting a comment that was made on a visual, highlights that visual (see below).
- On a dashboard, the chart icon lets us know that a comment is tied to a specific visual. Comments that apply to the entire dashboard do not have a special icon. Selecting the chart icon highlights the related visual on the dashboard.

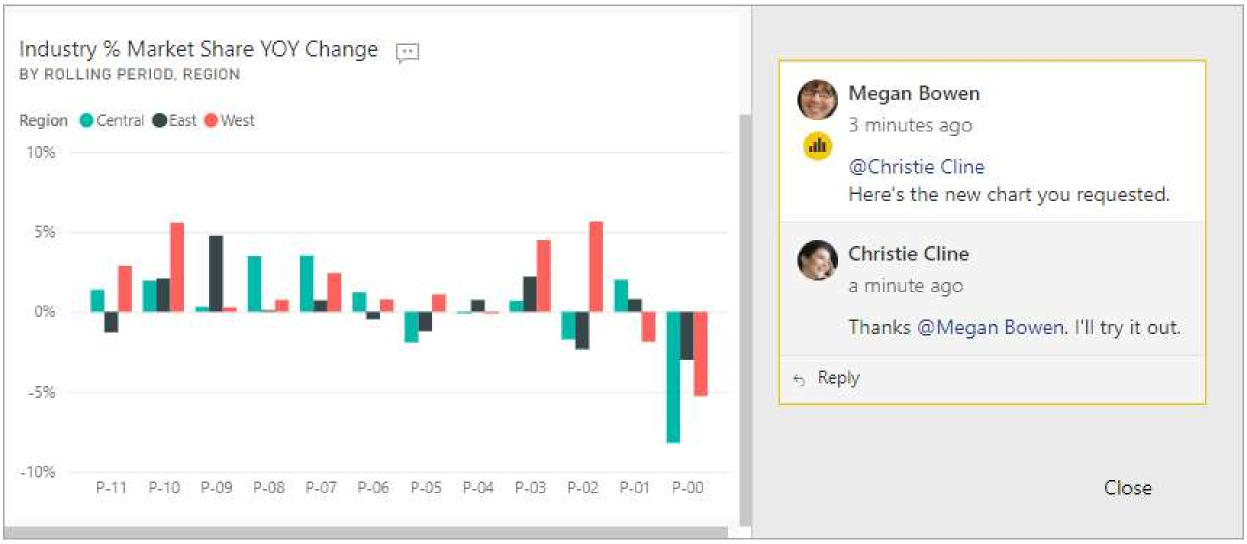


5. Select **Close** to return to the dashboard or report.

Get your colleagues attention by using the @ sign

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 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 will immediately receive an e-mail in their inbox, and if they are using a Power BI Mobile app, they will 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 are 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

- Comments are limited to 2000 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 are not captured when you reply to a conversation. Only the first comment in a conversation creates a bookmark.
- If you are using a paginated report, you may only leave a general comment about your report. Support for leaving comments on individual paginated report visuals is not 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

12/15/2022 • 2 minutes to read • Edit Online

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. When you select a tile, it opens a report or opens Q&A where you can filter and sort and dig into the dataset 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 being used to render that tile. If Power BI finds interesting facts or trends in that data, you'll be presented with those facts or trends in the form of interactive visuals. Insights can be run on a specific dashboard tile and you can even run insights on an insight!

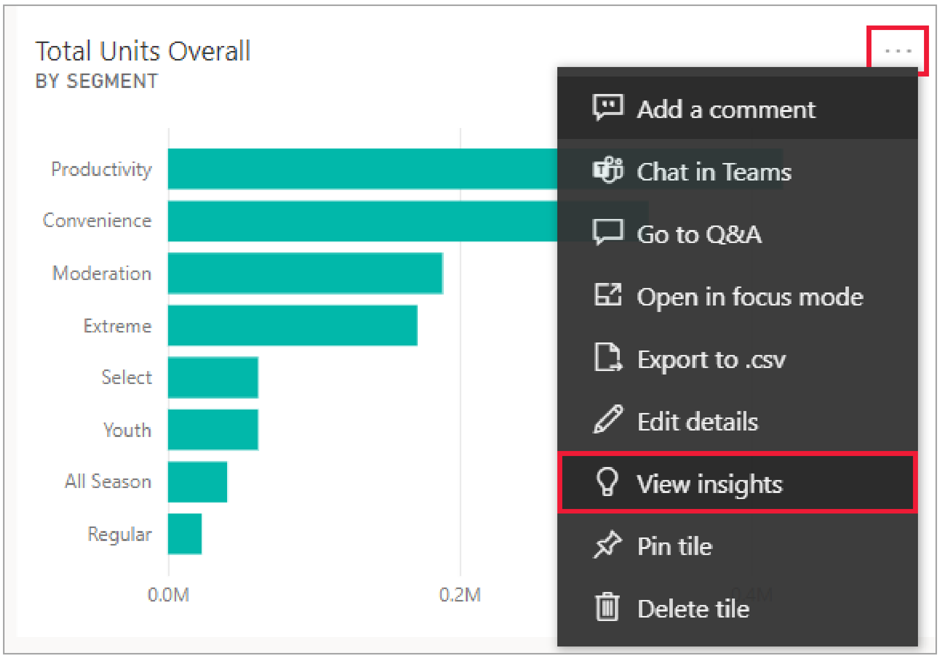
The insights feature is built on a growing set of advanced analytical algorithms developed in conjunction with Microsoft Research that we'll continue to use to allow more people to find insights in their data in new and intuitive ways. The dashboard insights feature is similar to the dataset **quick insights** feature.

Run insights on a dashboard tile

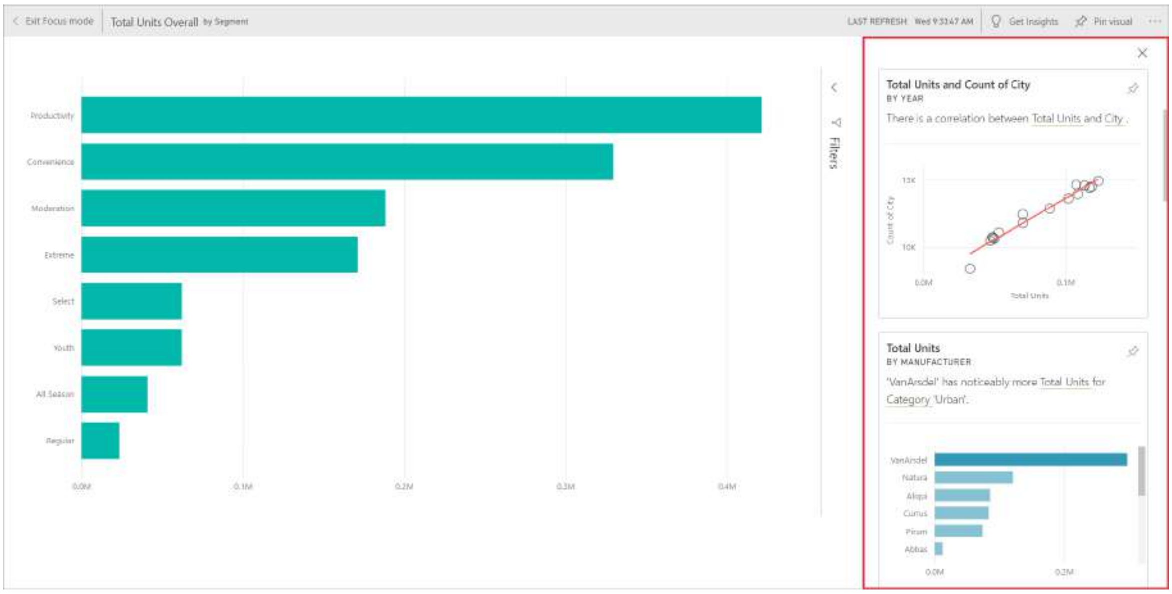
When you run insights on a dashboard tile, Power BI searches just the data used to create that single dashboard tile.

1. Open a dashboard.

2. Hover over a tile. select **More options** (...), and choose **View insights**.



3. The tile opens in Focus mode with the insights cards displayed along the right.

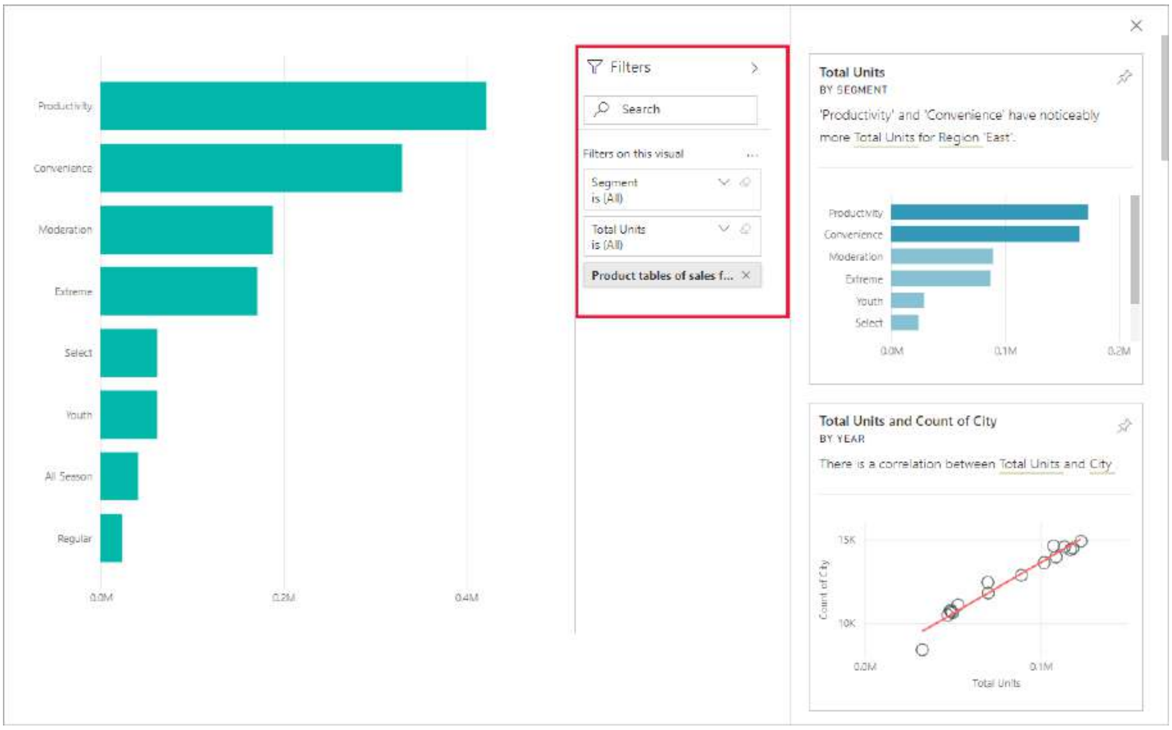


4. Does one insight pique your interest? Select that insight card to dig further. The selected insight appears on the left and new insight cards, based solely on the data in that single insight, display along the right.

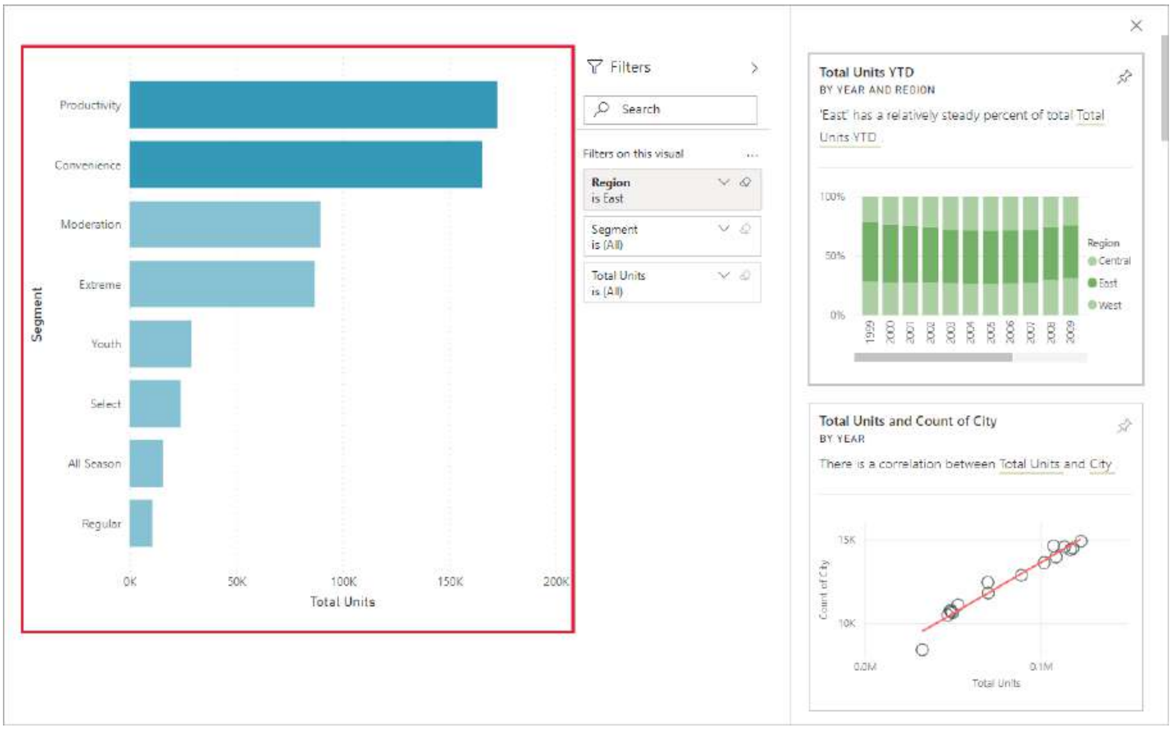
Interact with the insight cards

Once you have an insight open, continue exploring.

- Filter the visual on the canvas. To display the filters, in the upper right corner, select the arrow to expand the Filters pane.



- Run insights on the insight card itself. This is often referred to as **related insights**. 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, from the upper left corner, select **Exit Focus mode**.

Considerations and troubleshooting

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

Next steps

Run insights on report visuals using the Analyze feature
Learn about the types of Insights available

Tutorial: Set alerts on Power BI dashboards

12/15/2022 • 4 minutes to read • Edit Online

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

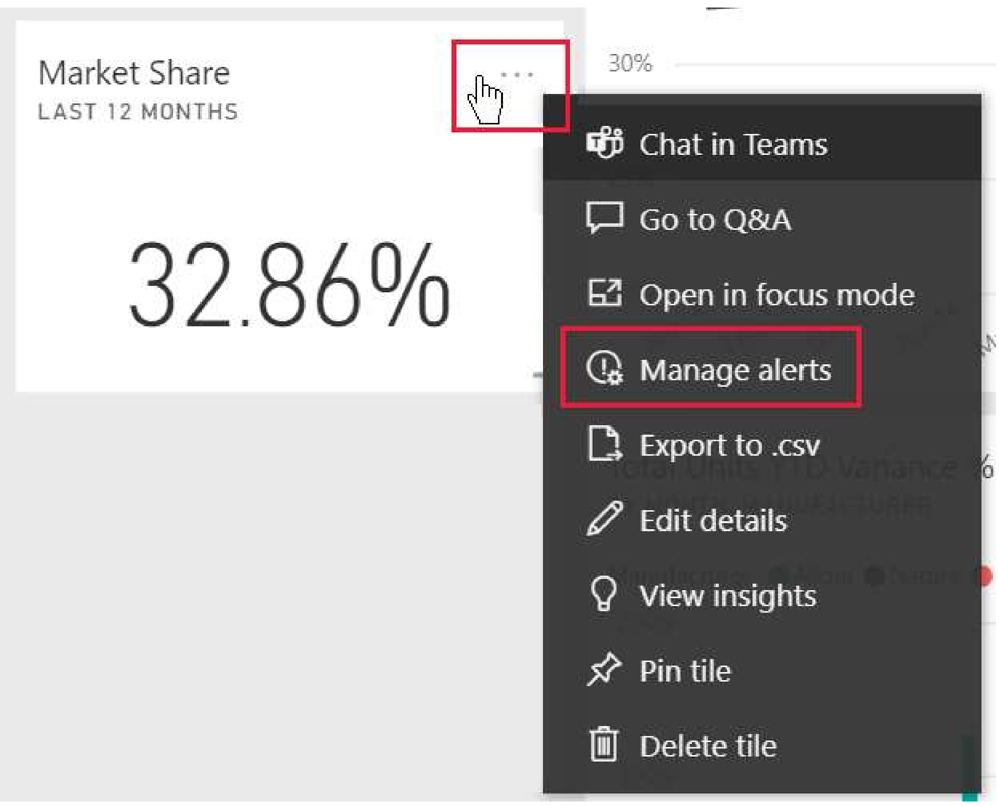
These alerts provide information about your data. If you view your Power BI data on a mobile device and that device gets stolen, we recommend using the Power BI service to turn off all alerts.

Add an alert to a dashboard tile

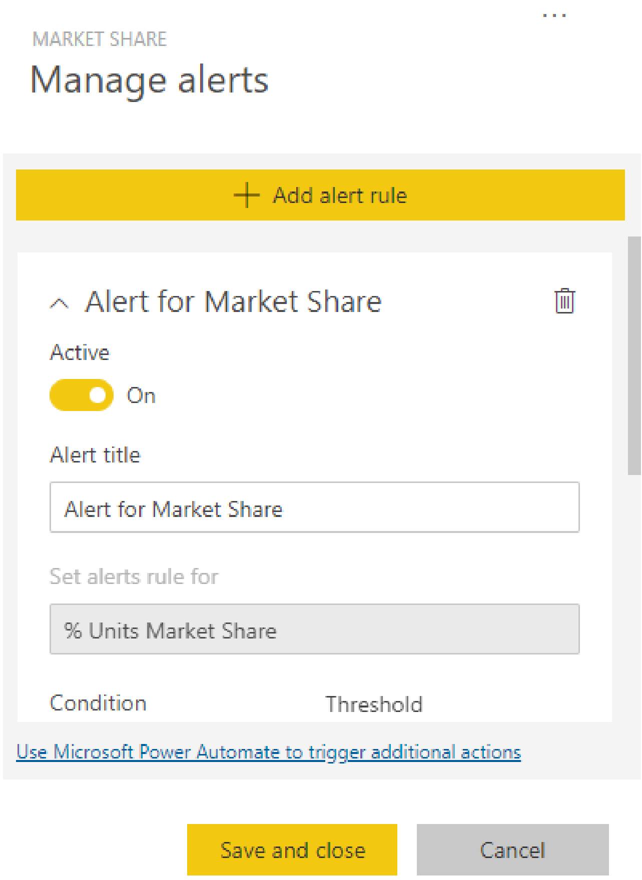
Alerts can be set on three types of tiles (gauges, KPIs, and cards) on a Power BI dashboard. This tutorial uses the Sales and Marketing sample. To follow along, get the sample.

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

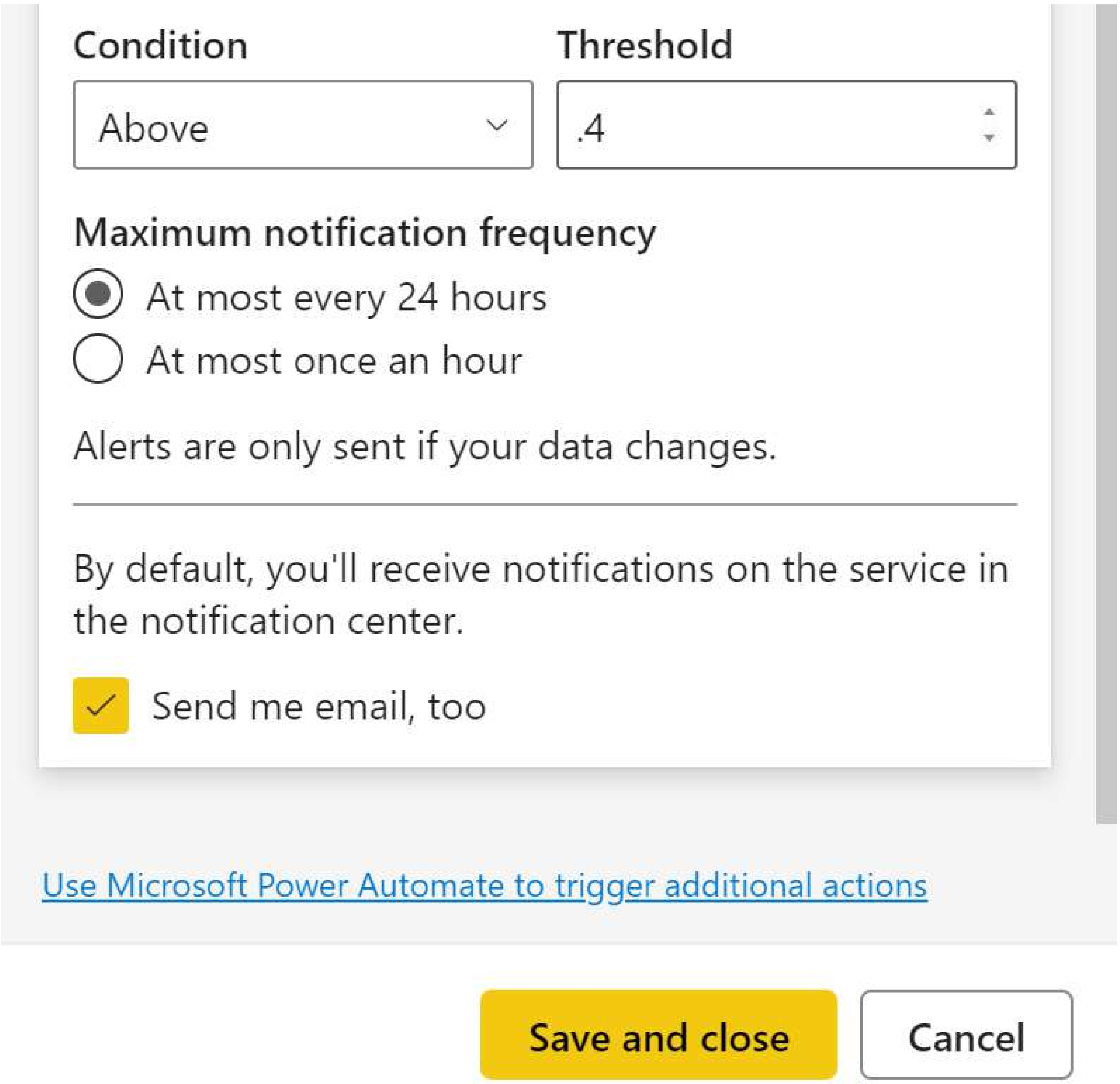
2. Select the alert icon  , or **Manage alerts**, to add one or more alerts for the **Market share** card.



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.



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.



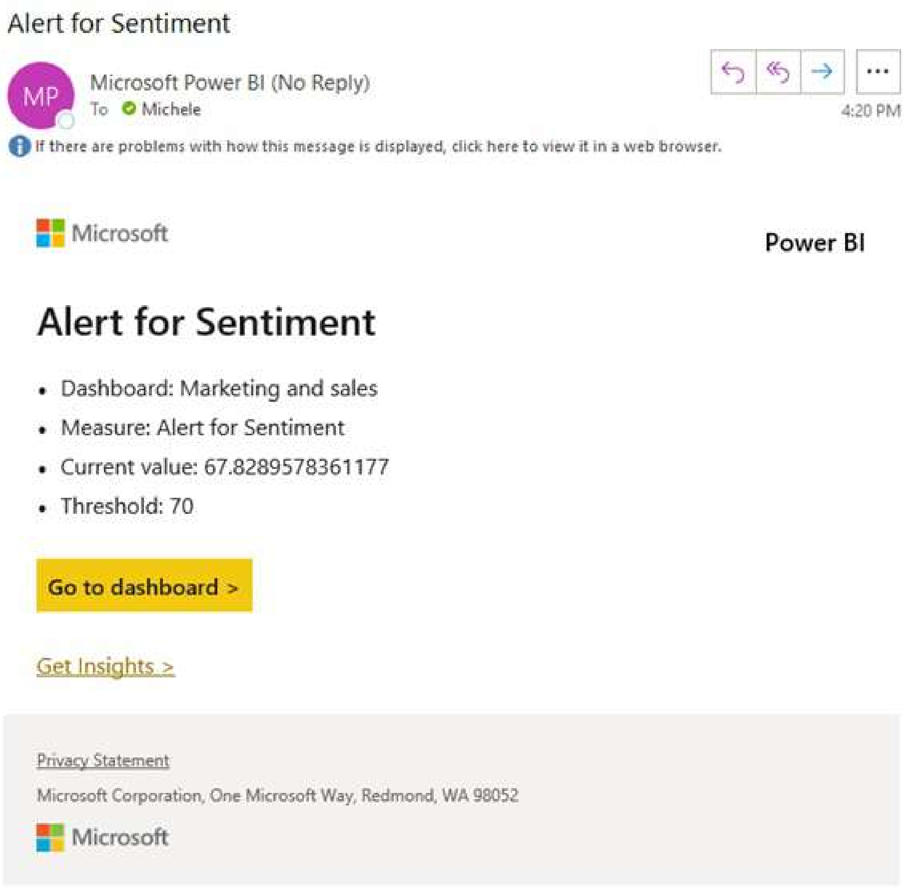
5. Select **Save and close**.

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.

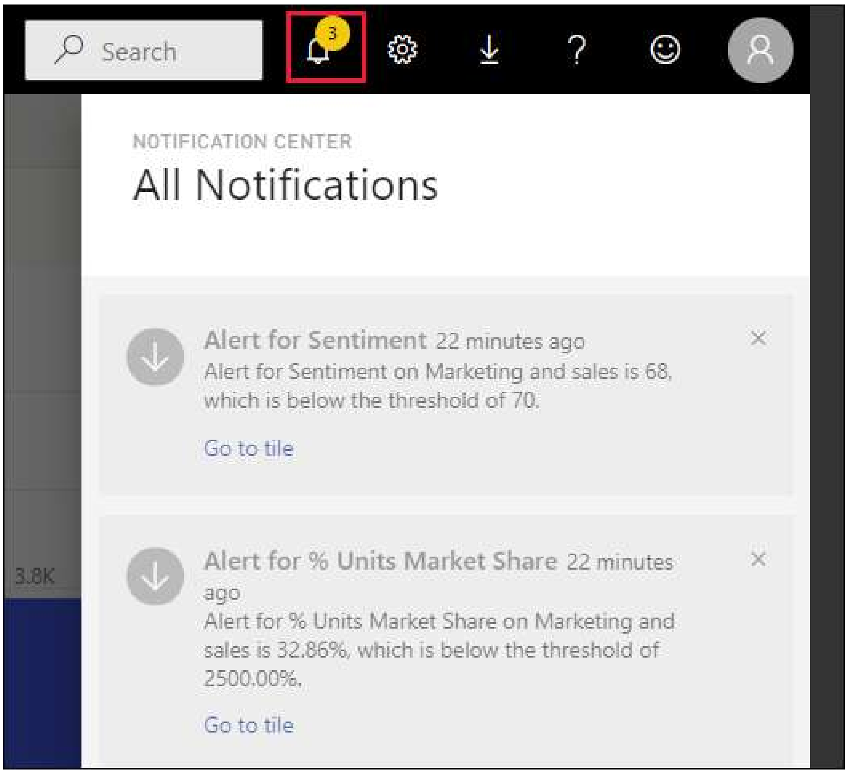
Next, Power BI sends an alert to your Notification center and, optionally, in email. Each alert contains a direct link to your data. Select the link to see the relevant tile.

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.



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

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

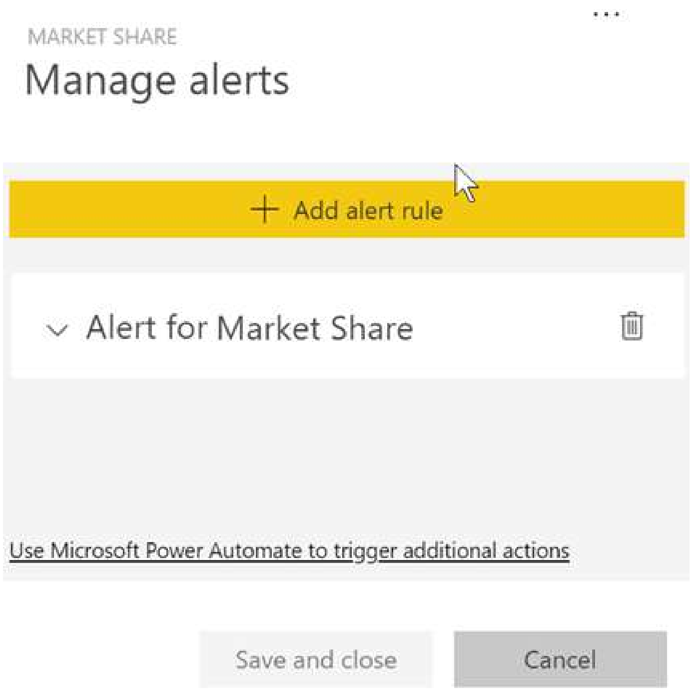


Managing alerts

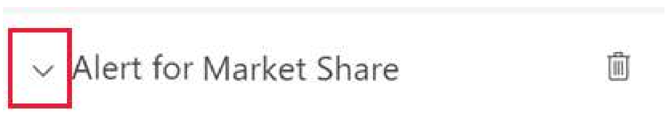
There are many ways to manage your alerts: from the dashboard tile itself, from the Power BI Settings menu, on an individual tile in the Power BI mobile app on the iPhone or in the Power BI mobile app for Windows 10.

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.



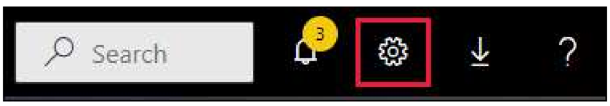
2. To modify an alert, select the arrow to the left of the alert name.



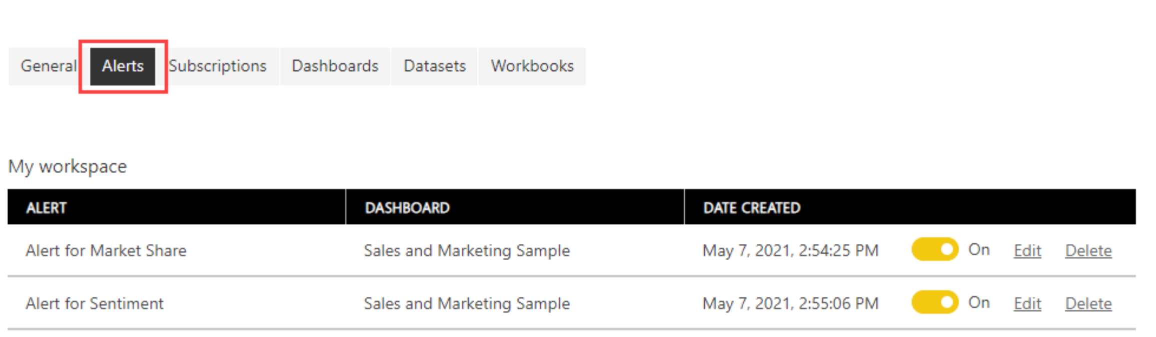
3. To delete an alert, select the trashcan to the right of the alert name.

From the Power BI settings menu

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



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



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

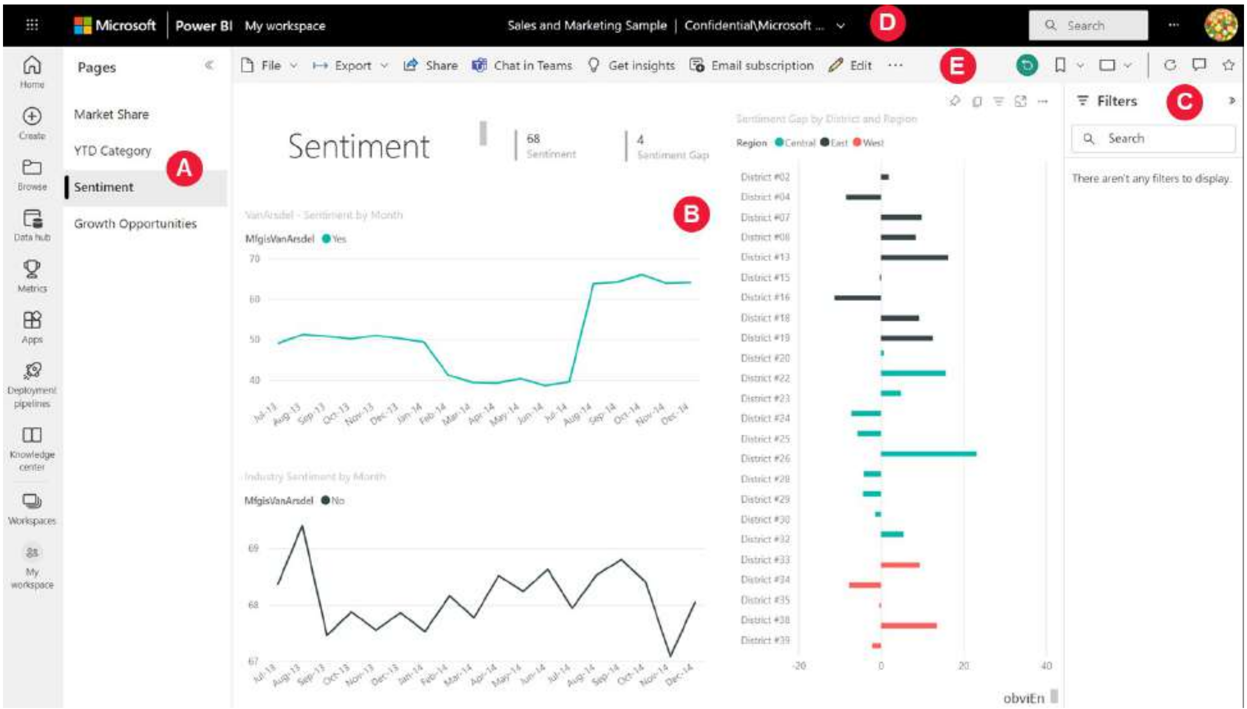
Reports in Power BI

12/15/2022 • 3 minutes to read • Edit Online

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 dataset, with visuals that represent findings and insights from that dataset. 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 dataset. 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.

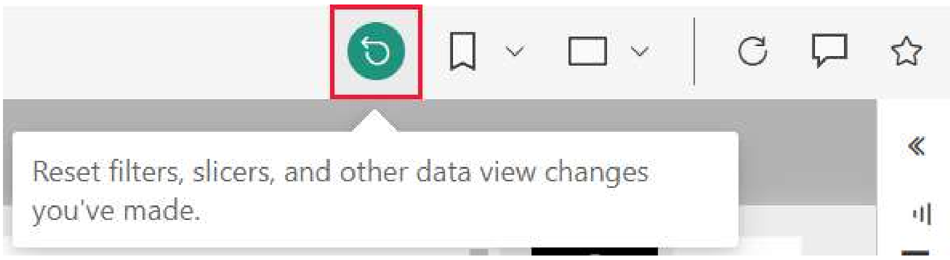
Safely interact with content

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 dataset 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 dataset per dashboard	A single dataset 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 dataset tables and fields	No. Can export data but can't see the dataset tables and fields in the dashboard itself	Yes. Can see dataset 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 dataset 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*

12/15/2022 • 4 minutes to read • Edit Online

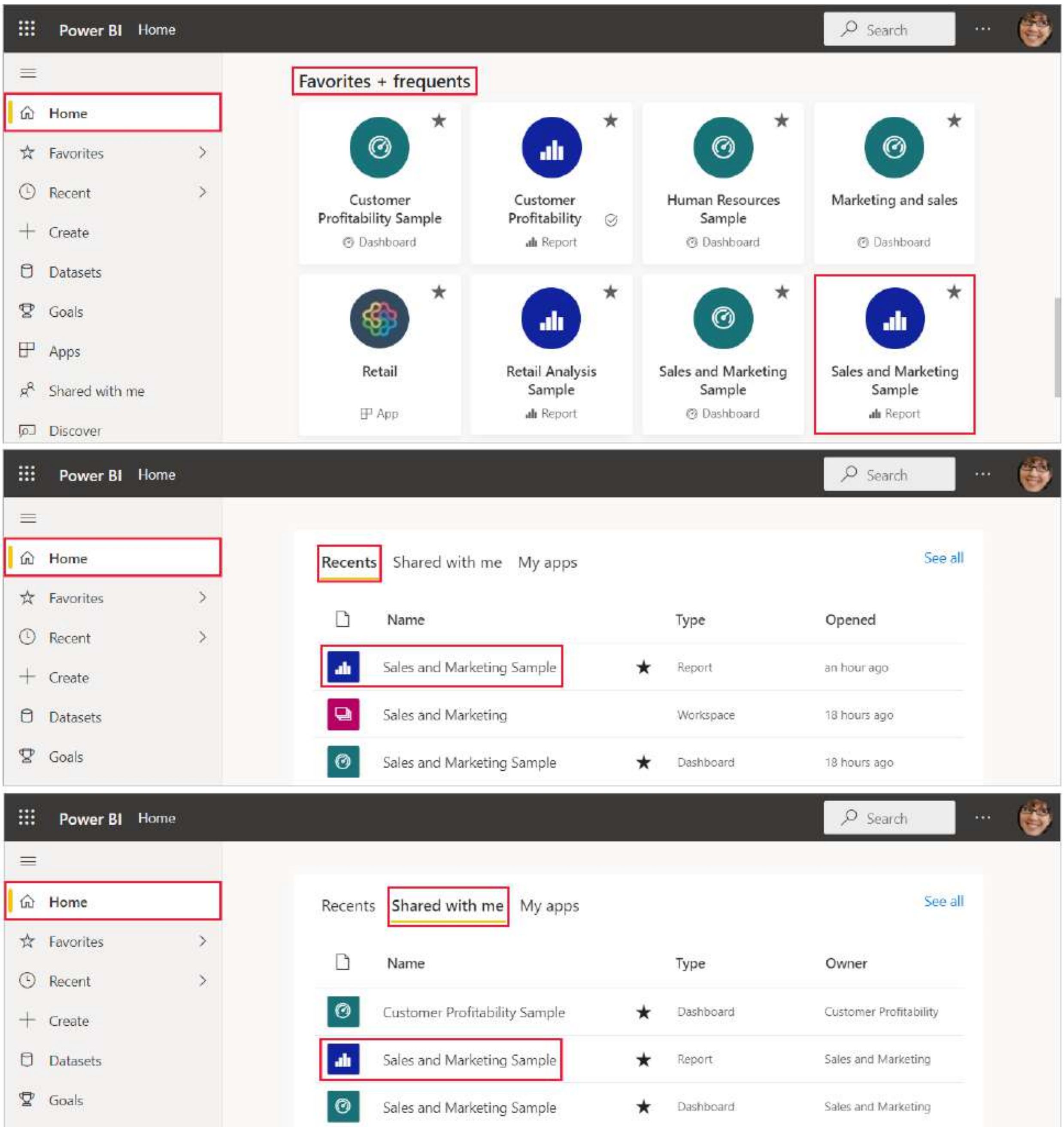
APPLIES TO: Power BI service for ***business users*** Power BI service for designers & developers Power BI Desktop Requires Pro or Premium license

A report is one or more pages of visuals. Reports are created by Power BI *designers* and shared with *business users directly* or as part of an app. To open a report, you'll need either a Power BI Pro license, or for the report to be part of a workspace that is stored in a Premium capacity. Learn about licenses and subscriptions

There are many different ways to open a report and we'll show you two of them: open from Home and open from a dashboard.

Open a report from Power BI Home

Let's open a report that's been shared with you directly and then open a report that was shared as part of an app.

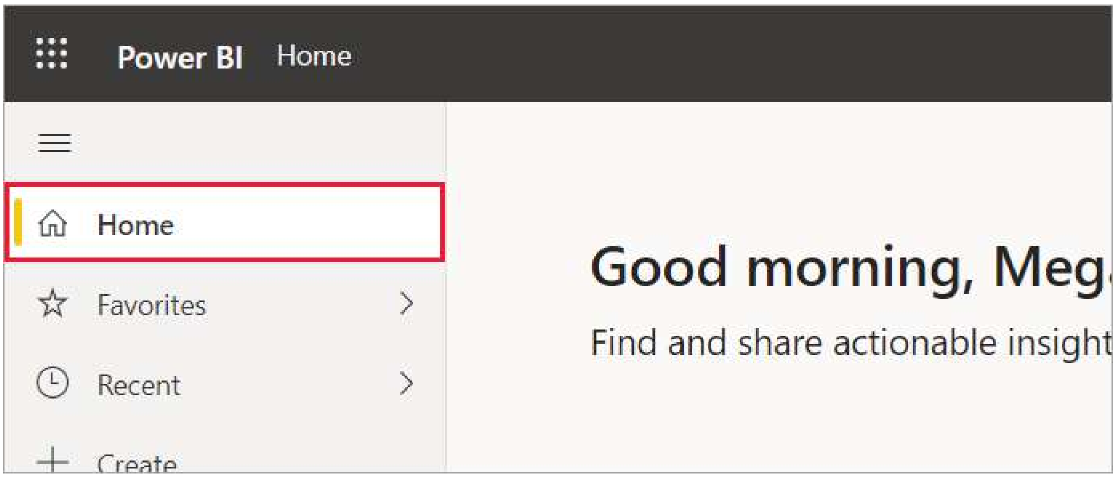


Open a report that has been directly shared with you

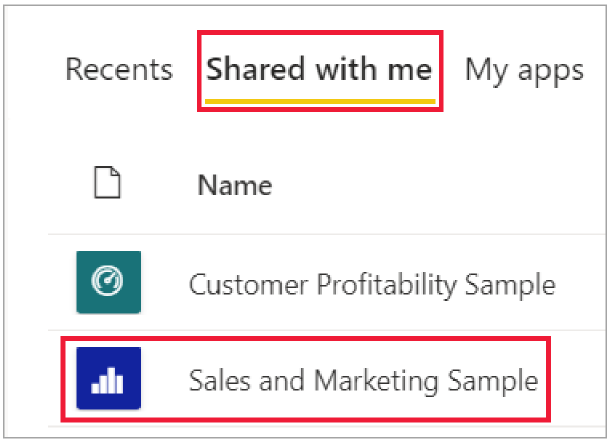
Power BI *designers* can share an individual report directly with you via a link in email or by adding it automatically to your Power BI content. Reports that are shared this way show up in the **Shared with me** container on your nav pane and in the **Shared with me** section of your Home canvas.

1. Open the Power BI service (app.powerbi.com).

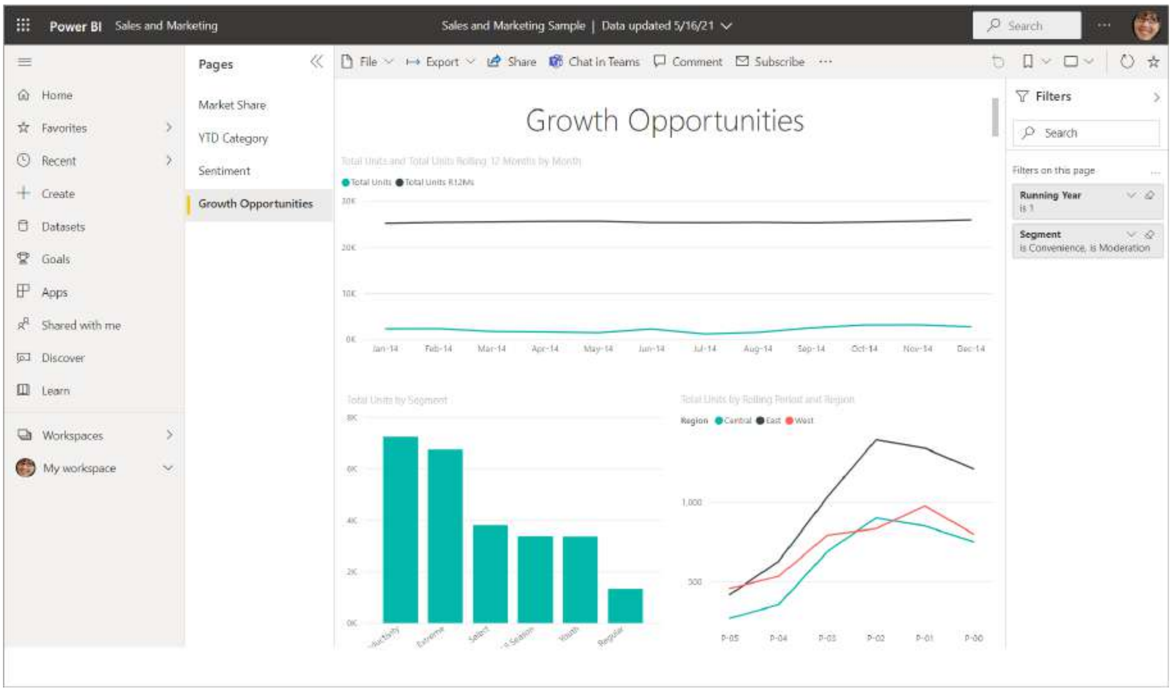
2. From the nav pane, select **Home** to display your Home canvas.



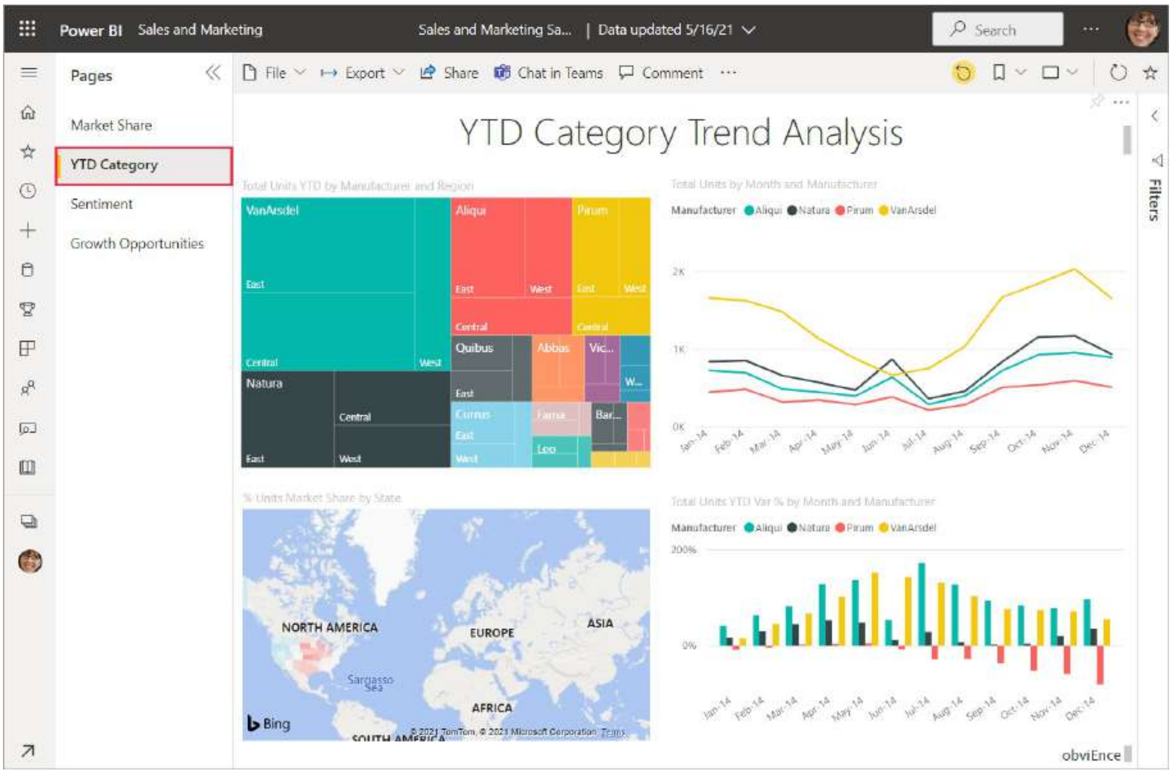
3. Scroll down until you see **Shared with me**. Look for the report icon . In this screenshot we have one dashboard and one report. The report is named *Sales and Marketing Sample*.



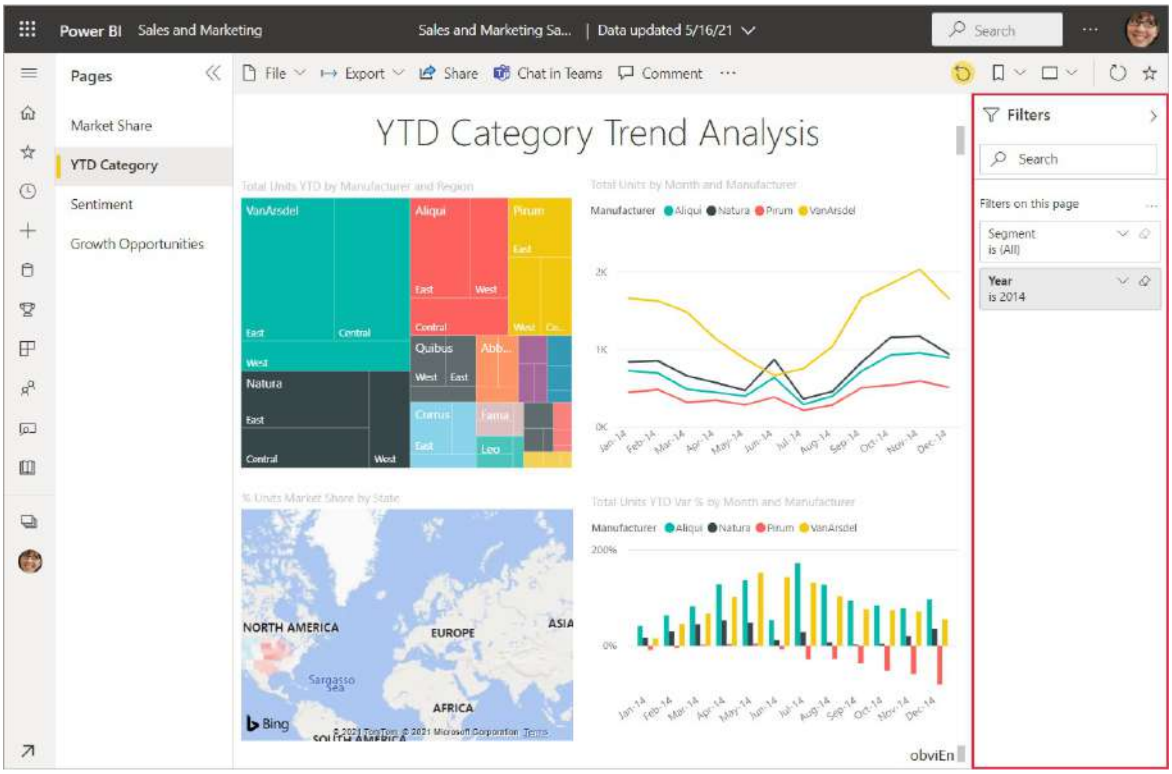
4. Simply select the report name to open the report.



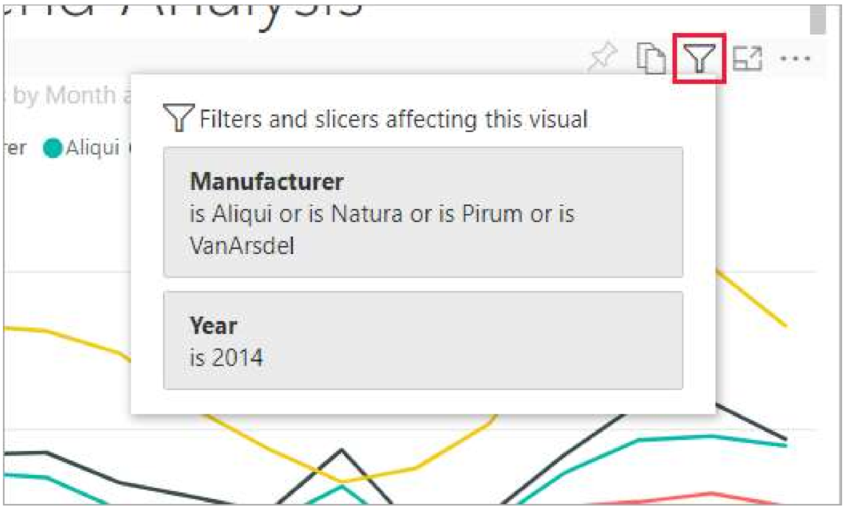
5. Notice the tabs along the left side. Each tab represents a report *page*. We currently have the *Growth Opportunity* page open. Select the *YTD Category* tab to open that report page instead.



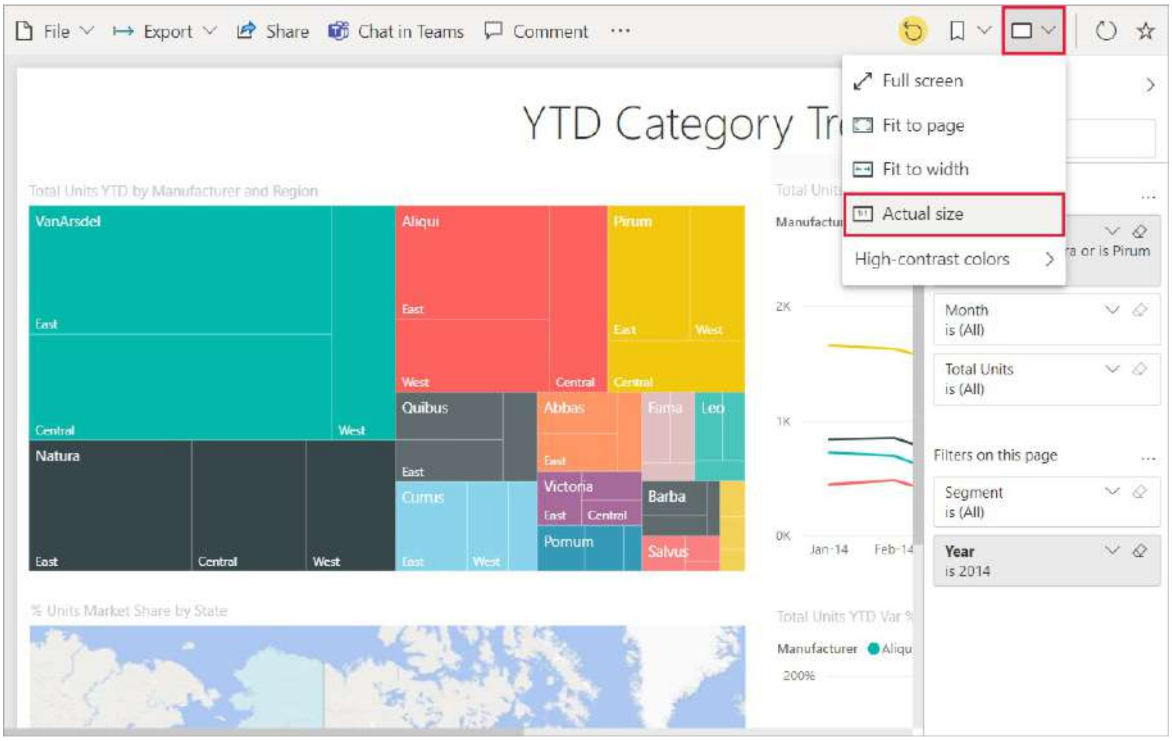
6. Expand the **Filters** pane along the right side. Filters that have been applied to this report page, or to the entire report, are displayed here. You can change these filters to see the impact on your visuals and report.

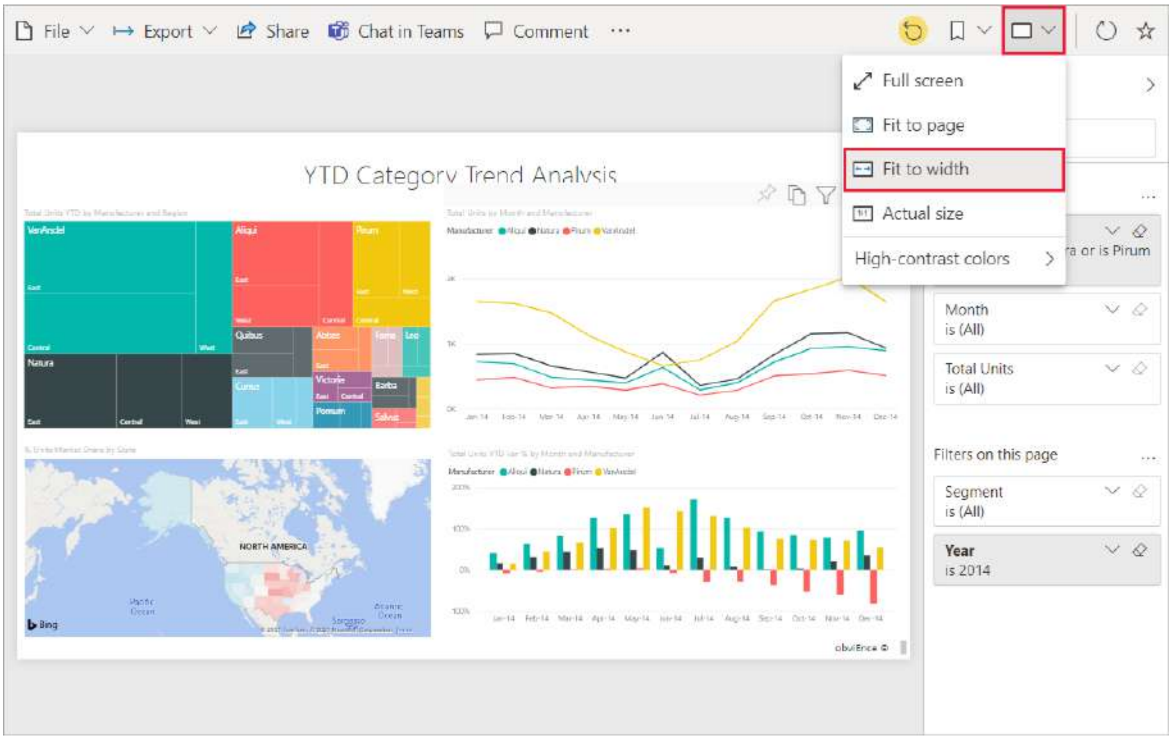


7. Display the actions menu for a visual. Hovering over a report visual reveals actions you can take on that visual. To see the filters applied to a specific visual, select the filter icon. Here we've selected the filter icon for the *Total units by month and manufacturer* line chart.



8. You can also change the display of the report page. Right now, we're displaying the entire report page. To change the display (zoom) of the page, select the **View** dropdown from the upper right corner and choose **Actual size** and then switch to **Fit to width**. Notice the differences each view option makes to the display of your report.





There are many ways for you to interact with a report to discover insights and make business decisions. Use the table of contents on the left to read through other articles about Power BI reports.

Open a report that is part of an app

If you've received apps from colleagues or from AppSource, those apps are available from Home, and from the **Apps** and **Shared with me** containers on your nav pane. An app is a collection of dashboards and reports that have been bundled together for you by a Power BI *designer*.

Prerequisites

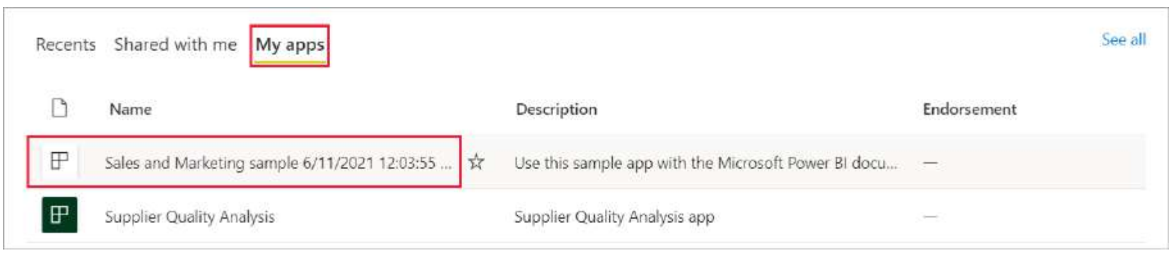
Opening an app requires a Power BI Pro license, or for the app workspace to be stored in Power BI Premium capacity. Learn about licenses and subscriptions

To follow along, download the Sales and Marketing app.

1. In your browser, navigate to appsource.microsoft.com.
2. Search for "Sales & Marketing" and select **Microsoft sample - Sales & Marketing**. Scroll down to see the search results.
3. Select **Get it now** > **Continue** > **Install** to install the app in your Apps container.

You can now open the app from your **Apps** container or from **Home**.

1. Go back to Home by selecting **Home** from the nav pane.
2. Scroll down and select **My Apps**.

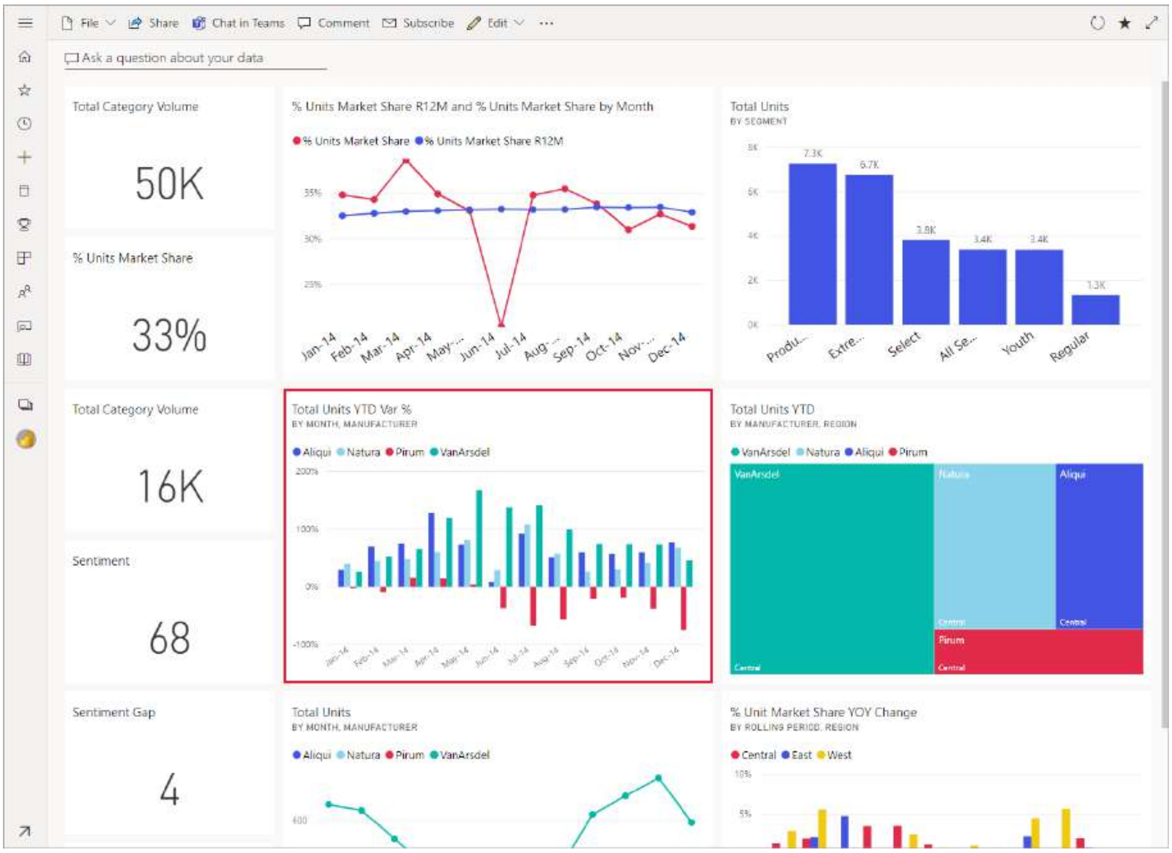


3. Select your new *Sales and marketing* app to open it. Depending on the options set by the app *designer*, the app will open either a dashboard or a report. This app opens to a dashboard.

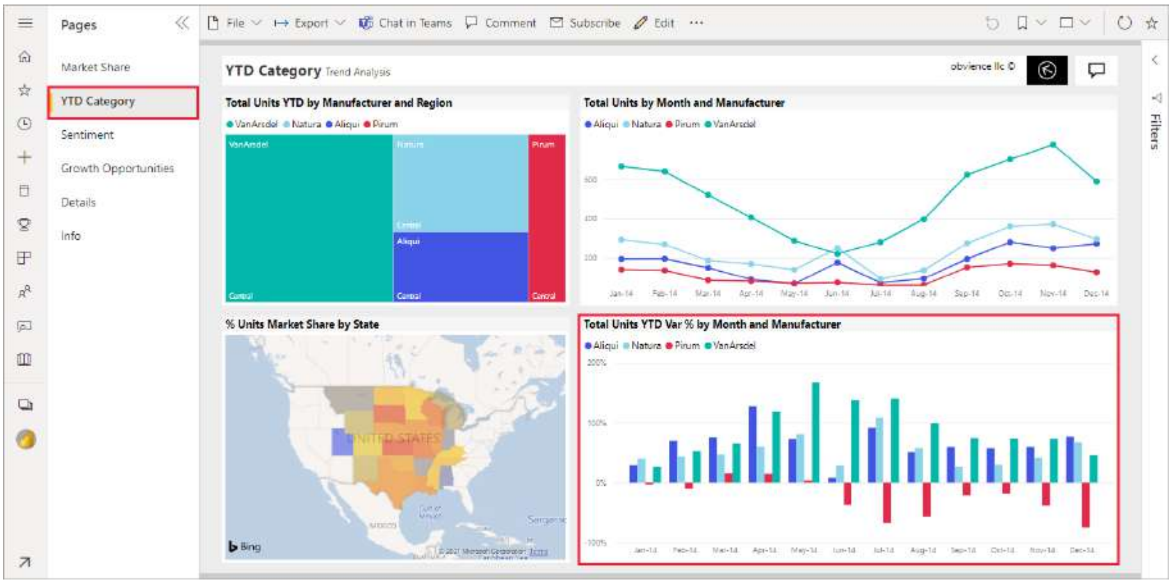
Open a report from a dashboard

Reports can be opened 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 dashboard, select a tile. In this example we've selected the *Total Units YTD Var %* column chart tile.



2. The associated report opens. Notice that we're on the *YTD Category* page. This is the report page that contains the column chart we selected from the dashboard.



NOTE

Not all tiles lead to a report. If you select a tile that was created with Q&A, the Q&A screen will open. If you select a tile that was created using the dashboard **Add tile** widget, several different things may happen: a video may play, a website open, and more.

Still more ways to open a report

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

- From the nav pane using Favorites and Recent
- Using View related
- In an email, when someone shares with you or you set an alert
- From your Notification center
- From a workspace
- and more

Next steps

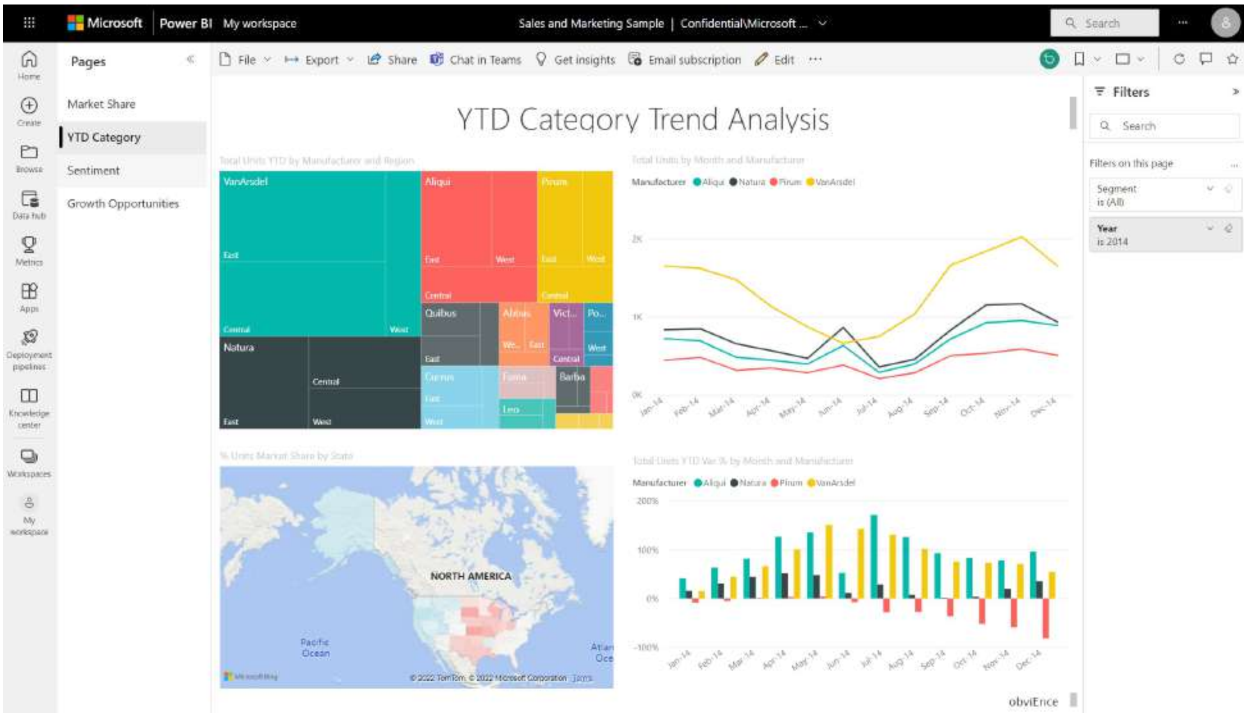
Open and view a dashboard
Report filters

Change the display of a report page

12/15/2022 • 2 minutes to read • Edit Online

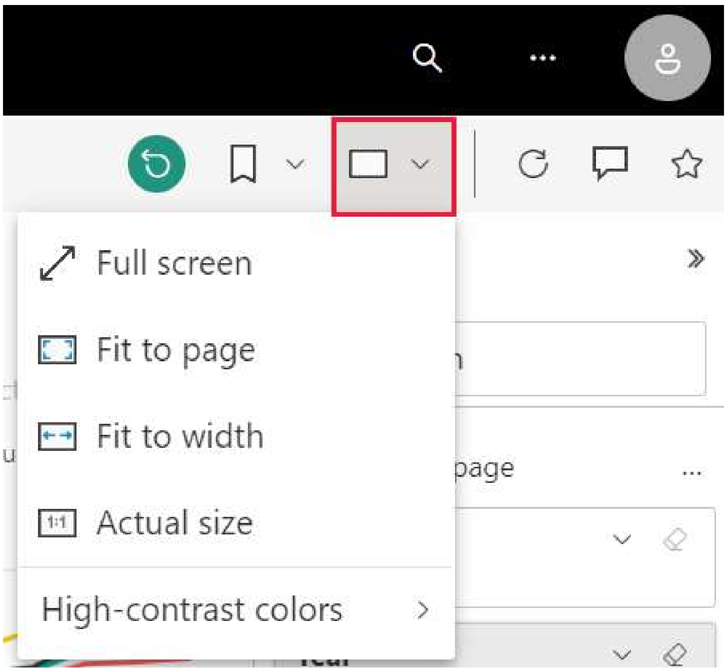
APPLIES TO: ✅ Power BI service for ***business users*** ✅ Power BI service for designers & developers ❎ Power BI Desktop ✅ Requires Pro or Premium license

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.

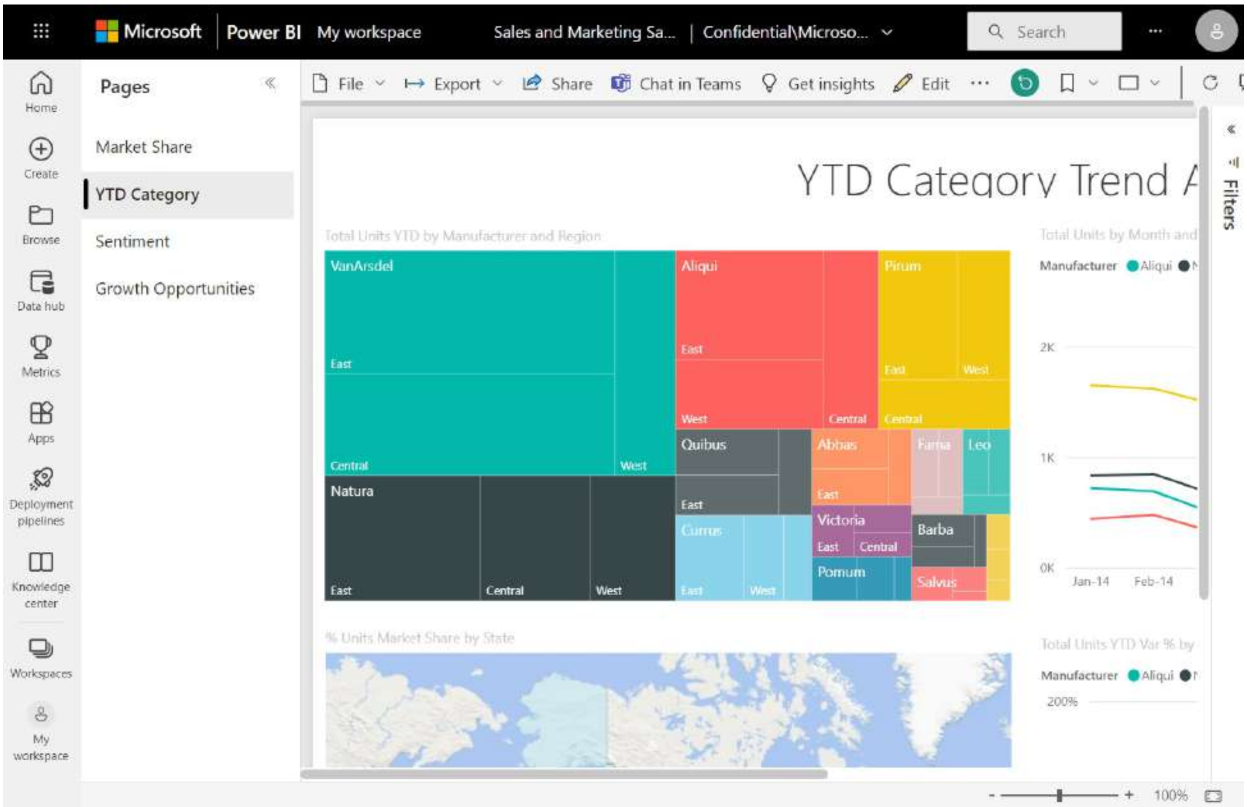


Explore the View menu

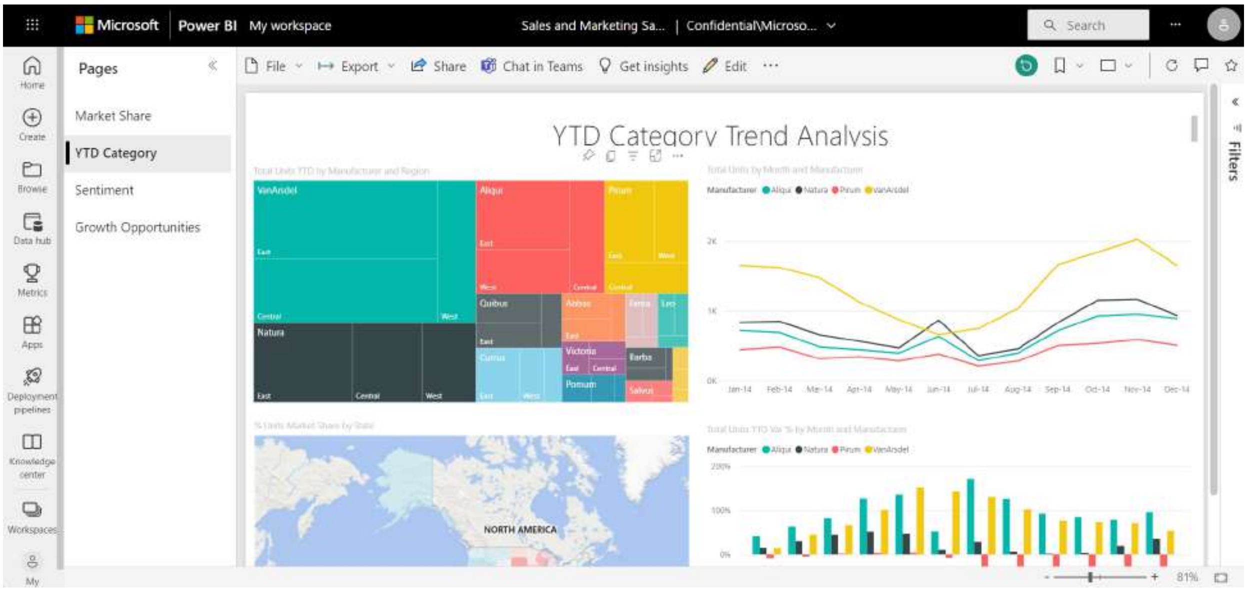
The options in the **View** menu give you flexibility to display report pages at the size and width you choose.



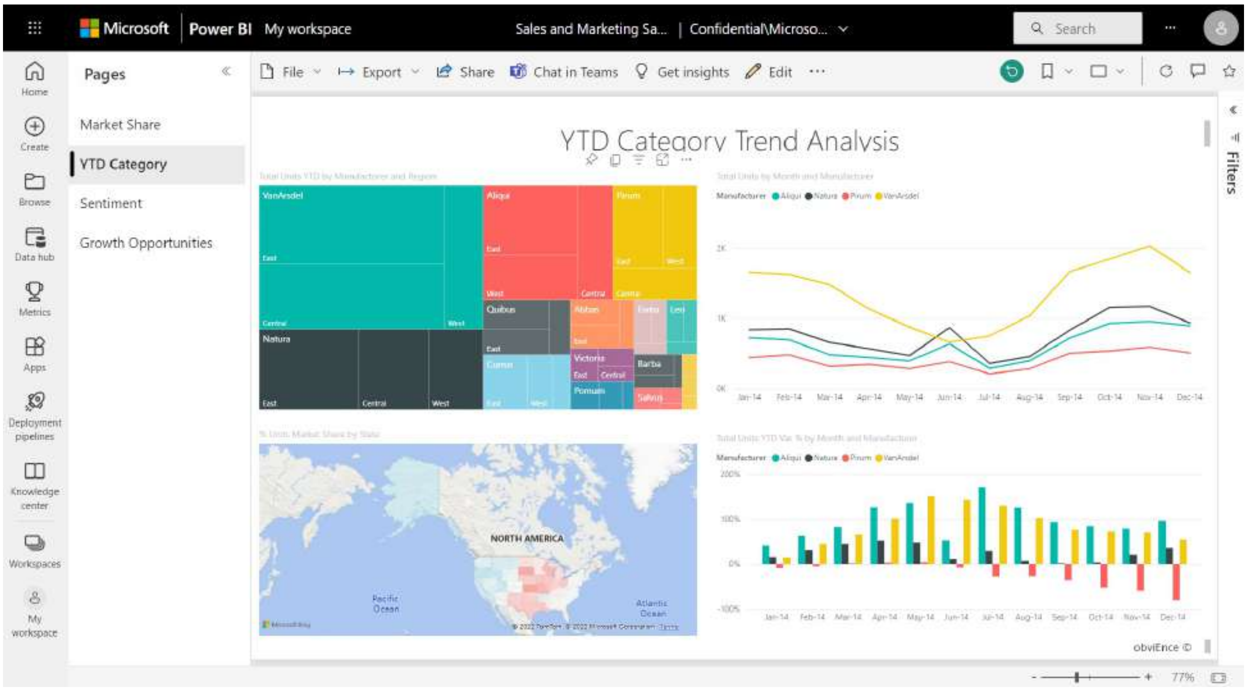
If you view a report on a small device, it might be hard to see titles and legends. Select **View** > **Actual size** to increase the size of the report page. Use the scroll bars to move around the report.



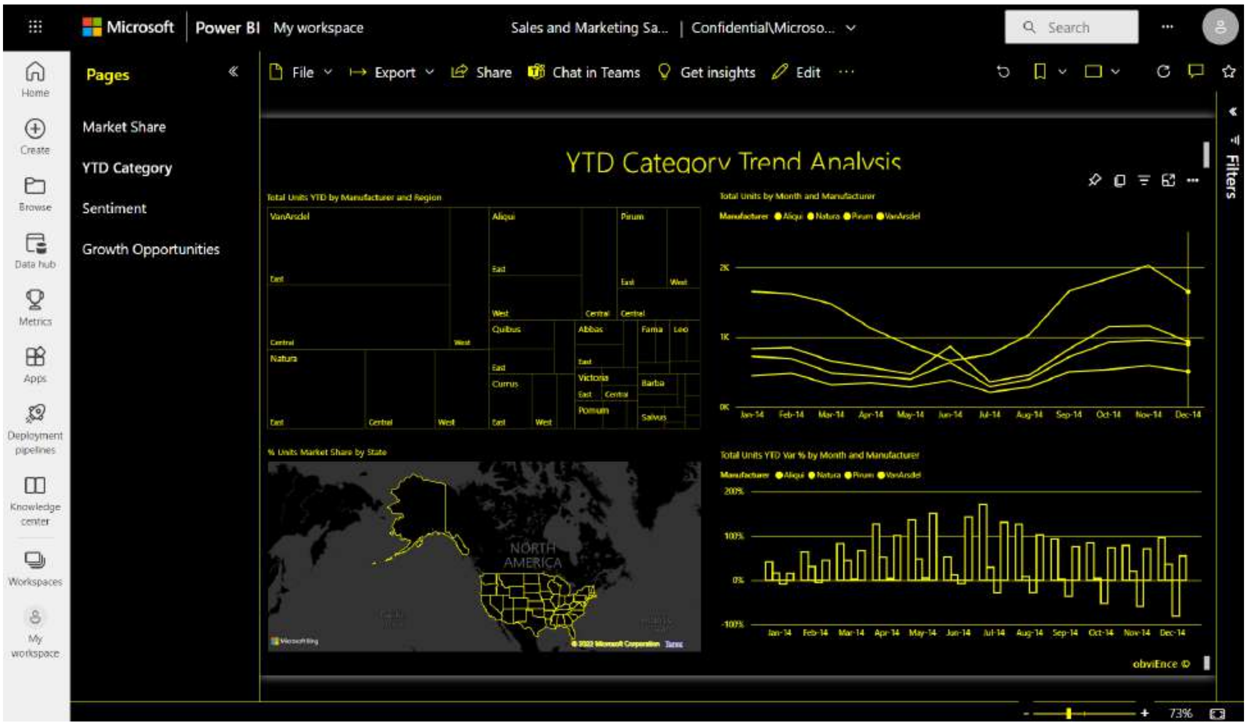
Fit the report to your screen width by selecting **Fit to width** from the **View** menu. Because it adjusts the width and not the height, you might need to use the vertical scroll bar.



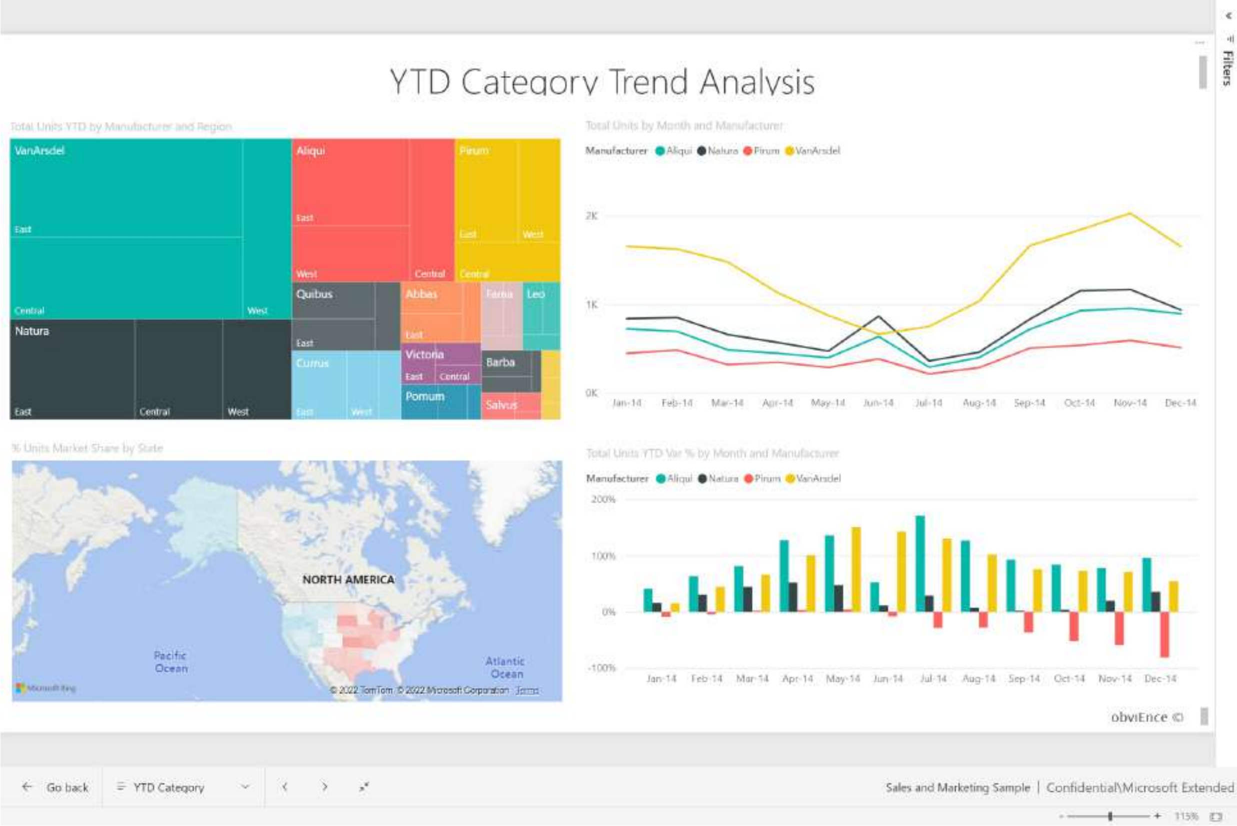
If you don't want any scroll bars, but you want to make the best use of your screen size, select **Fit to Page** from the **View** menu.



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.



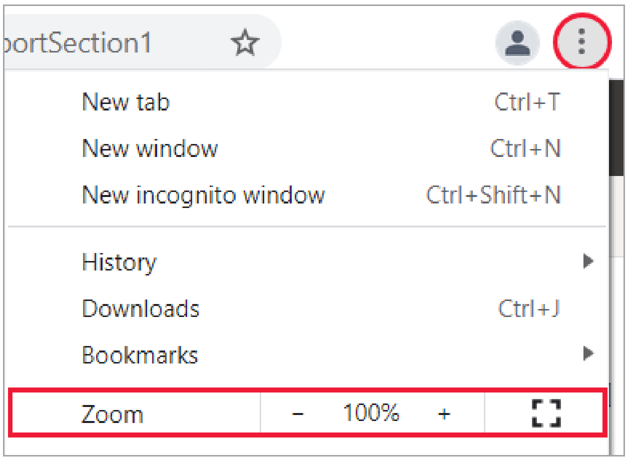
Select **Full screen** in the **View** menu to display your report page without menu bars and headers. Full screen is a good choice for small screens where the details might be hard to see. Full screen can also be a good choice when projecting report pages on a large screen for people to view but not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

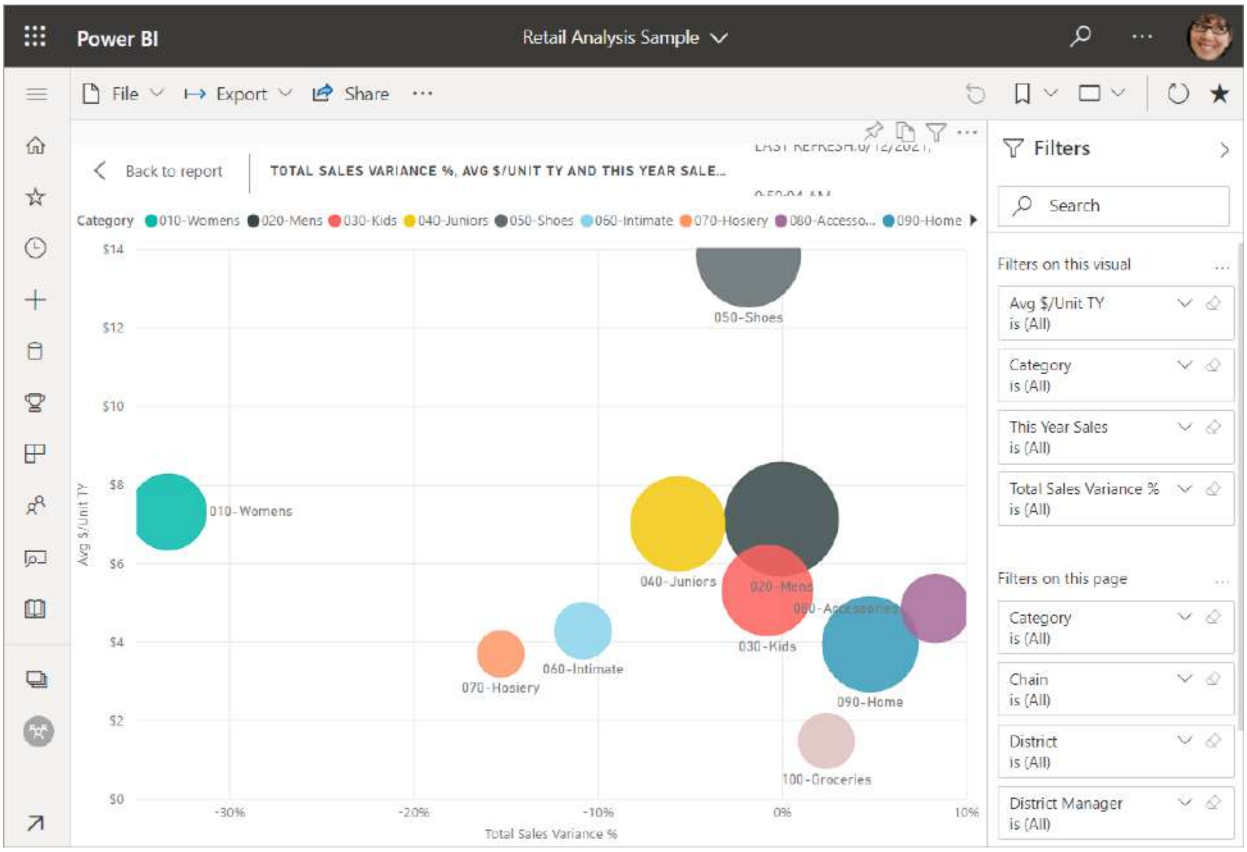
Use the zoom controls in your browser to increase or decrease the available canvas area. Decreasing the zoom expands the available canvas area, and increasing the zoom decreases the available canvas area.



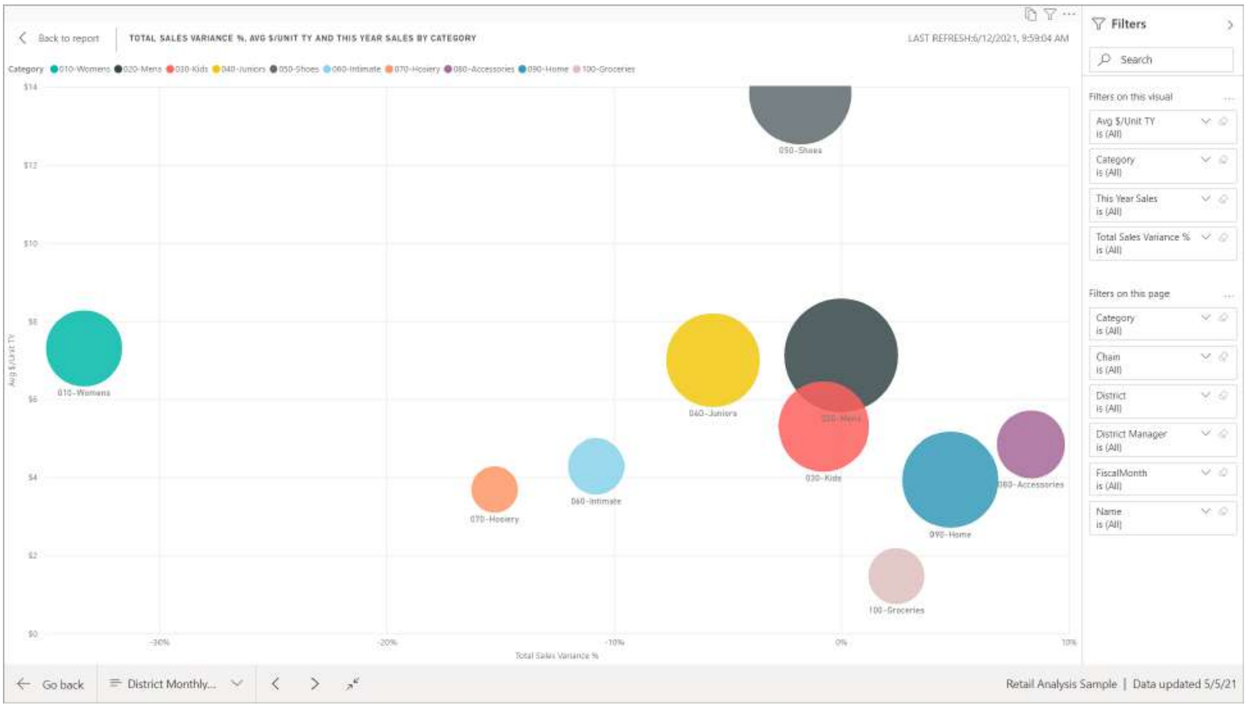
Zoom in on a visual

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

- Take a tour of the report Filters pane

Change how a chart is sorted in a Power BI report

12/15/2022 • 4 minutes to read • Edit Online

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 intended for Power BI users who do not have edit permissions to the report or dataset and who only work in the online version of Power BI (the Power BI service). If you are a report *designer* or *administrator* or *owner*, this article may not have all the information you need. Instead, please read Sort by column in Power BI Desktop.

In the Power BI service, you can change how a visual looks by sorting it by different data fields. By changing how you sort a visual, you can highlight the information you want to convey. Whether you're using numeric data (such as sales figures) or text data (such as state names), you can sort your visuals as desired. Power BI provides lots of flexibility for sorting, and quick menus for you to use.

And after you've changed the sorting of a visual, you can save a personalized version of that visual. 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.

Visuals on a dashboard cannot be sorted. But in a Power BI report, you can sort most visuals by one, and sometimes two, fields at a time. For certain types of visuals, sorting is not available at all: tree maps, gauges, maps, etc.

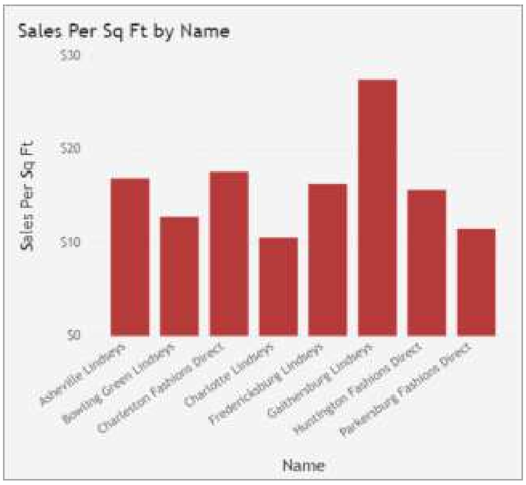
This video demonstrates how to change sort order and some of the newer sorting features now available in the Power BI service.

Get started

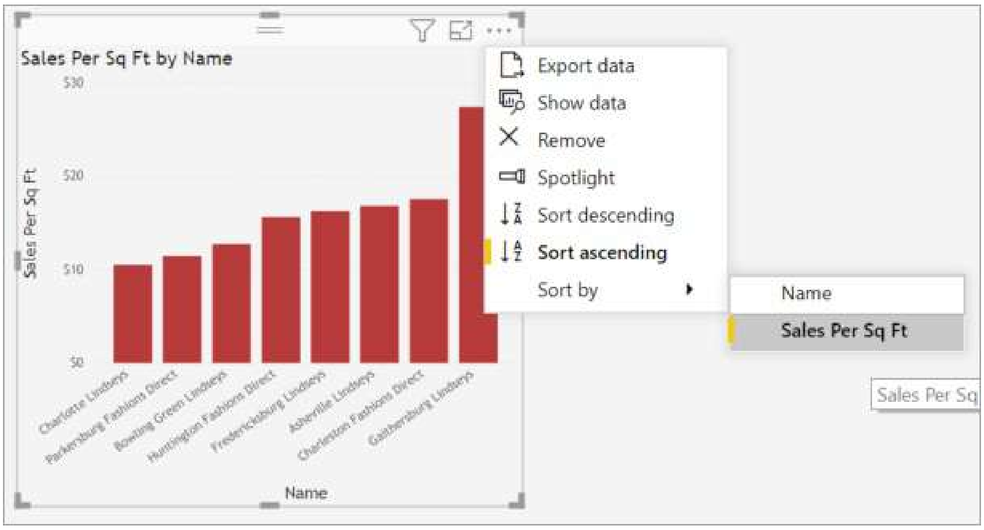
To get started, open any report that you have created or that has been shared with you. Select a visual (that can be sorted) and choose **More actions** (...). There are three options for sorting: **Sort descending**, **Sort ascending**, and **Sort by**.

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, this chart is sorted alphabetically by the X-axis category store **Name**.



To change the sort from a category (store name) to a value (sales per square feet), select **More actions** (...) and choose **Sort by**. Select a numeric value used in the visual. In this example, we've selected **Sales Per Sq Ft**.



If necessary, change the sort order between ascending and descending. Select **More actions** (...) again and choose **Sort descending** or **Sort ascending**. The field that is being used to sort is in bold and has a yellow bar.

> **NOTE**
>
> Not all visuals can be sorted. For example, the following visuals cannot be sorted: treemap, map, filled map, scatter, gauge, card, waterfall.

Sorting by multiple columns

The data in this table is sorted by **Number of customers**. We know this because of the small arrow beneath the word *Number*. The arrow is pointing down which means the column is being 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		**$235,208,999**	

To add more columns to the sort order, Shift + click the column header you would like to add next in the sort order. For example, if you click **Number of customers** and then Shift + click **Total revenue**, then the table is sorted first by customers, then by revenue. The red outline show areas where 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
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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
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1	Primus	$111,225	Tina Lassila
1	Gunner	$49,800	Allan Guinot
1	Gunner	$11,310	Valery Ushakov
90		$235,208,999	

If you Shift + click a second time on the same column, this will change the sort direction (ascending, descending) for that column. Furthermore, if you Shift + click a column you have previously added to the sort order, this will move that column to the back of the sort order.

Saving changes you make to sort order

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. If you want to revert your changes back to the report *designer's* settings, select **Reset to default** from the upper menu bar.

If however, the **Reset to default** button is greyed out, that means the report *designer* has disabled the ability to save (persist) your changes.

Another way to save your changes is with bookmarks. If the report *designer* enabled the **Personalize visual** feature for this report, you'll be able to change the sort order for a visual (and a lot more) and save it as a bookmark. If you see this icon  in the visual's header, then personalize visuals is enabled.

To learn more, see Personalize visuals in a report

Considerations and troubleshooting

Sorting using other criteria

Sometimes, you want to sort your visual using a different field (that isn't included in the visual) or other criteria. 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 another field in the dataset, and you have edit permissions to the report, see Sort by column in Power BI Desktop.

- If you are the report designer, you can create new columns in the dataset to address sorting issues with values such as dates and numbers. Contact information for the *designer* can be found by selecting the report name from the header bar.

Next steps

More about Visualizations in Power BI reports.

Power BI - Basic Concepts

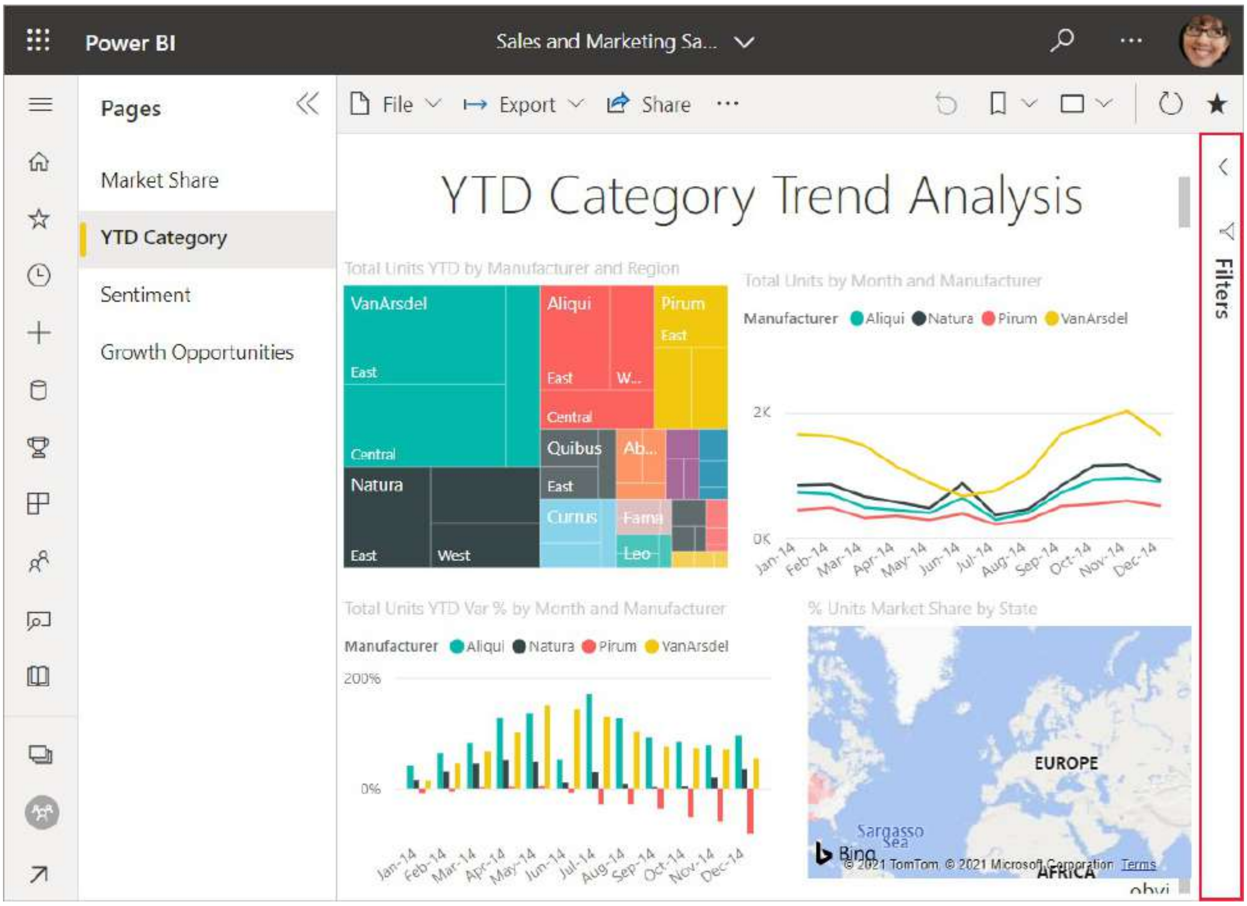
Take a tour of the report Filters pane

12/15/2022 • 5 minutes to read • Edit Online

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

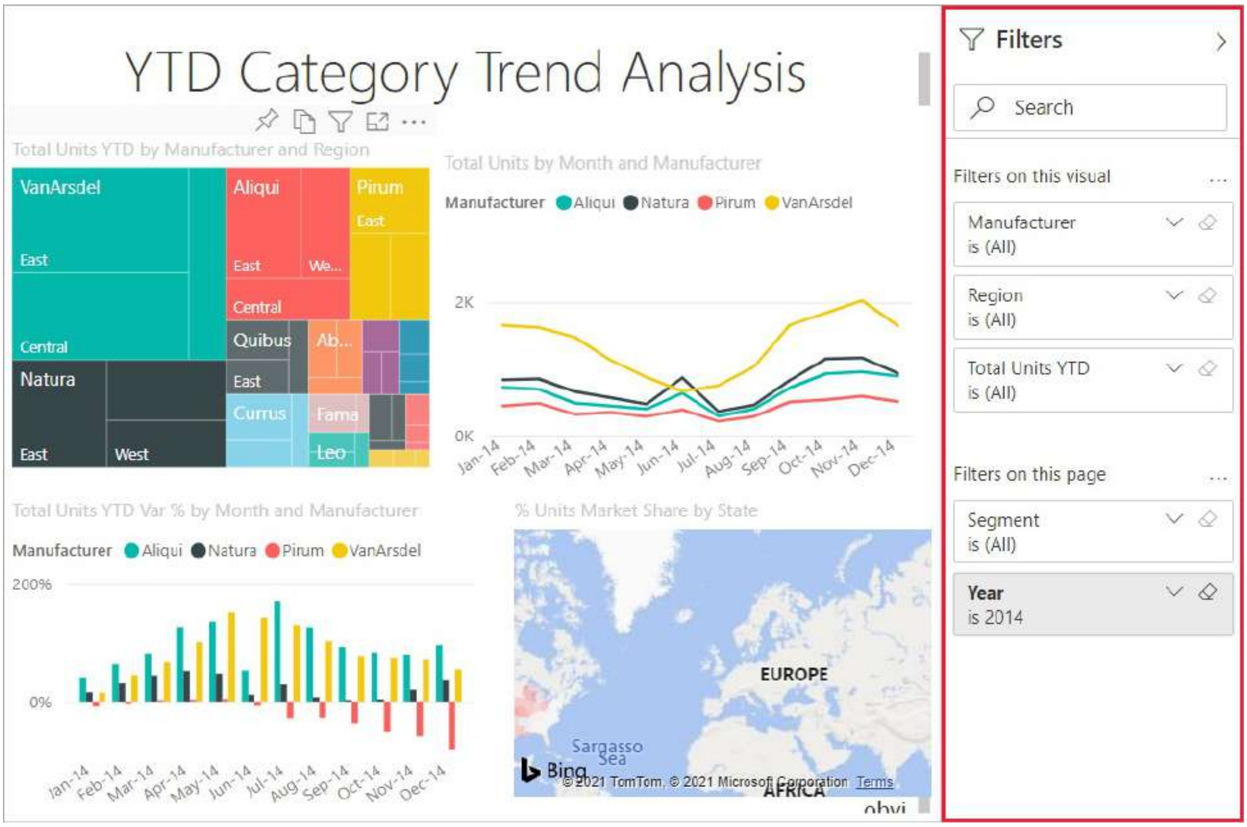
This article takes a look at the report **Filters** pane in the Power BI service. Use the filters to discover new insights in your data.

There are many different ways to filter data in Power BI. This article explains how to use the **Filters** pane. You can also filter by selecting data points on a report visual to filter the other visuals on the page -- this is referred to as **cross-filtering** and **cross-highlighting**. For more information about cross-filtering and cross-highlighting, see How visuals cross-filter each other in a Power BI report.



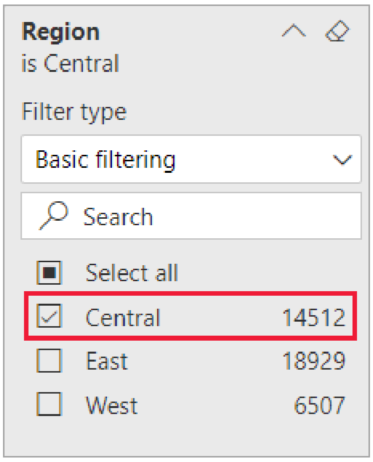
Working with the report Filters pane

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



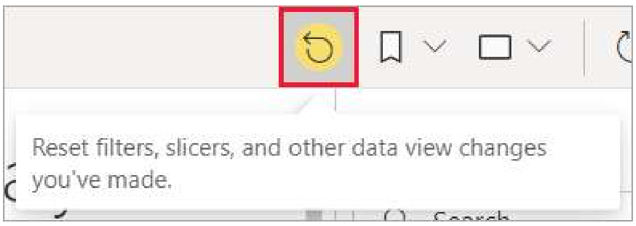
The **Filters** pane contains filters that the report *designer* added to the report. *Business users* like you can interact with the existing filters and save your changes, but you can't add new filters to the report. For example, in the screenshot above the designer added three page level filters: **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 are not. If a filter is shaded, that means a filter has been applied and some data is being excluded. For example, the **Region** filter card is shaded, and when you expend the card you see that only **Central** is selected from the dropdown. Since Region is under the **Filters on this page** heading, all visuals on this page are not displaying (excluding) data for the **West** and **East** regions.



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 upper menu bar.



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

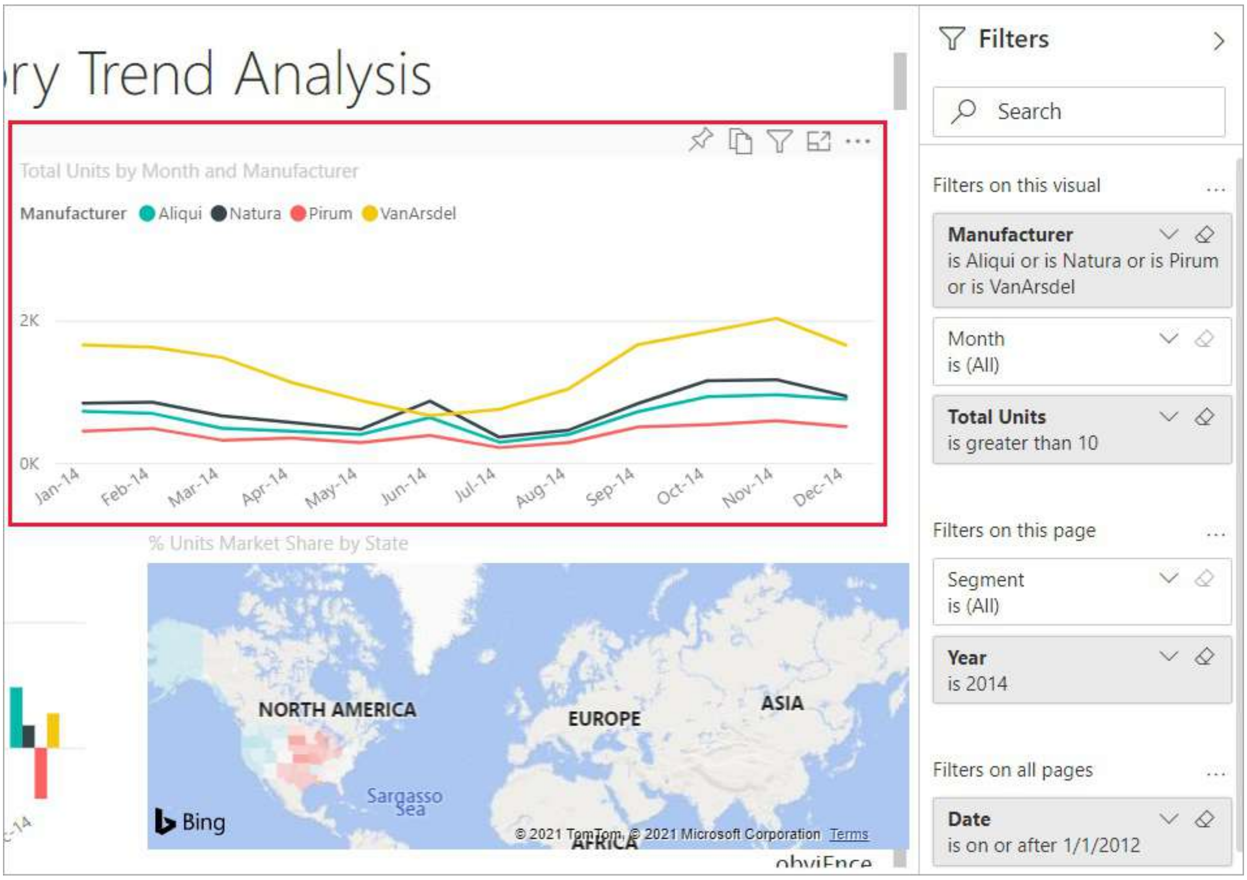
View all the filters for a report page

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. Save changes you make 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 What are bookmarks?.

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

In this example, we've selected 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. And, the entire report has a filter for **Date**, listed under **Filters on all pages**.

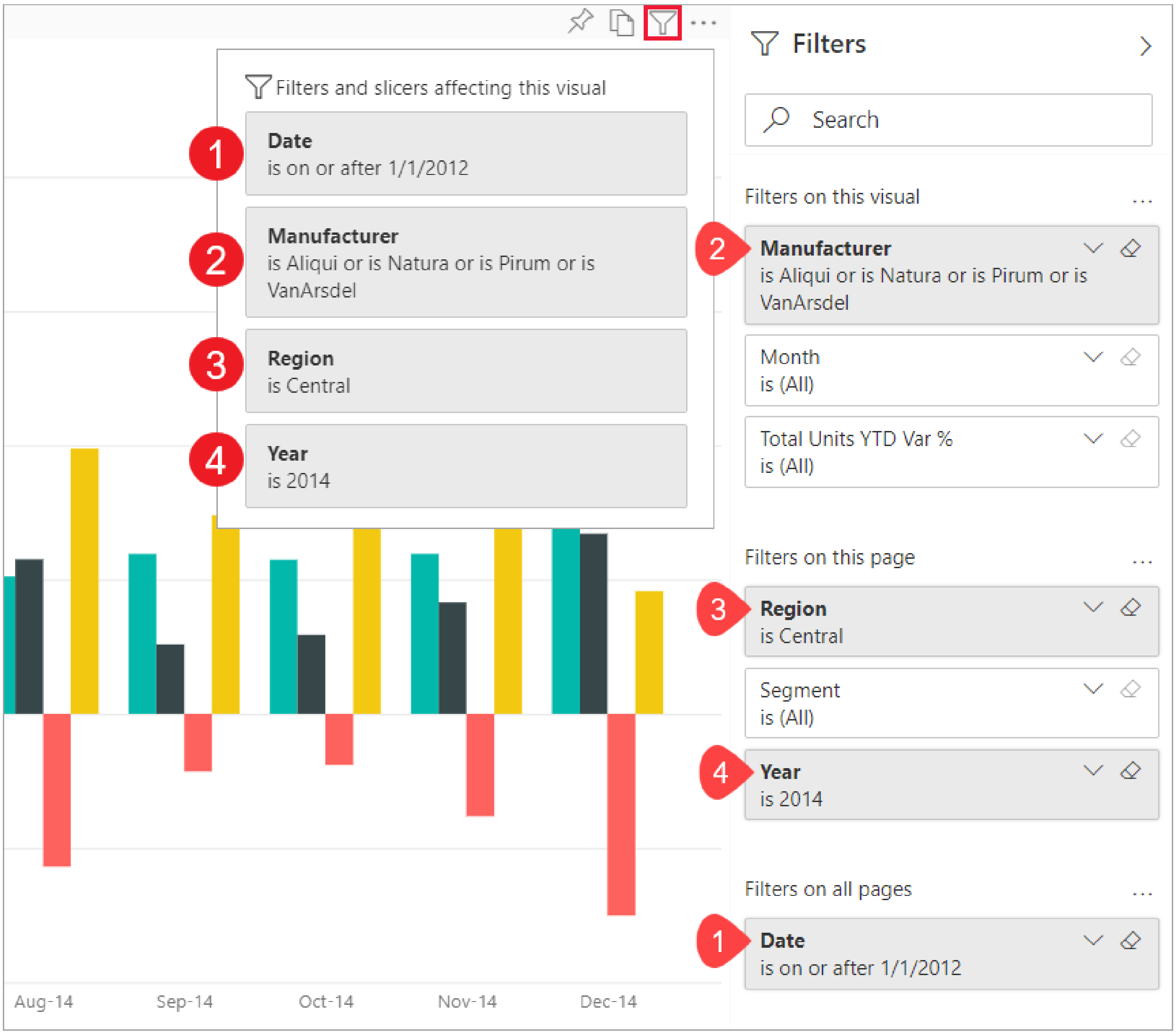


Some of the filters have **(All)** next to them. **(All)** means all values are being included in the filter. In the screenshot above, **Segment(All)** tells us this report page includes data about all the product segments.

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

View only those 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 with all the filters, slicers, and so on, affecting that visual. The filters on the pop-up include the same filters displayed on the **Filters** pane, plus any additional filtering affecting the selected visual.



Here are the types of filters this view can display:

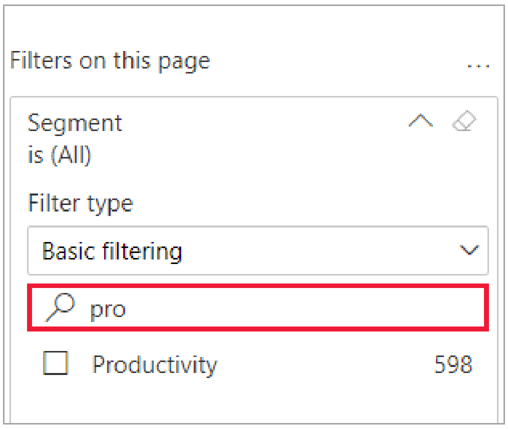
- Basic filters
- Slicers
- Cross-highlighting
- Cross-filtering
- Advanced filters
- Top N filters
- Relative Date filters
- Sync-slicers
- Include/Exclude filters
- Filters passed through a URL

In this example:

1. **Included** tells us that the visual has been cross-filtered. What this means is that the states of Alabama and Texas have been selected on one of the other visuals on this report page. In this case, it's the map visual. The selection of those two states has eliminated data for all other states from displaying on the selected bar chart.
2. **Date** is a filter applied to all pages in this report.
3. **Region is Central** and **Year is 2014** are filters applied to this report page.
4. **Manufacturer is VanArsdel, Natura, Aliqui, or Pirum** is a filter applied to this visual.

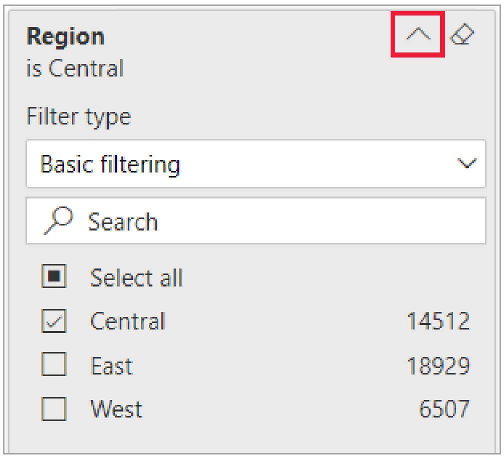
Search in a filter

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



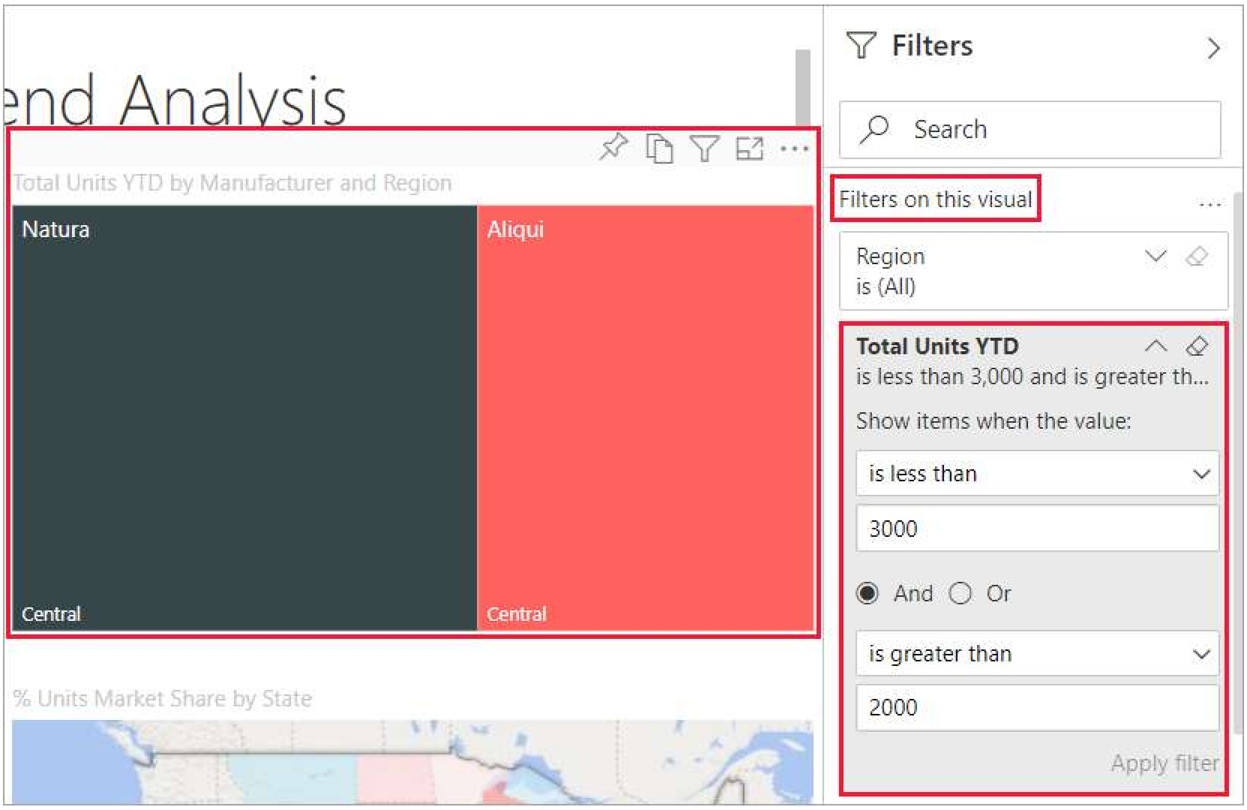
Display filter details

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



Change filter selections

One way to search for data insights is to interact with the filters. You can change filter selections 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 will range from simple selections from a list, to identifying ranges of dates or numbers. In the advanced filter below, we've changed the **Total Units YTD** filter on the treemap to be between 2,000 and 3,000. Notice that this change removes Pirum and VanArsdel from the treemap.

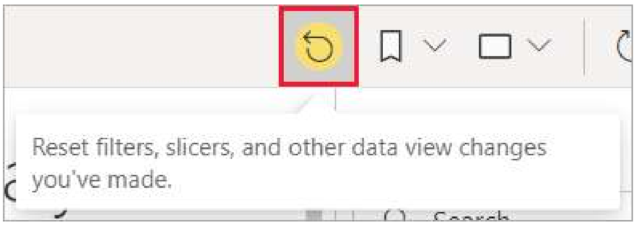


TIP

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

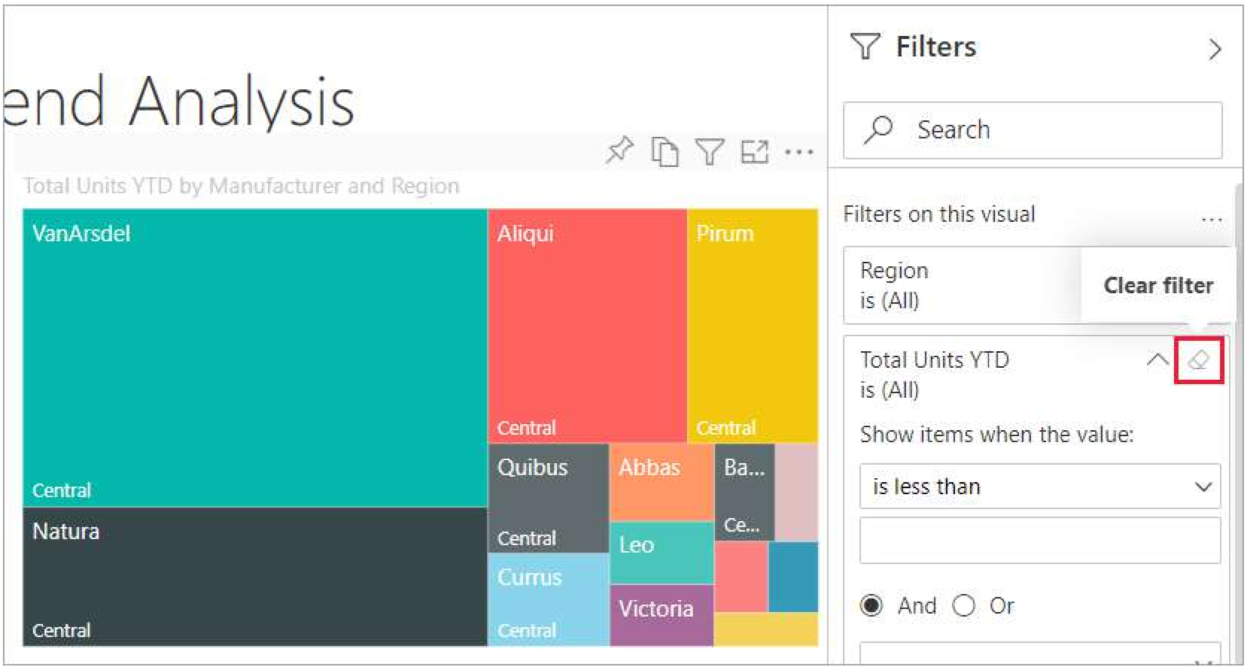
Reset filter to default

If you want to back out of all 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

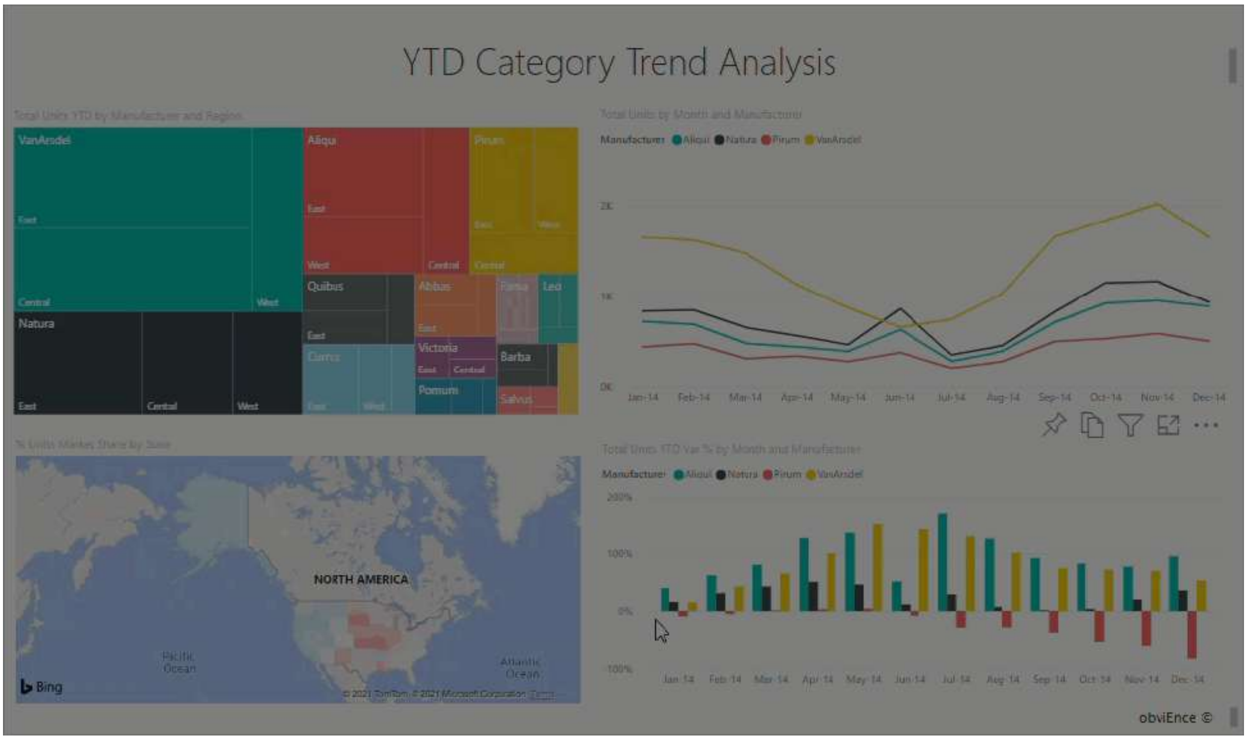
Learn how and why visuals cross-filter and cross-highlight each other on a report page

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

12/15/2022 • 2 minutes to read • Edit Online

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 that data change, based on that selection.



How visuals interact with each other

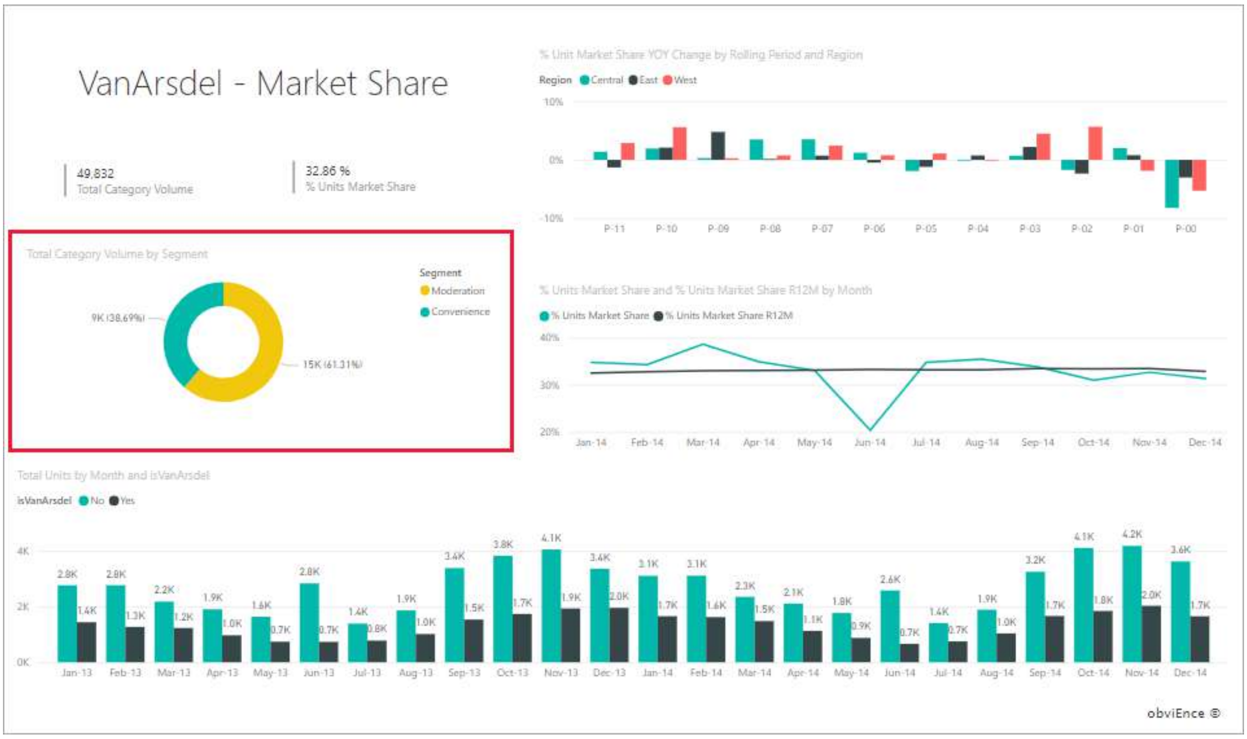
By default, selecting a data point in one visual on a report page will cross-filter or cross-highlight the other visuals on the page. Exactly how the visuals on a page interact is set by the report *designer*. *Designers* have options to turn visual interactions on and off, and to change the default 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.

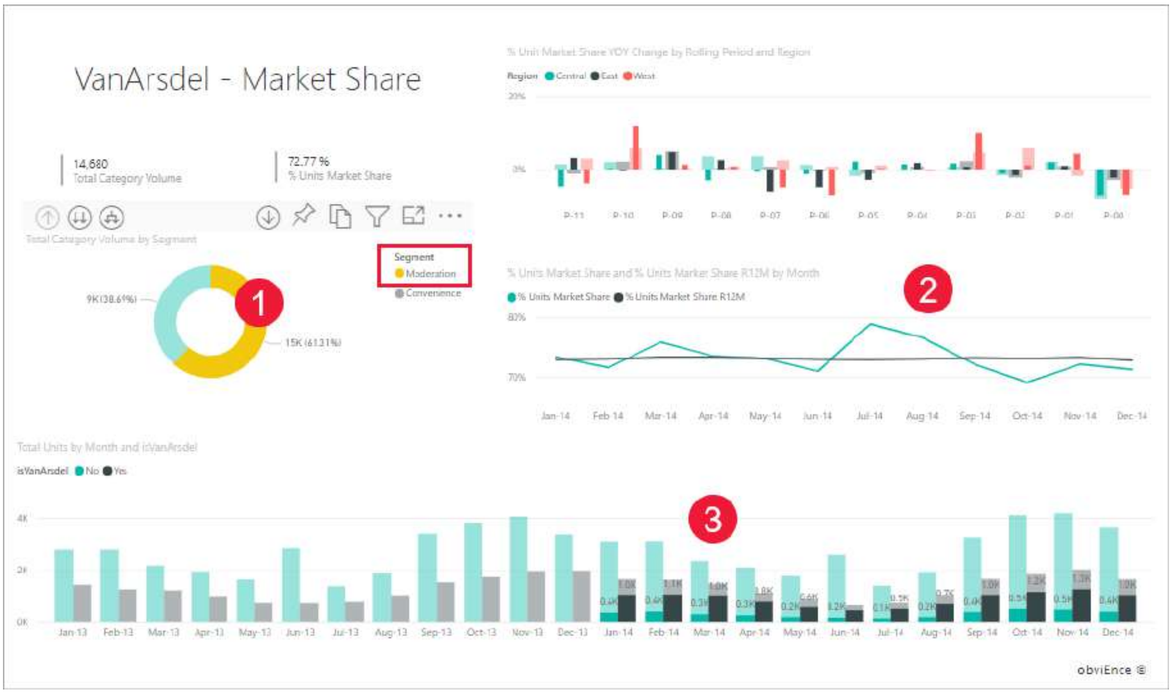
Cross-filtering and cross-highlighting

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.

Let's define these terms as we look at the report pages below. The "Total category volume by segment" doughnut chart has two values: "Moderation" and "Convenience".



1. Let's see what happens when we select **Moderation**.



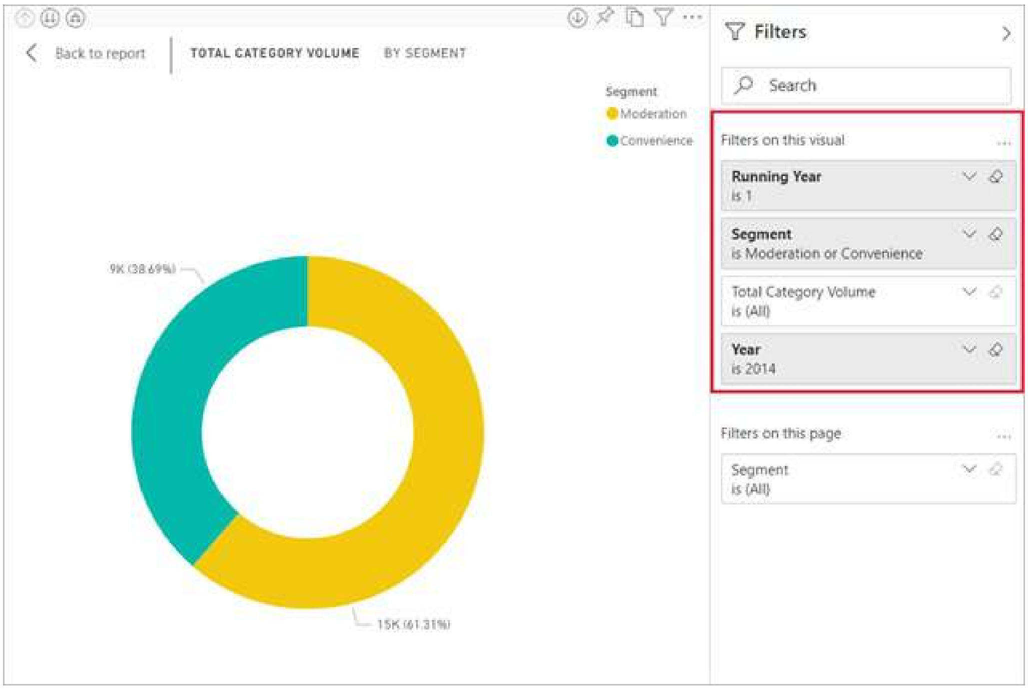
2. **Cross-filtering** removes data that doesn't apply. Selecting **Moderation** in the doughnut chart cross-filters the line chart. The line chart now only displays data points for the Moderation segment.

3. **Cross-highlighting** retains all the original data points but dims the portion that does not apply to your selection. Selecting **Moderation** in the doughnut 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 impact 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.



- In case of the tables with no hierarchical relationships, slicing up the measures (often referred as complex slicers) may 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 re-model the relationships to get the desired output.

Next steps

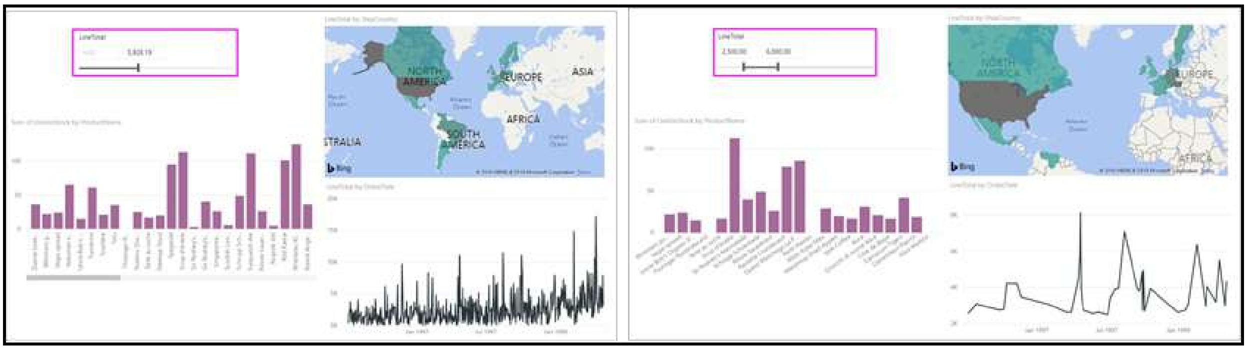
How to use report filters

About filtering and highlighting.

Slicers in the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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



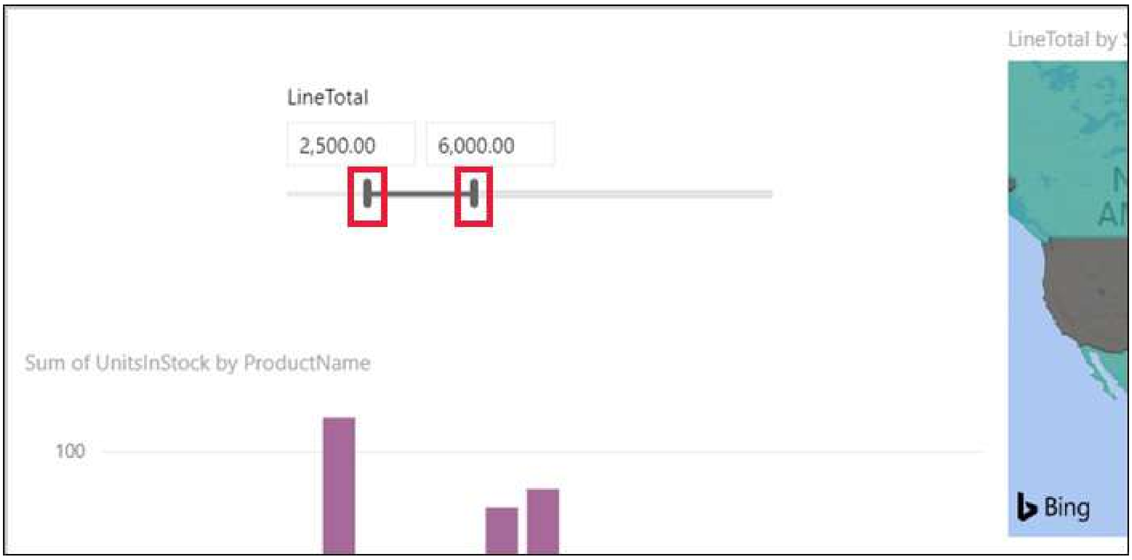
A slicer is a type of visual that filters the other visuals on a report page. When using Power BI reports, you'll discover many types of slicers. The image, above, shows the same slicer but with different selections. Notice how each selection filters the other visuals on the page.

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.

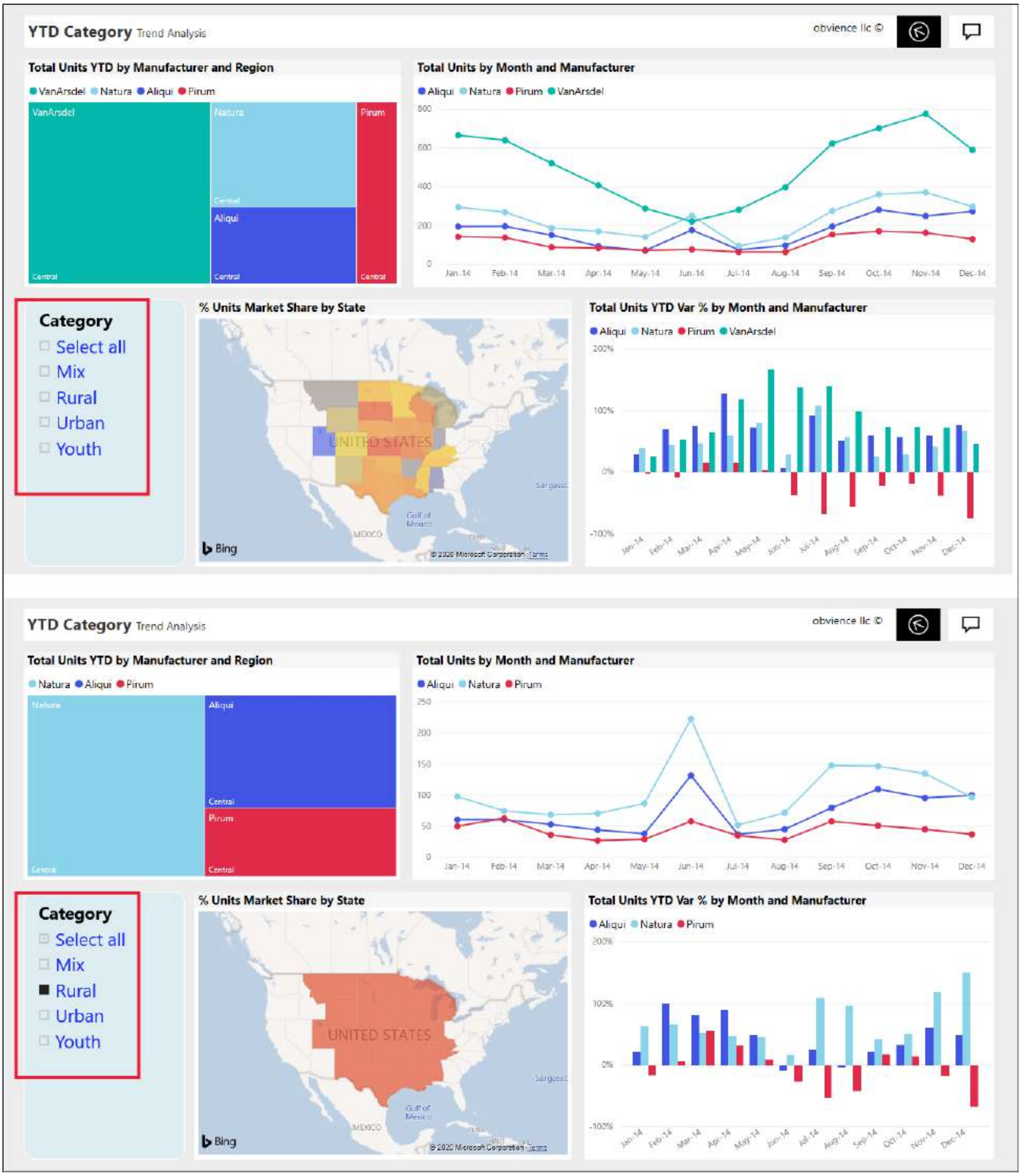
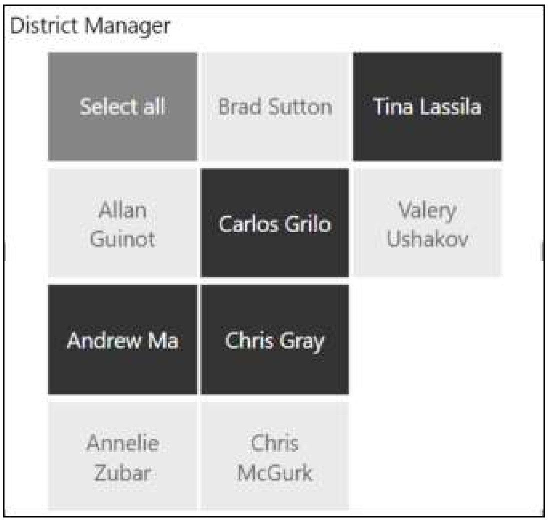


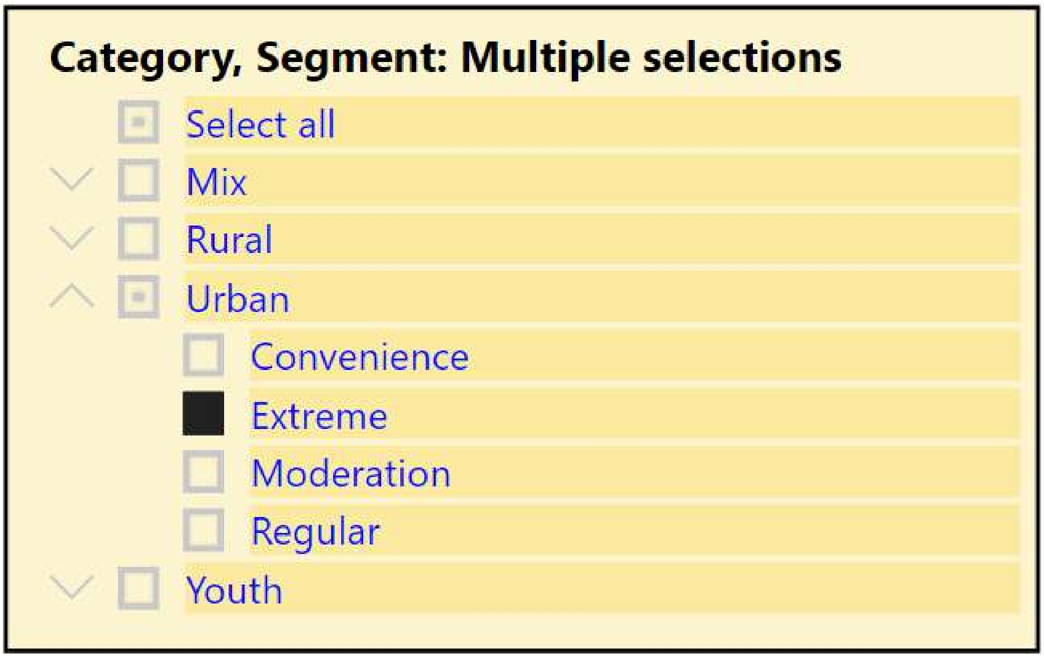
Image and shape slicers

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.



Hierarchy slicer

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

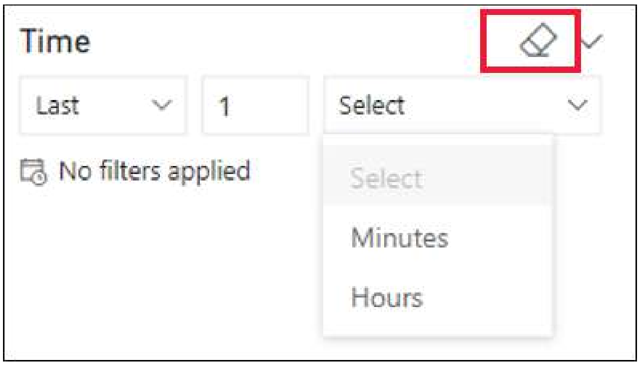


Relative time slicer

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

Export reports from Power BI to PDF

12/15/2022 • 6 minutes to read • Edit Online

APPLIES TO: ✔ Power BI Desktop ✔ Power BI service

With Power BI, you can publish your report to PDF format and easily create a document based on your Power BI report. When you export to PDF, each page in the Power BI report becomes an individual page in your PDF document. Exporting to PDF is one way to share or print reports.

Export your Power BI report to PDF

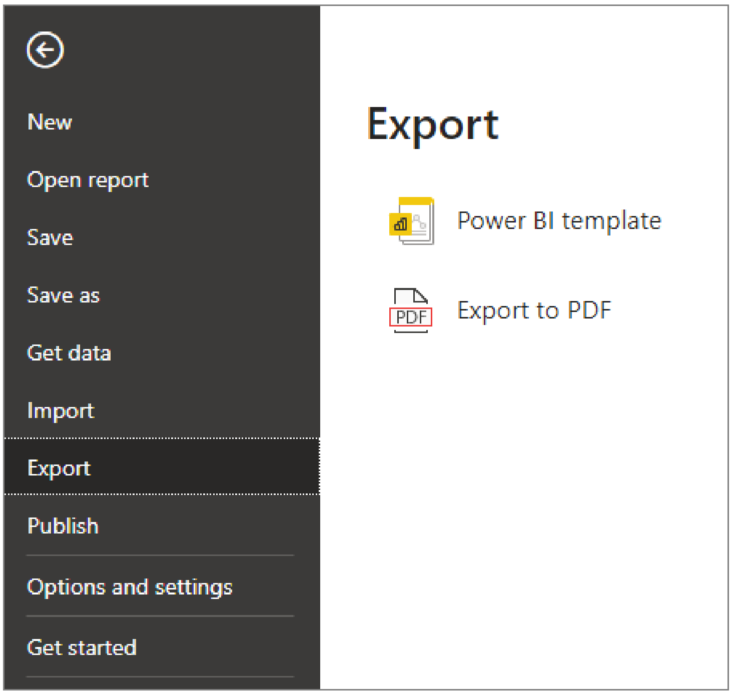
In the Power BI service or Desktop, select a report to display it on the canvas. In the Power BI service, you can select a report from your **Home** page, **Apps**, or any other container from the nav pane.

- Power BI Desktop
- Power BI service

Export to PDF from Power BI Desktop

The process for exporting a report from Power BI Desktop to PDF is similar to the Power BI service process described earlier. There are only a few differences:

- In Desktop, select **File** > **Export** > **Export to PDF**.



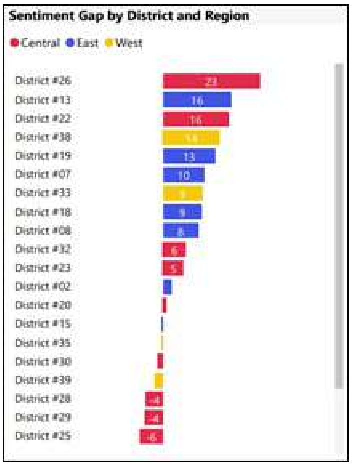
- Report pages that are currently not visible, such as any tooltips or hidden pages, aren't exported to the PDF file.
- While the export is being processed, a dialog appears that lets you know that the export process is underway. The dialog remains on the screen until the export process completes. During the export process, all interaction with the report being exported is disabled. The only way to interact with the report is to wait until the export process completes, or to cancel the export.
- The exported PDF displays in your browser and is automatically saved in your **Downloads** folder.

Considerations and limitations

There are a few considerations and limitations to keep in mind when you work with the **Export to PDF** feature.

- R, Python, Power BI Visio visuals, and Power Apps visuals aren't currently supported. In the PDF, these visuals are blank and display an error message.
- Power BI visuals that have been certified are supported in most cases. For more information on certified Power BI visuals, including how to get a Power BI visual certified, see Get a Power BI visual certified. Power BI visuals that haven't been certified aren't supported. In the PDF, they display with an error message.
- The ESRI ArcGIS for Power BI visual isn't supported.
- Power BI reports with more than 50 report pages currently can't be exported. Paginated reports don't have this limitation. See Print a paginated report for details.
- Reports larger than 500 MB currently can't be exported.
- The process of exporting the report to PDF might take a few minutes to complete, so be patient. Factors that can affect the time required include the structure of the report and the current load on the Power BI service or Power BI Desktop.
- If the **Export to PDF** menu item isn't available in the Power BI service, it's likely because your Power BI administrator disabled the feature. Contact your administrator for details. Administrators: See Export reports as PowerPoint presentations or PDF documents.
- Reports that are owned by a user outside your Power BI tenant domain, such as a report owned by someone outside your organization and shared with you, can't be published to PDF.
- You can share a dashboard with someone outside of your organization--someone who isn't in your Power BI tenant. However, that user can't export the shared dashboard's associated reports to PDF. For example, if you're aaron@contoso.com, you can share with cassie@northwinds.com. But cassie@northwinds.com can't export the associated reports to PDF.
- Background images are cropped with the visualization's bounding area. Also, when you export to PDF with reports that contain a background image, you might see a distorted image in the export if you use the **Normal** or **Fill** options for the **Page Background**. For best results, use the **Fit** option to avoid issues with your exported document. Or, remove backgrounds before exporting.
- The Power BI service uses your Power BI language setting as the language for the PDF export. To see or set your language preference, select the cog icon > **Settings** > **General** > **Language**.
- In the Power BI service, URL filters aren't currently respected when you choose **Current Values** for your export.
- Reports with unusual custom page sizes may experience issues in export scenarios. For best results, consider switching to a standard page size for your report.
- Reports using themes with custom fonts will have the custom font replaced with a default font.
- While we look to provide a consistent experience, we can't guarantee the exported PDF from the Power BI service will always match the exported PDF from a local Power BI Desktop file.
- We can't guarantee precise fidelity for Power BI reports. The resolution of exported report pages is 1280 pixels x 720 pixels.
- Visuals with scrollbars are exported in their default state. The visual will display all possible rows, starting with the first row. Even if you have the visual scrolled down, when exported, the visual will display

unscrolled.



- Visuals in a drilled down state are exported in their default state.
- The feature doesn't export any wallpaper you may have applied to the report. Since wallpaper isn't exported to the PDF, you should pay special attention to reports that use dark wallpaper. If the text in your report is light or white, it will be difficult to read in the export to PDF process since the dark wallpaper won't be exported with the rest of the report.
- All Power BI reports have a page margin when exported to PDF. That is, there will be a band of white space at the top and bottom of the exported file.
- Export to PDF is not currently supported for tenants in the China North region.

Next steps

Print a report

Identify and use buttons in the Power BI service

12/15/2022 • 4 minutes to read • Edit Online

In the reports that you receive from colleagues, you may have noticed buttons and wondered how to use them. Some have words, some have arrows, others have graphics, and some even have dropdown menus. This article will teach you how to recognize a button and how to figure out what to do with it.

If you want to learn how to create buttons, see Create buttons in Power BI.

How to recognize a button

Buttons can look a lot like shapes, images, or icons on a report page. But if an action occurs when you select (click) it -- then it's probably a button.

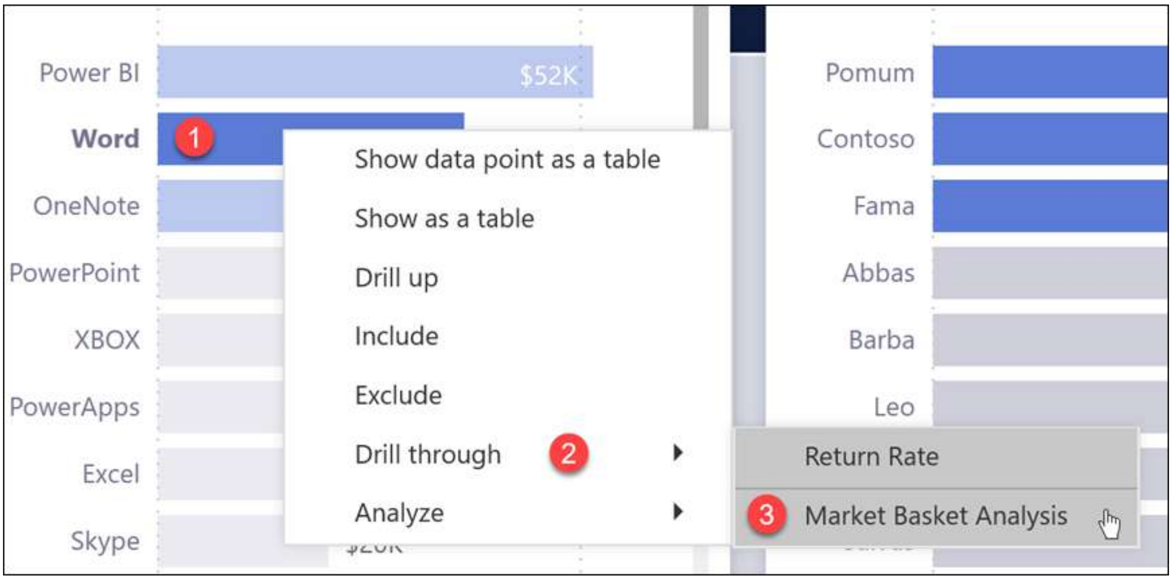
Types of buttons

Report creators add buttons to reports to help you with navigation and exploration. Just some of the button types are: back, bookmark, arrows, Q&A, help, and blank.

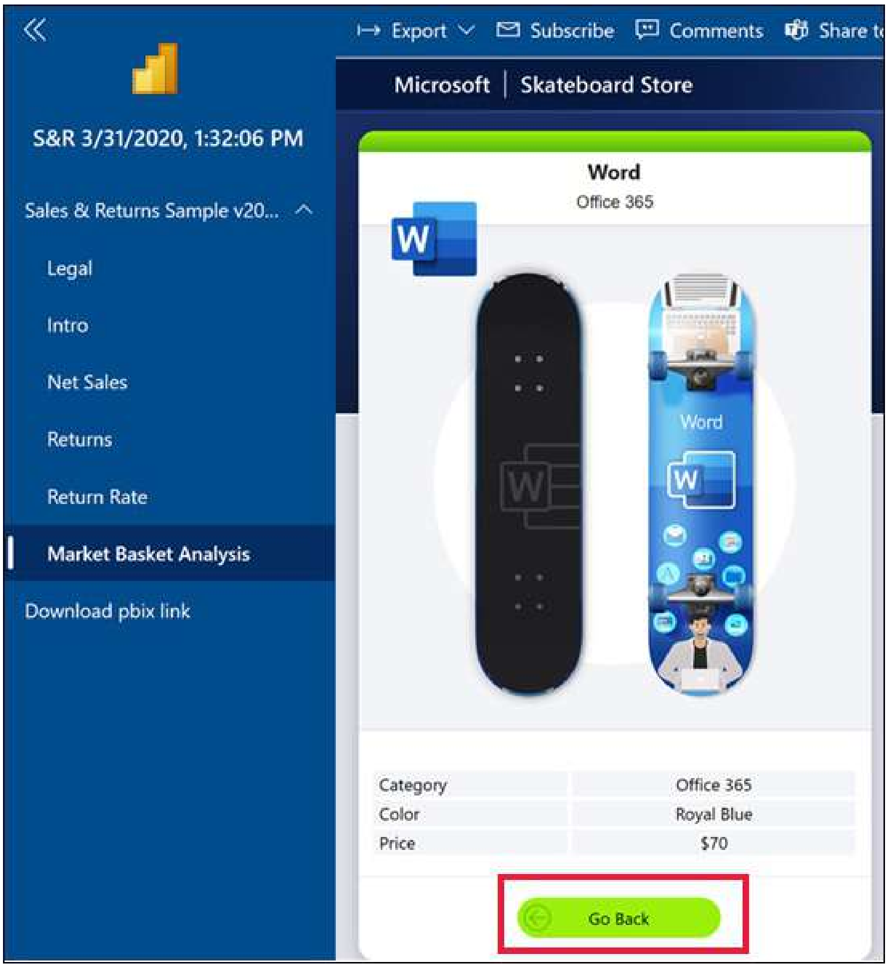
Back buttons

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

1. The user has selected **Word** in the bar chart and is drilling through to **Market basket analysis**.



2. By choosing **Market basket analysis**, Power BI opens the *Market basket analysis* report page and uses the selections made on the source page to filter what is shown on the destination page.

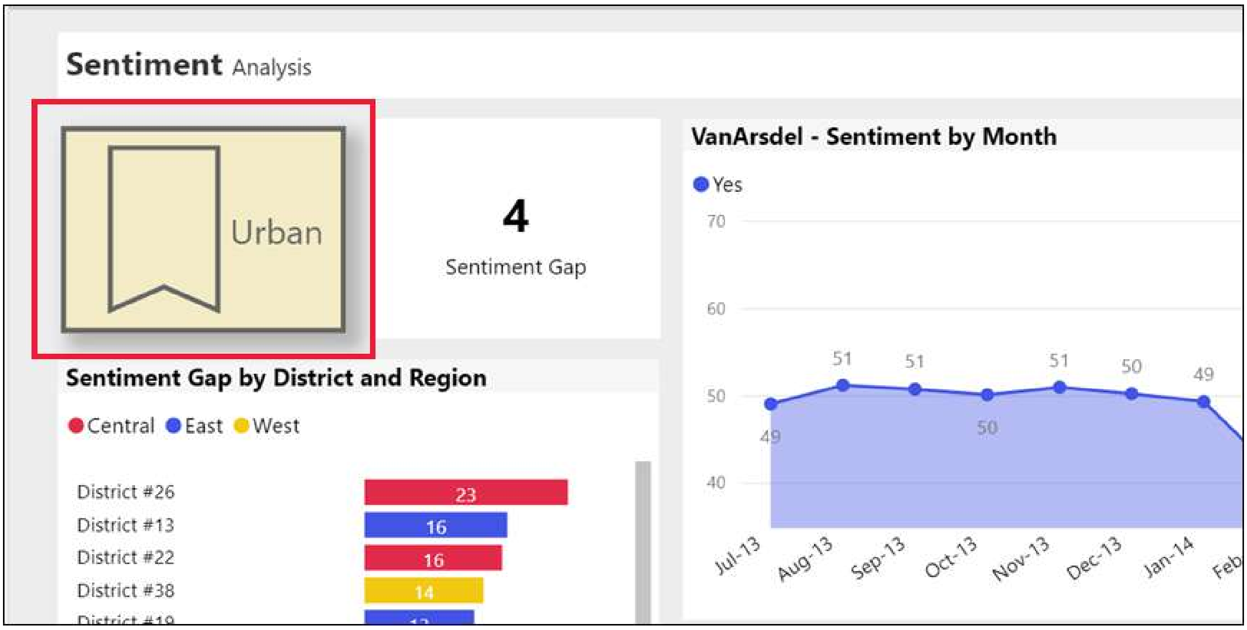


You're now on the **Market basket analysis** report page, which is filtered for **Word**. To return to the previous page, select the back button that is labeled **Go back**.

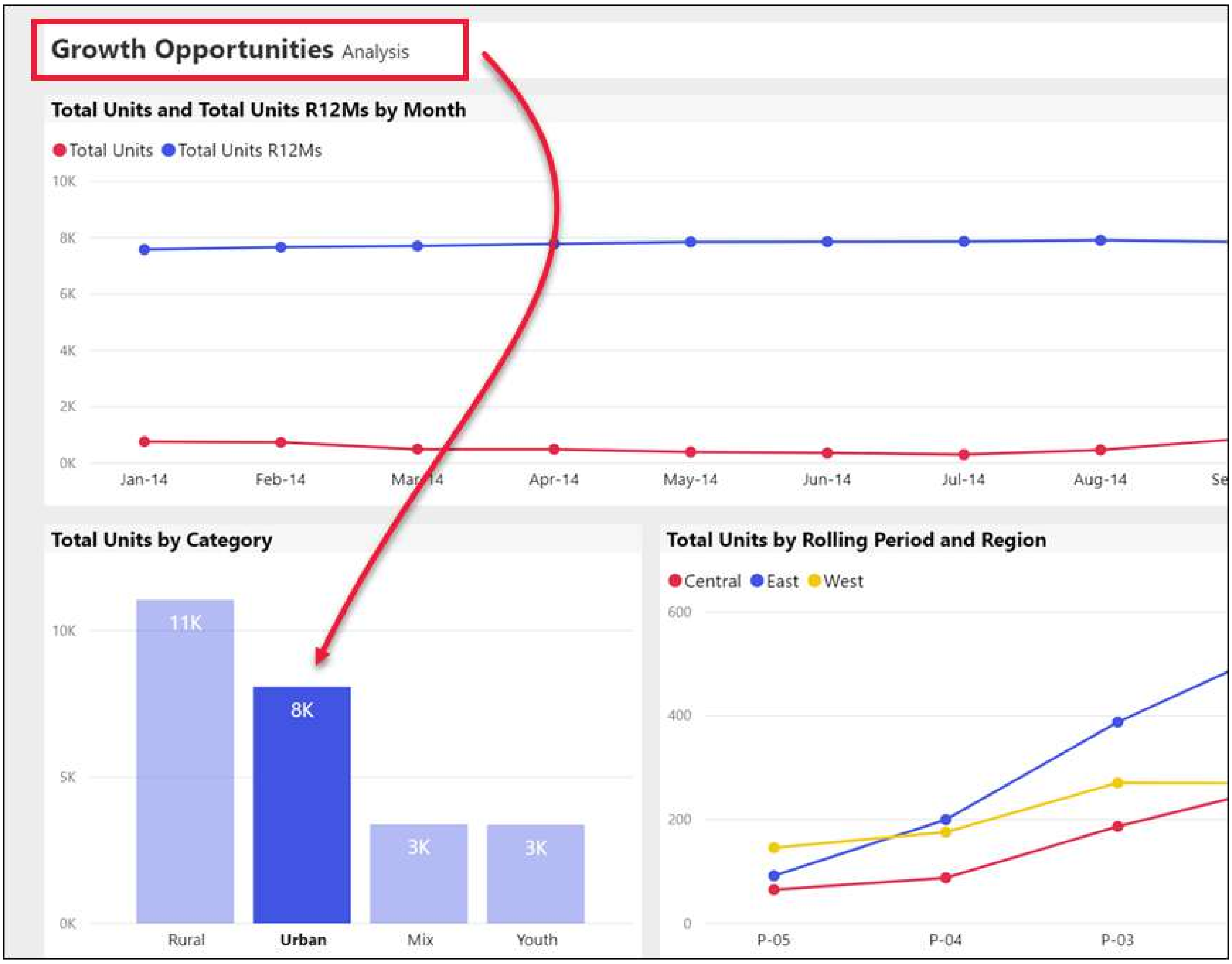
Bookmark buttons

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 the particular report page that's associated with that bookmark. The page will have the applied filters and settings that are captured by the bookmark. Learn more about bookmarks in Power BI.

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



By choosing the bookmark button, Power BI takes you to the location and settings as defined for that bookmark. In this case, the bookmark is on the *Growth opportunities* report page and that page is 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 and the data on that destination page is presented according to the filters and selections you've made on the source page.

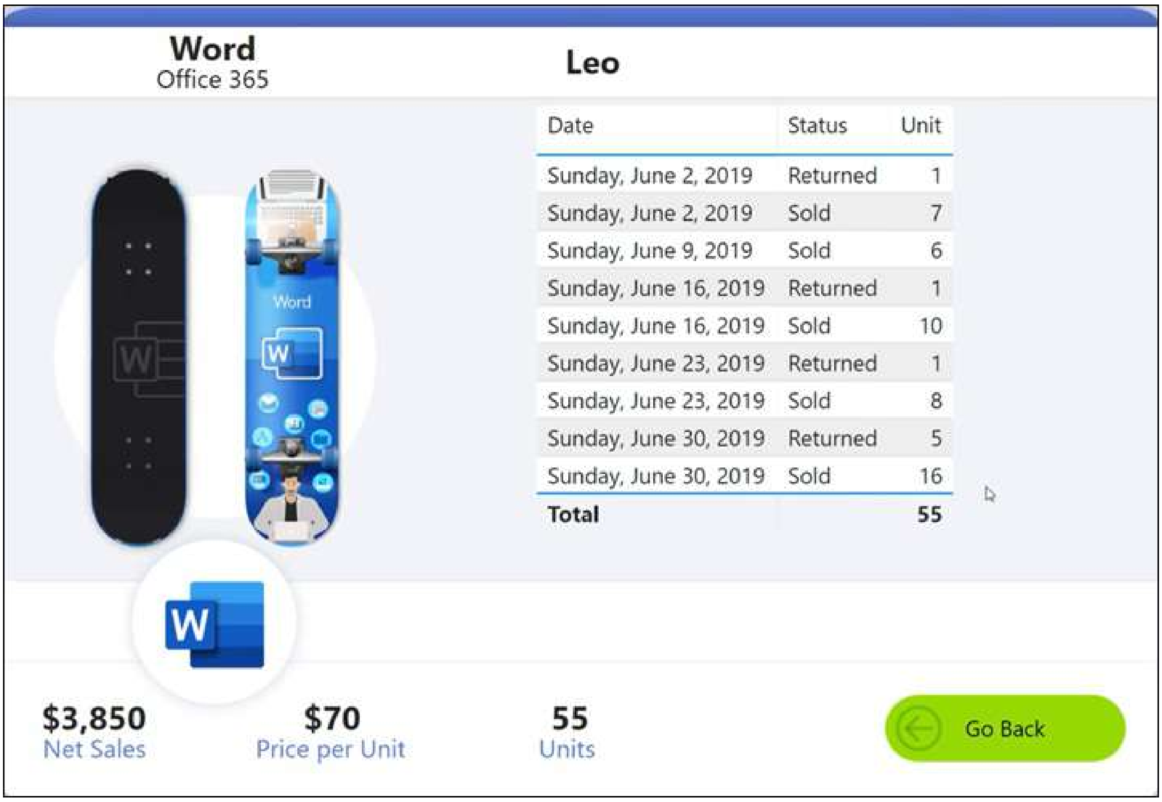
One way to drill through in a report is to right-click a data point in a visual, select **Drill through**, and choose the destination. This method is described above in the section titled **Back button**. But sometimes the report designers use a drillthrough *button* instead, to make the action more obvious and to call attention to important insights.

Drillthrough buttons can have more than one prerequisite. Unless you fulfill all the prerequisites, the button will not work. Let's look at an example.

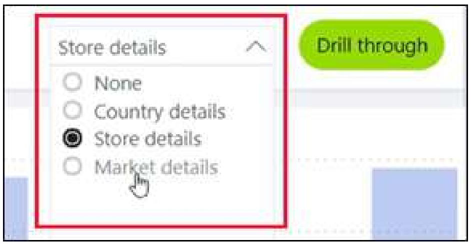
Here is a drillthrough button that will take us to the *Store details* page. Hovering over the button reveals a tooltip that lets us know that we need to select both a store and a product. Until we select one of each, the button remains inactive.

Now that we've selected one product (**Word**), and one store (**Leo**), the button changes color to let us know that it is now active.

Selecting the drillthrough button takes us to the *Store* report page. The *Store* page is filtered for our selections of **Word** and **Leo**.

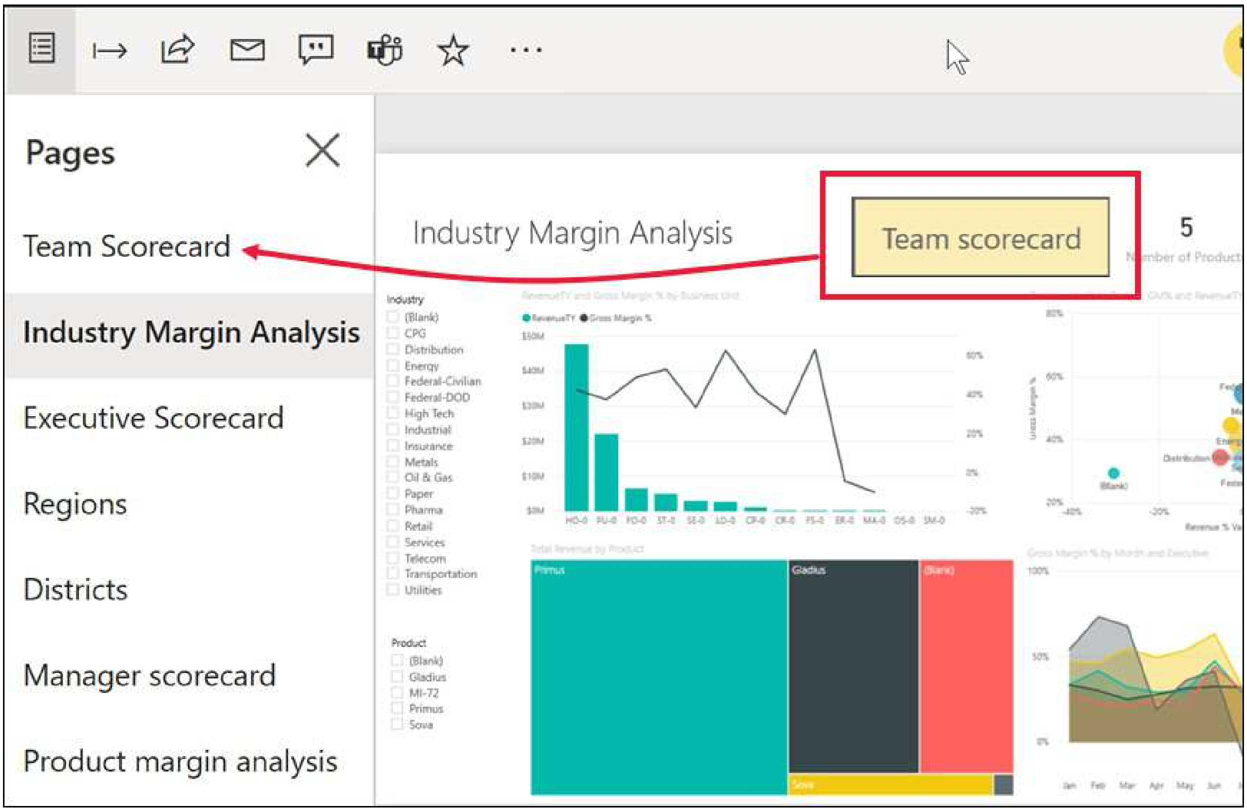


Drillthrough buttons can also have dropdown menus that offer you a choice of destinations. Once you've made your selections on the source report page, select the destination report page for the drillthrough. In the example below, we're changing our selection to drill through to the *Market details* report page.



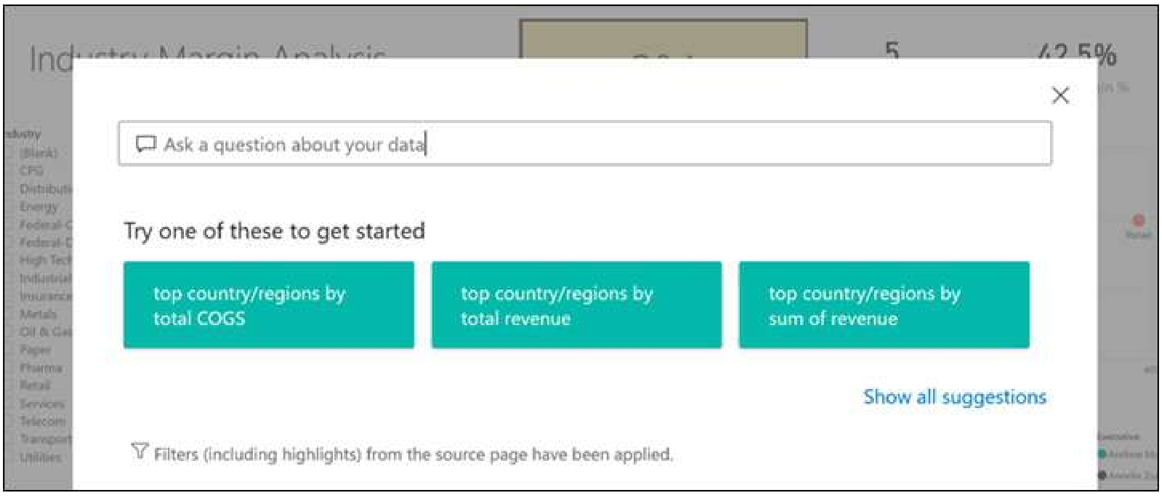
Page navigation

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 example below, the report designer added a button on each report page that takes you back to the first page, the top-level summary page, in the report. This page navigation button is helpful because there are many pages in this report.



Q&A buttons

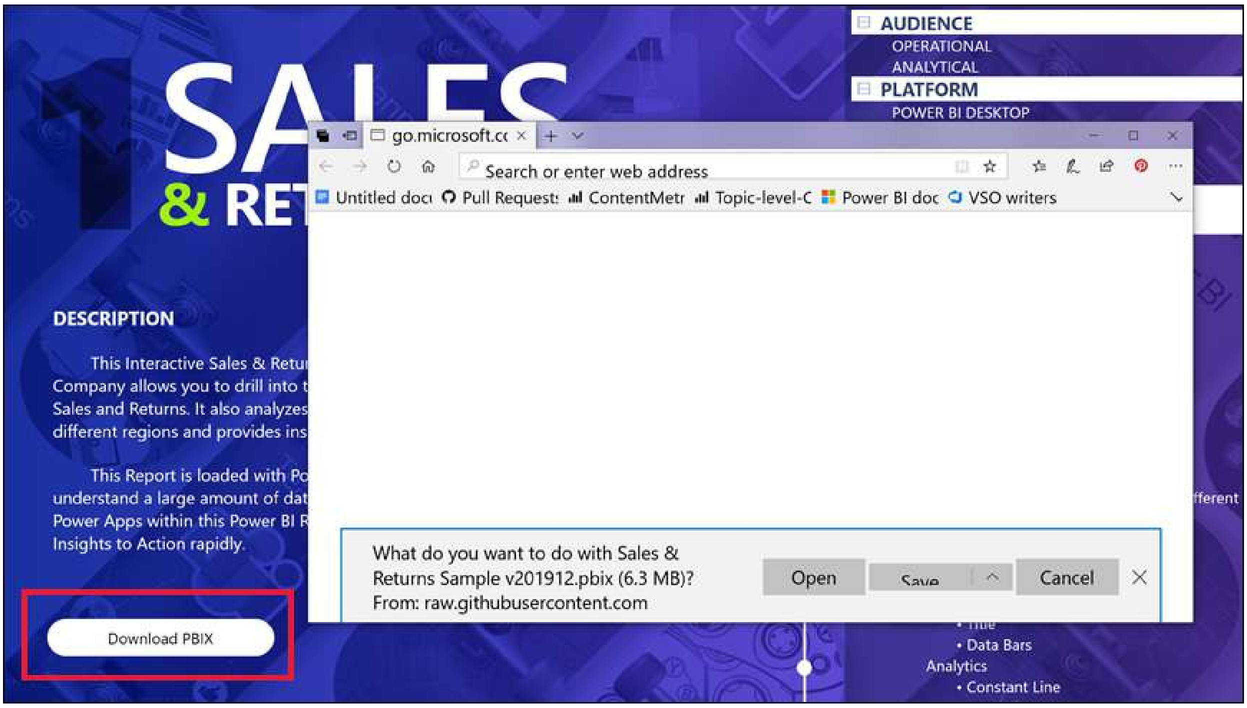
Selecting a Q&A button opens the Power BI Q&A Explorer window. The Q&A window displays on top of the report page and can be closed by selecting the X. Learn about Q&A



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 example below, 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 steps

Bookmarks

Drill up, drill down

Bookmarks in the Power BI service

12/15/2022 • 8 minutes to read • Edit Online

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. This includes the settings you've made to filters, slicers, and visuals on that page. Once the report page is set the way you want, give it a friendly name. Now you can return to that state of the report page with a single click. Simply select a bookmark, and Power BI takes you back to that view.

Types of bookmarks

There are two types of 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 do not travel with the report. Personal bookmarks are for your use only. However, if you want to share your personal bookmarks, this article provides some tips and tricks to do so.

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 content requires either a Power BI Pro or a Premium Per User license. Which license do I have?

If you will be designing reports and creating report bookmarks for others to use, see Create report bookmarks.

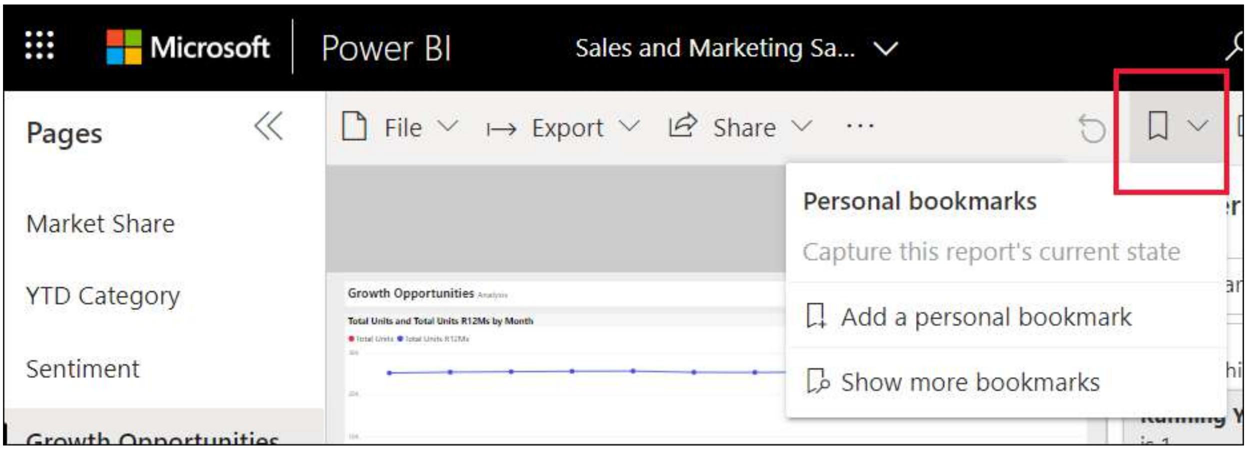
Use *personal bookmarks* to save insights and build stories in Power BI

There are many uses for personal bookmarks. Say you discover an interesting insight and want to preserve it -- create a personal bookmark so you can return later. 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 bookmarks, arrange them in the order you want, and subsequently step through each bookmark in a presentation to highlight a series of insights that tell a story. This works like a slideshow, where you click an arrow to go forward or backward. There is a limit of 20 personal bookmarks per report.

Open the Bookmarks pane

Open the **Bookmarks** pane by selecting the icon and choosing either **Add a personal bookmark** or **Show more bookmarks**.



Share changes

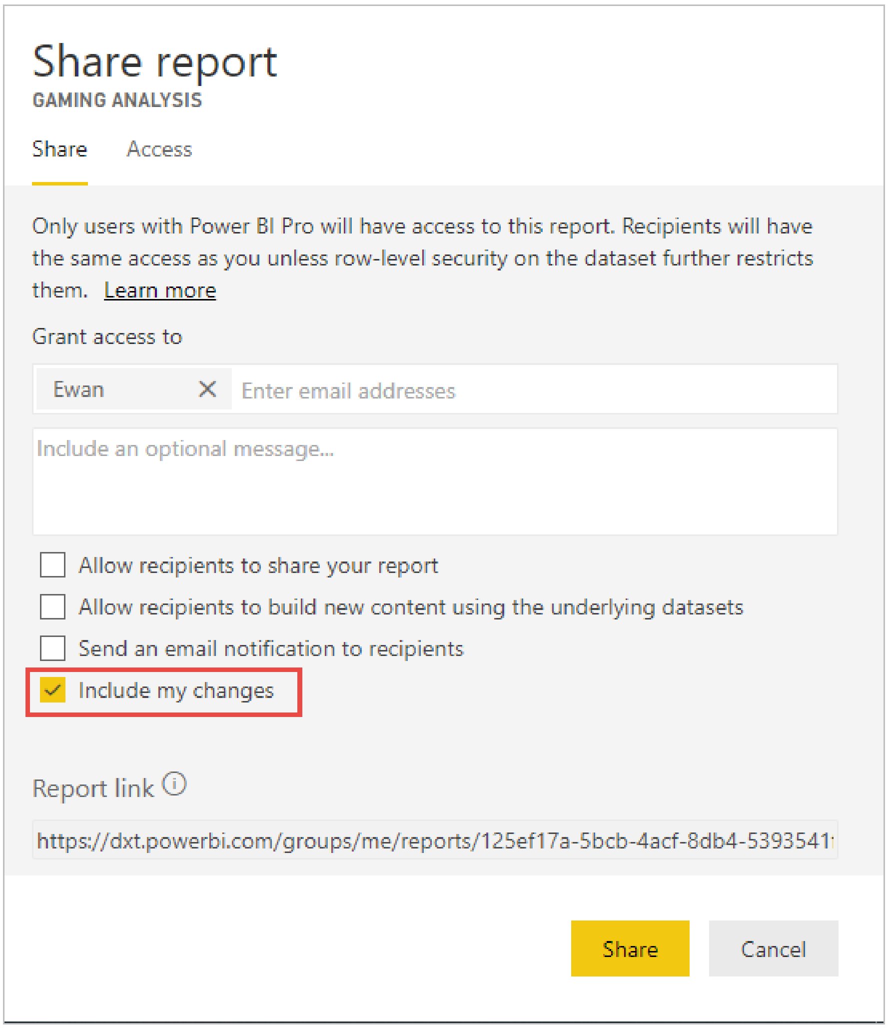
While you can't share your actual personal bookmarks with others, you can select a personal bookmark and save the report with that bookmarked view active. When colleagues who also have read access to the report open that report, they see the view you selected. This personalized view of the report does not 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 are unable to share your view of the report, contact the report owner to request reshare permission.

If you do have reshare permissions, when you share the report you can choose to include your changes.

- If you have a personal bookmark active when you share your report, recipients will see the bookmarked version of that report page but will not see your bookmark listed under their "Personal bookmarks" list. So, they'll see the result of your personal bookmark. For example, if your bookmark filters the report page to show data for the year 2020.
- Similar to the method above, with a personal bookmark active, you can share in Microsoft Teams. Select **Chat in Teams** from the top menu. In the **Chat in Teams** dialog, provide the name of the Team or Channel that you with to share to, then select **Share**. Or, from the **Chat in Teams** dialog, copy the generated URL and share that. For more information, see Share personal bookmarks in Teams chat.
- With a personal bookmark active, use the comment feature. When you add a comment, the Power BI service saves the current view and that is the view other users will see when they select the comment. For more information, see Add comments to dashboards and reports
- If you then change your personal bookmark, it has no effect on your recipients' view of that report page. For example, if you select a different personal bookmark that shows data for the year 2021, your view of the report will change. However, your recipients will still see the version your shared, showing 2020.

When a personal bookmark is on you can use the comment feature on the Power BI service. Add a comment. This comment will save the view with another user when they click on the comment.

> **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.



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

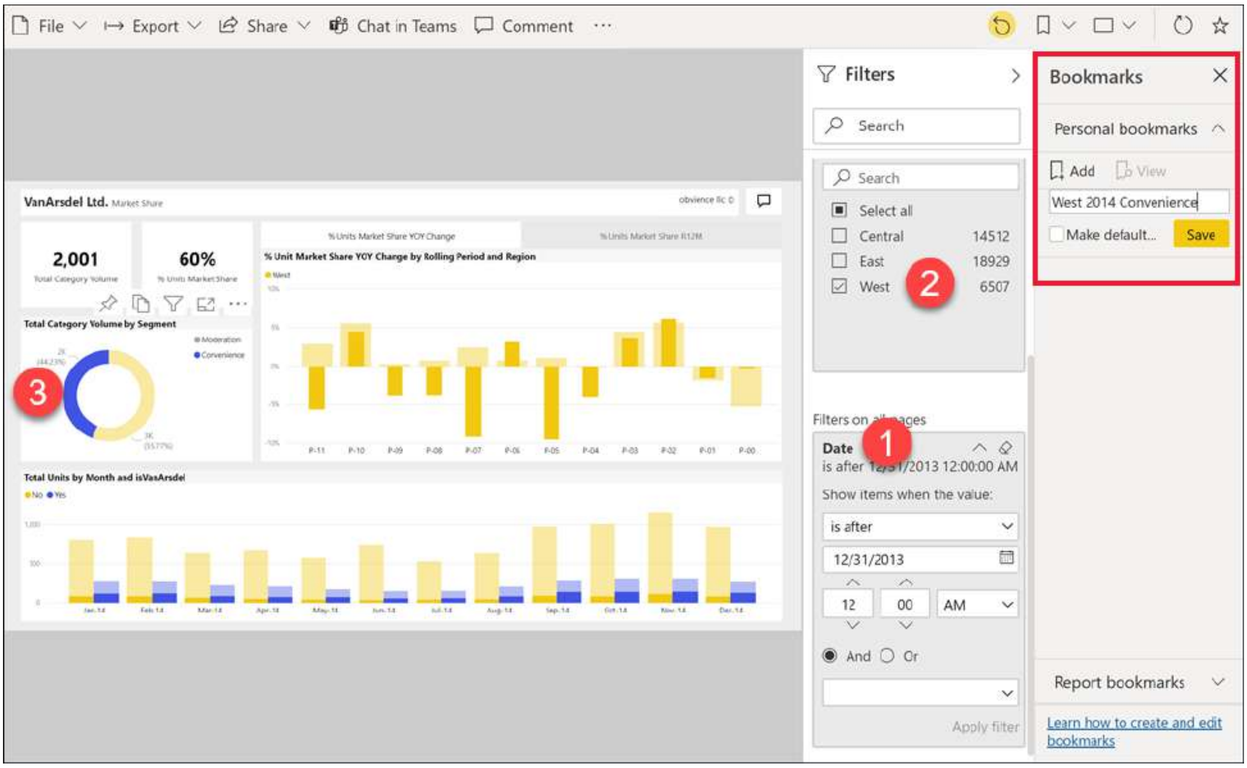
If you have access to the **Selection** pane, you can also set and save:

- Visibility (of an object, using the **Selection** pane)
- The focus or **Spotlight** modes of any visible object

Create two bookmarks

Configure a report page the way you want it to appear in the bookmark. In this example:

1. We've changed the existing Date filter on the **Filters** pane,
2. changed the existing Regions filter on the **Filters** pane to **West**, and
3. selected a data point on the doughnut chart visual to cross-filter and cross-highlight the report canvas.

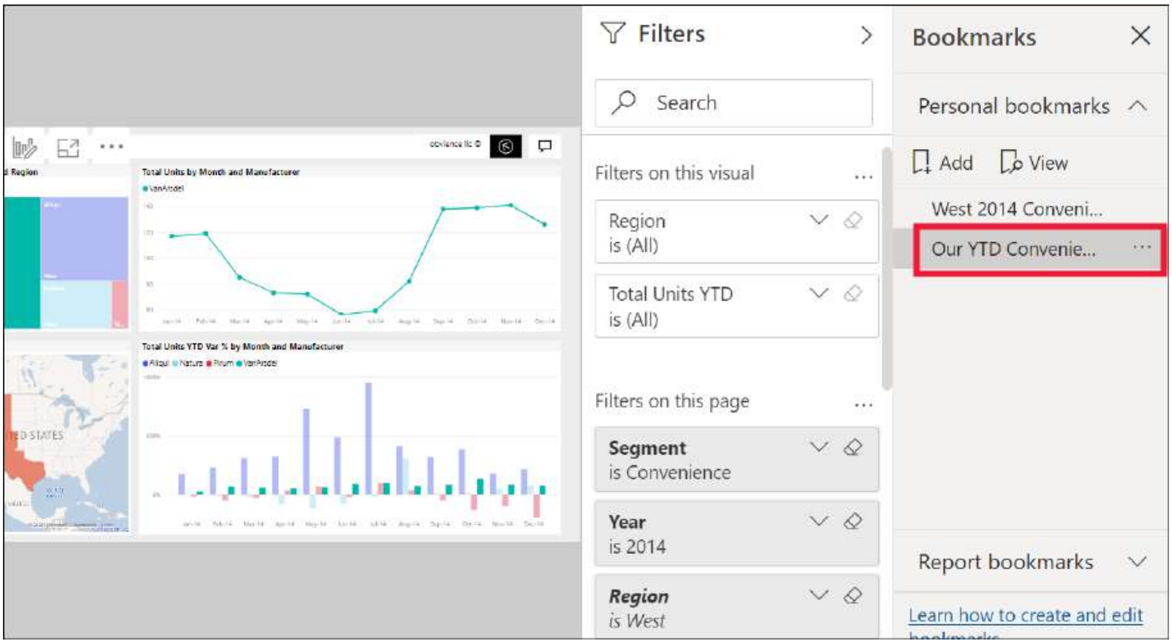


1. Once your report page and visuals are arranged how you want them, from the **Bookmarks** pane, select **Personal bookmarks** > **Add**.

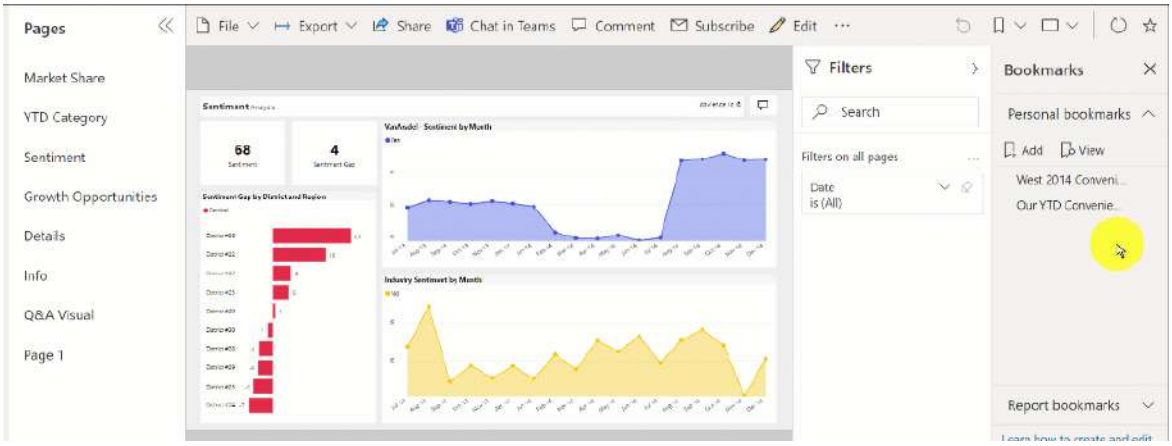
2. Power BI creates a personal bookmark and gives it a generic name or a name you enter. You can *rename*, *delete*, or *update* your bookmark by selecting the ellipses next to the bookmark's name, then selecting an action from the menu that appears.

3. Select **Save**.

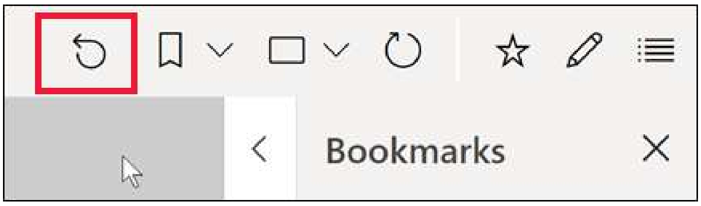
4. Open the **YTD Category** page of your report and create another personal bookmark. This bookmark captures YTD information for just our company, VanArsdel.



5. Now that you have two bookmarks, switch between them by selecting the bookmark in the **Bookmarks** pane.

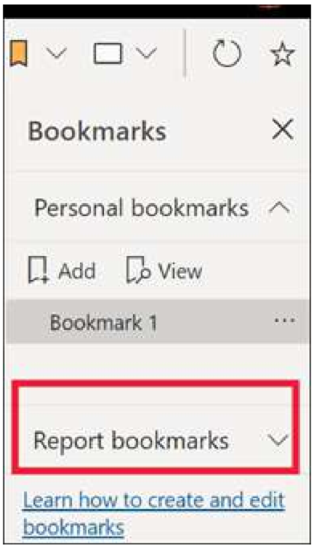


6. To return to the original published view of the report, select the **reset** icon.



Open *report* bookmarks

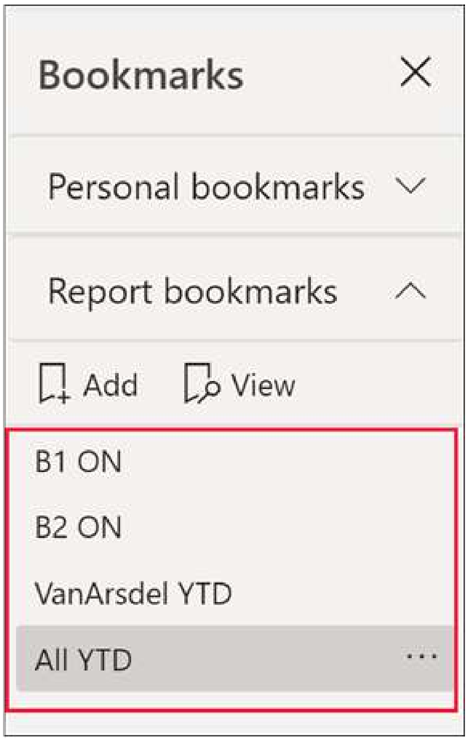
To view the report bookmarks created by the report *designer*, from the **Bookmarks** pane, select **Report bookmarks**.



> **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 reserved capacity. To learn more, see Licensing.

Report bookmarks

If the report *designer* included report bookmarks, you'll find them under the **Report bookmarks** heading. This report page has four bookmarks: B1, B2, VanArsdel YTD, and All YTD. **All YTD** is currently selected.



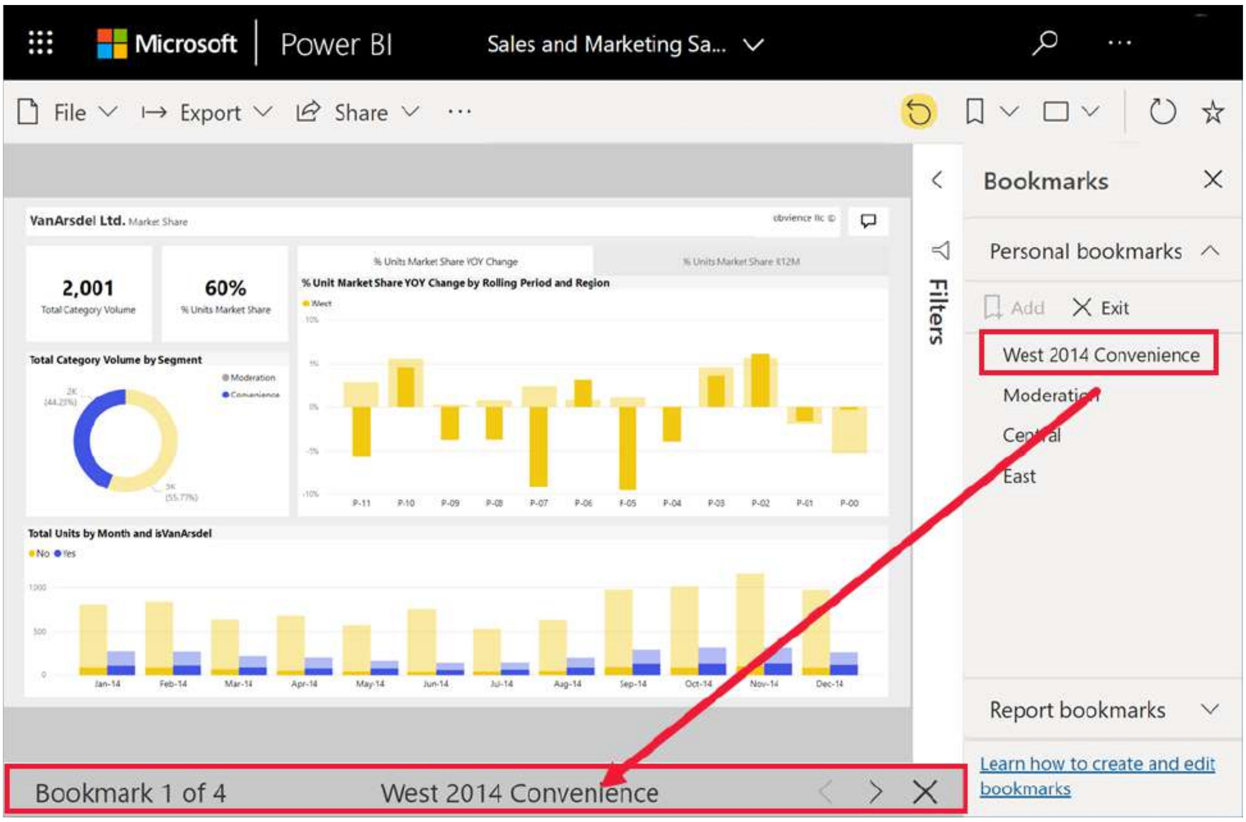
Select a bookmark to change to that report view.

Bookmarks as a slide show

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

When in **View** mode, there are a few features to notice:

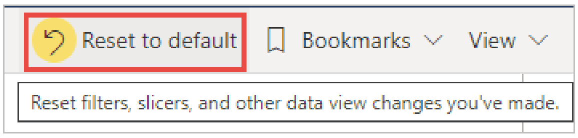
- The name of the bookmark appears in the bookmark title bar, which appears at the bottom of the canvas.
- The bookmark title bar has arrows that let you move to the next or previous bookmark.
- You can exit **View** mode by selecting **Exit** from the **Bookmarks** pane or by selecting the **X** found in the bookmark title bar.



When you're in **View** mode, you can close the **Bookmarks** pane (by clicking the X on that pane) to provide more space for your presentation. And, while in **View** mode, all visuals are interactive and available for cross-highlighting, just as they would otherwise be when interacting with them.

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 designer's last saved view of the report.



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 is not possible. For example, if the report owner changes the name of a field that is used by the bookmark, Power BI will no longer be able to 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 will not be 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, then you will receive an error message the next time you attempt to open that bookmark.
- This feature is supported in the Power BI mobile apps for iOS and Android tablets and in the Power BI Windows app; it is not 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.
- Because personal bookmarks capture the exploration state of the current page, personal bookmarks won'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 will only capture the slicer change on the current page.

Next steps

Personalize visuals in a report

Add spotlights to Power BI reports

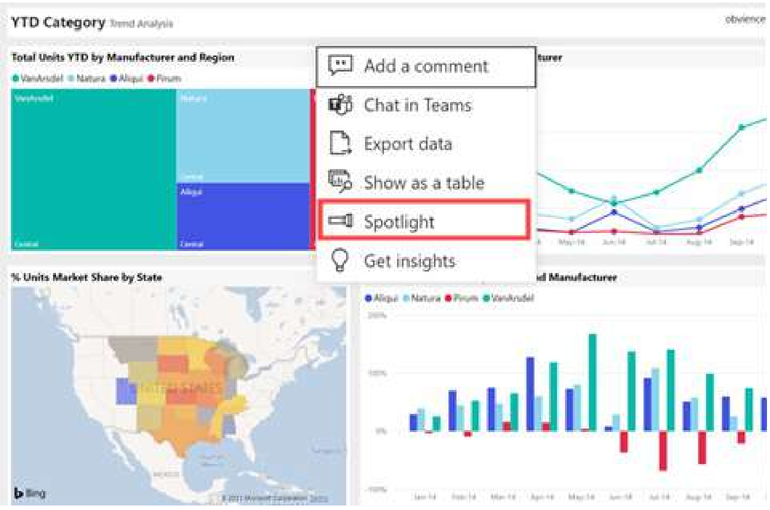
12/15/2022 • 2 minutes to read • Edit Online

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 actions (...)** dropdown.



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

Next steps

- Display a dashboard tile or report visual in focus mode

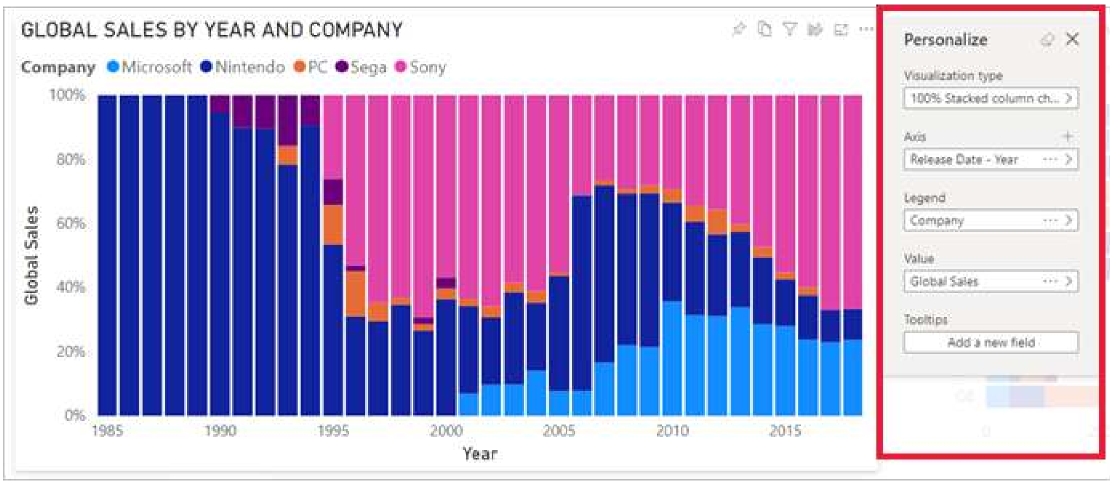
Personalize visuals in a report

12/15/2022 • 4 minutes to read • Edit Online

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 may 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. Here 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, etc.

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 has not enabled 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.

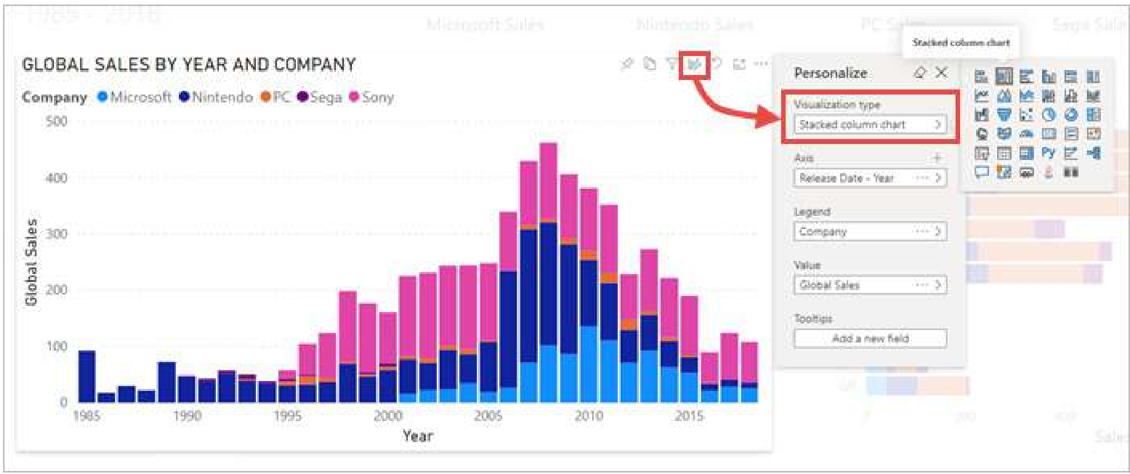
Personalize visuals in the Power BI service

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.

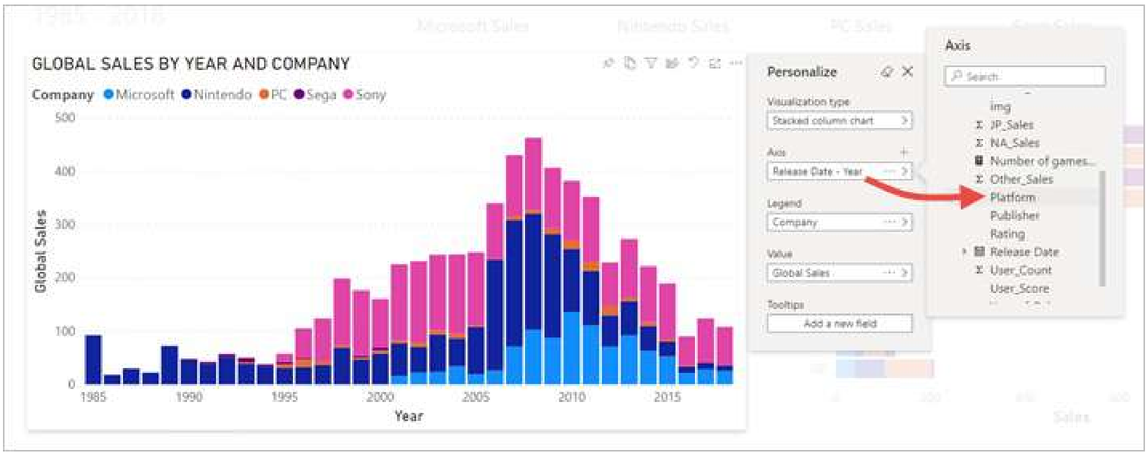
Change the visualization type

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



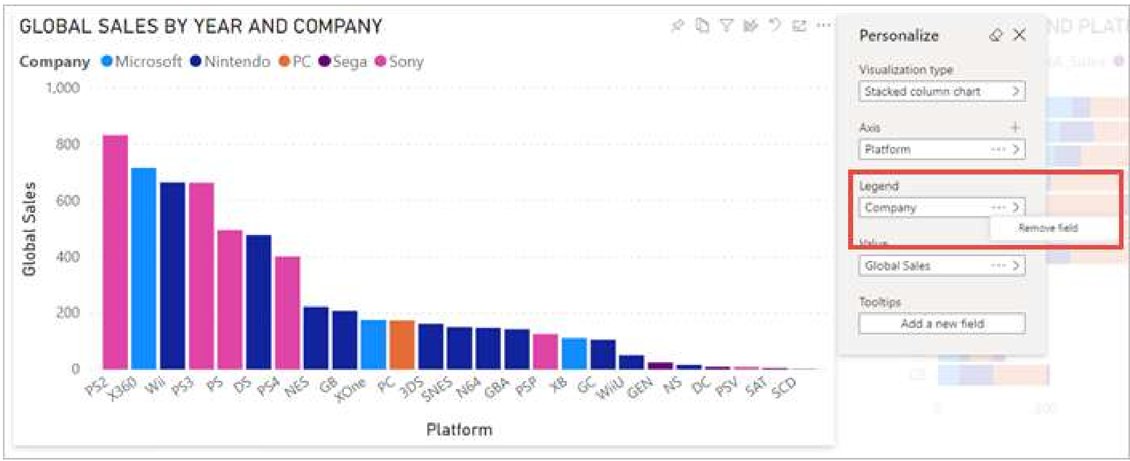
Swap out a measure or dimension

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



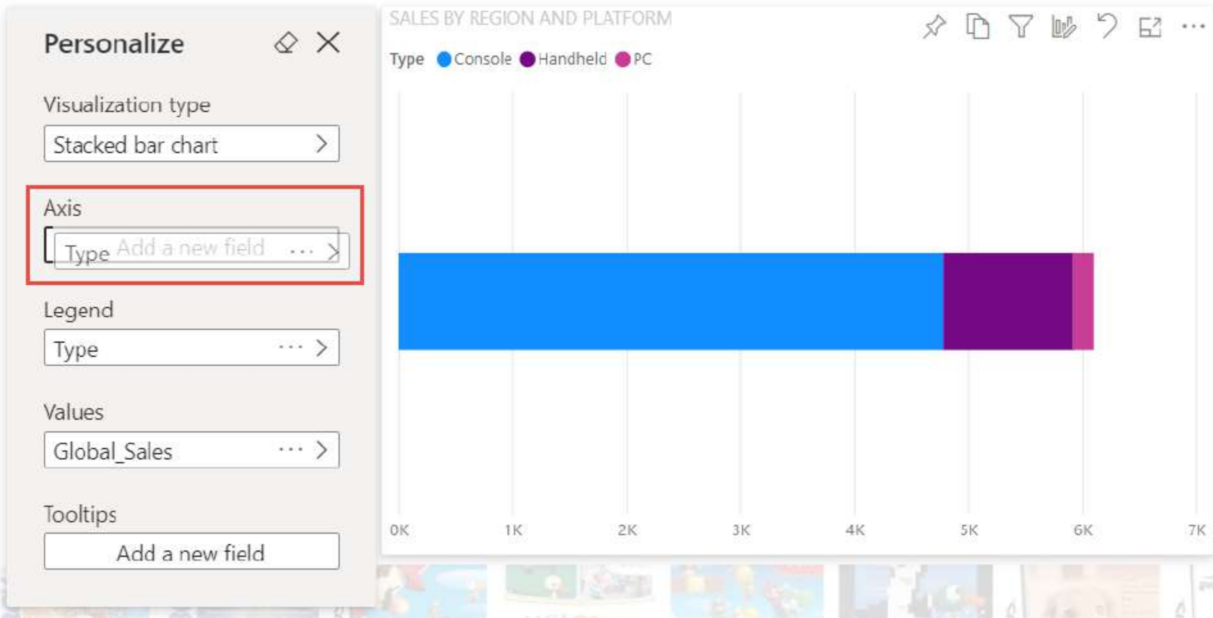
Add or remove a legend

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.

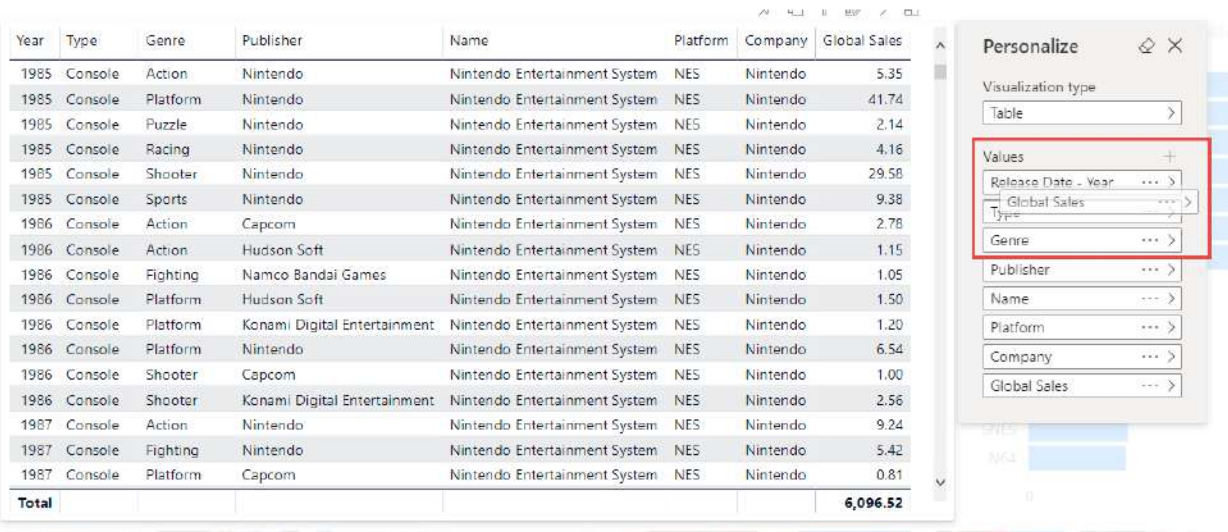


Change the placement of fields

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.



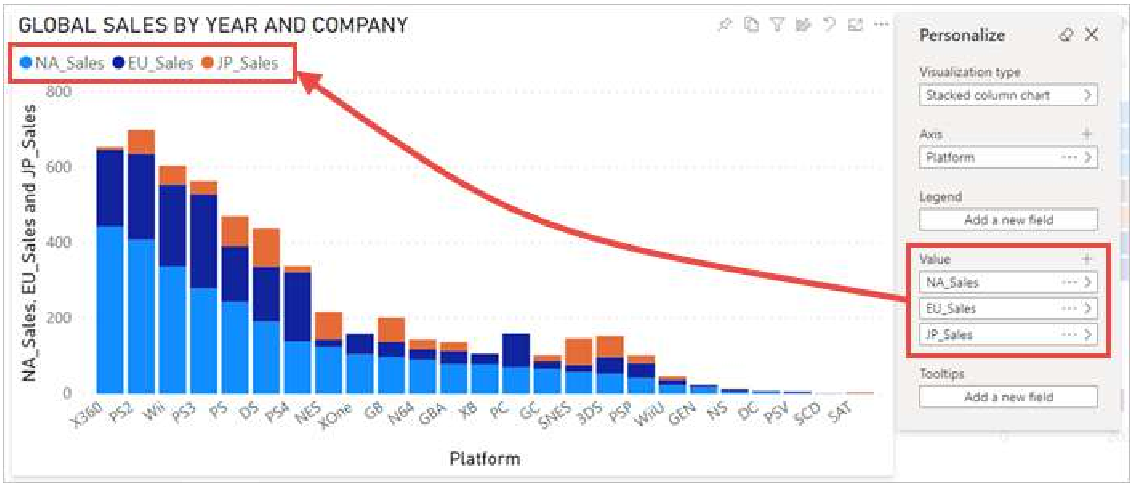
You can also quickly reorder the columns of a table or matrix.



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**

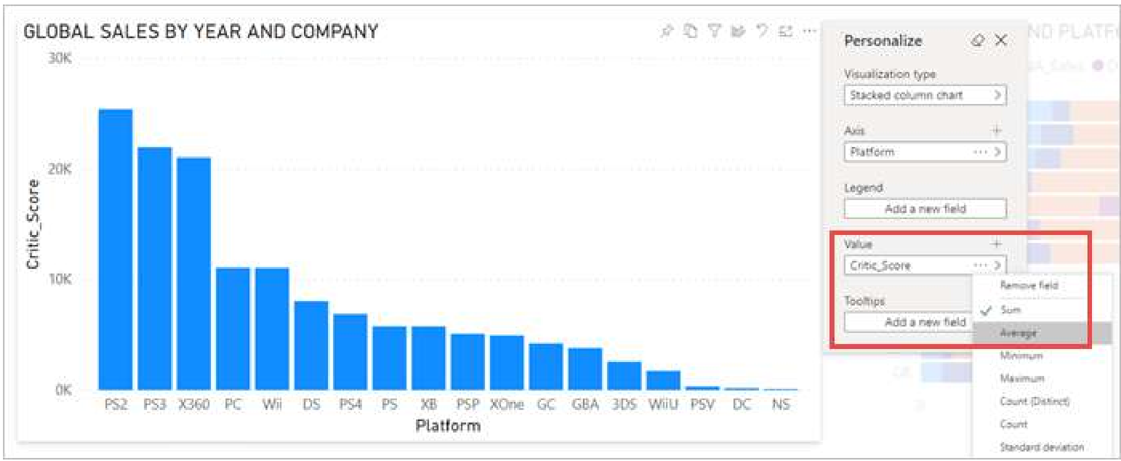
Compare two or more different measures

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**.



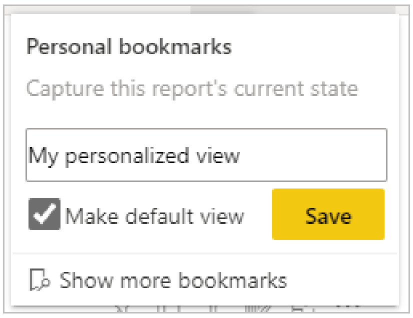
Change aggregations

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

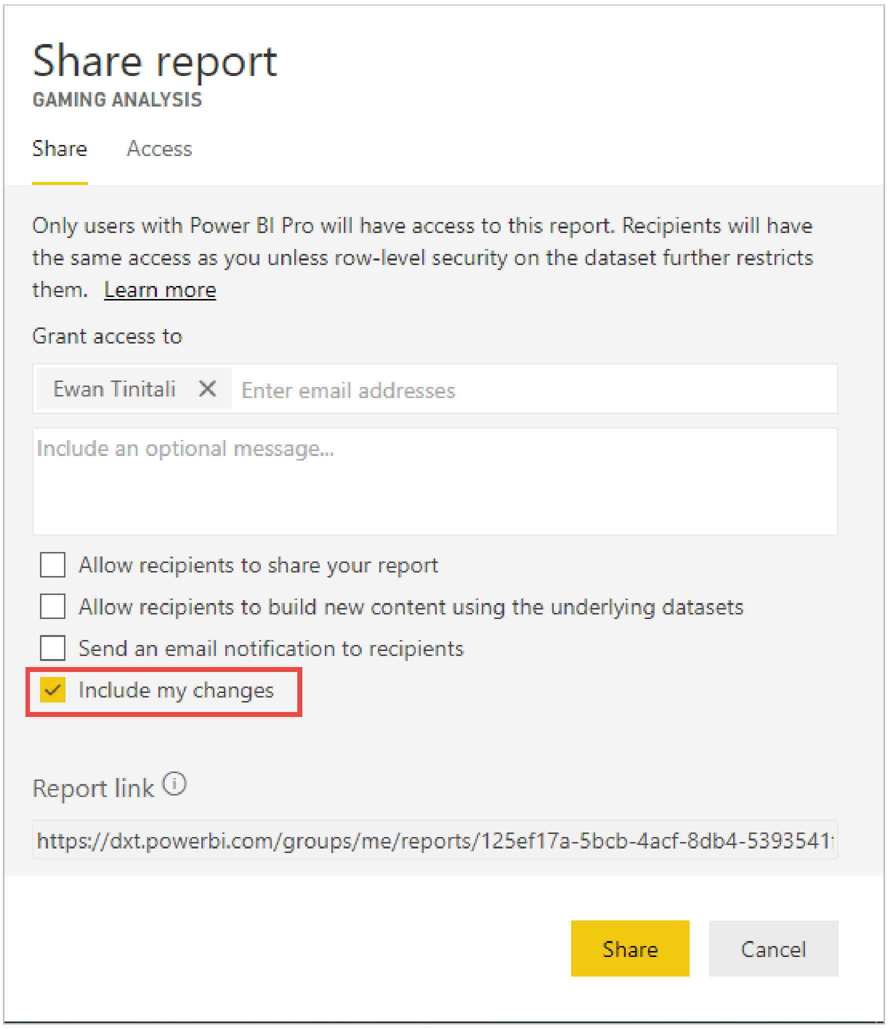
Using personal bookmarks, capture your changes so you can return to your personalized view. Select **Bookmarks** > **Personal bookmarks** and give the bookmark a name.



You can also make the bookmark your default view.

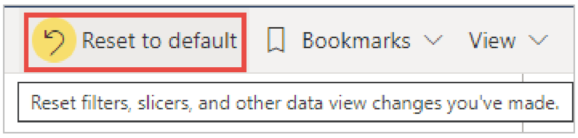
Share changes

If you have read and reshare 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.



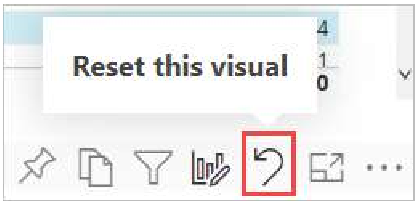
Reset all your changes to a report

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.



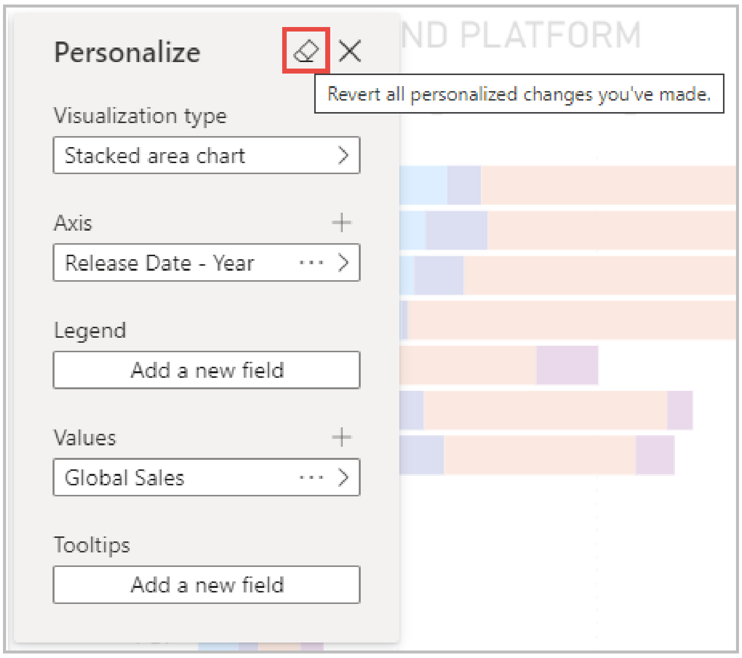
Reset all your changes to a visual

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 recent changes you've made 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 is not 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 a report visual as a static image

More questions? Try the Power BI Community

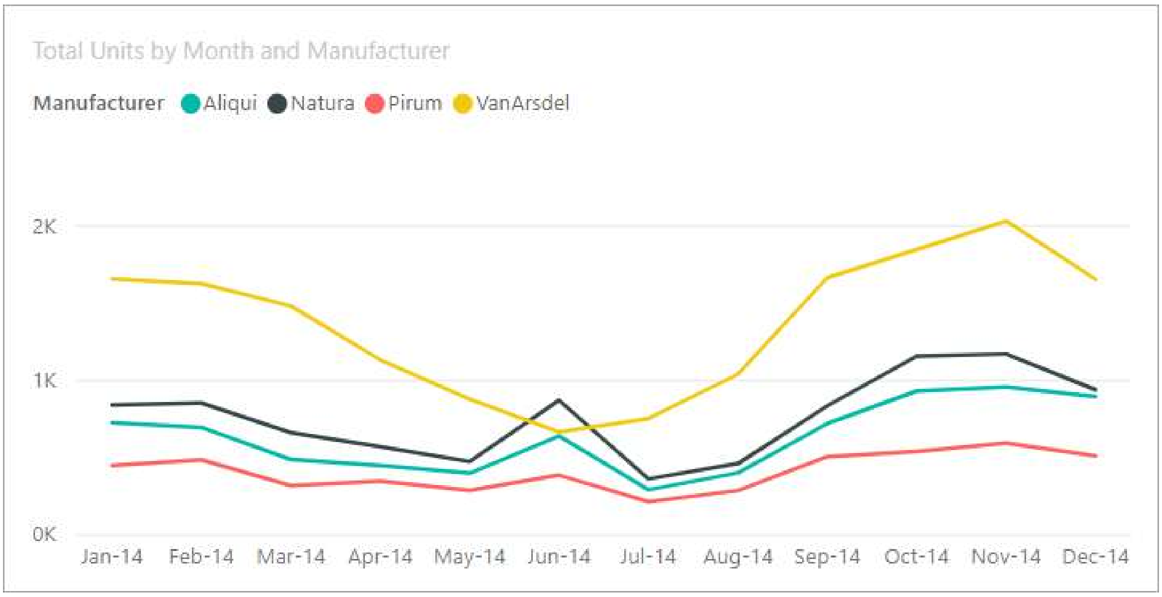
Use the Analyze feature to explain fluctuations in report visuals

12/15/2022 • 5 minutes to read • Edit Online

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

Often in report visuals, you see a large increase and then a sharp drop in values, and wonder about the cause of such fluctuations. With **Analyze** in **the Power BI service**, you can learn the cause with just a few clicks.

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, to 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, and select **Analyze > Explain the decrease** (or increase, if the previous bar was lower), or **Analyze > Find where this distribution is different** and the insight is delivered to you 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

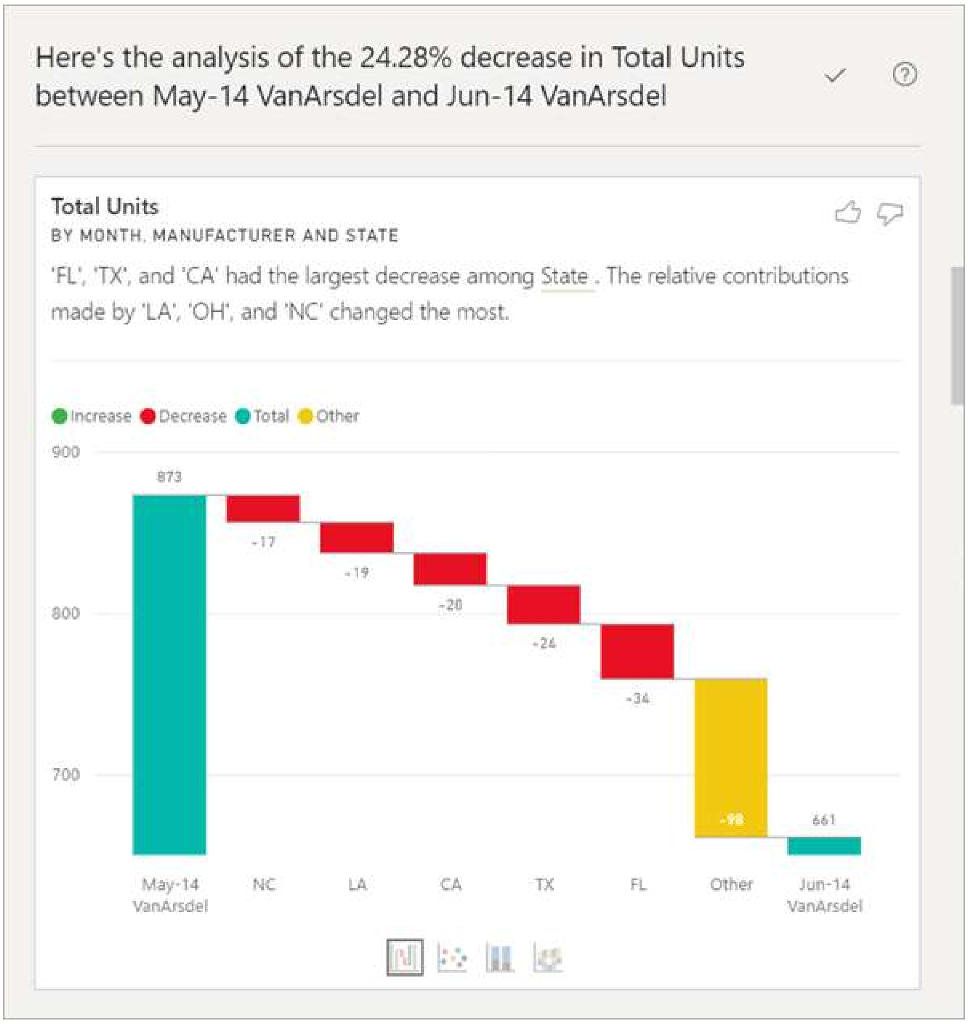
After examining different columns, Power BI selects and displays those factors that show the biggest change to relative contribution. For each, the values which had the most significant change to contribution are called out in the description. In addition, the values that had the largest actual increases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

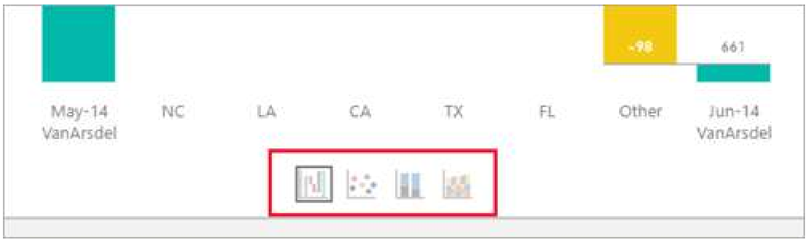
Using insights

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 the 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 that describes which categories most influenced the increase or decrease or difference. For this example, the first insight is a waterfall chart.



By selecting the small icons at the bottom of the waterfall visual, you can choose to have insights display a scatter chart, stacked column chart, or a 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.

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

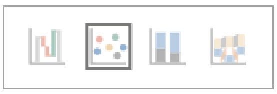
Details of the results returned

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

The algorithm can be thought of as taking all the other columns in the model, and calculating the breakdown by that column for the *before* and *after* time periods, determining how much change occurred in that breakdown, and then returning those columns with the biggest change. For example, *State* was selected in the waterfall insight above, as the contribution made by Louisiana, Texas, and Colorado fell 13% to 19% from June to July, and contributed the most to the decrease in *Total units*.

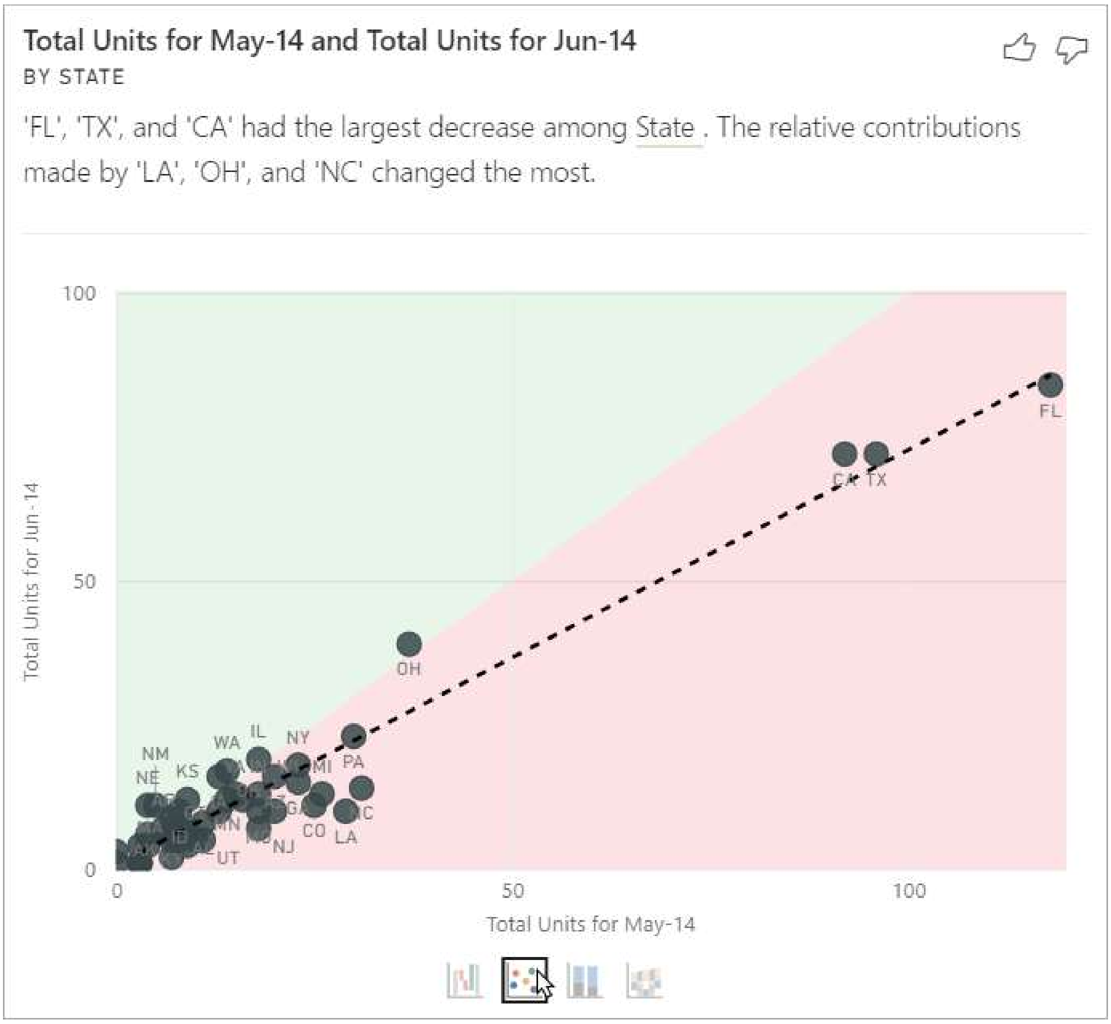
For each insight returned, there are four visuals that can be displayed. Three of those visuals are intended to highlight the change in contribution between the two periods. For example, for the explanation of the increase from *Qtr 2* to *Qtr 3*. The ribbon chart shows change both before and after the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

The scatter plot



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

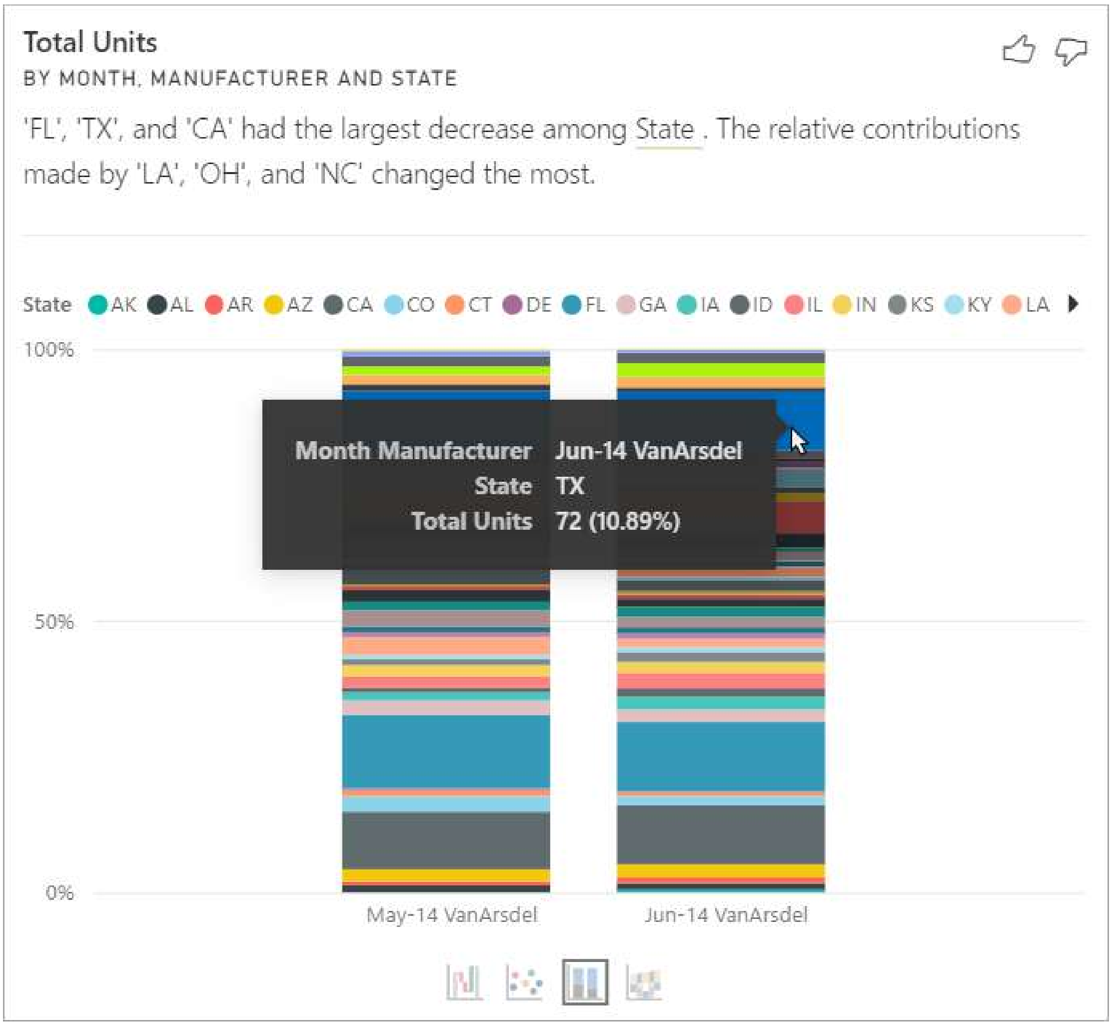
The dotted line shows the best fit, and data points above this line increased by more than the overall trend, and those below it by less.



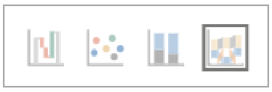
Data items whose value was blank in either period will not appear on the scatter plot.

The 100% stacked column chart

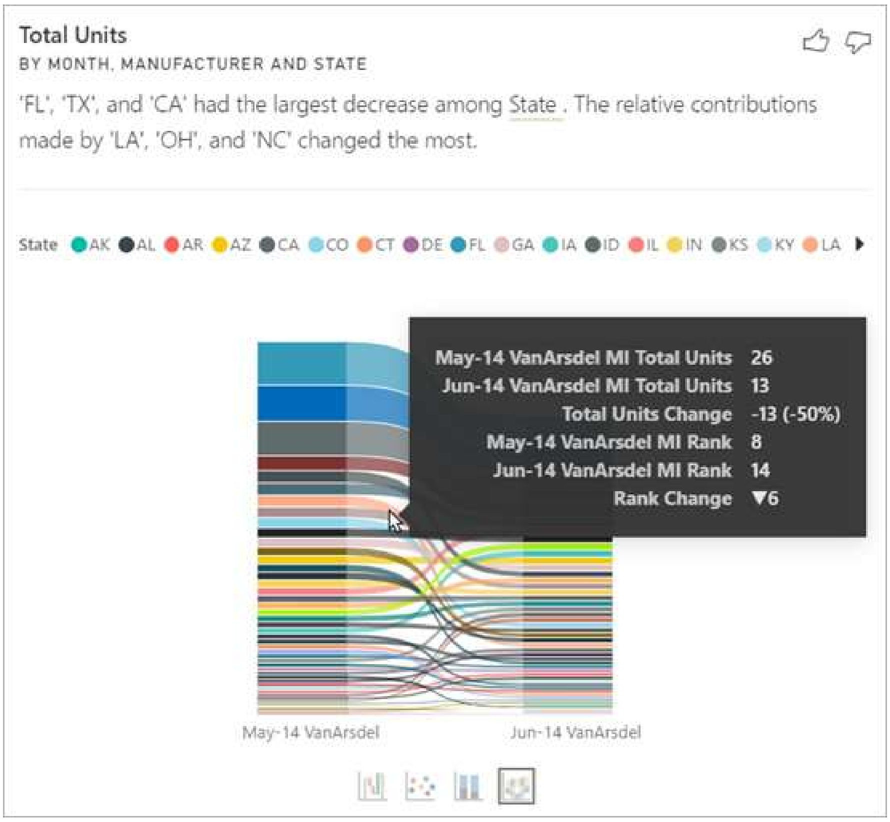
The 100% stacked column chart visual shows the value of the contribution to the total (100%), for the selected data point and the previous. This allows side-by-side comparison of the contribution for each data point. In this example, the tooltips show the actual contribution for the selected value of Texas. Because the list of states is long, tooltips help you see the details. By using the tooltips, we 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.



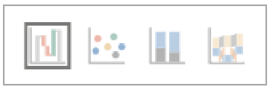
The ribbon chart



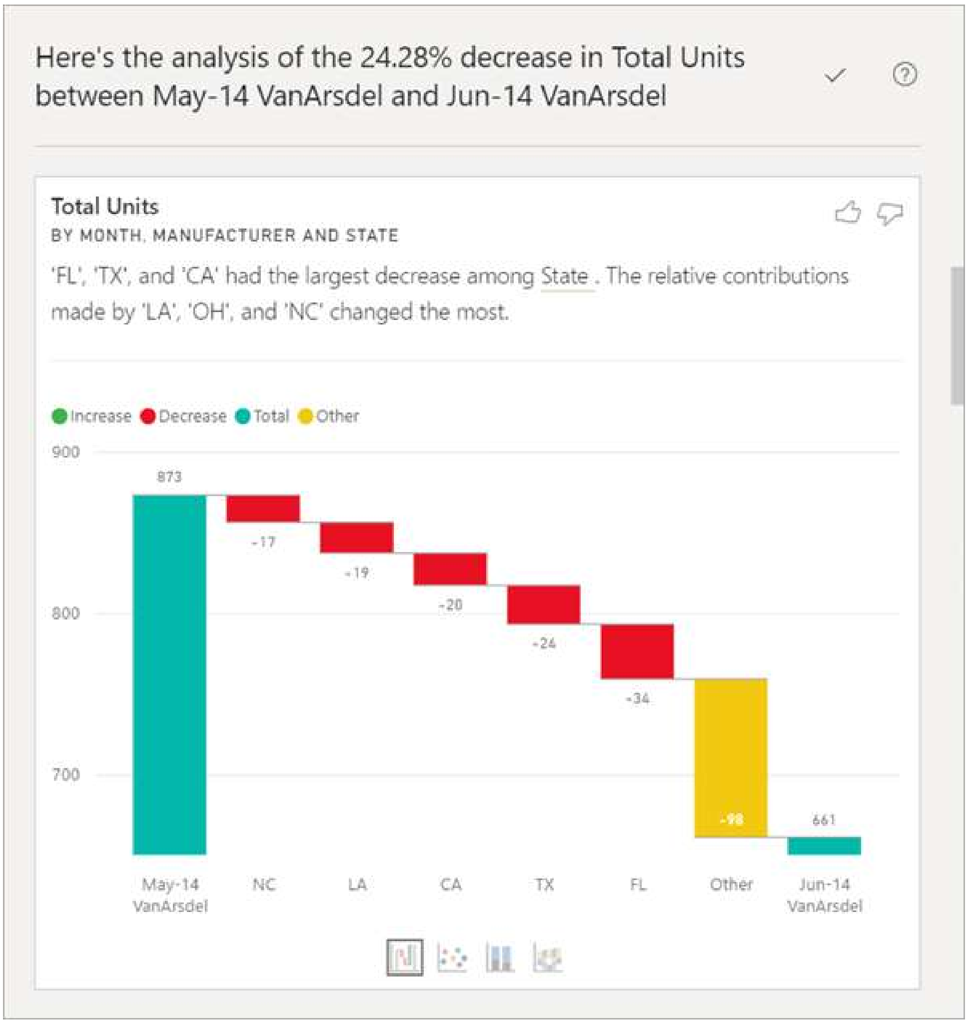
The ribbon chart visual shows the value of the measure before and after. It's particularly useful in showing the changes in contributions when the *ordering* of contributors changed (for example, *LA* dropped from number two contributor to number eleven). And, though *TX* is represented by a wide ribbon 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.



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.



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.

Analyze is not available for all visual types.

The following list is the collection of currently unsupported scenarios for **Analyze - explain the increase/decrease/difference**:

- TopN filters
- Include/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
Scatter charts
Column charts

Paginated reports in the Power BI service

12/15/2022 • 4 minutes to read • Edit Online

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

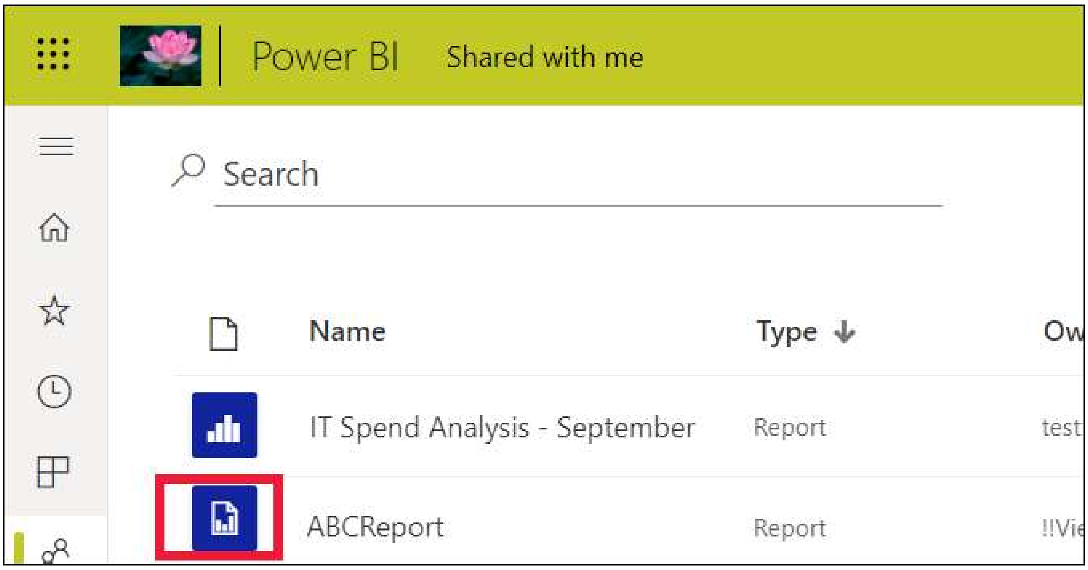
There are two types of reports available on Power BI, Power BI reports and *paginated reports*.

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.



What is a paginated report?

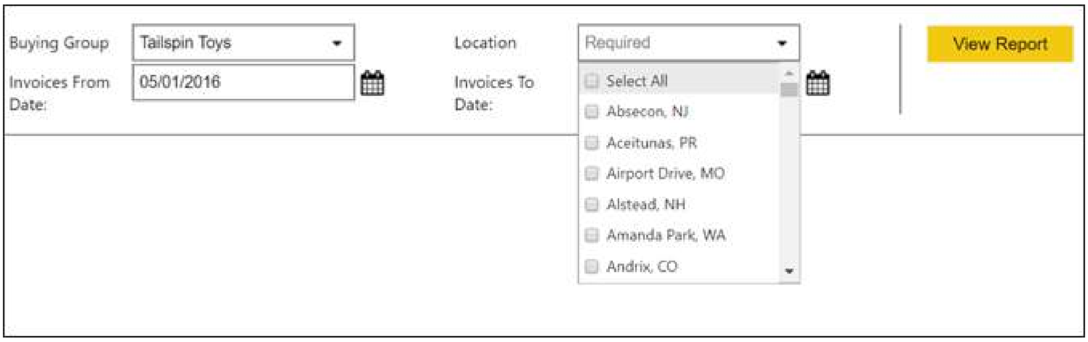
These reports are called *paginated* because they're formatted to fit well on a printed page. One advantage is that they display all the data in a table, even if the table spans multiple pages. Report *designers* can control the report page layout exactly.

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?

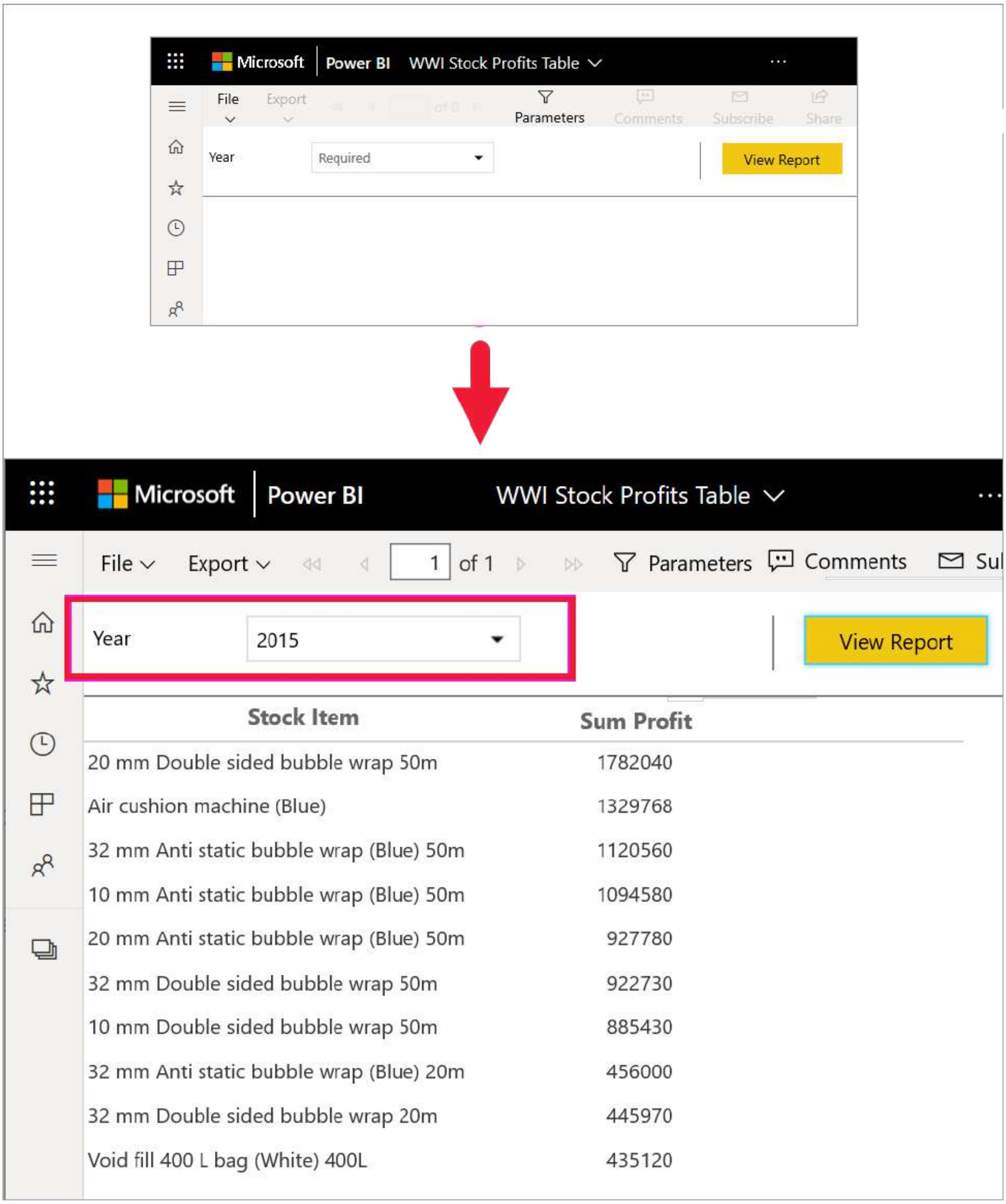
When report *designers* create a paginated report, they're really creating a *report definition*. It doesn't contain the data. It specifies where to get the data, which data to get, and how to display the data. When you run the report, the report processor takes the report definition, retrieves the data, 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 may use paginated reports to create or print invoices. If you're a sales manager, you may 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.



Compared to paginated reports, Power BI reports are much more interactive. Power BI reports allow for ad hoc reporting, and support many more types of visuals, including custom visuals.

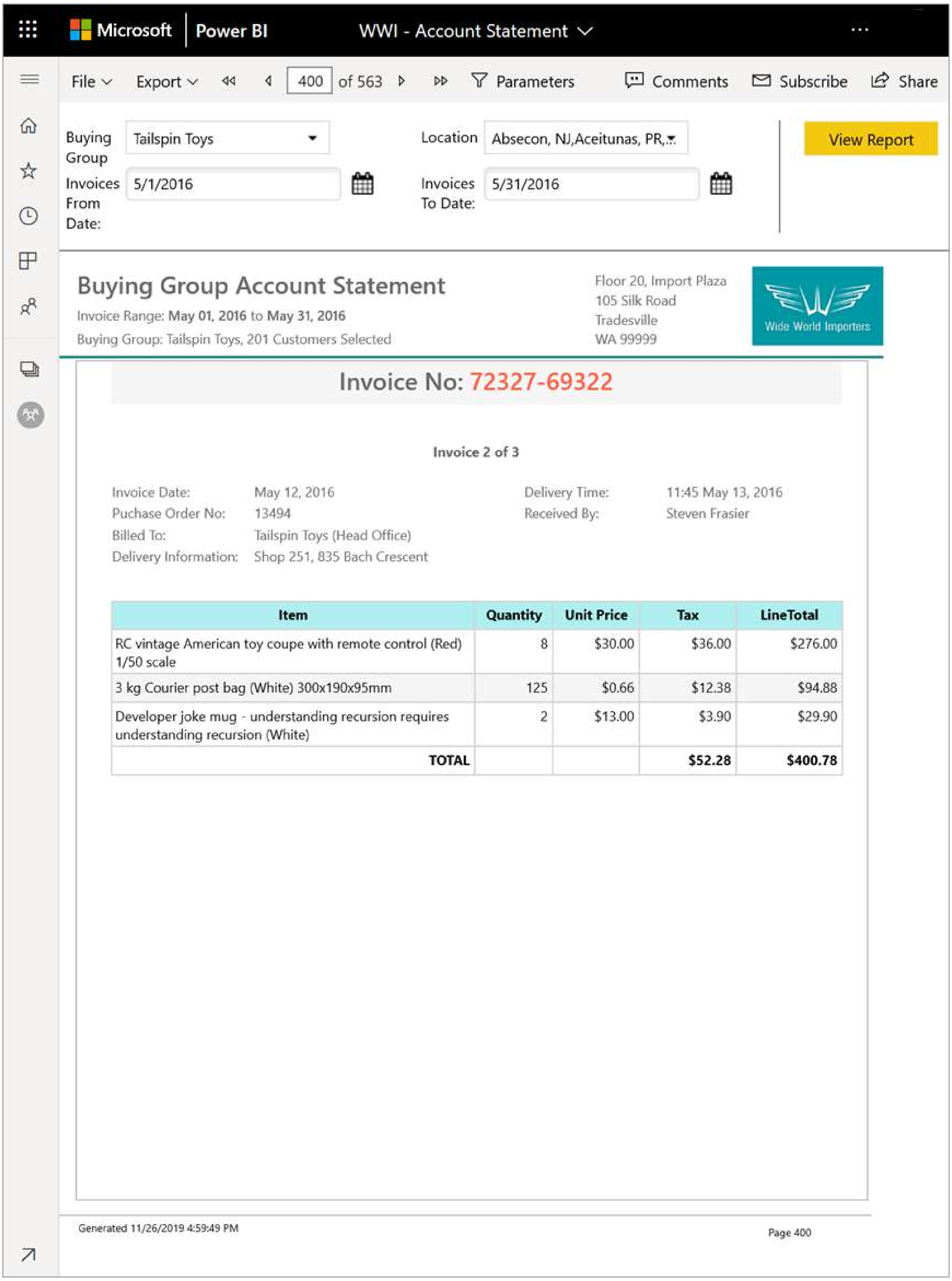
Interact with a paginated report

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

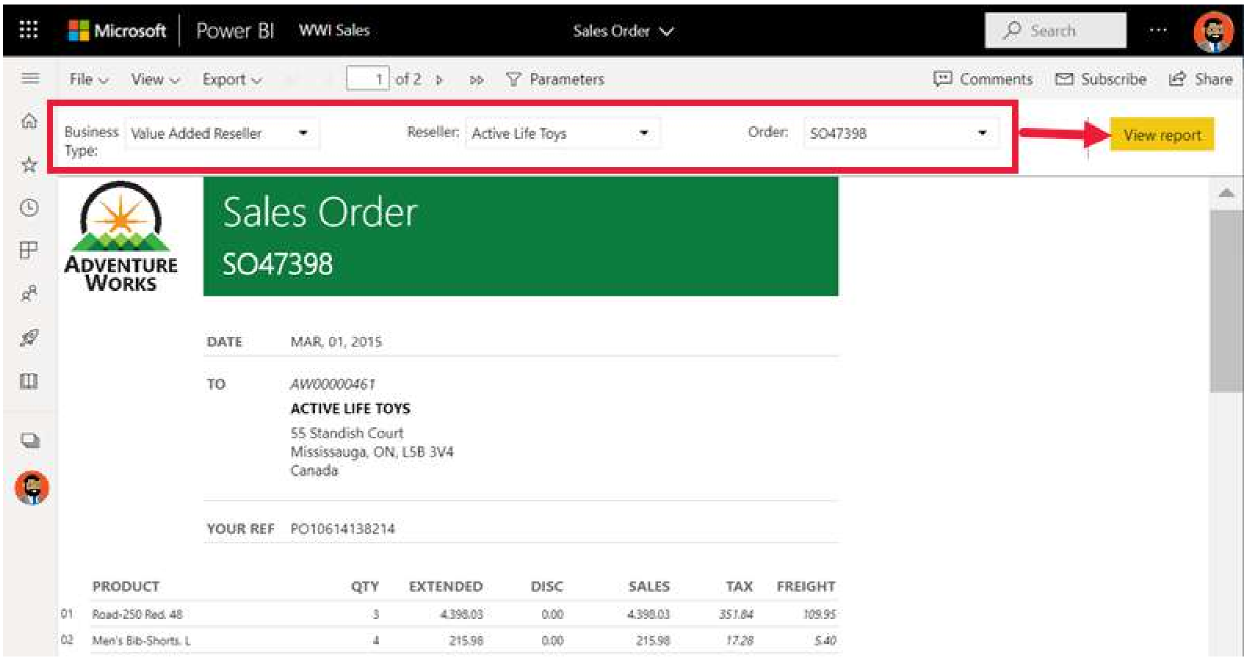
Paginated reports are formatted to fit well on a page and to print well. What you see in the browser is what you see when you print. Plus, if the report has a long table, the entire table prints, even if it spans multiple pages.

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.

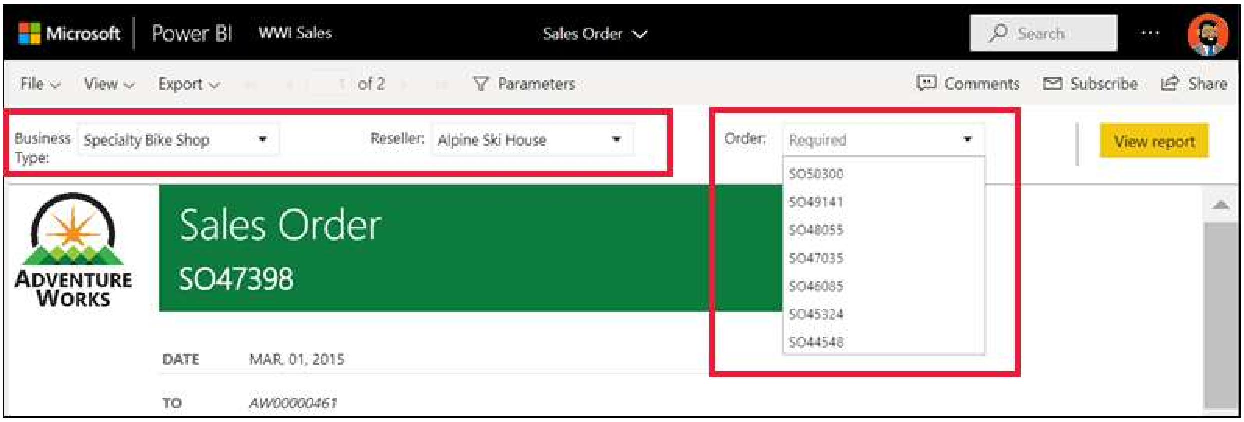


Navigate the paginated report

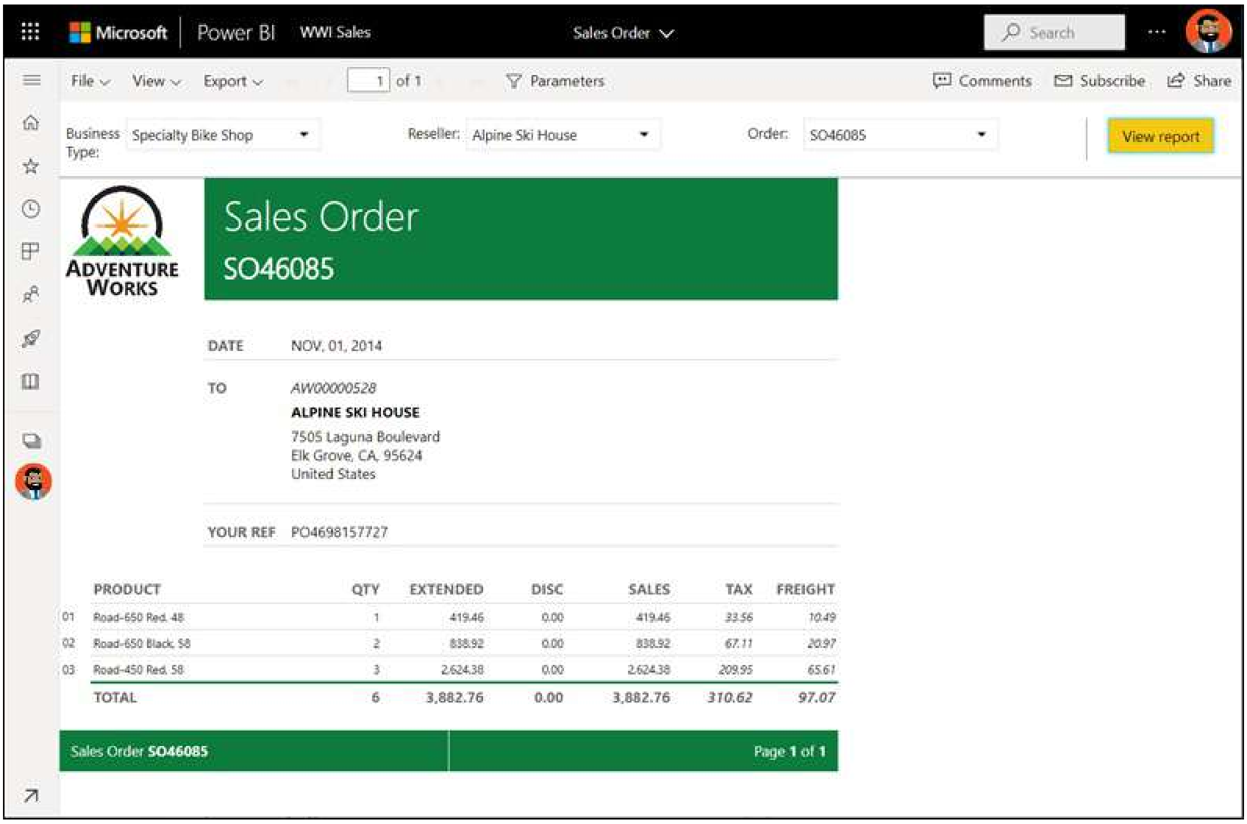
In this sales order report, there are three parameters: Business type, Reseller, and Order number.



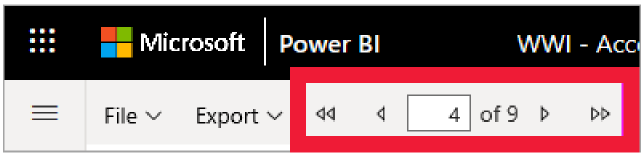
To change the information being displayed, enter new values for the three parameters and select **View report**. Here, we've selected **Specialty bike shop**, **Alpine Ski House**, and order number **SO46085**. Selecting **View report** refreshes our report canvas with this new sales order.



The new sales order displays, using the parameters we selected.

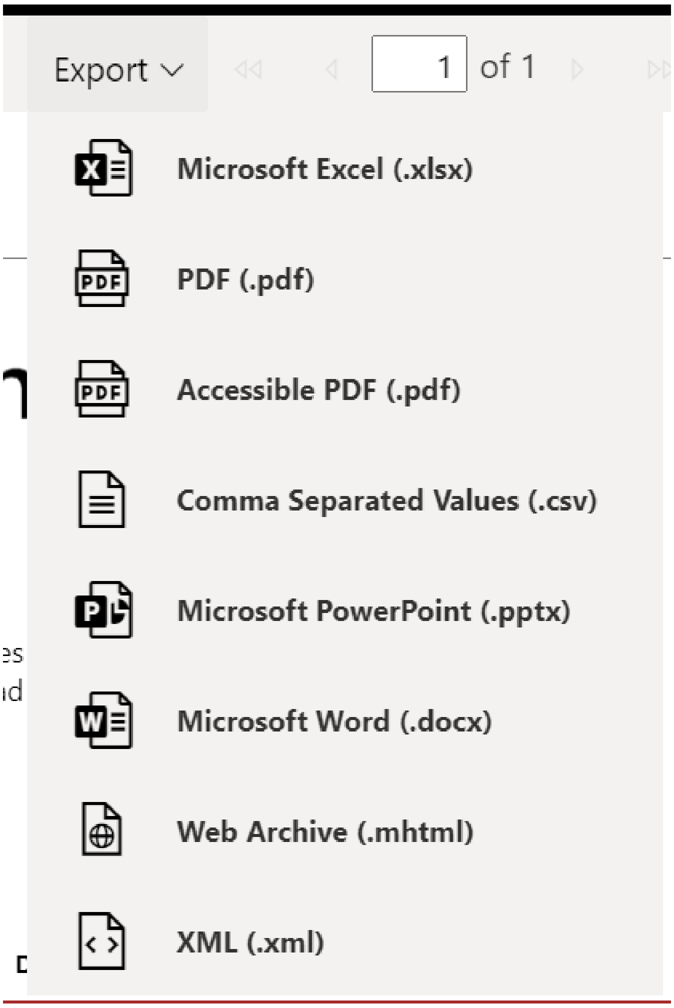


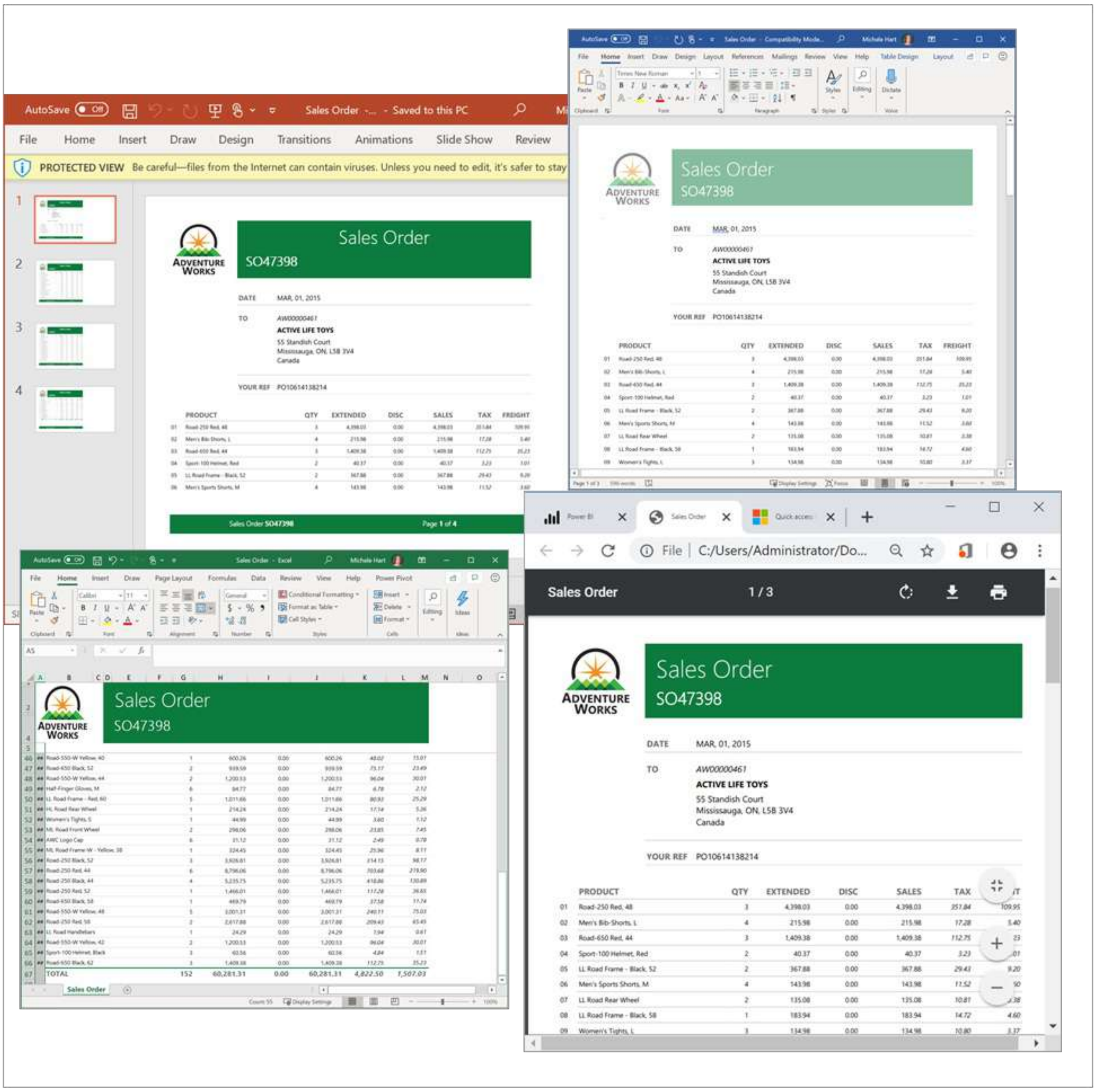
Some paginated reports have many pages. Use the page controls to navigate through the report.



Export the paginated report

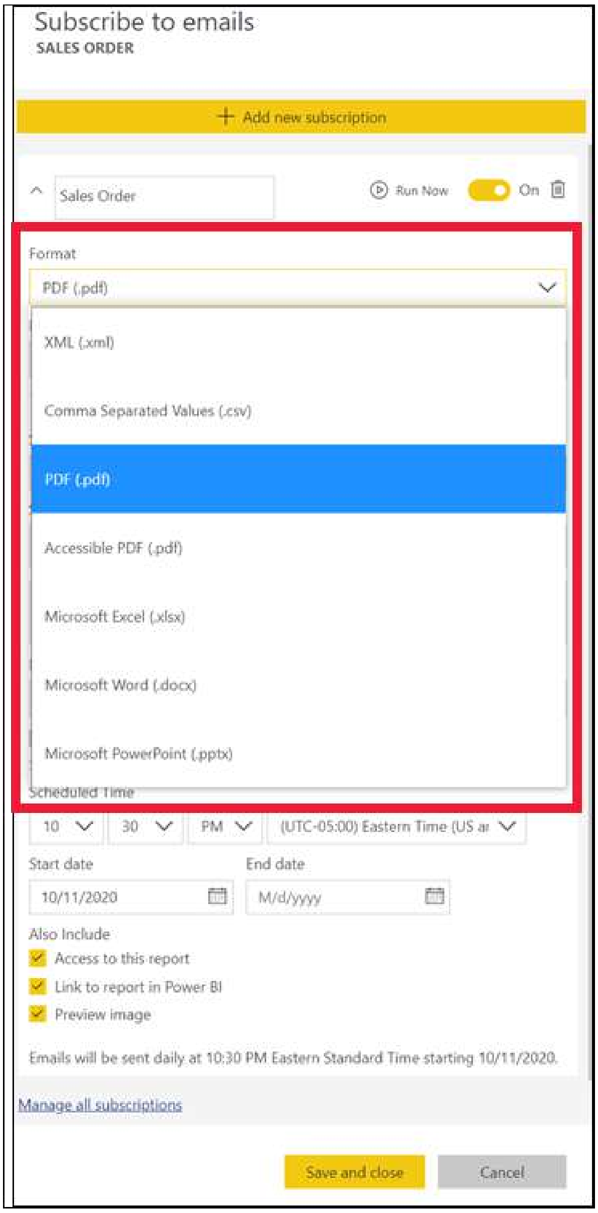
You have a variety of options for exporting paginated reports, including PDF, Word, XML, PowerPoint, Excel, and more. When you export, as much of the formatting as possible is preserved. Paginated reports exported to Excel, Word, PowerPoint, MHTML, and PDF, for example, keep their formatting.


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)



Subscribe to the paginated report

When you subscribe to a paginated report, Power BI sends you an email with the report as an attachment. In setting 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 different attachment types, including Excel, PDF, PowerPoint, and more.



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

12/15/2022 • 2 minutes to read • Edit Online

In this article, you learn about viewing a paginated report to the Power BI service. Paginated reports are reports created in Report Builder and can be uploaded to any workspace.

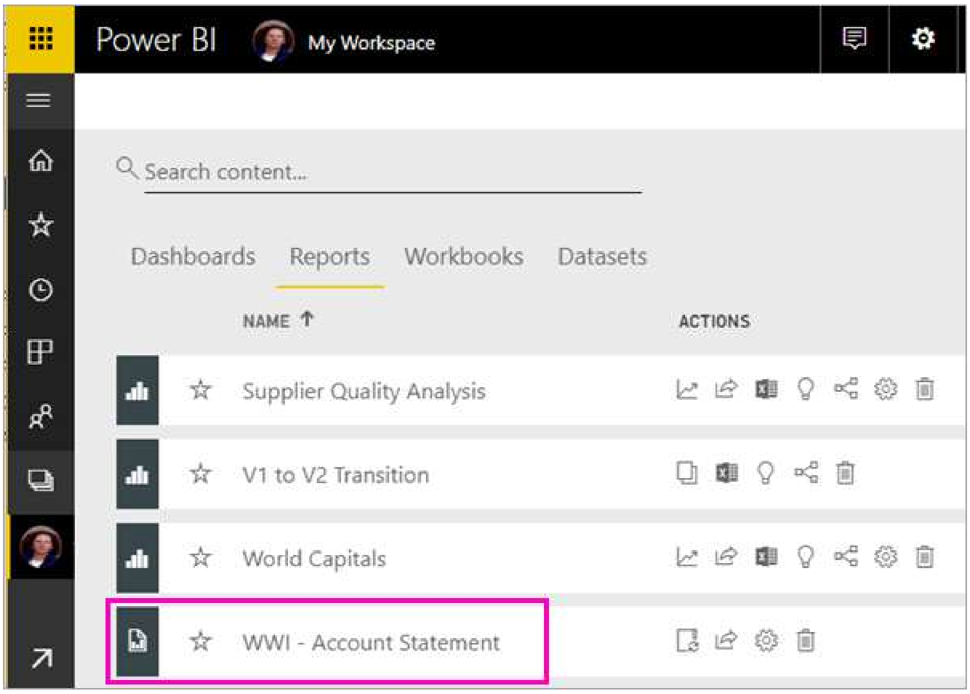
Paginated reports have their own icon .

You can also export paginated reports to a number of formats:

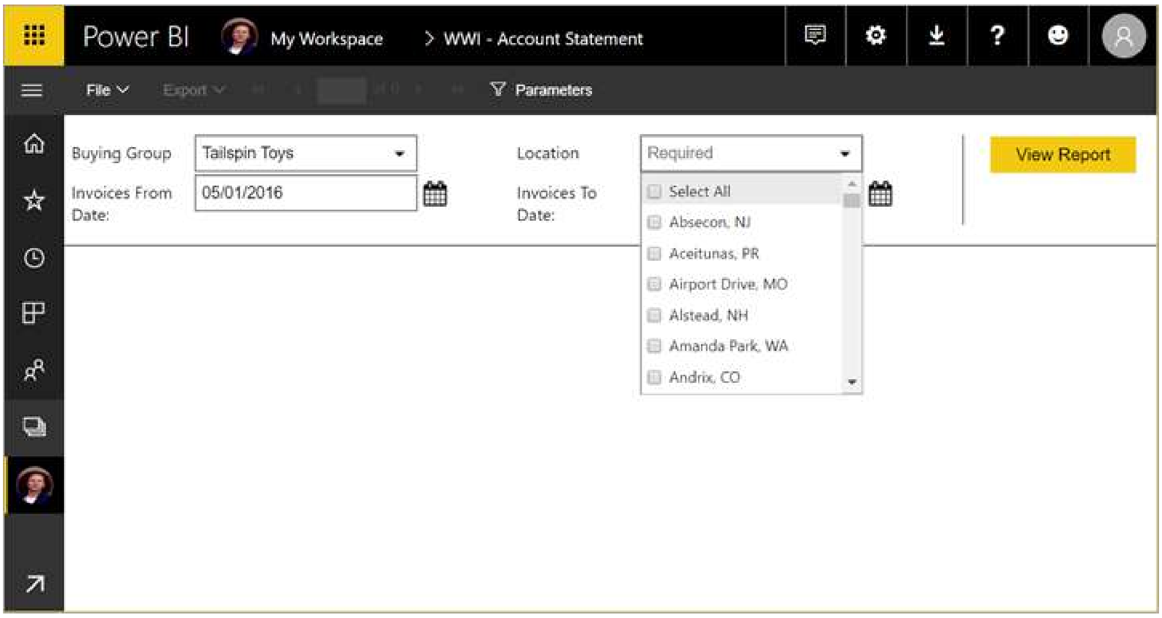
- Microsoft Excel
- Microsoft Word
- Microsoft PowerPoint
- PDF (and Accessible PDF, or PDF/UA)
- Comma-separated values
- XML
- Web archive (.mhtml)

View a paginated report

1. Select the paginated report in the workspace.

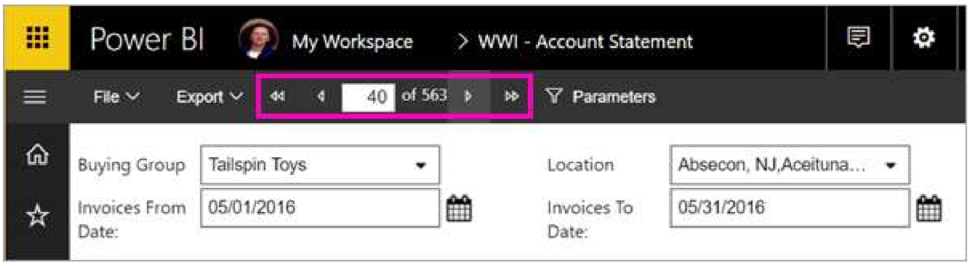


2. If the report has parameters, as this one does, you may not see the report when you first open it. Select parameters, then select **View Report**.

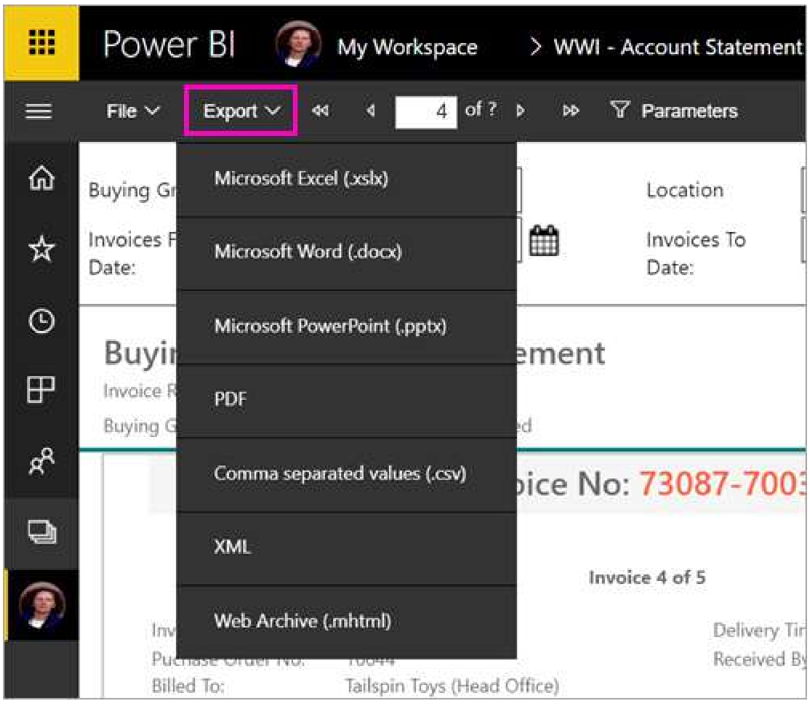


You can also change the parameters at any time.

3. Page through the report by selecting the arrows at the top of the page, or by typing a page number in the box.



4. Select **Export** to find a format to export your paginated reports.



Next steps

[Paginated reports in the Power BI service]

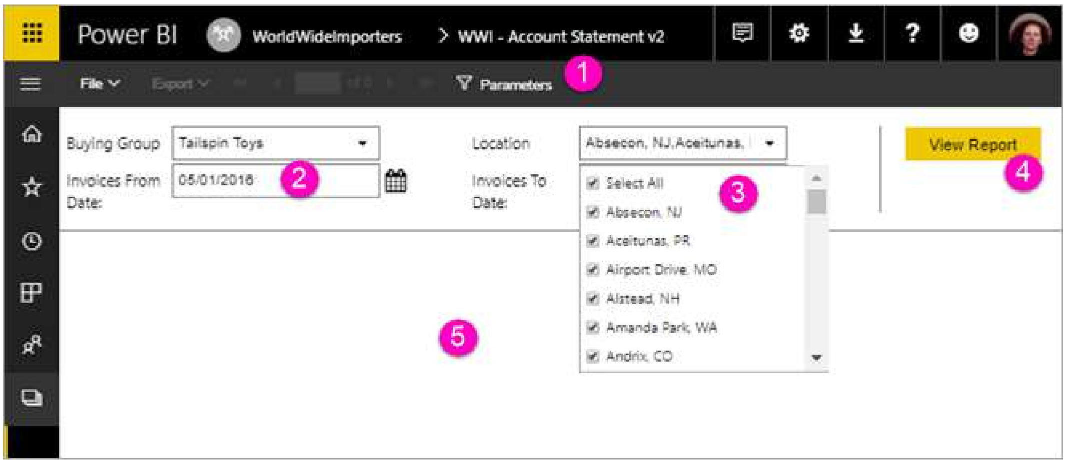
View parameters for paginated reports in the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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** The report viewer toolbar displays a prompt such as "Required" or a default value for each parameter.
2. **Invoices From / To Date parameters** The two date parameters have default values. To change the date, type a date in the text box or choose a date in the calendar.
3. **Location parameter** The Location parameter is set to allow you to select one, many, or all values.
4. **View Report** After you enter or change parameter values, click **View Report** to run the report.
5. **Default values** If all parameters have default values, the report runs automatically on first view. Some parameters in this report didn't have default values, so you don't see the report until you select values.

Next steps

Paginated reports in the Power BI service

Visualization types in Power BI

12/15/2022 • 11 minutes to read • Edit Online

APPLIES TO: ✔ Power BI Desktop ✔ Power BI service

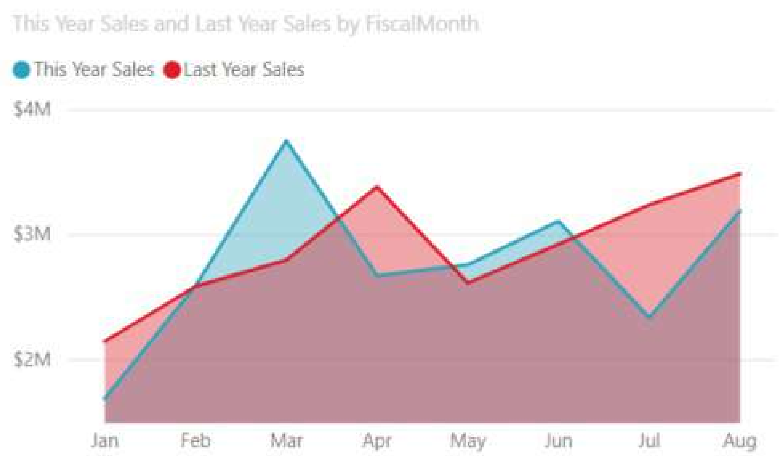
This article lists visualizations available in Power BI. We'll be adding new visualizations, stay tuned!

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.

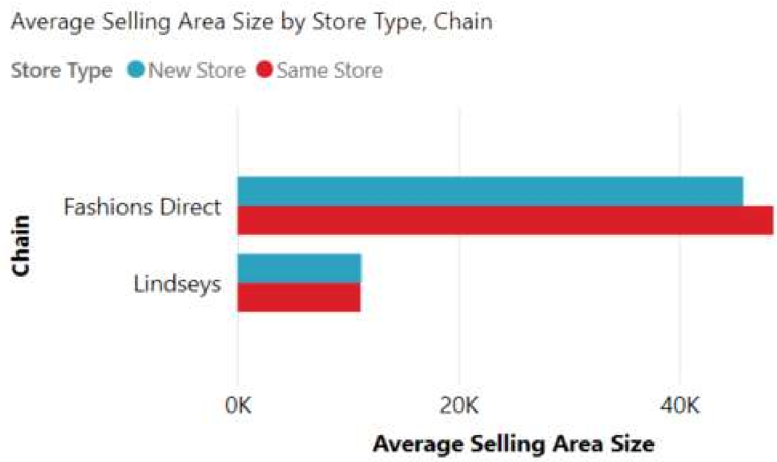
Area charts: Basic (Layered) and Stacked



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



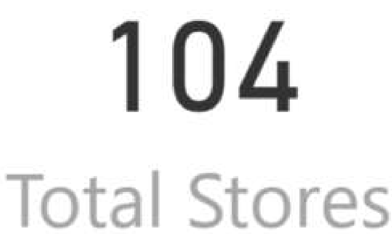
Bar charts are the standard for looking at a specific value across different categories.

Cards

Multi row

Multi row cards display one or more data points, one per row.

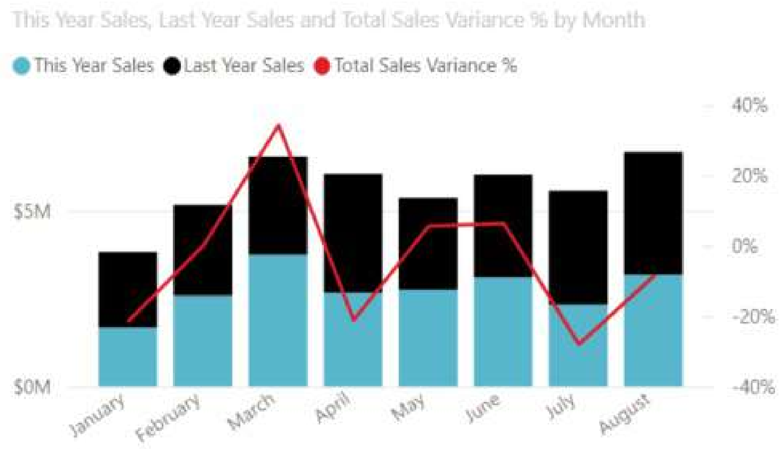
Single number



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



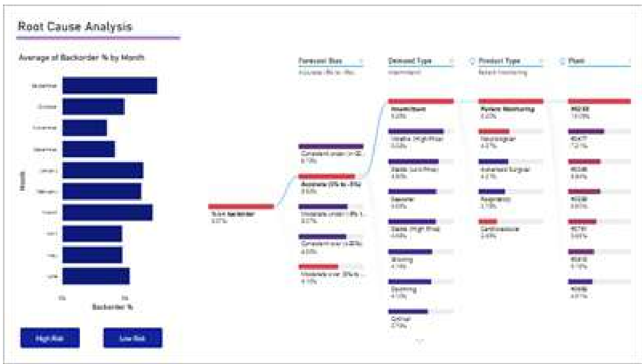
A combo chart combines a column chart and a line chart. Combining the two charts into one lets you make a quicker comparison of the data. Combo charts can have one or two Y axes, so be sure to look closely.

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.

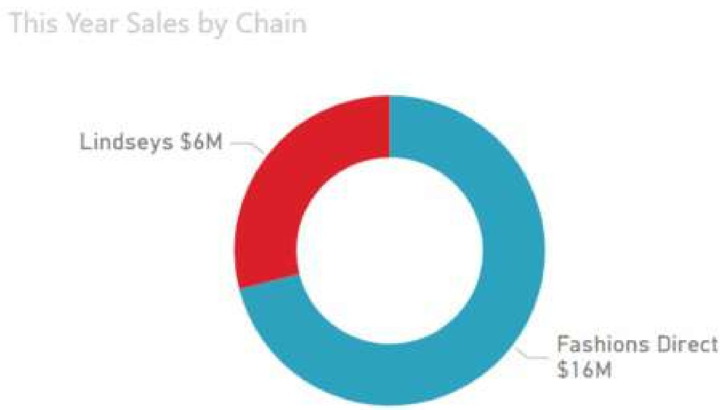
For more information, see Combo charts in Power BI.

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.

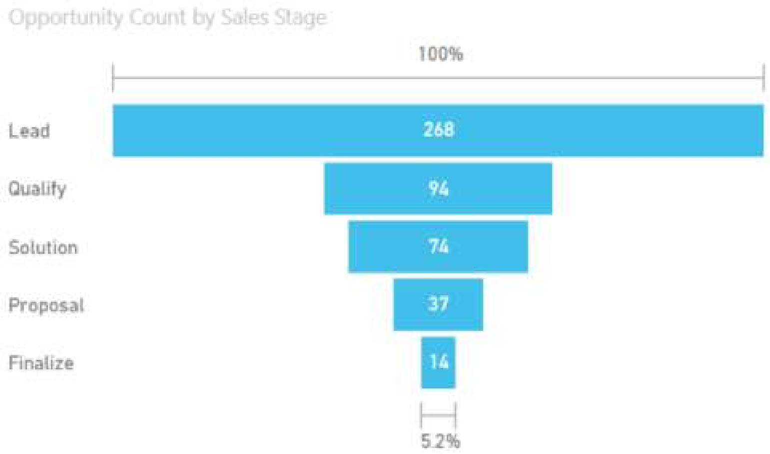
Doughnut charts



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

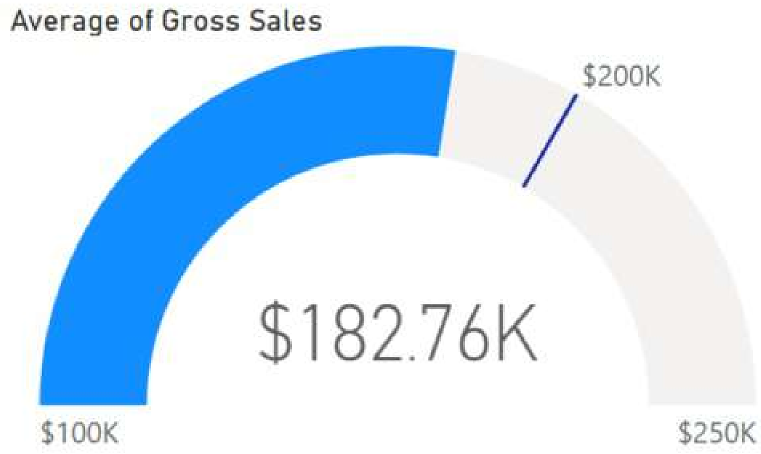


Funnels help visualize a process that has stages, and items flow sequentially from one stage to the next. One example is a sales process that starts with leads and ends with purchase fulfillment.

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).

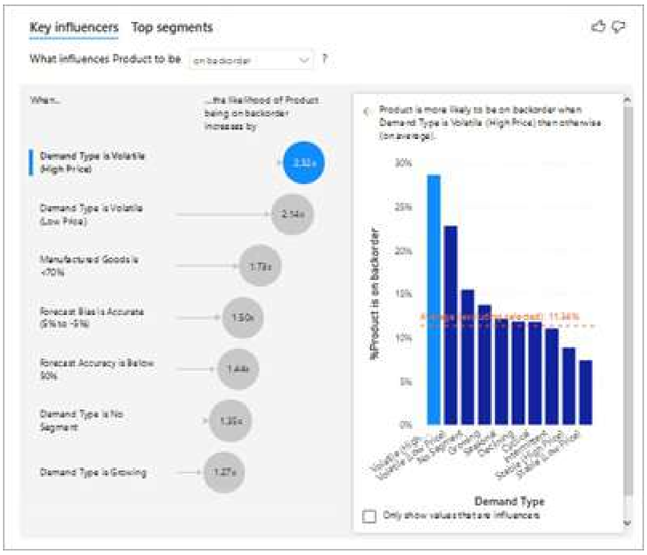
In the example above, we are a car retailer, tracking our Sales team's average sales per month. Our goal is $200,000 and represented by the location of the needle. The minimum possible average sales is $100,000 and we've set the maximum as $250,000. The blue shading shows that we're currently averaging 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?).

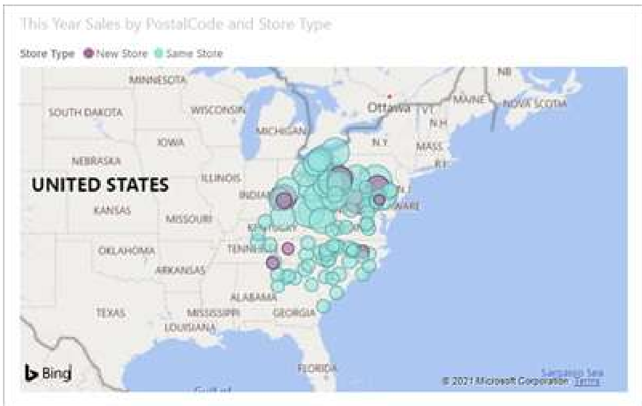
For more information, see KPIs in Power BI.

Line charts

Line charts emphasize the overall shape of an entire series of values, usually over time.

Maps

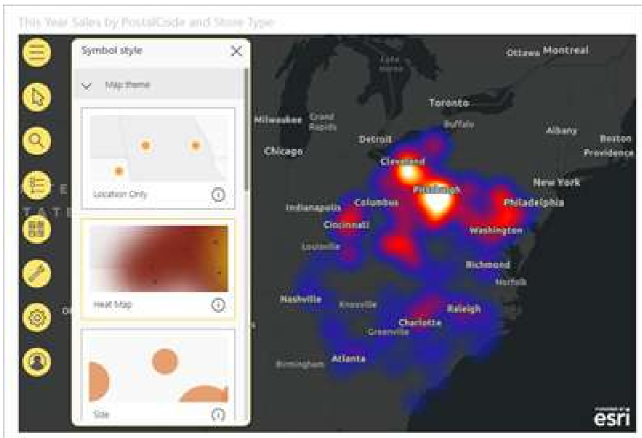
Basic map



Use a basic map to associate both categorical and quantitative information with spatial locations.

For more information, see Tips and tricks for map visuals.

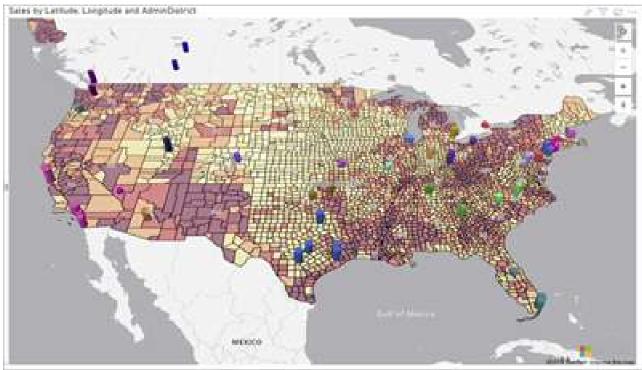
ArcGIS map



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.

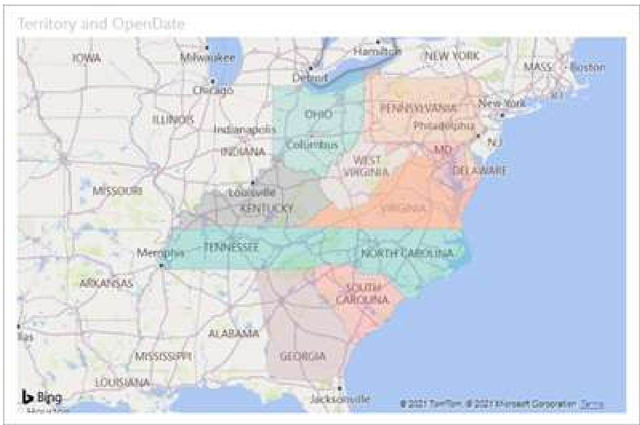
Azure map



> **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)

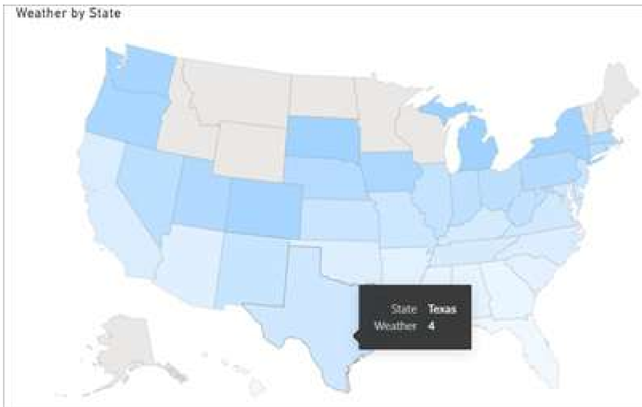


A filled map uses shading or tinting or patterns to display how a value differs in proportion across a geography or region. Quickly display these relative differences with shading that ranges from light (less-frequent/lower) to dark (more-frequent/more).

> **TIP**
>
> The more intense the color, the larger the value.

For more information, see Filled Maps in Power BI.

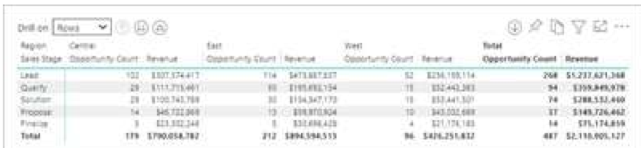
Shape map



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



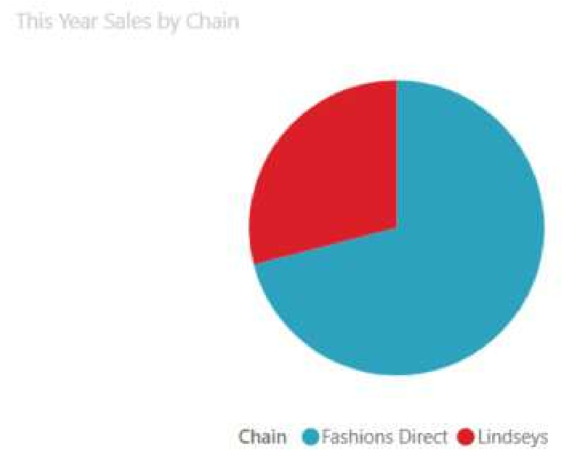
The matrix visual is a type of table visual (see Tables in this article) that supports a stepped layout. A table supports two dimensions, but a matrix makes it easier to display data meaningfully across multiple dimensions. Often, report designers include matrixes in reports and dashboards to allow users 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.

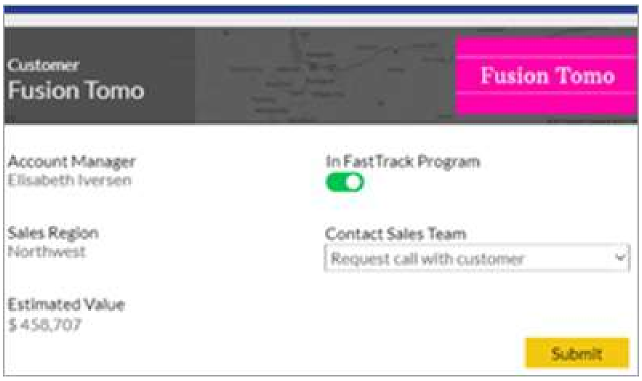
For more information, see Matrix visuals in Power BI.

Pie charts



Pie charts show the relationship of parts to a whole.

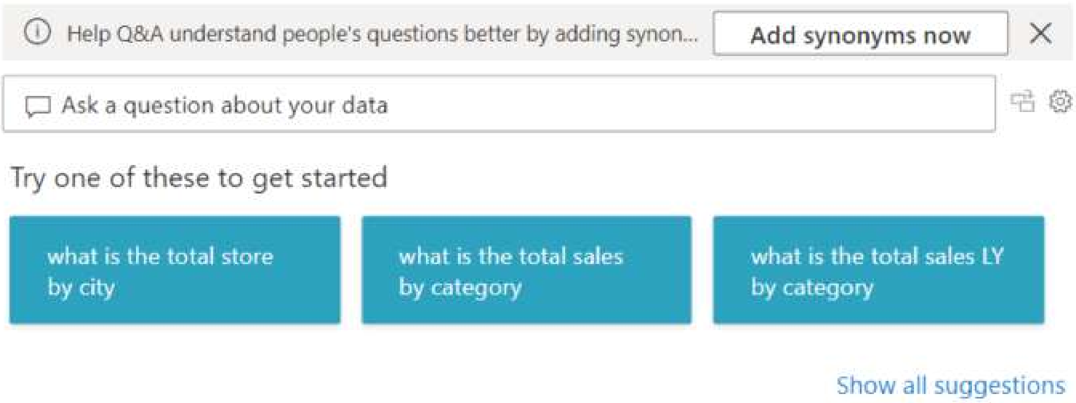
Power Apps visual



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

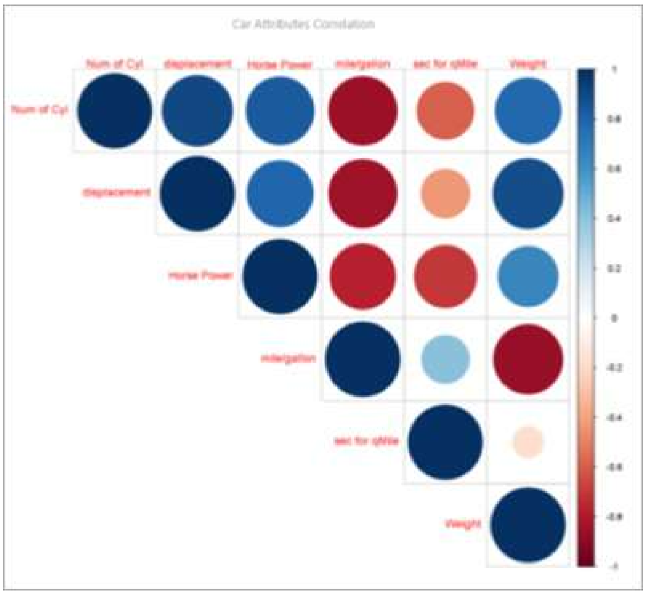


TIP

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

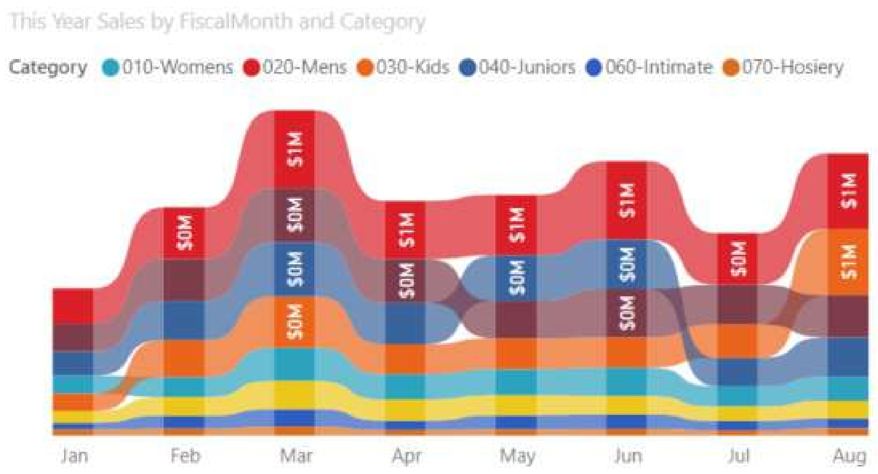


TIP

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.

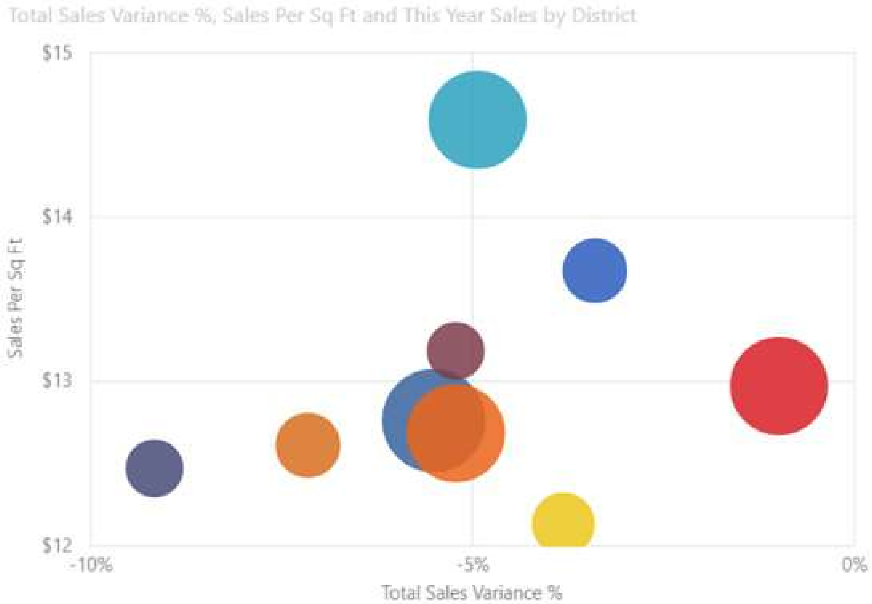
For more information, see Ribbon charts in Power BI.

Scatter

Scatter, bubble, and dot plot chart

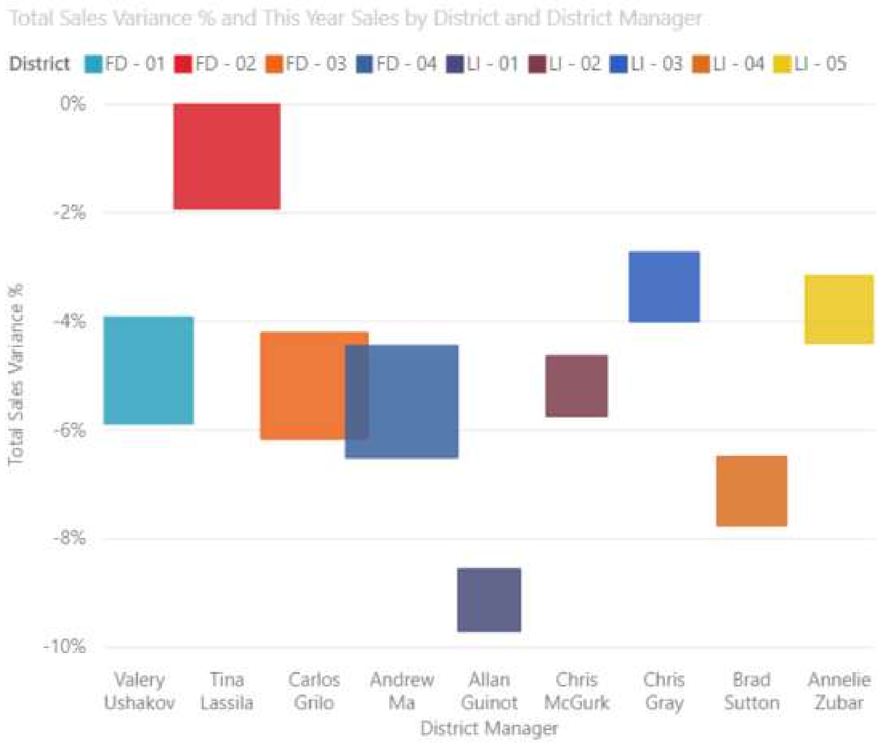
A scatter chart always has two value axes to show one set of numerical data along a horizontal axis and another set of numerical values along a vertical axis. The chart displays points at the intersection of an x and y numerical value, combining these values into single data points. These data points may 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.



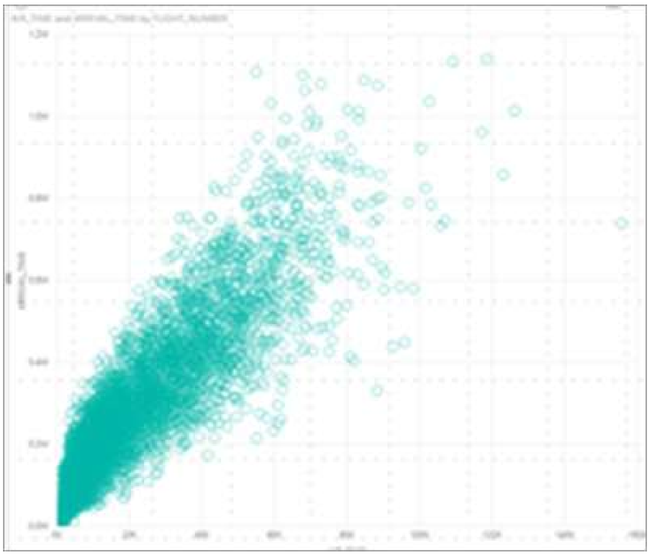
Both scatter and bubble charts can also have a play axis, which can show changes over time.

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

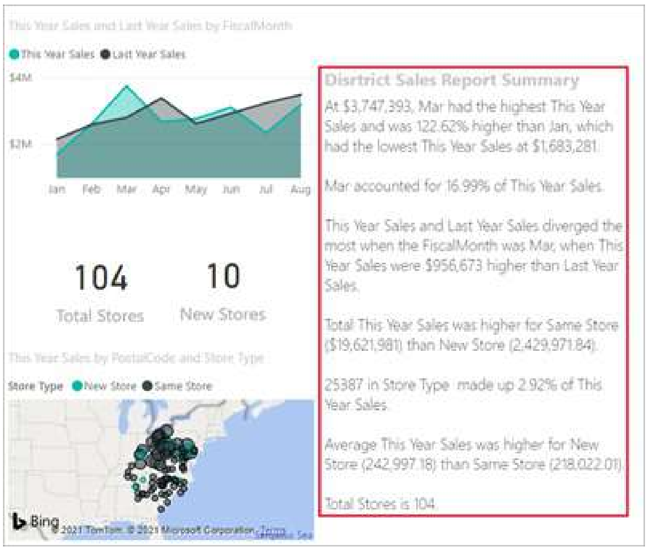
A slicer is a standalone chart that can be used to filter the other visuals on the page. Slicers come in many different formats (category, range, date, etc.) and can be formatted to allow selection of only one, many, or all of the available values.

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.

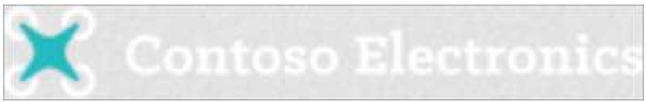
Smart narrative



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	●	$4.84	$1,273,096	$1,379,259	$1,273,096
090-Home	●	$3.93	$2,913,647	$3,053,326	$2,913,647
100-Groceries	●	$1.47	$810,176	$829,776	$810,176
020-Mens	●	$7.12	$4,453,133	$4,452,421	$4,453,133
030-Kids	●	$5.30	$2,726,892	$2,705,490	$2,726,892
050-Shoes	●	$13.84	$3,640,471	$3,574,900	$3,640,471
010-Womens	●	$7.30	$2,680,662	$1,787,958	$2,680,662
040-Juniors	●	$7.00	$3,105,550	$2,930,385	$3,105,550
060-Intimate	●	$4.28	$955,370	$852,329	$955,370
070-Hosiery	●	$3.69	$573,604	$486,106	$573,604
Total	●	**$5.49**	**$23,132,601**	**$22,051,952**	**$23,132,601**

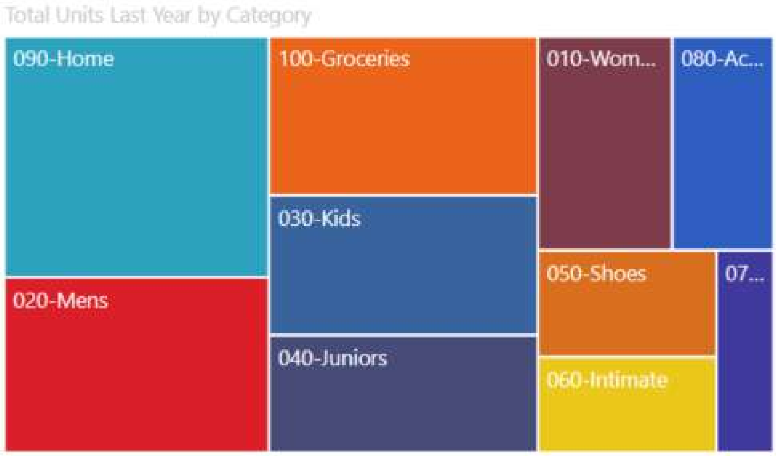
A table is a grid that contains related data in a logical series of rows and columns. It may also contain headers and a row for totals. Tables work well with quantitative comparisons where you are looking at many values for a single category. For example, this table displays five different measures for 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



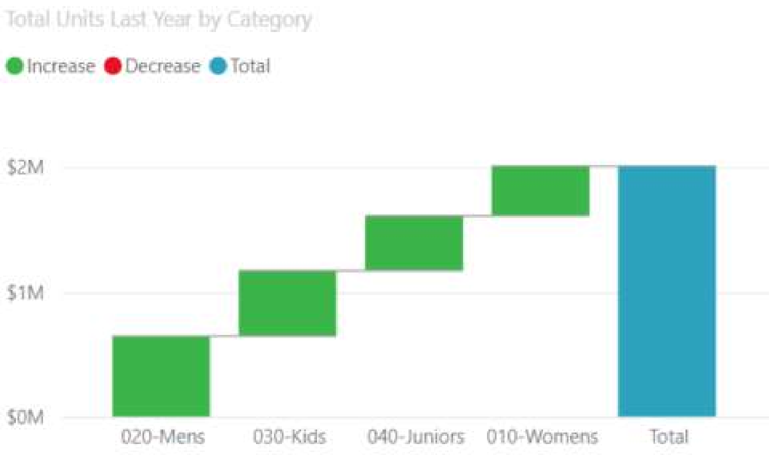
Treemaps are charts of colored rectangles, with size representing value. They can be hierarchical, with rectangles nested within the main rectangles. The space inside each rectangle is allocated based on the value being measured. And the rectangles are arranged in size from top left (largest) to bottom 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

Show data with Power BI reports

12/15/2022 • 2 minutes to read • Edit Online

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

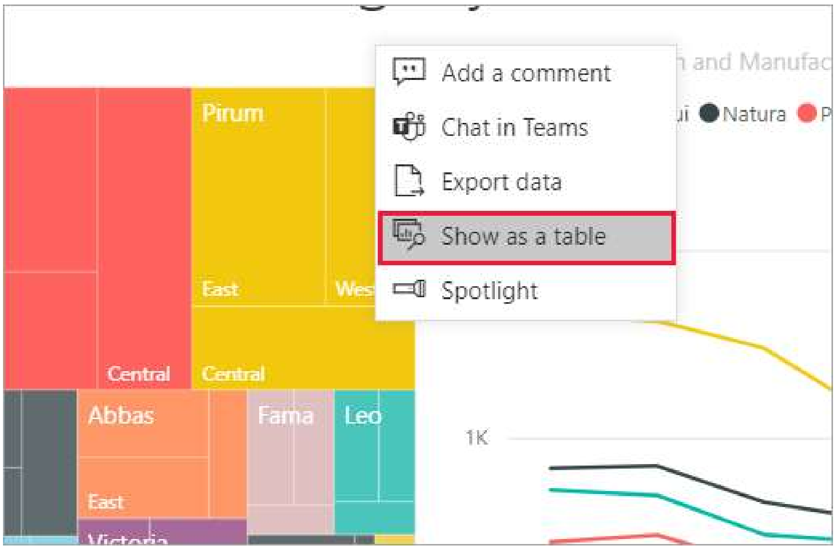
A Power BI visual is constructed using data from underlying datasets. If you're interested in seeing behind-the-scenes, the Power BI service lets you *display* the data that is being used to create a visual in a report. When you select **Show as a table**, Power BI displays the data below (or next to)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

You can also export the data to Excel for visuals in a report as well as visuals on a dashboard.

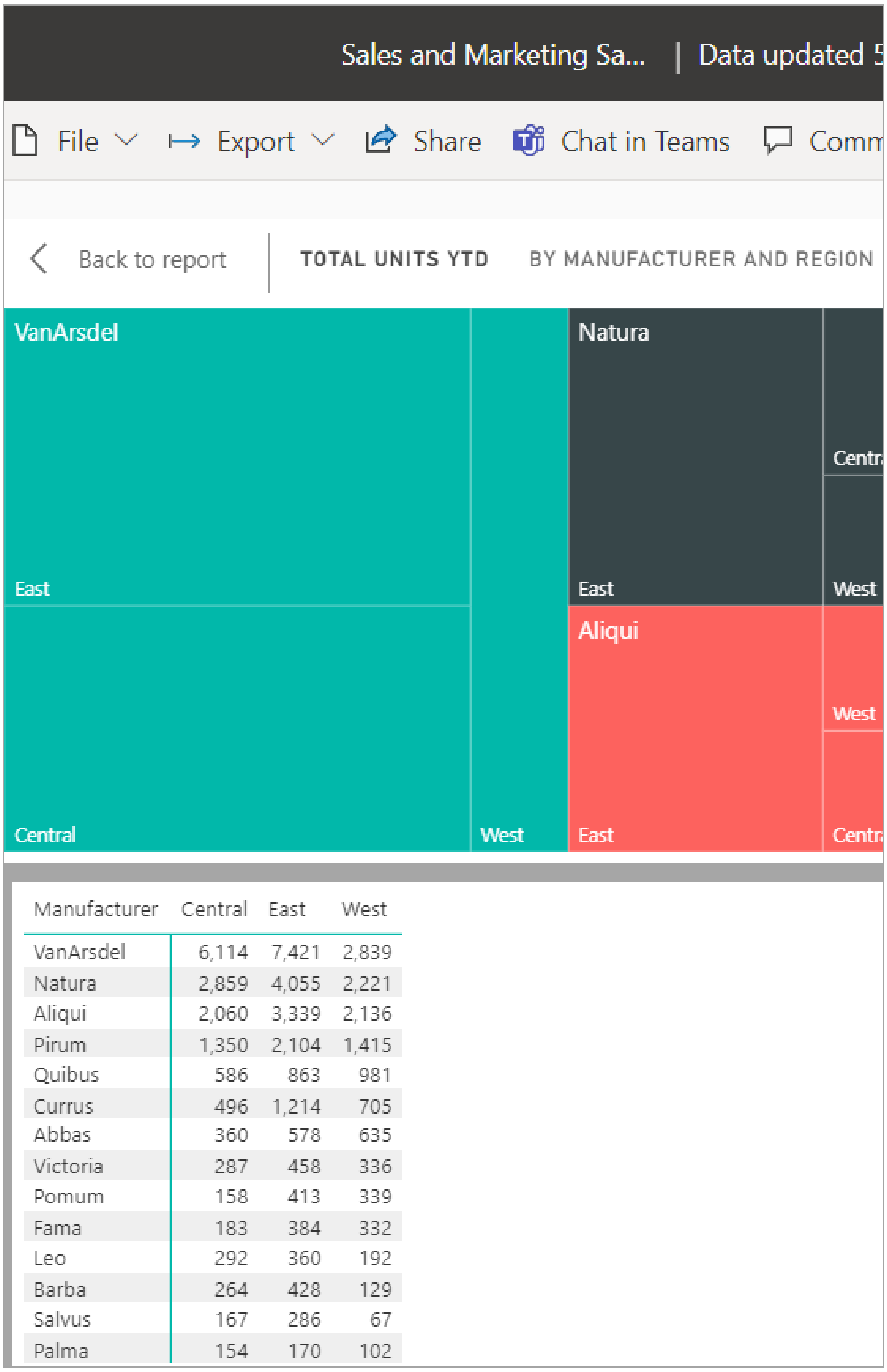
Show the data being used to create a report visual

1. In the Power BI service, open a report and select a visual.

2. To display the data behind the visual, select **More options** (...) and choose **Show as a table**.

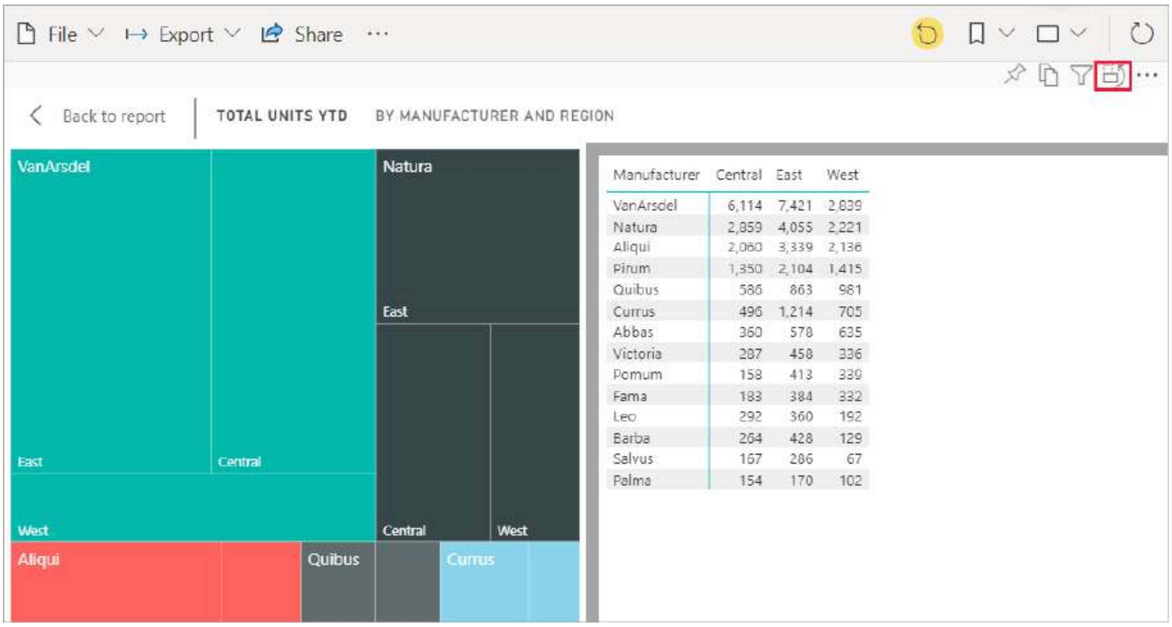


3. By default, the data displays below the visual.



Manufacturer	Central	East	West
VanArsdel	6,114	7,421	2,839
Natura	2,859	4,055	2,221
Aliqui	2,060	3,339	2,136
Pirum	1,350	2,104	1,415
Quibus	586	863	981
Currus	496	1,214	705
Abbas	360	578	635
Victoria	287	458	336
Pomum	158	413	339
Fama	183	384	332
Leo	292	360	192
Barba	264	428	129
Salvus	167	286	67
Palma	154	170	102

4. To change the orientation, select vertical layout from the top-right corner of the visualization.



To return to the report, select **Back to report** from the upper left corner.

Next steps

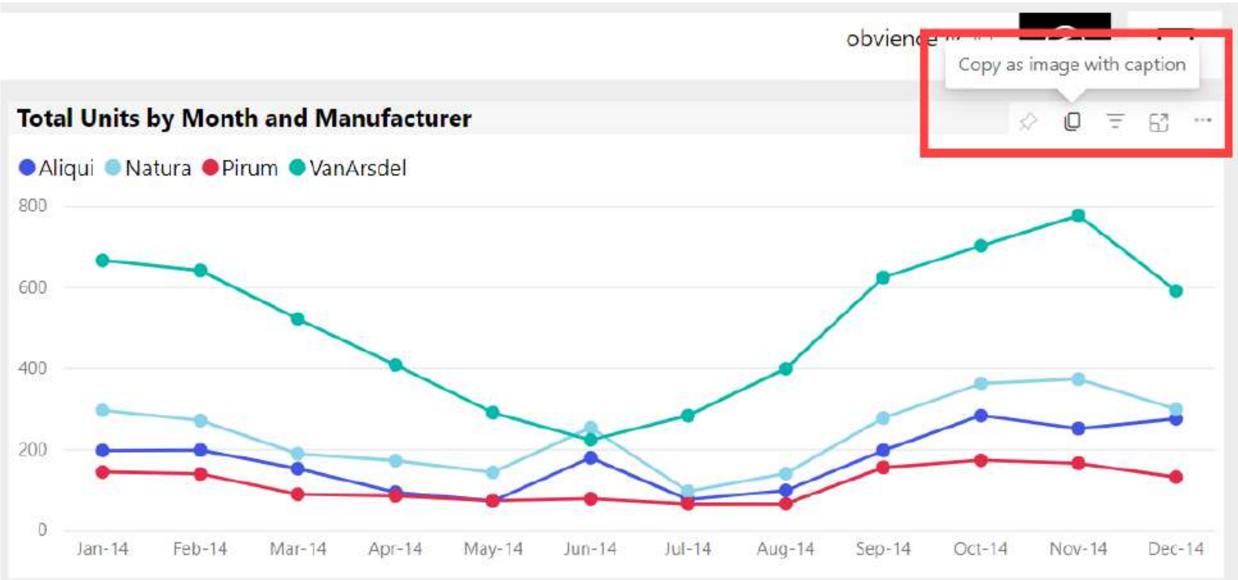
Visuals in Power BI reports
Power BI reports

Copy a visual and then paste it into another application

12/15/2022 • 2 minutes to read • Edit Online

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

Have you ever wanted to share an image from a Power BI report or dashboard? Now you can copy the visual and paste it into any other application that supports pasting. Copy an important visual and paste it into an email message, Word, PowerPoint, another Power BI report, and many more applications.



When you copy a static image of a visual, you get a copy of the visual along with the metadata. This includes:

- link back to the Power BI report or dashboard
- title of the report or dashboard
- notice if the image contains confidential information
- last updated time stamp
- filters applied to the visual

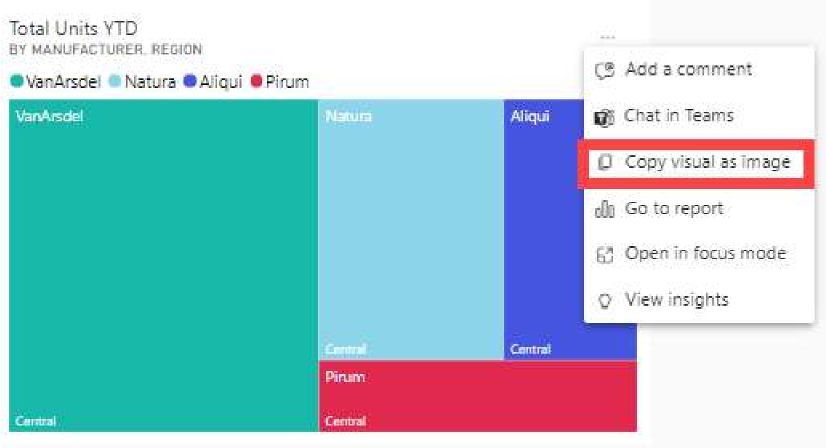
Copy the visual

The process is almost identical for copying a visual from a dashboard or from a report. Only the first step varies.

1. Navigate to the report or dashboard that has the image that you want to copy.

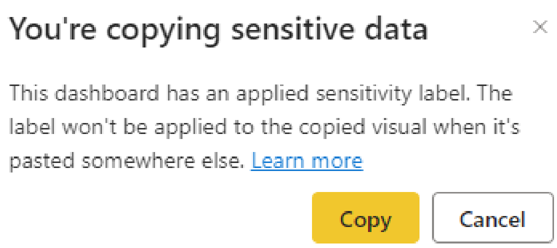
2. Copy the visual.

    - On a dashboard, from the upper right corner of the visual, select **More actions (...)** and choose **Copy visual as image**.

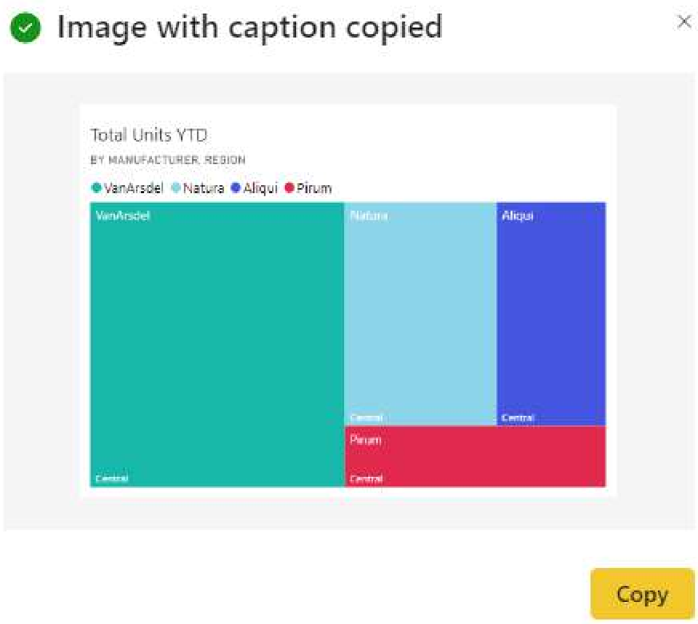


- On a report page, from the upper right corner of the visual, select the icon for **Copy as image with caption**.

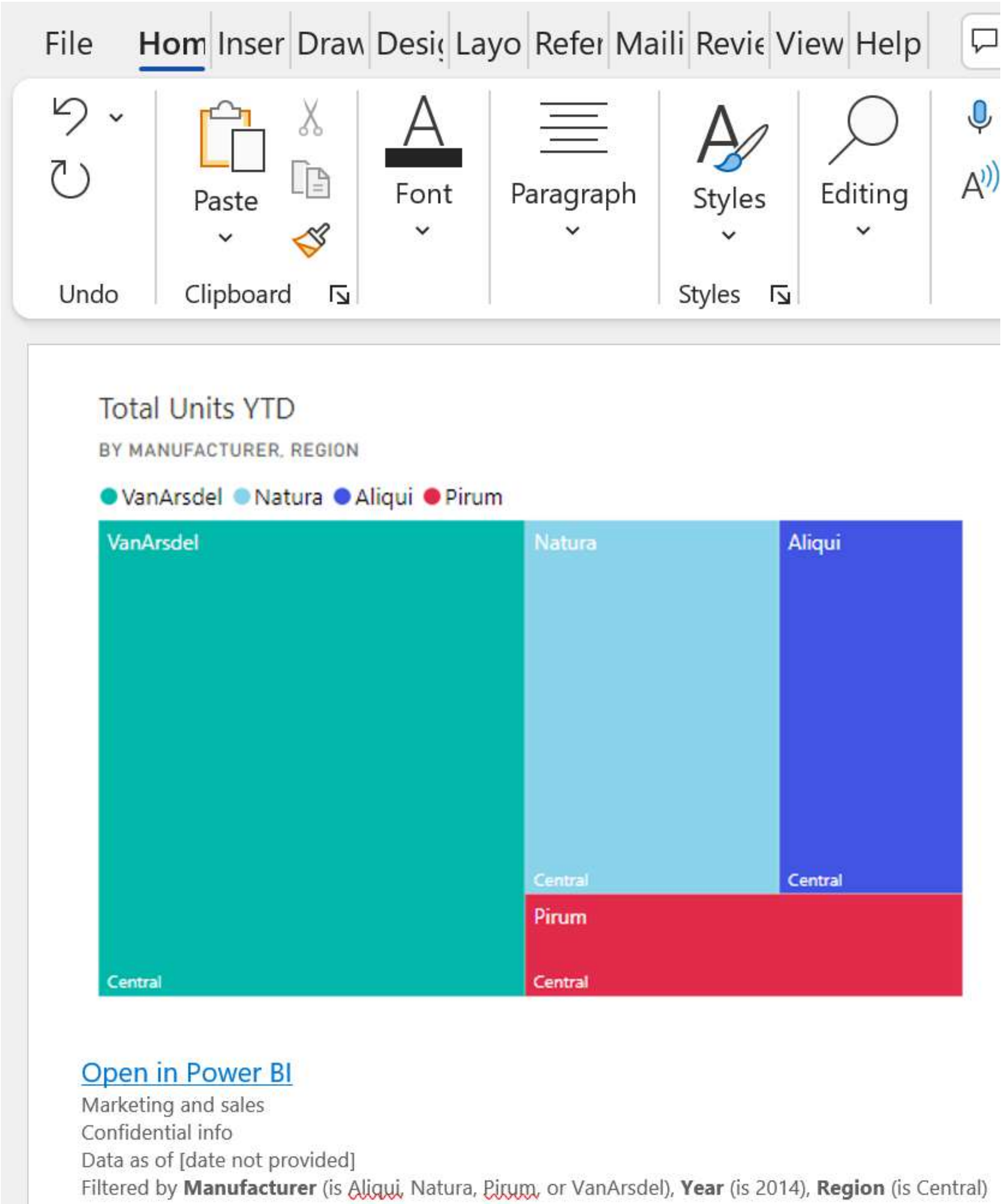
3. If there is a data sensitivity label applied to the report that contains the visual, you'll receive a warning. For more information, see Data that has been labeled as confidential or sensitive, below.



4. When the **Image with caption copied** dialog appears, select **Copy**.

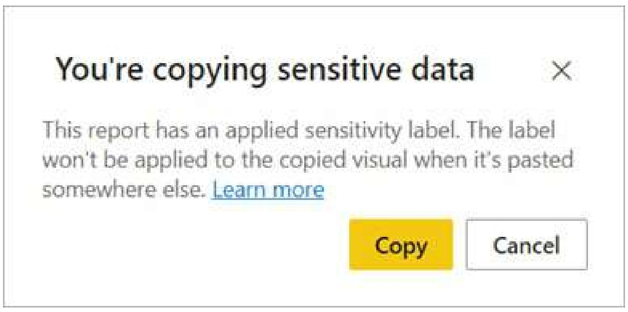


5. After your visual is copied, paste it into another application using **Ctrl + V** or **right-click > Paste**. In the screenshot below, we've pasted the visual into Microsoft Word.

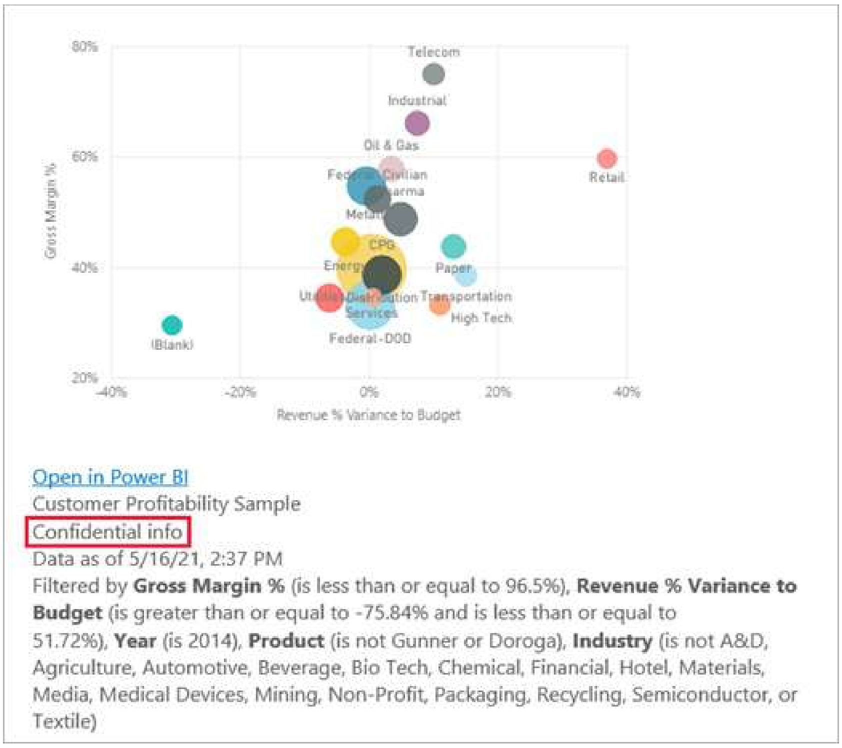


Data that has been labeled as confidential or sensitive

If there is a data sensitivity label applied to the report containing the visual, you'll receive a warning when you select the copy icon.



And, a sensitivity label will be added to the metadata below the pasted visual.



Considerations and troubleshooting

Q: Why is the Copy icon disabled on a visual?
A: We currently support native Power BI visuals and certified custom visuals. There is limited support for certain visuals including:

- ESRI and other map visuals
- Python visuals
- R visuals
- PowerApps visuals

A: The ability to copy a visual can be turned off by your IT department or Power BI administrator.

Q: Why is my visual not pasting correctly?
A: There are limitations for custom visuals and animated visuals.

Q: Can I to copy a visual from my embedded Power BI report?
A: *Copy visual* is supported only in the **embed for your organization** scenario. It isn't available in the **embed for your customers** scenario.

Next steps

More about Visualizations in Power BI reports

If you have edit permissions to a report, you can copy and paste visuals within the same report.

More questions? Try the Power BI Community

Drill mode in a visual in Power BI

12/15/2022 • 6 minutes to read • Edit Online

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 how to drill down in a visual in the Microsoft Power BI service. Using drill down and drill up on your data points, you can explore in-depth details about your data.

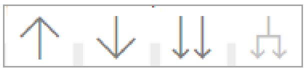
Drill requires a hierarchy

When a visual has a hierarchy, you can drill down to reveal additional details. For example, you might have a visual that looks at sports competition medal count by a hierarchy made up of sport, discipline, and event. By default, the visual would show medal count by sport: gymnastics, skiing, aquatics, and so on. But, because it has a hierarchy, selecting one of the visual elements (like a bar, line, or bubble), would display an increasingly more-detailed picture. Selecting the **aquatics** element would show you data for swimming, diving, and water polo. Selecting the **diving** element would show you details for springboard, platform, and synchronized diving events.

Dates are a unique type of hierarchy. Report *designers* often add date hierarchies to visuals. A common date hierarchy is one that contains year, quarter, month, and day.

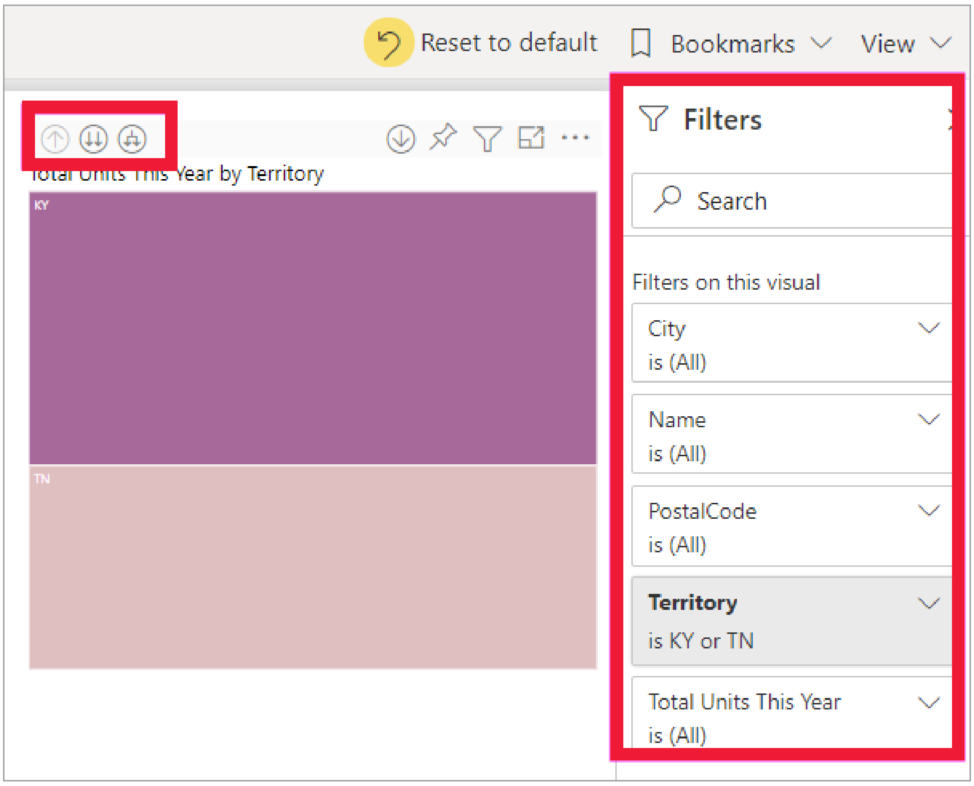
Figure out which visuals can be drilled

Not sure which Power BI visuals contain a hierarchy? Hover over a visual. If you see a combination of these drill controls at the top, your visual has a hierarchy.



Learn how to drill down and up

In this example we're using a treemap that has a hierarchy made up of territory, city, postal code, and store name. The treemap, before drilling, looks at total units sold this year by territory. Territory is the top level of the hierarchy.

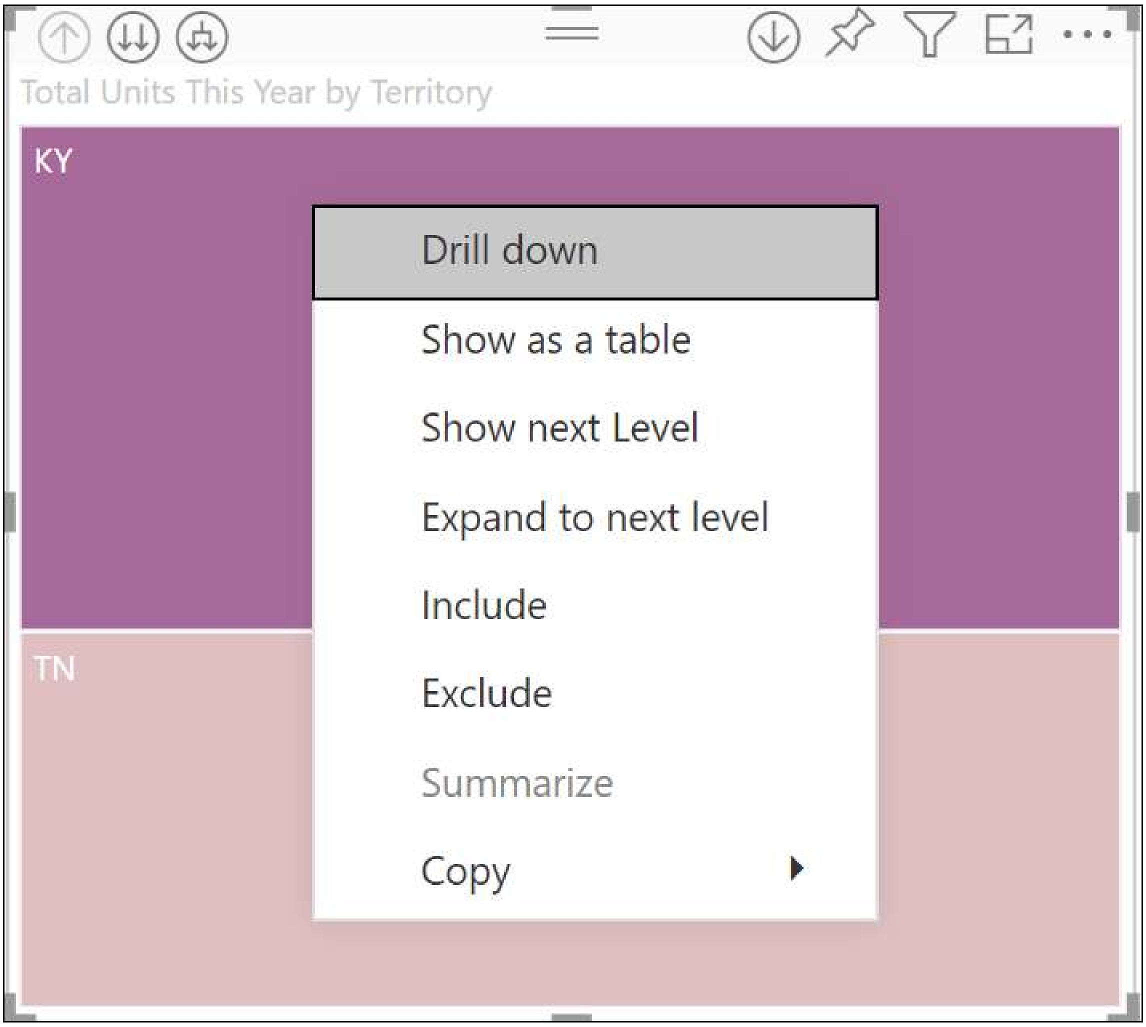


Two ways to access the drill features

You have two ways for accessing the drill-down, drill-up, and expand features for visuals that have hierarchies. Try them both, and use the one that you enjoy the most.

- First way: hover over a visual to see and use the icons. Turn on the drill-down feature first by selecting the downward arrow. The grey background lets you know that the drill-down option is active.

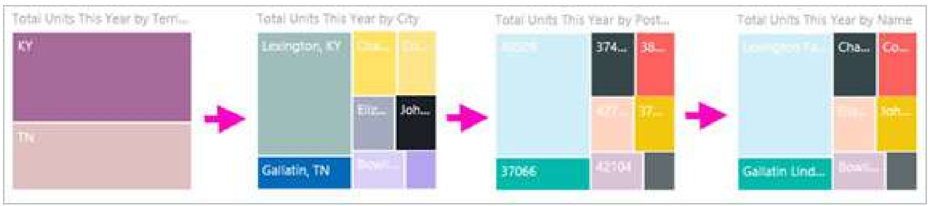
- Second way: right-click a visual to reveal and use the menu.



Drill pathways

Drill down all fields at once

You have several ways to drill into your visual. Selecting the double arrow  drill-down icon takes you to the next level in the hierarchy. If you're looking at the **Territory** level for Kentucky and Tennessee, you can drill down to city level for both states, then postal code level for both states, and, finally, the store name level for both states. Each step in the path shows you new information.



Select the drill-up icon  until you get back to "Total units this year by territory".

Expand all fields at once

Expand adds an additional hierarchy level to the current view. So if you're looking at the **Territory** level, you can expand all current leaves in the tree at the same time. Your first drill adds city data for both **KY** and **TN**. The next drill adds postal code data for both **KY** and **TN**, and keeps city data as well. Each step in the path shows you the same information and adds on one level of new information.

Drill down one field at a time

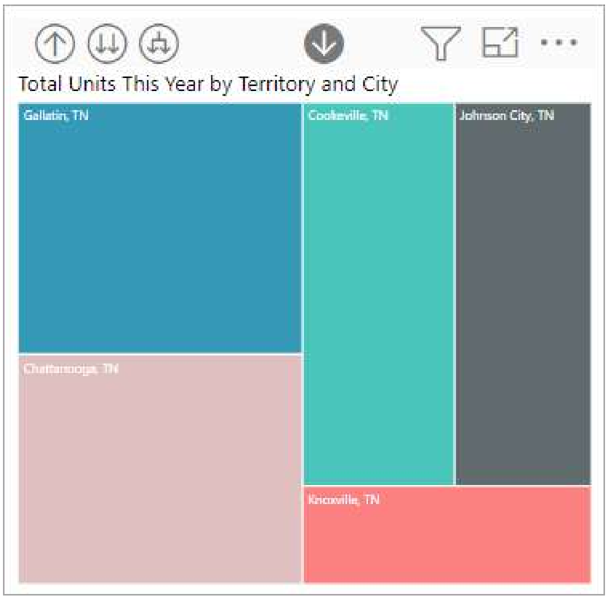
1. Select the drill-down icon to turn it on .

   Now you have the option of drilling down **one field at a time** by selecting a visual element. Examples of visual elements are: bar, bubble, and leaf.

   If you don't turn on the drill-down option, selecting a visual element (like a bar, bubble, or leaf) won't drill down. Instead, it will cross-filter the other charts on the report page.

2. Select the leaf for **TN**. Your treemap now shows all the cities and territories in Tennessee that have a store.

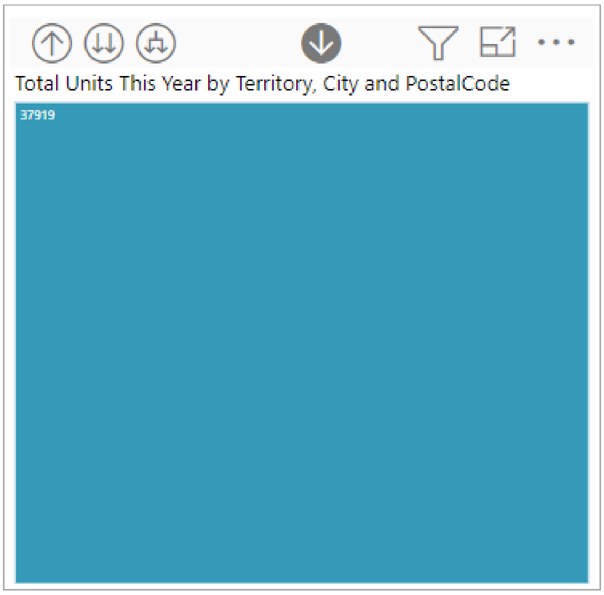
3. At this point, you can:

   a. Continue drilling down for Tennessee.

   b. Drill down for a particular city in Tennessee.

   c. Expand instead.

   Let's continue to drill down one field at a time. Select **Knoxville, TN**. Your treemap now shows the postal code for your store in Knoxville.



Notice that the title changes as you drill down and back up again.

And drill down one more field. Select postal code **37919** and drill down to store name.

For this particular data, drilling down all levels at once may not be interesting. Let's try expanding instead.

Expand all and expand one field at a time

Having a treemap that shows us only a postal code or only a store name isn't informative. So let's *expand* down one level in the hierarchy.

1. First, drill back up to the postal code level.

2. With the treemap active, select the *expand down* icon . Your treemap now shows two levels of the hierarchy: postal code and store name.

3. To see all four hierarchy levels of data for Tennessee, select the drill-up arrow until you reach the second level, **Total units this year by territory and city**.

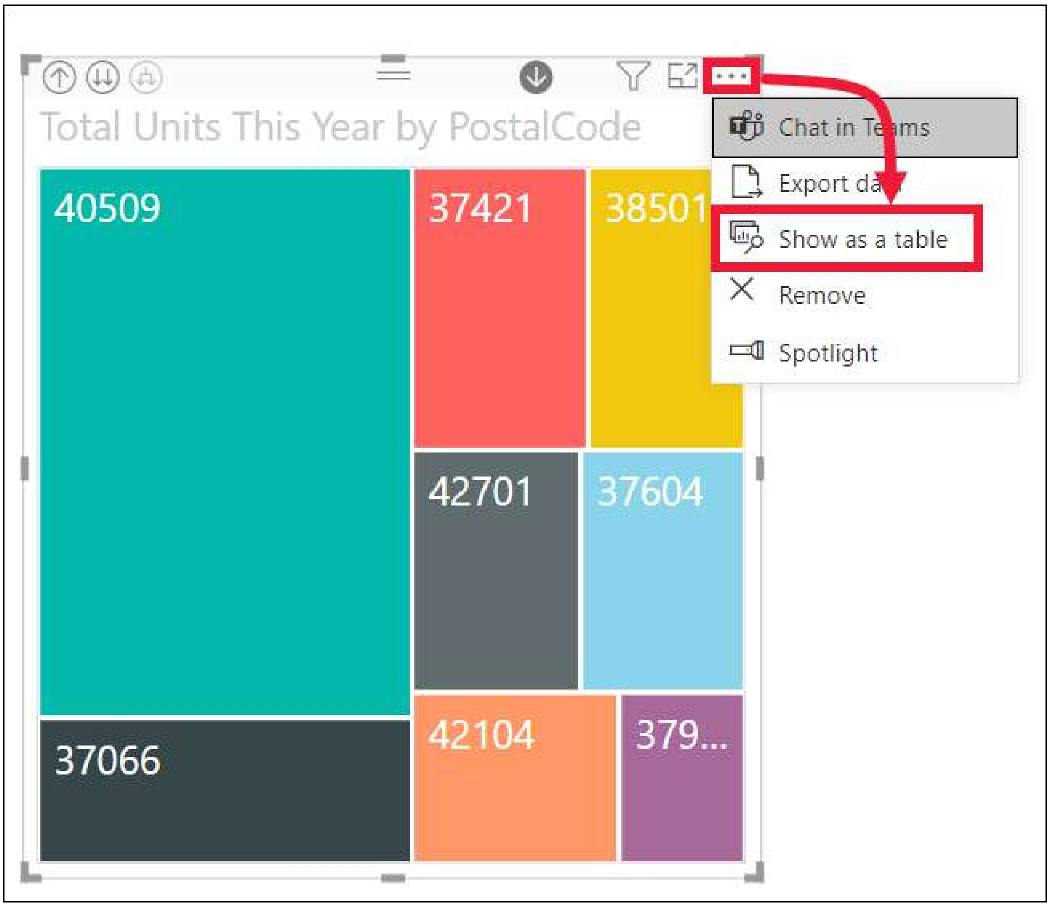
4. Make sure the drill-down option is still turned on, and select the *expand down* icon . Your treemap now shows the same number of leaves (boxes), but each leaf has additional detail. Instead of only showing city and state, it now also shows us postal code.

5. Select the *expand down* icon one more time to display all four hierarchy levels of detail for Tennessee on your treemap. Hover over a leaf to see even more detail.

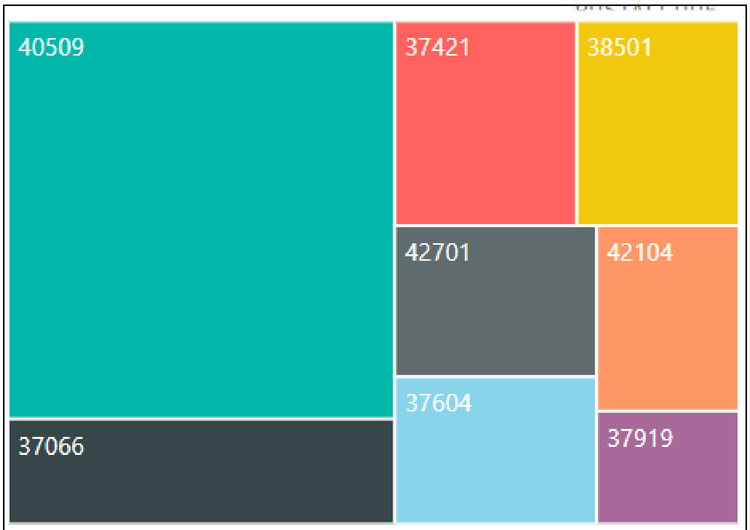
Show the data as you drill

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 being used to build the visual. This may help you understand how hierarchies, drill, and expand work together to build visuals.

In the upper-right corner, select **More actions** (...), and then select **Show as a table**.



Power BI opens the treemap so that it fills the canvas. The data that makes up the treemap displays below the visual.



PostalCode	Total Units This Year
40509	$72,554
37066	$19,168
37421	$17,522
38501	$15,630
42701	$14,358
37604	$14,014
42104	$12,442
37919	$7,571

With the visual alone in the canvas, continue drilling. Watch the data in the table change to reflect the data being used to create the treemap. The following table shows the results of drilling down all fields at once from territory to store name. The first table represents the top level of the hierarchy, the treemap showing two leaves, one for **KY** and one for **TN**. The next three tables represent the treemap's data as you drill down all levels at once--from territory to city to postal code to store name.

Territory	Total Units This Year
KY	$99,354
TN	$73,905

City	Total Units This Year
Lexington, KY	$72,554
Gallatin, TN	$19,168
Chattanooga, TN	$17,522
Cookeville, TN	$15,630
Elizabethtown, KY	$14,358
Johnson City, TN	$14,014
Bowling Green, KY	$12,442
Knoxville, TN	$7,571

PostalCode	Total Units This Year
40509	$72,554
37066	$19,168
37421	$17,522
38501	$15,630
42701	$14,358
37604	$14,014
42104	$12,442
37919	$7,571

Name	Total Units This Year
Lexington Fashions Direct	$72,554
Gallatin Lindseys	$19,168
Chattanooga Lindseys	$17,522
Cookeville Lindseys	$15,630
Elizabethtown Lindseys	$14,358
Johnson City Lindseys	$14,014
Bowling Green Lindseys	$12,442
Knoxville Lindseys	$7,571

Notice that the totals are the same for **City**, **PostalCode**, and **Name**. Matching totals won't always be the case. But for this data, there's only one store in each postal code and in each city.

Considerations and limitations

- By default, drilling won't filter other visuals in a report. However, the report designer can change this default behavior. As you drill, look to see if the other visuals on the page are cross-filtering or cross-highlighting.
- Viewing a report that has been shared with you requires a Power BI Pro or Premium license or for the report to be stored in Power BI Premium capacity. Which license do I have?

Next steps

Visuals in Power BI reports

Power BI reports

Power BI - Basic Concepts

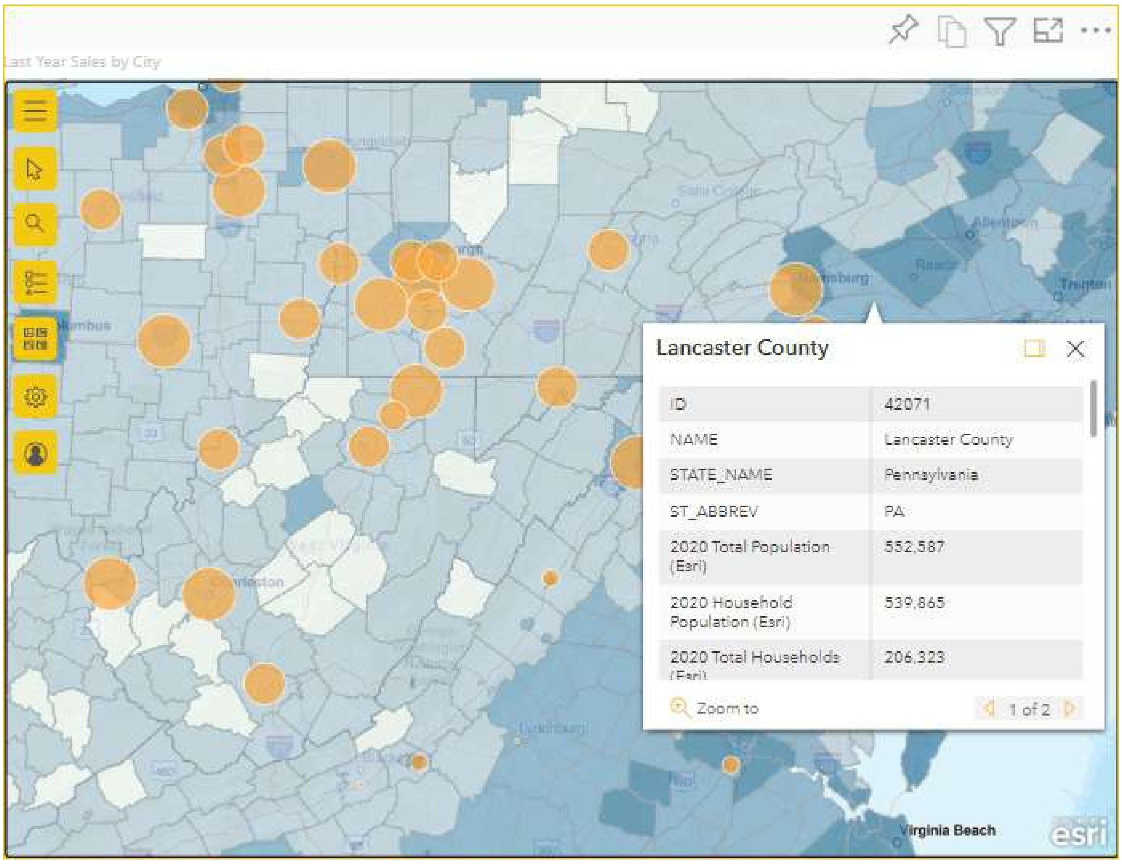
More questions? Try the Power BI Community

Interact with an ArcGIS map in Power BI

12/15/2022 • 12 minutes to read • Edit Online

This topic is written from the point of view of a person *consuming* an ArcGIS map in the Power BI service. ArcGIS maps in Power BI are also available in Power BI Desktop and mobile. Once a creator shares an ArcGIS map with you, there are many ways to interact with that map. To learn more about creating an ArcGIS map, see the ArcGIS map by Esri tutorial.

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 into your Power BI data.



For example, you can use ArcGIS for Power BI to provide regional insight into sales figures. The example above 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, visit Esri's Marketing site to see many examples and read testimonials and dig into Esri's online help for training and documentation.

User consent

The first time you use ArcGIS for Power BI. ArcGIS Maps for Power BI is provided by Esri. Your use of ArcGIS Maps for Power BI is subject by Esri's terms and privacy policy. Power BI users wishing to use the ArcGIS Maps for Power BI visuals need to accept the consent dialog.

Interact with an ArcGIS map

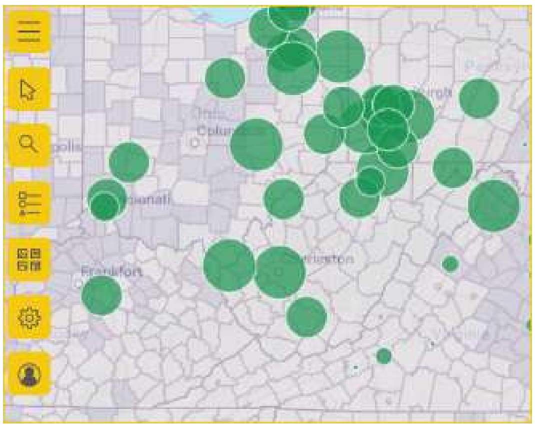
The features available to you depend on whether you are the report designer (person who made the map) or a business user (someone shared an ArcGIS map with you). If you are interacting with an ArcGIS map as a business user (also known as Reading view), here are the actions available to you:

ACTION	PREMIUM CUSTOMER (WITH VIEW PERMISSIONS)	POWER BI PRO CUSTOMER
View the data used to create the visual	Y	Y
Subscribe	Y	Y
See the map in focus mode and full screen mode	Y	Y
View related content	Y	Y
Interact with the filters set by the report designer	Y	Y
Share the report	Y	Y
Export the underlying data	N	Y
Get usage metrics	N	Y
Publish to the web	N	Y
Save a copy	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.

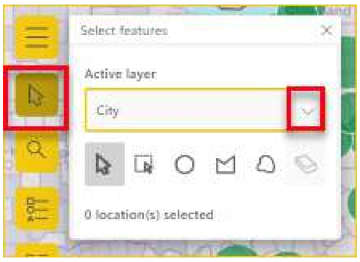


The map tools expand to show the available options. When selected, each tool opens a task pane that provides detailed options.

> **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 to the active layer. A maximum of 250 data points can be selected at a time. To learn more, see selection tools.



This is the default tool and selects individual data points and individual features.

Select by rectangle draws a rectangle on the map and selects the contained data points and features. Use CTRL to add or remove selections

Select by circle draws a circular shape on the map and selects the contained data points and features. Use CTRL to add or remove selections.

Select by polygon draws boundaries or polygons within reference layers to select contained data points and features. Double-click to complete a selection. Use CTRL to enable snapping.

Select by freehand polygon draws a freehand shape on the map and selects the contained data points and features. Use CTRL to add or remove selections.

Select by reference layer is visible only if there is 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 reference layers.

Drive time select is visible only if there is 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 buffer or drive time areas.

The eraser tool clears all selections. It is 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.

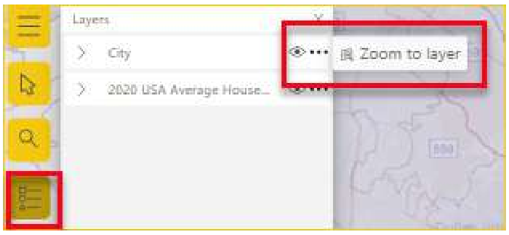
1. Expand the map tools, if necessary, and select the Search button to open the search pane.
2. Type the keywords **Washington Monument** in the search field. Keywords can include an address, place, or point of interest. As you type, similar recent searches or suggestions based on similar keywords appear.
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 for the duration of your session. Pins remain in place on the map only during the current session; you cannot save a pinned location with the map. For more information about pinning a location, visit the ArcGIS for Power BI help.

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, if necessary, 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 cannot perform these tasks, it may be that the report designer has disabled these features. Contact the report designer if you have questions.

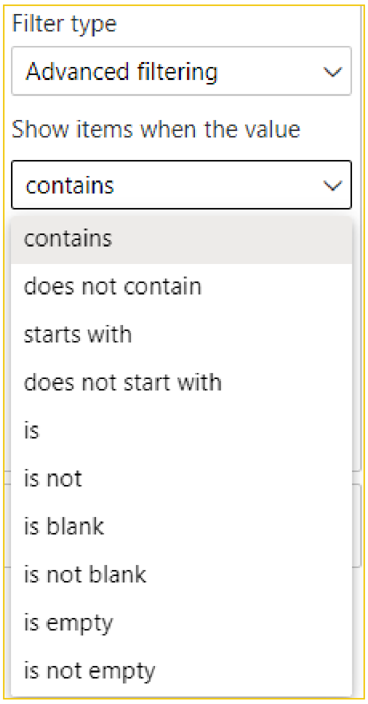
For more information about working with layers, visit the ArcGIS for Power BI help.

Filter map layers

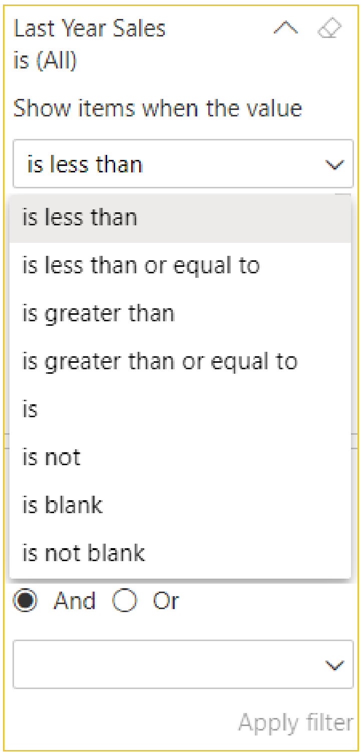
The **Filters** pane contains data added by the report designer. There are many different ways to filter your map content.

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 have selected your filter options, select **Apply filter**. The map is filtered by your selections

Change the basemap

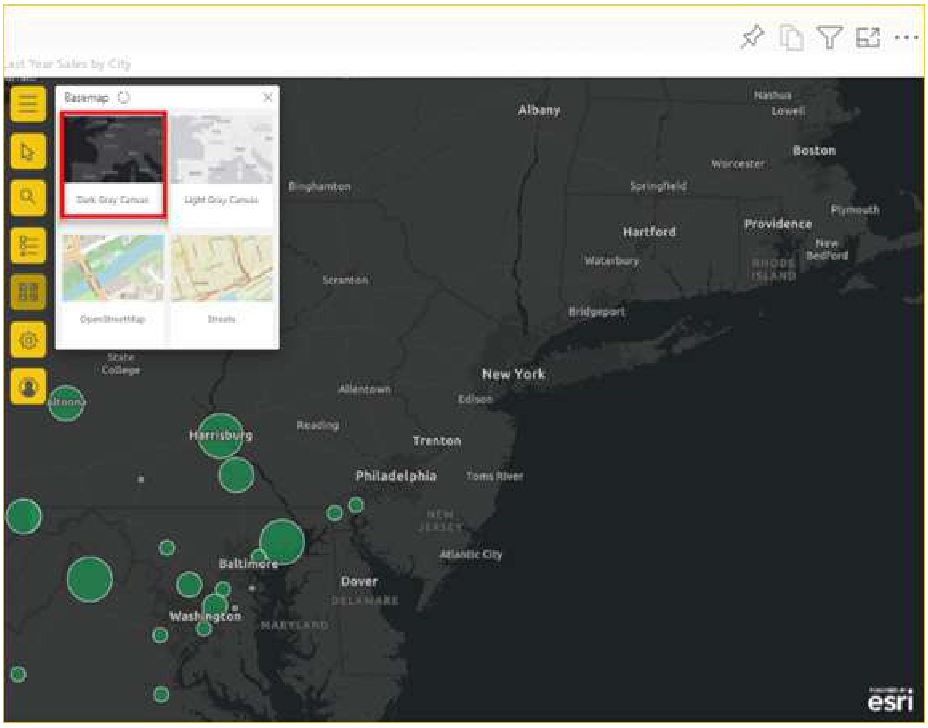
A basemap provides a background, or visual context, for the data in a map. For example, a basemap showing streets can provide context for address data. As a Power BI business user, four basemaps are provided to you: Dark Gray Canvas, Light Gray Canvas, OpenStreetMap, and Streets.

> **NOTE**
>
> The report designer must have made basemaps available to you when designing the report. When unavailable, you will not see the **Basemap** button in the Map tools.

To change the basemap, follow these steps:

1. Expand the map tools, if necessary, and select the **Basemap** button to display the gallery of available basemaps.

2. Select the Dark Gray Canvas basemap.

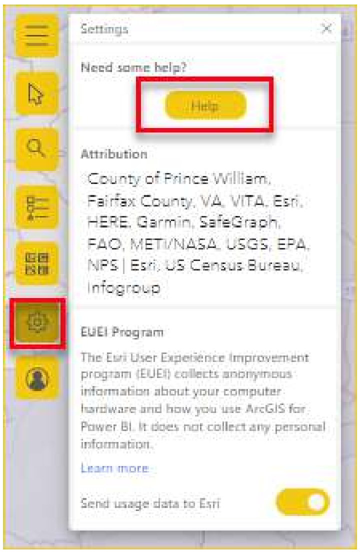


The map updates to the new basemap. For more information about changing the basemap, visit the [ArcGIS for Power BI help](#).

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, if necessary, 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. From here you can:

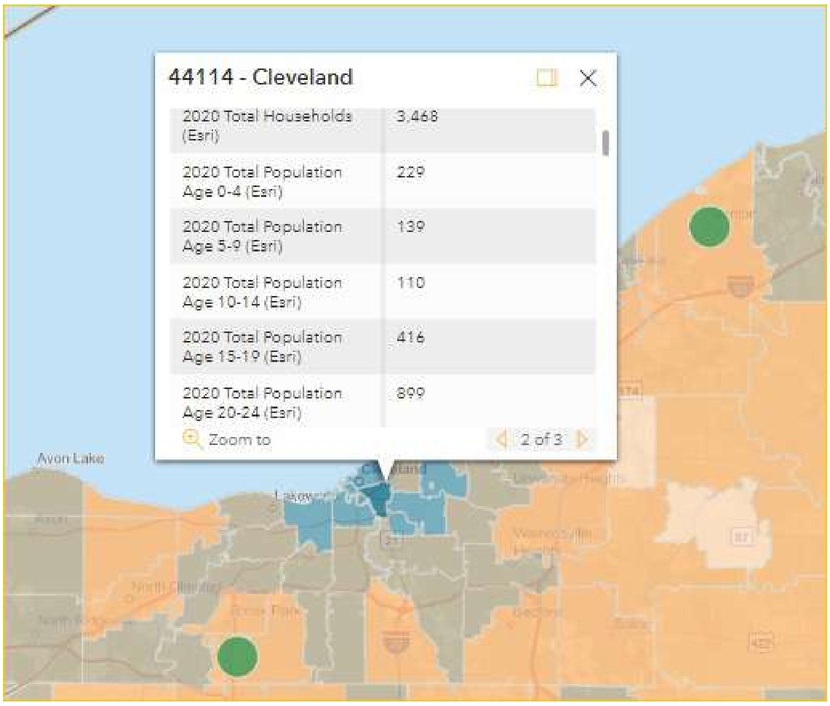
- Find answers to frequently asked questions about ArcGIS for Power BI.
- Ask questions, find the latest information, report issues, and find answers on the Power BI community thread related to ArcGIS for Power BI.
- Give a suggestion for an improvement by submitting it to the Power BI Ideas list.

On the **Settings** pane, you can also view attribution for your map, read about the Esri EUEI (End User

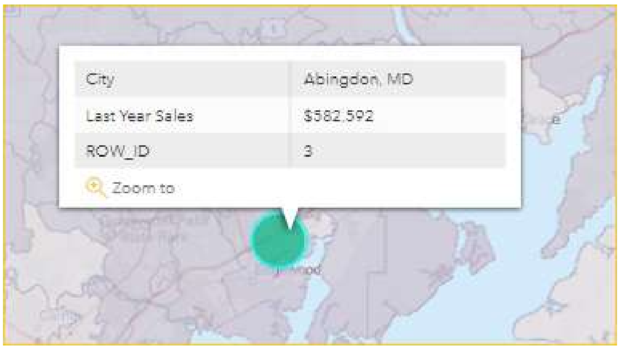
Experience) program, and turn **Send usage data** to Esri on or off.

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 example below shows a tooltip for the Cleveland, Ohio, 2020 Total Population broken down by five-year age increments.

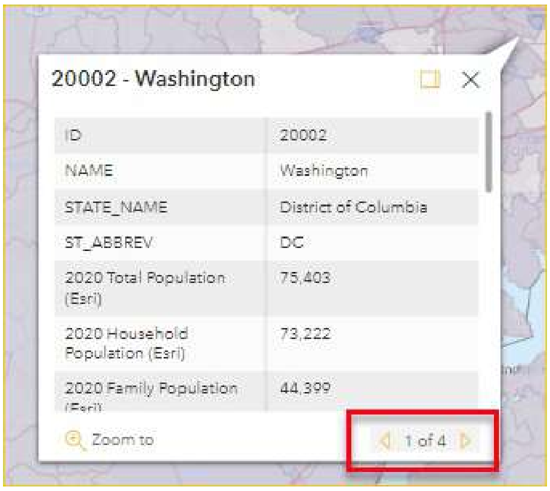


Hover your pointer over basemap location symbols to display symbol details in a tooltip.



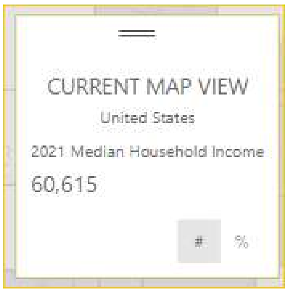
TIP

You may 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 added an Infographics layer to the ArcGIS map, you will see additional data displayed in the upper right corner of the map. For example, here the report designer added 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
Power BI publish to web	Yes, for designers signed in to a valid licensed ArcGIS account.
Power BI Embedded	Yes, for designers signed in to a valid licensed ArcGIS account
Power BI service embedding (powerbi.com)	No
Power BI Report Server	Yes, when signed in to 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, visit Understand credits

*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 are not supported in mobile environments.

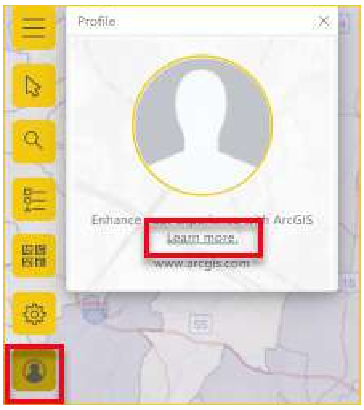
In services or applications for which ArcGIS for Power BI is not available, ArcGIS visualizations will show as an empty visual with the Power BI logo.

How do ArcGIS Maps for Power BI work together?

ArcGIS Map for Power BI is provided by Esri (www.esri.com). 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 in 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 that is provided and maintained by Esri. Additional information about ArcGIS Map for Power BI can be obtained from 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 does not 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 will 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—may also need an ArcGIS account to view shared, potentially licensed content. For details about account types and data limitations, visit the ArcGIS for Power BI online help.

For technical or detailed questions about ArcGIS for Power BI, see Esri's ArcGIS for Power BI online help 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

FEATURE	STANDARD, INCLUDED WITH POWER BI	REQUIRES ARCGIS ACCOUNT
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/account. This includes access to ArcGIS Living Atlas of the World maps and layers (feature services) and publicly shared feature layers in ArcGIS.
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/account; includes access to the ArcGIS GeoEnrichment data browser, maximum of five variables, support for all distance and travel settings

The ArcGIS map is not showing up

In services or applications where ArcGIS Map for Power BI is not 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/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 is not subject to the 15,000 address limit.

Is there any charge for using ArcGIS Map for Power BI?

The ArcGIS Map for Power BI is available to all Power BI users at no additional cost. It is 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 that appears 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

Getting help: **Esri** provides comprehensive documentation on the feature set of **ArcGIS Map for Power BI**.

You can ask questions, find the latest information, report issues, and find answers on the Power BI community thread related to **ArcGIS Map for Power BI**.

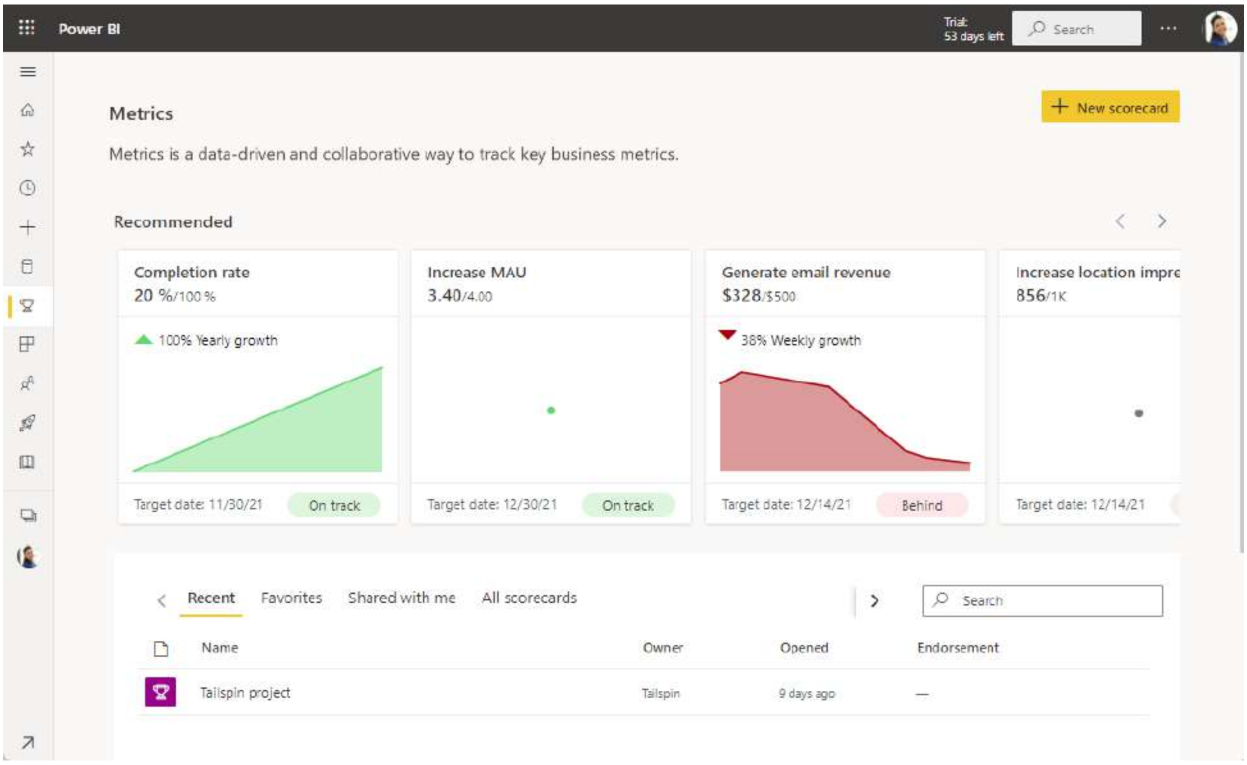
ArcGIS Map for Power BI product page

Get started with metrics in Power BI

12/15/2022 • 5 minutes to read • Edit Online

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.



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 connected metrics in Power BI
- Stay on top of your metrics in the Power BI service
- 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 is a Pro feature. Users can access various aspects of the experience depending on their license.

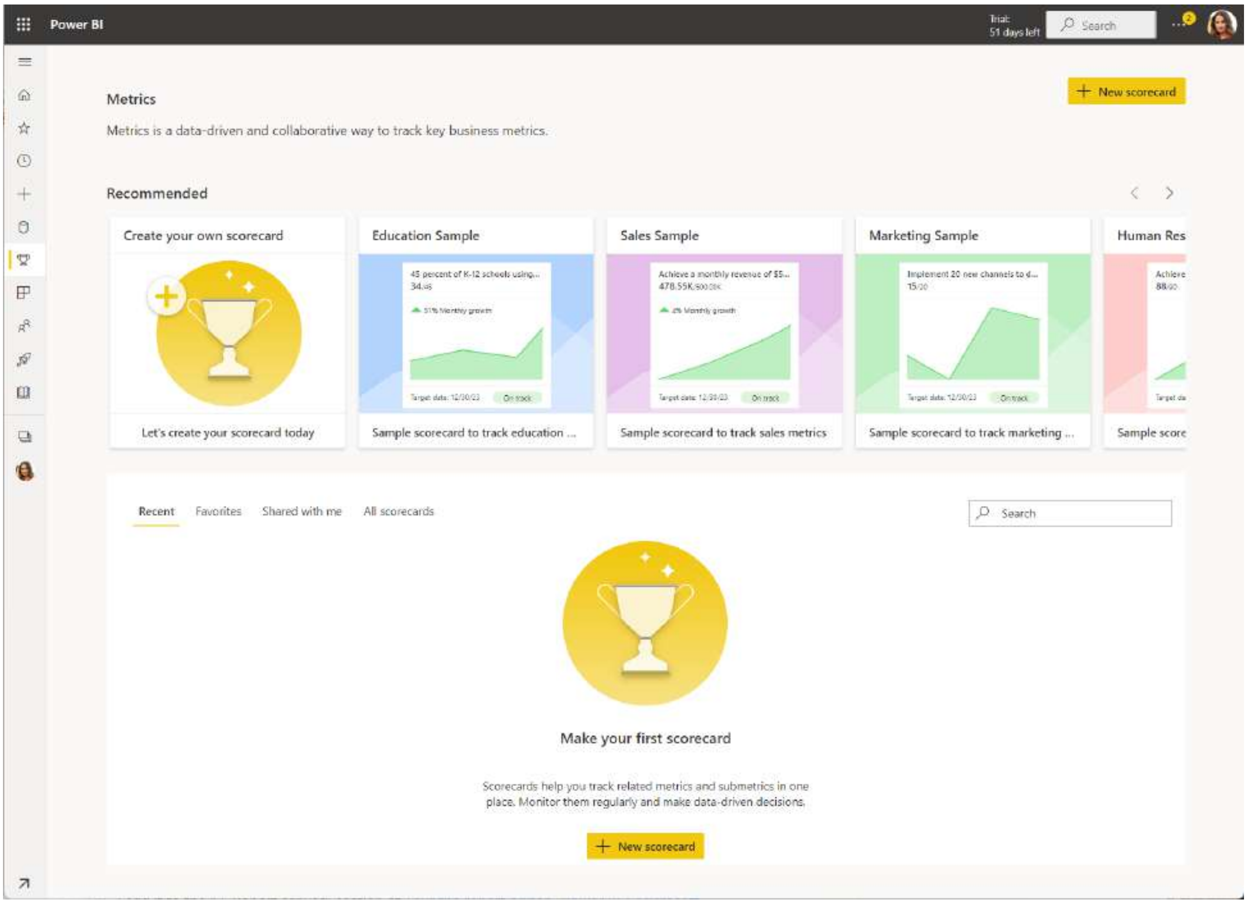
PERMISSION	MINIMUM REQUIREMENTS
Author and share scorecards and metrics, and perform check-ins	Power BI Pro license

PERMISSION	MINIMUM REQUIREMENTS
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.

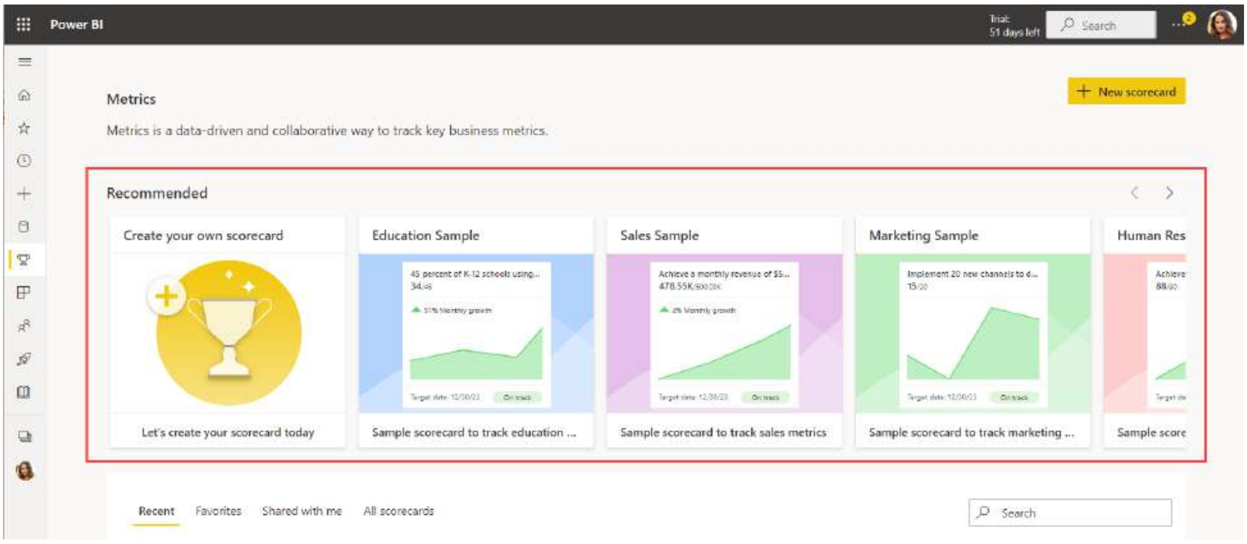
Explore the Metrics hub page

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.



Recommended

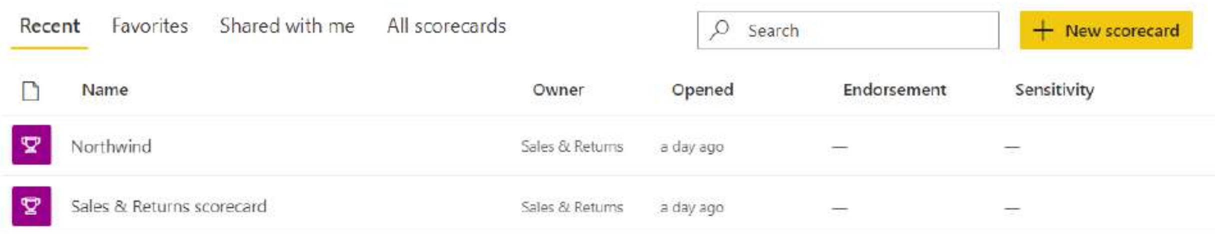
The top section contains all the metrics that matter the most to you, and the scorecard samples. Power BI curates these metrics automatically, based on metrics that you're assigned to, you've edited, or you've performed a recent check-in. If you don't have any scorecards yet, you see the samples there.



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.



- **Recent** are the scorecards you've visited most recently. Each item has a timestamp.
- **Favorites** are the scorecards you've starred.

- **Shared with me** contains scorecards that your colleagues have shared with you.
- **All scorecards** lists all the scorecards you have access to.

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 (day of the week, month, etc.) We can only pull in the history of a time series when we have a full date to track (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 dataset: Metric values are only updated as often as the dataset is refreshed. If you don't have a scheduled refresh on your dataset, you won'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 dataset refreshes.

How often do metrics update in the scorecard?

Metrics only update as often as the data updates in the dataset. 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 dataset 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 so that 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 or app-owns-data scenarios for embedded.
- Business-to-business sharing (sharing across tenants) isn't supported.
- Scorecards aren't supported in a Multi-Geo capacity.

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

More questions? Try the Power BI Community.

Stay on top of your metrics

12/15/2022 • 2 minutes to read • Edit Online

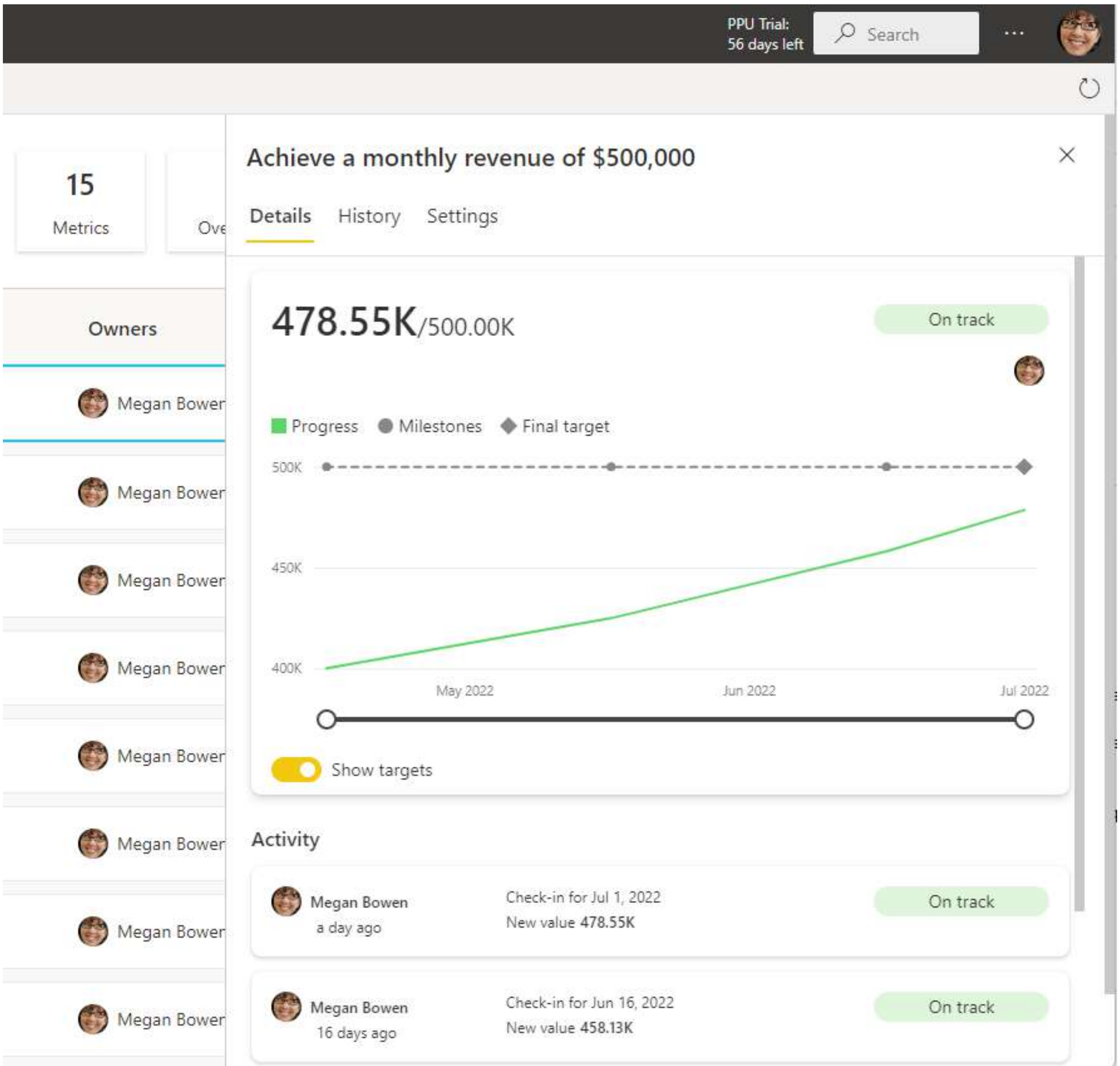
APPLIES TO: ✕ Power BI Desktop ✔ Power BI service

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, and follow metrics. These features are covered in this article.

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.

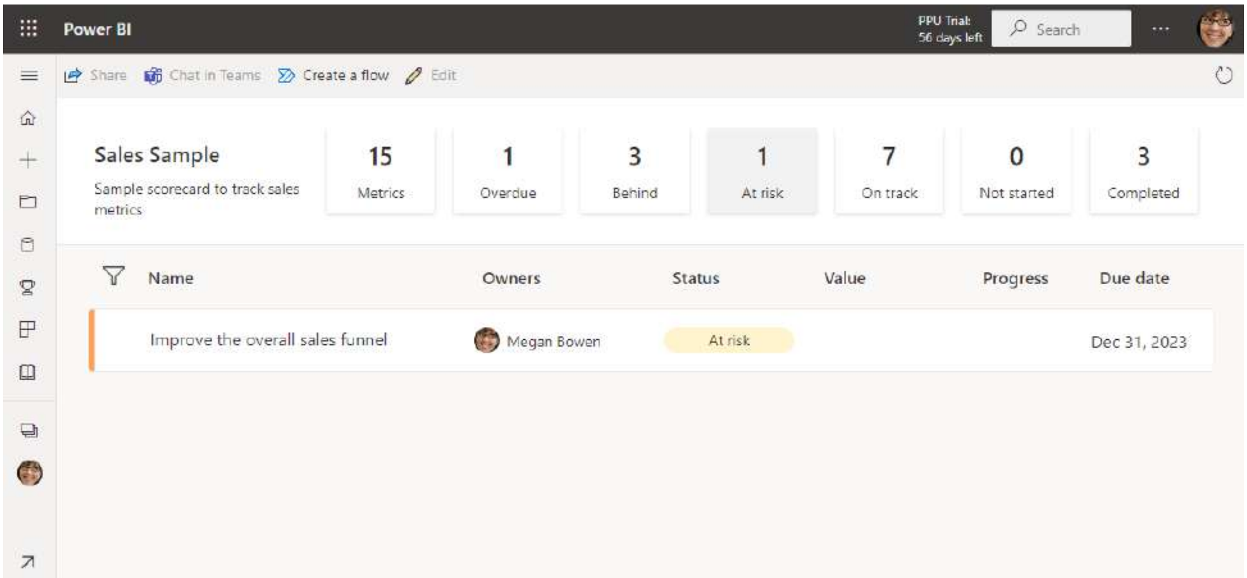
- To access the details pane, open a scorecard and select the metric name. Power BI automatically shows the details pane.



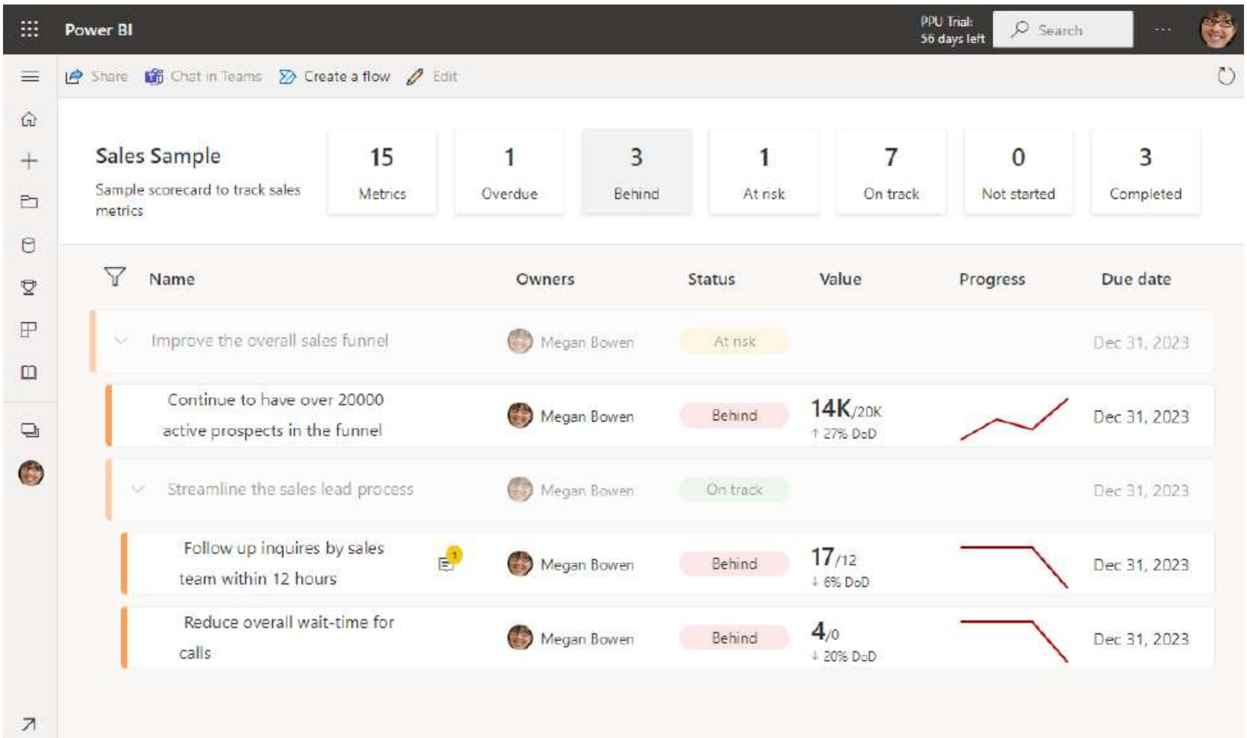
Filtering and keyword search

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*.

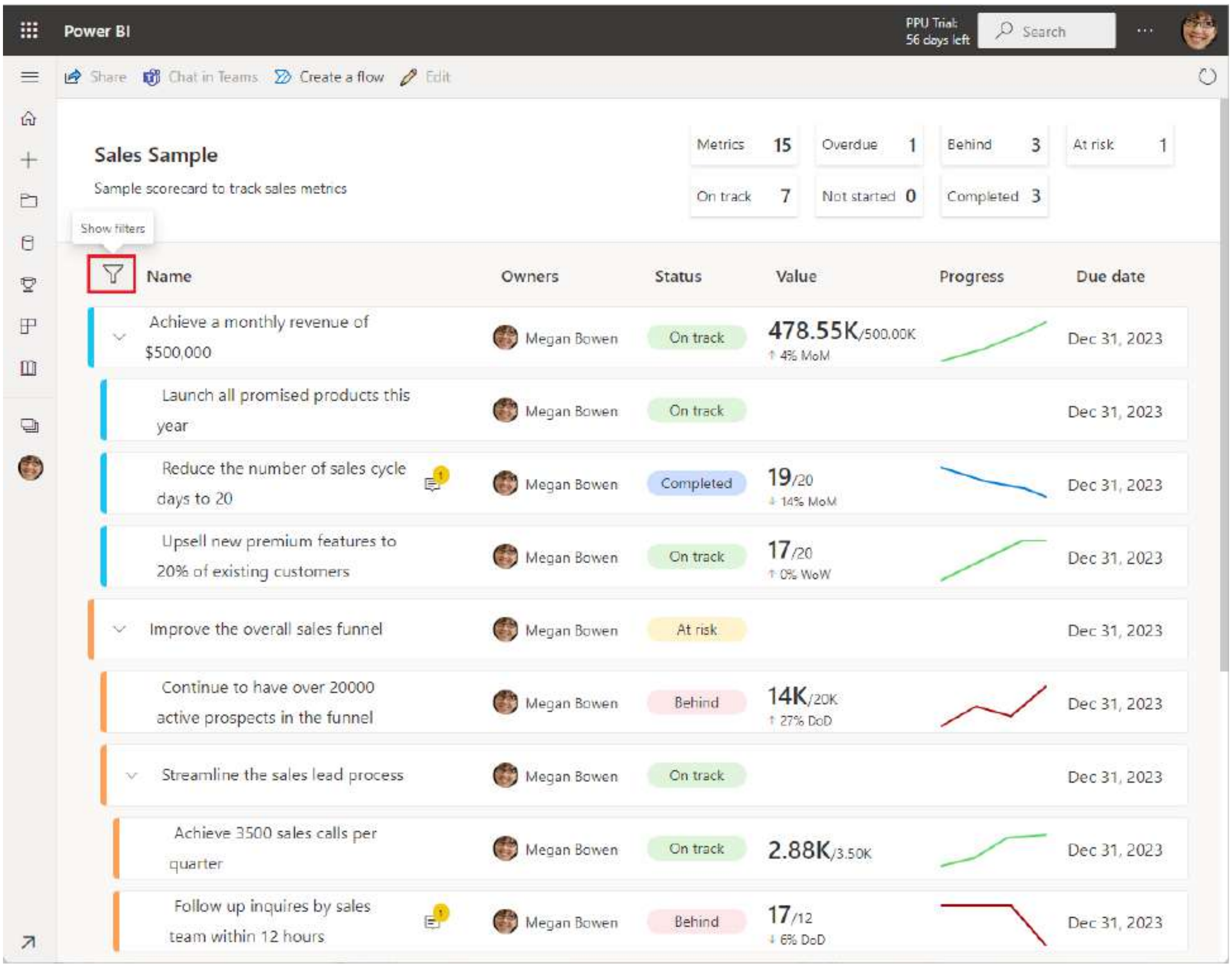


This metric is *behind*.

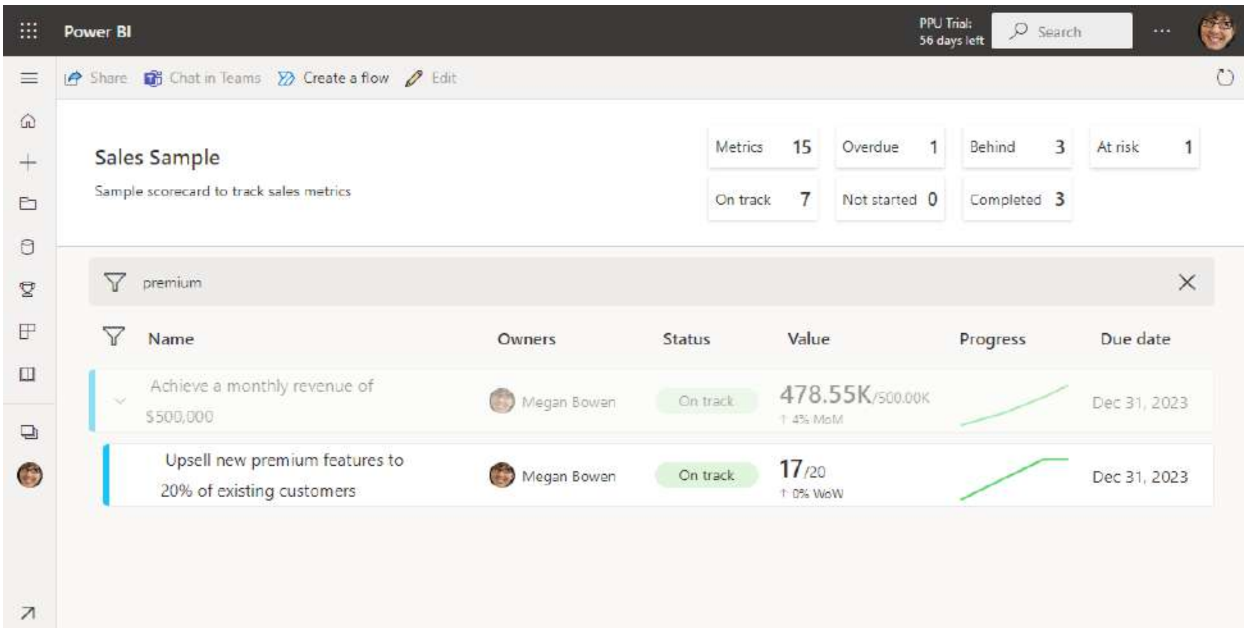


There's also a keyword search that filters the scorecard down to metrics that match the keyword. Select the **Filter** icon above the first metric and type the keywords you're looking for. The scorecard filters to show those results, without losing the context of any parent/child metric relationships, making it easy to quickly find a particular metric and see how it's doing.

The scorecard before filtering.



The scorecard filtered to *Premium*.



Update manual values

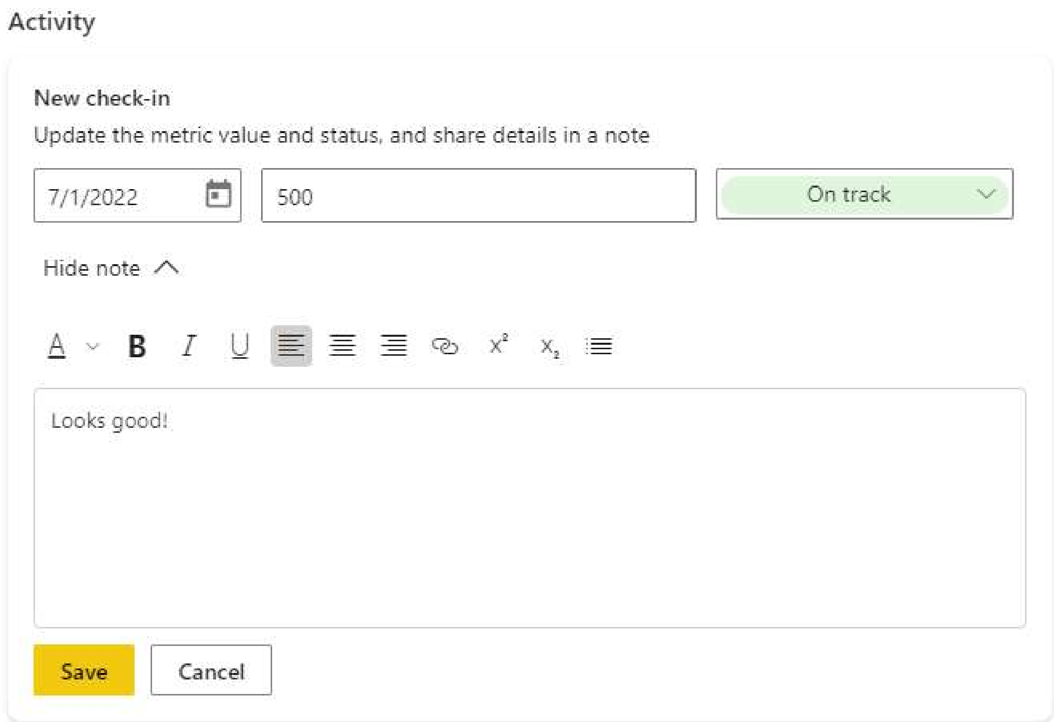
1. In a scorecard, select the metric name.
2. In the **Details** pane, select **New check-in**.
3. Complete the following actions in any order:

   Choose a **date**.

Enter a new or updated **value**.

Select a **status**.

Optionally, include a **note**.



4. Select **Save**.

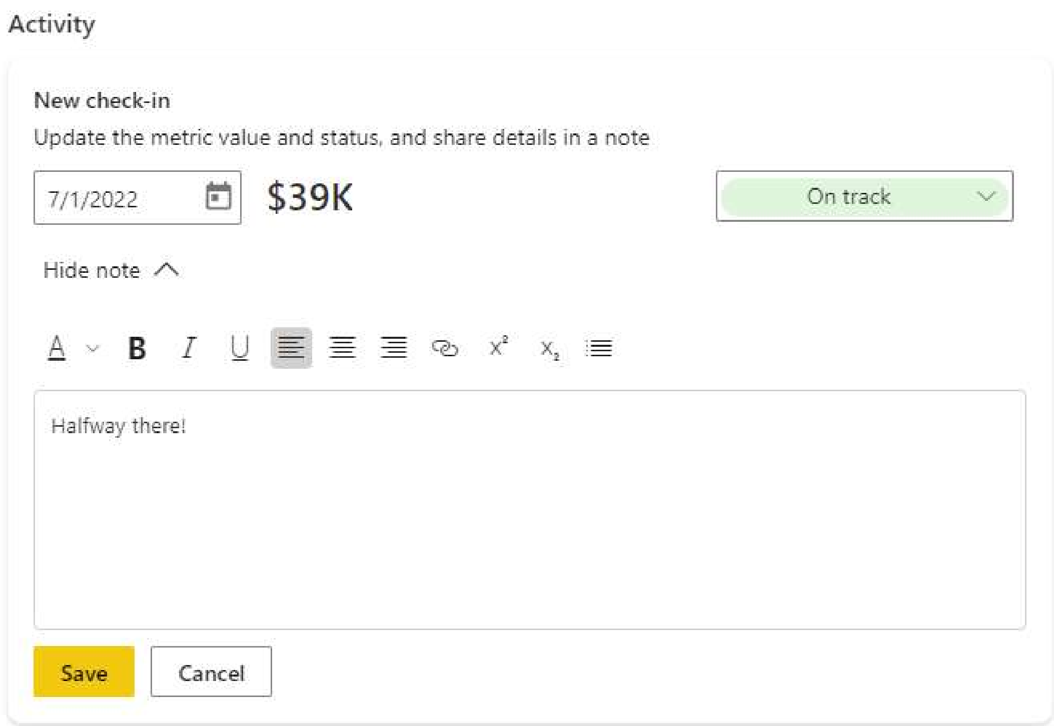
Update connected values

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**.

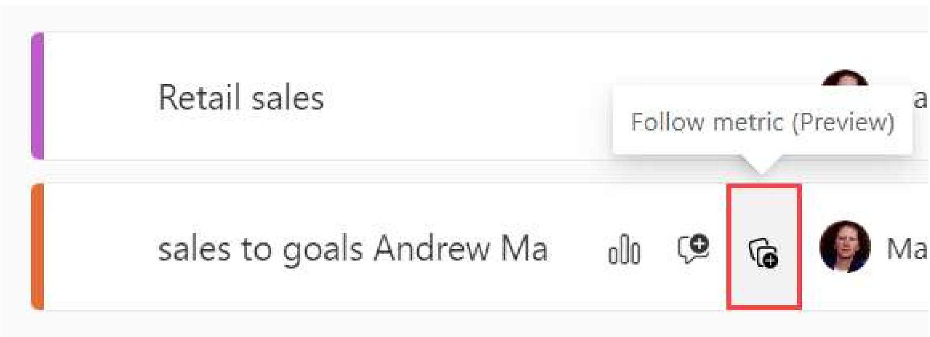


4. Select **Save**.

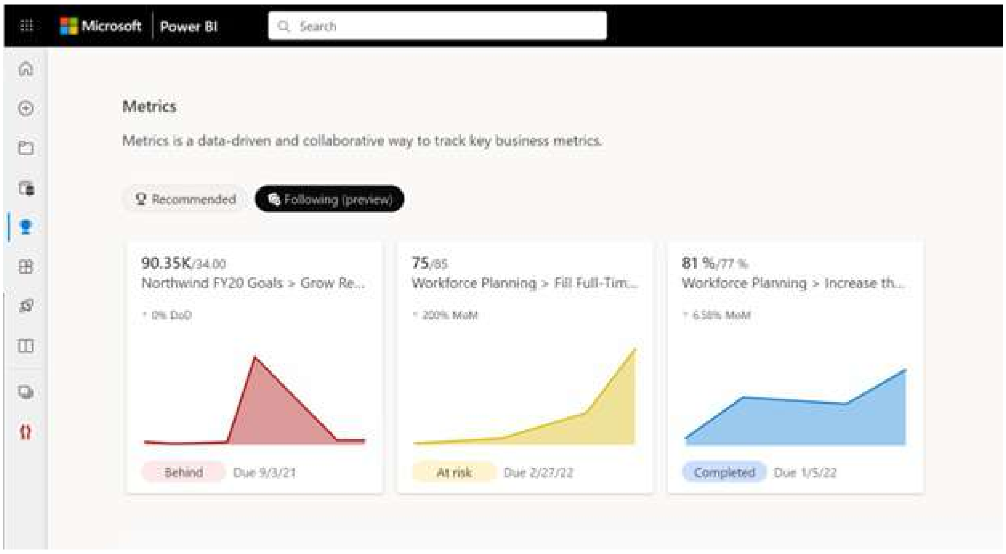
Follow metrics

Use the *Follow* functionality to quickly access metrics you're interested in and stay up to date on the activity on these metrics. You can follow metrics as you're browsing through different scorecards and later access all your followed metrics in one place. This makes it easy to get a quick overview of the metrics you care about, without having to navigate to different scorecards often.

To follow, hover over the metric in the scorecard to select the **Follow metric** icon.

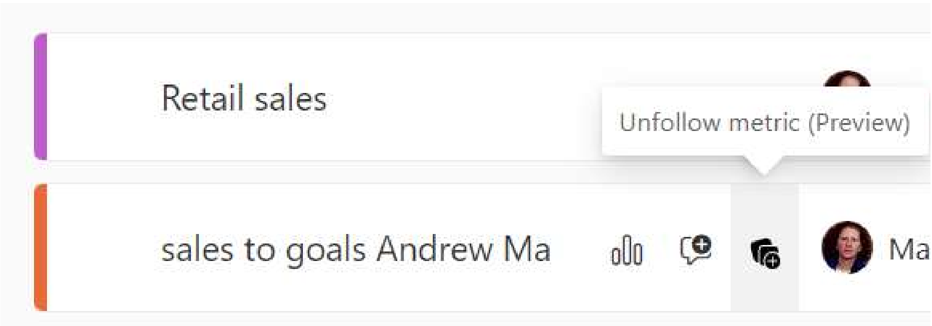


To see all your followed metrics, go to the Metrics hub and select **Following**.



Once you follow a metric, you'll get Teams notifications whenever the metric definition is updated, a check-in is added, or an automated status rule changes the status of the metric. Read more about notifications in Teams.

To unfollow and stop getting Teams notifications, select the **Unfollow metric** icon while hovering over the metric.



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

12/15/2022 • 2 minutes to read • Edit Online

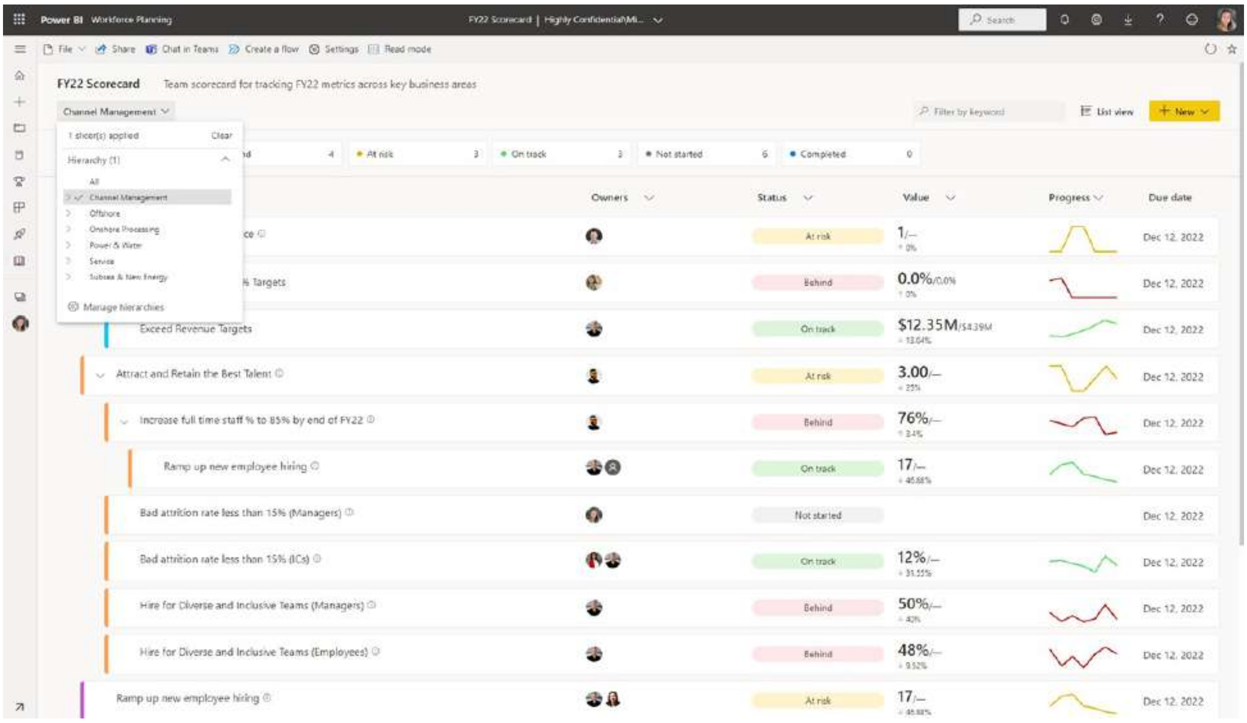
APPLIES TO: ✕ Power BI Desktop ✔ Power BI service

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.

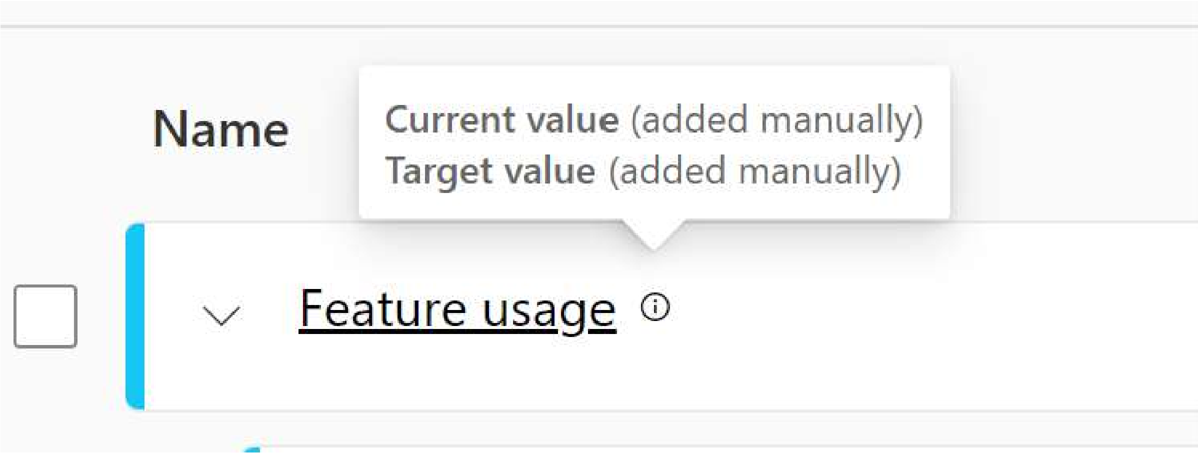
- Scorecard list view
- Heatmap view

Scorecard list view

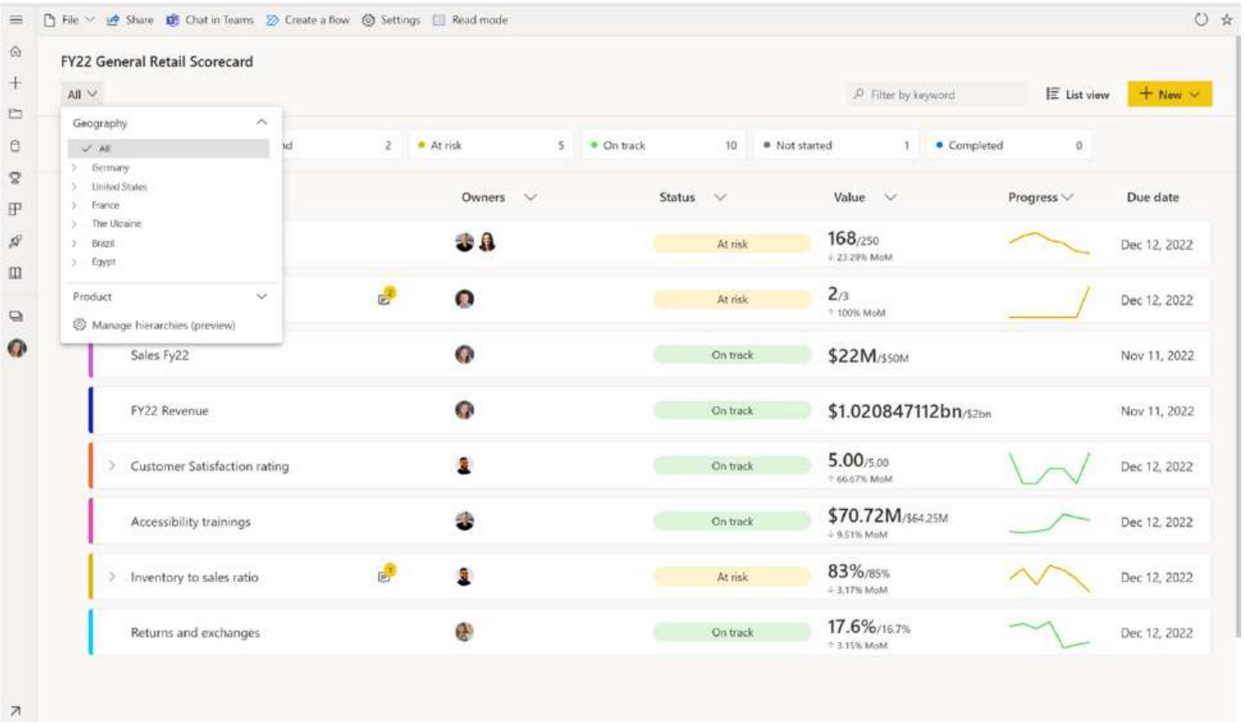
To view your hierarchical scorecard, you can use the slicer to navigate to whichever level of your hierarchy you want to view. From here you can do things like open the details pane, go to a report, and perform check-ins, just like any other scorecard view.



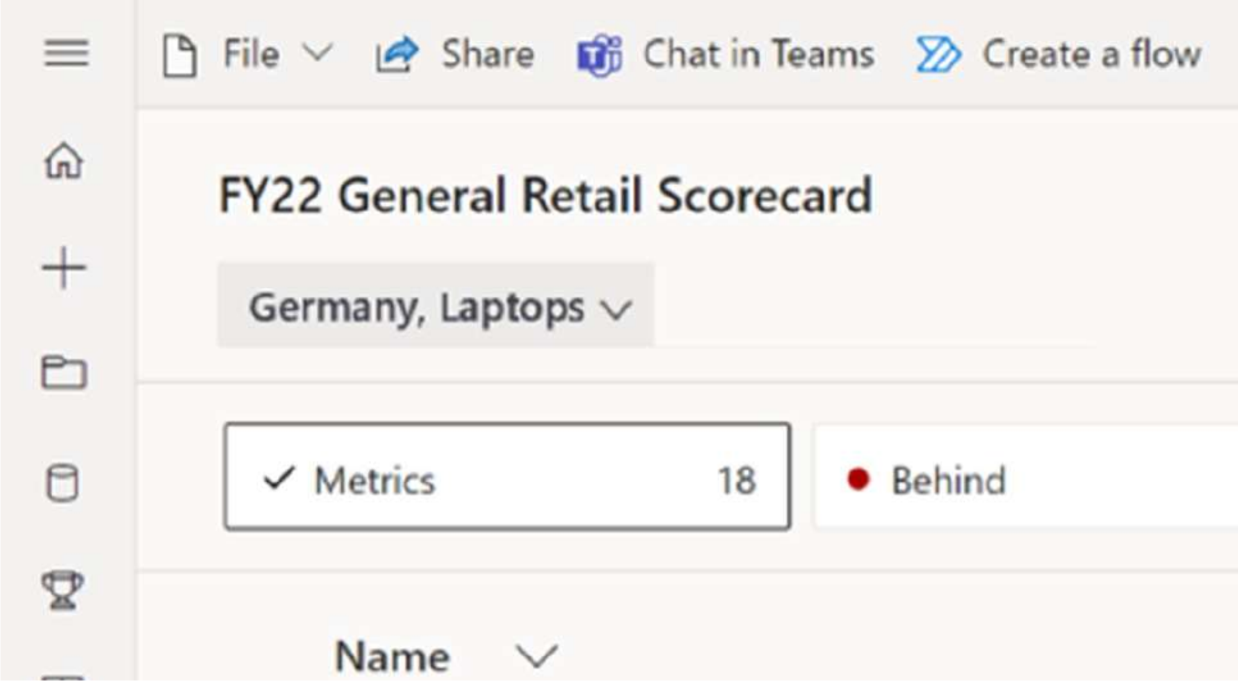
All connected values, mapped owners, and statuses dictated by rules will reflect the appropriate data at each hierarchy level, so long as the relationships exist. There needs to be a relationship between the hierarchy level fields in the underlying datasets to correctly filter the values. Manual metrics will be indicated by an information icon showing which values are manual for that metric.



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.

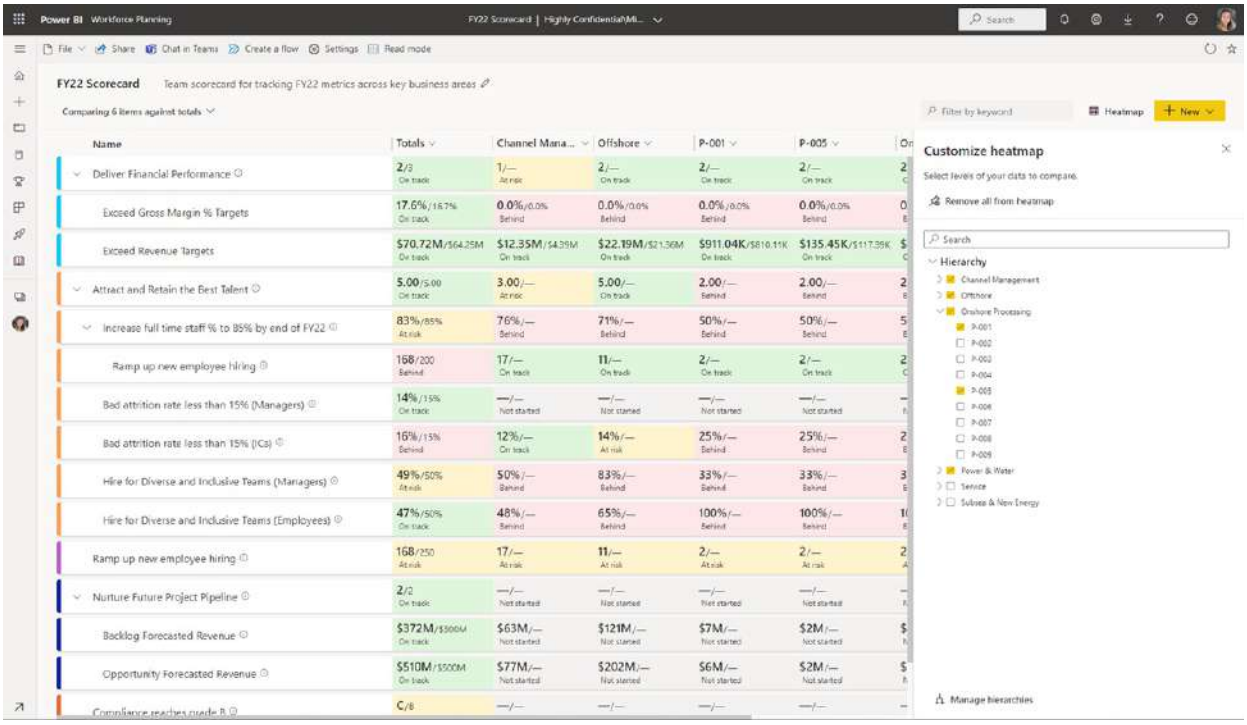


Here the header within a scorecard restates the two levels of the hierarchy that a user chose, Germany and Laptops.

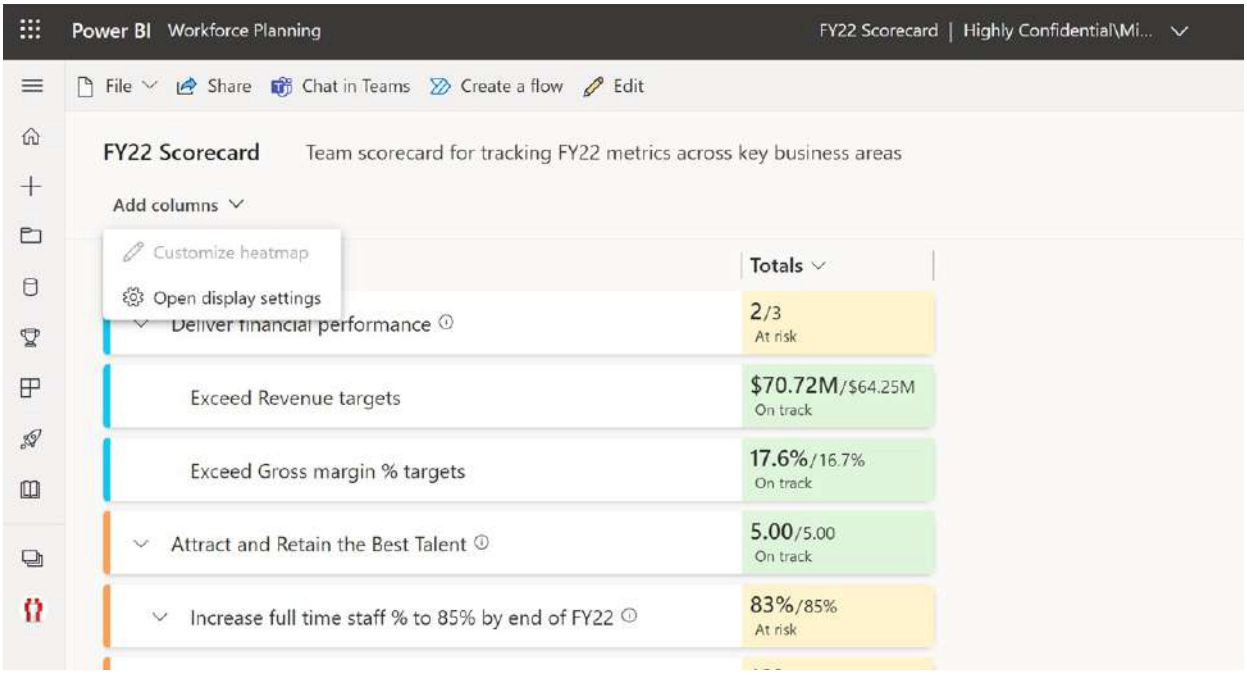


Heatmap view

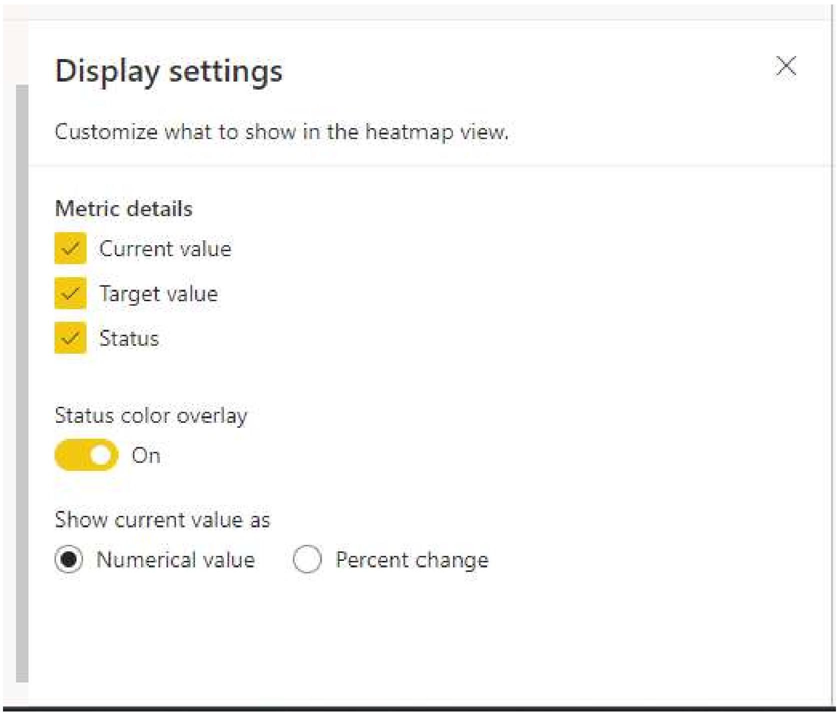
By selecting **Heatmap** from the view options, you can start to build a custom heatmap view that allows side by side comparison of different hierarchy levels. This experience is exposed in read mode, so consumers can also do their own exploration using the pane, showing and comparing different segments, though saving and sharing views aren't yet supported.



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.



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 datasets)
  - 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 dataset 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 dataset, instead of cached when the dataset refreshes.
- Saving and sharing heatmap views isn't yet supported.

Next steps

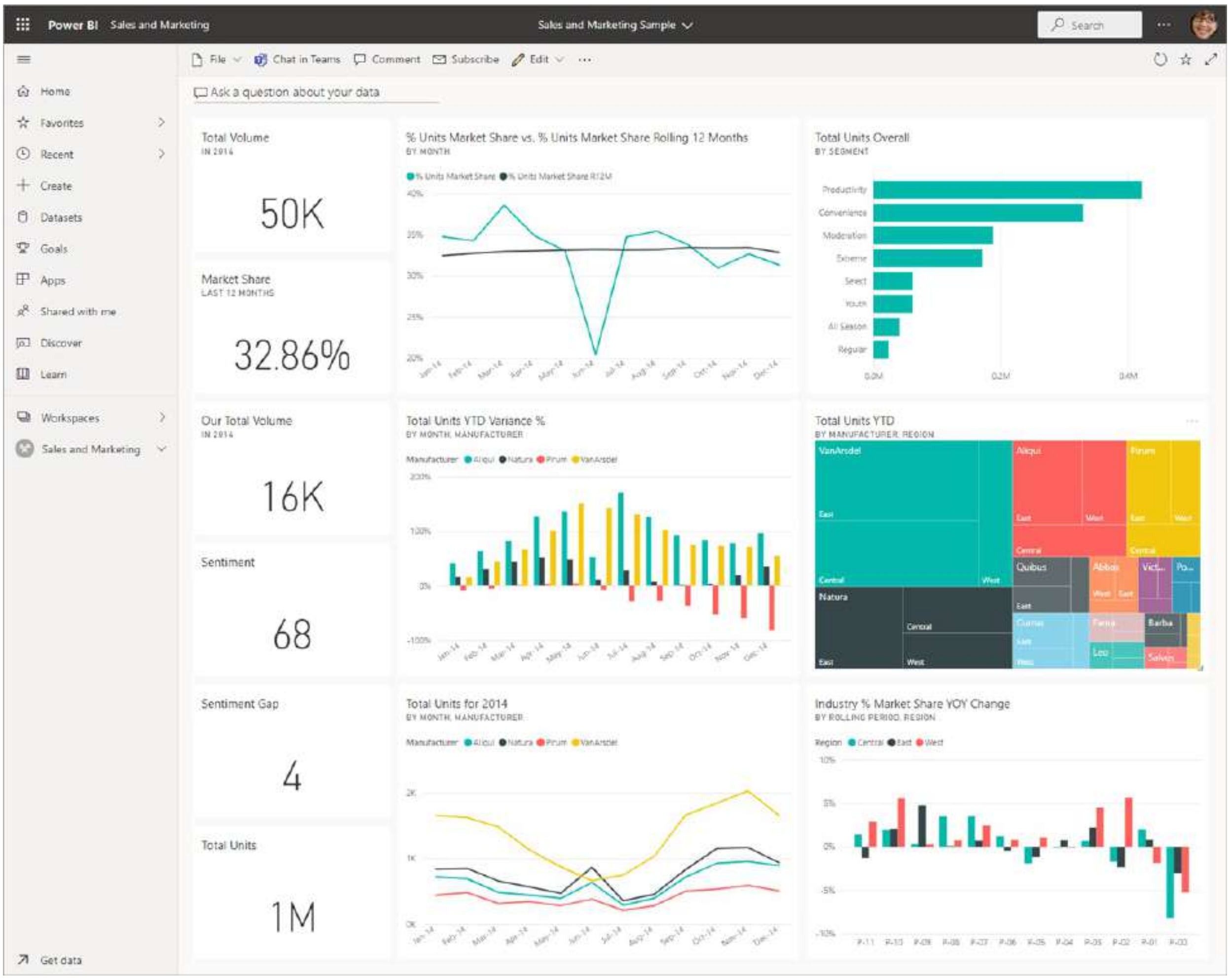
- Get started with cascading scorecards in Power BI
- Scenarios: When to use hierarchies in Power BI scorecards

Dashboards for business users of the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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

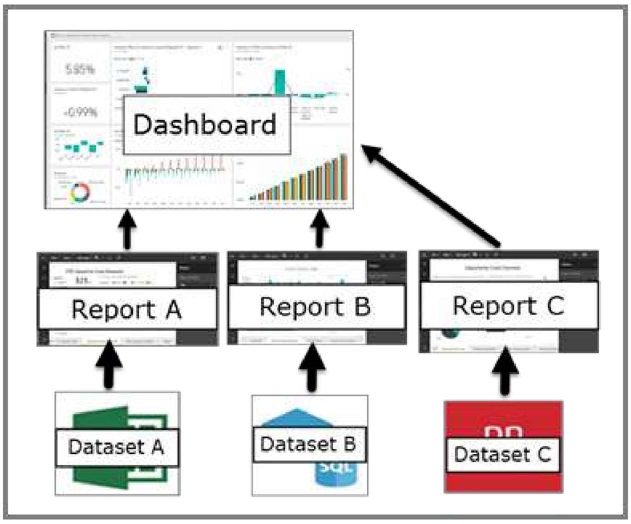
A Power BI ***dashboard*** is a single page, often called a canvas, that uses visualizations to tell a story. Because it is limited to one page, a well-designed dashboard contains only the most-important elements of that story.



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. If you're new to Power BI, you can get a good foundation by reading Power BI basic concepts.

> **NOTE**
>
> Dashboards can be viewed and shared on mobile devices.
>
> For colleagues to be able to share dashboards with you, your version of Power BI must be "Pro" or "Premium." For more information, see Power BI license types.

The visualizations on a dashboard come from reports and each report is based on one dataset. In fact, one way to think of a dashboard is as an entryway into the underlying reports and datasets. Selecting a visualization takes you to the report that was used to create it.



Advantages of dashboards

Dashboards are a wonderful way to monitor your business, to look for answers, and to see all of your most-important metrics at a glance. The visualizations on a dashboard may come from one underlying dataset or many, and from one underlying report or many. A dashboard can combine on-premises and cloud data, providing a consolidated view regardless of where the data lives.

A dashboard isn't just a pretty picture; it's interactive and the tiles update as the underlying data changes.

Dashboards versus reports for Power BI *business users*

The way you interact with Power BI will depend on your job role. As a consumer or *business user*, you are the person who receives content (dashboards, reports, and apps) from *creator* colleagues. Reports are often confused with dashboards since they too are canvases filled with visualizations. But there are some major differences from a Power BI *business user* point of view.

CAPABILITY	DASHBOARDS	REPORTS
Pages	One page	One or more pages
Ask a question about your data (Power BI Q&A) field at top	almost always	no
Data sources	One or more reports and one or more datasets per dashboard	A single dataset per report
Filtering	Can't filter or slice	Many different ways to filter, highlight, and slice
Set alerts	Can create alerts to email you when certain conditions are met	No
Featured	Can set one dashboard as your "featured" dashboard	Cannot create a featured report
Can see underlying dataset tables and fields	No. Can export data but can't see tables and fields in the dashboard itself.	Yes. Can see dataset tables and fields and values.

Dashboard designers and dashboard business users

As a Power BI ***business user***, you receive dashboards from *designers*. Continue learning about dashboards with these topics:

- View a dashboard
- Learn about dashboard tiles and what will happen when you select one.
- Want to track an individual dashboard tile and receive an email when it reaches a certain threshold? Create alerts on tiles.
- Have fun asking your dashboard questions. 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**
>
> If you didn't find what you're looking for here, use the Table of Contents to the left.

Next steps

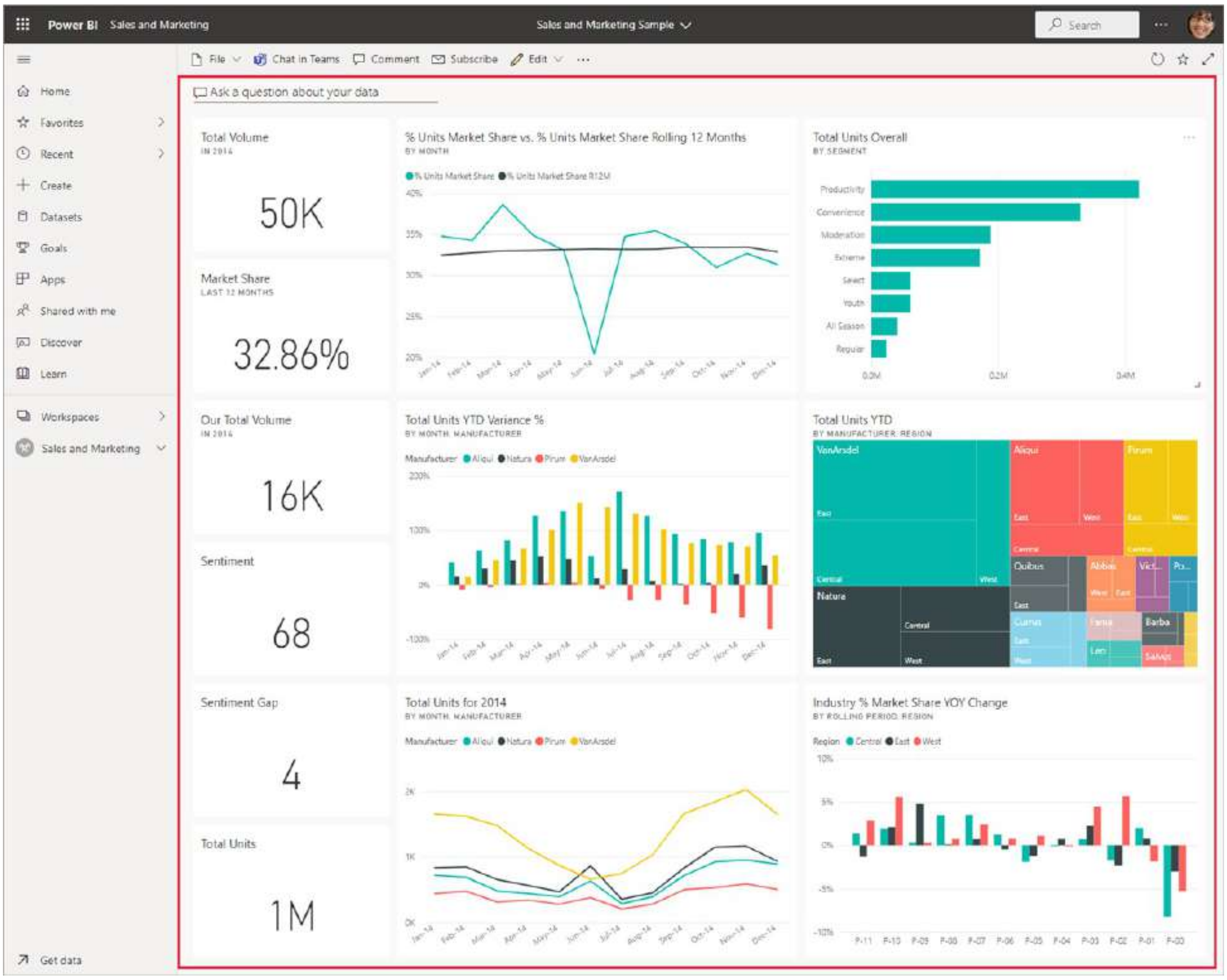
View a dashboard

View a dashboard

12/15/2022 • 2 minutes to read • Edit Online

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

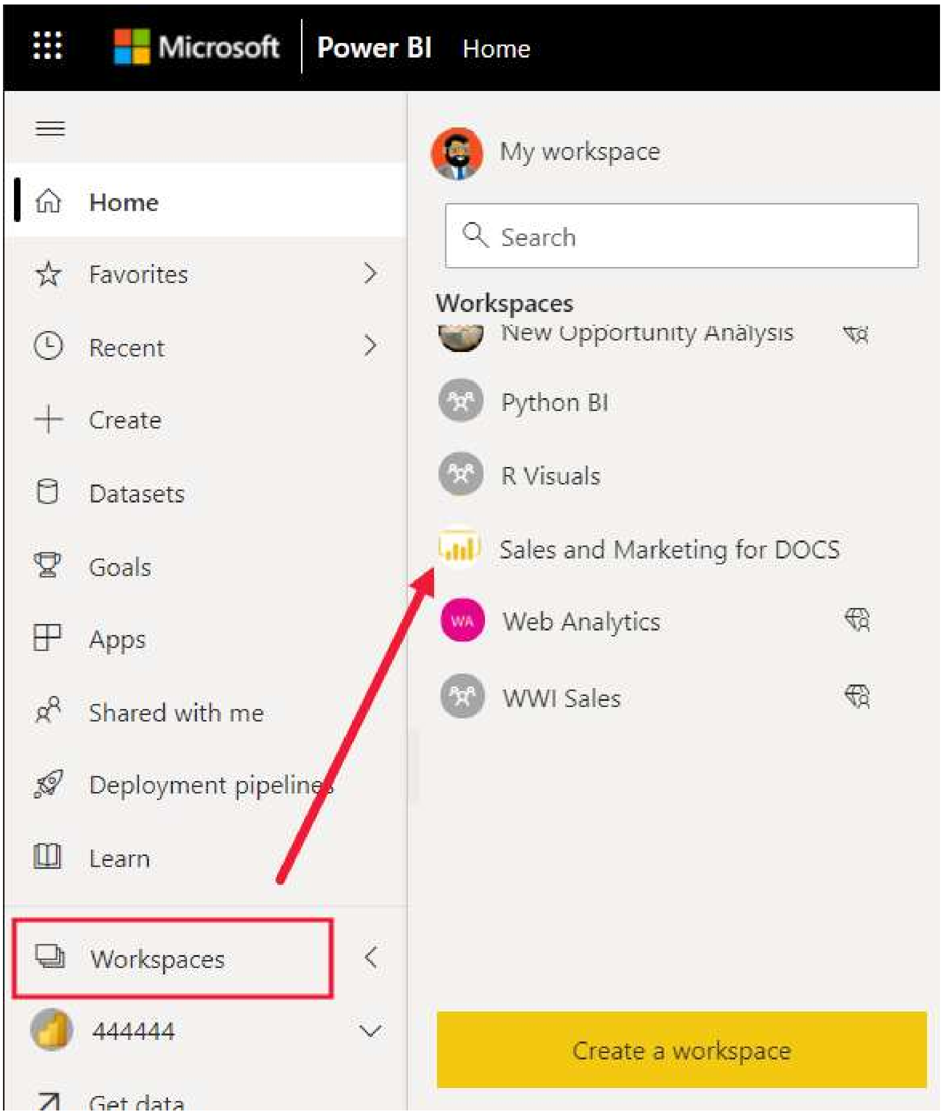
Power BI *business users* spend a lot of time viewing dashboards. Dashboards are designed to highlight specific information from the underlying reports and datasets. And Power BI business users rely on that information for tracking, monitoring, answering questions, testing, and more -- in order to make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



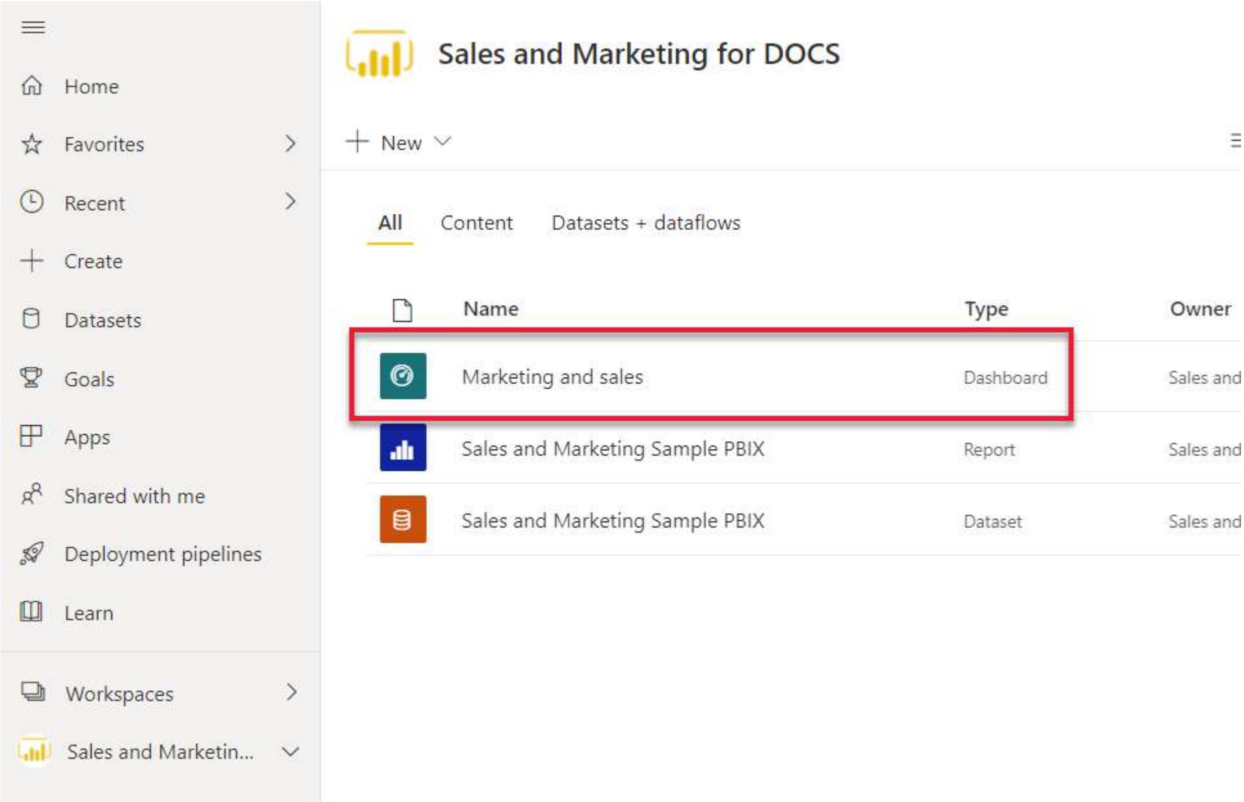
A Power BI Pro or Premium license is required for both sharing a dashboard and viewing a shared dashboard. Which license do I have?.

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.



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



Once you've identified a dashboard, open it by selecting it and the dashboard will fill your Power BI canvas.

You may find dashboards in all of the containers in the nav pane.

- **Home**
- **Favorites** - if you've set a dashboard as a favorite
- **Recent** - if you've recently visited a dashboard
- **Apps** - most apps contain both dashboards and reports
- **Shared with me** - if a colleague has shared a dashboard with you
- **My workspace** - if you've downloaded any of the Power BI samples

Next steps

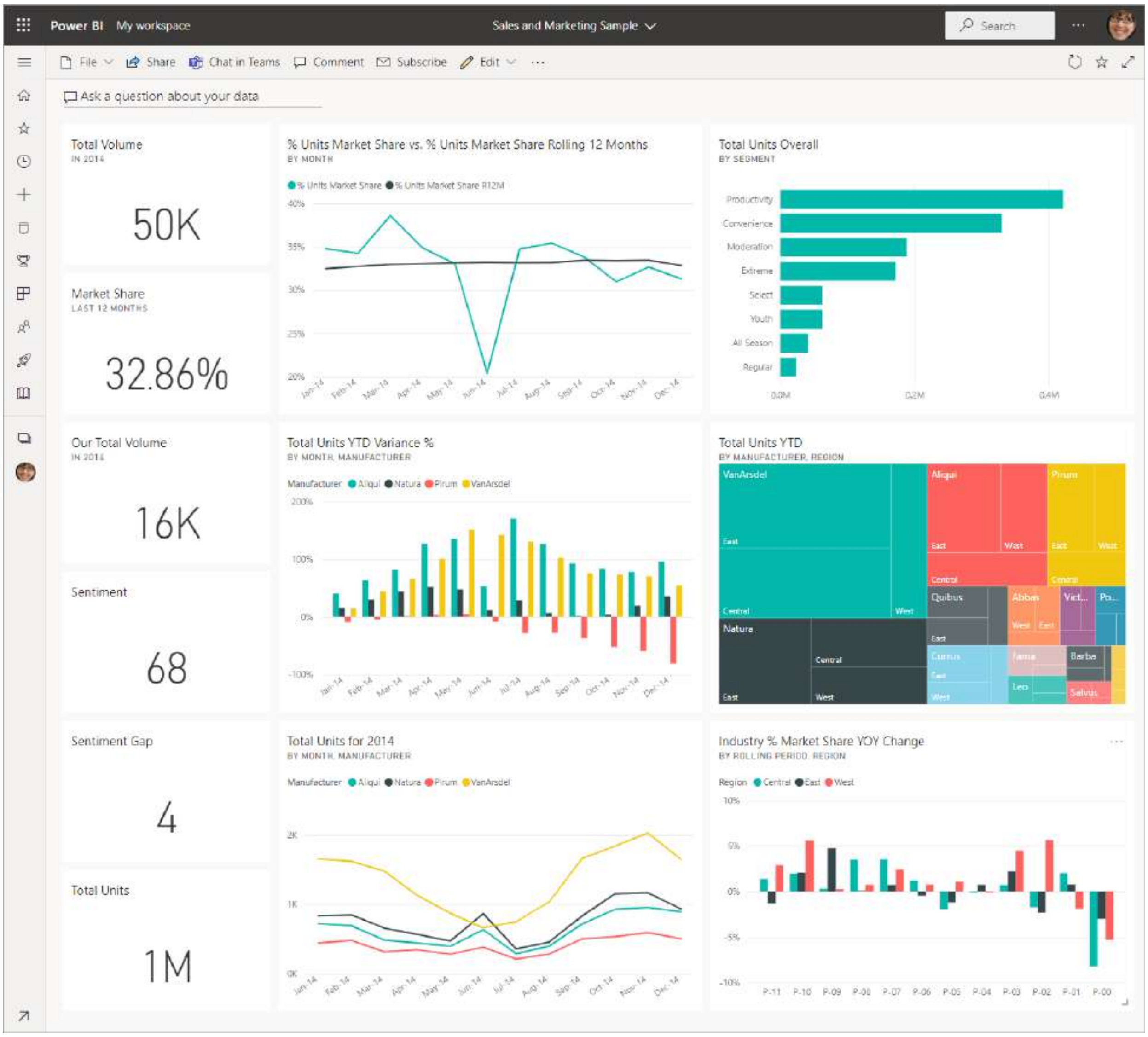
- Back to dashboard overview
- Get comfortable with dashboards by taking a tour of one of our sample dashboards.
- Learn about dashboard tiles and what will happen when you select one.

Dashboard tiles in Power BI

12/15/2022 • 3 minutes to read • Edit Online

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 Q&A question box, Excel, SQL Server Reporting Services (SSRS), and more. This screenshot shows many different tiles pinned to a dashboard.

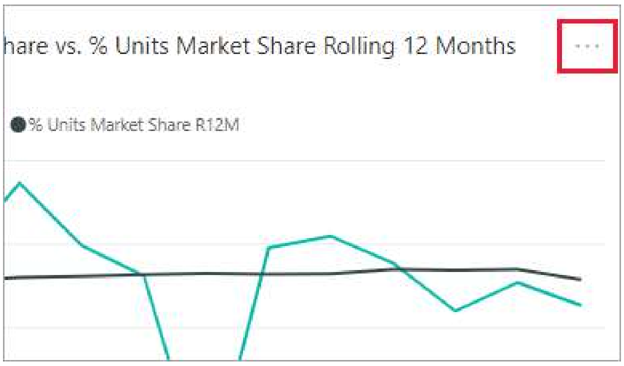


Besides tiles pinned from reports, *designers* can add standalone tiles directly on the dashboard using **Add tile**. Standalone tiles include: text boxes, images, videos, streaming data, and web content.

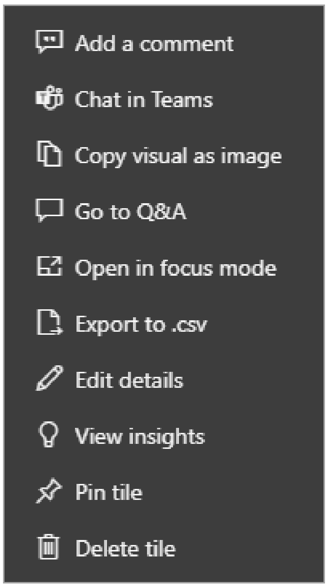
Need help understanding the building blocks that make up Power BI? See Power BI - Basic Concepts.

Interacting with tiles on a dashboard

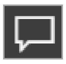
1. Hover over the tile to display the ellipses.



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. For example, the menu items available for tiles pinned from Q&A are different than the tiles pinned from a report. Here is an action menu for a tile created using Q&A.



Some of the actions available from these menus are:

- Open the report that was used to create the tile 
- Open the Q&A question that was used to create the tile 
- View the tile in focus mode 
- View insights 
- Add a comment and start a discussion 
- Manage alerts set on a dashboard tile 
- Open the data in Excel 

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

Select (click) 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 (click) a tile, or you receive an error message, here are some possible reasons:
  - The report that was used to create the visualization was not saved, or has been deleted.
  - The tile was created from a workbook in Excel Online, and you do not have at least Read permissions for that workbook.
  - If the tile was created from SSRS, and you don't have permission to the SSRS report or 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, and or tile will open 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 does not.
- If a workspace is moved to Premium capacity, the existing dashboard refresh cache does not move with the workspace. The new cache will be 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.

Next steps

Data refresh

Power BI - Basic Concepts

Add comments to a dashboard or report

12/15/2022 • 4 minutes to read • Edit Online

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

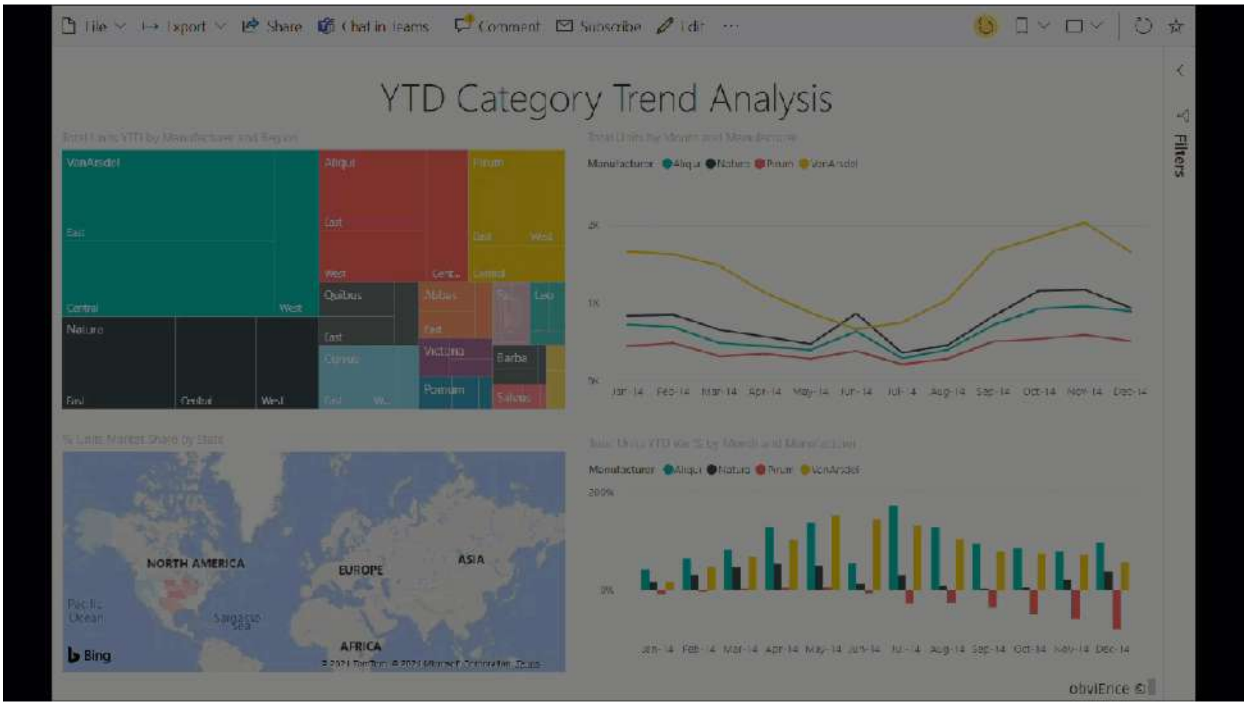
Add a personal comment or start a conversation about a dashboard or report with your colleagues. The **comment** feature is just one of the ways a *business user* can collaborate with others.

> **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, to individual visuals on a dashboard, to a report page, to a paginated report, and to individual visuals on a report page. Add a general comment or add a comment targeted at specific colleagues. Comments can be up to 2000 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. This means that when you select or respond to a comment, the report page or report visual may change to show you the filter and slicer selections that were active when the comment was first added.



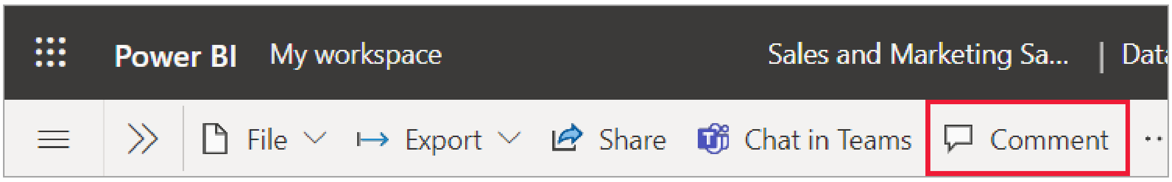
Why is this important? Say a colleague applied a filter that revealed an interesting insight that they want to share with the team. Without that filter selected, the comment might not make sense.

If you are using a paginated report, you may only leave a general comment about your report. Support for leaving comments on individual paginated report visuals is not available.

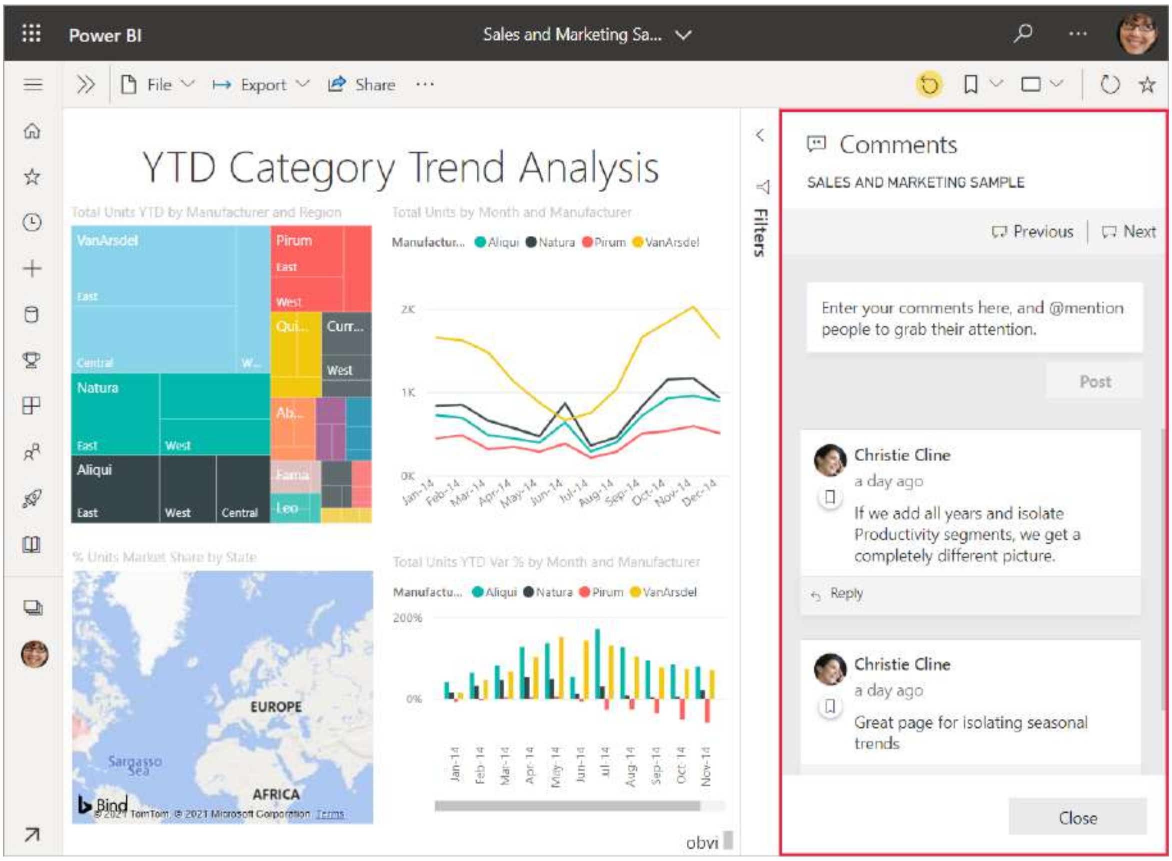
Add a general comment to a dashboard or report

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

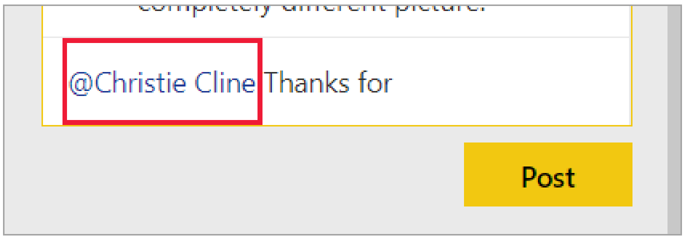
1. Open a Power BI dashboard or report and select the **Comment** icon. This opens the Comments dialog.



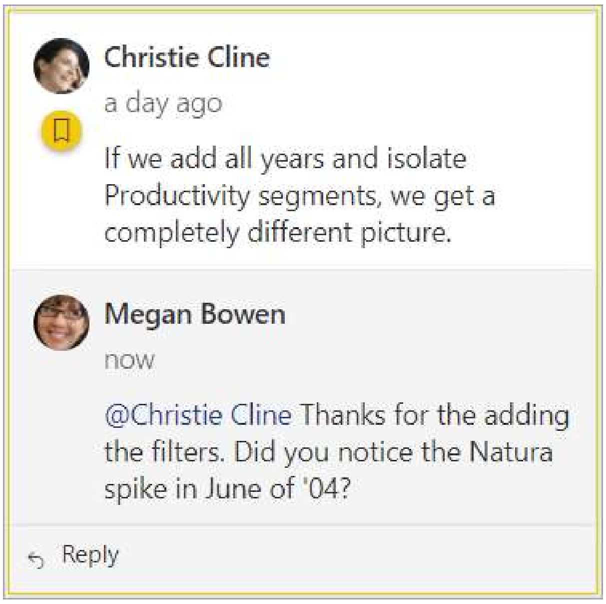
Here we see that the dashboard creator has already added a general comment. Anyone with access to this dashboard can see this comment.



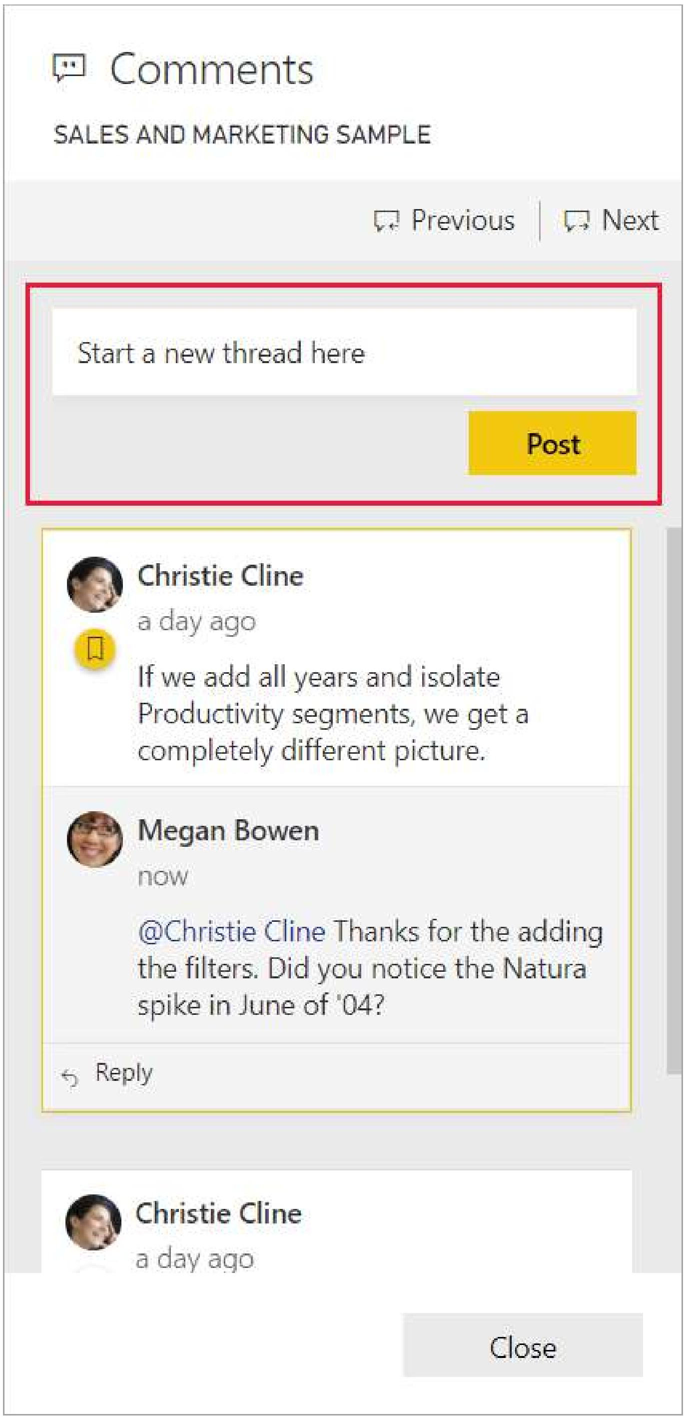
2. To respond, select **Reply**, type your response, and select **Post**.



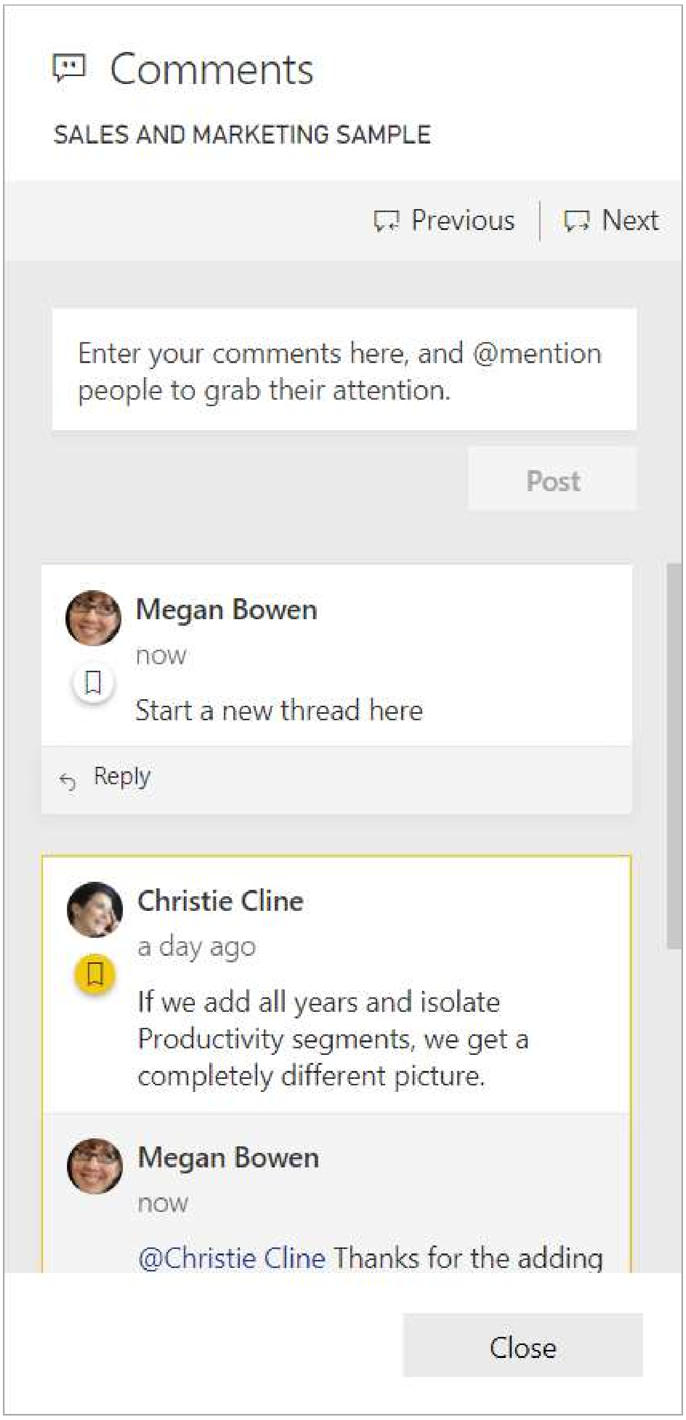
By default, Power BI directs your response to the colleague who started the comment thread, in this case Aaron.



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



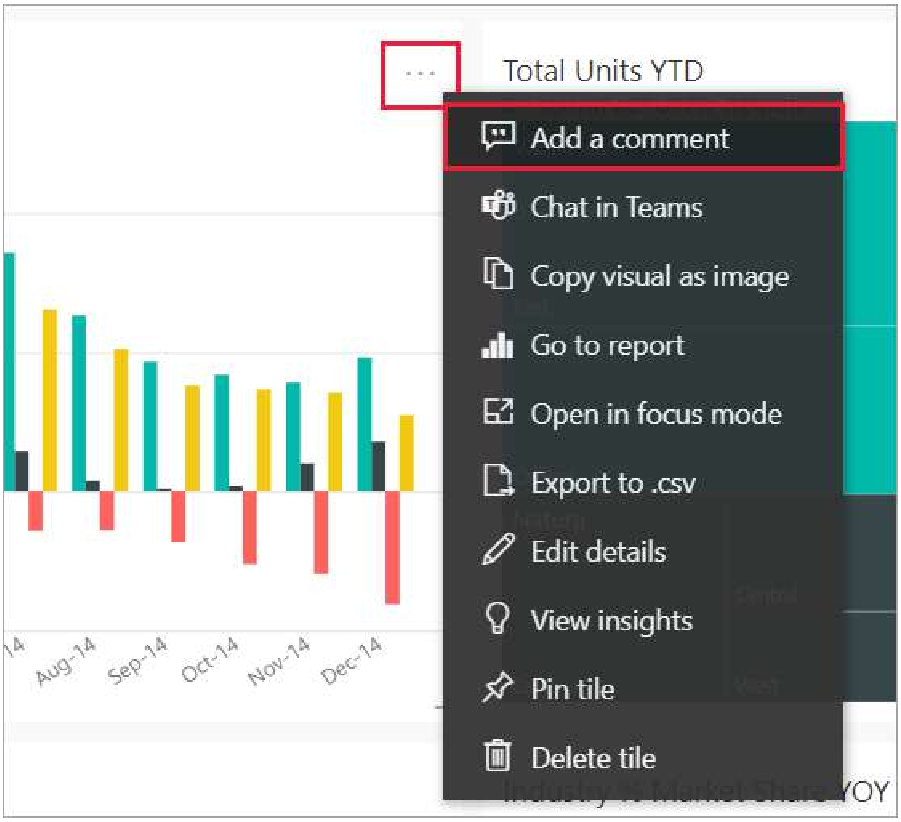
The comments for this dashboard now look like this.



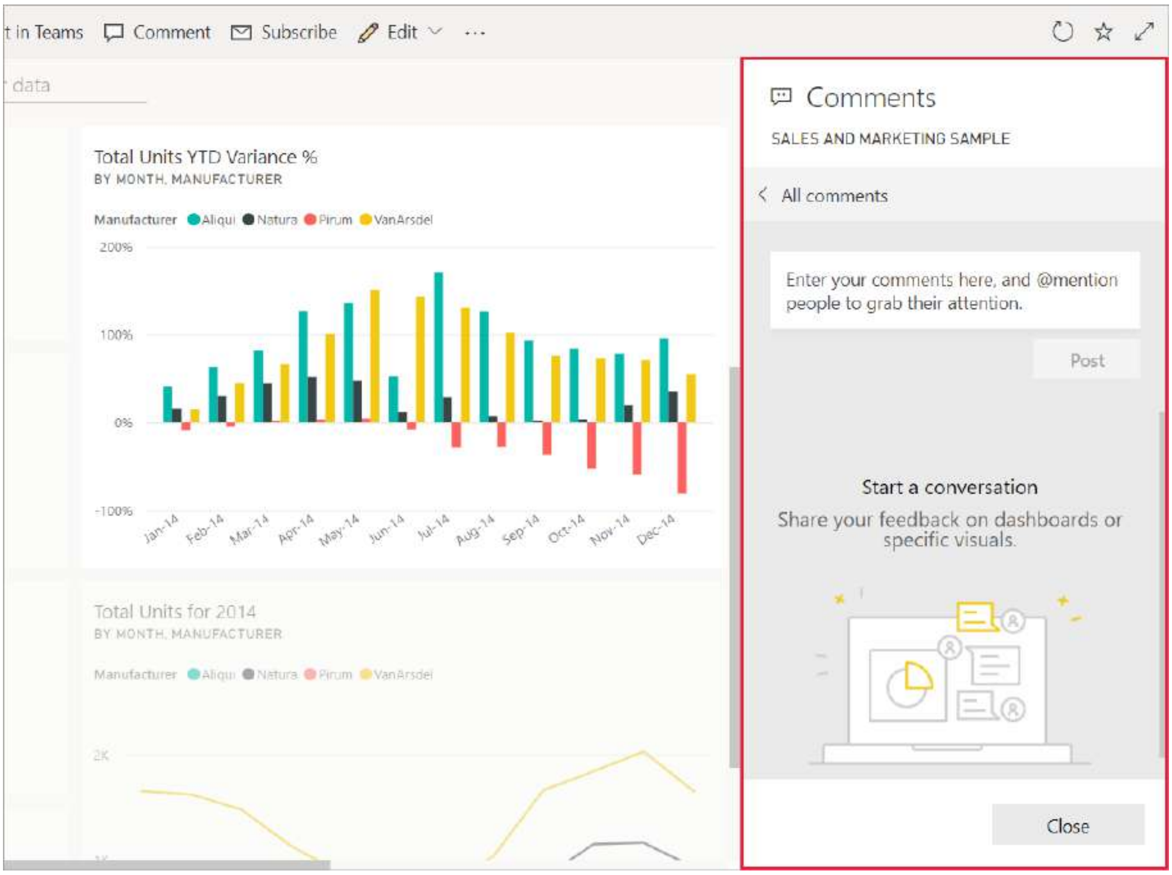
Add a comment to a specific dashboard or report visual

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 report.

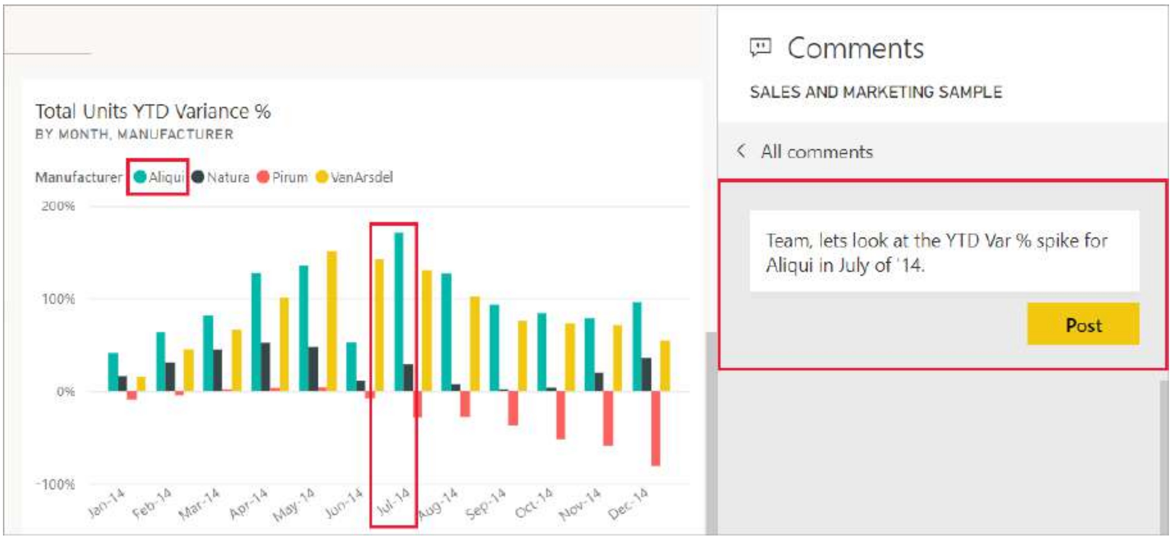
1. Hover over the visual and select **More options** (...).
2. From the dropdown, select **Add a comment**.



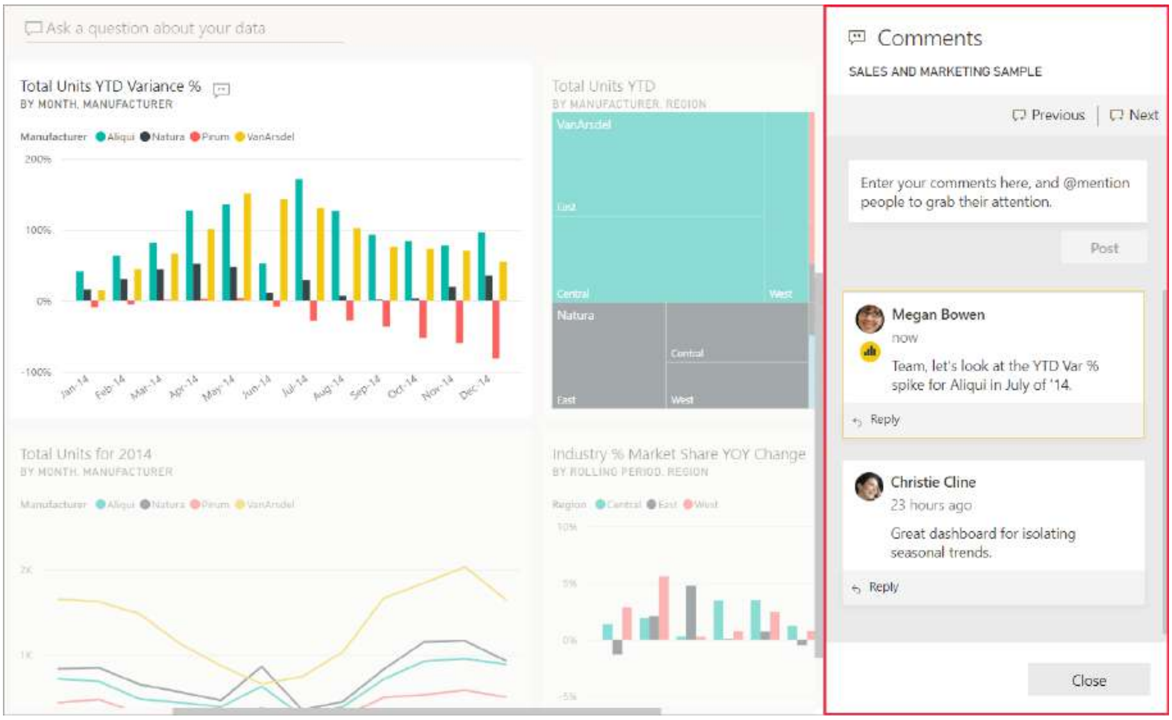
3. The **Comments** dialog opens, and the other visuals on the page are greyed out. This visual doesn't have any comments yet.



4. Type your comment and select **Post**.



- On a report page, selecting a comment that was made on a visual, highlights that visual (see below).
- On a dashboard, the chart icon lets us know that a comment is tied to a specific visual. Comments that apply to the entire dashboard do not have a special icon. Selecting the chart icon highlights the related visual on the dashboard.

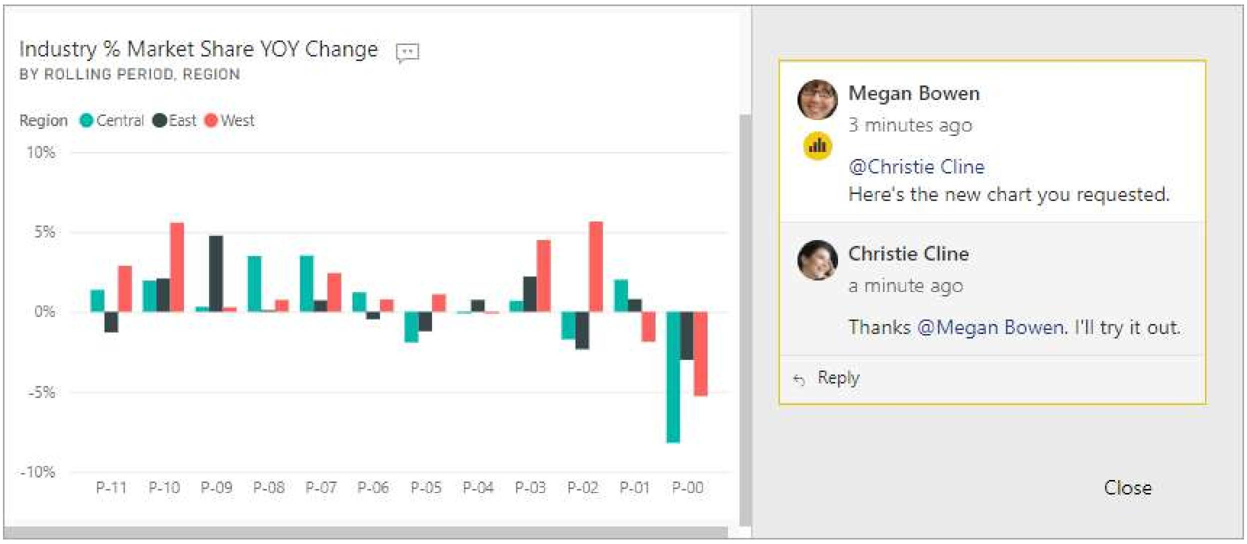


5. Select **Close** to return to the dashboard or report.

Get your colleagues attention by using the @ sign

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 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 will immediately receive an e-mail in their inbox, and if they are using a Power BI Mobile app, they will 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 are 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

- Comments are limited to 2000 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 are not captured when you reply to a conversation. Only the first comment in a conversation creates a bookmark.
- If you are using a paginated report, you may only leave a general comment about your report. Support for leaving comments on individual paginated report visuals is not 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

12/15/2022 • 2 minutes to read • Edit Online

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. When you select a tile, it opens a report or opens Q&A where you can filter and sort and dig into the dataset 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 being used to render that tile. If Power BI finds interesting facts or trends in that data, you'll be presented with those facts or trends in the form of interactive visuals. Insights can be run on a specific dashboard tile and you can even run insights on an insight!

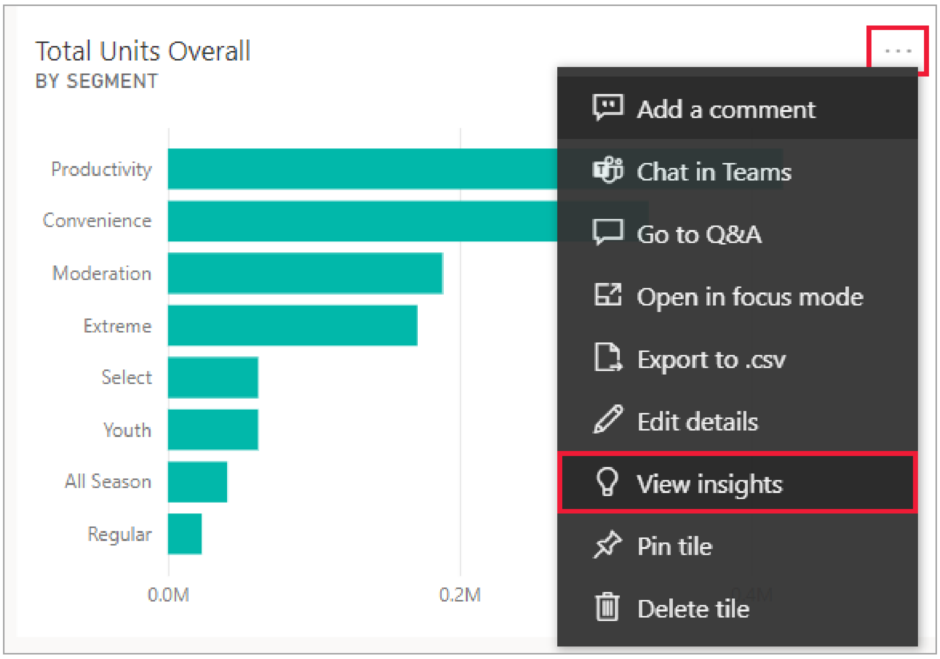
The insights feature is built on a growing set of advanced analytical algorithms developed in conjunction with Microsoft Research that we'll continue to use to allow more people to find insights in their data in new and intuitive ways. The dashboard insights feature is similar to the dataset **quick insights** feature.

Run insights on a dashboard tile

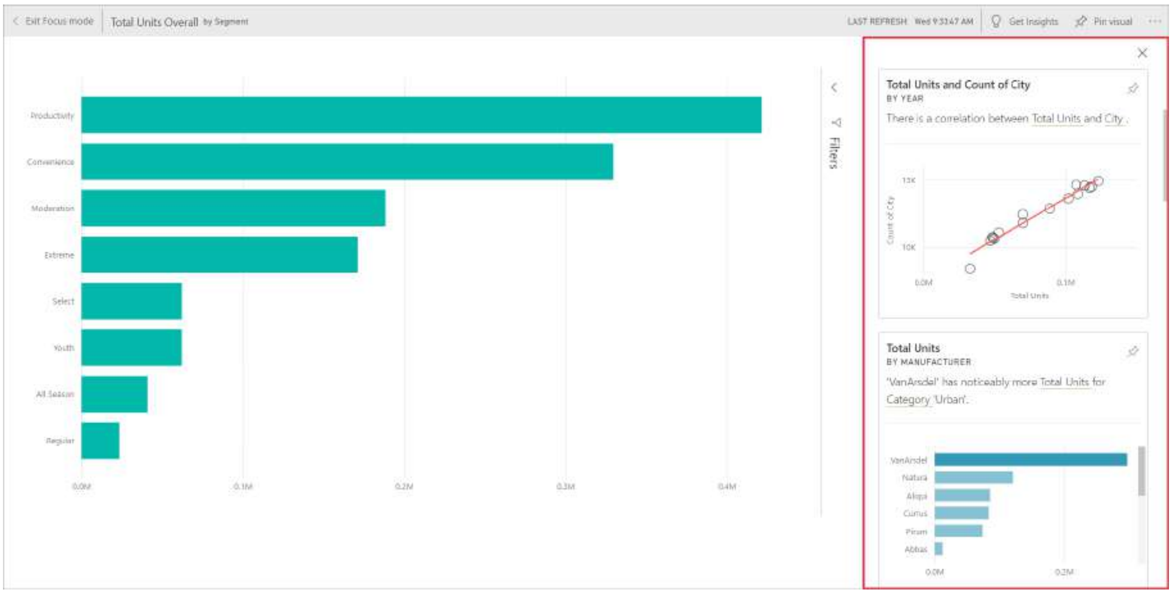
When you run insights on a dashboard tile, Power BI searches just the data used to create that single dashboard tile.

1. Open a dashboard.

2. Hover over a tile. select **More options** (...), and choose **View insights**.



3. The tile opens in Focus mode with the insights cards displayed along the right.

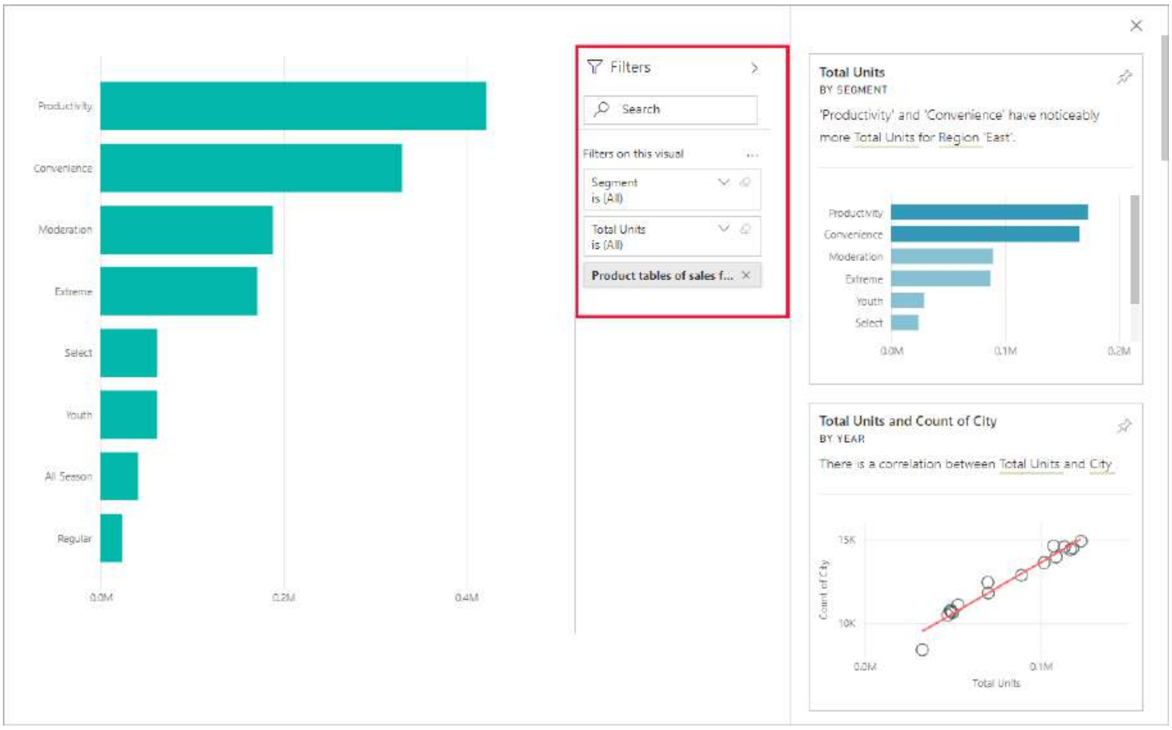


4. Does one insight pique your interest? Select that insight card to dig further. The selected insight appears on the left and new insight cards, based solely on the data in that single insight, display along the right.

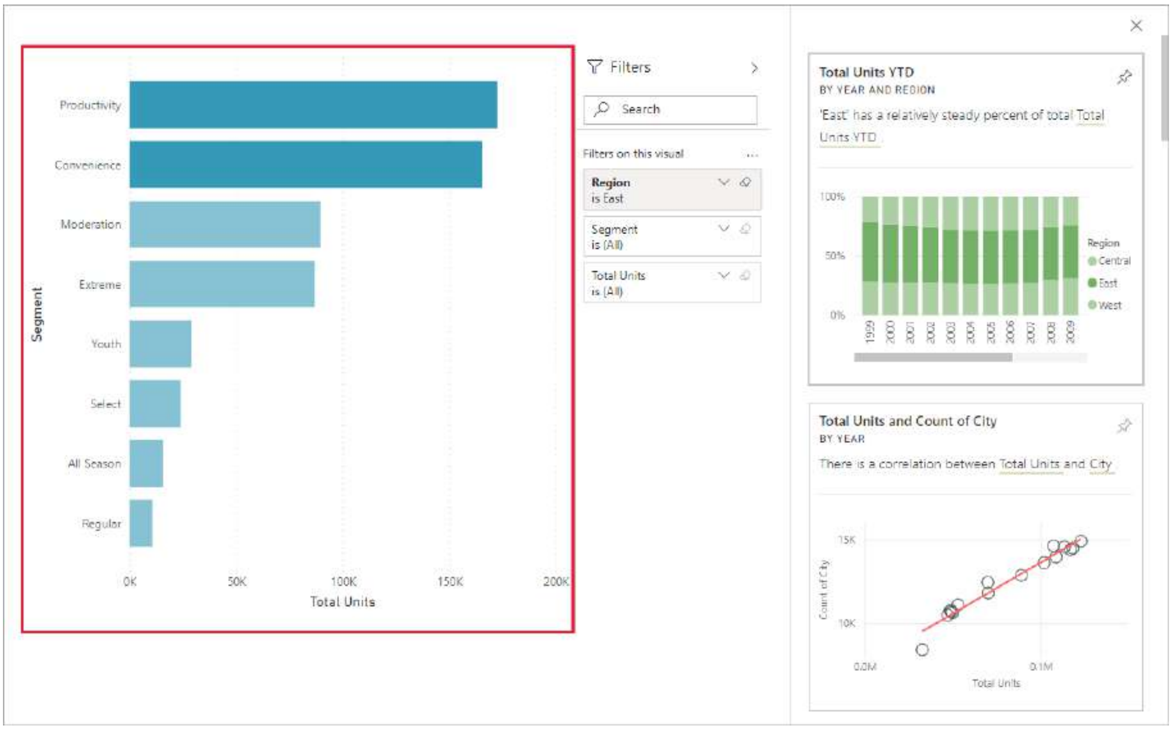
Interact with the insight cards

Once you have an insight open, continue exploring.

- Filter the visual on the canvas. To display the filters, in the upper right corner, select the arrow to expand the Filters pane.



- Run insights on the insight card itself. This is often referred to as **related insights**. 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, from the upper left corner, select **Exit Focus mode**.

Considerations and troubleshooting

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

Next steps

Run insights on report visuals using the Analyze feature
Learn about the types of Insights available

Tutorial: Set alerts on Power BI dashboards

12/15/2022 • 4 minutes to read • Edit Online

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.

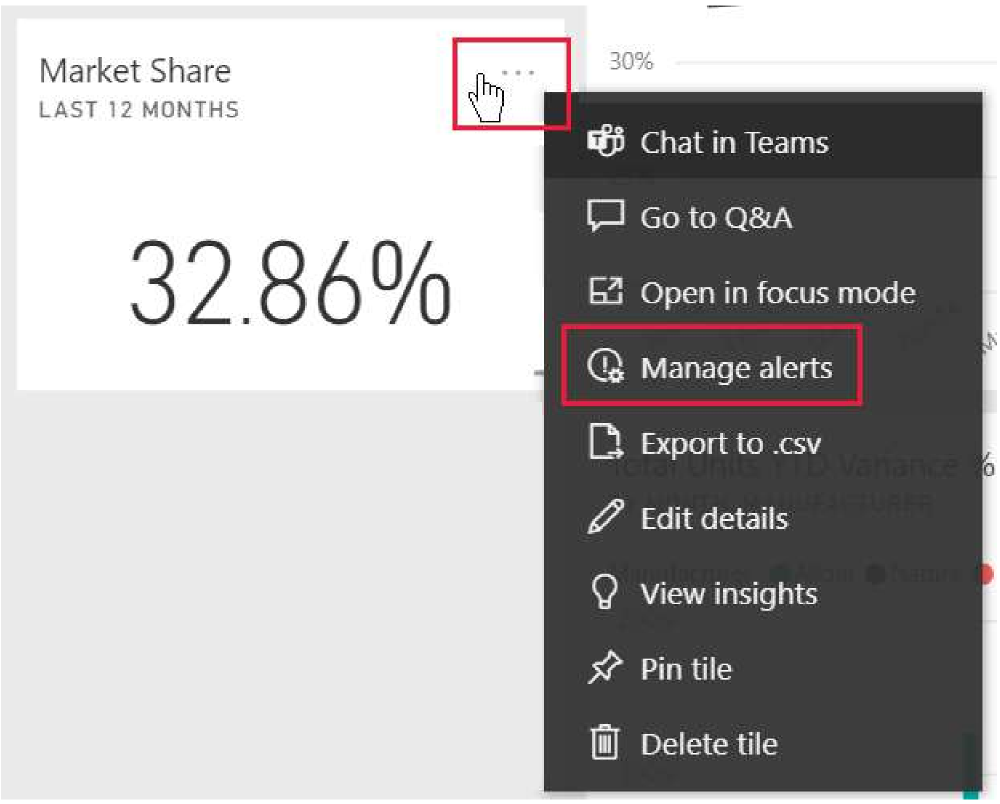
> **WARNING**
>
> These alerts provide information about your data. If you view your Power BI data on a mobile device and that device gets stolen, we recommend using the Power BI service to turn off all alerts.

Add an alert to a dashboard tile

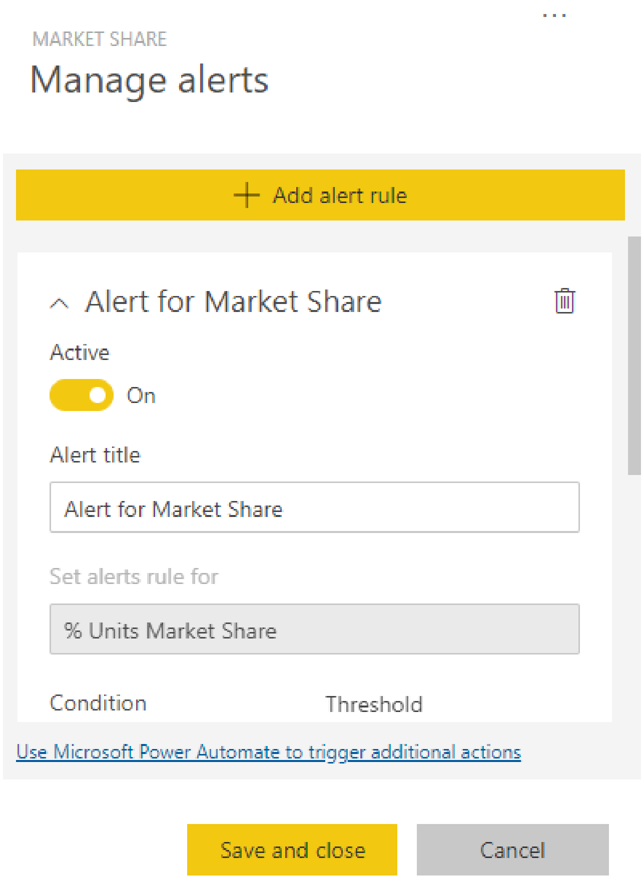
Alerts can be set on three types of tiles (gauges, KPIs, and cards) on a Power BI dashboard. This tutorial uses the Sales and Marketing sample. To follow along, get the sample.

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

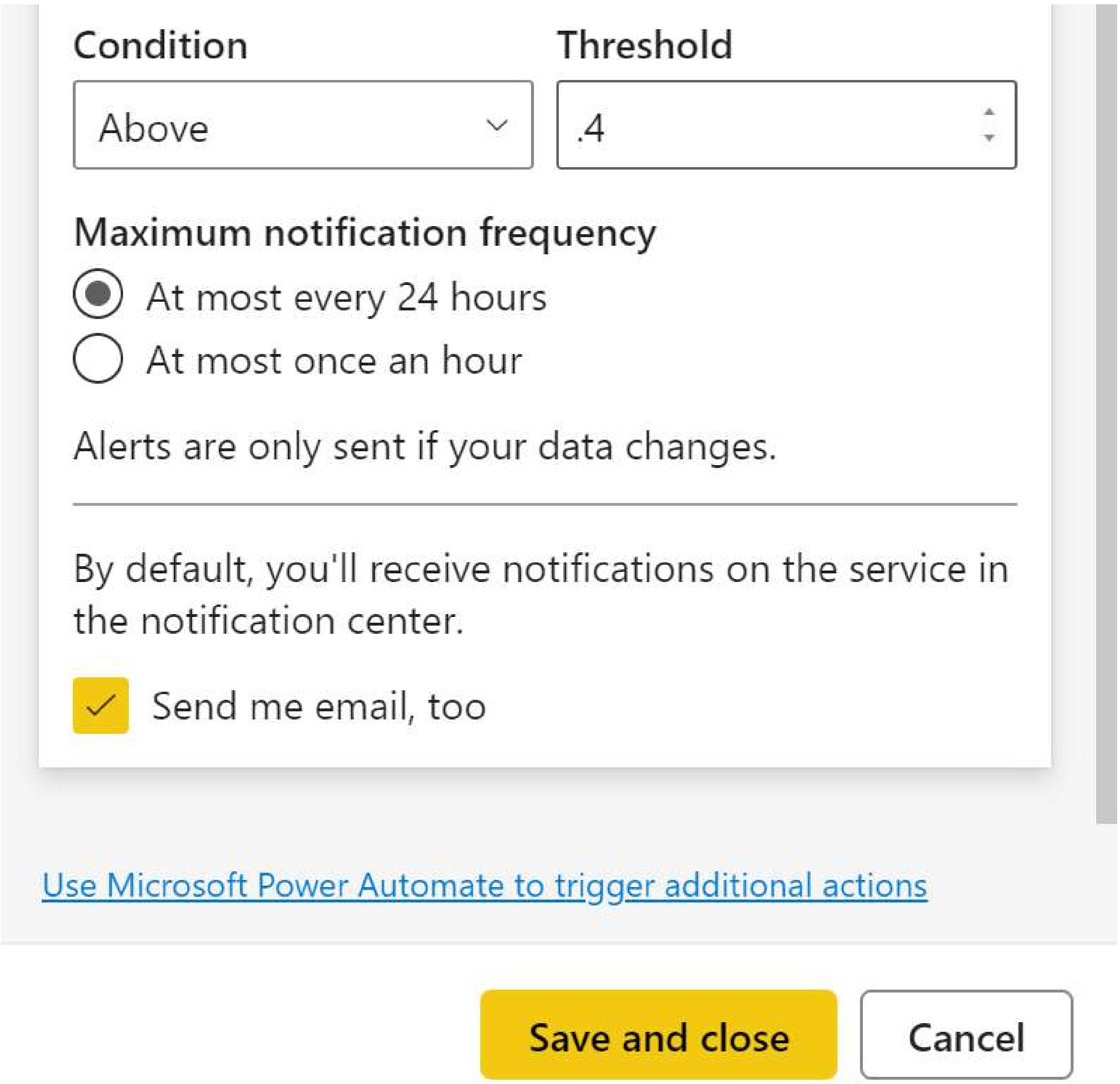
2. Select the alert icon , or **Manage alerts**, to add one or more alerts for the **Market share** card.



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.



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.



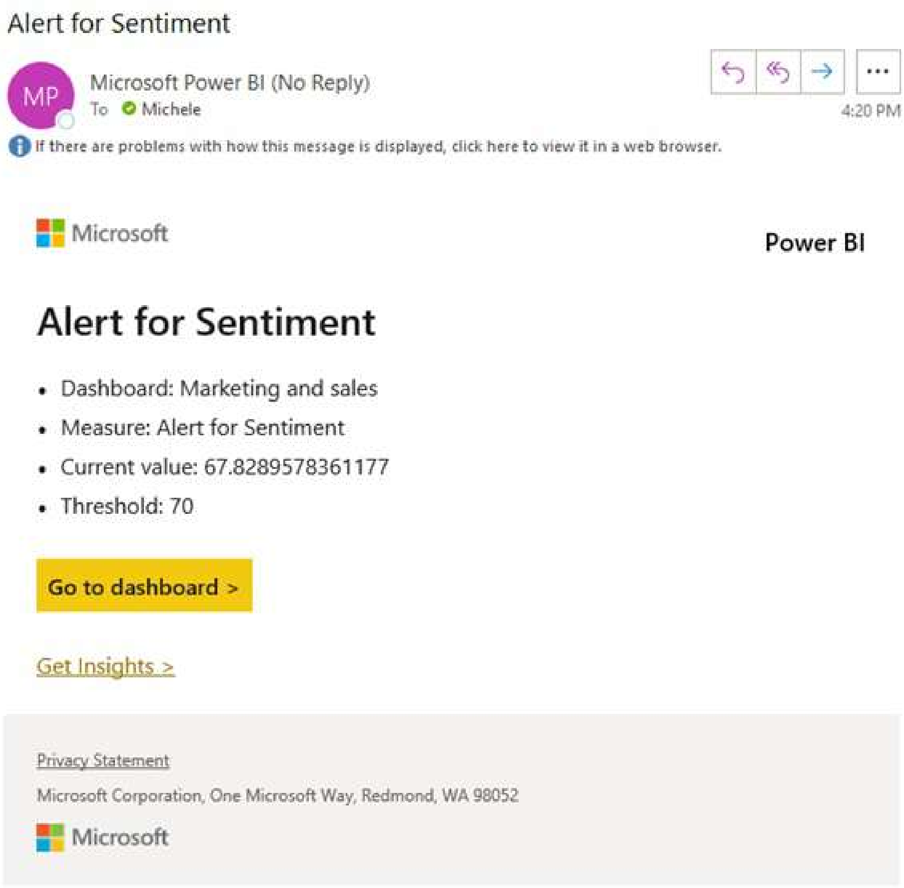
5. Select **Save and close**.

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.

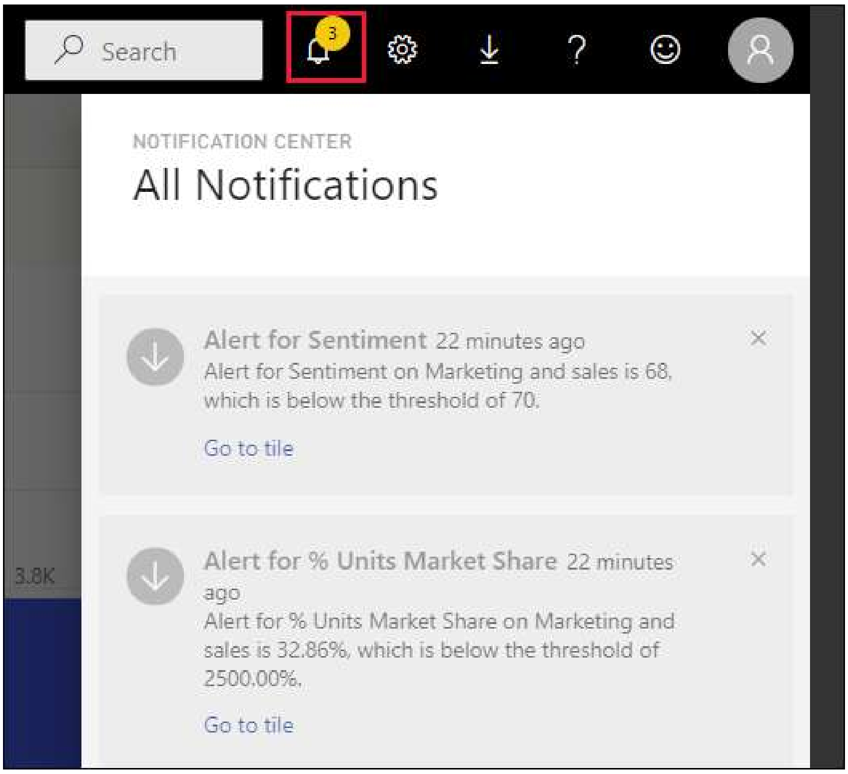
Next, Power BI sends an alert to your Notification center and, optionally, in email. Each alert contains a direct link to your data. Select the link to see the relevant tile.

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.



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

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

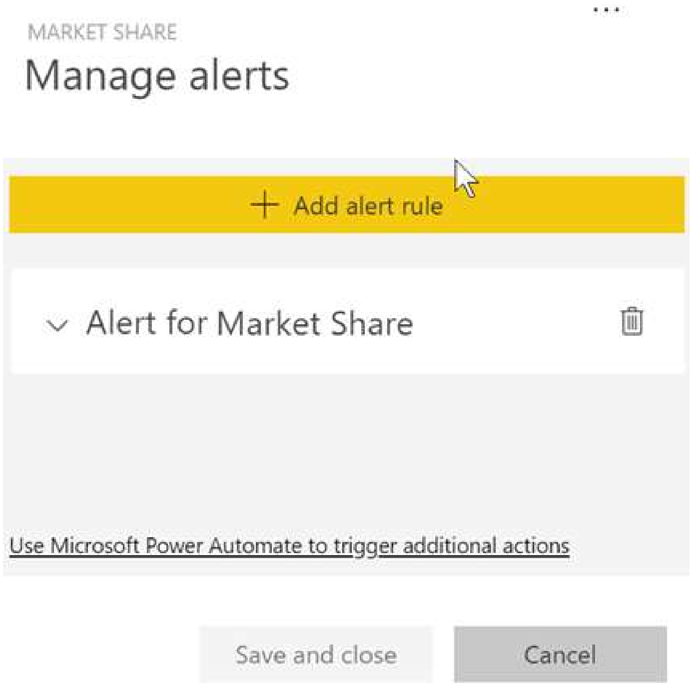


Managing alerts

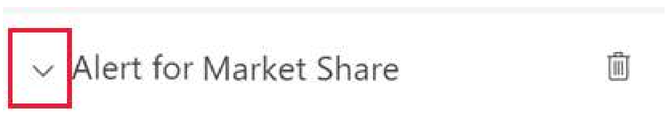
There are many ways to manage your alerts: from the dashboard tile itself, from the Power BI Settings menu, on an individual tile in the Power BI mobile app on the iPhone or in the Power BI mobile app for Windows 10.

From the tile itself

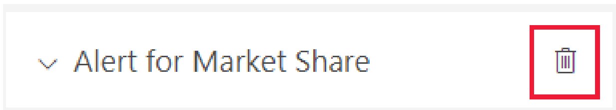
1. If you need to change or remove an alert for a tile, re-open the **Manage alerts** window by selecting the alert icon  . All the alerts that you've set for that tile are displayed.



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

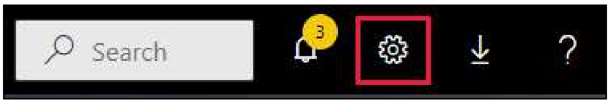


3. To delete an alert, select the trashcan to the right of the alert name.

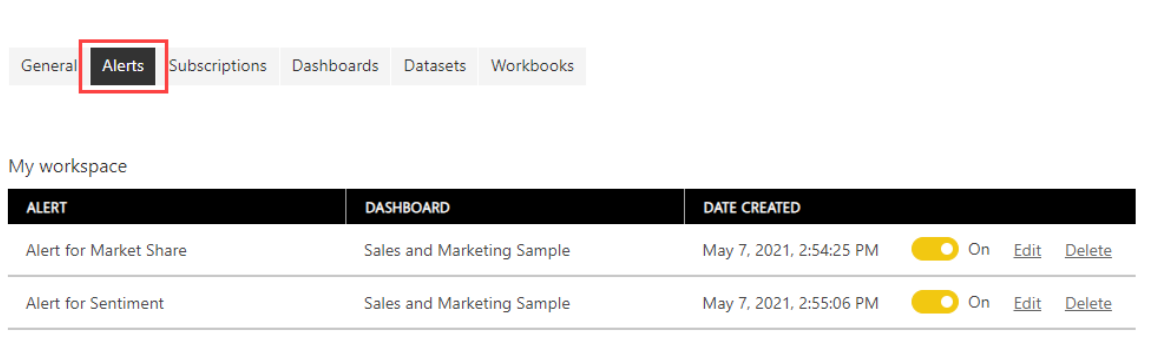


From the Power BI settings menu

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



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



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

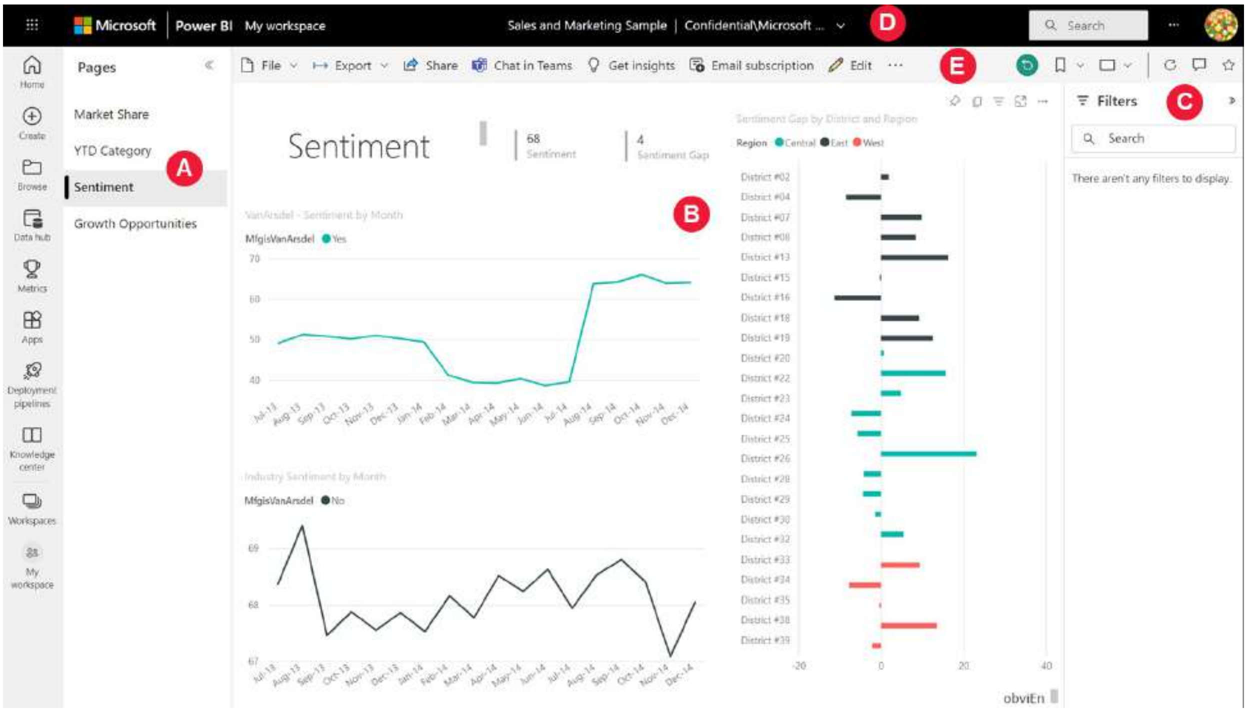
Reports in Power BI

12/15/2022 • 3 minutes to read • Edit Online

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 dataset, with visuals that represent findings and insights from that dataset. 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 dataset. 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.

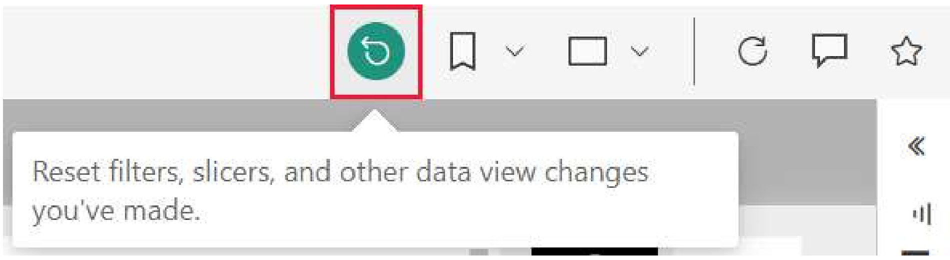
Safely interact with content

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 dataset 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 dataset per dashboard	A single dataset 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 dataset tables and fields	No. Can export data but can't see the dataset tables and fields in the dashboard itself	Yes. Can see dataset 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 dataset 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*

12/15/2022 • 4 minutes to read • Edit Online

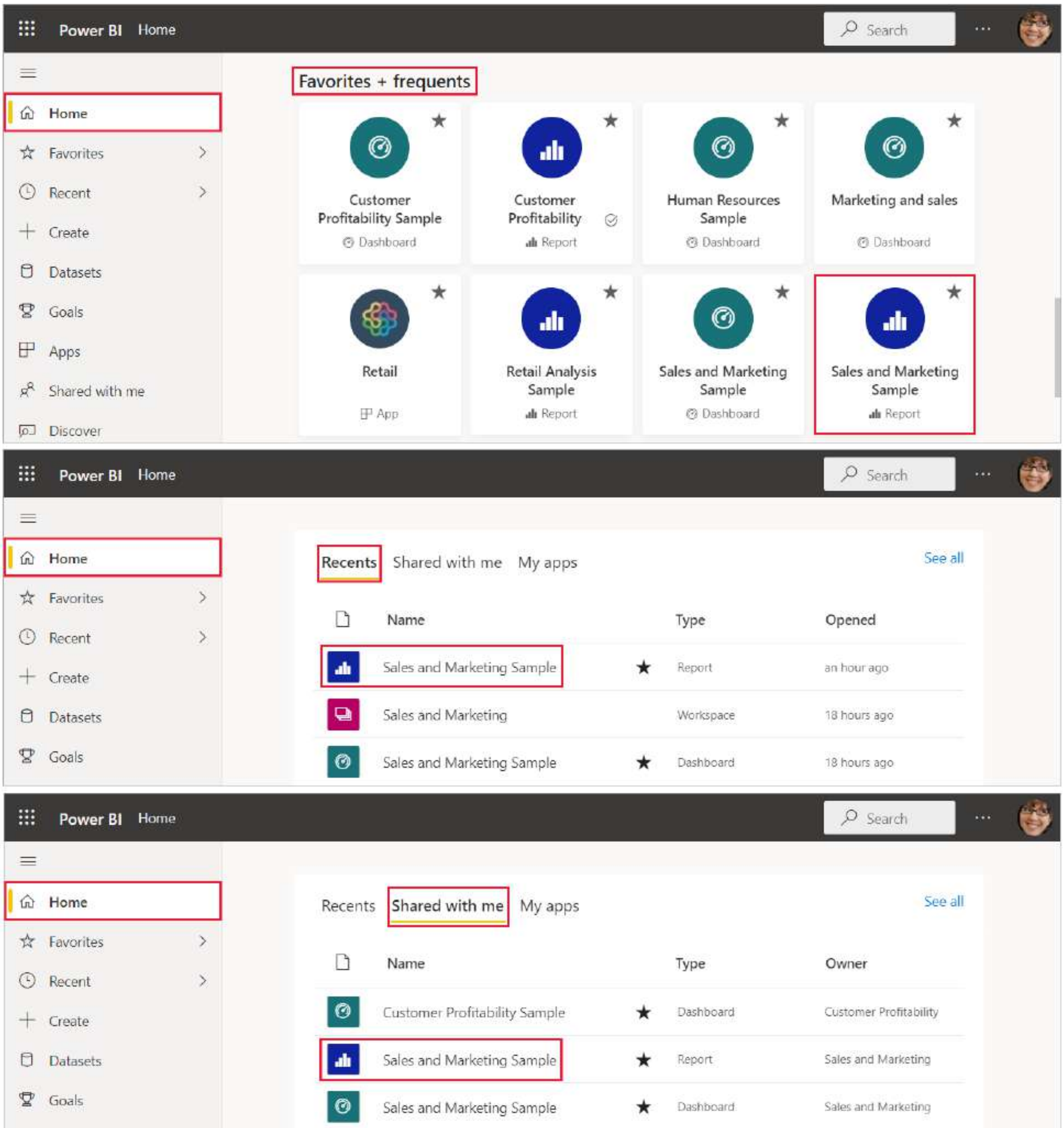
APPLIES TO: ✅ Power BI service for ***business users*** ✅ Power BI service for designers & developers ❎ Power BI Desktop ❎ Requires Pro or Premium license

A report is one or more pages of visuals. Reports are created by Power BI *designers* and shared with *business users directly* or as part of an app. To open a report, you'll need either a Power BI Pro license, or for the report to be part of a workspace that is stored in a Premium capacity. Learn about licenses and subscriptions

There are many different ways to open a report and we'll show you two of them: open from Home and open from a dashboard.

Open a report from Power BI Home

Let's open a report that's been shared with you directly and then open a report that was shared as part of an app.

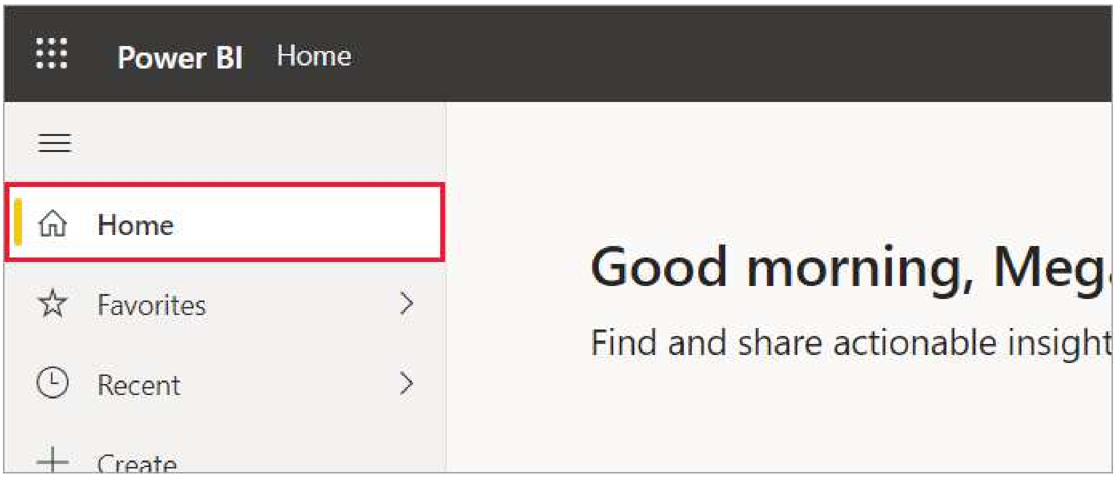


Open a report that has been directly shared with you

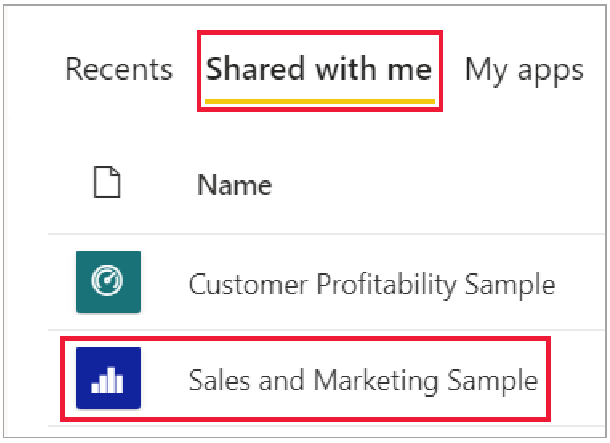
Power BI *designers* can share an individual report directly with you via a link in email or by adding it automatically to your Power BI content. Reports that are shared this way show up in the **Shared with me** container on your nav pane and in the **Shared with me** section of your Home canvas.

1. Open the Power BI service (app.powerbi.com).

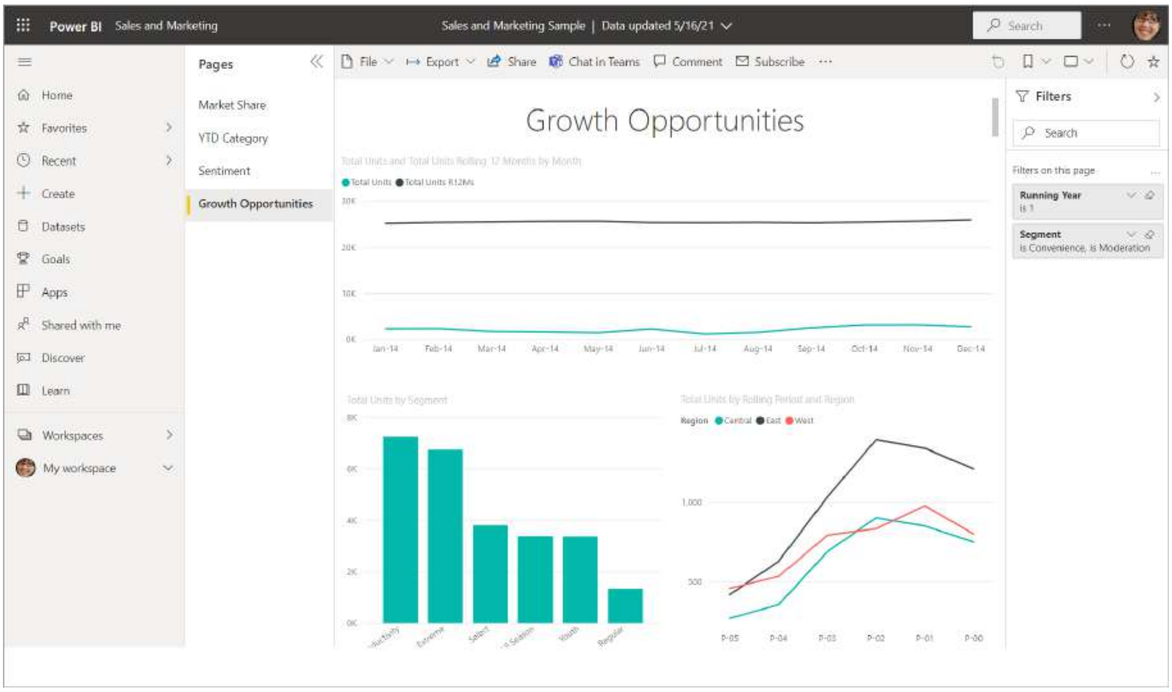
2. From the nav pane, select **Home** to display your Home canvas.



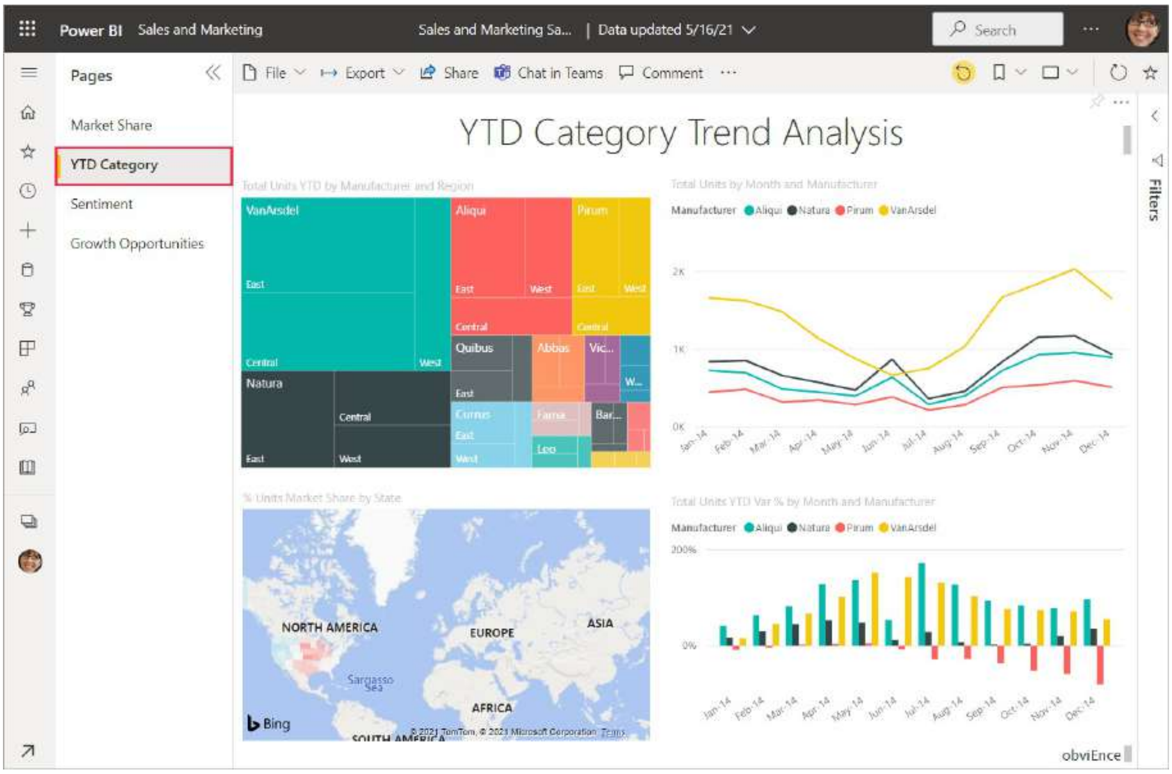
3. Scroll down until you see **Shared with me**. Look for the report icon . In this screenshot we have one dashboard and one report. The report is named *Sales and Marketing Sample*.



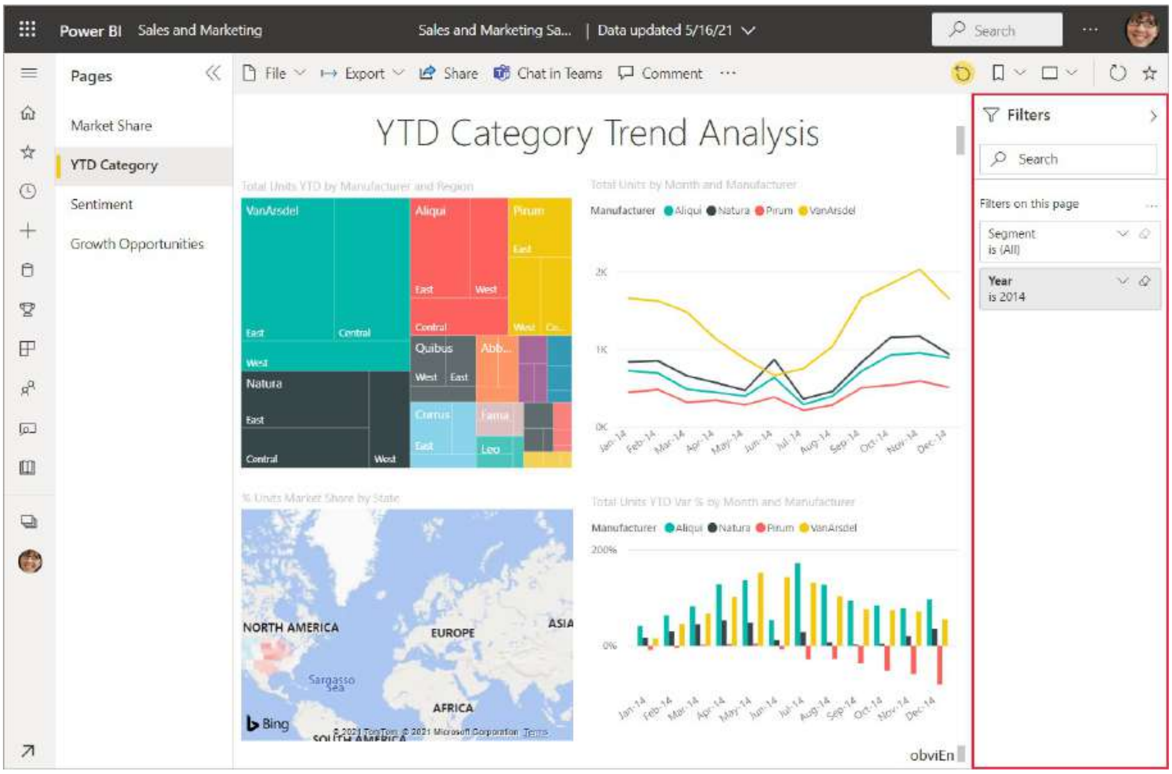
4. Simply select the report name to open the report.



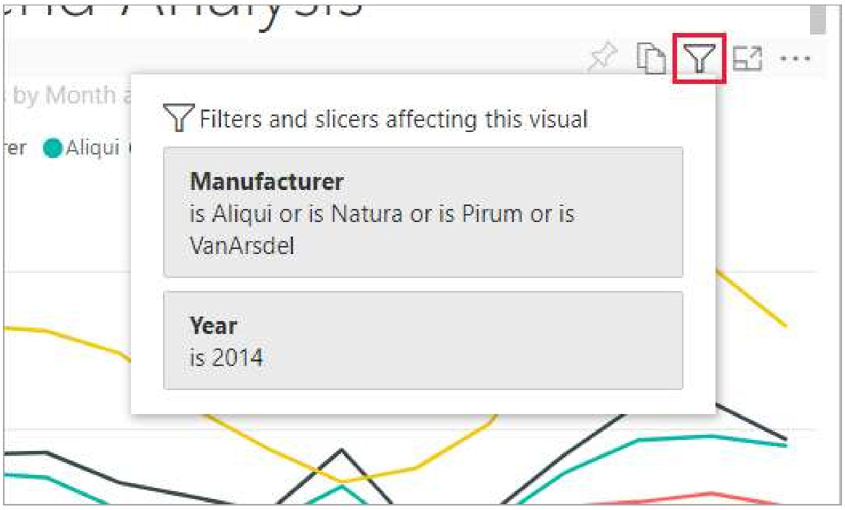
5. Notice the tabs along the left side. Each tab represents a report *page*. We currently have the *Growth Opportunity* page open. Select the *YTD Category* tab to open that report page instead.



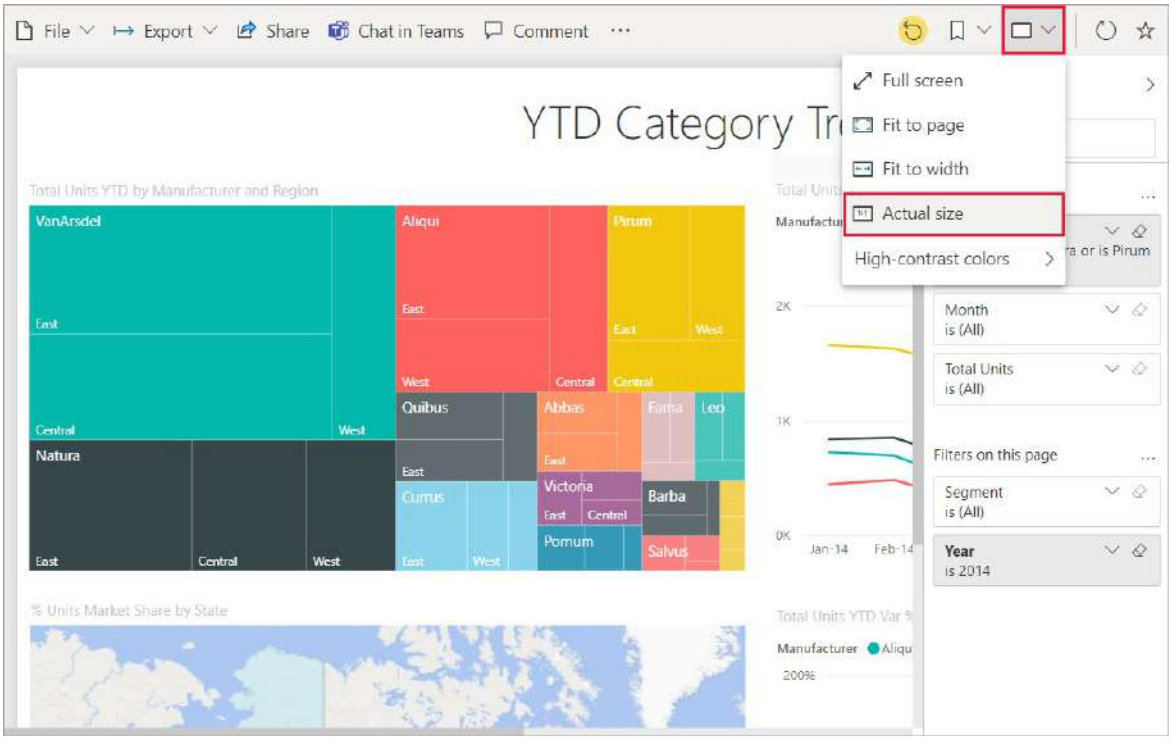
6. Expand the **Filters** pane along the right side. Filters that have been applied to this report page, or to the entire report, are displayed here. You can change these filters to see the impact on your visuals and report.

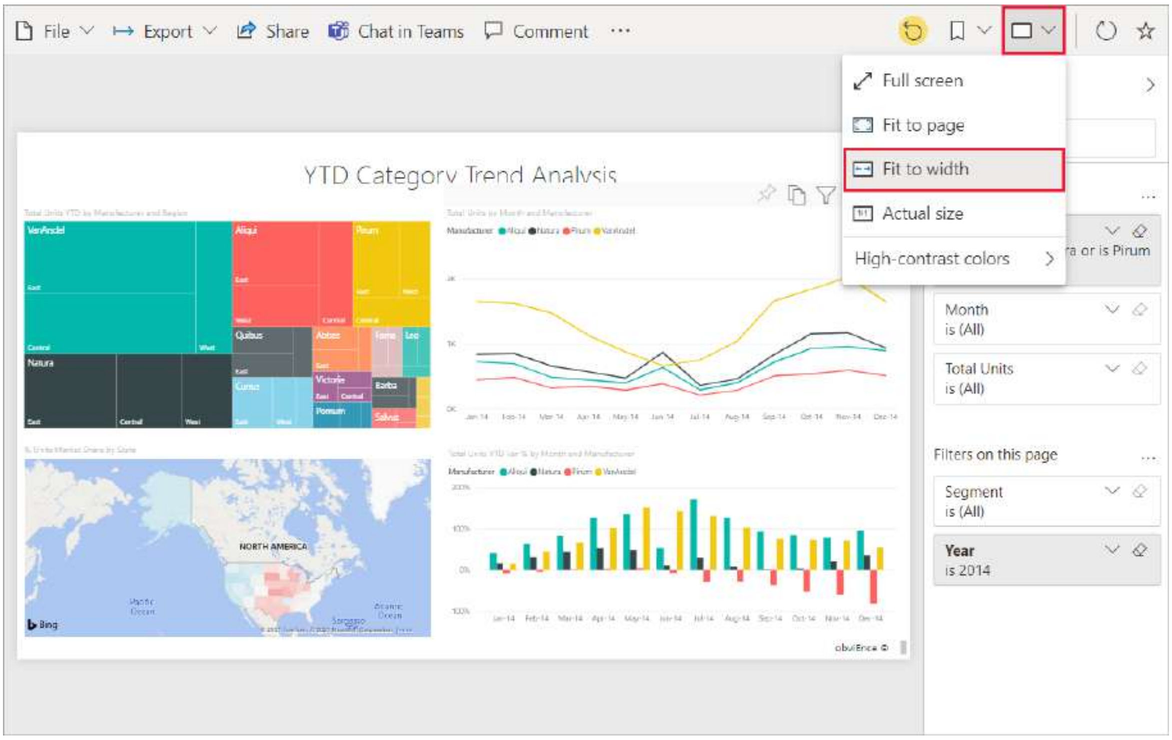


7. Display the actions menu for a visual. Hovering over a report visual reveals actions you can take on that visual. To see the filters applied to a specific visual, select the filter icon. Here we've selected the filter icon for the *Total units by month and manufacturer* line chart.



8. You can also change the display of the report page. Right now, we're displaying the entire report page. To change the display (zoom) of the page, select the **View** dropdown from the upper right corner and choose **Actual size** and then switch to **Fit to width**. Notice the differences each view option makes to the display of your report.





There are many ways for you to interact with a report to discover insights and make business decisions. Use the table of contents on the left to read through other articles about Power BI reports.

Open a report that is part of an app

If you've received apps from colleagues or from AppSource, those apps are available from Home, and from the **Apps** and **Shared with me** containers on your nav pane. An app is a collection of dashboards and reports that have been bundled together for you by a Power BI *designer*.

Prerequisites

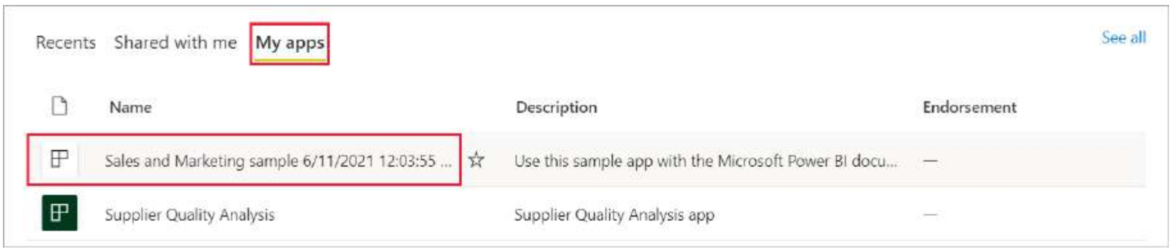
Opening an app requires a Power BI Pro license, or for the app workspace to be stored in Power BI Premium capacity. Learn about licenses and subscriptions

To follow along, download the Sales and Marketing app.

1. In your browser, navigate to appsource.microsoft.com.
2. Search for "Sales & Marketing" and select **Microsoft sample - Sales & Marketing**. Scroll down to see the search results.
3. Select **Get it now** > **Continue** > **Install** to install the app in your Apps container.

You can now open the app from your **Apps** container or from **Home**.

1. Go back to Home by selecting **Home** from the nav pane.
2. Scroll down and select **My Apps**.

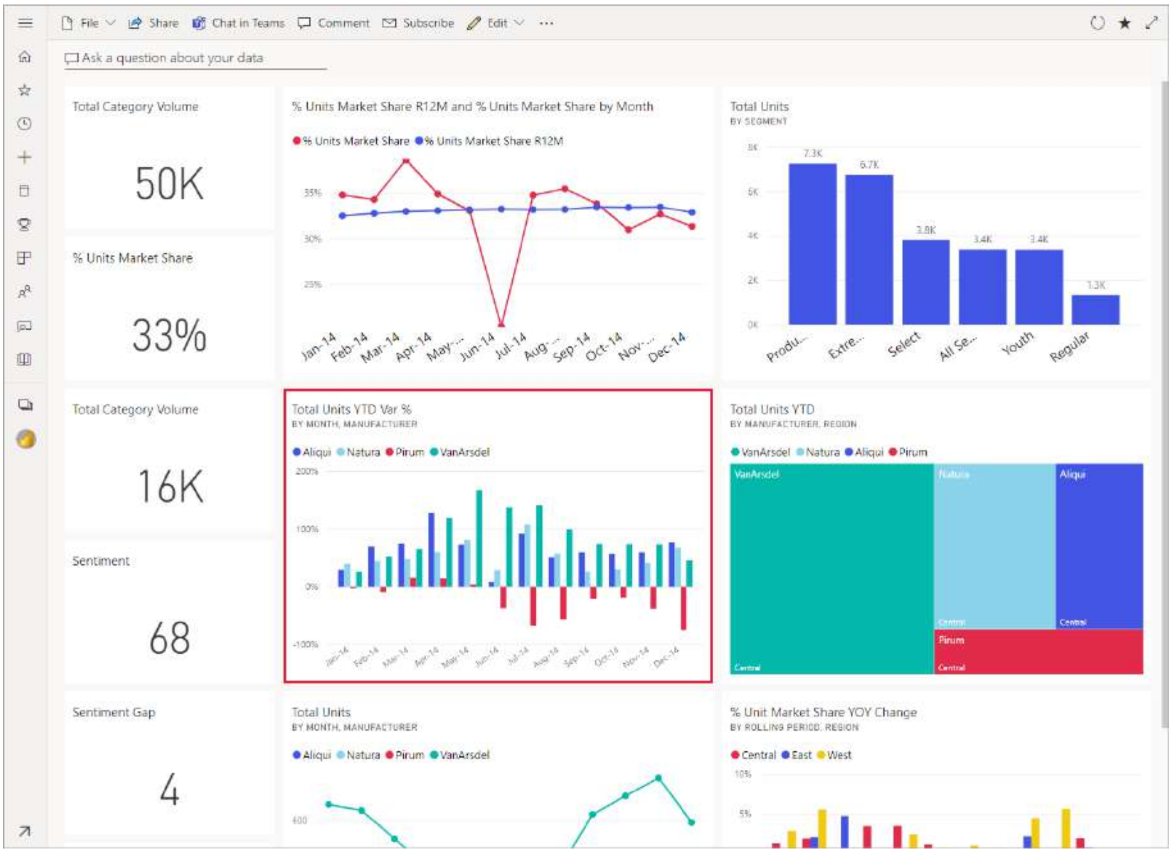


3. Select your new *Sales and marketing* app to open it. Depending on the options set by the app *designer*, the app will open either a dashboard or a report. This app opens to a dashboard.

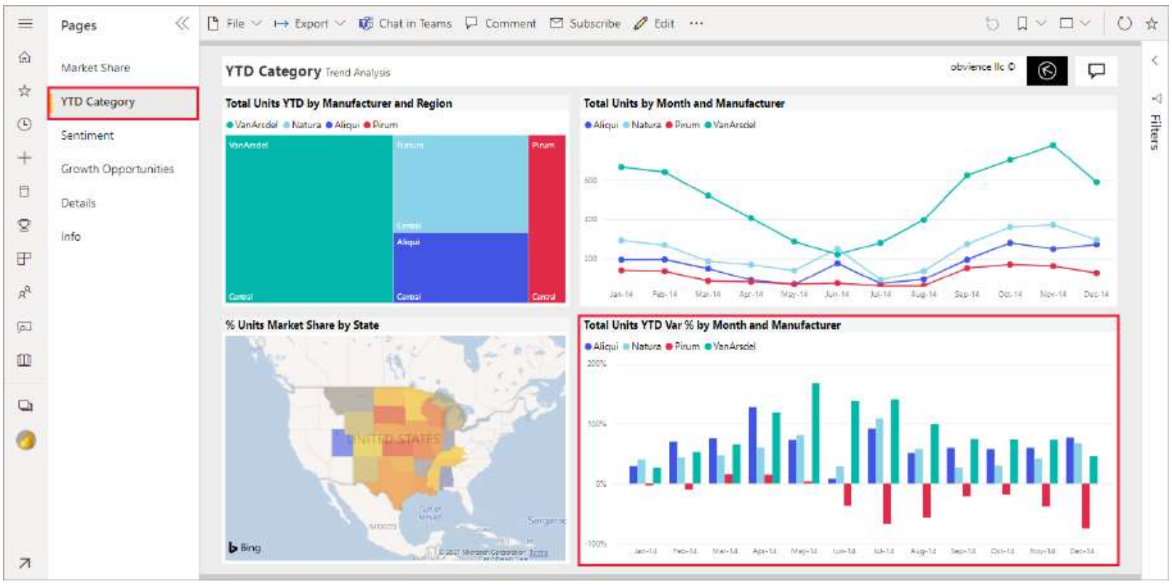
Open a report from a dashboard

Reports can be opened 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 dashboard, select a tile. In this example we've selected the *Total Units YTD Var %* column chart tile.



2. The associated report opens. Notice that we're on the *YTD Category* page. This is the report page that contains the column chart we selected from the dashboard.



> **NOTE**
>
> Not all tiles lead to a report. If you select a tile that was created with Q&A, the Q&A screen will open. If you select a tile that was created using the dashboard **Add tile** widget, several different things may happen: a video may play, a website open, and more.

Still more ways to open a report

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

- From the nav pane using Favorites and Recent
- Using View related
- In an email, when someone shares with you or you set an alert
- From your Notification center
- From a workspace
- and more

Next steps

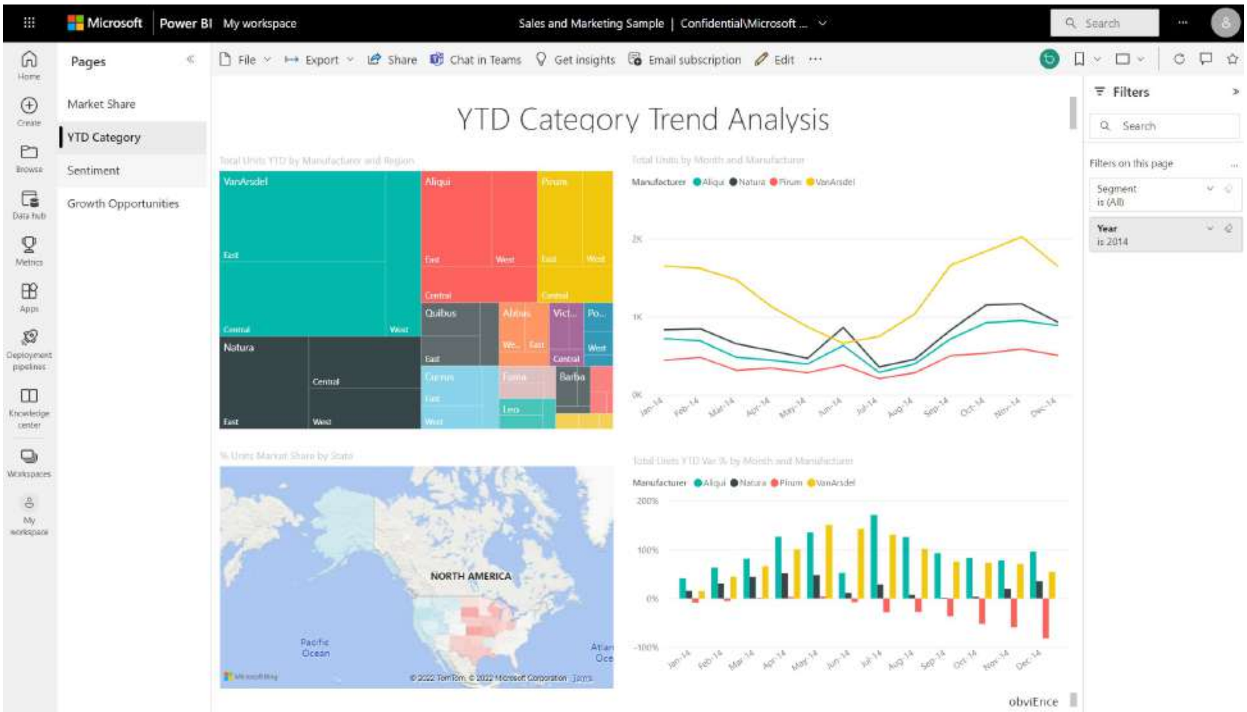
Open and view a dashboard
Report filters

Change the display of a report page

12/15/2022 • 2 minutes to read • Edit Online

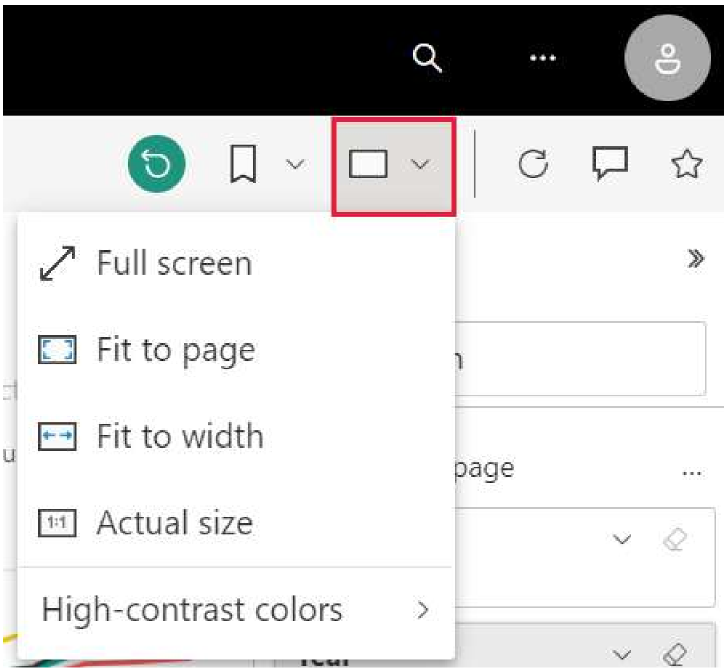
APPLIES TO: ✅ Power BI service for *business users* ✅ Power BI service for designers & developers ❎ Power BI Desktop ✅ Requires Pro or Premium license

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.

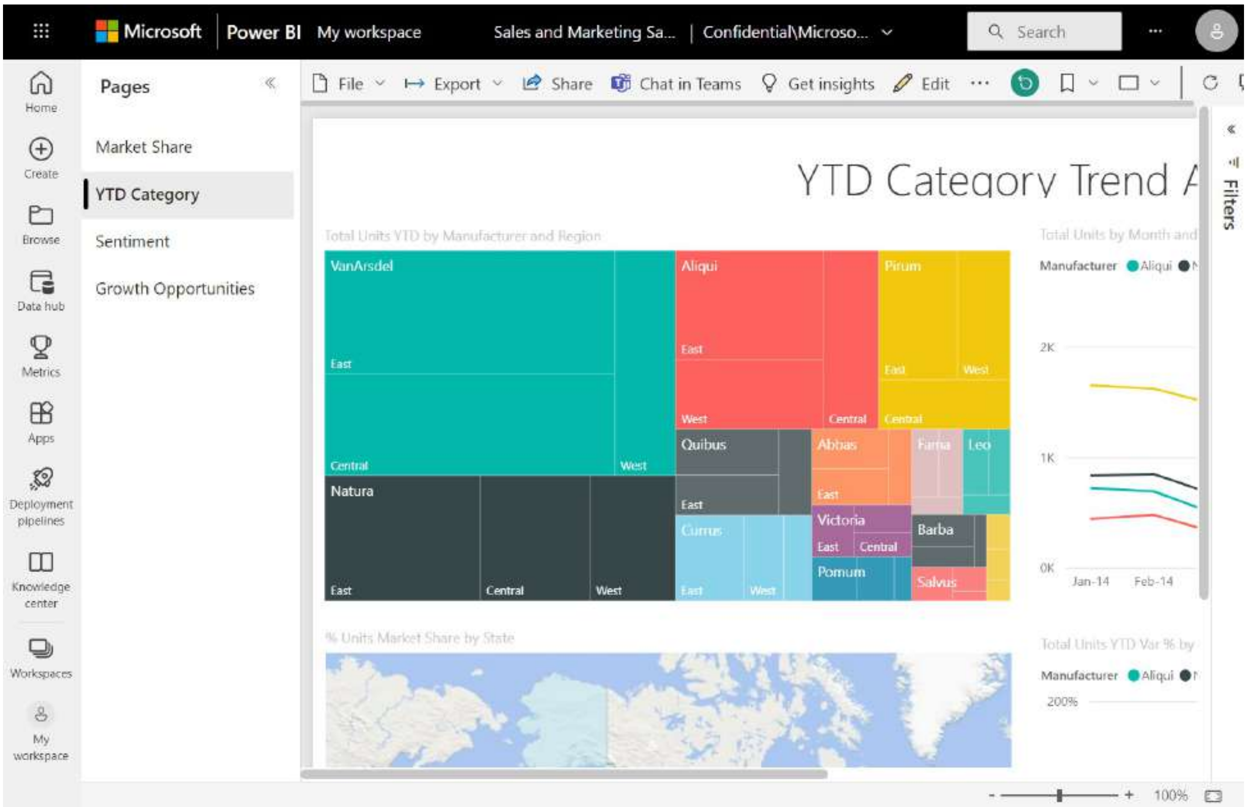


Explore the View menu

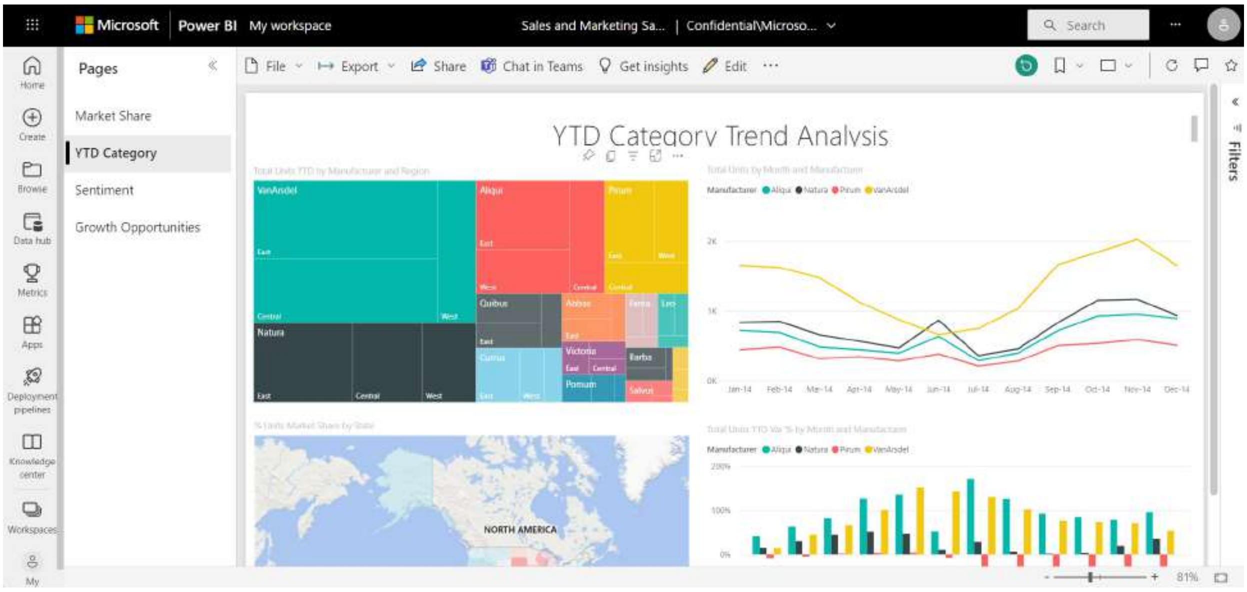
The options in the **View** menu give you flexibility to display report pages at the size and width you choose.



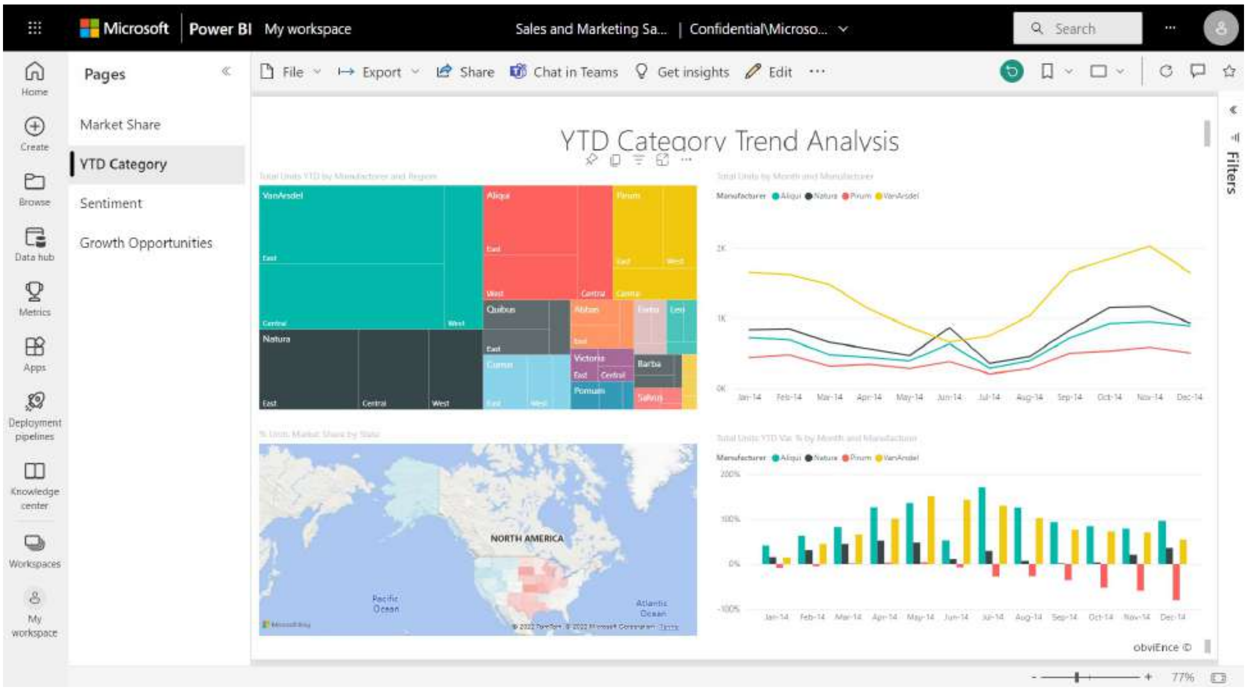
If you view a report on a small device, it might be hard to see titles and legends. Select **View** > **Actual size** to increase the size of the report page. Use the scroll bars to move around the report.



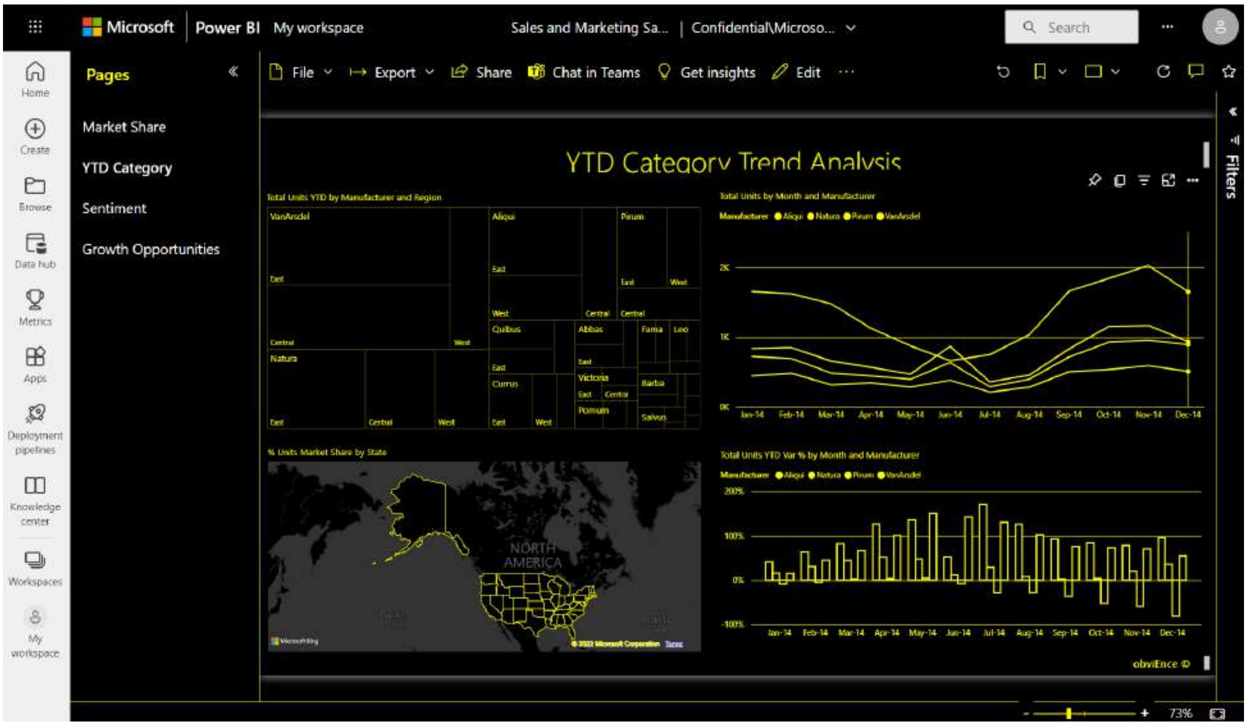
Fit the report to your screen width by selecting **Fit to width** from the **View** menu. Because it adjusts the width and not the height, you might need to use the vertical scroll bar.



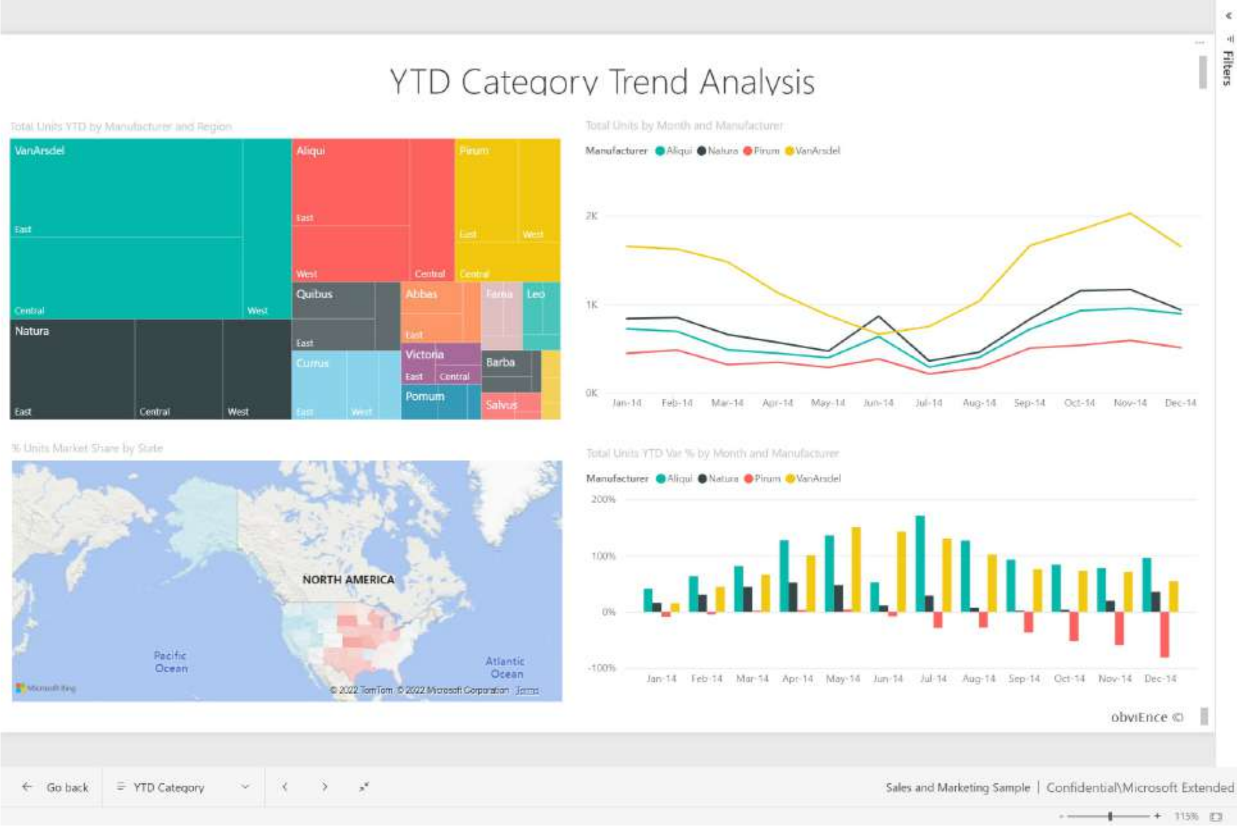
If you don't want any scroll bars, but you want to make the best use of your screen size, select **Fit to Page** from the **View** menu.



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.



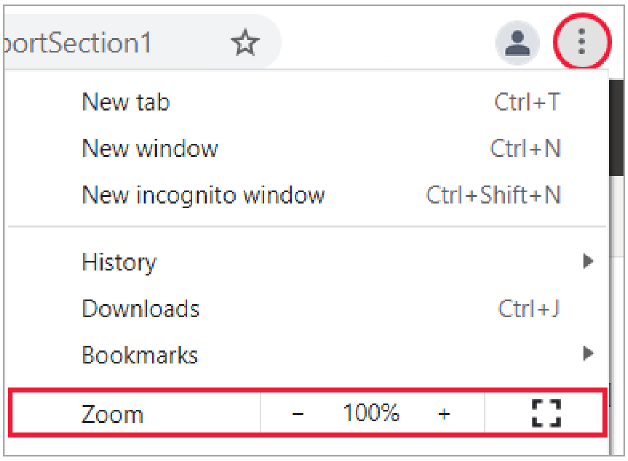
Select **Full screen** in the **View** menu to display your report page without menu bars and headers. Full screen is a good choice for small screens where the details might be hard to see. Full screen can also be a good choice when projecting report pages on a large screen for people to view but not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

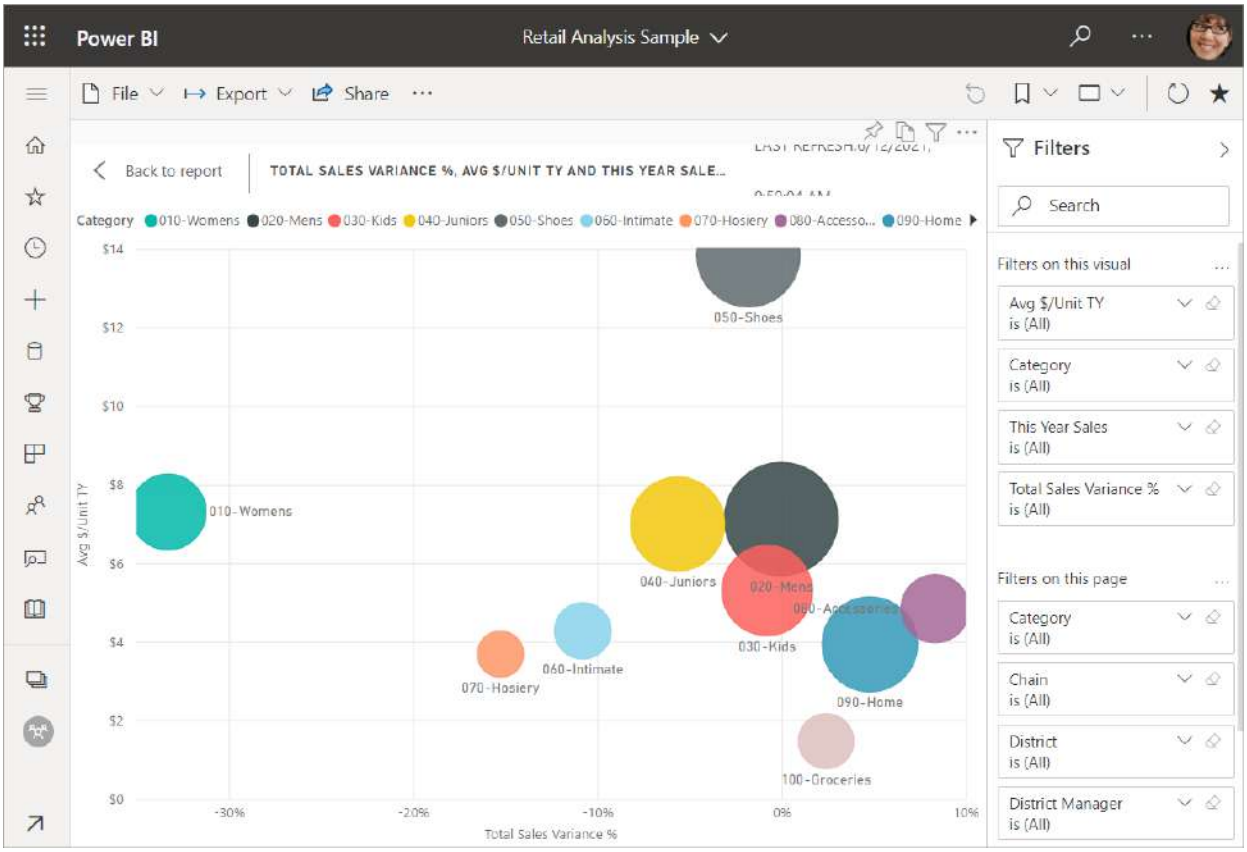
Use the zoom controls in your browser to increase or decrease the available canvas area. Decreasing the zoom expands the available canvas area, and increasing the zoom decreases the available canvas area.



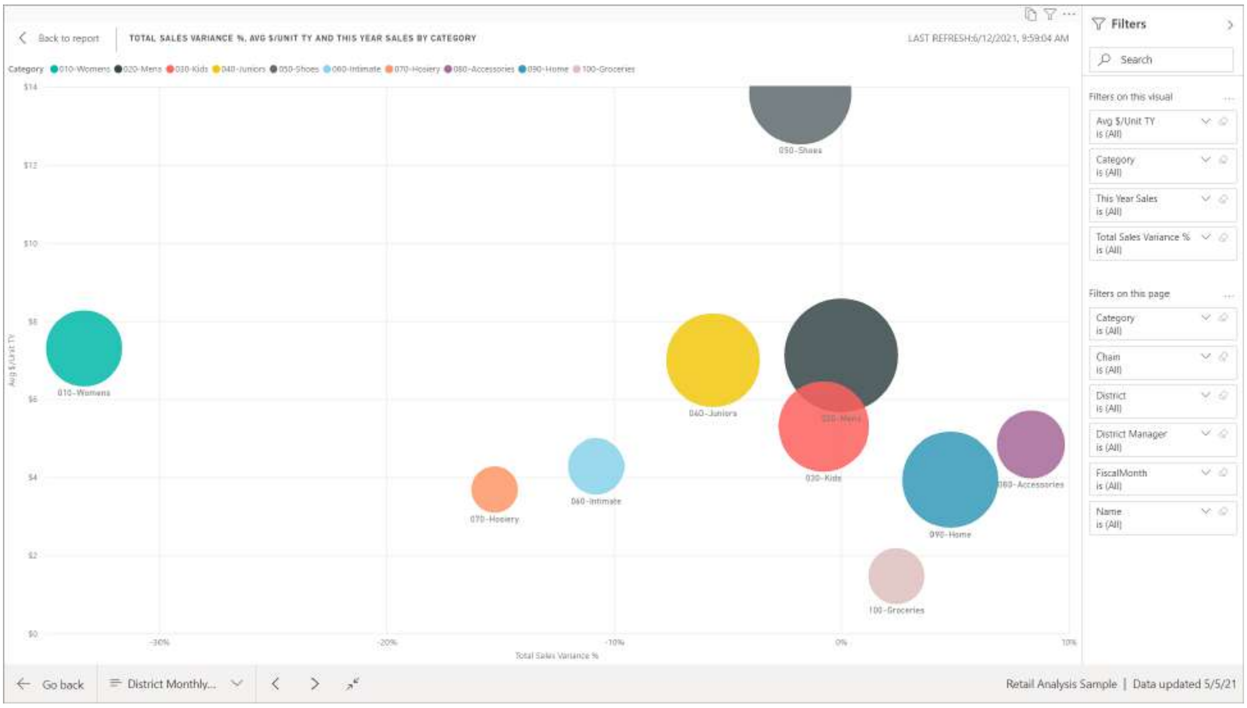
Zoom in on a visual

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

- Take a tour of the report Filters pane

Change how a chart is sorted in a Power BI report

12/15/2022 • 4 minutes to read • Edit Online

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 intended for Power BI users who do not have edit permissions to the report or dataset and who only work in the online version of Power BI (the Power BI service). If you are a report *designer* or *administrator* or *owner*, this article may not have all the information you need. Instead, please read Sort by column in Power BI Desktop.

In the Power BI service, you can change how a visual looks by sorting it by different data fields. By changing how you sort a visual, you can highlight the information you want to convey. Whether you're using numeric data (such as sales figures) or text data (such as state names), you can sort your visuals as desired. Power BI provides lots of flexibility for sorting, and quick menus for you to use.

And after you've changed the sorting of a visual, you can save a personalized version of that visual. 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.

Visuals on a dashboard cannot be sorted. But in a Power BI report, you can sort most visuals by one, and sometimes two, fields at a time. For certain types of visuals, sorting is not available at all: tree maps, gauges, maps, etc.

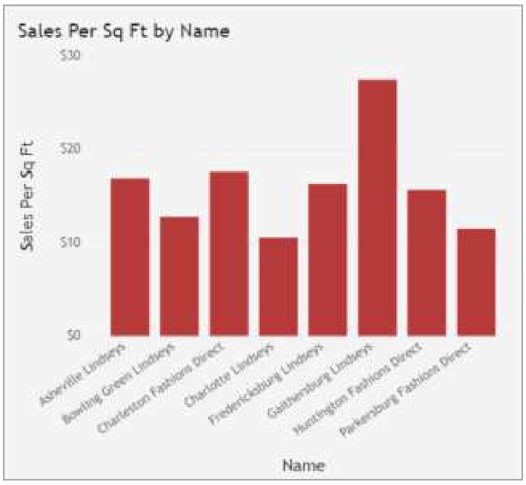
This video demonstrates how to change sort order and some of the newer sorting features now available in the Power BI service.

Get started

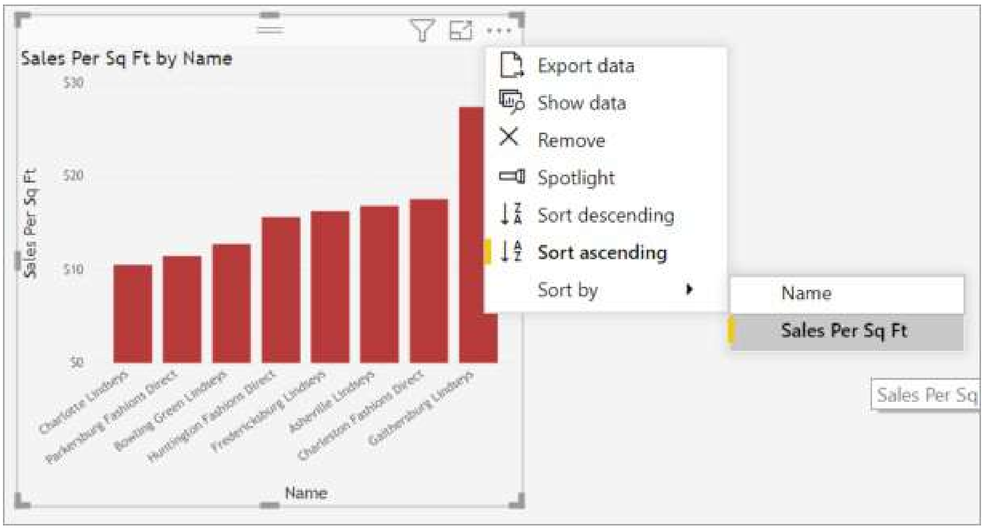
To get started, open any report that you have created or that has been shared with you. Select a visual (that can be sorted) and choose **More actions** (...). There are three options for sorting: **Sort descending**, **Sort ascending**, and **Sort by**.

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, this chart is sorted alphabetically by the X-axis category store **Name**.



To change the sort from a category (store name) to a value (sales per square feet), select **More actions** (...) and choose **Sort by**. Select a numeric value used in the visual. In this example, we've selected **Sales Per Sq Ft**.



If necessary, change the sort order between ascending and descending. Select **More actions** (...) again and choose **Sort descending** or **Sort ascending**. The field that is being used to sort is in bold and has a yellow bar.

NOTE

Not all visuals can be sorted. For example, the following visuals cannot be sorted: treemap, map, filled map, scatter, gauge, card, waterfall.

Sorting by multiple columns

The data in this table is sorted by **Number of customers**. We know this because of the small arrow beneath the word *Number*. The arrow is pointing down which means the column is being 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		**$235,208,999**	

To add more columns to the sort order, Shift + click the column header you would like to add next in the sort order. For example, if you click **Number of customers** and then Shift + click **Total revenue**, then the table is sorted first by customers, then by revenue. The red outline show areas where 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
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2		$676,726	Andrew Ma
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1	Primus	$111,225	Tina Lassila
1	Gunner	$49,800	Allan Guinot
1	Gunner	$11,310	Valery Ushakov
90		**$235,208,999**	

If you Shift + click a second time on the same column, this will change the sort direction (ascending, descending) for that column. Furthermore, if you Shift + click a column you have previously added to the sort order, this will move that column to the back of the sort order.

Saving changes you make to sort order

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. If you want to revert your changes back to the report *designer's* settings, select **Reset to default** from the upper menu bar.

If however, the **Reset to default** button is greyed out, that means the report *designer* has disabled the ability to save (persist) your changes.

Another way to save your changes is with bookmarks. If the report *designer* enabled the **Personalize visual** feature for this report, you'll be able to change the sort order for a visual (and a lot more) and save it as a bookmark. If you see this icon  in the visual's header, then personalize visuals is enabled.

To learn more, see Personalize visuals in a report

Considerations and troubleshooting

Sorting using other criteria

Sometimes, you want to sort your visual using a different field (that isn't included in the visual) or other criteria. 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 another field in the dataset, and you have edit permissions to the report, see Sort by column in Power BI Desktop.

- If you are the report designer, you can create new columns in the dataset to address sorting issues with values such as dates and numbers. Contact information for the *designer* can be found by selecting the report name from the header bar.

Next steps

More about Visualizations in Power BI reports.

Power BI - Basic Concepts

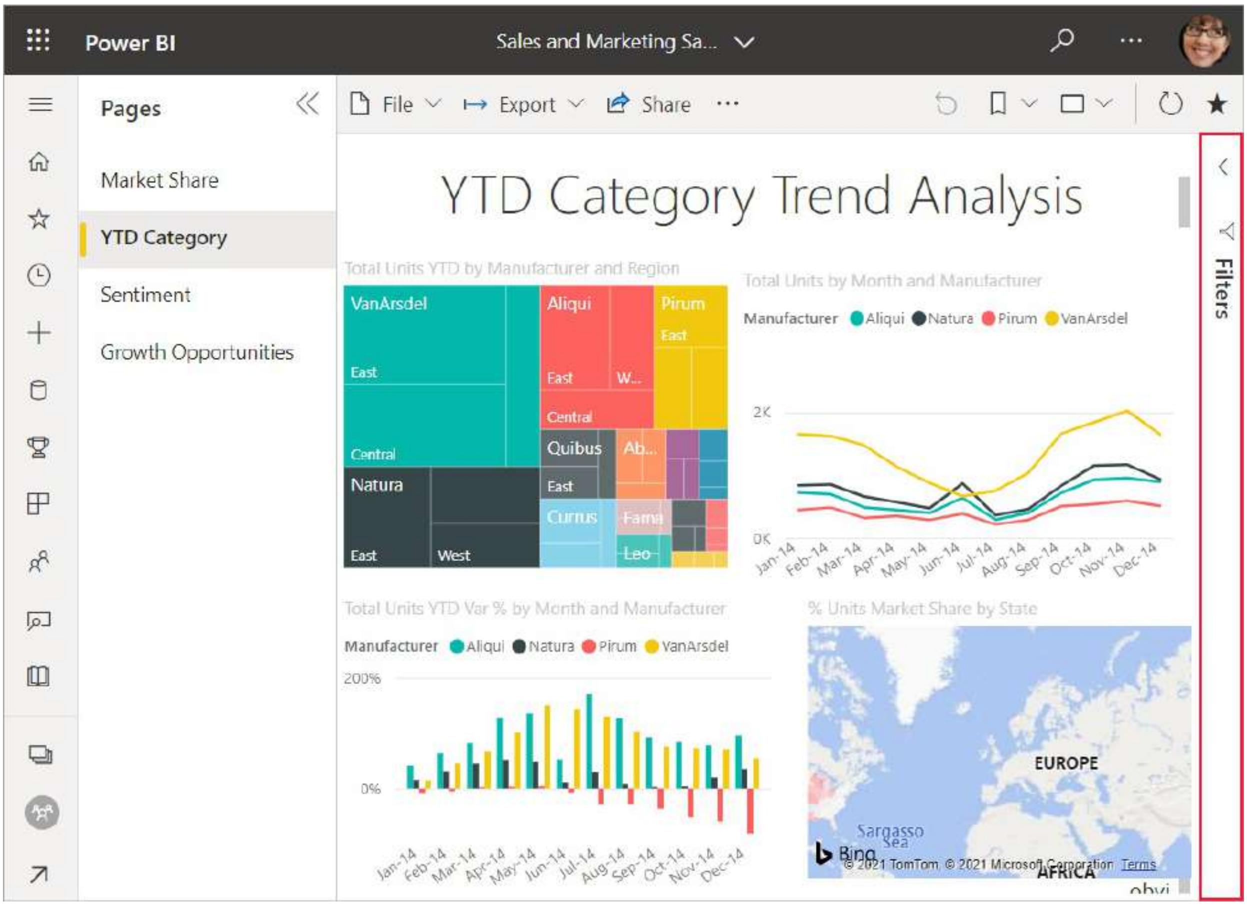
Take a tour of the report Filters pane

12/15/2022 • 5 minutes to read • Edit Online

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

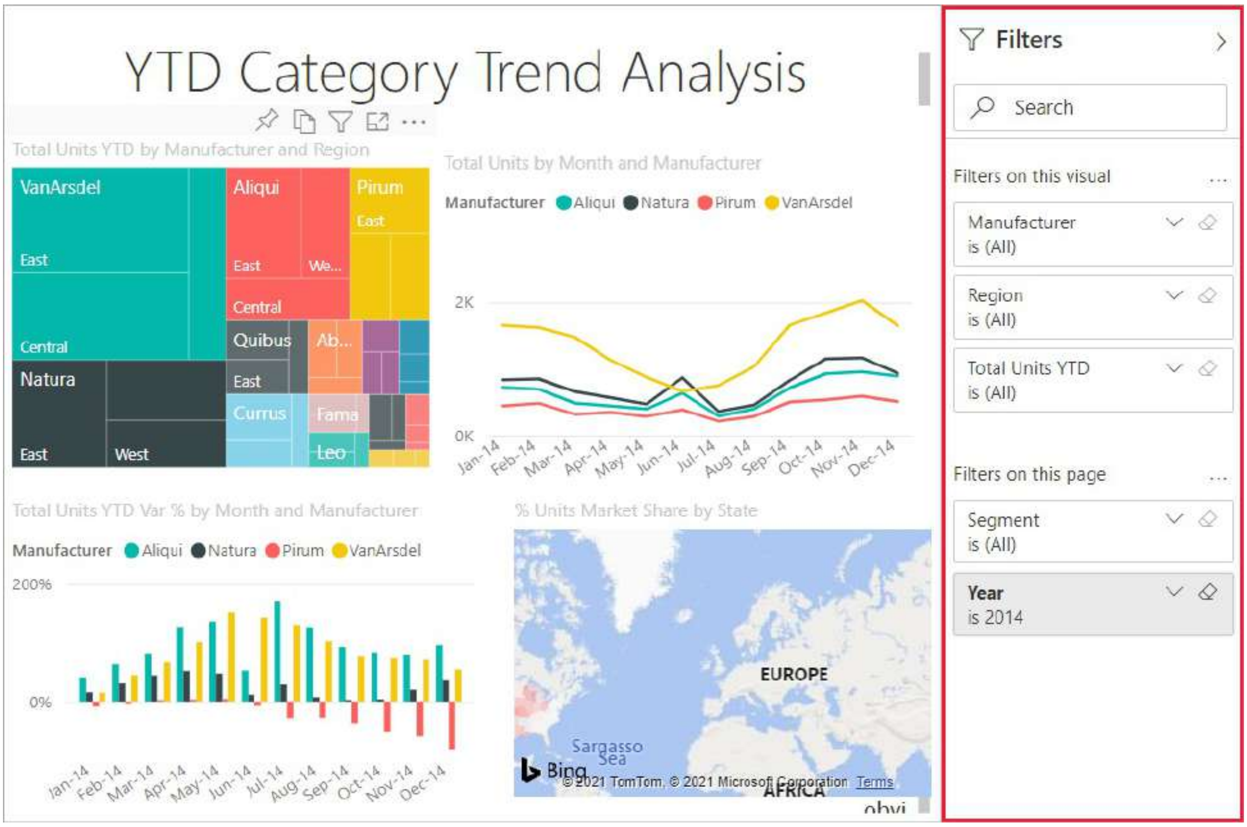
This article takes a look at the report **Filters** pane in the Power BI service. Use the filters to discover new insights in your data.

There are many different ways to filter data in Power BI. This article explains how to use the **Filters** pane. You can also filter by selecting data points on a report visual to filter the other visuals on the page -- this is referred to as **cross-filtering** and **cross-highlighting**. For more information about cross-filtering and cross-highlighting, see How visuals cross-filter each other in a Power BI report.



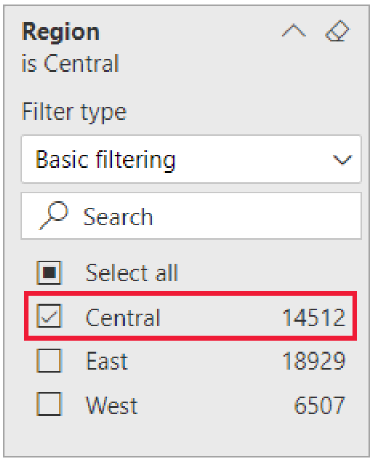
Working with the report Filters pane

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



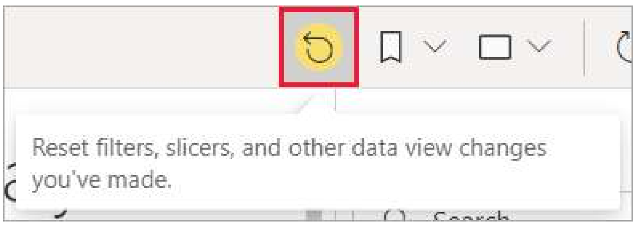
The **Filters** pane contains filters that the report *designer* added to the report. *Business users* like you can interact with the existing filters and save your changes, but you can't add new filters to the report. For example, in the screenshot above the designer added three page level filters: **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 are not. If a filter is shaded, that means a filter has been applied and some data is being excluded. For example, the **Region** filter card is shaded, and when you expend the card you see that only **Central** is selected from the dropdown. Since Region is under the **Filters on this page** heading, all visuals on this page are not displaying (excluding) data for the **West** and **East** regions.



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 upper menu bar.



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

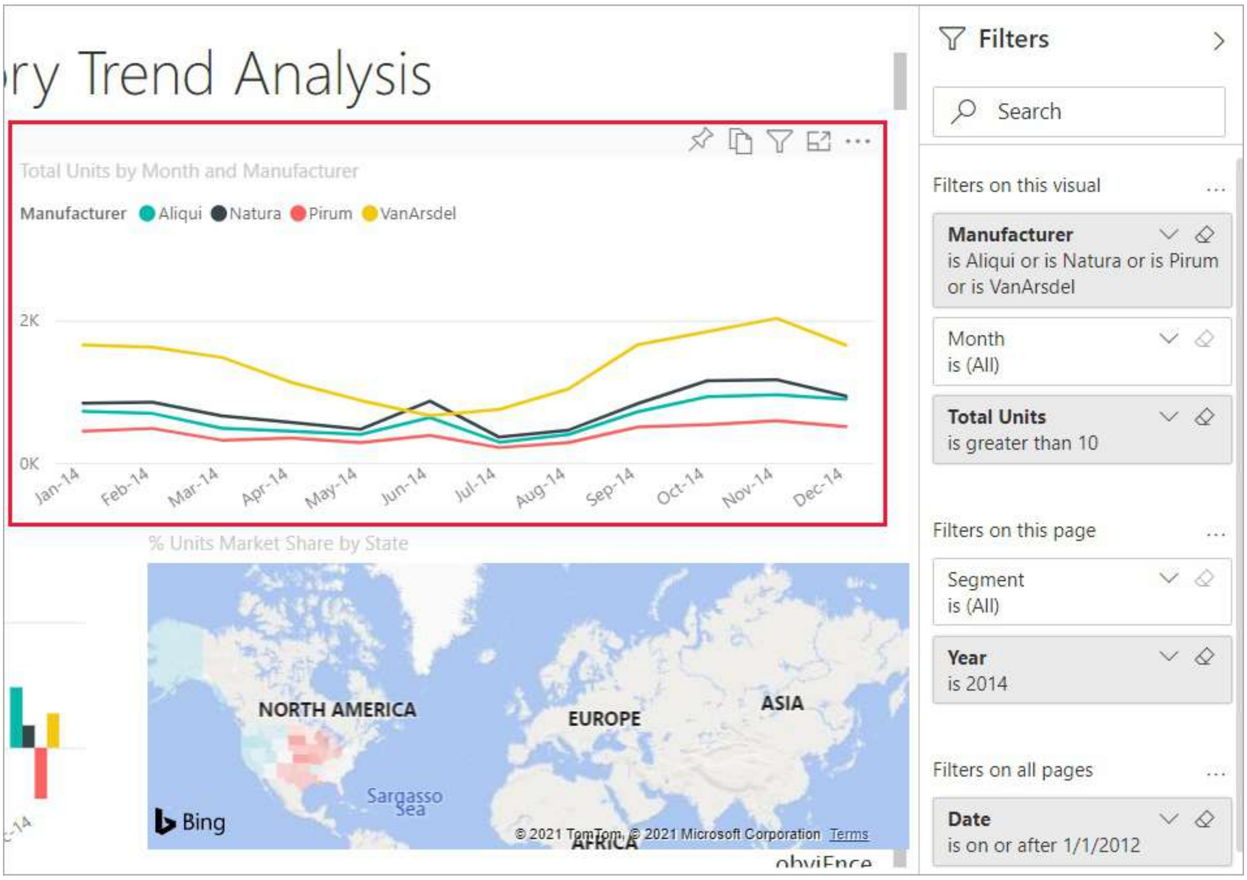
View all the filters for a report page

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. Save changes you make 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 What are bookmarks?.

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

In this example, we've selected 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. And, the entire report has a filter for **Date**, listed under **Filters on all pages**.

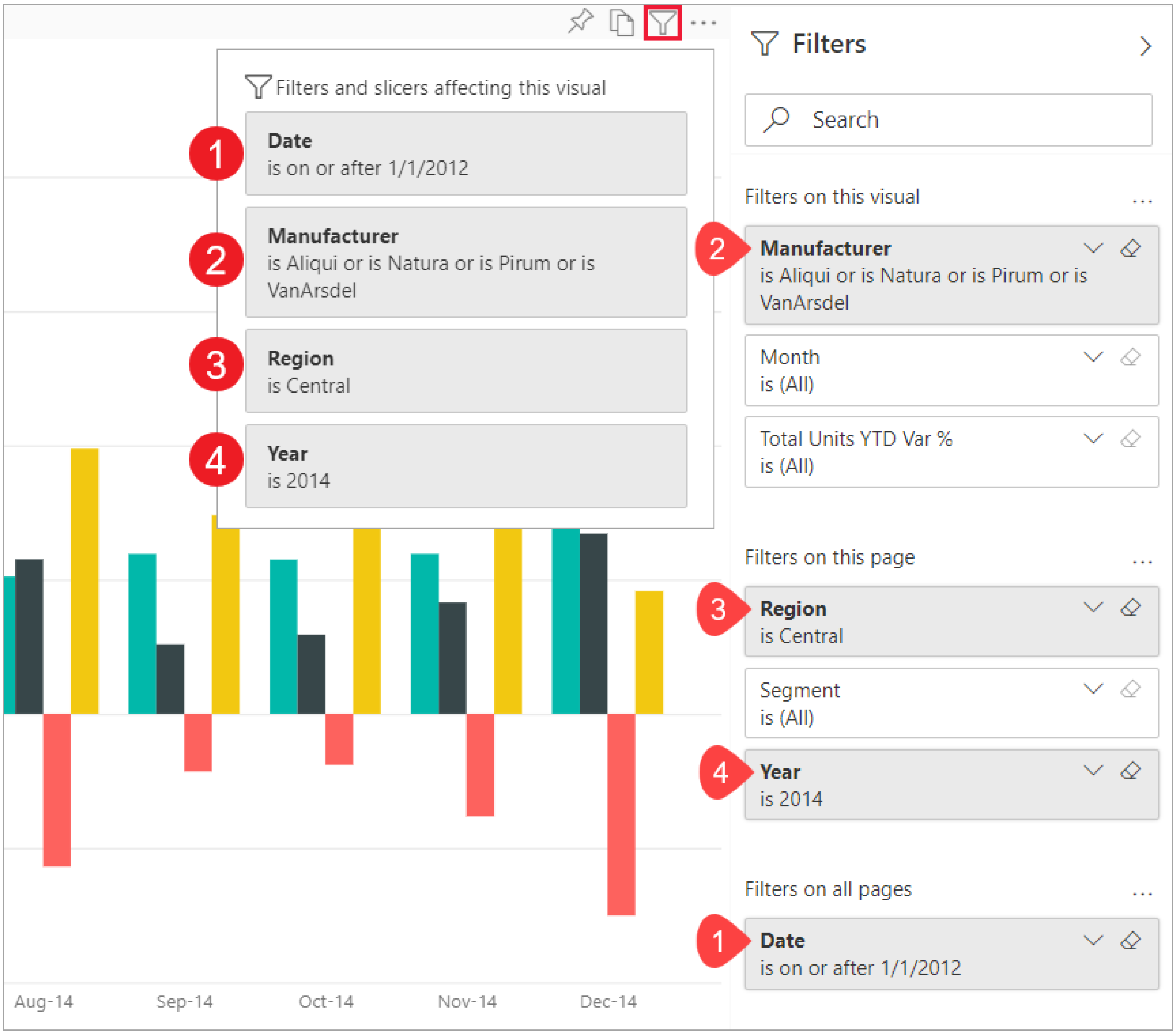


Some of the filters have **(All)** next to them. **(All)** means all values are being included in the filter. In the screenshot above, **Segment(All)** tells us this report page includes data about all the product segments.

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

View only those 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 with all the filters, slicers, and so on, affecting that visual. The filters on the pop-up include the same filters displayed on the **Filters** pane, plus any additional filtering affecting the selected visual.



Here are the types of filters this view can display:

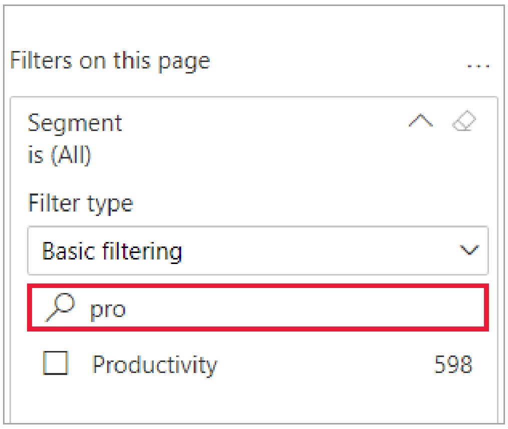
- Basic filters
- Slicers
- Cross-highlighting
- Cross-filtering
- Advanced filters
- Top N filters
- Relative Date filters
- Sync-slicers
- Include/Exclude filters
- Filters passed through a URL

In this example:

1. **Included** tells us that the visual has been cross-filtered. What this means is that the states of Alabama and Texas have been selected on one of the other visuals on this report page. In this case, it's the map visual. The selection of those two states has eliminated data for all other states from displaying on the selected bar chart.
2. **Date** is a filter applied to all pages in this report.
3. **Region is Central** and **Year is 2014** are filters applied to this report page.
4. **Manufacturer is VanArsdel, Natura, Aliqui, or Pirum** is a filter applied to this visual.

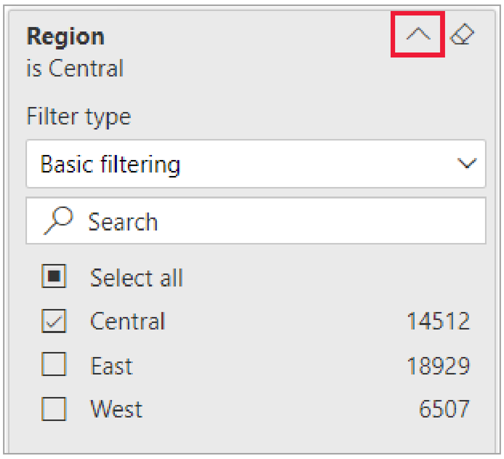
Search in a filter

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



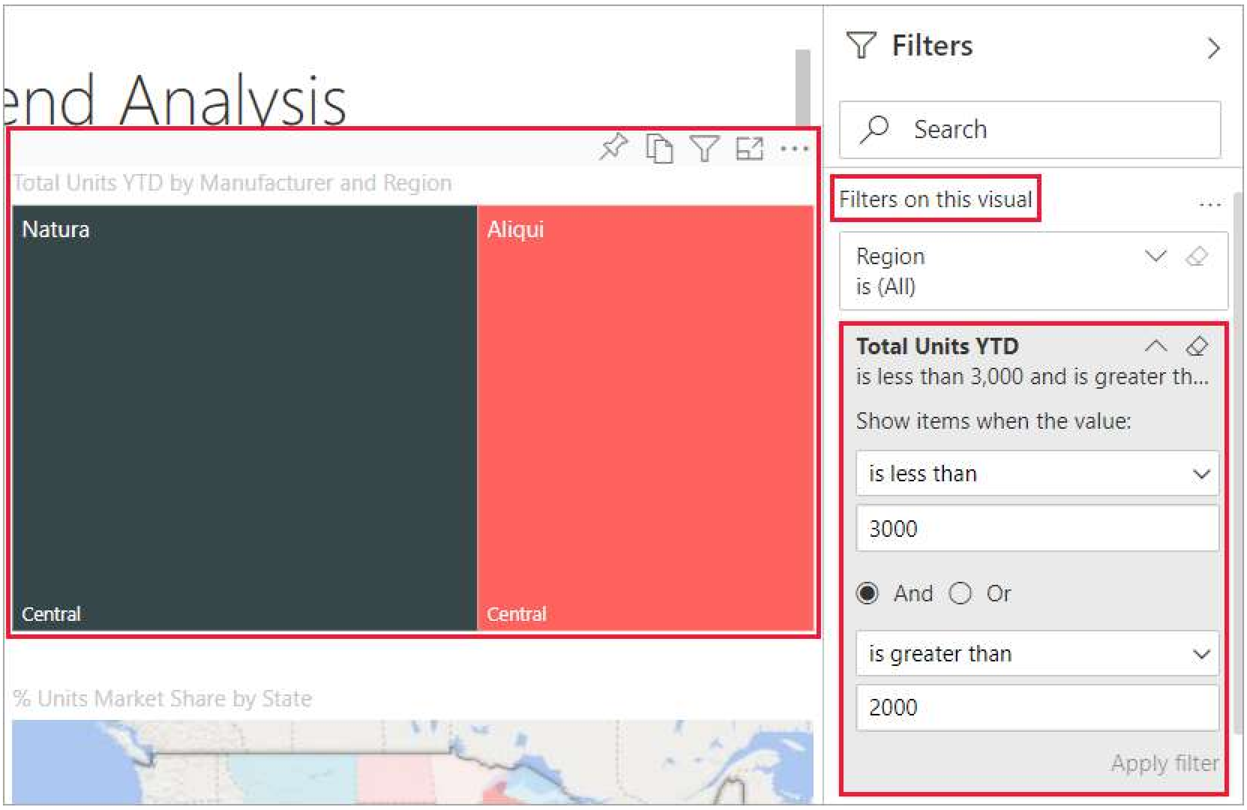
Display filter details

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



Change filter selections

One way to search for data insights is to interact with the filters. You can change filter selections 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 will range from simple selections from a list, to identifying ranges of dates or numbers. In the advanced filter below, we've changed the **Total Units YTD** filter on the treemap to be between 2,000 and 3,000. Notice that this change removes Pirum and VanArsdel from the treemap.

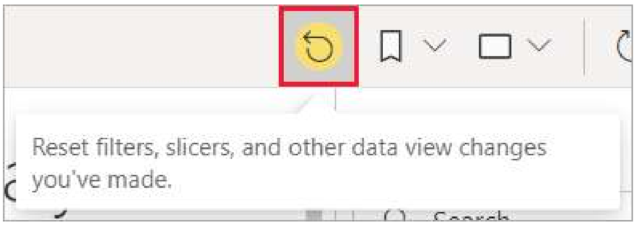


TIP

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

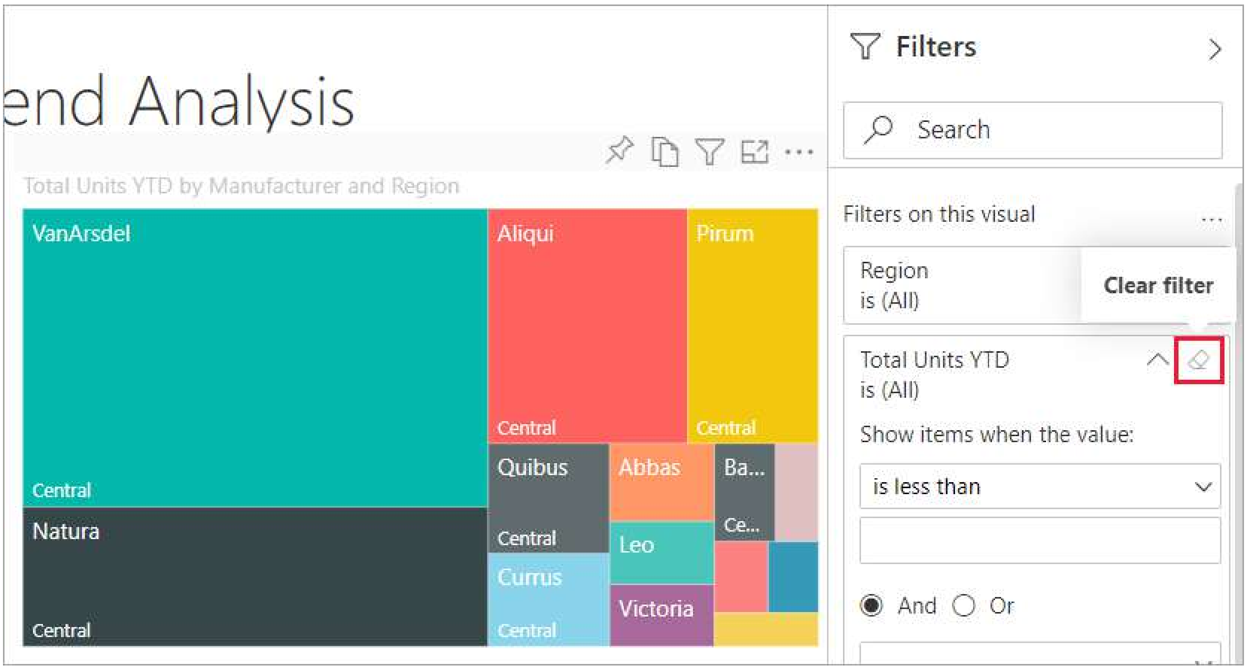
Reset filter to default

If you want to back out of all 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

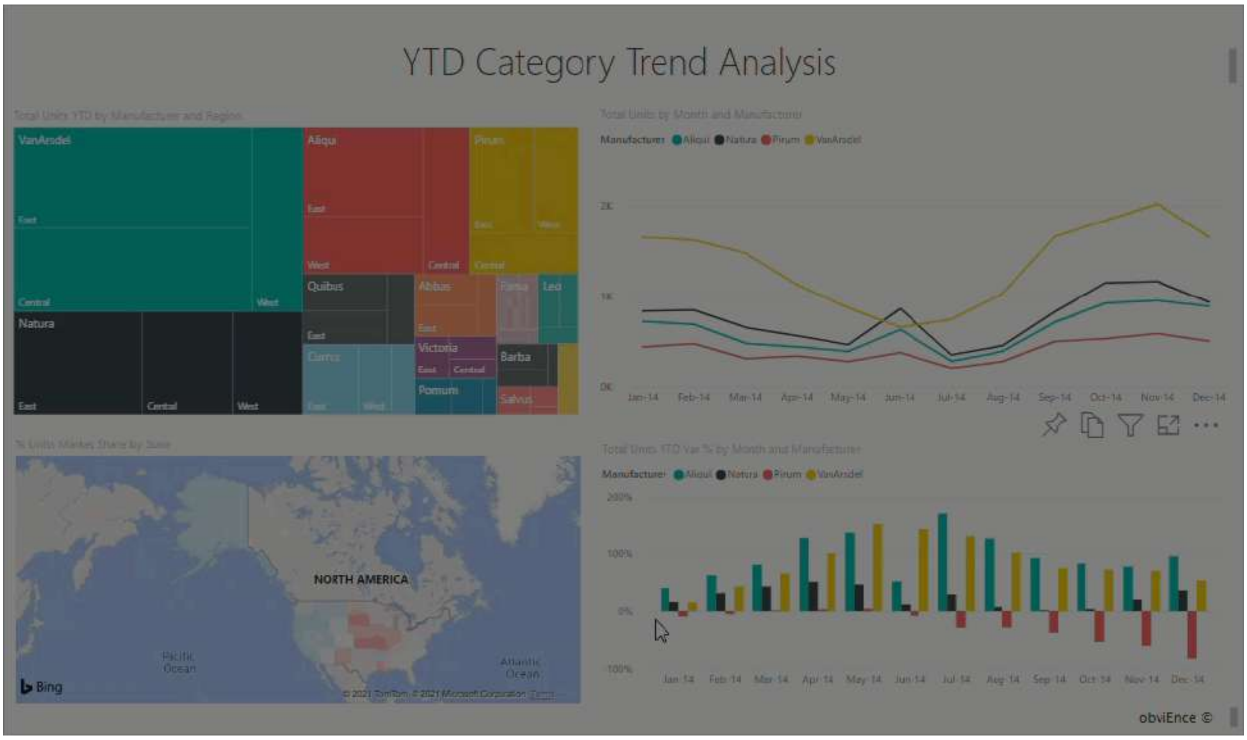
Learn how and why visuals cross-filter and cross-highlight each other on a report page

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

12/15/2022 • 2 minutes to read • Edit Online

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 that data change, based on that selection.



How visuals interact with each other

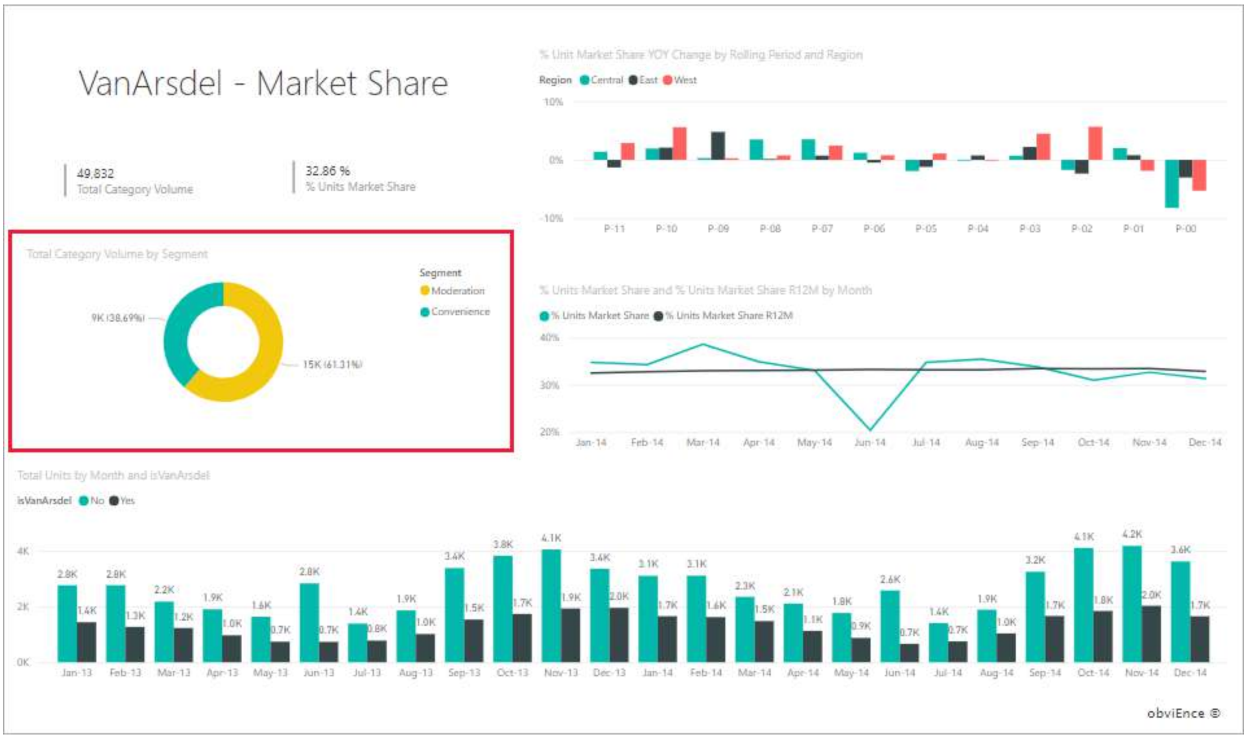
By default, selecting a data point in one visual on a report page will cross-filter or cross-highlight the other visuals on the page. Exactly how the visuals on a page interact is set by the report *designer*. *Designers* have options to turn visual interactions on and off, and to change the default 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.

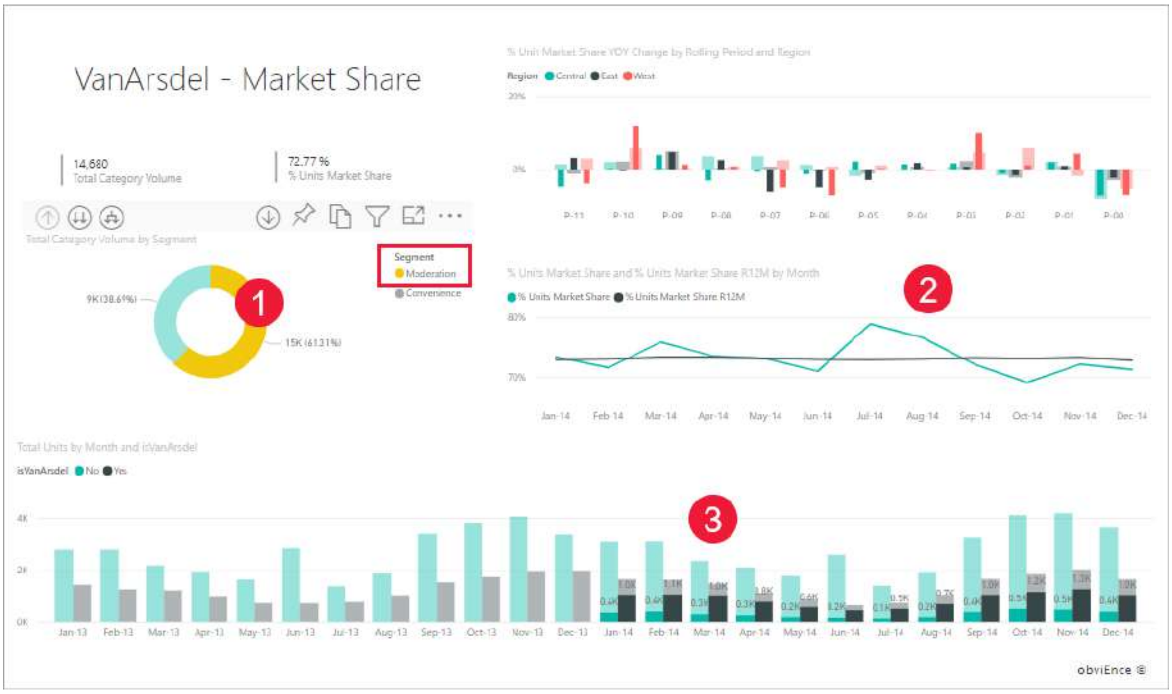
Cross-filtering and cross-highlighting

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.

Let's define these terms as we look at the report pages below. The "Total category volume by segment" doughnut chart has two values: "Moderation" and "Convenience".



1. Let's see what happens when we select **Moderation**.



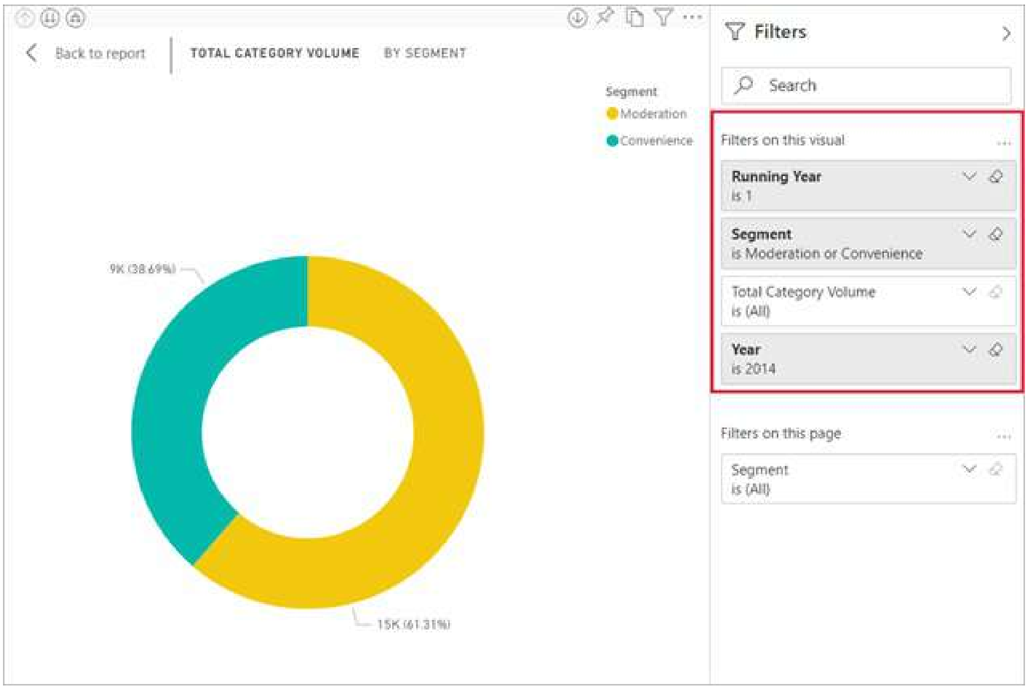
2. **Cross-filtering** removes data that doesn't apply. Selecting **Moderation** in the doughnut chart cross-filters the line chart. The line chart now only displays data points for the Moderation segment.

3. **Cross-highlighting** retains all the original data points but dims the portion that does not apply to your selection. Selecting **Moderation** in the doughnut 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 impact 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.



- In case of the tables with no hierarchical relationships, slicing up the measures (often referred as complex slicers) may 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 re-model the relationships to get the desired output.

Next steps

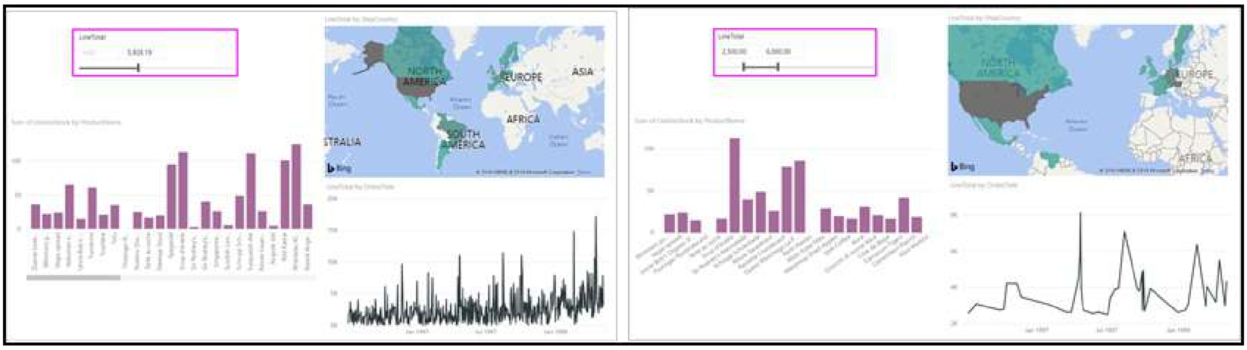
How to use report filters

About filtering and highlighting.

Slicers in the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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



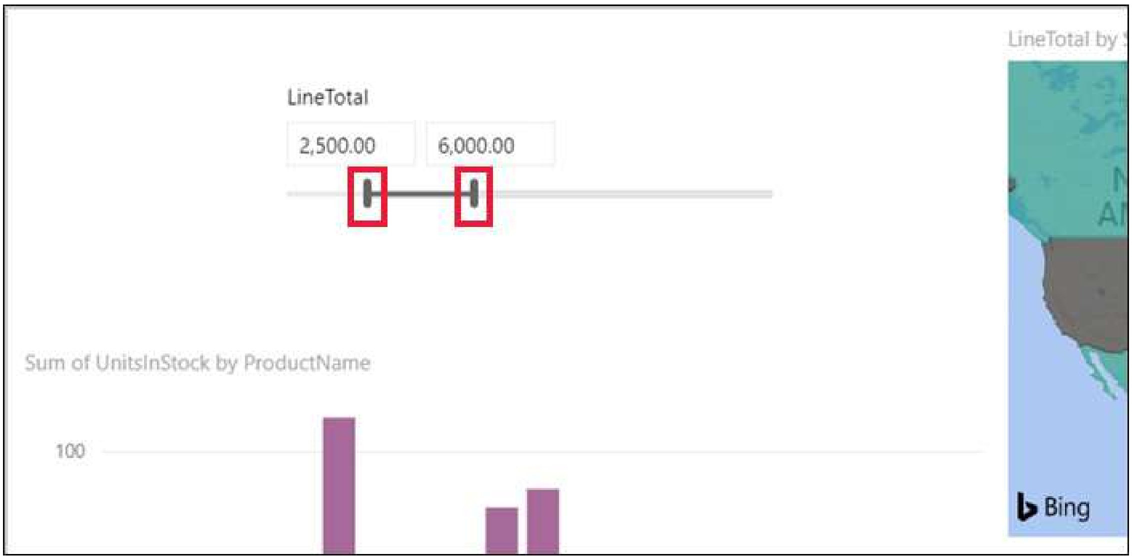
A slicer is a type of visual that filters the other visuals on a report page. When using Power BI reports, you'll discover many types of slicers. The image, above, shows the same slicer but with different selections. Notice how each selection filters the other visuals on the page.

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.

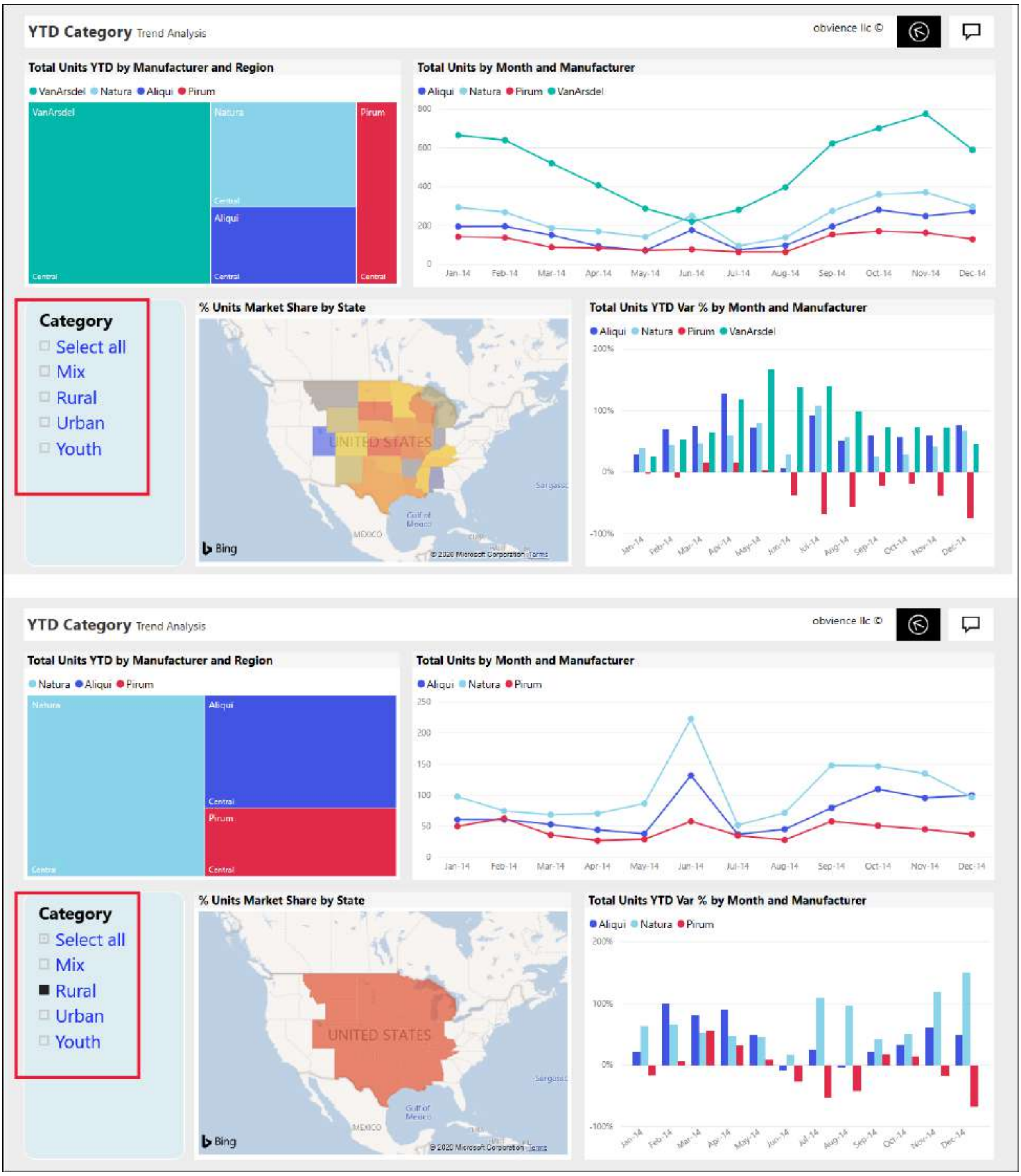
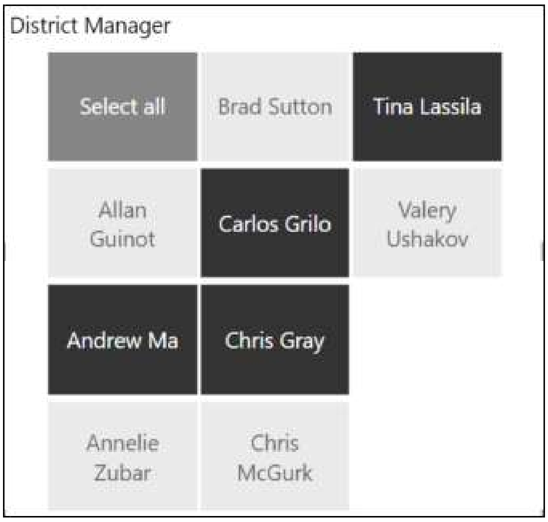


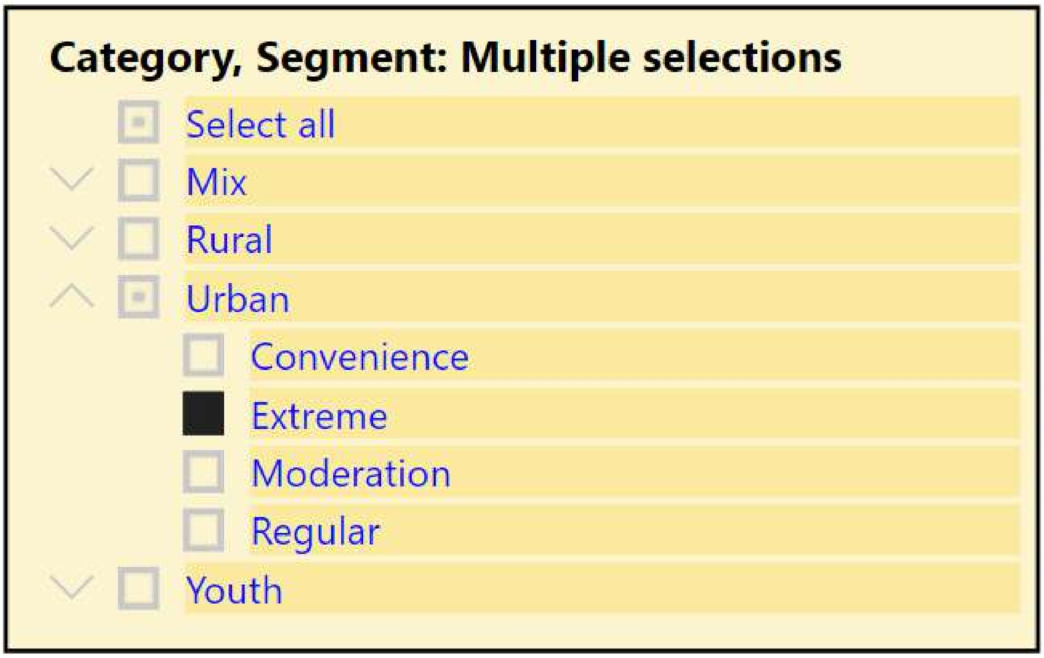
Image and shape slicers

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.



Hierarchy slicer

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

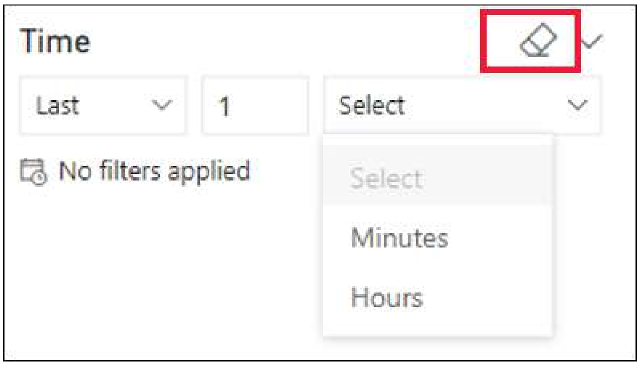


Relative time slicer

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

Export reports from Power BI to PDF

12/15/2022 • 6 minutes to read • Edit Online

APPLIES TO: ✔ Power BI Desktop ✔ Power BI service

With Power BI, you can publish your report to PDF format and easily create a document based on your Power BI report. When you export to PDF, each page in the Power BI report becomes an individual page in your PDF document. Exporting to PDF is one way to share or print reports.

Export your Power BI report to PDF

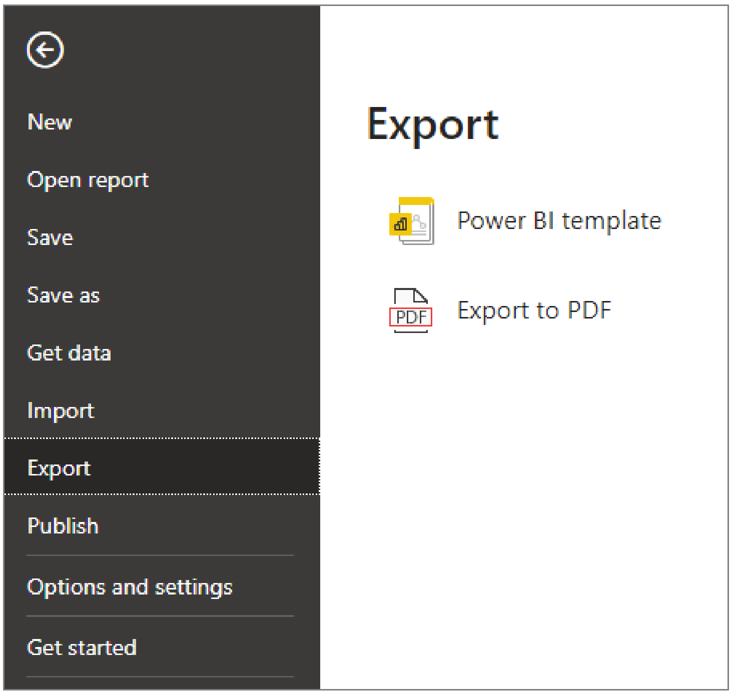
In the Power BI service or Desktop, select a report to display it on the canvas. In the Power BI service, you can select a report from your **Home** page, **Apps**, or any other container from the nav pane.

- Power BI Desktop
- Power BI service

Export to PDF from Power BI Desktop

The process for exporting a report from Power BI Desktop to PDF is similar to the Power BI service process described earlier. There are only a few differences:

- In Desktop, select **File** > **Export** > **Export to PDF**.



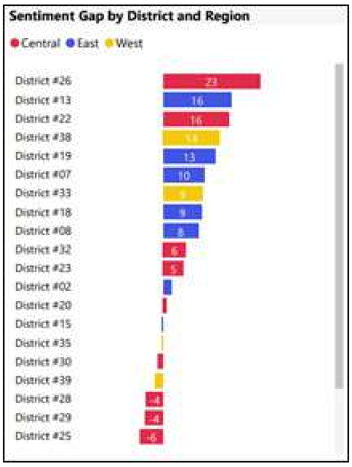
- Report pages that are currently not visible, such as any tooltips or hidden pages, aren't exported to the PDF file.
- While the export is being processed, a dialog appears that lets you know that the export process is underway. The dialog remains on the screen until the export process completes. During the export process, all interaction with the report being exported is disabled. The only way to interact with the report is to wait until the export process completes, or to cancel the export.
- The exported PDF displays in your browser and is automatically saved in your **Downloads** folder.

Considerations and limitations

There are a few considerations and limitations to keep in mind when you work with the **Export to PDF** feature.

- R, Python, Power BI Visio visuals, and Power Apps visuals aren't currently supported. In the PDF, these visuals are blank and display an error message.
- Power BI visuals that have been certified are supported in most cases. For more information on certified Power BI visuals, including how to get a Power BI visual certified, see Get a Power BI visual certified. Power BI visuals that haven't been certified aren't supported. In the PDF, they display with an error message.
- The ESRI ArcGIS for Power BI visual isn't supported.
- Power BI reports with more than 50 report pages currently can't be exported. Paginated reports don't have this limitation. See Print a paginated report for details.
- Reports larger than 500 MB currently can't be exported.
- The process of exporting the report to PDF might take a few minutes to complete, so be patient. Factors that can affect the time required include the structure of the report and the current load on the Power BI service or Power BI Desktop.
- If the **Export to PDF** menu item isn't available in the Power BI service, it's likely because your Power BI administrator disabled the feature. Contact your administrator for details. Administrators: See Export reports as PowerPoint presentations or PDF documents.
- Reports that are owned by a user outside your Power BI tenant domain, such as a report owned by someone outside your organization and shared with you, can't be published to PDF.
- You can share a dashboard with someone outside of your organization--someone who isn't in your Power BI tenant. However, that user can't export the shared dashboard's associated reports to PDF. For example, if you're aaron@contoso.com, you can share with cassie@northwinds.com. But cassie@northwinds.com can't export the associated reports to PDF.
- Background images are cropped with the visualization's bounding area. Also, when you export to PDF with reports that contain a background image, you might see a distorted image in the export if you use the **Normal** or **Fill** options for the **Page Background**. For best results, use the **Fit** option to avoid issues with your exported document. Or, remove backgrounds before exporting.
- The Power BI service uses your Power BI language setting as the language for the PDF export. To see or set your language preference, select the cog icon  > **Settings** > **General** > **Language**.
- In the Power BI service, URL filters aren't currently respected when you choose **Current Values** for your export.
- Reports with unusual custom page sizes may experience issues in export scenarios. For best results, consider switching to a standard page size for your report.
- Reports using themes with custom fonts will have the custom font replaced with a default font.
- While we look to provide a consistent experience, we can't guarantee the exported PDF from the Power BI service will always match the exported PDF from a local Power BI Desktop file.
- We can't guarantee precise fidelity for Power BI reports. The resolution of exported report pages is 1280 pixels x 720 pixels.
- Visuals with scrollbars are exported in their default state. The visual will display all possible rows, starting with the first row. Even if you have the visual scrolled down, when exported, the visual will display

unscrolled.



- Visuals in a drilled down state are exported in their default state.
- The feature doesn't export any wallpaper you may have applied to the report. Since wallpaper isn't exported to the PDF, you should pay special attention to reports that use dark wallpaper. If the text in your report is light or white, it will be difficult to read in the export to PDF process since the dark wallpaper won't be exported with the rest of the report.
- All Power BI reports have a page margin when exported to PDF. That is, there will be a band of white space at the top and bottom of the exported file.
- Export to PDF is not currently supported for tenants in the China North region.

Next steps

Print a report

Identify and use buttons in the Power BI service

12/15/2022 • 4 minutes to read • Edit Online

In the reports that you receive from colleagues, you may have noticed buttons and wondered how to use them. Some have words, some have arrows, others have graphics, and some even have dropdown menus. This article will teach you how to recognize a button and how to figure out what to do with it.

If you want to learn how to create buttons, see Create buttons in Power BI.

How to recognize a button

Buttons can look a lot like shapes, images, or icons on a report page. But if an action occurs when you select (click) it -- then it's probably a button.

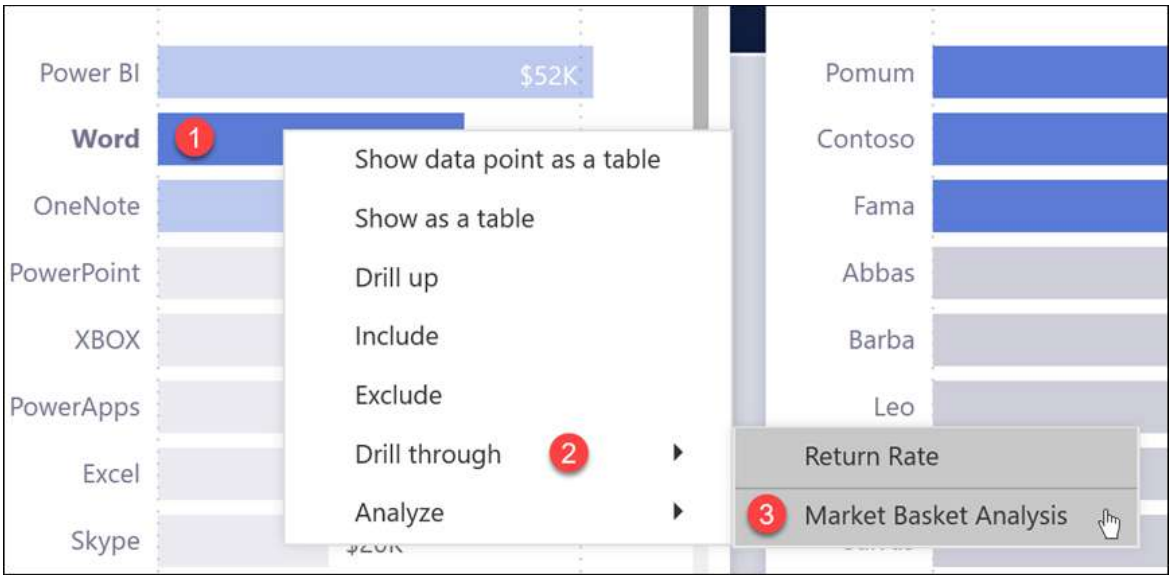
Types of buttons

Report creators add buttons to reports to help you with navigation and exploration. Just some of the button types are: back, bookmark, arrows, Q&A, help, and blank.

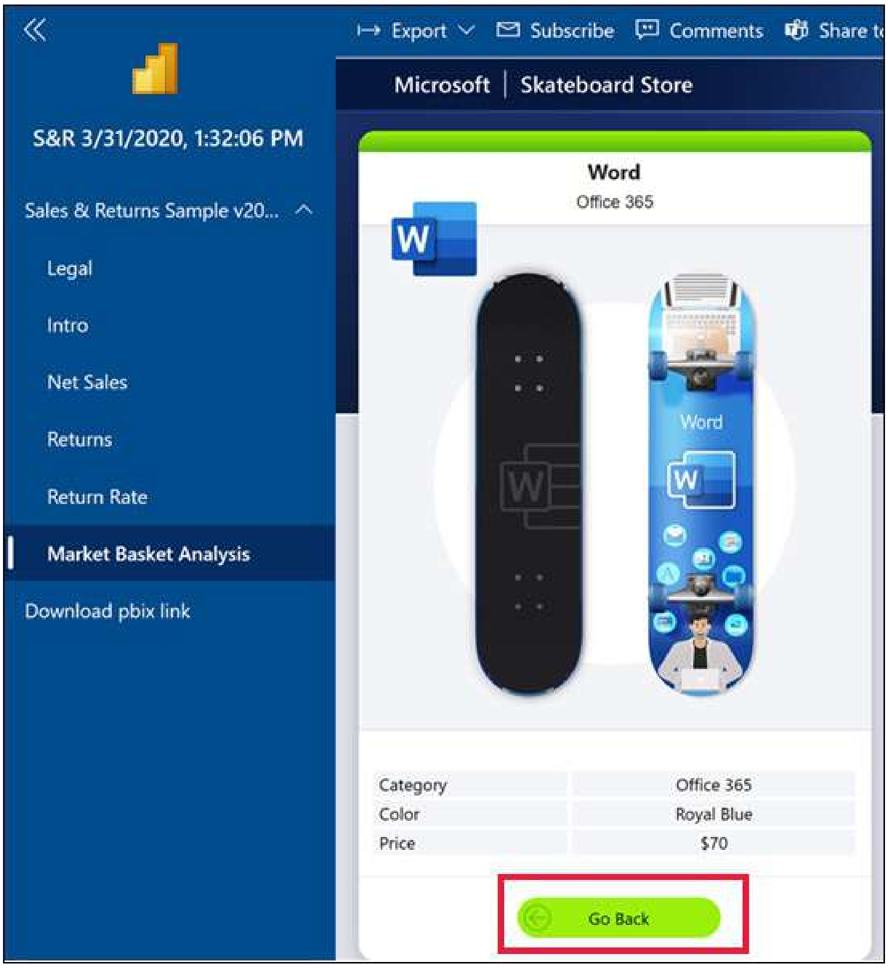
Back buttons

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

1. The user has selected **Word** in the bar chart and is drilling through to **Market basket analysis**.



2. By choosing **Market basket analysis**, Power BI opens the *Market basket analysis* report page and uses the selections made on the source page to filter what is shown on the destination page.

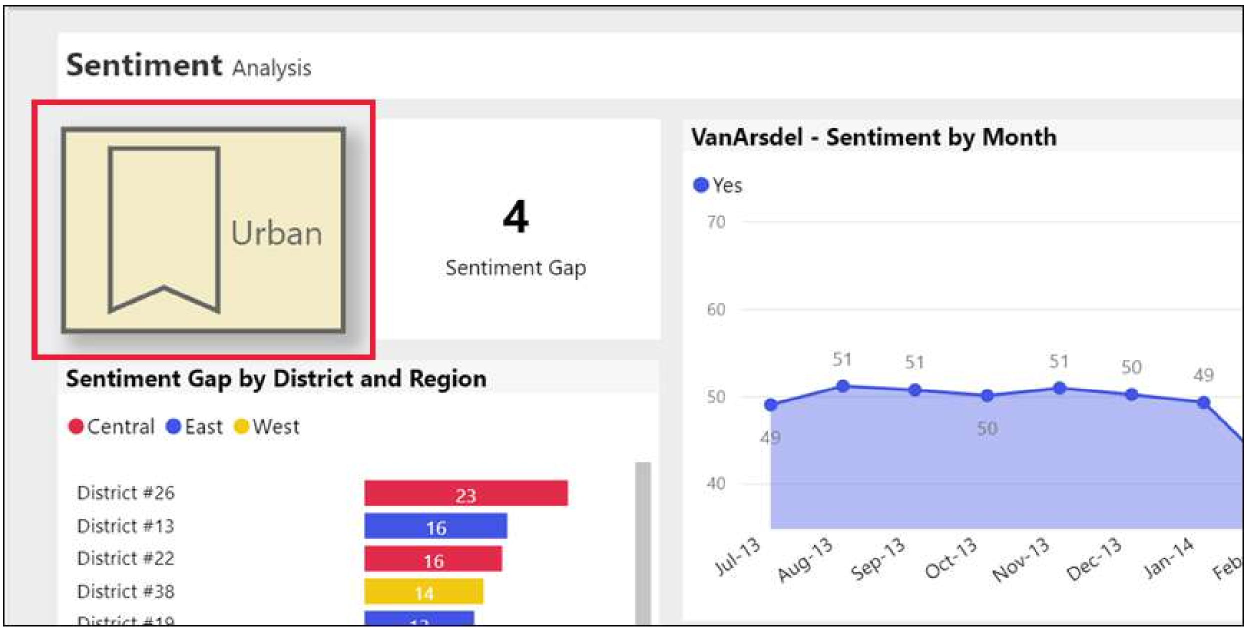


You're now on the **Market basket analysis** report page, which is filtered for **Word**. To return to the previous page, select the back button that is labeled **Go back**.

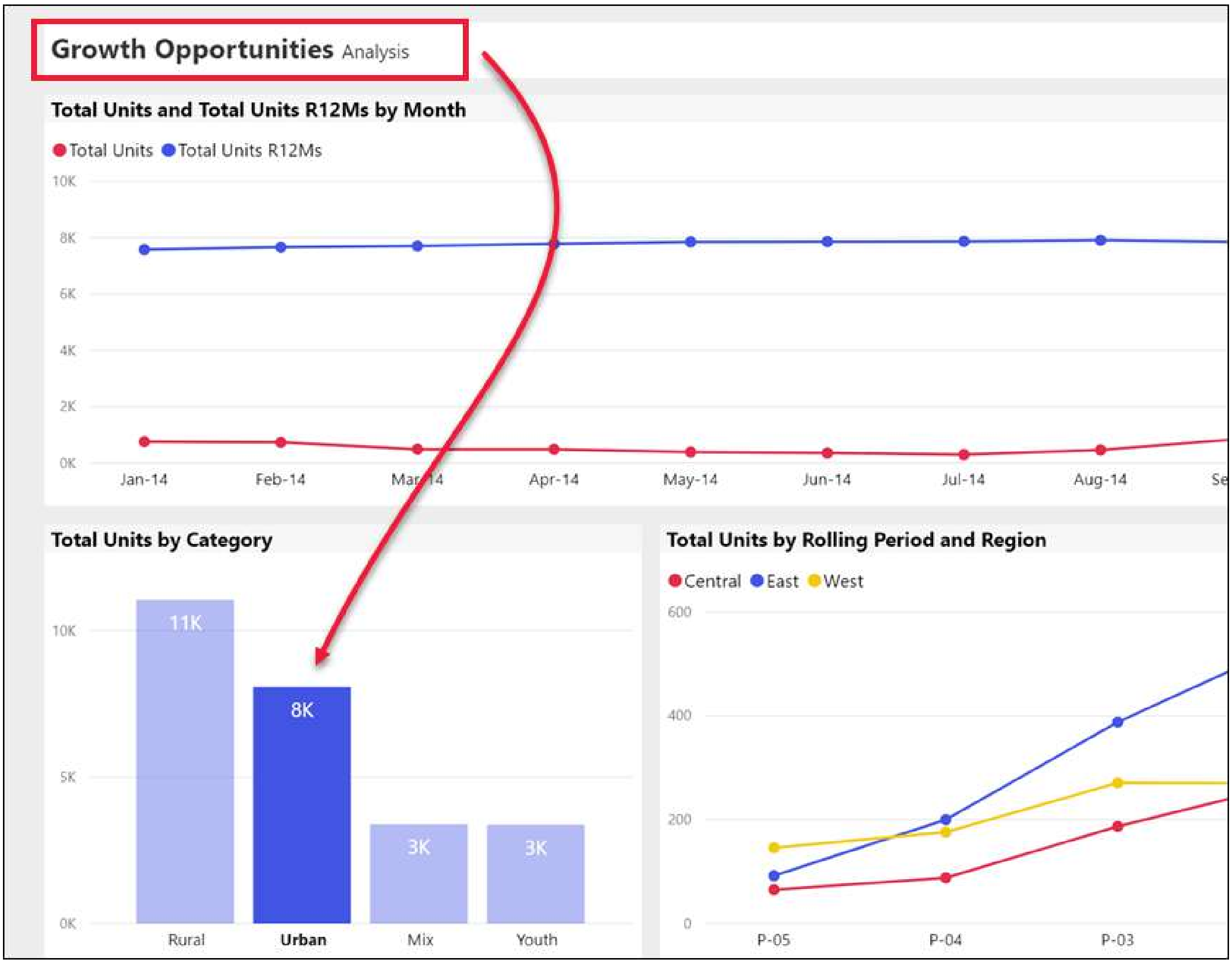
Bookmark buttons

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 the particular report page that's associated with that bookmark. The page will have the applied filters and settings that are captured by the bookmark. Learn more about bookmarks in Power BI.

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



By choosing the bookmark button, Power BI takes you to the location and settings as defined for that bookmark. In this case, the bookmark is on the *Growth opportunities* report page and that page is 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 and the data on that destination page is presented according to the filters and selections you've made on the source page.

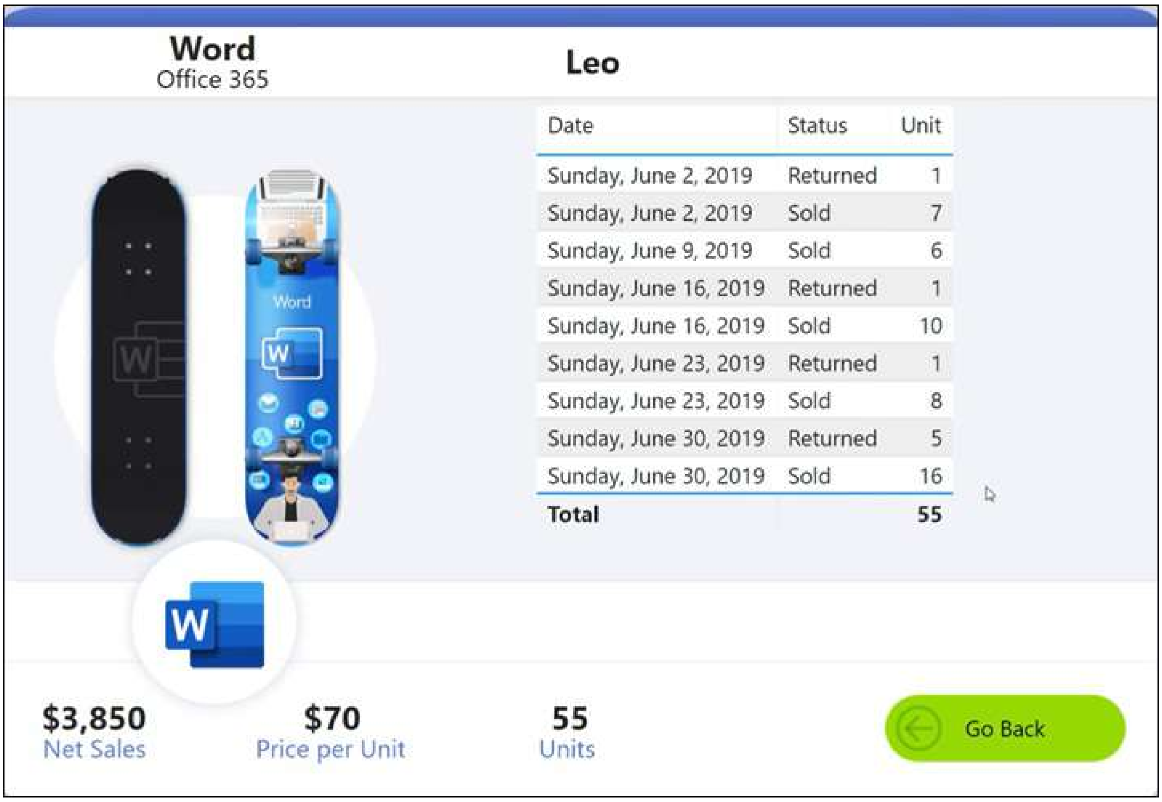
One way to drill through in a report is to right-click a data point in a visual, select **Drill through**, and choose the destination. This method is described above in the section titled **Back button**. But sometimes the report designers use a drillthrough *button* instead, to make the action more obvious and to call attention to important insights.

Drillthrough buttons can have more than one prerequisite. Unless you fulfill all the prerequisites, the button will not work. Let's look at an example.

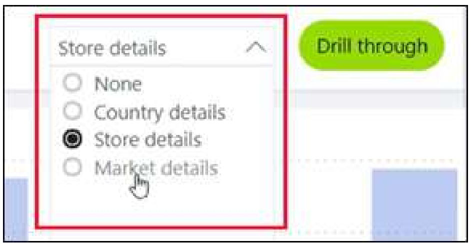
Here is a drillthrough button that will take us to the *Store details* page. Hovering over the button reveals a tooltip that lets us know that we need to select both a store and a product. Until we select one of each, the button remains inactive.

Now that we've selected one product (**Word**), and one store (**Leo**), the button changes color to let us know that it is now active.

Selecting the drillthrough button takes us to the *Store* report page. The *Store* page is filtered for our selections of **Word** and **Leo**.

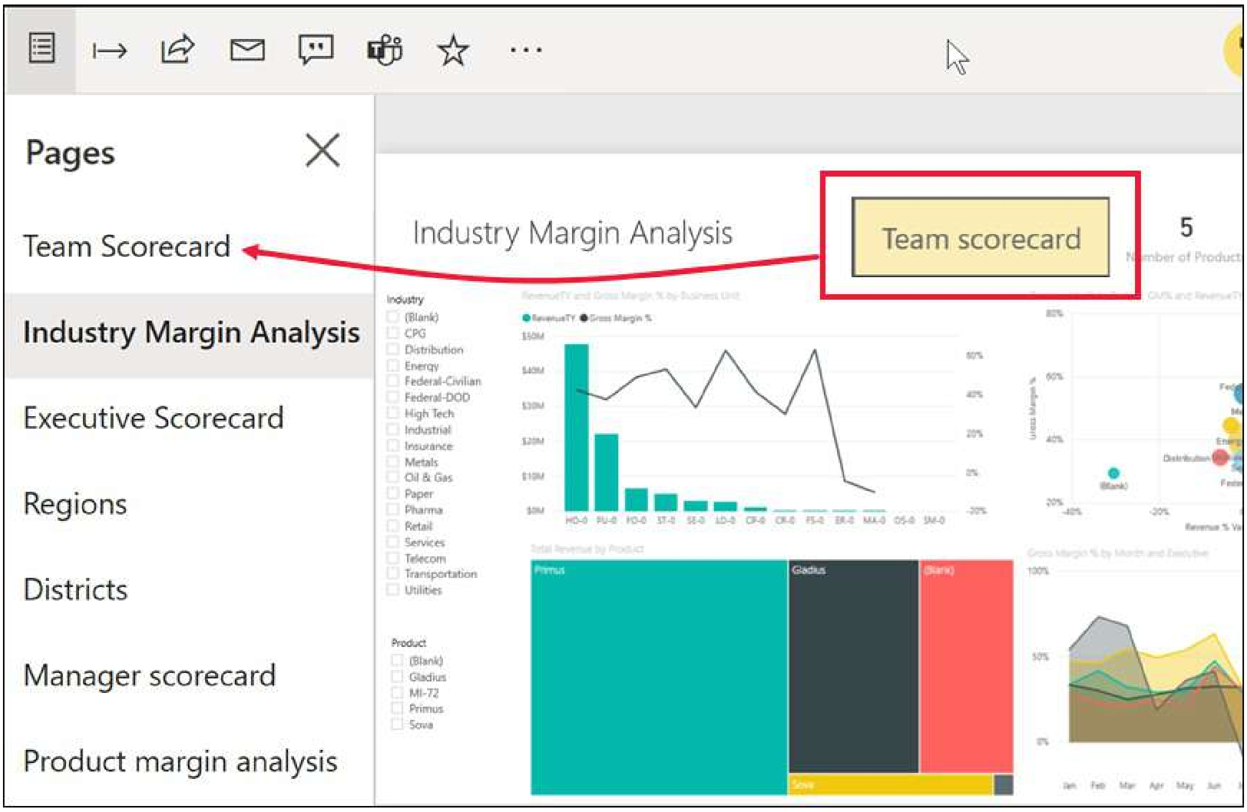


Drillthrough buttons can also have dropdown menus that offer you a choice of destinations. Once you've made your selections on the source report page, select the destination report page for the drillthrough. In the example below, we're changing our selection to drill through to the *Market details* report page.



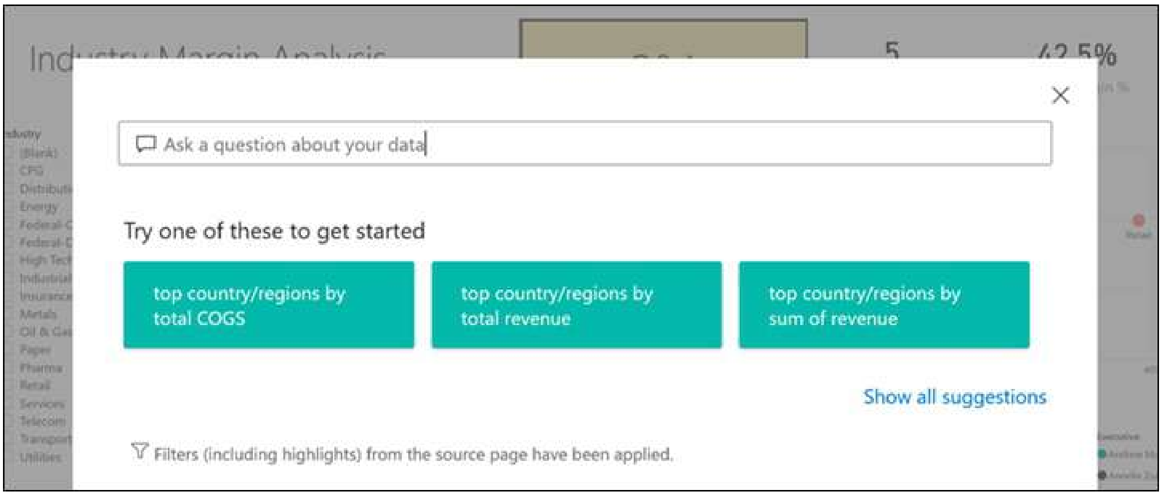
Page navigation

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 example below, the report designer added a button on each report page that takes you back to the first page, the top-level summary page, in the report. This page navigation button is helpful because there are many pages in this report.



Q&A buttons

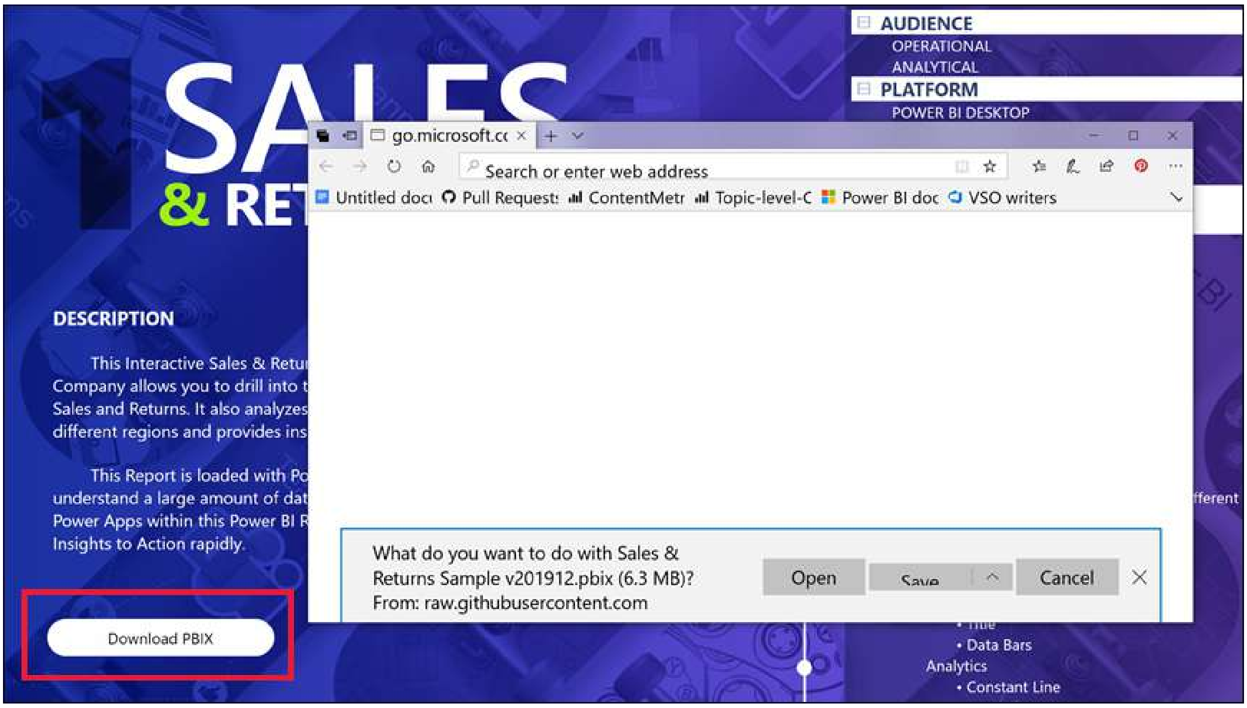
Selecting a Q&A button opens the Power BI Q&A Explorer window. The Q&A window displays on top of the report page and can be closed by selecting the X. Learn about Q&A



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 example below, 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 steps

[Bookmarks]

[Drill up, drill down]

Bookmarks in the Power BI service

12/15/2022 • 8 minutes to read • Edit Online

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. This includes the settings you've made to filters, slicers, and visuals on that page. Once the report page is set the way you want, give it a friendly name. Now you can return to that state of the report page with a single click. Simply select a bookmark, and Power BI takes you back to that view.

Types of bookmarks

There are two types of 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 do not travel with the report. Personal bookmarks are for your use only. However, if you want to share your personal bookmarks, this article provides some tips and tricks to do so.

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 content requires either a Power BI Pro or a Premium Per User license. Which license do I have?

If you will be designing reports and creating report bookmarks for others to use, see Create report bookmarks.

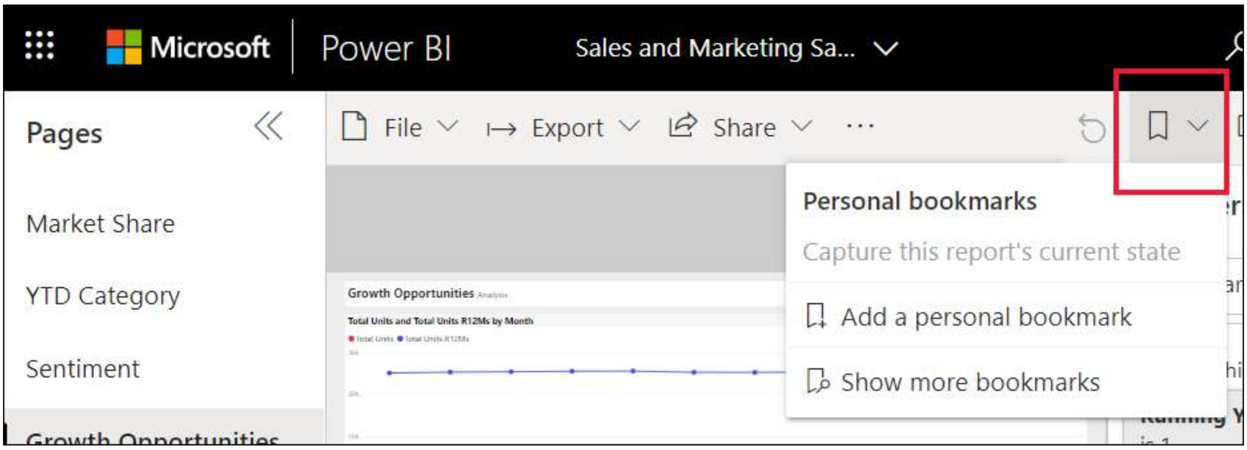
Use *personal bookmarks* to save insights and build stories in Power BI

There are many uses for personal bookmarks. Say you discover an interesting insight and want to preserve it -- create a personal bookmark so you can return later. 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 bookmarks, arrange them in the order you want, and subsequently step through each bookmark in a presentation to highlight a series of insights that tell a story. This works like a slideshow, where you click an arrow to go forward or backward. There is a limit of 20 personal bookmarks per report.

Open the Bookmarks pane

Open the **Bookmarks** pane by selecting the icon and choosing either **Add a personal bookmark** or **Show more bookmarks**.



Share changes

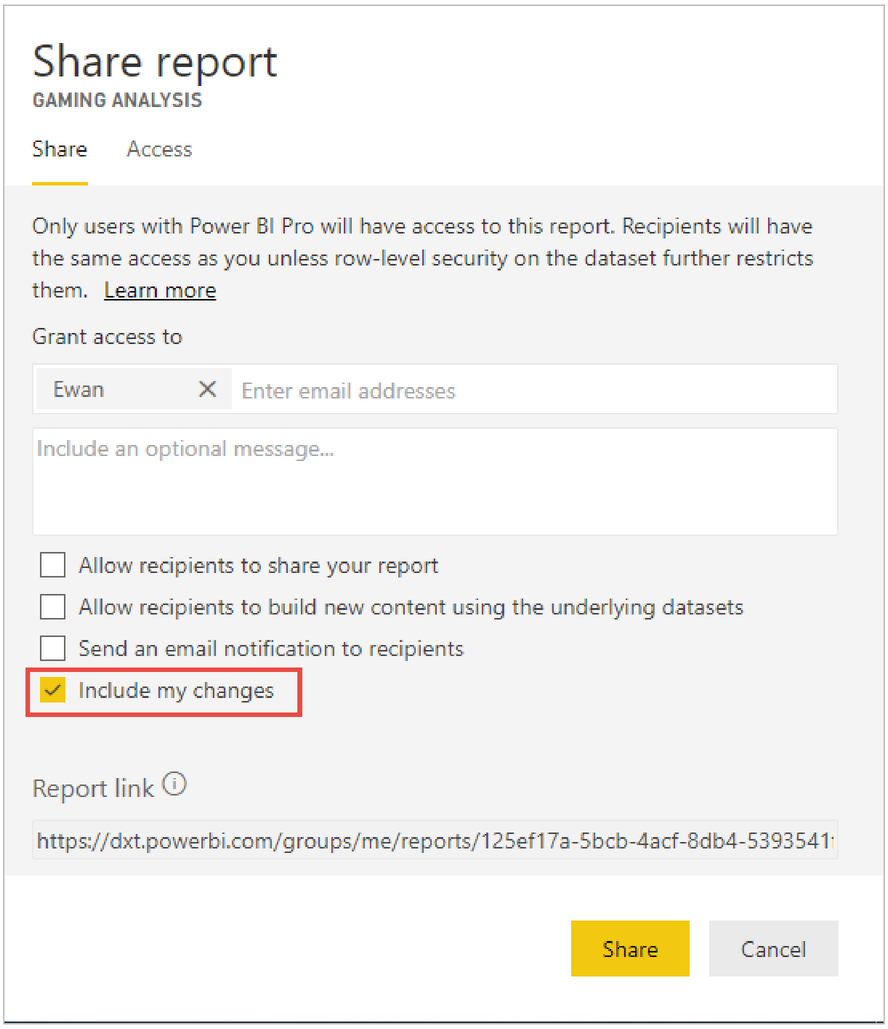
While you can't share your actual personal bookmarks with others, you can select a personal bookmark and save the report with that bookmarked view active. When colleagues who also have read access to the report open that report, they see the view you selected. This personalized view of the report does not 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 are unable to share your view of the report, contact the report owner to request reshare permission.

If you do have reshare permissions, when you share the report you can choose to include your changes.

- If you have a personal bookmark active when you share your report, recipients will see the bookmarked version of that report page but will not see your bookmark listed under their "Personal bookmarks" list. So, they'll see the result of your personal bookmark. For example, if your bookmark filters the report page to show data for the year 2020.
- Similar to the method above, with a personal bookmark active, you can share in Microsoft Teams. Select **Chat in Teams** from the top menu. In the **Chat in Teams** dialog, provide the name of the Team or Channel that you with to share to, then select **Share**. Or, from the **Chat in Teams** dialog, copy the generated URL and share that. For more information, see Share personal bookmarks in Teams chat.
- With a personal bookmark active, use the comment feature. When you add a comment, the Power BI service saves the current view and that is the view other users will see when they select the comment. For more information, see Add comments to dashboards and reports
- If you then change your personal bookmark, it has no effect on your recipients' view of that report page. For example, if you select a different personal bookmark that shows data for the year 2021, your view of the report will change. However, your recipients will still see the version your shared, showing 2020.

When a personal bookmark is on you can use the comment feature on the Power BI service. Add a comment. This comment will save the view with another user when they click on the comment.

> **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.



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

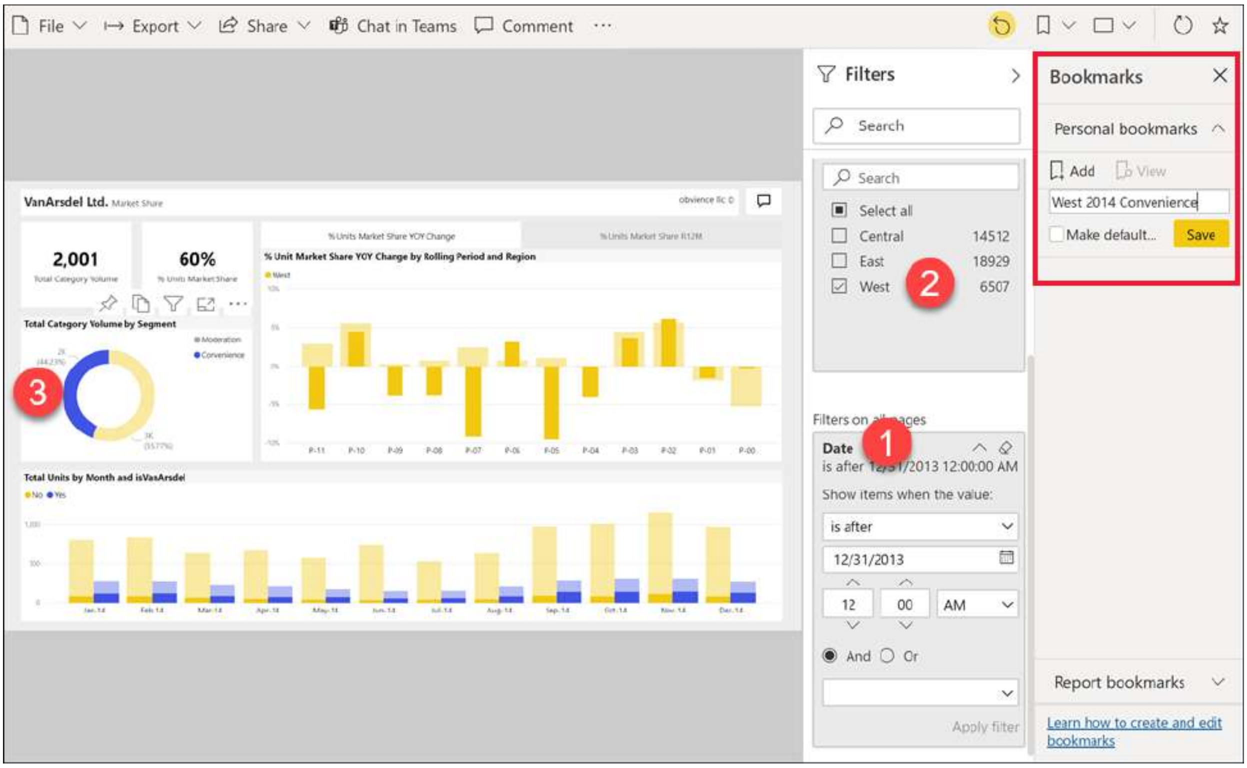
If you have access to the **Selection** pane, you can also set and save:

- Visibility (of an object, using the **Selection** pane)
- The focus or **Spotlight** modes of any visible object

Create two bookmarks

Configure a report page the way you want it to appear in the bookmark. In this example:

1. We've changed the existing Date filter on the **Filters** pane,
2. changed the existing Regions filter on the **Filters** pane to **West**, and
3. selected a data point on the doughnut chart visual to cross-filter and cross-highlight the report canvas.

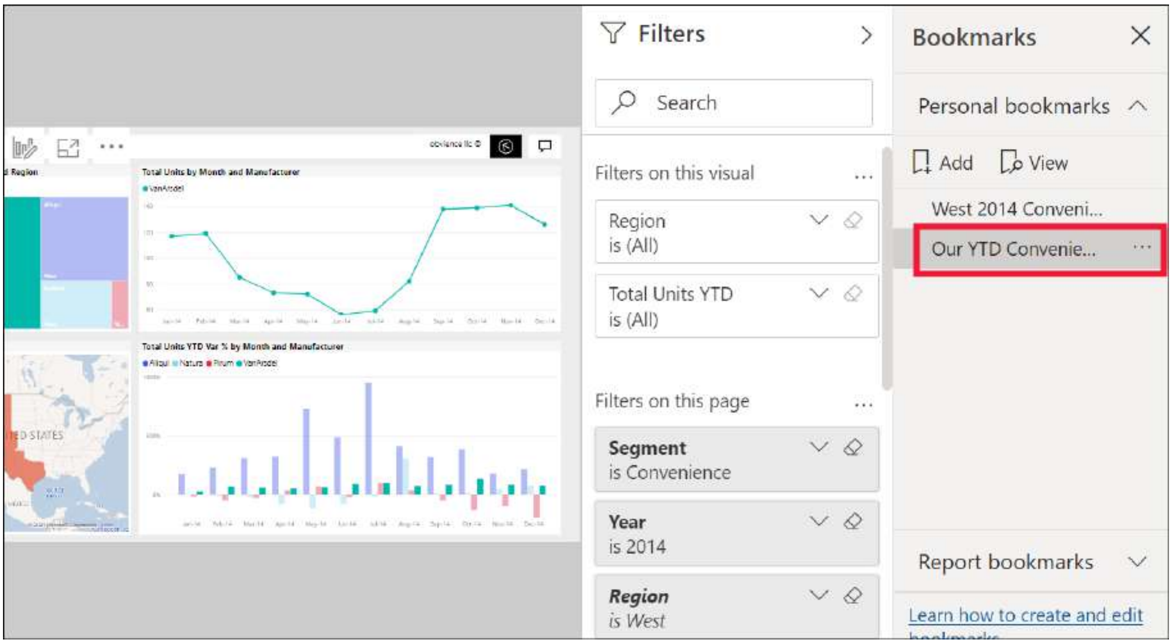


1. Once your report page and visuals are arranged how you want them, from the **Bookmarks** pane, select **Personal bookmarks** > **Add**.

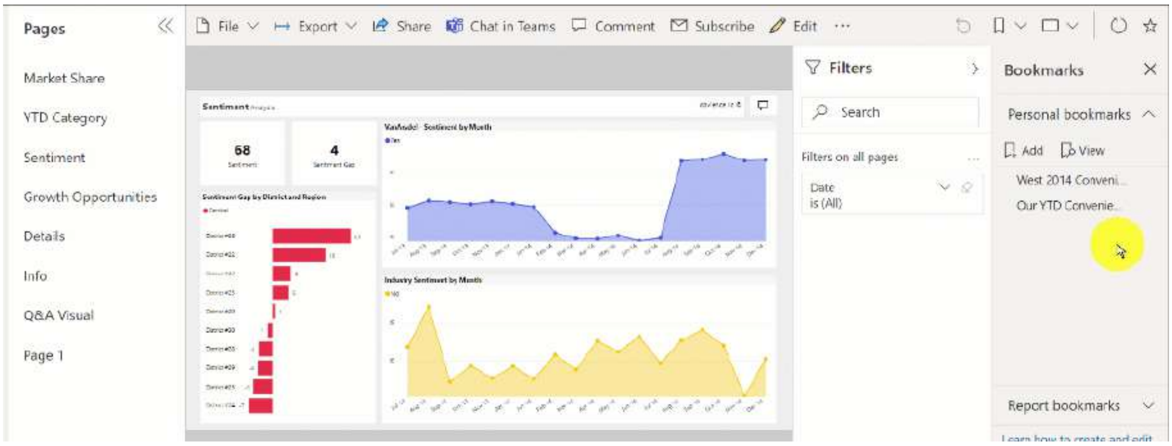
2. Power BI creates a personal bookmark and gives it a generic name or a name you enter. You can *rename*, *delete*, or *update* your bookmark by selecting the ellipses next to the bookmark's name, then selecting an action from the menu that appears.

3. Select **Save**.

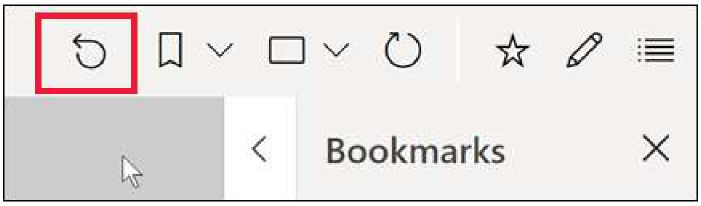
4. Open the **YTD Category** page of your report and create another personal bookmark. This bookmark captures YTD information for just our company, VanArsdel.



5. Now that you have two bookmarks, switch between them by selecting the bookmark in the **Bookmarks** pane.

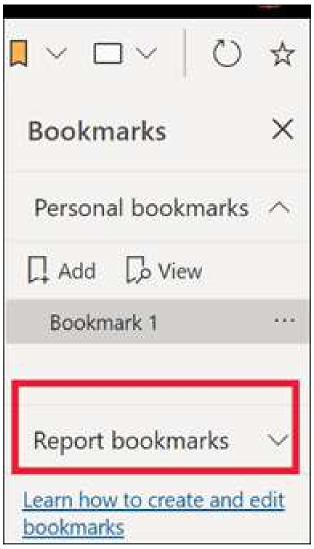


6. To return to the original published view of the report, select the **reset** icon.



Open *report* bookmarks

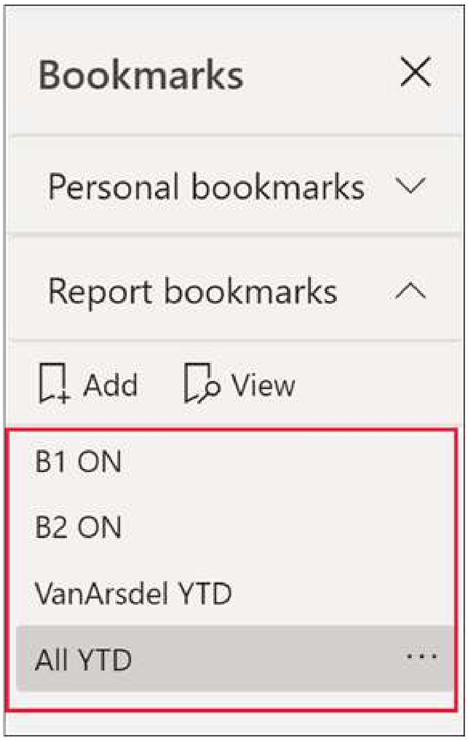
To view the report bookmarks created by the report *designer*, from the **Bookmarks** pane, select **Report bookmarks**.



> **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 reserved capacity. To learn more, see Licensing.

Report bookmarks

If the report *designer* included report bookmarks, you'll find them under the **Report bookmarks** heading. This report page has four bookmarks: B1, B2, VanArsdel YTD, and All YTD. **All YTD** is currently selected.



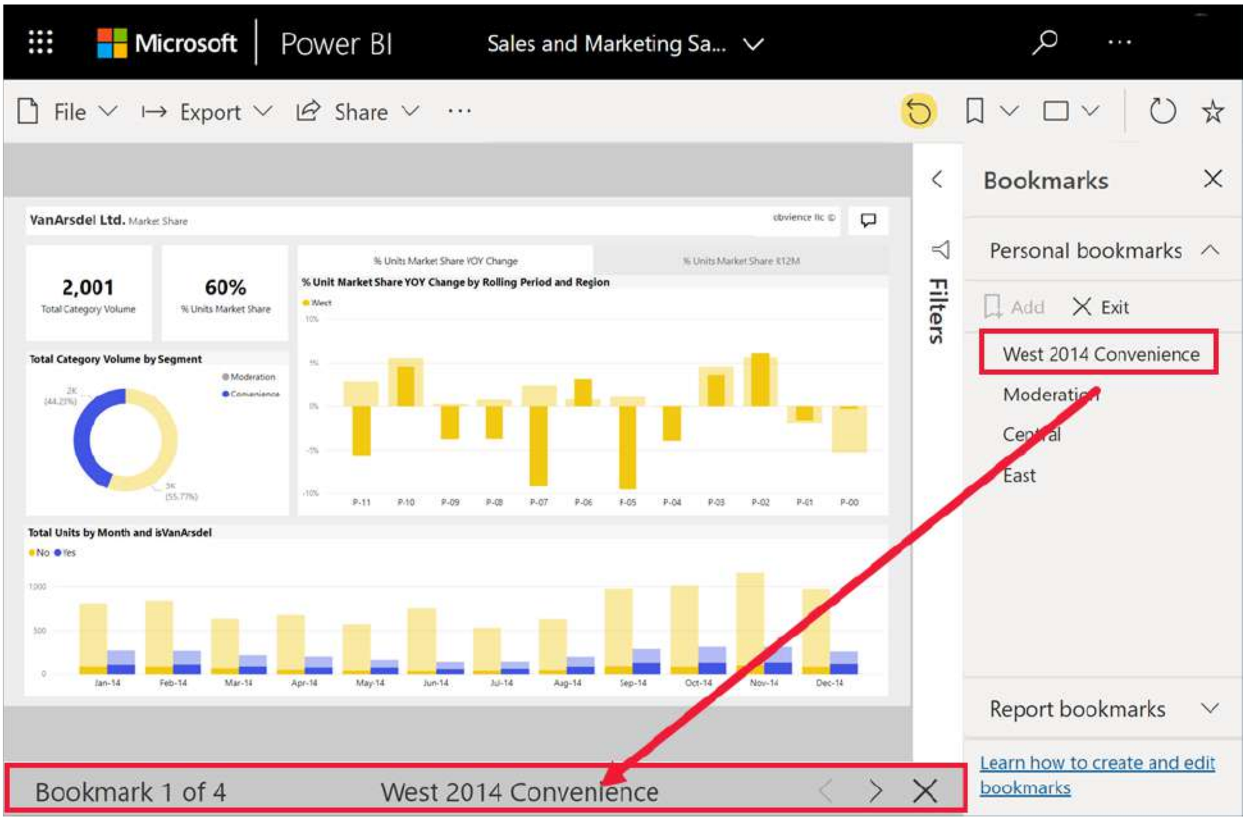
Select a bookmark to change to that report view.

Bookmarks as a slide show

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

When in **View** mode, there are a few features to notice:

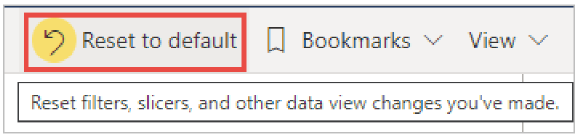
- The name of the bookmark appears in the bookmark title bar, which appears at the bottom of the canvas.
- The bookmark title bar has arrows that let you move to the next or previous bookmark.
- You can exit **View** mode by selecting **Exit** from the **Bookmarks** pane or by selecting the **X** found in the bookmark title bar.



When you're in **View** mode, you can close the **Bookmarks** pane (by clicking the X on that pane) to provide more space for your presentation. And, while in **View** mode, all visuals are interactive and available for cross-highlighting, just as they would otherwise be when interacting with them.

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 designer's last saved view of the report.



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 is not possible. For example, if the report owner changes the name of a field that is used by the bookmark, Power BI will no longer be able to 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 will not be 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, then you will receive an error message the next time you attempt to open that bookmark.

- This feature is supported in the Power BI mobile apps for iOS and Android tablets and in the Power BI Windows app; it is not 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.

- Because personal bookmarks capture the exploration state of the current page, personal bookmarks won'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 will only capture the slicer change on the current page.

Next steps

[Personalize visuals in a report]

Add spotlights to Power BI reports

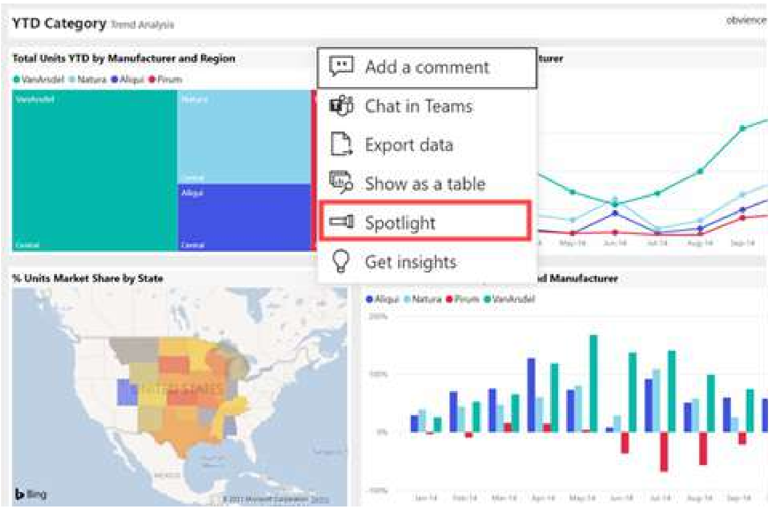
12/15/2022 • 2 minutes to read • Edit Online

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

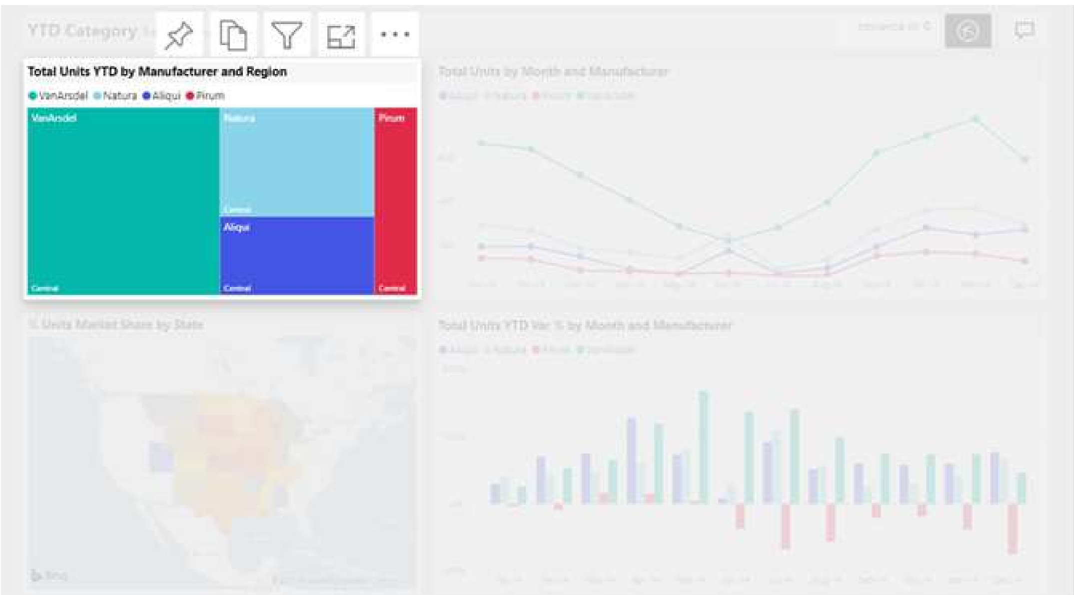
With spotlight, you can draw attention to a specific visual on a report page. If the spotlight mode is selected when you add a bookmark, that mode is retained in the bookmark.

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 actions (...)** dropdown.



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



Next steps

- Display a dashboard tile or report visual in focus mode

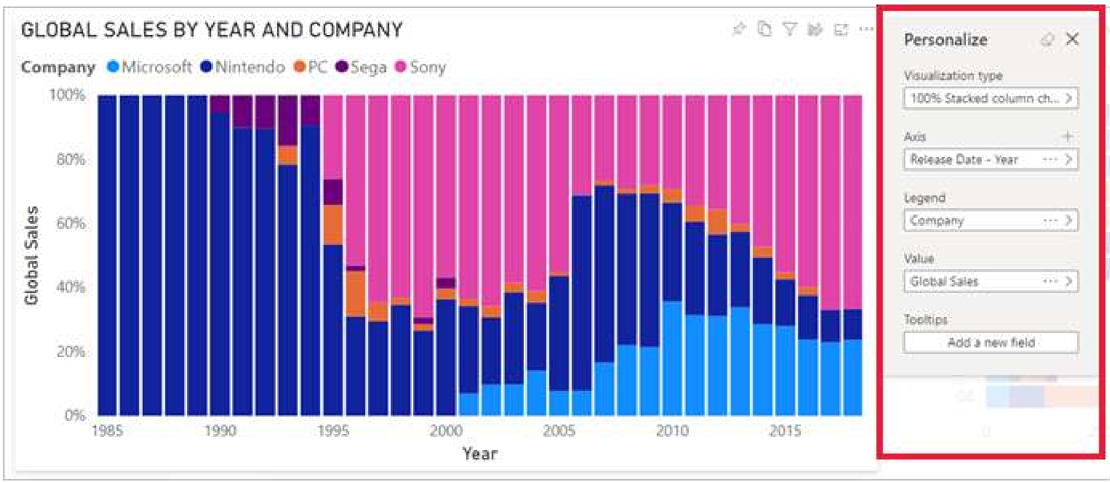
Personalize visuals in a report

12/15/2022 • 4 minutes to read • Edit Online

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 may 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. Here 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, etc.

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 has not enabled 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.

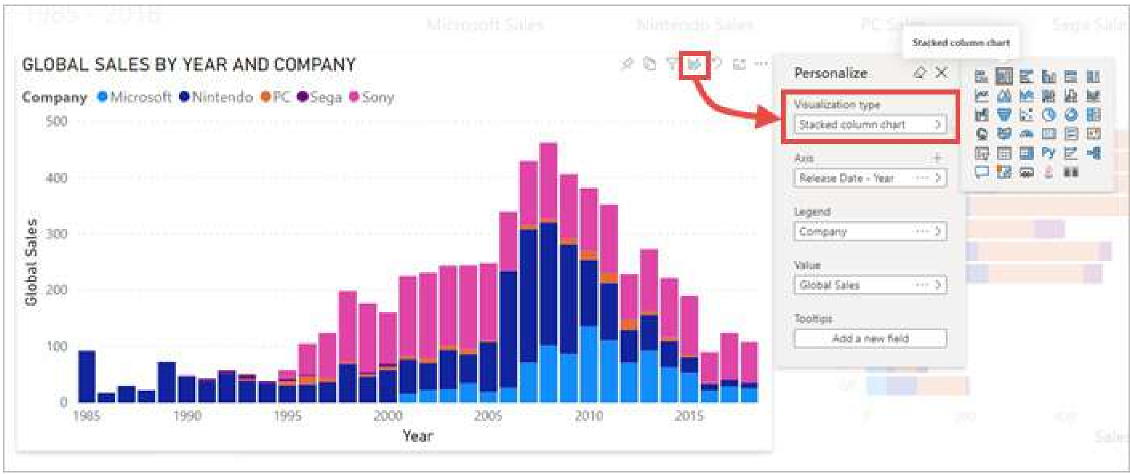
Personalize visuals in the Power BI service

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.

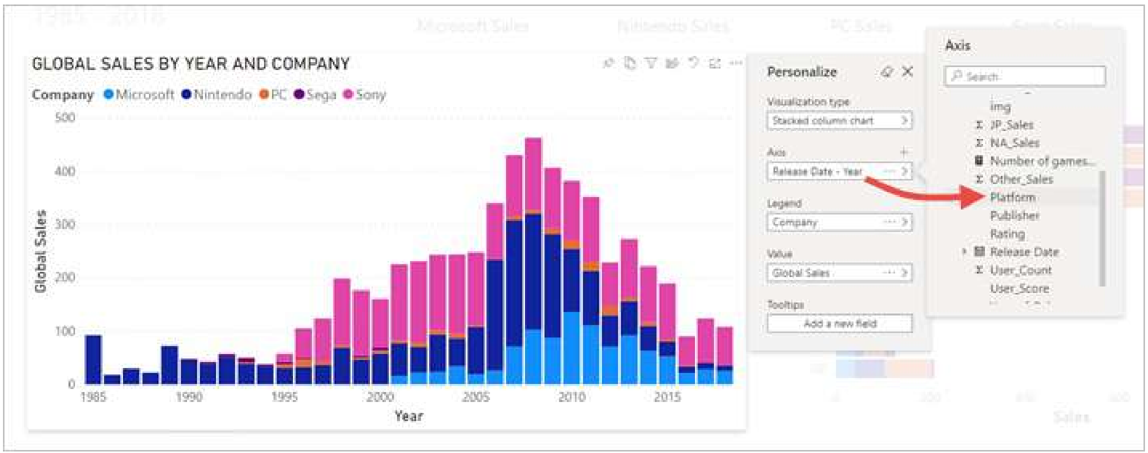
Change the visualization type

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



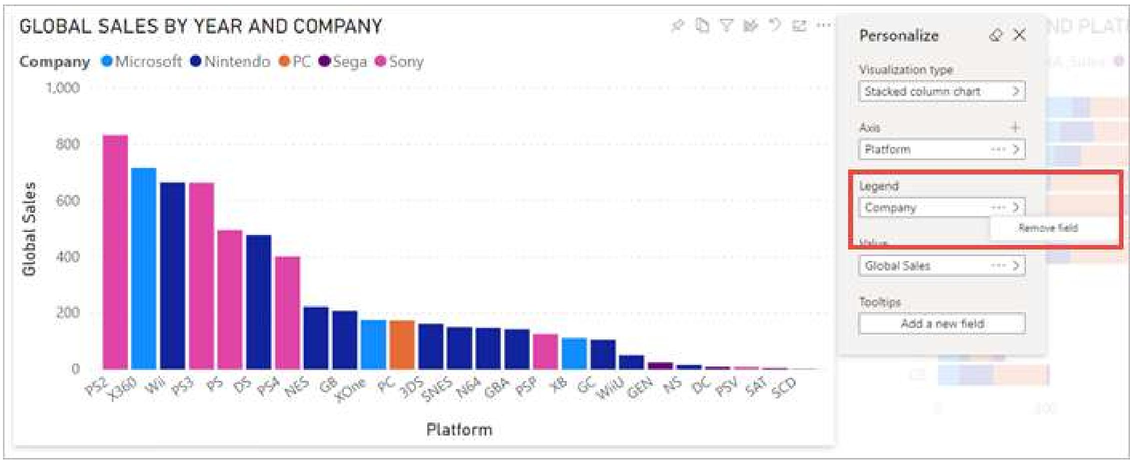
Swap out a measure or dimension

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



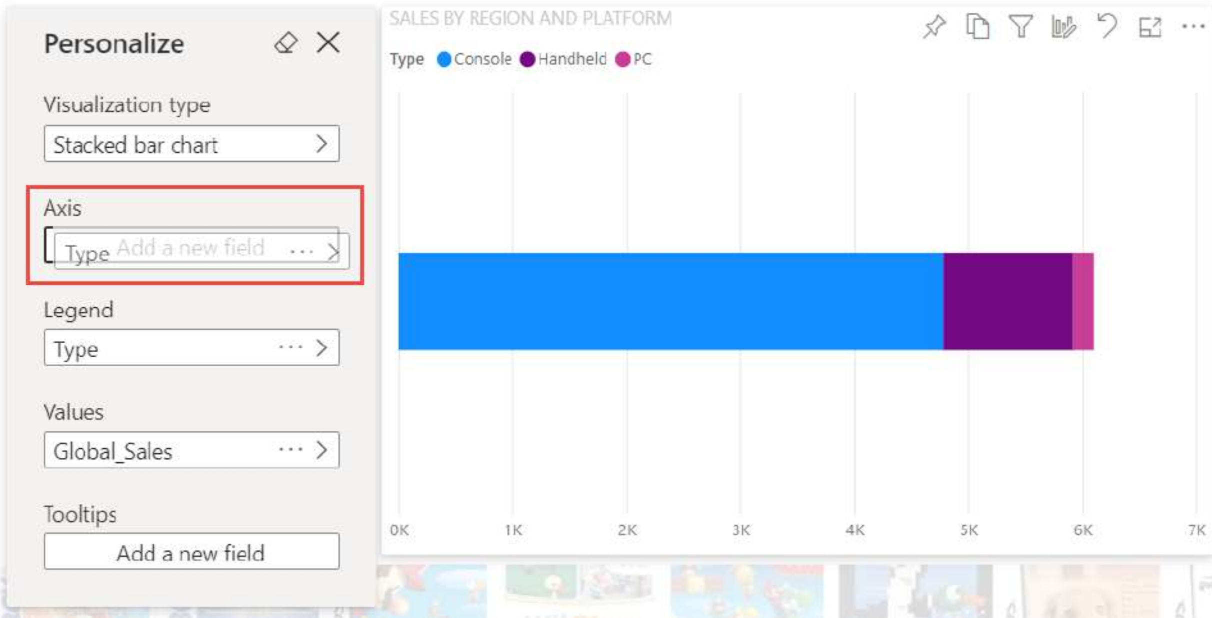
Add or remove a legend

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.

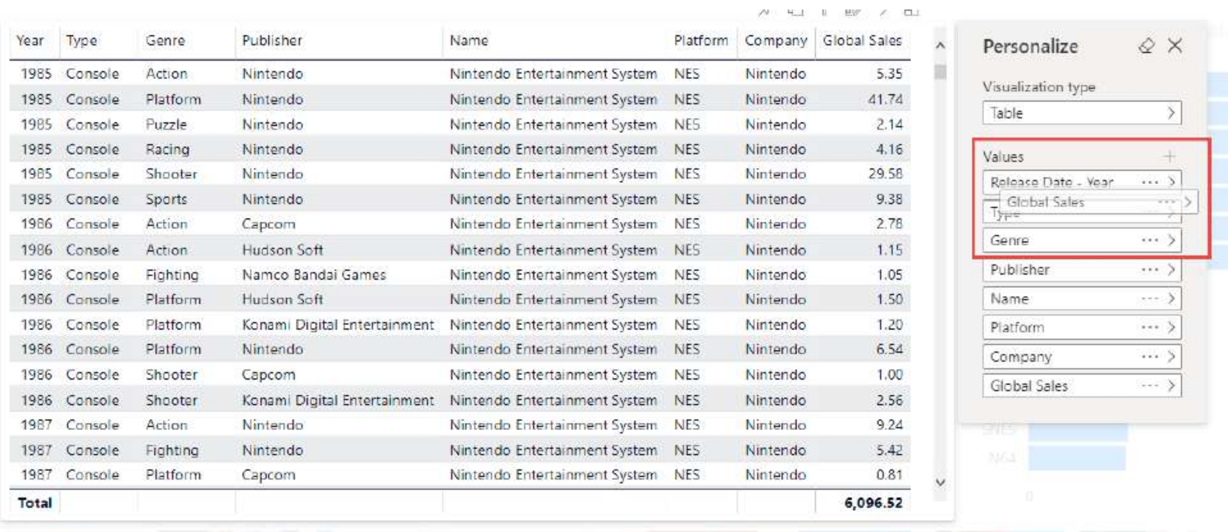


Change the placement of fields

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.



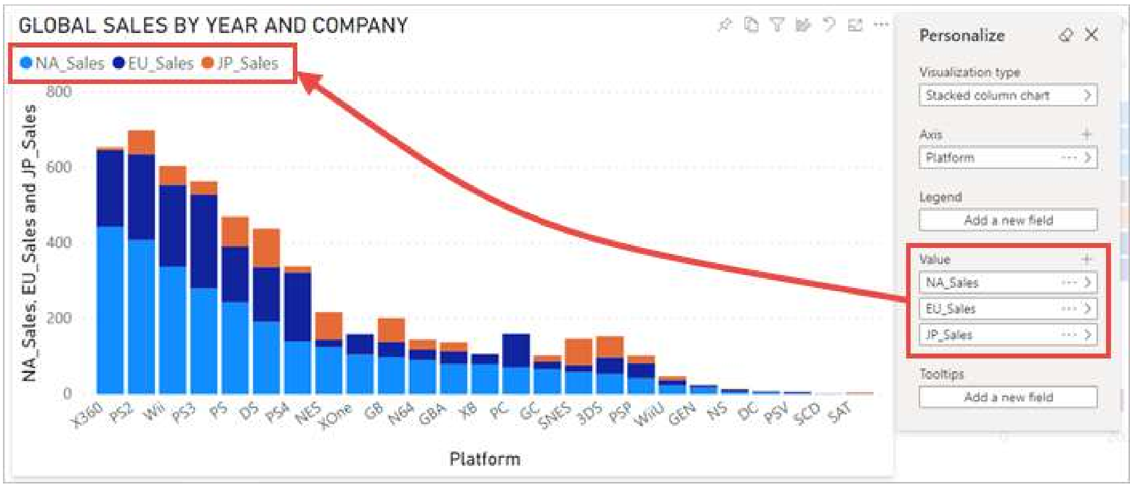
You can also quickly reorder the columns of a table or matrix.



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

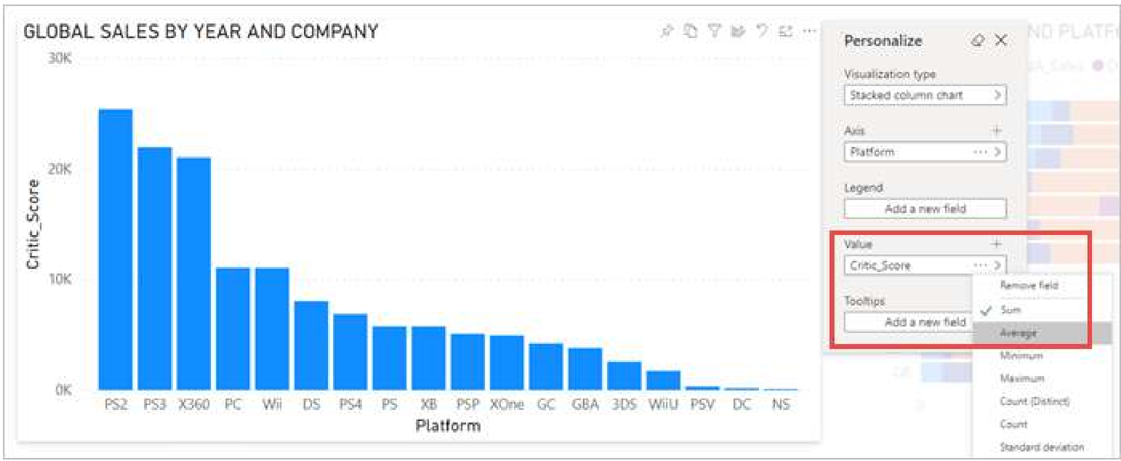
Compare two or more different measures

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**.



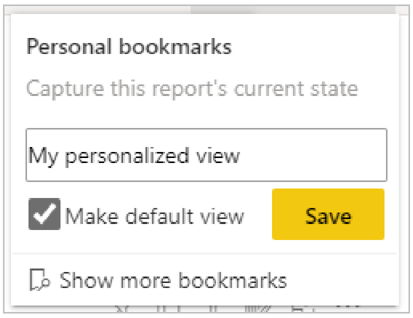
Change aggregations

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

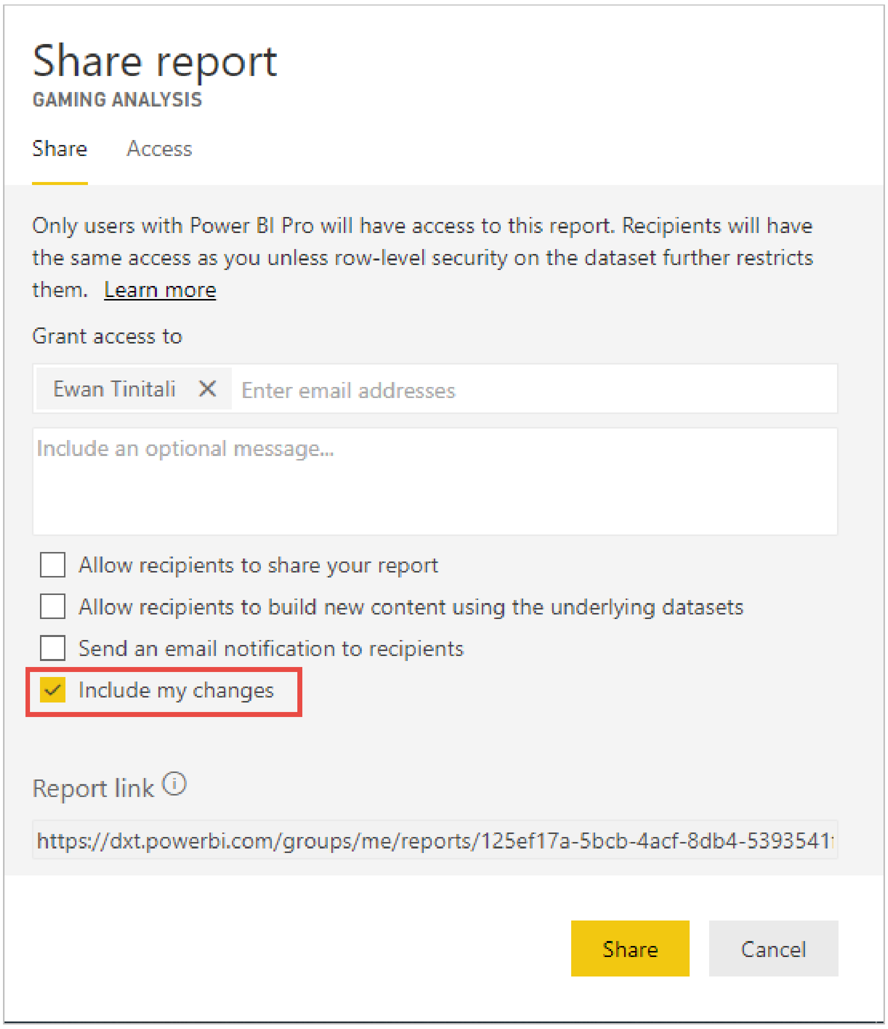
Using personal bookmarks, capture your changes so you can return to your personalized view. Select **Bookmarks** > **Personal bookmarks** and give the bookmark a name.



You can also make the bookmark your default view.

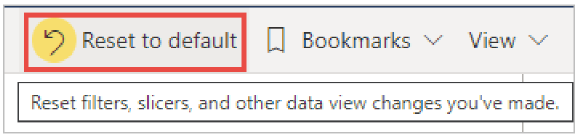
Share changes

If you have read and reshare 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.



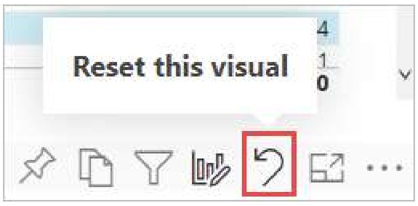
Reset all your changes to a report

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.



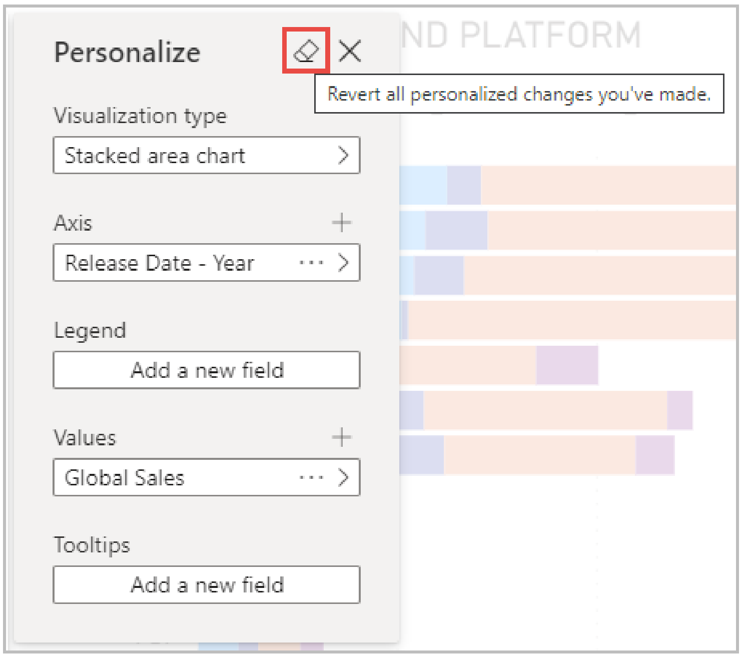
Reset all your changes to a visual

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 recent changes you've made 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 is not 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 a report visual as a static image
More questions? Try the Power BI Community

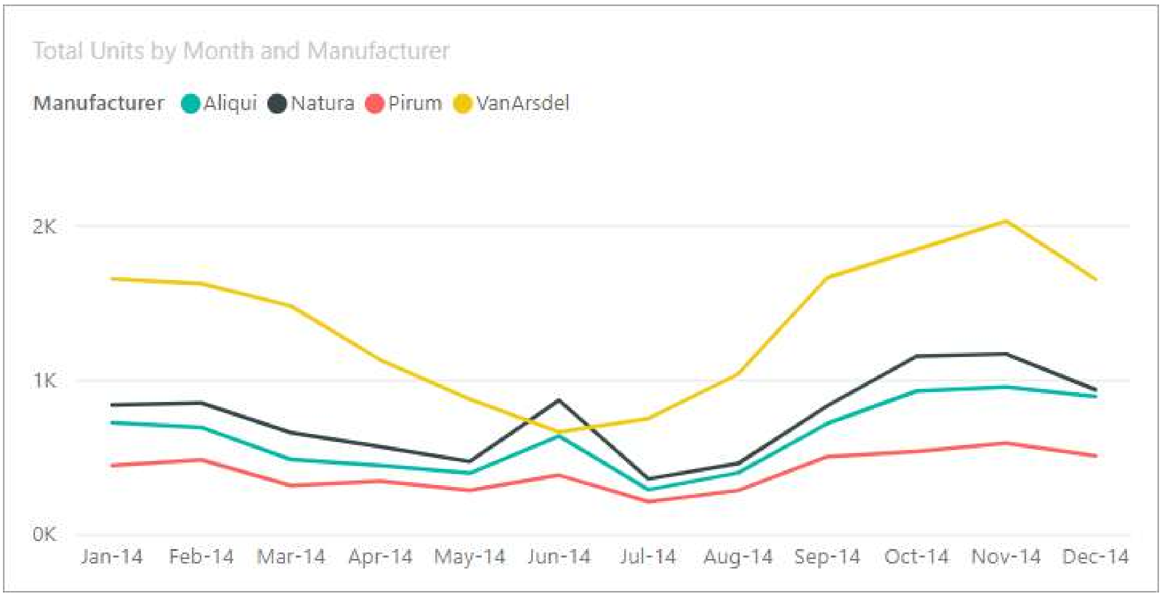
Use the Analyze feature to explain fluctuations in report visuals

12/15/2022 • 5 minutes to read • Edit Online

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

Often in report visuals, you see a large increase and then a sharp drop in values, and wonder about the cause of such fluctuations. With **Analyze** in **the Power BI service**, you can learn the cause with just a few clicks.

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, to 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, and select **Analyze > Explain the decrease** (or increase, if the previous bar was lower), or **Analyze > Find where this distribution is different** and the insight is delivered to you 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

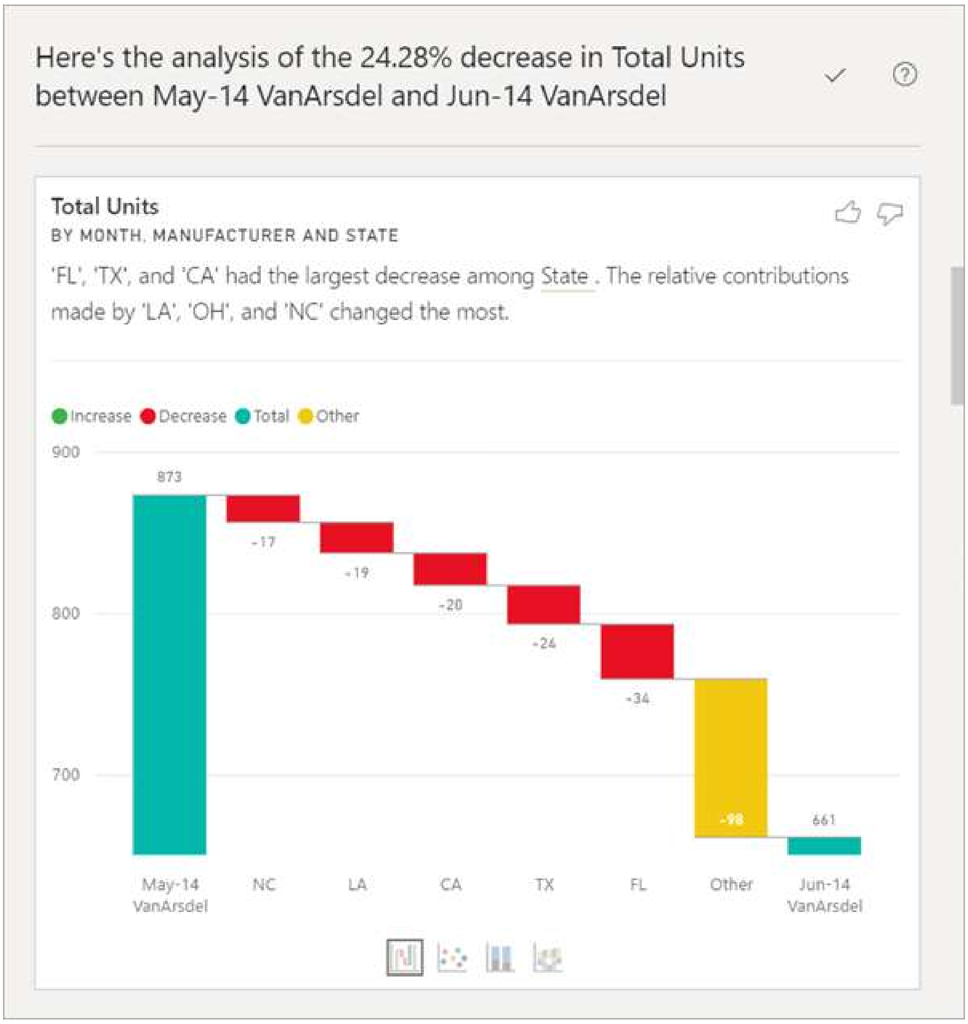
After examining different columns, Power BI selects and displays those factors that show the biggest change to relative contribution. For each, the values which had the most significant change to contribution are called out in the description. In addition, the values that had the largest actual increases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

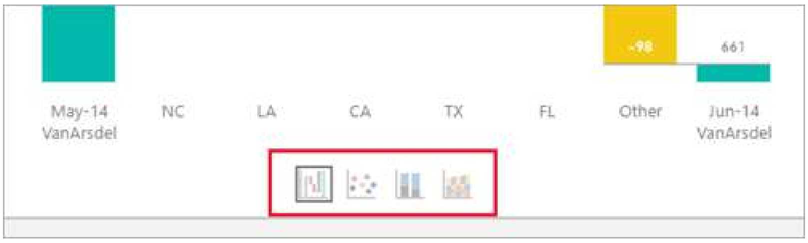
Using insights

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 the 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 that describes which categories most influenced the increase or decrease or difference. For this example, the first insight is a waterfall chart.



By selecting the small icons at the bottom of the waterfall visual, you can choose to have insights display a scatter chart, stacked column chart, or a 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.

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

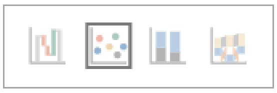
Details of the results returned

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

The algorithm can be thought of as taking all the other columns in the model, and calculating the breakdown by that column for the *before* and *after* time periods, determining how much change occurred in that breakdown, and then returning those columns with the biggest change. For example, *State* was selected in the waterfall insight above, as the contribution made by Louisiana, Texas, and Colorado fell 13% to 19% from June to July, and contributed the most to the decrease in *Total units*.

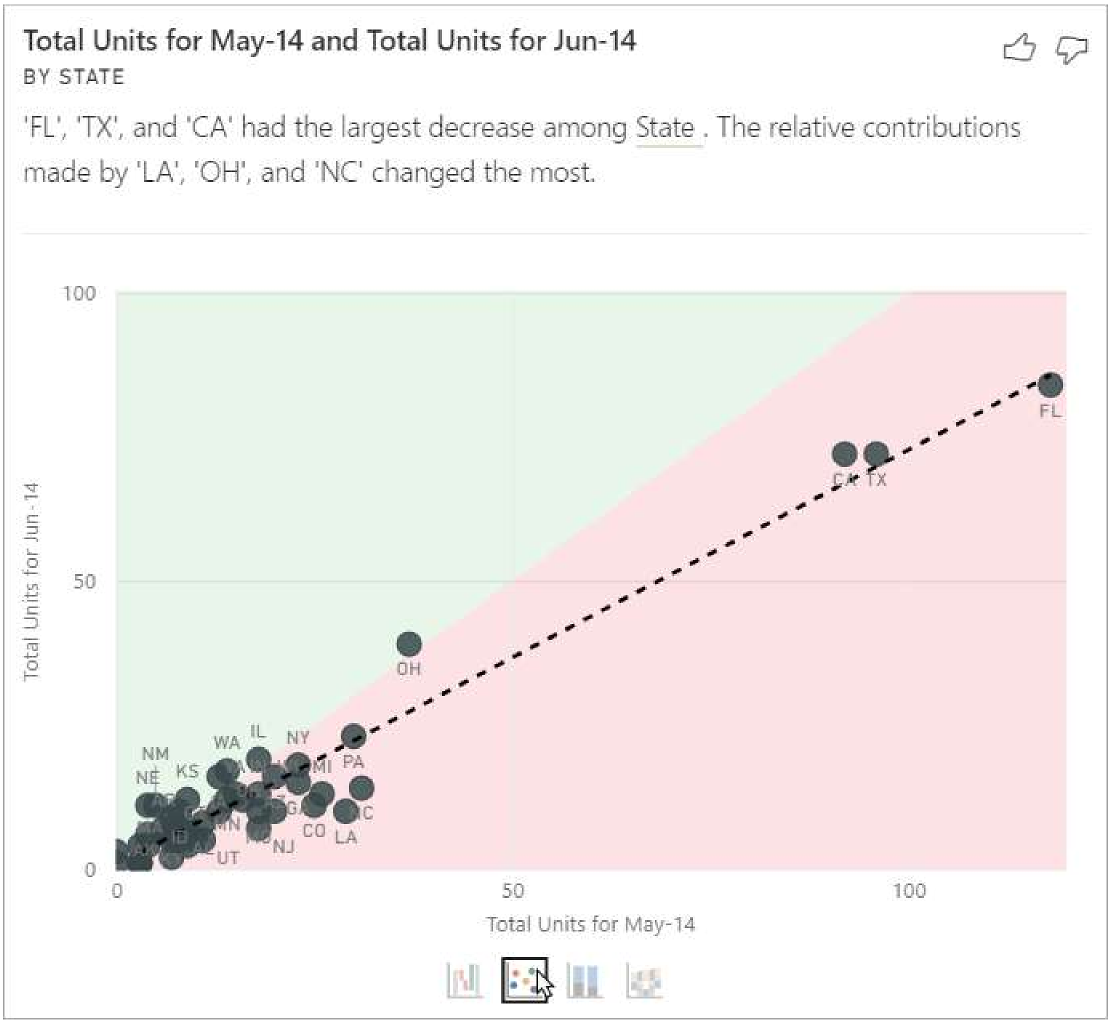
For each insight returned, there are four visuals that can be displayed. Three of those visuals are intended to highlight the change in contribution between the two periods. For example, for the explanation of the increase from *Qtr 2* to *Qtr 3*. The ribbon chart shows change both before and after the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

The scatter plot



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

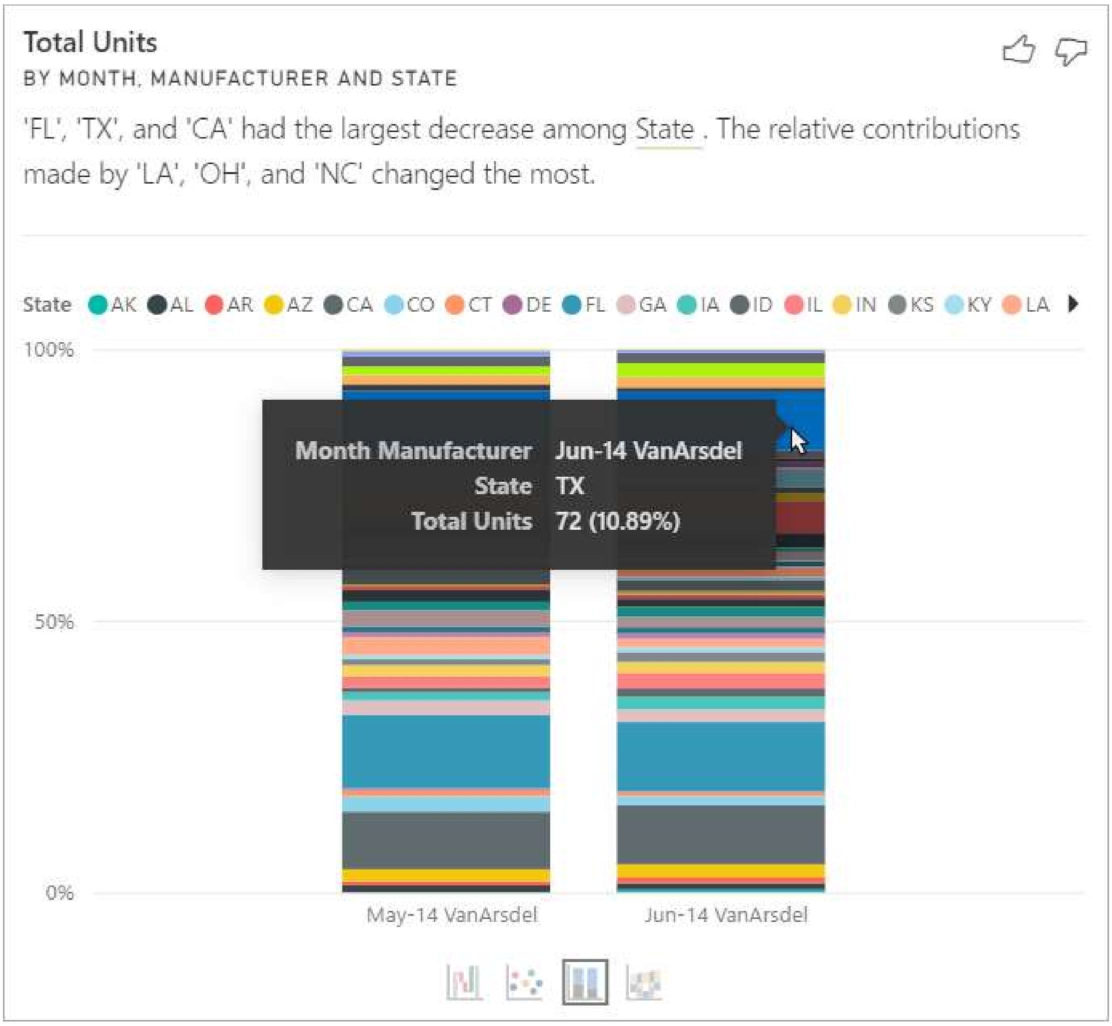
The dotted line shows the best fit, and data points above this line increased by more than the overall trend, and those below it by less.



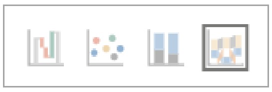
Data items whose value was blank in either period will not appear on the scatter plot.

The 100% stacked column chart

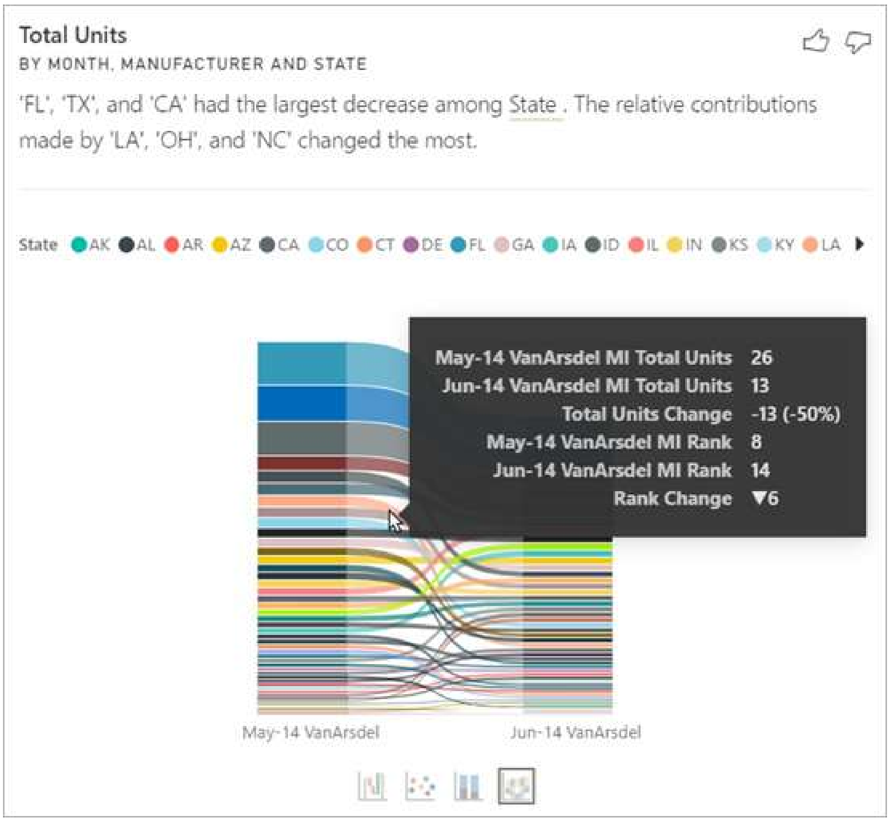
The 100% stacked column chart visual shows the value of the contribution to the total (100%), for the selected data point and the previous. This allows side-by-side comparison of the contribution for each data point. In this example, the tooltips show the actual contribution for the selected value of Texas. Because the list of states is long, tooltips help you see the details. By using the tooltips, we 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.



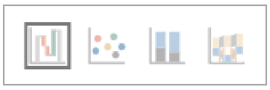
The ribbon chart



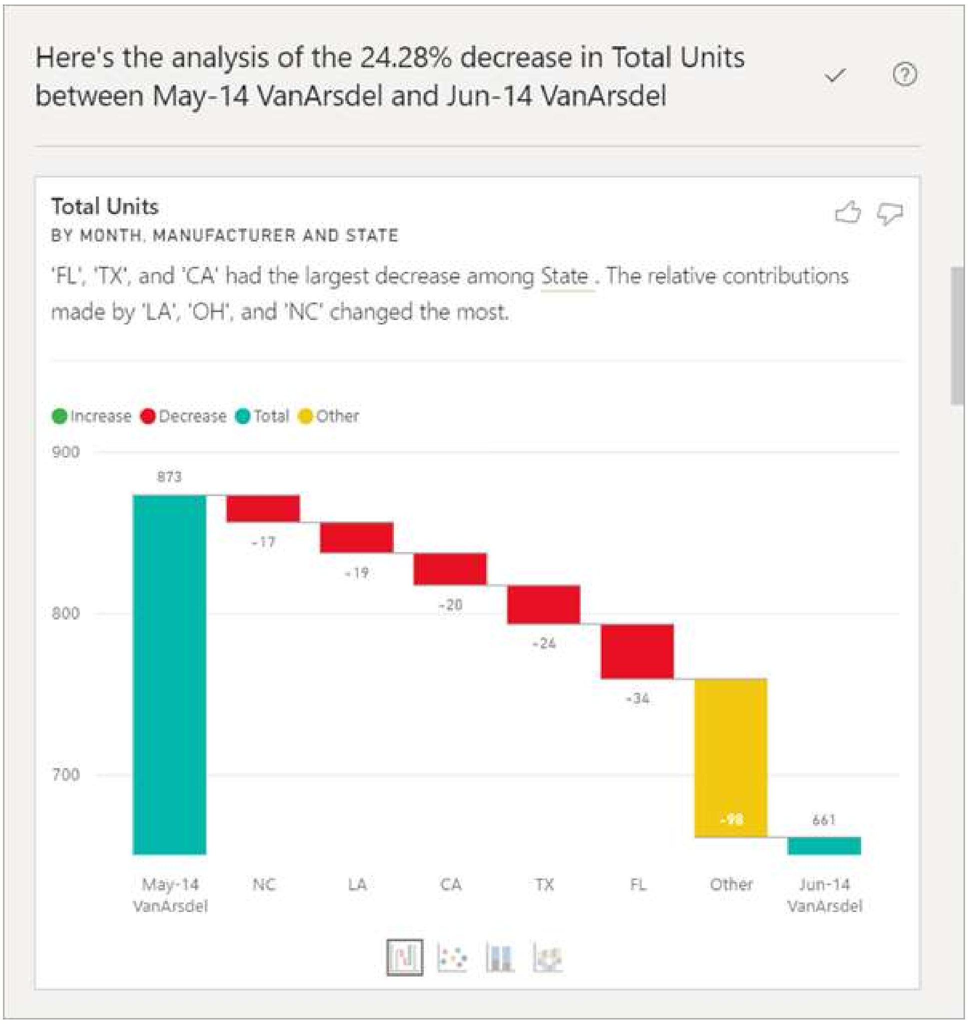
The ribbon chart visual shows the value of the measure before and after. It's particularly useful in showing the changes in contributions when the *ordering* of contributors changed (for example, *LA* dropped from number two contributor to number eleven). And, though *TX* is represented by a wide ribbon 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.



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.



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.

Analyze is not available for all visual types.

The following list is the collection of currently unsupported scenarios for **Analyze - explain the increase/decrease/difference**:

- TopN filters
- Include/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
Scatter charts
Column charts

Ribbon charts

Paginated reports in the Power BI service

12/15/2022 • 4 minutes to read • Edit Online

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

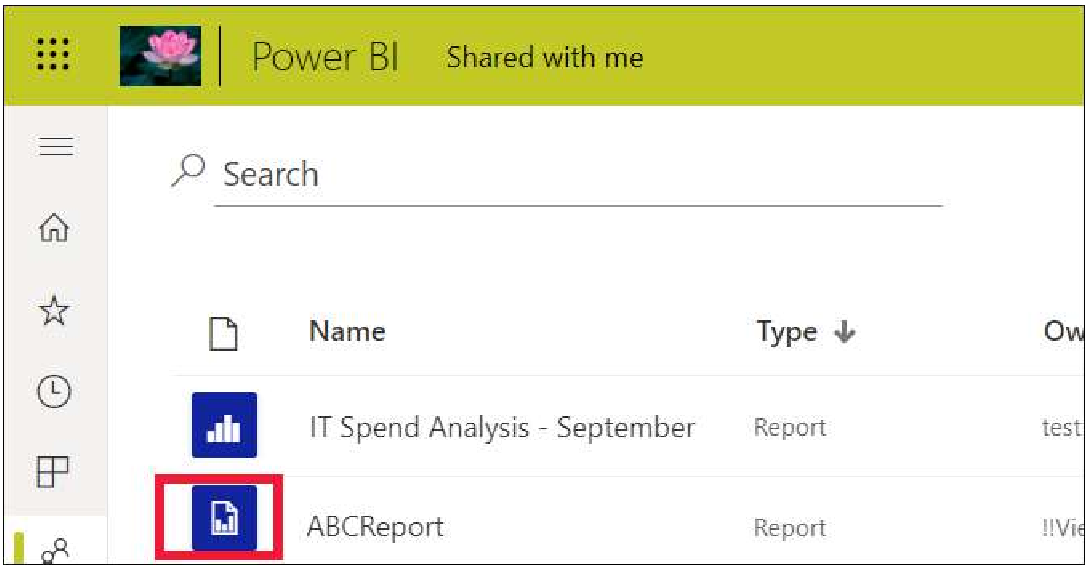
There are two types of reports available on Power BI, Power BI reports and *paginated reports*.

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.



What is a paginated report?

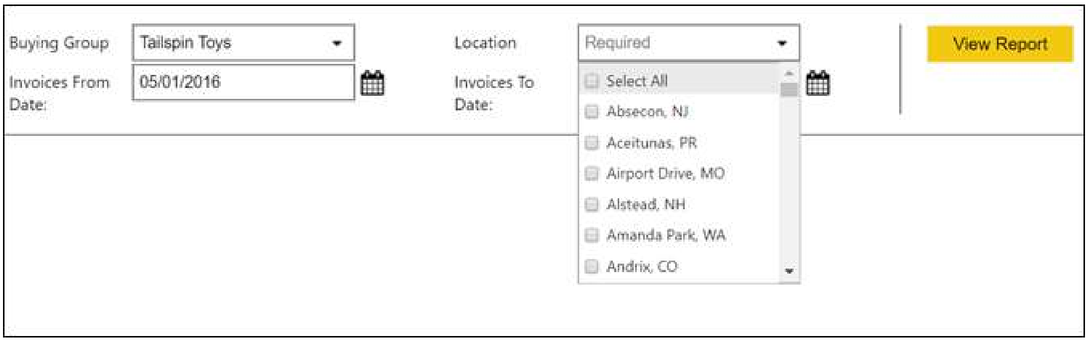
These reports are called *paginated* because they're formatted to fit well on a printed page. One advantage is that they display all the data in a table, even if the table spans multiple pages. Report *designers* can control the report page layout exactly.

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?

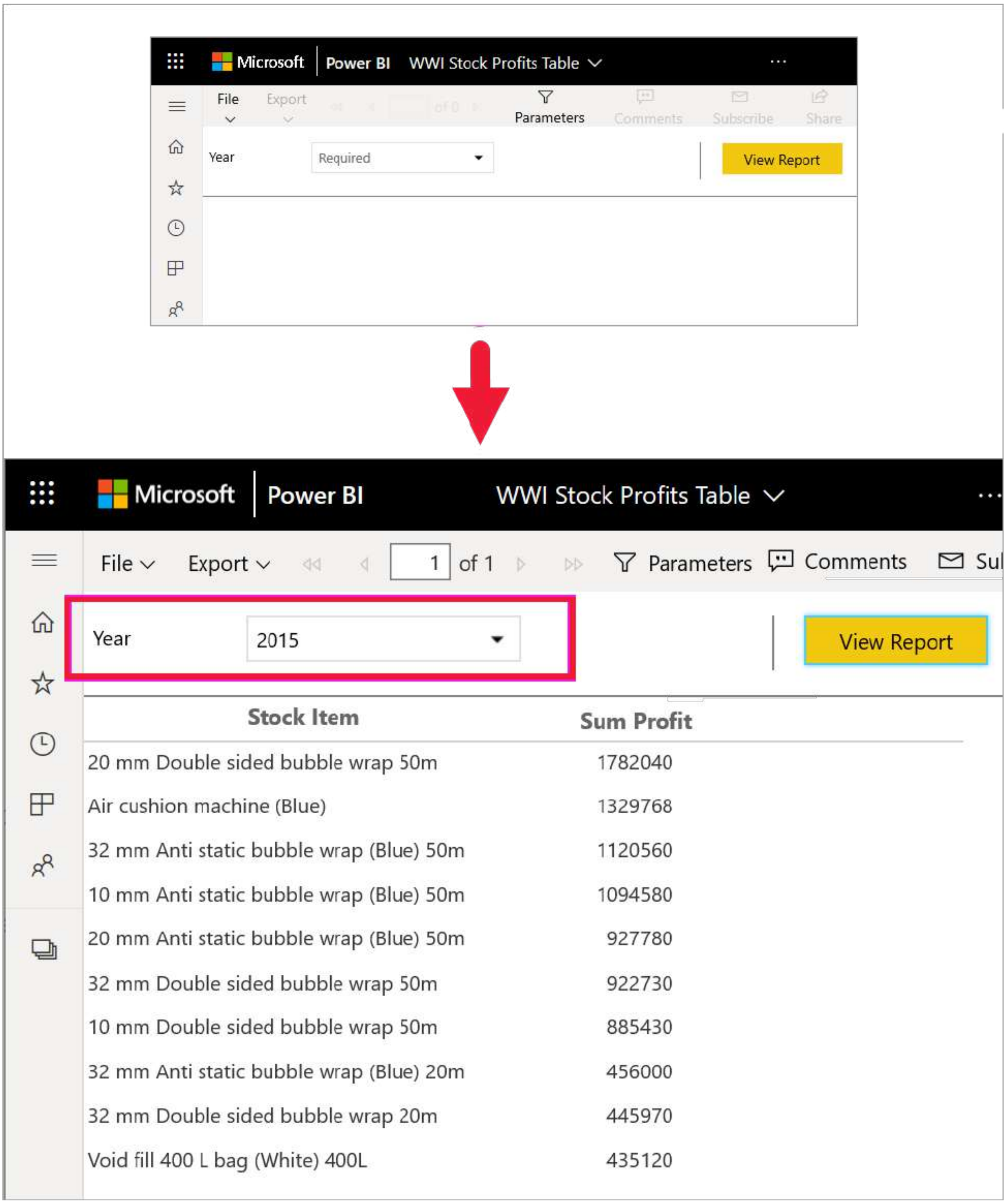
When report *designers* create a paginated report, they're really creating a *report definition*. It doesn't contain the data. It specifies where to get the data, which data to get, and how to display the data. When you run the report, the report processor takes the report definition, retrieves the data, 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 may use paginated reports to create or print invoices. If you're a sales manager, you may 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.



Compared to paginated reports, Power BI reports are much more interactive. Power BI reports allow for ad hoc reporting, and support many more types of visuals, including custom visuals.

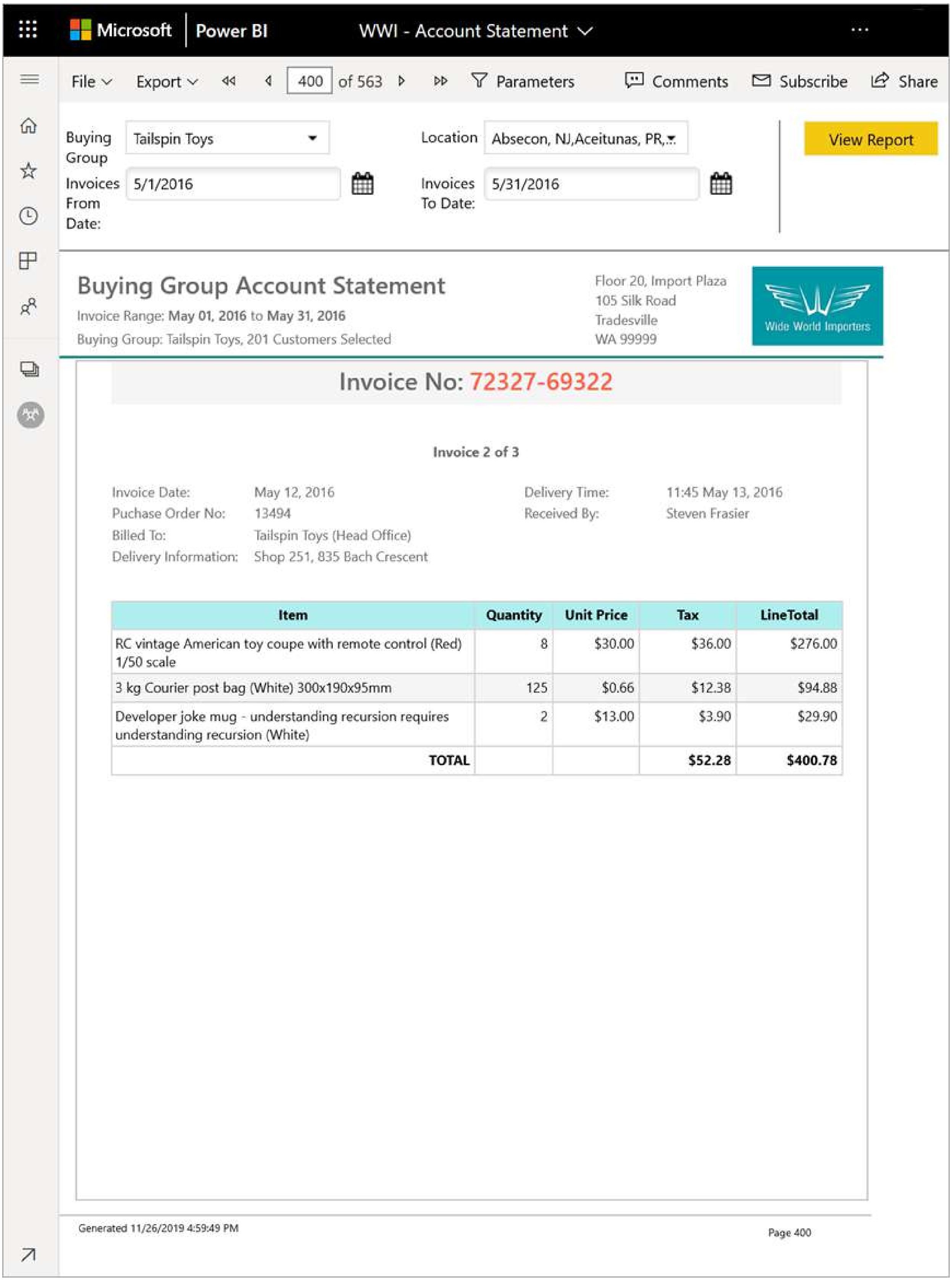
Interact with a paginated report

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

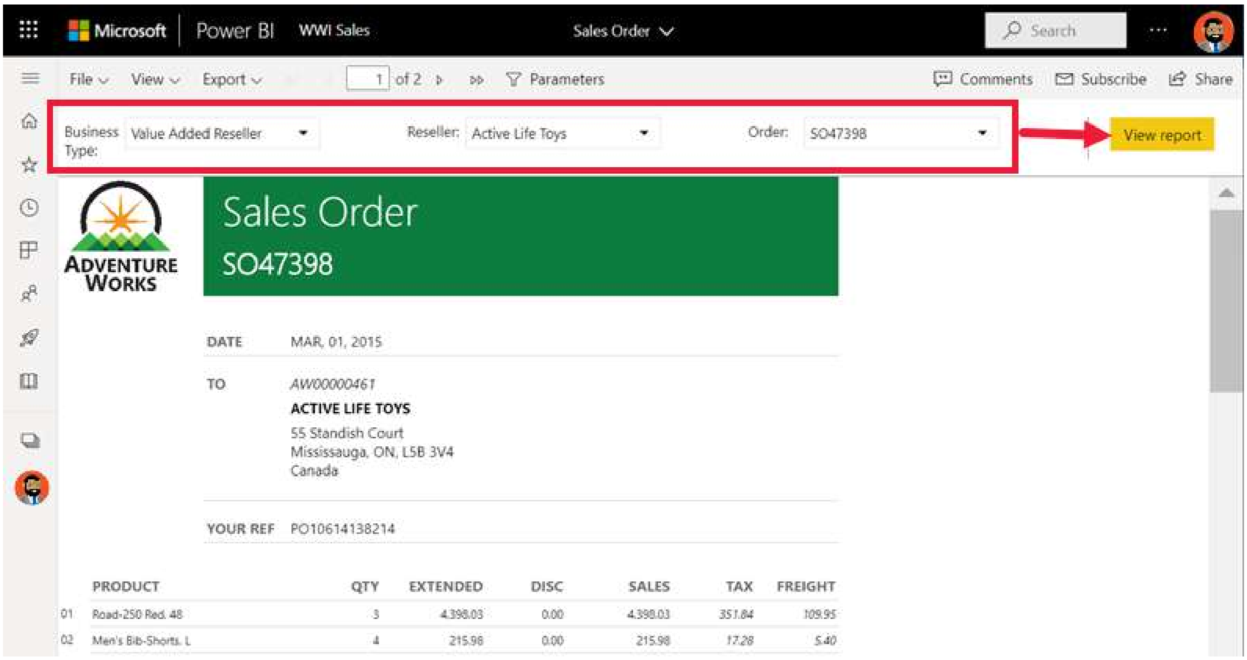
Paginated reports are formatted to fit well on a page and to print well. What you see in the browser is what you see when you print. Plus, if the report has a long table, the entire table prints, even if it spans multiple pages.

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.

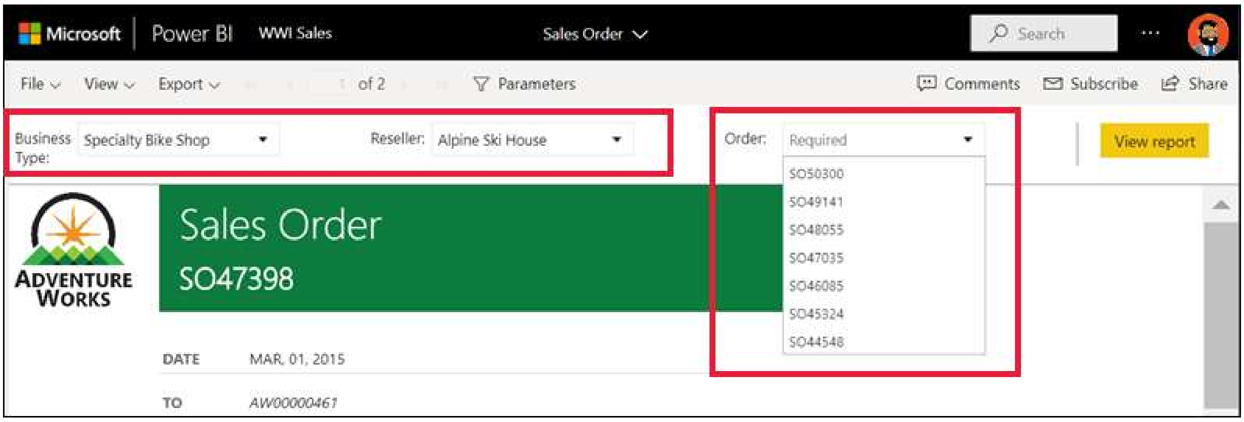


Navigate the paginated report

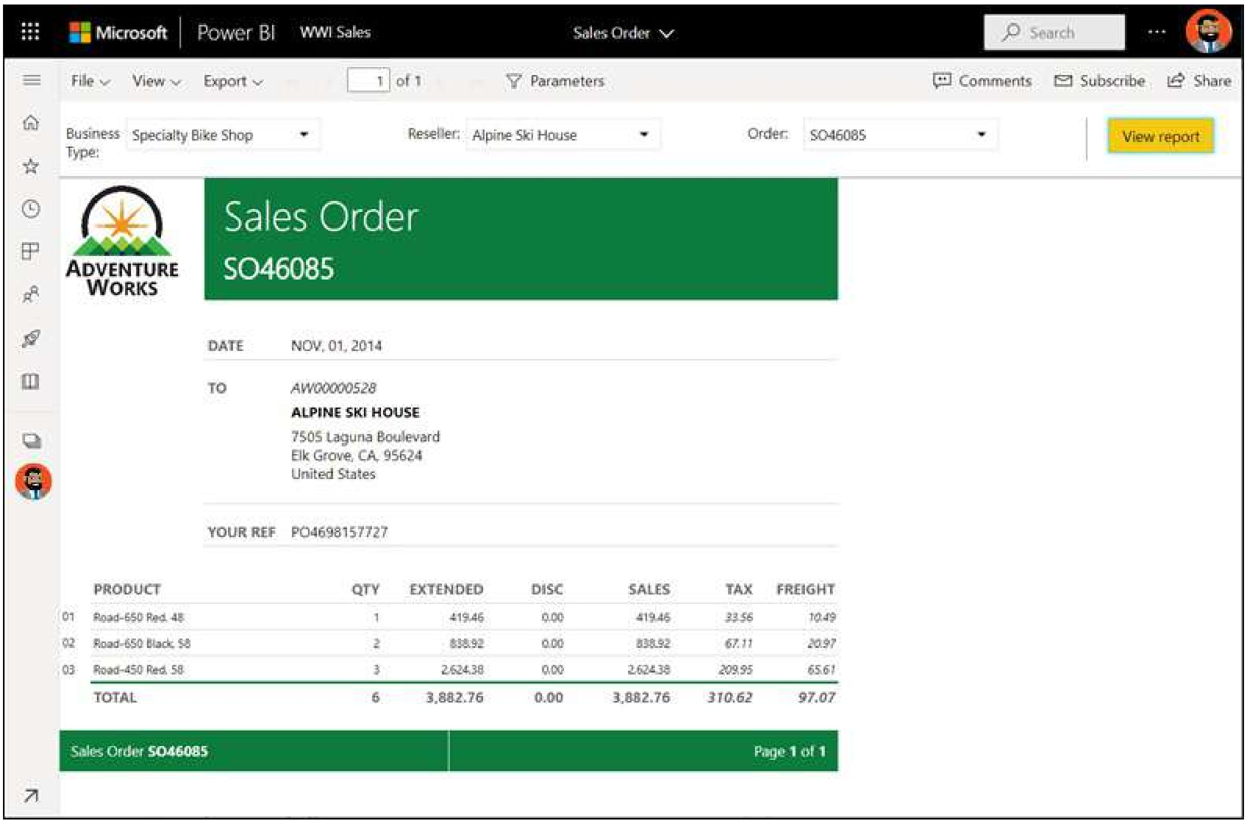
In this sales order report, there are three parameters: Business type, Reseller, and Order number.



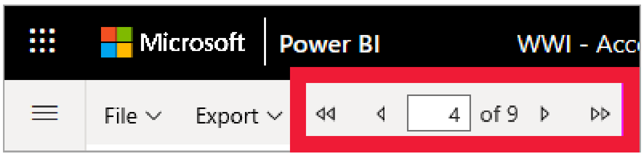
To change the information being displayed, enter new values for the three parameters and select **View report**. Here, we've selected **Specialty bike shop**, **Alpine Ski House**, and order number **SO46085**. Selecting **View report** refreshes our report canvas with this new sales order.



The new sales order displays, using the parameters we selected.

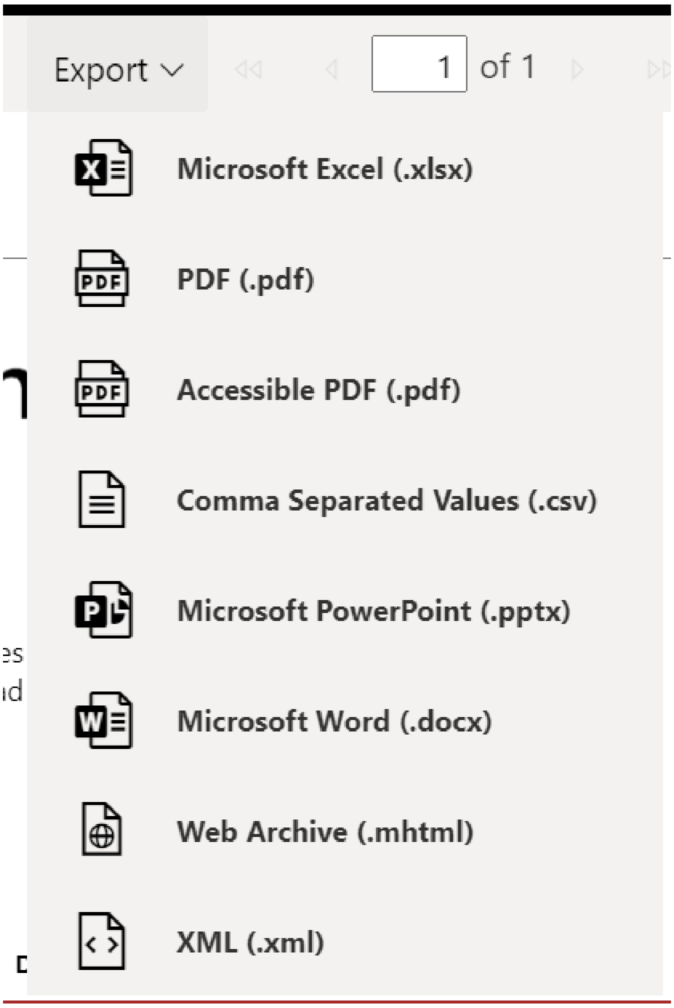


Some paginated reports have many pages. Use the page controls to navigate through the report.

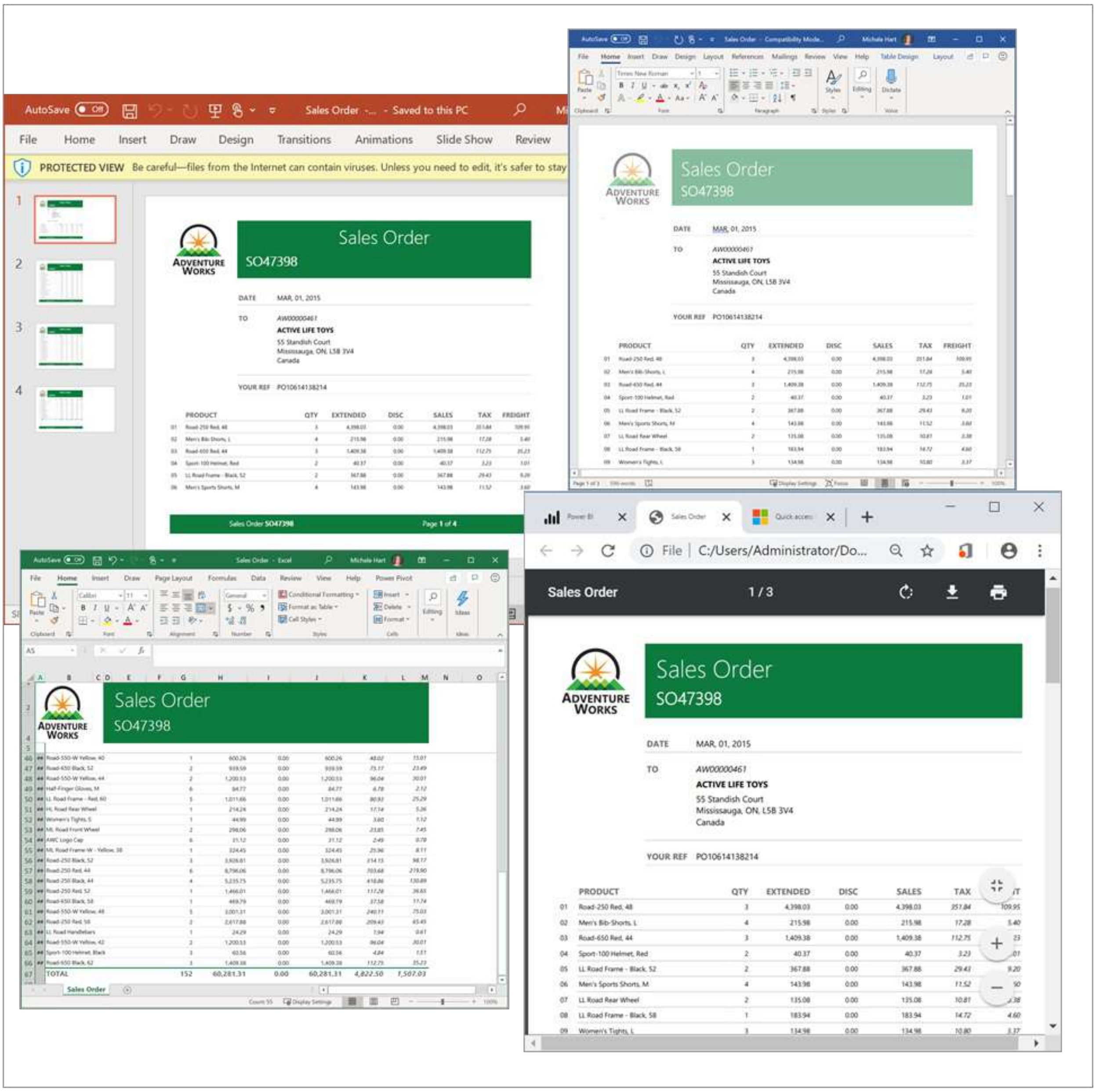


Export the paginated report

You have a variety of options for exporting paginated reports, including PDF, Word, XML, PowerPoint, Excel, and more. 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.

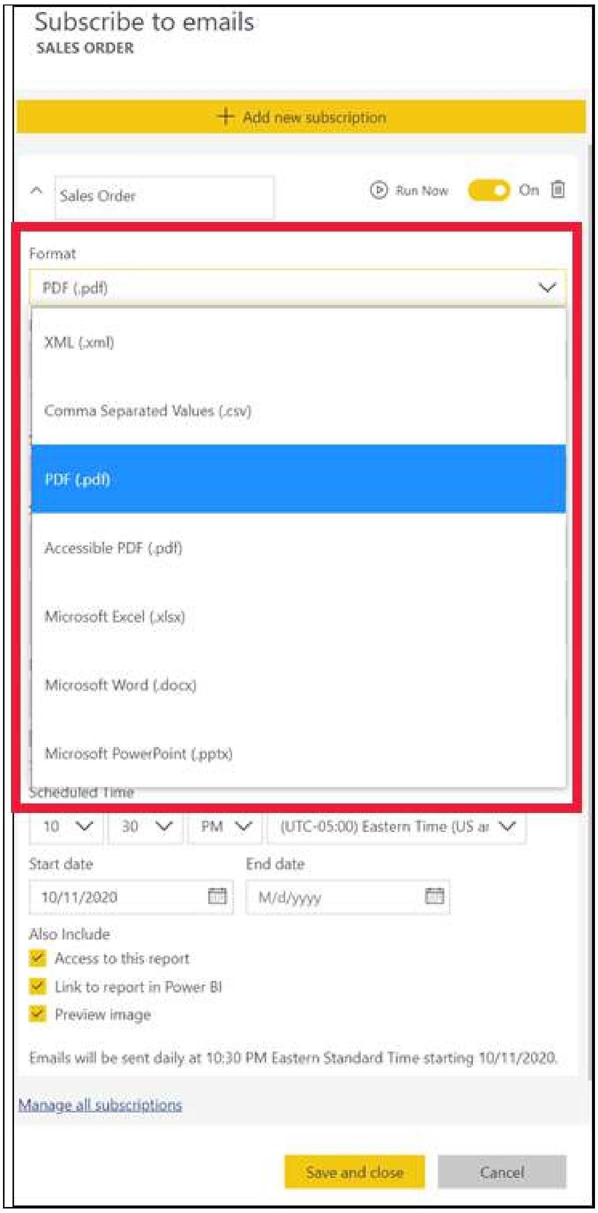


Export
1
of 1
Microsoft Excel (.xlsx)
PDF (.pdf)
Accessible PDF (.pdf)
Comma Separated Values (.csv)
Microsoft PowerPoint (.pptx)
Microsoft Word (.docx)
Web Archive (.mhtml)
XML (.xml)



Subscribe to the paginated report

When you subscribe to a paginated report, Power BI sends you an email with the report as an attachment. In setting 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 different attachment types, including Excel, PDF, PowerPoint, and more.



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

12/15/2022 • 2 minutes to read • Edit Online

In this article, you learn about viewing a paginated report to the Power BI service. Paginated reports are reports created in Report Builder and can be uploaded to any workspace.

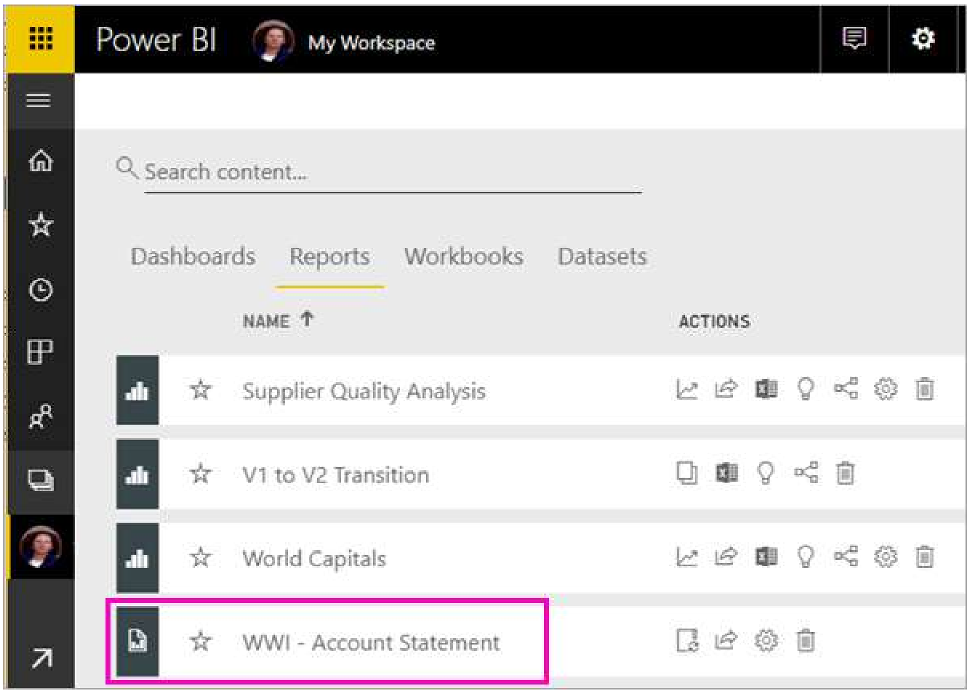
Paginated reports have their own icon .

You can also export paginated reports to a number of formats:

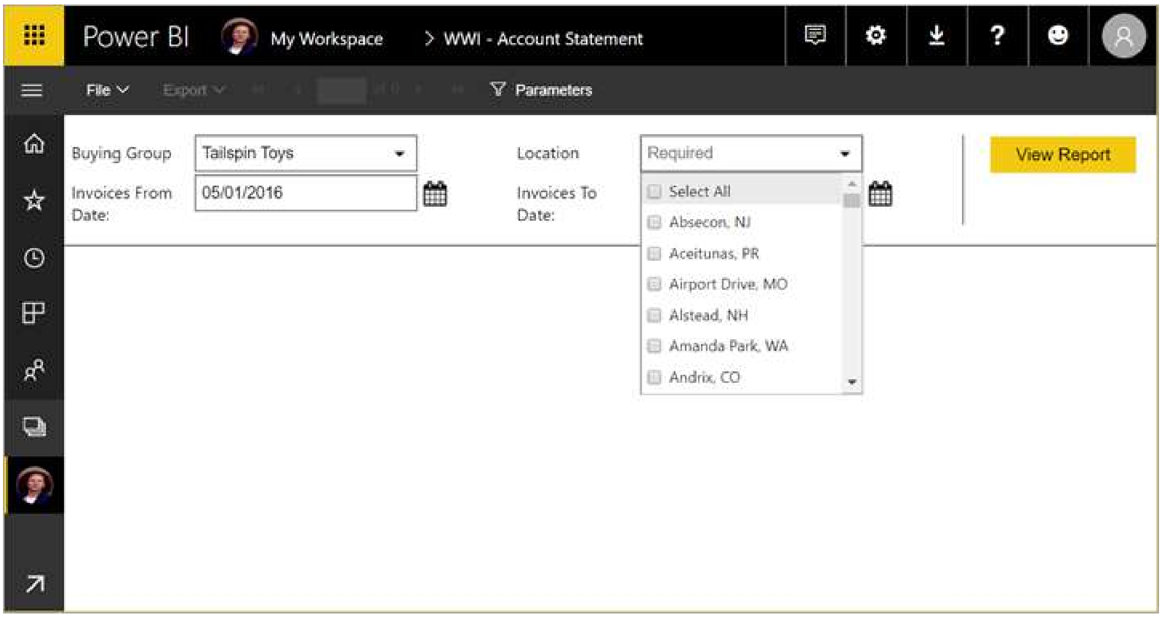
- Microsoft Excel
- Microsoft Word
- Microsoft PowerPoint
- PDF (and Accessible PDF, or PDF/UA)
- Comma-separated values
- XML
- Web archive (.mhtml)

View a paginated report

1. Select the paginated report in the workspace.

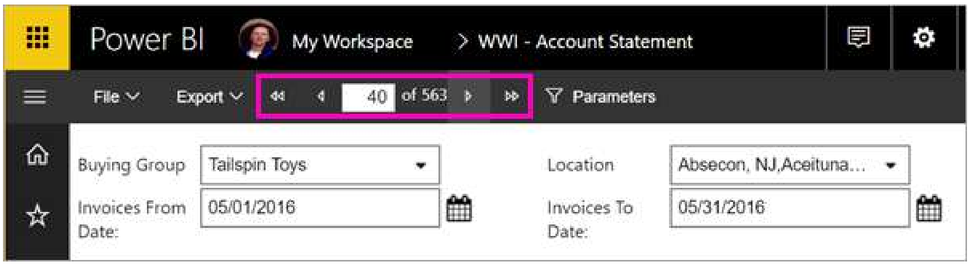


2. If the report has parameters, as this one does, you may not see the report when you first open it. Select parameters, then select **View Report**.

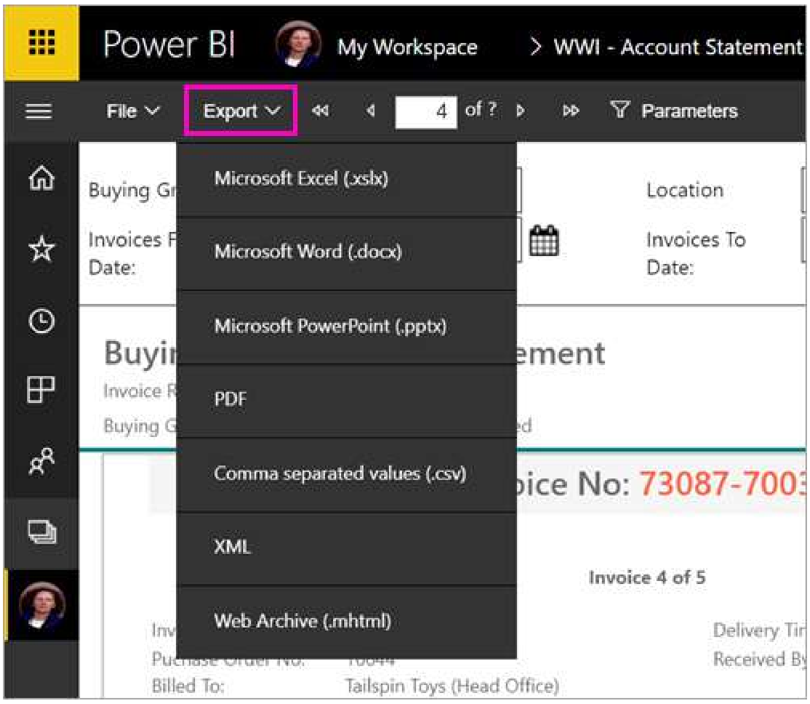


You can also change the parameters at any time.

3. Page through the report by selecting the arrows at the top of the page, or by typing a page number in the box.



4. Select **Export** to find a format to export your paginated reports.



Next steps

[Paginated reports in the Power BI service]

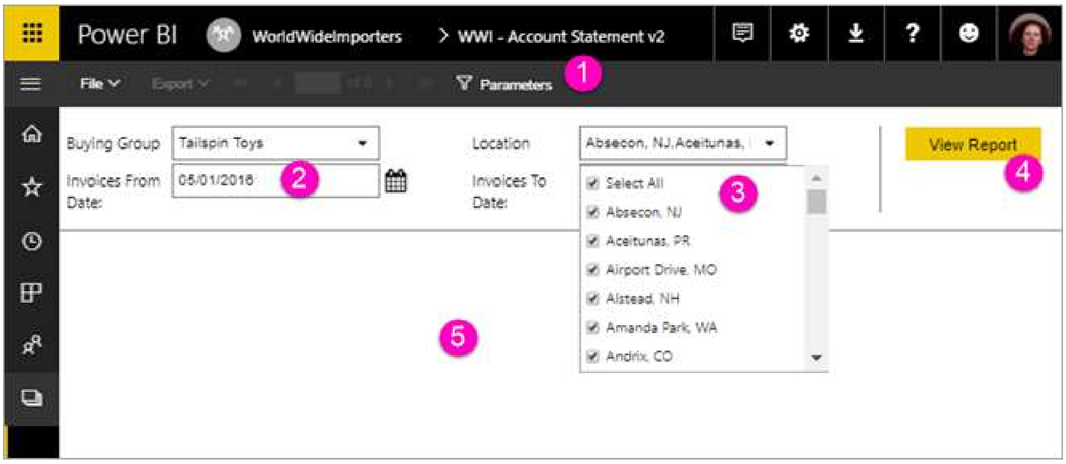
View parameters for paginated reports in the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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** The report viewer toolbar displays a prompt such as "Required" or a default value for each parameter.
2. **Invoices From / To Date parameters** The two date parameters have default values. To change the date, type a date in the text box or choose a date in the calendar.
3. **Location parameter** The Location parameter is set to allow you to select one, many, or all values.
4. **View Report** After you enter or change parameter values, click **View Report** to run the report.
5. **Default values** If all parameters have default values, the report runs automatically on first view. Some parameters in this report didn't have default values, so you don't see the report until you select values.

Next steps

Paginated reports in the Power BI service

Visualization types in Power BI

12/15/2022 • 11 minutes to read • Edit Online

APPLIES TO: ✔ Power BI Desktop ✔ Power BI service

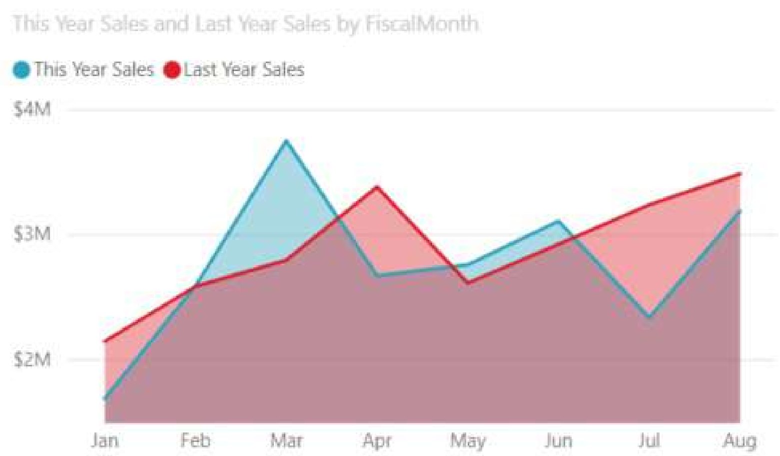
This article lists visualizations available in Power BI. We'll be adding new visualizations, stay tuned!

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.

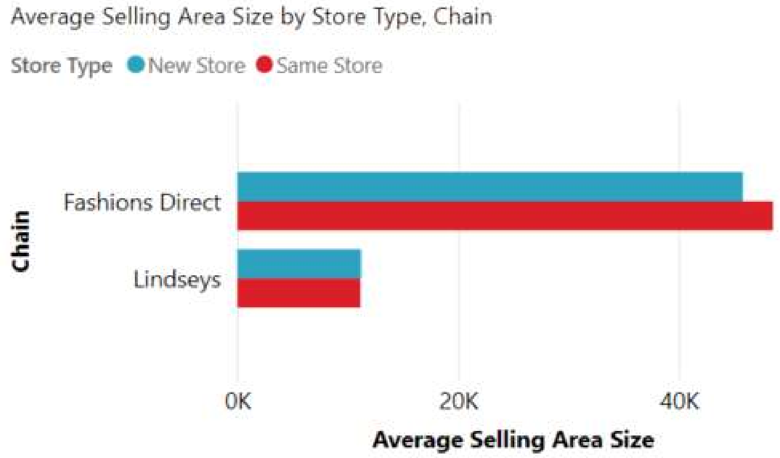
Area charts: Basic (Layered) and Stacked



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



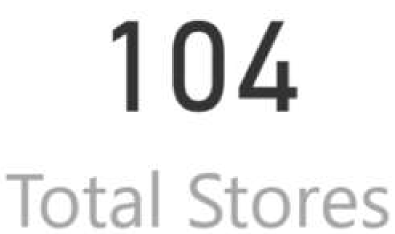
Bar charts are the standard for looking at a specific value across different categories.

Cards

Multi row

Multi row cards display one or more data points, one per row.

Single number



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

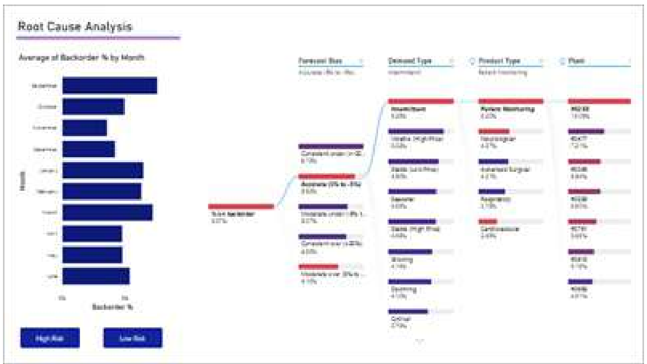
A combo chart combines a column chart and a line chart. Combining the two charts into one lets you make a quicker comparison of the data. Combo charts can have one or two Y axes, so be sure to look closely.

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.

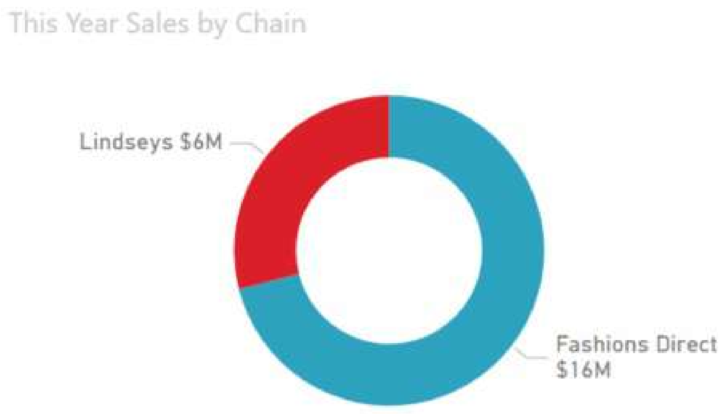
For more information, see Combo charts in Power BI.

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.

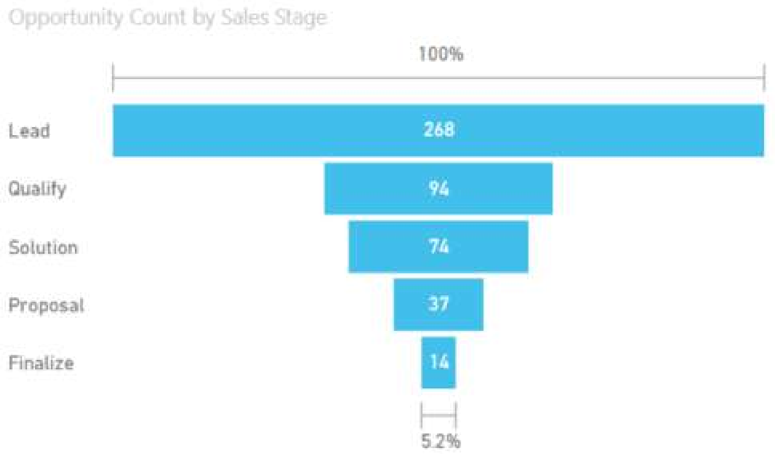
Doughnut charts



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

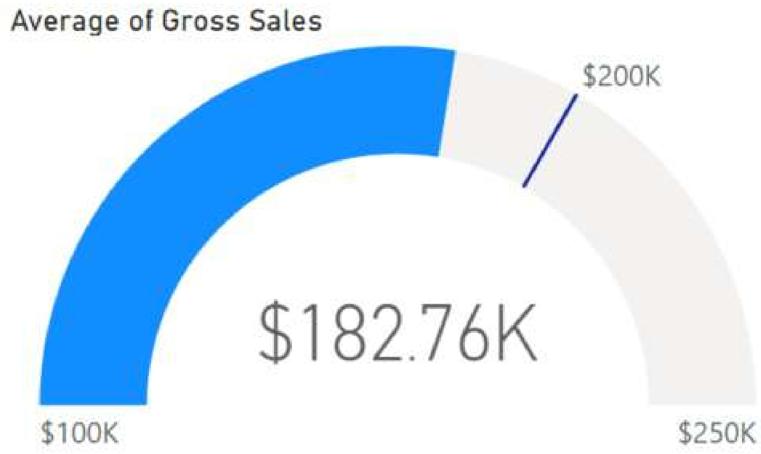


Funnels help visualize a process that has stages, and items flow sequentially from one stage to the next. One example is a sales process that starts with leads and ends with purchase fulfillment.

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).

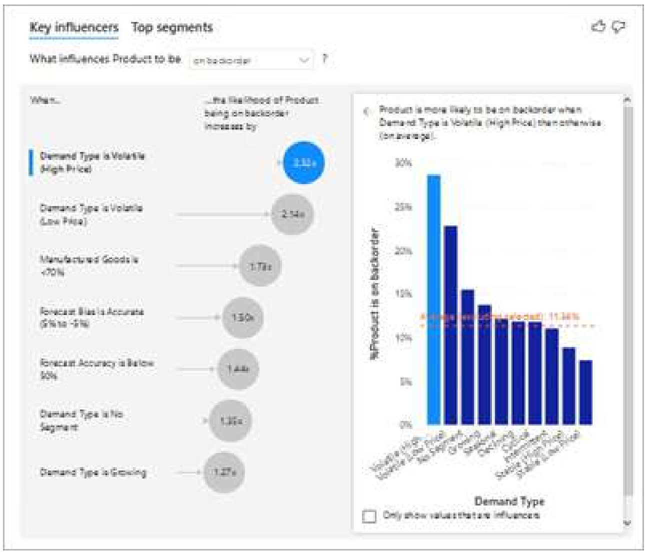
In the example above, we are a car retailer, tracking our Sales team's average sales per month. Our goal is $200,000 and represented by the location of the needle. The minimum possible average sales is $100,000 and we've set the maximum as $250,000. The blue shading shows that we're currently averaging 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?).

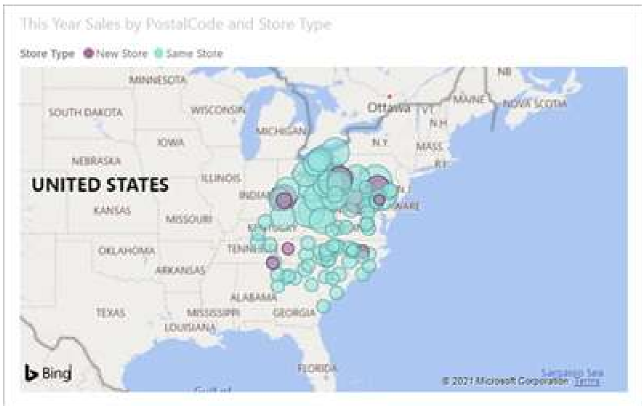
For more information, see KPIs in Power BI.

Line charts

Line charts emphasize the overall shape of an entire series of values, usually over time.

Maps

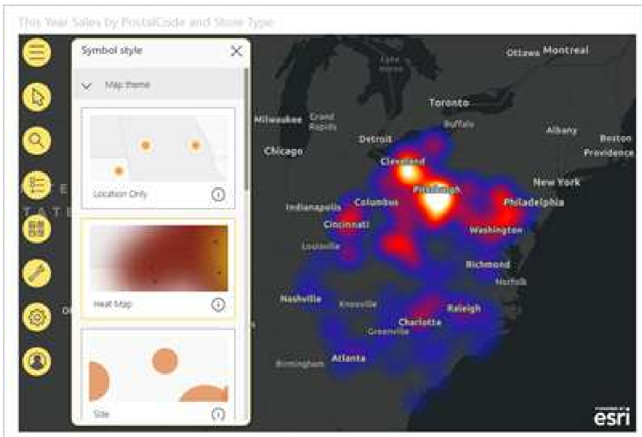
Basic map



Use a basic map to associate both categorical and quantitative information with spatial locations.

For more information, see Tips and tricks for map visuals.

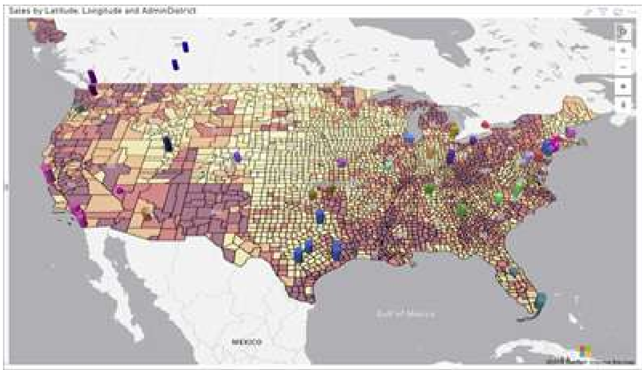
ArcGIS map



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.

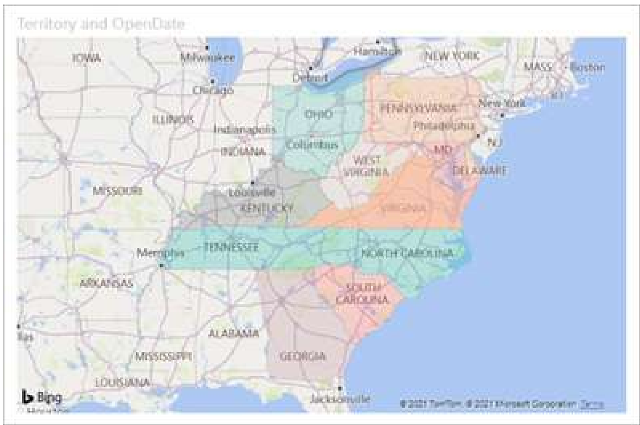
Azure map



> **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)

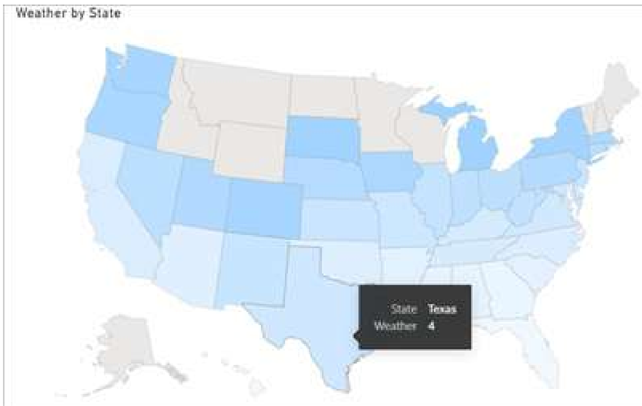


A filled map uses shading or tinting or patterns to display how a value differs in proportion across a geography or region. Quickly display these relative differences with shading that ranges from light (less-frequent/lower) to dark (more-frequent/more).

> **TIP**
>
> The more intense the color, the larger the value.

For more information, see Filled Maps in Power BI.

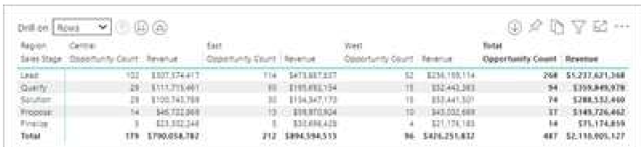
Shape map



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

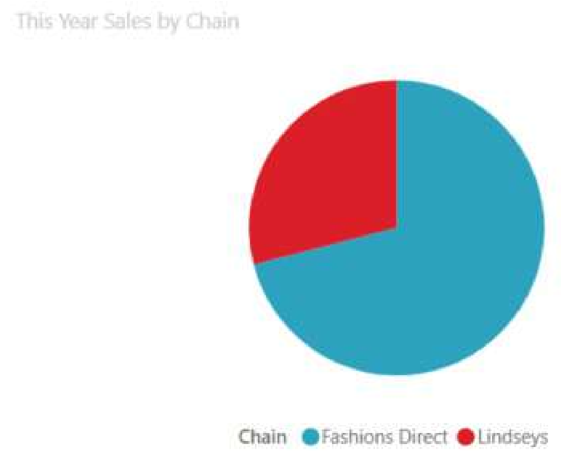


The matrix visual is a type of table visual (see Tables in this article) that supports a stepped layout. A table supports two dimensions, but a matrix makes it easier to display data meaningfully across multiple dimensions. Often, report designers include matrixes in reports and dashboards to allow users 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.

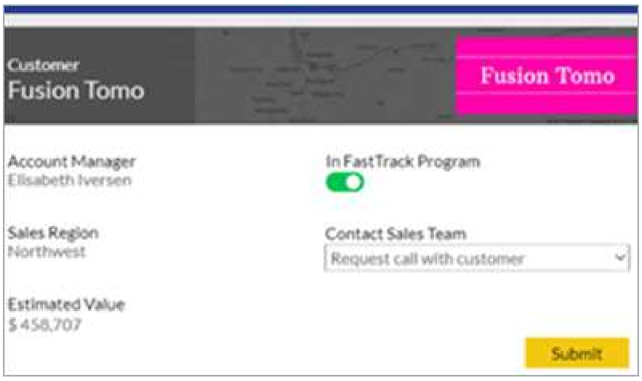
For more information, see Matrix visuals in Power BI.

Pie charts



Pie charts show the relationship of parts to a whole.

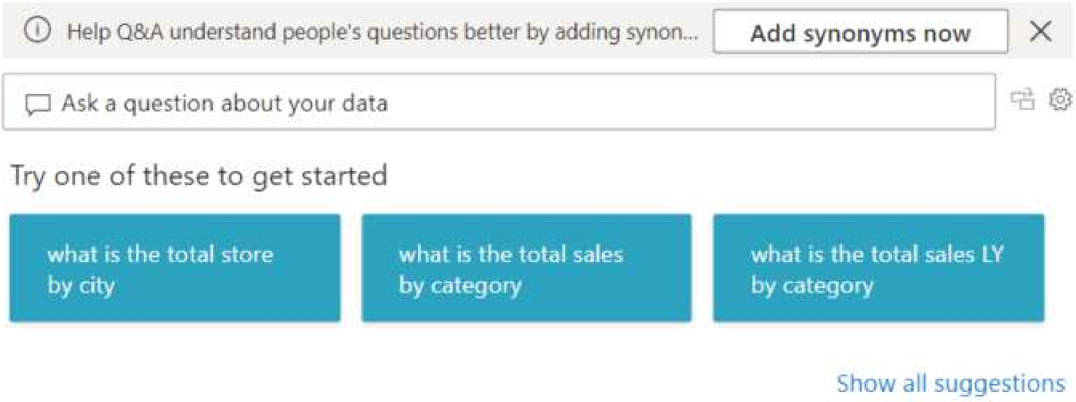
Power Apps visual



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

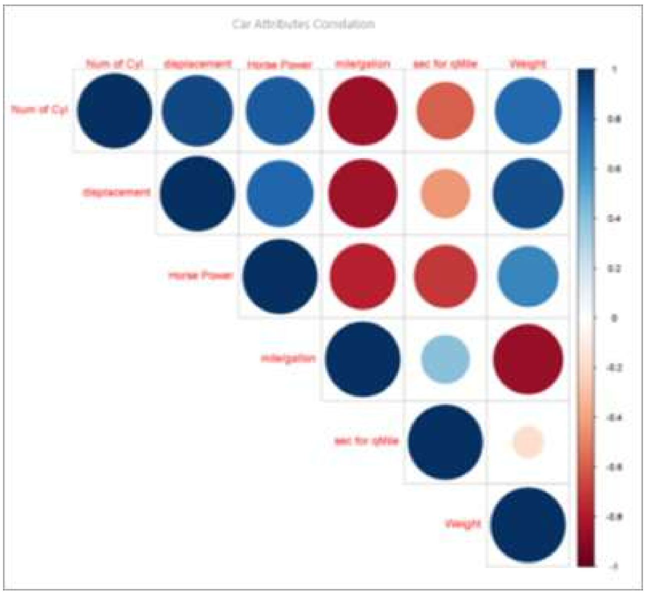


TIP

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

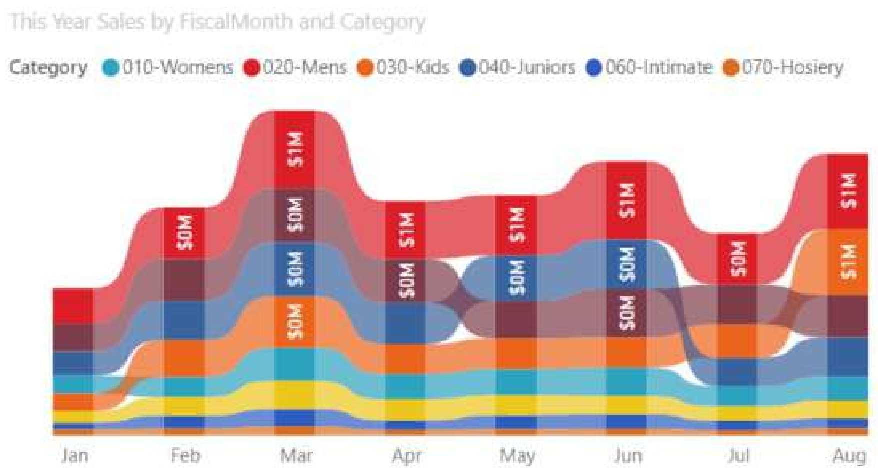


TIP

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.

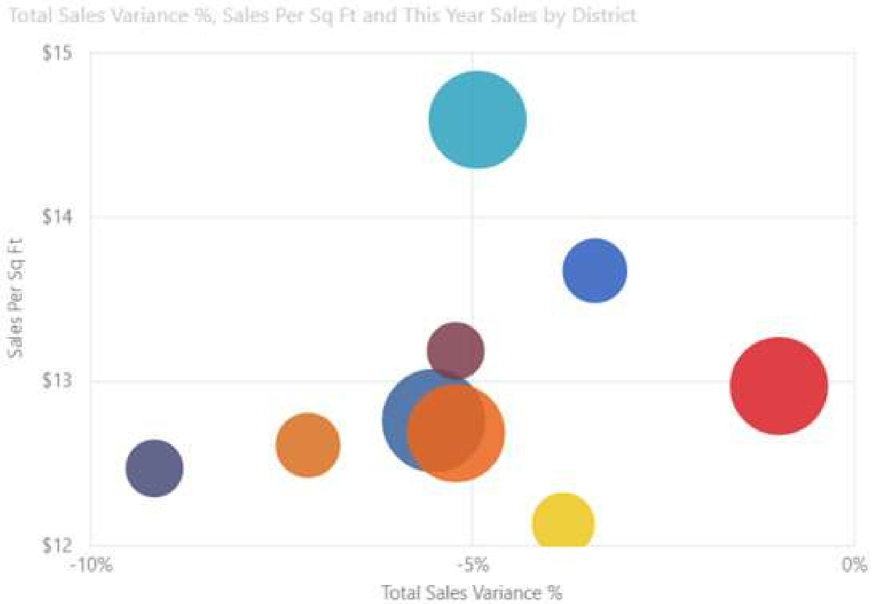
For more information, see Ribbon charts in Power BI.

Scatter

Scatter, bubble, and dot plot chart

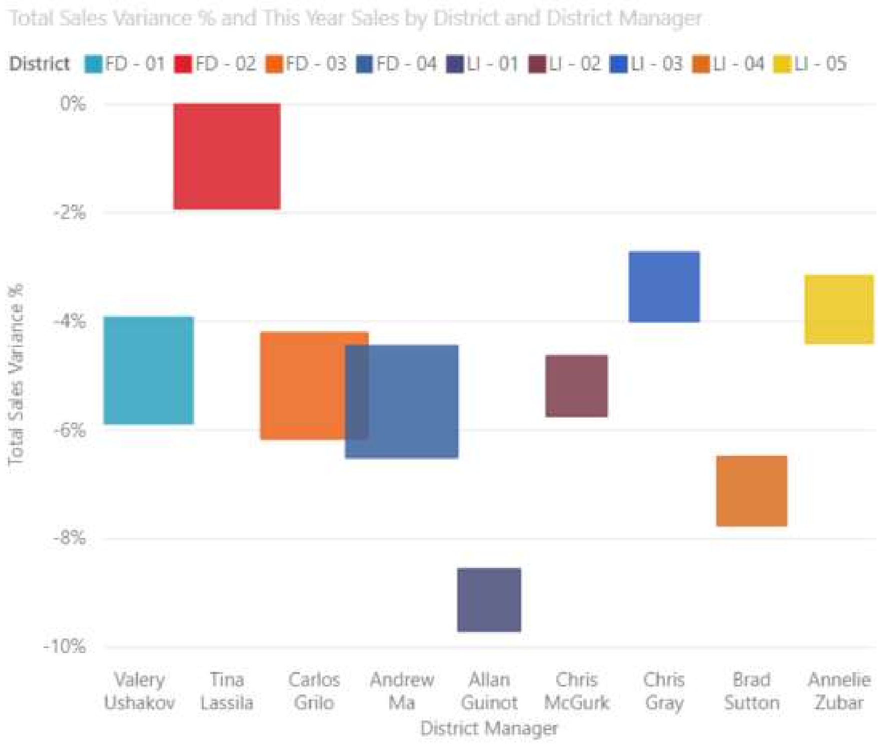
A scatter chart always has two value axes to show one set of numerical data along a horizontal axis and another set of numerical values along a vertical axis. The chart displays points at the intersection of an x and y numerical value, combining these values into single data points. These data points may 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.



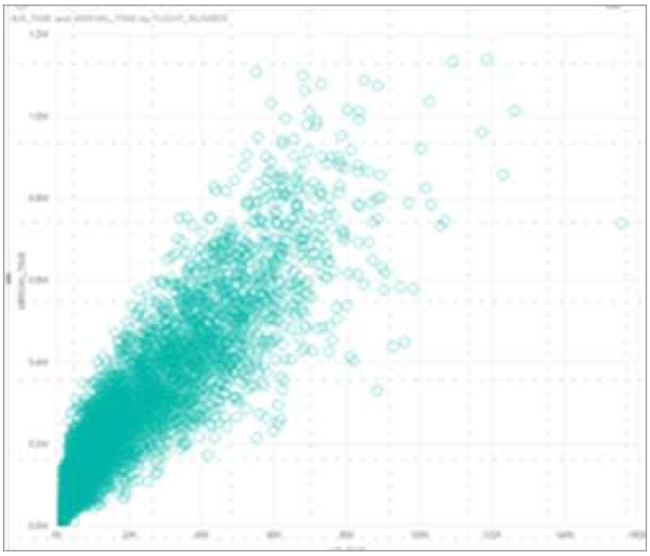
Both scatter and bubble charts can also have a play axis, which can show changes over time.

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

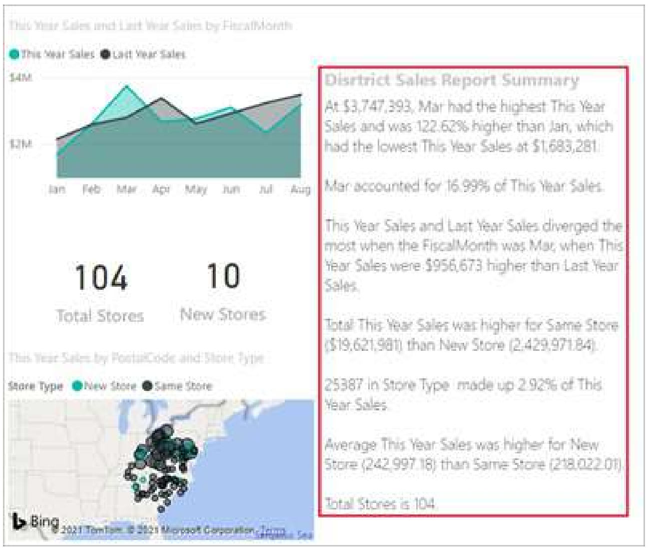
A slicer is a standalone chart that can be used to filter the other visuals on the page. Slicers come in many different formats (category, range, date, etc.) and can be formatted to allow selection of only one, many, or all of the available values.

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.

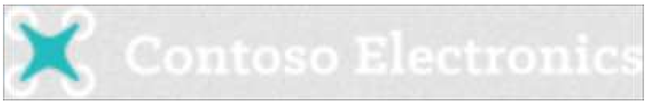
Smart narrative



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	●	$4.84	$1,273,096	$1,379,259	$1,273,096
090-Home	●	$3.93	$2,913,647	$3,053,326	$2,913,647
100-Groceries	●	$1.47	$810,176	$829,776	$810,176
020-Mens	●	$7.12	$4,453,133	$4,452,421	$4,453,133
030-Kids	●	$5.30	$2,726,892	$2,705,490	$2,726,892
050-Shoes	●	$13.84	$3,640,471	$3,574,900	$3,640,471
010-Womens	●	$7.30	$2,680,662	$1,787,958	$2,680,662
040-Juniors	●	$7.00	$3,105,550	$2,930,385	$3,105,550
060-Intimate	●	$4.28	$955,370	$852,329	$955,370
070-Hosiery	●	$3.69	$573,604	$486,106	$573,604
Total	●	**$5.49**	**$23,132,601**	**$22,051,952**	**$23,132,601**

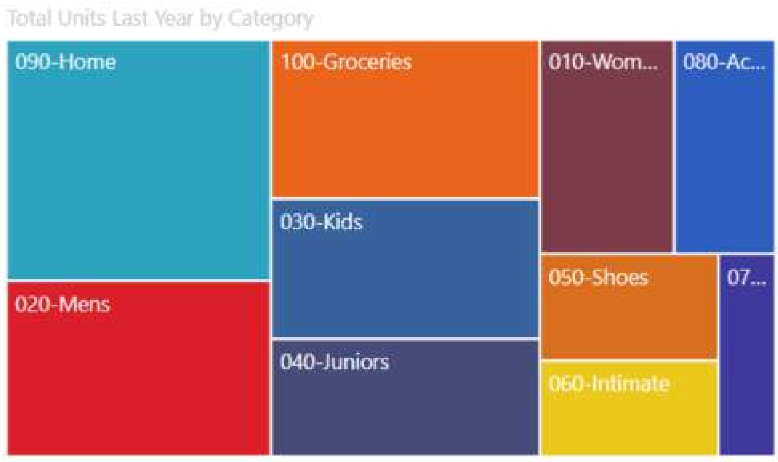
A table is a grid that contains related data in a logical series of rows and columns. It may also contain headers and a row for totals. Tables work well with quantitative comparisons where you are looking at many values for a single category. For example, this table displays five different measures for 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



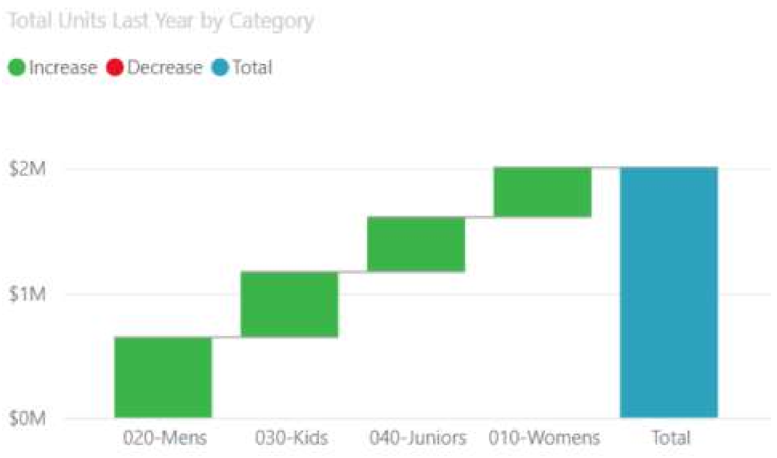
Treemaps are charts of colored rectangles, with size representing value. They can be hierarchical, with rectangles nested within the main rectangles. The space inside each rectangle is allocated based on the value being measured. And the rectangles are arranged in size from top left (largest) to bottom 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

Show data with Power BI reports

12/15/2022 • 2 minutes to read • Edit Online

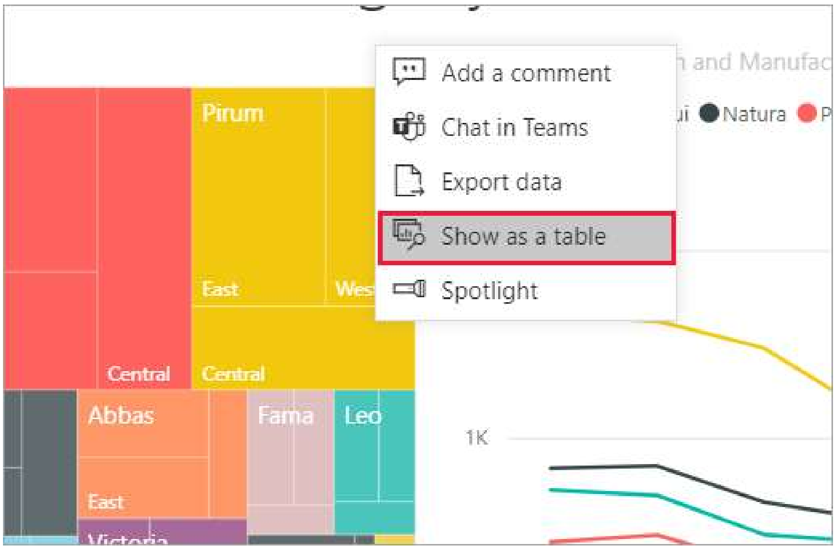
APPLIES TO: ✅ Power BI service for ***business users*** ✅ Power BI service for designers & developers ❎ Power BI Desktop ✅ Requires Pro or Premium license

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

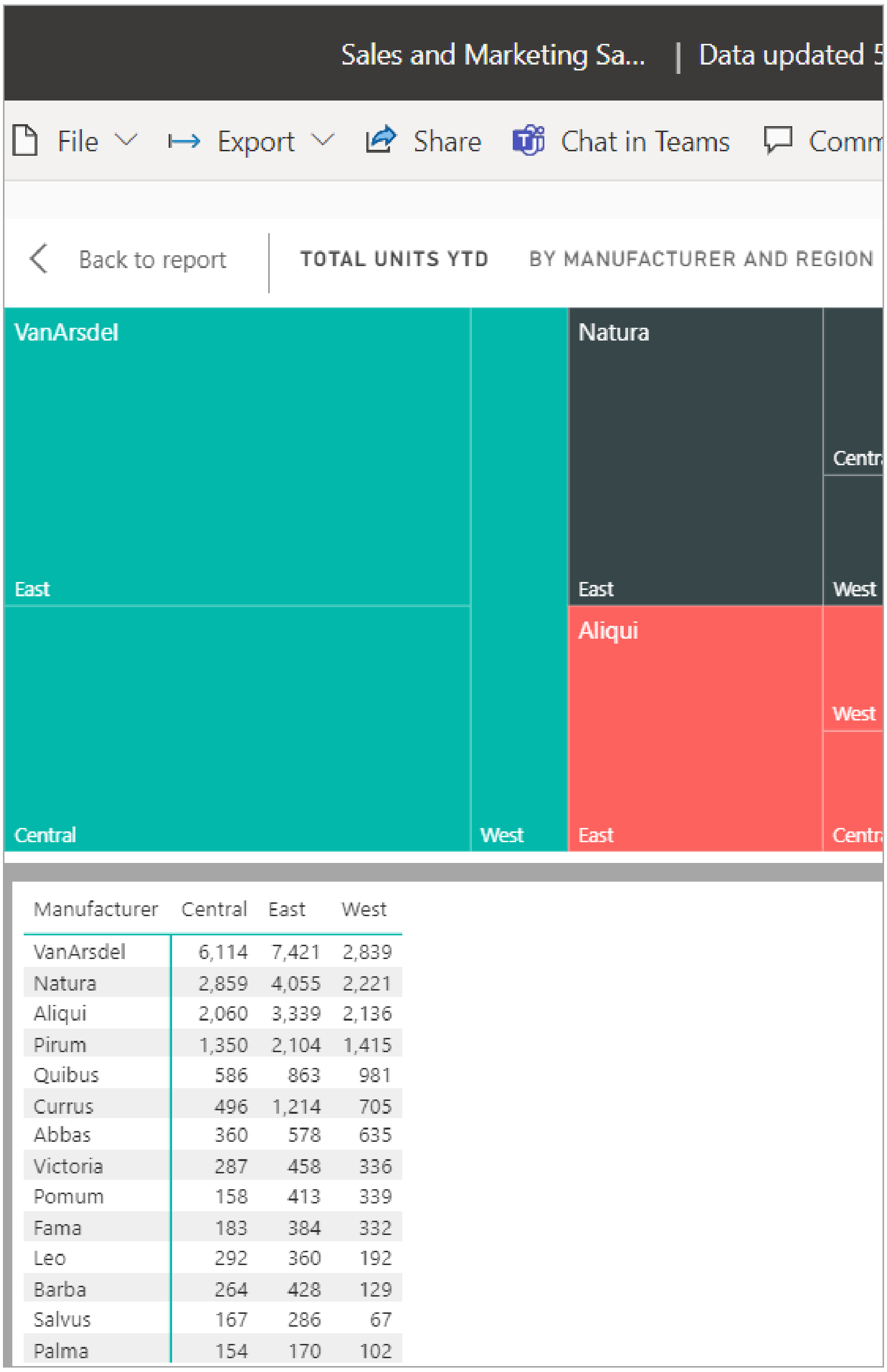
You can also export the data to Excel for visuals in a report as well as visuals on a dashboard.

Show the data being used to create a report visual

1. In the Power BI service, open a report and select a visual.
2. To display the data behind the visual, select **More options** (...) and choose **Show as a table**.

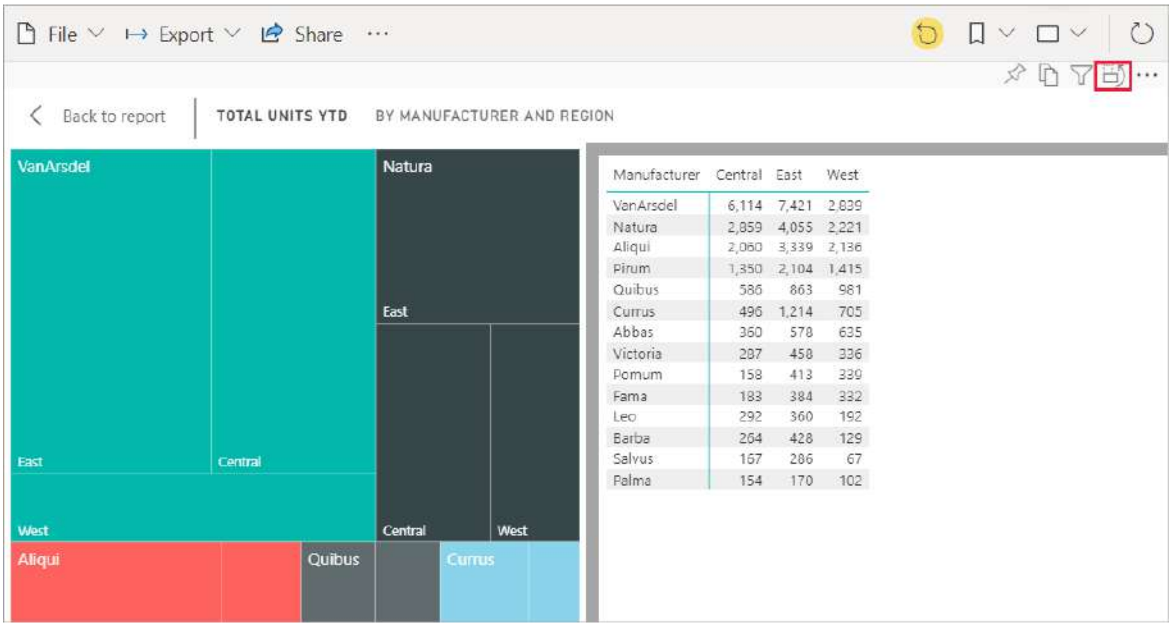


3. By default, the data displays below the visual.



Manufacturer	Central	East	West
VanArsdel	6,114	7,421	2,839
Natura	2,859	4,055	2,221
Aliqui	2,060	3,339	2,136
Pirum	1,350	2,104	1,415
Quibus	586	863	981
Currus	496	1,214	705
Abbas	360	578	635
Victoria	287	458	336
Pomum	158	413	339
Fama	183	384	332
Leo	292	360	192
Barba	264	428	129
Salvus	167	286	67
Palma	154	170	102

4. To change the orientation, select vertical layout from the top-right corner of the visualization.



To return to the report, select **Back to report** from the upper left corner.

Next steps

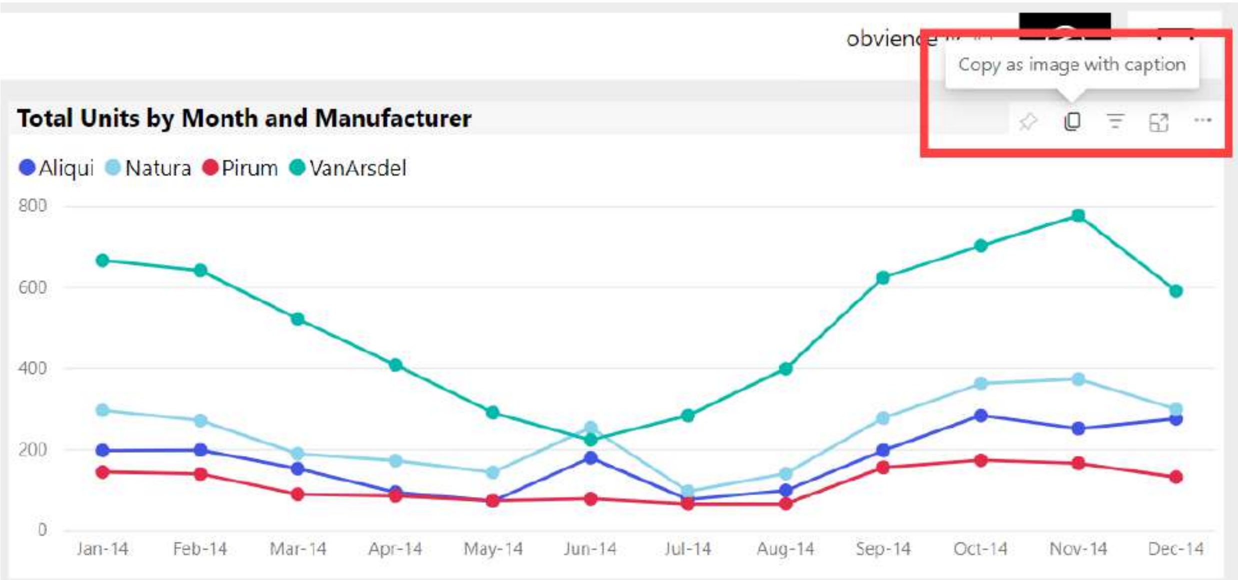
Visuals in Power BI reports
Power BI reports

Copy a visual and then paste it into another application

12/15/2022 • 2 minutes to read • Edit Online

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

Have you ever wanted to share an image from a Power BI report or dashboard? Now you can copy the visual and paste it into any other application that supports pasting. Copy an important visual and paste it into an email message, Word, PowerPoint, another Power BI report, and many more applications.



When you copy a static image of a visual, you get a copy of the visual along with the metadata. This includes:

- link back to the Power BI report or dashboard
- title of the report or dashboard
- notice if the image contains confidential information
- last updated time stamp
- filters applied to the visual

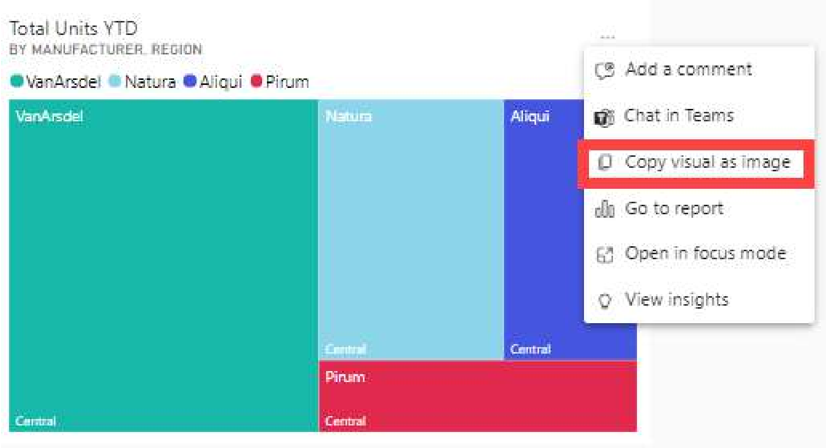
Copy the visual

The process is almost identical for copying a visual from a dashboard or from a report. Only the first step varies.

1. Navigate to the report or dashboard that has the image that you want to copy.

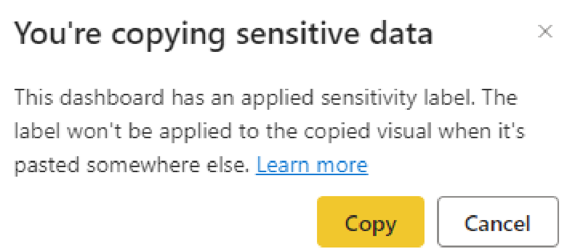
2. Copy the visual.

   - On a dashboard, from the upper right corner of the visual, select **More actions (...)** and choose **Copy visual as image**.



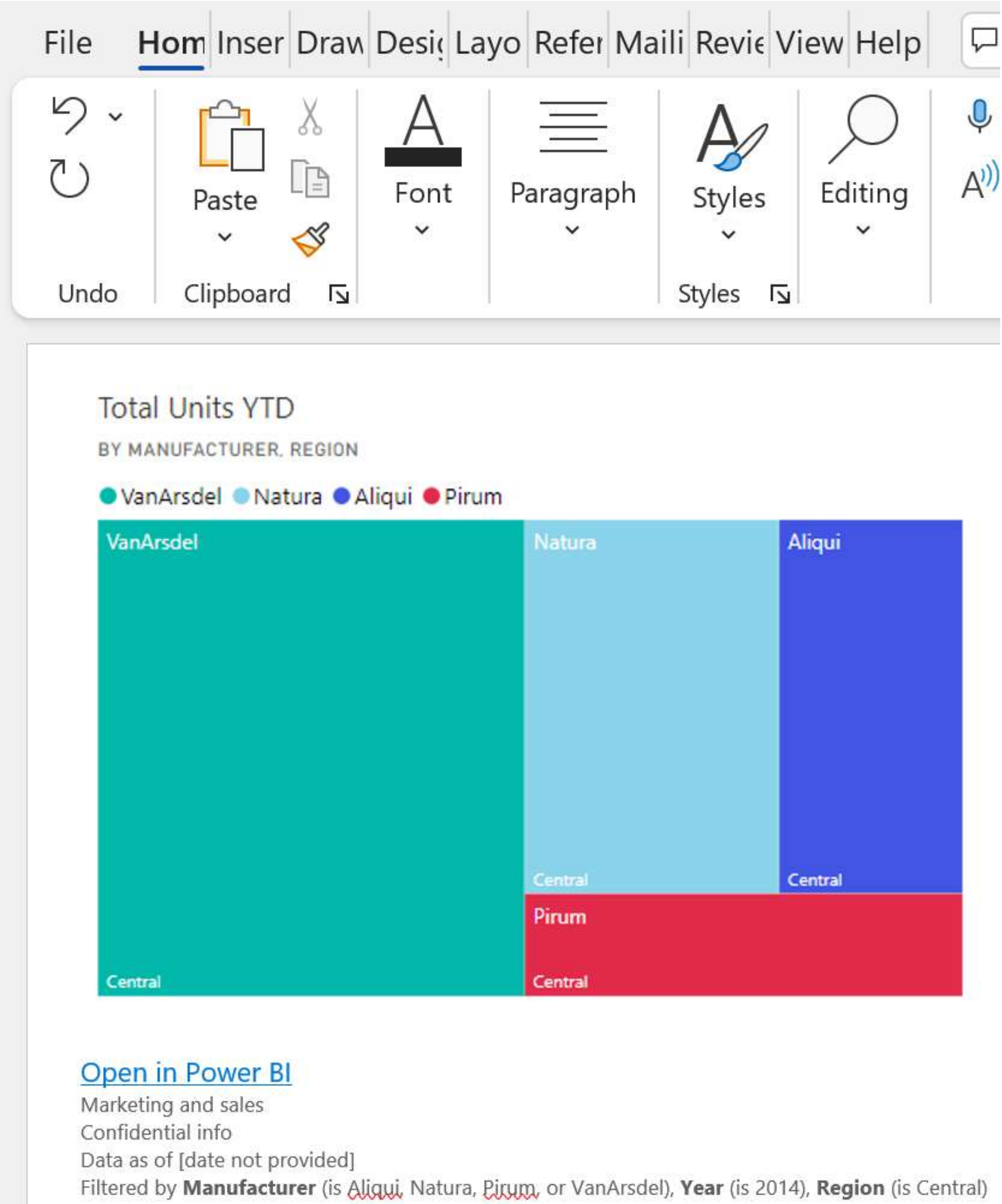
- On a report page, from the upper right corner of the visual, select the icon for **Copy as image with caption**.

3. If there is a data sensitivity label applied to the report that contains the visual, you'll receive a warning. For more information, see Data that has been labeled as confidential or sensitive, below.



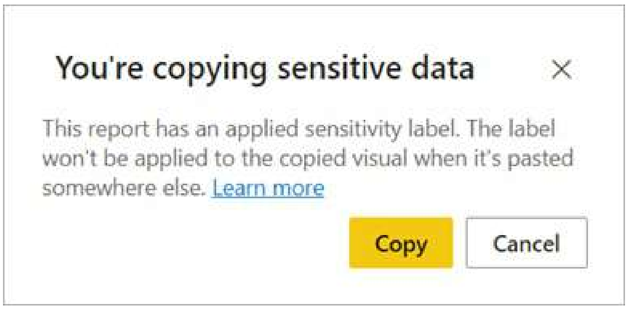
4. When the **Image with caption copied** dialog appears, select **Copy**.

5. After your visual is copied, paste it into another application using **Ctrl + V** or **right-click > Paste**. In the screenshot below, we've pasted the visual into Microsoft Word.

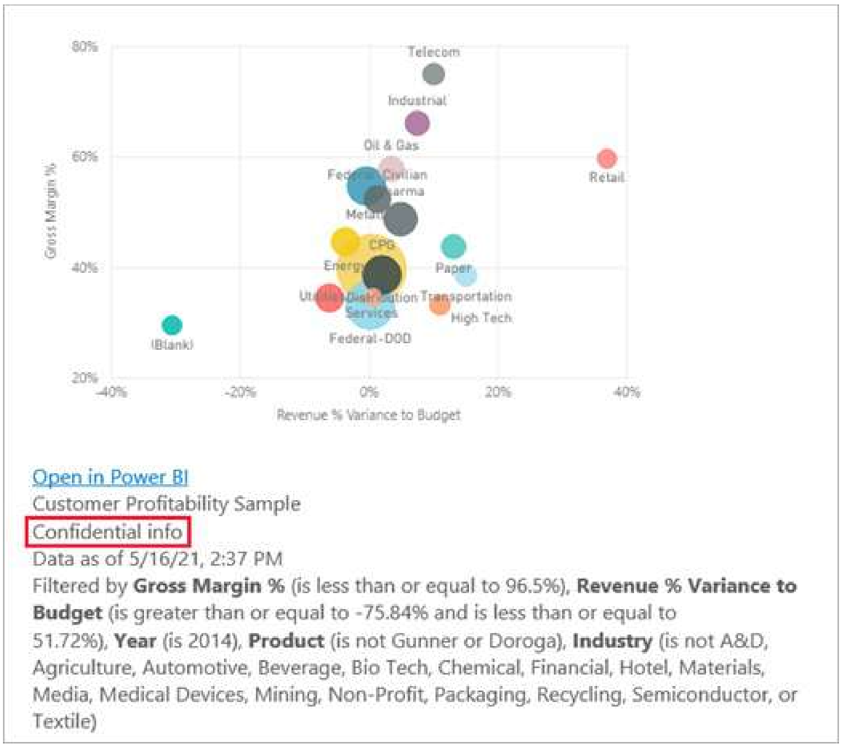


Data that has been labeled as confidential or sensitive

If there is a data sensitivity label applied to the report containing the visual, you'll receive a warning when you select the copy icon.



And, a sensitivity label will be added to the metadata below the pasted visual.



Considerations and troubleshooting

Q: Why is the Copy icon disabled on a visual?
A: We currently support native Power BI visuals and certified custom visuals. There is limited support for certain visuals including:

- ESRI and other map visuals
- Python visuals
- R visuals
- PowerApps visuals

A: The ability to copy a visual can be turned off by your IT department or Power BI administrator.

Q: Why is my visual not pasting correctly?
A: There are limitations for custom visuals and animated visuals.

Q: Can I to copy a visual from my embedded Power BI report?
A: *Copy visual* is supported only in the **embed for your organization** scenario. It isn't available in the **embed for your customers** scenario.

Next steps

More about Visualizations in Power BI reports

If you have edit permissions to a report, you can copy and paste visuals within the same report.

More questions? Try the Power BI Community

Drill mode in a visual in Power BI

12/15/2022 • 6 minutes to read • Edit Online

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 how to drill down in a visual in the Microsoft Power BI service. Using drill down and drill up on your data points, you can explore in-depth details about your data.

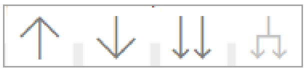
Drill requires a hierarchy

When a visual has a hierarchy, you can drill down to reveal additional details. For example, you might have a visual that looks at sports competition medal count by a hierarchy made up of sport, discipline, and event. By default, the visual would show medal count by sport: gymnastics, skiing, aquatics, and so on. But, because it has a hierarchy, selecting one of the visual elements (like a bar, line, or bubble), would display an increasingly more-detailed picture. Selecting the **aquatics** element would show you data for swimming, diving, and water polo. Selecting the **diving** element would show you details for springboard, platform, and synchronized diving events.

Dates are a unique type of hierarchy. Report *designers* often add date hierarchies to visuals. A common date hierarchy is one that contains year, quarter, month, and day.

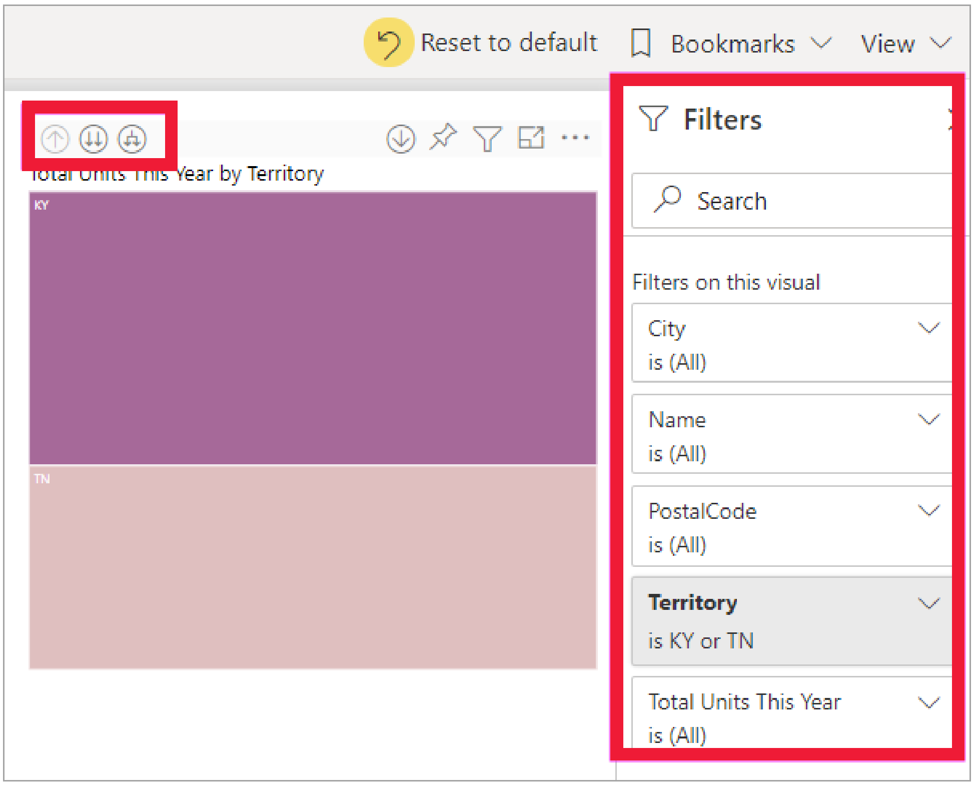
Figure out which visuals can be drilled

Not sure which Power BI visuals contain a hierarchy? Hover over a visual. If you see a combination of these drill controls at the top, your visual has a hierarchy.



Learn how to drill down and up

In this example we're using a treemap that has a hierarchy made up of territory, city, postal code, and store name. The treemap, before drilling, looks at total units sold this year by territory. Territory is the top level of the hierarchy.

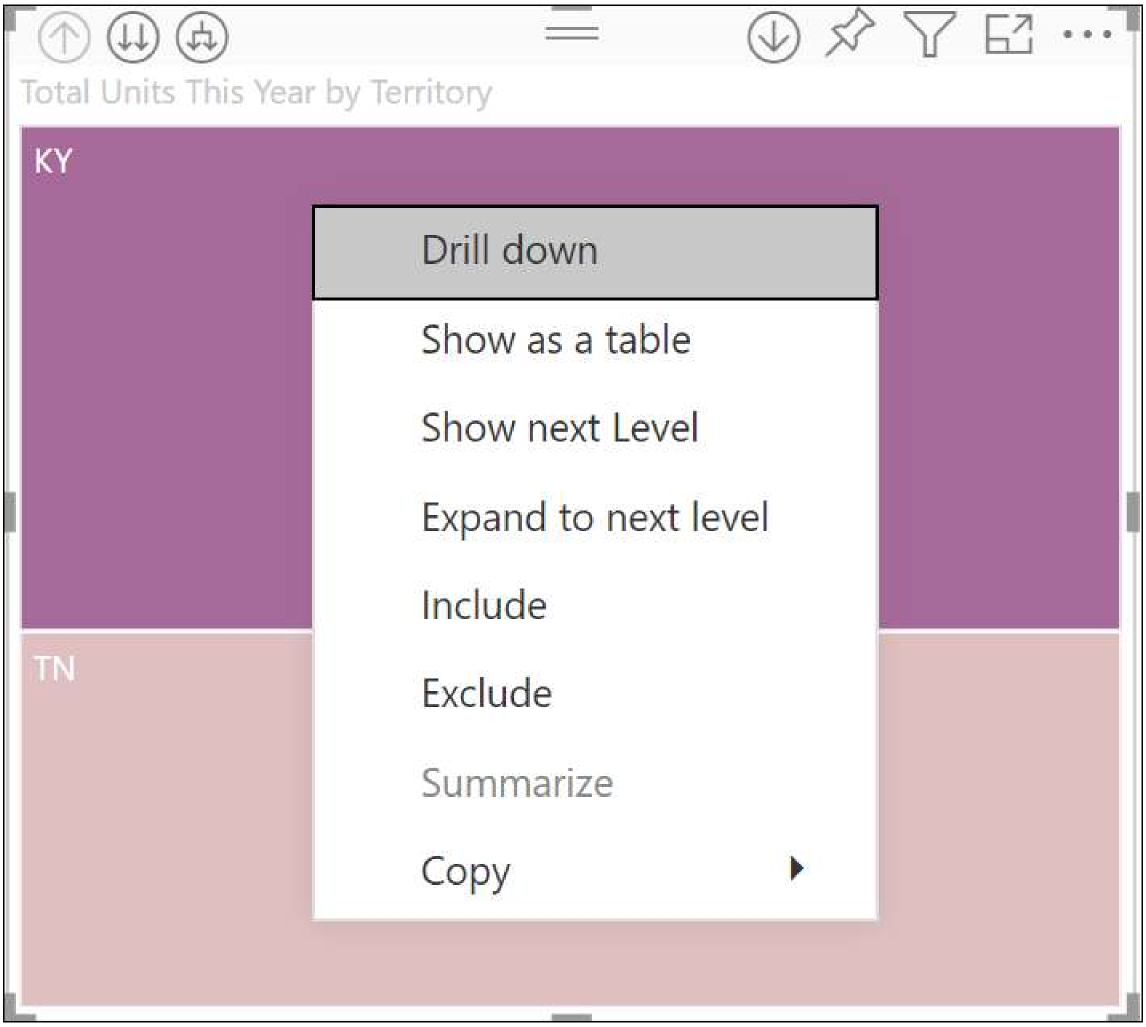


Two ways to access the drill features

You have two ways for accessing the drill-down, drill-up, and expand features for visuals that have hierarchies. Try them both, and use the one that you enjoy the most.

- First way: hover over a visual to see and use the icons. Turn on the drill-down feature first by selecting the downward arrow. The grey background lets you know that the drill-down option is active.

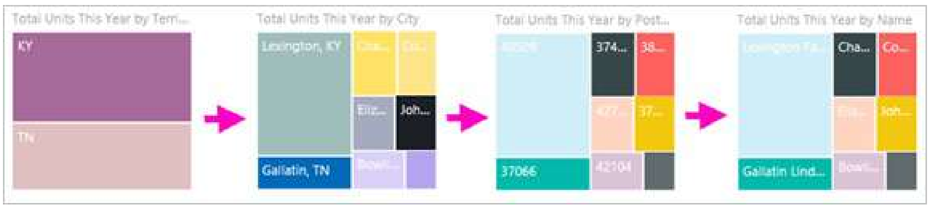
- Second way: right-click a visual to reveal and use the menu.



Drill pathways

Drill down all fields at once

You have several ways to drill into your visual. Selecting the double arrow  drill-down icon takes you to the next level in the hierarchy. If you're looking at the **Territory** level for Kentucky and Tennessee, you can drill down to city level for both states, then postal code level for both states, and, finally, the store name level for both states. Each step in the path shows you new information.



Select the drill-up icon  until you get back to "Total units this year by territory".

Expand all fields at once

Expand adds an additional hierarchy level to the current view. So if you're looking at the **Territory** level, you can expand all current leaves in the tree at the same time. Your first drill adds city data for both **KY** and **TN**. The next drill adds postal code data for both **KY** and **TN**, and keeps city data as well. Each step in the path shows you the same information and adds on one level of new information.

Drill down one field at a time

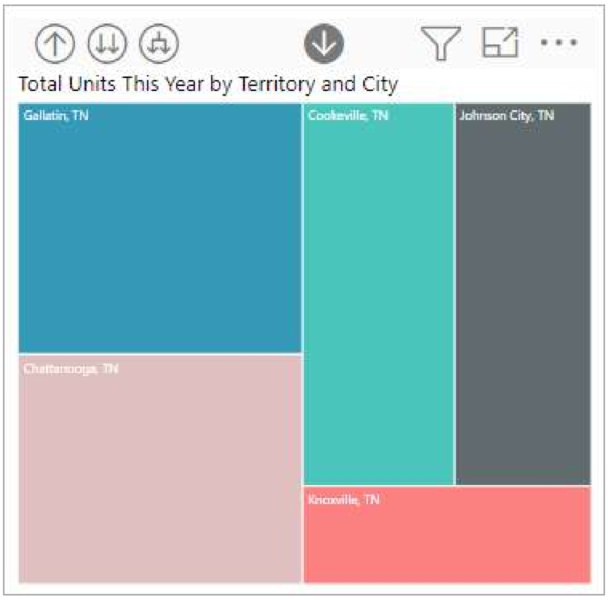
1. Select the drill-down icon to turn it on .

   Now you have the option of drilling down **one field at a time** by selecting a visual element. Examples of visual elements are: bar, bubble, and leaf.

   If you don't turn on the drill-down option, selecting a visual element (like a bar, bubble, or leaf) won't drill down. Instead, it will cross-filter the other charts on the report page.

2. Select the leaf for **TN**. Your treemap now shows all the cities and territories in Tennessee that have a store.

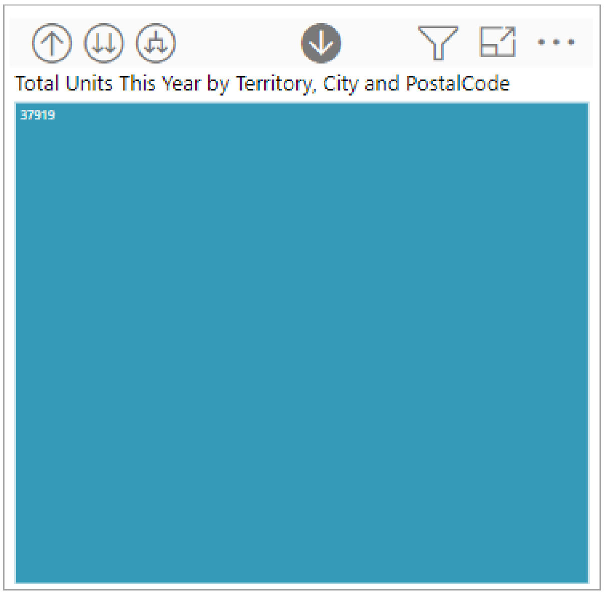
3. At this point, you can:

   a. Continue drilling down for Tennessee.

   b. Drill down for a particular city in Tennessee.

   c. Expand instead.

   Let's continue to drill down one field at a time. Select **Knoxville, TN**. Your treemap now shows the postal code for your store in Knoxville.



Notice that the title changes as you drill down and back up again.

And drill down one more field. Select postal code **37919** and drill down to store name.

For this particular data, drilling down all levels at once may not be interesting. Let's try expanding instead.

Expand all and expand one field at a time

Having a treemap that shows us only a postal code or only a store name isn't informative. So let's *expand* down one level in the hierarchy.

1. First, drill back up to the postal code level.

2. With the treemap active, select the *expand down* icon . Your treemap now shows two levels of the hierarchy: postal code and store name.

3. To see all four hierarchy levels of data for Tennessee, select the drill-up arrow until you reach the second level, **Total units this year by territory and city**.

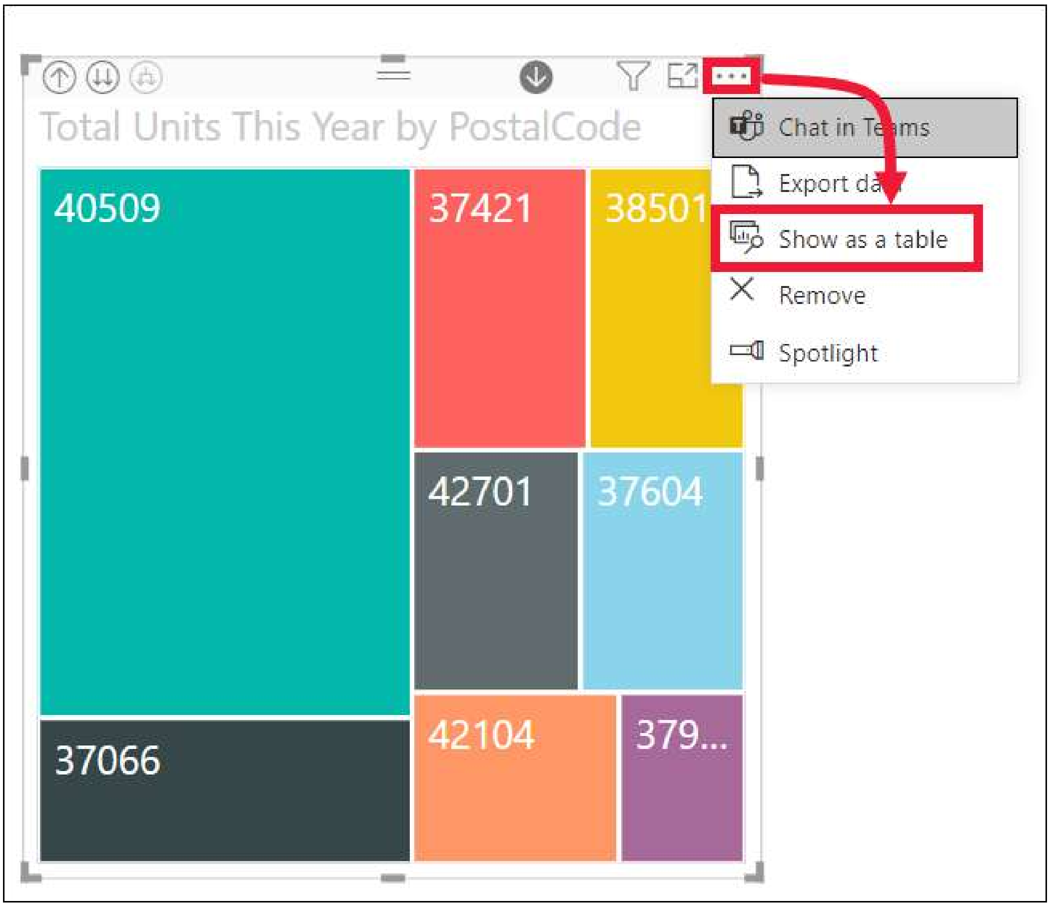
4. Make sure the drill-down option is still turned on,  and select the *expand down* icon . Your treemap now shows the same number of leaves (boxes), but each leaf has additional detail. Instead of only showing city and state, it now also shows us postal code.

5. Select the *expand down* icon one more time to display all four hierarchy levels of detail for Tennessee on your treemap. Hover over a leaf to see even more detail.

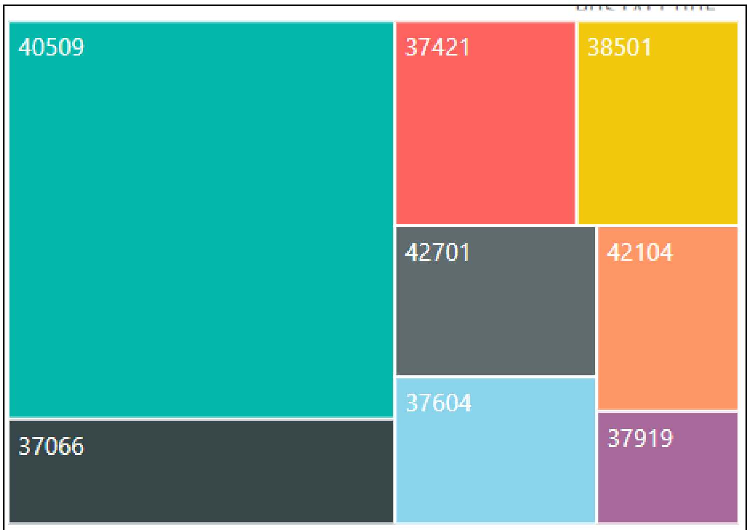
Show the data as you drill

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 being used to build the visual. This may help you understand how hierarchies, drill, and expand work together to build visuals.

In the upper-right corner, select **More actions** (...), and then select **Show as a table**.



Power BI opens the treemap so that it fills the canvas. The data that makes up the treemap displays below the visual.



PostalCode	Total Units This Year
40509	$72,554
37066	$19,168
37421	$17,522
38501	$15,630
42701	$14,358
37604	$14,014
42104	$12,442
37919	$7,571

With the visual alone in the canvas, continue drilling. Watch the data in the table change to reflect the data being used to create the treemap. The following table shows the results of drilling down all fields at once from territory to store name. The first table represents the top level of the hierarchy, the treemap showing two leaves, one for **KY** and one for **TN**. The next three tables represent the treemap's data as you drill down all levels at once--from territory to city to postal code to store name.

Territory	Total Units This Year
KY	$99,354
TN	$73,905

City	Total Units This Year
Lexington, KY	$72,554
Gallatin, TN	$19,168
Chattanooga, TN	$17,522
Cookeville, TN	$15,630
Elizabethtown, KY	$14,358
Johnson City, TN	$14,014
Bowling Green, KY	$12,442
Knoxville, TN	$7,571

PostalCode	Total Units This Year
40509	$72,554
37066	$19,168
37421	$17,522
38501	$15,630
42701	$14,358
37604	$14,014
42104	$12,442
37919	$7,571

Name	Total Units This Year
Lexington Fashions Direct	$72,554
Gallatin Lindseys	$19,168
Chattanooga Lindseys	$17,522
Cookeville Lindseys	$15,630
Elizabethtown Lindseys	$14,358
Johnson City Lindseys	$14,014
Bowling Green Lindseys	$12,442
Knoxville Lindseys	$7,571

Notice that the totals are the same for **City**, **PostalCode**, and **Name**. Matching totals won't always be the case. But for this data, there's only one store in each postal code and in each city.

Considerations and limitations

- By default, drilling won't filter other visuals in a report. However, the report designer can change this default behavior. As you drill, look to see if the other visuals on the page are cross-filtering or cross-highlighting.
- Viewing a report that has been shared with you requires a Power BI Pro or Premium license or for the report to be stored in Power BI Premium capacity. Which license do I have?

Next steps

Visuals in Power BI reports

Power BI reports

Power BI - Basic Concepts

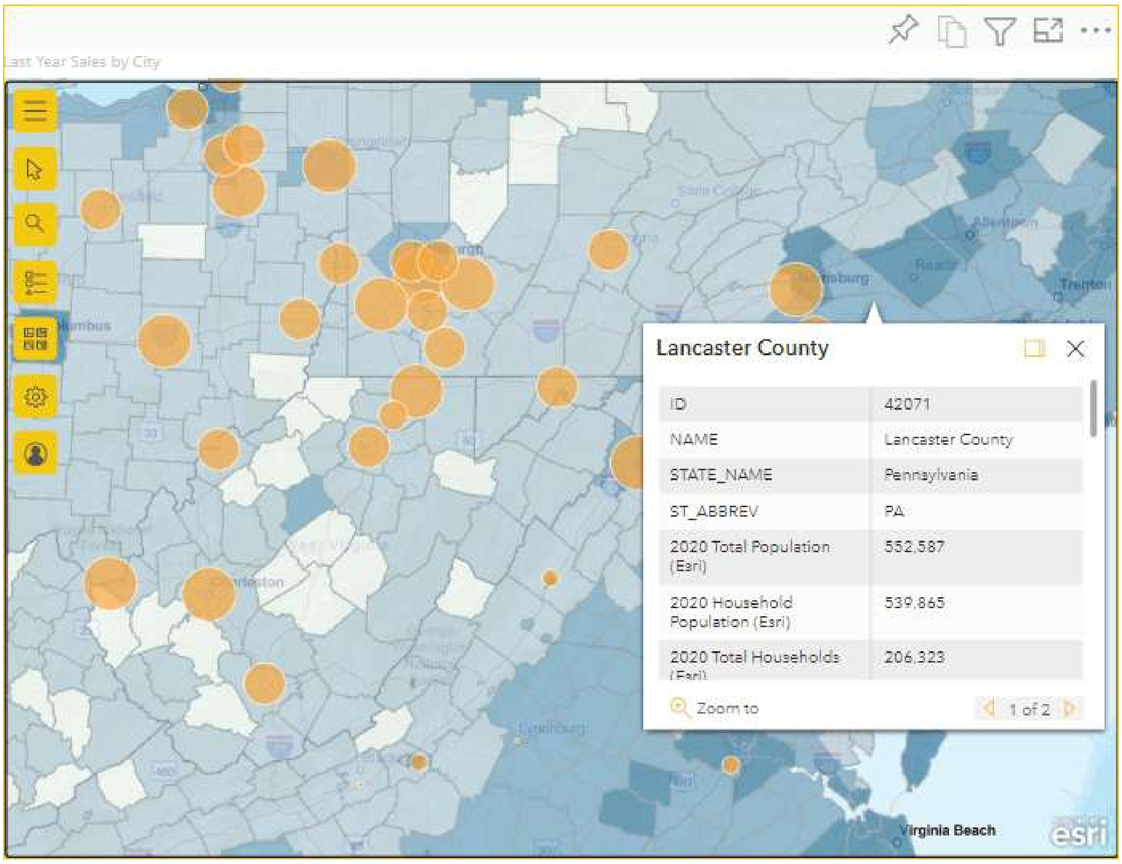
More questions? Try the Power BI Community

Interact with an ArcGIS map in Power BI

12/15/2022 • 12 minutes to read • Edit Online

This topic is written from the point of view of a person *consuming* an ArcGIS map in the Power BI service. ArcGIS maps in Power BI are also available in Power BI Desktop and mobile. Once a creator shares an ArcGIS map with you, there are many ways to interact with that map. To learn more about creating an ArcGIS map, see the ArcGIS map by Esri tutorial.

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 into your Power BI data.



For example, you can use ArcGIS for Power BI to provide regional insight into sales figures. The example above 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, visit Esri's Marketing site to see many examples and read testimonials and dig into Esri's online help for training and documentation.

User consent

The first time you use ArcGIS for Power BI. ArcGIS Maps for Power BI is provided by Esri. Your use of ArcGIS Maps for Power BI is subject by Esri's terms and privacy policy. Power BI users wishing to use the ArcGIS Maps for Power BI visuals need to accept the consent dialog.

Interact with an ArcGIS map

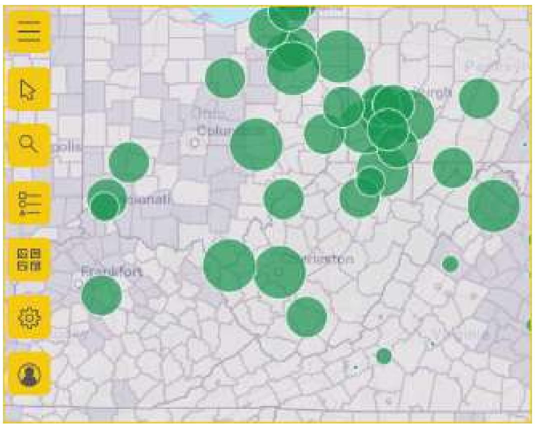
The features available to you depend on whether you are the report designer (person who made the map) or a business user (someone shared an ArcGIS map with you). If you are interacting with an ArcGIS map as a business user (also known as Reading view), here are the actions available to you:

ACTION	PREMIUM CUSTOMER (WITH VIEW PERMISSIONS)	POWER BI PRO CUSTOMER
View the data used to create the visual	Y	Y
Subscribe	Y	Y
See the map in focus mode and full screen mode	Y	Y
View related content	Y	Y
Interact with the filters set by the report designer	Y	Y
Share the report	Y	Y
Export the underlying data	N	Y
Get usage metrics	N	Y
Publish to the web	N	Y
Save a copy	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.

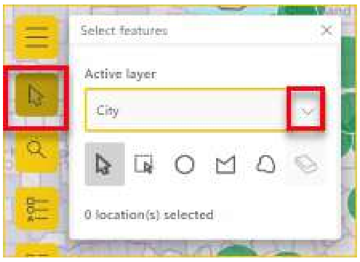


The map tools expand to show the available options. When selected, each tool opens a task pane that provides detailed options.

> **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 to the active layer. A maximum of 250 data points can be selected at a time. To learn more, see selection tools.



This is the default tool and selects individual data points and individual features.

Select by rectangle draws a rectangle on the map and selects the contained data points and features. Use CTRL to add or remove selections

Select by circle draws a circular shape on the map and selects the contained data points and features. Use CTRL to add or remove selections.

Select by polygon draws boundaries or polygons within reference layers to select contained data points and features. Double-click to complete a selection. Use CTRL to enable snapping.

Select by freehand polygon draws a freehand shape on the map and selects the contained data points and features. Use CTRL to add or remove selections.

Select by reference layer is visible only if there is 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 reference layers.

Drive time select is visible only if there is 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 buffer or drive time areas.

The eraser tool clears all selections. It is 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.

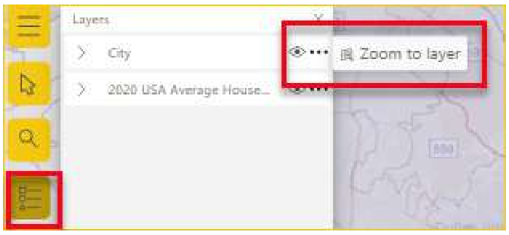
1. Expand the map tools, if necessary, and select the Search button to open the search pane.
2. Type the keywords **Washington Monument** in the search field. Keywords can include an address, place, or point of interest. As you type, similar recent searches or suggestions based on similar keywords appear.
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 for the duration of your session. Pins remain in place on the map only during the current session; you cannot save a pinned location with the map. For more information about pinning a location, visit the ArcGIS for Power BI help.

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, if necessary, 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 cannot perform these tasks, it may be that the report designer has disabled these features. Contact the report designer if you have questions.

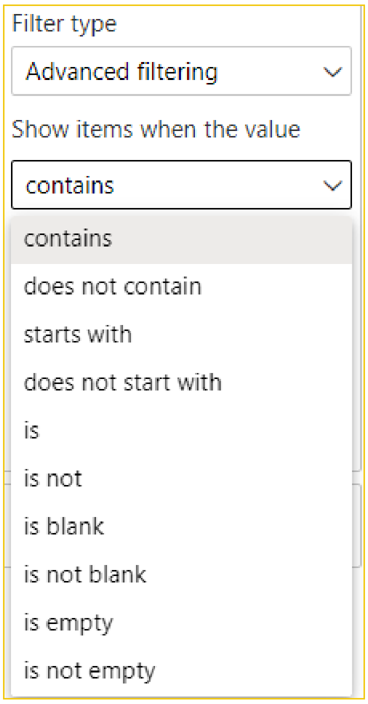
For more information about working with layers, visit the ArcGIS for Power BI help.

Filter map layers

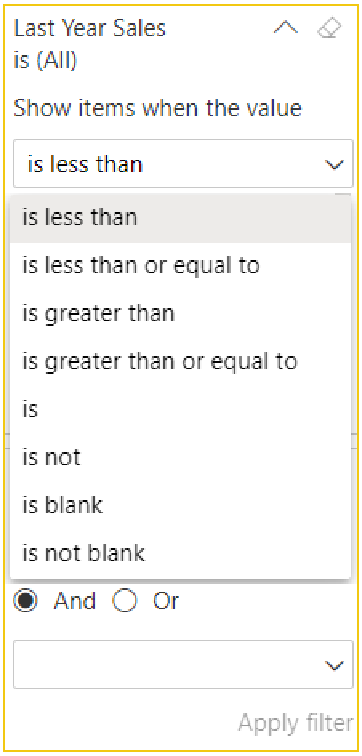
The **Filters** pane contains data added by the report designer. There are many different ways to filter your map content.

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 have selected your filter options, select **Apply filter**. The map is filtered by your selections

Change the basemap

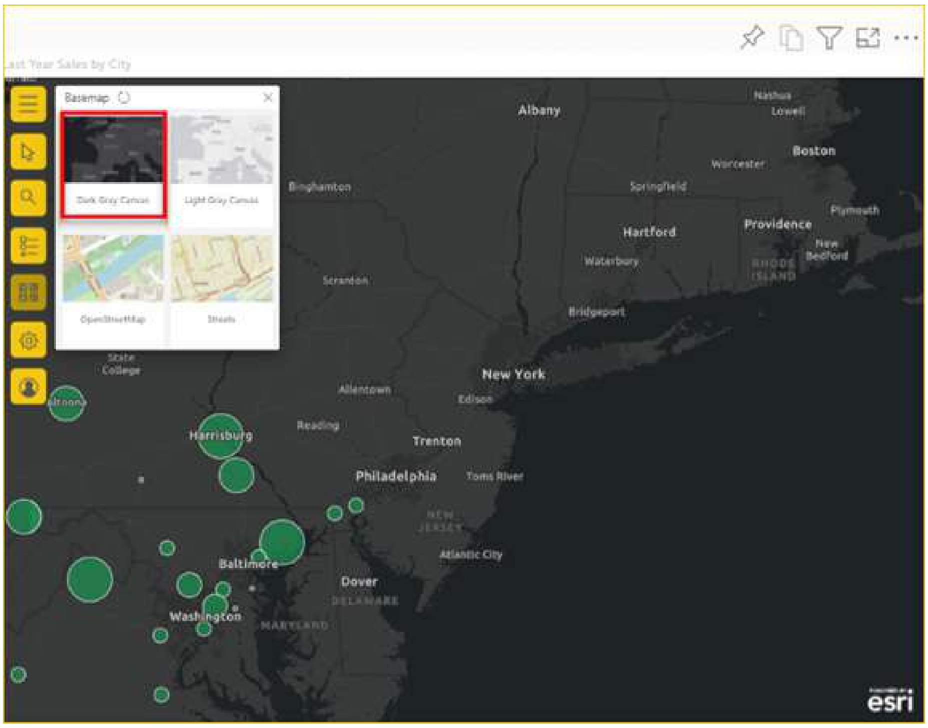
A basemap provides a background, or visual context, for the data in a map. For example, a basemap showing streets can provide context for address data. As a Power BI business user, four basemaps are provided to you: Dark Gray Canvas, Light Gray Canvas, OpenStreetMap, and Streets.

> **NOTE**
>
> The report designer must have made basemaps available to you when designing the report. When unavailable, you will not see the **Basemap** button in the Map tools.

To change the basemap, follow these steps:

1. Expand the map tools, if necessary, and select the **Basemap** button to display the gallery of available basemaps.

2. Select the Dark Gray Canvas basemap.

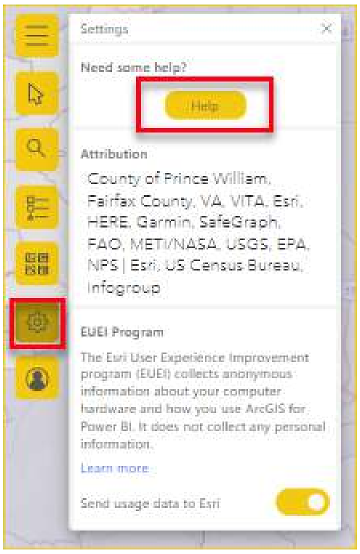


The map updates to the new basemap. For more information about changing the basemap, visit the [ArcGIS for Power BI help](#).

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, if necessary, 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. From here you can:

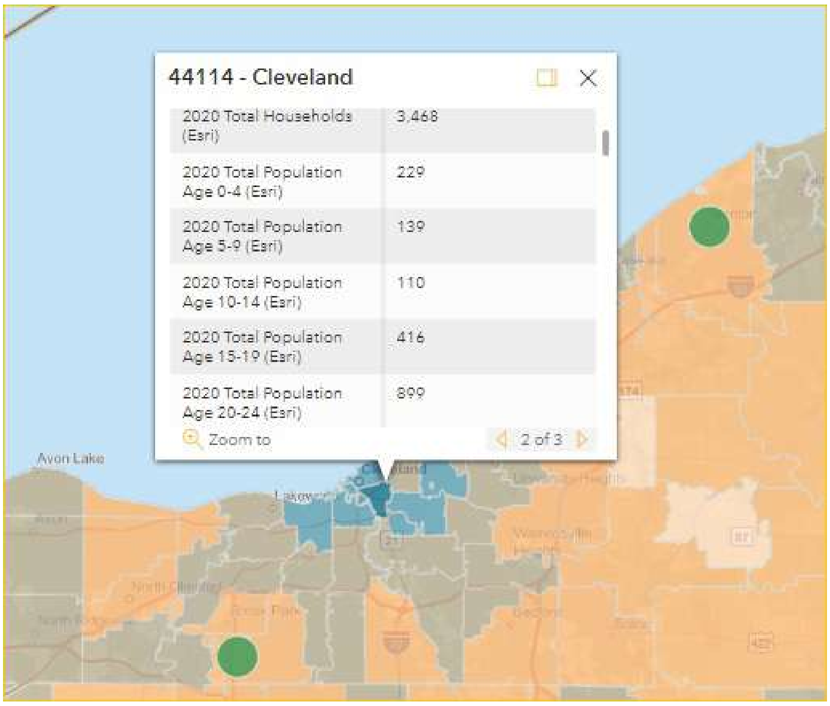
- Find answers to frequently asked questions about ArcGIS for Power BI.
- Ask questions, find the latest information, report issues, and find answers on the Power BI community thread related to ArcGIS for Power BI.
- Give a suggestion for an improvement by submitting it to the Power BI Ideas list.

On the **Settings** pane, you can also view attribution for your map, read about the Esri EUEI (End User

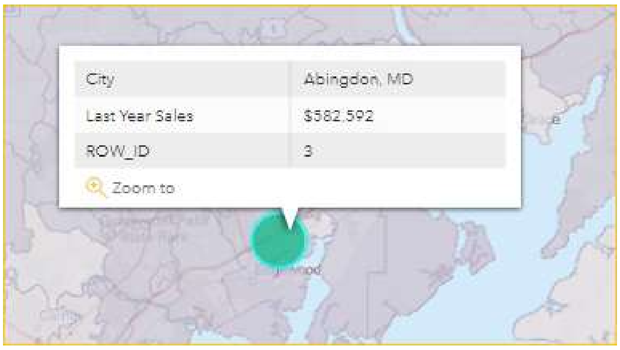
Experience) program, and turn **Send usage data** to Esri on or off.

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 example below shows a tooltip for the Cleveland, Ohio, 2020 Total Population broken down by five-year age increments.

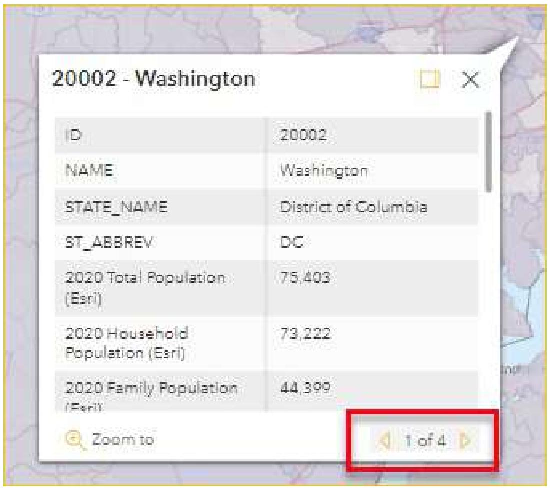


Hover your pointer over basemap location symbols to display symbol details in a tooltip.



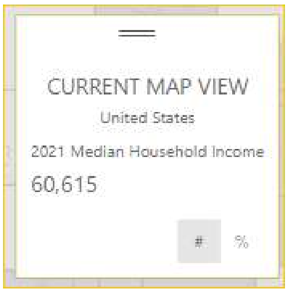
TIP

You may 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 added an Infographics layer to the ArcGIS map, you will see additional data displayed in the upper right corner of the map. For example, here the report designer added 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
Power BI publish to web	Yes, for designers signed in to a valid licensed ArcGIS account.
Power BI Embedded	Yes, for designers signed in to a valid licensed ArcGIS account
Power BI service embedding (powerbi.com)	No
Power BI Report Server	Yes, when signed in to 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, visit Understand credits

*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 are not supported in mobile environments.

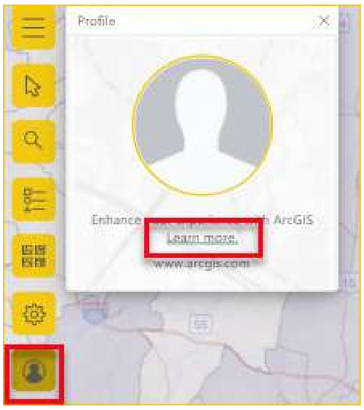
In services or applications for which ArcGIS for Power BI is not available, ArcGIS visualizations will show as an empty visual with the Power BI logo.

How do ArcGIS Maps for Power BI work together?

ArcGIS Map for Power BI is provided by Esri (www.esri.com). 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 in 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 that is provided and maintained by Esri. Additional information about ArcGIS Map for Power BI can be obtained from 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 does not 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 will 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—may also need an ArcGIS account to view shared, potentially licensed content. For details about account types and data limitations, visit the ArcGIS for Power BI online help.

For technical or detailed questions about ArcGIS for Power BI, see Esri's ArcGIS for Power BI online help 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

FEATURE	STANDARD, INCLUDED WITH POWER BI	REQUIRES ARCGIS ACCOUNT
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/account. This includes access to ArcGIS Living Atlas of the World maps and layers (feature services) and publicly shared feature layers in ArcGIS.
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/account; includes access to the ArcGIS GeoEnrichment data browser, maximum of five variables, support for all distance and travel settings

The ArcGIS map is not showing up

In services or applications where ArcGIS Map for Power BI is not 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/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 is not subject to the 15,000 address limit.

Is there any charge for using ArcGIS Map for Power BI?

The ArcGIS Map for Power BI is available to all Power BI users at no additional cost. It is 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 that appears 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

Getting help: **Esri** provides comprehensive documentation on the feature set of **ArcGIS Map for Power BI**.

You can ask questions, find the latest information, report issues, and find answers on the Power BI community thread related to **ArcGIS Map for Power BI**.

ArcGIS Map for Power BI product page

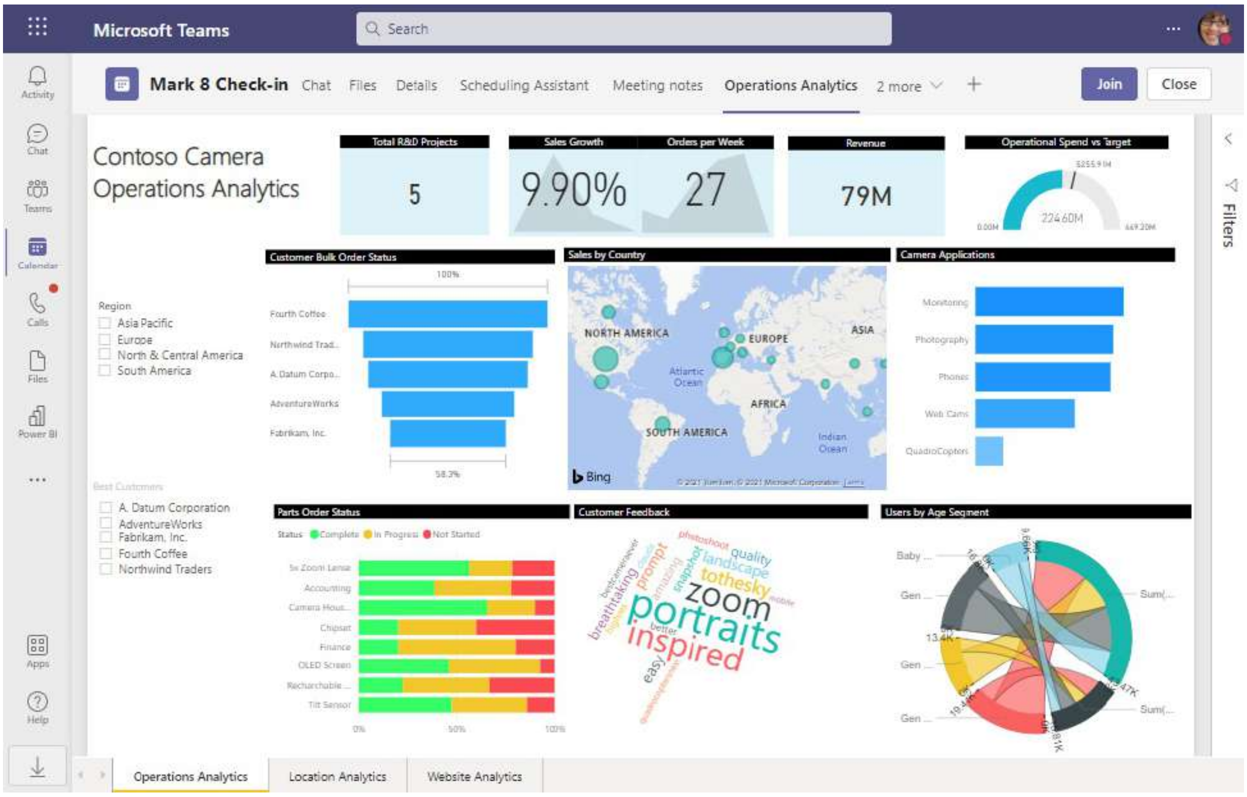
Use data to make meetings productive in Microsoft Teams

12/15/2022 • 4 minutes to read • Edit Online

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 important 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 towards objectives. By staying focused on driving towards measurable outcomes, your team gains a sense of the positive impact their work is having.



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 has 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 quickly find the right data to answer questions raised in the meeting.
- **After the meeting**, send a summary with key results that you discussed and actions the team decided to take to help achieve the desired outcomes.

Ask data-driven questions

Here are the kinds of questions you can add to your meeting agenda, to jump 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 of 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, discussing the best actions to take in the next week or two, and helping 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. You review the data in the report or scorecard, and encourage other participants to do the same. Then everyone is ready for the meeting.

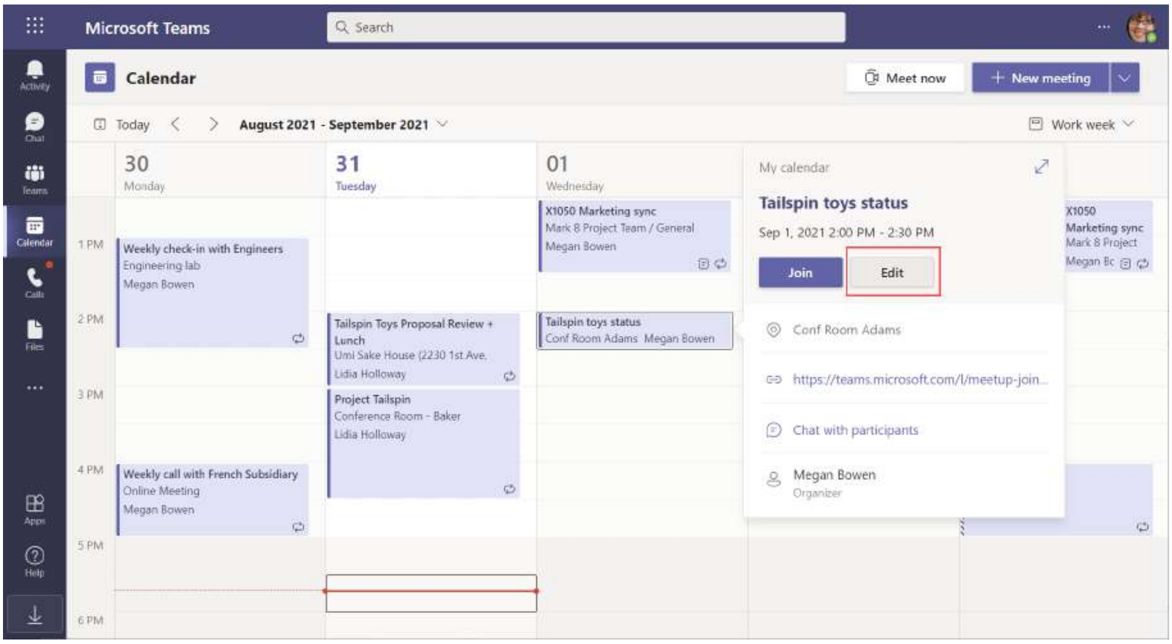
Add Power BI

Here's how to add a Power BI report or scorecard to a meeting.

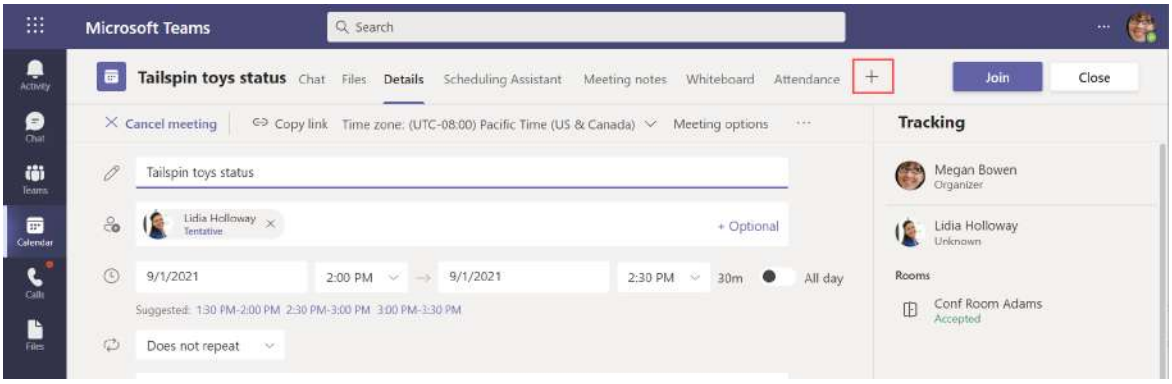
1. Create the meeting and invite others.

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.

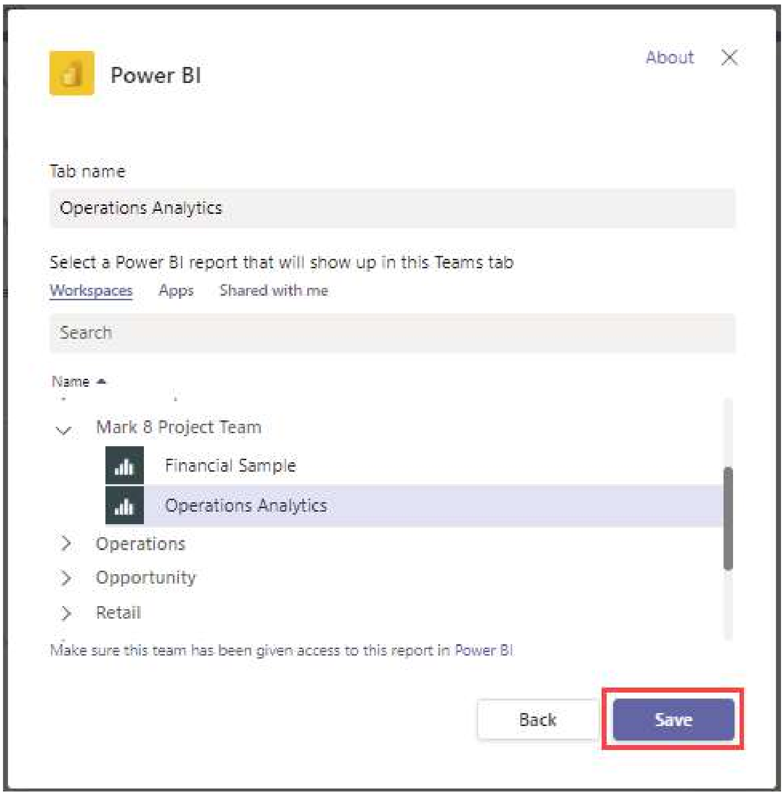


4. Select the **+ Add a tab** button to add the Power BI tab to the meeting.



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. This helps everyone be aware of the latest data, and improves the discussion during the meeting.

During the meeting

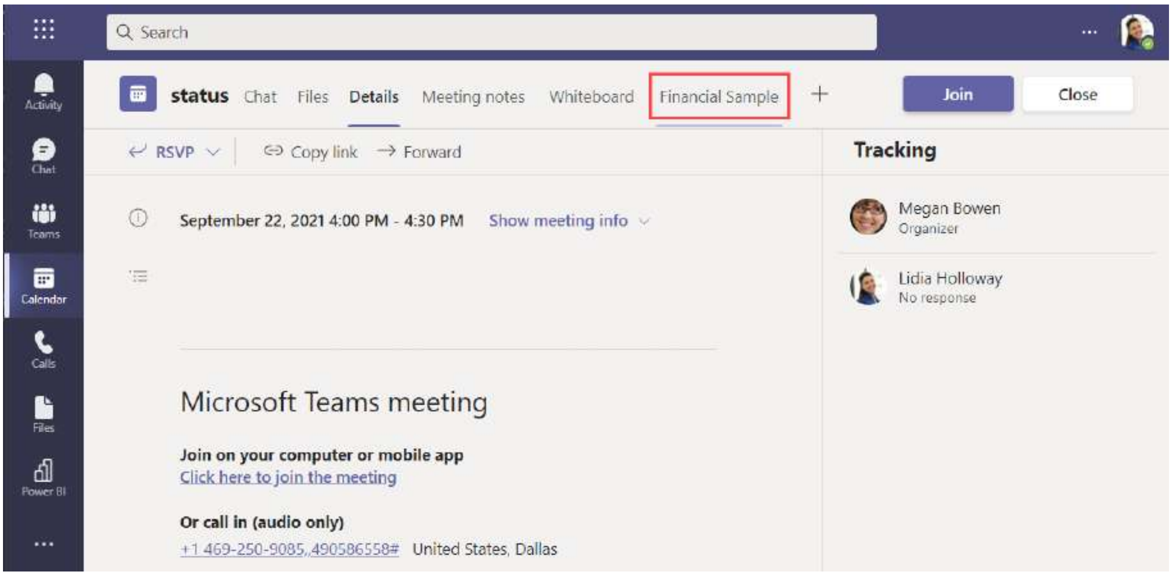
When you're in a meeting, data can help guide the discussion or answer questions raised by attendees. It's easy to present data in Power BI during the meeting, share links to data with meeting attendees, and find data that can answer questions.

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 that you added to the meeting.



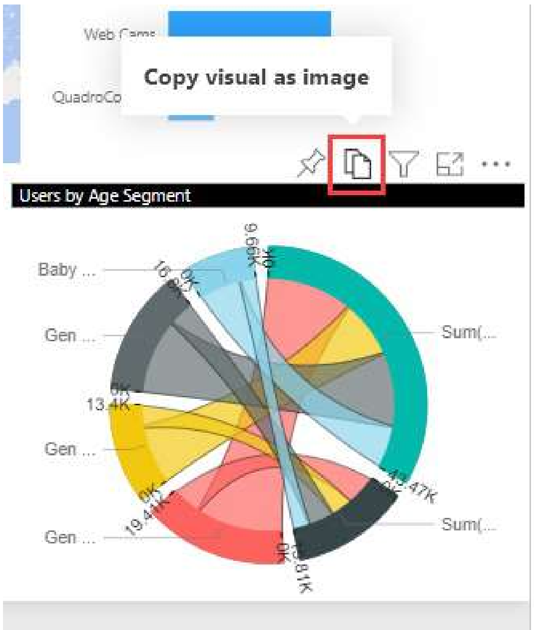
5. Use the meeting window to present your screen.

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.



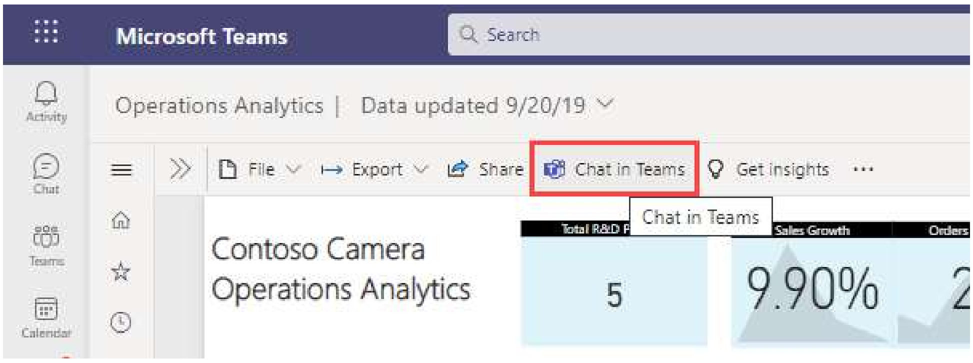
4. Paste the visual into the meeting chat.

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.

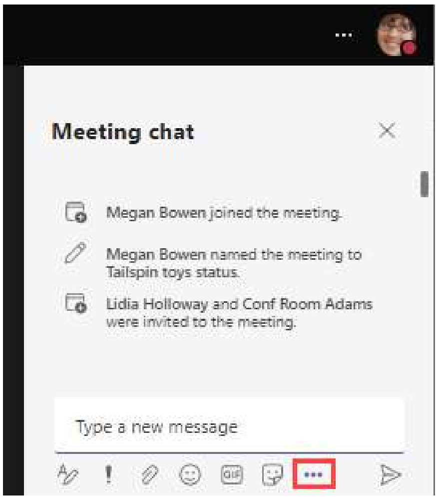
6. Press **Send**.

Your message appears as part of the meeting chat. Attendees can open it to see the data you wanted with the filters and slicers applied.

Answer questions with data in chat

1. Open the meeting chat.

2. Select **Messaging extensions (...)**.

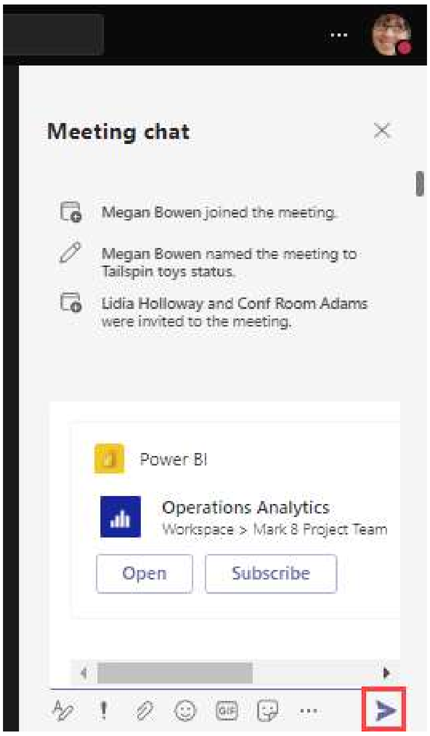


3. Select **Power BI**.

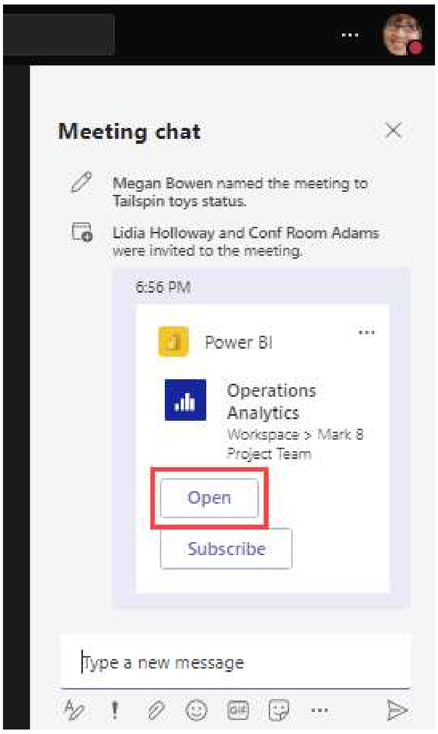
4. Search for content, or select from your list of recent items.

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 with 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

- Share a data-driven discussion 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

12/15/2022 • 3 minutes to read • Edit Online

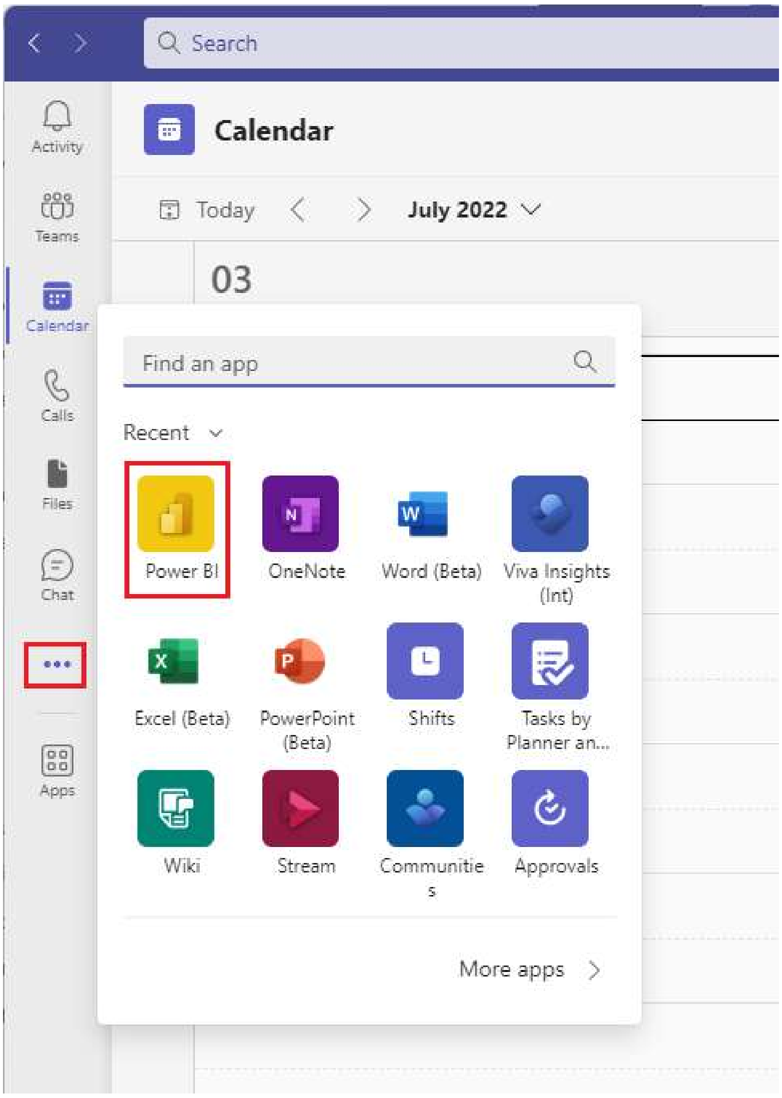
APPLIES TO: ✕ Power BI Desktop ✔ Power BI service

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**.



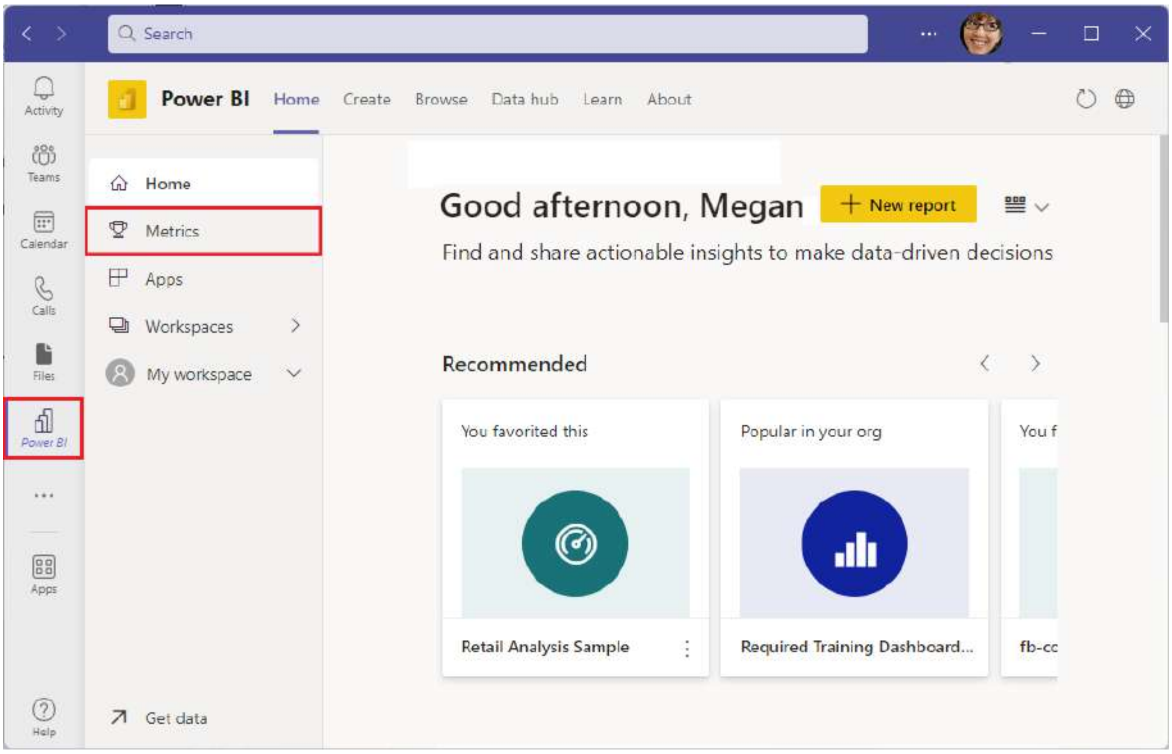
Now Power BI opens right inside Microsoft Teams.

Create your first metric in a scorecard

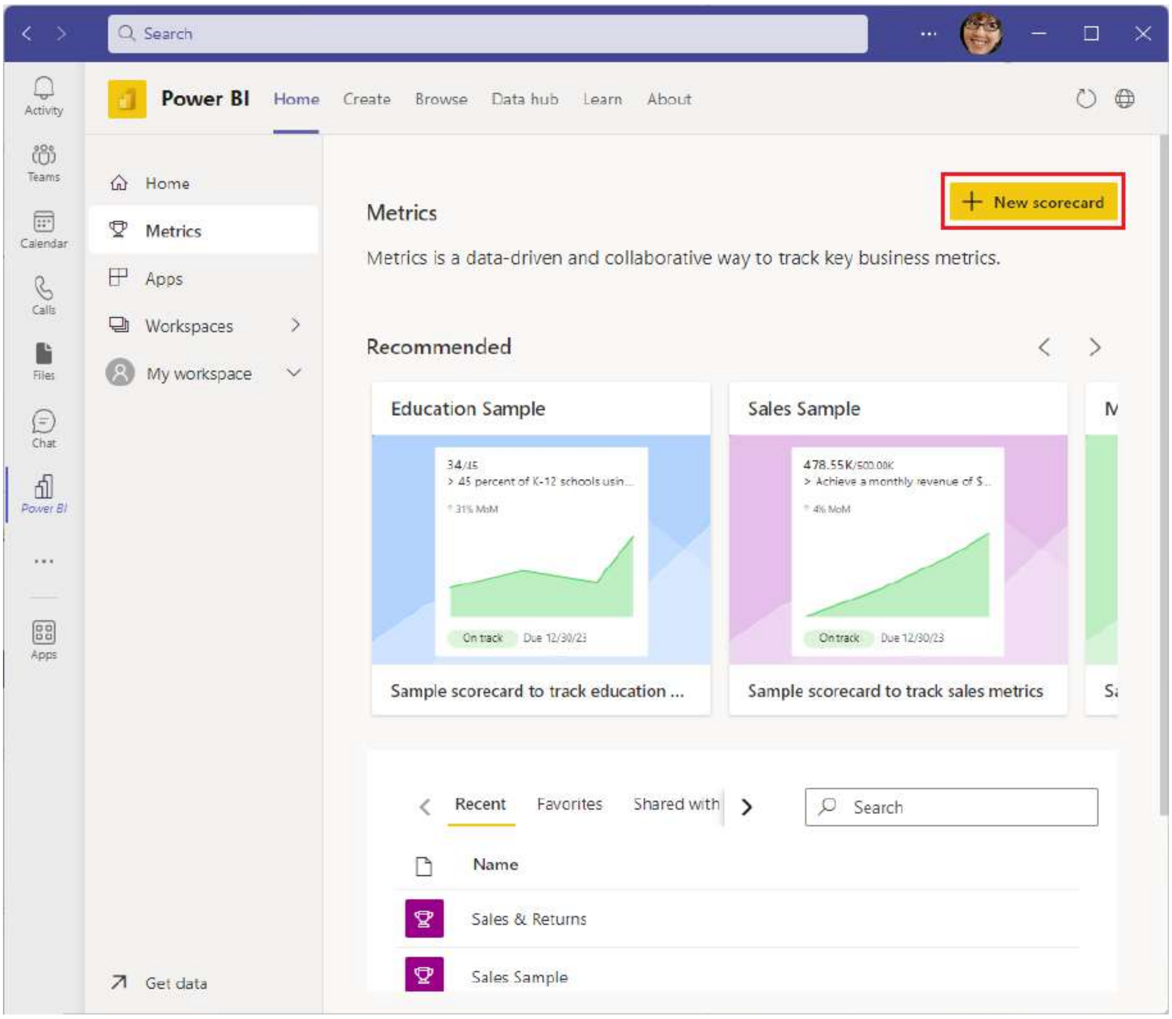
It's simple to start tracking metrics by creating a scorecard.

1. Open Power BI in Teams.

2. Select **Metrics** in the navigation pane to open the Metrics hub.

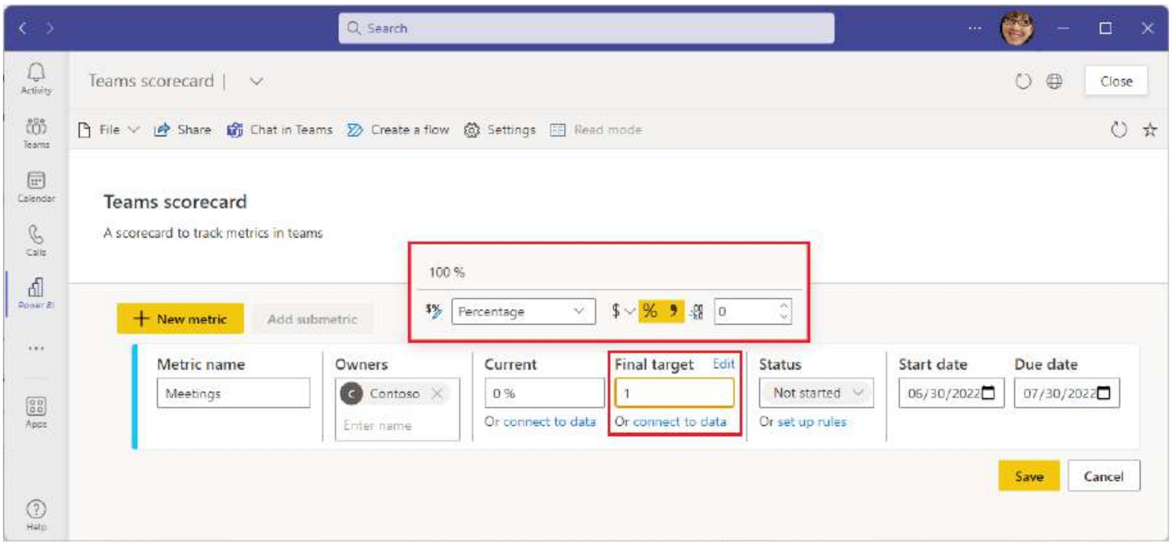


3. Select **New scorecard**.

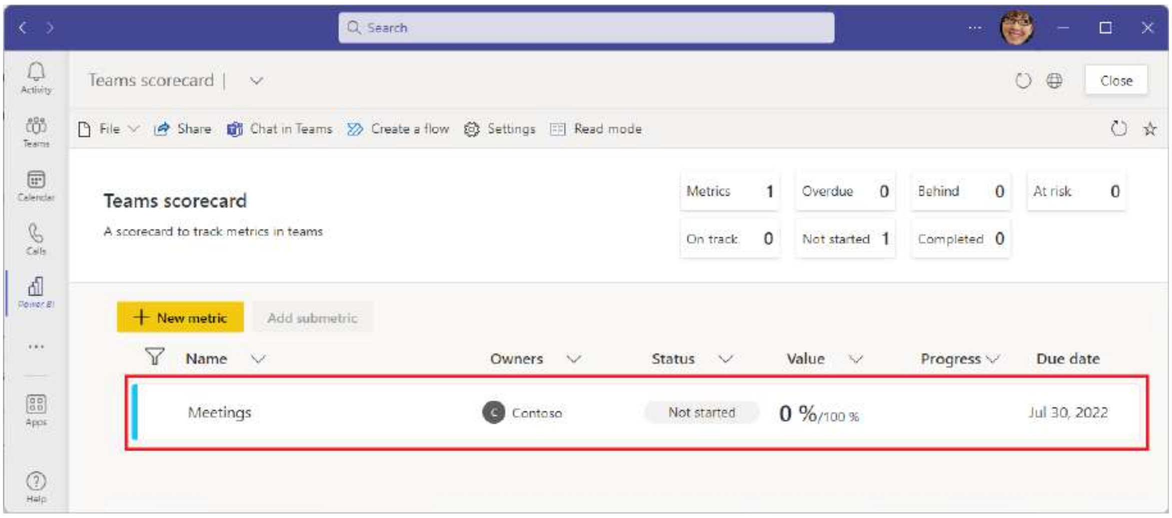


4. Give the scorecard a name and description.

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**.

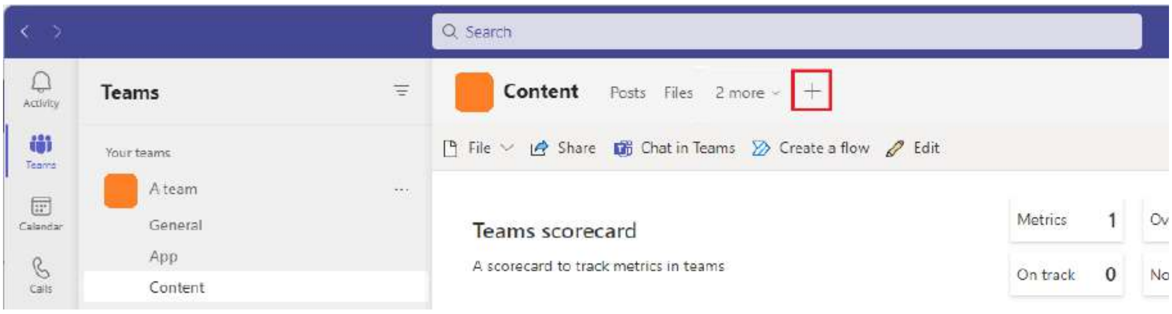


After you've saved your scorecard with its metrics, you can share with your team by adding it to a Teams meeting, channel, or chat as a tab or as a link in the meeting chat. Read more about creating scorecards and metrics in Power BI.

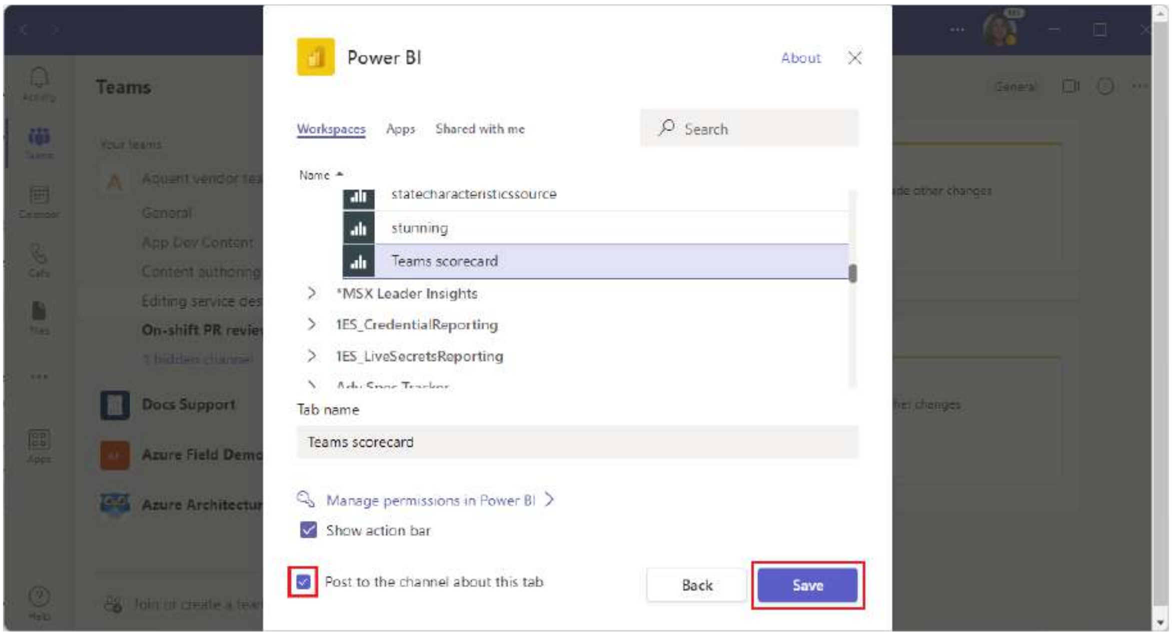
Track metrics with your team

To keep your metrics top of mind for your team, add your scorecards as tabs to your channels and meetings.

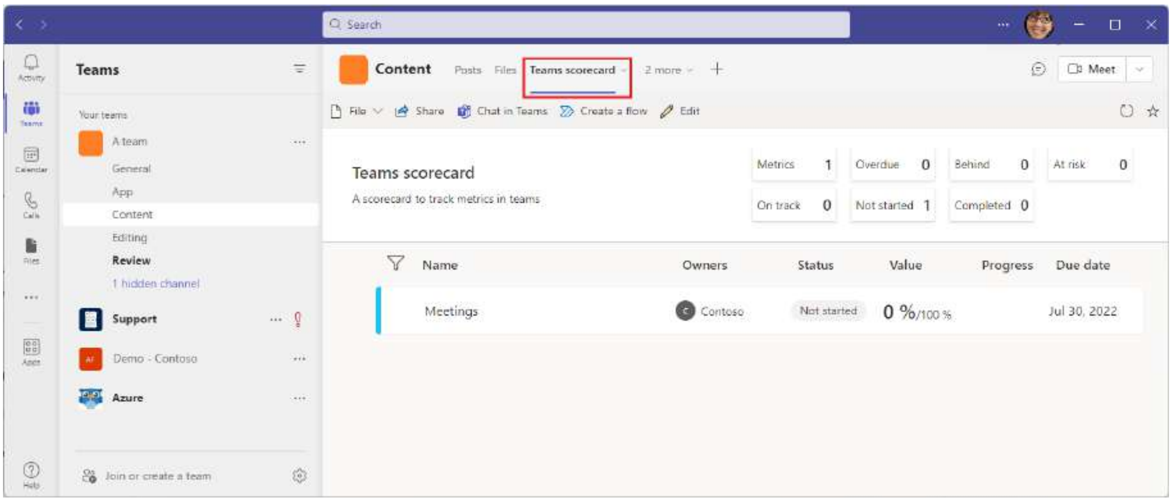
1. Open a channel or meeting.
2. Select the **+ Add a tab** button and add the Power BI tab.



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**.

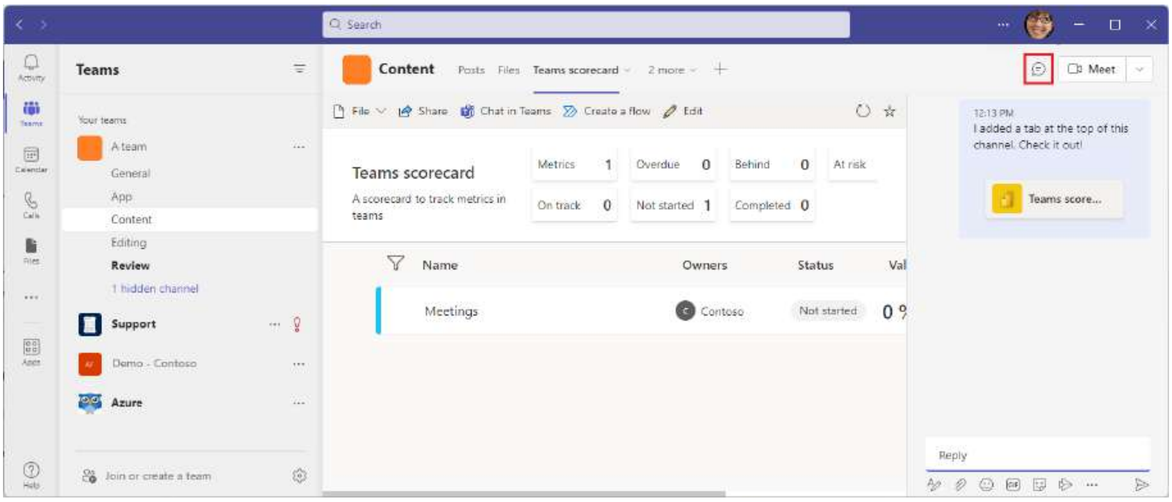


5. Now you see the scorecard as a tab in the channel.



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.

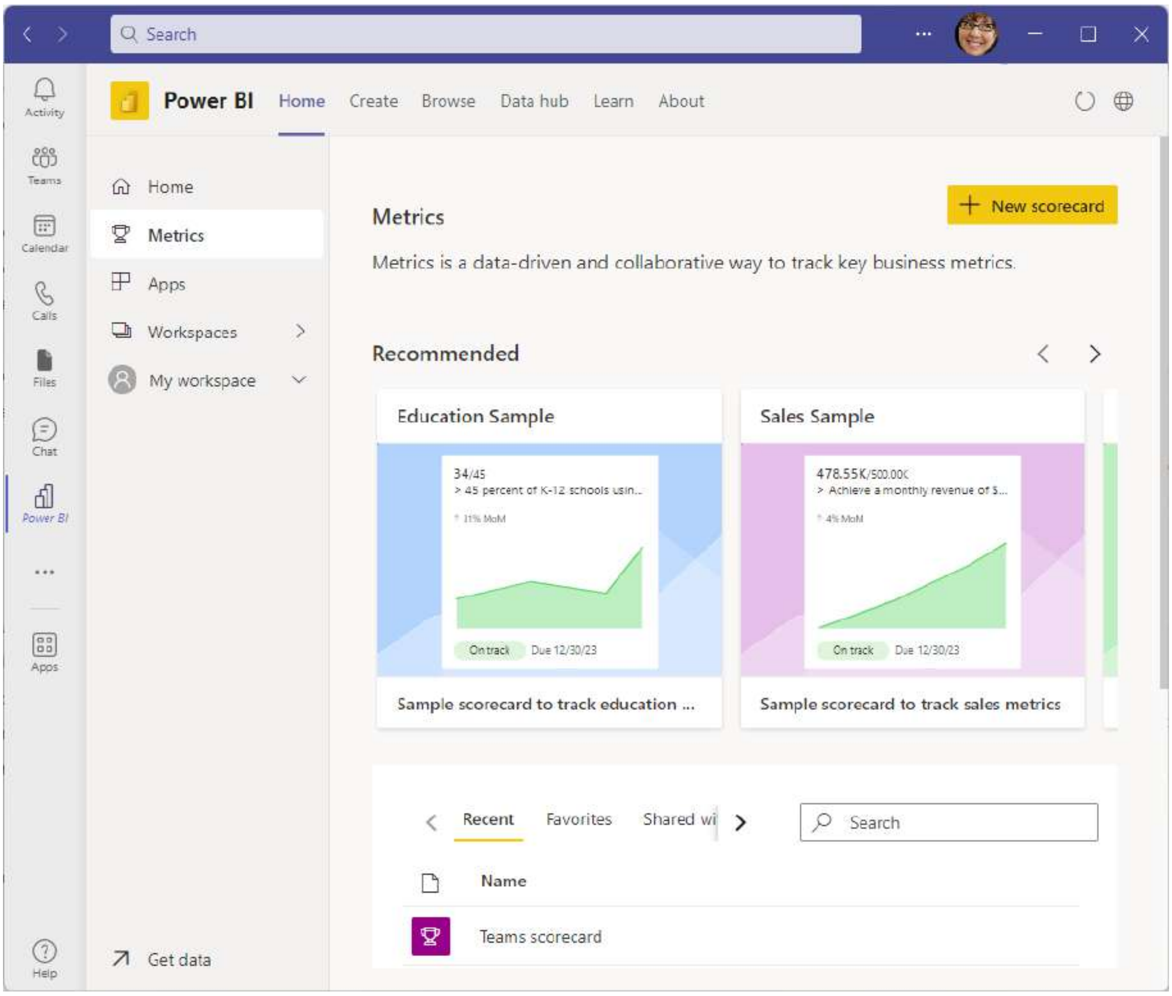
These capabilities help your team save time by eliminating manual updates, and help keep scorecards fully updated.

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

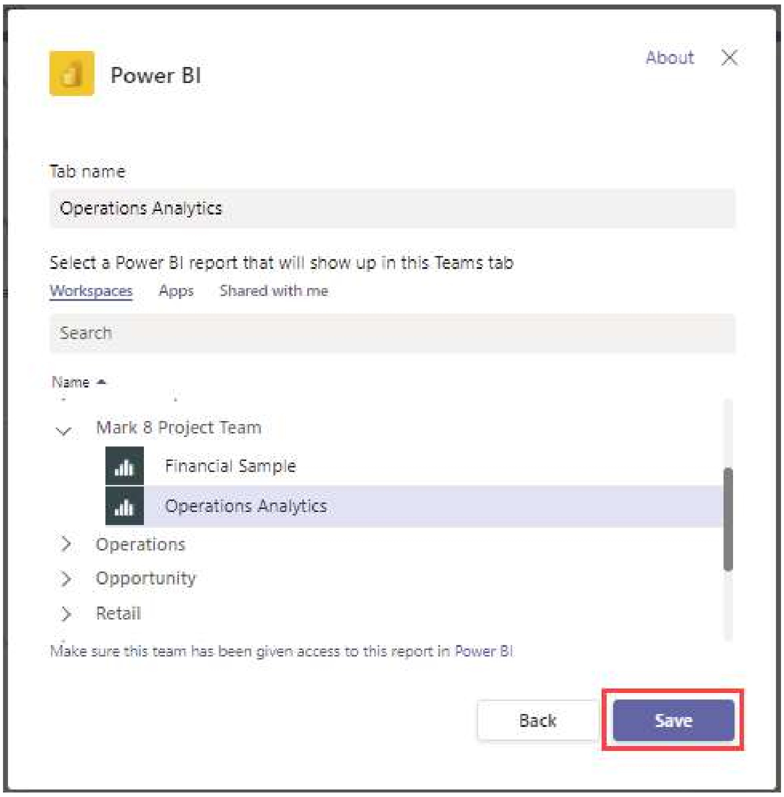
12/15/2022 • 2 minutes to read • Edit Online

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**.

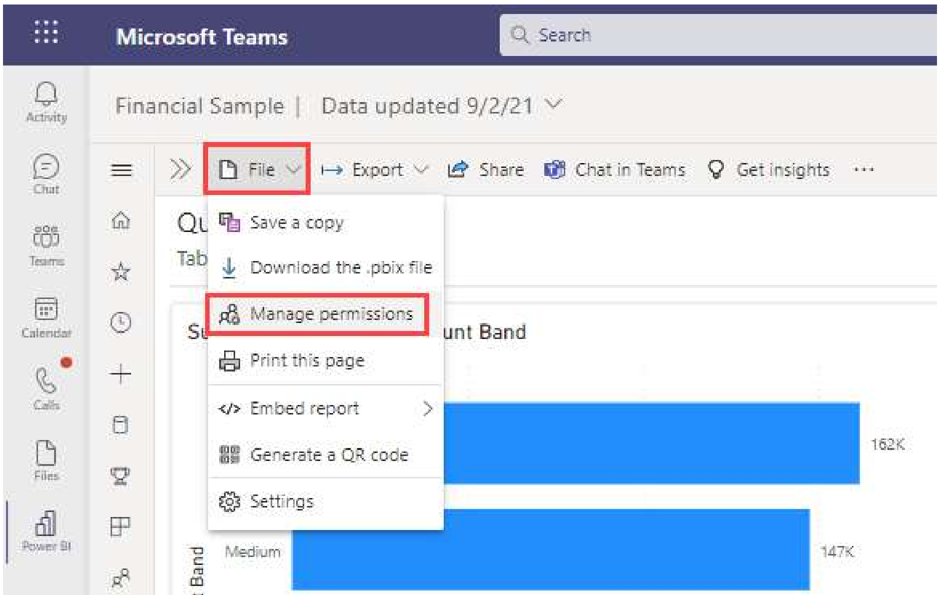


This works in channels, meetings, and even in chats.

Give team members permission

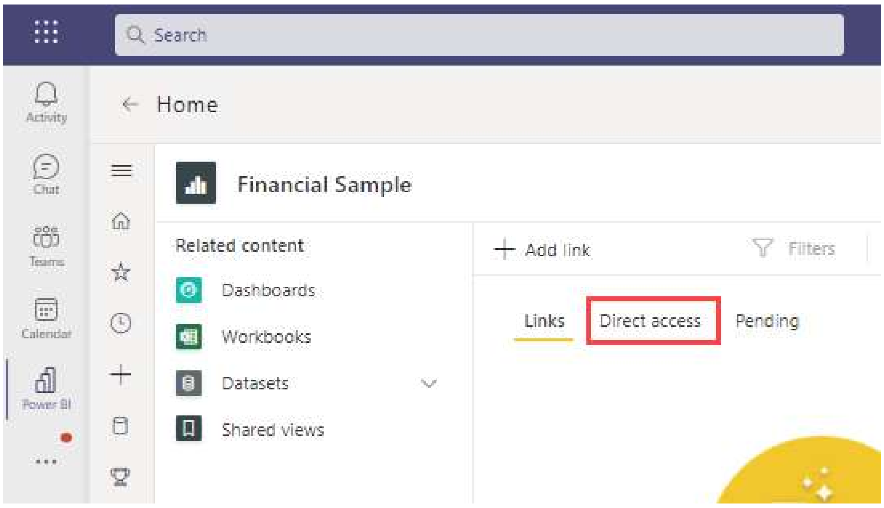
Make sure your team has permission to the report or scorecard by sharing it with them.

1. Open the item in Power BI in Teams, or in the Power BI service, and select **File** > **Manage Permissions**.

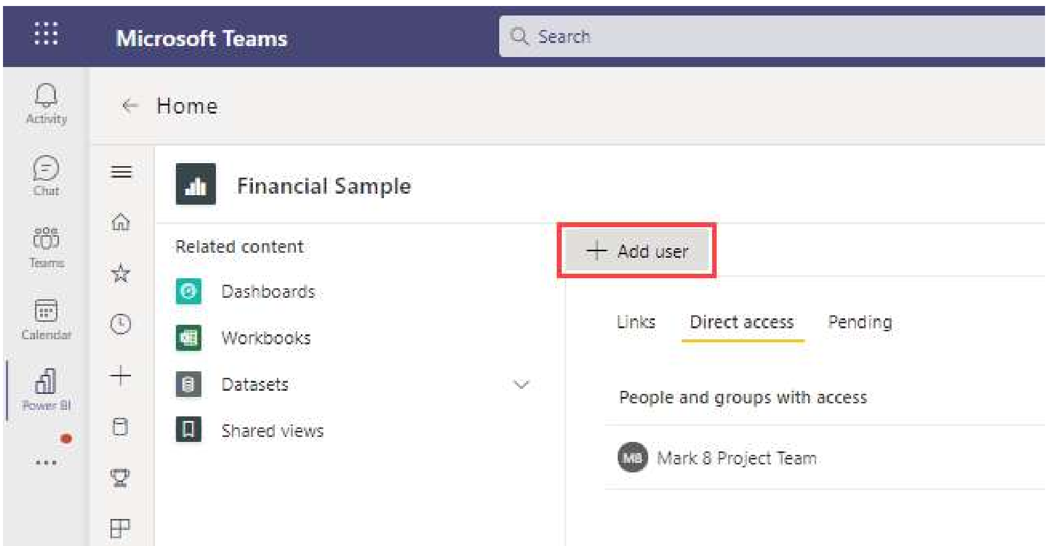


If you don't see this option, you may not have permission to share the item. If not, don't worry. The attendees can request access themselves when they try to view the report.

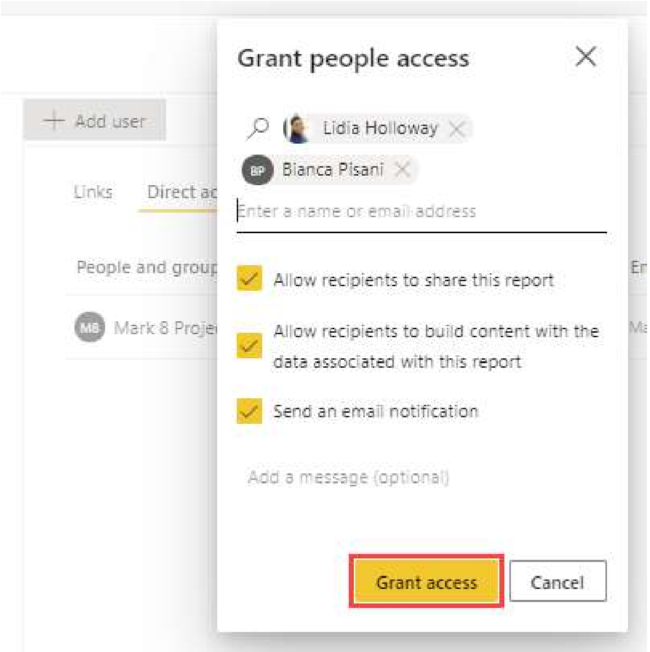
2. Select **Direct access**.



3. Select **Add user**.



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**.

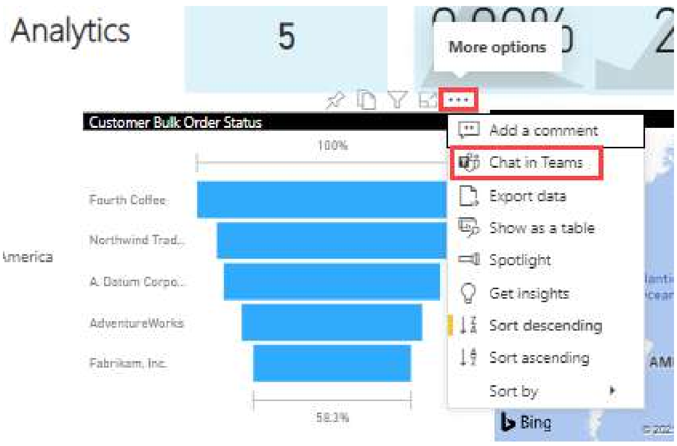


Chat about data with rich links and cards

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. (Optionally) If you want, select **More options (...)** on a specific visualization > **Chat in Teams**.

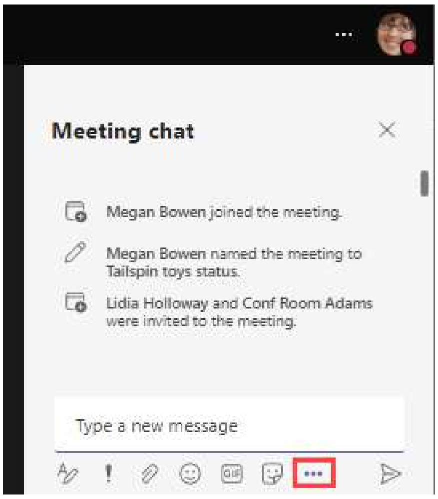


3. Send a message to a channel where you work with your team.

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 (...)**.

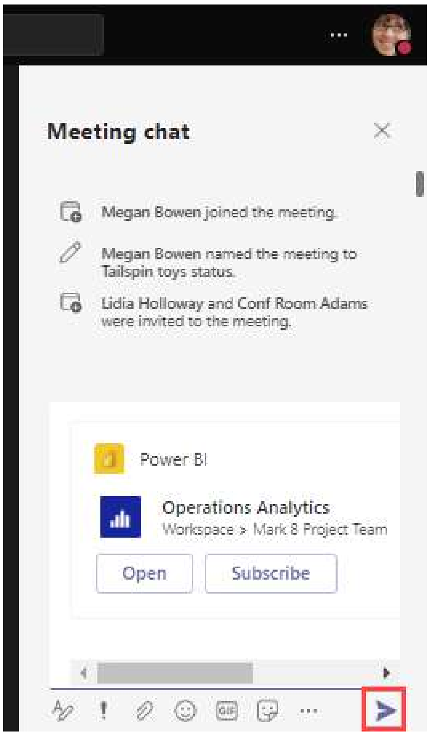


3. Select **Power BI**.

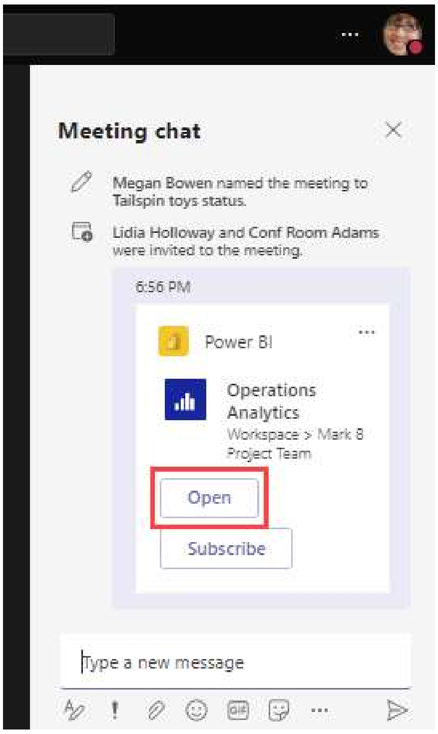
4. Search for the content you want to share, or select from your list of recent items.

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.

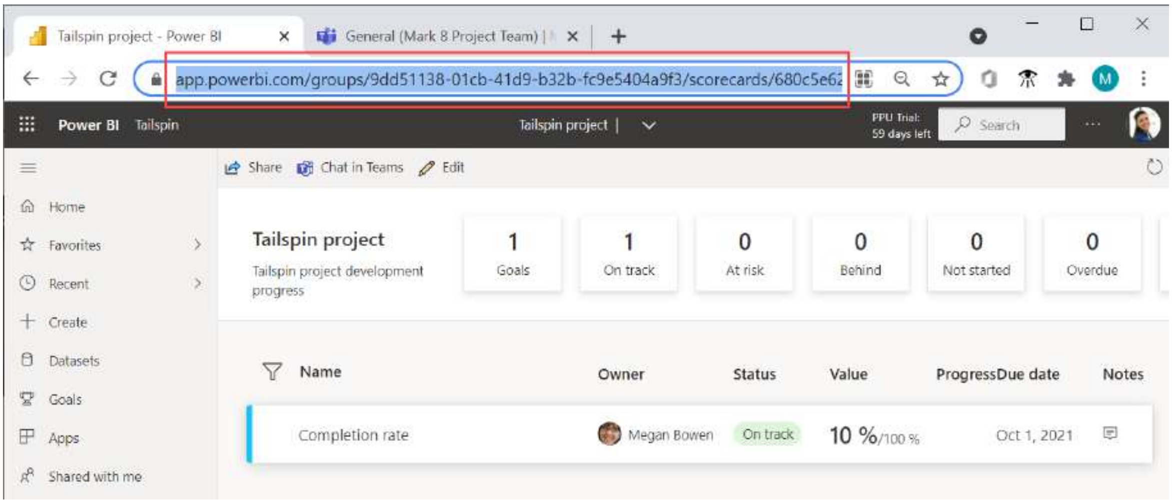


It's a great way to help without leaving the conversation, and saves everyone time.

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.

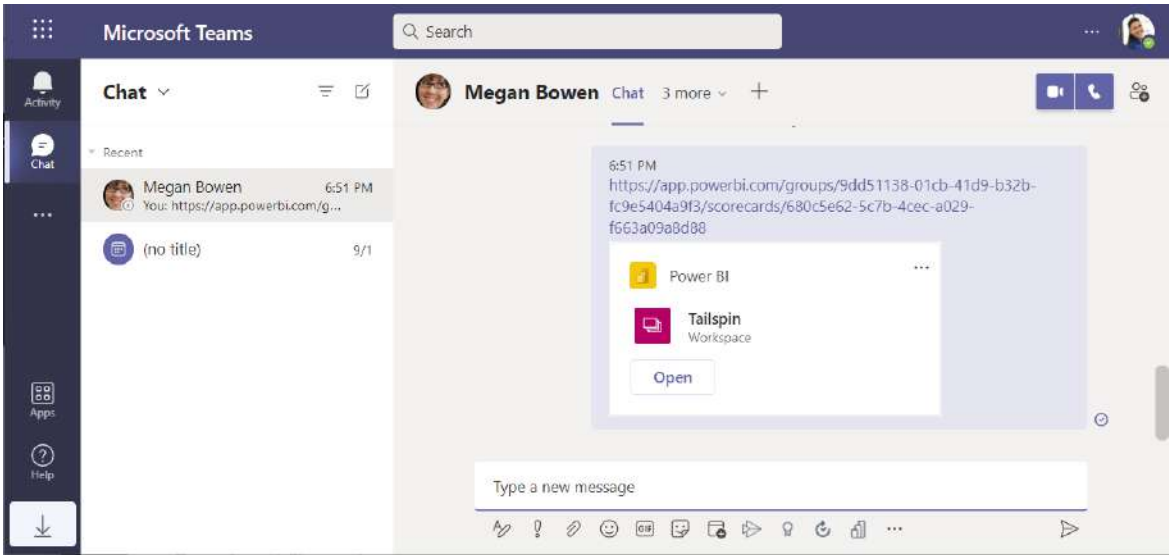
1. Open a report in the Power BI service in the browser, and copy the link.



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

12/15/2022 • 4 minutes to read • Edit Online

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 with just a few clicks in Microsoft Teams. This article gives a few examples of those quick reports you can create. When you're ready you can also use tools like Power BI Desktop for more advanced report authoring.

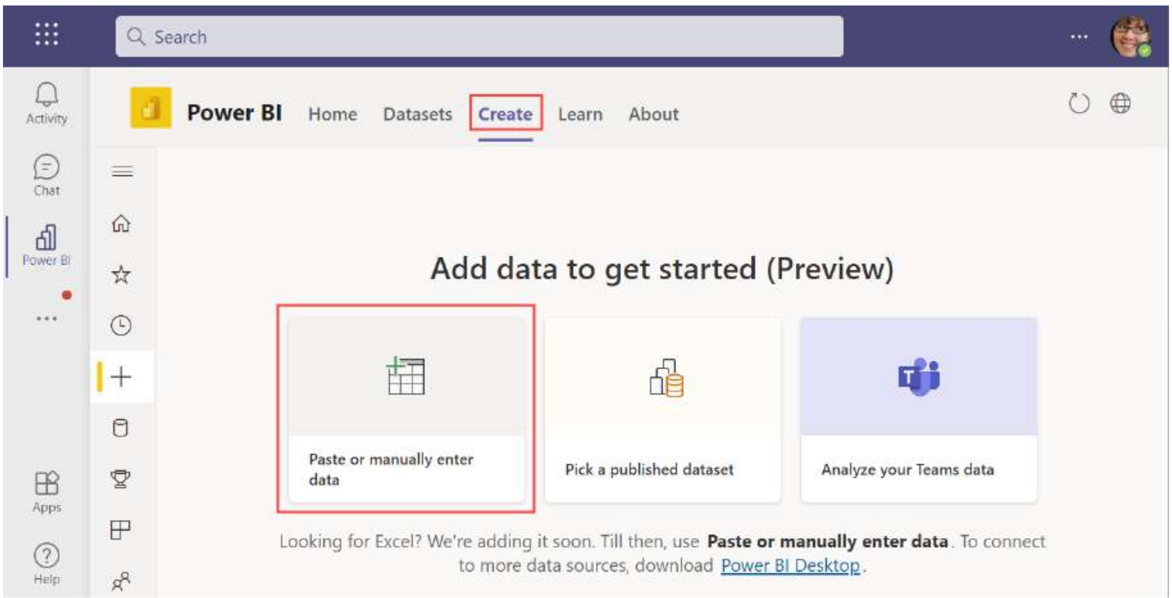
Create an automatic report from data you have

Say you have a table with data that you'd like to try visualizing in Power BI, maybe from Excel. To create your first report, follow these steps.

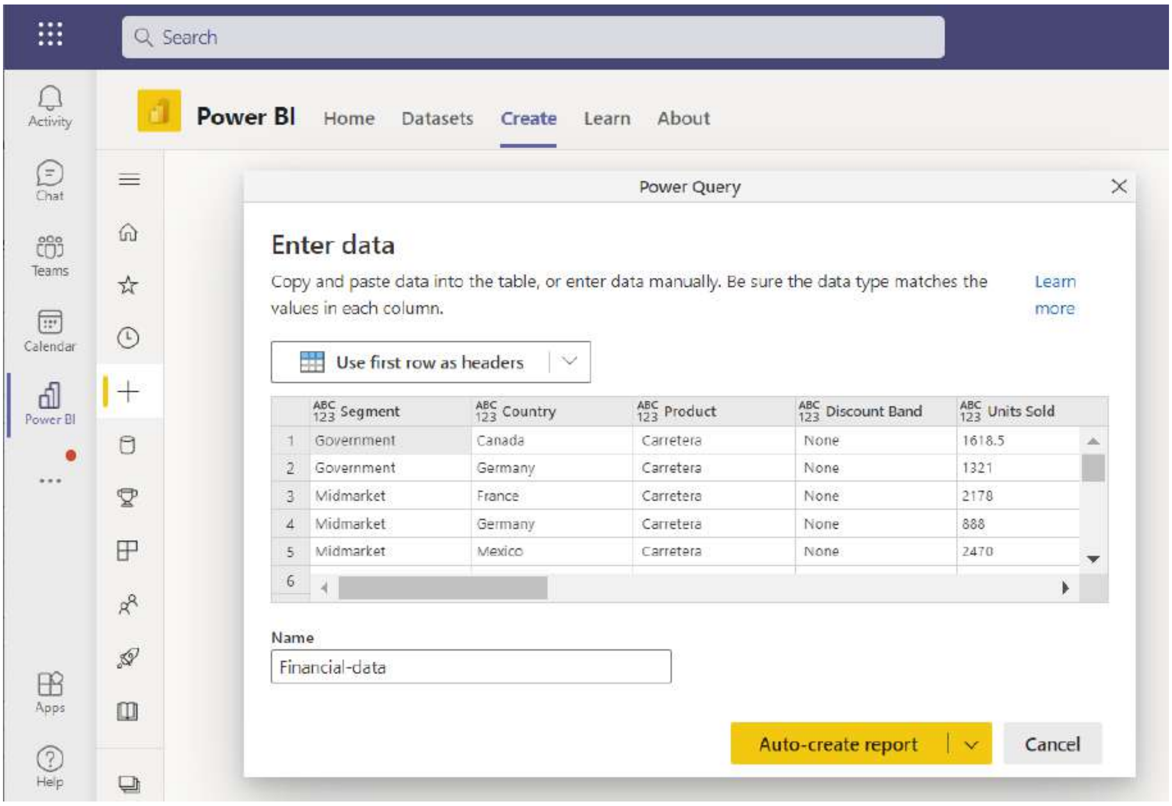
1. Copy the table of data.
2. Open the Power BI app for Microsoft Teams.

   Need to install the Power BI app first? install the app and then pin it to the Teams navigation pane.

3. Select the **Create** tab.
4. Select **Paste or manually enter data**.

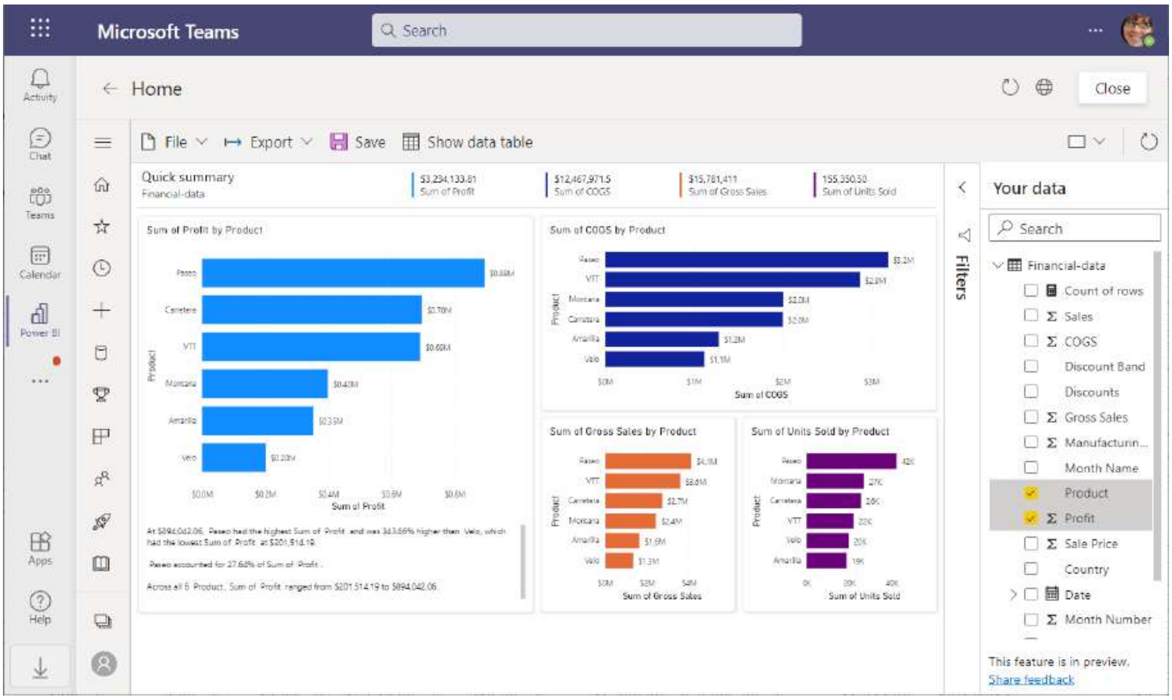


5. Select the first cell and paste the data.
6. Select **Use first row as headers** if appropriate, give the table a name, then select **Auto-create report**.

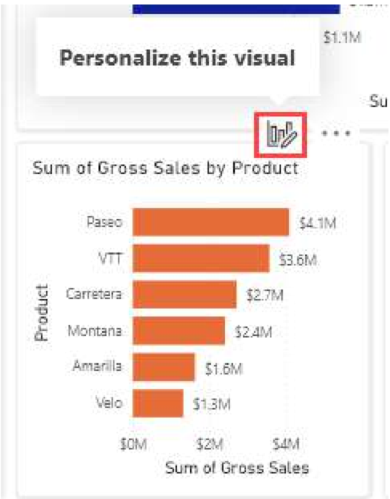


7. Set a sensitivity label, if prompted.

   Power BI automatically analyzes and visualizes your data in a pre-built report.

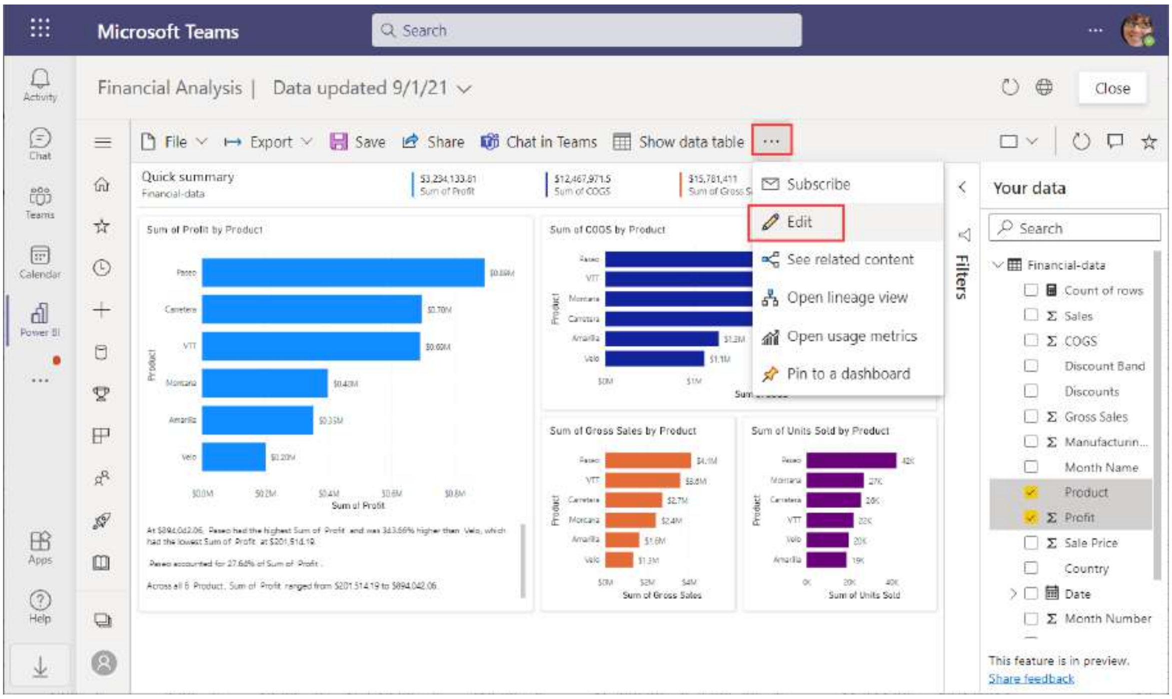


8. Select **Personalize this visual** to customize a single visual.



9. **Save** the report.

10. Select **More options (...)** > **Edit** to customize the whole report.



When you're done, save and share the report with your colleagues in Teams.

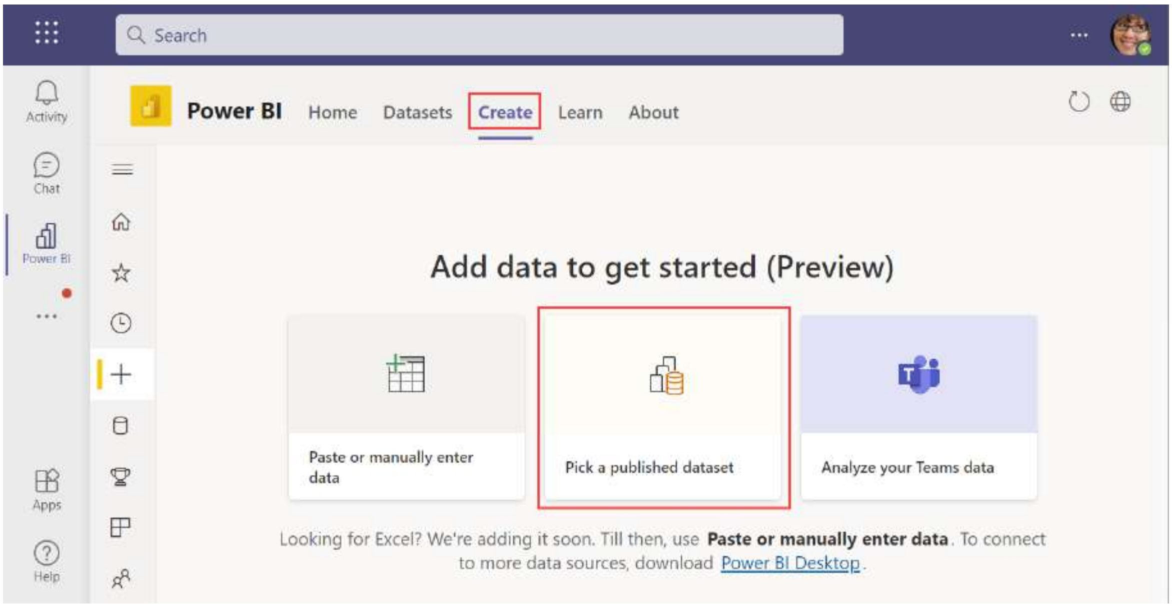
Create a report from a dataset in your organization

Many organizations share datasets that you can use to build your reports. These datasets are great because they offer up-to-date authoritative data. Datasets that are marked *certified* or *promoted* are likely to be higher quality and better maintained, so your reports will keep working longer.

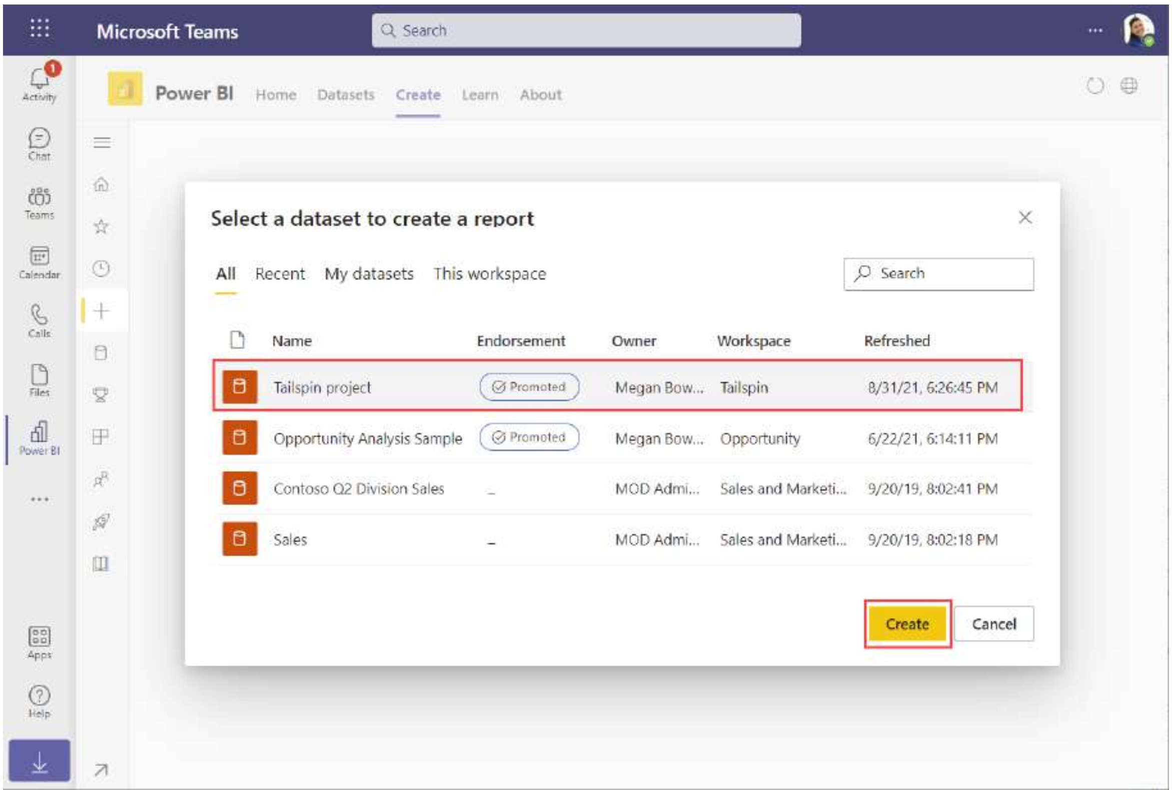
To build a report from a dataset shared with you, follow these steps.

1. Open the Power BI app for Microsoft Teams.

2. Select the **Create** tab > **Pick a published dataset**.



3. Select a dataset > **Create**.



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. When you're done, save and then share the report.

Explore datasets and reports shared with you

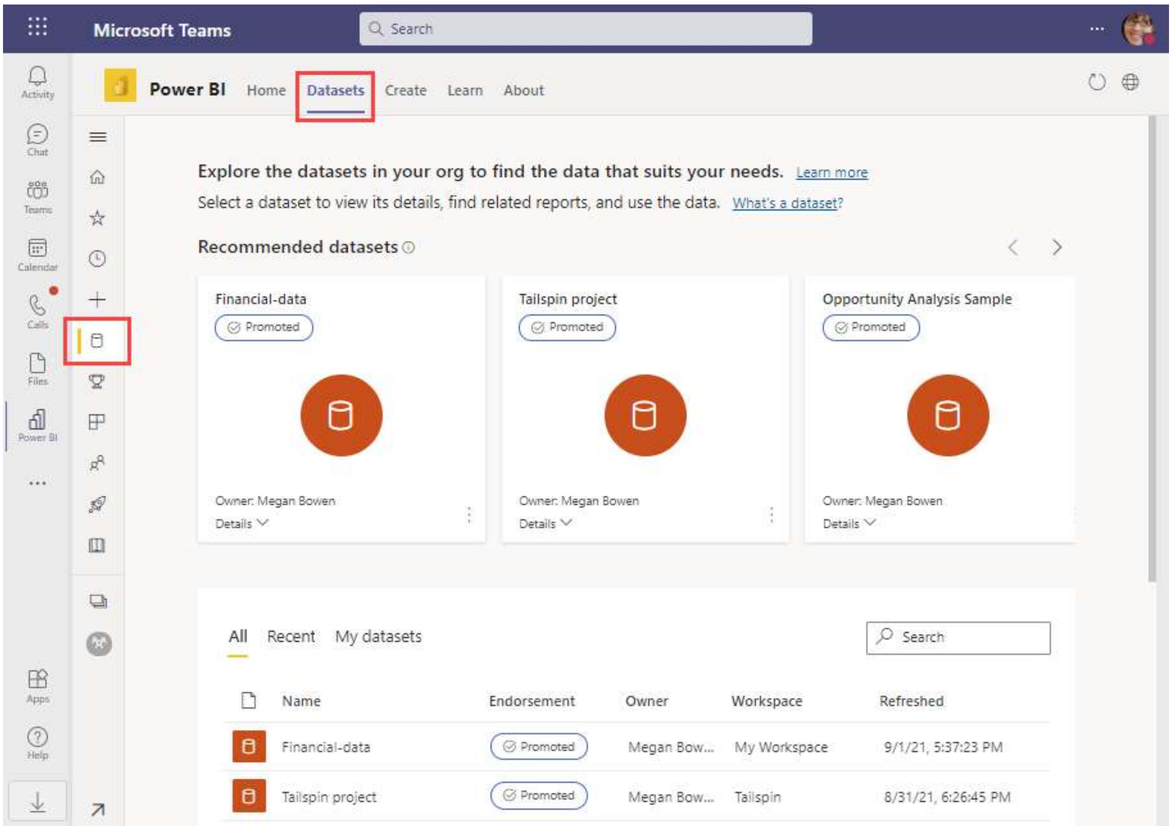
It's easy to find all the datasets your organization has shared with you. They're in the Datasets hub in the Power BI app for Microsoft Teams. Again, datasets that are marked *certified* or *promoted* are likely to be higher quality and better maintained.

1. Open the Power BI app for Microsoft Teams.

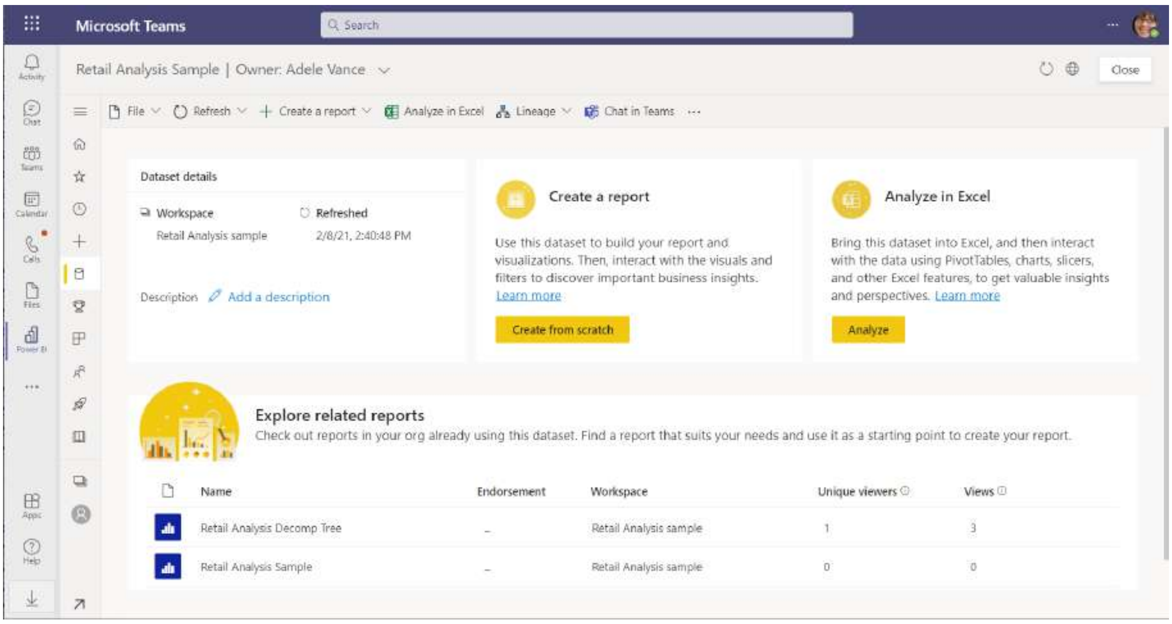
Need to install the Power BI app first? install the app and then pin it to the Teams navigation pane.

2. Go to the **Datasets** tab.

3. Select a dataset from the list or from recommended datasets.



4. Explore the **Dataset details** page.



- Discover pre-built reports that use the dataset.
- Create a report in Power BI from the dataset with **Create from scratch**.
- Create an Excel workbook connected to the dataset with Analyze in Excel.

When you find interesting reports that are relevant to your team, bring them into your collaboration by adding them to channels, meetings, and chats as tabs or in a conversation.

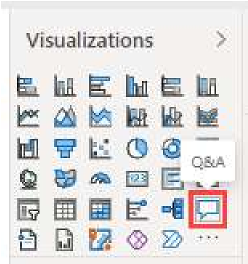
Enhance reports in the Power BI service and in Teams

It's easy to keep working on your reports, right in the Power BI service and in Power BI in Teams. Take advantage of the artificial intelligence capabilities built into Power BI.

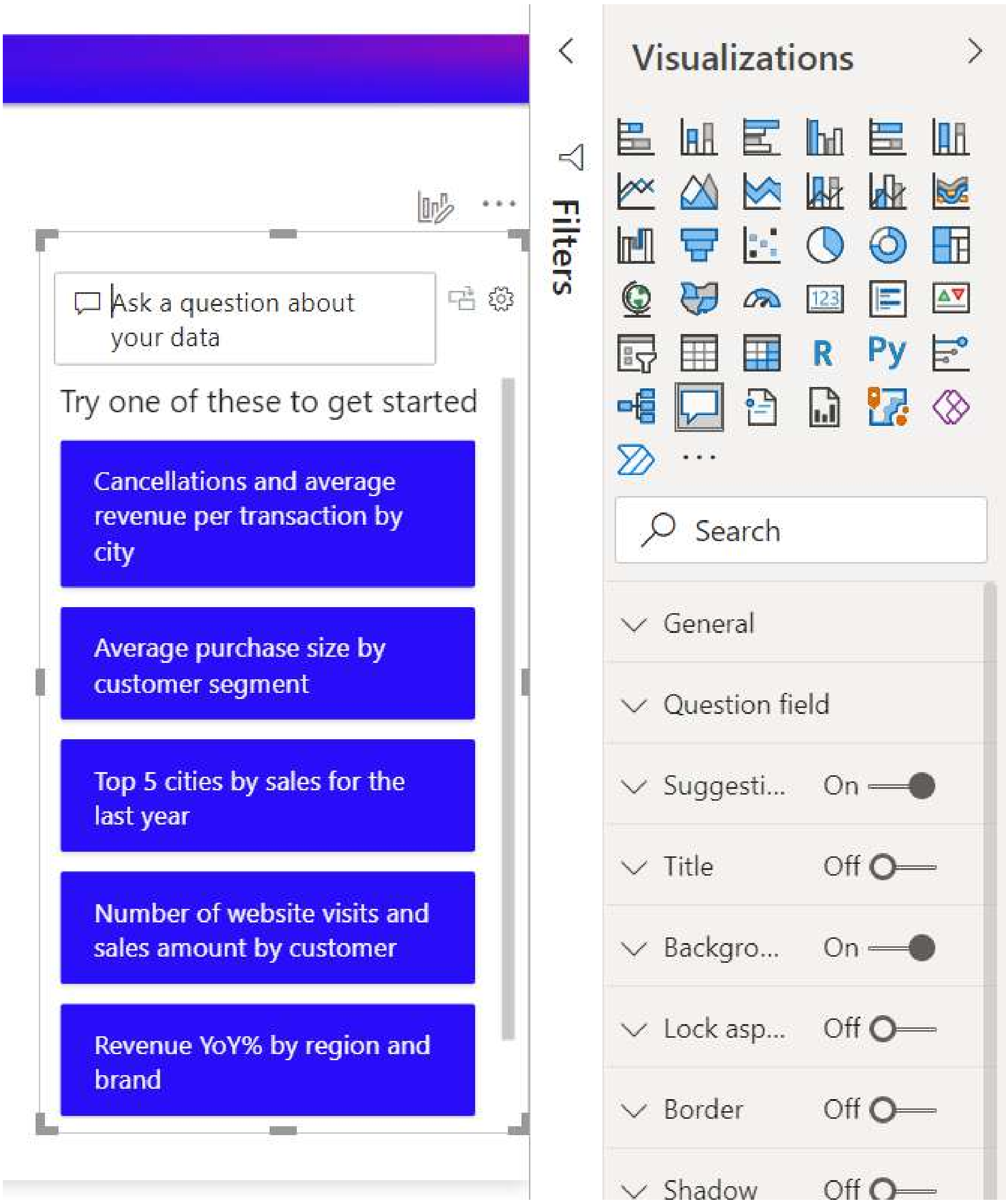
Q&A visual

For example, ask a question of 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.



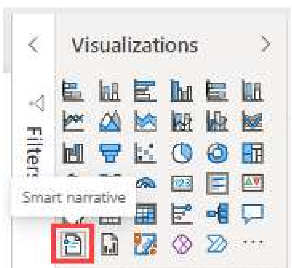
2. If you like the visual that Power BI created, you can convert it from a Q&A visual to a standard visual on the page.

Read more about creating Q&A visuals.

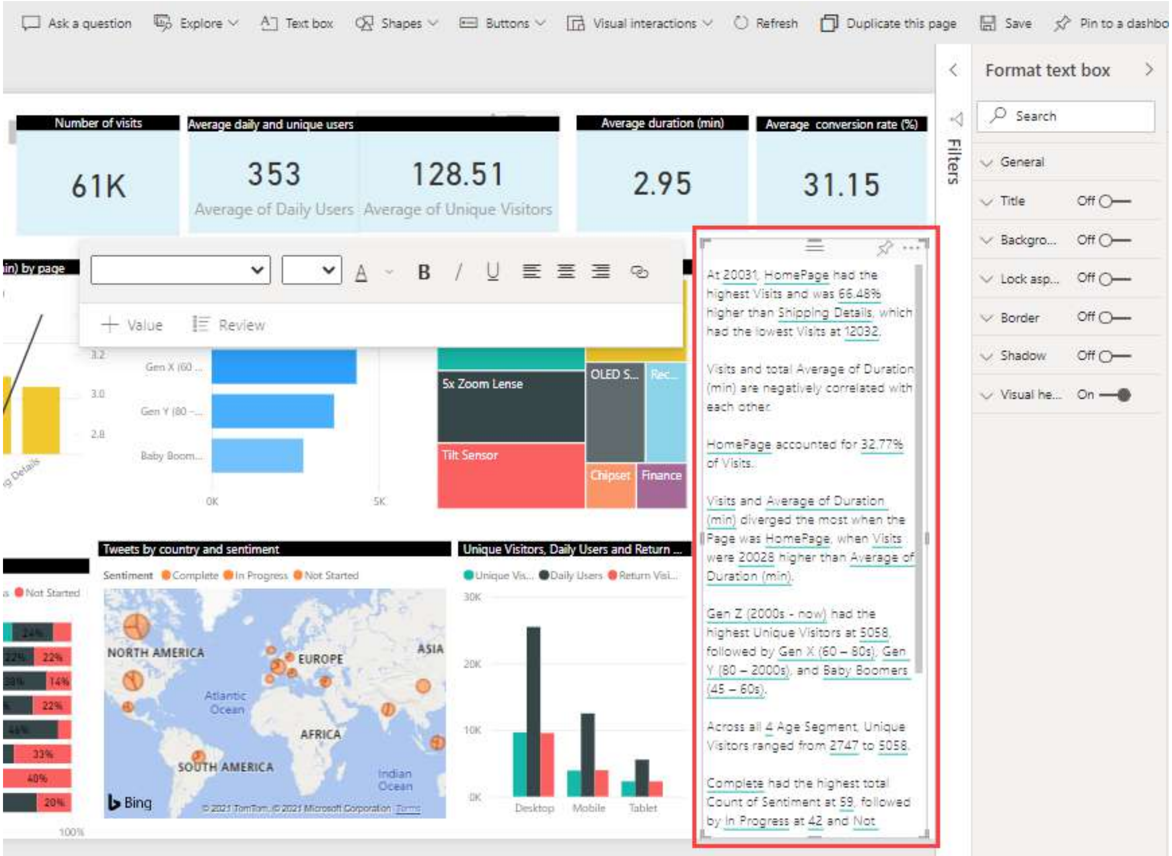
Smart narrative visual

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.



2. You can edit the visual, changing the way it looks and also the inline values it generates.

Here's a tutorial about creating smart narrative visuals.

Create sophisticated reports in Power BI Desktop

Power BI Desktop is a downloadable Windows app you can use to make more sophisticated reports. It's like PowerPoint, but it uses data visualizations to help you find insights in your data. Power BI Desktop also has powerful capabilities like data import, cleaning, modeling, and much more.

To get started with Power BI Desktop, follow these steps.

1. To install Power BI Desktop, this link takes you directly to the Power BI Desktop page of the Microsoft Store.

2. Create a report in Power BI Desktop. In this sample tutorial, you prepare and model your data, both tasks you can't do in a report in the Power BI service. Then you create a report based on the model you've created.

   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 better meetings in Microsoft Teams
- Use Power BI metrics to improve results in Microsoft Teams
- Share a data-driven discussion in Microsoft Teams
- Analyze your Teams collaboration data

Analyze your Teams collaboration data

12/15/2022 • 4 minutes to read • Edit Online

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

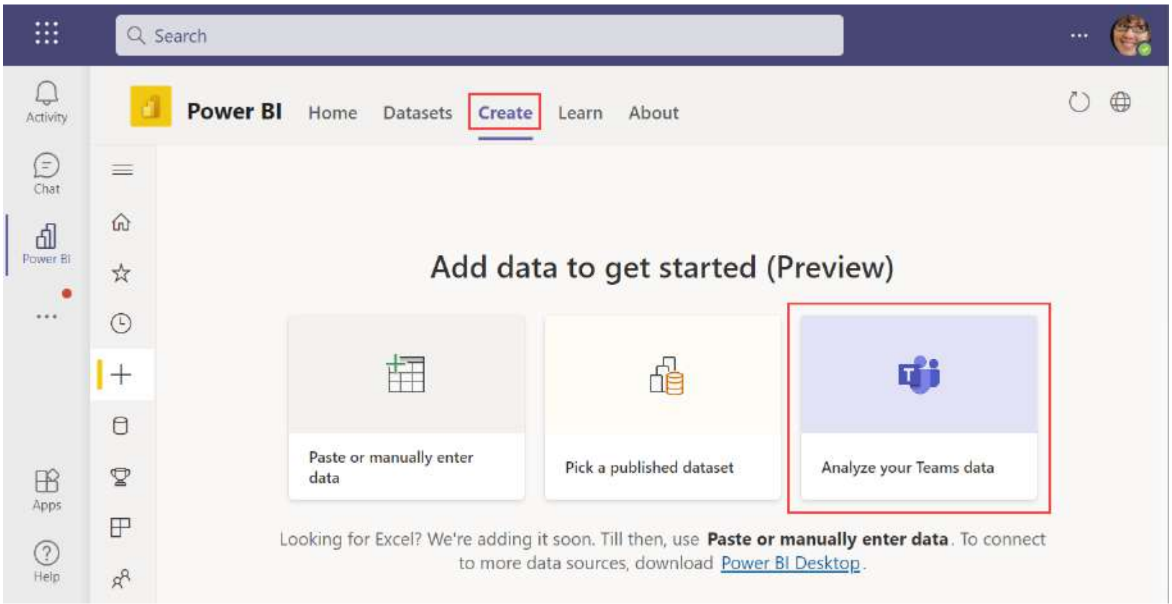
Many of us spend a lot of time collaborating in Microsoft Teams. With Power BI, you can get insights into where you're spending your time and how you and your team collaborate. By reviewing this data, you and your team can plan improved ways of working to be more responsive, agile, and productive.

Follow these steps to start getting insights about collaboration in Microsoft Teams.

1. Open the Power BI app for Microsoft Teams.

   Need to install the Power BI app first? install the app and then pin it to the Teams navigation pane.

2. Go to the **Create** tab and select **Analyze your Teams** data.



3. Explore your personal usage in the automatically generated report.

4. Explore engagement in the Teams you participate in.

The report gets saved in your Power BI account and stays refreshed. You can keep coming back every few days to see how actions you take change the trends. When working in a Teams team, it's great to discuss the data and ways your team can improve.

Questions to ask about your collaboration

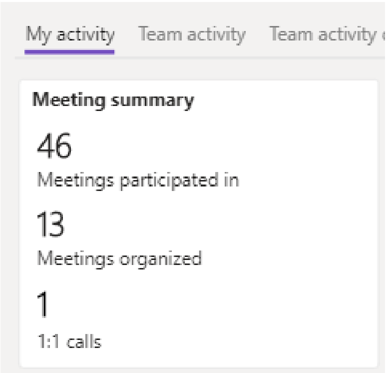
Am I effective in meetings?

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:

- 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 enable many of us to work from anywhere, which can impact the relationships we build with colleagues. Building strong relationships with colleagues helps you 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. However, to use chat effectively, it's important to 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 be coming up with a response rather than waiting for you to ask the question.

Am I sending too many chats?

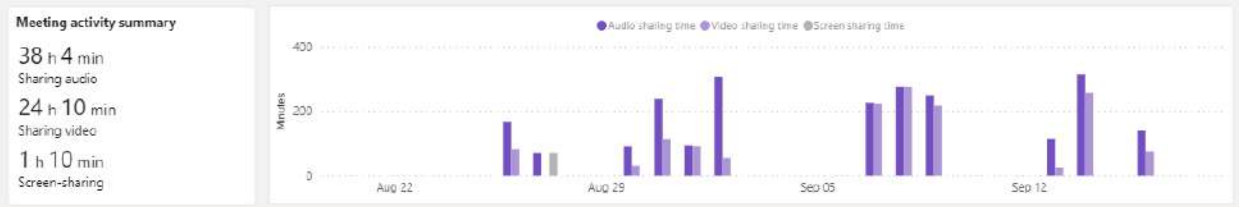
Look at the number of chat messages you send in a day, and the trend. If you're sending a lot of messages (20, 30, 40, 50), see what they were and review them. Consider whether a meeting or a 1:1 call could achieve the same outcome while creating a stronger connection with your colleague. You may even want to send a document rather than writing chats. Consider asking your colleague which option would be 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 just 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 jump in and help to finish something when someone goes on vacation, for example. If you're primarily using Chats, consider if Channels would be a good option to add to your collaboration habits.

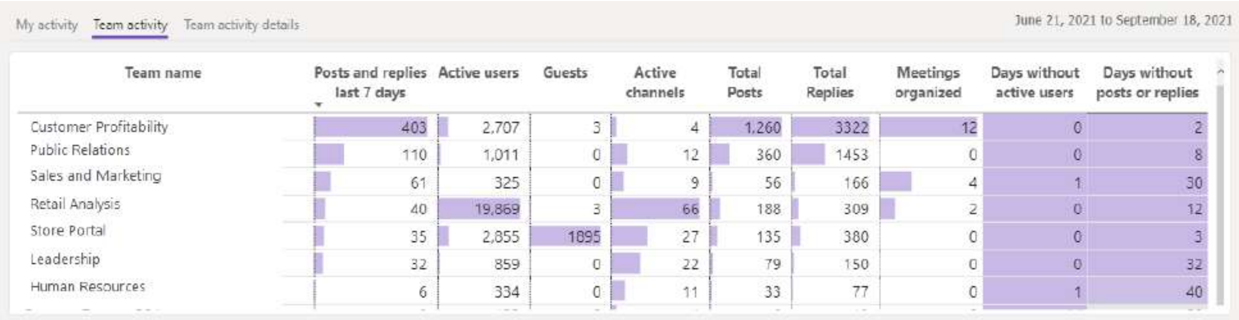
Am I using in-meeting experiences in the best way?

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.



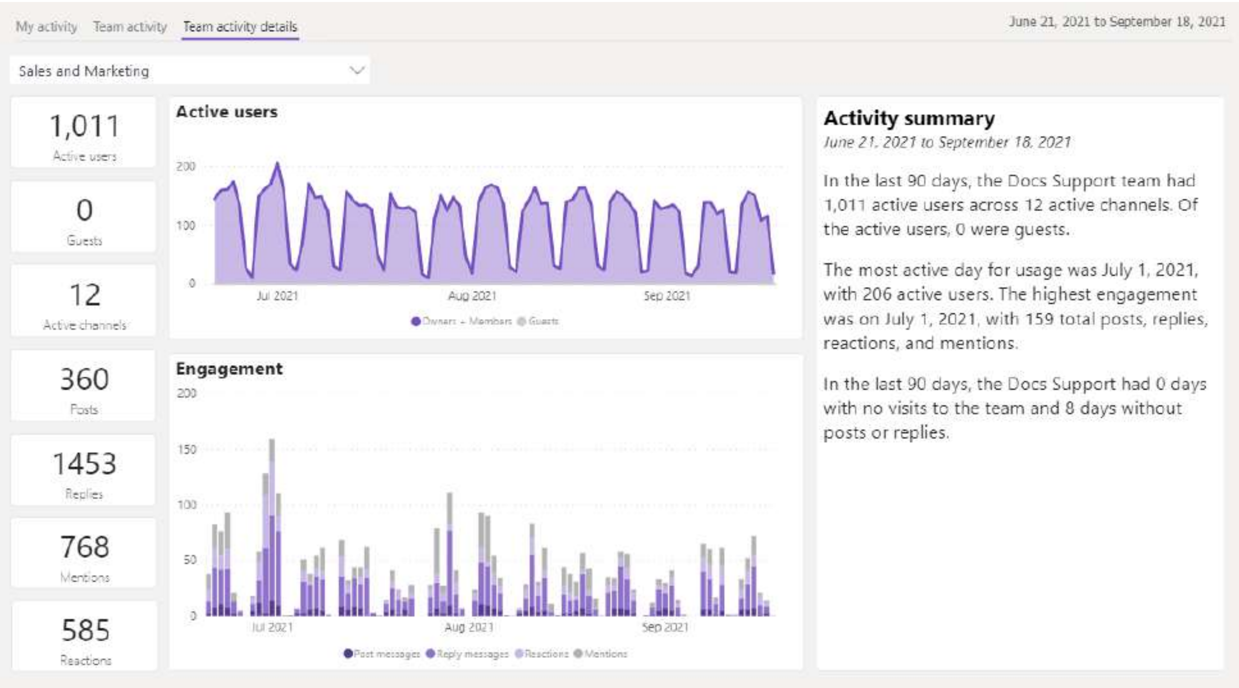
Understand activity in teams you access and own

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 missing out on and potentially which you might close. If multiple teams cover the same topic, consider merging them to help everyone work together.



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 Teams team owner, you might show this view in a meeting with your colleagues to seek input on how to improve your collaboration. It's also a great way to evaluate if you should retire a team if it has few active users or low engagement.



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
- Share a data-driven discussion in Microsoft Teams
- Create reports from data in Microsoft Teams

How to determine that content is up to date

12/15/2022 • 3 minutes to read • Edit Online

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 provides some suggestions for ways to stay in sync with your most important data.

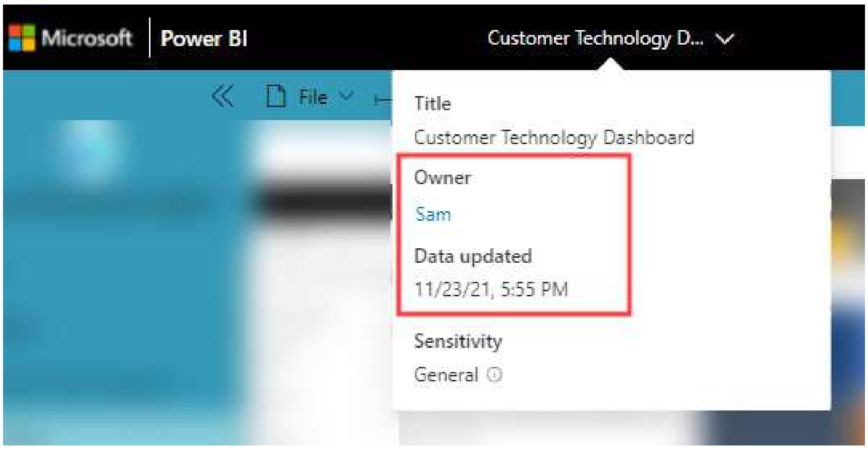
Timestamps in the Power BI service

As a *business user*, you interact with content that is created by *designers* and made available to you in different ways. This content contains timestamps to help you know when it was published or shared, as well as when it was last updated. Knowing that you are 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. Apps that have been shared with you are automatically refreshed and updated on a schedule set by the app designer. Same goes for things like dashboards, scorecards, and reports -- the designer either manually, or using an automated refresh schedule, ensures that the content is fresh.

If you ever have questions about content freshness, contact the designer. In the examples below we'll include information on identifying and contacting the owner for your content.

Let's take a look at several different ways to ensure that you're working with the freshest content.



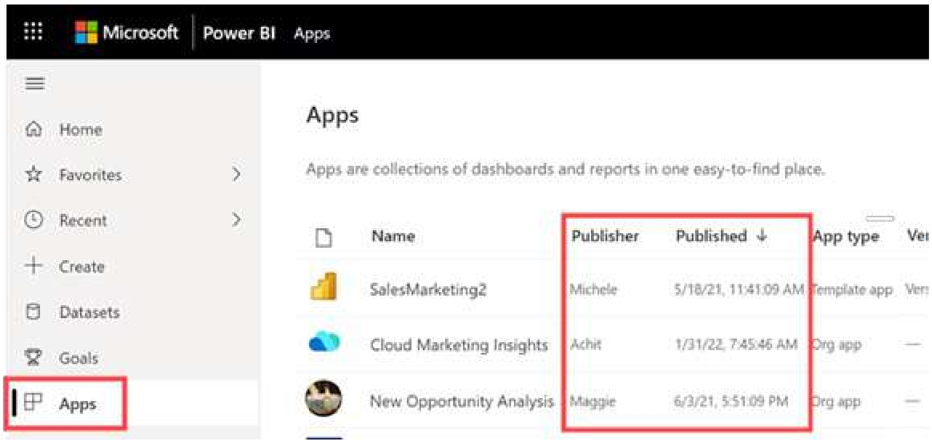
The different types of timestamps

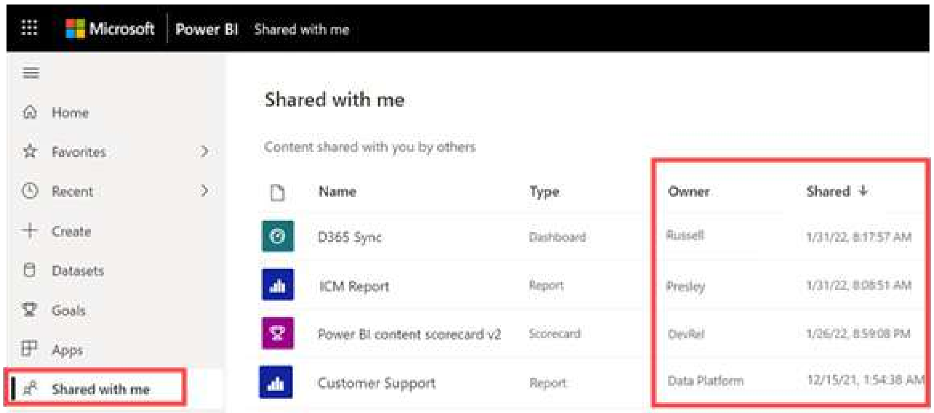
Power BI adds date and time information when content is published, shared, updated, and refreshed. For example, apps have a **Published** date and the content within an app has an **Updated** date. Other types of content have **Shared** and **Refreshed** dates.

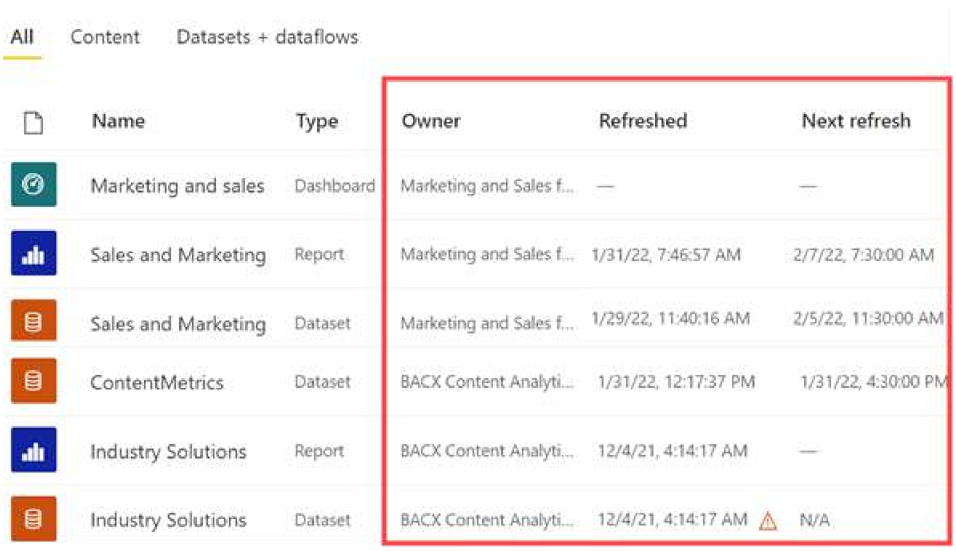
It's less helpful to know which type of timestamp goes where, and more helpful to know where to find a timestamp. Here are some general guidelines to help you determine the freshness of your content.

Content lists

When you open a list of content in the Power BI service, you'll see a column that identifies the owner and a column with a timestamp. The examples below are from **Apps**, **Shared with me**, and a workspace. Notice the different types of timestamps: **Published**, **Shared**, **Refreshed**, and **Next refresh**.



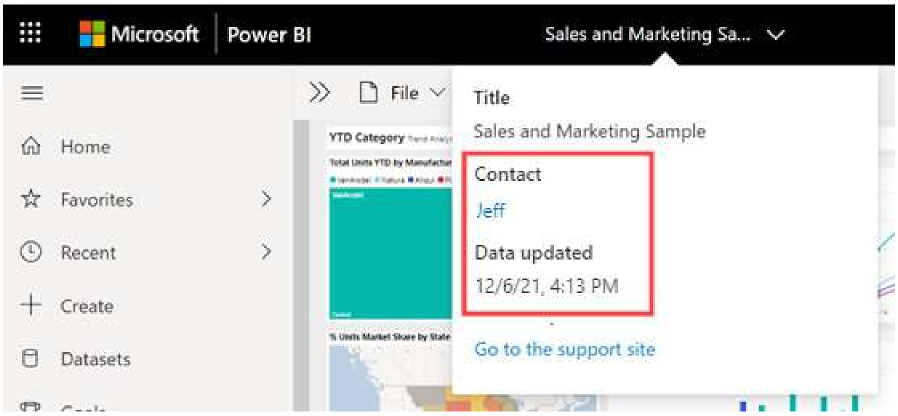




The *designer* sets up the refresh schedule for content. Some content updates continually while other content may refresh daily, weekly, or not at all. Not all content is scheduled for refreshing, so you may see empty entries. If the refresh encounters an error, you'll see an error icon.

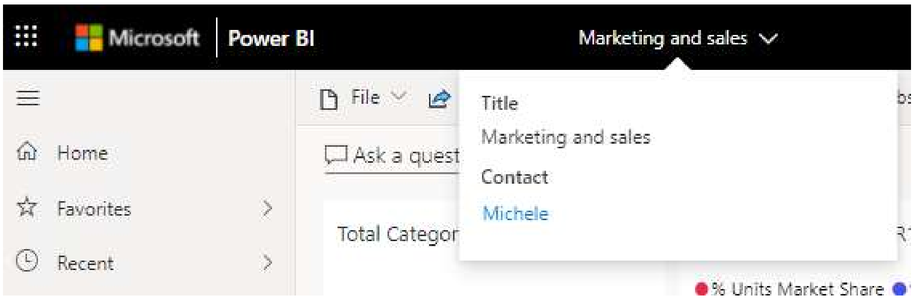
Viewing reports

When you open and view a report, you'll notice a dropdown arrow in the center of the menu bar. Select the arrow to display contact information and a timestamp. Dashboards, worksheets, and scorecards display the owner but not a timestamp. Select the **Owner** or **Contact** link if you have questions or suggestions for the owner of the report.

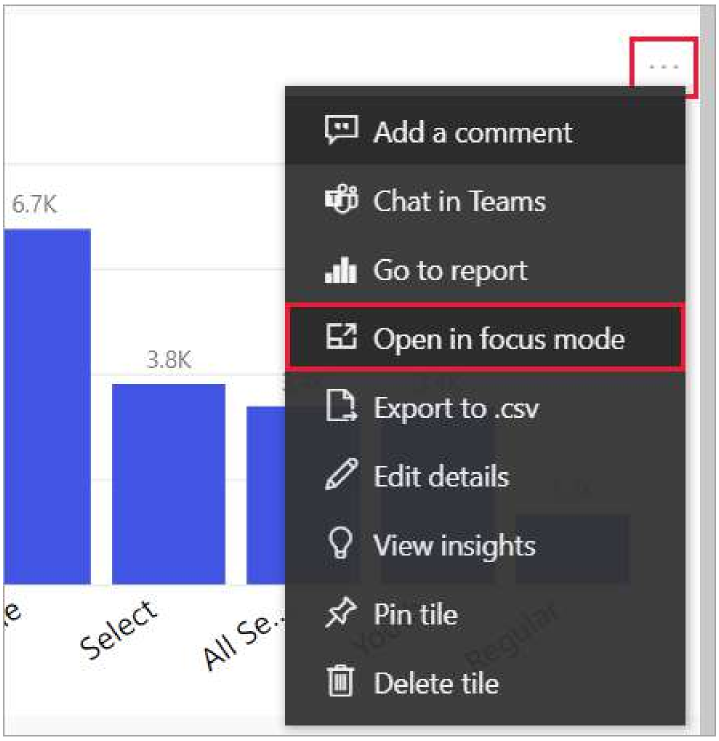


Viewing dashboards

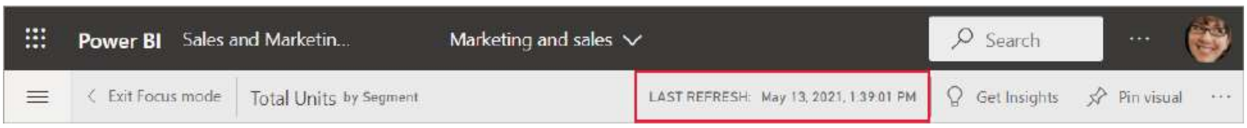
The dashboard title dropdown displays a **Contact**, but not a timestamp. However, you can look up the last refresh date for individual dashboard tiles and for the underlying dataset.



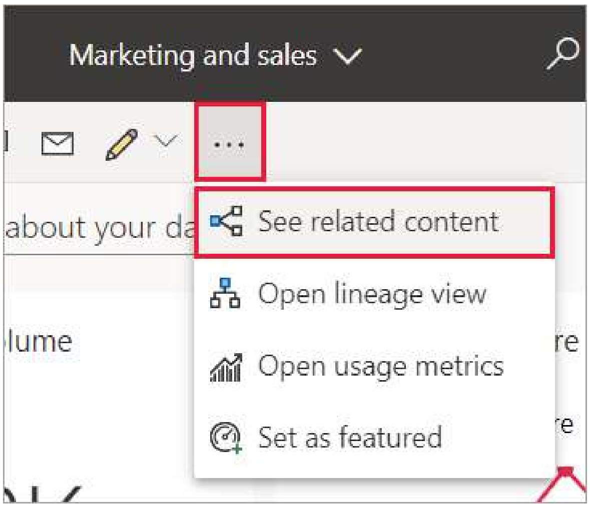
View a tile in Focus mode to see the Last refresh timestamp. On a dashboard tile, select **More options** (...) and choose **Open in Focus mode**.



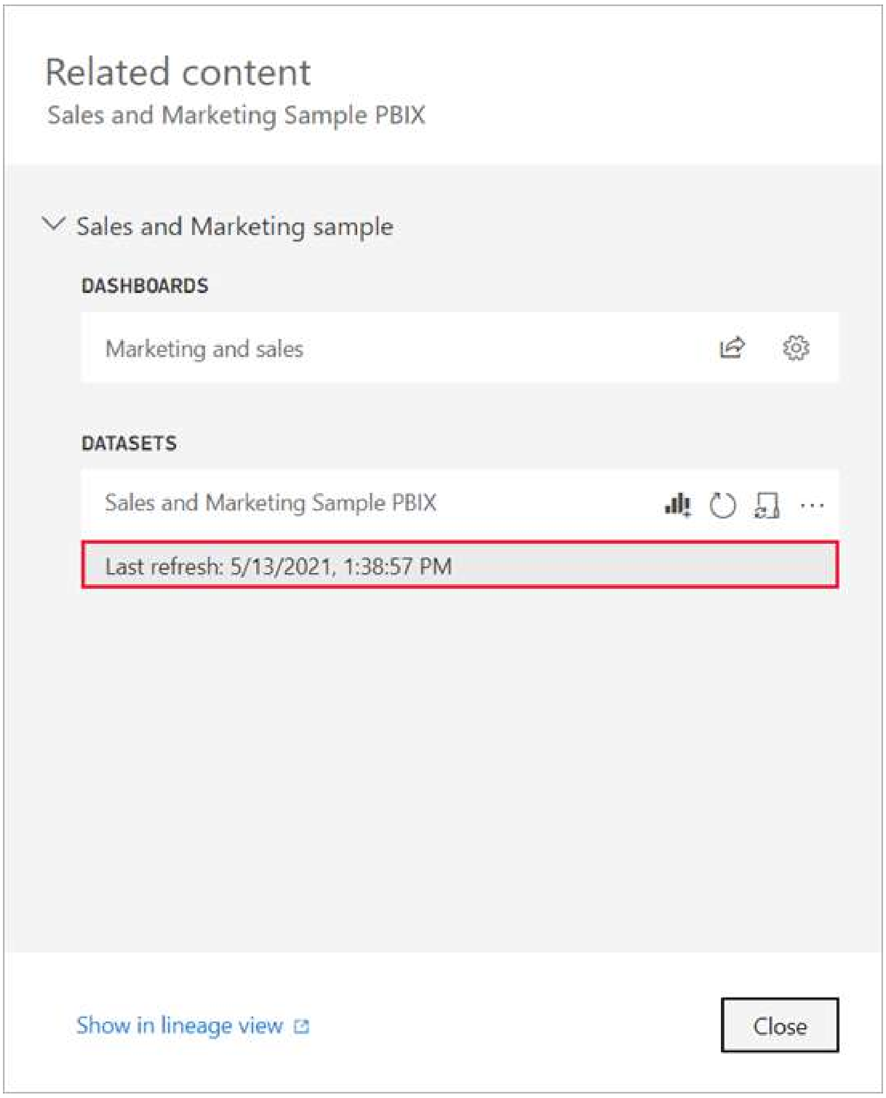
The last refresh date displays in the upper right corner. If you don't see it, expand your browser to make it wider.



Return to the dashboard and select **More actions (...)** > **See related content** from the Power BI upper menu bar.



The **Related content** pane displays the last refresh information for the dashboard's or report's underlying dataset.



Stay in sync with your content

There are a couple of built in Power BI features that can help you stay up-to-date with your most important content.

Set data alerts

Want to be notified if data changes above or beyond a limit you set? Create a data alert for a dashboard. It's easy to stay up-to-date using data alerts. With data alerts, you tell Power BI to send you an email if a value on a dashboard passes a specific threshold. For example, if inventory falls below 25 units or if sales exceed goals.

Subscribe to see changes

Another way to stay up-to-date is to subscribe to a report or dashboard. Instead of having to log in and open a report or dashboard, you tell Power BI to send you a snapshot on a schedule you set. For more information, see subscribe to dashboards and reports.

Considerations and limitations

- Within an app, each piece of content will have its own **Date updated** and/or **Owner** that may be different than the app published date and app owner.

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

12/15/2022 • 4 minutes to read • Edit Online

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

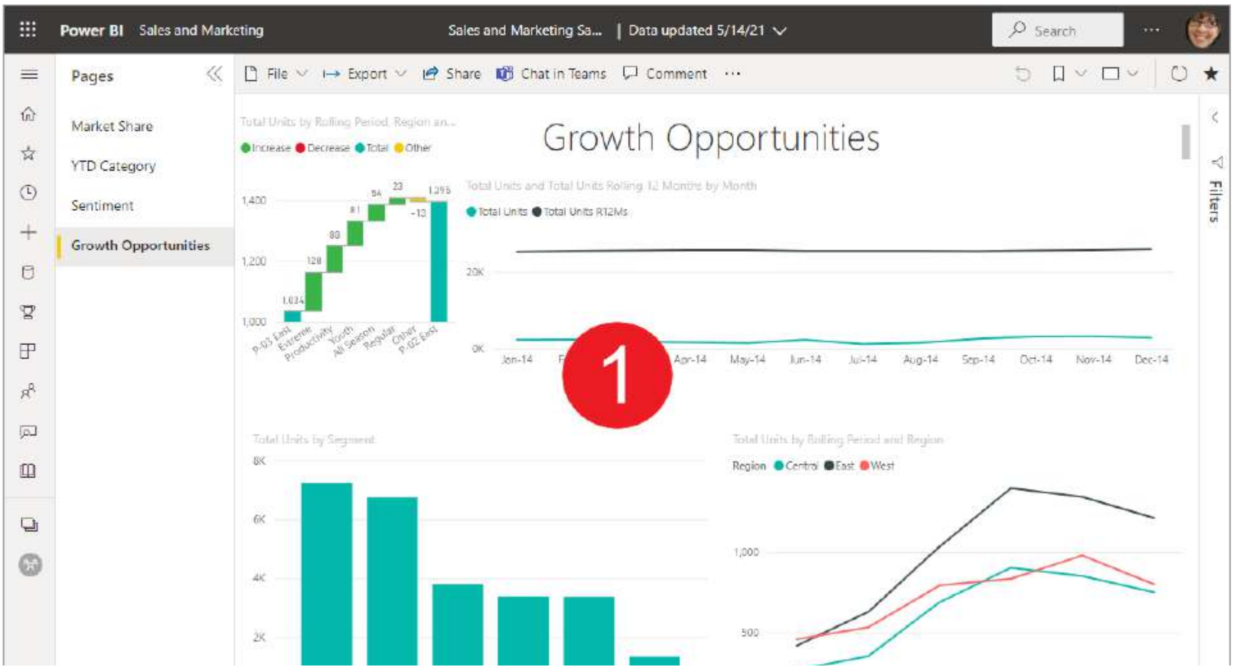
> **NOTE**
>
> This video might use earlier versions of Power BI Desktop or the Power BI service.

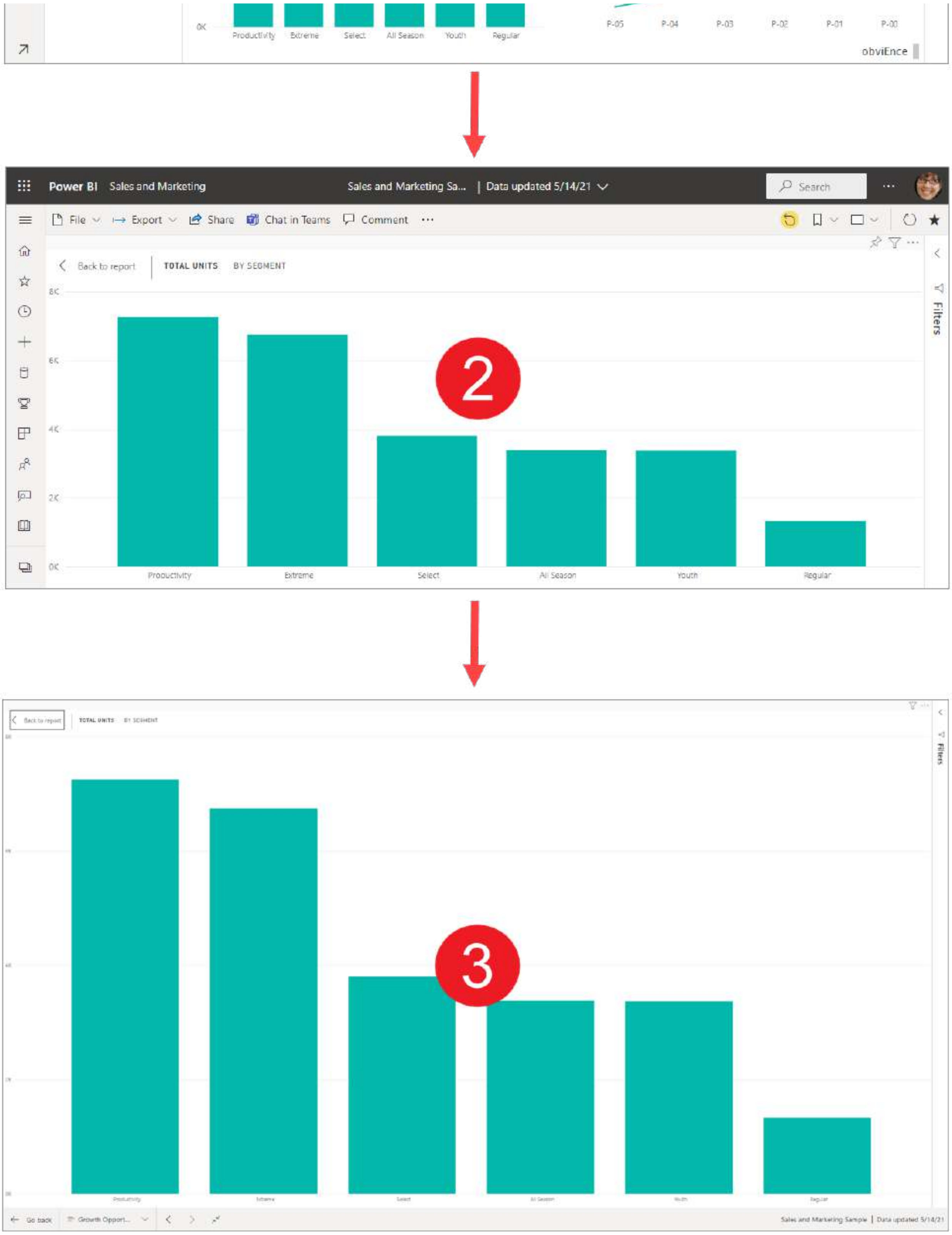
https://www.youtube.com/embed/dtdLul6otYE

Focus mode and full screen mode are two different ways to see more detail in your visuals, reports, and dashboards. The main difference between the two is that full screen removes all the panes surrounding your content while focus mode allows you to still interact with your visuals. Let's take a closer look at the similarities and differences.

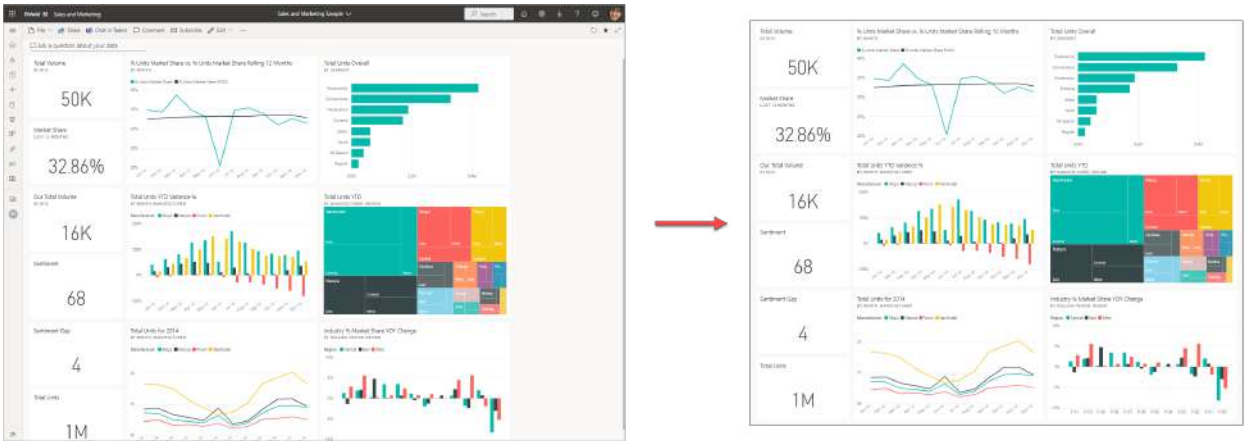
CONTENT	FOCUS MODE	FULL SCREEN MODE
Dashboard	Not possible	yes
Report page	Not possible	yes
Report visual	yes	yes
Dashboard tile	yes	Not possible
Windows 10 mobile	Not possible	Yes

In this example below, 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).





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 is sometimes referred to as TV mode.

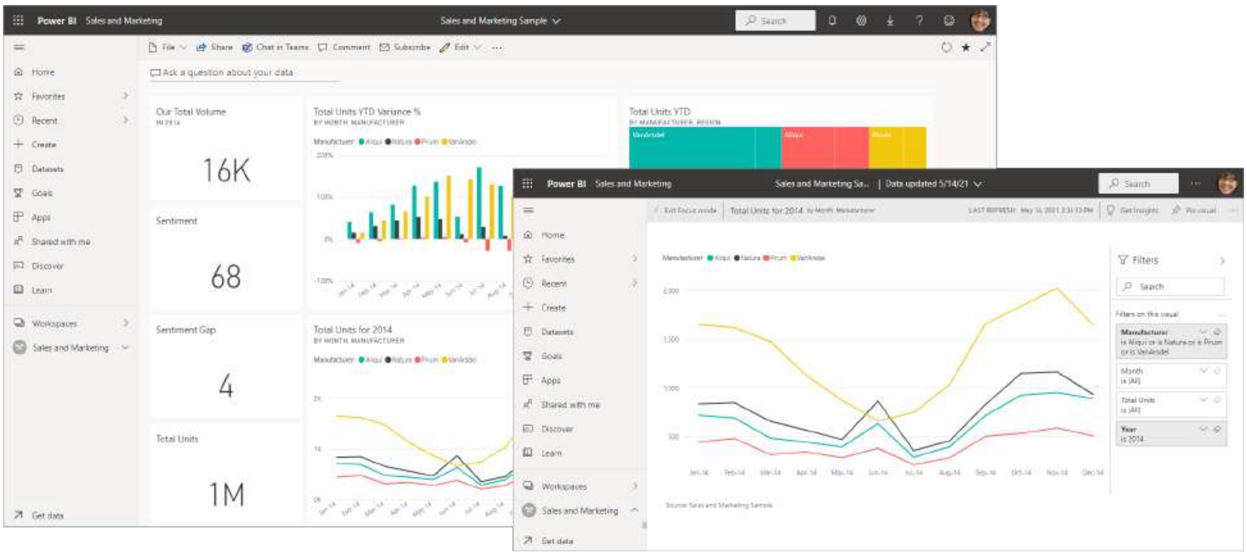
If you're using Power BI mobile, full screen is available for Windows 10 mobile apps.

Some uses for full screen mode are:

- presenting your dashboard, visual, or report at a meeting or conference
- displaying in an office on a dedicated large screen or projector
- viewing on a small screen
- reviewing in locked mode -- you can touch the screen or mouse over tiles without opening the underlying report or dashboard

When to use focus mode?

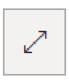
Focus mode lets you expand (pop out) a visual or tile to see more detail. Maybe you have a dashboard or report that is a little crowded and you want to zoom in on only one visual. This is a perfect use of focus mode.



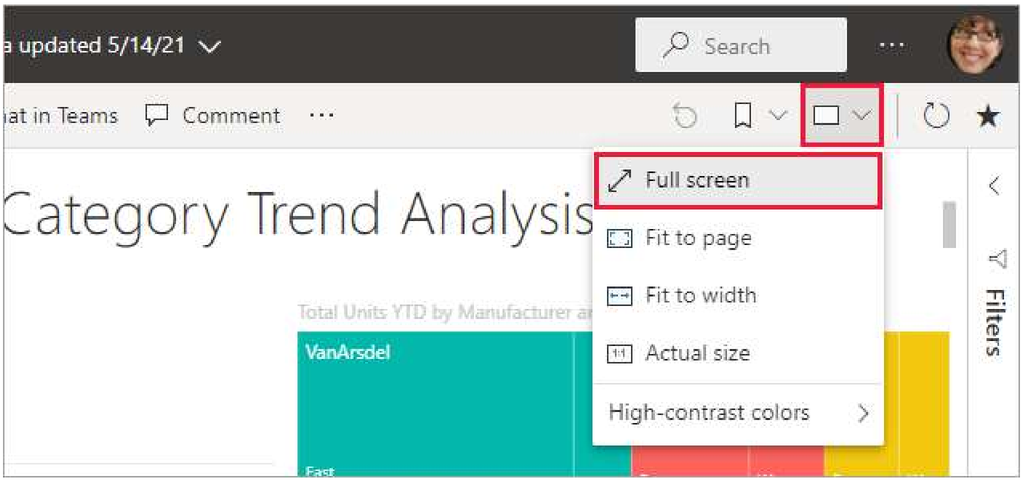
While in focus mode, a Power BI *business user* can interact with any filters that were applied when this visual was created. In the Power BI service, you can use focus mode on a dashboard tile or report visual.

Working in full screen mode

Full screen mode is available for dashboards, report pages, and report visuals.

- 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**.



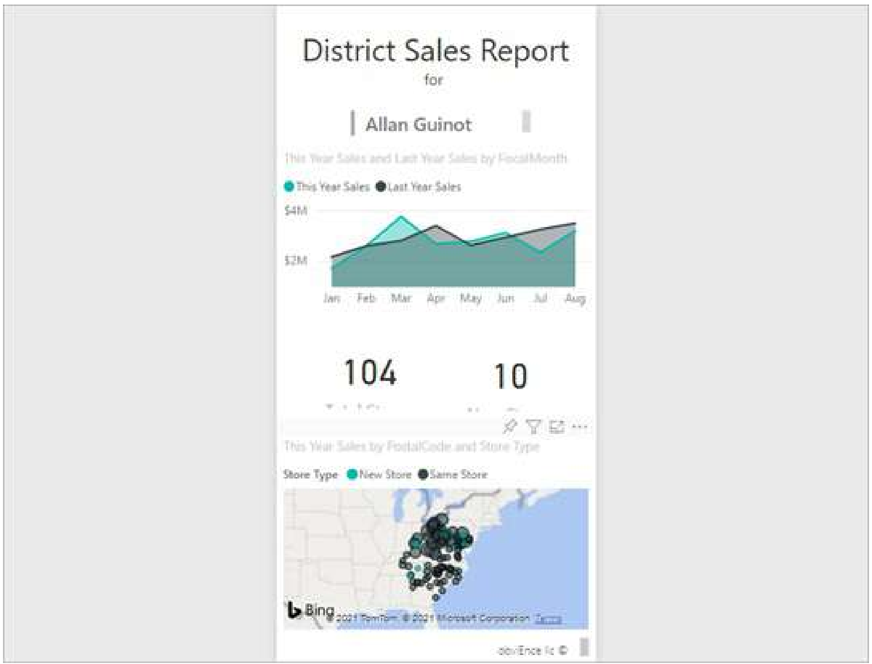
- To see a visual in full screen mode, first open it in focus mode and then select **View** > **Full screen**.

Your selected content fills the entire screen. Once you're in full screen mode, navigate using either the menu bars at the top and bottom (reports) or the menu that appears when you move your cursor (dashboards and visuals). Because full screen is available for such a wide variety of content, the navigation options vary.

- 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 will display in full screen mode. Full screen mode will persist until you exit out.

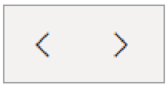
- 

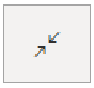
  Use the **Fit to page** button to display your dashboard at the largest size possible without resorting to scrollbars.



- 

  Sometimes you don't care about scrollbars, but want the dashboard to fill the entire width of the available space. Select the **Fit to width** button.

- 

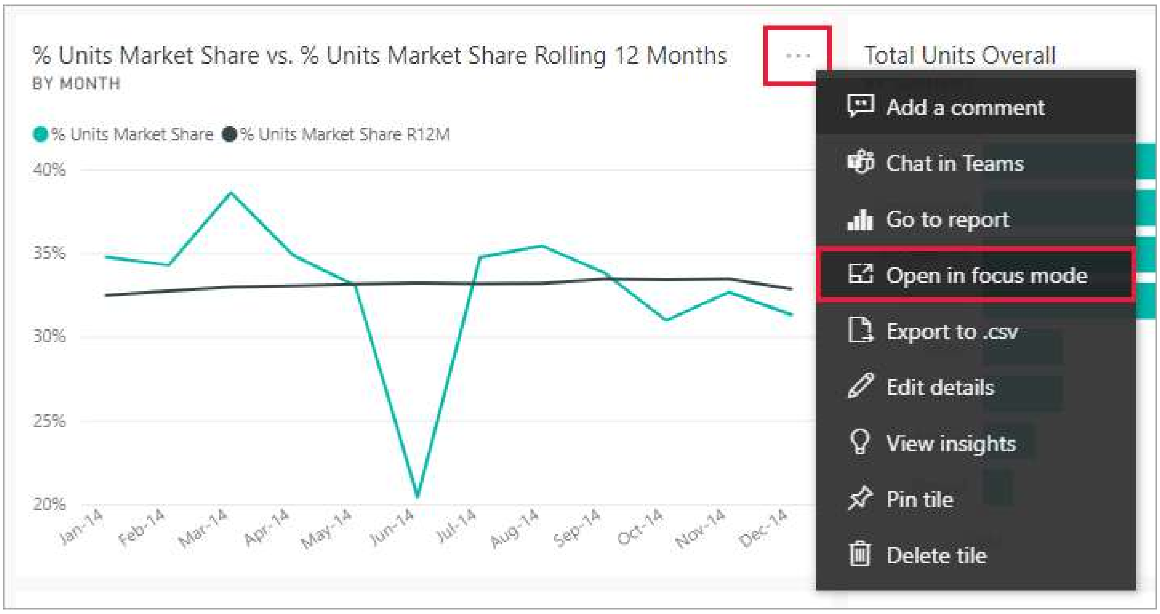
  In full screen reports, use these arrows to move between the pages in the report.
- 

  To exit full screen mode, select the **Exit full screen** icon.

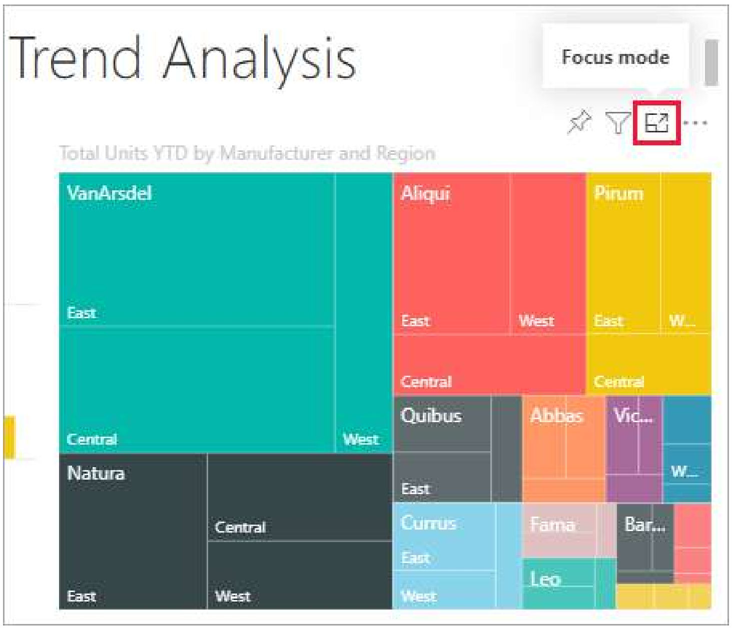
Working in focus mode

Focus mode is available for dashboards tiles and report visuals.

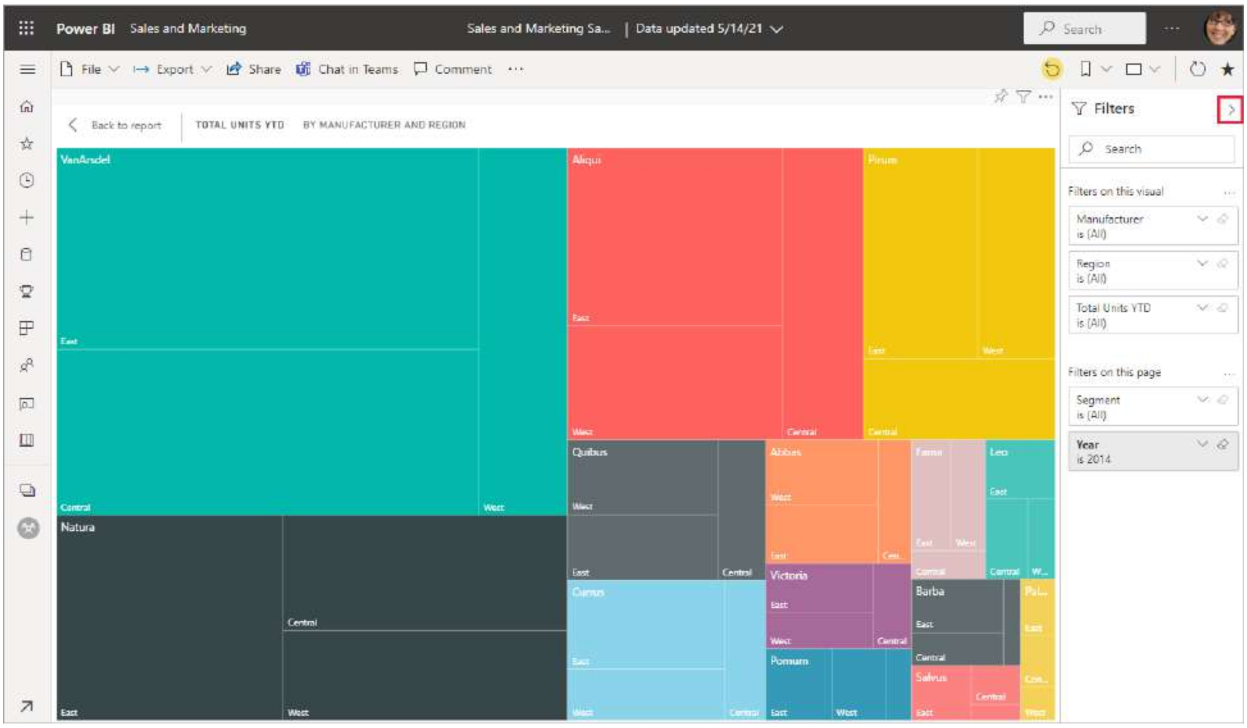
- To open a dashboard tile in focus mode, hover over a dashboard tile or report visual, select **More options** (...) and choose **Open in focus mode**.

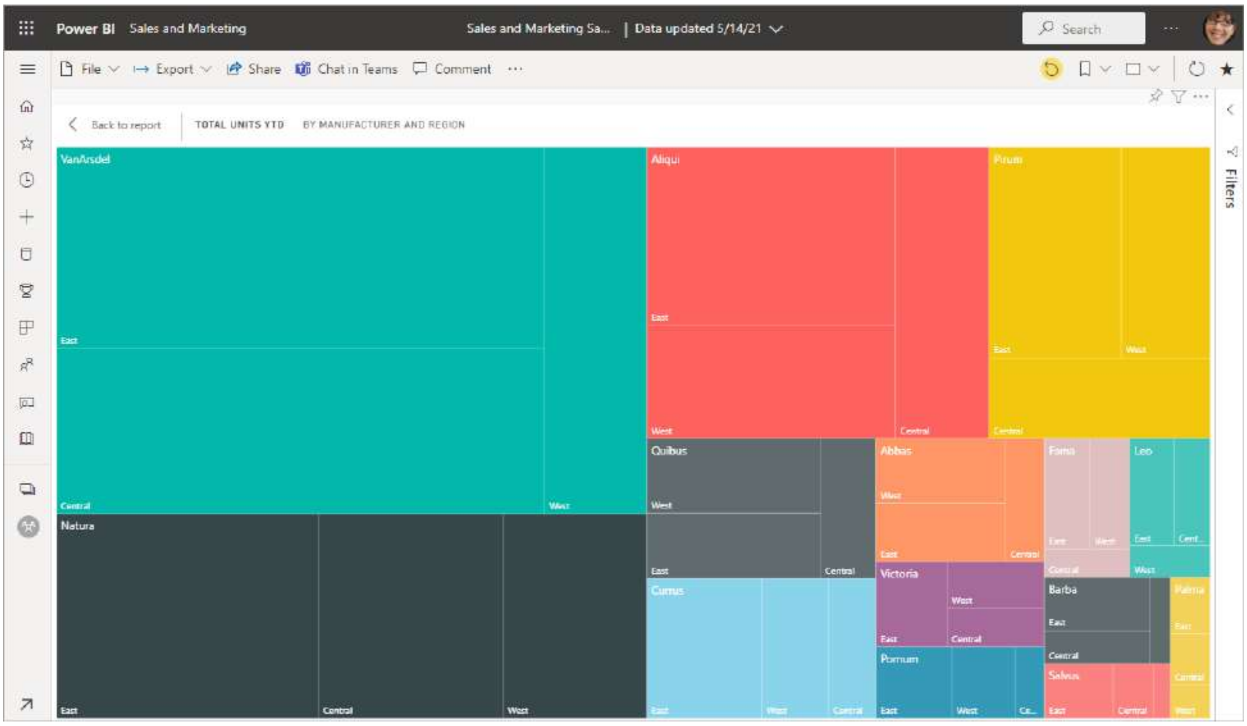


- To open a report visual in focus mode, hover over the visual and select the **focus mode** icon .



The visual opens and fills the entire canvas. Notice that you still have a **Filters** pane that you can use to interact with the visual. The **Filters** pane can be collapsed.

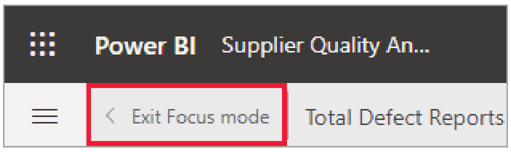


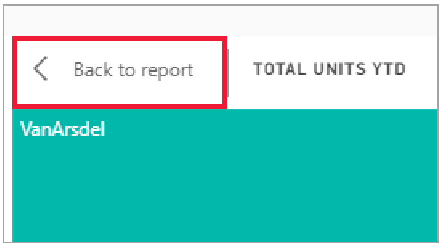


Explore further by [modifying the filters](#) and looking for interesting discoveries in your data. As a *business user*, you can't add new filters, change the fields being used in the visuals, or create new visuals. However, you can interact with the existing filters.

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'll be able to 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'll be able to view and interact with only the Visual level filter.

Next steps

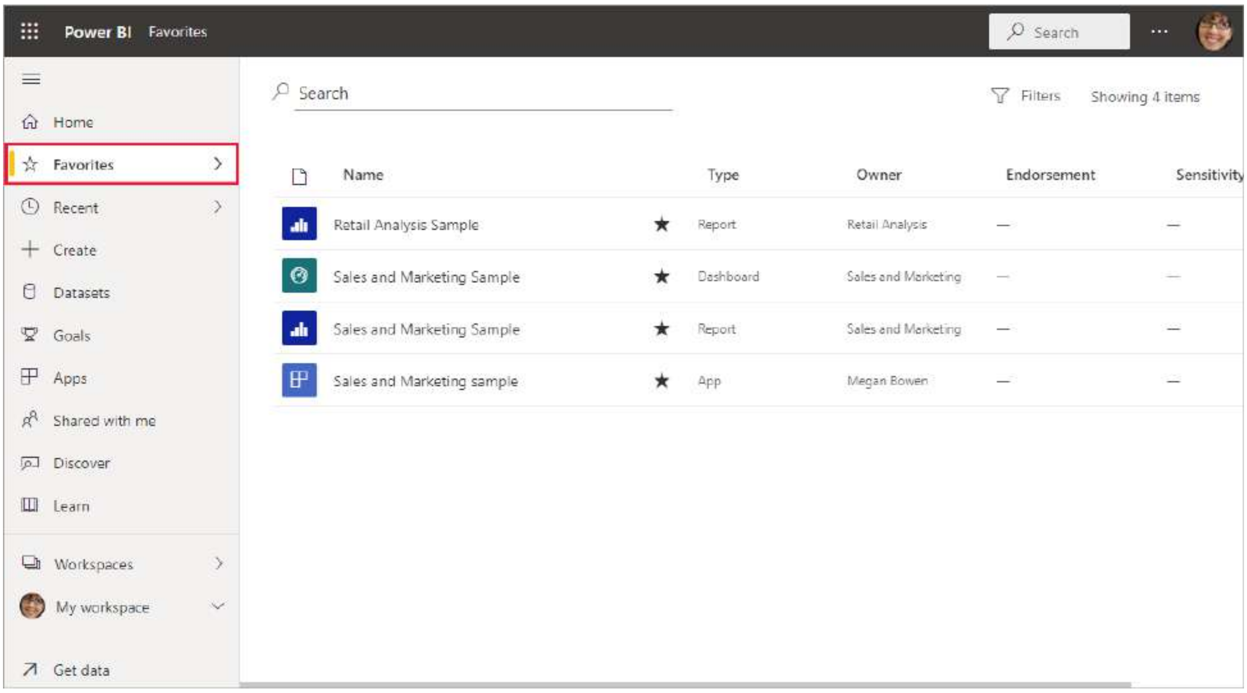
[View settings for reports](#)

Favorite dashboards, reports, and apps in the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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.

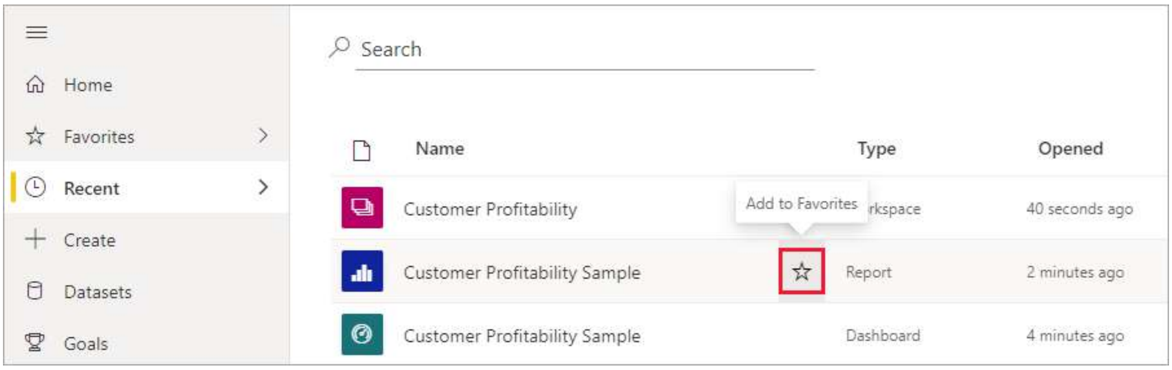


Add a dashboard or report as a favorite

1. Open a dashboard or report that you use often. Even content that has been shared with you can be a favorite.

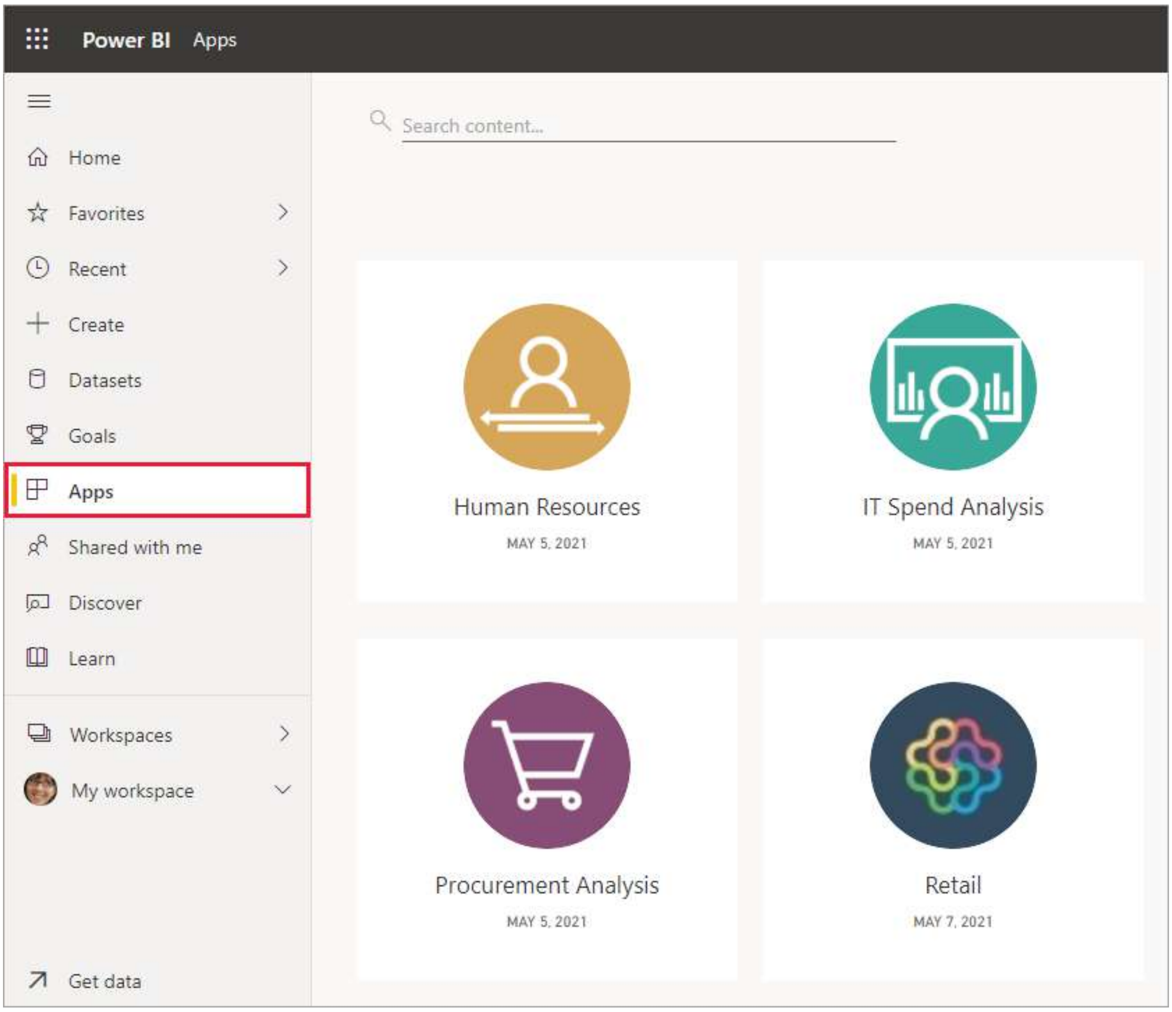
2. From the upper menu bar of the Power BI service, select **Favorite** or the star ☆ icon.

You can also favorite a dashboard or report from anywhere you see the star icon, such as Home, Recent, Apps, and Shared with me.

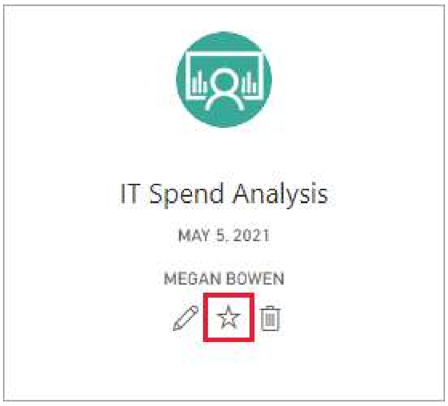


Add an app as a favorite

1. From the nav pane, select **Apps**.



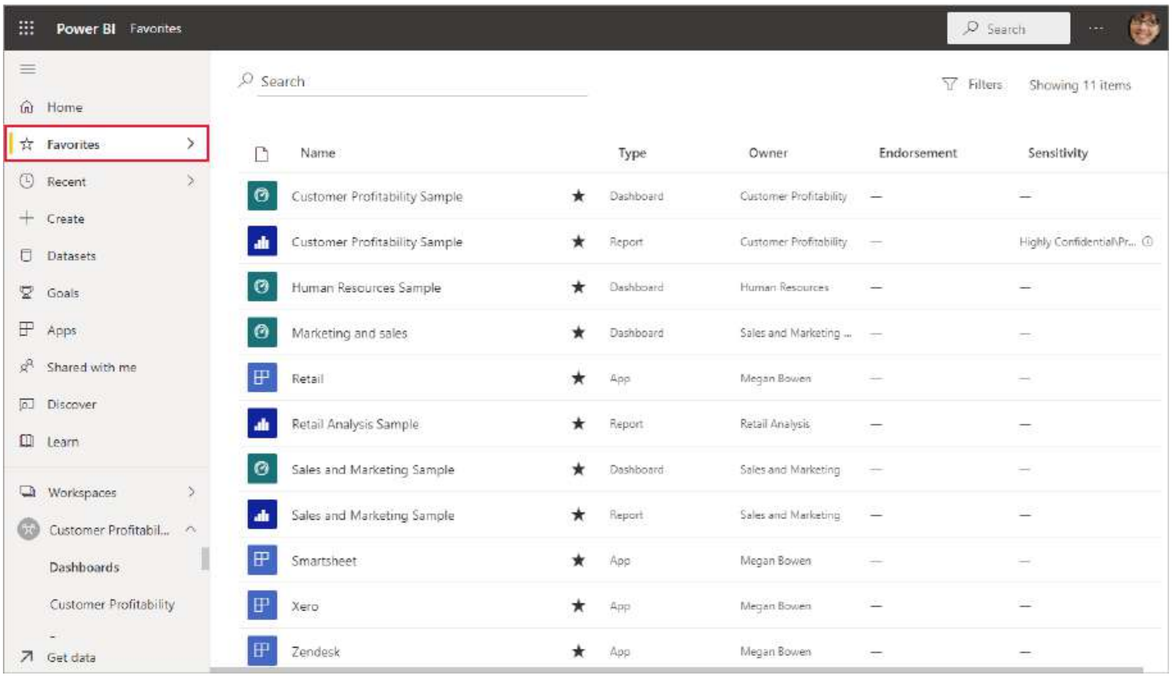
2. Hover over an app to display more detail. Select the star ☆ icon to set as a favorite.



Work with favorites

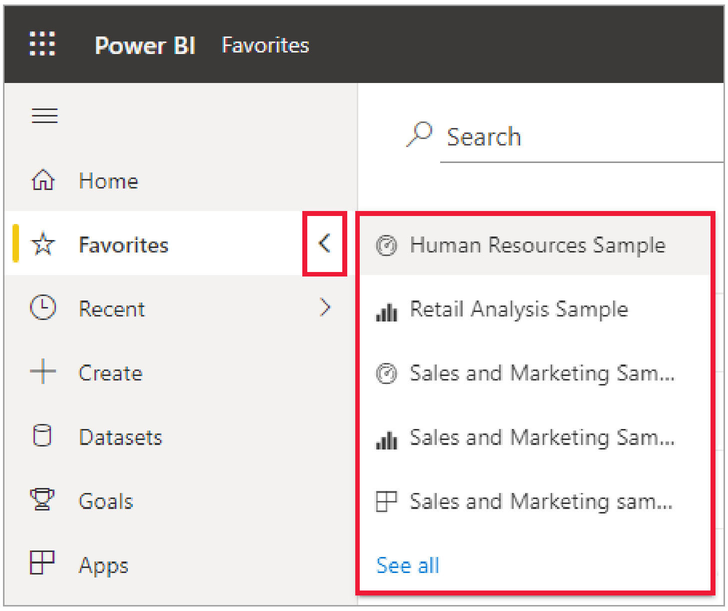
You have several options for viewing your favorites.

1. To see all the content that you've added as favorites, in the nav pane, select **Favorites** or the Favorites  icon.

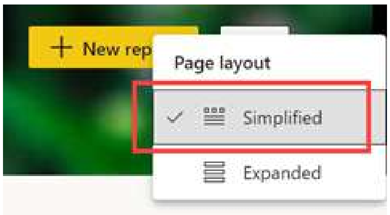


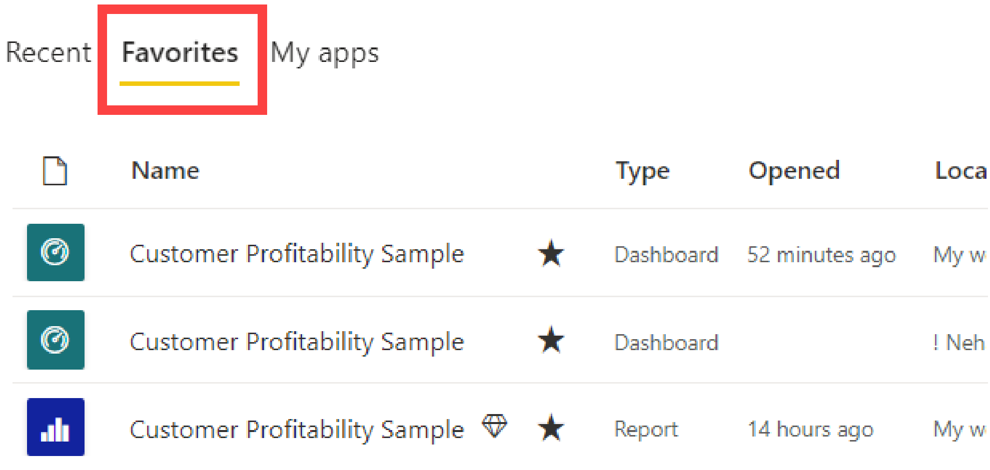
From here, you can take action. You can open a favorite, identify owners, and even share favorites with your colleagues.

2. To access your most visited favorites, select the flyout arrow to the right of **Favorites**. From here, you can select a favorite to open it. Up to five favorites are listed alphabetically. If you have more than five, select **See all** to open the favorites content list.



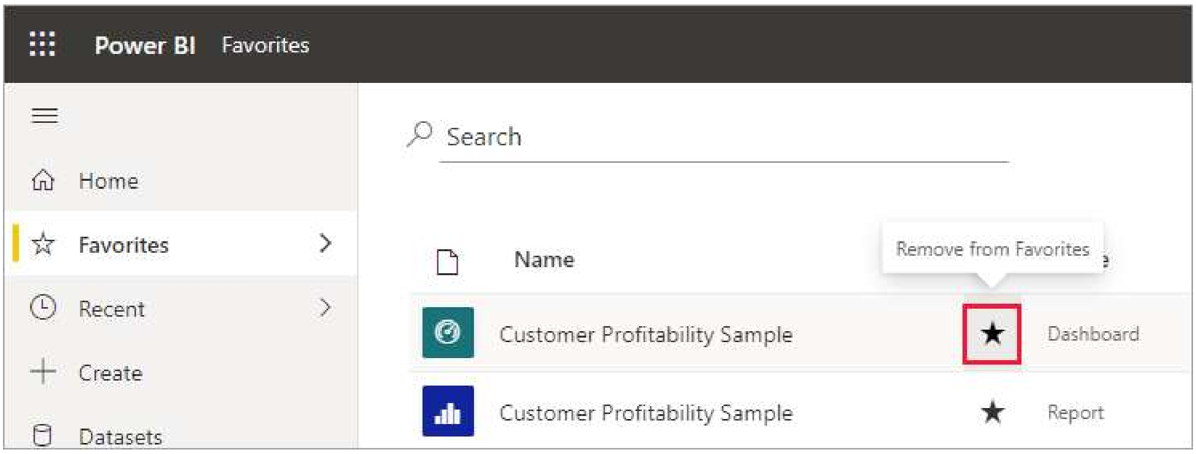
3. Favorites are also available from Power BI Home. If you've selected the **Expanded** display mode, your favorites are listed in the **Favorites + frequents** section. If you've selected the **Simplified** display mode, your favorites are listed in the **Favorites** tab.





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

- At the current time, you can favorite an app and this automatically favorites all the reports and dashboards for that app. It isn't possible to favorite individual app reports or dashboards.
- Effective January 2022, Power BI Home will no longer display ***tiles*** from your favorited dashboard.

Next steps

- Power BI: Basic concepts
- More questions? Try the Power BI Community.

Printing from the Power BI service

12/15/2022 • 3 minutes to read • Edit Online

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

What can be printed

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'll need to print each page separately.

Printing considerations

Most Power BI dashboards and reports are created by report *designers* to be used online and to look amazing when displayed on a variety of devices. When you print a report, how that content displays on paper is controlled by your browser.

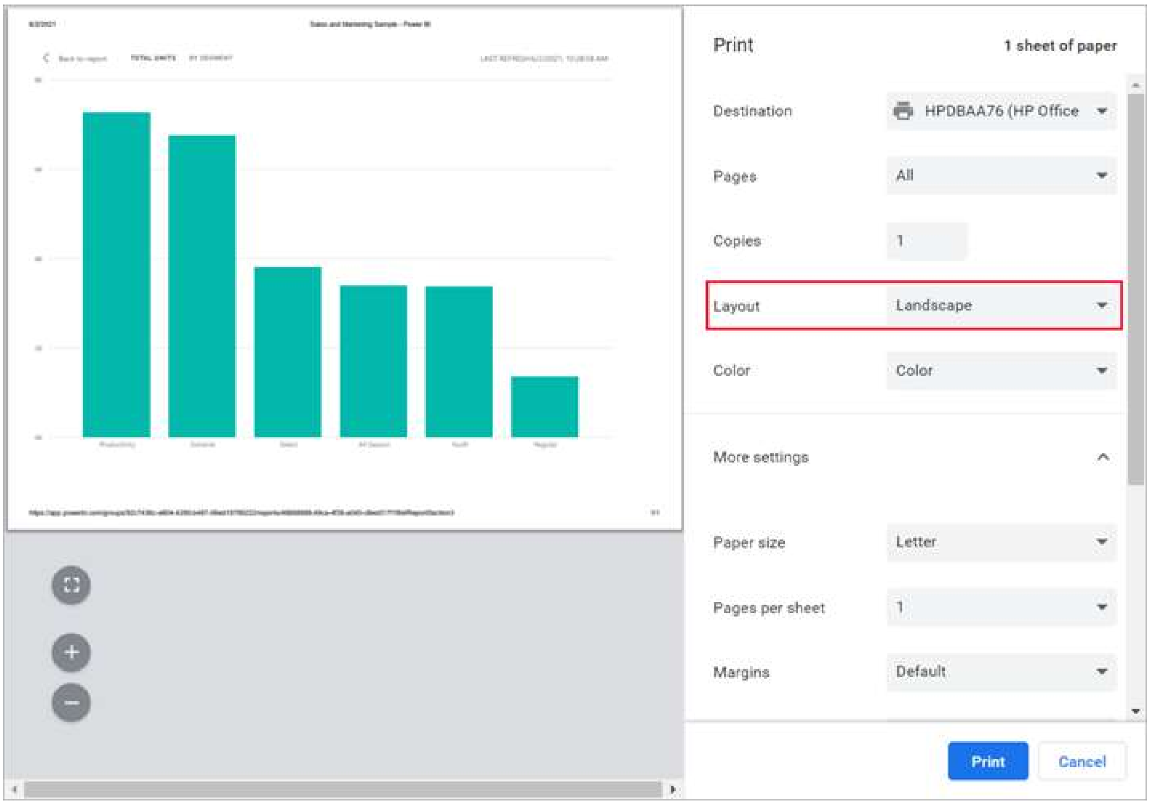
There are browser settings you can use to adjust the printout, but even then you still may not get the result you want. Consider exporting to PDF first and printing the PDF instead.

Adjust your browser print settings

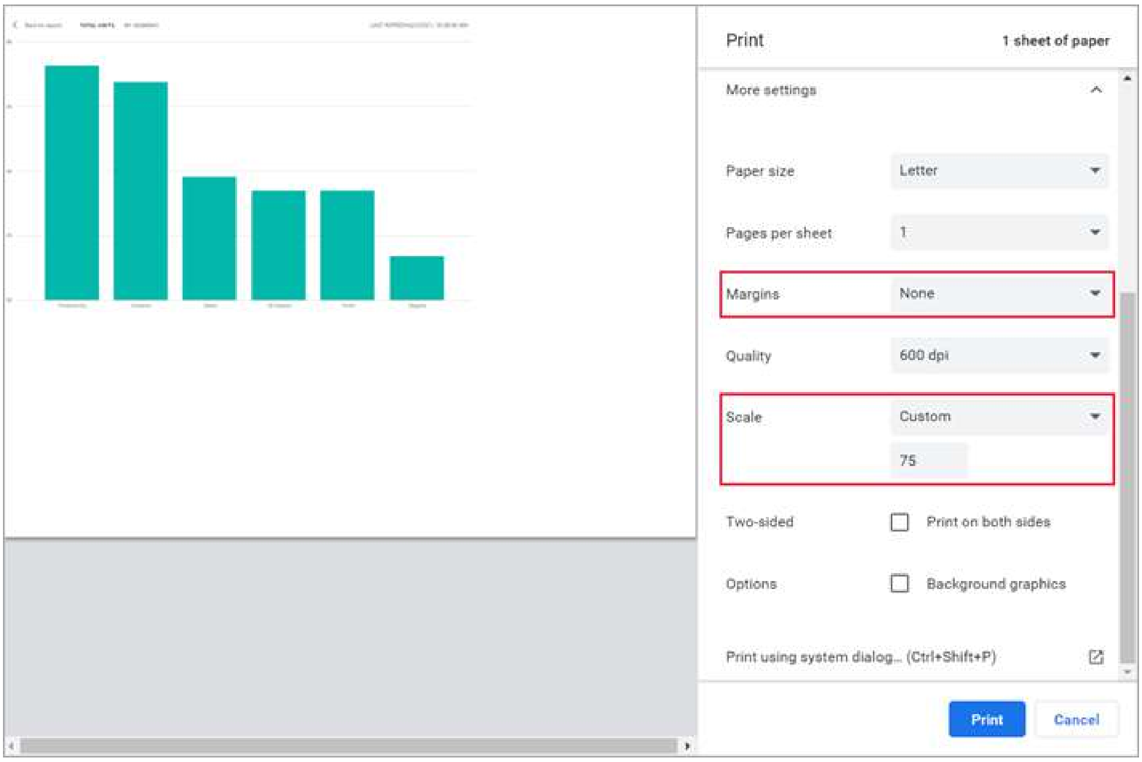
When you print from Power BI, your browser opens a Print window. Each browser's Print window is different from the others. But, you'll find that they all have similar options available for you to use to control the look of your printout.

Here are a few quick tips you can use to format your printout.

1. If your dashboard, report, or visual is more wide than it is tall, consider using the **Landscape** layout.



2. To fit more onto a printed page, adjust things like margins and scale.

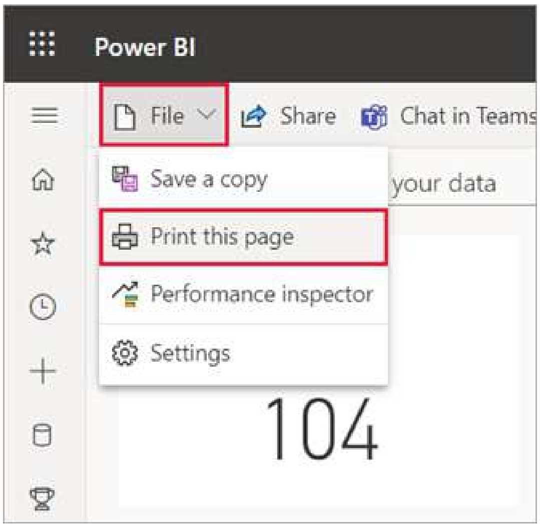


Experiment with your particular browser's settings until you get the look that you like. Some browsers even have options to print background graphics.

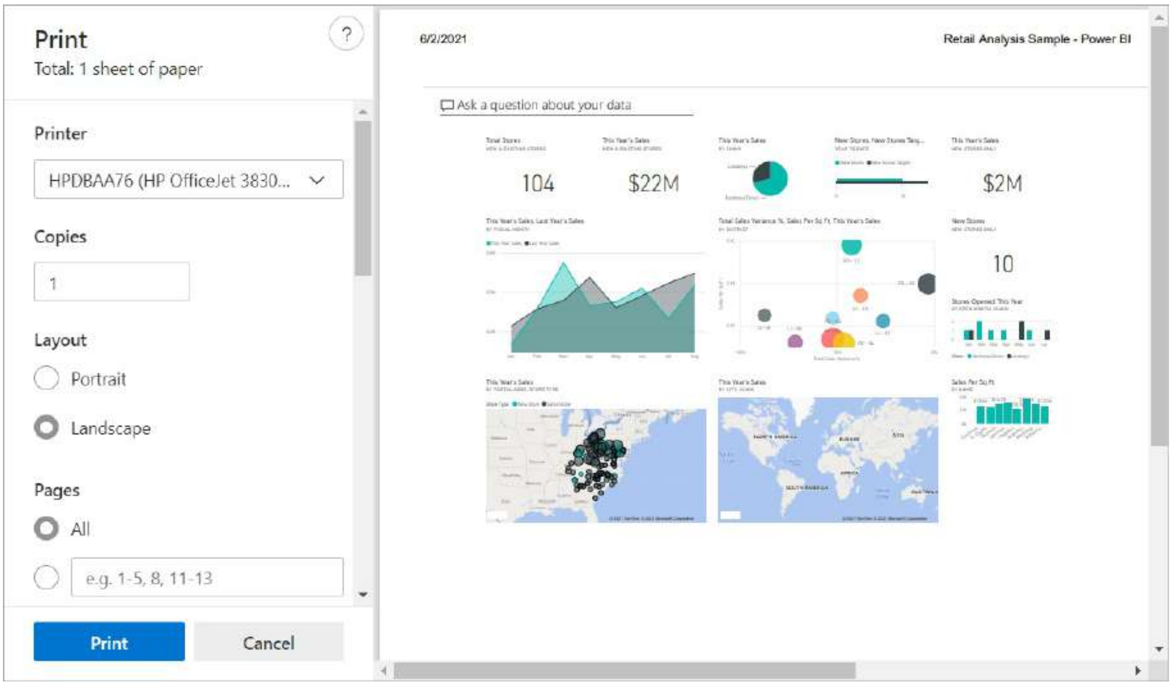
Print a dashboard

1. Open the dashboard that you'd like to print.

2. In the upper left corner, select **File** and choose **Print this page**.

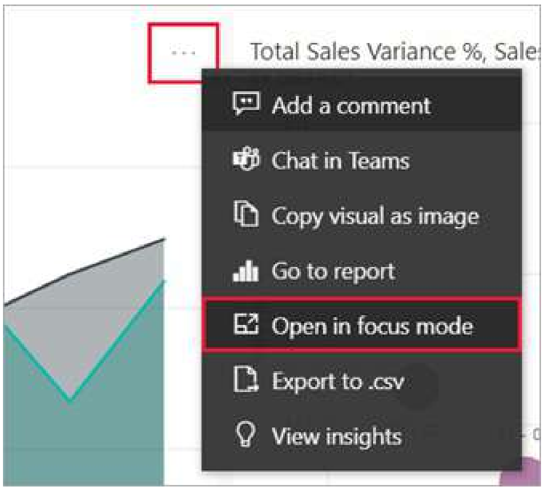


3. The Print window for your browser opens. Choose the settings. For example, if your dashboard is wider than it is long, you may want to change the layout to **Landscape**. Select **Print**.

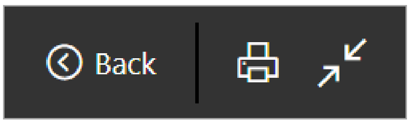


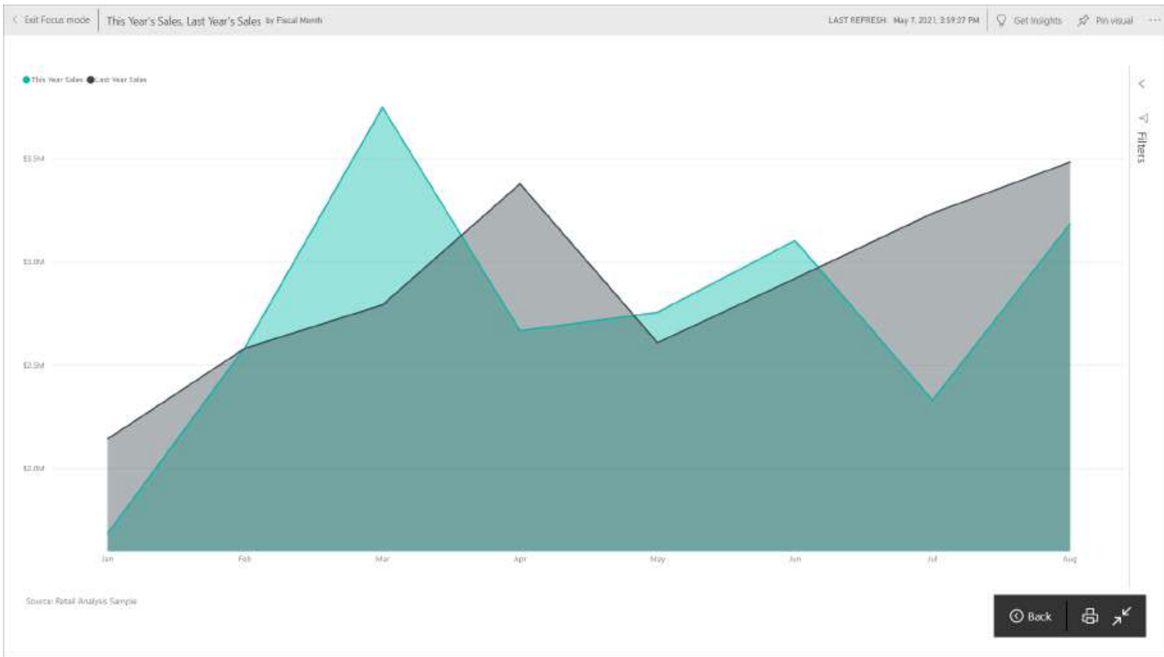
Print a dashboard tile

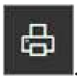
1. Open the dashboard in full screen mode by selecting the full screen icon from the upper menu bar.
2. Open the tile in Focus mode by hovering to reveal **More options** (...) and choosing **Open in focus mode** or the focus icon .



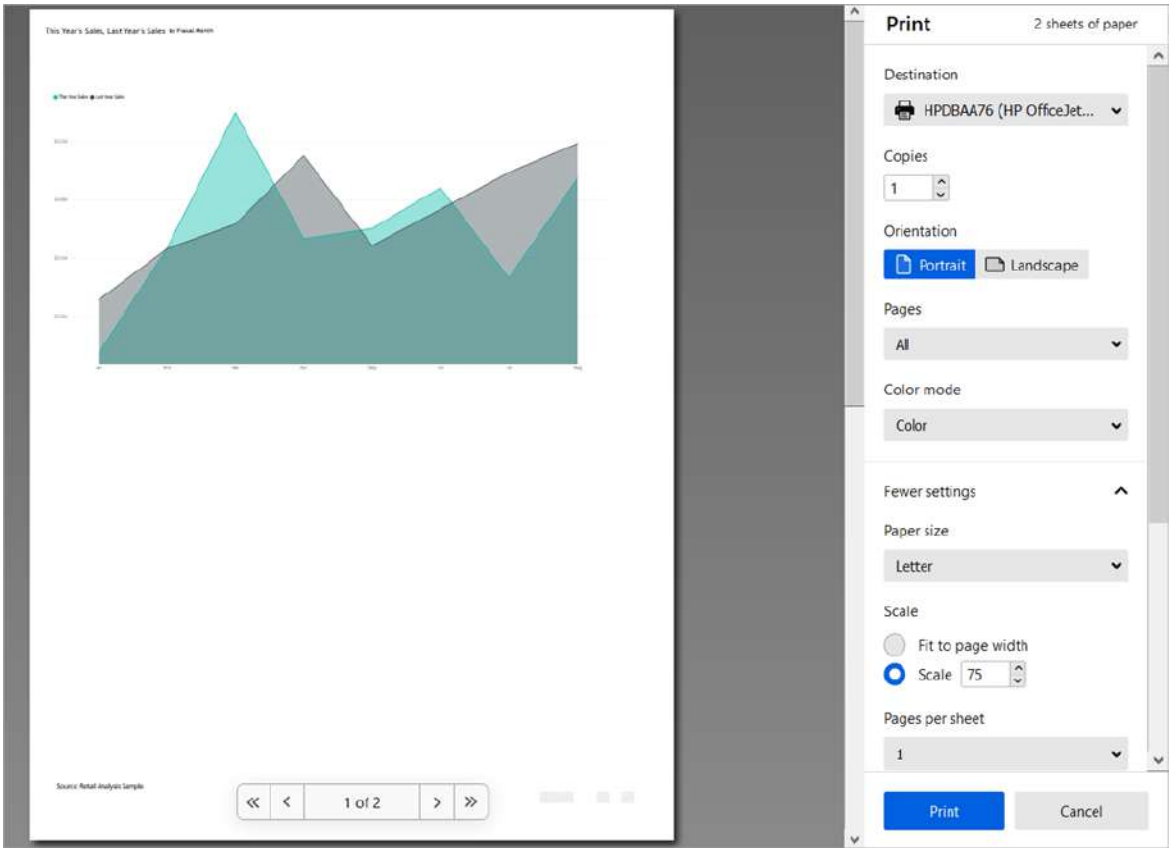
3. Hover over the tile to reveal the Options menu.





4. Select the Print icon .

5. The Print window for your browser opens. Choose the settings. For example, if your tile isn't fitting on the page, you may want to change the scale to 75%. Select **Print**.

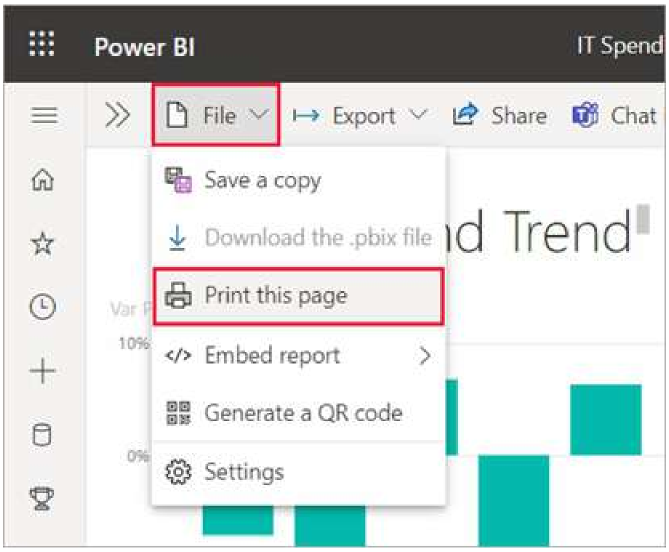


> **TIP**
>
> If you've followed all of these steps and your tile still isn't displaying the way you want it to, try the following.
>
> 1. Open the Print window and make the changes to the print settings that you believe will result in the best printout. For example, change the layout, margins, and scale.
> 2. But, instead of printing, select **Cancel**.
> 3. Go through steps 1-5 again. Your tile will adjust to the new Print window settings and be ready to print.

Print a report page

Reports can be printed one page at a time.

1. Open the report and select **File** > **Print this page** to print the current report page.

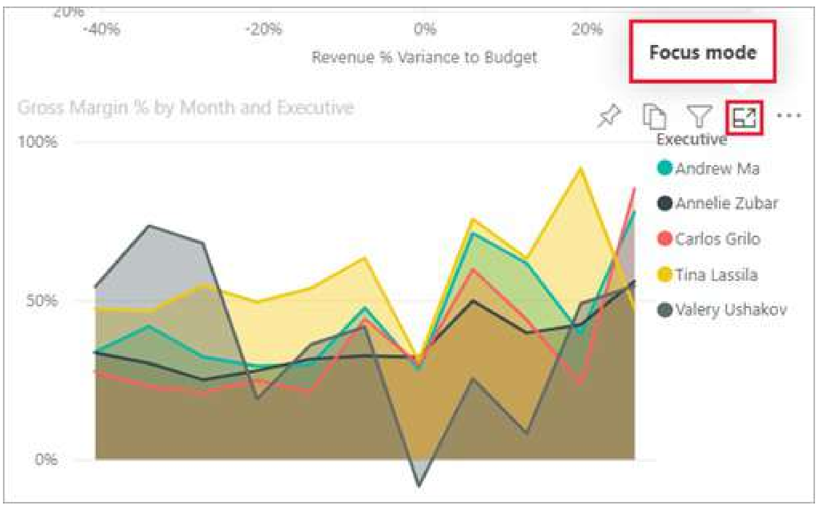


2. The Print window for your browser opens.

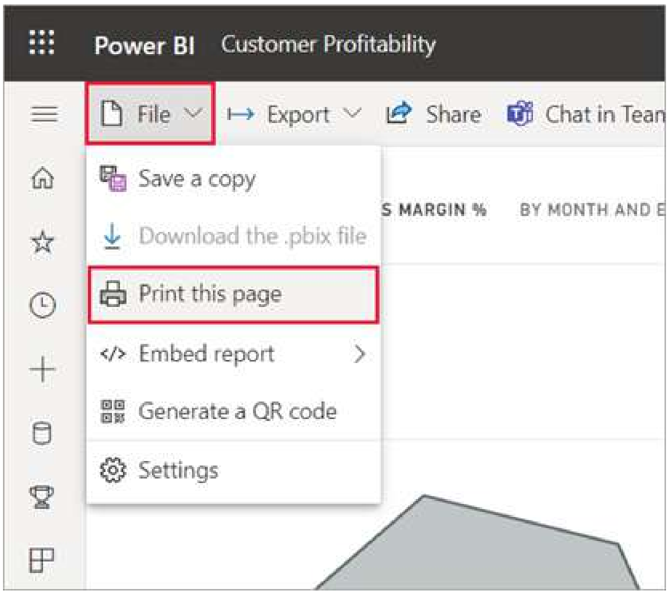
3. Follow the printing steps from **Print a dashboard**, above.

Print a report visual

1. Open the visual in Focus mode by hovering over the tile and selecting the Focus icon  from the top-right corner.



2. From the upper left corner, select **File** > **Print this page** to print the visual.



3. Follow the printing steps from **Print a dashboard**, above.

Considerations and troubleshooting

- Q: I cannot print all the report pages at once.
- A: That is correct. Report pages can only be printed one page at a time.
- Q: I cannot print to PDF.
- A: You will only see this option if you've already configured the PDF driver in your browser.
- Q: What I see when I select **Print** doesn't match what you're showing me here.
- A: The Print screens vary by browser and software version.
- Q: My printout isn't scaled correctly. My dashboard doesn't fit on the page. Other scaling and orientation questions.
- A: We cannot guarantee that the printed copy will be exactly the same as it appears in the Power BI service. Things like scaling, margins, visual details, orientation, and size are not controlled by Power BI. Try adjusting the print settings for your browser. Some of the ones we suggest above are page orientation (portrait or landscape), margin size, and scale. If these don't help, refer to the documentation for your specific browser.
- Q: When I'm printing from Full screen mode, I don't see the print option when I hover over the visual.
- A: Go back to the dashboard or report in default view and re-open the visual in Focus mode and then Full screen mode.

Next steps

Share dashboards and reports with colleagues and others

More questions? Try the Power BI Community

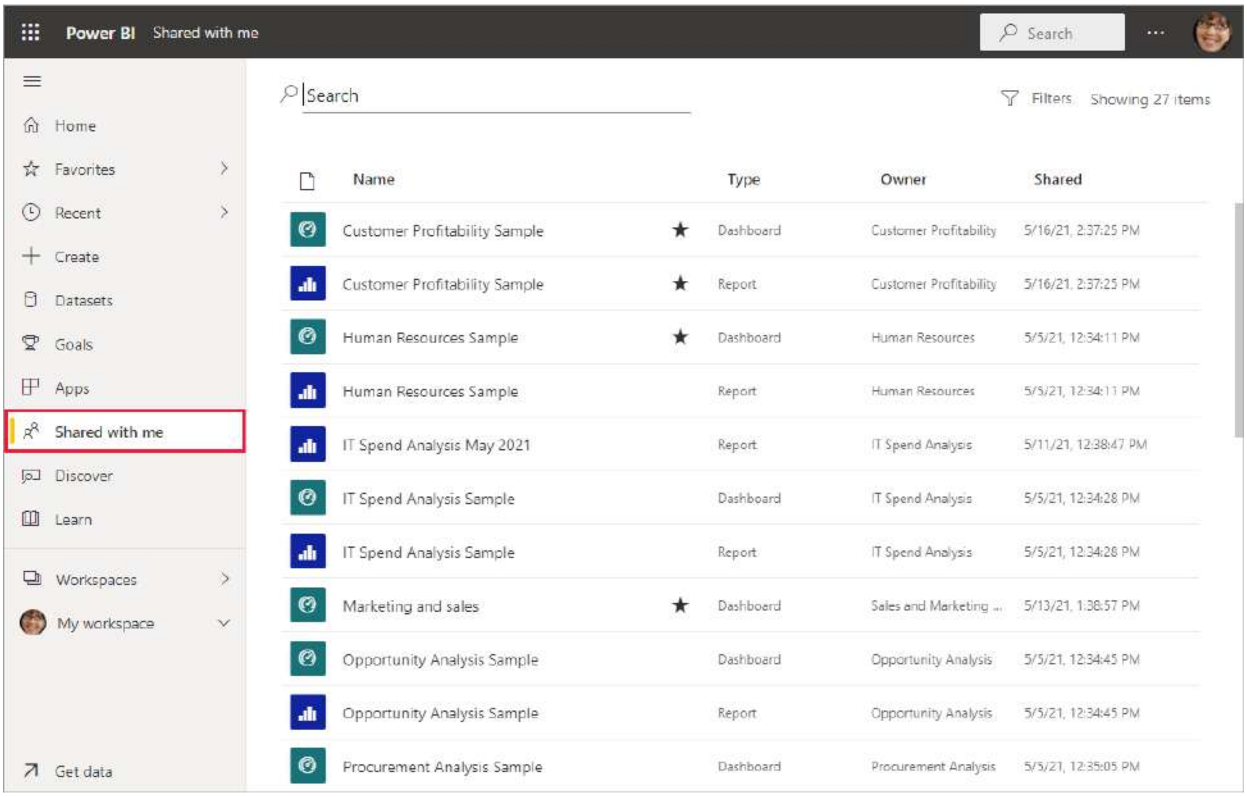
Display the dashboards and reports that have been shared with me

12/15/2022 • 2 minutes to read • Edit Online

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

Your colleagues have created reports, dashboards, scorecards, and datasets. When it comes time to share them with you or to ask for your collaboration, there are several ways to collaborate and share. In this article, we compare the options.

No matter which option is used, to view content created by others requires a Power BI Pro license, or the content needs to be in a Premium capacity.



Watch Amanda explain the **Shared with me** content list and demonstrate how to navigate and filter the list. Then follow the step-by-step instructions below the video to try it out yourself. For you to view dashboards shared with you, you need to have a Power BI Pro or Premium Per User (PPU) license. Read What is Power BI Premium? for details.

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

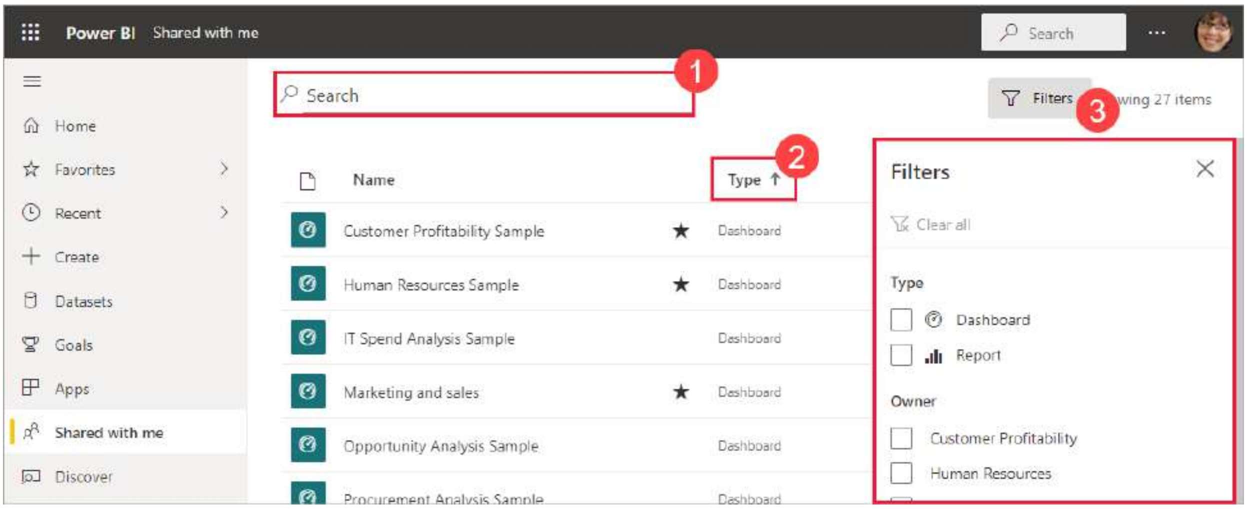
https://www.youtube.com/embed/G26dr2PsEpk

Interact with shared content

You'll have options for interacting with the shared dashboards and reports, depending on the permissions the *designer* gives you. These include being able to make copies of the dashboard, subscribe, open the report in Reading view, and reshare with other colleagues. Select a dashboard or report to open it.

Search and sort shared dashboards and reports

If your **Shared with me** content list gets long, you have several options for finding what you need. Use the search field (1), sort by one of the columns (2), or use the Filters pane. To open the Filters pane, select **Filters** from the upper right corner.



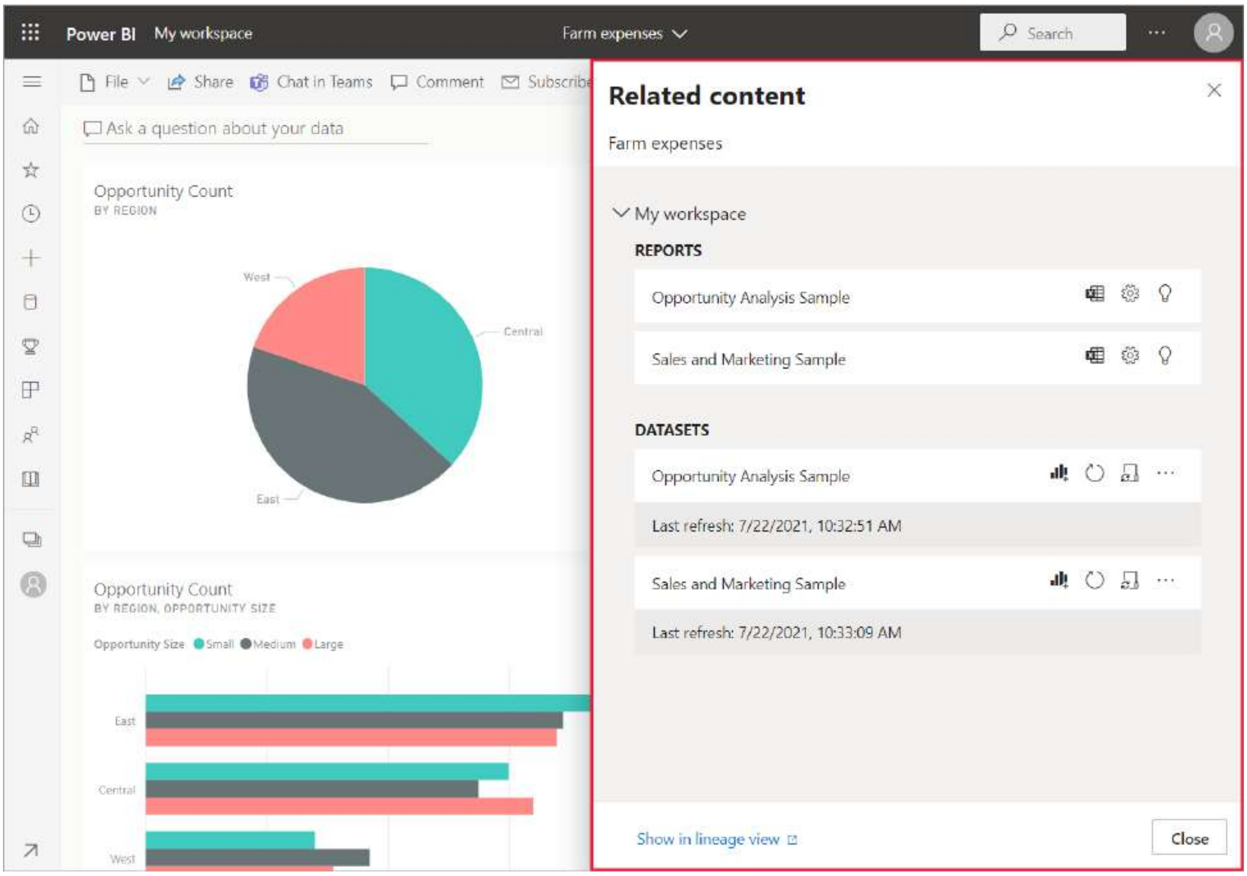
See related content in the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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 datasets -- 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 datasets, 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 dataset? If so, what are they named and how can you open and edit them? Is your HR dataset being used in any reports or dashboards at all? Or, can it be moved without causing any broken links? Questions like these can all 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.



NOTE

The related content feature does not work for streaming datasets.

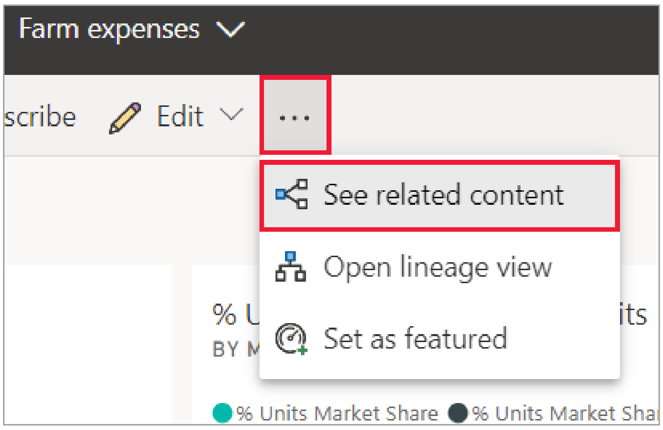
See related content for a dashboard or report

Watch Will view related content for a dashboard. Then follow the step-by-step instructions below the video to try it out yourself with the Procurement Analysis sample.

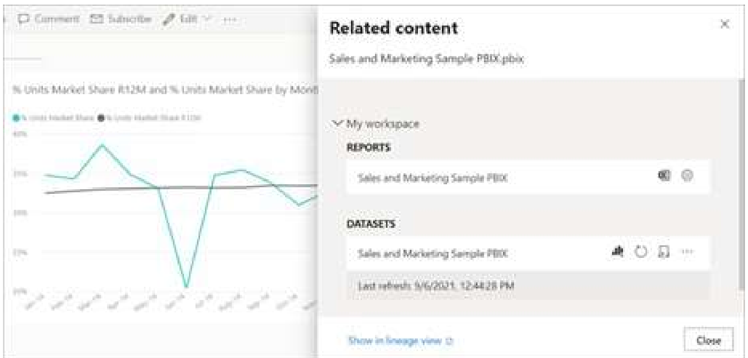
> **NOTE**
>
> This video might use earlier versions of Power BI Desktop or the Power BI service.

https://www.youtube.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 datasets. For this dashboard, there are visualizations pinned from only one report and that report is based on only one dataset. 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 two datasets.



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 dataset, 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

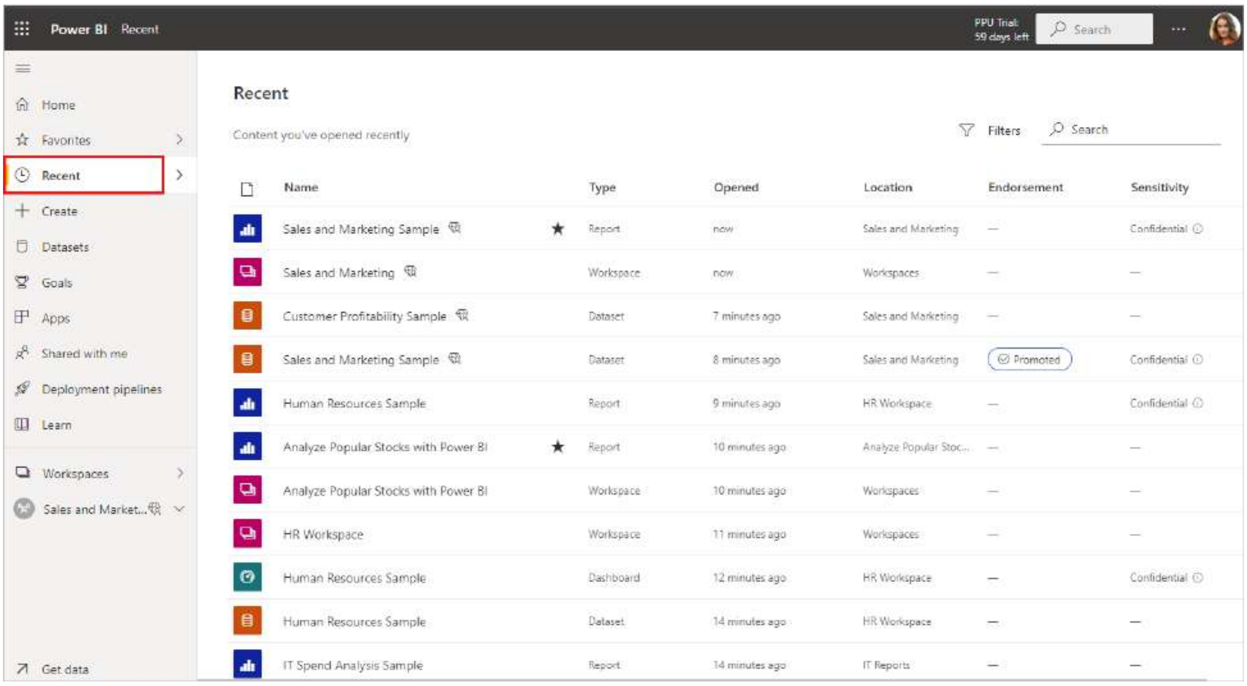
- Get started with Power BI service
- More questions? Try the Power BI Community

Recent content in the Power BI service

12/15/2022 • 2 minutes to read • Edit Online

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

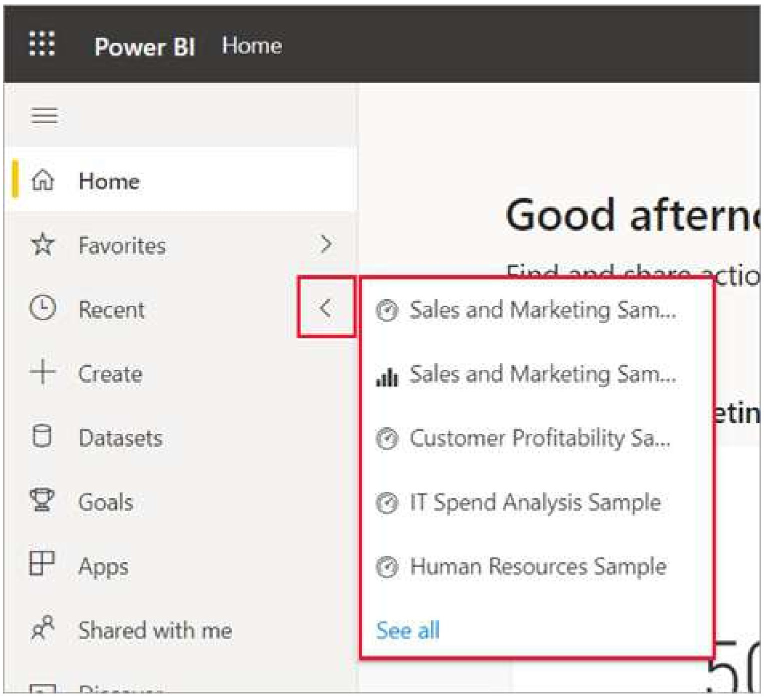
Recent content contains the last items you visited in the Power BI service. This include: dashboards, reports, apps, datasets, workspaces, and workbooks. When you select **Recent** from the nav bar, Power BI displays this content in descending order by date. To change the sort order, select one of the headings and choose ascending or descending.



Notice that two items are favorites, they have a star icon, while four items are stored in Premium capacity, as denoted by a diamond icon.

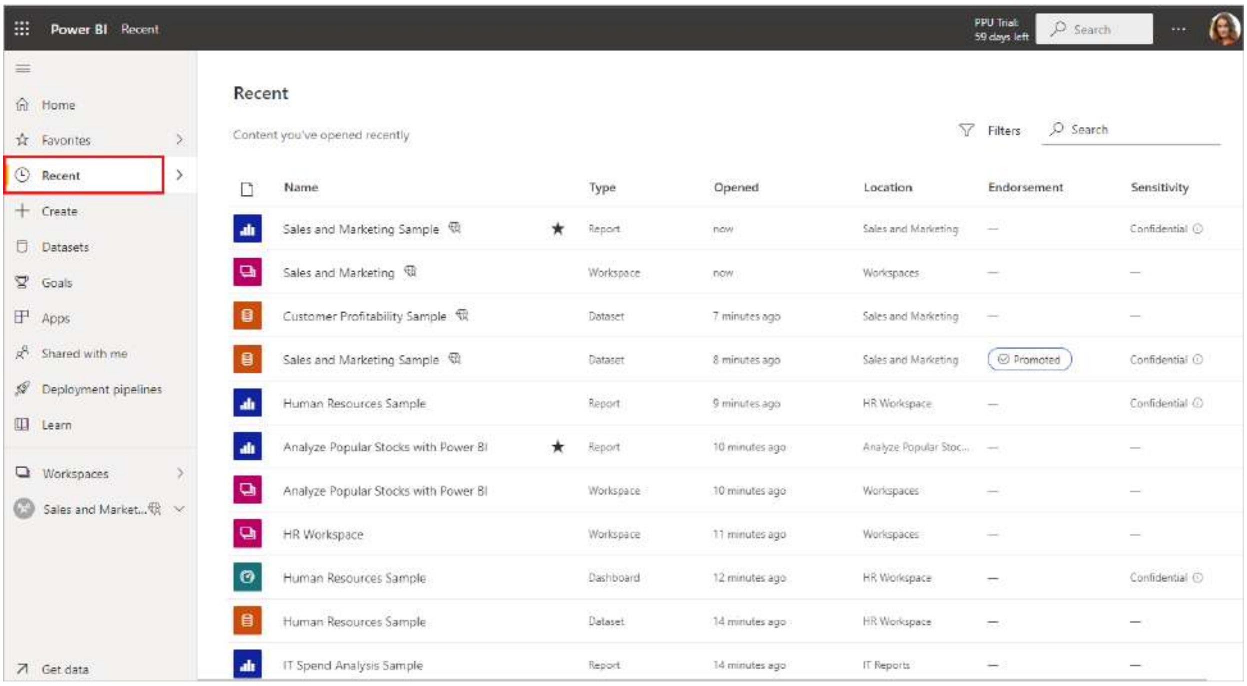
See your five most recents

To display only your five most recently visited items, from the nav pane, select the arrow to the right of **Recent**. From here, select content to open it.



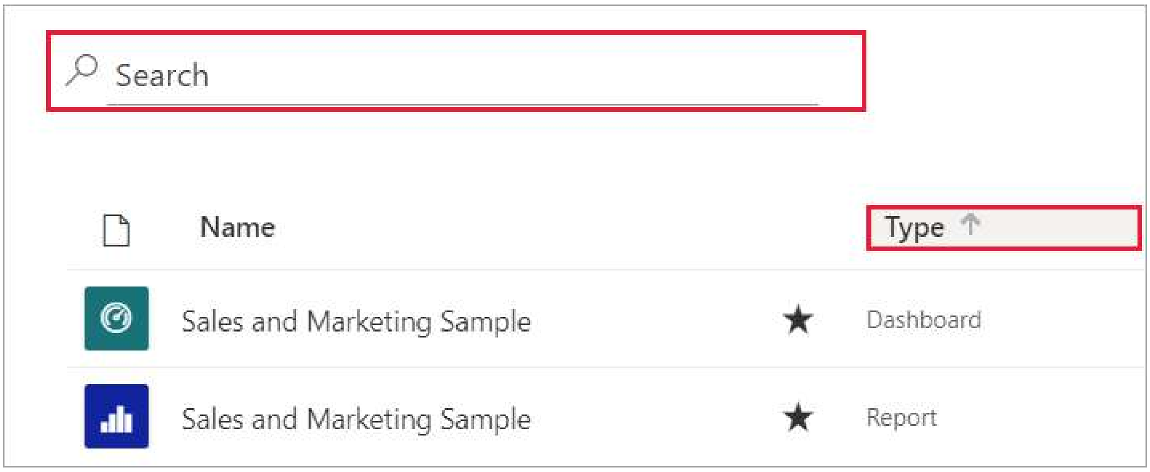
See all of your recent content

If you have more than five recently visited items, select **See all** to open the **Recent** screen. As we did at the beginning of this article, you can skip the flyout and open the **Recent** screen by selecting the word **Recent**, or its icon, from the nav pane.



Search and sort your list of recent content

If your lists get long, use the search field and sorting to find what you need. To find out if a column can be sorted, hover to see if an arrow appears. In this example, hovering over **Type** reveals an arrow -- your recent content can be sorted alphabetically by type of content.



Watch Amanda demonstrate some feature of navigating around your content the Power BI service.

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

https://www.youtube.com/embed/G26dr2PsEpk

> **NOTE**
>
> This video uses an older version of the Power BI service.

Next steps

Power BI service apps

More questions? Try the Power BI Community

Navigation for Power BI business users: global search

12/15/2022 • 2 minutes to read • Edit Online

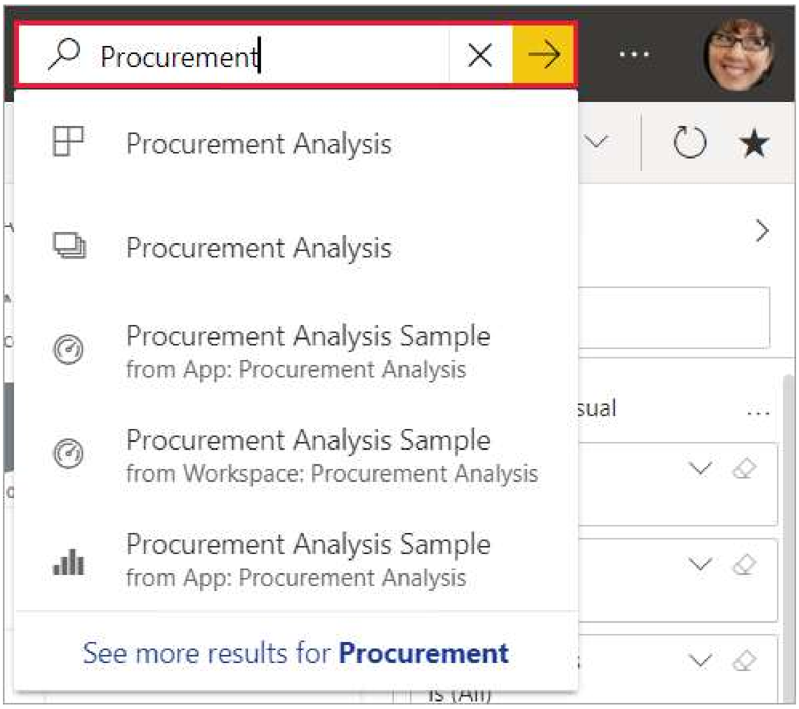
APPLIES TO: ✅ Power BI service for ***business users*** ✅ Power BI service for designers & developers ❎ Power BI Desktop ✅ Requires Pro or Premium license

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

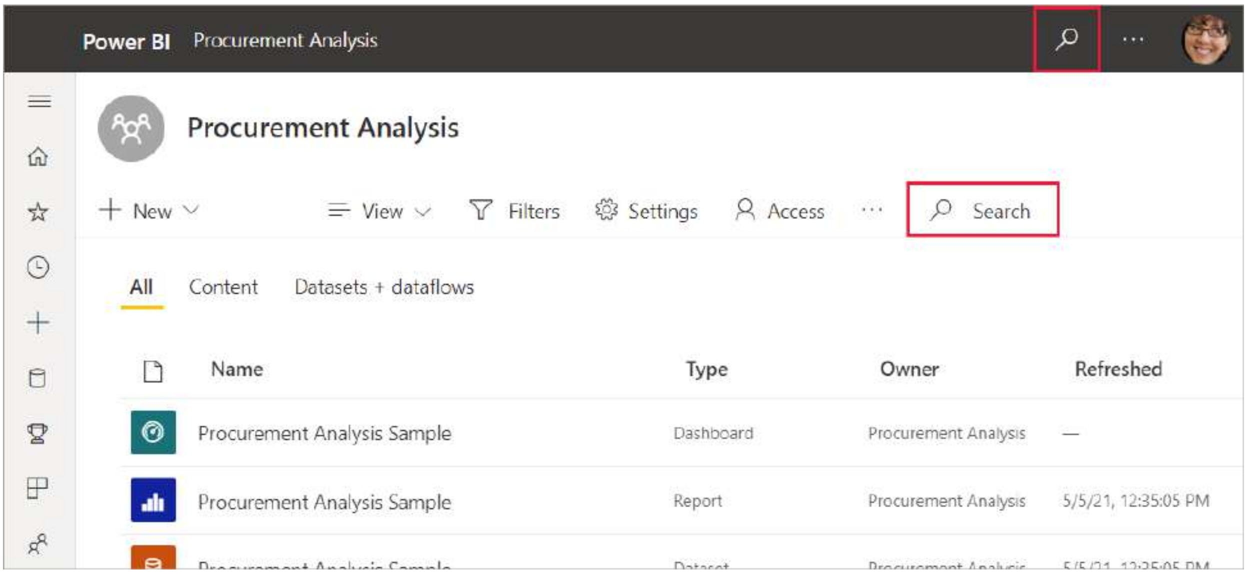
Searching for content

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.



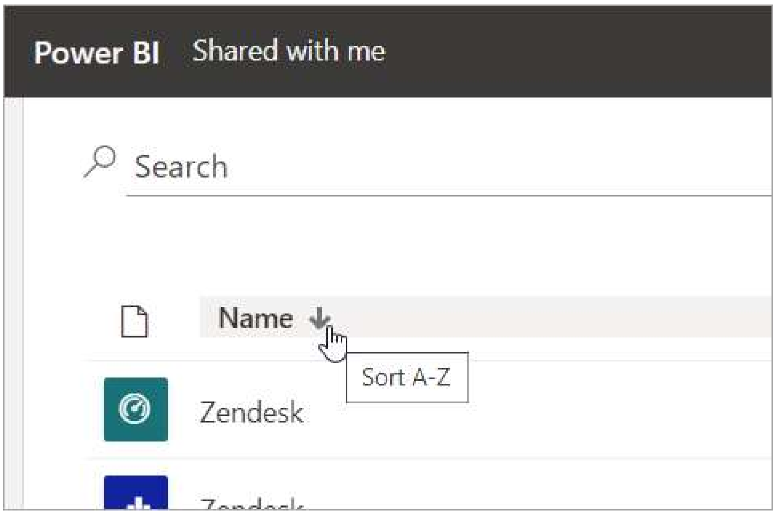
In some areas of Power BI, such as workspaces, you'll find two different search fields. The search field in the menu bar searches all of your content while the search field on the workspace canvas searches only that workspace.



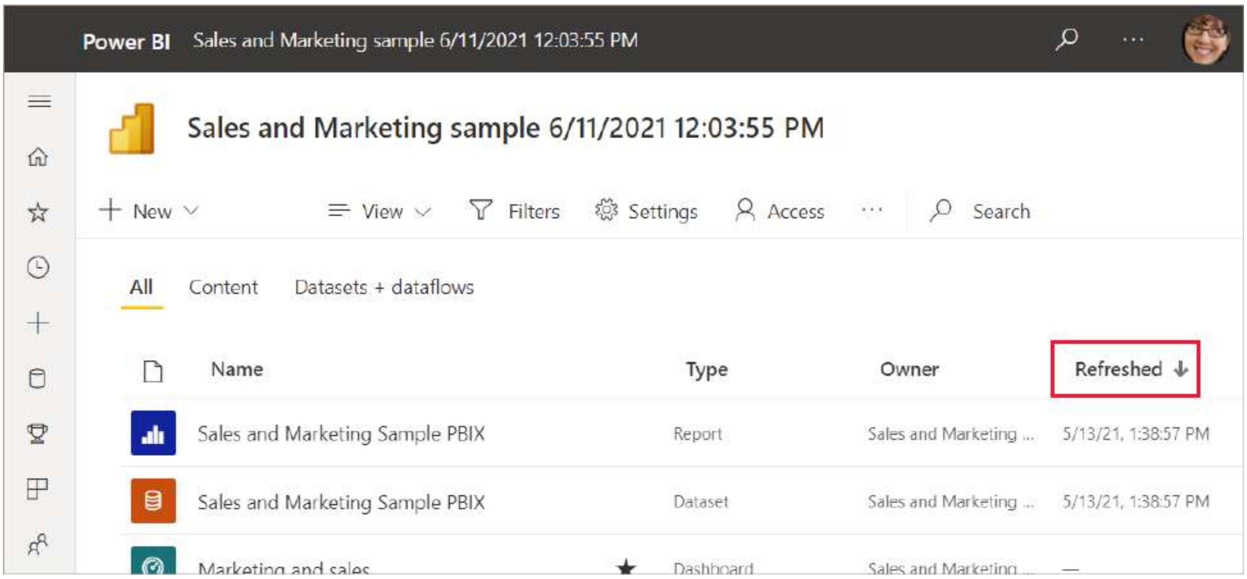
Sorting content lists

If you only have a few pieces of content, sorting may not be necessary. But when you have long lists of dashboards and reports, sorting will help you find what you need. For example, this **Shared with me** content list has 29 items.

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 (A-Z)**.



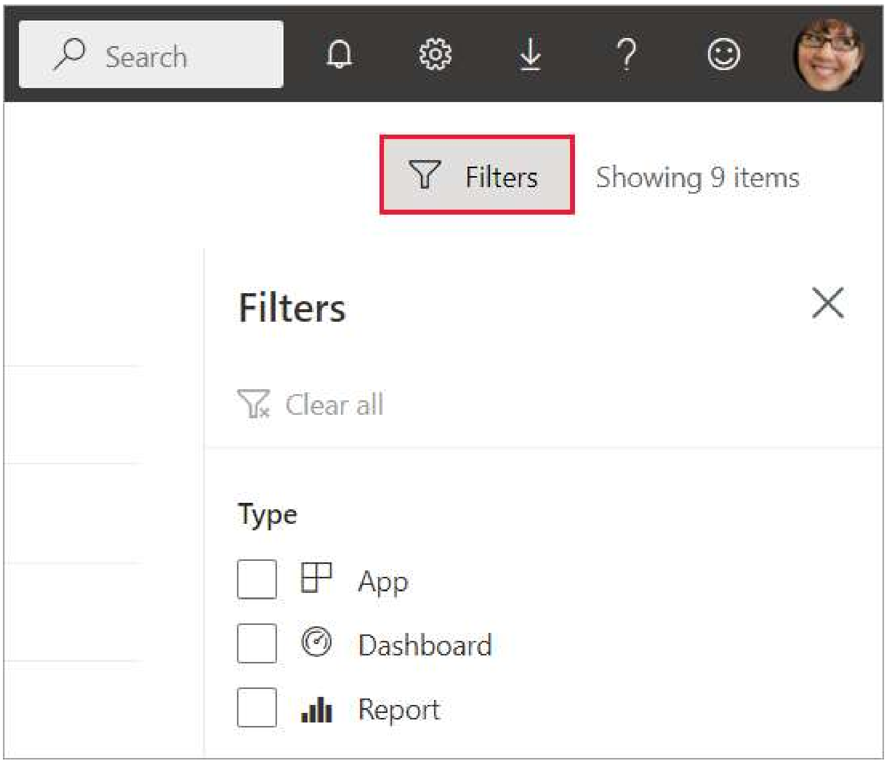
Sorting is also available in workspaces. In this example, the content is sorted by **Refreshed** date. To set sorting criteria for workspaces, select column headers and select again to change sorting direction.



Not all columns can be sorted. Hover over the column headings to discover which can be sorted.

Filtering content lists

Another way to locate content quickly is by using the content list **Filters**. Display the filters by selecting **Filters** from the upper right corner. The filters available will depend on your location in the Power BI service. The example below is from a **Recent** content list. It allows you to filter the list by content type. On a **Shared with me** content list, the **Filters** available include Owner as well as content type.



Next steps

[Sort visuals in reports]

[Sorting data in visuals]

More questions? [Try the Power BI Community]

Opt in for Power BI service preview features

12/15/2022 • 2 minutes to read • Edit Online

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

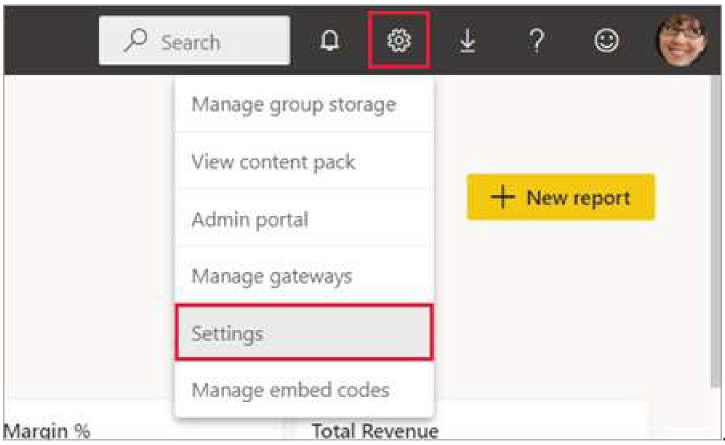
What are *preview features*?

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.

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.

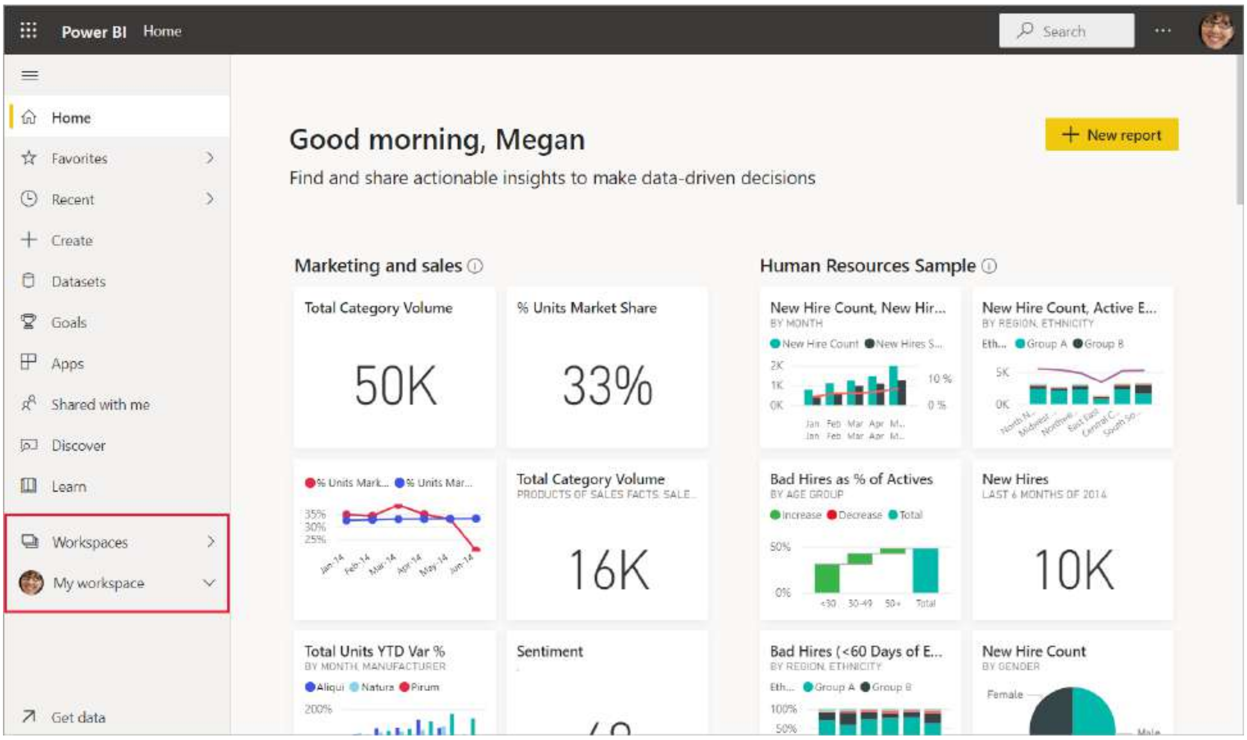
Collaborate in workspaces

12/15/2022 • 2 minutes to read • Edit Online

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.

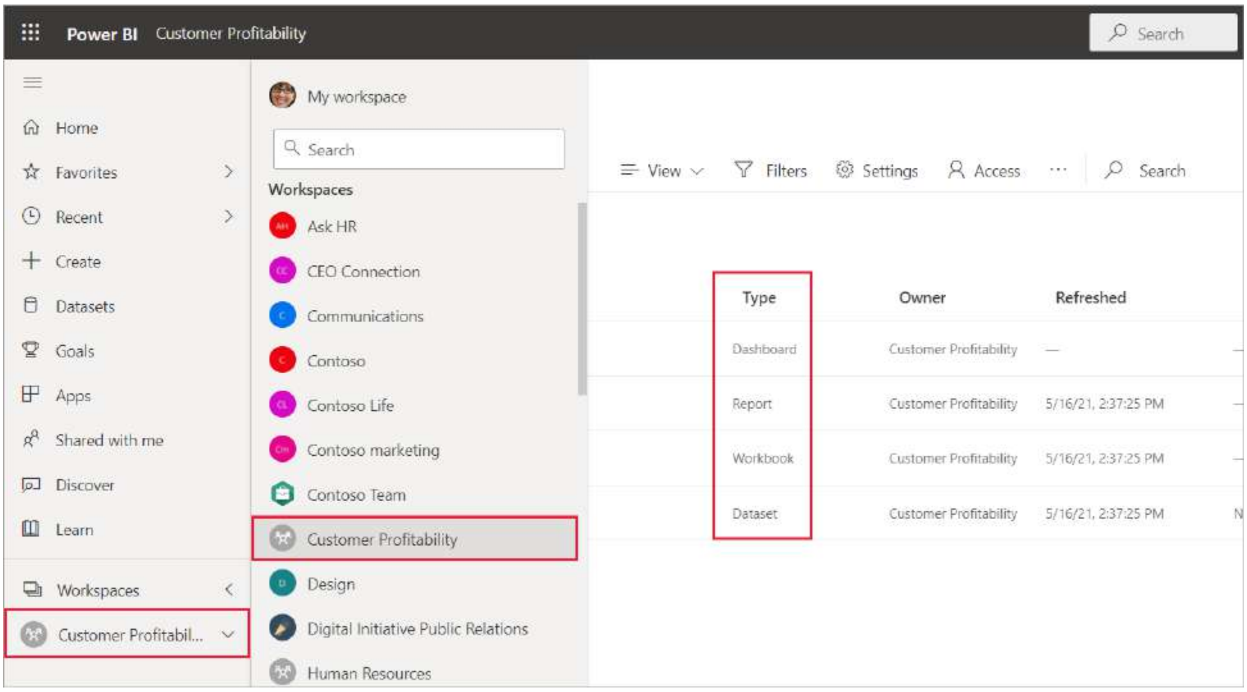


Types of workspaces

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 are 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 is necessary for that app to be utilized. Content may include dashboards, reports, and datasets. Not every app will contain these three pieces of content. An app may contain only one dashboard, or three of each content type, or even twenty 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 **Customer Profitability** workspace below contains a dashboard, a report, a workbook, and a dataset.



Permissions in the workspaces

Access permissions determine what you can do in a workspace, so teams can collaborate. When granting access to a workspace, *designers* 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.

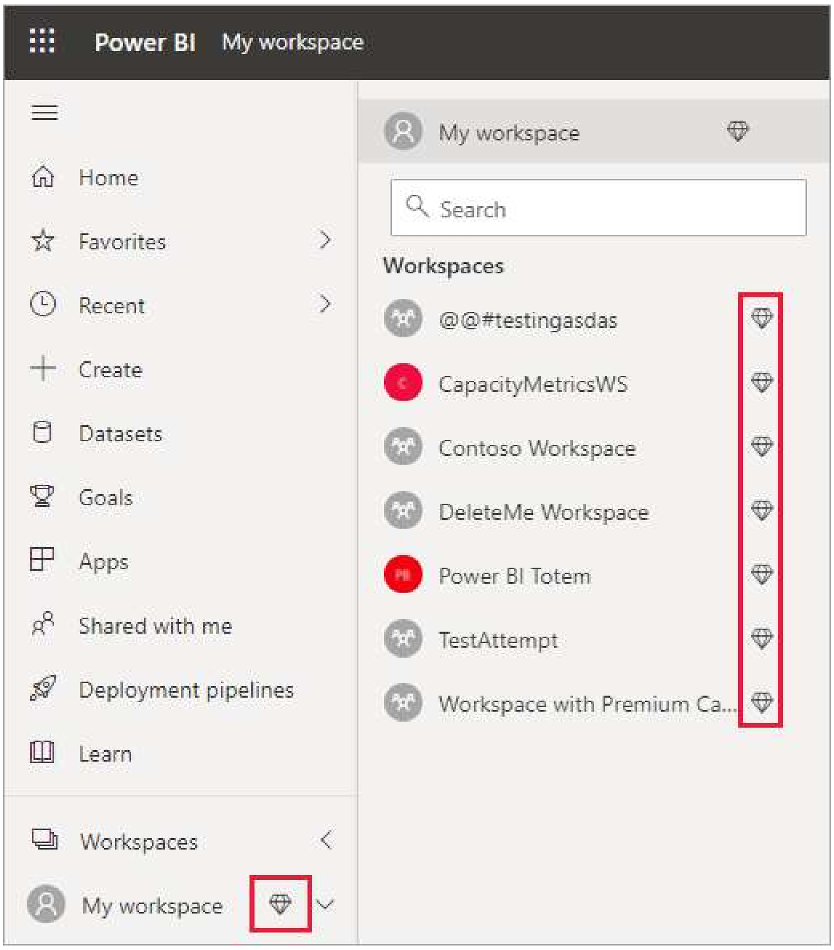
For a detailed list of all four roles and their capabilities, see workspace roles.

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. A diamond icon identifies the workspaces that are stored in Premium capacity.



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

12/15/2022 • 3 minutes to read • Edit Online

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.

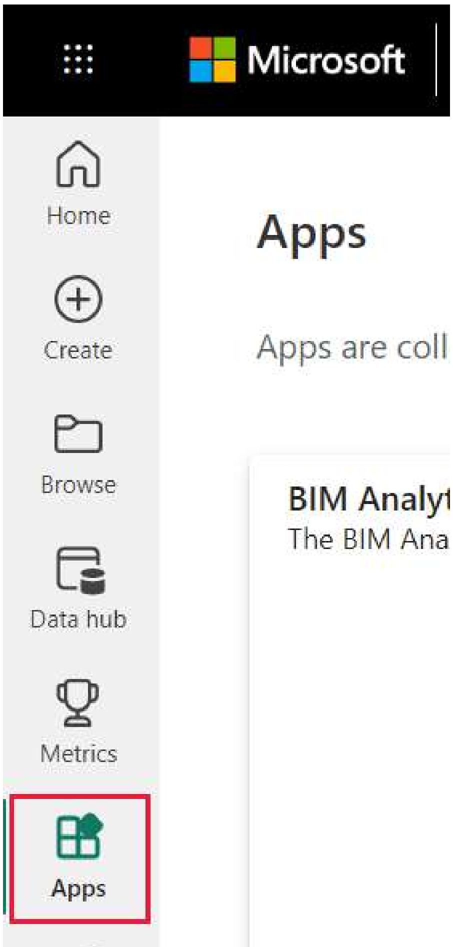
When the app author releases updates, you get a notification or you automatically see the changes. The author controls how often the data is scheduled to refresh, so you don't need to worry about keeping it up to date.

Get a new app

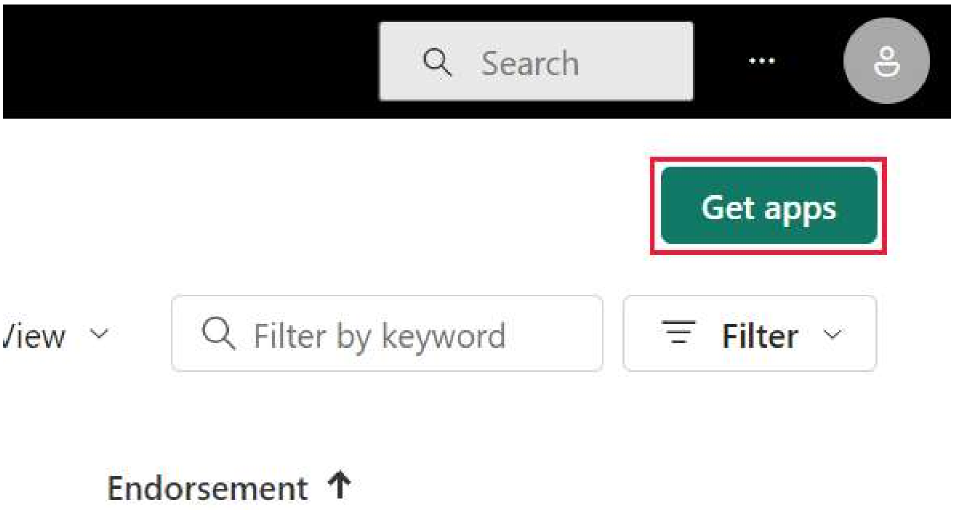
There are several ways to get a new app. You can search, find, and install apps in the apps marketplace, or app designers can share apps with you.

Find and install apps from the Power BI apps marketplace

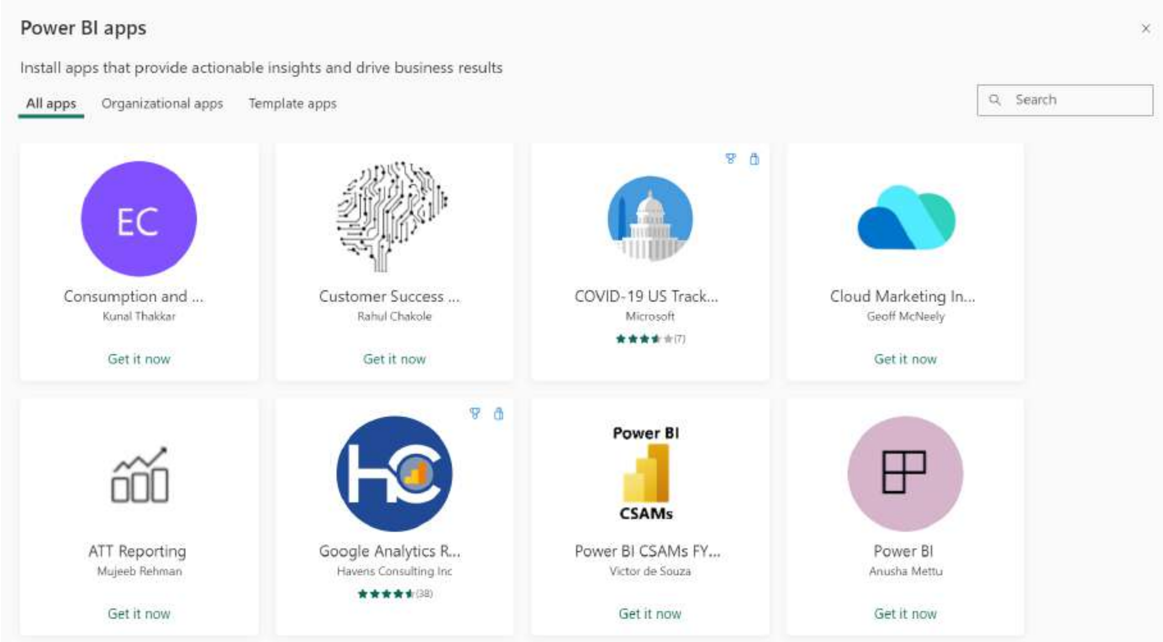
1. To find apps in the apps marketplace, select **Apps** on your navigation pane.



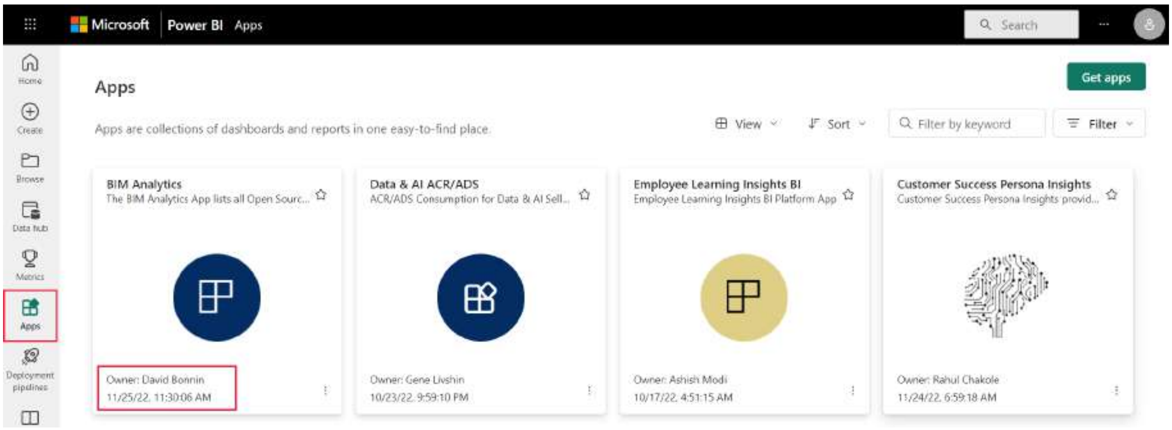
2. On the Apps page, select **Get apps**.



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

12/15/2022 • 6 minutes to read • Edit Online

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, let's learn how to open and interact with apps.

Ways to get a new app

There are several ways to get a new app:

- You can get it from the Power BI app marketplace in the Power BI service.
- You can use a direct link to an app that you have received from the app designer.
- An app designer in your organization can install the app automatically in your Power BI account.

With Power BI mobile, you can only install an app from a direct link. 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 have then been shared with you.
- If you have a Pro license or a Premium Per User license, you can open apps that have been shared with you.

So, if you cannot open an app, contact your administrator or help desk. For information about licensing, see Power BI licensing.

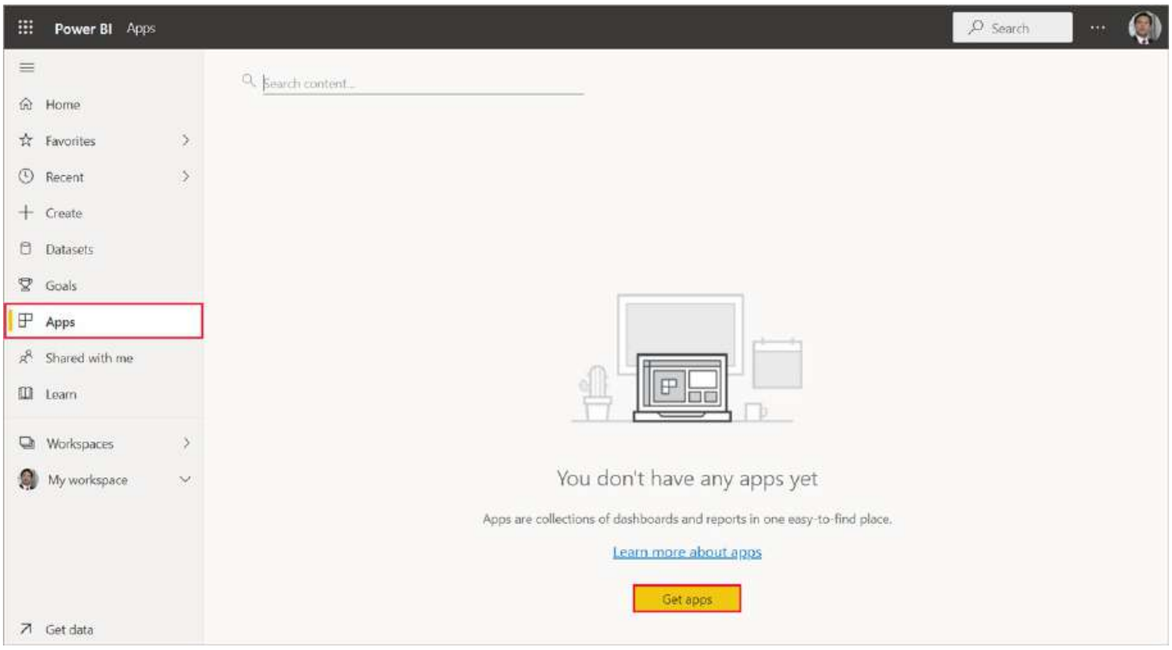
Get the app from the Power BI apps marketplace

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.

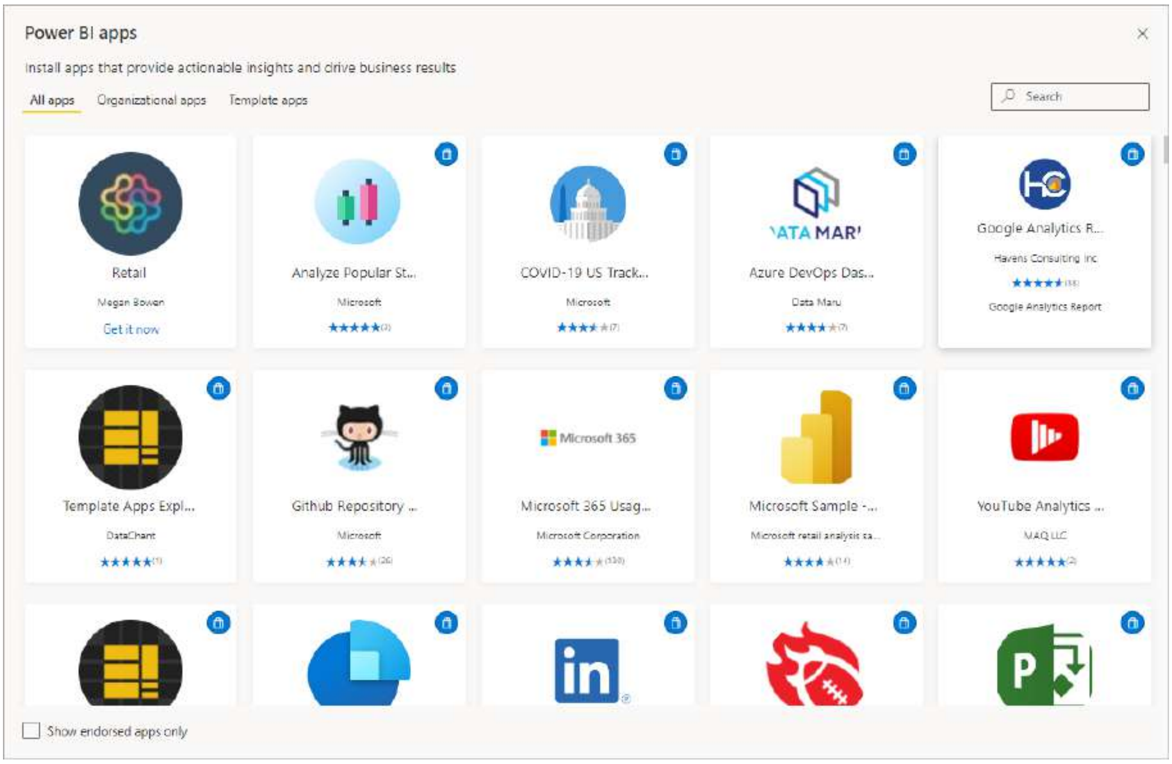
- An *organizational app* is available to Power BI users in your organization. These apps also include pre-built dashboards and reports that you can use as-is or customize and share. Your organization may have apps for things like tracking sales, measuring performance, or analyzing hiring success.
- 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. Sign in to the Power BI service if you aren't already signed in.

2. Once the Power BI service is open, select **Apps** > **Get apps**.



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. Typing part of the name of an app, or of a category such as finance, analytics, marketing, etc., will 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 will be returned. If the **All apps** tab is open, both organizational and template apps are returned. This can be confusing when an organizational app and a template app have the same name. Just remember that the template app tiles have a 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.

- 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 will 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 are using a free user license, you'll be able to download apps but won't be able to 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 email, the Power BI service (https://app.powerbi.com) opens the app in your browser.

On your iOS or Android mobile device

When you select the link in email on your mobile device, the app installs automatically and opens in the mobile app. You may have to sign in first.

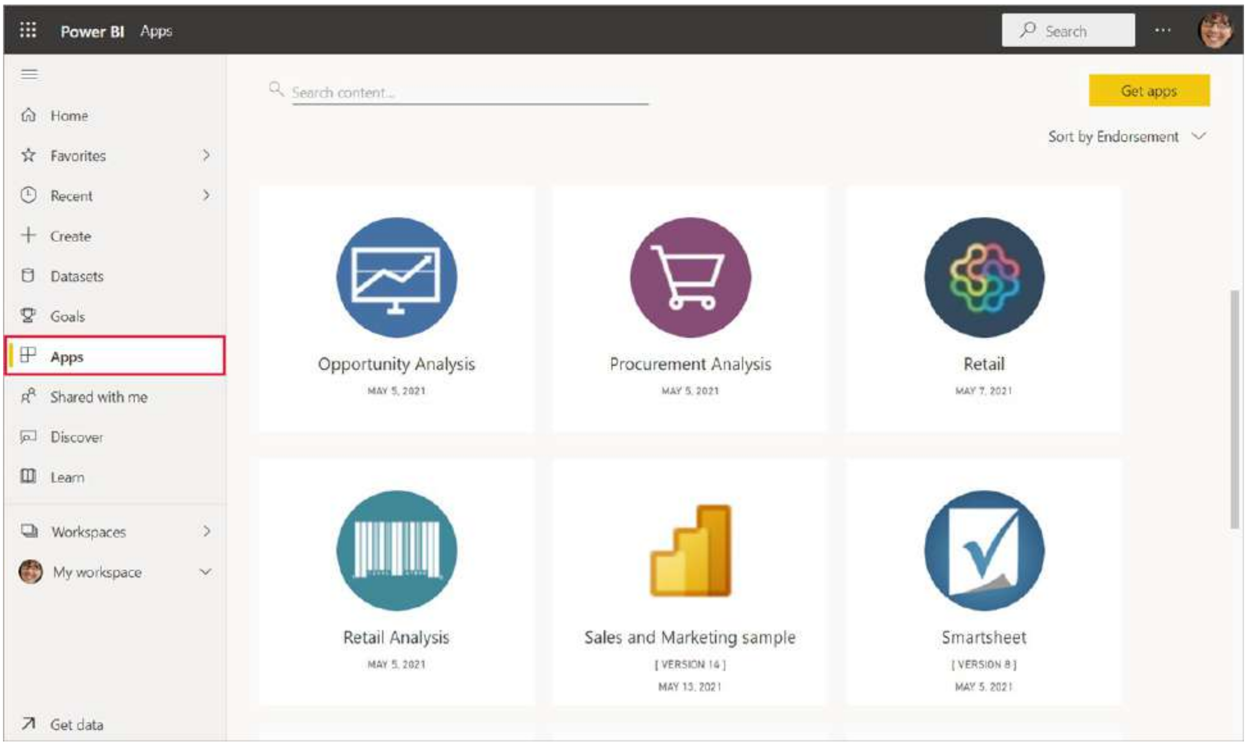
Interact with the dashboards and reports in the app

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.

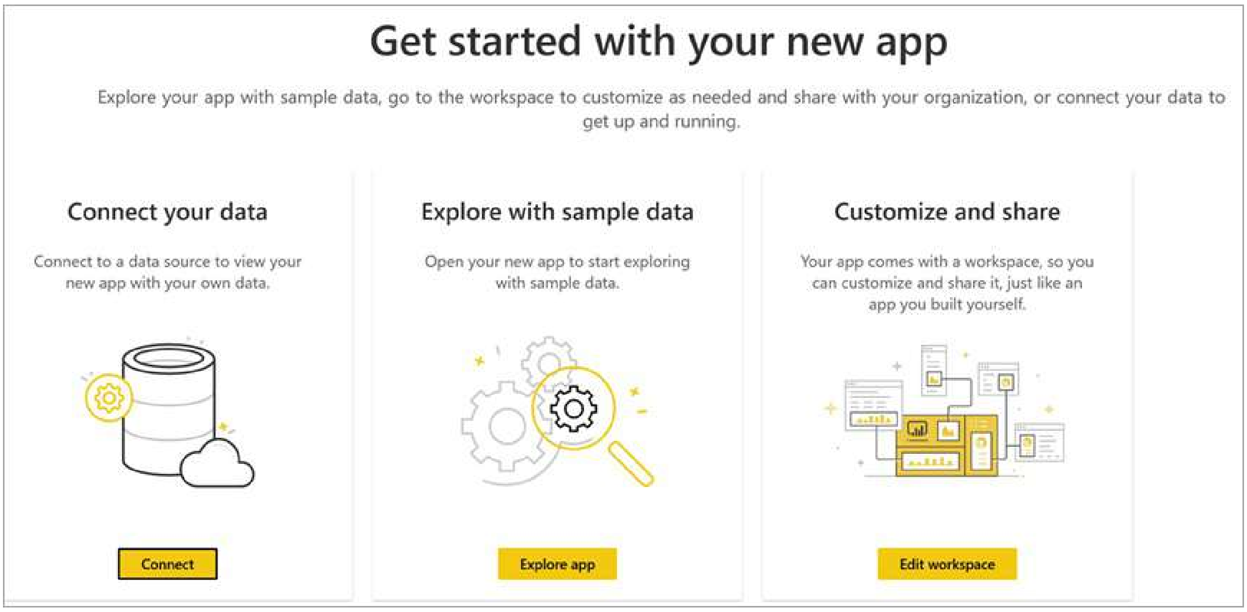
Still a little confused by the difference between dashboards and reports? Read the article about dashboards and the article about reports.

Open an app

You've installed an app, or have received an app from a colleague. To view that app, open your Apps content list by selecting **Apps** from the navigation pane.

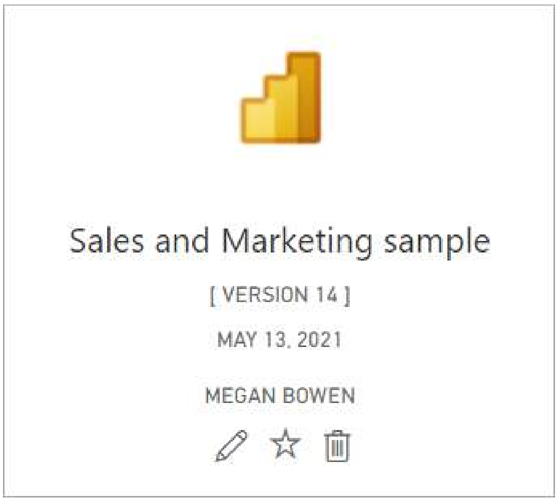


Hover and select the app to open. Depending on the app, you may receive a prompt that looks similar to the one below. Some apps ask you for contact information (e.g., name and email) or for product details (e.g., customer ID, subscription number, parameters). Many apps load with sample data and provide a link for you to connect your own data.

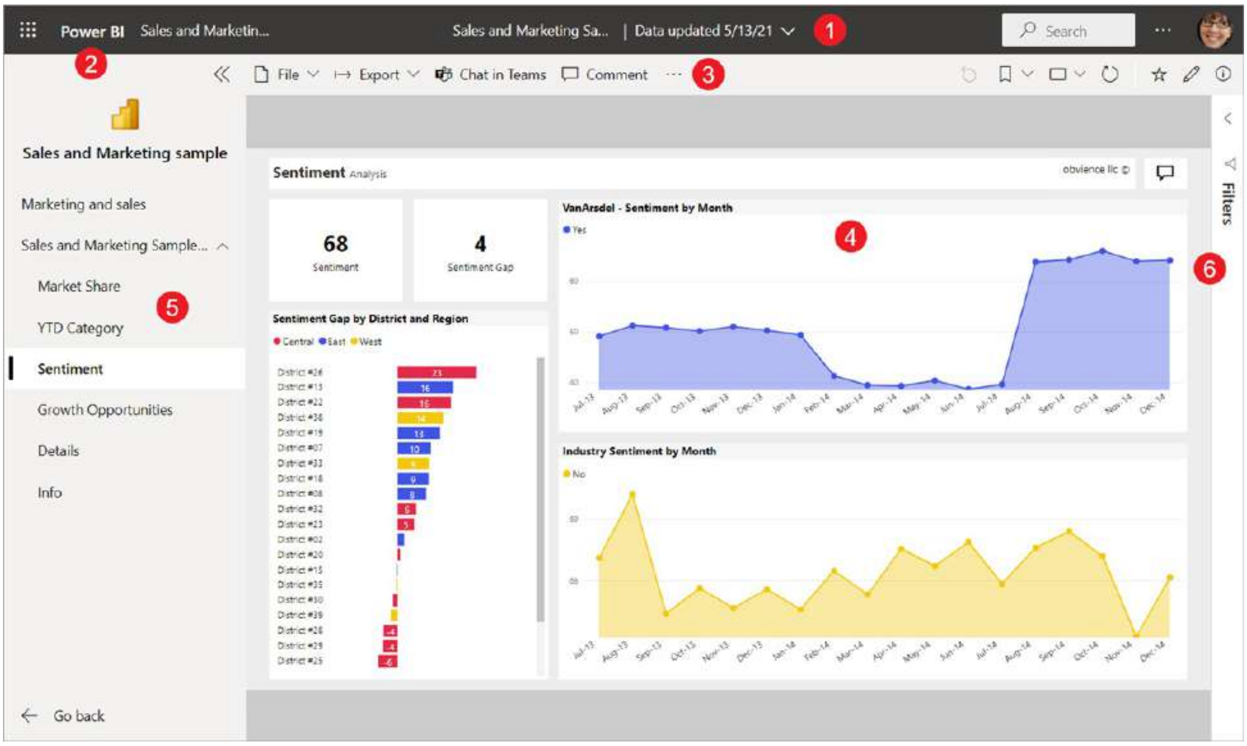


For guidance on which option to select, see Install template apps.

Hover over the app to see details, and select the app card to open the app.

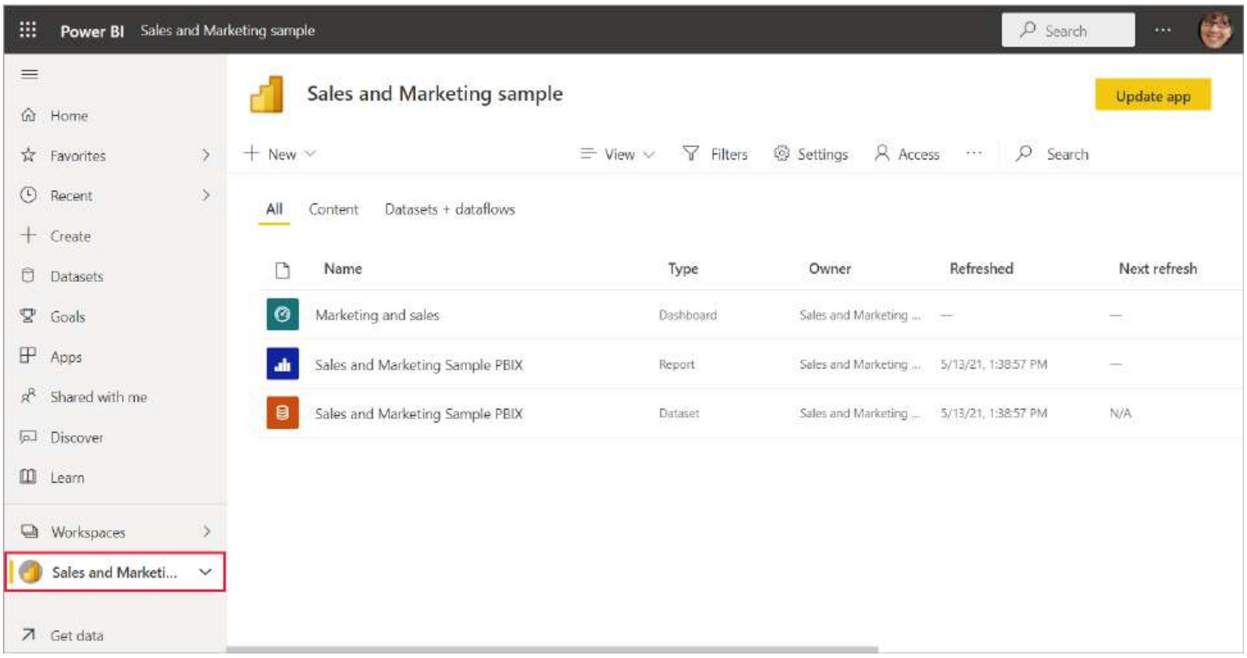


The app opens. Every app will look different - different layout, visuals, colors, options. But all apps do have some common features.



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 action 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 also 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 may not include access to the workspace. Learn about workspaces. Select **Power BI** (number 2) to return to **Home** and choose **Workspaces**.

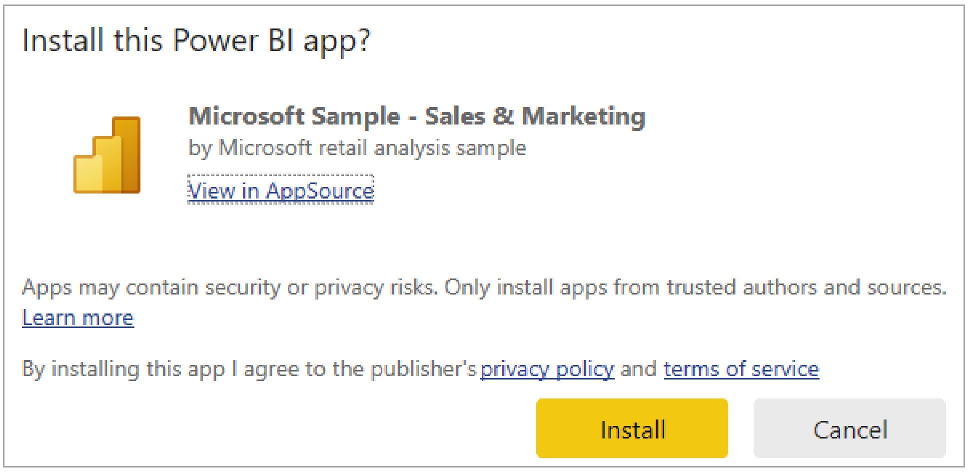


Update an app

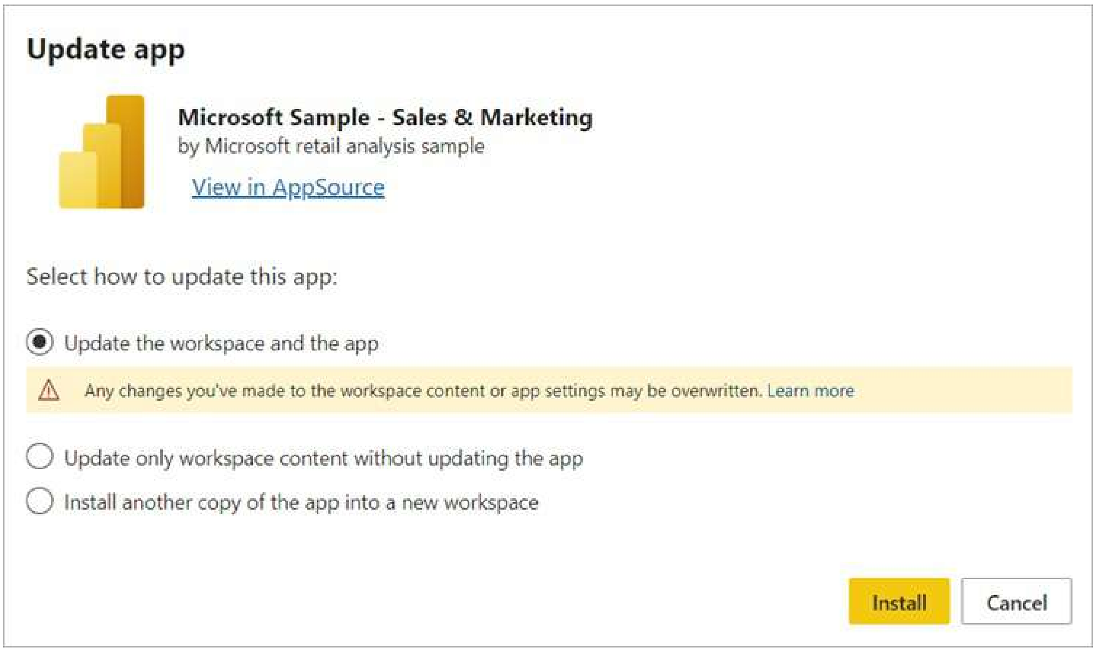
From time to time, app designers may release new versions of their apps. How you get the new version depends on how you received the original.

- If you got the app from your organization, the update to the new version is entirely transparent - 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. Since you already have a version of this app, 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 may have made to the app's reports and dashboards. To keep your updated reports and dashboards, you can 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

12/15/2022 • 2 minutes to read • Edit Online

The data hub helps you find, explore, and use data items in your organization, such as datasets, 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.

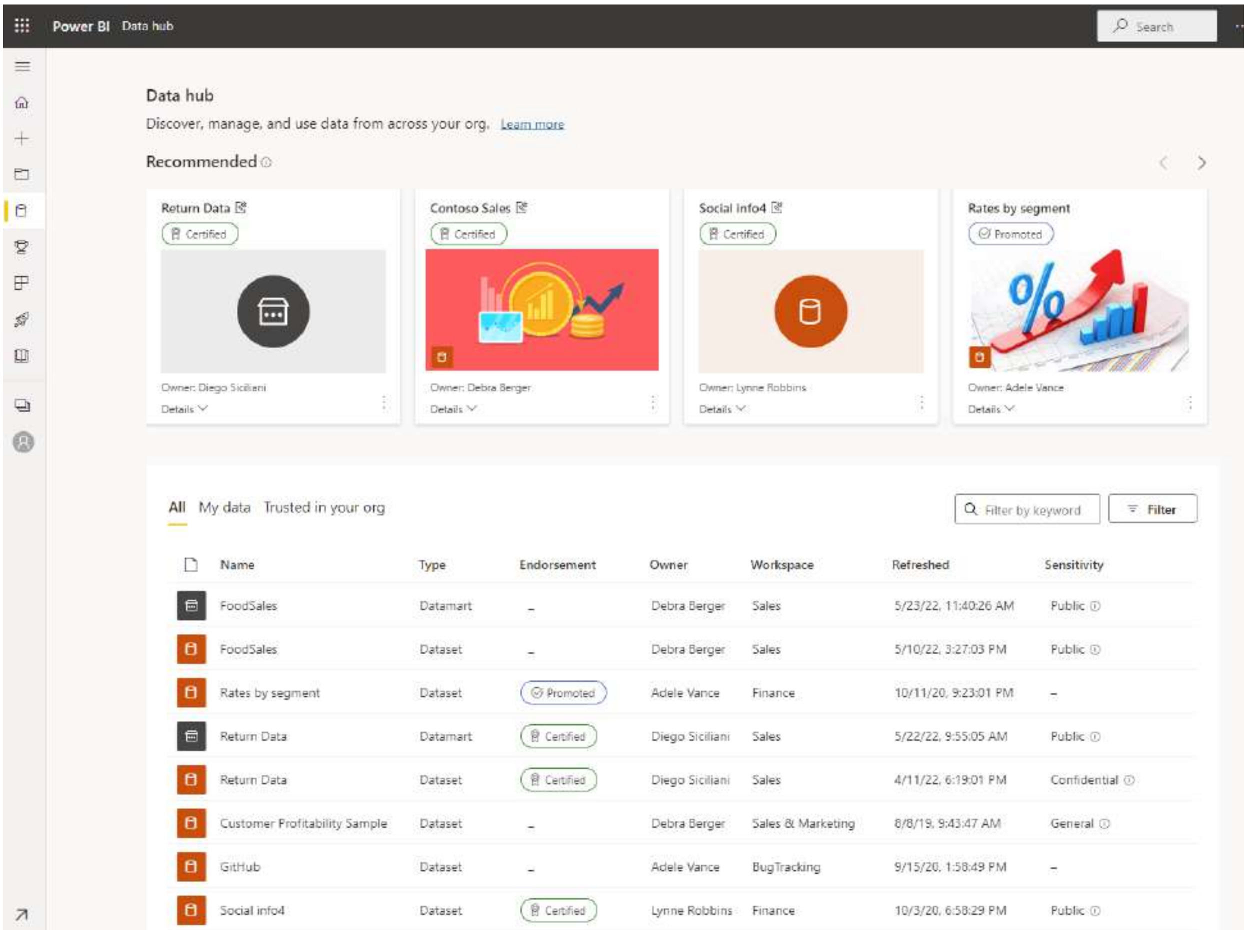
This article explains what you see on the data hub and describes how to use it. For more details and advanced features available on the data hub, see Data discovery using the data hub.

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 datasets hub in the Power BI service.



The data hub presents you with a selection of recommended data items and a list of all the data items in the organization that you have permissions to access. If dataset discoverability is enabled for you, you also see datasets you don't have access to.

Continue learning about the data hub and explore additional information, including how to select a dataset, how to explore reports built using a dataset, and how to create a new report yourself.

Next steps

Continue learning about the data hub

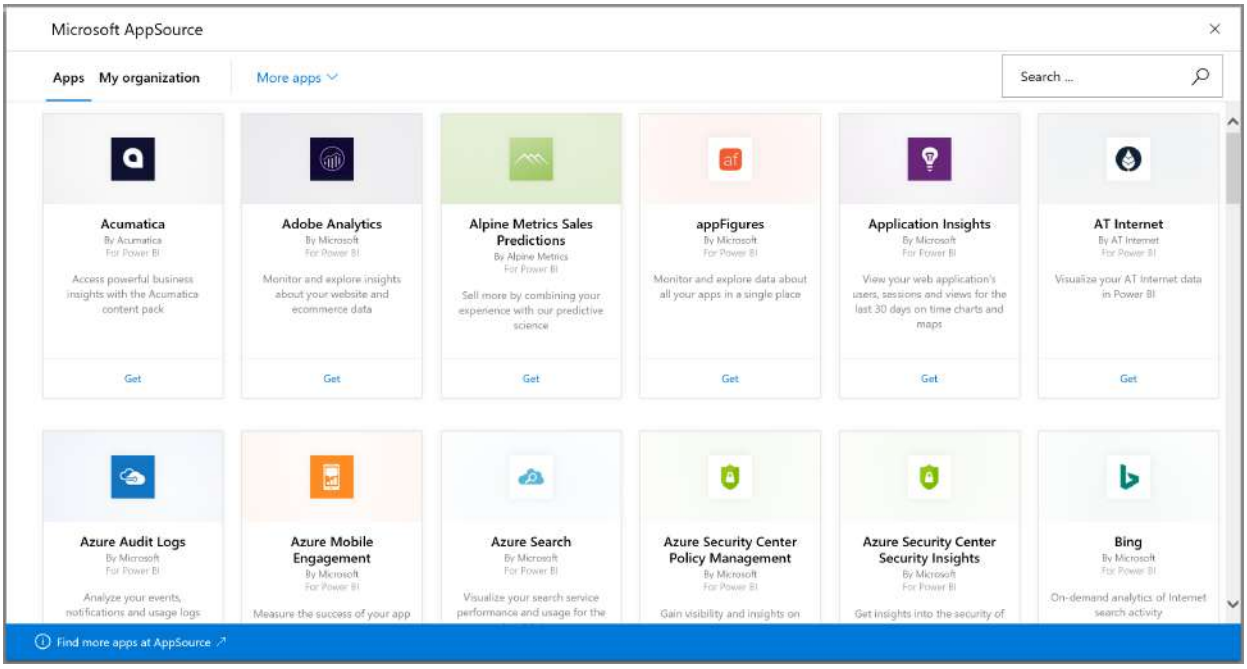
Power BI Home

Connect to the services you use with Power BI

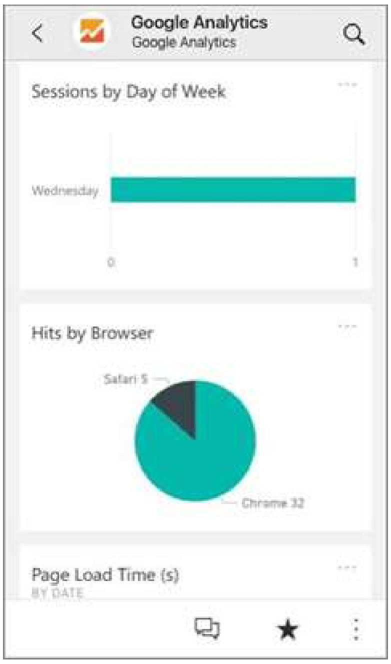
12/15/2022 • 2 minutes to read • Edit Online

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.

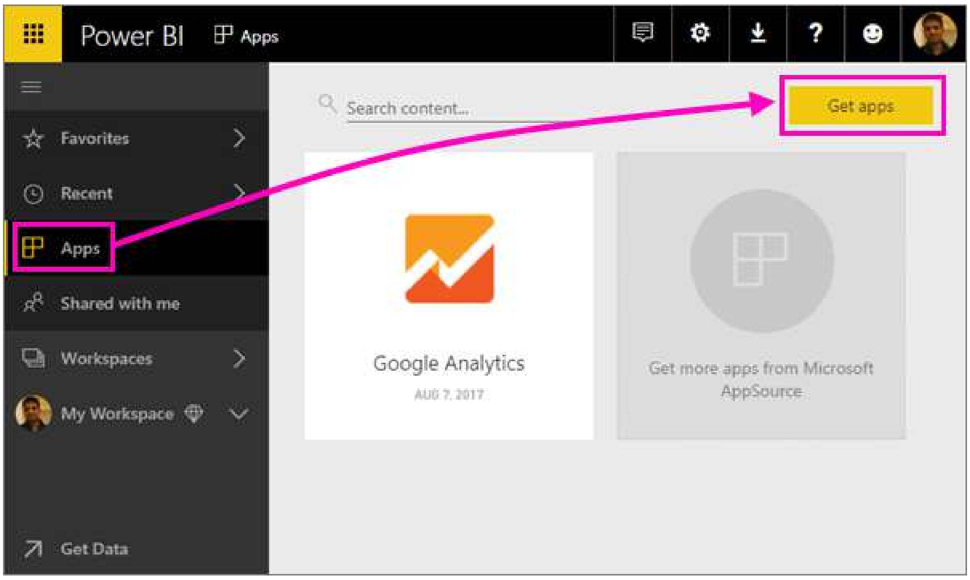


After you install the app, you can view the dashboard and reports in the app and the workspace in the Power BI service (https://app.powerbi.com). You can also view them in the Power BI mobile apps. In the workspace, you can modify the dashboard and reports to meet the needs of your organization, and then distribute them to your colleagues as an *app*.

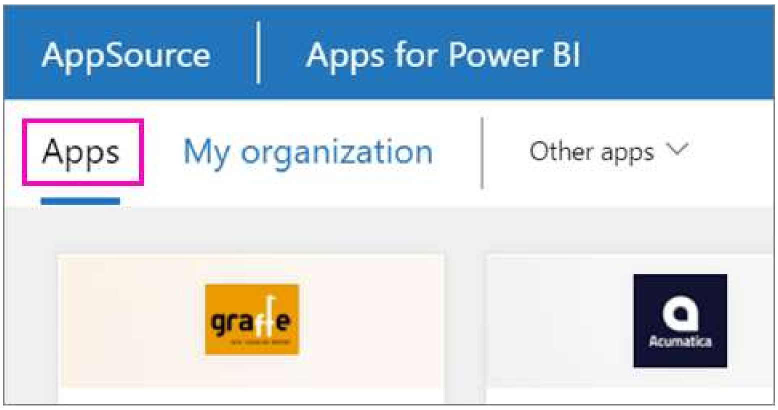


Get started

1. Select **Apps** in the nav pane > select **Get apps** in the upper-right corner.



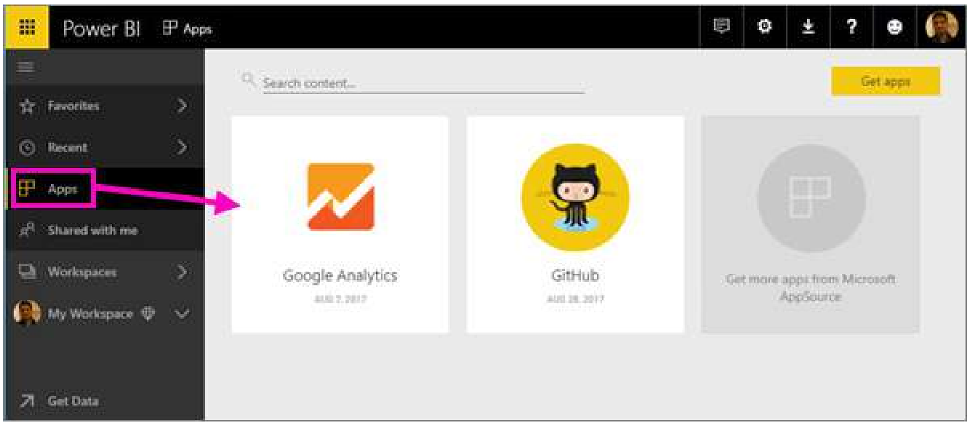
2. In AppSource, select the **Apps** tab, and search for the service you want.



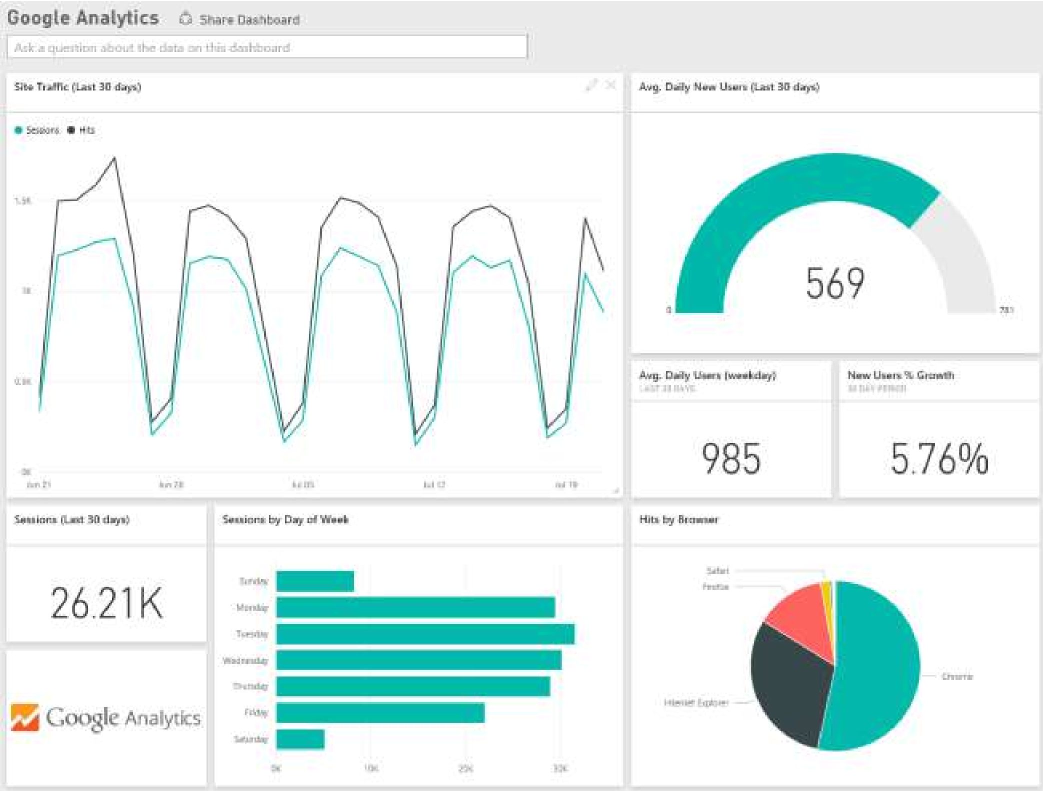
Edit the dashboard and reports

When the import is complete, the new app appears on the Apps page.

1. Select **Apps** in the nav pane > select the app.



2. You can ask a question by typing in the Q&A box, or click 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 may 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.

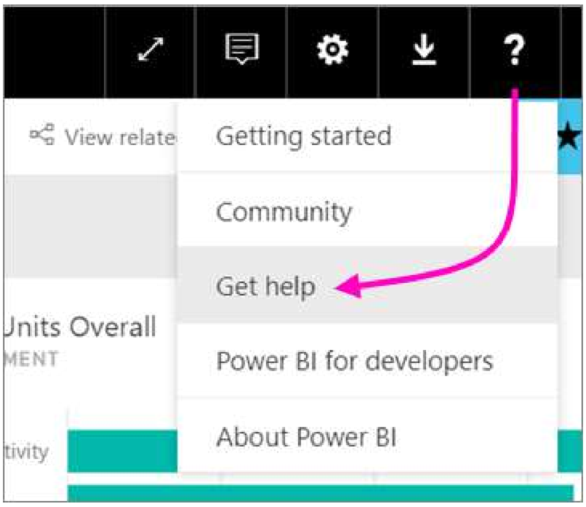
For more details on connecting to specific services, refer to the individual help pages.

Troubleshooting

Empty tiles

While Power BI is first connecting to the service, you may see an empty set of tiles on your dashboard. If you still see an empty dashboard after 2 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

12/15/2022 • 2 minutes to read • Edit Online

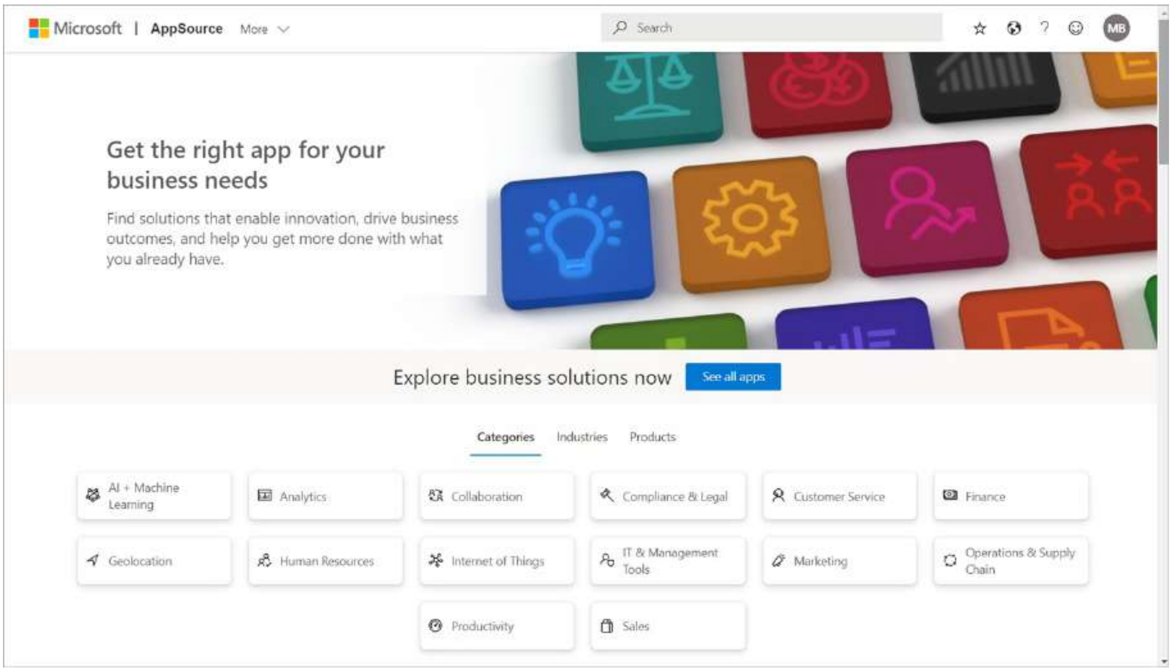
APPLIES TO: ✅ Power BI service for ***business users*** ✅ Power BI service for designers & developers ❌ Power BI Desktop ✅ Requires Pro or Premium license

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.

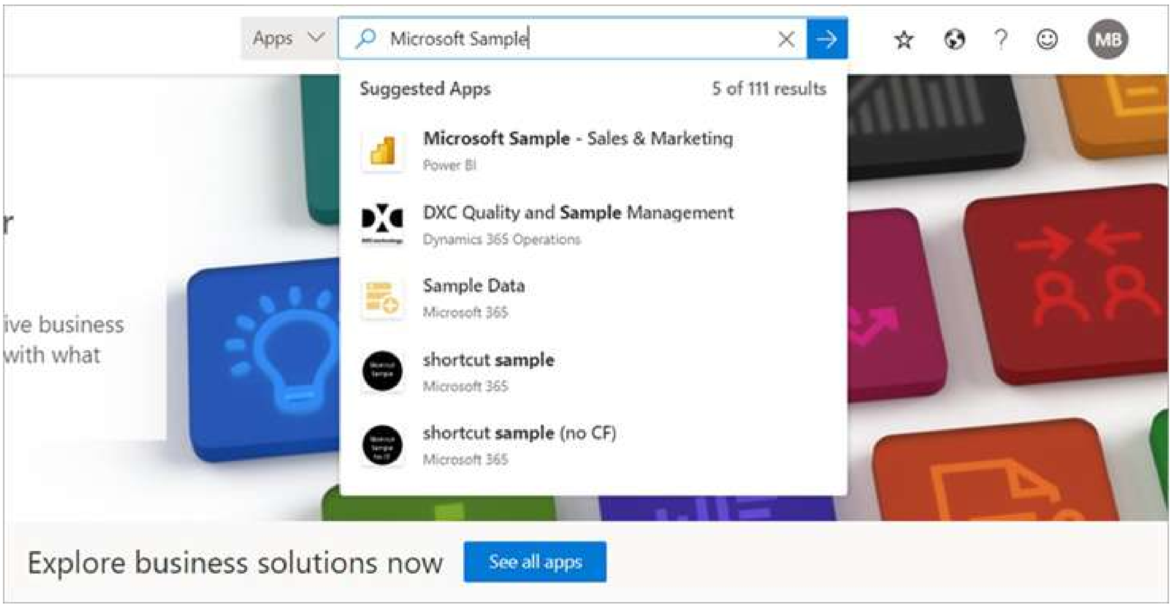
> **IMPORTANT**
>
> Installing this app from Microsoft AppSource requires that you have a **Power BI Pro** or **Premium Per User** license. For more information, see licenses.

Get the app from Microsoft AppSource

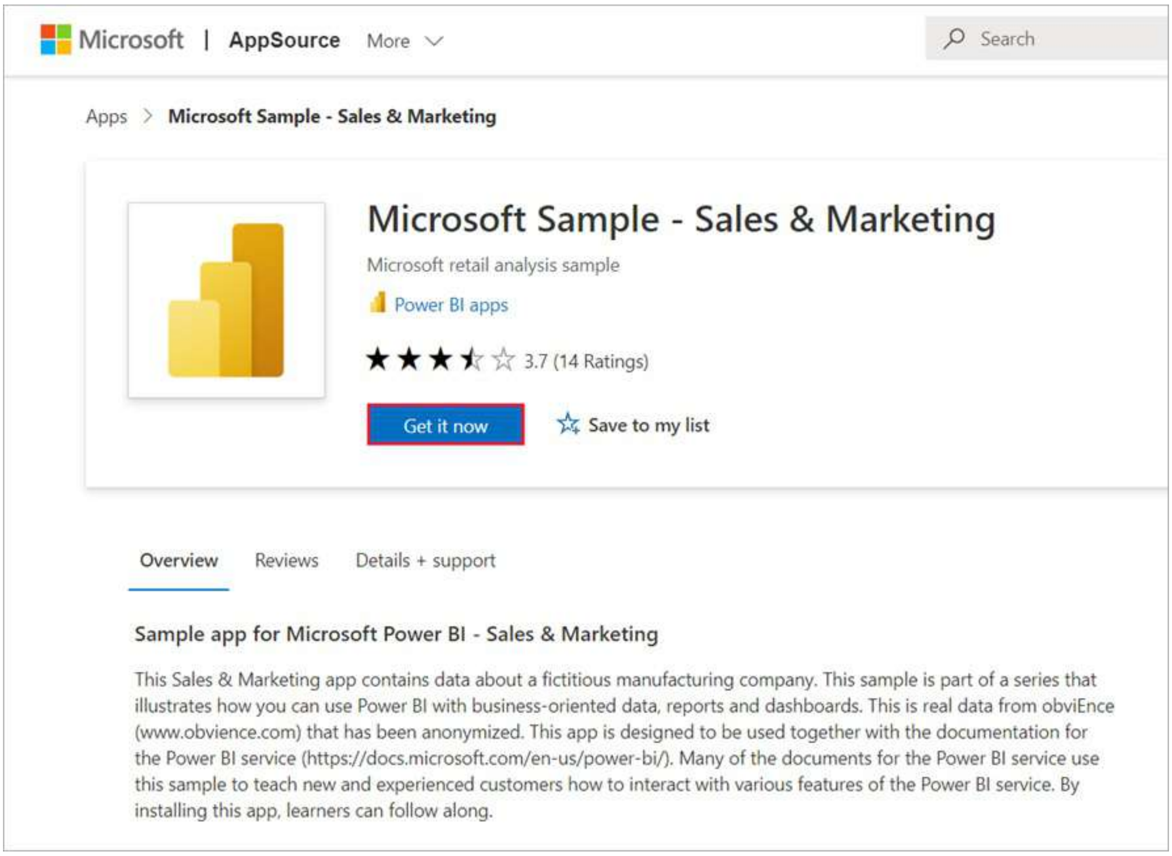
1. Open https://appsource.microsoft.com.



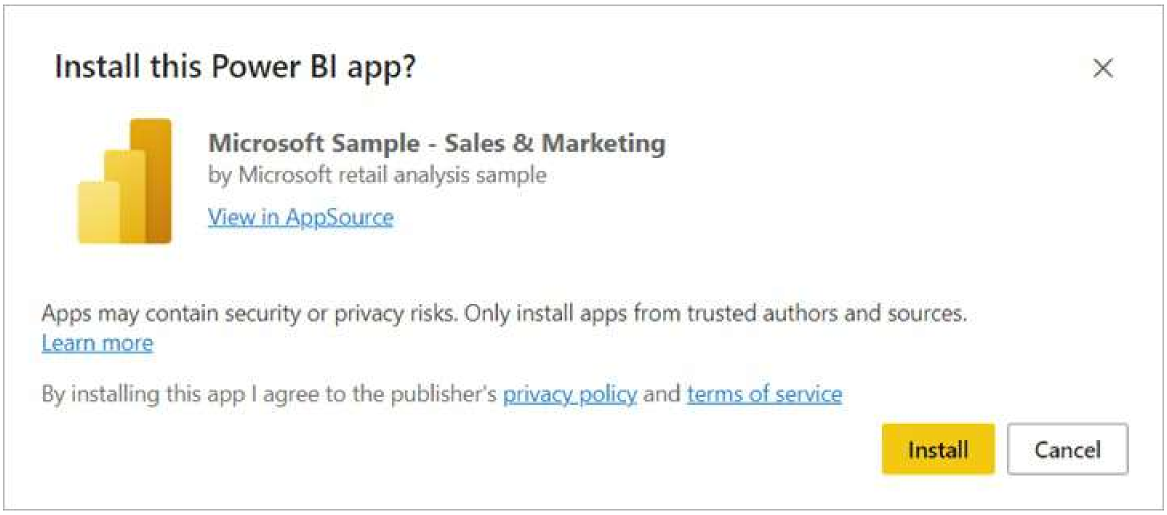
2. In the search box, enter **Microsoft sample** and select **Microsoft sample - Sales & Marketing**.



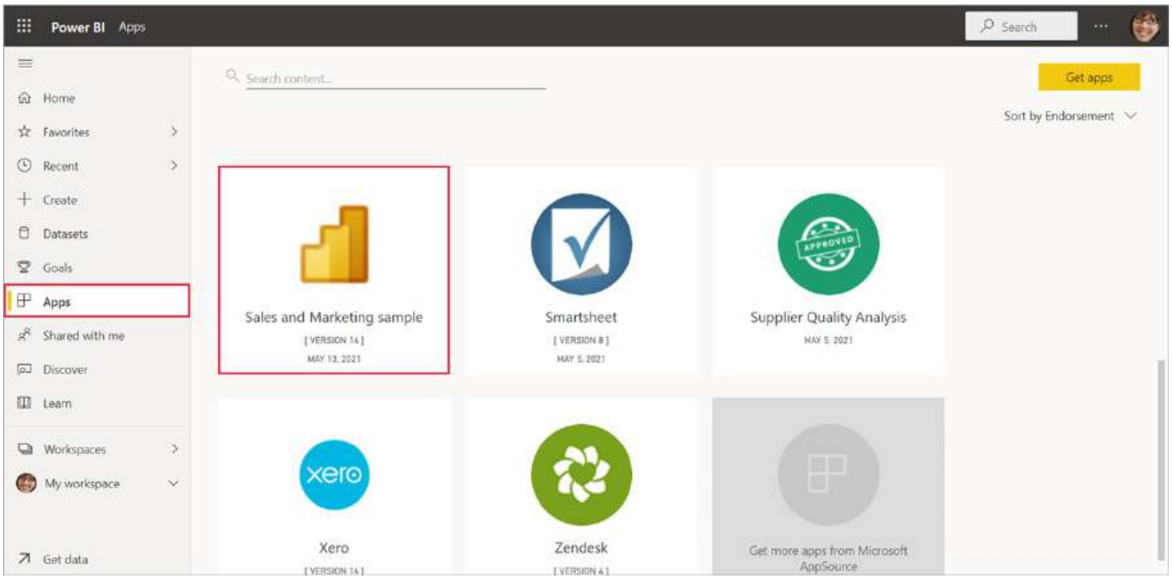
3. Optionally, read through the overview and reviews and take a look at the images. Then, select **Get it now**.



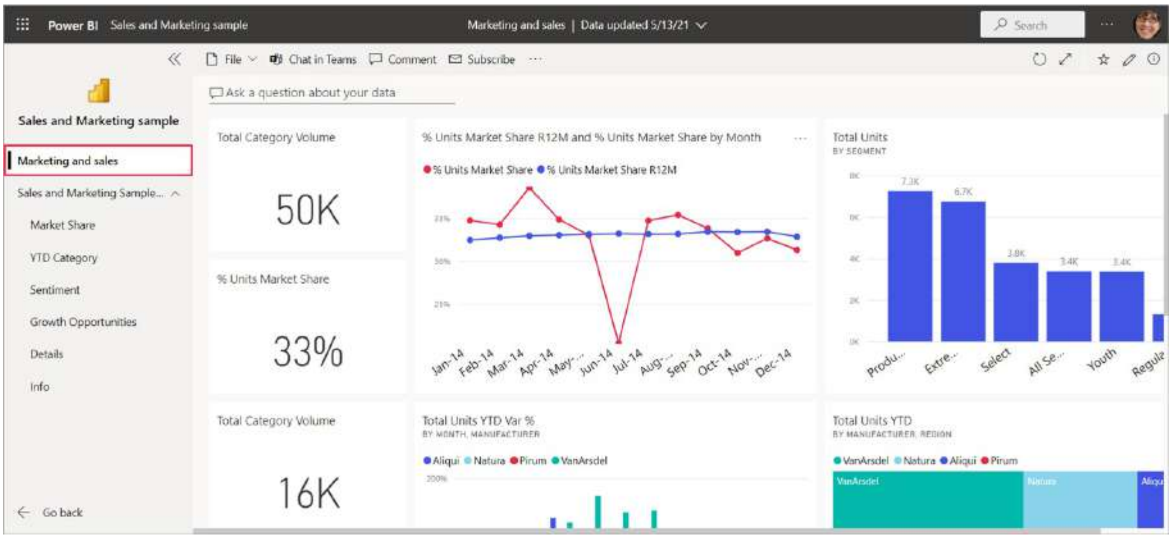
4. Confirm that you want to install this app.



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 will display.



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.



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. Still a little confused by the difference between dashboards and reports? Read the article about dashboards and the article about reports.

Next steps

- Back to the apps overview
- View a Power BI report
- Other ways content is shared with you

Q&A for Power BI business users

12/15/2022 • 4 minutes to read • Edit Online

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, "what were total sales last year."

Use Q&A to explore your data using intuitive, natural language capabilities and receive answers in the form of charts and graphs. Q&A is different from a search engine -- Q&A only provides results about the data in Power BI datasets.

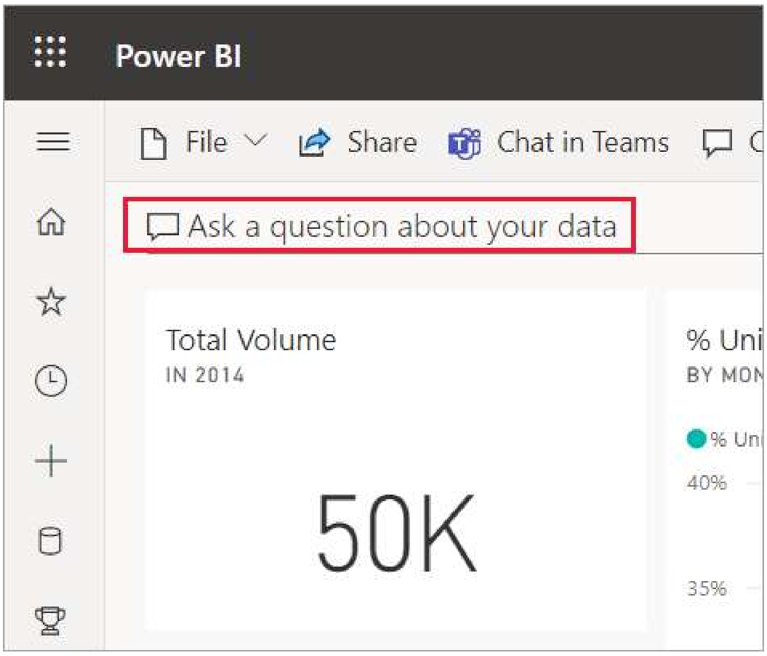
Which visualization does Q&A use?

Q&A picks the best chart or graph based on the data being displayed. Sometimes data in the underlying dataset is defined as a certain type or category and this helps Q&A know how to display it. For example, if data is defined as a date type, it is 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.

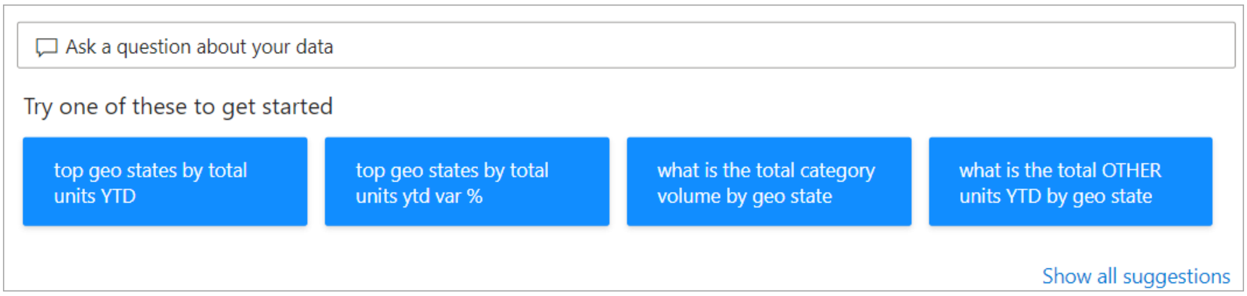
You can also tell Q&A which visual to use by adding it to your question. But keep in mind that it may not always be possible for Q&A to display the data using the visual type you requested. Q&A will prompt you with a list of workable visual types.

Where can I use Q&A?

You'll find Q&A on dashboards in the Power BI service, and at the bottom of the dashboard in Power BI mobile. Unless the designer has given you edit permissions, you'll be able to use Q&A to explore data but won't be able to save any visualizations created with Q&A.

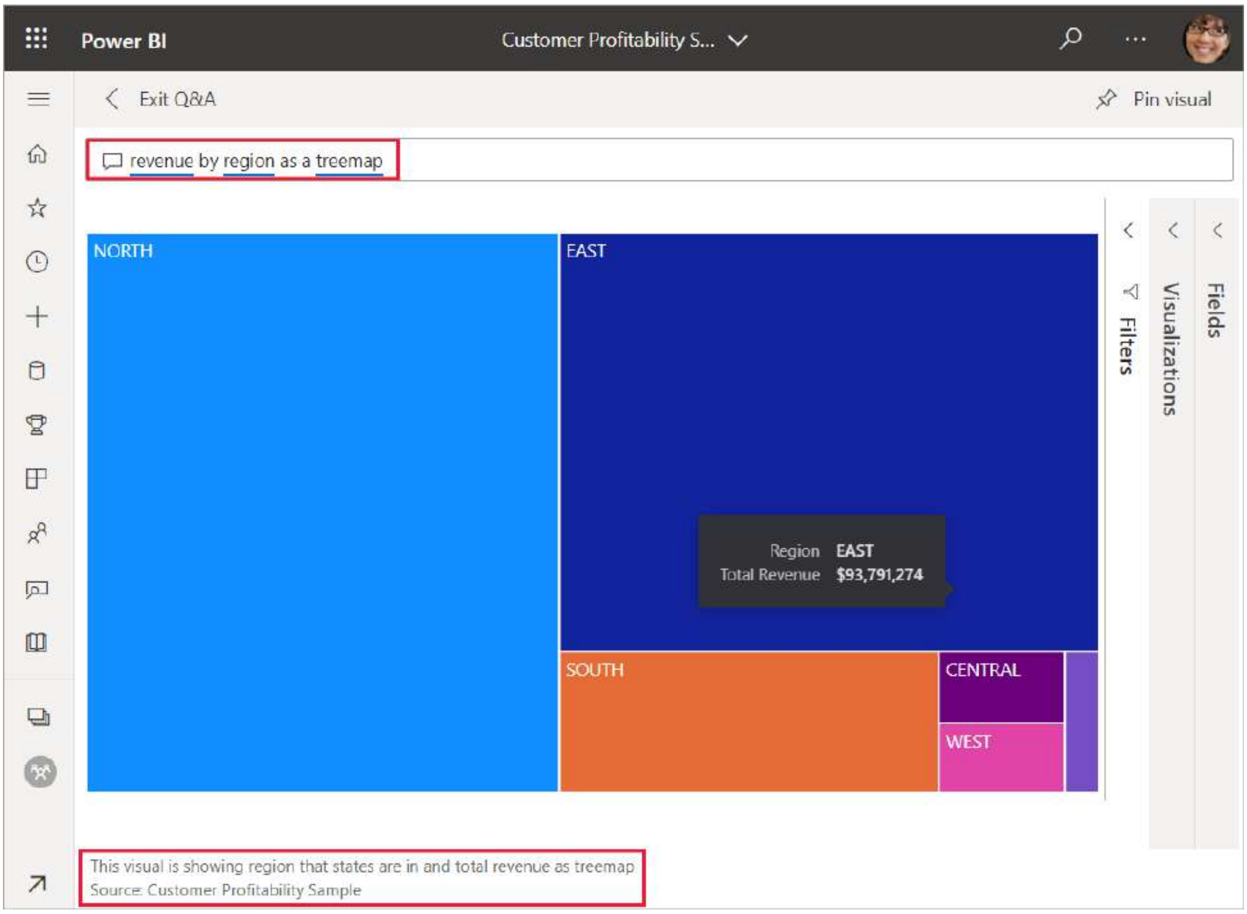


You'll also find Q&A on reports, if the report *designer* added an interactive Q&A visual.



Q&A on dashboards

Power BI Q&A is available with a Pro or Premium license. Q&A in the Power BI mobile apps and Q&A with Power BI Embedded are covered in separate articles. At the current time, **Power BI Q&A** only supports answering natural language queries asked in English, although there is a preview available for Spanish that can be enabled by your Power BI administrator.



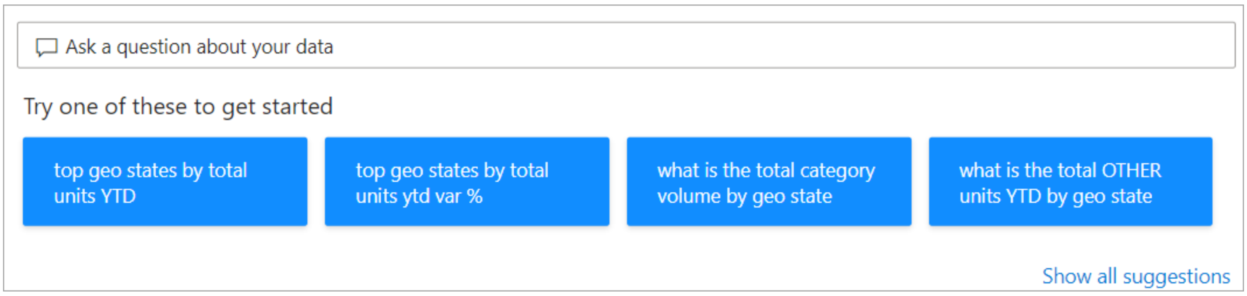
Asking the question is just the beginning. Have fun traveling through your data refining or expanding your question, uncovering trust-worthy new information, zeroing in on details and zooming out for a broader view. You'll be delighted by the insights and discoveries you make.

The experience is truly interactive...and fast! Powered by an in-memory storage, response is almost instantaneous.

The Q&A visual in Power BI reports

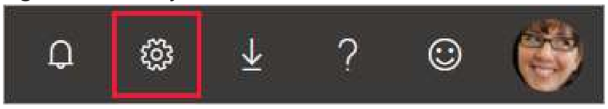
In Power BI reports, there is a specific type of interactive visual called the Q&A visual. When a report designer adds this visual to a report, report end users can ask natural language questions and create a new report visual that represents the answer to that question. The Q&A visual behaves like other visual in a report, it can be cross-filtered/cross-highlighted and also supports bookmarks and comments.

You can identify a Q&A visual by its question box across the top. This is where you'll enter or type questions using natural language. The Q&A visual can be used over and over again to ask questions about your data. When you leave the report, the Q&A visual resets to its default.

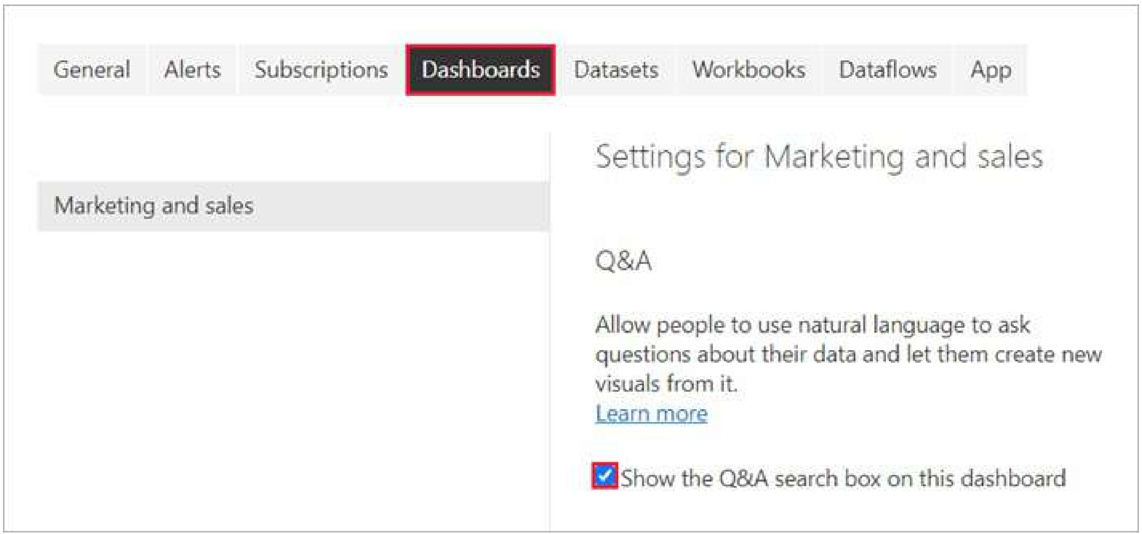


Considerations and troubleshooting

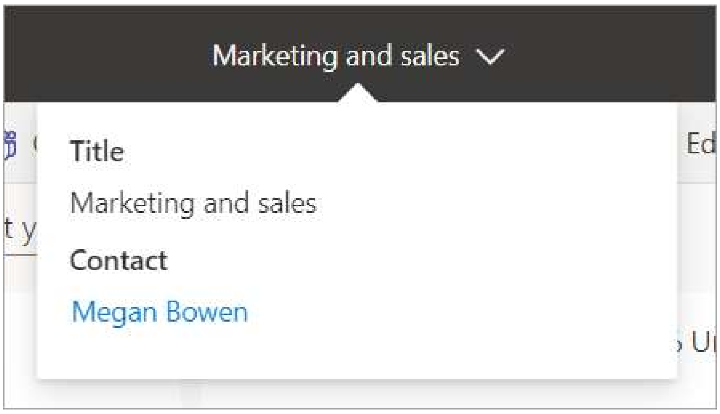
Question: I don't see Q&A on this dashboard.
Answer 1: If you don't see a question box, first check your settings. To do this, select the cog icon in the upper right corner of your Power BI toolbar, or from the **More options** (...) dropdown menu.



Then choose **Settings** > **Dashboards**. Make sure there is a check mark next to **Show the Q&A search box on this dashboard**.

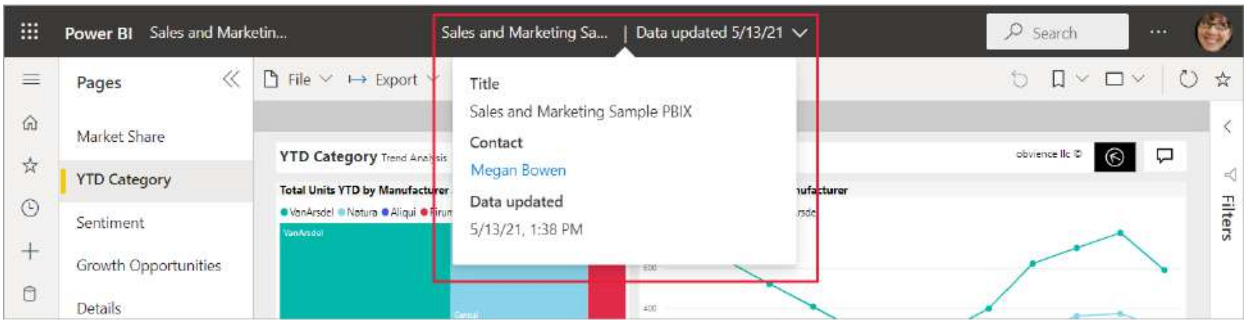


Answer 2: Sometimes you won't have access to the settings. If the dashboard owner or your administrator turned Q&A off, check with them to see if it's OK to turn it back on. To look up the owner, select the name of the dashboard from the top menu bar.



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 do this directly 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 dataset to use terms that are easily understood (`CustomerFirstName` instead of `CustFN`). Since the owner knows the dataset really well, they can also come up with helpful questions and add them to the Q&A suggested questions.



Privacy

Microsoft may use your questions to improve Power BI. Please review the Microsoft Privacy Statement for more information.

Next steps

Learn how to ask your own natural language questions and create answers in the form of visuals. Q&A Tutorial

Q&A tutorial

12/15/2022 • 6 minutes to read • Edit Online

APPLIES TO: ✔ Power BI Desktop ✔ Power BI service

This tutorial shows you how to:

- Import the Retail Analysis sample and and the Sales and Marketing sample and add them to the Power BI service.
- Explore the samples in the service.
- Create a visual by using natural language in *Q&A*.

If you'd like more background information, see Introduction to Q&A. In that article you learn about Q&A, where to use it, and the difference between Power BI Q&A on a dashboard and the Power BI Q&A visual for reports.

If you want to familiarize yourself with the built-in samples in this tutorial and their scenarios, see Retail Analysis sample for Power BI: Take a tour and Sales and Marketing sample for Power BI: Take a tour before you begin.

Prerequisites

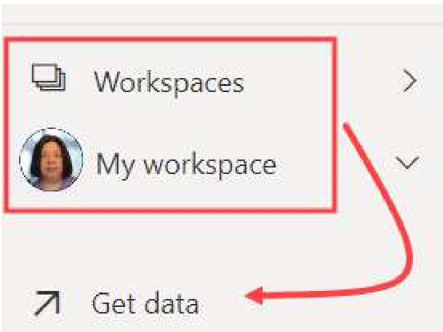
- To download a sample in the Power BI service, you can sign up for a free or trial license.
- **Power BI Q&A** is available with a Pro or Premium license. Q&A in the Power BI mobile apps and Q&A with Power BI Embedded are covered in separate articles.
- At the current time, **Power BI Q&A** only supports answering natural language queries asked in English, although there is a preview available for Spanish that can be enabled by your Power BI administrator.

Import the samples in the Power BI service

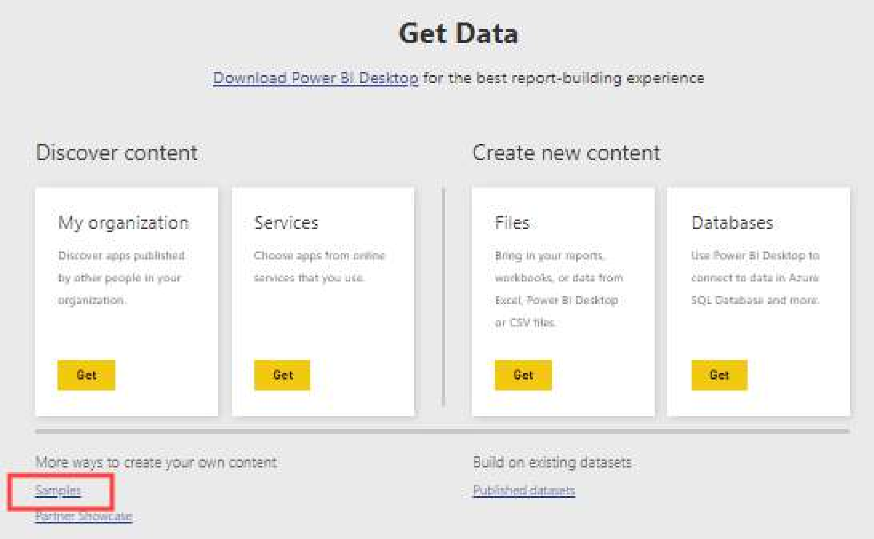
1. Open the Power BI service (app.powerbi.com), sign in, and open the workspace where you want to save the sample.

   If you don't have a Power BI Pro or Premium Per User (PPU) license, you can save the sample to your My Workspace.

2. Select **Get data** at the bottom of the nav pane.

3. On the **Get Data** page that appears, select **Samples**.



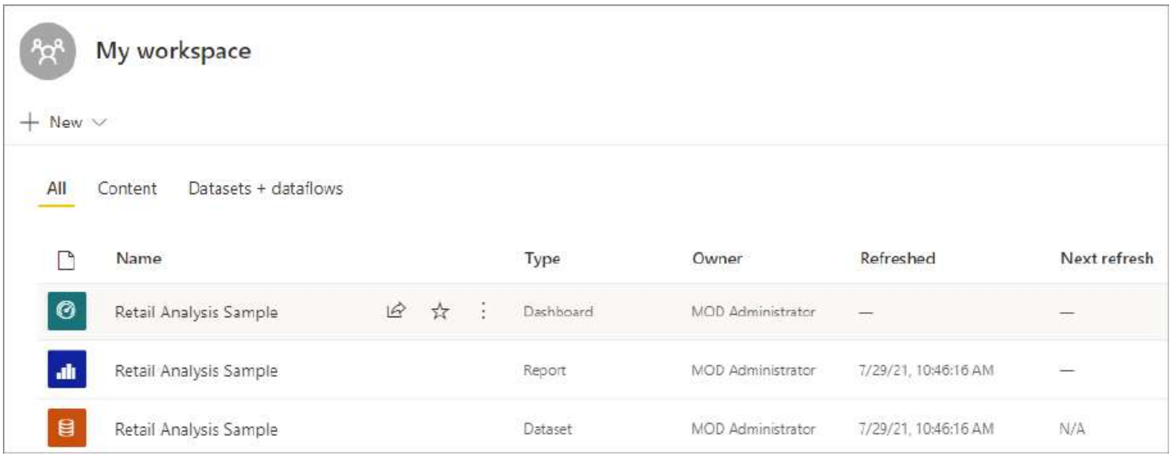
4. Select **Retail Analysis Sample** > **Connect**.

5. Repeat steps 2-4 for the Sales and Marketing Sample.

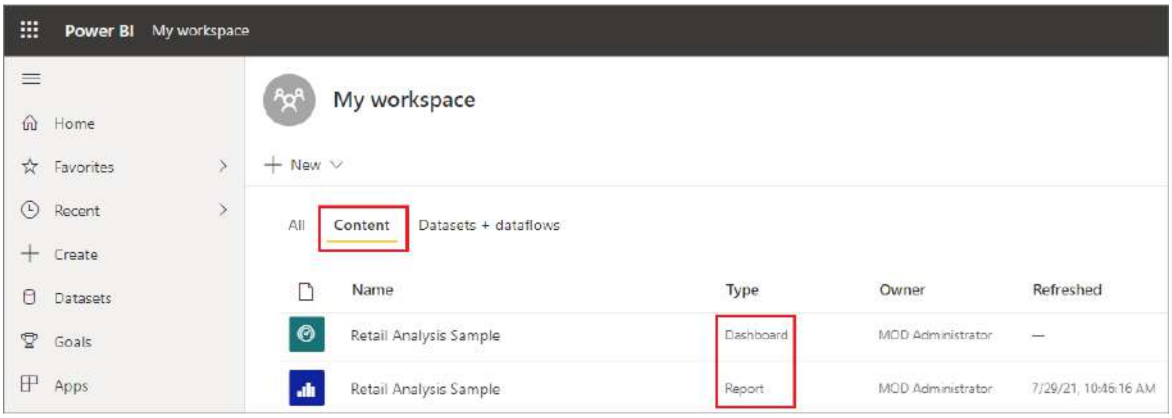
What was imported?

With the built-in samples, when you select **Connect**, Power BI gets a copy of that built-in sample and stores it for you in the cloud.

1. Power BI creates the new dashboard, report, and dataset in your workspace.

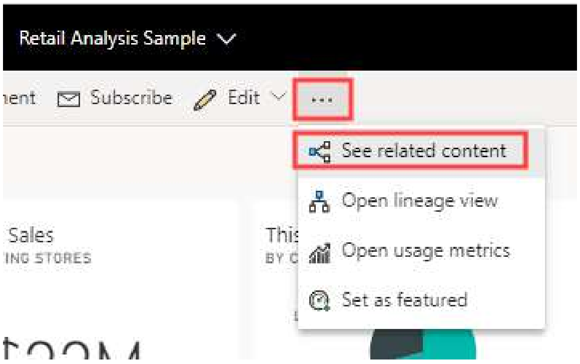


2. On the **Content** tab, you see the dashboard and the report, both named *Retail Analysis Sample*.



Use Q&A on a dashboard in the Power BI service

In the Power BI service (app.powerbi.com), a dashboard contains tiles pinned from one or more datasets, so you can ask questions about any of the data contained in any of those datasets. To see which reports and datasets were used to create the dashboard, select **See related content** from the **More actions** dropdown.



How do I start?

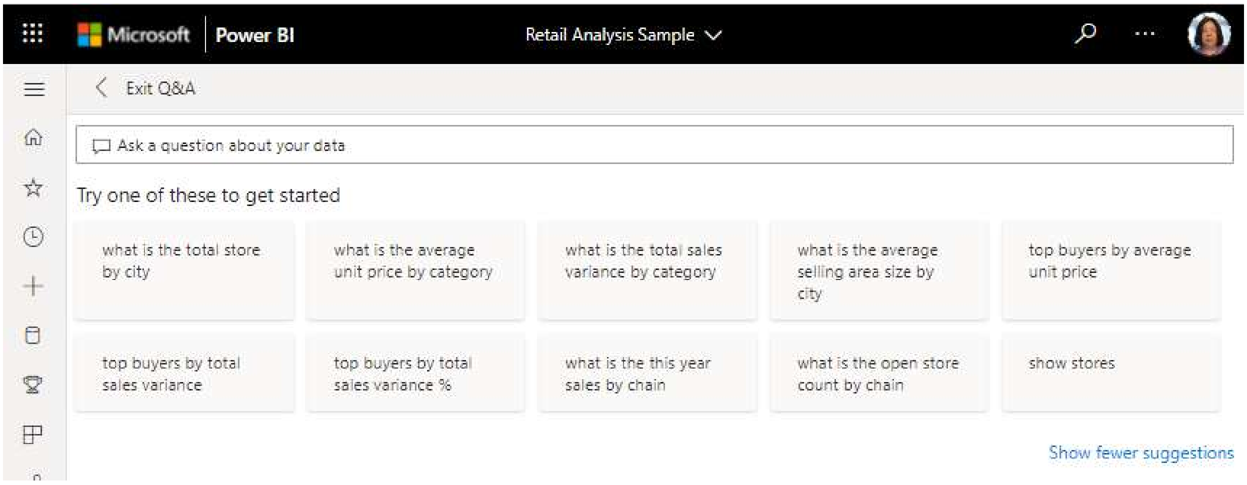
First, get familiar with the content. Take a look at the visuals on the dashboard and in the report. Get a feel for the type and range of data that is available to you.

> **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:

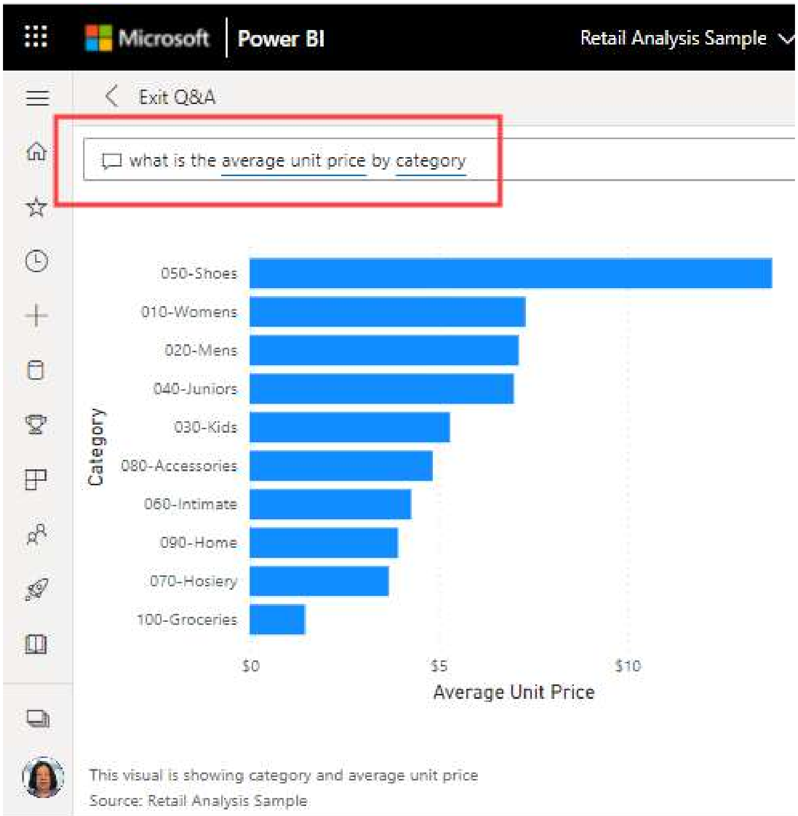
- If a visual's axis labels and values include "sales", "account", "month", and "opportunities", then you can confidently ask questions such as: "Which *account* has the highest *opportunity*, or show *sales* by month as a bar chart."
- If you have website performance data in Google Analytics, you can 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. This opens the Q&A screen.



Even before you start typing, Q&A displays a new screen with suggestions to help you form your question. You see phrases and questions containing the names of the tables in the underlying datasets and may even see *featured* questions created by the dataset owner.

You can select any of these to add them to the question box and then refine the question to find a specific answer.



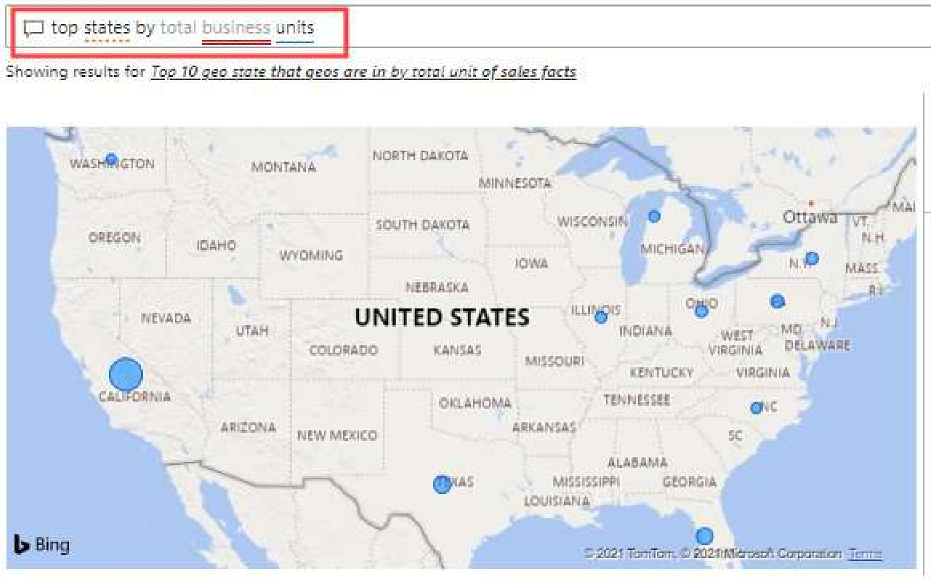
Another way Power BI helps you ask questions is with features such as: prompts, autocomplete, and visual cues. Power BI provides this help for Q&A on dashboards and with the Q&A visual in reports. We'll discuss these features in detail below, in the section Create a Q&A visual by typing your own natural language query

Use Q&A to ask natural language questions

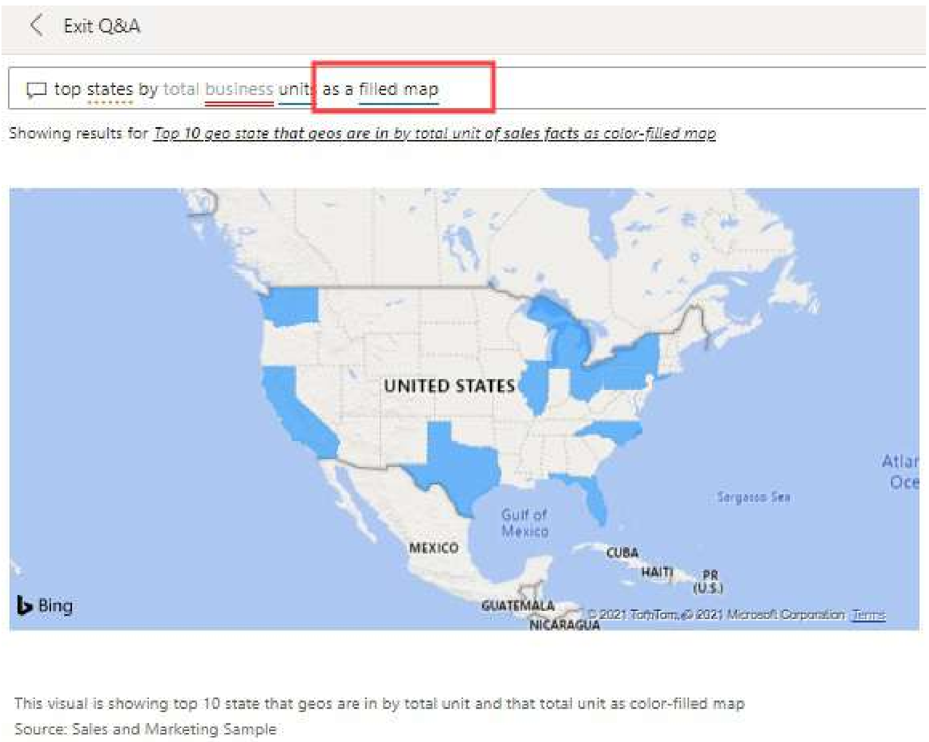
Open the "Sales and Marketing Sample" dashboard. To use Q&A on a dashboard or to use the Q&A visual in a report, select one of the suggested questions or type your own natural language question.

Create a visual by using a suggested question

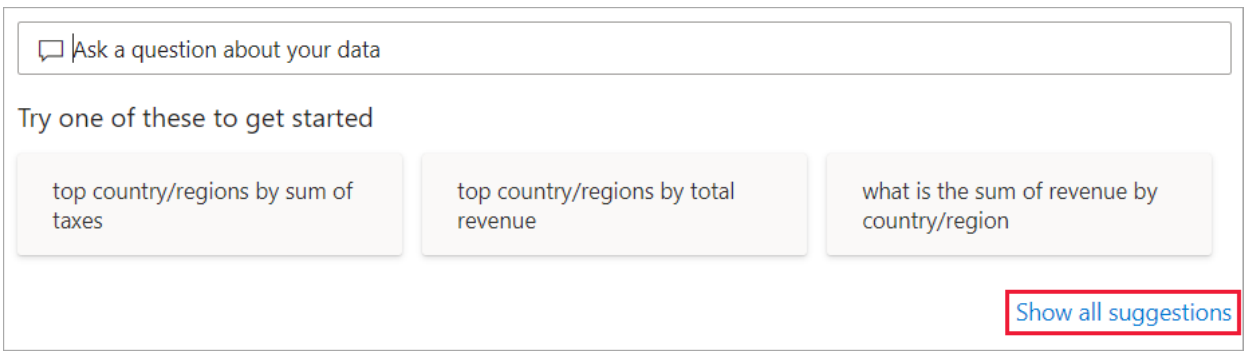
Here, we've selected **top states by total business units**. Power BI does its best to select which visual type to use. In this case, it's a basic map.



But you can tell Power BI which visual type to use by adding it to your natural language query. Keep in mind that not all visual types will work or make sense with your data. For example, this data wouldn't produce a meaningful scatter chart. But it works as a filled map.



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. This will get you familiar with the terms and content of the dataset.

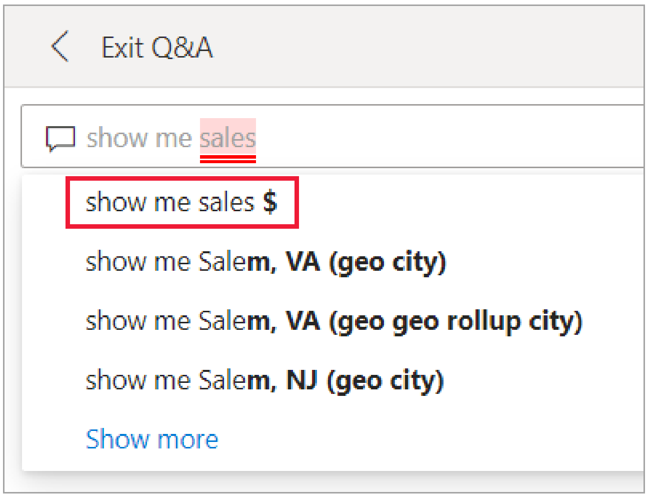


Create a visual using your own Q&A question

1. Type your question into the Q&A field using natural language. As you type your question, Power BI helps you with autocomplete, visual cues, restatement, and feedback.

   Autocomplete - as you type your question, Power BI Q&A shows relevant and contextual suggestions to help you quickly become productive with natural language. As you type, you get immediate feedback and results. The experience is similar to typing in a search engine.

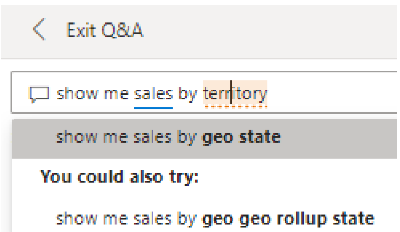
   In this example, the suggestion we want is the first one.



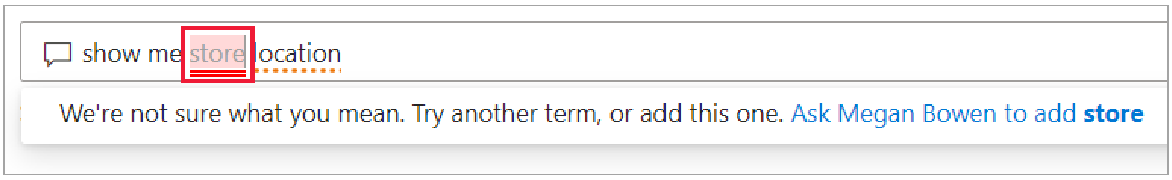
   Visual cues and feedback Power BI Q&A shows words with solid and dotted underlines to identify which words Power BI did or did not recognize.

   A solid underline indicates that Power BI recognized the word. The example below shows that Q&A recognized the term **sales** but not the term **territory**.

   Select the unknown word to see suggestions.

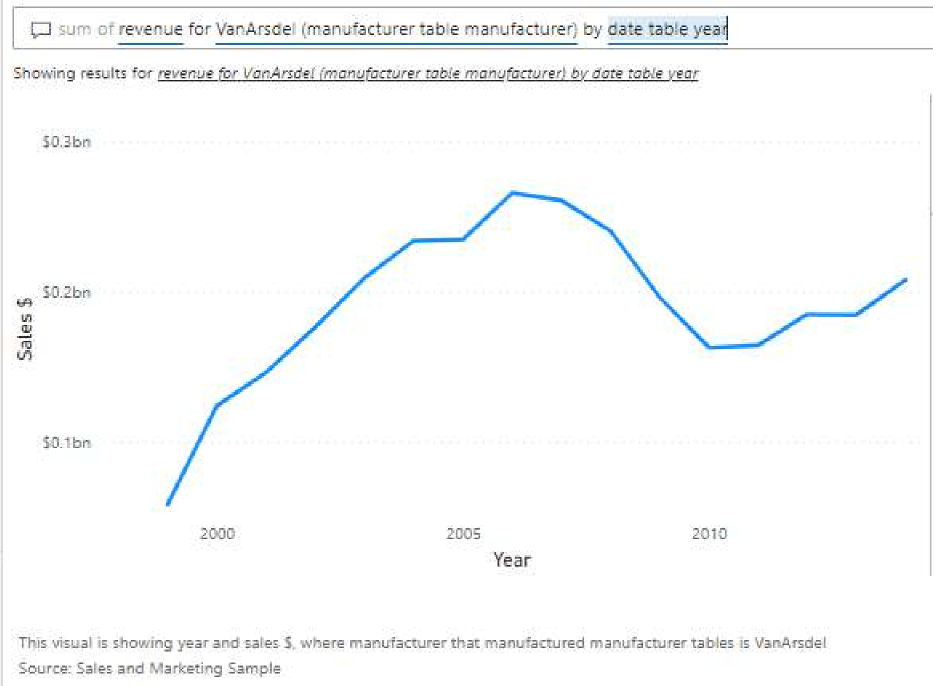


   Sometimes, none of the suggestions make sense, or Power BI doesn't recognize the word at all. An example could be using the word 'geography' even though it doesn't exist anywhere in the data. The word is in the English dictionary, but Q&A marks this term with a double underline. Power BI may make some suggestions or it may suggest that you ask the report designer to add the term.



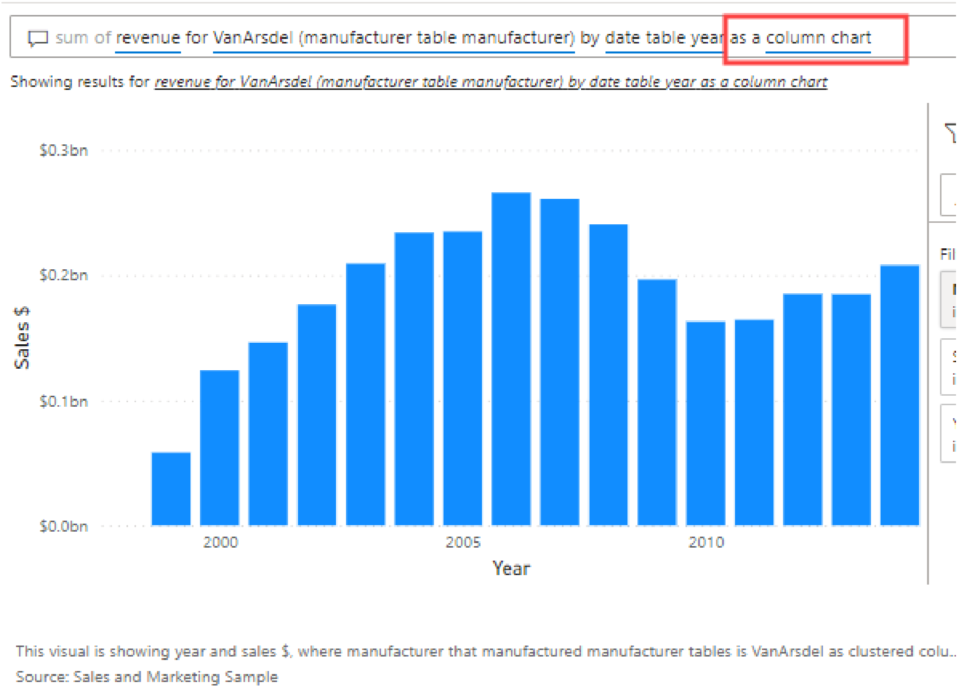
   Power BI Q&A recognizes words that mean the same thing, thanks to the integration with Bing and Office. Q&A underlines the word so you know it's not a direct match

   After selecting Power BI's suggestions, notice that all words are recognized and underlined in blue. These results display as a line chart. Power BI Q&A restates your question below the visualization.



Change the visualization type

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.



Next steps

This environment is a safe one to play in, because you can choose not to save your changes. And if you do save them, you can always select **Get data** for a new copy of this sample.

Power BI Q&A tips and tricks

More questions? Try the Power BI Community

Tips for asking questions in Power BI Q&A

12/15/2022 • 4 minutes to read • Edit Online

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 greyed 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**, **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
Dates	Power BI recognizes most date terms (day, week, month, year, quarter, decade, ...) and dates written in many different formats (see below). 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.

CATEGORY	KEYWORDS
	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? 10 in price?
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
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 Power BI custom visuals that you've manually added to the Visualization pane.
	Example: show districts by month and sales total as bar chart
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

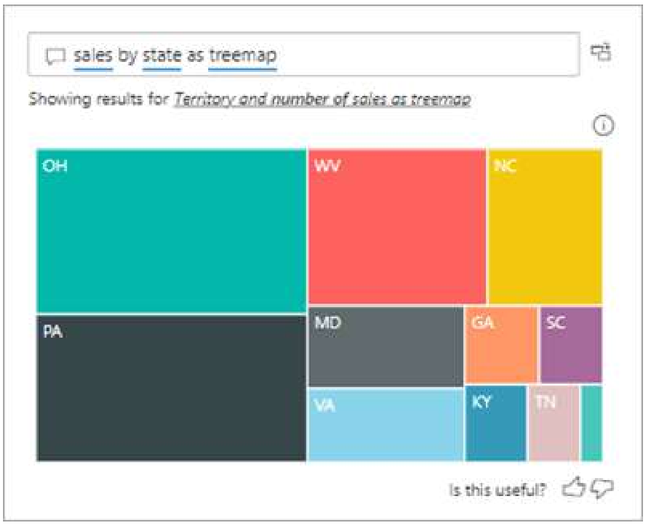
Q&A does its best to understand and answer the question being asked. It tries to understand in several ways. For all of these phrasings, you can accept the action in full, in part, or not at all. As you type your question, Q&A:

- 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 edit 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

Back to Q&A in Power BI

Power BI - Basic Concepts

More questions? Try the Power BI Community

Glossary for business users of the Power BI service

12/15/2022 • 19 minutes to read • Edit Online

The Power BI service may introduce terminology that is unfamiliar or confusing. The glossary is a great place to look up terminology, you might even want to keep it bookmarked. Another great resource for learning about the building blocks that make up Power BI service is Basic Concepts. Basic Concepts gives a high level overview of the Power BI *pieces* and how they're connected.

This glossary is a community effort. 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**, below.

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 below) 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 datasets. It also refers to the mobile apps for consuming content, such as Power BI app for iOS.

AppSource
Centralized online repository where you can browse and discover dashboards, reports, datasets, 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
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 visual 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 has 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'll find containers for: Favorites, Recent, Apps, Shared with me, and Home.

content
Content for the Power BI service is generally dashboards, reports, and apps. It can also include workbooks and datasets.

content list
The content index for an app.

content view

Continuous variable
A continuous variable can be any value between its minimum and maximum limits, otherwise it is 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 are related. If their patterns of increase and decrease are similar,

then they are positively correlated. And if their patterns are opposite, then they are 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 only displays 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 does not 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 does not apply to the Moderation segment and highlights all the data that does apply to the Moderation segment.

custom visual
Visuals that are created by the community and Microsoft. They can be downloaded from the Office 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 is limited to one page, a well-designed dashboard contains only the most important elements of that story. Dashboards can only be created and viewed in the Power BI service, not in Power BI Desktop. For more information, see basic concepts, dashboards.

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, ETL logic, refresh schedules, and more. Formerly data pool.

dataset vs **data source**
A **dataset** is a collection of data used to create visualizations and reports.

Desktop or **Power BI Desktop**
Free Power BI tool used primarily be report designers, admins, and developers.

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, 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.

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 ...

Selecting an ellipsis displays additional menu options. Also referred to as the **More actions** menu.

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, etc.] Another way to refer to one of the Power BI tools. It's okay to use Power BI environment (tenant) in documentation where it may 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 below). Explicit measures are created by report designers and saved with the dataset. They are 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 dataset, 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 does not apply an aggregation. Creating explicit measures requires edit access to the dataset.

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 does not apply. A highlight grays out the data that does not 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. This 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 age 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 above). 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, etc.). 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 has been replaced with **nav pane** but may 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 may 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 much 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 that's 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, Favorites, Recents, My workspace, etc.

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.

Mobile app
Apps that allow you to run Power BI on iOS, Android, and Windows devices.

modeling
[Power BI Desktop] Getting the data you've connected to 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 Business vs **OneDrive**
OneDrive is a personal account and OneDrive for Business 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.

P

PaaS

PaaS stands for 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.

pbiviz

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 won't have the same permissions as a *designer*, administrator, or developer.

phone report

The name for a Power BI report that's been formatted for viewing on the 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 of 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 is 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*.

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*.

Power BI Report Builder

It is 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) 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*.

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 ability to type natural language questions about a dataset 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

Add to a URL to pre-filter the results seen in a Power BI report. In the broadest sense, a query string recovers information from a database.

Quick Insights

Quick Insights refer to automatically generated insights that reveal trends and patterns in data.

R

R, Microsoft R

R is a programming language and software environment for statistical computing and graphics.

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 in the nav pane 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 datasets providing the data and visualizations on the dashboard.

relative links
Links from dashboard tiles to other dashboards and reports that have been shared directly or distributed through a Power BI app. This enables richer dashboards that support drillthrough.

report
A multi-perspective view into a single dataset, with visualizations that represent different findings and insights from that dataset. Can have a single visualization or many, a single page or many pages.

report editor
The report editor is where 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 (or SaaS) 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.

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, etc. 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 vs. a live image of a tile, dashboard, or report.

SQL Server Analysis Services (SSAS)

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 datasets 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. Those 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.

Y

y-axis
The axis along the side, the vertical axis.

Z

Next steps

Basic concepts for Power BI service consumer

Supported browsers for Power BI

12/15/2022 • 2 minutes to read • Edit Online

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

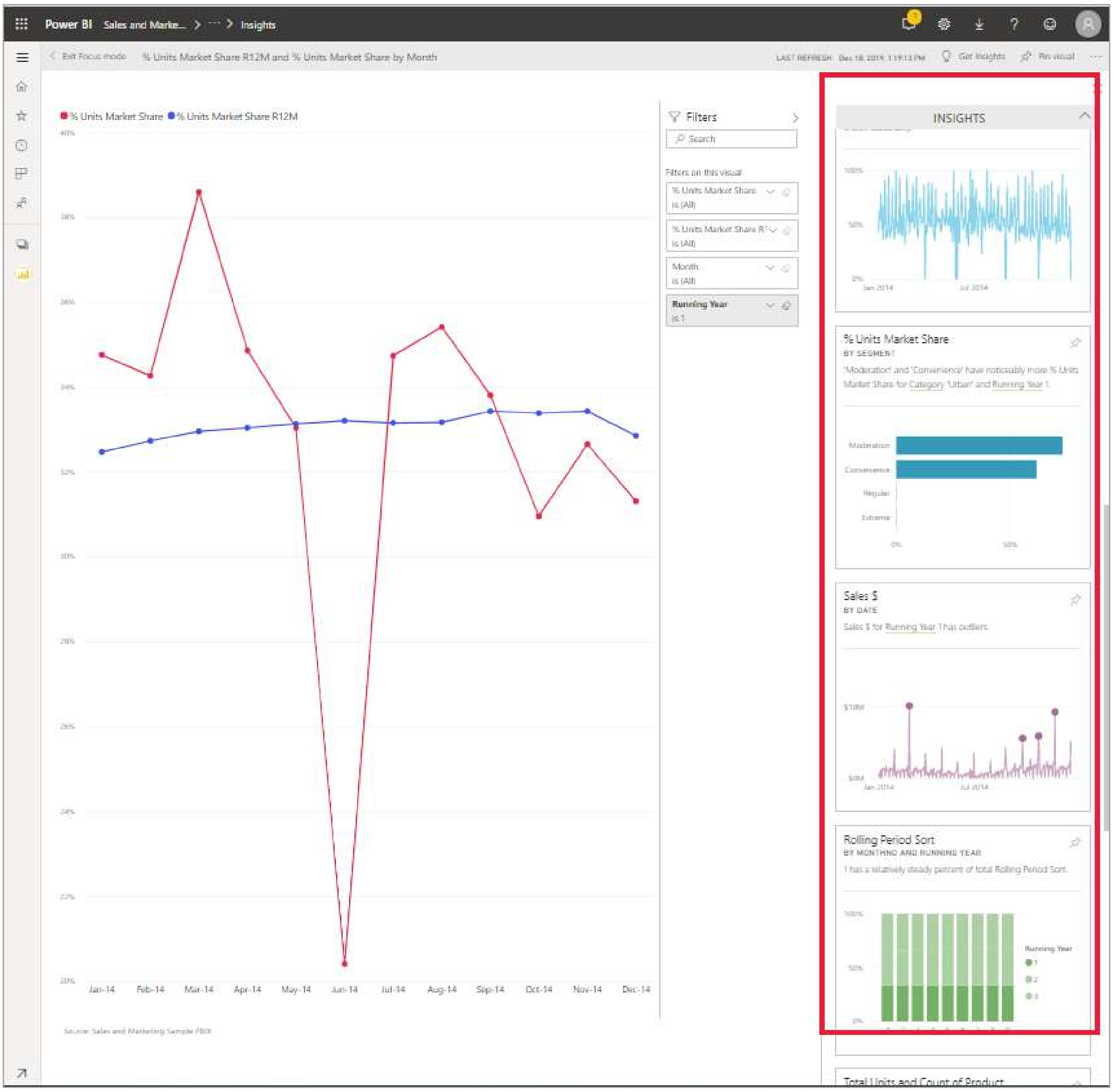
Types of insights supported by Power BI

12/15/2022 • 4 minutes to read • [Edit Online]

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 in the form of visuals that are called *Insights*. Insights are available for visuals on dashboards, visuals in reports, and entire report pages.

To learn how to use Insights, see Power BI Insights



How does Insights work?

Power BI quickly searches different subsets of your dataset. As it searches, Power BI 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 may be unfamiliar.

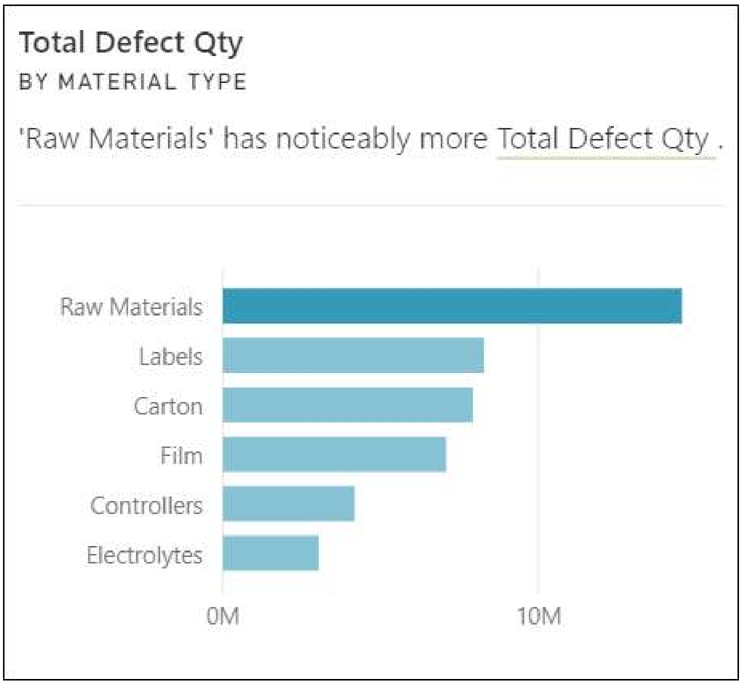
- **Measure** - a measure is a quantitative (numeric) field that can be used to do calculations. Common calculations are sum, average, and minimum. For example, if our company makes and sells skateboards, our measures might be number of skateboards sold and average profit per year.
- **Dimension** - 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 are related. If their patterns of increase and decrease are similar, then they are positively correlated. And if their patterns are opposite, then they are 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.
- **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 is 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?

Power BI can find ten types of insights for dashboard tiles and these ten are described below. For reports, Power BI proactively performs analyses for anomalies, trends, and KPIs.

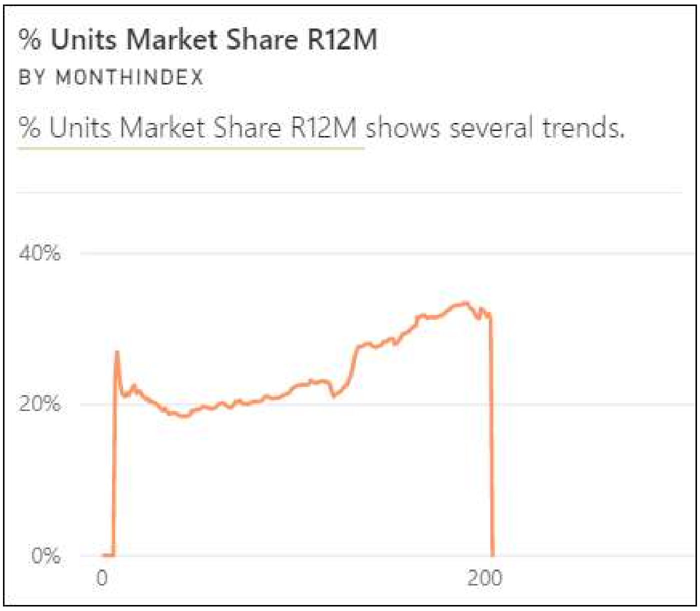
Category outliers (top/bottom)

Highlights cases where one or two categories have much larger values than other categories.



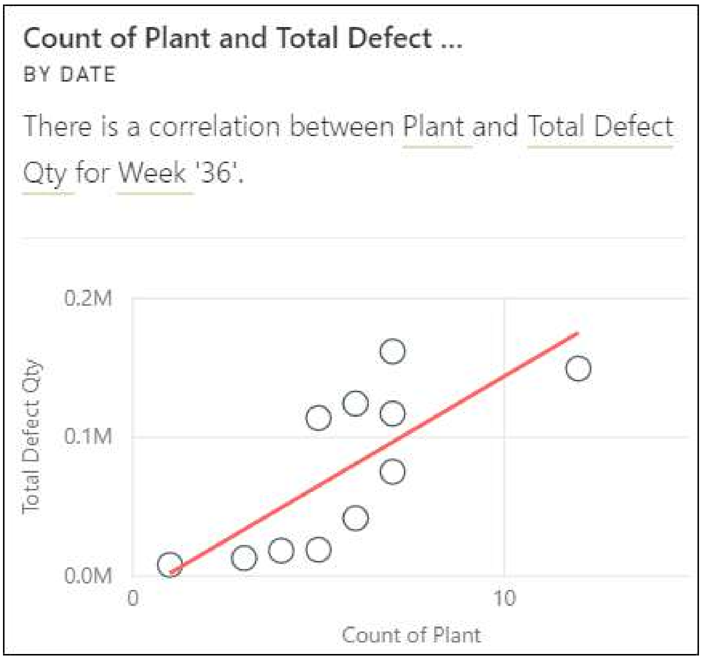
Change points in a time series

Highlights when there are significant changes in trends in a time series of data.



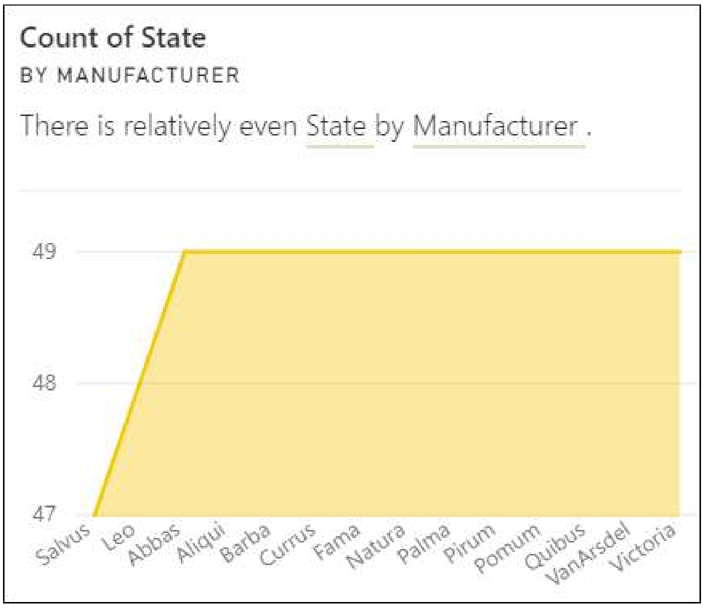
Correlation

Detects cases where multiple measures show a similar pattern or trend when plotted against a category or value in the dataset.



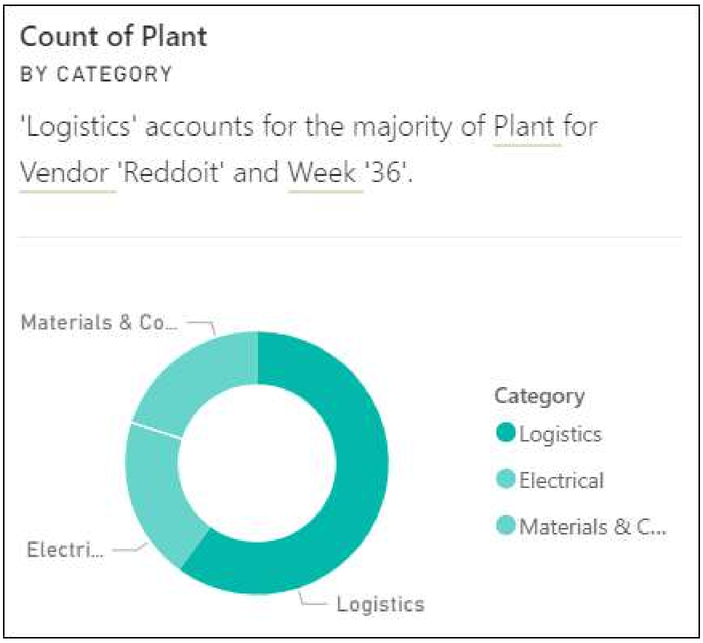
Low Variance

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 region you see that there is very 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 pretty similar across all regions.



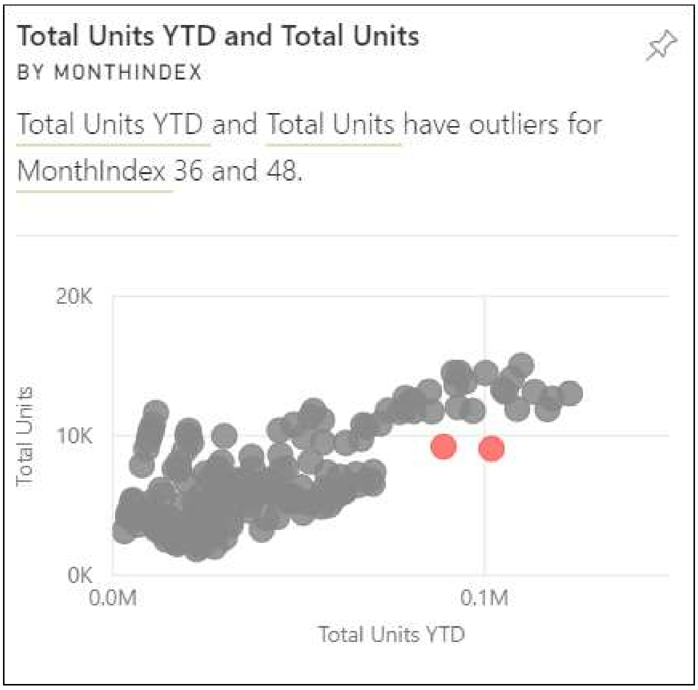
Majority (Major factors)

Finds cases where a majority of a total value can be attributed to a single factor when broken down by another dimension.



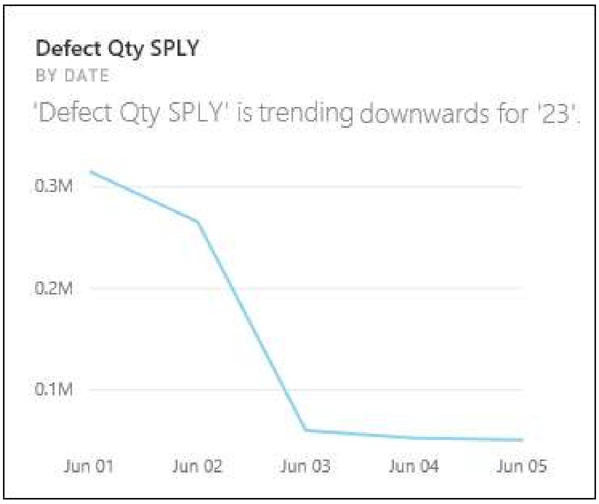
Outliers

This insight type uses a clustering model to find outliers in non-time series data. Outliers detects when there are specific categories with values significantly different than the other categories.



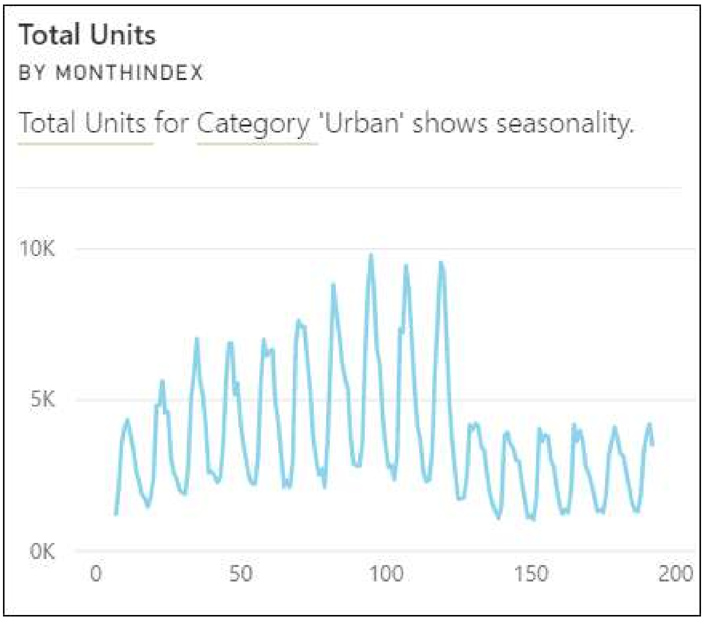
Overall trends in time series

Detects upward or downward trends in time series data.



Seasonality in time series

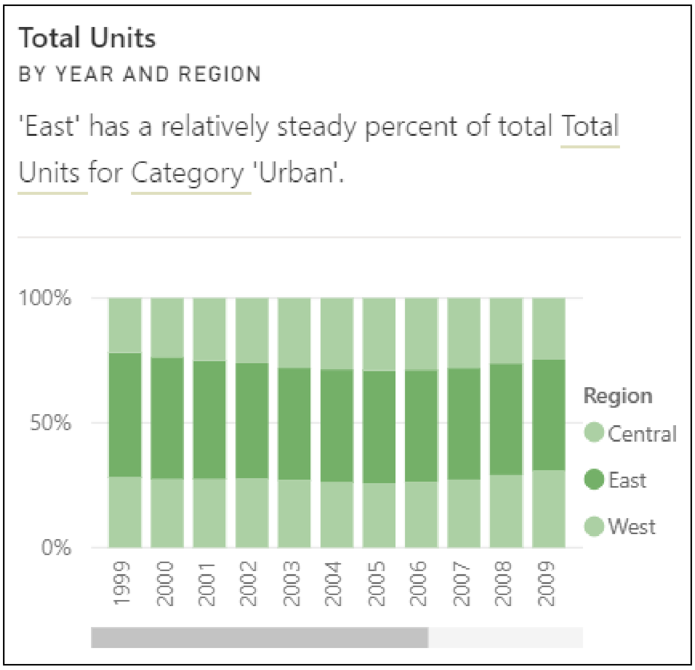
Finds periodic patterns in time series data, such as weekly, monthly, or yearly seasonality.



Steady share

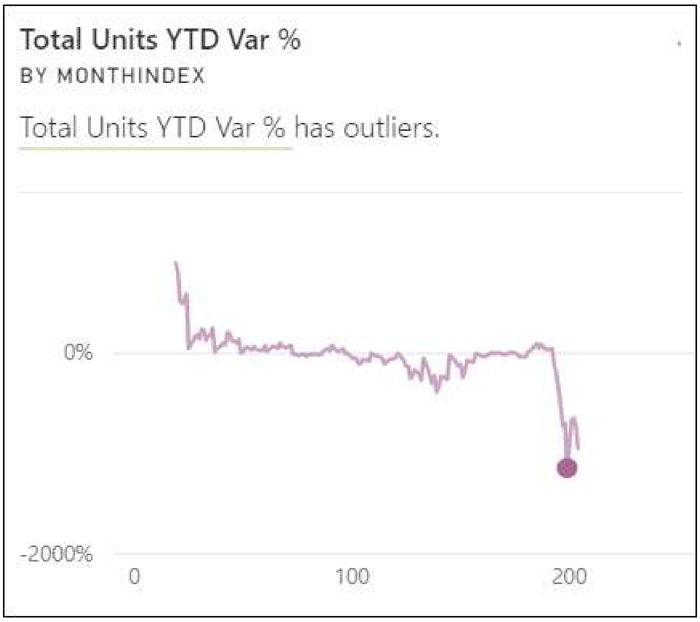
Highlights cases where there is a parent-child correlation between the share of a child value in relation to the overall value of the parent across a continuous variable. The steady share insight applies to the context of a measure, a dimension, and another date/time dimension. This insight triggers when a particular dimension value, e.g. "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.



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.



Next steps

Power BI insights

More questions? Try the Power BI Community