

# Collaborate, share, and integrate across products with Power BI - documentation

Power BI documentation provides expert information about collaborating and sharing, and ways to integrate Power BI into other products.

## Get started collaborating and sharing



### OVERVIEW

[Ways to share your work](#)



### CONCEPT

[Workspaces](#)

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### CONCEPT

[Collaborate in Microsoft Teams](#)



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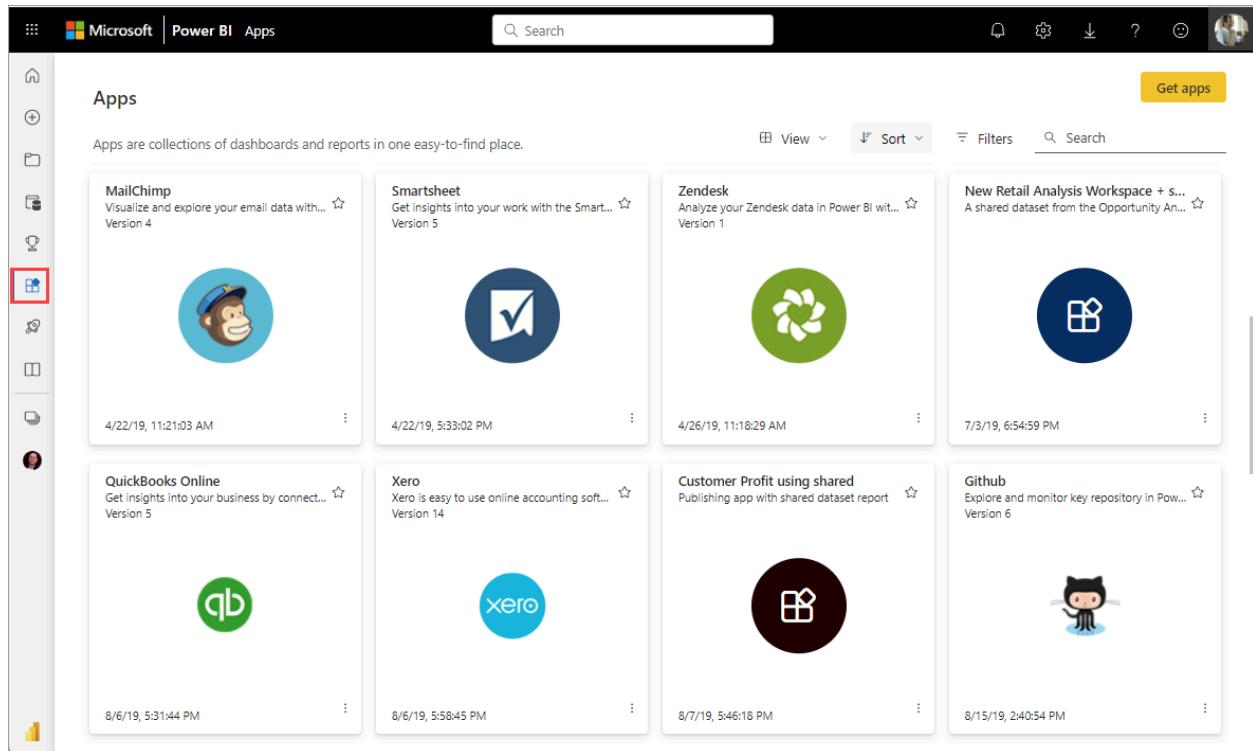
[Integrate data alerts with Power Automate](#)

[Email Power BI reports with Power Automate](#)

# Ways to collaborate and share in Power BI

Article • 06/21/2024

You've created reports, dashboards, scorecards, and semantic models. Maybe you want to collaborate on them with your coworkers. Or maybe you're ready to distribute them more widely. What's the best way to collaborate and share them? In this article, we compare your options.



The screenshot shows the Microsoft Power BI Apps interface. On the left is a vertical navigation bar with icons for Home, Plus, File, Print, Copy, Paste, and a red-highlighted icon for 'Apps'. The main area has a search bar at the top. Below it, there are two tabs: 'Apps' (selected) and 'Marketplace'. A sub-header says 'Apps are collections of dashboards and reports in one easy-to-find place.' There are eight app cards displayed in a grid:

App Name	Description	Version	Icon
MailChimp	Visualize and explore your email data with...	Version 4	
Smartsheet	Get insights into your work with the Smart...	Version 5	
Zendesk	Analyze your Zendesk data in Power BI wit...	Version 1	
New Retail Analysis Workspace + s...	A shared dataset from the Opportunity An...	Version 1	
QuickBooks Online	Get insights into your business by connect...	Version 5	
Xero	Xero is easy to use online accounting soft...	Version 14	
Customer Profit using shared	Publishing app with shared dataset report	Version 1	
Github	Explore and monitor key repository in Pow...	Version 6	

## Apps in the Power BI service

### Collaborate

- Collaborate with coworkers in *workspaces* to create meaningful reports and dashboards.
- Collaborate in *Microsoft Teams*.

### Distribute or share dashboards and reports

- Share reports, dashboards, and scorecards from your My Workspace or another workspace.
- Annotate and share from the Power BI *mobile apps*.
- Present live Power BI report pages in PowerPoint.
- Print reports.

- Create a [template app](#) that you can distribute to external Power BI users, via Microsoft AppSource.
- Bundle reports, dashboards, and scorecards in workspaces into *apps* and [distribute your apps](#) to a larger group or your whole organization.
- Embed reports in *secure portals* or *public web sites*.

## Share data

- Create [shared semantic models](#) that coworkers can use as the basis for their own reports, in their own workspaces.
- Create [dataflows](#) as a way to share a common data source.

No matter which option you choose, to share your content you need a [Power BI Pro license](#), or the content needs to be in a [Power BI or Microsoft Fabric Premium capacity](#). License requirements vary for the colleagues who view your content, depending on the option you choose. The following sections spell out details.

It's also important to recognize that security is defined on the Fabric workload that's being used to serve the data. For example, when you share a report, you also share access to the semantic model below. You need to define security on the semantic model using Row Level Security (RLS) or Object Level Security (OLS) to prevent a report consumer from accessing all the data in the semantic model. By default, the read access of a report consumer isn't restricted to the elements and data they see in the report, but access restrictions can be enforced in the semantic model thanks to RLS and OLS. Use RLS to restrict access to rows of data being returned, and OLS to restrict the access to columns and tables. When you hide a table, column, measure, visual, or report page, on the other hand, that doesn't prevent a report user from accessing these hidden elements. Hiding therefore isn't a security measure, but an option to provide a clutter-free user experience focused on specific tasks or goals.

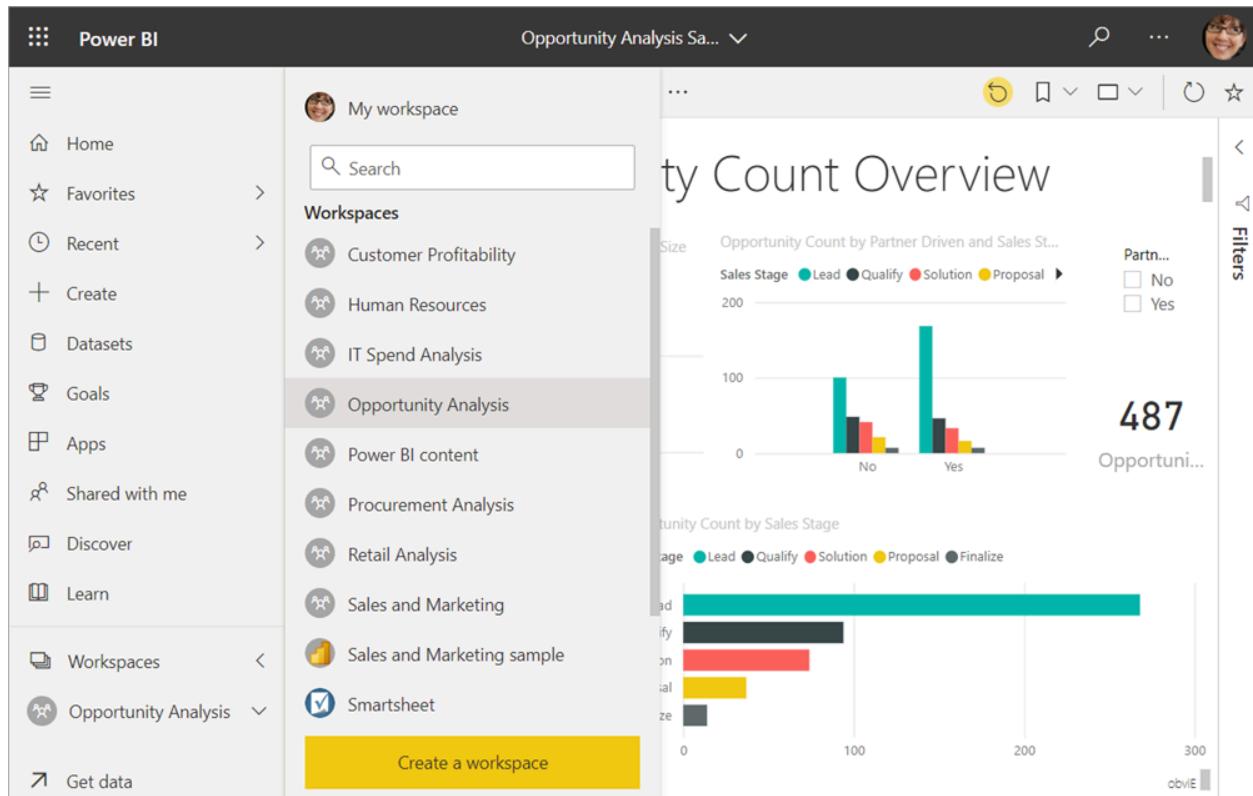
We look at each sharing scenario below and discuss the security implications in more detail for each. For more considerations on report consumer security planning, see [Power BI implementation planning: Report consumer security planning](#). For more information on other Fabric workloads, see [Permission model - Microsoft Fabric](#).

## Collaborate in a workspace

When teams work together, they need access to the same documents so they can collaborate easily. In Power BI workspaces, teams share the ownership and management of their dashboards, reports, semantic models, and workbooks. Sometimes Power BI users organize their workspaces based on organizational structures, or they create them

for specific projects. Still other organizations use several workspaces to store different versions of reports or dashboards they use.

Workspaces provide roles that determine what permissions your coworkers have. Use those roles to determine who can manage the workspace, edit or distribute content, or just view content. Read more about [roles in workspaces](#).



Workspaces are better for collaboration than My Workspace, because they allow co-ownership of content. You and your entire team can easily make updates or give others access. My Workspace is best used by individuals for one-off or personal content.

Now, imagine you have a finished report you need to share with your colleagues. What's the best way to give them access to the report? The answer depends on a number of factors.

- If colleagues need to keep the report up to date, or need access to all the content in the workspace, add them to the workspace as Members or Contributors.
- If colleagues just need to view the content in the workspace, add them as Viewers.
- If colleagues just need to see that report and not all the content in the workspace, you can share the report via link or grant them direct access.
- If the report is better consumed with related reports or dashboards that you need to distribute to many colleagues, then publishing an *app* is likely the best choice.

Whenever you collaborate with your team using a workspace, the team has access to all the data in the workspace. To restrict a user's access, give them the Viewer role in the

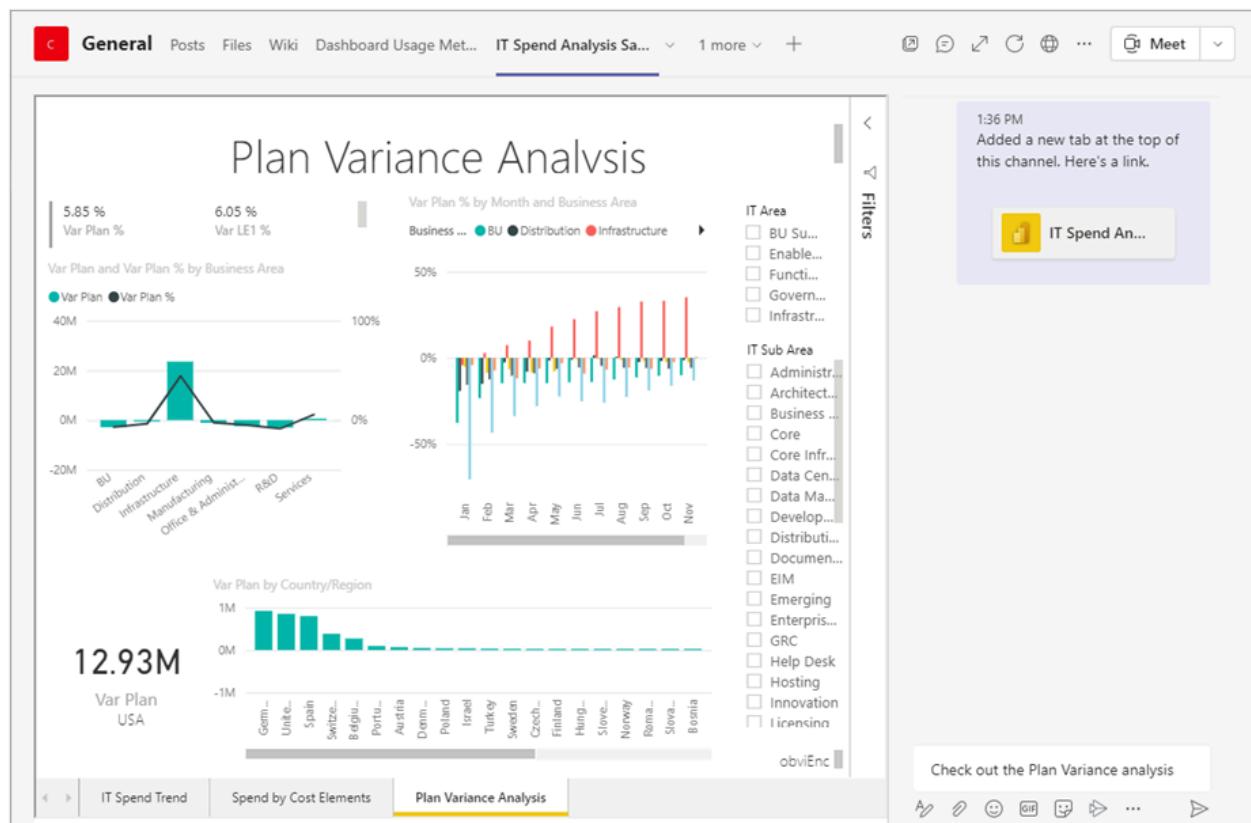
workspace, and define RLS or OLS on the semantic model or other Fabric workload security.

Read about how to [create workspaces](#).

## Collaborate in Microsoft Teams

Increase data-driven collaboration in your organization by embedding your Power BI reports and Power BI paginated reports in Microsoft Teams. The Power BI service has a **Chat in Teams** button for reports. You can add separate Power BI tabs for each individual report, and give each tab the name of the report, or any other name.

When you add a Power BI report tab to Microsoft Teams, Teams automatically creates a tab conversation for the report. Everyone in that Microsoft Teams channel can see and discuss the report in the conversation if they have existing access to the report in Power BI service.

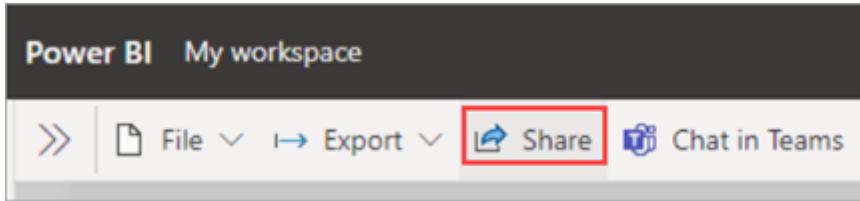


Read more about [collaborating in Microsoft Teams with Power BI](#).

Embedding a report in Microsoft Teams or sending a link to an item doesn't automatically give users permissions to view the report. You need to allow users to view the report in Power BI.

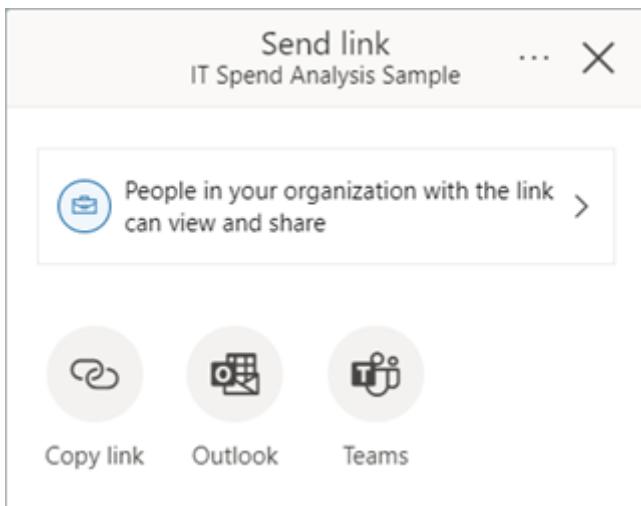
## Share reports or dashboards

Let's say your report in Power BI Desktop is ready, and you want other people to have access to it. One way to get it to them is to *share* it in the Power BI service. You publish it to your own My Workspace or another workspace. Maybe you create a dashboard to go with it, and you're ready.

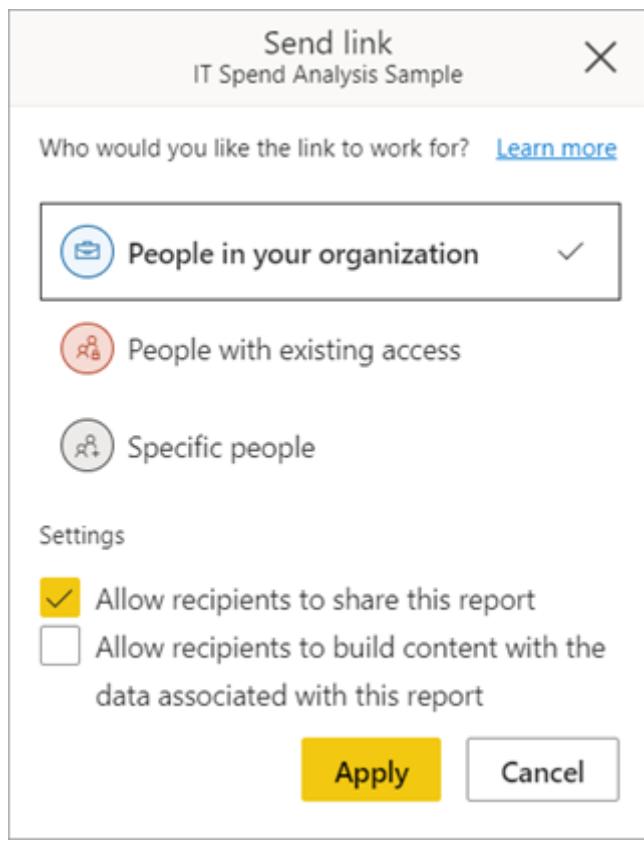


You need a Power BI Pro license to share your content. The people you share it with do too, or the content needs to be in a workspace in a [Premium capacity](#). When you share a dashboard or report, recipients can view it and interact with it. If you give them permission, they can edit it, make a copy of it, and share it with their coworkers. They see the same data that you see in the dashboard or report. They have access to all the data in the underlying semantic model, unless [row-level security \(RLS\)](#) or object-level security (OLS) is applied.

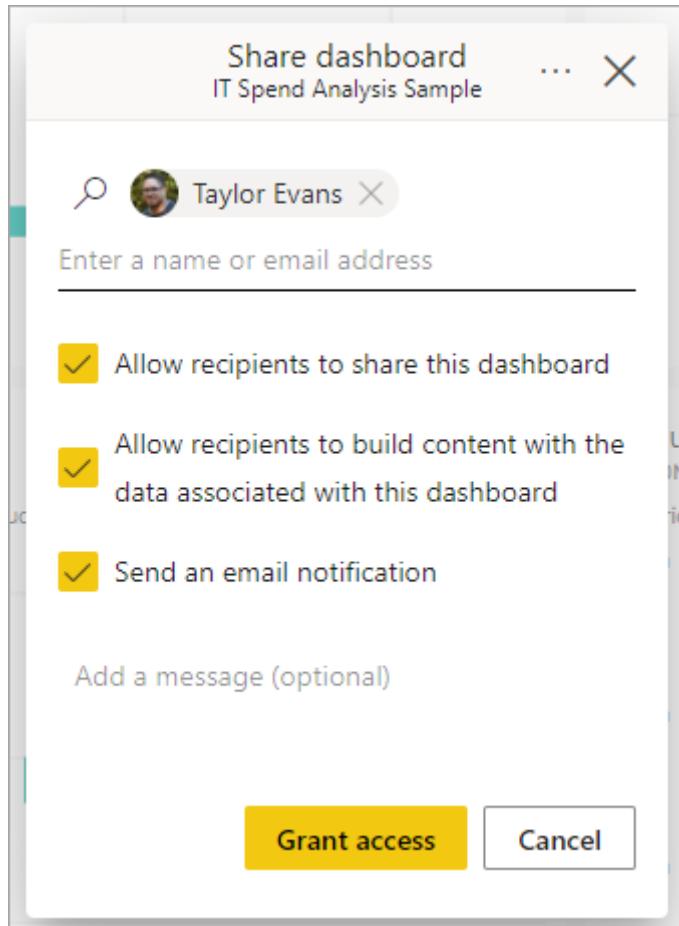
You can share reports via links that give access:



Additionally, you can share reports by granting users direct access:



You can also share dashboards by granting user direct access but not via links that give access:



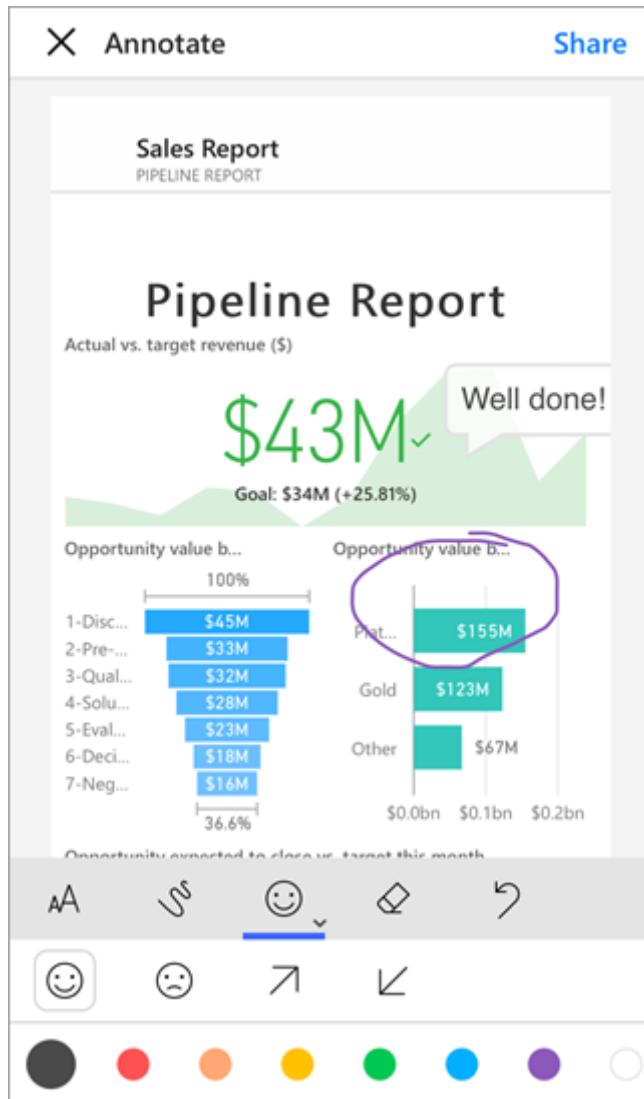
When you share a report with other users, they get read access to both the report and the underlying semantic model that the report uses. Without defining RLS or OLS in

the semantic model, the report is shared with full access to all the data even when tables, columns, measures, or report pages aren't shown on the report or the field list.

When you share a report with build access in addition to read permissions, the user not only gets full access to all elements in the semantic model but can also build new reports, dashboards, and other solutions. However, they only see data allowed based on security rules configured in the model. Read about how to [share reports and dashboards](#) from the Power BI service. Or read about adding a filter to a link and [share a filtered view of your report](#).

## Annotate and share from the Power BI mobile apps

In the Power BI mobile apps for iOS and Android devices, you can annotate a tile, report, or visual and then share it with anyone via email.



You're sharing a snapshot of the tile, report, or visual. Your recipients see it exactly as it was when you sent the mail. The mail also contains a link to the dashboard or report. If

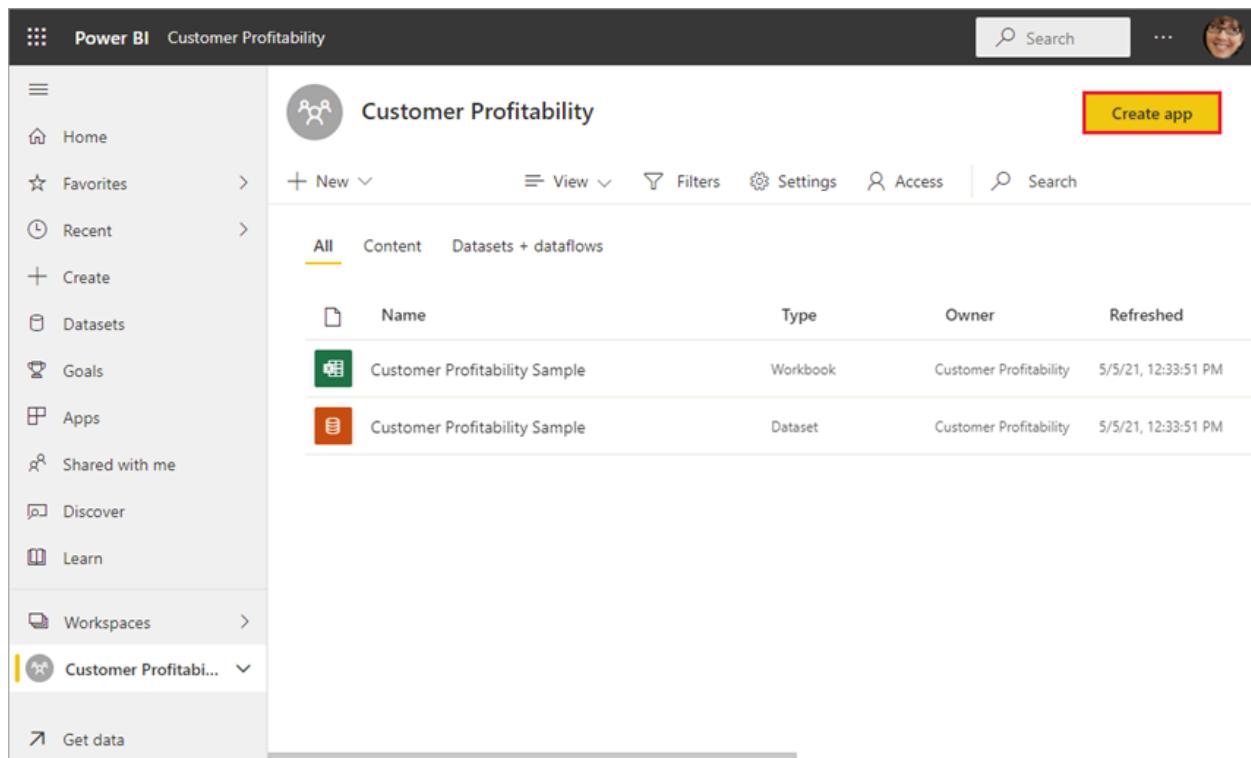
they have a Power BI Pro license or the content is in a [Premium capacity](#), and you've shared the content with them already, they can open it. You can send snapshots of tiles to anyone, not just coworkers in the same email domain.

Read more about [annotating and sharing tiles, reports, and visuals](#) from the iOS and Android mobile apps.

You can also [share a snapshot of a tile](#) from the Power BI app for Windows 10 devices, but not annotate it.

## Distribute insights in an app

Say you want to distribute your dashboard to a broad audience in your organization. You and your coworkers have created a *workspace*, then created and refined dashboards, reports, and semantic models in the workspace. Now you select the dashboards and reports and publish them as an *app*, either to a group or to your whole organization.



Name	Type	Owner	Refreshed
Customer Profitability Sample	Workbook	Customer Profitability	5/5/21, 12:33:51 PM
Customer Profitability Sample	Dataset	Customer Profitability	5/5/21, 12:33:51 PM

Apps are easy to find and install in the Power BI service (<https://app.powerbi.com>). You can send your business users a direct link to the app, or they can search for it in AppSource. If your Power BI administrator gives you permissions, you can install an app automatically in your coworkers' Power BI accounts. Read about how to [publish an app](#).

After they install the app, they can view it in their browser or mobile device.

For your users to view your app, they need a Power BI Pro license, too, or the app needs to be stored in a Power BI Premium capacity. Read [What is Power BI Premium?](#) for details.

When sharing a report through an app the same counts as when sharing a report directly: they get read access to both the report but also the underlying semantic model that is being used by the report. Without defining RLS or OLS on the semantic model, the report is shared with full access to all the data even when it isn't shown on the report. If users have a direct link to *any* of the content in your app, they can access all the data, even if the table, column, or measure is visually hidden in the navigation pane for that audience.

When creating an app you can also give users build permissions on the semantic model in addition to read access. As discussed earlier, this enables the user to build new solutions on top of the semantic model.

You can publish apps to people outside your organization, too. They can view and interact with the app content, but can't share it with others. Now you can create *template apps* and deploy them to any Power BI customer.

## Embed reports in secure portals or public web sites

### Embed in secure portals

You can embed Power BI reports in portals or web sites where your users expect to see them.

With the **Embed in SharePoint Online** and the **Embed** option in the Power BI service, you can securely embed reports for your internal users. Whichever option you choose, Power BI enforces all permissions and data security before users see content, similar to sharing a report. The person viewing the report needs the appropriate license.

- **Embed in SharePoint Online** works with the Power BI web part for SharePoint Online. It provides a single sign-on experience with control over how the report is embedded. Read more about [Embedding in SharePoint Online](#).
- **Embed** works with any portal or web site that supports embedding content using a URL or an iFrame. Read more about the [Embed](#) option.

### Publish to public web sites

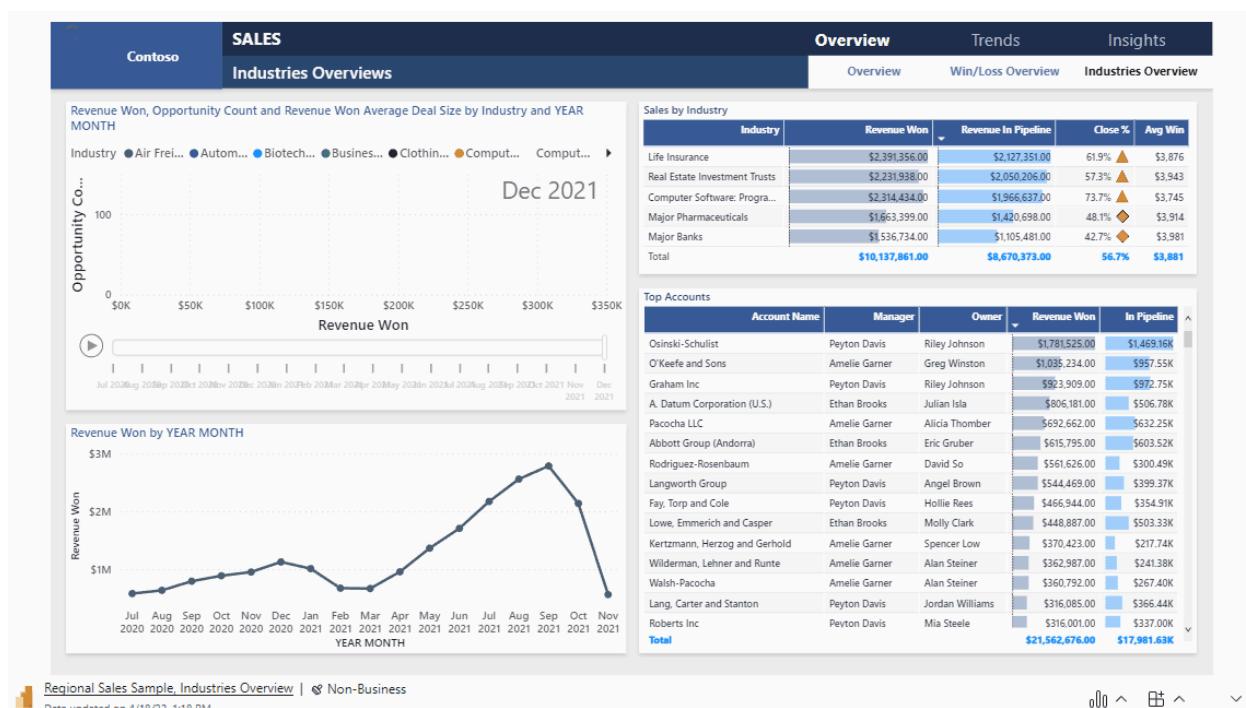
**Publish to web** allows you to publish Power BI reports to the whole Internet by embedding visualizations in blog posts, web sites, social media, and other online communications. Anyone on the Internet can view your reports, and you have no control over who sees what you've published. They don't need a Power BI license. Publishing to the web is available only for reports that you can edit. You can't publish reports to the web if they're shared with you or if they're in an app. Read about how to [publish to the web](#).

### ⚠️ Warning

Use [Publish to web](#) only to share content publicly, not for internal sharing. When you use Publish to web, anyone on the Internet can view your published report or visual. Viewing a report shared through Publish to web requires no authentication. It includes viewing detail-level data that your reports aggregate. Before publishing a report, make sure it's okay for you to share the data and visualizations publicly on the Internet. Don't publish confidential or proprietary information. If in doubt, check your organization's policies before publishing.

## Present live report pages in PowerPoint

You can enhance your data storytelling with live, interactive Power BI data by adding Power BI report pages to PowerPoint. You can interact with them just as you would in Power BI. The live report page is interactive in both PowerPoint edit and slide-show modes. You can apply filters and slicers, select data points, and drill down on data.



Read more about [storytelling with Power BI in PowerPoint](#). When you use a report inside a PowerPoint presentation, the person who opens PowerPoint also needs access to the report to view it. The same permissions as before apply.

## Print or save as PDF or other static file

From the Power BI service, you can print, save as PDF, or save as other static file format, any of these items:

- An entire dashboard
- A dashboard tile
- A report page
- A paginated report
- A visualization from the Power BI service.

You can only print Power BI reports one page at a time. You can't print the entire report at once. Read about how to [print or save a report or dashboard as a static file](#).

Paginated reports, on the other hand, are designed to be printed. Read a [comparison of Power BI reports and paginated reports](#) for details.

## Create and deploy template apps

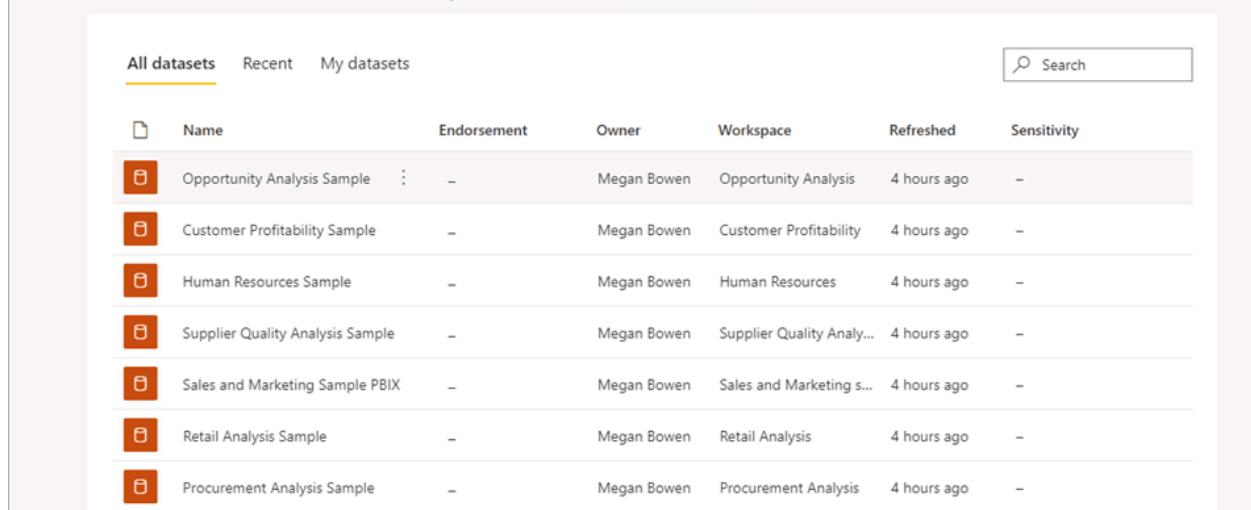
*Template apps* are designed to be distributed publicly, often in Microsoft AppSource. You build an app, and with little or no coding, you can deploy it to any Power BI customer. Your customers connect to their own data and instantiate their own accounts. Read more about [Power BI template apps](#).

## Share a semantic model

Let's face it, some people are more skilled at creating high-quality, well-designed data models in their reports. Maybe you're that person. Your whole organization can benefit from using the same well-designed data models. *Shared semantic models* fill that role. When you create a report with a data model that everyone should use, you can save that report to the Power BI service and give the right people permission to use it. Then they can build their reports on your semantic model. That way, everyone is basing their reports on the same data, and seeing the same "version of the truth."

Explore the datasets in your org to find the data that suits your needs. [Learn more](#)

Select a dataset to view its details, find related reports, and use the data. [What's a dataset?](#)



The screenshot shows the 'All datasets' tab selected in the navigation bar. Below it is a table with columns: Name, Endorsement, Owner, Workspace, Refreshed, and Sensitivity. The table contains seven rows, each representing a sample dataset:

Name	Endorsement	Owner	Workspace	Refreshed	Sensitivity
Opportunity Analysis Sample	-	Megan Bowen	Opportunity Analysis	4 hours ago	-
Customer Profitability Sample	-	Megan Bowen	Customer Profitability	4 hours ago	-
Human Resources Sample	-	Megan Bowen	Human Resources	4 hours ago	-
Supplier Quality Analysis Sample	-	Megan Bowen	Supplier Quality Analy...	4 hours ago	-
Sales and Marketing Sample PBIX	-	Megan Bowen	Sales and Marketing s...	4 hours ago	-
Retail Analysis Sample	-	Megan Bowen	Retail Analysis	4 hours ago	-
Procurement Analysis Sample	-	Megan Bowen	Procurement Analysis	4 hours ago	-

When you share a semantic model, by default, the user has full access to the semantic model. You can define appropriate security rules through RLS and OLS in the semantic model to restrict the data the user can access. Read more about [creating and using shared semantic models](#).

## Create dataflows

*Dataflows* are a self-service way to unify data from disparate sources and prepare it for modeling. Analysts create dataflows to ingest, transform, integrate, and enrich big data. They create and manage dataflows in workspaces in the Power BI service. Read about [self-service data prep with dataflows](#).

## Considerations and limitations

- You can't share reports from Power BI Report Server. Instead, you can create [subscriptions for yourself or others](#).

## Related content

- [Share dashboards with coworkers and others](#)
- [Create and publish an app in Power BI](#)
- [Embed report in a secure portal or web site](#)

Have feedback? Go to the [Power BI Community site](#) ↗ with your suggestions.

More questions? [Try the Power BI Community](#) ↗

# Feedback

Was this page helpful?

 Yes

 No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

# Endorsement - Promoting and certifying Power BI content

Article • 11/10/2023

## Endorsement overview

Organizations often have large amounts of Power BI content available for sharing and reuse by their Power BI users, and identifying trustworthy, authoritative content can be difficult. Endorsement is a way to make it easier for users to find the high-quality content they need. Endorsed content is clearly labeled, both in Power BI and in other places where users look for Power BI content (such as Excel). It is also given priority in some searches, and you can sort it for in some lists.

There are two kinds of endorsement: **promotion** and **certification**.

- **Promotion:** Promotion enables users to highlight content that they think is valuable, worthwhile, and ready for others to use. It encourages the collaborative spread of content within the organization.

Any content owner, or any member with write permissions on the workspace where the content is located, can simply promote the content when they think it's good enough for sharing.

[Learn how to promote your content.](#)

- **Certification:** Certification means that the content meets the organization's quality standards and can be regarded as reliable, authoritative content that is ready for use across the organization.

Only a [select group of reviewers \(defined by the Power BI administrator\)](#) is authorized to certify content. Content owners who wish to see their content certified and are not authorized to certify it themselves need to follow their organization's guidelines about getting their content certified.

[Learn how to certify content](#) or [request certification](#).

**Certification is available only if a Power BI administrator has enabled and configured it for your organization.**

The image below illustrates how endorsed content (promoted and certified) is clearly identified when you're searching for a semantic model to build a report on.

Select a dataset to create a report

All Recent My datasets This workspace  X

Name	Endorsement	Owner	Workspace	Refreshed	Sensitivity
Human Resources Sample		Megan Bowen	Sales and Marketing ...	7/8/21, 2:03:28 PM	-
US Sales Analysis		Megan Bowen	Demo-PowerBI-Wor...	7/5/21, 10:00:56 AM	-
Northwind Traders		Megan Bowen	My Workspace	7/7/21, 11:57:58 AM	-
Sales and Marketing Sample P...		Megan Bowen	Sales and Marketing ...	7/8/21, 10:08:22 AM	-
Healthcare Solution Demo		Megan Bowen	Demo-PowerBI-Wor...	7/6/21, 11:23:52 AM	Highly Confidential... ⓘ
Consumer Website traffic		MOD Admini...	Mark&ProjectTeam	6/18/21, 10:28:04 AM	-
Procurement Analysis Sample	-	Megan Bowen	Sales and Marketing ...	7/8/21, 2:04:48 PM	-
Sales	-	MOD Admini...	SalesAndMarketing	6/18/21, 10:27:48 AM	-
Operations Analytics	-	MOD Admini...	Mark&ProjectTeam	6/18/21, 10:27:40 AM	-

**Create** **Cancel**

## Content types that can be endorsed

Power BI currently supports endorsement for:

- Semantic models
- Dataflows
- Reports
- Apps

## Identifying endorsed content

Endorsed content is labeled with badges and icons in lists, cards, and other places, both in Power BI and in places such as Excel where it is possible to find Power BI content. The following badges and icons identify endorsed content.

Badge	Icon

In addition, if you are in a report or an app, you can see the endorsement status via the header.

- Certification is indicated in both in the header and in the header drop-down, where you can also see who did the certification.

The screenshot shows a mobile application interface for 'Northwind Traders'. At the top, there is a dark header bar with the text 'Northwind Traders' on the left, a 'Certified' button with a key icon in the center (which is highlighted with a red box), and 'Data updated 7/7/21' on the right. Below the header is a light-colored card-like section containing the following information:

- Title: Northwind Traders
- Page name: Page 1
- Contact: Megan Bowen
- Data updated: 7/7/21, 11:57 AM
- Endorsement: Certified by Megan Bowen

The 'Endorsement' section is also highlighted with a red box.

- Promotion is indicated in the header drop-down only.

The screenshot shows a mobile application interface for 'Northwind Traders'. At the top, there is a dark header bar with the text 'Northwind Traders' on the left, 'Data updated 7/7/21' in the center, and a dropdown arrow on the right. Below the header is a light-colored card-like section containing the following information:

- Title: Northwind Traders
- Page name: Page 1
- Contact: Megan Bowen
- Data updated: 7/7/21, 11:57 AM
- Endorsement: Promoted

The 'Endorsement' section is highlighted with a red box.

## Deciding whether to endorse an app or a report

Endorsement is meant to be used for the content items (apps, reports, semantic models, and dataflows) you want people to find, use, and possibly re-share.

When you're sharing data with a broad audience, a Power BI best practice is to share that data via an app. If you're following this best practice, you want people to be able to find that app easily. In such cases then, you should endorse the app.

If you still find it useful to share reports directly, however, then endorse the report itself.

Whether you're sharing a report or an app, if the underlying semantic models are clean and ready to be shared, it's a good idea to endorse the semantic models as well. The same applies to dataflows.

## Next steps

- [Promote or certify Power BI content](#)
- [Enable certification for your organization](#) (Power BI admins)
- Questions? [Try asking the Power BI Community](#) ↗

# Semantic model discoverability

Article • 11/10/2023

*Discoverability* is a feature that makes it possible for users to find endorsed semantic models that they don't have access to. Without discoverability, the full value of [endorsement](#), that is, directing users to quality data, isn't fully realized.

## Discoverability overview

*Endorsement* is a way of telling users that a semantic model is a trusted, quality source of data that they can safely use. However, in Power BI, endorsed semantic models, like all other semantic models, are only visible to users who have access to them. This makes it difficult for people without access to find these trusted sources of data. Not only do they not have access to an endorsed semantic model, they don't know it exists, so they can't even request access.

To overcome this problem, authorized users who have an [Admin or Member role](#) in the workspace where an endorsed semantic model resides can mark that semantic model as discoverable. After the semantic model has been marked as discoverable, it will be listed in the [data hub](#), even for users who don't have access to it. They can then request [build permission](#) on the semantic model by whatever [access request mechanism](#) is provided.

To be operable in an organization, semantic model discovery must be set up by a Power BI administrator. See [How to set up semantic model discoverability in an organization](#).

## How to mark a semantic model as discoverable

If you have an [Admin or Member role](#) in the workspace where an endorsed semantic model resides, you can mark that semantic model as discoverable.

1. Go to semantic model settings and open the [Endorsement and discovery](#) section.
2. In the dialog, select the **Make discoverable** checkbox. The checkbox will only be active if the semantic model is promoted or certified.

The screenshot shows a user interface for managing dataset settings. At the top, there's a section titled "Endorsement and discovery". It includes a note about helping coworkers find quality content by endorsing the dataset and making it discoverable, with a link to "Learn more". Below this are three radio button options: "None" (selected), "Promoted" (disabled), and "Certified" (disabled). A note for "Certified" says to "Certify your dataset to show coworkers that it's been reviewed and meets your org's certification criteria. [How do I get my dataset certified?](#)". A red box highlights the "Discoverable" setting, which is checked and described as allowing users without access to the dataset to discover it and request permissions to access the data. A note below it says "This dataset will be made discoverable. Others in your org will be able to find it by such details as name, tables, columns, etc. [Learn more](#)". At the bottom are two buttons: "Apply" (green) and "Discard".

When a semantic model is marked as discoverable, users who don't yet have access to it can find it in the OneLake data hub and request access to it.

## How to set up semantic model discovery in an organization

You must be a Power BI administrator to set up semantic model discoverability in your organization.

Go to **Admin portal > Tenant settings > Discovery settings** and configure the following settings:

- **Make promoted content discoverable:** When you enable this setting, users you specify who have sufficient permissions to promote content can also mark that content as discoverable. You can also specify users and/or groups to exclude from the permitted, specified groups.
- **Make certified content discoverable:** When you enable this setting, users you specify who are authorized to certify content can also mark that content as discoverable. You can also specify users and/or groups to exclude from the permitted, specified groups.
- **Discover content:** When you enable this setting, users you specify can find endorsed content that's marked as discoverable, even if they don't yet have access to it. You can also specify users and/or groups to exclude from the permitted, specified groups.

## Next steps

- [Data discovery using the data hub](#)

- Endorsement: Promoting and certifying Power BI content
- Build permission for shared semantic models
- Questions? [Ask the Power BI Community](#)

# Share Power BI reports and dashboards with coworkers and others

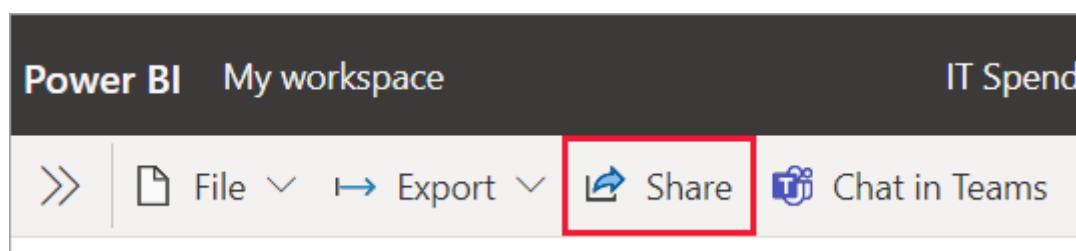
Article • 03/18/2024

APPLIES TO: ✓ Power BI Desktop ✓ Power BI service

*Sharing* is the easiest way to give people access to your reports and dashboards in the Power BI service. You can share with people inside or outside your organization.

When you share a report or dashboard, the people you share it with can view it and interact with it, but can't edit it. The recipients see the same data that you see in the reports and dashboards. They also get access to the entire underlying semantic model, unless row-level security (RLS) is applied to it. The coworkers you share with can reshare with their coworkers if you allow them to.

Some users are unable to share their reports and dashboards with others because they don't have the necessary license or subscription. They can, however, receive reports and dashboards shared by colleagues. To learn more, see [Working with content shared with you](#).



The Power BI service offers other ways to collaborate and distribute reports and dashboards, too. Read [Ways to collaborate and share in Power BI](#) to see which way works best for your circumstances.

## Video

Sujata demonstrates how to share in the Power BI service.

[https://www.microsoft.com/en-us/videoplayer/embed/RWO30a?postJslIMsg=true ↗](https://www.microsoft.com/en-us/videoplayer/embed/RWO30a?postJslIMsg=true)

## Prerequisites

- You need a [Power BI Pro or Premium Per User \(PPU\) license](#), whether you share content inside or outside your organization.

- Your recipients also need Power BI Pro or Premium Per User (PPU) licenses, unless the content is in a [Premium capacity](#).
- If you want to allow recipients to edit a shared report, you have to assign the user a workspace role that allows editing. To learn more about role-level permissions and how to assign roles, read [Roles in workspaces](#).

 **Note**

- Only **P SKUs** and **F SKUs F64** or larger allow users with a Microsoft Fabric free license who have Viewer role on the workspace containing the content to consume Power BI apps and shared content in the Power BI service. Smaller **F SKUs** require a Pro license to consume Power BI content.
- The **F SKU** is part of Fabric. To read more about *F SKUs* see [Microsoft Fabric licenses](#).

## Where you can share

- You can share reports and dashboards from My Workspace.
- You can share from workspaces other than My Workspace, if you have the [Admin](#) or [Member role](#) in the workspace. If you have the Contributor or Viewer role, you can share if you have Reshare permissions.
- You can [share from the Power BI mobile apps](#).
- You can [share from Power BI Desktop](#) with OneDrive and SharePoint integration.
- You can [publish reports from Power BI Desktop](#) to the Power BI service.

## Share a report via link

In a list of reports, or in an open report, select **Share** .

Then in the **Send link** dialog, you'll see the option to copy the sharing link or share it via Outlook, PowerPoint, and Teams to **People in your organization**:

# Send link

IT Spend Analysis Sample

...



People in your organization with the link >  
can view and share

Enter a name or email address

---

Add a message (optional)

Send



Copy link



Mail



Teams



PowerPoint

You can also change how you share this report. Select **People in your organization with the link can view and share** and then choose which option works best. For more information, see [Link settings, below](#).

# Send link

## IT Spend Analysis Sample



Who would you like the link to work for? [Learn more](#)



People in your organization



People with existing access



Specific people

### Settings



Allow recipients to share this report



Allow recipients to build content with  
the data associated with this report

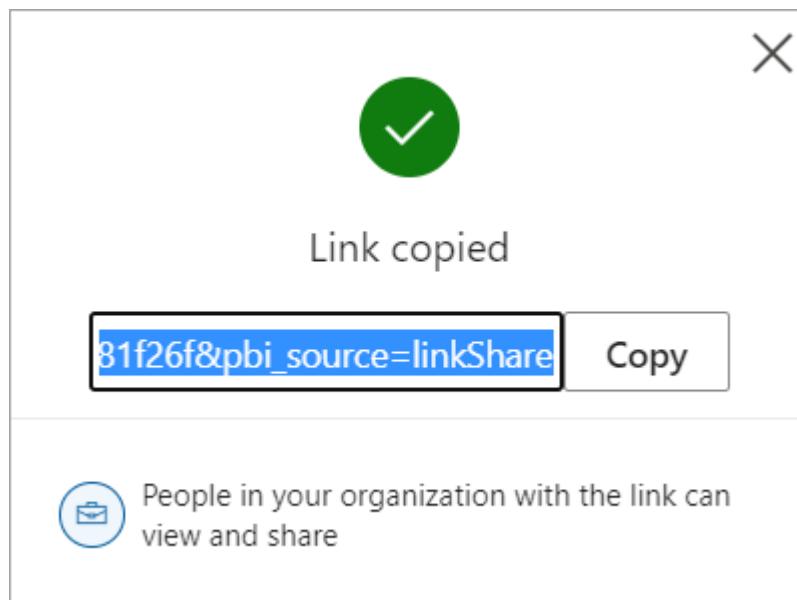
Apply

Cancel

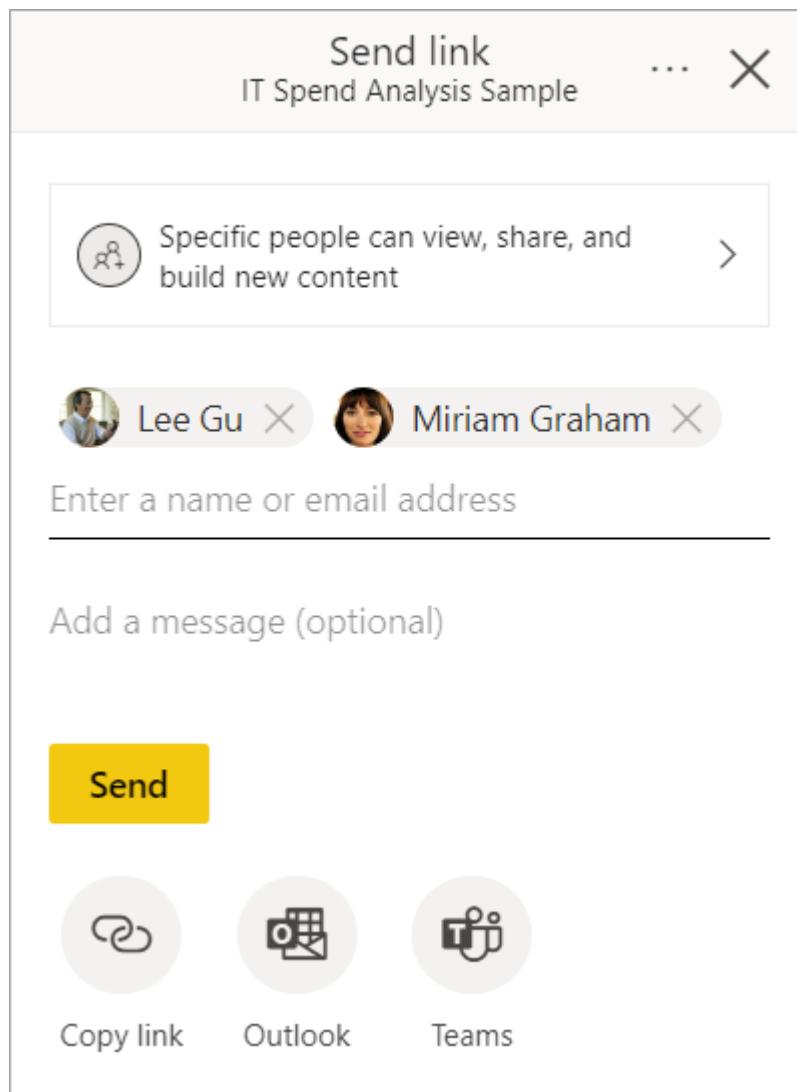
#### Note

Your organization may not allow you to create shareable links to **People in your organization**. Learn more about this [tenant setting](#) in the admin portal documentation.

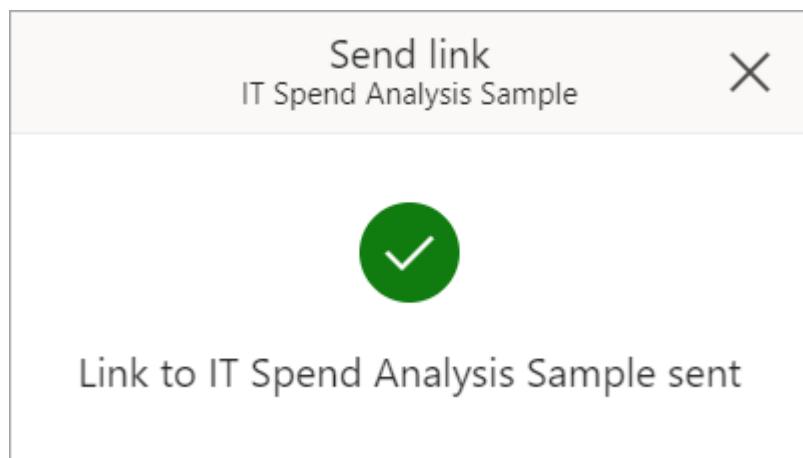
Selecting **Copy link** will automatically generate and copy a shareable link to your clipboard:



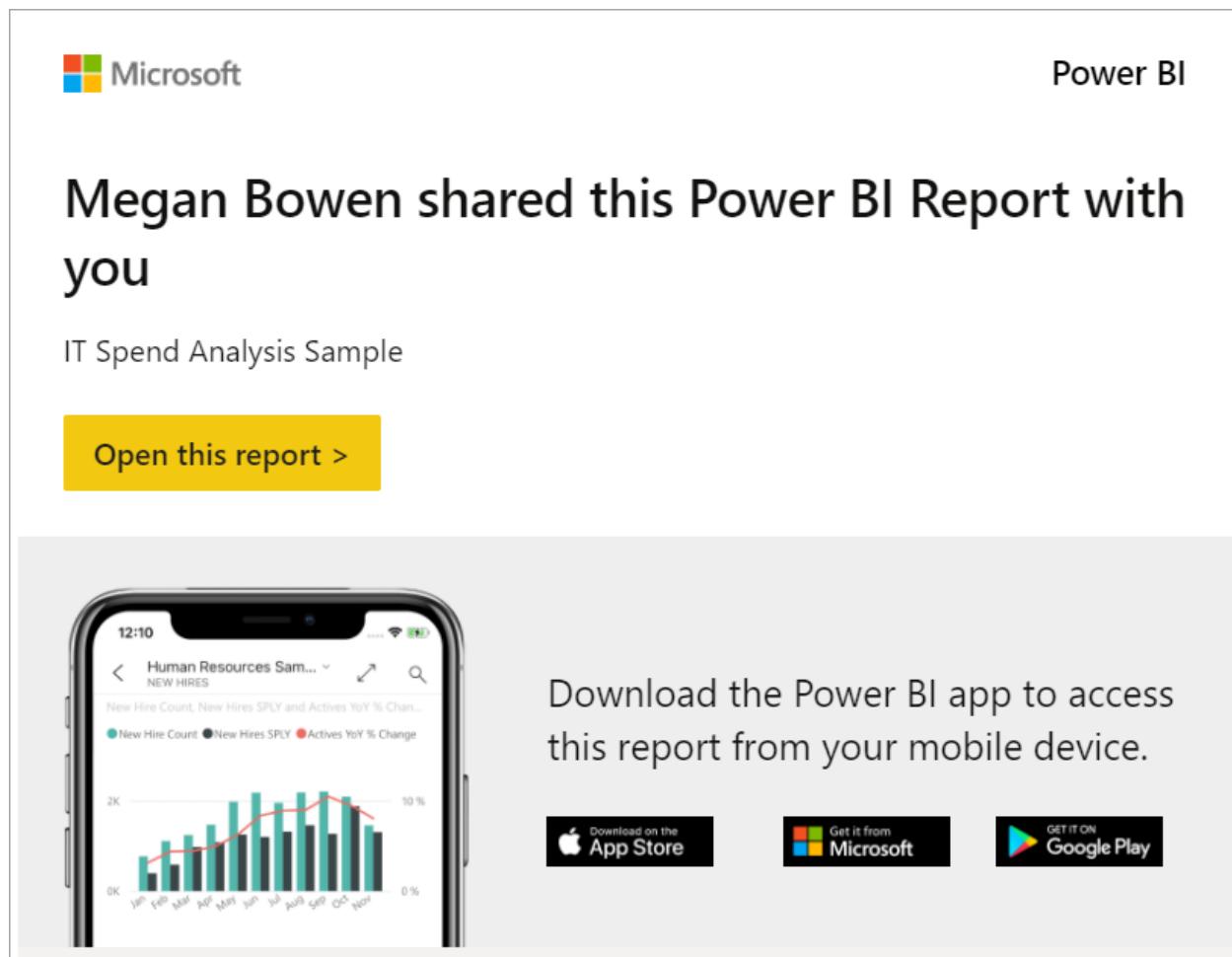
You can also choose to directly send the link to **Specific people** or groups (distribution groups or security groups). Just enter their name or email address, optionally type a message, and select **Send**.



After you select **Send**, Power BI sends the link via email to your recipients.



When your recipients receive the email, they can select **Open this report** and automatically get access to the report through the shareable link.



Microsoft Power BI

Megan Bowen shared this Power BI Report with you

IT Spend Analysis Sample

Open this report >

12:10 Human Resources Sam... NEW HIRES New Hire Count, New Hires SP/LY and Actives YoY % Change

New Hire Count ● New Hires SP/LY ● Actives YoY % Change

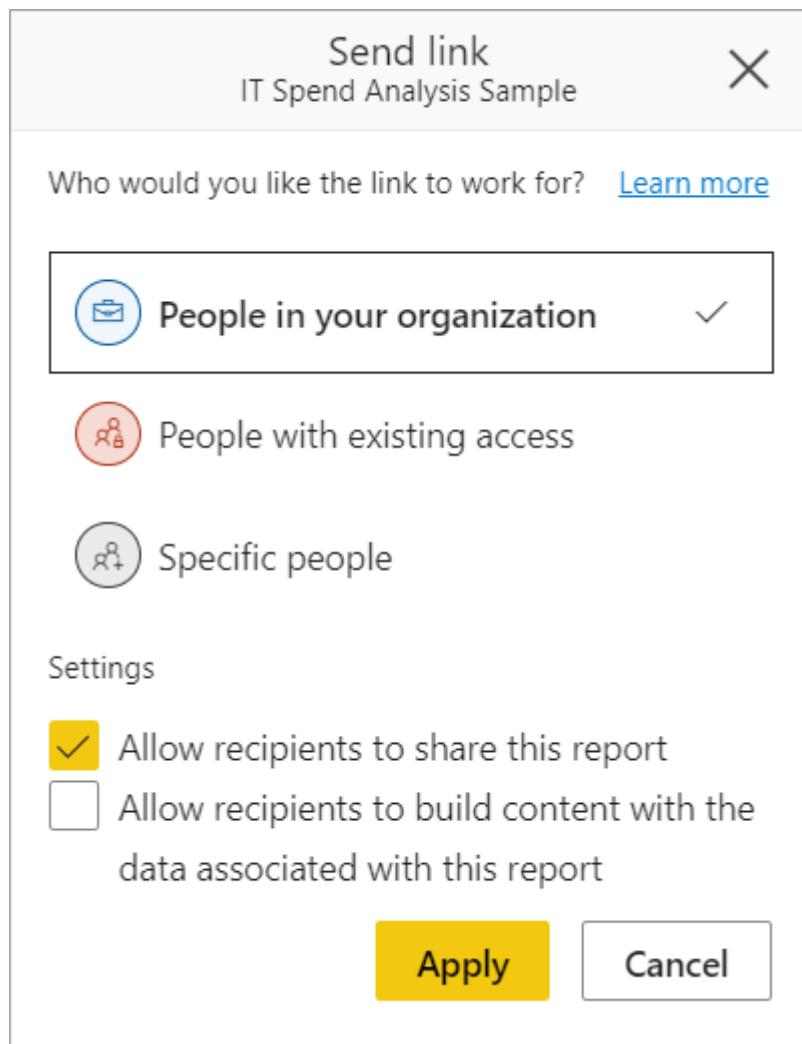
2K 10 % 0 %

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

Download on the App Store Get it from Microsoft GET IT ON Google Play

## Link settings

You can choose who your sharing link gives access to and what they can do with the report and associated data:



## People in your organization

This type of link allows people in your organization to access the report. This link won't work for external users nor guest users. Use this link type when:

- You want to share with someone in your organization,
- You're comfortable with the link being shared with other people inside your organization,
- And you want to ensure that the link won't work for external or guest users.

## People with existing access

This type of link generates a URL to the report, but it doesn't give any access to the report. Use this link type if you just want to send a link to somebody who already has access.

## Specific people

This type of link allows specific people or groups to access the report. If you select this option, enter the names or email addresses of the people you wish to share with. This link type lets you share to guest users in your organization's Microsoft Entra ID. You can't share to external users who aren't guests in your organization.

## Settings

Links that give access to **People in your organization** or **Specific people** will always include at least read access. However, you can also specify if you want the link to include or exclude the following permissions as well:

- Reshare permissions (included by default) – allows recipients to share the report to others
- Build permissions (excluded by default) – allows recipients to build their own reports in other workspaces based on the data associated with the report. Read more about [creating reports based on semantic models from different workspaces](#).

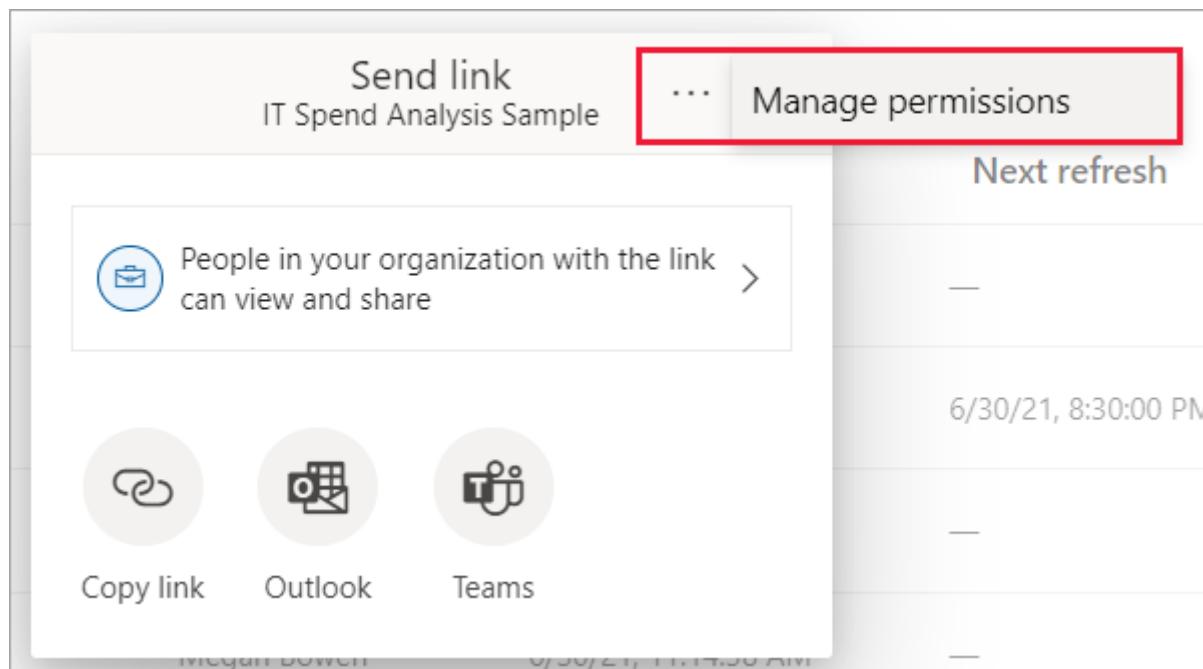
Links for **People with existing access** don't have any other settings because these links don't give any access to the report.

## Additional considerations

- Users can't use a link not shared directly with them to access a report. However, the report might be shared with the user via a different link or they may have direct access to the report through a workspace role.
- If your Power BI admin has disabled shareable links to **People in your organization**, you can only copy and share links to **Specific people** or **People with existing access**.
- If you have reshare permissions to the report but you don't have reshare permissions to the report's underlying data, your shareable links won't give access to the underlying data.
- If you don't have reshare permissions to the report, you can only copy and share links to **People with existing access**.
- Additionally, if you don't have a Power BI Pro license, you can only copy and share links to **People with existing access**.

## Manage permissions to a report

To manage permissions and manage links that give access to the report, select **More options (...)** in the upper right of the sharing dialog, and then select **Manage permissions**:



The **Manage permissions** pane opens, where you can copy or modify existing links or grant users direct access. To modify a given link, select **More options (...)**.

## Manage permissions

IT Spend Analysis Sample

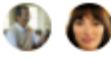
Links giving access

 [https://app.powerbi.co...](https://app.powerbi.com...) [Copy](#) ...

People in your organization with the link can view and share

 <https://app.powerbi.co...> [Copy](#) ...

Specific people can view, share, and build new content

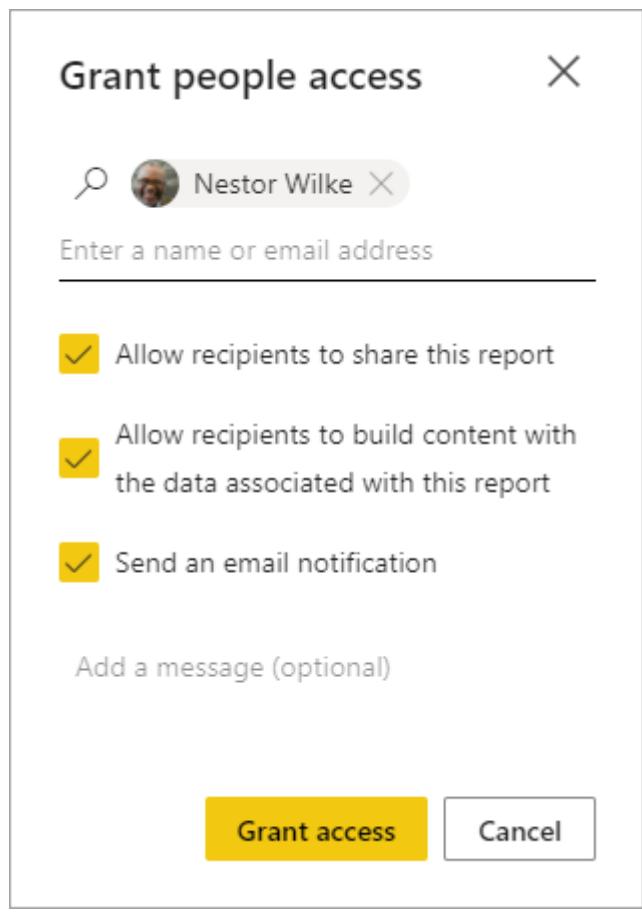


Direct access

 Megan Bowen Owner

[Advanced](#)

To grant users direct access to the report select the plus icon (+), enter their name or email address, optionally type a message, and select **Grant access**.



For more access management capabilities, select the **Advanced** option in the footer of the **Manage permissions** pane. On the management page that opens, you can:

- View, manage, and create **Links**.
- View and manage who has **Direct access** and grant people direct access.
- View and manage **Pending** access requests and invitations.
- View and manage **Related content**.
- Apply **Filters** or **Search** for specific links or people.

The screenshot shows the Power BI interface for the 'IT Spend Analysis Sample' dashboard. On the left is a navigation sidebar with various icons and a list of related content: Dashboards, Workbooks, Datasets, and Shared views. The main area displays a table titled '+ Add link' with three tabs: 'Links' (selected), 'Direct access', and 'Pending'. The 'Links' tab shows two rows of data:

	Links	Who has Access	Permissions	Creator
	<a href="https://app.powerbi.com/links/D7aXuFUbw2?ctid=ac801aad-64...">https://app.powerbi.com/links/D7aXuFUbw2?ctid=ac801aad-64...</a>	People in your organization	Read, Reshare	Megan Bowen
	<a href="https://app.powerbi.com/links/Ur3upVWNYZ?ctid=ac801aad-64...">https://app.powerbi.com/links/Ur3upVWNYZ?ctid=ac801aad-64...</a>	Specific people	Read, Reshare, Build	Megan Bowen

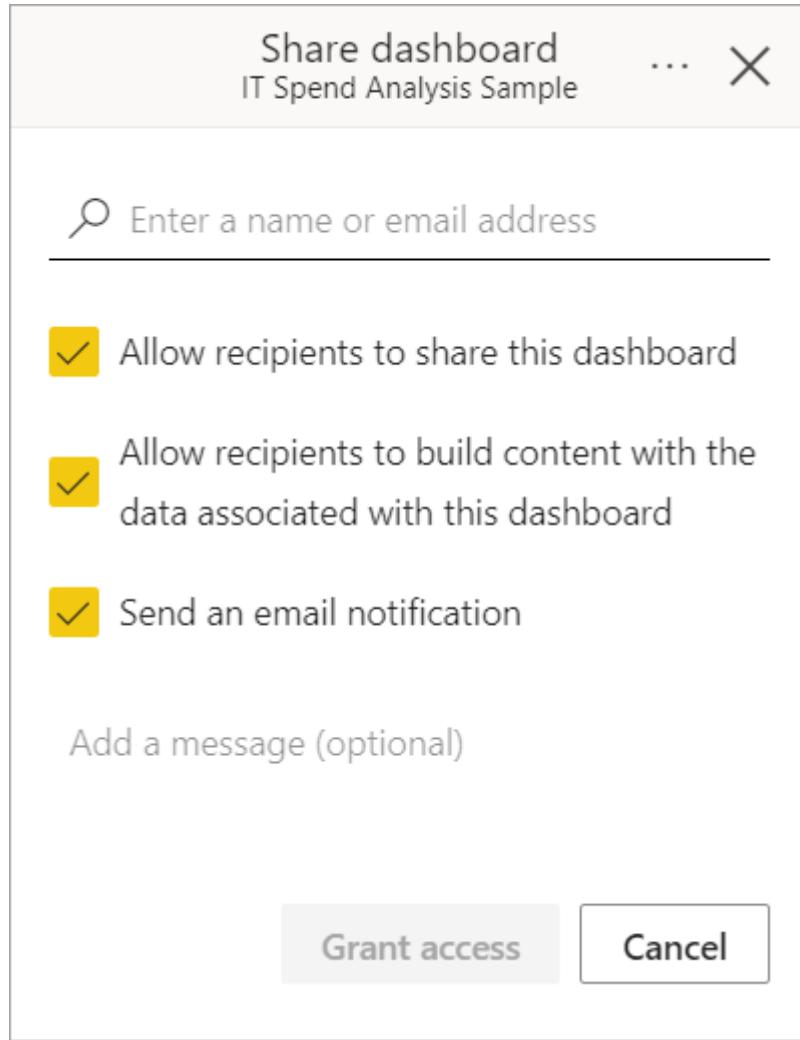
## ⓘ Note

Each report cannot have more than 1,000 sharing links. In the unlikely case that your report hits this max limit, we recommend removing links that give **Specific people** access and instead grant those users direct access.

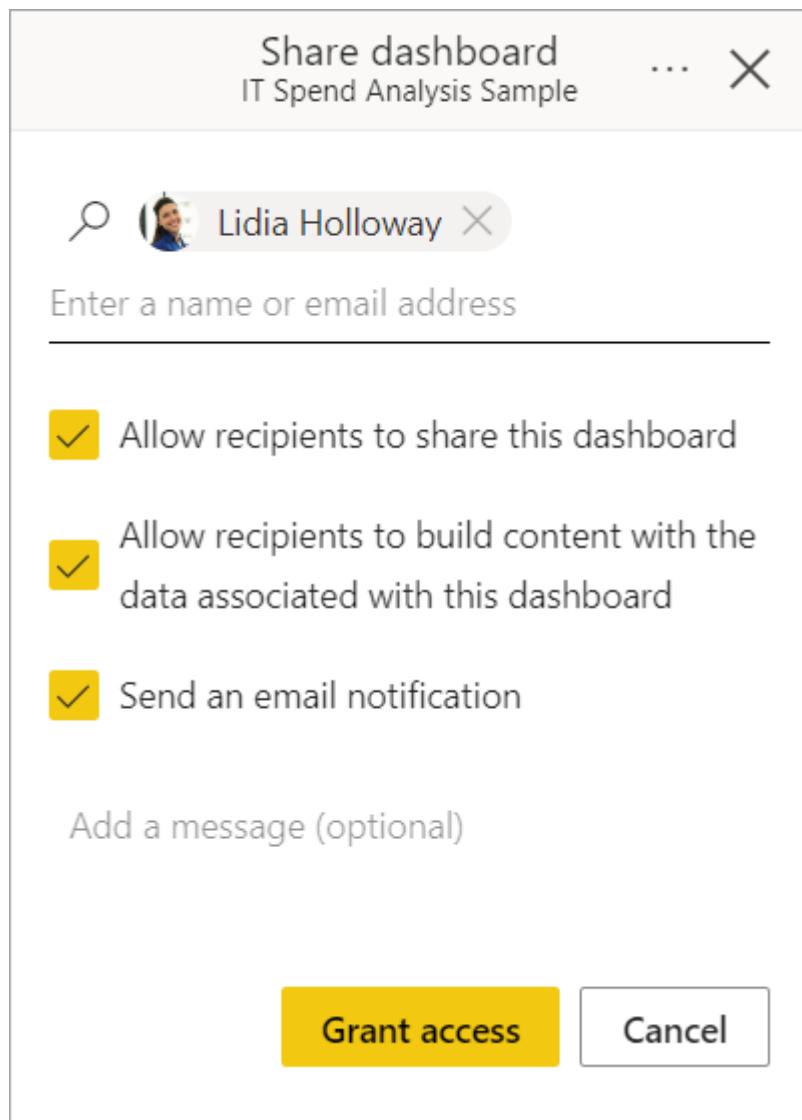
## Share a dashboard

In a list of dashboards, or in an open dashboard, select **Share** .

Then in the **Share dashboard** dialog, you'll see the option to grant users or groups direct access to the dashboard:



Enter the name or email address of the user or group, optionally type a message, and select **Grant access**.



Similar to report sharing, you can specify if you want to grant users the following permissions as well:

- Reshare permissions (included by default) – allows recipients to share the dashboard to others
- Build permissions (included by default) – allows recipients to build content with the data associated with the dashboard

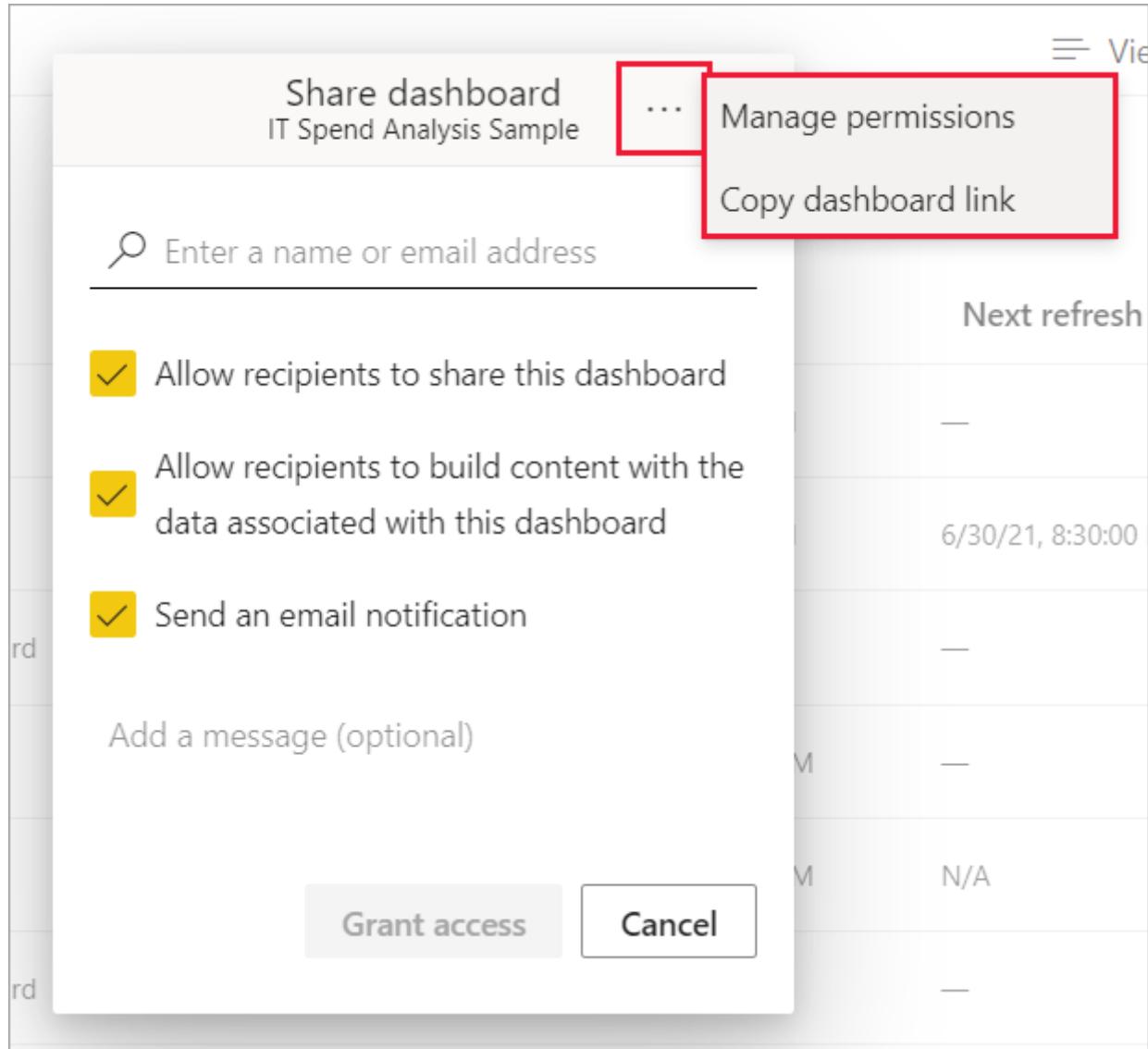
You can share the dashboard with guest users whose addresses are outside your organization, but guest users can't reshare dashboards. Read more about [sharing outside your organization](#) in this article.

#### Note

The input box supports, at most, 100 separate users or groups. See [Share with more than 100 users](#) in this article for ways to share with more people.

# Manage permissions to a dashboard

To manage permission to the dashboard, select the **More options** menu (... ) in the upper right of the **Share dashboard** dialog, and then select **Manage permissions**:



The **Manage permissions** pane opens, where you can see who has direct access. Select the plus icon (+) to grant more users direct access to the dashboard.

## Manage permissions

IT Spend Analysis Sample

 Direct access ⓘ   [Grant people access](#)   [+](#)

	Adele Vance	
	Alex Wilber	
	Allan Deyoung	
	Christie Cline	
	Debra Berger	
	Diego Siciliani	
	Megan Bowen	Owner

[Advanced](#)

For more access management capabilities, select the **Advanced** option in the footer of the **Manage permissions** pane. On the management page that opens, you can:

- View and manage who has **Direct access** and grant people direct access
- View and manage **Pending** access requests and invitations
- View and manage **Related content**
- Apply **Filters** or **Search** for specific people

IT Spend Analysis Sample

Related content

- Reports
- Workbooks
- Datasets

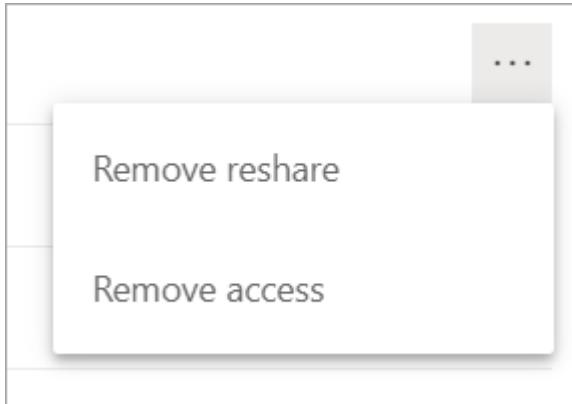
+ Add user

Filters Search

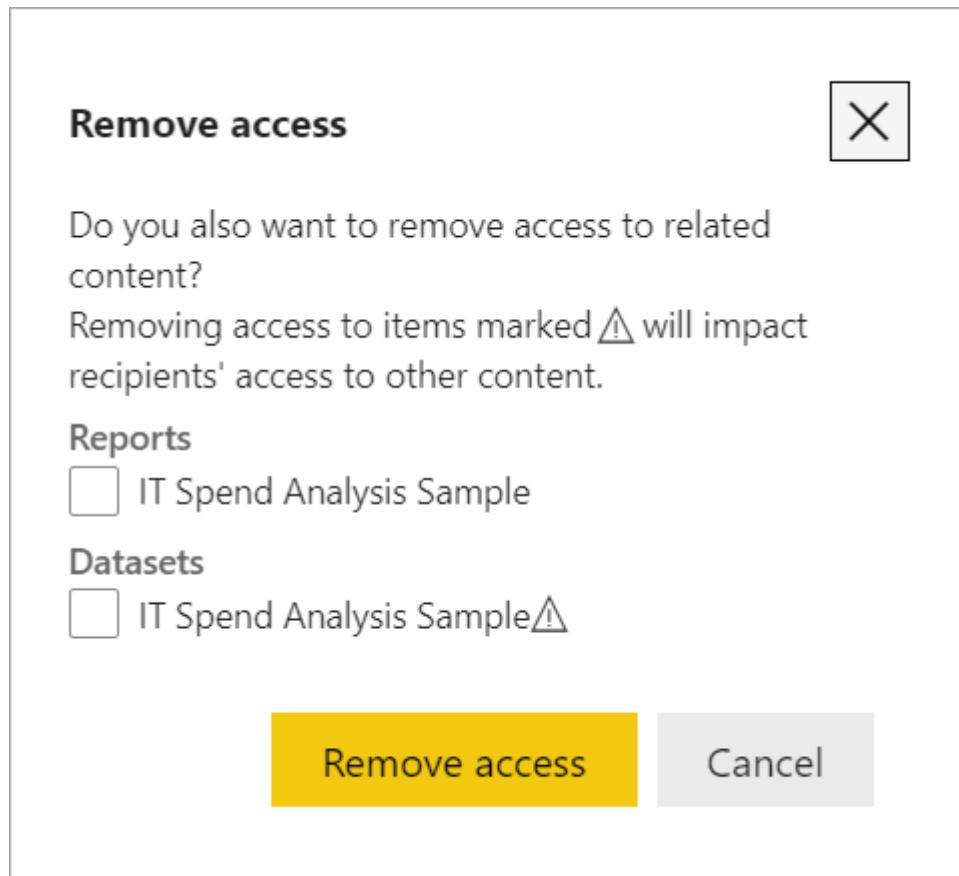
Direct access Pending

People and groups with access	Email Address	Permissions
Megan Bowen	MeganB@M365x447726.OnMicrosoft.com	Owner
Debra Berger	DebraB@M365x447726.OnMicrosoft.com	Read, Reshare
Allan Deyoung	AllanD@M365x447726.OnMicrosoft.com	Read, Reshare
Diego Siciliani	DiegoS@M365x447726.OnMicrosoft.com	Read, Reshare
Alex Wilber	AlexW@M365x447726.OnMicrosoft.com	Read, Reshare
Christie Cline	ChristieC@M365x447726.OnMicrosoft.com	Read, Reshare
Adele Vance	AdeleV@M365x447726.OnMicrosoft.com	Read, Reshare

To remove a user's access to the dashboard, select the ellipsis (...) next to that user's permissions and select **Remove access**:



In the **Remove access** dialog, decide if you also want to remove access to related content, such as reports and semantic models. It's best to also remove access to related content; otherwise, the related content may not display properly.



## Share outside your organization

When you share with people outside your organization, they receive an email with a link to the shared report or dashboard. The recipient has to sign in to Power BI to see what you shared. If they don't have a Power BI Pro or Premium Per User (PPU) license, they can sign up for a license when they select the link.

After people sign in, they see the shared report or dashboard in its own browser window, not in the usual Power BI portal. External recipients should bookmark the link to get back to this report or dashboard later.

Only your direct recipients see the shared report or dashboard. For example, if you sent the email to Vicki@contoso.com, only Vicki sees the dashboard. No one else can see the dashboard, even if Vicki forwards them the link. Vicki must use the same email address to access it; if Vicki signs in with any other email address, Vicki won't have access to the dashboard.

People outside your organization don't see any data at all if role- or row-level security is implemented on on-premises Analysis Services tabular models.

Use a security group, not a distribution group, to share with a group that includes people with external email addresses. People with external emails in a distribution group

can't see the content you share, unless they're Microsoft Entra B2B guest users. Learn more about [Microsoft Entra B2B guest users](#).

If you send a link from a Power BI mobile app to people outside your organization, clicking the link opens the dashboard in a browser, not in the Power BI mobile app.

## Share with more than 100 separate users

At most, you can share with 100 users or groups in a single share action. However, you can give more than 500 users access to an item. Here are some suggestions:

- Share multiple times by specifying the users individually.
- Share with a user group that contains all the users.
- Create the report or dashboard in a workspace, then create an app from the workspace. You can share the app with many more people. Read more about [publishing apps in Power BI](#).

## Considerations and limitations

Things to keep in mind about sharing reports and dashboards:

- Both reports and dashboards can be shared to users through direct access; however, only reports can be shared via links that give access to the report and underlying data.
- If you have reshare permissions to the underlying semantic model, when you share a report or dashboard with colleagues you're also sharing the underlying semantic model. Your colleagues get access to the entire semantic model unless [row-level security \(RLS\)](#) limits their access. Report authors may customize user experiences when viewing or interacting with reports. For example, authors may hide columns or limit the actions on visuals. These customized user experiences don't restrict what data users can access in the semantic model. Use [row-level security \(RLS\)](#) in the semantic model so that each person's credentials determine which data they can access.
- Everyone you successfully share your dashboard with can see it and interact with the related reports in [Reading view](#). In general, they can't create reports or save changes to existing reports. However, if you select **Allow recipients to build content with the data associated with this dashboard**, they can create their own reports in other workspaces based on the semantic model for this dashboard.
- Although no one can see or download the semantic model, they can access the semantic model directly by using the Analyze in Excel feature. An admin can restrict the ability to use Analyze in Excel for everyone in a group. However, the

restriction is for everyone in that group and for every workspace the group belongs to.

- Everyone can manually [refresh the data](#).
- You can't share reports that are distributed to you in an app. Ask the app owner to add the person you want to share the report with and republish the app.
- If you use Microsoft Exchange Online for email, you can enter the email address of a distribution group to share with its members.
- You can't use Microsoft 365 Unified groups for direct sharing and email subscriptions. If you don't want to specify individuals, you can use email-enabled distribution groups or security groups to share with multiple users. See [Use group email aliases](#) in "Email subscriptions for reports and dashboards in the Power BI service" for more information.
- Coworkers who share your email domain, and coworkers whose domain is different but registered within the same tenant, can share the dashboard with others. For example, say the domains contoso.com and contoso2.com are registered in the same tenant and your email address is konrads@contoso.com. Both ravali@contoso.com and gustav@contoso2.com can share your dashboard, as long as you give them permission to share.
- If your coworkers already have access to a specific report or dashboard, you can send a direct link by copying the URL when you're on the dashboard or report. For example: <https://app.powerbi.com/reports/g12466b5-a452-4e55-8634-xxxxxxxxxxxx>.
- When you share reports or dashboards via direct access, an email notification is only sent to individual users, and not to groups.

## Related content

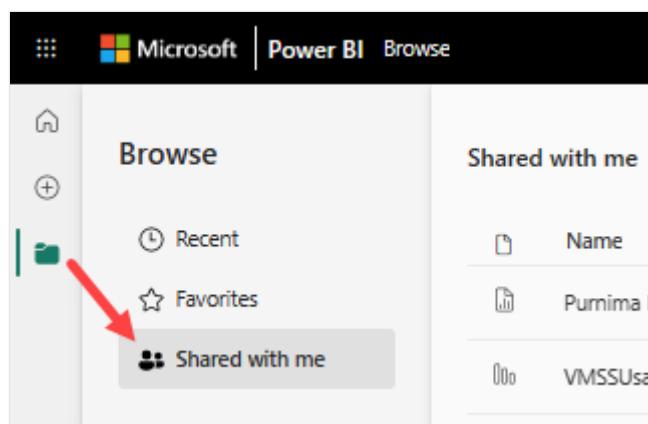
- [How should I collaborate on and share dashboards and reports?](#)
- [Share from Power BI Desktop](#)
- [Troubleshoot sharing dashboards and reports](#)
- [Sharing for users with free licenses](#)
- [Request or grant access to shared dashboards or reports](#)
- [Share a filtered Power BI report](#)
- Questions? [Try the Power BI Community](#) ↗

# Display the dashboards and reports that others share with me

Article • 01/17/2025

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

Your colleagues create apps, reports, dashboards, scorecards, workspaces, and semantic models. When it comes time to share them with you or to ask for your collaboration, there are several ways that they can do this. In this article, we explain how to view and open content that others shared with you.



## Interact with shared content

You have options for interacting with the shared dashboards and reports, depending on the permissions the *designer* gives you. These interactions include being able to make copies of the dashboard, subscribe, edit a report, and reshare with other colleagues. For more information, see [Share Power BI reports and dashboards with coworkers and others](#).

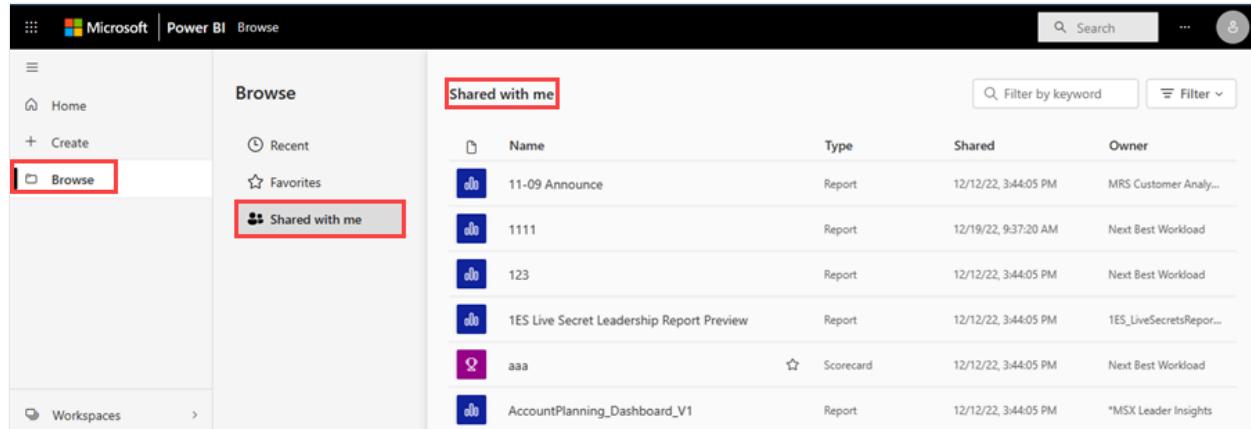
## Licenses for viewing shared content

To view content that others have shared with you, there are two options.

- **The content isn't in a Power BI Premium capacity:** All business users need Power BI Pro or Premium Per User (PPU) licenses to view shared content.
- **The content is in a Power BI Premium capacity:** Business users without Power BI Pro or Premium Per User (PPU) licenses can view the content. However, you can't copy the reports, or create reports based on the underlying semantic models. For more information, see [What is Power BI Premium?](#)

# View and open content from your *Shared with me* tab

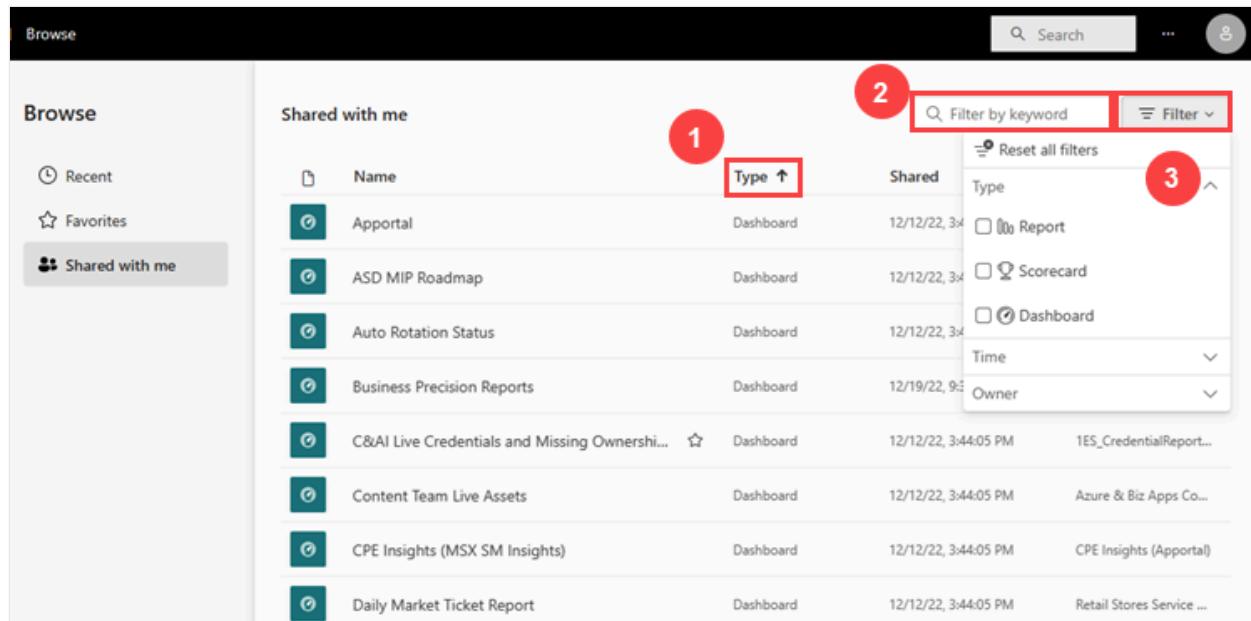
Content that was directly shared with you appears in your **Shared with me** tab. A link to shared content is sent to you in an email link or the *creator* or *owner* automatically installs it for you. To display the list, from the nav pane, select **Browse > Shared with me**. Scroll through **Shared with me** to see reports, dashboards, and scorecards.



The screenshot shows the Microsoft Power BI interface with the 'Browse' tab selected. On the left, the navigation pane has 'Browse' highlighted with a red box. Below it, under 'Shared with me', there is also a red box around the 'Shared with me' button. The main area displays a table titled 'Shared with me' with columns for Name, Type, Shared, and Owner. The table lists several items, including '11-09 Announce' (Report), '1111' (Report), '123' (Report), '1ES Live Secret Leadership Report Preview' (Report), 'aaa' (Scorecard), and 'AccountPlanning\_Dashboard\_V1' (Report). There are search and filter buttons at the top right of the table.

From this list, you can [favorite](#) and open content.

If your **Shared with me** content list gets long, there are several options for finding what you need. Sort by one of the columns (1), use the keyword filter field (2), or use the Filters pane (3). To open the Filters pane, select **Filters** from the upper right corner.



This screenshot shows the same Power BI interface as above, but with a callout highlighting features in the 'Shared with me' table. A red circle labeled '1' points to the 'Type ↑' sorting button. A red circle labeled '2' points to the 'Filter by keyword' input field. A red circle labeled '3' points to the 'Filter' button in the top right corner of the table, which opens the 'Filters' pane. The filters pane shows dropdowns for 'Type' (with 'Report' selected), 'Time', and 'Owner'.

## Open shared content from an email link

When designers create or update content, they often share that content in an email. An email link gives you direct access to a single piece of content, such as a report or an

app. Select the link to open and install the content.

 Microsoft

Power BI

## Megan Bowen shared this Power BI Report with you

IT Spend Analysis Sample

[Open this report >](#)



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

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

## View and open content from your *Apps* tab

Apps that were directly shared with you and apps that you downloaded appear in your **Apps** tab. You receive these apps in one of the following ways:

- You received the app as a link in an email, and you selected the link.
- The app *creator* or *owner* automatically installed the app for you.
- You installed the app from [AppSource](#).

Scroll through **Apps** to see reports, dashboards, and scorecards. To display the list, from the nav pane, select the **Apps** icon.

The screenshot shows the Microsoft Power BI Apps interface. At the top, there's a navigation bar with the Microsoft logo, 'Power BI Apps', and a search bar. Below the navigation bar, the word 'Apps' is displayed. On the left, there's a sidebar with icons for Home, My apps, and Get apps (which is highlighted with a red box). The main area shows three app cards: 'Power BI' (app for the Power BI Engineering Team), 'Cloud Marketing Insights' (with support email cebisup@microsoft.com), and 'Documentation Sync for Power BI'. Each card has a star icon and a small description below it. A 'Filter by keyword' search bar is positioned above the cards.

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

## Collaborate on content in a *workspace*

One way that *creators* can share with you is by granting you a [role](#) in a workspace. What you can do with the content in that workspace depends on the role assigned to you: Viewer, Contributor, Member, Admin.

## Related content

- [Ways to collaborate and share reports and dashboards in Power BI](#)
- [Introduction to semantic models across workspaces](#)

## Feedback

Was this page helpful?

Yes

No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

# Export reports from Power BI to PDF

Article • 01/17/2025

APPLIES TO:  Power BI Desktop  Power BI service

You can export your Power BI reports to PDF easily, both from the Power BI service and from Power BI Desktop. Exporting to PDF is one way to share or print reports.

When you export to PDF, each page in the Power BI report becomes an individual page in your PDF document.

If your report has a sensitivity label, the label and any encryption settings carry over to the exported file, ensuring that your data remains protected even after it leaves Power BI.

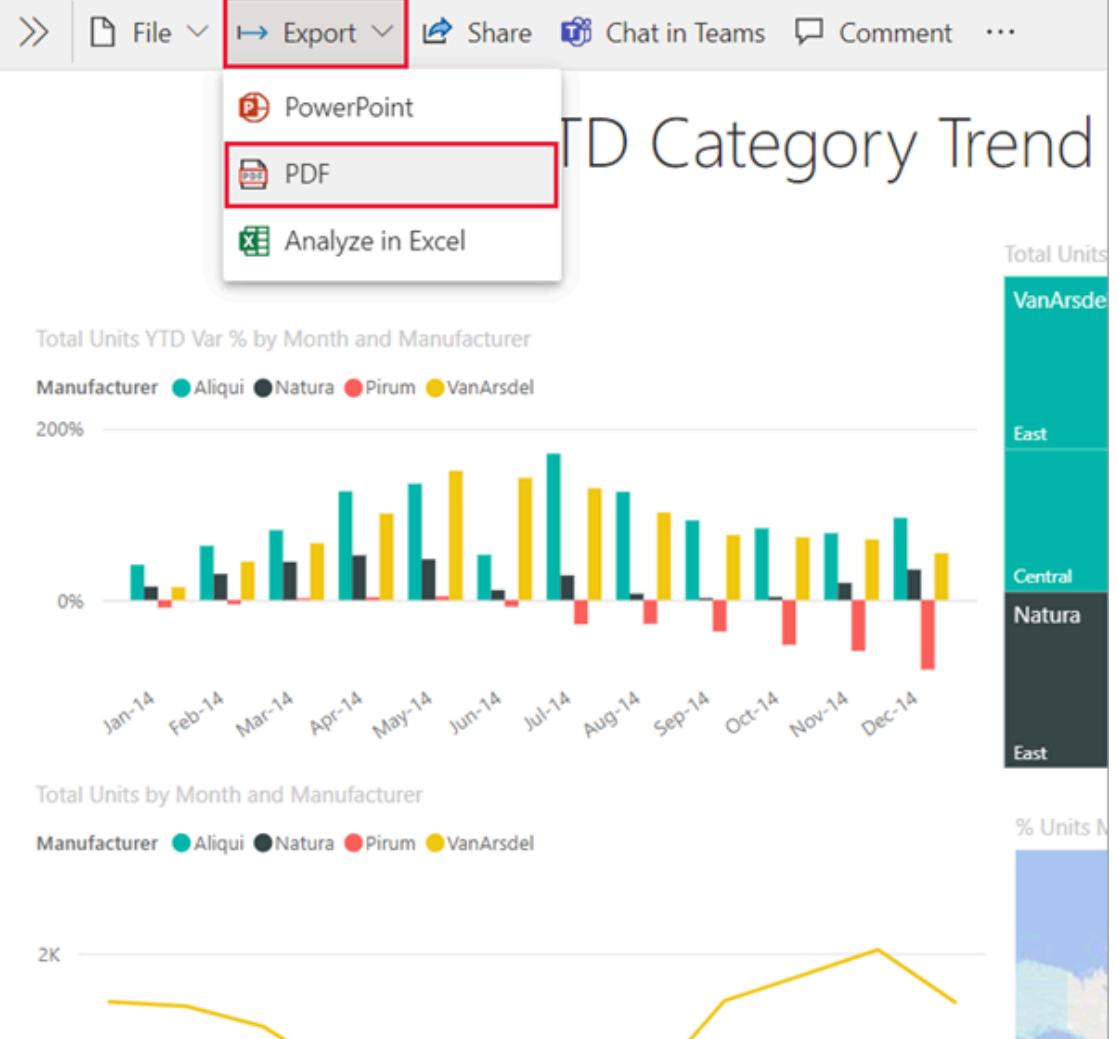
## Note

In Desktop, sensitivity label inheritance by the PDF is a preview feature that is on by default. You can turn off sensitivity label inheritance in PDF export in Desktop by going to **File > Options and settings > Options > Preview features**, and unchecking **Enable setting sensitivity label on exported PDF**.

Power BI service

## Export to PDF from the Power BI service

1. In the service, select a report to display it on the canvas. You can select a report from your **Home** page, **Apps**, or any other container from the nav pane.
2. In the Power BI service, select **Export > PDF** from the menu bar.



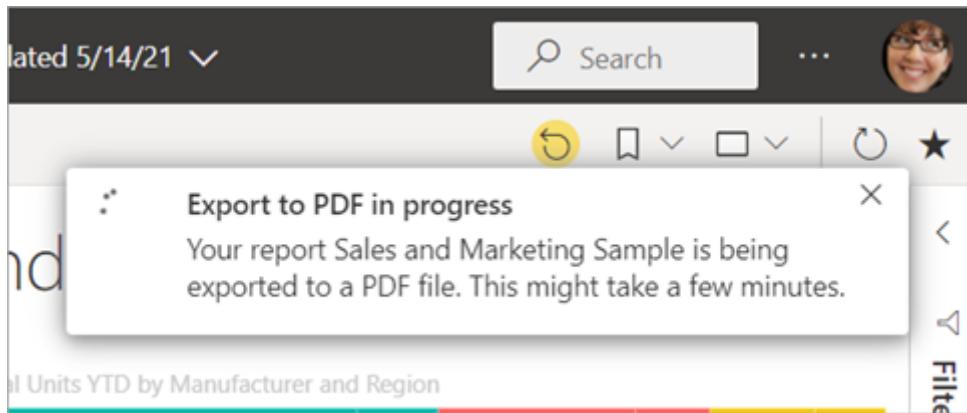
A pop-up appears where you can select **Current values** or **Default values**.

**Current values** exports the report in the current state, which includes the active changes you made to slicer and filter values. Most users select this option. Alternatively, selecting **Default values** exports the report in its original state, as the *designer* shared it, and doesn't reflect any changes you made to that original state.

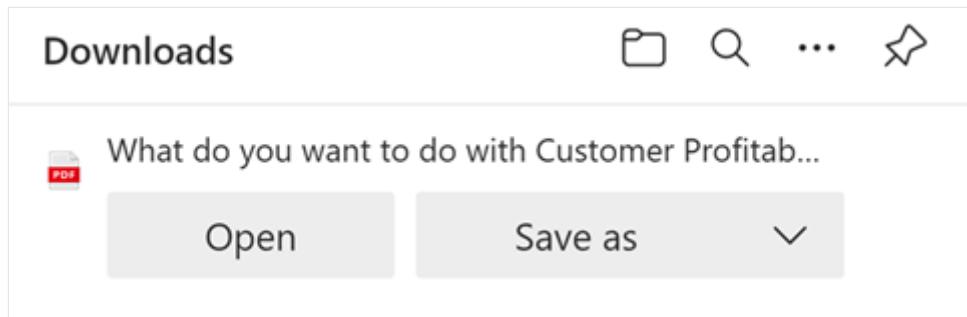
Additionally, there's a check box to select whether or not to export the hidden tabs of a report. Select this check box if you want to export only report tabs that are visible to you in your browser. If you prefer to get all the hidden tabs as part of your export, you can leave this check box cleared. If the check box is grayed out, there are no hidden tabs in the report. After you make your selections, select **Export** to continue.

You may also choose to export only the current page you're viewing in a report by checking the **Only export current page** option. By default, this option is unchecked and all pages are exported from your report.

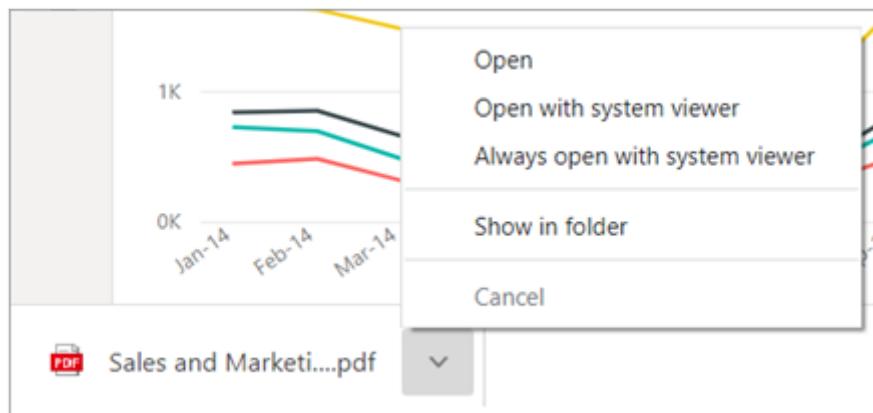
A progress bar displays in the upper-right corner. Exporting might take a few minutes. You can continue to work in the Power BI service while the report is being exported.



After the Power BI service finishes the export process, the notification banner changes to let you know. In Microsoft Edge, you are prompted to save or open the PDF.



In Google Chrome, the file options display in the lower left corner of the browser.



If you make no selection, by default, the PDF is 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.

## If you don't see the Export option

- Make sure that you're viewing a report (not a dashboard).
- It's possible that your administrator disabled this feature. Contact your administrator for details. Administrators: See [Export reports as PowerPoint presentations or PDF documents](#).

## Visuals that aren't supported

The following aren't supported for **Export to PDF**. Either the **PDF** export option is grayed out or isn't listed at all on the **Export** dropdown. In some cases, such as for R visuals, the report exports but the visual renders as a gray box with an error message.

- These Power BI visuals aren't supported. When you subscribe to a report containing these visuals, they display an error symbol.
  - Power BI [custom visuals](#). The exception is those Power BI custom visuals that are [certified](#)
  - [ESRI ArcGIS](#) visuals
  - [R](#) visuals
  - [Power Apps](#) visuals
  - [Python](#) visuals
  - [Power Automate](#) visuals
  - [The Paginated report](#) visual
  - Visio visuals
- Visual [displayed as a Data point table](#) or displayed with "Show data point as a table," can't be exported to PDF.

## Reports that can't be exported

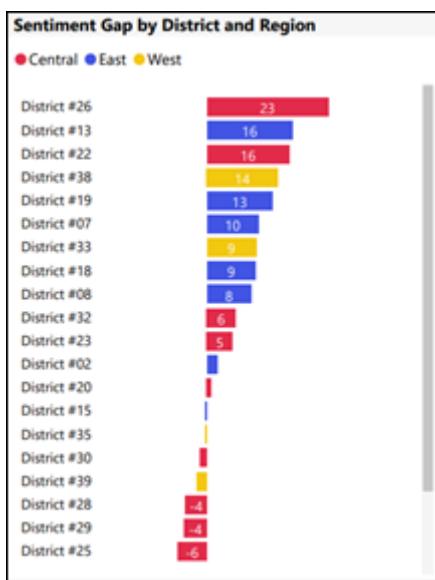
- Power BI reports with more than 50 report pages currently can't be exported. Paginated reports don't have this limitation. See [Print a paginated report](#) for details.
- Reports larger than 500 MB.
- Reports that are owned by a user outside your Power BI tenant domain, such as a report owned by someone 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.

## General

- Export to PDF isn't supported when the admin setting **Azure private link > Block public internet access** is enabled in Power BI. In this case, the export fails. The export might also fail if the admin setting **Azure private link** is on and **Block public internet access** is off.
- Semantic model refresh operations using an XMLA endpoint.
- In the Power BI service, URL filters aren't currently respected when you choose **Current Values** for your export.
- Visuals [displayed as a Data table or displayed with "Show as a table"](#) are included in the export, but the visual displays in its default state, without the table.
- 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.
- 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**.
- 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.
- Hidden pages will not be included in report exports and subscriptions. You can export hidden pages by going to the report in the Power BI service and exporting to the format of choice.
- 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 1,280 pixels x 720 pixels.
- Visuals with scrollbars are exported in their default state. The visual displays all possible rows, starting with the first row. Even if you have the visual scrolled down, when exported, the visual displays unscrolled.
- Export to PDF supports Unicode 6 and earlier. If for example, Unicode 7 is used, Power BI export displays that image as a blank box.



- Visuals in a drilled down state are exported in their default state.
- The feature doesn't export any wallpaper you apply 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 is difficult to read in the export to PDF process since the dark wallpaper isn't exported with the rest of the report.
- All Power BI reports have a page margin when exported to PDF. That is, there is a band of white space at the top and bottom of the exported file.
- If you access a report using a bookmark, the exported report displays with the bookmark filters applied. Any filters applied at the time of the export are ignored. You can get around this by creating a bookmark with the required filters and then export the report.
- Export to PDF isn't currently supported for tenants in the China North region.

## Related content

- Print a report.
- 

## Feedback

Was this page helpful?

 Yes

 No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

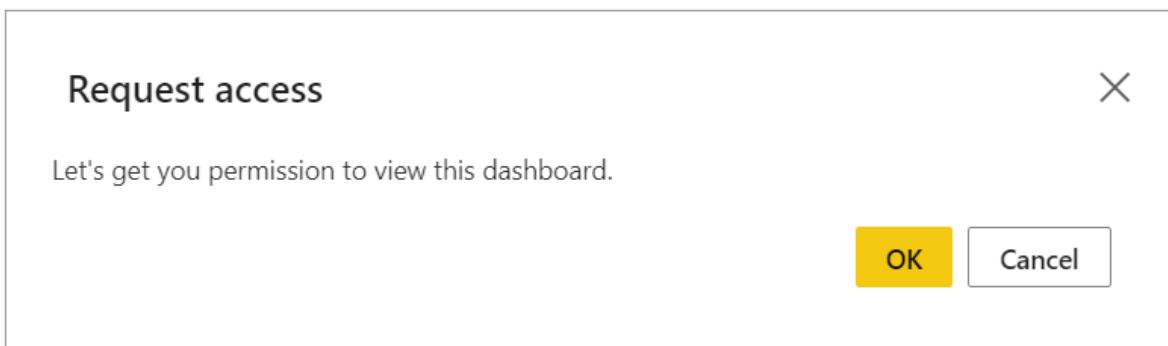
# Request or grant access to shared dashboards or reports

Article • 11/18/2024

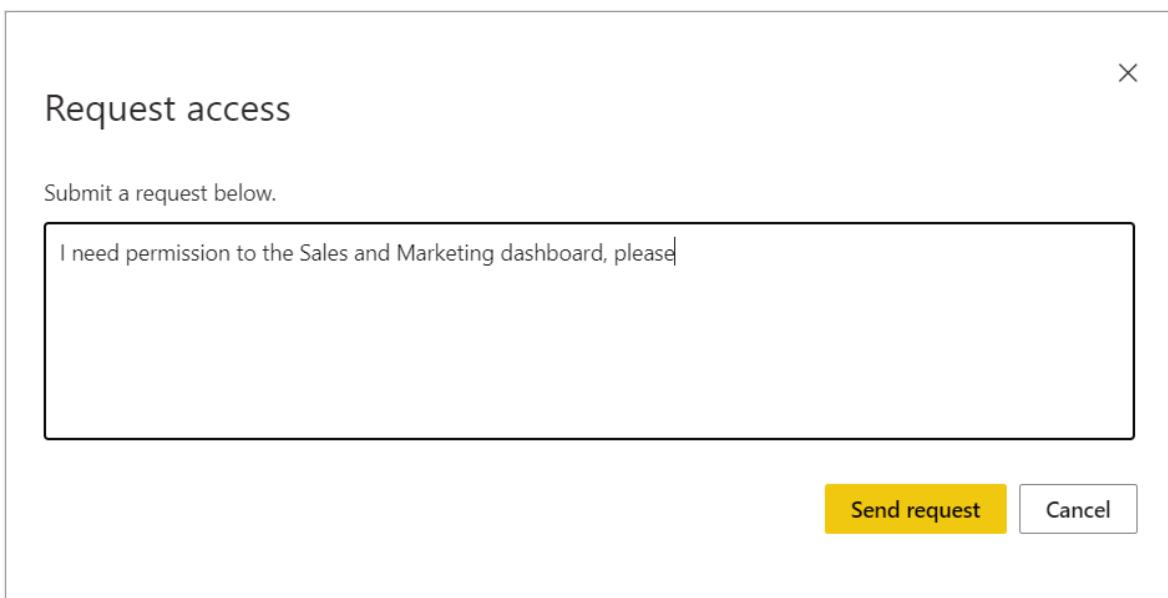
If someone sends you a link to a dashboard or a report, but it's not shared with you, you can request access. If you share a dashboard or a report with someone, you need to [grant them access](#).

## Request access

1. Select the link to the report or dashboard. If you see a **Request access** message, select **OK**.



2. In the **Request access** dialog, you can provide a reason, or just select **Send request**.



You see a confirmation that Power BI has sent your request.

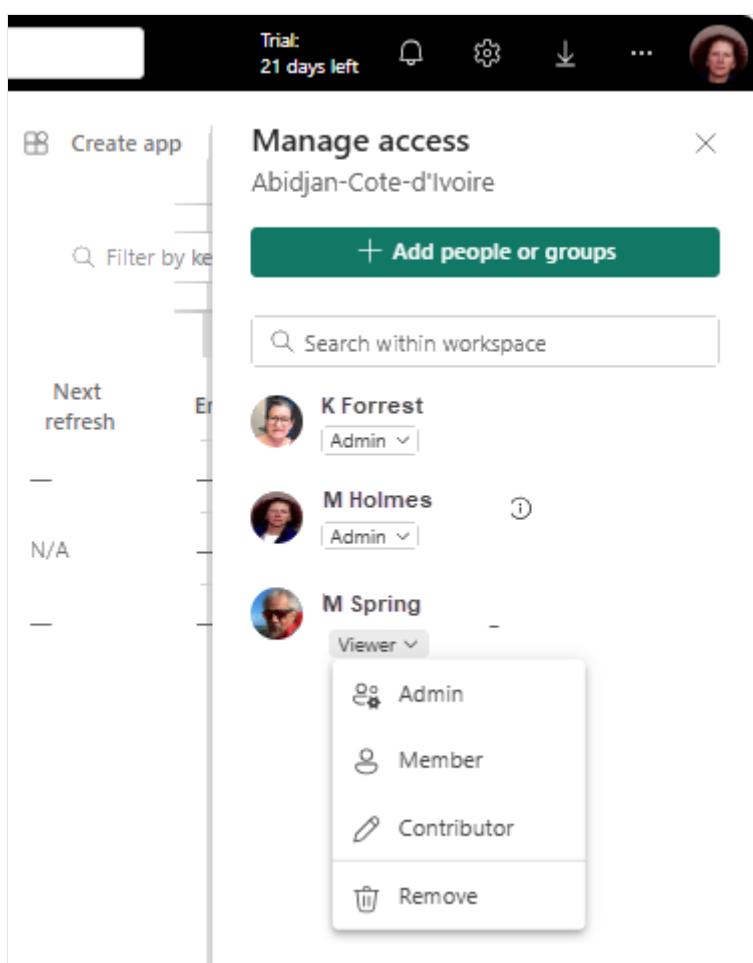
# Grant access

If you're a report owner, you might receive an email from Microsoft Power BI saying that someone has requested access to your report.

1. In the email, select **Grant access**.

The user's **Pending** access request opens automatically. Select one of the options:

- **Admin** to grant the user *Read* permissions to the report.
- **Member**
- **Contributor**
- Or **Remove** them.



2. After you've approved the user's request, you can select the **Direct access** tab to modify their permissions and give them **Reshare** permissions as well.

The screenshot shows the 'Sales and Marketing Sample' dataset's direct access settings. It lists three users with 'Pending' status: Henry Ross (Owner), Corey Gray (Read), and Robin Kline (Read). A red box highlights the '... More' button for Robin Kline, which reveals options for 'Add reshare' and 'Remove access'.

People and groups with access	Email Address	Permissions
Henry Ross	HenryR@M365x0000.OnMicrosoft.com	Owner
Corey Gray	CoreyG@M365x0000.OnMicrosoft.com	Read
Robin Kline	RobinK@M365x0000.OnMicrosoft.com	Read

## Related content

- Share Power BI dashboards and reports with coworkers and others
- How should I collaborate on and share dashboards and reports?
- Share a filtered Power BI report.
- Questions? [Ask the Power BI Community](#).

## Feedback

Was this page helpful?



[Provide product feedback](#) | [Ask the community](#)

# Share a filtered Power BI report

Article • 06/22/2023

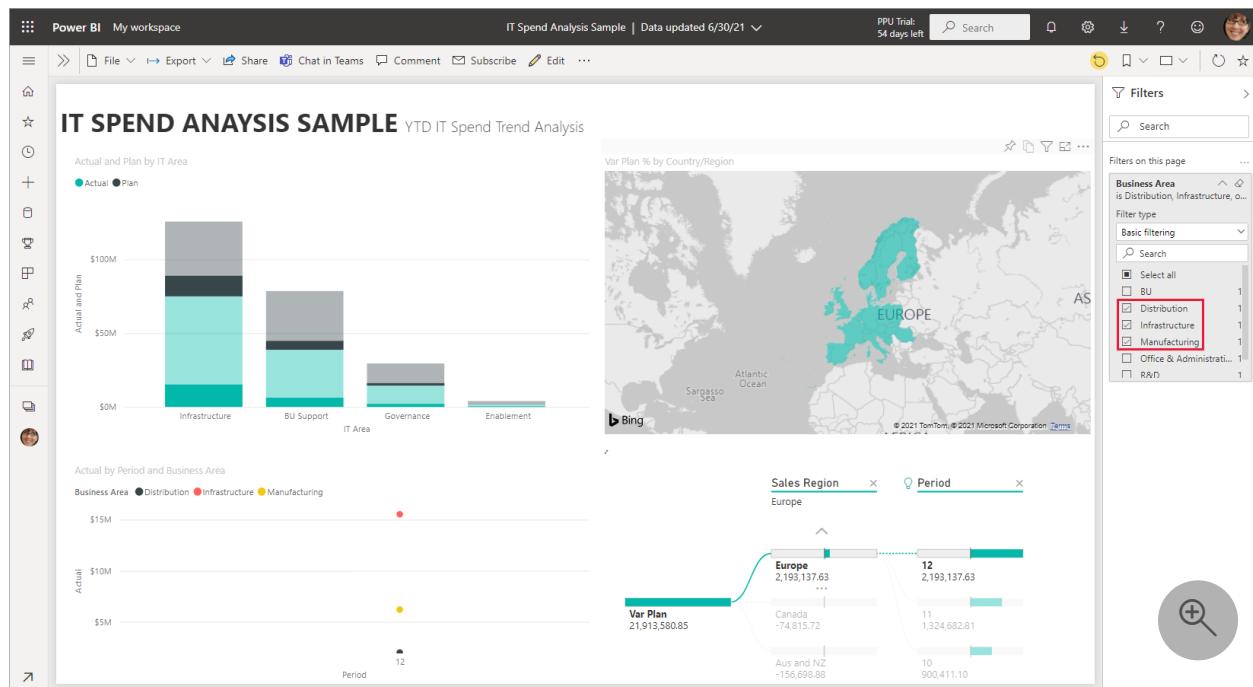
APPLIES TO: × Power BI Desktop ✓ Power BI service

Sharing is a good way to give a few people access to your reports and dashboards. What if you want to share a filtered version of a report? Maybe you want the report to show only data for a specific city or salesperson or year. This article explains how to filter a report and share the filtered version of the report.

You can share the filtered report in several different ways:

- [Link sharing](#)
- [Chat in Teams](#)
- [Share an individual visual](#)
- [Direct access sharing](#)
- [PowerPoint, via the Power BI add-in for PowerPoint](#)

In every case, the report is filtered when recipients first open it. They can clear the filter selections in the report. In this example, we're filtering the report page to show only values where **Business Area** equals **Distribution**, **Infrastructure**, or **Manufacturing**.



Another way to share a filtered report is to [add query parameters to the report URL](#).

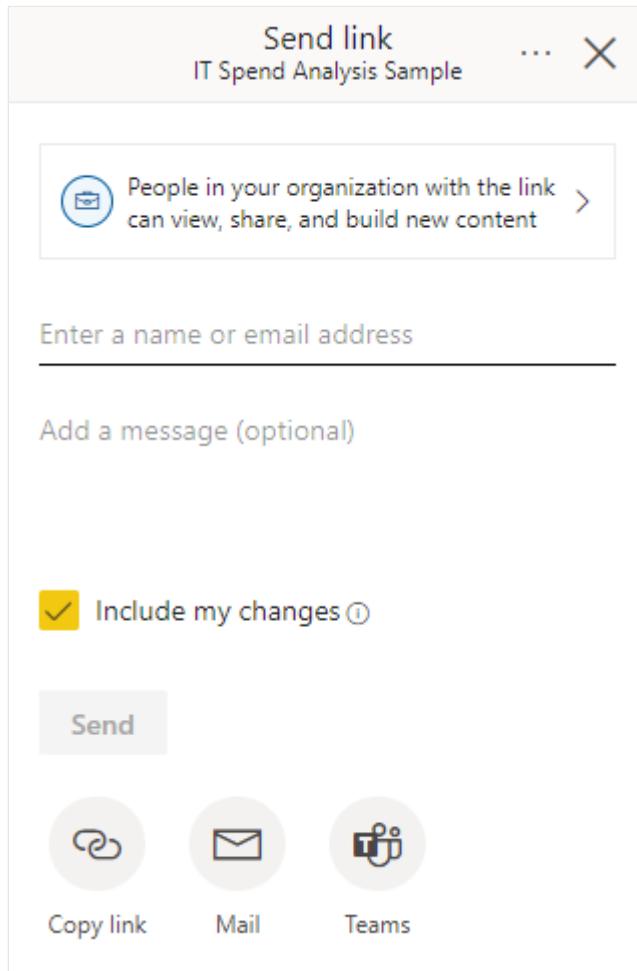
Again, the report is filtered when recipients first open it. They can clear the filter selections in the report.

Power BI also offers [other ways to collaborate and distribute your reports](#). With sharing, you and your recipients need a [Power BI Pro license](#), or the content needs to be in a

Premium capacity. To learn more about interacting with reports that have been shared with you, see [Working with content shared with you](#).

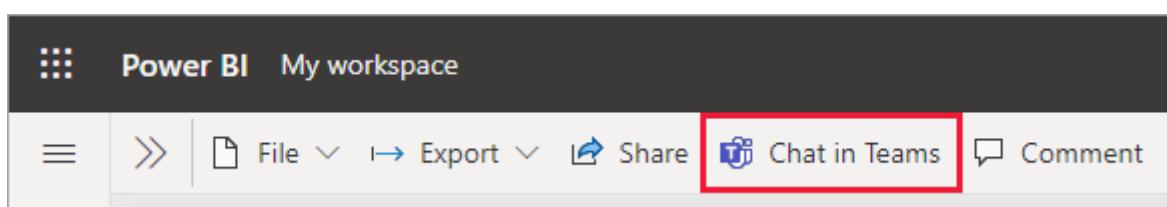
## Share via link

1. Open a report in [Reading view](#) and apply a filter.
2. Select **Share** and make sure **Include my changes** is selected:

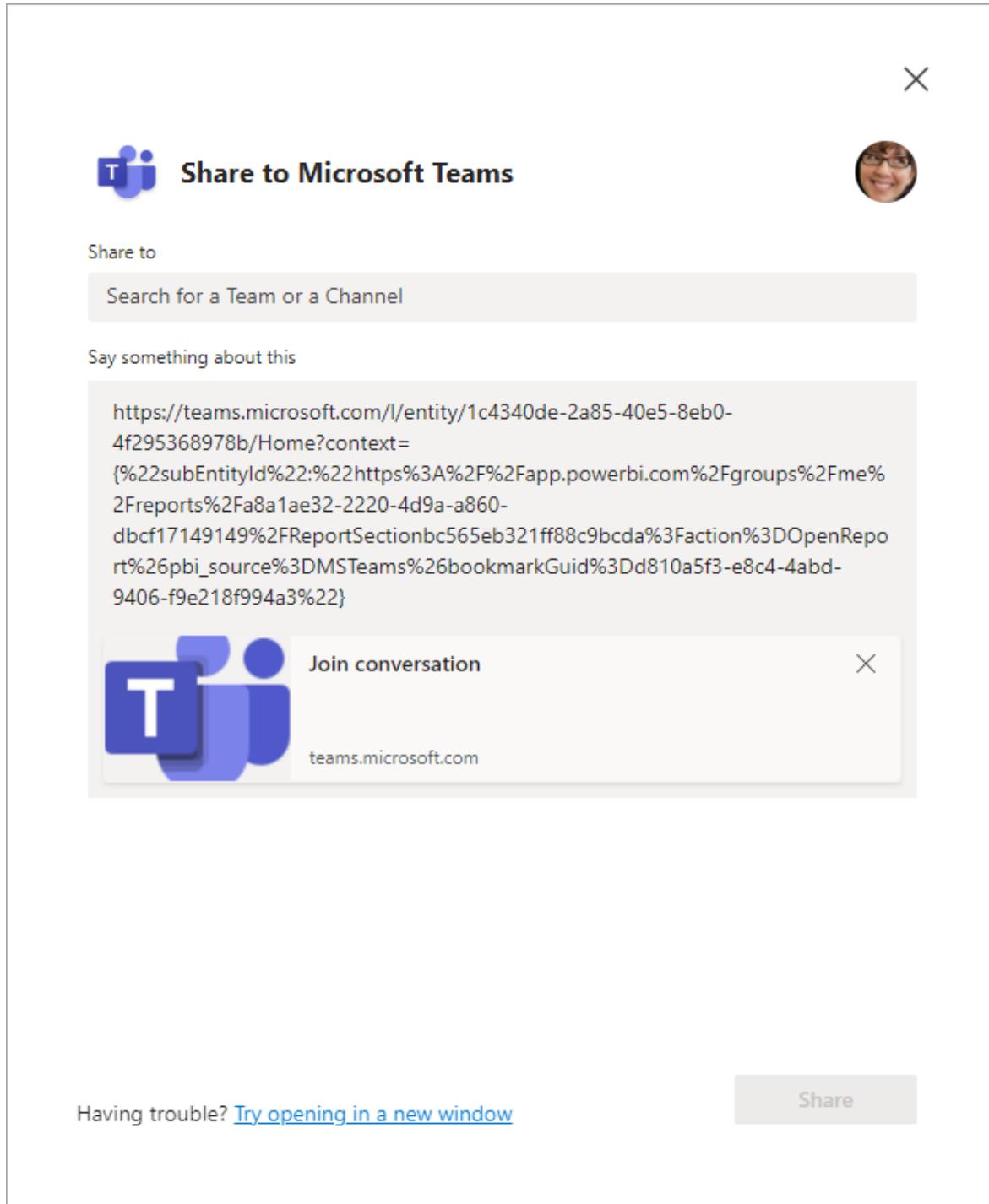


## Share a report in Teams

1. Open a report in [Reading view](#) and apply a filter.
2. You can access **Chat in Teams** from the action bar:



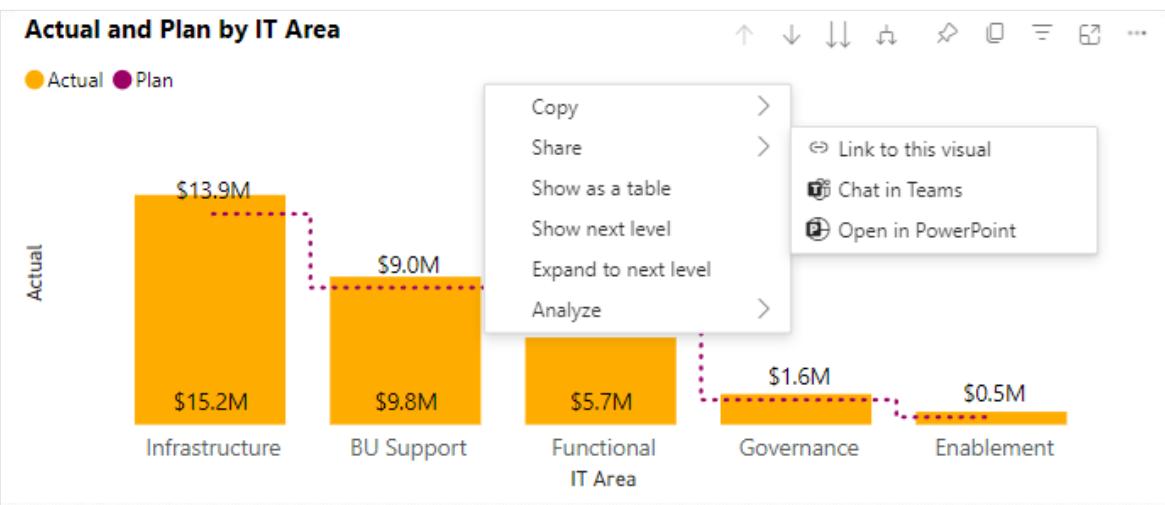
3. For the Chat in Teams dialog, you need provide the name of the Team or Channel that you wish to share to, then select Share:



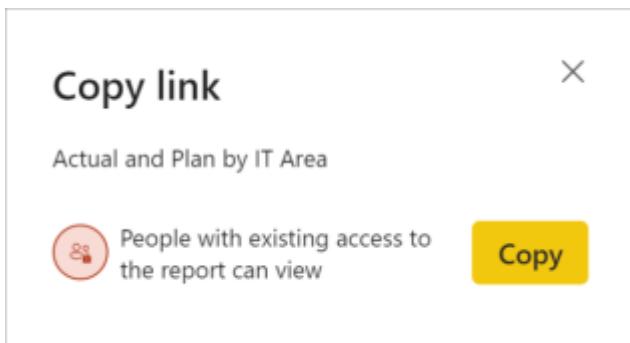
## Share a visual

You can also share individual visuals.

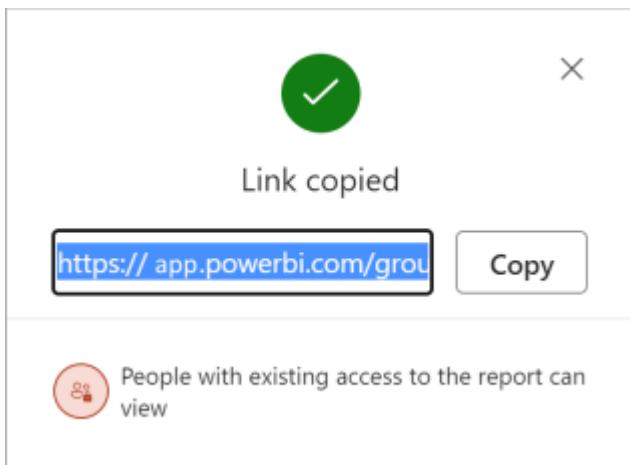
1. Open a report in [Reading view](#) and apply a filter.
2. Right-click a visual, then select **Share > Link to this visual**.



3. In the **Copy link** dialog, select **Copy**.



4. In the **Link copied** dialog, select **Copy** for the provided link.



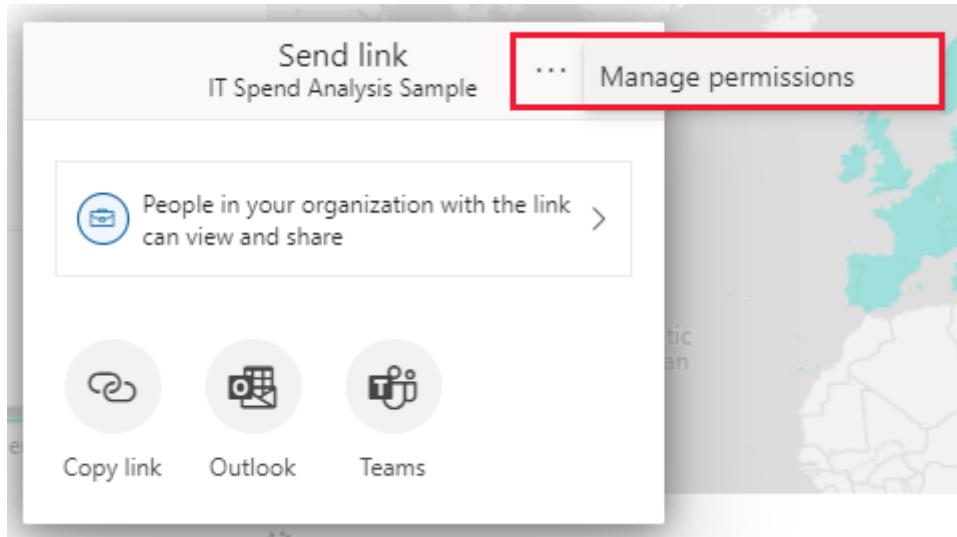
## Share a report or visual in PowerPoint

You can share live, filtered report pages or visuals by adding them to a PowerPoint presentation and then sharing it with colleagues. For more information, see [Add live Power BI data to PowerPoint](#).

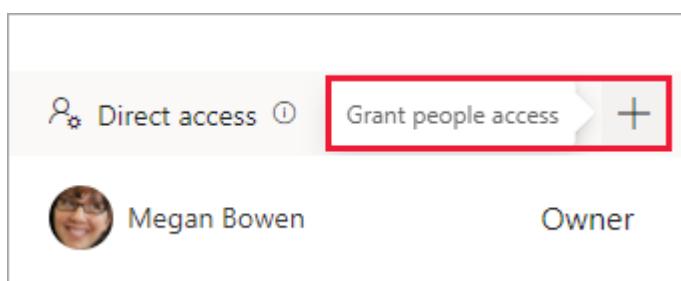
## Share directly

If you prefer to share directly to users, you can also share your filtered report through direct access sharing.

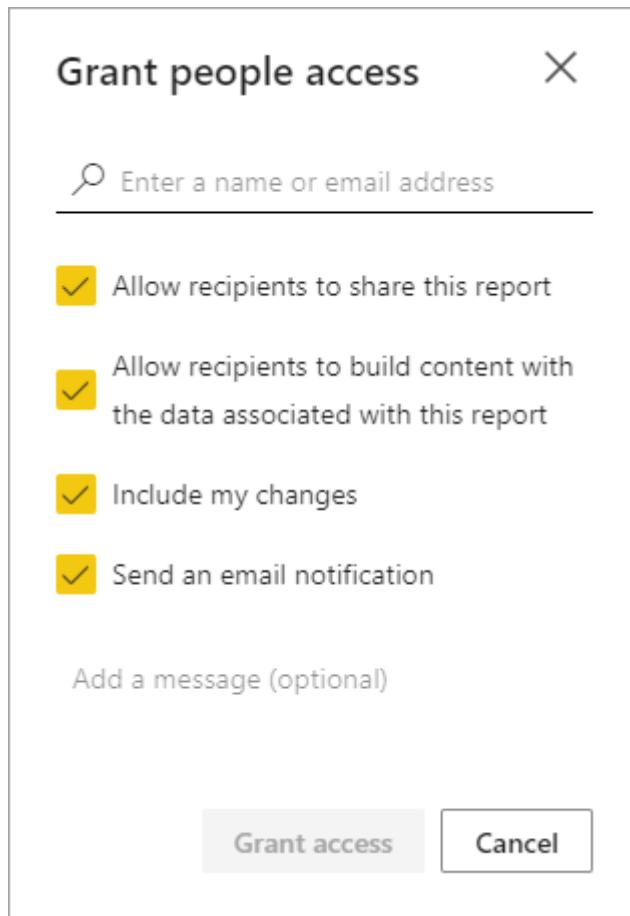
1. Open a report in [Reading view](#) and apply a filter.
2. Select **Share > More options (...) > Manage permissions:**



3. Select the plus icon (+) to **Grant people access**:



4. In the **Grant people access** dialog, make sure the **Include my changes** option is selected so that filters are included when you share the report with others.



The **Include my changes** setting includes any changes to the following:

- Filters (filter pane)
- Slicers
- Personalize visuals
- Cross-filtering or cross-highlighting
- Drill down or drill up
- Applied bookmark
- Spotlight

## Manage the shared view

After you've shared the filtered report, you can also manage the shared view.

1. To navigate to the management page, select **Advanced** in the footer of the **Manage Permissions** pane:

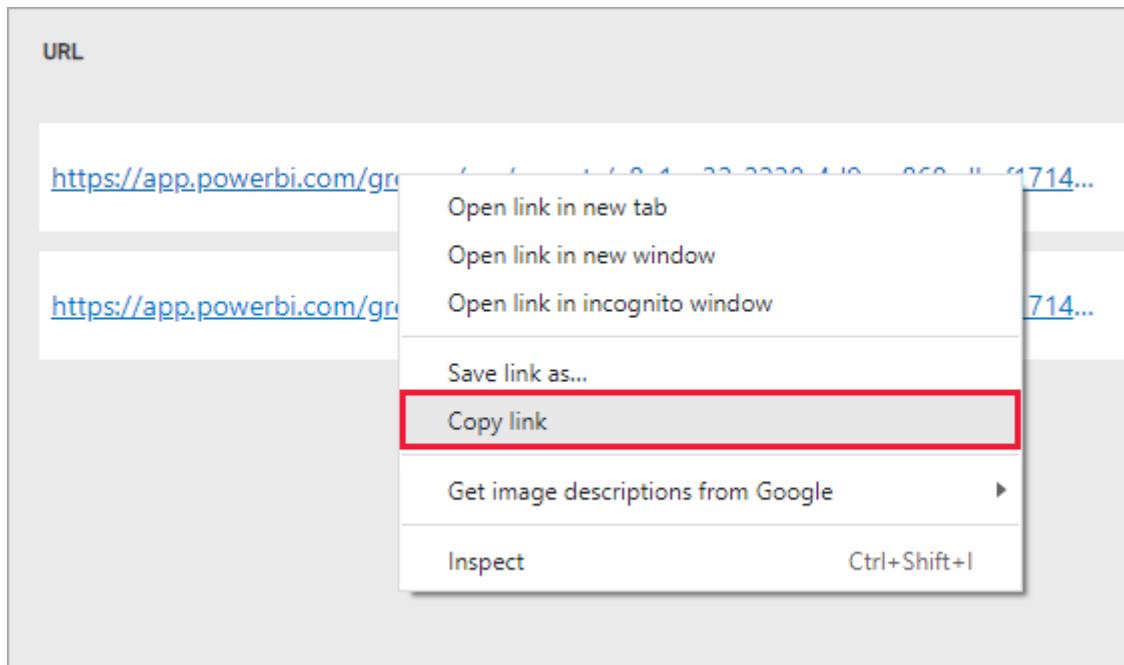
A screenshot of the Power BI Direct access interface. At the top left is a magnifying glass icon followed by the text "Direct access" and a help icon. At the top right is a plus sign (+). Below this is a user profile section featuring a circular photo of a woman with glasses, the name "Megan Bowen", and the title "Owner". At the bottom right of the main area is a blue "Advanced" button.

2. Select **Shared views** in the **Related content** section:

A screenshot of a Power BI report titled "IT Spend Analysis Sample". In the top left corner is a bar chart icon. Below the title is a section titled "Related content" with four items: "Dashboards", "Workbooks", "Datasets", and "Shared views". The "Shared views" item is highlighted with a blue background and white text. Each item has a small icon to its left and a dropdown arrow to its right.

Here you can see any shared views for the report and when those views were created and when they expire.

3. To copy the link to the view, right-click the URL you want, and select **Copy link**.



When you share this link, recipients with access to the report will see your filtered report.

## Considerations and limitations

Things to keep in mind about sharing reports:

- When you share a dataset by managing permissions, by sharing reports or dashboards, or by publishing an app, you're granting access to the entire dataset unless [row-level security \(RLS\)](#) limits access. Report authors may use capabilities that customize user experiences when viewing or interacting with reports, for example hiding columns, limiting the actions on visuals, and others. These customized user experiences don't restrict what data users can access in the dataset. Use [row-level security \(RLS\)](#) in the dataset so that each person's credentials determine which data they can access.
- The shared report view will automatically expire after 180 days. Each time the link to the shared report view is accessed the expiration is reset to 180 days.
- You can't share reports that are distributed to you in an app. Ask the app owner to add the person you want to share the report with, and republish the app.
- Share link to selection for visuals in reports creates a shared view with the visual in spotlight mode.

## Next steps

- [Ways to share your work in Power BI](#)
- [Share a report or dashboard](#)

- Interact with content that has been shared with you
- More questions? [Try the Power BI Community](#).
- Have feedback? Go to the [Power BI Community site](#) with your suggestions.

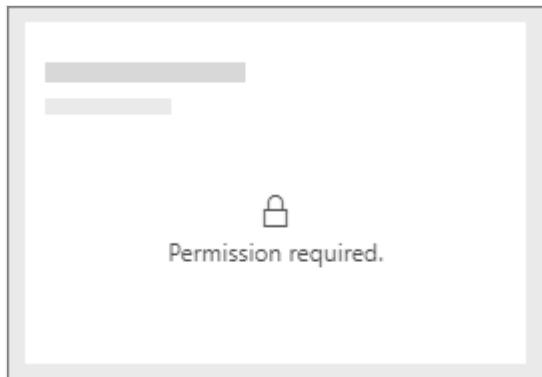
# Troubleshoot issues sharing dashboards and reports

Article • 11/10/2023

Here are some common issues that might come up when you share a dashboard or report, or when someone else shares with you.

## Dashboard recipients see a lock icon in a tile

The people you share with might see a locked tile in a dashboard, or a "Permission required" message when they try to view a report.



If so, you need to grant them permission to the underlying semantic model.

1. Go to the **All** or the **Semantic models + dataflows** tab in your content list.
2. Select **More options (...)** next to a semantic model, then choose **Manage permissions**.

Power BI Sales and Marketing

Sales and Marketing

+ New ▾

All Content Datasets + dataflows

Name	Type	Owner
Contoso Q2 Division Sales	Dataset	Sales and
Sales	Dataset	Sales and

⋮

- Analyze in Excel
- Create report
- Create paginated report
- Delete
- Get quick insights
- Security
- Rename
- Settings
- Download the .pbix
- Manage permissions**
- View lineage

3. Select **Add user**.



Related content

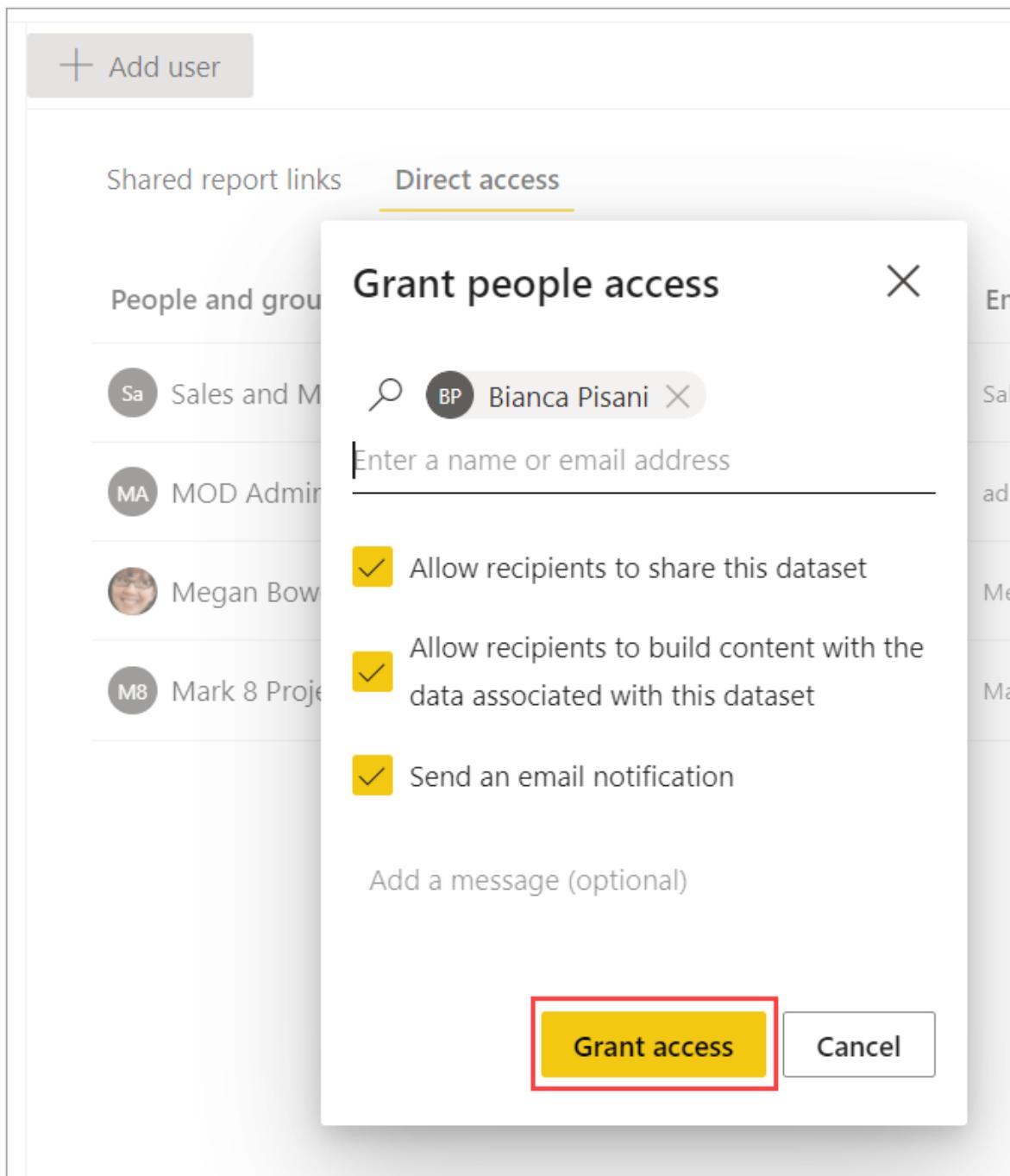
+ Add user

Shared report links Direct access

People and groups with access

- Sa Sales and Marketing
- MA MOD Administrator
- Megan Bowen

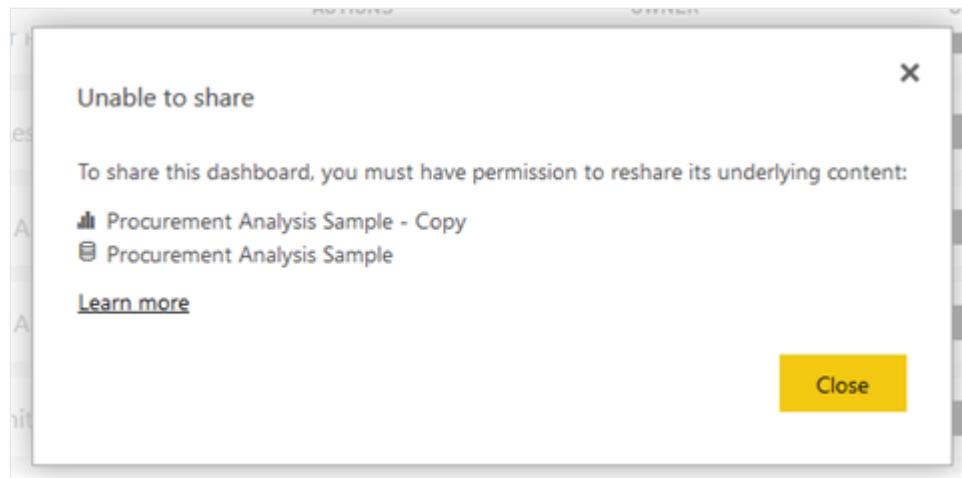
4. Enter the full email addresses for individuals, distribution groups, or security groups that you want to add. You can't share dashboards or reports with dynamic distribution lists. Decide if the users can **share this semantic model or build content with the data associated with this semantic model**, and if you want to **send an email notification**.



5. Select **Grant access**.

## I can't share a dashboard or report

To share a dashboard or report, you need permission to reshare the underlying content; that is, any related reports and semantic models. If you see a message saying you can't share, ask the report author to give you reshare permission for those reports and semantic models.



## I don't have access to a dashboard or report

If you see a "Request access" message when you select the link to a report or dashboard, you don't have permission to view it. You need to [request access to it](#).

## Next steps

- Share Power BI dashboards and reports with coworkers and others
- How should I collaborate on and share dashboards and reports?
- [Share a filtered Power BI report](#)
- Questions? [Try the Power BI Community](#) ↗

# Email subscriptions for reports and dashboards in the Power BI service

Article • 01/06/2025

APPLIES TO:  Power BI Desktop  Power BI service

Subscribe yourself and others to Power BI reports, dashboards, and paginated reports. You receive an email on a schedule you set. The email contains a snapshot and link to the report or dashboard or a full attachment of the report or dashboard. If you're a workspace administrator, learn how to manage subscriptions in your workspace, including how to take over subscriptions owned by others.

## Important

Subscribing others requires a paid license (Pro or PPU). For information about licenses, see [Fabric and Power BI licenses and subscriptions](#).

## Subscribe to a report or dashboard in the Power BI service

It's never been easier to stay up-to-date on your most important dashboards and reports. Subscribe to reports and dashboards that matter most to you, and Power BI emails a snapshot to your inbox. You tell Power BI how often you want to receive the emails and at what time. Set up to 24 subscriptions per report or dashboard, and provide unique recipients, times, and frequencies for each subscription.



## Microsoft Power BI

To: M

Smiley icon, back arrow, forward arrow, three dots

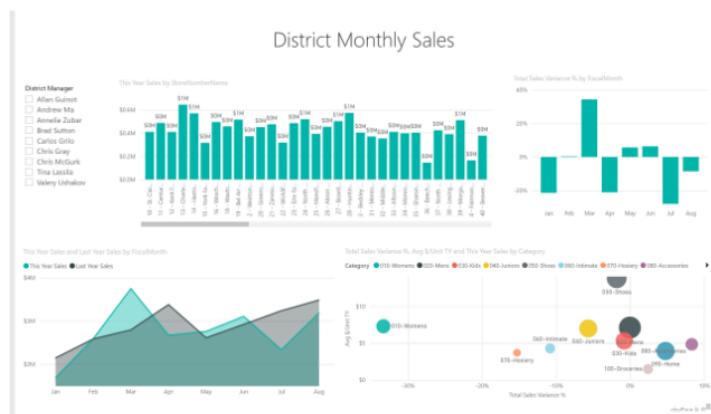
Mon 6/22/2023 12:22 AM



Power BI

### Sales analysis

[Go to report >](#)



You're receiving this email because you subscribed to the 'District Monthly Sales' page of the 'Retail Analysis Sample' report. The image above was generated at June 22, 2023 4:21 UTC.

[Manage subscription >](#)

[Privacy Statement](#)

Microsoft Corporation, One Microsoft Way, Redmond, WA 98052



[Reply](#)

[Forward](#)

# Requirements

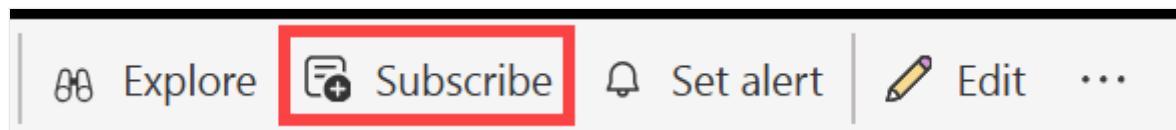
The requirements apply to users in the organization and to **Microsoft Entra Business-to-Business (B2B) guest users**. To create a subscription for yourself, you need permissions to access the particular report or dashboard and **either**:

- A Power BI Pro or **Premium Per User (PPU) license**, or
- Access to a workspace backed by a **Power BI Premium capacity**

Your Fabric admin (previously Power BI admin) needs to enable subscriptions in your tenant. If you're an admin, see [Enable subscriptions in the Power BI admin portal](#) and see [B2B guest users can set up and be subscribed to email subscriptions](#).

## Subscribe to a report or dashboard

Whether you're subscribing to a dashboard, report page, or to a full report, the process is similar. A single button allows you to subscribe to the Power BI service dashboards and reports. Subscribing to a report offers you a few more field options, so we're using a report for our example.



Subscribing to a *paginated* report is slightly different, as outlined in [Subscribe to paginated reports](#).

1. Open the report, and from the top menu bar, select **Subscribe** .
2. Select **Create a subscription** and give your subscription a name. By default, your subscription is given the same name as your report page or dashboard. Optionally, change the name of the subscription to something more meaningful.

## Subscriptions

X

Keep track of your data by subscribing to this report.

 The sensitivity label on this report does not appear in emails.

[Manage all](#) 

### Sales analysis



Subscription name \*

Sales analysis

Recipients \*

Zala...  Enter email addresses

Attach full report

None



Scheduled date and time

Start date \*

6/23/2023

End date

M/d/yyyy



Repeat \*

Daily



Scheduled time \*

1 

15 

AM 

Time zone \*

(UTC-05:00) Eastern Time (US and Canada) 

Emails will be sent daily at 01:15 AM Eastern Standard Time starting Friday, June 23, 2023.

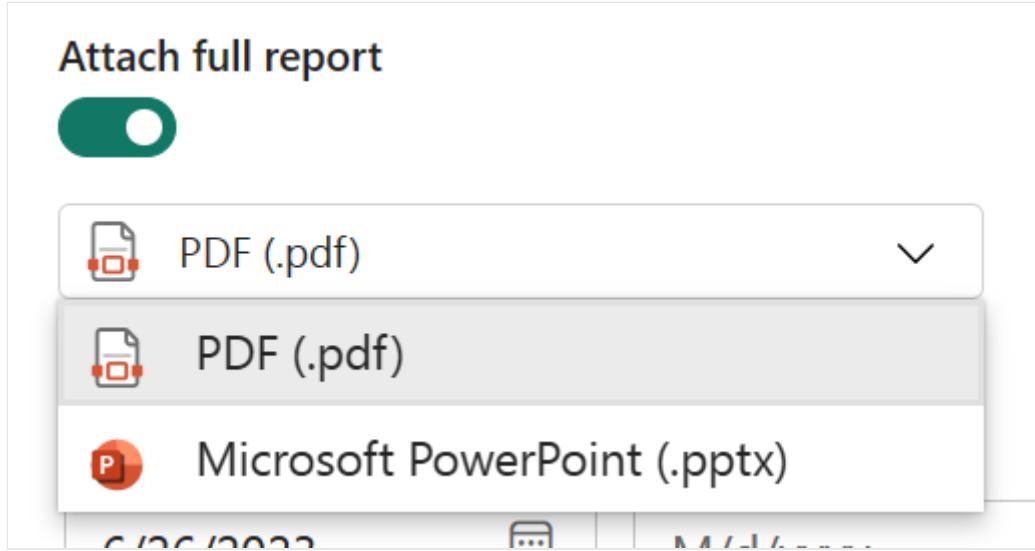
 More options

 Save

New subscription

3. Use the green slider to turn the subscription on and off. Setting the slider to **Off** doesn't delete the subscription. To delete the subscription, select the trashcan icon.
4. Edit or add recipients by email address, ensuring that you have at least one.

5. If the report is in a workspace backed by a Premium capacity or Premium Per User (PPU) license, add the full report as an attachment instead of only a single report page. Sensitivity labels are applied to the email attachment. Select PDF or PowerPoint for the attachment format. The attachment respects all privacy labels for the report. The size of the attachment is limited to no more than 20 pages and less than 25 MB.



6. Select a **Start date** and optionally, an **End date** for your subscription. By default, the start date is the date you created the subscription and the end date is one year later. You can change it to any date in the future at any time before the subscription ends. When a subscription reaches an end date, it stops until you re-enable it. You receive notifications before the scheduled end date to ask if you'd like to extend it.
7. Use the **Repeat** dropdown to select a frequency for your subscription. You may choose hourly, daily, weekly, monthly, or after data refresh (once daily). Most of the options require that you set a time zone as well.

 **Tip**

To receive a subscription email only on certain days, select Hourly or Weekly and then select the week day checkboxes. If you select Monthly, enter the day(s) of the month you wish to receive the subscription email.

- If you choose Hourly, Daily, Weekly, or Monthly, choose a **Scheduled Time** for the subscription. You can have it run on the hour, or at 15, 30, or 45 minutes past for a specified time zone. If you choose Hourly, select the **Scheduled Time** you want the subscription to start, and it runs every hour after the **Scheduled Time**.

- If you choose a **Monthly** cadence for report subscriptions, you can either specify specific day(s) of the month or select the **Last day of month** option. If you choose **Last day of month**, the report will be delivered on that day.

### Scheduled date and time

**Start date \***  

**End date**  

**Repeat \***  

**Every month on day(s) \***

Ex: 1,27-30

Last day of month

**Scheduled time \***

**Time zone \***  

Emails will be sent on the last day of every month, starting Thursday, September 5, 2024 at 02:15 PM (UTC-08:00) Pacific Time (US and Canada).

If your subscription is ready, select **Save**. To make your subscription more precise, select **More options**.

1. Optionally, add a subject and message for recipients.
2. Select the **Report page** you want to appear in the preview image. If you toggled' **Attach full report** to **On**, you see all the report pages listed in the dropdown. Otherwise, you only have the active report page listed in the dropdown. To subscribe to more than one page in a report, either select the **Attach full report** slider, or select **New subscription** and choose a different page from the dropdown.

#### 💡 Tip

By default, a report subscription inherits the name of the active report page. Consider changing the subscription name if you select a different report page.

3. Include additional information in the email. Select one or more of these checkboxes.

- **Permission to view the report/dashboard in Power BI:** Give recipients permission to open and view the report or dashboard in the Power BI service (app.powerbi.com). This option isn't available in all situations.
- **Link to report/dashboard in Power BI:** Include a "Go to report" button in the body of the email that links to the report or dashboard in the Power BI service.
- **Report page preview (for Power BI reports only):** Include a preview of the report page in the body of the email.

 **Caution**

Sensitivity labels are not applied to a subscription's email or preview image. To protect against this, turn off **Preview image**.

- **Data activator, Trigger alert using Data activator:** Select this to learn how to use Data activator to set alerts on report visuals.

You receive an email and snapshot of the report or dashboard on the schedule you set. Subscriptions that have the frequency set to **After data refresh** only send an email after the first scheduled refresh on that day. All dates/times are normalized to UTC when checking for the first dataset refresh of the day.

 **Note**

- To avoid subscription emails going to your spam folder, add the Power BI email alias (no-reply-powerbi@microsoft.com) to your contacts. If you're using Microsoft Outlook, right-click the alias and select **Add to Outlook contacts**.
- You can have Power BI send subscription emails to a [mail-enabled security group](#). Be sure to add the Power BI alias (no-reply-powerbi@microsoft.com) to the approved sender list.

## Sensitivity labels

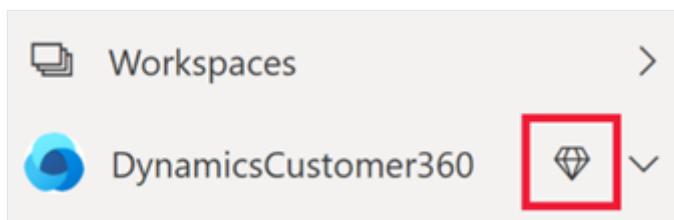
Sensitivity labels are applied to subscription email attachments but not to the subscription's email text or preview images.

- Creating a subscription that attaches a copy of a report (including paginated report) to the subscription email is a Power BI Pro feature.
- For users with free subscriptions, the subscription email for a report (including paginated report) doesn't contain a sensitivity label in the email text or the subscription preview image.
- To ensure that your subscription has a sensitivity label, turn off **Preview image** in the **Subscriptions** screen.
- For subscriptions to dashboards, there's no option to attach a copy of the dashboard to the email. So, the subscription email doesn't have a sensitivity label in the text or preview image.

## Subscribe others

To create a subscription that includes others, in addition to the [requirements necessary to create your own subscriptions](#), you also need:

- A Pro or PPU license with Contributor, Member, or Admin role in that workspace. You know that you have the Contributor, Member, or Admin role in a workspace if you're able to edit reports or dashboards in that workspace. Read more about [roles in workspaces](#).
- To be part of the organization. [B2B guest users](#) can't subscribe others, only themselves. For more information, read [B2B guest users can set up and be subscribed to email subscriptions](#).
- If the report or dashboard isn't hosted in a Premium capacity, as indicated by the diamond icon, you can still subscribe others. However, they must also have a Power BI Pro or Premium Per User (PPU) license.



## Use group email aliases

When creating a subscription, you can add other email addresses in the same domain to the subscription. If the report or dashboard is hosted in a [Premium capacity](#), you can subscribe group aliases, whether they're in your domain or not. You don't have to

subscribe individual email addresses. The aliases are based on the current active directory.

[+] Expand table

Group type	Supported in email subscriptions
Microsoft 365 groups	Yes
Distribution groups	Yes
Dynamic distribution groups	Yes
Security groups	No
Mail-enabled security groups	Yes

There are different ways of creating a Microsoft 365 group. For example, you can create a group in Outlook, a distribution group in Teams, or a mail-enabled security group. The Microsoft 365 distribution group for Teams doesn't work for mail enablement, so can't be used for direct sharing and email subscriptions.

(!) Note

Workspaces backed by a Premium Per User (PPU) license are different from those backed by a Premium capacity, and don't support subscribing group aliases.

## Save changes to a subscribed report

### Include my changes

When you subscribe to a report created by someone else, you can make changes to that report. At that point, you can create a new subscription that captures those changes or you can save your changes with the existing subscription.

## My changes

Include any changes to the report, such as applied filters, drilling, spotlights and more. [What's included?](#) 

[Include my changes](#) 

State as of 6/23/2023, 1:36 AM

[Preview](#)  [Update](#) 

[Send now](#)

[Save](#)

[New subscription](#)

You don't see the option to **Include my changes** until you actually make changes to a report that was shared with you. After you make the changes that you need, open an existing subscription or create a new subscription for that report page. Because you made changes to the original report, you now have the header for **My changes** and the option to **Include my changes**.

When **Include my changes** is unchecked, Power BI ignores all changes you made to the report, and keeps you subscribed to the report as published by the author. When **Include my changes** is checked, Power BI updates the subscription including all changes you made to the report. Changes include:

- filters (filter pane)
- slicers
- personalized visuals
- cross-filtering or cross-highlighting
- drill down or drill up
- bookmarks
- spotlights
- focus mode

Before Power BI updates the subscription, you're given the opportunity to preview the old subscription and compare it to the new state of the report. Comparing the two versions helps you decide whether to update the subscription or not.

## Preview and update your subscription

1. First, customize your report based on conditions such as country/region, team/department, and category.

2. Apply any changes to the report so that it's in the state you want to subscribe or share. Changes might include applying filters, spotlights, drilling, slicers, or cross-highlighting.
3. Select **Subscribe** from the top menu bar of the report canvas to reopen the **Subscriptions** pane.
4. Select the pencil icon to edit the details of your existing subscription. For example, change the delivery frequency, add an email message, change permissions, and more.
5. Select **More options > Include my changes > Preview** to display a view-only version of the original subscription that is being sent out to subscribers. Use this comparison to decide if you want to overwrite the original state of the subscribed report.
6. Select **Back to subscription** and select the pencil icon.
7. To update the existing subscription to include your report changes, select **More options > Include my changes > Update**. **Update** changes the subscription to include the new changes.
8. Save your subscription.

 **Note**

The update is applied to the current page only. Changes you made to other pages in the report are not included. To include changes made to a different page in the report, navigate to that page and apply an update.

## Customize subscriptions

If you're the author of the report, **Include my changes** is a great way to create individualized subscriptions for recipients.

 **Note**

The **Include my changes** field isn't available for dashboards or paginated reports.

## Review and test the subscription

Your **Subscriptions** page keeps track of all of your subscriptions for the current report.

## Subscriptions X

Keep track of your data by subscribing to this report.

 The sensitivity label on this report does not appear in emails.

[Manage all](#) 

---

> **Visits**   

---

> **Trip length**   

To review a subscription, select the arrow to the left of the subscription.

# Subscriptions

X

Keep track of your data by subscribing to this report.

 The sensitivity label on this report does not appear in emails.

Manage all 

## Visits



### Subscription name

Visits

### Recipients

Michele

### Attach full report

Off

### Scheduled date and time

Emails will be sent weekly at 01:15 AM Eastern Standard Time starting Monday, June 26, 2023.

#### More options

### Email subject

tourism weekly report

### Message

Please review the visits report page for Hawaii tourism.

### Report page

Visits

### Permission to view the report in Power BI

On

### Link to report in Power BI

On

### Report page preview

On

### Last updated

State as of 6/26/2023, 1:39 AM



## Trip length



Save

New subscription

To test out your subscription, select **Run now** to send the email to you right away. It doesn't trigger a data refresh of the underlying semantic model.

## Manage subscriptions

Subscriptions are managed on a workspace level. Subscription creators and users assigned the Admin role can view and manage the subscription. Admins in the workspace can edit and take over all subscriptions inside the workspace. The Fabric admin can view logs, and turn certain subscription features on and off.

Creator

### Subscriptions in a workspace

To see all of the subscriptions that you own in a given workspace, select **Manage all**

Subscriptions

Keep track of your data by subscribing to this report.

The sensitivity label on this report does not appear in emails.

[Manage all](#)

Subscription	Actions
Visits	
Trip length	

From here, you see all the subscriptions you created in the currently selected workspace. For each subscription, Power BI displays the name you gave to the subscription, the name of the content you're subscribing to, and the content type. If you selected **Include my changes**, the **State** column includes the date. Search for subscriptions by keyword or filter by any of these fields.

The screenshot shows the Power BI service interface. At the top, there's a search bar and a trial status message ('Trial: 59 days left'). On the left, a sidebar titled 'Preferences' has several options: General, Notifications (which is selected and highlighted with a red box), Item settings, and Developer settings. The main content area is titled 'PBICAT' and shows a table of 'Power BI subscriptions'. The table has columns for 'Subscription name', 'Content name', 'Type', and 'State'. It lists three items: 'Visits' (Hawaii Tourism Report, State as of 6/26/2023, 1:39 AM), 'Trip length' (Hawaii Tourism Report, State as of 6/26/2023, 1:41 AM), and 'Marketing report' (NextStep Report, Default). Each item has an edit icon (pencil) to its right.

Subscription name	Content name	Type	State
Visits	Hawaii Tourism	Report	State as of 6/26/2023, 1:39 AM
Trip length	Hawaii Tourism	Report	State as of 6/26/2023, 1:41 AM
Marketing report	NextStep	Report	Default

Select the **Edit** icon to return to the Subscriptions screen where you can:

- see your list of subscriptions for that report or dashboard.
- preview the settings for a subscription by selecting the arrow to the left of the subscription name.
- make changes to a subscription's settings by selecting the pencil icon.
- open the report or dashboard by selecting **Edit in report** or **Edit in dashboard**.

## Subscriptions

Keep track of your data by subscribing to this report.

The sensitivity label on this report does not appear in emails.

[Edit in report](#)

Overview



Subscription name

## Subscriptions across all workspaces

To see all of your subscriptions, start by selecting **My workspace** to make it active.

Then, from the upper right corner of the Power BI service, select the gear icon > **Power BI settings** > **General** > **Notifications**.

# Preferences

ⓘ General

ⓘ Notifications

⚙ Item settings

</> Developer settings

From here, you see a list of all your subscriptions across all workspaces. Power BI displays the name of the subscription, the name of the content you're subscribing to, the name of the owner, the name of the associated workspace, and the content type. If you selected **Include my changes**, the **State** column includes the date when changes were included. Search for subscriptions by keyword or filter by any of these fields. Select the **Edit** icon to make changes to a subscription's settings.

The screenshot shows the Power BI Preferences interface. On the left, there's a sidebar with options: General, Notifications (which is highlighted with a grey background), Item settings, and Developer settings. The main area has tabs for 'Power BI subscriptions' (selected) and 'Power BI Alerts'. Below that is a search bar and a 'Filter by keyword' button. The main content area is titled 'My workspace' and contains a table of subscriptions:

Subscription name	Content name	Type	Owner	Workspace	State	Actions
Sales analysis	Retail Analysis Sample	Report	Zalan Bola	My workspace	State as of 6/23/2023, 1:36 AM	
YTD Category	Sales and Marketing Sample	Report	Zalan Bola	My workspace	State as of 6/23/2023, 1:29 AM	
Visits	Hawaii Tourism	Report	Zalan Bola	PBICAT	State as of 6/26/2023, 1:39 AM	
Trip length	Hawaii Tourism	Report	Zalan Bola	PBICAT	State as of 6/26/2023, 1:41 AM	
Marketing report	NextStep	Report	Zalan Bola	PBICAT	Default	

## Subscriptions for users outside your organization

### Subscribe external users

You can subscribe external B2B guests to a report or dashboard if your report or dashboard is hosted in Premium capacity. B2B guest users can subscribe themselves but can't add subscriptions for other external users.

## **Important**

*Internal* guest users can't use the subscription feature. An internal guest has an account in your Microsoft Entra directory but only guest-level access in your organization.

- If you subscribe external B2B guests to a report or dashboard, they'll receive a share notification immediately after you select **Save** in the subscription pane. This notification is sent only to external guests, not internal guests, because external users require an invitation link to view the report or dashboard.
- Premium Per User workspaces don't qualify as Premium capacity workspaces.
- *Sharing* content with a colleague outside of your domain doesn't require a Premium capacity. For example, if you're aaron@contoso.com, you can share with anyone@fabrikam.com, but you can't **subscribe** anyone@fabrikam.com, unless that content is hosted in a Premium capacity.

## **B2B guest users can set up and be subscribed to email subscriptions**

B2B guests can create their own content subscription to which they have access. Users in the organization can subscribe as well. First, a member of the organization adds and subscribes the B2B guest user to the email content. For more information about B2B guest users and how to add them to your organization, read [Distribute content to external guest users with Microsoft Entra B2B](#).

In addition to external B2B guests meeting the requirements to subscribe themselves, the Power BI tenant admin must turn on a setting to allow B2B guest users to create email subscriptions. For more information on how to turn on this setting, read [Export and sharing tenant settings](#).

## **Subscribe to paginated reports**

### **Subscribe yourself or others to paginated reports**

Your Power BI admin must [enable subscriptions in your tenant](#). In addition, the relevant tenant switches have to be enabled:

- Export to Excel
- Export to .csv
- Export reports as PowerPoint presentations or PDF documents
- Export reports as MHTML documents
- Export reports as Word documents
- Export reports as XML documents
- Create email subscriptions (**Tenant settings > Export and sharing settings > Create email subscriptions**)

The screenshot shows the Microsoft Power BI Admin portal. On the left, there's a sidebar with various settings like Usage metrics, Users, Premium Per User, Audit logs, Domains (which has a 'New' badge), Workloads, Capacity settings (with Refresh summary), Embed Codes, Organizational visuals, Azure connections, Workspaces, Custom branding, Protection metrics, Featured content, Help + support, and Tenant settings (which also has a 'New' badge). The Tenant settings section is highlighted with a red box.

The main content area is titled 'Export and sharing settings'. It contains several configuration items, each with a description and a status indicator:

- External data sharing (preview) - Disabled for the entire organization
- Users can accept external data shares (preview) - Disabled for the entire organization
- Guest users can access Microsoft Fabric - Enabled for the entire organization
- Users can invite guest users to collaborate through item sharing and permissions - Enabled for the entire organization
- Guest users can browse and access Fabric content - Disabled for the entire organization
- Users can see guest users in lists of suggested people - Enabled for the entire organization
- Publish to web - Enabled for the entire organization
- Copy and paste visuals - Disabled for the entire organization
- Export to Excel** - Enabled for the entire organization (highlighted with a red box)
- Export to .csv** - Enabled for the entire organization (highlighted with a red box)
- Download reports - Enabled for the entire organization
- Users can work with semantic models in Excel using a live connection - Enabled for the entire organization
- Export reports as PowerPoint presentations or PDF documents** - Enabled for the entire organization (highlighted with a red box)
- Export reports as MHTML documents** - Enabled for the entire organization (highlighted with a red box)
- Export reports as Word documents - (This item is partially visible at the bottom)

In general, the process for subscribing to paginated reports is the same as [subscribing to reports and dashboards](#), but there are a few differences worth noting. This section spells out these differences and other considerations to keep in mind when subscribing to paginated reports.

## Paginated reports parameters

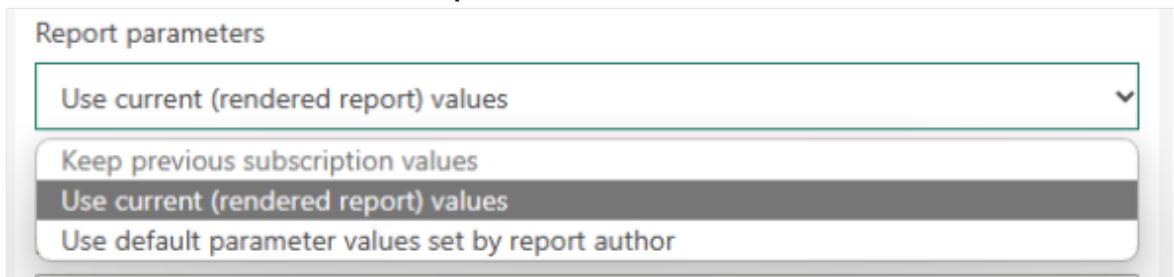
Paginated reports allow you to specify the view of the report people receive in the subscription by setting the parameters in the subscription pane.

- Subscriptions can be sent with either the currently selected or default parameters for your report. You may set different parameter values for each subscription you create for your report.

## Update parameters for an existing paginated report subscription

If you have an existing subscription to a paginated report, and you want to update the parameters applied to the report, follow these steps.

1. Re-render the paginated report with the new parameters.
2. Open the **Subscriptions** page.
3. Select **Use current (rendered report) values**.



4. Select **Save**.

## Considerations unique to paginated report subscriptions

- You can subscribe other users in your organization to paginated reports that connect to any currently supported data sources, including Azure Analysis Services or Power BI semantic models. Keep in mind the report attachment reflects the data based on your permissions.
- You can set up an unlimited number of subscriptions per paginated report.
- B2B guest users can only create subscriptions for themselves.
- The maximum attachment size is 25 MB.
- Unlike subscriptions for dashboards or Power BI reports, your subscription contains an attachment of the entire report output. The following attachment types are supported: PDF, PowerPoint presentation (PPTX), Excel Workbook (XLSX), Word Document (DOCX), CSV file, and XML.
- Optionally, include a preview image of the report in the email body. The image may differ slightly from the first page of your attached report document, depending on the attachment format you select.
- There's no **After Data Refresh** option for frequency with paginated reports. You always get the latest values from the underlying data source.

- Paginated report subscriptions in the Power BI service are similar to email standard subscriptions in Power BI Report Server and SQL Server Reporting Services. Data-driven subscriptions in the Power BI service are called Dynamic subscriptions. Learn more about [Creating a dynamic subscription for a Power BI report \(Preview\) - Power BI](#).
- Reports for subscriptions have a 60-minute execution time limit. If the report takes longer than 60 minutes to execute, a timeout error occurs.

## Considerations and limitations

For help with troubleshooting for the subscriptions feature, see [Troubleshoot Power BI subscriptions](#).

### General

- The **Save** or **Save and Close** button will be disabled if there are errors. You must fix all errors to save the subscription.
- Internal guests are users who have an account in your Microsoft Entra directory but only guest-level access in your organization. External B2B guests are users with an external Microsoft Entra account, social identity, or other external identity provider sign-in. Internal guest users can't create email subscriptions in Power BI.
- If you can't use the subscription feature, contact your Fabric administrator or IT help desk. Your organization may disable this feature or the maximum subscriber limit may be.
- Power BI automatically pauses refresh on semantic models associated with dashboards and reports that aren't visited in more than two months. However, if you add a subscription to a dashboard or report, it doesn't pause even if it goes unvisited.
- On Daylight savings day, you receive your subscription emails and the day after you receive two emails per subscription.

### Row-level security (RLS)

- For Power BI reports, dashboards, or paginated reports that use a semantic model with row-level security (RLS), use caution when creating subscriptions for yourself and others. Power BI warns you that the data contains RLS. A bubble info icon shows up next to the recipients header. If you hover over that icon, you can see the warning message. However, users often scroll past the warning message.

The static image sent in the subscription email displays data ***based on the owner of the subscription***. For this reason, when creating subscriptions, be careful to ensure that confidential information isn't included in the static image. Other than that

static image, the report or dashboard itself opens (or not) and displays data based on the user's permissions.

## Power BI reports

- Report page subscriptions are tied to the name of the report page. If you subscribe to a report page, and it gets renamed, you have to re-create your subscription. Similarly, if the report page is deleted, the subscriptions will also not exist.
- If you access a report using a bookmark, the subscription will also be executed against the bookmark (filters will be the same as that of the bookmark) and **not** against the filters applied when the subscription is created. You can get around this by creating a bookmark with the required filters and create a subscription.

## Apps

- For [Power BI apps](#) you install, you can only create subscriptions for others if you're the owner of the app.
- Subscriptions created within apps can be viewed and managed from the associated workspace by users with the admin role in that workspace. The workspace admin will have to install the app to view the subscriptions.

## Unsupported features

- Semantic model refresh operations using an XMLA endpoint.
- Email subscriptions aren't supported when the admin setting **Azure private link > Block public internet access** is enabled in Power BI. In this case, all subscriptions fail.
- The following Power BI visuals aren't supported. When you subscribe to a report containing these visuals, they display an error symbol.
  - Power BI [custom visuals](#). The exception is those Power BI custom visuals that are [certified](#).
  - [ESRI ArcGIS](#) visuals
  - [R](#) visuals
  - [Power Apps](#) visuals
  - [Python](#) visuals
  - [Power Automate](#) visuals
  - [The Paginated report](#) visual
  - [Visio](#) visuals ↗

## Related content

[Troubleshoot Power BI subscriptions](#)

[Search for and sort content](#)

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# Dynamic per recipient subscriptions for reports

Article • 01/09/2024

APPLIES TO:  Power BI Desktop  Power BI service

Dynamic per recipient subscriptions are designed to simplify distributing a personalized copy of a report to each recipient of an email subscription. You define which view of the report an individual receives by specifying which filters are applied to their version of the report.

Dynamic per recipient subscriptions are available for paginated reports and for Power BI reports. This article pertains to Power BI reports. To learn about dynamic subscriptions for paginated reports, see [Dynamic per recipient subscriptions for paginated reports](#).

The dynamic subscription filters are stored in a separate Power BI semantic model. The semantic model defines the mapping between recipients and respective filters. When it's time to send out the report, the latest data available in your semantic model determines who receives a subscription and with what filters applied. In the example used in this article, the separate semantic model contains employee data, including email addresses. Our task is to create subscriptions for managers. Each manager receives only data for their own employees.

## Prerequisites

- A report to share that is saved in a workspace backed by a capacity ([Power BI Premium capacity](#), [Microsoft Fabric trial](#), or [Microsoft Fabric capacity](#)).
- Build permissions to a Power BI semantic model that contains recipient data. This data includes the email addresses of your recipients and filter values that should be applied for each recipient.
- A Contributor, Member, or Admin role in that workspace. You know that you have the Contributor, Member, or Admin role in a workspace if you're able to edit reports or dashboards in that workspace. Read more about [Roles in workspaces](#).

## Create a dynamic subscription

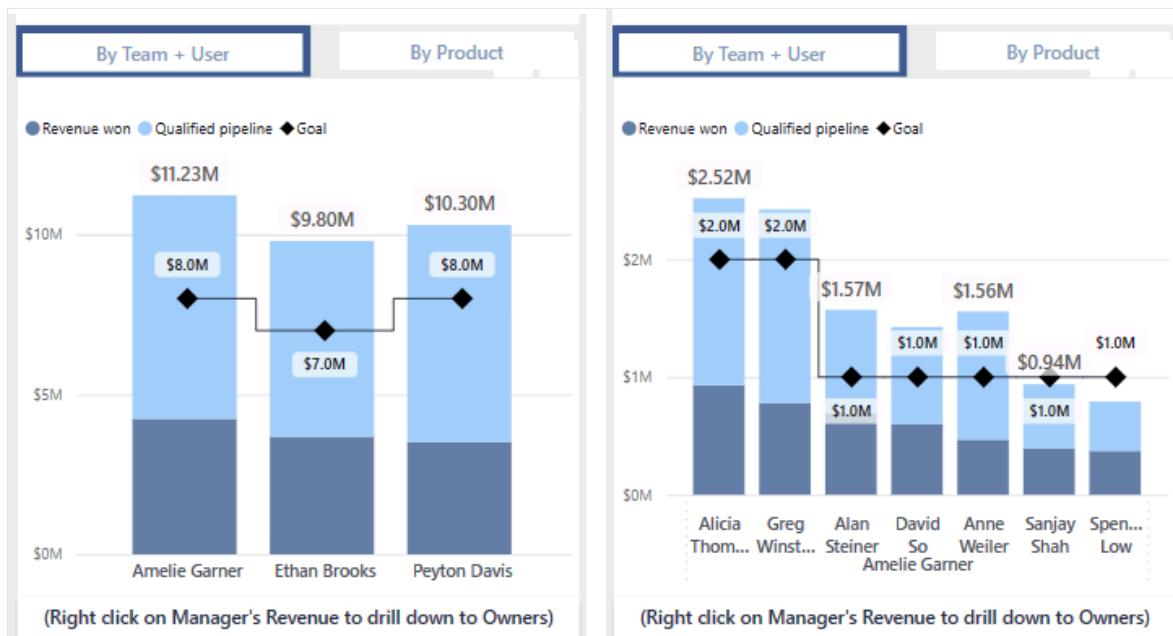
Do you want to create one subscription that sends customized views of a report to your subscribers based on filters that you set? Perhaps you're a regional director and want to send a report to various managers, each interested in the sales by each of their

employees. Now you can create a subscription and customize the report so that each manager only sees data related to their own employees. To do this, Power BI connects to two different semantic models. One contains subscription recipient data, including email addresses of the managers. The other contains the data and defines the mapping between recipients and filters. When it's time to send the report, the latest data available in this second semantic model determines which manager receives a report in their inbox, and what filters are used in that report.

For users familiar with SQL Server Reporting Services (SSRS), this feature is similar to data-driven subscriptions.

## Connect to recipient data

1. The sample *Regional sales* report has a table that we can use. The stacked column chart **By team + user** has data for managers and their employees. Select **By Team + User** if it isn't already active. Right click one of the bars and select **Drill down** to see the employees for that manager.



2. Select **Subscribe to report > Create a subscription**.

The screenshot shows a Power BI report interface. At the top right, there is a button labeled "Subscribe to report" with a red box around it. A large red arrow points from this button down to a "Create a subscription" button at the bottom right of the "Subscriptions" section. The "Subscriptions" section also contains a note about sensitivity labels and a "Manage all" link.

Keep track of your data by subscribing to this report.

The sensitivity label on this report does not appear in emails.

Manage all

No subscriptions yet

Stay up-to-date on this report and set up recurring email for yourself or others.

Create a subscription

### 3. Select Dynamic per recipient.

The screenshot shows a "Choose a subscription type" dialog. It lists two options: "Standard" and "Dynamic per recipient (preview)". The "Dynamic per recipient (preview)" option is highlighted with a red box. It includes a description: "Connect to a dataset and send a unique view of the report to each recipient." To the right of the descriptions are small icons: an envelope for Standard and a person icon for Dynamic per recipient.

Choose a subscription type

Standard

Generate and deliver one report.

Dynamic per recipient (preview)

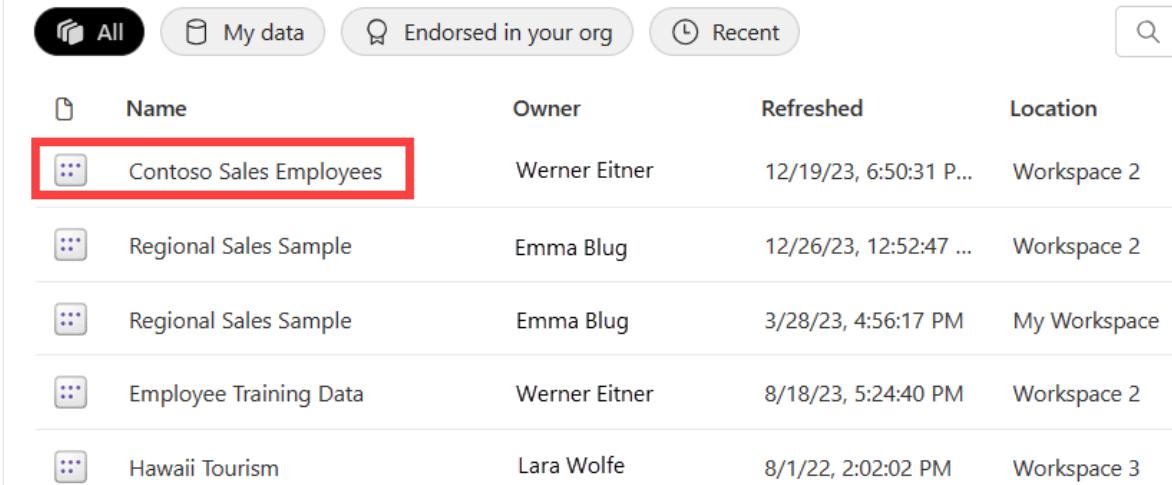
Connect to a dataset and send a unique view of the report to each recipient.

### 4. Highlight the Power BI semantic model that contains your recipient data. Recipient data includes columns for email address, filters that can be varied per recipient, and optionally, attachment type and email subject.

In some organizations, there might be a corporate employee Power BI semantic model that fits the purpose. Or, you might need to create a new semantic model that contains email addresses, and values for report filters. The critical piece of data is the email addresses. In order for you to set the filters on a per-recipient basis, the semantic model needs to include the email addresses of all potential recipients. Select **Next**. In this example, our mapping semantic model is named **Contoso sales employees**.

## Connect to recipient data

Choose a dataset with your recipients. You'll be able to map the data to this subscription's dynamic fields, such as email addresses and report parameters. [Learn more](#) 



All	Name	Owner	Refreshed	Location
 Contoso Sales Employees	Contoso Sales Employees	Werner Eitner	12/19/23, 6:50:31 P...	Workspace 2
 Regional Sales Sample	Regional Sales Sample	Emma Blug	12/26/23, 12:52:47 ...	Workspace 2
 Regional Sales Sample	Regional Sales Sample	Emma Blug	3/28/23, 4:56:17 PM	My Workspace
 Employee Training Data	Employee Training Data	Werner Eitner	8/18/23, 5:24:40 PM	Workspace 2
 Hawaii Tourism	Hawaii Tourism	Lara Wolfe	8/1/22, 2:02:02 PM	Workspace 3

## Select and filter data

The **Select and filter data** window lists the fields that can be set dynamically. In this example, we have a field for email address and we have several filters. Select the columns from your semantic model that you want to be varied for each recipient. Email address and filters can be set dynamically based on data in the Power BI semantic model.

The **Select and filter data** window displays the list of fields from the *Contoso sales employee* semantic model that can be used to dynamically filter your *Regional Sales* report subscription. Select the **Owners** table. This table has data for **Owner**, **OwnerEmail**, and **Manager**. These fields from the *Contoso sales employee* semantic model can be tied to the subscription.

## Select and filter data

Choose the data you want to map to the subscription's dynamic fields. The following fields can be set dynamically:

- Email address
- Email subject
- Report filters
- Attachment file type

The screenshot shows a data selection interface. On the left is a table with columns: Owner, OwnerEmail, and Manager. The table contains 15 rows of data. On the right is a sidebar titled 'Data' with a search bar and a tree view of semantic models. The tree view shows 'ContosoSalesEmployees' expanded, with 'Managers' and 'Owners' listed under it; 'Owners' has a checked checkbox next to it. At the bottom are 'Back', 'Next', and 'Cancel' buttons.

Owner	OwnerEmail	Manager
Alan Steiner	alansteiner@contoso.com	Amelie Garner
Alicia Thomber	aliciathomber@contoso.com	Amelie Garner
Angel Brown	angelbrown@contoso.com	Peyton Davis
Anne Weiler	anneweiler@contoso.com	Amelie Garner
Archie Boyle	archieboyle@contoso.com	Peyton Davis
Dan Jump	danjump@contoso.com	Ethan Brooks
David So	davidso@contoso.com	Amelie Garner
Eric Gruber	ericgruber@contoso.com	Ethan Brooks
Greg Winston	gregwinston@contoso.com	Amelie Garner
Hollie Rees	hollierees@contoso.com	Peyton Davis
Jeff Hay	jeffhay@contoso.com	Ethan Brooks
Jennifer Wilkins	jenniferwilkins@contoso.co m	Peyton Davis

## Enter email details

In the **Email details** window, fill in the required fields and any other fields that you'd like to include. Use the dropdowns to autopopulate with dynamic content from the *Contoso sales employee* semantic model. Or, enter the information manually. If you're typing recipients, separate them by commas or semicolons.

In this example, we use dynamic content for **Recipients** and **Email subject**. The link icon lets you know that dynamic content is being used.

1. For **Recipients**, select the dropdown option for **Get from data** and choose a column from the Owners table. The column in the Owners table that contains email addresses is **Owners.OwnerEmail**.
2. For **Email subject**, select the dropdown option for **Get from data** and choose a column from the Owners table. The column in the Owners table that contains employee names is **Owners.Owner**.

## Email details

Provide the email addresses, message, and any attachments or permissions. You can also choose to get the data from your connected data source. [Learn more](#) 

Subscription name \*

Sales Overview

Recipients \*

 Owners.OwnerEmail 

Email subject

Enter manually 

Subject

Enter manually

Get from data 

Owners.Owner

Report page 

Owners.OwnerEmail

Sales Overview 

Owners.Manager

3. Add optional details. Type a message to recipients. Use the dropdown to select a specific report page. If you toggle **Link to report in Power BI**, the link takes you to this report page. Also, this page is the one that displays if you select **Report page preview**. The preview image displays the report with the recipient's unique filters applied.
4. Select the **Attach full report** dropdown to display the list of options. Select a format. Sensitivity labels are applied to the email attachment and the attachment respects all privacy labels for the report. The size of the attachment is limited to less than 25 MB.

## Add dynamic filters

Use the **Map your data** window to set dynamic filters. To use the current state of the report as your starting point, select **Include my changes**. This selection creates the subscription with updates you made to filters, spotlights, drill states, and more. If you don't want dynamic filters to be applied to the current state of the report, uncheck **Include my changes**. Unchecking this option uses the default state of the report.

Select which report field is used to map to a value in the *Contoso sales employee* semantic model. In this example, both fields have the same name which isn't the case in most situations.

## Map your data

Define the filters applied to the reports sent in this subscription.

### Pre-existing filters

[Include my changes](#) (i)

### Dynamic filters (i)

[+ Add filter](#)

Report field	Value
Owners.Owner	Owners.Owner

## Set the schedule

In the **Set the schedule** window, create a schedule for your dynamic subscription.

1. Select a Start date and optionally, an End date for your subscription. By default, the start date is the date you created the subscription and the end date is one year later. You can change it to any date in the future at any time before the subscription ends. When a subscription reaches an end date, it stops until you re-enable it. You receive notifications before the scheduled end date to ask if you'd like to extend.
2. Use the **Repeat** dropdown to select a frequency for your subscription. You might choose daily, weekly, or monthly. You also can adjust your time zone.

### 💡 Tip

To receive a subscription email only on certain days, select Weekly and then select the week day checkboxes. If you select Monthly, enter the day(s) of the month you wish to receive the subscription email.

3. Choose a scheduled time for the subscription. You can have it run on the hour, or at 15, 30, or 45 minutes past for a specified time zone.

## Schedule

Send this email out on a recurring schedule.

**Start date \***

12/26/2023

**End date**

Select a date

**Repeat \***

Daily

**Scheduled time \***

4

45

AM

**Time zone \***

(UTC-05:00) Eastern Time (US and Cana)

Emails will be sent daily at 04:45 AM (UTC-05:00) Eastern Time (US and Canada) starting Tuesday, December 26, 2023.

**Active subscription**



4. By turning off **Active subscription**, you have the option of triggering this subscription manually instead of having it run on a recurring basis.

## Review and finish creating the dynamic subscription

In the **Review and finish** window, select a heading to review your settings. If all the settings look correct, select **Save and close**. If any settings need changes, select the pencil icon to make edits.

Your **Subscriptions** pane lists the new subscriptions. The link icon  lets you know that dynamic content is being used.

Another way to review your subscription is to select the down arrow to display details.

The screenshot shows the 'Sales Overview' report from Contoso. It includes a dashboard with metrics like 'Revenue won' (\$11.43M) and 'Qualified Pipeline' (\$19.90M), a bar chart showing revenue by sales stage (1-Qualify, 2-Develop, 3-Propose, 4-Close), and a table for 'Forecast by Territory'. On the right, the 'Subscriptions' section allows managing a specific subscription for 'Sales Overview'. The subscription details include the recipient ('Contoso Sales Employees'), name ('Sales Overview'), and recipient ('Michele Hart;'). There are buttons for 'Save', 'New subscription', and a toggle switch for turning the subscription on or off.

As with other subscriptions, you can edit, delete, turn on, and turn off the subscription.

## Considerations and limitations

- Rendering the report uses some of your capacity. It's classified as an **interactive** activity.
- Your recipient semantic model has a limit of 1000 rows of recipients. If the recipient list exceeds 1000 rows at any point, only the first 1000 recipients receive the subscription email, and the subscription creator receives an error email.
- Receiving the subscription email doesn't guarantee access to the report. Report access is set separately.
- This feature supports single value filters and doesn't support filters with multiple value options.
- If the names of columns or tables are changed in the semantic model while the subscription is processing, dynamic filters might not be applied properly.
- Resolutions below 400px are not supported for Dynamic per recipient subscriptions.
- SSAS Live Connection is not supported

## Related content

[Troubleshoot Power BI subscriptions.](#)

[Search for and sort content.](#)

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# Dynamic per recipient subscriptions for paginated reports

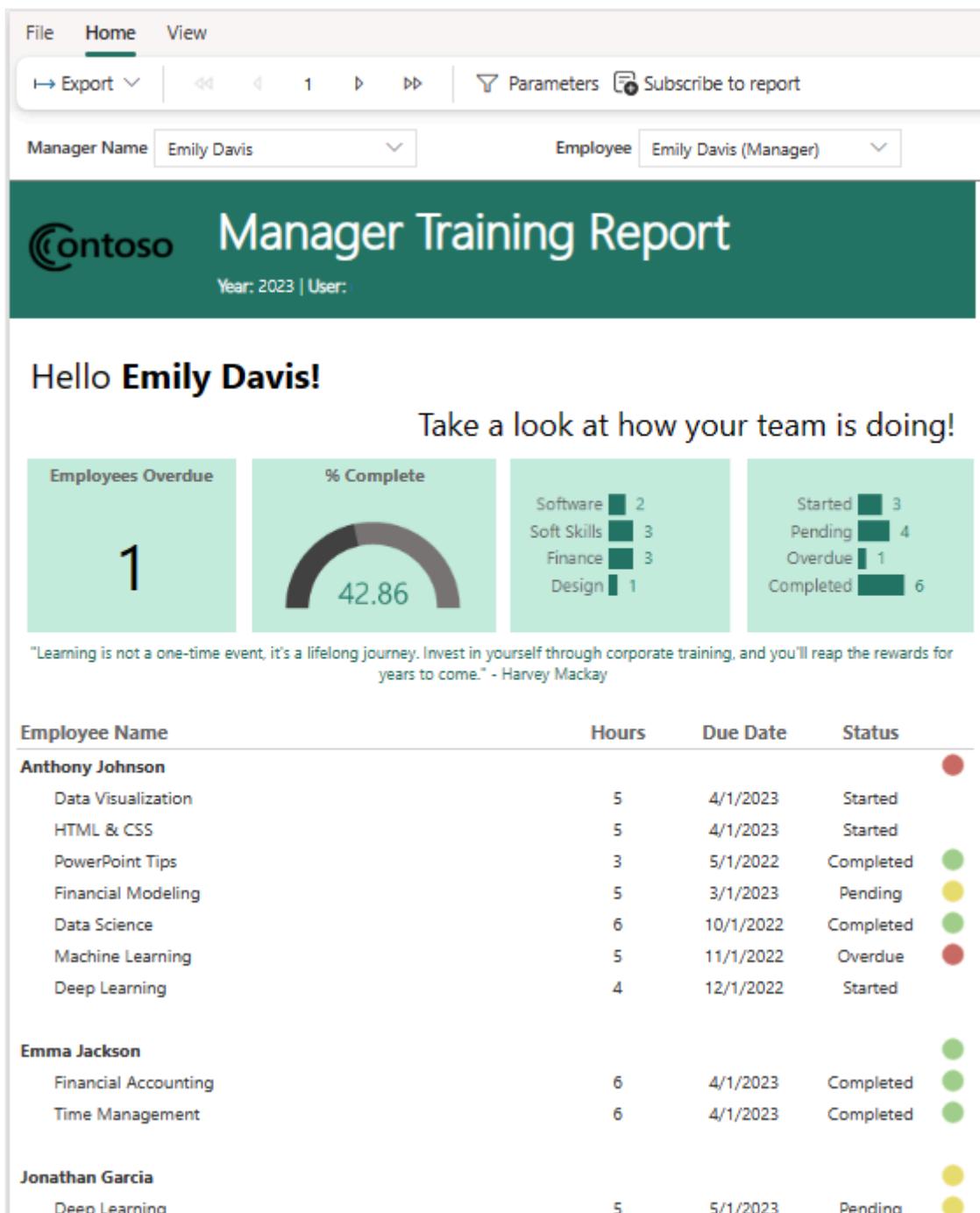
Article • 01/08/2024

APPLIES TO:  Power BI Desktop  Power BI service

Dynamic per-recipient subscriptions are designed to simplify distributing a personalized copy of a report to each recipient of an email subscription. You define which view of the report an individual receives by specifying which parameters are applied to their version of the report.

Dynamic per-recipient subscriptions are available for paginated reports and for Power BI reports. This article is about paginated reports. To learn about dynamic subscriptions for Power BI reports, see [Dynamic per recipient subscriptions for Power BI reports](#).

The dynamic subscription parameters are stored in a separate Power BI semantic model. The semantic model defines the mapping between recipients and respective parameters. When it's time to send out the report, the latest data available in your semantic model determines who receives a subscription and with what parameter applied.



## Prerequisites

- A paginated report with parameters to share that is saved in a workspace backed by a capacity ([Power BI Premium capacity](#), [Microsoft Fabric trial](#), or [Microsoft Fabric capacity](#)).
- Build permissions to a Power BI semantic model that contains the email addresses of your recipients and parameter values that should be applied for each recipient.
- A Contributor, Member, or Admin role in that workspace. You know that you have the Contributor, Member, or Admin role in a workspace if you're able to edit reports or dashboards in that workspace. Read more about [Roles in workspaces](#).
- A Power BI semantic model that contains recipient data. Recipient data includes recipient email addresses and the parameters that you're interested in assigning

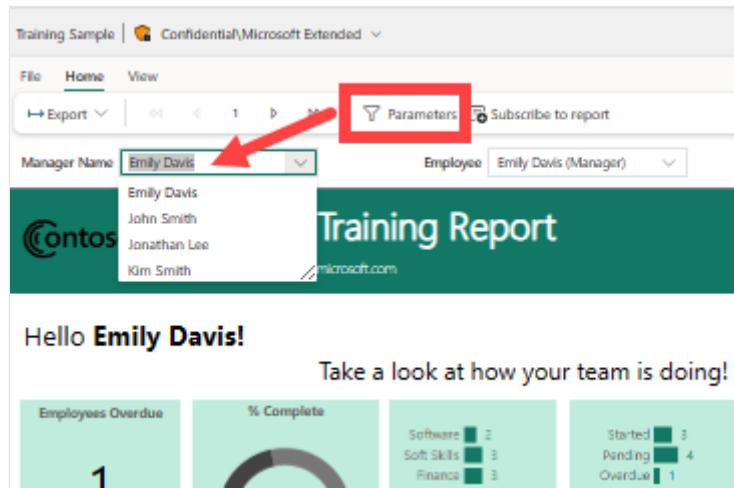
for each recipient.

## Create a dynamic subscription

Do you want to create one subscription that sends customized views of a report to your subscribers based on parameters that you set? Perhaps you're a training director and want to send a report to various managers, each interested in the completion progress of their employees. Now you can create a subscription and customize the report so that each manager only sees data related to their own employees. To do this, Power BI connects to a semantic model that defines the mapping between recipients and parameters. When it's time to send out the report, the latest data available in this semantic model determines which manager receives a report in their inbox, and what parameters are applied to that report.

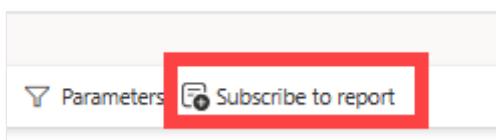
For users familiar with SQL Server Reporting Services (SSRS), this feature is similar to data-driven subscriptions.

Start with a paginated report that has parameters. You know that the report has parameters if you select **Parameters** and see dropdown options in the header. This report has a parameter for **Manager name** and a parameter for **Employee**.

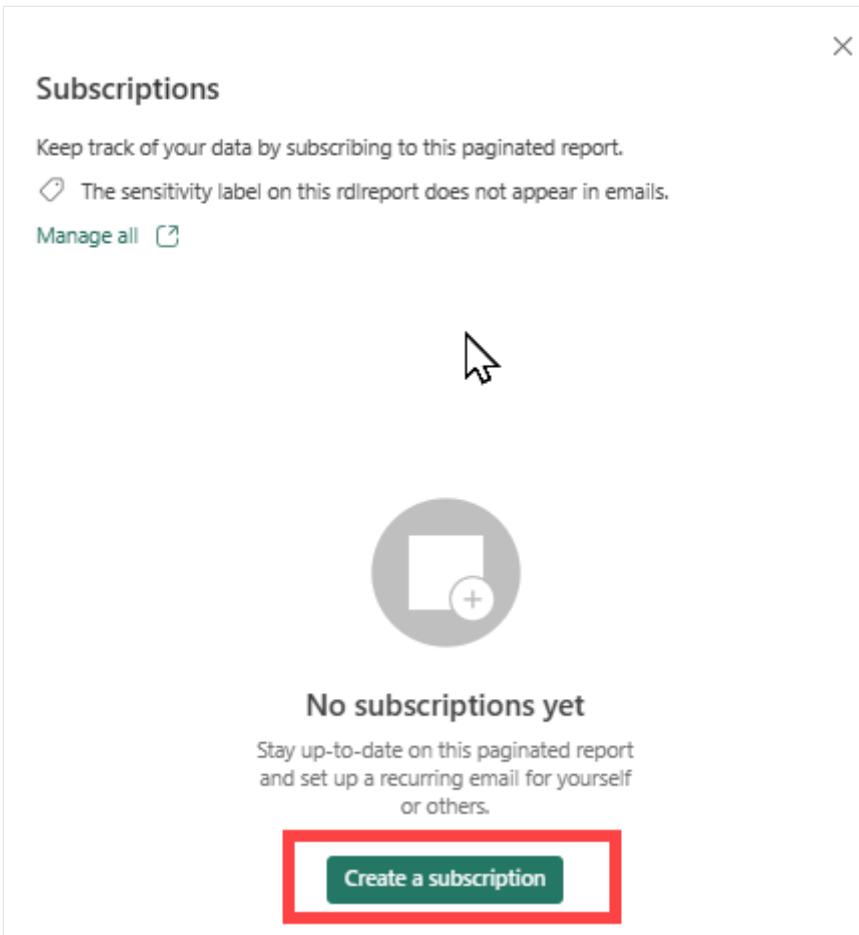


## Connect to recipient data

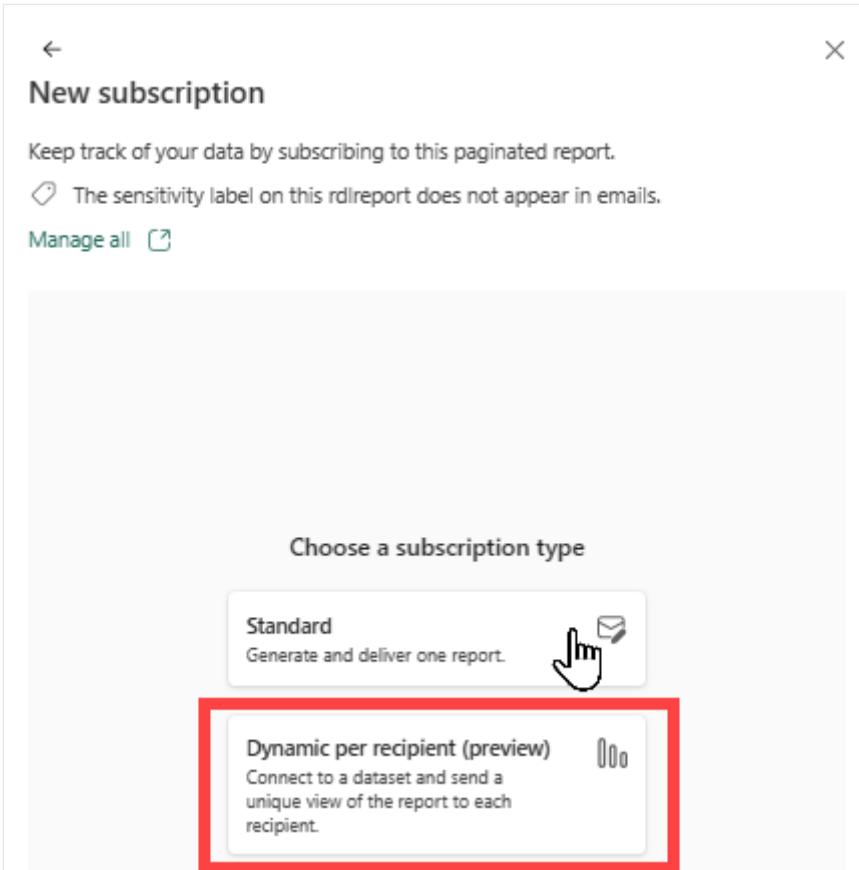
1. Select **Subscribe to report**.



2. The **Subscriptions** window opens and there are no subscriptions yet. Select **Create a subscription**.



### 3. Select Dynamic per recipient.



### 4. Highlight the Power BI semantic model that contains your recipient data. Recipient data includes columns for email address, parameters that can be varied per

recipient, and optionally, attachment type and email subject.

In some organizations, there might be a corporate employee Power BI semantic model that fits the purpose. Or, you might need to create a new semantic model that contains email addresses, and values for report parameters. The critical piece of data is the email addresses. In order for you to set the parameters on a per-recipient basis, the semantic model needs to include the email addresses of all potential recipients. Select **Next**. In this example, our parameter mapping semantic model is named **Training data**.

The screenshot shows the 'New dynamic subscription' wizard with the 'Connect to recipient data' step selected. On the left, a vertical navigation bar lists steps: 'Connect to recipient data' (selected), 'Select and filter data', 'Email details', 'Parameters', 'Schedule', and 'Review and finish'. On the right, a table lists datasets with columns for Name, Owner, Last Refreshed, Location, Endorsement, and Sensitivity. The 'Training Data' row is highlighted with a red box. The table includes rows for 'Customers', 'Hawaii Tourism', 'Sales and Marketing Sample', 'Getting Started in Power BI', and 'Data warehouse'.

Name	Owner	Last Refreshed	Location	Endorsement	Sensitivity
Customers	Zalan Bola (HE/HIM)	9/9/22, 6:00:20 PM	Customers2023	-	Non-Business
Hawaii Tourism	Megan Bowen	8/1/22, 2:02:02 PM	Customers2023	-	Non-Business
Sales and Marketing Sample	Pradtanna K	6/23/23, 1:07:37 AM	My Workspace	-	Confidential\Contoso E...
<b>Training Data</b>	Zalan Bola	8/1/23, 4:26:55 PM	Dynamic Subscriptions ...	-	Confidential\Contoso E...
Getting Started in Power BI	Pradtanna K	6/12/23, 4:13:58 PM	My Workspace	-	General
Data warehouse	Pradtanna K	11/28/22, 12:34:22 PM	DW	-	-

## Select and filter data

The **Select and filter data** window lists the fields that can be set dynamically. In this example, we have a field for email address and we have several parameters. Select the columns from your semantic model that you want to be varied for each recipient. Email address and parameters can be set dynamically based on data in the Power BI semantic model.

1. The **Select and filter data** window displays the list of fields from the *Training data* semantic model that can be used to dynamically filter your *Manager training* report subscription. In this example, we have **Email address**, **Email subject**, **Report parameters**, and **Attachment file type**. These fields from the *Training data* semantic model can be tied to the subscription.

Select the relevant fields that you'd like to be varied per recipient. Here we have **Email** and two fields for parameters: **Employee name** and **Manager name**. Optionally, add filters and change the method of aggregation by expanding the **Filter** and **Build** panes. As you add data, Power BI builds a table. In this window, narrow down who should receive the report. For our example, we select only those employees who are also managers.

New dynamic subscription X

- Connect to recipient data
- Select and filter data
- Email details
- Parameters
- Schedule
- Review and finish

### Select and filter data

Choose the data you want to map to the subscription's dynamic fields. The following fields can be set dynamically:

- Email address
- Email subject
- Report parameters
- Attachment file type

Email	Employee Name	Manager Name
emily.davis@example.com	Emily Davis	Emily Davis
john.smith@example.com	John Smith	John Smith
kimsmith@example.com	Jonathan Lee	Jonathan Lee
kimsmith@example.com	Kim Smith	Kim Smith

Filters
Data

- > Email
- > Employee Name
- > Manager Name
- ▽ IsManager
  - Select all
  - false
  - true

- ▽ TrainingData
  - Category
  - Completion
  - Due Date
  - Due Month
  - Due Year
  - Email
  - Employee Name
  - IsManager
  - Manager Name
  - Status
  - Training Hours
  - Training Name

Back
Next
Cancel

2. Select **Next** when you're satisfied with your selections.

## Enter email details

In the **Email details** window, name the subscription, add recipients separated by commas or semicolons, and a subject, and select the type of attachment to use. Many of these fields offer the option to use the dynamic parameters. In this example, **Recipients** are dynamically added from the *Training data* semantic model, using the **Email** field. And, the email **Subject** is dynamically set using the **Manager name** parameter. The link icon  lets you know that dynamic content is being used.

1. Name your subscription.
2. Manually enter recipient email addresses, or use the dropdown to select a value that dynamically selects recipients from the *Training data* semantic model.
3. Manually add an email subject, or use the dropdown to dynamically create individualized subjects using the Manager name field from the *Training data* semantic model.

## Email details

Provide the email addresses, message, and any attachments or permissions. You can also choose to get the data from your connected data source. [Learn more](#) 

Subscription name \*

Training completions for your team

Recipients \*

 Employee Training.Email 

Email subject

Enter manually 

Subject

Enter manually

Get from data 

Employee Training.Email

Employee Training.Manager Name

Employee Training.Employee Name

Link to report in Power BI



4. Add optional details. Type a message to recipients. Use the toggles to add a link to the report in Power BI and to include a preview image of the report in the email. The preview image is the first page of the report. The preview image shows the report with the recipient's unique parameters applied.
5. Select the **Attach full report** dropdown to display the list of options. Select a format. Sensitivity labels are applied to the email attachment and the attachment respects all privacy labels for the report. The size of the attachment is limited to less than 25 MB.
6. Choose **Next**.

## Select the parameters

The **Parameters** window displays all of your report parameters, and you choose which to set dynamically based on a column in the Power BI semantic model. Paginated reports allow you to specify the view of the report people receive in the subscription by setting the parameters in the **Parameters** window. For each parameter, decide whether to use the current value, default value, or dynamic value. For our scenario, sending training completion reports to managers, it makes sense to use the Manager name dynamic parameter and the Employee name dynamic parameter. But there are other scenarios where you might want to use a mix of static and dynamic parameters. For example, if your report had continent and country-region data, you might want to set the continent as South America and use dynamic parameters for the country-regions.

## New dynamic subscription

Connect to recipient data

Select and filter data

Email details

Parameters

Schedule

Review and finish

**Parameters**

Choose whether the report parameters in Training Sample will appear in the subscription as their current (rendered) value or their default value. You can also choose to get the parameter value from your connected data source.

Parameter	Value
Manager Name	Current (Emily Davis)
Employee	Employee Training....

Current (Emily Davis (Manager))

Default

Get from data >

- **Current** uses the value from the currently selected active version of the report. To update the current values, re-render the paginated report with different values, open the **Subscribe to report** wizard, and select **Current**.
- **Default** uses the value set by the report author. For example, if the report author set expression-based parameters (for example, the default is always today's date), the subscription uses that as the default value.
- **Get from data** lets you select a column from your semantic model to define a different parameter for each recipient.

## Set the schedule

In the **Set the schedule** window, create a schedule for your dynamic subscription.

1. Select a Start date and optionally, an End date for your subscription. By default, the start date is the date you created the subscription and the end date is one year later. You can change it to any date in the future at any time before the subscription ends. When a subscription reaches an end date, it stops until you re-enable it. You receive notifications before the scheduled end date to ask if you'd like to extend it.
2. Use the **Repeat** dropdown to select a frequency for your subscription. You might choose daily, weekly, or monthly. You also can adjust your time zone.

### 💡 Tip

To receive a subscription email only on certain days, select Weekly and then select the week day checkboxes. If you select Monthly, enter the day(s) of the month you wish to receive the subscription email.

3. Choose a Scheduled Time for the subscription. You can have it run on the hour, or at 15, 30, or 45 minutes past for a specified time zone.

New dynamic subscription

Connect to recipient data	Schedule
Select and filter data	Send this email out on a recurring schedule.
Email details	Start date * 8/18/2023
Parameters	End date Select a date
Schedule	Repeat * Monthly
Review and finish	Every month on day(s) 1
	Scheduled time * 5 00 AM
	Time zone * (UTC-05:00) Eastern Time (US and Canada)
	E-mails will be sent on the 1st of every month, starting Friday, August 18, 2023 at 05:00 AM (UTC-05:00) Eastern Time (US and Canada).
	Active subscription <input checked="" type="checkbox"/>

4. By turning off **Active subscription**, you have the option of triggering this subscription manually instead of having it run on a recurring basis.

## Review and finish creating the dynamic subscription

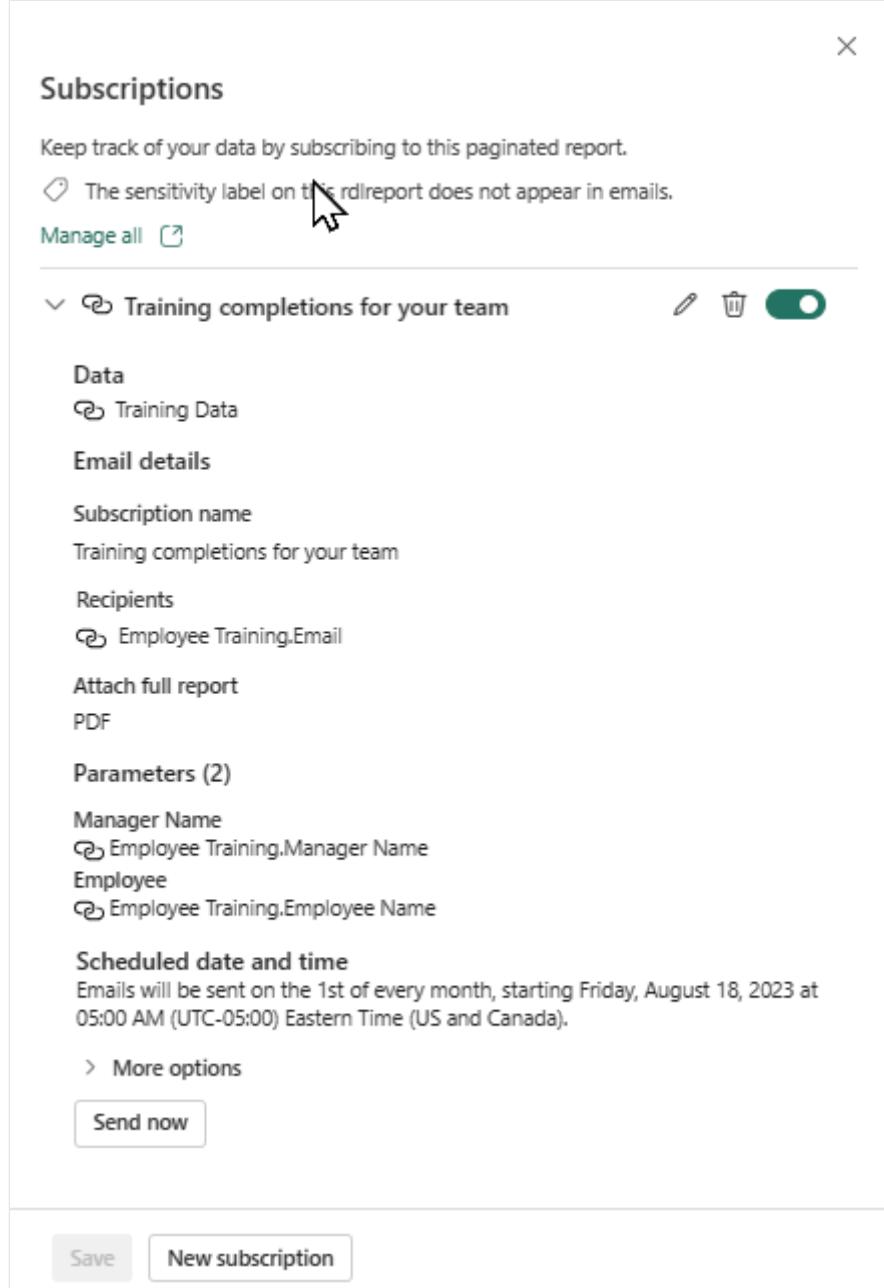
In the **Review and finish** window, select a heading to review your settings. If all the settings look correct, select **Save and close**. If any need changes, select the pencil icon to make edits.

New dynamic subscription

Connect to recipient data	Review and finish
Select and filter data	Finalize your subscription details.
Email details	> Connect to recipient data <input type="button" value="edit"/>
Parameters	> Select and filter data <input type="button" value="edit"/>
Schedule	> Email details <input type="button" value="edit"/>
Review and finish	> Parameters <input type="button" value="edit"/>
	> Schedule <input type="button" value="edit"/>

Your **Subscriptions** pane lists the new subscriptions. The link icon  lets you know that dynamic content is being used.

Another way to review your subscription is to select the arrow in the **Subscriptions** pane.



As with other subscriptions, you can edit, delete, turn on, and turn off the subscription.

## Considerations and limitations

- Your recipient semantic model has a limit of 1000 rows of recipients. If the recipient list exceeds 1000 rows at any point, only the first 1000 recipients receive the subscription email, and the subscription creator receives an error email.
- Receiving the subscription email doesn't guarantee access to the report. Report access must be set separately.
- Parameter values attempt to map to the *value* and not to the *label*.

## Related content

- Troubleshoot Power BI subscriptions.
  - Search for and sort content.
- 

## Feedback

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# Frequently asked questions about Troubleshooting Power BI subscriptions

FAQ

Here are some common issues that may come up when you're subscribing yourself or others to a dashboard or report. Also refer to the Considerations and Limitations section in [Subscribe to reports and dashboards](#)

If you encounter a scenario that isn't listed here, and it's causing you issues, you can ask for further assistance on the [community site](#), or you can create a [support ticket](#).

To learn how to create a subscription, see [Email subscriptions for reports and dashboards](#).

## I can't use the subscription feature

The **Subscribe** option is missing or greyed out.

### Contact your Power BI administrator or IT help desk

- If you can't use the subscription feature, contact your Power BI administrator, or IT help desk. Your organization might disable this feature, generally or specifically for external users, or a maximum subscriber limit might be reached.
- Your organization may configure certain settings in Microsoft Entra ID that limit the ability to use email subscriptions in Power BI. These limitations include, but aren't limited to, having multifactor authentication or IP range restrictions when accessing resources.

## You're an internal guest user.

You have an account in the organization's Microsoft Entra directory, but you only have guest-level access in that organization.

## You reached the maximum of 24 subscriptions

There's a limit of 24 subscriptions per Power BI report or dashboard. You can provide unique recipients, times, and frequencies for each subscription. Paginated reports don't have this limit.

# I stopped receiving a subscription

I set up a subscription but am not receiving the subscription emails.

## Account or license issues

A subscription ends if the Power BI Pro or Premium Per User (PPU) license expires, the report or dashboard is deleted by the owner, or the user account used to create the subscription is deleted.

## Email issues

- To avoid subscription emails going to your spam folder, add the Power BI email alias (no-reply-powerbi@microsoft.com) to your contacts. If you're using Microsoft Outlook, right-click the alias and select **Add to Outlook contacts**.
- Subscriptions may fail on reports or dashboards with extremely large images due to email size limits.
- Make sure that your User Principal Name (UPN) can receive emails.
- Though you have a Power BI Pro or Premium Per User (PPU) license, you may not have a Microsoft Exchange license. If not, your Microsoft Entra account might not have an email, or alternate email address specified. In this case, though the subscription appears to go out, you never receive a copy. If your Power BI admin assigns an email address, Power BI synchronizes the update the next time you sign in, and uses that email address for the subscription.
- If you have an alternate email address but no primary, Power BI uses that to deliver the subscription.

## Admin portal settings

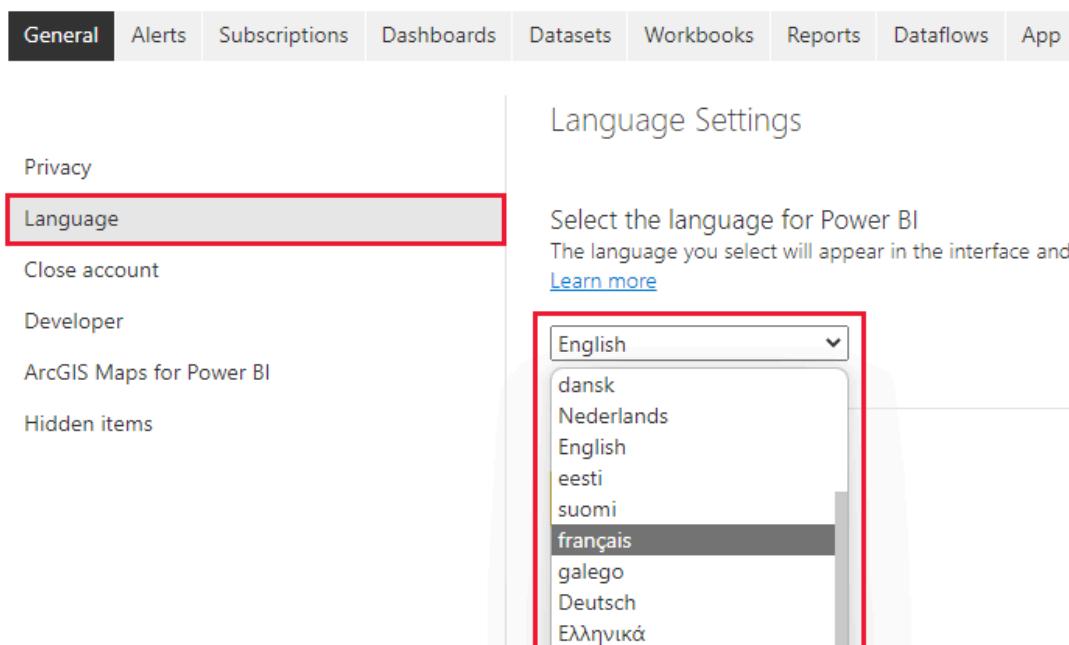
- If your admin enables the tenant setting for **Block Public Internet Access**, then email subscriptions with full report attachment (FRA) or report preview aren't delivered.

# The links in my email subscription no longer work

If the links in your email (to the content) stop working, it may be that the content was deleted. In the email, beneath the screenshot, you can look to see if you subscribed yourself or if someone else subscribed you. If someone else, ask that coworker to either cancel the emails or resubscribe you.

# The language in my subscription isn't correct

The email and snapshot use the language set in Power BI settings (see [Supported languages and countries/regions for Power BI](#)). If **Default (browser language)** is selected, Power BI uses U.S. English as a fallback for your subscription. To avoid using U.S. English, set your language preference to a specific language. To see or set your language preference, select the cog icon  > **Settings** > **General** > **Language**.



The screenshot shows the 'General' settings page in Power BI. The 'Language' section is highlighted with a red box. The right pane displays the 'Language Settings' interface, which includes a dropdown menu for selecting a language. The dropdown menu lists several options, with 'français' currently selected and highlighted with a red box. Other visible language options include English, dansk, Nederlands, English, eesti, suomi, galego, Deutsch, and Ελληνικά.

# My dashboard subscription is missing tiles

You receive your subscription email, open the dashboard, and notice that one or more tiles are missing

## Too many dashboard tiles

Dashboards with more than 25 pinned tiles, or four pinned live report pages, may not render fully in subscription emails sent to users. We suggest that you contact the dashboard designer and ask them to reduce pinned tiles to less than 25 and pinned live reports to less than four to ensure that the email renders correctly.

## Tile type not supported

For dashboard subscriptions, certain types of tiles aren't yet supported. These tiles include: streaming tiles, video tiles, custom web content tiles.

## My subscription is delayed

You notice that your subscription emails aren't being delivered as expected.

### Periods of peak demand

The time you set your subscription to begin is when the subscription starts to process. Once the report processing is complete, the subscription is queued and sent to the e-mail recipients. At times of peak demand, you may see a delay, but not more than 15 minutes. On rare occasion, it may take up to 30 minutes, but should never exceed 60 minutes. If you experience a longer delay, ensure that the address no-reply-powerbi@microsoft.com is on the safe sender list. Another recommendation is to run your data refresh and email subscriptions at different times to ensure timely delivery. If the issue persists, contact your Power BI administrator, or IT help desk for assistance.

### Email software is blocking delivery

Another possibility is that your email software is blocking the Power BI sender. To avoid subscription emails going to your spam folder, add the Power BI email alias (no-reply-powerbi@microsoft.com) to your contacts. If you're using Microsoft Outlook, right-click the alias and select **Add to Outlook contacts**.

## Issues with subscriptions set to run after data refresh

I'm not receiving subscription emails each time my data refreshes.

## Check the Frequency setting for your subscription

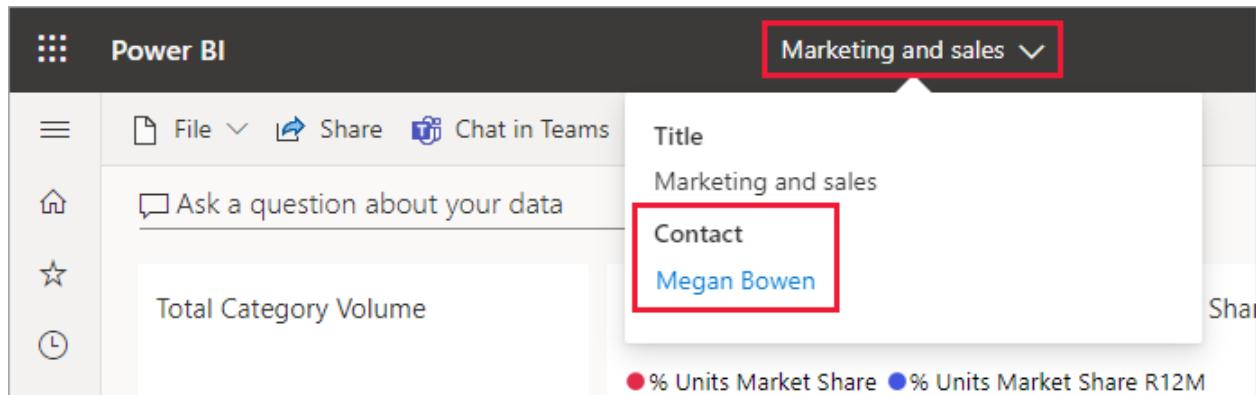
Subscriptions set to After Data Refresh for the report or dashboard only send an email after the first scheduled refresh on that day.

## Your data uses a live connection

For your reports with live connections, for example, a live connection to Analysis Services, Power BI checks the Analysis Services instance for changes. If you have the subscription set to run after data refreshes, it runs the first time the Power BI service detects a change in your on-premises model. Power BI checks every hour for a change in the Analysis Services data model, to determine when to send the subscription.

## I'm not getting subscription emails because my data isn't refreshing

You are able to refresh the report page but not the dataset. Only the dataset owner can manually refresh a dataset. To look up the owner name of the underlying datasets, open the report and select the dropdown from the menu bar.



## My subscription has more than 200 recipients

There's a limit to the number of subscribers for one report or dashboard. After you pass 200 subscribers, you may encounter issues with delivery. To reduce the number, use group email aliases instead. Each email alias counts as one subscriber.

## I get an error that my subscription has more than 20 pages

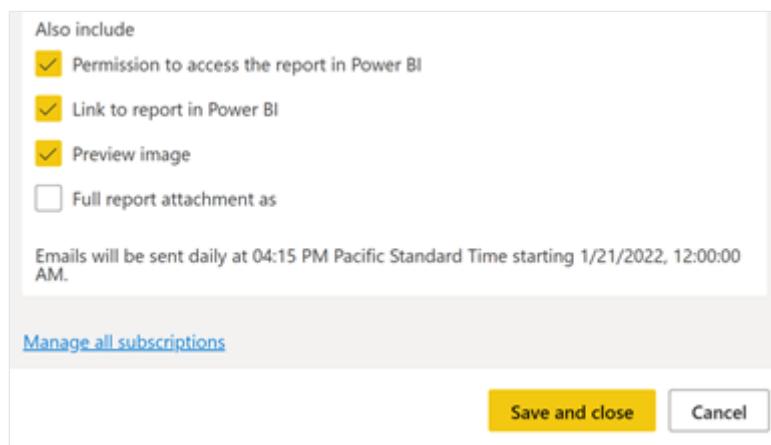
You may get an error message that the report has more than 20 pages even though your view of the report shows less than 20. One reason for this is that the report designer hid pages in the report. When Power BI counts the report pages, it includes hidden pages in that count.

## How do I access the report or dashboard in the Power BI service?

You can choose to give subscription recipients access to open and view the content in Power BI by selecting **Permission to access the report or dashboard in Power BI** and whether to include a link to this content by selecting **Link to report or dashboard in Power BI**.

### Recipients don't have access to the report or dashboard

If you choose to include a link, ensure that all users also have access to the content. Subscribed users receive report attachments, with data based on your permissions.



### I removed access for others, but they can still open the report or dashboard

Clearing the **Permission to access the report/dashboard in Power BI** option doesn't revoke access for users who are granted access this report in the Power BI service (app.powerbi.com). To remove access, see [Manage permissions to a dashboard](#) and see [Manage permissions to a report](#).

### On a mobile device, the email link opens the app instead of the Power BI

# service website

## If you have the Power BI app installed, this is expected behavior

When you receive the subscription email, it includes a link to [Go to report or dashboard](#). On mobile devices with Power BI apps installed, selecting this link launches the app (as opposed to the default action of opening the report or dashboard on the Power BI website).

## I can't create a report attachment, full report attachment greyed out

The full report attachment feature is available for reports that meet the following four conditions. Any existing subscriptions with full reports as attachments that don't meet these conditions are disabled and you receive an email explaining the error.

- They're in an upgraded workspace with [Power BI Premium](#) or Premium Per User.
- The report has fewer than 20 pages (see [this description of this issue](#)).
- The attachment file is under 25 MB in size.
- You aren't an owner of the report.

## The subscription times out after 60 minutes

Subscriptions use the export feature to render the report in the desired format. Export of reports are limited to 60 minutes, the life of the users' access token.

## Which Power BI features aren't supported in subscriptions

There are certain Power BI features that don't work when using the subscription feature.

- For dashboard subscriptions, if any tiles have row level security (RLS) applied, those tiles don't display.
- Dataset refresh operations using an XMLA endpoint.

- For dashboard subscriptions, certain types of tiles aren't yet supported. These tiles include: streaming tiles, video tiles, custom web content tiles.
- Certain Power BI visuals aren't supported. When you subscribe to a report containing these visuals, they display an error symbol.
- Power BI [custom visuals](#). The exception is those Power BI custom visuals that are [certified](#).
- [ESRI ArcGIS](#) visuals
- [R](#) visuals
- [Power Apps](#) visuals
- [Python](#) visuals
- [Power Automate](#) visuals
- [The Paginated report](#) visual
- Visio visuals

## Next steps

- [Share Power BI dashboards and reports with coworkers and others](#)
- [How should I collaborate on and share dashboards and reports?](#)
- [Share a filtered Power BI report](#)
- Questions? [Try the Power BI Community](#)

---

## Feedback

Was this page helpful?

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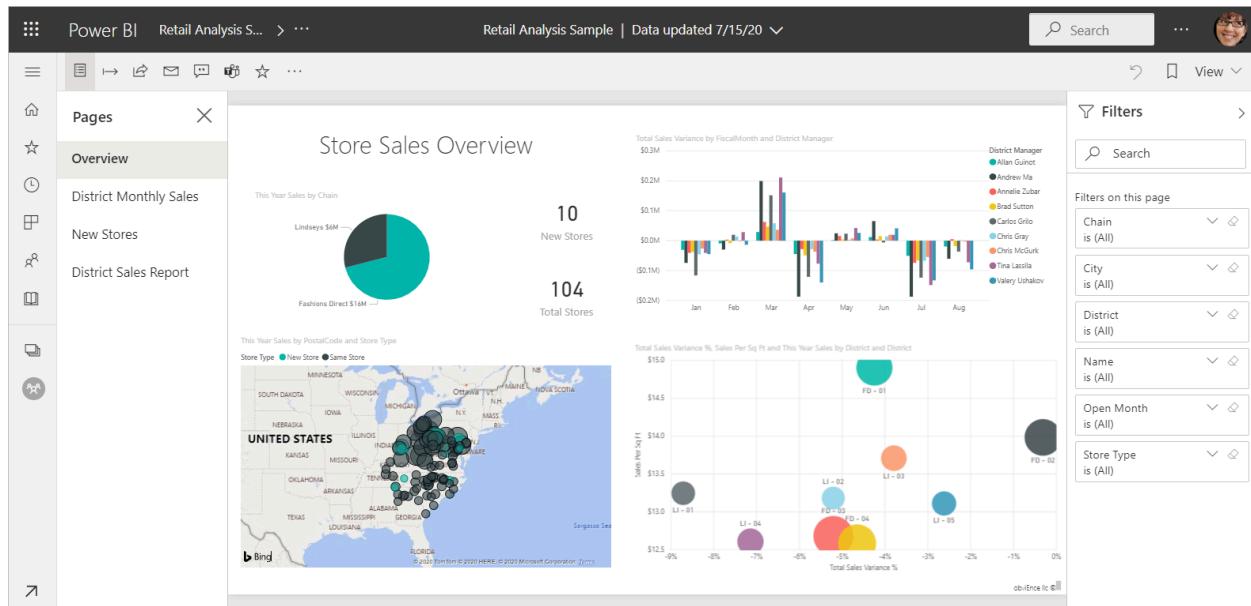
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# Filter a report using query string parameters in the URL

Article • 07/16/2024

When you open a report in Power BI service, each page of the report has its own unique URL. To filter that report page, you could use the Filters pane on the report canvas. Or you could add query string parameters to the URL to prefilter the report. Perhaps you have a report you'd like to show colleagues and you want to prefilter it for them. One way to filter it is to start with the default URL for the report, add the filter parameters to the URL, and then email them the entire new URL.

This article uses the Retail Analysis Sample report. If you want to follow along, you can [download the sample report](#).



## Uses for query string parameters

Say you're working in Power BI Desktop. You want to create a report that has links to other Power BI reports, but you want to show only some of the information in the other reports. First, filter the reports using query string parameters and save the URLs. Next, create a table in Desktop with these new report URLs. Then publish and share the report.

Another use for query string parameters is for someone creating an advanced Power BI solution. In DAX, they create a report that generates a filtered report URL dynamically based on the selection their customer makes in the current report. When customers select the URL, they see only the intended information.

# Query string parameter syntax for filtering

With parameters, you can filter the report for one or more values, even if those values contain spaces or special characters. The basic syntax is fairly straightforward; start with the report URL, then add your filter syntax in a query string. A query string in a URL starts with a question mark (?), for example:

*URL?filter=Table/Field eq 'value'*

 <https://app.powerbi.com/groups/me/reports/cd153328-ccb5-4c1f-8539-33dec14c4d28/ReportSection3?filter=Store/Territory eq 'NC'>

- **Table** and **Field** names are case-sensitive; **value** isn't.
- Fields that are hidden from report view can still be filtered.

If the filter parameter isn't the first parameter in the query string, it is joined to the previous parameter with an ampersand (&), for example:

*URL?reportId=xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx&pageName=ReportSection&filter=Table/Field eq 'value'*

## Field types

Field type can be a number, datetime, or string and the type used must match the type set in the semantic model. For example, specifying a table column of type "string" doesn't work if you're looking for a datetime or numeric value in a semantic model column set as a date, such as Table/StringColumn eq 1.

- **Strings** must be enclosed with single quotes, as in 'manager name'.
- **Numbers** require no special formatting. See [Numeric data types](#) in this article for details.
- **Dates and times** See [Date data types](#) in this article.

If it's still confusing, continue reading and we'll break it down.

## Filter on a field

Let's assume that the URL to our report is the following.

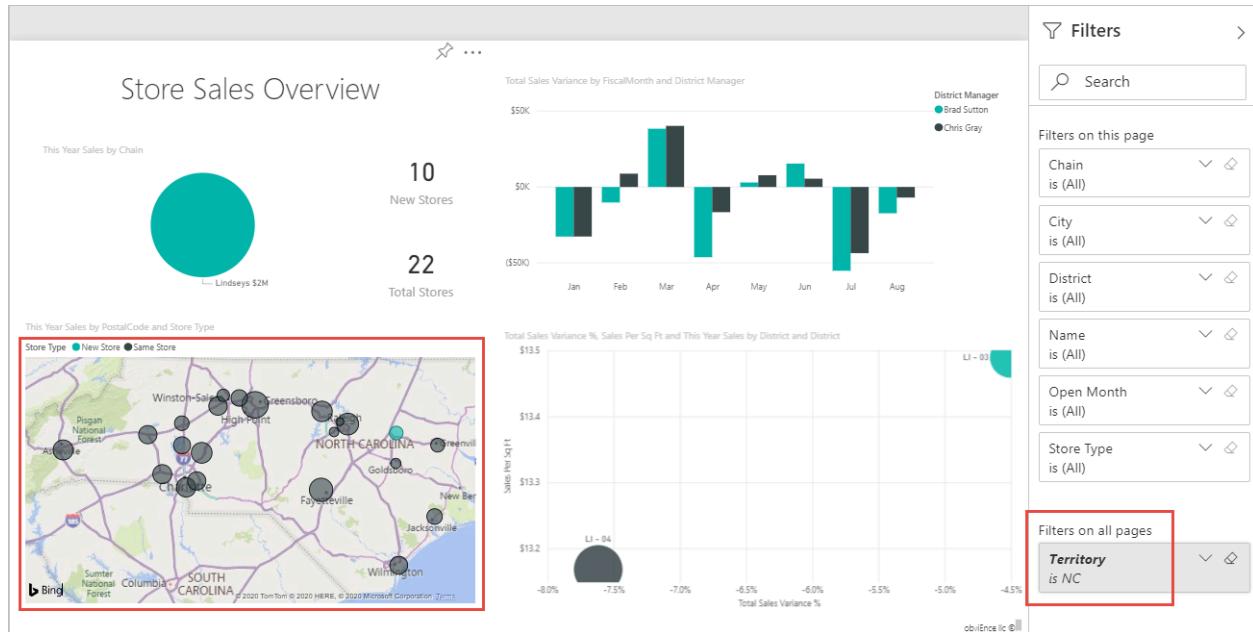
 [app.powerbi.com/groups/me/reports/cd153328-ccb5-4c1f-8539-33dec14c4d28/ReportSection3](https://app.powerbi.com/groups/me/reports/cd153328-ccb5-4c1f-8539-33dec14c4d28/ReportSection3)

And we see in our previous map visualization that we have stores in North Carolina. NC is the value that represents North Carolina in the **Territory** field of the **Store** table. So to filter the report to show data only for stores in "NC", we append this string to the URL:

```
?filter=Store/Territory eq 'NC'
```

 <https://app.powerbi.com/groups/me/reports/cd153328-ccb5-4c1f-8539-33dec14c4d28/ReportSection3?filter=Store/Territory eq 'NC'>

Our report is now filtered for North Carolina; all the visualizations in the report show data for only North Carolina.



## Filter on more than one value in a field

To filter on more than one value in a single field, you use the **in** operator instead of the **and** operator. The syntax is:

*URL?filter=Table/Field in ('value1', 'value2')*

Using the same example, to filter the report to show data only for stores in "NC" (North Carolina) or "TN" (Tennessee), append the URL with the following:

```
?filter=Store/Territory in ('NC', 'TN')
```

See the [Operators](#) table later in the article for a list of other useful operators.

## Filter on multiple fields

You can also filter on multiple fields by adding more parameters to your URL. Let's go back to our original filter parameter.

```
?filter=Store/Territory eq 'NC'
```

To filter on more fields, add an '**and**' and another field in the same format as the previous example. Here is an example.

```
?filter=Store/Territory eq 'NC' and Store/Chain eq 'Fashions Direct'
```

## Operators

Power BI supports many operators in addition to '**and**'. The following table lists those operators along with the content type they support.

[\[+\] Expand table](#)

Operator	Definition	String	Number	Date	Example
and	and	yes	yes	yes	product/price le 200 and price gt 3.5
eq	equals	yes	yes	yes	Address/City eq 'Redmond'
ne	not equal	yes	yes	yes	Address/City ne 'London'
ge	greater than or equal	no	yes	yes	product/price ge 10
gt	greater than	no	yes	yes	product/price gt 20
le	less than or equal	no	yes	yes	product/price le 100
lt	less than	no	yes	yes	product/price lt 20
in*	including	yes	yes	yes	Student/Age in (27, 29)

\* When you use **in**, the values to the right of **in** can be a comma-separated list enclosed in parentheses, or a single expression that returns a collection. See the [IN Operator article](#) for examples.

## Numeric data types

A Power BI URL filter can include numbers in the following formats.

[+] Expand table

Number type	Example
integer	5
long	5 L or 5 l
double	5.5 or 55e-1 or 0.55e+1 or 5D or 5d or 0.5e1D or 0.5e1d or 5.5D or 5.5d or 55e-1D or 55e-1d
decimal	5 M or 5 m or 5.5 M or 5.5 m
float	5 F or 5 f or 0.5e1 F or 0.5e-1 d

## Date data types

Power BI supports both OData V3 and V4 for **Date** and **DateTimeOffset** data types. For OData V3, you need to enclose dates in single quotes and precede them with the word **datetime**. You don't need single quotes and the word **datetime** in OData V4.

Dates are represented using the EDM format (2019-02-12T00:00:00): When you specify a date as 'YYYY-MM-DD', Power BI interprets it as 'YYYY-MM-DDT00:00:00'. Make sure month and day are two digits, MM and DD.

Why does this distinction matter? Let's say you create a query string parameter **Table/Date gt '2018-08-03'**. Will the results include August 3, 2018 or start with August 4, 2018? Power BI translates your query to **Table/Date gt '2018-08-03T00:00:00'**. So, your results include any dates that have a non-zero time part, because those dates would be greater than '2018-08-03T00:00:00'.

There are other differences between V3 and V4. OData V3 does not support Dates, only **DateTime**. So if you use the V3 format, you must qualify it with the full date time. Date literals like "datetime'2019-05-20'" aren't supported in V3 notation. But you can just write it as "2019-05-20" in V4 notation. Here are two equivalent filter queries in V3 and V4:

- OData V4 format: `filter=Table/Date gt 2019-05-20`
- OData V3 format: `filter=Table/Date gt datetime'2019-05-20T00:00:00'`

# Special characters in URL filters

## Special characters in table and column names

Special characters, spaces, and leading numbers in table and column names require more formatting. When your query contains spaces, dashes, leading numbers, or other non-ASCII characters, prefix those special characters with an *escape code* starting with an underscore and an X (\_x), then the four-digit **Unicode**, then another underscore. If the Unicode is fewer than four characters, you need to pad it with zeroes. Here are some examples.

[+] Expand table

Identifier	Unicode	Coding for Power BI
Table Name	Space is 00x20	Table_x0020_Name
Column@Number	@ is 00x40	Column_x0040_Number
[Column]	[ is 0x005B ] is 0x005D	_x005B_Column_x005D_
Column+Plus	+ is 0x2B	Column_x002B_Plus
2TableName	2 is x0032	_x0032_TableName_

Table\_x0020\_Name/Column\_x002B\_Plus eq 3

The screenshot shows the Power BI interface with a filter applied to the 'Column+Plus' field. The filter dropdown shows the value '3'. The tooltip for the filter shows the expression '[Column Brackets] Column@Bracket Column/Slash Column+Plus {Column Brace}' followed by the value '3 {C}'.

Table\_x0020\_Special/\_x005B\_Column\_x0020\_Brackets\_x005D\_eq '[C]'

The screenshot shows the Power BI interface with a filter applied to the 'Column Brackets' field. The filter dropdown shows the value '[C]'. The tooltip for the filter shows the expression '[Column Brackets] Column@Bracket Column/Slash Column+Plus {Column Brace}' followed by the value '[C]'.

## Special characters in values

URL filters support most special characters in field values, but some also require *escape codes*. For example, to search for a single quote character, use two single quotes ('').

- ?filter=Table/Name eq 'O'''Brien' becomes:

A screenshot of a Power BI filter dialog titled 'Filters on all pages'. It shows a dropdown menu set to 'Name' with the value 'is O'Brien'.

- `?filter=Table/Name eq 'Lee''s Summit'` becomes:

A screenshot of a Power BI filter dialog showing 'Name' is 'Lee's Summit'.

- The `in` operator supports this escaping as well: `?filter=Table/Name in ('Lee''s Summit', 'O''Brien')` becomes:

A screenshot of a Power BI filter dialog showing 'Name' is 'Lee's Summit or O'Brien'.

Here's a list of some special characters that require escape codes in field values.

[\[+\] Expand table](#)

Character	Escape code
(a space)	%20
'	"
%	%25
+	%2B
/	%2F
?	%3F
#	%23
&	%26

## Standard URL escape characters

When you use a URL with spaces and other special characters in it, browsers may automatically replace them with standard escape characters. Say you create this URL query string:

```
https://app.powerbi.com/groups/me/reports/b7dea1d4-d9f0-47aa-a88d-
xxxxxxxxxxxx/ReportSection2?filter=Executives/Executive eq 'Andrew Ma'
```

It opens the Customer Profitability Sample, filtered to Andrew Ma. But if you look at the URL, it may now look like this:

```
https://app.powerbi.com/groups/me/reports/b7dea1d4-d9f0-47aa-a88d-  
xxxxxxxxxxxxx/ReportSection2?filter=Executives%2FExecutive%20eq%20%27Andrew%20Ma%27
```

The browser has replaced the space between `Andrew` and `Ma` with `%20`, likewise the other spaces. It replaced the forward slash between the table name `Executives` and the field name `Executive` with `%2F`, and replaced the single quote `'` with `%27`.

This version of a URL may be useful. For example, you can paste it in chat in Microsoft Teams, and it returns the desired filtered results.

## Use DAX to filter on multiple values

Another way to filter on multiple fields is by creating a calculated column that concatenates two fields to a single value. Then you can filter on that value.

For example, we have two fields: Territory and Chain. In Power BI Desktop, [create a new Calculated column \(Field\)](#) called `TerritoryChain`. Remember that the **Field** name can't have any spaces. Here is the DAX formula for that column.

```
TerritoryChain = [Territory] & " - " & [Chain]
```

Publish the report to the Power BI service and then use the URL query string to filter and display data for only Lindseys stores in NC.

```
https://app.powerbi.com/groups/me/reports/8d6e300b-696f-498e-b611-  
41ae03366851/ReportSection3?filter=Store/TerritoryChain eq 'NC - Lindseys'
```

## Pin a tile from a filtered report

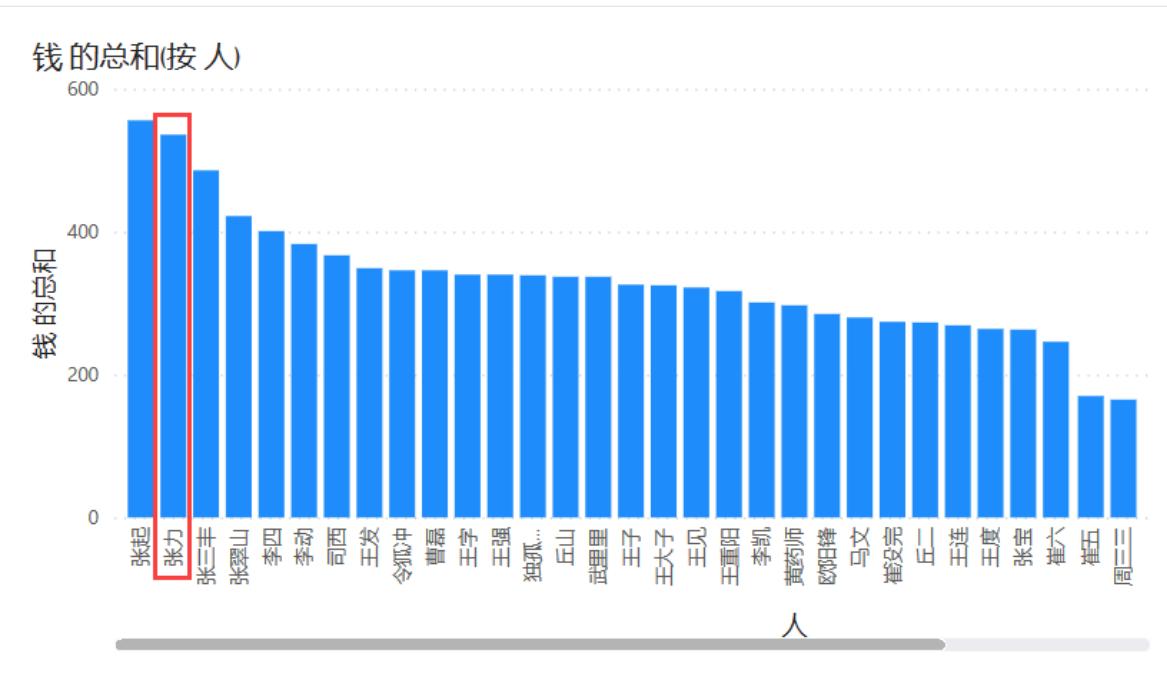
Once you've filtered the report using query string parameters, you can pin visualizations from that report to your dashboard. The tile on the dashboard displays the filtered data and selecting that dashboard tile opens the report that was used to create it. However, the filtering you did using the URL isn't saved with the report. When you select the dashboard tile, the report opens in its unfiltered state. Thus, the data displayed in the dashboard tile doesn't match the data displayed in the report visualization.

This discrepancy is helpful when you want to see different results; filtered on the dashboard and unfiltered in the report.

## Considerations and troubleshooting

There are a couple of things to be aware of when using the query string parameters.

- When you use the *in* operator, the values to the right of *in* must be a comma-separated list enclosed in parentheses.
- Power BI Report Server also supports the ability to specify more than one filter using the "filter" URL parameter. Here's an example of what the URL might look like in Power BI Report Server: `https://reportserver/reports/powerbi/Store Sales?rs:Embed=true&filter= Store/Territory eq 'NC' and Store/Chain eq 'Fashions Direct'`
- Report URL filters have a 10-expression limit (10 filters connected by AND).
- The long data type is ( $2^{53}-1$ ) due to JavaScript limitations.
- URL query strings are limited to 2000 characters. This limit includes escape codes for special characters (e.g., a space, %, +).
- You can't filter on table or column names that start with the capital letters *INF*, including, for example, a table name starting with "INFORMATION". Upper-case INF is a special value in OData. If you want to start a table or column name with "INF", make it lower-case "inf" instead.
- Table and field names can contain Chinese characters expressed in Unicode form. For example, say you want to apply a filter that 表/人 eq '张力' (this means Table/Person eq '张力'). The filter is converted to \_x8868/\_x4eba\_ eq '张力'.



## Embedding scenarios

URL filters are supported in some embedding scenarios and not in others.

- Embedding a report in a secure portal or website is supported.
- URL filters are supported in Power BI Embedded.
- Query string filtering doesn't work with Publish to web or Export to PDF.
- Embed with report web part in SharePoint Online doesn't support URL filters.
- Teams doesn't allow specifying a URL.

## Related content

- Pin a visualization to a dashboard
- Sign up for a free trial ↗

More questions? Try asking the Power BI Community ↗

## Feedback

Was this page helpful?

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# Endorse your content

Article • 07/23/2024

Power BI provides two ways you can endorse your valuable, high-quality content to increase its visibility: **promotion** and **certification**.

- **Promotion:** Promotion is a way to highlight content you think is valuable and worthwhile for others to use. It encourages the collaborative use and spread of content within an organization.

Any content owner or member with write permissions on the workspace where the content is located, can promote the content when they think it's good enough for sharing.

- **Certification:** Certification means that the content meets the organization's quality standards and can be regarded as reliable, authoritative, and ready for use across the organization.

Only [authorized reviewers \(defined by the Power BI administrator\)](#) can certify content. Content owners who wish to see their content certified and aren't authorized to certify it themselves need to follow their organization's guidelines about getting their content certified.

Currently it's possible to endorse:

- Semantic models
- Dataflows
- Reports
- Apps

If [semantic model discoverability](#) is enabled in your organization, endorsed semantic models can be made discoverable. When a semantic model is discoverable, users who don't have access to it are able to find it and request access. See: [Semantic model discoverability](#) for more detail.

This article describes how to [promote content](#), how to [certify content](#) if you're an authorized reviewer, and how to [request certification](#) if you're not.

See [Endorsement: Promoting and certifying Power BI content](#) to learn more about endorsement.

## Promote content

To promote content, you must have write permissions the workspace where the content you want to promote is located.

### ① Note

For the purposes of illustration, the endorsement dialog for semantic models is shown below. The dialogs for the other content types are almost identical, with the same radio button options.

1. Go to the [settings](#) of the content you want to promote.

2. Expand the endorsement section and select **Promoted**.

If you are promoting a semantic model and see a **Make discoverable** checkbox, it means you can make it possible for users who don't have access to the semantic model to find it. See [semantic model discovery](#) for more detail.

If you're promoting a semantic model, make sure the semantic model has an informative description. The description is important; it's what users see in the semantic model info tooltip in the semantic models hub and on the semantic model's details page. A description helps users quickly identify semantic models that might be useful for them. See [Semantic model description](#) for details about how to provide a semantic model description.

The screenshot shows the 'Endorsement and discovery' section of a semantic model's settings. It includes fields for 'None', 'Promoted' (selected), 'Certified', and 'Make discoverable'. A note states: 'This dataset will be made discoverable. Others in your org will be able to find it by such details as name, tables, columns, etc.' Buttons at the bottom are 'Apply' (highlighted) and 'Discard'.

▲ Endorsement and discovery

Help coworkers find your quality content by endorsing this dataset and making it discoverable. [Learn more](#)

None  
This dataset will appear in search results but isn't endorsed.

Promoted  
When you're ready to distribute the dataset to your coworkers, promote it to let them know.

Certified  
Certify your dataset to show coworkers that it's been reviewed and meets your org's certification criteria. [How do I get my dataset certified?](#)

Make discoverable  
Allow users without access to this dataset to discover it and request permissions to access the data. [Learn more](#)

ⓘ This dataset will be made discoverable. Others in your org will be able to find it by such details as name, tables, columns, etc. [Learn more](#)

**Apply** **Discard**

3. Select **Apply**.

## Certify content

Content certification is a big responsibility, and only authorized users can certify content. Other users can [request content certification](#). This section describes how to certify content.

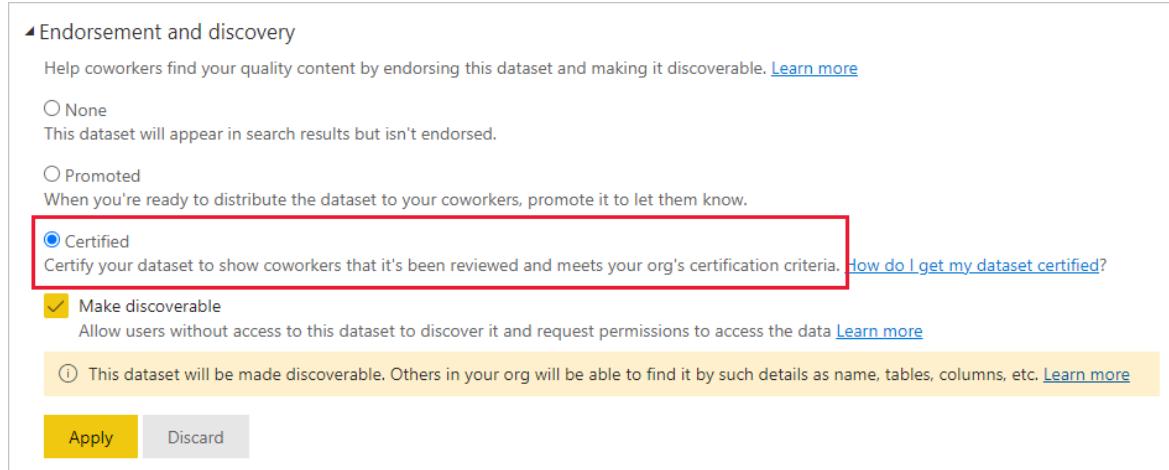
## Note

For the purposes of illustration, the endorsement dialog for semantic models is shown below. The dialogs for the other content types are almost identical, with the same radio button options.

1. Get write permissions on the workspace where the content you want to certify is located. You can request these permissions from the content owner or from anyone with admin permissions on the workspace.
2. Carefully review the content and determine whether it meets your organization's certification standards.
3. If you decide to certify the content, go to the workspace where it resides, and then open the [settings](#) of the content you want to certify.
4. Expand the endorsement section and select **Certified**.

If you're certifying a semantic model and see a **Make discoverable** checkbox, it means you can make it possible for users who don't have access to the semantic model to find it. See [semantic model discovery](#) for more detail.

If you're certifying a semantic model, make sure the semantic model has an informative description. The description is important; it's what users see in the semantic model info tooltip in the semantic models hub and on the semantic model's details page. A description helps users quickly identify semantic models that might be useful for them. See [Semantic model description](#) for details about how to provide a semantic model description.



The screenshot shows the 'Endorsement and discovery' section of a semantic model's settings. It includes the following elements:

- A note: "Help coworkers find your quality content by endorsing this dataset and making it discoverable. [Learn more](#)".
- Three radio button options:
  - None: "This dataset will appear in search results but isn't endorsed."
  - Promoted: "When you're ready to distribute the dataset to your coworkers, promote it to let them know."
  - Certified: "Certify your dataset to show coworkers that it's been reviewed and meets your org's certification criteria. [How do I get my dataset certified?](#)"
- A checked checkbox:  Make discoverable: "Allow users without access to this dataset to discover it and request permissions to access the data. [Learn more](#)".
- A note: "This dataset will be made discoverable. Others in your org will be able to find it by such details as name, tables, columns, etc. [Learn more](#)".
- Buttons: "Apply" (yellow) and "Discard".

5. Select **Apply**.

# Request content certification

If you would like to certify your content but aren't authorized to do so, follow the steps below.

## ⓘ Note

For the purposes of illustration, the endorsement dialog for semantic models is shown below. The dialogs for the other content types are almost identical, with the same radio button options.

1. Go to the workspace where the content you want to be certified is located, and then open the [settings](#) of that content.
2. Expand the endorsement section. The **Certified** button is greyed out since you aren't authorized to certify content. Click the link about how to get your content certified.

The screenshot shows the 'Endorsement and discovery' section of a dataset's settings. It includes fields for 'None', 'Promoted', and 'Certified' endorsements, and checkboxes for 'Make discoverable' and a note about discoverability. A red box highlights the 'How do I get my dataset certified?' link.

▲ Endorsement and discovery

Help coworkers find your quality content by endorsing this dataset and making it discoverable. [Learn more](#)

None  
This dataset will appear in search results but isn't endorsed.

Promoted  
When you're ready to distribute the dataset to your coworkers, promote it to let them know.

Certified  
Certify your dataset to show coworkers that it's been reviewed and meets your org's certification criteria. [How do I get my dataset certified?](#)

Make discoverable  
Allow users without access to this dataset to discover it and request permissions to access the data. [Learn more](#)

ⓘ This dataset will be made discoverable. Others in your org will be able to find it by such details as name, tables, columns, etc. [Learn more](#)

[Apply](#) [Discard](#)

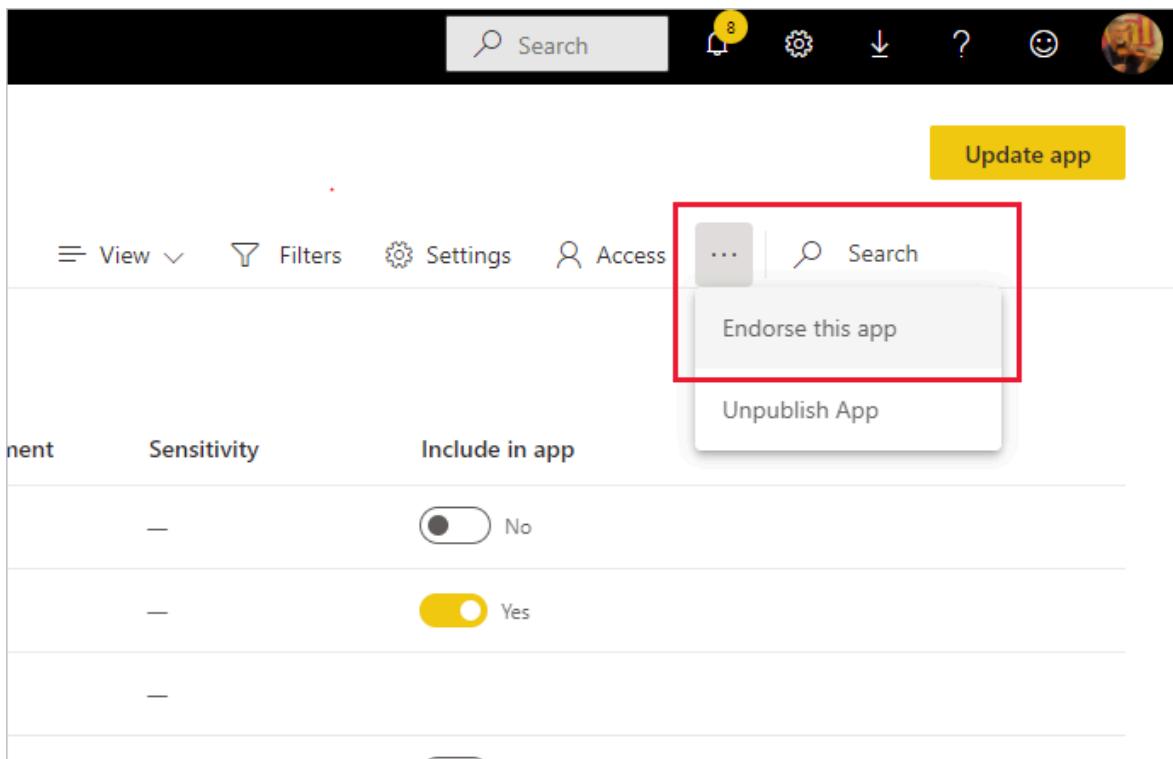
## ⓘ Note

If you clicked the link above but got redirected back to this note, it means that your Power BI admin has not made any information available. In this case, contact the Power BI admin directly.

## How to get to content settings

The Endorsement dialog is accessed through the settings of the content you want to endorse. Follow the instructions below to get to the settings for each content type.

- **Semantic models:** In list view, hover over the semantic model you want to endorse, click **More options (...)**, and then choose **Settings** from the menu that appears.
- **Dataflows:** In list view, hover over the dataflow you want to endorse, click **More options (...)**, and then choose **Settings** from the menu that appears.
- **Reports:** In list view, hover over the report you want to endorse, click **More options (...)**, and then choose **Settings** from the menu that appears. Alternatively, if the report is open, choose **File > Settings**.
- **Apps:** Go to the app workspace, click **More options (...)** on the menu bar, and choose **Endorse this app**.



## Related content

- [Read more about content endorsement](#)
- [Enable content certification \(Power BI admins\)](#)
- [Read more about semantic model discoverability](#)
- Questions? [Try asking the Power BI Community ↗](#)

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## Feedback

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# Feature recommended content on colleagues' Power BI Home page

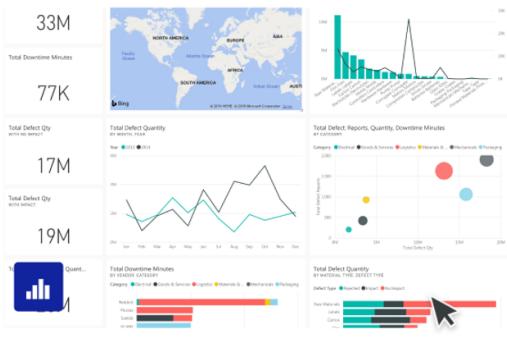
Article • 08/18/2022

APPLIES TO:  Power BI service  Power BI Desktop

You can feature dashboards, reports, and apps so they appear in the **Recommended** section of your colleagues' Power BI [Home page in Simplified view](#), and in the **Featured** section in *Expanded* view. Featuring content is especially useful for onboarding new employees to Power BI. You decide which content they see first. Add descriptions and small thumbnail images to help them find what they need. The content has to be in a workspace that they have access to.

## Featured

**Bessie Cooper** featured this report  
Yesterday at 1:18 PM



**Supplier quality analysis** ⓘ  
Tracks supplier quality to minimize downtime

**Ronald Richards** featured this dashboard  
2 days ago



**Employee dashboard** ⓘ  
Tracks supplier quality to minimize downtime

## Who can feature content

To feature dashboards and reports, you need to have the Admin, Member, or Contributor role in a workspace. To feature the app itself, you need to have the Admin or Member role in a workspace. See [Roles in workspaces](#) for details. You do need to have a Power BI Pro license.

Power BI admins can monitor and manage featured content, or even turn off the feature entirely. See [Manage featured content](#) for details.

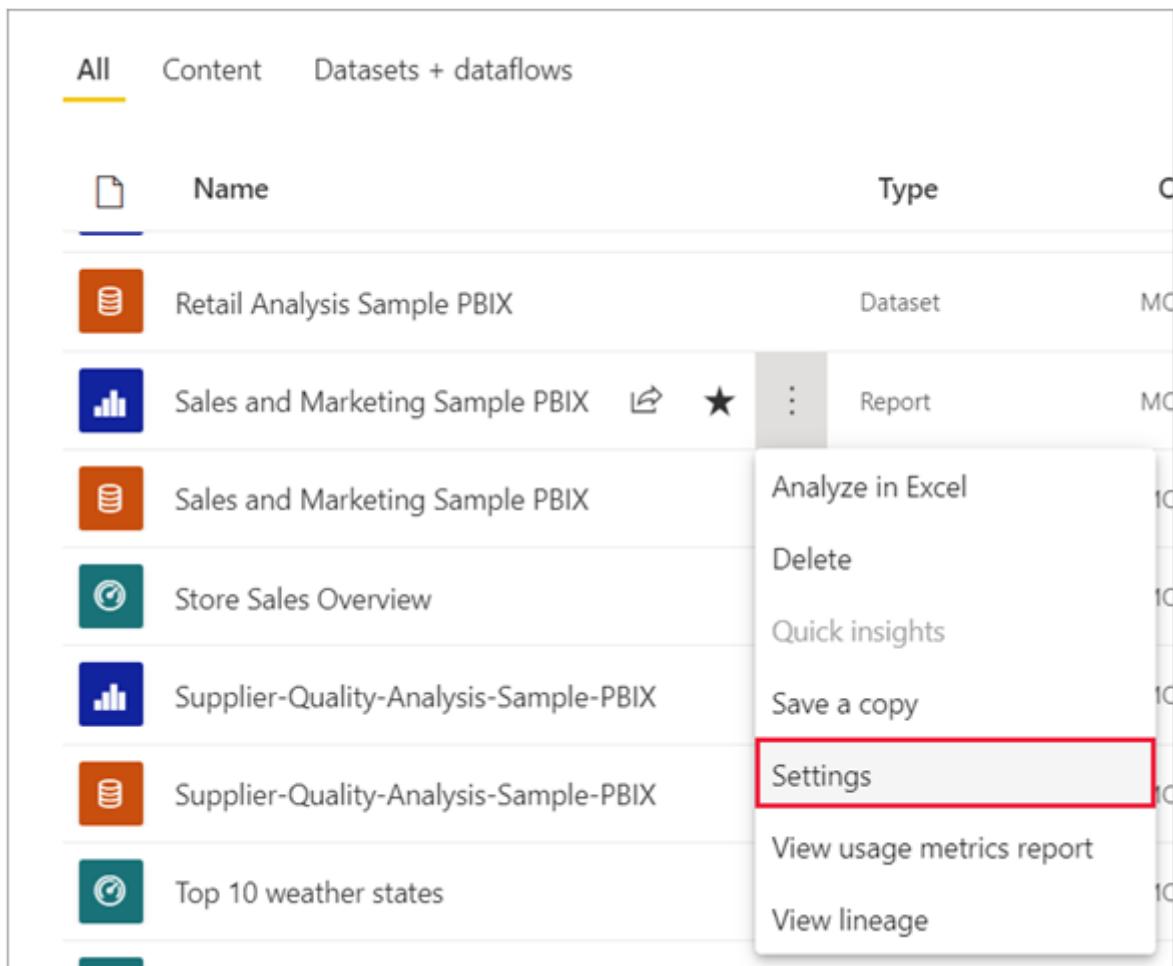
## Who sees featured content

When you feature a dashboard or report from a workspace, people with at least a Viewer role in that workspace see it recommended. You can also feature a dashboard or report from an app, or the app itself. In that case, the people you distribute the app to will see it recommended.

## Feature a dashboard or report

To feature dashboards and reports, you need to have the Admin, Member, or Contributor role in a workspace. The procedure for featuring either a dashboard or report is similar.

1. In the All or Content list for a workspace, select **More options (...)** > **Settings**.



2. In the **Settings** pane, check or change the name. Add a **Description** and upload a **Snapshot**, if you want them. They're useful because they help your users find your content.
3. Select **Feature on Home**.

## Settings for Sales and Marketi...

Snapshot

Upload  Delete

### Endorsement (preview)

Help coworkers find your quality content by endorsing this report. [Learn more](#)

None

The report will appear in search results but isn't endorsed.

Promoted

When you're ready to distribute the report to your coworkers, promote it to let them know.

Certified

Certify your report to show coworkers that it's been reviewed and meets your org's certification criteria. [How do I get my report certified?](#)

Feature on Home

Display this report in the Featured section on Power BI Home for people with access to it.

Save

Cancel

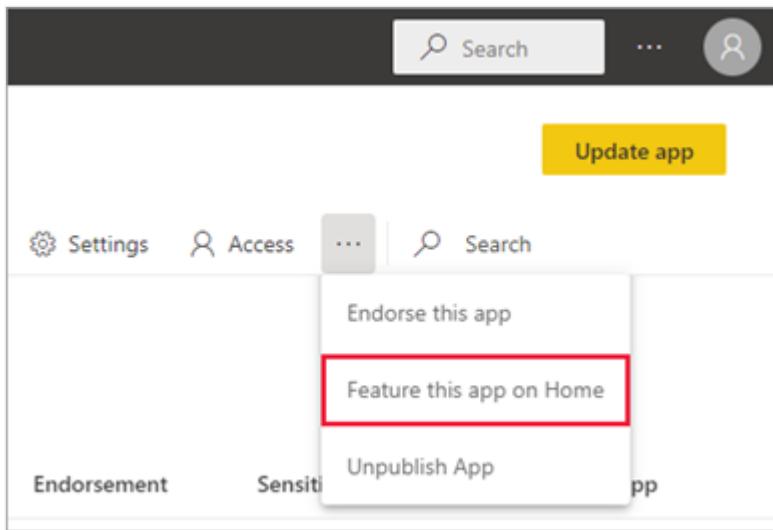
#### 4. Select Save.

Now all users who have access to this dashboard or report will see it in the **Recommended** or **Featured** section on **Home**.

## Feature an app

To feature an app, you need to have the Admin or Member role in a workspace.

- Open the *workspace* for the app, not the app itself, and select the **Options** menu (...) > **Feature this app on Home**.



Now everyone who has access to this app also sees it in the **Featured** section on **Home**.

## Considerations

Endorsing an app or a report by promoting it automatically checks the **Feature on Home** checkbox. You can uncheck **Feature on Home** anytime. If you do, changing endorsement doesn't recheck **Feature on Home**. Read more about [promoting your content](#).

## Next steps

- [How should I collaborate on and share dashboards and reports?](#)
- Admins: [Manage featured content in the Admin portal](#)
- Admins: [Enable/disable featured content in your organization](#)
- Questions? [Try the Power BI Community ↗](#)

# Embed a report web part in SharePoint Online

Article • 01/07/2025

The Power BI report web part for SharePoint Online allows you to embed interactive Power BI reports in SharePoint Online pages.

When you use the **Embed in SharePoint Online** option, the embedded reports respect all item permissions and data security through [row-level security \(RLS\)](#), so you can easily create secure internal portals.

## Requirements

For **Embed report in SharePoint Online** reports to work:

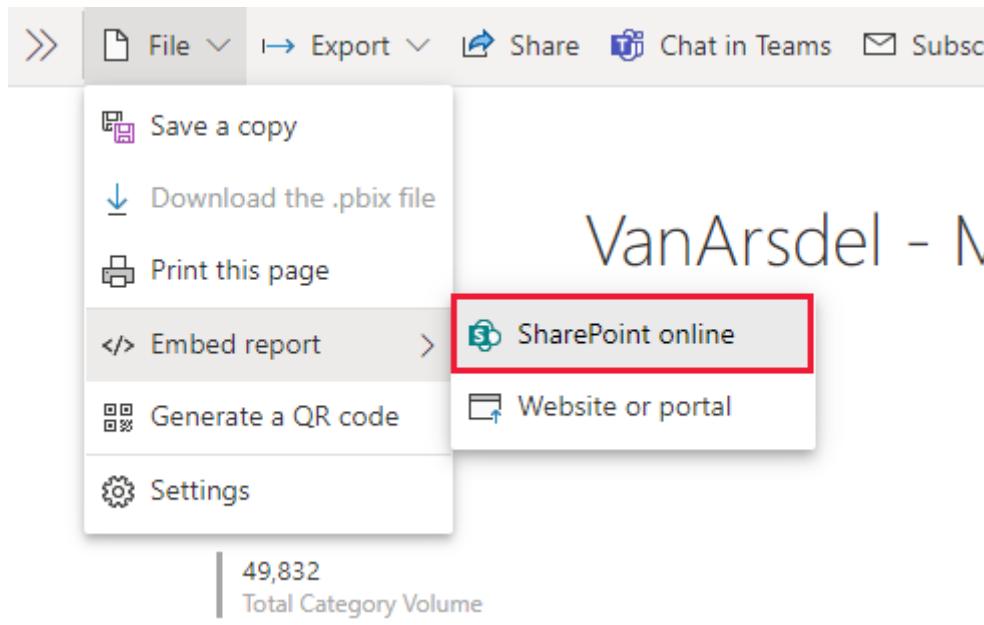
- The Power BI web part for SharePoint Online requires [Modern Pages](#).
- To use an embedded report, users must sign in to the Power BI service to activate their Power BI license.
- To embed a web part in SharePoint Online, you need a Power BI Pro or Premium Per User (PPU) license.
- Users with a free Fabric license can view a report that's hosted in a [Power BI Premium capacity \(EM or P SKU\)](#) or [Fabric F64 or greater capacity](#).
- SharePoint Embed is now supported in air gap environments.

## Embed your report

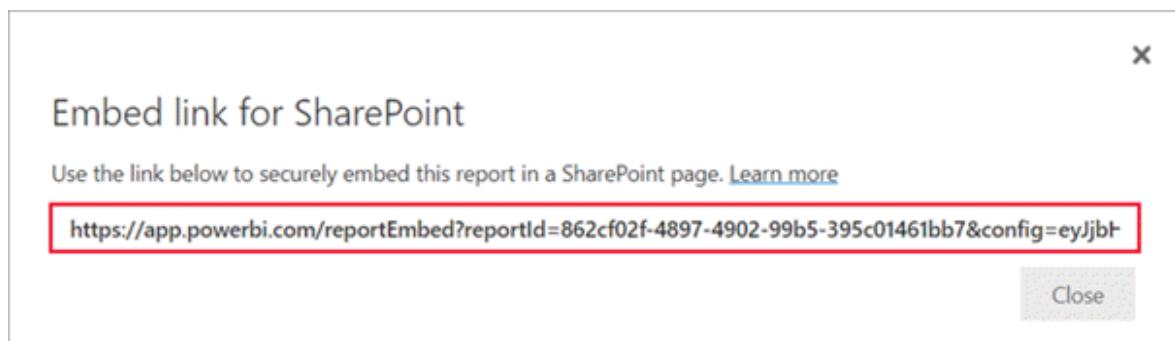
To embed your report into SharePoint Online, you need to get the report URL and use it with SharePoint Online's Power BI web part.

### Get a report URL

1. Open a report in the Power BI service.
2. On the **File** menu, select **Embed report > SharePoint Online**.

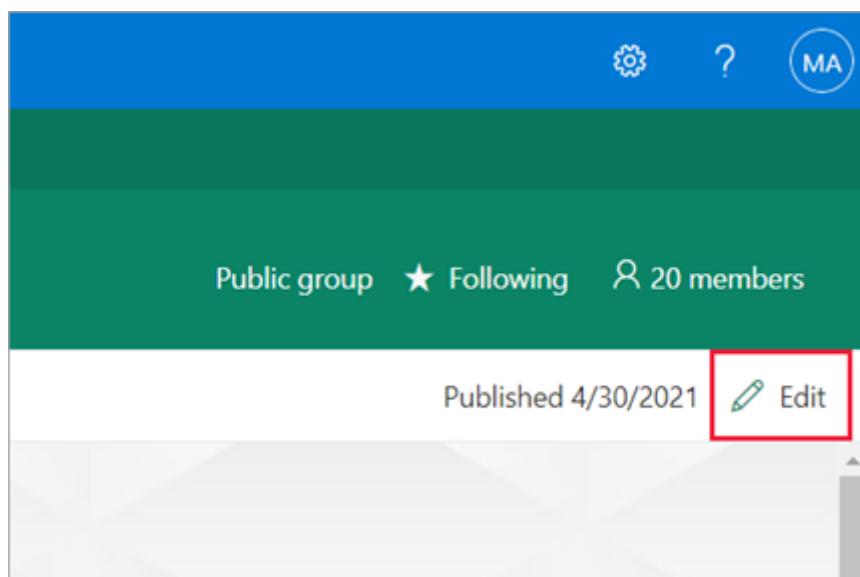


3. Copy the report URL from the dialog box.

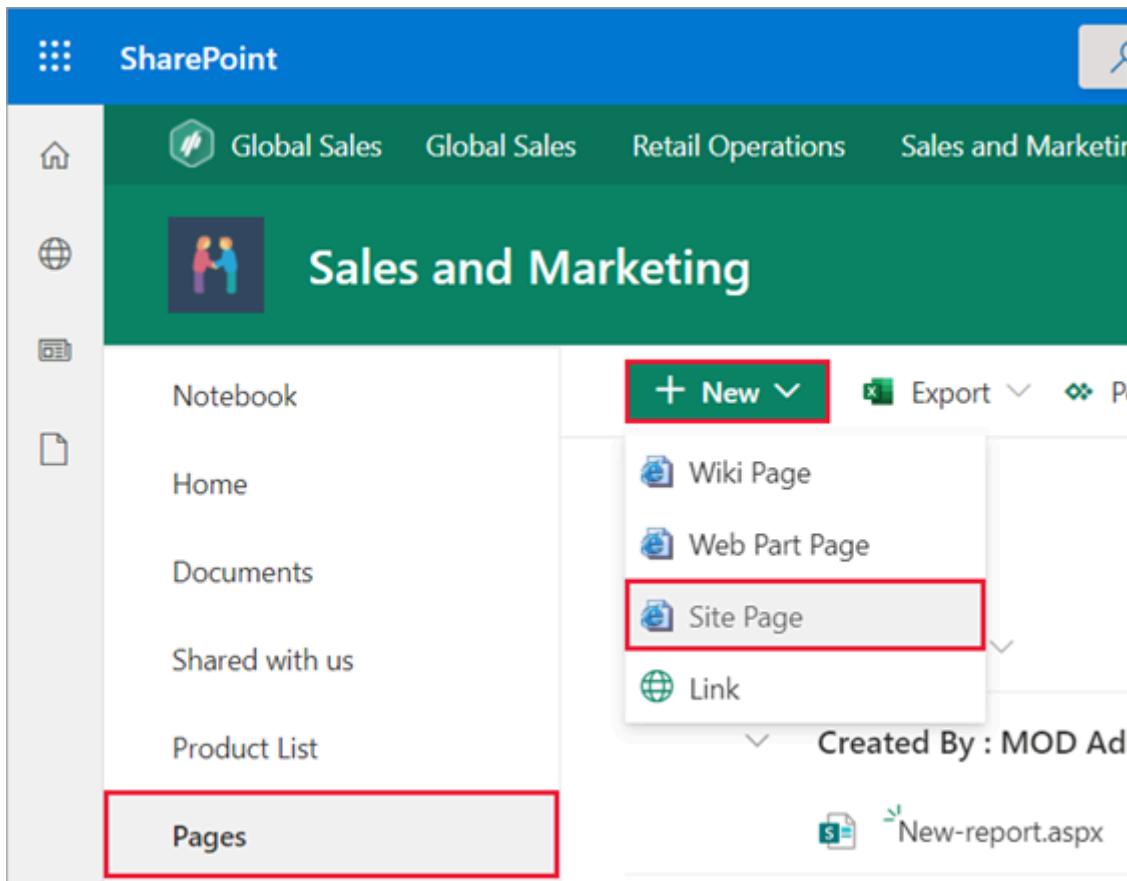


## Add the Power BI report to a SharePoint Online page

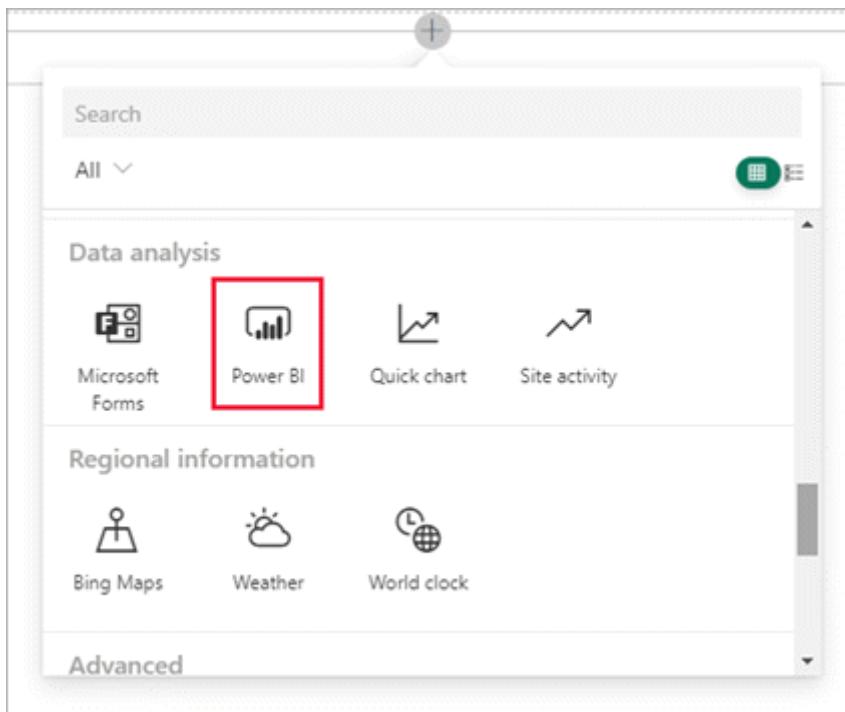
1. Open the target page in SharePoint Online and select Edit.



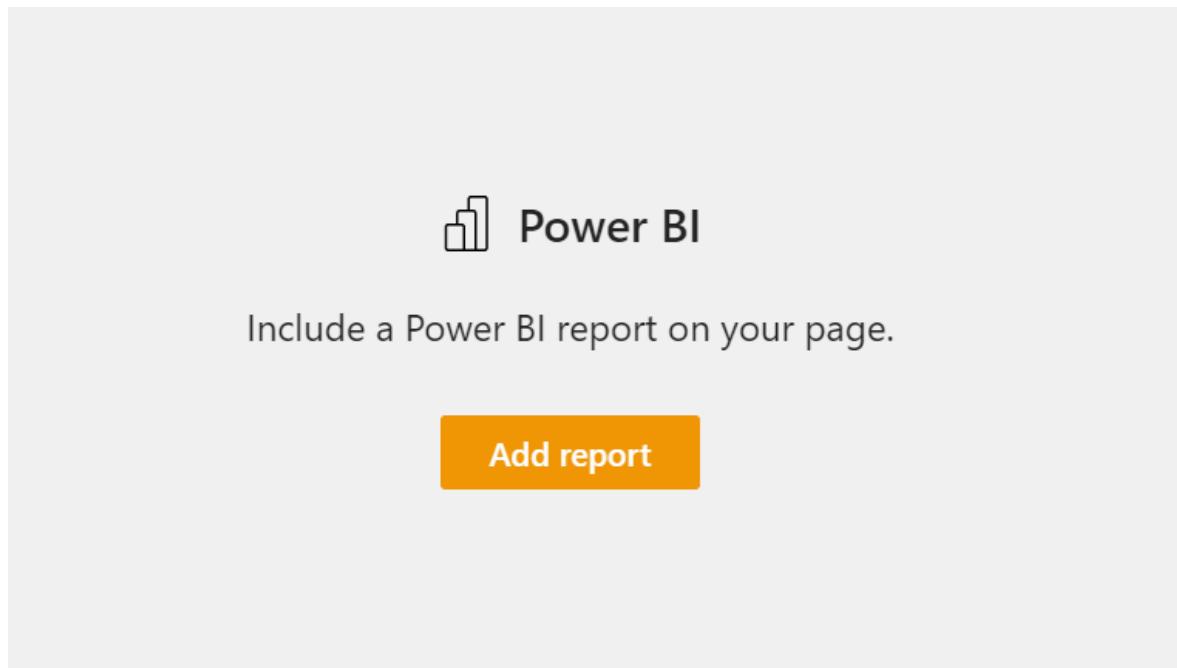
Or, in SharePoint Online, select Pages > + New > Site Page to create a new modern site page.



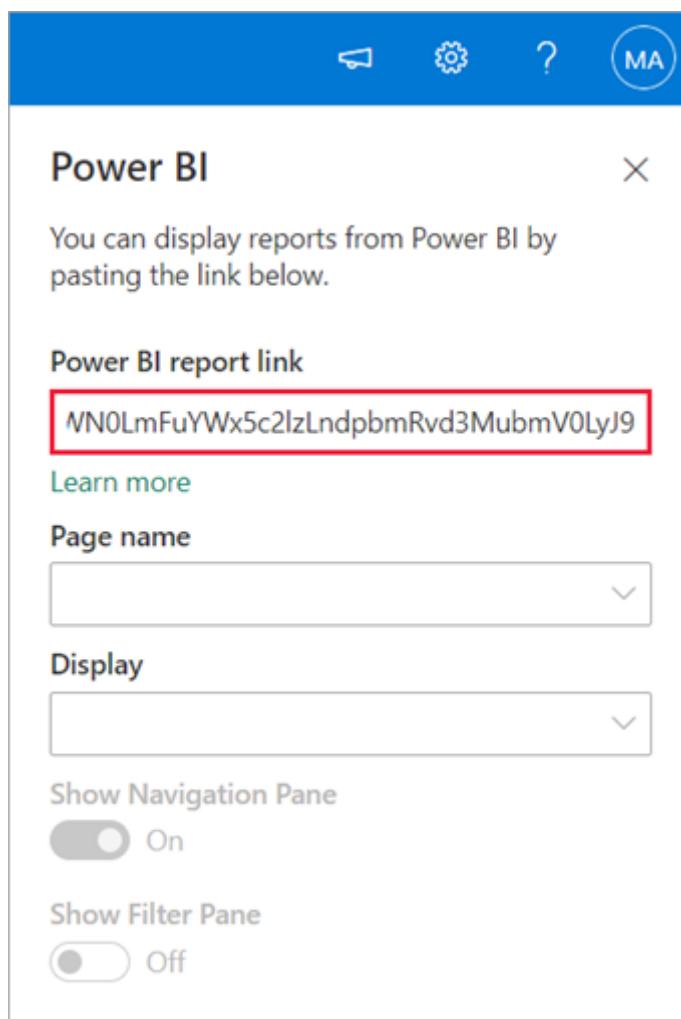
2. Select the + in New dropdown menu. In the Data analysis section, select Power BI web part.



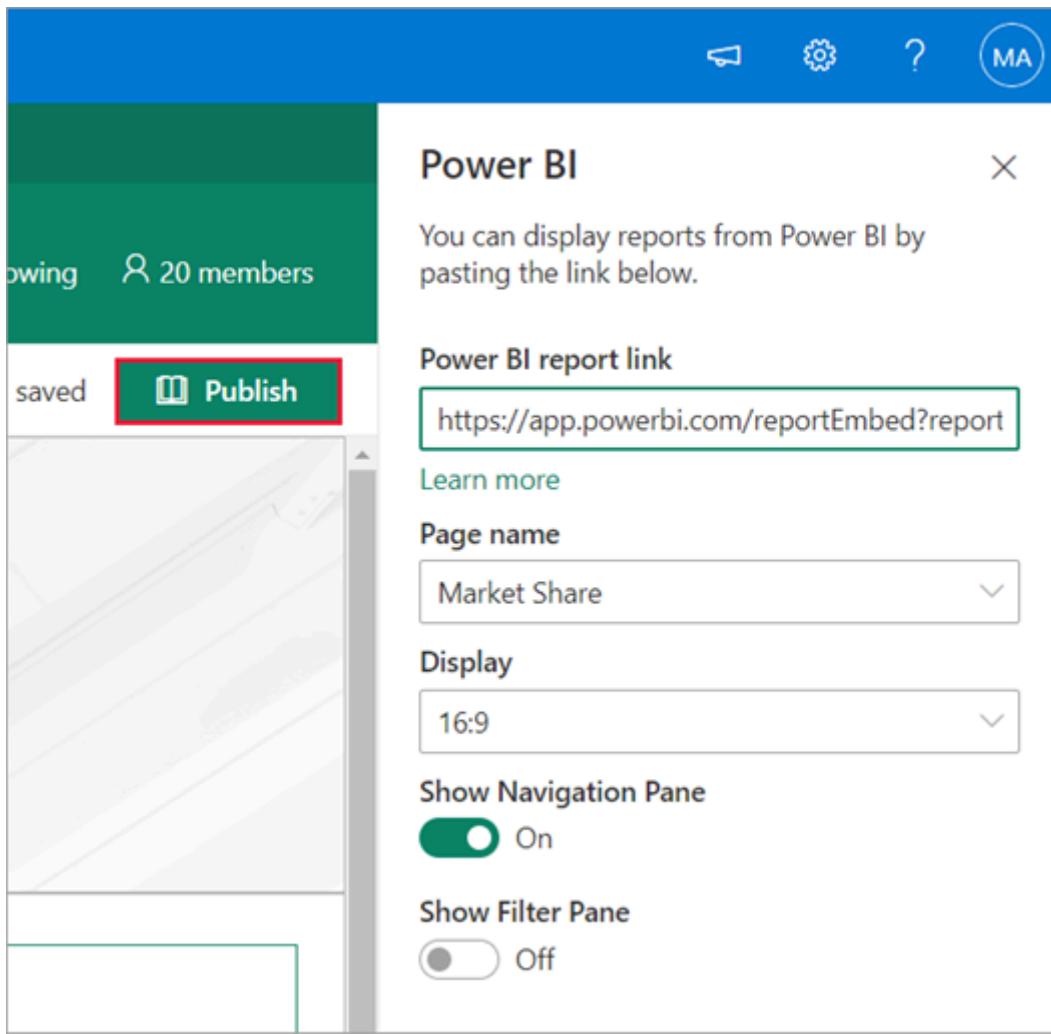
3. Select Add report.



4. Paste the previously copied report URL into the **Power BI report link** field. The report loads automatically.



5. Select **Publish** to make the change visible to your SharePoint Online users.



## Grant access to reports

Embedding a report in SharePoint Online doesn't automatically give users permission to view the report - you need to set view permissions in Power BI.

### i Important

Make sure to review who can see the report within the Power BI service, and grant access to those that aren't listed.

There are two ways to provide report access in Power BI.

### In a Microsoft 365 Group

If you're using a Microsoft 365 Group to build your SharePoint Online team site, list the user as a member of the **workspace within the Power BI service** and the **SharePoint page**.

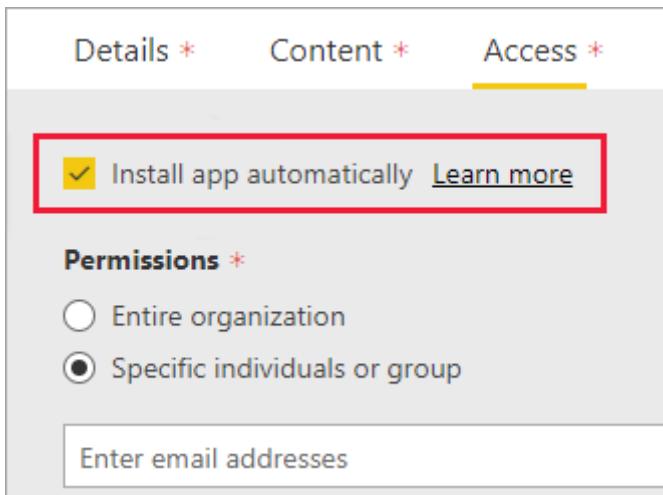
# Share directly with users

Embed a report within an app, and share it directly with users.

## ⓘ Note

- You need a Power BI Pro or Premium Per User (PPU) license to create a report in a workspace.
- To share with *Microsoft free users*, the workspace needs to be in a *Premium capacity*.

1. Create a report in a workspace.
2. Publish the app and install it. You must install the app so it has access to the report URL that's used for embedding in SharePoint Online.
3. All end users need to install the app, too. You can also use the **Install app automatically** feature. In the Power BI admin portal, admins can enable [pushing apps](#), so the app is pre-installed for end users.



4. Open the app and go to the report.
5. Copy the embedded report URL from the report the app installed. Don't use the original report URL from the workspace.
6. Create a new team site in SharePoint Online.
7. Add the previously copied report URL to the Power BI web part.
8. Add all end users and/or groups who are going to consume the data on the SharePoint Online page and in the Power BI app you created.

 **Note**

To see the report on the SharePoint page, users or groups need access to both the SharePoint Online page and the report in the Power BI app.

Now the end user can go to the team site in SharePoint Online and view the reports on the page.

## Multifactor authentication

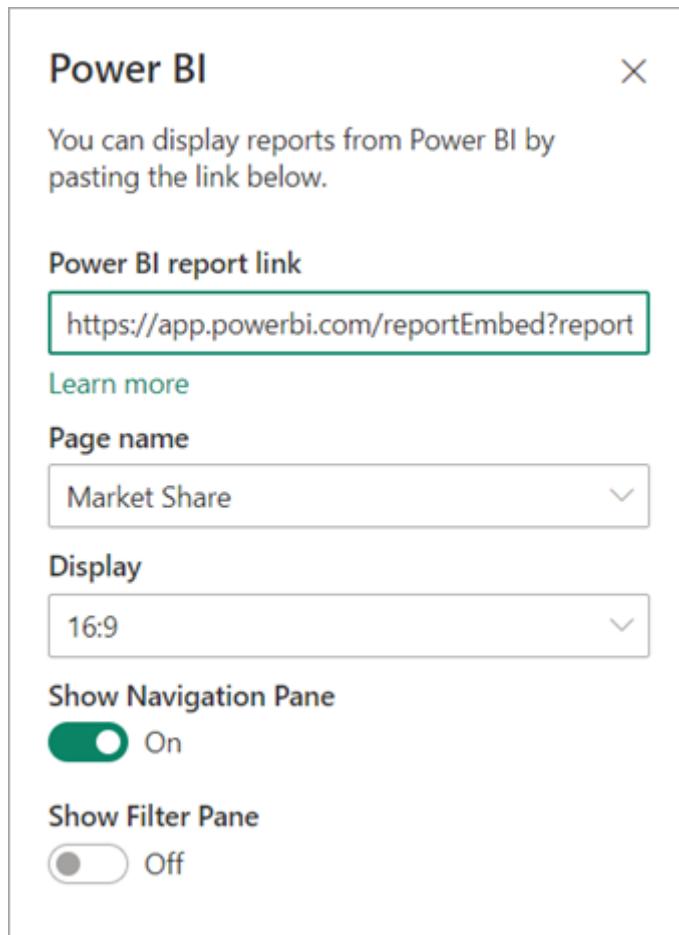
If your Power BI environment requires you to sign in using multifactor authentication, you might be asked to sign in with a security device to verify your identity. This can occur if you didn't sign in to SharePoint Online using multifactor authentication. Your Power BI environment requires a security device to validate an account.

 **Note**

Power BI doesn't support multifactor authentication with Microsoft Entra ID 2.0. Users will see an error message. If the user signs in again to SharePoint Online using their security device, they may be able to view the report.

## Web part settings

Here are the settings you can adjust for the Power BI web part for SharePoint Online:



[ ] Expand table

Property	Description
Page name	Sets the web part's default page. Select a value from the drop-down. If no pages are displayed, either your report has one page, or the URL you pasted contains a page name. Remove the report section from the URL to select a specific page.
Display	Adjusts how the report fits within the SharePoint Online page.
Show Nav Pane	Shows or hides the page nav pane.
Show Filter Pane	Shows or hides the filter pane.

## Reports that don't load

If your report doesn't load within the Power BI web part, you might see the following message:

# SharePoint Page with Power BI report

This content isn't available.  
[Learn more about Power BI.](#)

There are two common reasons for this message.

1. You don't have report access.
2. The report was deleted.

Contact the SharePoint Online page owner to help resolve the issue.

## Licensing

Users viewing a report in SharePoint need either a **Power BI Pro or Premium Per User (PPU) license** or the content needs to be in a workspace that's in a **Power BI Premium capacity (EM or P SKU)**.

## Known issues and limitations

- Error: "An error occurred, try logging out and back in and then revisiting this page. Correlation ID: undefined, http response status: 400, server error code 10001, message: Missing refresh token"

If you receive this error, try one of the following steps to troubleshoot:

- Sign out of SharePoint and sign back in. Be sure to close all browser windows before signing back in.
- If your user account requires multifactor authentication (MFA), sign in to SharePoint with your MFA device (phone app, smart card, etc.).
- Azure B2B Guest user accounts aren't supported. Users see the Power BI logo that shows the part is loading, but it doesn't show the report.

- When viewing Power BI reports embedded in SharePoint Online, there's no option for users to switch between Power BI environments.
- Power BI doesn't support the same localized languages that SharePoint Online does. As a result, you might not see proper localization within the embedded report.
- You might encounter issues if you use Internet Explorer 10. Here's a link [supported browsers for Power BI](#).
- The classic SharePoint Server isn't supported with this web part.
- [URL filters](#) aren't supported with the SharePoint Online web part.
- You can't view or access Power BI Apps embedded in a SharePoint site page using a Power BI web part. To access the embedded Power BI report, access the app first in Power BI service before accessing it in the SharePoint site page.

## Related content

- [Allow users to create modern pages](#)
- [Publish an app in Power BI](#)
- [Share Power BI reports and dashboards with coworkers and others](#)
- [What is Power BI Premium?](#)
- [Embed a report in a secure portal or website](#)

More questions? [Try asking the Power BI Community](#)

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## Feedback

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# View Power BI files in OneDrive and SharePoint

Article • 02/21/2025

You can quickly view Power BI files in OneDrive and SharePoint without needing to install Power BI Desktop or download the file locally. Viewing Power BI files in your browser enables collaboration and a streamlined workflow before publishing through the Power BI Service.

## ⓘ Note

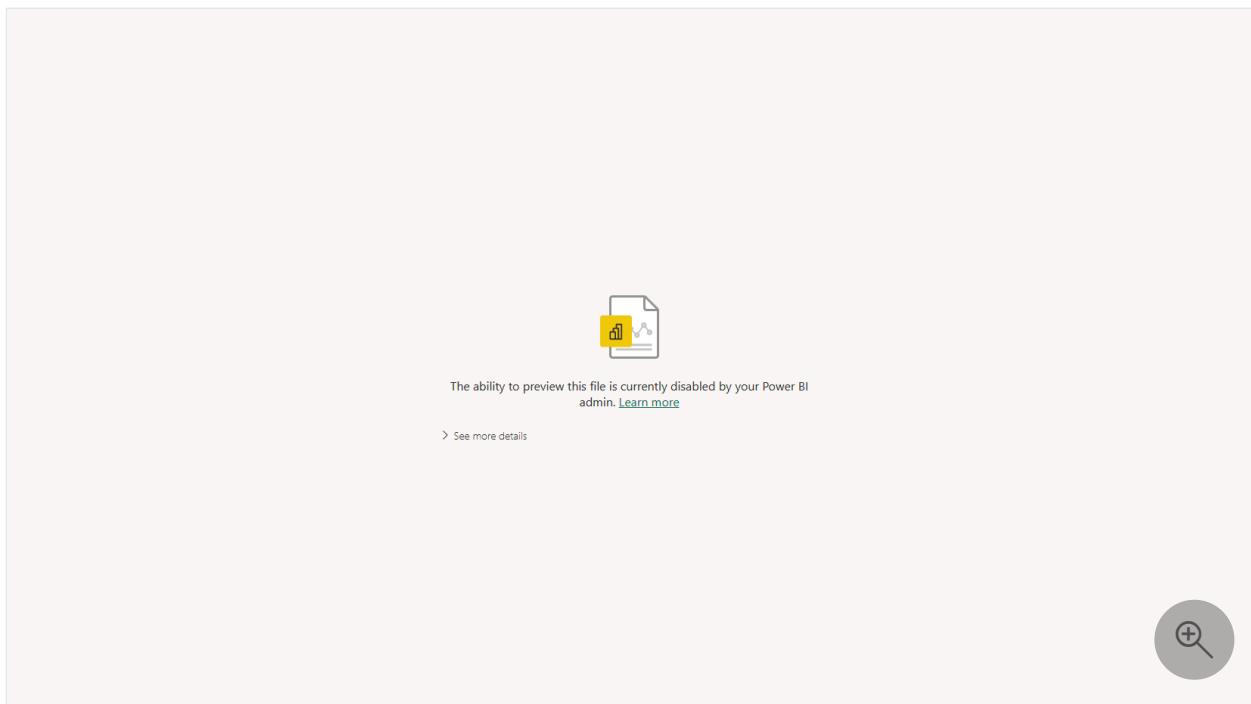
This is public preview documentation and some capabilities may not be available in your tenant.

## Enable viewing Power BI files in OneDrive and SharePoint

Viewing Power BI files in OneDrive and SharePoint is enabled **by default**.

If you **do not** want this capability on in your tenant, your admin needs to [disable the capability in the Admin portal](#).

If the capability isn't turned on in your tenant, you can't view a Power BI report in your browser. Instead, you're directed to download the file to your device. You can then open the file in Power BI Desktop. For the best viewing experience and to ensure you always have a backup of your file in the cloud, we encourage admins to turn on the functionality.



## Open a Power BI file stored in a OneDrive or SharePoint library

Viewing Power BI reports stored in OneDrive and SharePoint directly in your browser is simple. Select the file directly to open it in your browser.

A screenshot of the Microsoft OneDrive web interface. The top navigation bar includes "OneDrive", a search bar, and various file management buttons like "New", "Upload", "Share", "Copy link", "Sync", "Download", and "Automate". The main content area shows a folder structure: "My files &gt; MBAS &gt; Sales and returns". Inside this folder, three files are listed: "Sales and returns.pbix" (highlighted with a pink circle), "FY23 Sales and returns.docx", and "FY23 sales.xlsx". A detailed view of the "Sales and returns.pbix" file is shown on the right, including its size (23 MB), sharing status (Private), and viewing history ("1 View"). A "See details" link is also present. A magnifying glass icon is located in the bottom right corner of the detailed view window.

You can also right-click the report, or select \*\*More options (...) > Open > Open in browser.

OneDrive

Search

+ New Open Share Copy link Download Favorite Delete Rename Automate Move to Copy to ...

My files > MBAS > Sales and returns

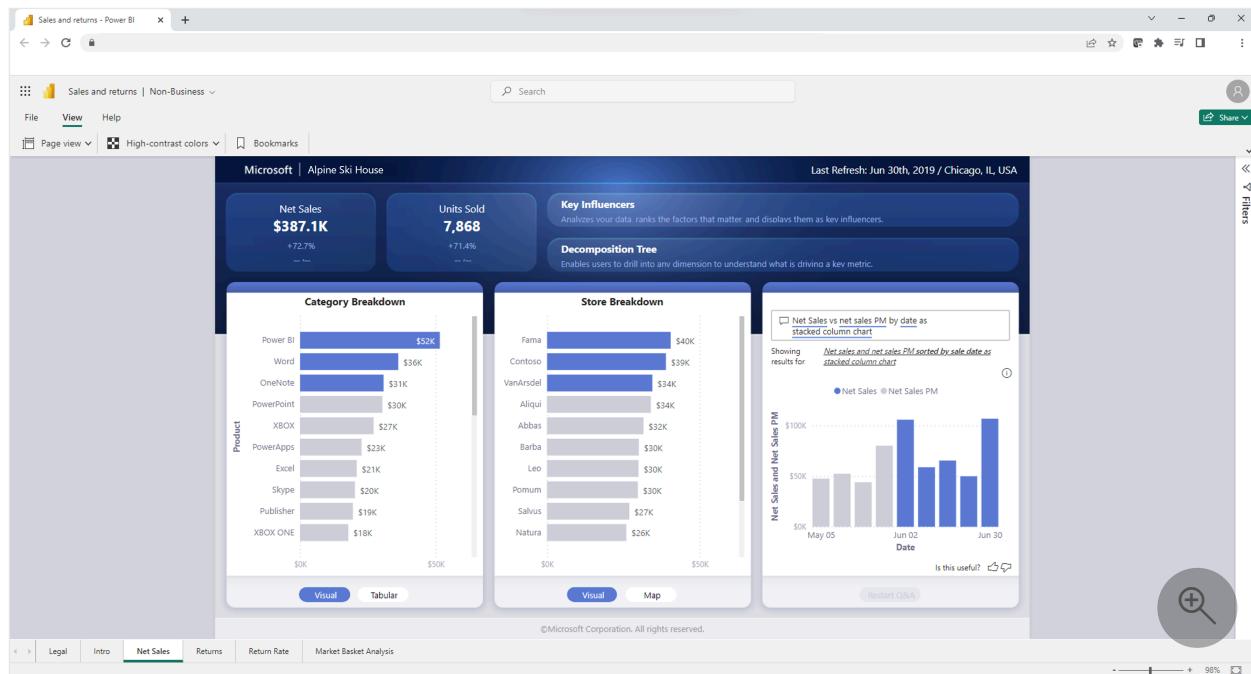
Name	Modified	Modified By	File size	Sharing	Activity
Sales and returns.nhx	5 minutes ago		6.23 MB	Private	
FY23 Sales a...	March 2		12.1 KB	Private	
FY23 sales.xs...	March 2		7.90 KB	Private	

old...  
old...  
old...

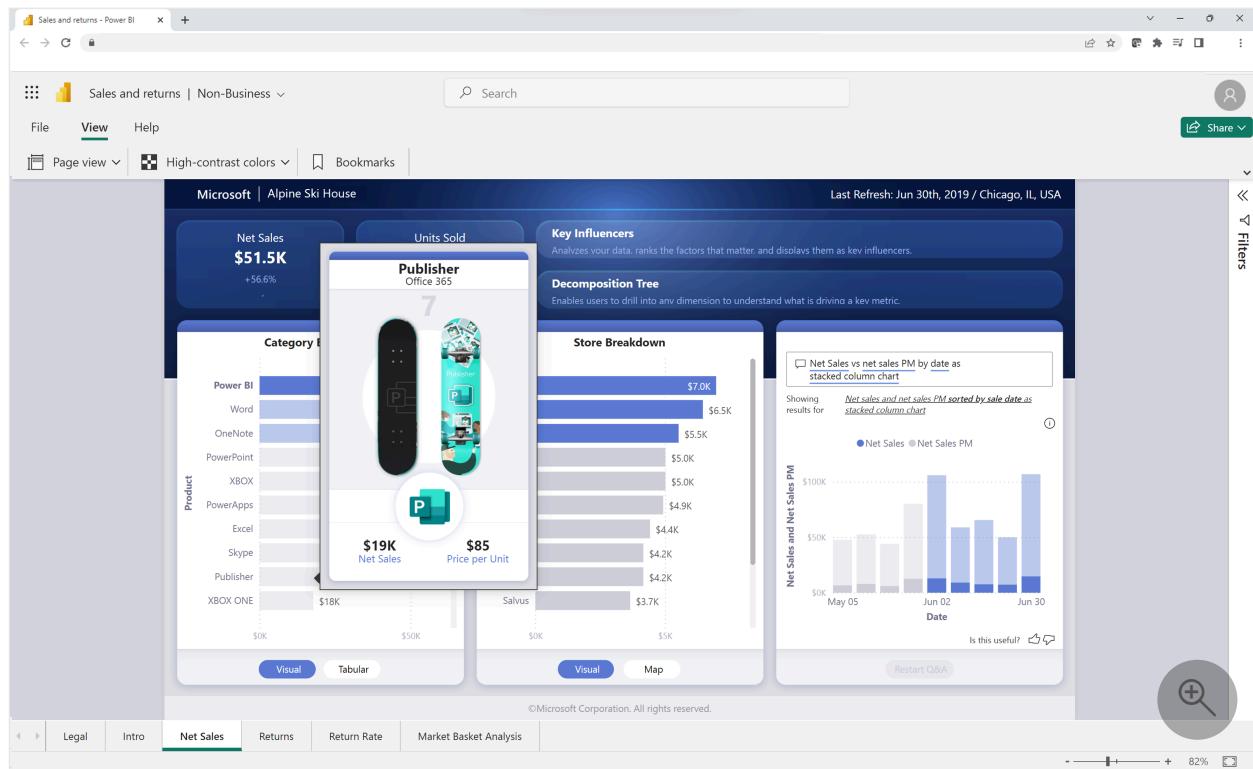
Open  
Preview  
Share  
Copy link  
Manage access  
Favorite  
Download

Search

The report then loads in your browser.



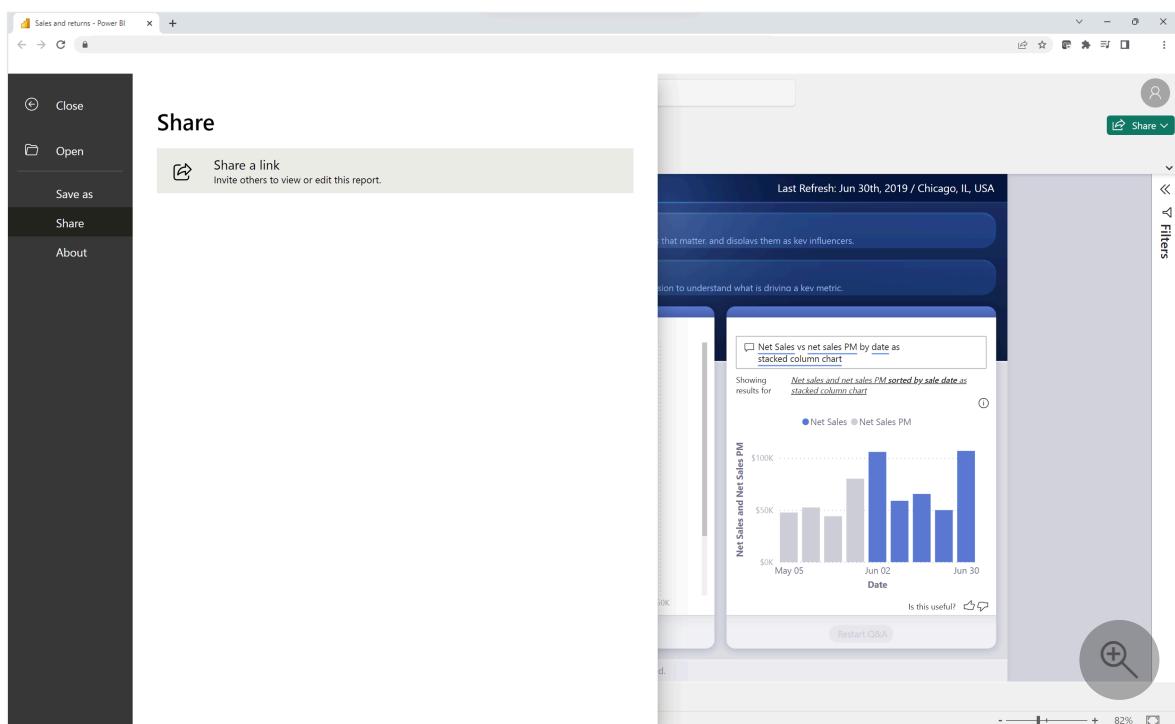
Once the report is open, you can interact with the visuals and explore the underlying data to uncover important information.



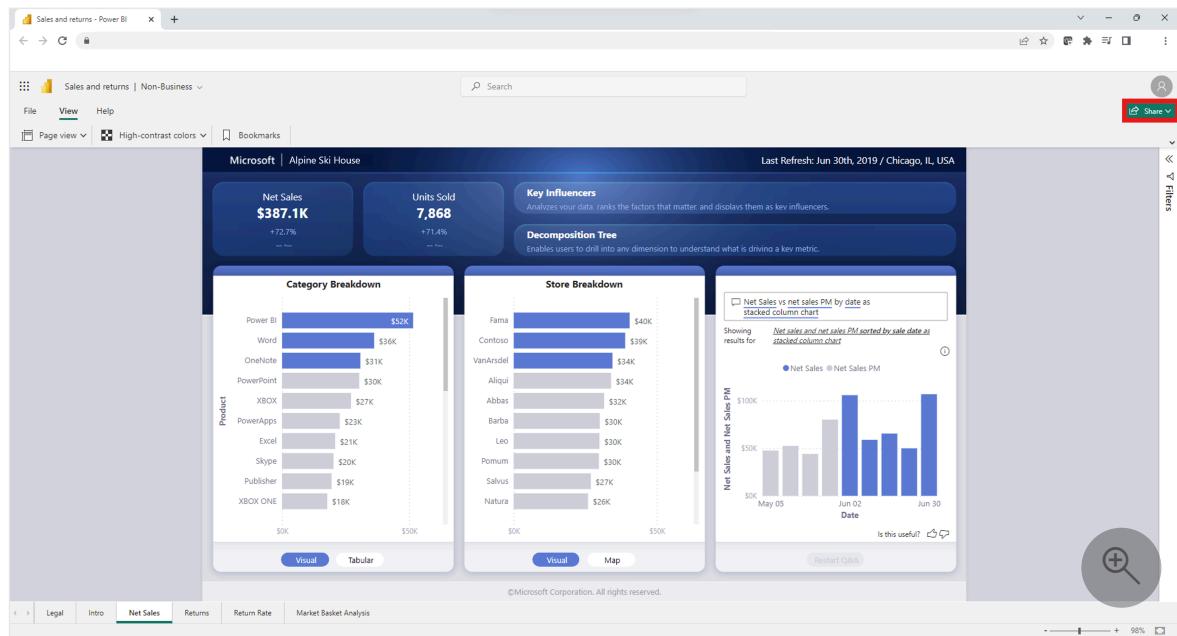
## Share a link to the report with others

You can share a link to a Power BI file with others in two ways.

- On the **File** menu, select **Share** from the left-hand menu > **Share a link**.

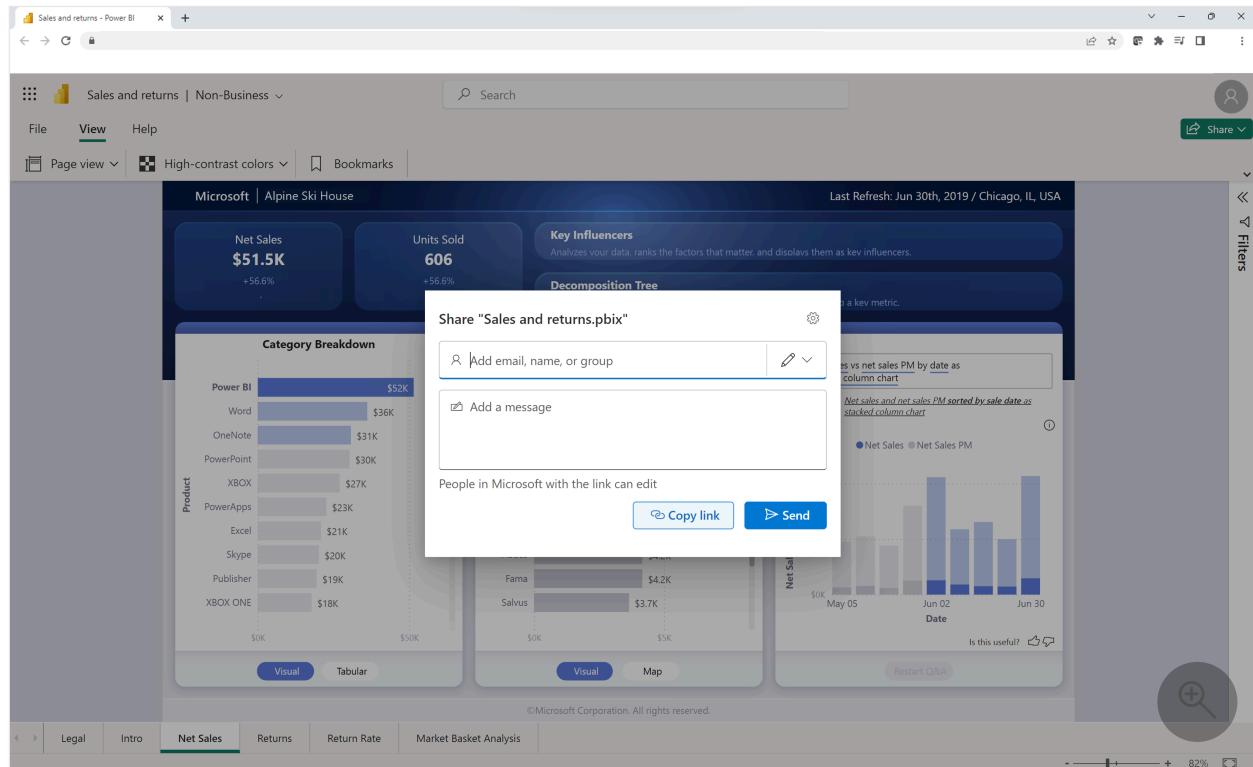


- You can also share a link to the report with others by selecting the **Share** button at the top right of the report.



Power BI uses the standard Microsoft 365 share dialog box to help you share your file. This dialog enforces your permissions in OneDrive and SharePoint and any policies that apply to the OneDrive folder or SharePoint document library where the file is saved.

From here, you can share the link directly with individuals or groups, or copy the link to share with others.

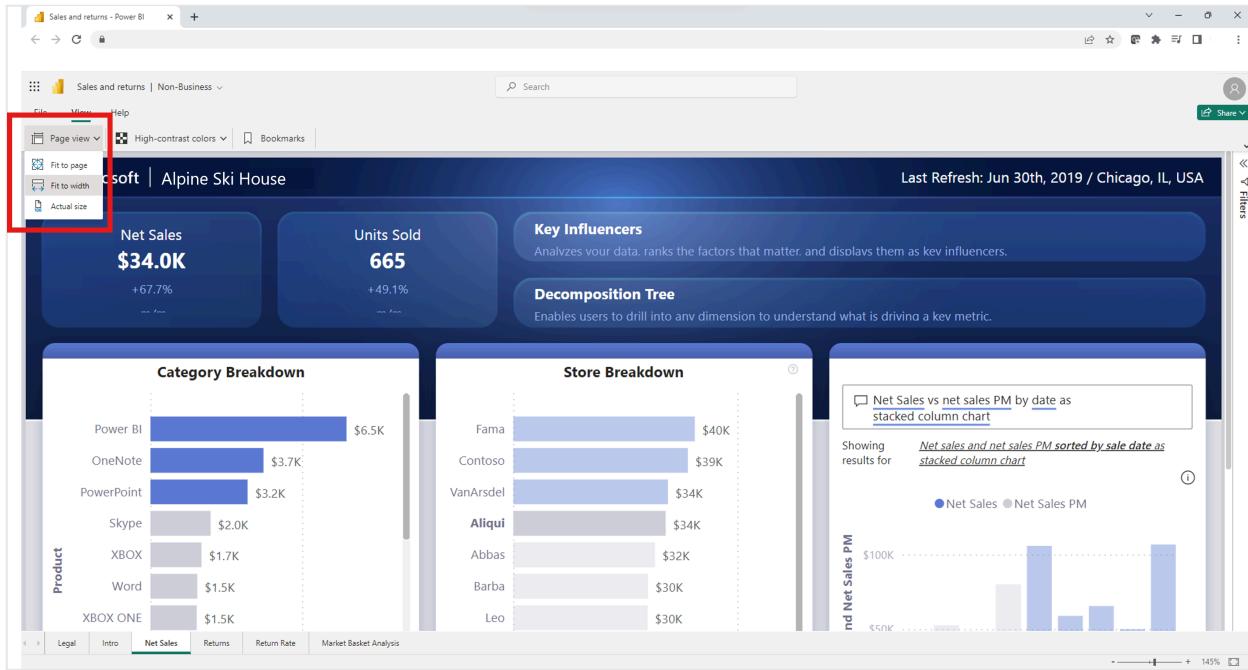


## Change the page view

Use the **Page view** button to choose one of the view options:

- Fit to page

- Fit to width
- Actual size



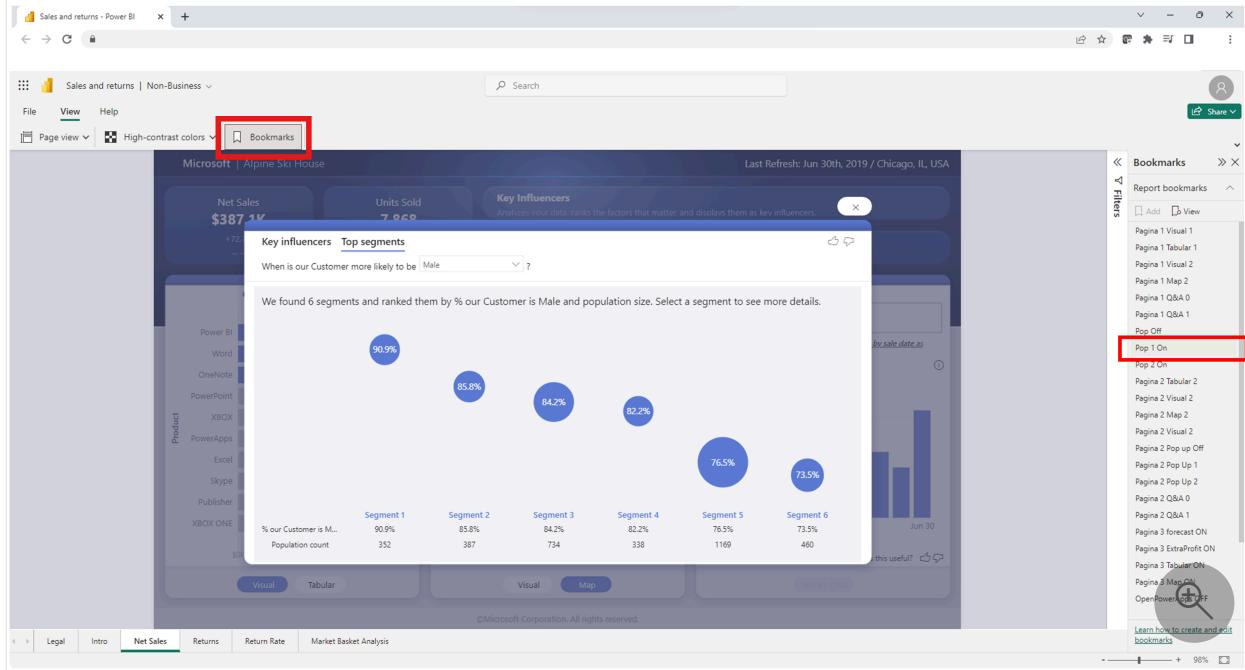
## Set high-contrast colors

You can change your report to include high-contrast colors. To change the color, select one of the options from the **High-contrast color** button in the top left corner of the report.



## View saved bookmarks

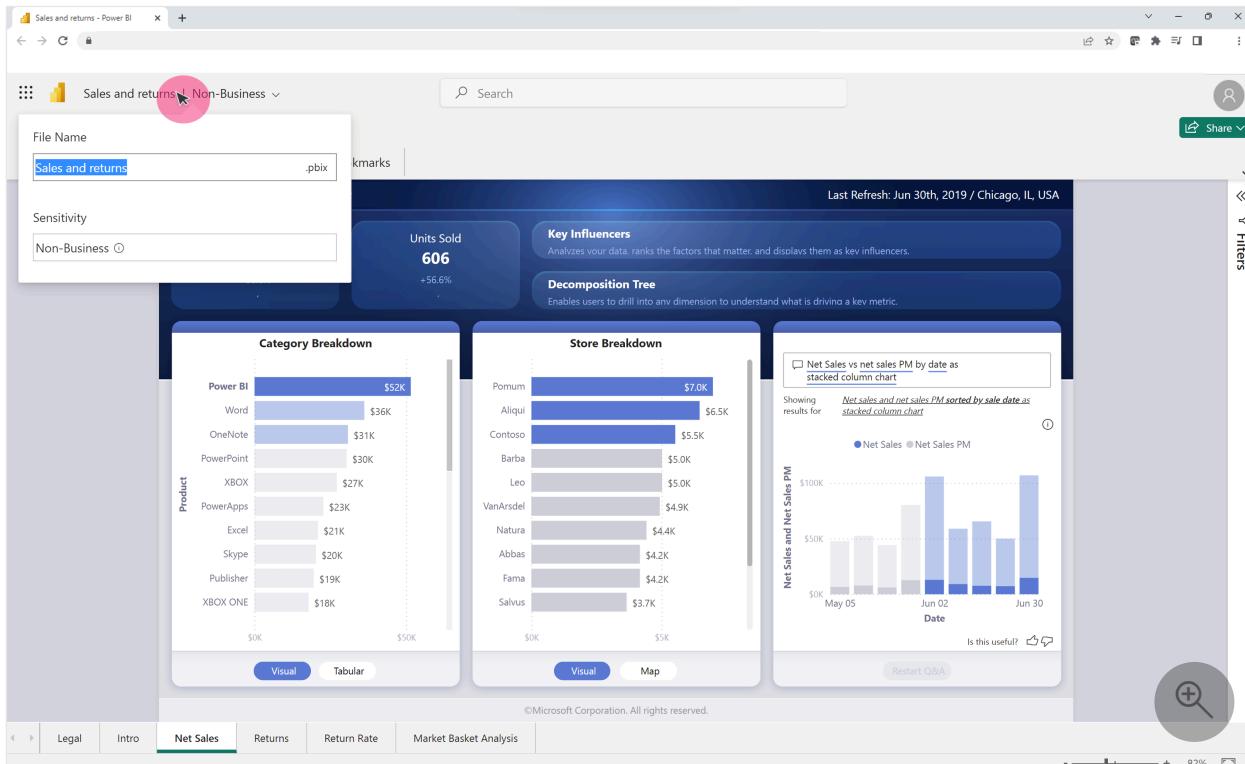
To view saved bookmarks, select the **Bookmarks** button from the top-left corner of the report. After you select the button, a Bookmarks pane pops out on the right side of the browser. You can choose a bookmark created by the report author. Selecting one of the bookmarks shows a set filtered version of the report assigned to that bookmark.



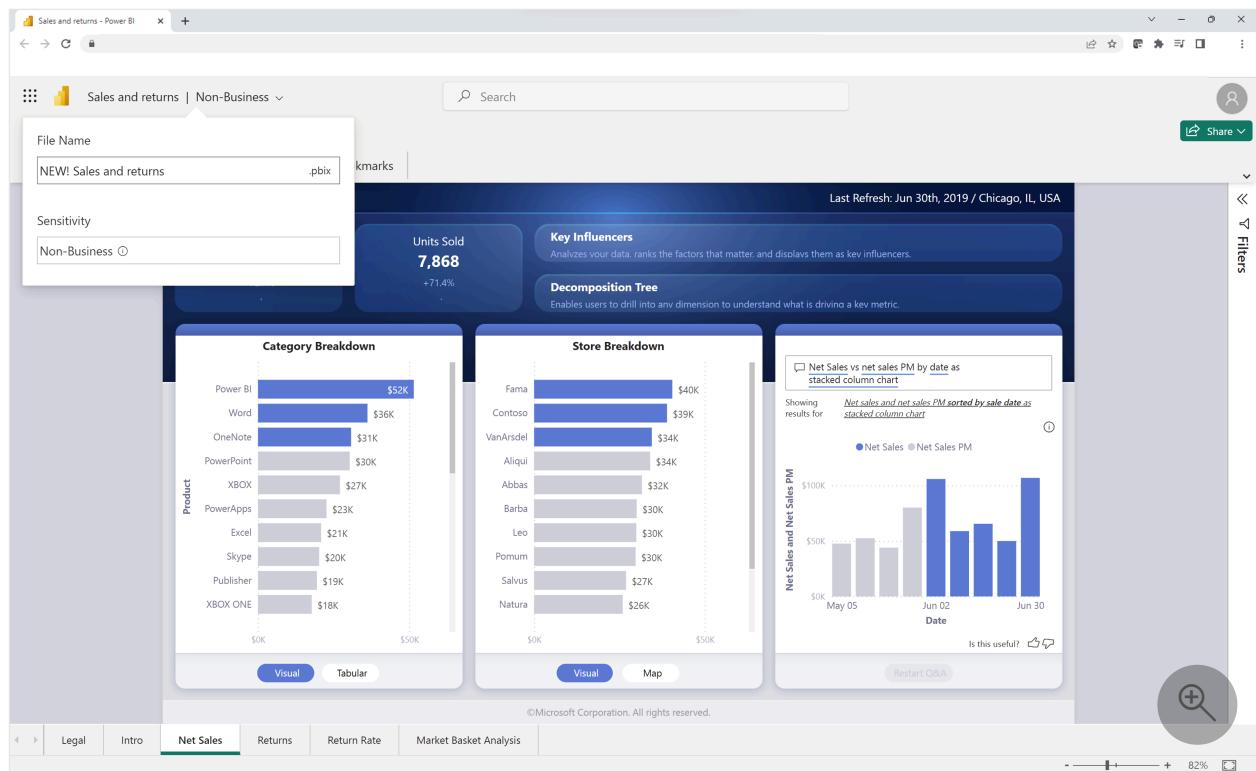
## Rename the file

You can rename the file in two different ways.

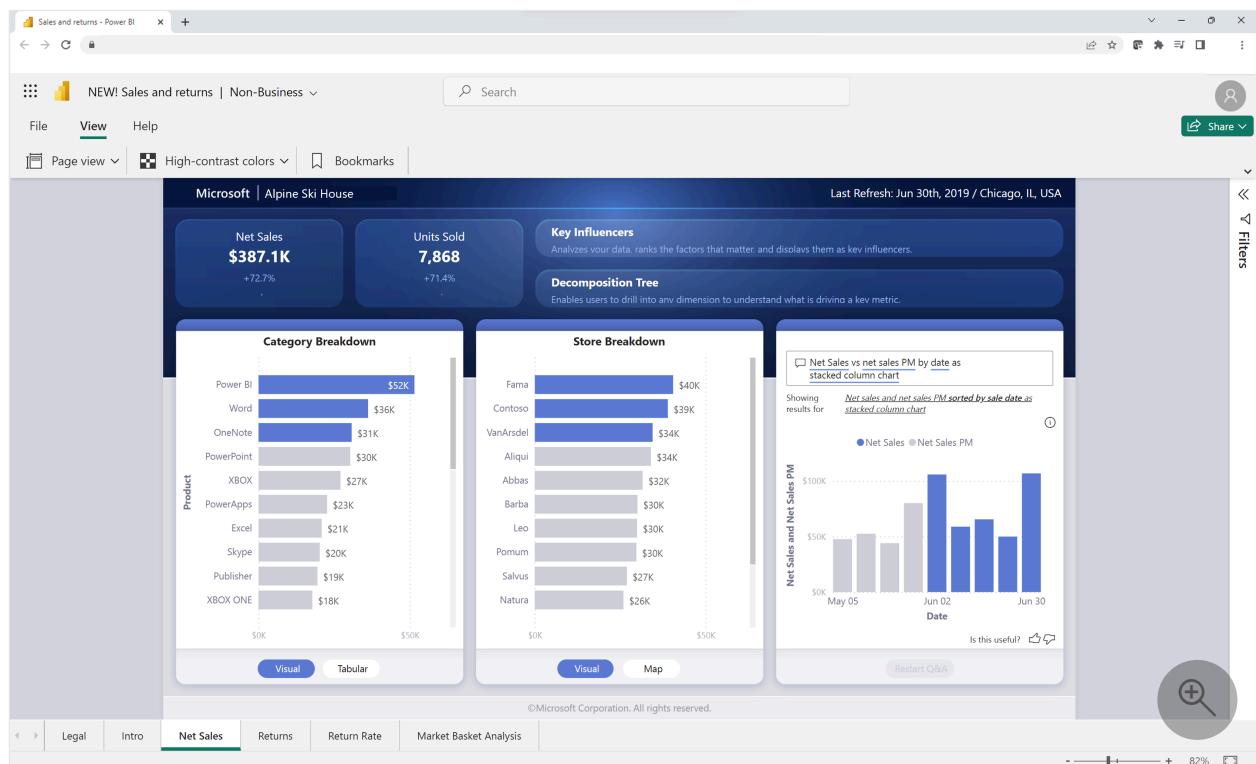
The first option starts with selecting the file name at the top left corner of the report.



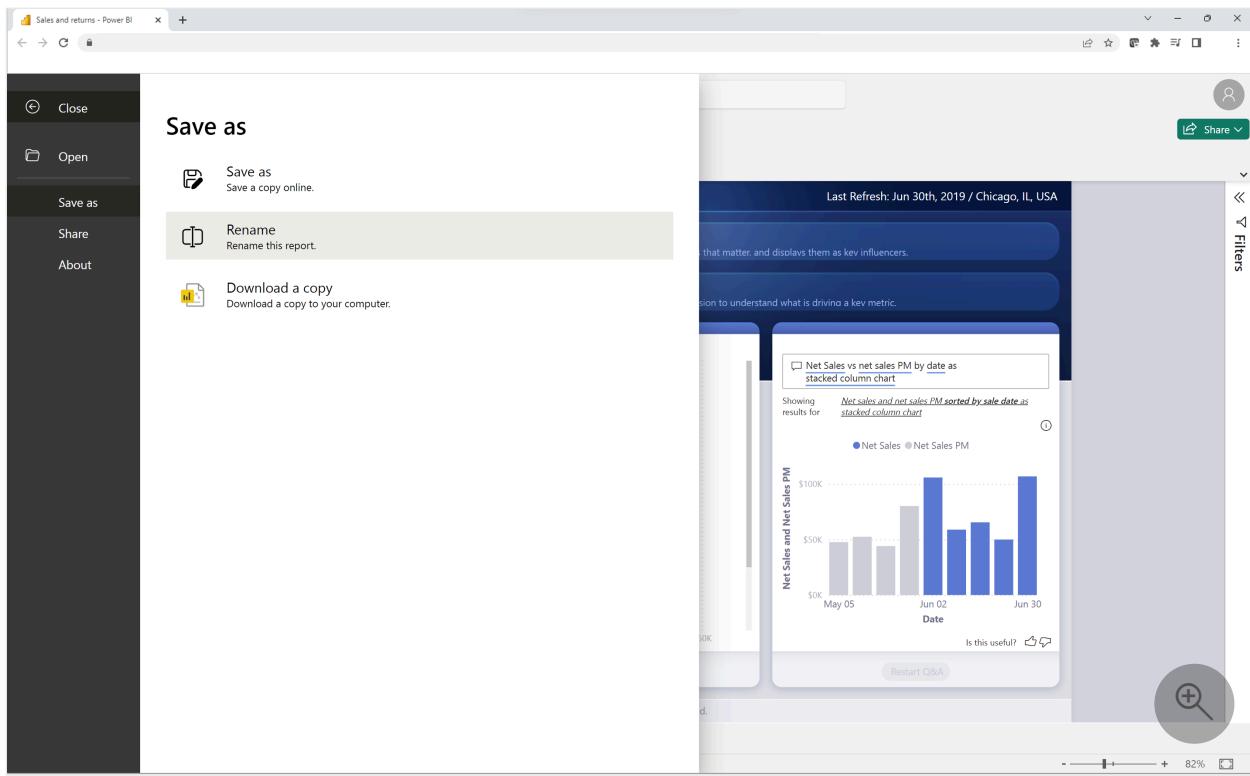
Type over the current file name.



Select out of the box to see the new saved name.

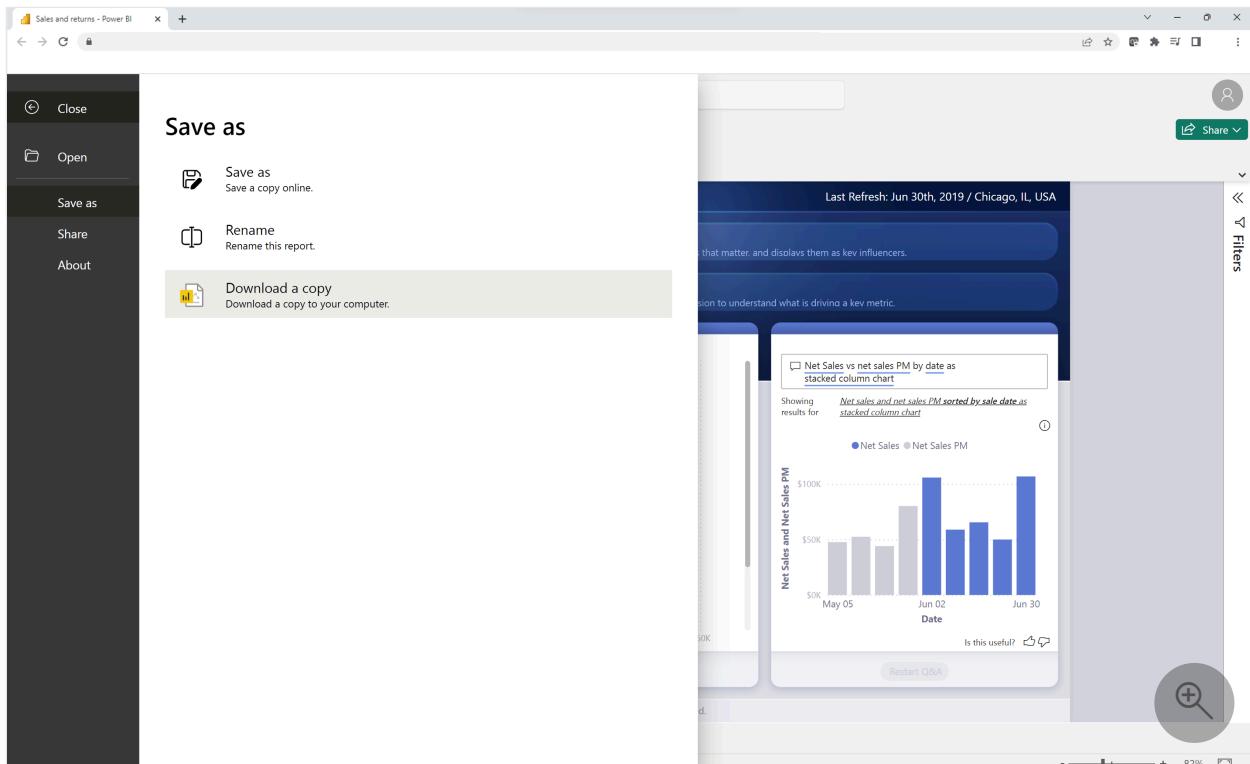


You can also rename the file by selecting the **File** menu > **Rename**.



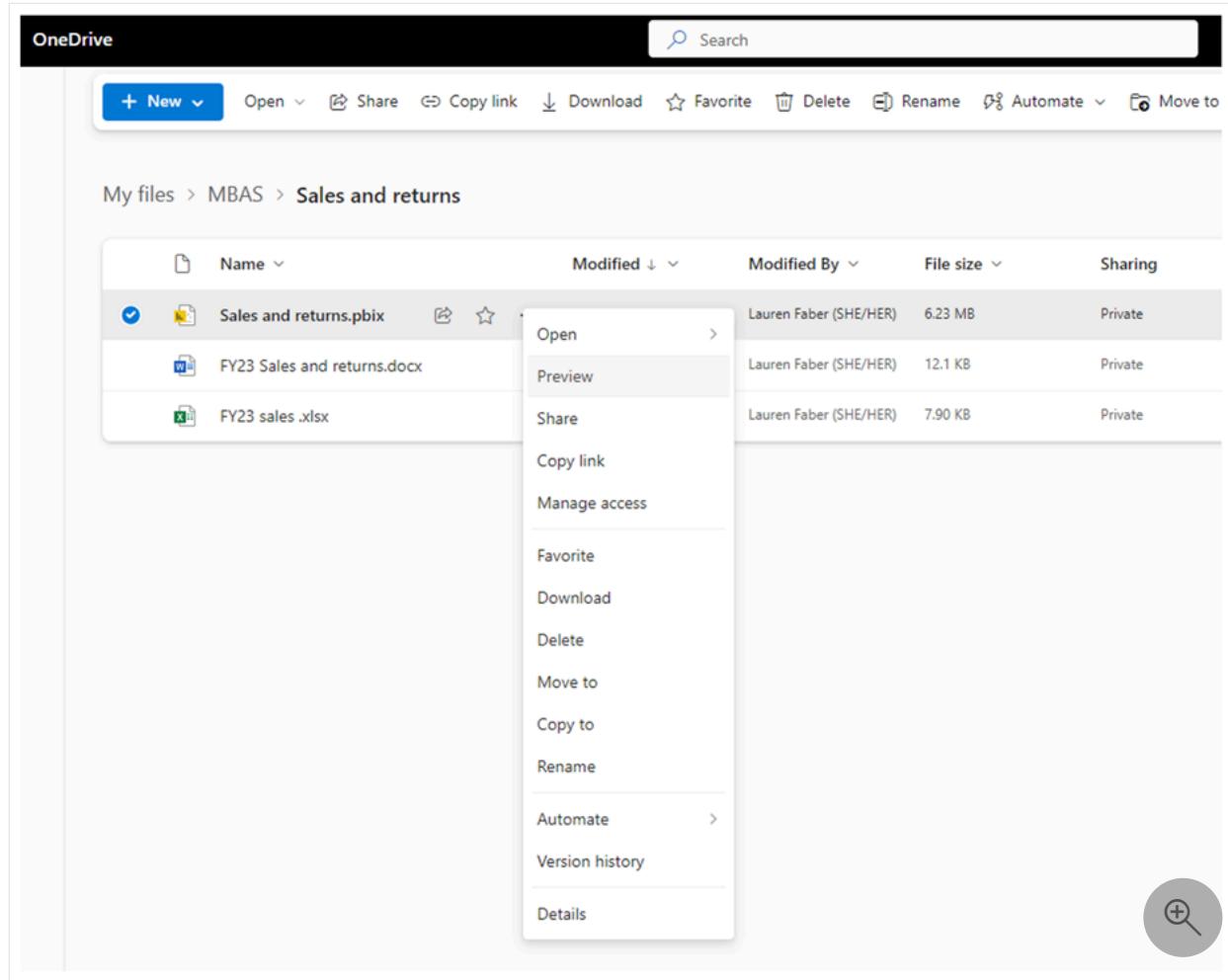
## Download a copy

To download a copy of the report to your device, on the **File** menu, select **Download a copy**. A version of the file is copied to the Power BI service, to then be downloaded to your device. You can open the file in Power BI Desktop to edit and publish the report back to the Power BI service.

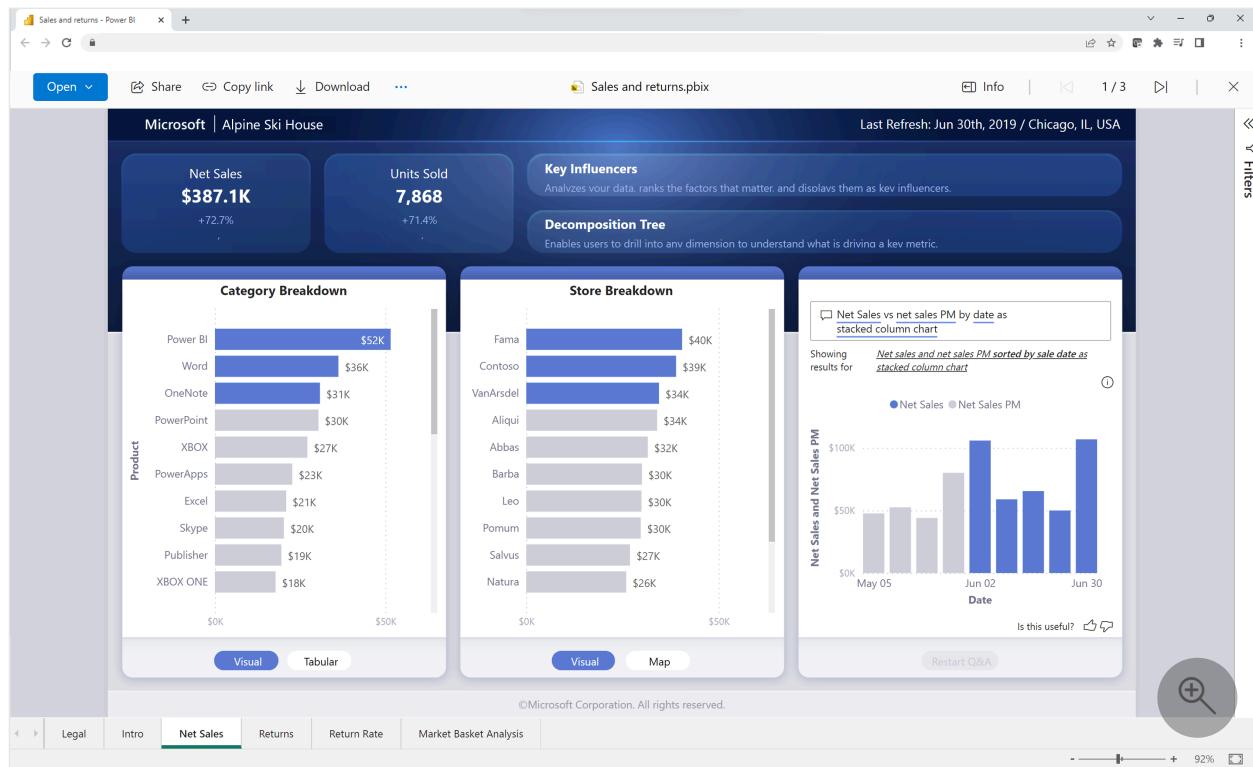


# Open a report in preview mode

You can also open the file in preview mode by right-clicking the file or selecting **More options (...)** > **Preview**.



The preview provides a limited experience with options to download the .pbix file, share the file, or copy a link to the file.



## Version history

You can also use the built-in Microsoft 365 version history capability to track report activity and return to old versions of a file. From your OneDrive and SharePoint document library, select the ellipsis (...) next to the Power BI file name and select **Version history** from the options. After selecting **Version history**, you'll be able to store, track, and restore the file whenever a change is made.

The screenshot shows the OneDrive interface with a file named "Sales and returns.pbix" selected. A "Version History" dialog is open, listing the following versions:

Version	Modified Date	Modified By	Size
5.0	4/30/2024 11:09 AM		6.22 MB
4.0	4/29/2024 04:23 PM		6.22 MB
3.0	4/29/2024 02:45 PM		6.22 MB
1.0	6/8/2023 04:09 PM		6.22 MB

## Prerequisites to viewing report in OneDrive and SharePoint

To view a report in OneDrive or SharePoint Online, you must:

- Be signed in to OneDrive with your Microsoft Entra account.
- Have at least read access to the file.
- Have a Power BI Pro, Power BI Premium Per User, or E5 license.

## Considerations and limitations

Before proceeding review the following considerations and limitations:

- Free users can't view reports in OneDrive and SharePoint directly in the browser.
- These capabilities don't work with personal OneDrive accounts.
- These capabilities aren't available in a sovereign cloud tenant.
- Power BI files can be viewed with a size limit up to 1 GB.
- When you open the Preview experience, you're required to authenticate before you can view the file.
- Reports with row-level security aren't currently supported. You need to download and view these files in Power BI Desktop.
- The ability to view files in Microsoft Teams isn't currently supported.
- B2B users and anonymous users can't view Power BI files in the browser. They're directed to download the file to their device and view it in Power BI Desktop.
- If the capability is turned off for your organization, the OneDrive and SharePoint file isn't copied into the Power BI service.
- The reports and semantic models created through this OneDrive and SharePoint experience are stored in special, system-generated workspaces hosted on shared capacity. Users aren't meant to access these workspaces outside of the OneDrive and SharePoint experience.

## Semantic model mode

To view a Power BI file in OneDrive or SharePoint, the data must be in **import** mode or **live connected to a semantic model** in the Power BI service. Files with other modes prompt you to download the file to open locally in Power BI Desktop.

## Audit logs

When you save and view Power BI files in OneDrive and SharePoint document libraries, Power BI admins can access activity through audit logs. Some activities for these files are logged through [unified audit logs](#), while others are logged through the [Power BI activity log](#).

OneDrive and SharePoint events are audited in the Microsoft 365 audit logs. Some of the events include:

- Copy
- Download
- Move to
- Share
- Export

Interaction with the Power BI file is audited in Power BI activity logs. Some of the events include:

- View
- Open report

Power BI admins can access information on sharing and permission of files through the [Microsoft 365 audit logs](#). Any user without admin rights can still access Microsoft 365 audit logs when assigned the [View-Only Audit Logs role](#). Admins [access the Microsoft 365 audit logs](#) through the Power BI [Admin portal](#).

OneDrive and SharePoint Power BI file activity in the audit logs appear with [property values](#) **Workload** and/or **EventSource** set to **OneDrive**.

Learn more about the [Office 365 Management Activity API](#).

## Sensitivity labels and encryption

[Sensitivity labels](#) are respected for Power BI files stored and shared through OneDrive and SharePoint. A union of OneDrive and SharePoint permissions and Microsoft Information Protection label permissions are applied to the file. The OneDrive and SharePoint permission is applied first, followed by the sensitivity label. The strictest permission is respected.

If the file is unlabeled, then the default Power BI tenant policy applies when viewing the file in OneDrive or SharePoint.

If a Power BI file has encryption, you can only open the file if you have [full control and/or export usage rights](#). Only users who can decrypt the file can view it.

## Sharing settings

The new capabilities respect the OneDrive and SharePoint organizational settings for sharing.

# Creation of system workspaces

The first time anyone opens a Power BI file in a browser through a OneDrive or SharePoint document library, a system workspace is created in the Power BI service and the report selected is published behind the scenes. This process results in a longer initial loading time. After that initial report viewing, loading time decreases significantly. The creation of the workspace to view a file stored in OneDrive or SharePoint has no implications on your Power BI Premium capacity storage.

Admins can see the workspaces created in the Power BI service on the **Workspaces** tab in the Admin portal. Created workspaces have the word **OneDrive** at the end of the workspace name. They're also listed as **PBIX in OneDrive Folder** in the description column.

Name	Description	Type	State	Capacity ...	Capacity ...	Upgrade ...
Tenant name	Workspace	Active				
PersonalWorkspace ABC	Personal Group	Active				
PersonalWorkspace 2f77a54b-543a-4e4d-45bf-66a6c71c984\OneDrive	PBIX in OneDrive Folder	Personal Group	Active			
PersonalWorkspace 7094b574-0174-24b9-33be-0f6ff16ea311 OneDrive	PBIX in OneDrive Folder	Personal Group	Active			
PersonalWorkspace ABC	Personal Group	Active				
PersonalWorkspace	Personal Group	Active				
PersonalWorkspace ABC	Personal Group	Active				
PersonalWorkspace 396e4595-1d54-46e3-b97b-8a5eb9e134ad OneDrive	PBIX in OneDrive Folder	Personal Group	Active			

Admins can't modify workspaces (delete, modify access) from the Power BI Service.

When you open a Power BI report in OneDrive or SharePoint the data is stored in your Power BI [home tenant region](#) until the file is deleted or unopened for a few days.

## Collaborating on reports

When collaborating on reports with other coauthors, the best practice is to store files in a **SharePoint** document library where all coauthors have access. This allows all collaborators to open the report in Power BI Desktop directly from SharePoint, make edits, and easily save changes to the file in SharePoint.

When files are stored in an individual's OneDrive library other coauthors won't be able to save changes to the OneDrive location unless they have edit access to the folder of the OneDrive file. If sharing a report with a colleague is mainly for viewing purposes either OneDrive or SharePoint is a viable option. Once the ability to **Open in App** on a shared link is released, users are able to make and save edits to reports stored in either OneDrive or SharePoint through taking the open in app action.

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## Feedback

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# Embed a report in a secure portal or website

Article • 01/07/2025

With the **Embed** option for Power BI reports, you can easily and securely embed reports in internal web portals. These portals can be **cloud-based** or **hosted on-premises**, such as SharePoint 2019. Embedded reports respect all item permissions and data security through [row-level security \(RLS\)](#) and Analysis Services tabular model [object-level security \(OLS\)](#). They provide no-code embedding into any portal that accepts a URL or iframe.

The **Embed** option supports [URL filters](#) and URL settings. It allows you to integrate with portals by using a low-code approach that requires only basic HTML and JavaScript knowledge.

## Important

Due to ongoing Chromium security updates, the **Embed** option no longer works exactly as it used to, and users may be asked to authenticate more than once. To address this, consider creating your own [Power BI embedded solution](#).

## How to embed Power BI reports into portals

1. Open a report in the Power BI service.
2. On the **File** menu, select **Embed report > Website or portal**.
3. In the **Secure embed code** dialog that appears, select the value under **Here's a link you can use to embed this content**. Or if you'd like to use an iframe in a blog or website, select the value under **HTML you can paste into a website**.

## Securely embed this report in a website or portal

X

Here's a link you can use to embed this content.

```
https://app.fabric.microsoft.com/reportEmbed?reportId=98a9d596-6db9-485f-9bc8-86cce
```

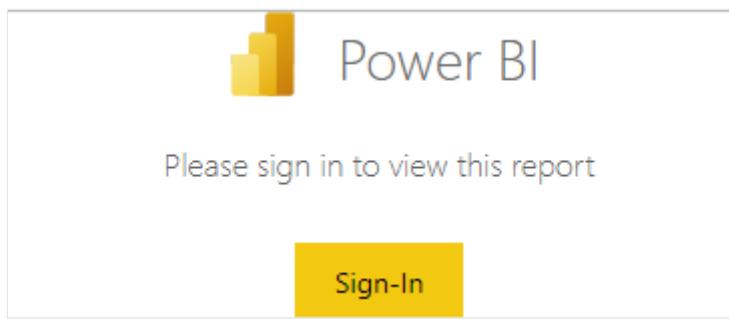
HTML you can paste into a website

```
<iframe title="Purview Hub" width="1140" height="541.25" src="https://app.fabric.microsc
```

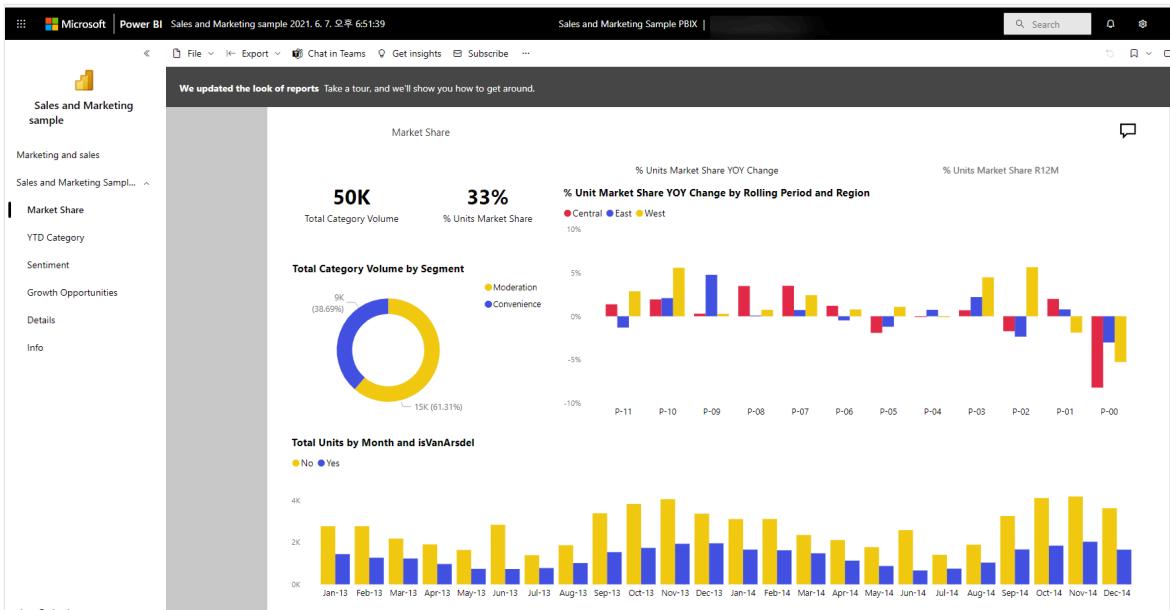
[Explore more embedding options in our Power BI embedded analytics playground](#)

[Close](#)

4. Whether a user opens a report URL directly, or one that's embedded in a web portal, report access requires authentication. The following screen appears if a user hasn't signed in to Power BI in their browser session. When they select **Sign-In**, a new browser window or tab should open. Have them check for pop-up blockers if they don't get prompted to sign in.



5. After the user has signed in, the report opens, showing the data and allowing page navigation and filter setting. Only users with view permission can see the report in Power BI. All **row-level security (RLS)** rules are also applied. The users need to be correctly licensed. They need a Power BI Pro or Premium Per User (PPU) license, or the content needs to be in a workspace that's in a Power BI Premium capacity. Users need to sign in each time they open a new browser window. However, after they're signed in, other reports load automatically.



6. When you use an iframe, you might need to edit the **height**, and **width** values to have it fit in your portal's web page.

#### HTML

```
<iframe width="1080" height="760" src="https://app.powerbi.com/reportEmbed?reportId=xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx&autoAuth=true" frameborder="0" allowFullScreen="true"></iframe>
```

## Grant report access

The **Embed** option doesn't automatically permit users to view the report. View permissions are set in the Power BI service.

In the Power BI service, you can share embedded reports with users who require access. If you use a Microsoft 365 Group, you can list the user as a workspace member.

## Licensing

To view the embedded report, you need either a Power BI Pro or Premium Per User (PPU) license. Or, the content needs to be in a workspace that's in a [Power BI Premium \(EM or P SKU\)](#) or a [Fabric \(F SKU\)](#) capacity.

## Customize your embed experience by using URL settings

You can customize the user experience by using the embed URL's input settings. In the provided iframe, you can update the URL's `src` settings.

[+] Expand table

Property	Description
pageName	You can use the <code>pageName</code> query string parameter to set which report page to open. You can find this value at the report URL's end when you view a report in the Power BI service, as shown later in this article.
URL Filters	You can use <a href="#">URL Filters</a> in the embed URL that you received from the Power BI UI to filter the embed content. This way you can build low-code integrations with only basic HTML and JavaScript experience.

## Set which page opens for an embedded report

You can find the `pageName` value at the end of report's URL when you view a report in the Power BI service.

1. Open the report from the Power BI service in your web browser, and then copy the address bar URL.

HTTP

```
https://app.powerbi.com/groups/xxxxxxxx-xxxx-xxxx-xxxx-
xxxxxxxxxx/reports/xxxxxxxx-xxxx-xxxx-xxxx-
xxxxxxxxxx/ReportSection2
```

2. Append the `pageName` property and its value to the end of the URL.

HTTP

```
https://app.powerbi.com/reportEmbed?reportId=/xxxxxxxx-xxxx-xxxx-xxxx-
xxxxxxxxxx&autoAuth=true&pageName=ReportSection2
```

## Filter report content by using URL filters

You can use [URL Filters](#) to provide different report views. For example, the following URL filters the report to show data for the energy industry.

Using the combination of `pageName` and [URL Filters](#) can be powerful. You can build experiences using basic HTML and JavaScript.

For example, here's a button you can add to an HTML page:

#### HTML

```
<button class="textLarge" onclick='show("ReportSection", "Energy");'  
style="display: inline-block;">Show Energy</button>
```

When selected, the button calls a function to update the iframe with an updated URL, which includes the Energy industry filter.

#### JavaScript

```
function show(pageName, filterValue)  
{  
    var newUrl = baseUrl + "&pageName=" + pageName;  
  
    if(null != filterValue && "" != filterValue)  
    {  
        newUrl += "&$filter=Industries/Industry eq '" + filterValue + "'";  
    }  
  
    //Assumes there's an iFrame on the page with id="iFrame"  
  
    var report = document.getElementById("iFrame")  
  
    report.src = newUrl;  
}
```

#### HTTP

```
https://app.powerbi.com/reportEmbed?reportId=/xxxxxxxx-xxxx-xxxx-xxxx-  
xxxxxxxxxxxx&autoAuth=true&pageName=ReportSection&filter=Industries/Industry  
eq 'Energy'
```

You can add as many buttons as you'd like to create a low-code custom experience.

## Considerations and limitations

- Paginated reports are supported with secure embed scenarios, and paginated reports with URL parameters are also supported. For more information, see [Pass a report parameter in a URL for a paginated report in Power BI](#).

- The secure embed option works for reports that are published to the Power BI service.
- To host securely embedded content, users must use HTTPS for their top-level page. Using an unsecured host page to access securely embedded content isn't supported.
- The user needs to sign in to view the report whenever they open a new browser window or tab.
- For authentication, users need to have popup windows enabled.
- If users have successfully accessed reports in the past but are now encountering issues, they should clear their browser cache.
- Some browsers require you to refresh the page after sign-in, especially when you use InPrivate or Incognito modes.
- You might encounter issues if you use unsupported browser versions. For a list of browsers that Power BI supports, see [Supported browsers for Power BI](#).
- If your website sets the Cross-Origin-Opener-Policy (COOP) header to "same-origin," you can't sign in to view your embedded content because MSAL doesn't support this header. Instead, choose either "restrict-properties" (for Chromium-based browsers) or "same-origin-allow-popups." Alternatively, if you can't change the Cross-Origin-Opener-Policy, link to the embedded URL directly instead of embedding it in an iframe.
- The classic SharePoint Server isn't supported, because it requires Internet Explorer versions earlier than 11, or enabling the compatibility view mode.
- To achieve a single sign-on experience, use the [Embed in SharePoint Online option](#), or build a custom integration by using the [user-owns-data](#) embedding method.
- The automatic authentication capabilities provided with the **Embed** option don't work with the Power BI JavaScript API. They're blocked in PBI embedded client SDK starting with the version 2.10.4. For the Power BI JavaScript API, use the [user-owns-data](#) embedding method.
- The automatic authentication capabilities don't work when they're embedded in applications, including in mobile and desktop applications.
- The authentication token lifetime is controlled based on your Microsoft Entra settings. When the authentication token expires, the user will need to sign in again to get an updated authentication token. The default lifetime is one hour, but it

might be shorter or longer in your organization. You can't automatically refresh the token in this scenario.

## Related content

- [Ways to share your work in Power BI](#)
  - [Filter a report using query string parameters in the URL](#)
  - [Embed with report web part in SharePoint Online](#)
  - [Publish to web from Power BI](#)
- 

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# Publish to web from Power BI

Article • 02/08/2024

With the Power BI **Publish to web** option, you can easily embed interactive Power BI content in blog posts, websites, emails, or social media. You can also easily edit, update, refresh, or stop sharing your published visuals.

## ⚠️ Warning

When you use **Publish to web**, anyone on the Internet can view your published report or visual. Viewing requires no authentication. It includes viewing detail-level data that your reports aggregate. Before publishing a report, make sure it's okay for you to share the data and visualizations publicly. Don't publish confidential or proprietary information. If in doubt, check your organization's policies before publishing.

## ⓘ Note

You can embed your content securely in an internal portal or website. Use the **Embed** or **Embed in SharePoint Online** options. These options ensure that all permissions and data security are enforced when your users view your internal data.

## Prerequisites

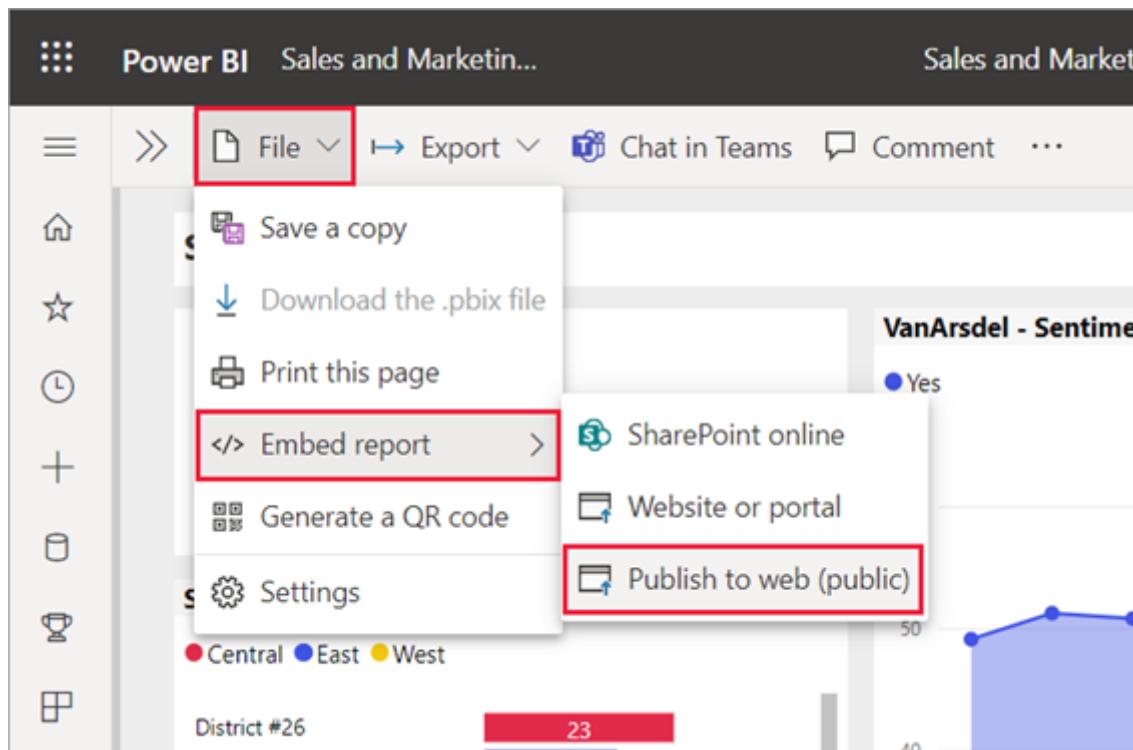
- You need a Microsoft Power BI license to publish to web from My Workspace.
- You need a Microsoft Power BI Pro or Premium Per User license to publish to web from workspaces.
- Publish to web is available for reports you can edit in your My Workspace and workspaces.
- It isn't available for reports shared with you, or ones relying on row-level security to secure data.
- Your report viewers don't need to be Power BI users.

See the [Considerations and limitations](#) section below for a complete list of cases where Publish to web isn't supported.

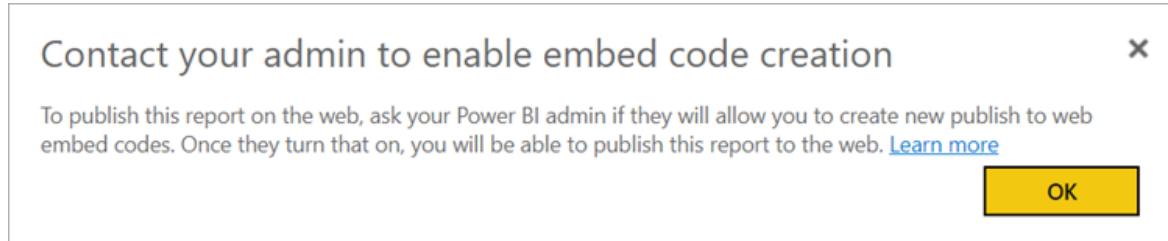
## Create embed codes with Publish to web

Follow these steps to use Publish to web. Review the **Warning** earlier in this article before publishing to web.

1. Open a report in a workspace that you can edit, and select **File > Embed report > Publish to web (public)**.



2. If your Power BI admin hasn't allowed you to create embed codes, you may need to contact them.



For help with finding the person who can enable Publish to web in your organization, see [How to find your Power BI administrator](#) later in this article.

3. Review the dialog content and select **Create embed code**.



## Embed in a public website

Get a link or embed code that you can include on a public website.

You may use the publish to web functionality to share content on a publicly available website. You may not use this functionality to share content internally, including through email, your internal network, or intranet site.

Publish a live version that will remain synchronized with the source report in Power BI. Any changes you make to the report will immediately be reflected in the published public version.

[Create embed code](#)

[Close](#)

4. Review the warning, as shown here, and confirm that the data is okay to embed in a public website. If it is, select **Publish**.



## Embed in a public website

You are about to create an embed code for this report. Once published, anyone on the internet will be able to access:

- This report: Carrier Performance 20230801 (1) (1)
- Dataset: Carrier Performance 20230801 (1)

⚠ Do not publish confidential or proprietary information, or an individual's personal data.

Before you continue, ensure you have the right to share the data and visualizations publicly. If in doubt, check your organization's policies. Microsoft may display the report on a public website or public gallery.

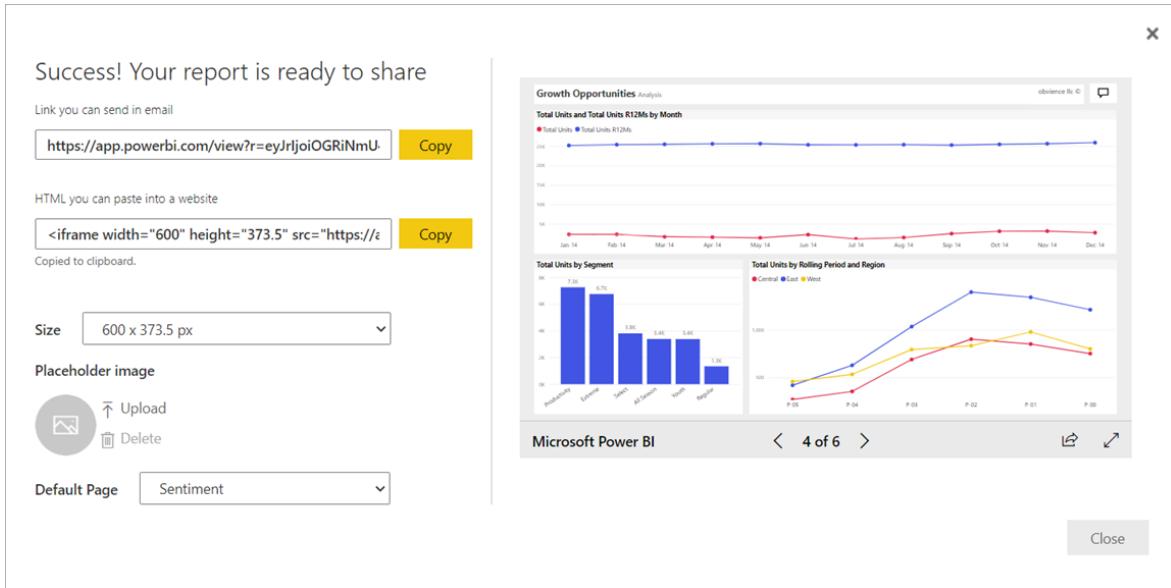
[Publish](#)

[Close](#)

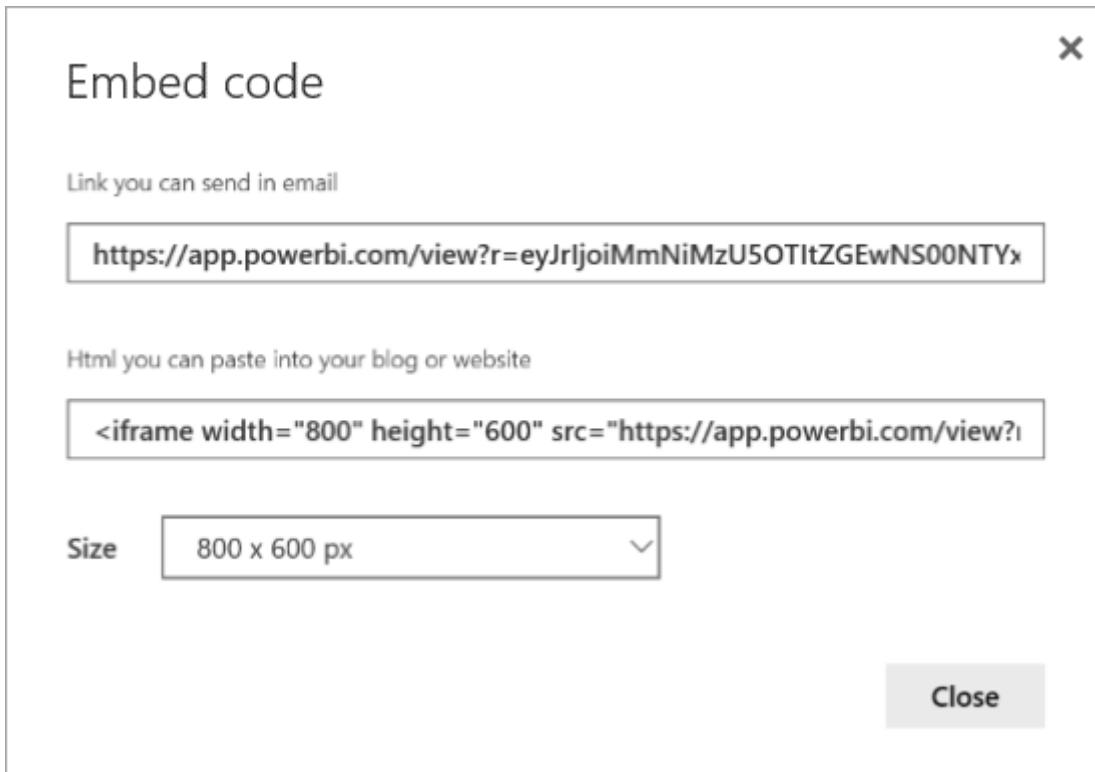
5. In the Success dialog, you see a preview of how the report will look. Select the **Size** and **Default page**.

You can also add a **Placeholder** image, to make the web page load faster. With a placeholder image, people viewing your report on the web see a **View interactive content** button they can select to view the report itself.

Make those changes first. Then copy the link to send it in email, or copy the HTML to paste into a website. You can embed it in code such as an iFrame, or paste it directly into a web page or blog.



6. If you previously created an embed code for a report and you select **Publish to web**, you won't see the dialogs in steps 2-4. Instead, you see the **Embed code** dialog.



You can only create one embed code for each report.

## Tips for view modes

When you embed content within a blog post, you typically need to fit it within a specific screen size. You can adjust the height and the width in the iFrame tag as needed. However, you need to ensure your report fits within the given iFrame area, so set an appropriate View Mode when you're editing the report.

The following table provides guidance about the View Mode, and how it will appear when embedded.

[+] Expand table

View Mode	How it looks when embedded
 Fit to page Scale content to best fit the page	<b>Fit to page</b> respects your report's page height and width. If you set your page to <i>dynamic</i> ratios like 16:9 or 4:3, your content scales to fit within the iFrame. When embedded in an iFrame, using <b>Fit to page</b> can result in <i>letterboxing</i> : a gray background is shown in iFrame areas after the content scales to fit within the iFrame. To minimize letterboxing, set the height and width of the iFrame appropriately.
 Actual size Display content at full size	<b>Actual size</b> ensures the report preserves its size as set on the report page. This can result in scrollbars appearing in your iFrame. Set the iFrame height and width to avoid scrollbars.
 Fit to width Scale content to the width of the page	<b>Fit to width</b> ensures the content fills the horizontal area of the iFrame. A border is still shown, but the content scales to use all the horizontal space available.

## Tips for iFrame height and width

A Publish to web embed code looks like the following example:

Html you can paste into your blog or website

```
<iframe width="800" height="600" src="https://app.powerbi.com/view?i=
```

You can edit the width and height manually to ensure it's precisely how you want it to fit in the page where you're embedding it.

To achieve a more perfect fit, you can try adding 56 pixels to the height of the iFrame to accommodate the current size of the bottom bar. If your report page uses the dynamic size, the table below provides some sizes you can use to achieve a fit without letterboxing.

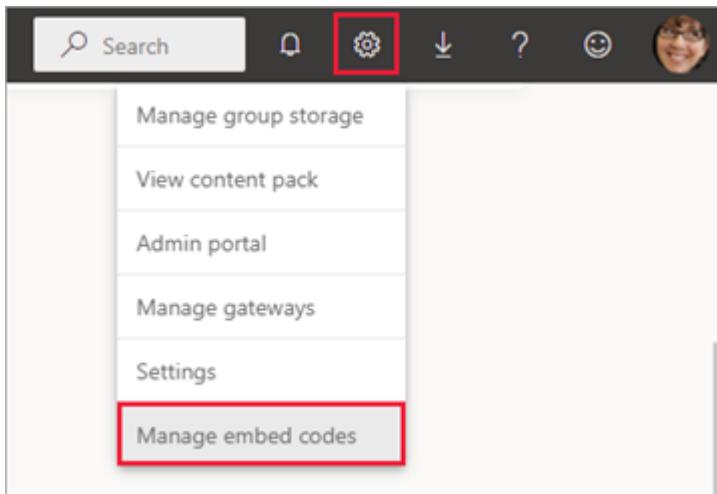
[+] Expand table

Ratio	Size	Dimension (width x height)
16:9	Small	640 x 416 px
16:9	Medium	800 x 506 px
16:9	Large	960 x 596 px
4:3	Small	640 x 536 px
4:3	Medium	800 x 656 px
4:3	Large	960 x 776 px

## Manage embed codes

Once you create a Publish to web embed code, you can manage your codes from the **Settings** menu in Power BI. Managing embed codes includes the ability to remove the destination visual or report for a code (rendering the embed code unusable), or getting the embed code.

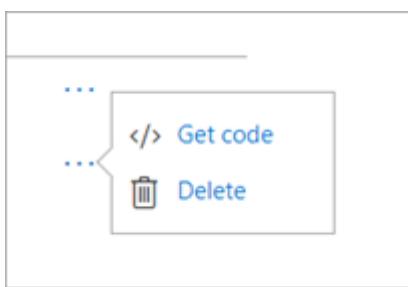
1. To manage your Publish to web embed codes, open the workspace the report resides in, select the **Settings** gear, and select **Manage embed codes**.



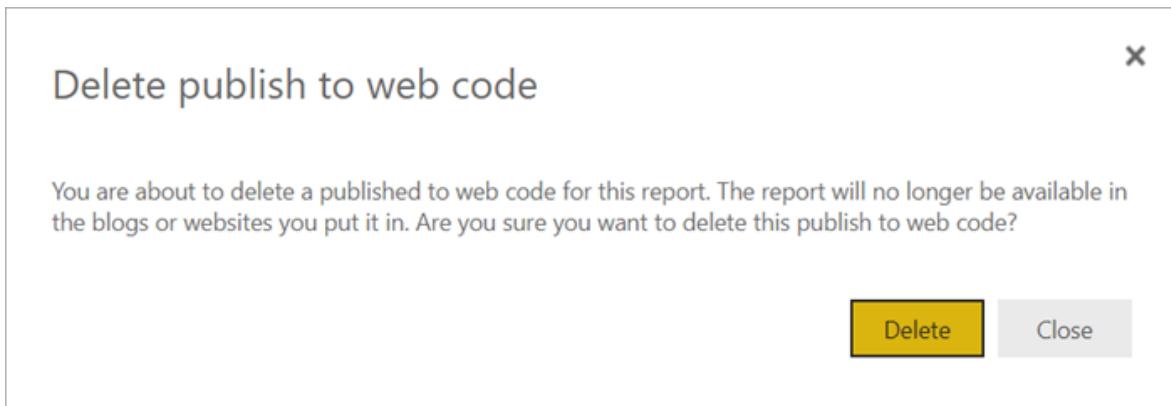
2. The embed codes for the reports in that workspace appear.

Associated Report	Status	Date Created
IT Spend Analysis May 2021	Active	5/11/2021, 12:38:58 PM
IT Spend Analysis Sample	Active	5/11/2021, 9:47:41 AM

3. You can either retrieve or delete an embed code. Deleting it disables any links to that report or visual.



4. If you select **Delete**, you're asked for a confirmation.



## Updates to reports, and data refresh

After you create your Publish to web embed code and share it, the report updates with any changes you make. The embed code link is immediately active. Anyone who opens the link can view it. The data is cached for one hour from the time it is retrieved. We don't recommend using Publish to web for data that needs to refresh frequently. To learn more, see the [How it works](#) section later in this article.

## Data refresh

Data refreshes are automatically reflected in your embedded report or visual. When data is refreshed for an import data model in the Power BI service, the service clears the data cache, making data update quickly. To disable automatic refresh, select **don't refresh** on the schedule for the semantic model the report uses.

## Heavy usage

A heavy usage experience can occur when a report receives too many queries in a short amount of time. When heavy usage occurs, users can't view or interact with the report until the period of heavy usage passes.

We recommend setting a placeholder image for your report. If heavy usage occurs, users see the placeholder image.

To help avoid the heavy usage experience, limit the number of distinct queries your report can generate and the frequency of data refresh. See the [Power BI optimization guide](#) for tips on streamlining your reports.

## Power BI visuals

Power BI visuals are supported in Publish to web. When you use Publish to web, users with whom you share your published visual don't need to enable Power BI visuals to view the report.

## Understanding the embed code status column

### Note

Review the embed codes you've published often. Remove any that no longer need to be available publicly.

The [Manage embed codes](#) page includes a status column. By default, embed codes are **Active**, but could also be one of the statuses listed below.

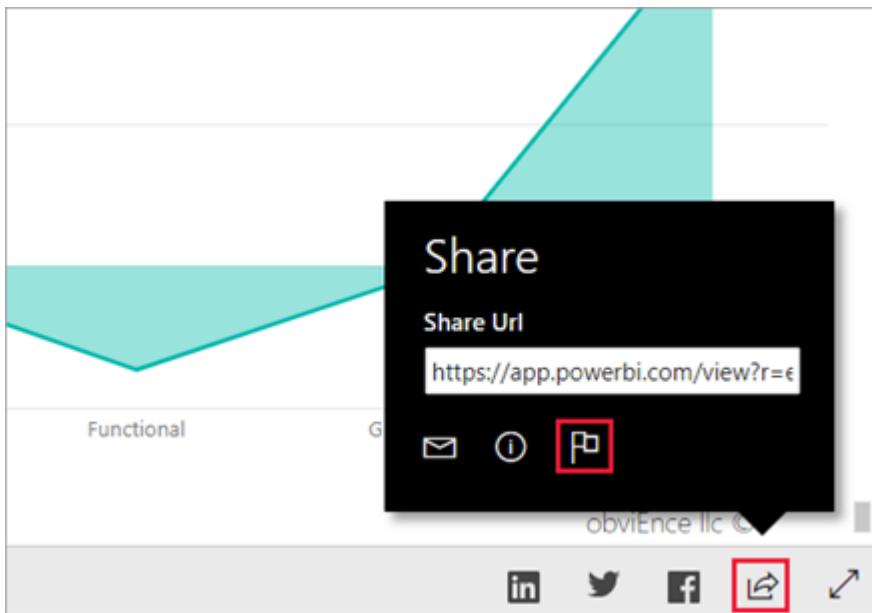
 [Expand table](#)

Status	Description
Active	The report is available for Internet users to view and interact with.

Status	Description
Blocked	The report content violates the <a href="#">Power BI Terms of Service</a> . Microsoft has blocked it. Contact support if you believe the content was blocked in error.
Not supported	The report's semantic model is using row-level security, or another unsupported configuration. See the <a href="#">Considerations and limitations</a> section for a complete list.
Infringed	The embed code is outside the defined tenant policy. This status typically occurs when an embed code was created and then the <b>Publish to web</b> tenant setting was changed to exclude the user owning the embed code. If the tenant setting is disabled, or the user is no longer allowed to create embed codes, existing embed codes show an <b>Infringed</b> status. See the <a href="#">Find your Power BI administrator</a> section in this article for details.

## Report a concern with Publish to web content

To report a concern related to Publish to web content embedded in a website or blog, select the **Share** icon in the bottom bar of the Publish to web report, then select the **Flag** icon in the **Share** dialog box.



You're asked to send an email to Microsoft explaining your concern. Microsoft evaluates the content based on the [Power BI Terms of Service](#) and takes appropriate action.

## How it works (technical details)

When you create an embed code using Publish to web, the report is made visible to Internet users. It's publicly available, so you can expect viewers to easily share the report through social media in the future. Users view the report either by opening the direct public URL or viewing it embedded in a web page or blog. As they do, Power BI caches

the report definition and the results of the queries required to view the report. This caching ensures that thousands of concurrent users can view the report without impacting performance.

The data is cached for one hour from the time it is retrieved. If you update the report definition (for example, if you change its View mode) or refresh the report data, it can take some time before changes are reflected in the version of the report that your users view. When a data refresh occurs for an import data model, the service clears the cached data and retrieves new data. In most cases, the data is updated nearly simultaneous with the import of the data. However, for reports with many distinct queries, it may take some time to update. Since each element and data value is cached independently, when a data update occurs, a user may see a mix of current and previous values. Therefore, we recommend staging your work ahead of time, and creating the Publish to web embed code only when you're satisfied with the settings. If your data will refresh, minimize the number of refreshes and perform the refreshes at off hours. We don't recommend using Publish to web for data that needs to refresh frequently.

## Find your Power BI administrator

The Power BI admin portal has settings that control who can publish to the web. Work with your organization's [Power BI administrator](#) to change the [Publish to web tenant settings](#) in the admin portal.

For smaller organizations or individuals who signed up for Power BI, you may not have a Power BI administrator yet. Follow our [process for admin takeover](#). Once you have a Power BI administrator, they can enable creating embed codes for you.

Established organizations usually already have a Power BI administrator. People in any of the following roles can act as a Power BI administrator:

- Global administrators
- Users with the Fabric administrator role in Microsoft Entra ID

You need to [find one of these people](#) in your organization and ask them to update the [Publish to web tenant settings](#) in the admin portal.

## Considerations and limitations

Publish to web is supported for the vast majority of data sources and reports in the Power BI service. However, the following kinds of reports are currently *not* supported or available with Publish to web:

- Reports using row-level security.
- Reports connecting to data using DirectQuery. Connect using composite or import mode instead. Read about the [differences between the modes](#).
- Reports using any Live Connection data source, including Analysis Services Tabular hosted on-premises, Analysis Services Multidimensional, and Azure Analysis Services.
- Reports using a [shared semantic model](#) that is stored in a different workspace from the report.
- [Shared and certified semantic models](#).
- Reports shared to you directly or through an app.
- Reports in a workspace in which you aren't an edit member.
- "R" and Python visuals aren't currently supported in Publish to web reports.
- Exporting data from visuals in a report that has been published to the web.
- Q&A for Power BI visuals.
- Reports containing report-level DAX measures.
- Single sign-on data query models, including [composite models on Power BI semantic models or Azure Analysis Services](#).
- Secure confidential or proprietary information.
- The automatic authentication capability provided with the **Embed** option doesn't work with the Power BI JavaScript API. For the Power BI JavaScript API, use the [user owns data](#) approach to embedding.
- Admins can block public internet access, as described in [Private links for accessing Power BI](#). In that case, the Publish to Web option is grayed out for your tenant in the Power BI admin portal.
- License enforcement for custom visuals.
- Uncertified visuals from the organizational store, when the global tenant switch of the organization for uncertified visuals is on.
- Public visuals from the organizational store, when the global tenant switch of the organization doesn't allow visuals created using the Power BI SDK.
- The user who created the embed code needs to maintain access to the report for the embed code to work. This includes requiring a Pro or Premium Per User license as required by the workspace.
- Paginated reports.
- Multiple-language reports.

## Related content

- [SharePoint Online report web part](#)
- [Embed report in a secure portal or website](#)

More questions? [Try the Power BI Community](#) ↗

# Share a Power BI dashboard that links to an Excel file in OneDrive

Article • 01/10/2023

In Power BI, you can [connect to Excel workbooks on OneDrive for work or school](#) and pin tiles to a dashboard from that workbook. When you share that dashboard, selecting the tile opens the workbook inside Power BI. The workbook only opens if your colleagues have at least [read permissions](#) to the workbook on OneDrive for work or school.

## Share a dashboard that contains workbook tiles

To share a dashboard that links back to an Excel workbook on OneDrive for work or school, see [Share a dashboard](#). The difference is that you can modify the permissions for the linked Excel workbook before sharing.

The screenshot shows the 'Share dashboard' dialog box. At the top, it says 'Share dashboard' and 'Not shared with anyone'. Below that, there are two buttons: 'Invite' (which is selected) and 'Shared with'. A text input field contains 'guy@contoso.com' with a clear button 'X' and a placeholder 'Enter email addresses'. Below the input field is a large empty box for previewing the shared dashboard. A note below the preview box states: 'Recipients will have access to the same data and reports as you have in this dashboard.' followed by a 'Learn more' link. A yellow warning box at the bottom contains the text: '⚠ This dashboard contains tiles linked to Excel workbooks. To view the workbooks, invitees need at least Read permissions for the workbooks in OneDrive for Business' followed by a 'Learn more' link and a 'Set workbook permissions' button. At the bottom of the dialog, there are two checked checkboxes: 'Allow recipients to share your dashboard' and 'Send email notification to recipients'. A large yellow 'Share' button is at the very bottom.

1. Enter the email addresses for your colleagues you want to share the workbook with.

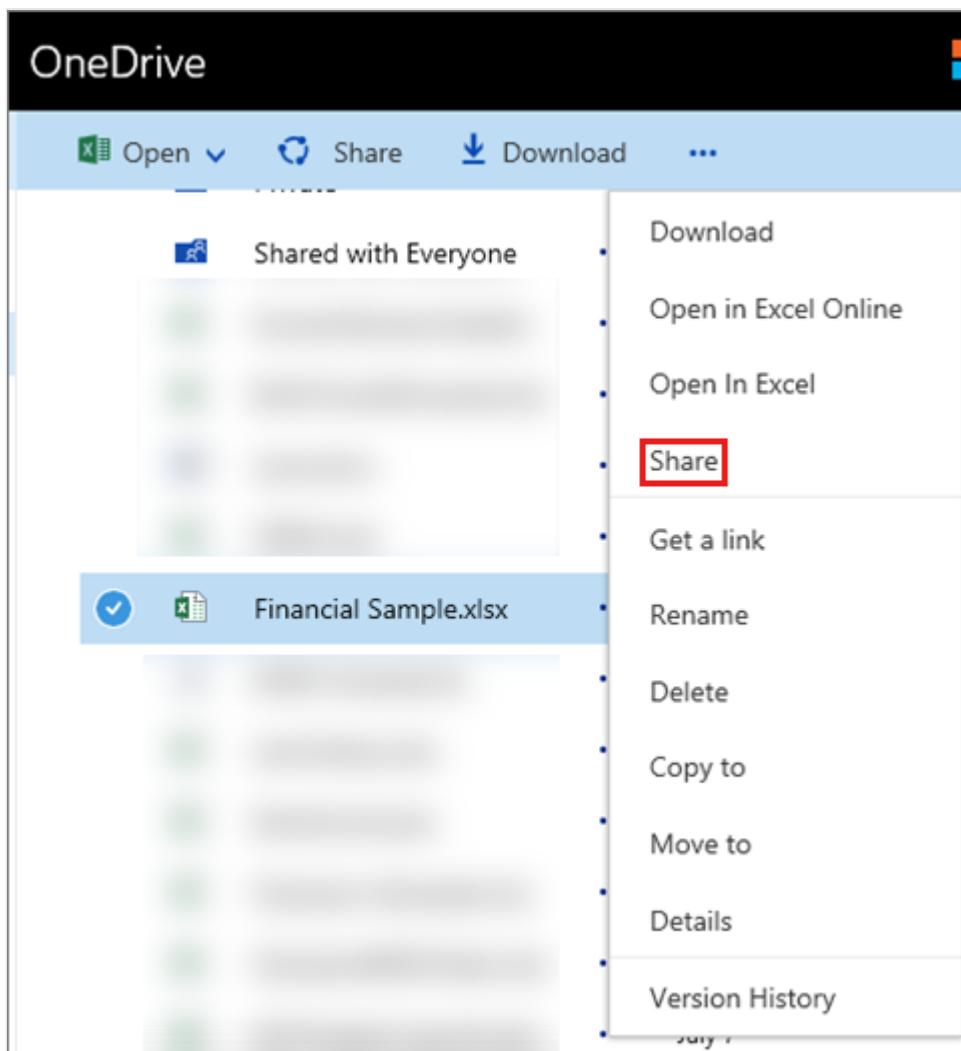
2. To enable your colleagues to view the Excel workbook from Power BI, select **Go to OneDrive for work or school to set workbook permissions**.
3. In OneDrive, [modify the permissions](#) as needed.
4. Select **Share**.

 **Note**

Your colleagues won't be able to pin additional tiles from that workbook or make changes to the Excel workbook from Power BI.

## Share a dashboard from a Power BI workspace

Sharing a dashboard from a Power BI workspace is similar to sharing a dashboard from your own workspace, except that the files are in a Microsoft 365 workspace site instead of your private OneDrive. Modify the permissions for the Excel workbook before you share the dashboard with people outside the workspace.



## Next steps

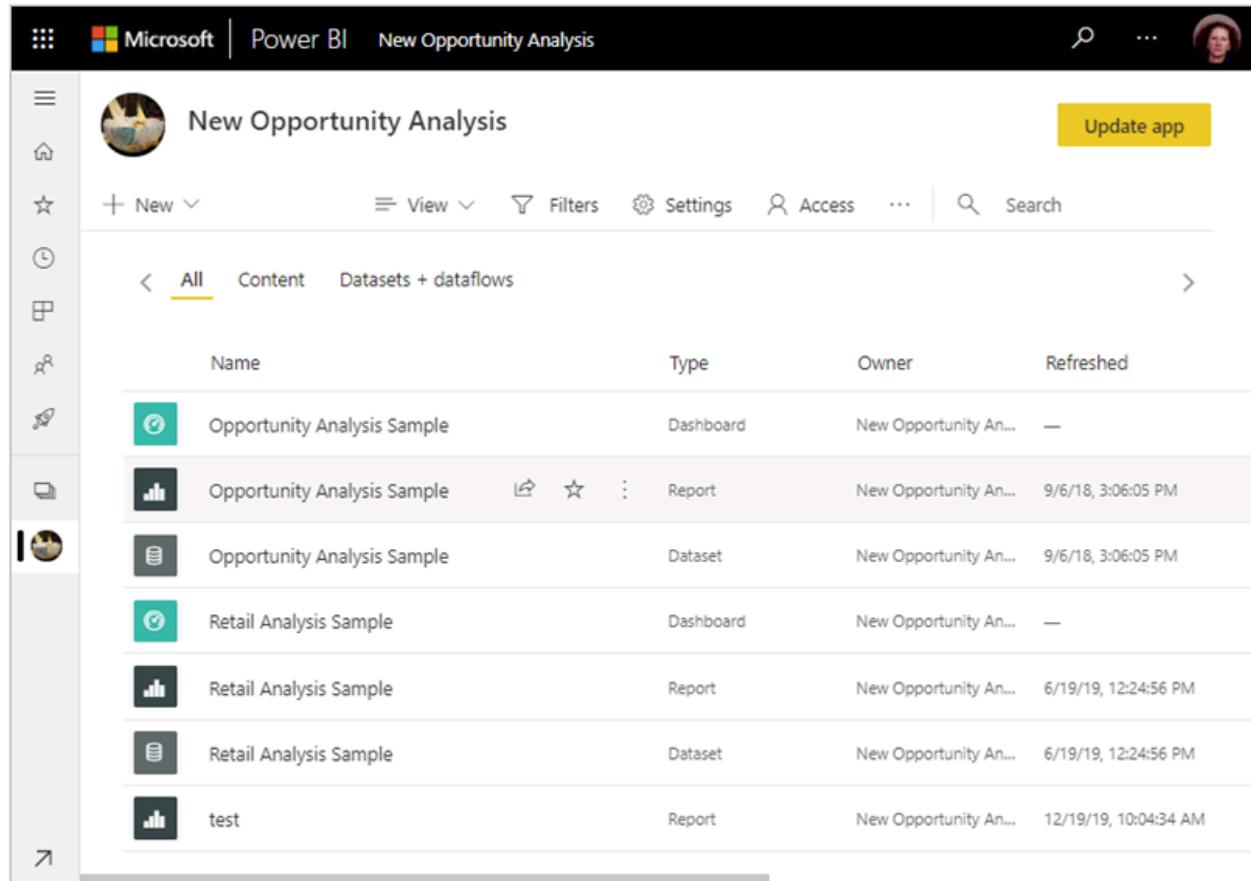
- Pin a tile to a Power BI dashboard from Excel
- Basic concepts for designers in the Power BI service
- Questions? [Try the Power BI Community](#)

# Workspaces in Power BI

Article • 04/17/2024

*Workspaces* are places to collaborate with colleagues to create collections of dashboards, reports, semantic models, and paginated reports. This article describes workspaces, how to manage access to them, and how to use them to create and distribute apps.

Ready to get started? Read [Create a workspace](#).



The screenshot shows the Microsoft Power BI workspace interface. At the top, there's a navigation bar with icons for Home, Recent, Dashboards, Reports, Datasets, and Dataflows. The title 'New Opportunity Analysis' is displayed, along with a 'Update app' button. Below the title, there are buttons for '+ New', 'View', 'Filters', 'Settings', 'Access', and a search bar. A sidebar on the left contains icons for Home, Recent, Dashboards, Reports, Datasets, Dataflows, and a magnifying glass. The main content area shows a table with the following data:

Name	Type	Owner	Refreshed
Opportunity Analysis Sample	Dashboard	New Opportunity An...	—
Opportunity Analysis Sample	Report	New Opportunity An...	9/6/18, 3:06:05 PM
Opportunity Analysis Sample	Dataset	New Opportunity An...	9/6/18, 3:06:05 PM
Retail Analysis Sample	Dashboard	New Opportunity An...	—
Retail Analysis Sample	Report	New Opportunity An...	6/19/19, 12:24:56 PM
Retail Analysis Sample	Dataset	New Opportunity An...	6/19/19, 12:24:56 PM
test	Report	New Opportunity An...	12/19/19, 10:04:34 AM

## Working with workspaces

Here are some useful tips about working with workspaces.

- **Use granular workspace roles** for flexible permissions management in the workspaces: Admin, Member, Contributor, and Viewer. Read more about [workspace roles](#) in this article.
- **Contact list:** Specify who receives notification about workspace activity. Read more about [workspace contact lists](#) in this article.
- **Create template apps:** You can create *template apps* in workspaces. Template apps are apps that you can distribute to customers outside of your organization. Those

customers can then connect to their own data with your template app. Read the article about [template apps](#).

- **Share semantic models:** You can share semantic models between workspaces. Read more about [shared semantic models](#).

This article explains these features in more detail.

## Workspace contact list

The **Contact list** feature allows you to specify which users receive notification about issues occurring in the workspace. By default, any user or group specified as a workspace admin in the workspace is notified. You can add to that list. Users or groups in the contact list are also listed in the user interface (UI) of the workspaces, so workspace end-users know whom to contact.

Read about [how to create the workspace contact list](#).

## Microsoft 365 and OneDrive

Power BI doesn't create a Microsoft 365 group behind the scenes when you create a workspace. All workspace administration is in Power BI. Still, you might find it useful to have a OneDrive associated with the workspace.

- You can **manage user access** to content through Microsoft 365 groups, if you want. You add a Microsoft 365 group in the workspace access list.

Power BI doesn't synchronize between Microsoft 365 group membership and permissions for users or groups with access to the workspace. You can synchronize them: Manage workspace access through the same Microsoft 365 group whose file storage you configure in this setting.

- You can also **store Power BI content in OneDrive for work or school**. With the Workspace OneDrive feature in workspaces, you can configure a Microsoft 365 group whose SharePoint Document Library file storage is available to workspace users. You create the group outside of Power BI.

Read about [how to set the workspace OneDrive](#).

### Note

Power BI lists all Microsoft 365 groups that you're a member of in the workspaces list.

# Roles and licenses

Roles let you manage who can do what in workspaces, so team members can collaborate. To grant access to a workspace, assign those user groups or individuals to one of the workspace roles: Admin, Member, Contributor, or Viewer.

- **Licensing enforcement:** Publishing reports to a workspace enforces existing licensing rules. Users collaborating in workspaces or sharing content to others in the Power BI service need a Power BI Pro or Premium Per User (PPU) license. Users without a Pro or PPU license see the error "Only users with Power BI Pro licenses can publish to this workspace."
- **Read-only workspaces:** The Viewer role in workspaces gives users read-only access to the content in a workspace.
- **Users without a Pro or Premium Per User (PPU) license** can access a workspace if the workspace is in a Power BI Premium capacity, but only if they have the Viewer role.
- **Allow users to export data:** Even users with the Viewer role in the workspace can export data if they have Build permission on the semantic models in that workspace. Read more about [Build permission for semantic models](#).
- **Assign user groups to workspace roles:** You can add Active Directory security groups, distribution lists, or Microsoft 365 groups to these roles, for easier user management.

See the article [Roles in workspaces](#) for more details about the different roles.

## Administering and auditing workspaces

Administration for workspaces is in the Power BI admin portal. Power BI admins decide who in an organization can create workspaces and distribute apps. Read about [managing users' ability to create workspaces](#) in the "Workspace settings" article.

Admins can also see the state of all the workspaces in their organization. They can manage, recover, and even delete workspaces. Read about [managing the workspaces themselves](#) in the "Admin portal" article.

## Auditing

Power BI audits the following activities for workspaces.

Friendly name	Operation name
Created Power BI folder	CreateFolder
Deleted Power BI folder	DeleteFolder
Updated Power BI folder	UpdateFolder
Updated Power BI folder access	UpdateFolderAccess

Read more about [Power BI auditing](#).

## Considerations and limitations

Limitations to be aware of:

- The total number of semantic models and reports in a workspace can't exceed a thousand.
- Power BI publisher for Excel isn't supported.
- Certain special characters aren't supported in workspace names when using an XMLA endpoint. As a workaround, use URL encoding of special characters, for example, for a forward slash /, use %2F.
- A user or a [service principal](#) can be a member of up to 1,000 workspaces.

## Related content

- [Create workspaces in Power BI](#)
- [Install and use apps in Power BI](#)
- Questions? [Try asking the Power BI Community](#) ↗

## Feedback

Was this page helpful?

 Yes

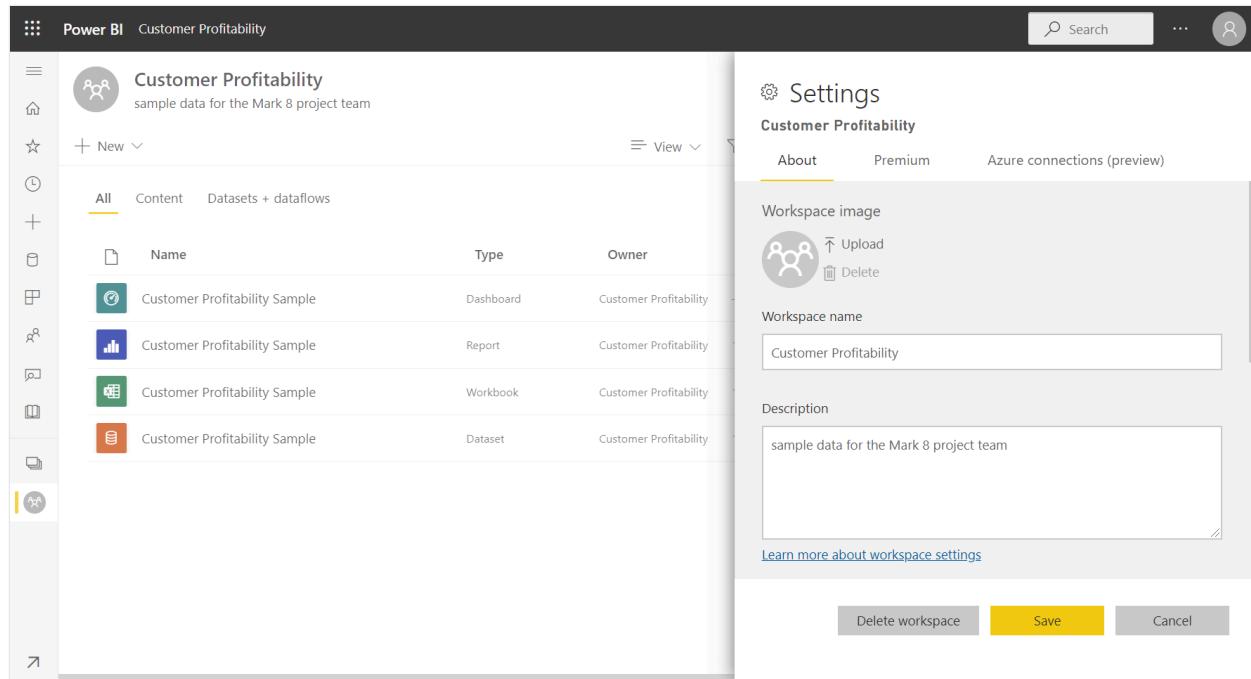
 No

[Provide product feedback](#) ↗ | [Ask the community](#) ↗

# Create a workspace in Power BI

Article • 09/10/2024

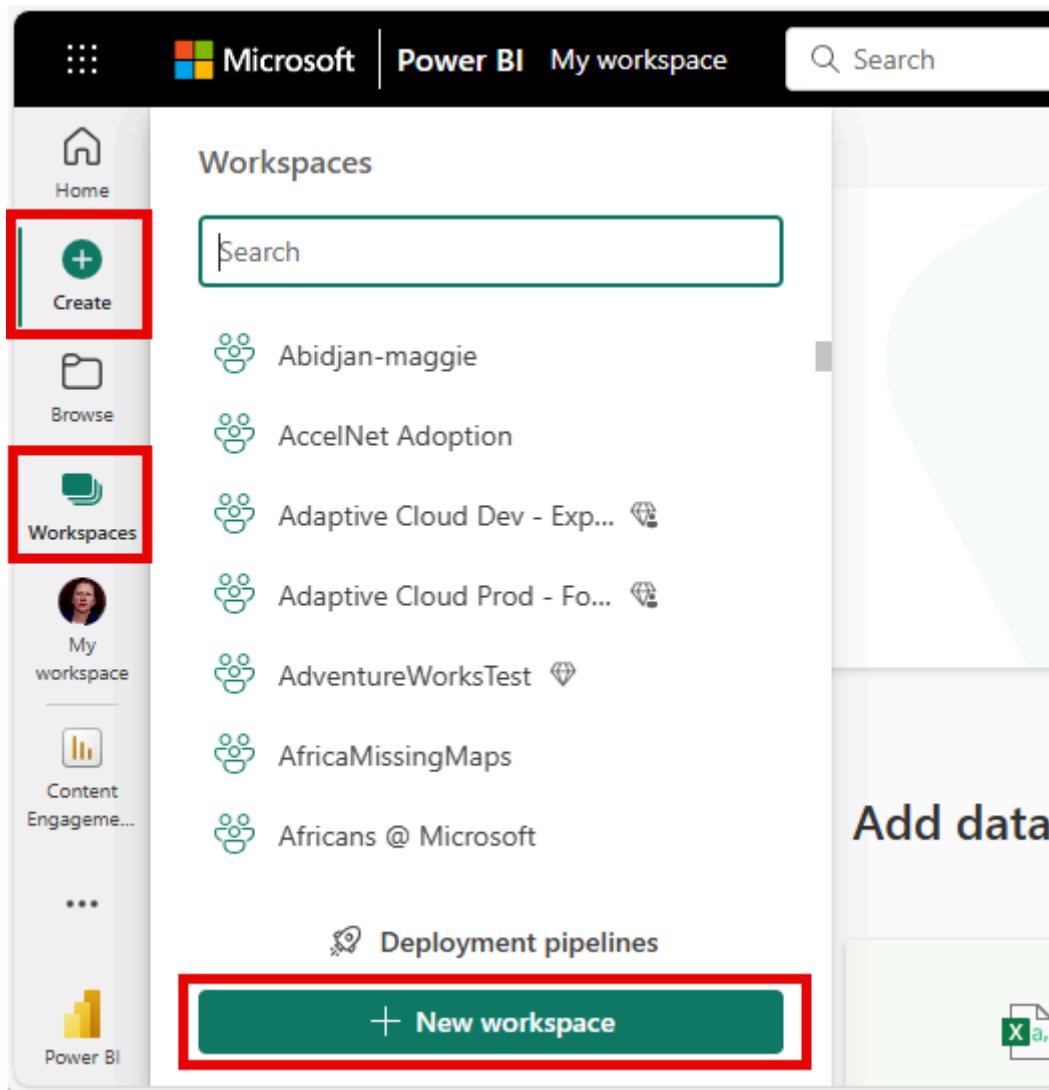
This article explains how to create *workspaces*, spaces to collaborate with colleagues. In them, you create collections of dashboards, reports, and paginated reports. If you want, you can also bundle that collection into an *app* and distribute it to a broader audience. For more background, see the [Workspaces in Power BI](#) article.



The screenshot shows the Power BI workspace settings interface. On the left, there's a sidebar with icons for Home, New, Content, Datasets + dataflows, and a workspace icon. The main area displays a workspace named "Customer Profitability" with a subtitle "sample data for the Mark 8 project team". It lists four items: "Customer Profitability Sample" (Dashboard), "Customer Profitability Sample" (Report), "Customer Profitability Sample" (Workbook), and "Customer Profitability Sample" (Dataset). On the right, the "Settings" pane is open, showing tabs for About, Premium, and Azure connections (preview). Under "Workspace image", there's a placeholder for a profile picture with "Upload" and "Delete" buttons. The "Workspace name" field contains "Customer Profitability". The "Description" field contains "sample data for the Mark 8 project team". At the bottom, there are buttons for "Delete workspace" (disabled), "Save" (highlighted in yellow), and "Cancel".

## Create a workspace

1. Select **Create > Workspaces > New workspace**.



2. Give the workspace a unique name. If the name isn't available, edit it to come up with a name that's unique.

When you create an app from the workspace, by default it will have the same name and icon as the workspace. You can change both when you create the app.

3. Here are some optional settings for your workspace. They're explained in more detail in the [Workspace settings](#) section later in this article:

- Upload a **Workspace image**. Files can be .png or .jpg format. File size has to be less than 45 KB.
- [Specify a Workspace OneDrive](#) to use a Microsoft 365 Group file storage location (provided by SharePoint).
- [Add a Contact list](#), the names of people to contact for information about the workspace. By default, the workspace admins are the contacts.
- [Allow contributors to update the app](#) for the workspace
- [Assign the workspace to a Premium capacity](#).
- Connect the workspace to an Azure Data Lake Gen2 storage account (in preview). Read about this functionality in the article [Configuring dataflow storage to use Azure Data Lake Gen 2](#).

#### 4. Select Save.

Power BI creates the workspace and opens it. You see it in the list of workspaces you're a member of.

## Workspace settings

To see these workspace settings, expand **Advanced** in the **Settings** pane.

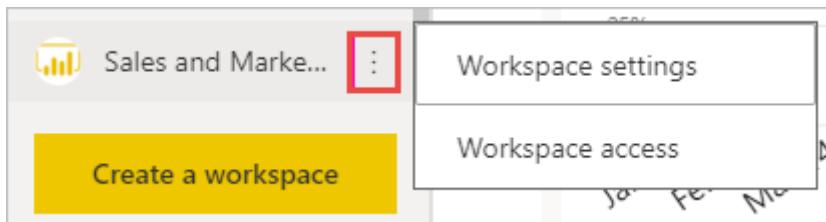
### Create a contact list

You can specify which users receive notification about issues occurring in the workspace. By default, any user or group specified as a workspace admin is notified, but you can add others to the *contact list*. Users or groups in the contact list are listed in the user interface (UI) to help users get help related to the workspace.

1. Access the **Contact list** setting in one of two ways:

In the **Create a workspace** pane when you first create it.

In the nav pane, select the arrow next to **Workspaces**, select **More options (...)** next to the workspace name > **Workspace settings**. The **Settings** pane opens.



2. Under **Advanced**, **Contact list**, accept the default, **Workspace admins**, or add your own list of **Specific users or groups**.

 **Settings**

**Customer Profitability**

About      Premium      Azure connections (preview)

Workspace image

 [Upload](#) [Delete](#)

Workspace name

Customer Profitability

Description

sample data for the Mark 8 project team

[Learn more about workspace settings](#)

Advanced ▾

Contact list

Workspace admins  
 Specific users and groups

Mark 8 Project Team [X](#) Enter users and groups

3. Select **Save**.

## Set a workspace OneDrive

The Workspace OneDrive feature allows you to configure a Microsoft 365 Group whose SharePoint document library is available to workspace users. You create the Group *outside* of Power BI first, with one available method being from OneDrive. Read about creating a [OneDrive shared library ↗](#).

### Note

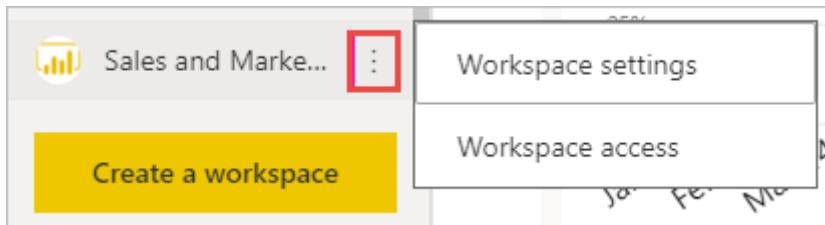
Creating Microsoft 365 Groups may be restricted in your environment, or the ability to create them from your OneDrive site may be disabled. If this is the case, speak with your IT department.

Power BI doesn't synchronize permissions between users or groups with workspace access, and users or groups with Microsoft 365 Group membership. A best practice is to give [access to the workspace](#) to the same Microsoft 365 Group whose file storage you configured. Then manage workspace access by managing membership of the Microsoft 365 Group.

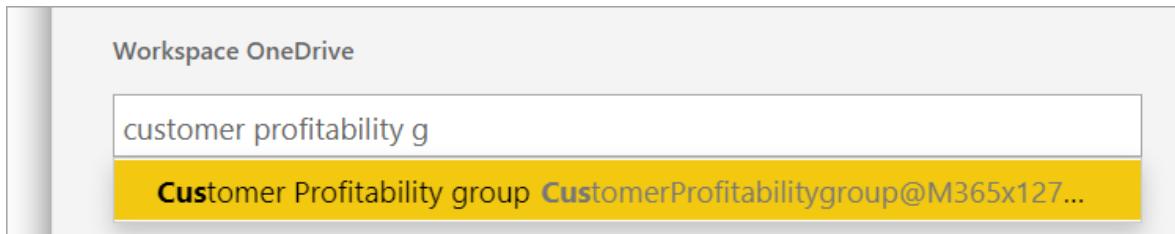
1. Access the **Workspace OneDrive** setting in one of two ways:

In the **Create a workspace** pane when you first create it.

In the nav pane, select the arrow next to **Workspaces**, select **More options (...)** next to the workspace name > **Workspace settings**. The **Settings** pane opens.



2. Under **Advanced > Workspace OneDrive**, type the name of the Microsoft 365 group that you created earlier. Type just the name, not the URL. Power BI automatically picks up the OneDrive for the group.



3. Select **Save**.

## Access the workspace OneDrive location

After you've configured the OneDrive location, you get to it in the same way you get to other data sources in the Power BI service.

1. In the nav pane, select **Data hub**, then type the OneDrive location in the **Filter** box.

	Name	Type	Owner	Location	Endorsement
1	Sales and Marketing Sample...	Dataset	Lee Gu	My Workspace	-
2	Sales and Marketing Sample	Dataset	Lee Gu	My Workspace	-
3	Store Sales	Dataset	Lee Gu	My Workspace	-
4	Contoso Q2 Division Sales	Dataset	MOD Admin...	Sales and Marketing	-
5	Sales	Dataset	MOD Admin...	Sales and Marketing	Promoted

Power BI should automatically detect the workspace OneDrive, so it appears under **Location**. It may take some time for the workspace OneDrive to appear on the **Data hub** page after you've configured it.

2. Select the semantic model.

## Allow contributors to update the app

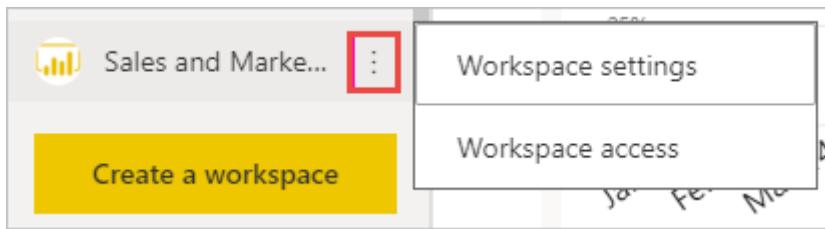
You can create and publish *apps* from a workspace. Each workspace can hold the content for an associated *app*, a collection of dashboards, reports, and semantic models which you can distribute to others in your organization. Read more about [publishing apps from workspaces](#).

By default, only workspace Admins and Members can create, publish and update the app for the workspace. The **Allow contributors to update the app for this workspace** setting lets workspace Admins delegate the ability to update the app for the workspace to users with the workspace Contributor role. Read more about the different [roles in workspaces](#).

1. Access the **Allow contributors to update the app** setting in one of two ways:

In the **Create a workspace** pane when you first create it.

In the nav pane, select the arrow next to **Workspaces**, select **More options (...)** next to the workspace name > **Workspace settings**. The **Settings** pane opens.



- Under Advanced, expand Security settings. Select Allow contributors to update the app for this workspace.

When these features are enabled, contributors can:

- Update app metadata such as name, icon, description, support site, and color.
- Add or remove items included in the app, like adding reports or semantic models.
- Change the visibility of the items for all the audience groups in the audience tab.

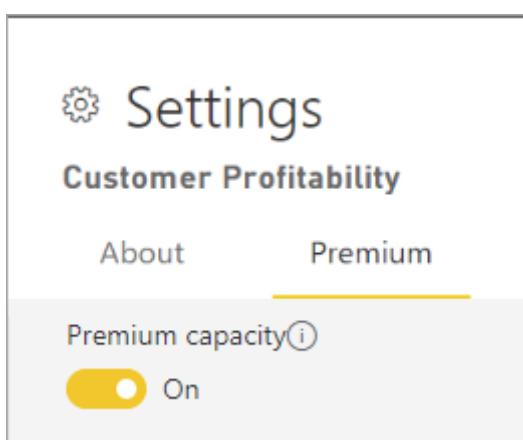
However, contributors can't:

- Create or publish the app for the first time.
- Add users to the app or change who has permission to the app.
- Enable or disable automatic installation of app for app users.
- Enable or disable advance settings under Manage audience access pane. These settings include share and build permissions for the semantic models in the audience groups.
- Allow or prevent app consumers saving a copy of reports included in the app.

## Premium capacity settings

On the **Premium** tab in the **Settings** pane, you can choose settings related to Premium capacities.

- Set Premium capacity to **On**.



- Choose either Premium capacity or Premium Per User. Read more about [Premium Per User](#).

Choose an available Premium capacity for this workspace

-

Premium Per User - Reserved - West Central US

-

3. Choose **Default storage limit**. Read more about [enabling large semantic models](#).

## Give users access to your workspace

Now that you've created the workspace, you'll want to add other users to *roles* in the workspace, so you can collaborate with them. See these articles for more information:

- [Give users access to a workspace](#)
- [Roles in workspaces in Power BI](#)

## Pin workspaces

Quickly access your favorite workspaces by pinning them to the top of the workspace flyout list.

1. Open the workspace flyout from the nav pane and hover over the workspace you want to pin. Select the **Pin to top** icon.

**Workspaces**

Search

My workspace

All

- Alpha Team
- Bravo Team
- Golf
- Test
- Bigdata Team
- Mike
- Oscar Team
- Quebec Team
- US Team
- Dev Team
- Sales Team

+ New workspace

2. The workspace is added in the Pinned list.

**Workspaces**

Search

My workspace

Pinned

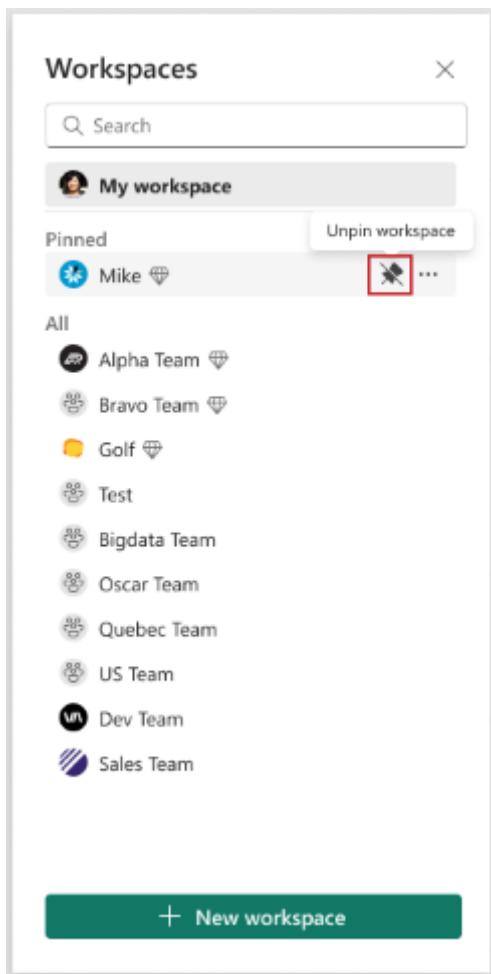
- Mike

All

- Alpha Team
- Bravo Team
- Golf
- Test
- Bigdata Team
- Oscar Team
- Quebec Team
- US Team
- Dev Team
- Sales Team

+ New workspace

3. To unpin a workspace, select the unpin button. The workspace is unpinned.



## Related content

- Read about [workspaces in Power BI](#)
- [Publish an app from a workspace in Power BI](#)
- Questions? [Try asking the Power BI Community ↗](#)

---

## Feedback

Was this page helpful?

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# Roles in workspaces in Power BI

Article • 11/25/2024

*Workspaces* are places to collaborate with colleagues and create collections of dashboards, reports, semantic models, and paginated reports. This article describes the different roles in workspaces, and what people in each role can do. For more information, see [workspaces in Power BI](#).

To create a new workspace, see [Create a workspace](#).

The screenshot shows the 'Access' section of a Microsoft Power BI workspace titled 'Sales and Marketing'. At the top, there's a search bar, a user profile icon, and several navigation icons. Below the title, a message encourages adding admins, members, or contributors, with a link to 'Learn more'. A search input field contains 'Bianca Pisani' and an 'X' button. A dropdown menu shows role options: 'Member' (selected), 'Admin', 'Member', 'Contributor' (highlighted in blue), and 'Viewer'. The main table lists three users: Megan Bowen (Admin), MOD Administrator (Admin), and Sales and Marketing (Member). Each row has a '... More' button. A 'Close' button is at the bottom right.

NAME	PERMISSION
Megan Bowen	Admin
MOD Administrator	Admin
Sales and Marketing	Member

Roles let you manage who can do what in a workspace, so teams can collaborate. Workspaces allow you to assign roles to individuals, and also to user groups such as security groups, Microsoft 365 groups, and distribution lists.

To grant access to a workspace, assign one of the following workspace roles to a user group or individual: Admin, Member, Contributor, or Viewer. For more information, see [Give users access to workspaces](#).

Everyone in a user group gets the role that you've assigned. If someone is in several user groups, they get the highest level of permission that's provided by the roles that they're assigned. If you nest user groups and assign a role to a group, all the contained users get that role's permissions. All these capabilities, except viewing and interacting, require a Power BI Pro or Premium Per User (PPU) license. For more information, see [licensing](#).

## Workspace roles

  Expand table

Capability	Admin	Member	Contributor	Viewer
Update and delete the workspace.	✓			
Add or remove any user in a workspace role.	✓			
Allow Contributors to update the app for the workspace.	✓			
Add members or others with lower permissions.	✓	✓		
Publish, unpublish, and change permissions for an app.	✓	✓		
Update an app.	✓	✓		If allowed <sup>1</sup>
Share items in apps, including semantic models. <sup>2</sup>	✓	✓		
Allow others to reshare items. <sup>2</sup>	✓	✓		
Feature apps on colleagues' home. <sup>7</sup>	✓	✓		
Manage semantic model permissions. <sup>3</sup>	✓	✓		
Feature dashboards and reports on colleagues' home. <sup>6</sup>	✓	✓	✓	
Publish, Create, edit, and delete content, such as reports, in the workspace.	✓	✓	✓	
Create a report in another workspace based on a semantic model in this workspace. <sup>3</sup>	✓	✓	✓	
Copy a report. <sup>3</sup>	✓	✓	✓	
Create goals that are based on a semantic model in the workspace. <sup>3</sup>	✓	✓	✓	

Capability	Admin	Member	Contributor	Viewer
Schedule data refreshes via the on-premises gateway. <sup>4</sup>	✓	✓	✓	
Modify gateway connection settings. <sup>4</sup>	✓	✓	✓	
View and interact with an item. <sup>5</sup>	✓	✓	✓	✓
Read data that's stored in workspace dataflows.	✓	✓	✓	✓
Create subscriptions to reports <sup>6</sup>	✓	✓	✓	✓
Subscribe others to reports <sup>6</sup>	✓	✓	✓	
Analyze in Excel <sup>9</sup>	✓	✓	✓	
Manage subscriptions created by others.	✓			
Can receive subscriptions created by others <sup>6</sup>	✓	✓	✓	

<sup>1</sup> Contributors can [update the app that's associated with the workspace](#), if the workspace Admin delegates this permission to them. However, they can't publish a new app or change who has permission to edit it.

<sup>2</sup> Contributors and Viewers can also share items in a workspace or an app, including semantic models, if the app creator selected **Allow users to share the semantic models in this app**. See the [Create and manage multiple audiences](#) section of "Publish an app in Power BI."

<sup>3</sup> To copy a report to another workspace, and to create a report in another workspace based on a semantic model in the current workspace, you need [Build permission for the semantic model](#). You also need at least the Contributor role on the source and destination workspaces. For semantic models in the original workspace, if you have at least the Contributor role, you automatically have Build permission through your workspace role. For details, see [Copy reports from other workspaces](#).

<sup>4</sup> Keep in mind that you also need permissions on the gateway. Those permissions are managed elsewhere, independent of workspace roles and permissions. For details, see [Manage an on-premises gateway](#).

<sup>5</sup> If the items are in a workspace in a Premium capacity, you can view and interact with items in the Power BI service even if you don't have a Power BI Pro license.

<sup>6</sup> To subscribe yourself or others requires a paid (Power BI Pro or Premium Per User (PPU)()) license. When you subscribe others, those recipients also need a paid

subscription, unless the items are in a workspace in a Premium capacity. B2B guest users can't subscribe others, only themselves.

<sup>7</sup> If your admin has enabled this feature, see [Manage featured content](#).

<sup>8</sup> If your admin has enabled this feature, see [Users can try Microsoft Fabric paid features](#).

<sup>9</sup> If you want your users with the Viewer role to Analyze in Excel or export underlying data from the datasets in the workspace, you need to also give them Build permission on the appropriate datasets.

### Note

- You can assign users to roles, either alone or in a group, even if they can't use the role. In other words, you can assign users who don't have Power BI Pro or PPU licenses to a role that requires a license. See [Licenses](#) for details.
- Use the Viewer role to enforce [row-level security \(RLS\)](#) for users who browse content in a workspace. You can also enforce RLS without giving access to the workspace, [publish an app](#) and distribute it to those users, or use [sharing to distribute content](#).
- Members can add users to a workspace with lower permissions, but can't remove users from any workspace roles.
- Deleting a user from Microsoft Entra ID doesn't automatically remove their access to Power BI workspaces. This fact is by design to prevent accidental data loss. Even after they're deleted from Microsoft Entra ID, the user's workspace access remains until explicitly removed.

## Licenses

If one of the workspaces is in a shared capacity, everyone you add to it needs a Power BI Pro or Premium Per User (PPU) license. These users can all collaborate on the dashboards and reports in the workspace. If you want to distribute content to others inside your organization, either assign Power BI Pro licenses to those users or place the workspace in a Power BI Premium capacity.

When the workspace is in a Power BI Premium capacity, users with the Viewer role can access the workspace even if they don't have a Power BI Pro or Premium Per User (PPU) license. However, if you assign these users a higher role like Admin, Member, or Contributor, they're prompted to start a Pro trial when they try to create an artifact in

the workspace<sup>8</sup>. If you want users without Pro or Premium Per User (PPU) licenses to use the Viewer role, make sure they don't also have other workspace roles, either as individuals or as part of a user group.

Publishing reports to the workspace enforces existing licensing rules. If you try to publish from Power BI Desktop or other client tools without a Pro or Premium Per User (PPU) license, you see the error, "Only users with Power BI Pro licenses can publish to this workspace."

 **Note**

Power BI US Government isn't available as a Free license. For licensing details, see [Power BI for US government customers](#).

## Guest users

[Microsoft Entra B2B Guest users](#) who have been assigned a workspace role or granted specific item permissions, will be able to perform the operations permitted by those roles or permissions.

 **Note**

Guest users who have been assigned workspace roles or specific item permissions will continue to have those roles and/or permissions, even if the [Allow Microsoft Entra guest users to edit and manage content in the organization](#) tenant setting is disabled.

## Considerations and limitations

A limitation to be aware of:

- A person with a Power BI Pro license can be a member of a maximum of 1,000 workspaces.

## Related content

- [Create workspaces in Power BI](#)
- [Give users access to workspaces](#)
- Questions? [Try asking the Power BI Community](#) ↗

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# Feedback

Was this page helpful?

 Yes

 No

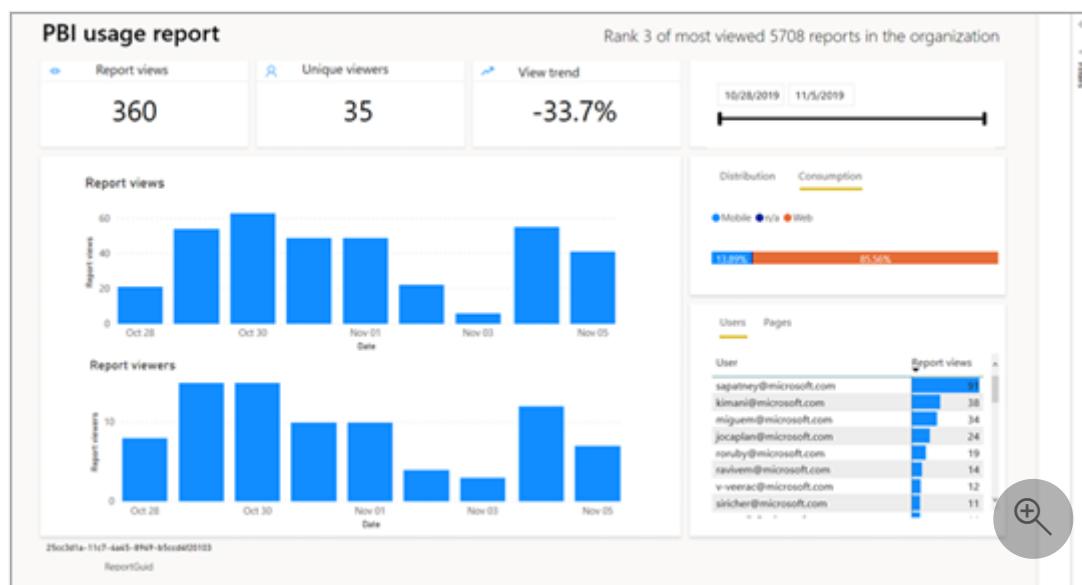
[Provide product feedback ↗](#) | [Ask the community ↗](#)

# Monitor usage metrics in the workspaces (preview)

Article • 01/14/2025

Knowing how your content is being used helps you demonstrate your impact and prioritize your efforts. Your usage metrics may show that one of your reports is used daily by a huge segment of the organization. It may show that nobody is viewing a dashboard you created at all. This type of feedback is invaluable in guiding your work efforts.

If you create reports in workspaces, you have access to improved usage metrics reports. They enable you to discover who's using those reports throughout your organization, and how they're using them. You can also identify high-level performance issues. The improved usage reports for shared workspaces replace the usage metrics reports documented in [Monitor report usage metrics](#).



## ⓘ Note

You can only run usage metrics reports in the Power BI service. However, if you save a usage metrics report or pin it to a dashboard, you can open and interact with that report on mobile devices.

## Prerequisites

- You need a Power BI Pro or Premium Per User (PPU) license to run and access the usage metrics data. However, the usage metrics feature captures usage

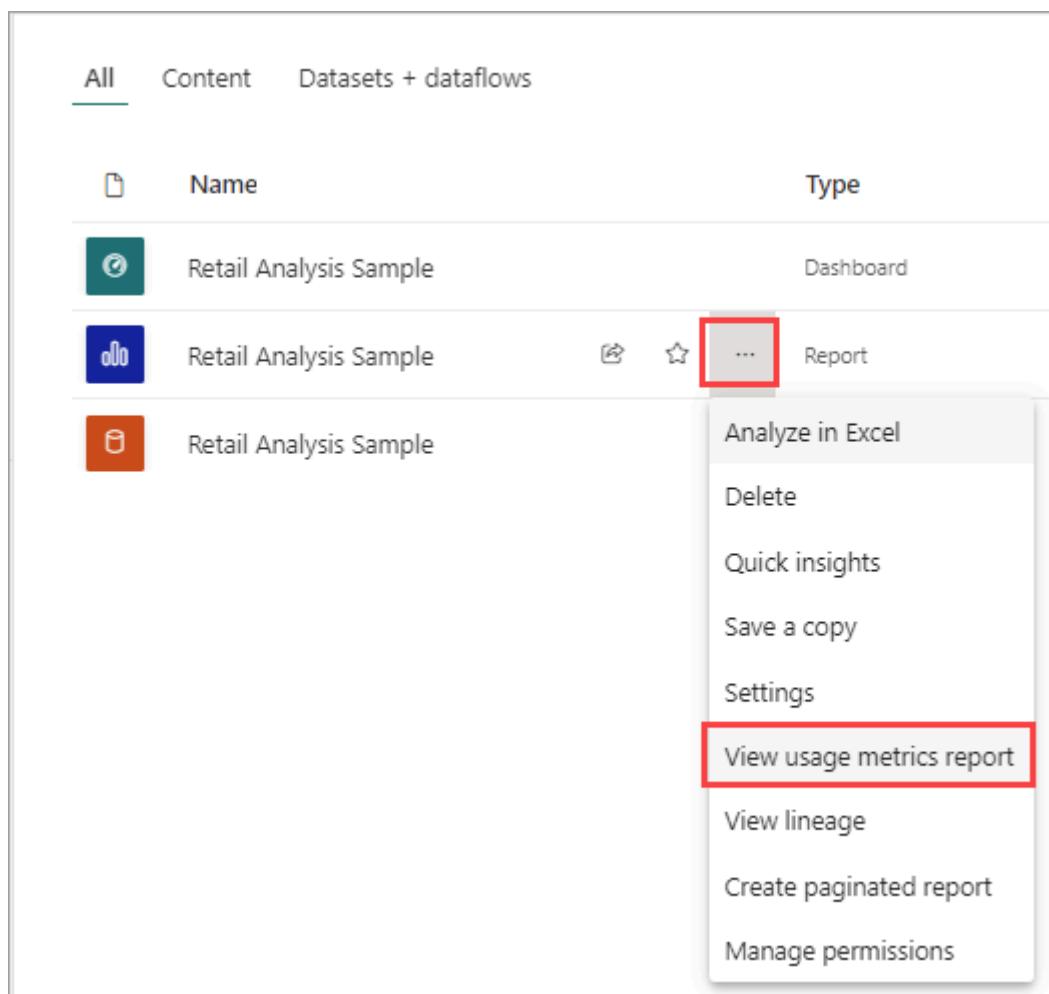
information from all users, regardless of the license they're assigned.

- To access usage metrics for a report, you must have edit access to the report.
- Your Power BI admin must have enabled usage metrics for content creators. Your Power BI admin may have also enabled collecting per-user data in usage metrics. Read about how to [enable these options in the admin portal](#).

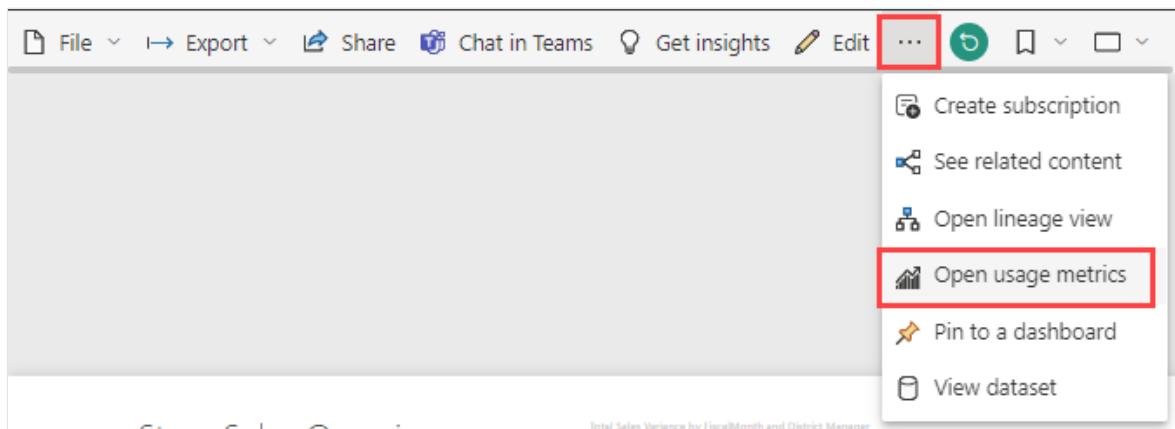
## Create and view a new usage metrics report

Only users with admin, member, or contributor permissions can view the usage metrics report. Viewer permissions aren't enough. If you're at least a contributor in a workspace in which your report resides, you can use the following procedure to display the usage metrics:

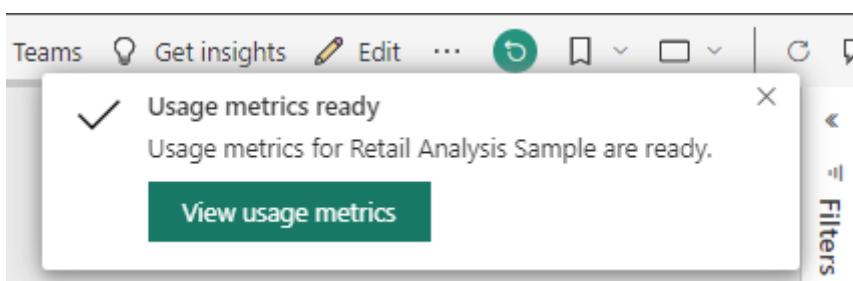
1. Open the workspace that contains the report for which you want to analyze the usage metrics.
2. From the workspace content list, select **More options (...)** for the report and select **View usage metrics report**.



Or open the report, then on the command bar, select **More options (...)** > **Open usage metrics**.

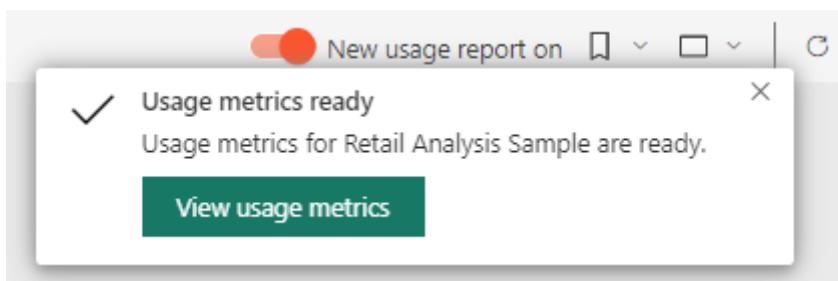


3. The first time you do this, Power BI creates the usage metrics report and lets you know when it's ready.



4. To see the results, select **View usage metrics**.

5. If this is the first time you've viewed a usage metrics report, Power BI might open the old usage metrics report. To display the improved usage metrics report, in the upper right corner, toggle the **New usage report** switch to **On**.



## About the new usage metrics report

When you display the usage metrics report, Power BI generates a pre-built report. It contains usage metrics for that content for the last 30 days. The report looks similar to the Power BI reports you're already familiar with. You can slice based on how your end users received access, whether they accessed via the web or mobile app, and so on. As your reports evolve, so too will the usage metrics report. It updates every day with new data.

### ⓘ Note

Usage metrics reports don't show up in Recent, Workspaces, Favorites, or other content lists. They can't be added to an app. If you pin a tile from a usage metrics report to a dashboard, you can't add that dashboard to an app.

## Usage metrics report semantic model

When you first launch the usage metrics report, Power BI automatically creates a Usage Metrics Report semantic model. The usage metrics report relies on that semantic model. Power BI then refreshes this semantic model daily. Although you can't change the refresh schedule, you can update the credentials that Power BI uses to refresh the usage metrics data.

You may need to resume scheduled refresh if one of the following occurs:

- The credentials expire.
- You removed the user who first launched the usage metrics report from the workspace where the semantic model resides.
- The user who first launched the usage metrics report leaves or is no longer a part of the organization.

### Note

While still in preview, the usage metrics semantic model may have minor changes which affect custom reports.

## Usage metrics report pages

The improved usage metrics report includes the following report pages:

- **Report usage** Provides information about report views and report viewers, such as how many users viewed the report by date.
- **Report performance** Shows the typical report opening times broken down by consumption method and browser types.
- **FAQ** Provides answers to frequently asked questions, such as What is a "Viewer" and what is a "View"?

## Which metrics are reported?

 Expand table

Page	Metric	Description
Report usage	Report views/Report opens	A Report View is recorded each time someone opens a report and represents unique landings on the report. It answers the question, "How often is the report accessed?" This definition of a Report View differs from previous usage metrics reports. Changing report pages is no longer considered an additional Report View. Instead, changing report pages counts for the next metric, Report Page Views. Activities such as sharing and pinning are no longer considered in usage metrics.
Report usage	Report Page views	A Report Page View is recorded every time someone views a report page. It represents total views across any pages. It answers the question, "How often are report pages accessed?" So changing report pages counts for Report Page Views. See <a href="#">Considerations and Limitations</a> for important details.
Report usage	Unique viewers	A viewer is someone who opened the report at least once during the time period, based on the Microsoft Entra user account.
Report usage	View trend	The view trend reflects view count changes over time. It compares the first half of the selected time period with the second half.
Report usage	Date slicer	You can change the time period on the Report usage page, such as to calculate week-over-week or biweekly trends. In the lower left corner of the Report usage page, you can set the earliest and latest date for which usage data is available for the selected report.
Report usage	Rank	Based on view count, the rank shows the popularity of a report in comparison to all other reports in the organization. A rank of one would mean the report has the most views of all reports in the organization.
Report usage	Report views per day	Usage is counted at the report level and doesn't consider Report Page Views.
Report usage	Report viewers per day	Total number of different users who viewed the report, based on the Microsoft Entra user account.
Report usage	Distribution method	How users got access to the report, such as by being members of a workspace, having the report shared with them, or installing an app.
Report usage	Platform slicer	If users accessed the report via the Power BI service (powerbi.com), Power BI Embedded, or a mobile device.
Report usage	Users with report views	Shows the list of users who opened the report sorted by view count.

Page	Metric	Description
Report usage	Pages	If the report has more than one page, slice the report by the pages that were viewed. "Blank" means either a report page was added within 24 hours of the new page appearing in the slicer list, or report pages have been deleted. "Blank" captures these types of situations.
Report performance	Typical opening time	The typical report opening time corresponds to the 50th percentile of the time it takes to open the report. In other words, it is the time below which 50% of the open-report actions are completed. The Report performance page also breaks down the typical report opening time by consumption method and browser type. At present, we measure the performance for the initial report load and first page viewed. The measurement starts when the report is requested and ends when the last visual completes rendering. Report interactions such as slicing, filtering, or changing pages aren't included in performance metrics.
Report performance	Opening time trend	The opening time trend reflects open-report performance changes over time. It compares the opening times for the report of the first half of the selected time period with the opening times of the second half.
Report performance	Date slicer	You can change the time period on the Report performance page, such as to calculate week-over-week or biweekly trends. In the lower left corner of the Report performance page, you can determine the earliest and latest date for which usage data is available for the selected report.
Report performance	Daily performance	The performance for 25%, 50%, and 75% of the open report actions calculated for each individual day.
Report performance	seven-day performance	The performance for 25%, 50%, and 75% of the open report actions calculated across the past seven days for each date.
Report performance	Consumption method	How users opened the report, such as via the Power BI service (powerbi.com), Power BI Embedded, or a mobile device.
Report performance	Browsers	What browser the users used to open the report, such as Firefox, Edge, and Chrome.
Report list	Active reports	What reports are being used across the workspace.
Report list	Total views	Total report opens across the workspace.
Report list	Total viewers	Total report viewers across the workspace.
Report list	View trend	The view trend reflects view count changes over time. It compares the first half of the selected time period with the second half.

Page	Metric	Description
Report list	Unused reports	Count of reports that have not been opened over time.
Report list	Report usage (table)	Shows which reports contribute to individual counts shown in cards. Shows report open percentages, users interacting with report, viewing trends and days.
Report list	Distribution method	How users got access to the report, such as being members of a workspace, having the report shared with them, or installing an app.
Report list	Platform slicer	If the report was accessed via the Power BI service (powerbi.com), Power BI Embedded, or a mobile device.
Report list	Unique viewers	A viewer is someone who opened the report at least once during the time period (based on the Microsoft Entra user account). Shows number of report opens by individual viewers.

## Worked example of View and Viewer metrics

Suppose we have four reports that are accessed by three users as follows:

[\[+\] Expand table](#)

Report Name	Usage Pattern
KPI Report	<ul style="list-style-type: none"> <li>User A opens the report on page one.</li> </ul>
HR Report	<ul style="list-style-type: none"> <li>User A opens the report on page one, then views page two, page three, and page four. Then they view page one again.</li> </ul>
Finance Report	<ul style="list-style-type: none"> <li>User A opens the report on page one, then views page two.</li> <li>User B opens the report on page one.</li> <li>User C opens the report on page one, then views page three.</li> </ul>
Sales Report	<ul style="list-style-type: none"> <li>User A opens the report on page one, then views page two</li> <li>User C opens the report on page two (e.g. via bookmark)</li> <li>Later in the day, User C opens the report on page one</li> </ul>

Assuming all client telemetry reaches Power BI, the resulting metrics would be:

Report Name	Report Views	Report Page Views	Viewers
KPI Report	1	1	1
HR Report	1	5	1
Finance Report	3	5	3
Sales Report	3	4	2

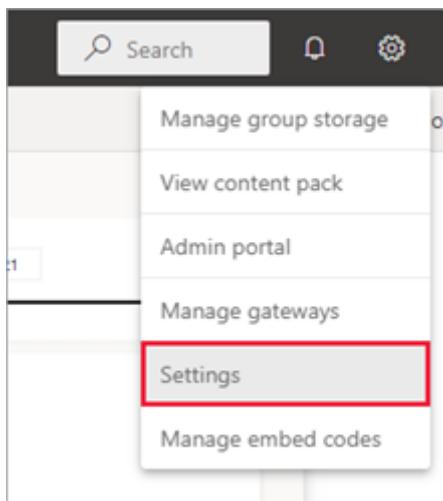
## Update usage metrics report credentials

If semantic model owners in your workspace leave, are no longer a part of your organization, or if the credentials expire, the semantic models may become stale and refreshes may fail. In such cases, you can use the following procedure to take over a Usage Metrics Report semantic model and update the credentials.

### ⓘ Note

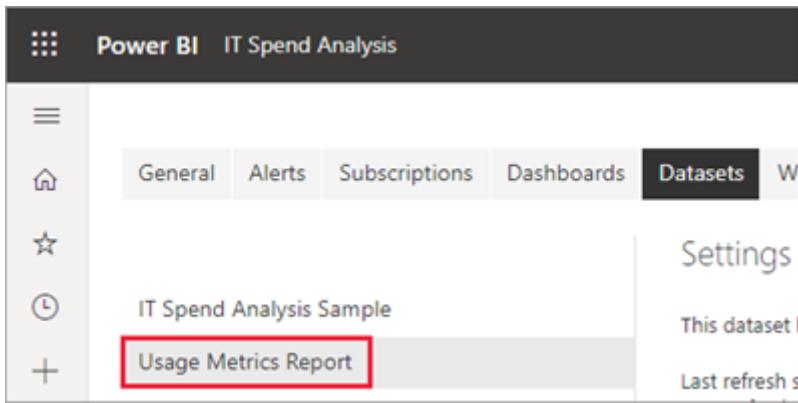
Updating credentials doesn't apply to My Workspace, because each user owns their own My Workspace, and they never need to transfer ownership of the semantic model.

1. Open the workspace that contains the report for which you want to update the Usage Metrics Report semantic model.
2. In the gray header bar at the top, select the **Settings** icon, then select **Settings**.



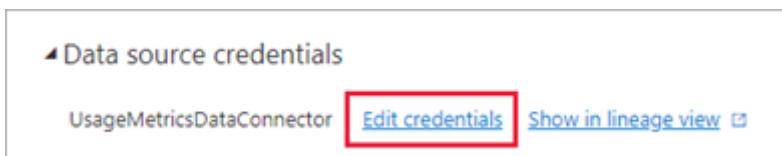
3. Switch to the **Semantic models** tab.

4. Select the Usage Metrics Report semantic model.

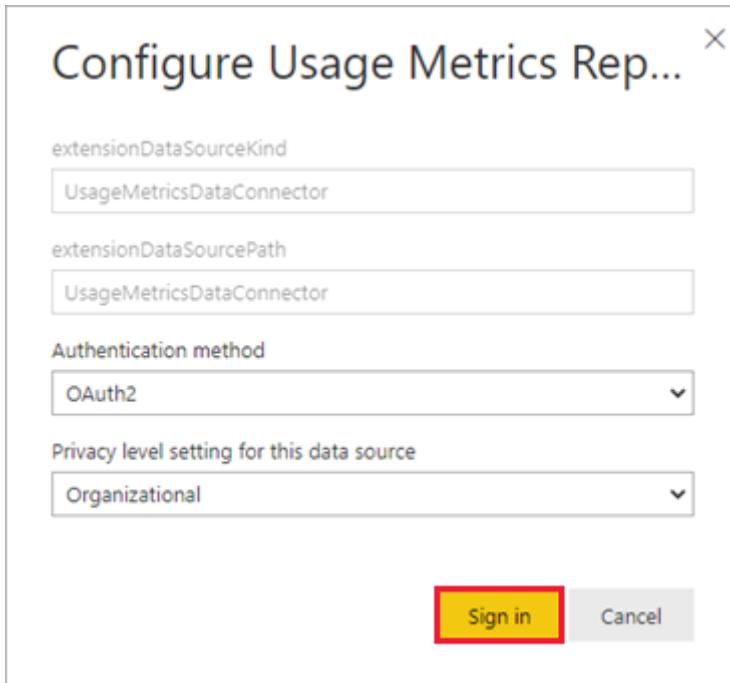


If you aren't the current semantic model owner, you must take over ownership before you can update the data source credentials.

5. Select the **Take over** button, then in the **Take over semantic model settings** dialog box, select **Take over** again.
6. Under **Data source credentials**, select **Edit credentials**.



7. In the **Configure Usage Metrics Report** dialog box, select **Sign in**.



8. Complete the sign-in sequence and note the notification that the data source was updated successfully.

 **Note**

The Usage Metrics Report semantic model contains usage data for the last 30 days. It can take up to 24 hours for new usage data to be imported. You can't trigger a manual refresh by using the Power BI user interface.

## Disable usage metrics reports

Usage metrics reports are a feature that the Power BI administrator can turn on or off. Administrators have granular control over which users have access to usage metrics; they're On by default for all users in the organization. See [Audit and usage metrics](#) in the Admin portal article for details on these settings.

 **Note**

Only admins for the Power BI tenant can see the Admin portal and edit settings.

## Exclude user information from usage metrics reports

By default, per-user data is enabled for usage metrics. This means content consumer account information such as user name and email address is included in the usage metrics report. Admins can limit exposure of identifying user information in the Power BI admin portal tenant settings. They can enable per-user data for the entire organization or specified security groups.

 **Note**

An embed scenario with excluded user information isn't supported. In such cases, usage metrics semantic model refresh will fail.

If user information is excluded, the usage report refers to users as 'Unnamed User [unique\_id]', where [unique\_id] is a meaningless unique identifier assigned to support distinct user count measures.

1. On the **Tenant settings** tab in the admin portal, under **Audit and usage settings**, expand **Per-user data in metrics for content creators** and select **Disabled**. This will hide user account information for all users.

2. Decide whether to **Delete all existing per-user data in current usage metrics content**. Select **Apply**.

The screenshot shows the Admin portal interface. On the left, a sidebar lists various settings: Usage metrics, Users, Premium Per User, Audit logs, Tenant settings (which is selected and highlighted in grey), Capacity settings, Refresh summary, Embed Codes, Organizational visuals, Azure connections, Workspaces, Custom branding, Protection metrics, and Featured content. The main content area is titled 'Audit and usage settings' and contains two sections: 'Create audit logs for internal activity auditing and compliance' (Enabled for the entire organization) and 'Usage metrics for content creators' (Enabled for the entire organization). Below these is a section titled 'Per-user data in usage metrics for content creators' with a note 'Unapplied changes'. It states: 'Usage metrics for content creators will expose display names and email addresses of users who are accessing content.' A toggle switch is set to 'Disabled'. At the bottom of this section is a checkbox labeled 'Delete all existing per-user data in current usage metrics content'. Two buttons at the bottom right are 'Apply' (yellow) and 'Cancel'.

When admins disable usage metrics for their entire organization, they can use the **Delete all existing usage metrics content** option to delete all existing reports and dashboard tiles that were built using the usage metrics reports. This option removes all access to usage metrics data for all users in the organization who may already be using it. Deleting existing usage metrics content is irreversible.

**(!) Note**

Only admins for the Power BI tenant can see the Admin portal and configure the Per-user data in usage metrics for content creators setting.

## Customize the usage metrics report

To dig into the report data, or to build your own reports against the underlying semantic model, you have several options:

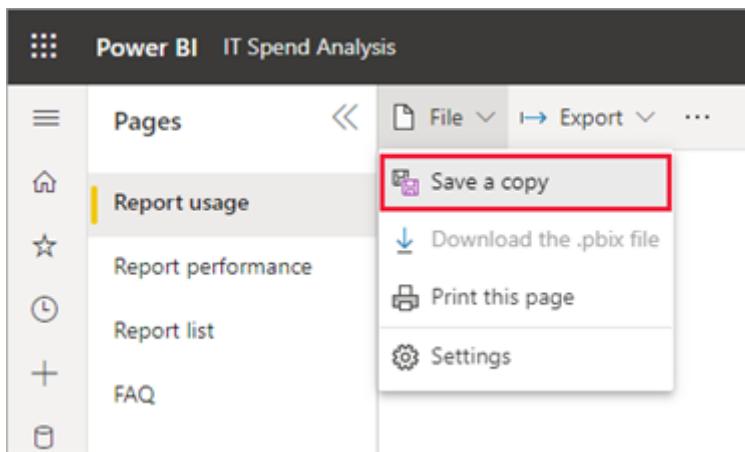
- **Make a copy of the report** in the Power BI service. Use **Save a copy** to create a separate instance of the usage metrics report, which you can customize to meet your specific needs.
- **Connect to the semantic model** with a new report. For every workspace, the semantic model has the name "Usage Metrics Report," as explained earlier in the section [Usage metrics report semantic model](#). You can use Power BI Desktop to build custom usage metrics reports based on the underlying semantic model.

- **Use Analyze in Excel.** You can also analyze the Power BI usage data in PivotTables, charts, and slicer features in Microsoft Excel. Read more about the [Analyze in Excel](#) feature.

## Create a copy of the usage report

When you create a copy of the read-only, pre-built usage report, Power BI creates an editable instance of the report. At first glance, it looks the same. However, you can now open the report in Editing view, add new visualizations, filters, and pages, modify or delete existing visualizations, and so on. Power BI saves the new report in the current workspace.

1. In the usage metrics report, select the **File** dropdown, then select **Save a copy**.



2. In the **Save your report** dialog box, enter a name, then select **Save**.

Power BI creates an editable Power BI report saved in the current workspace. Select **Go to report** in the **Report saved** dialog box that appears.

3. Select **Edit** to switch into Editing view.

From here you can change filters, add new pages, build new visualizations, format the fonts and colors, and so on.

4. The new report is saved to the **All** tab and the **Content** tab in the current workspace and added to the **Recent** list.

The screenshot shows the Power BI workspace interface. At the top, there's a dark header bar with the 'Power BI' logo and the title 'IT Spend Analysis'. Below this is a light-colored sidebar containing icons for navigation (three horizontal lines, house, star, plus sign, clock, plus sign) and a 'New' dropdown menu. The main area has a title 'IT Spend Analysis' with a circular icon. Below it is a 'New' button with a plus sign. A navigation bar at the top of the main content area includes tabs for 'All', 'Content', and 'Datasets + dataflows', with 'All' being the active tab. The main content area displays a table with four rows:

	Name	Type
	IT Spend Analysis May 2021	Report
	IT Spend Analysis Sample	Dashboard
	IT Spend Analysis Sample	Report
	IT Spend Analysis Sample	Dataset

The first row, which contains the original report, is highlighted with a red rectangular box.

### ⓘ Note

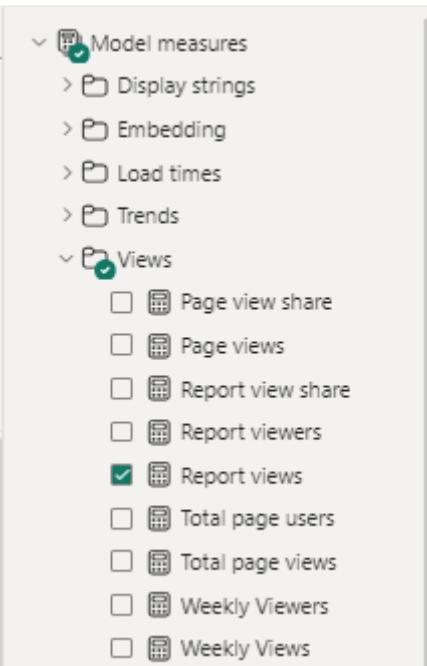
When you save a copy of the usage metrics report:

- The report is treated like a regular Power BI report. It will be accessible to all users who have viewing permissions in the workspace, including users in the Viewer role.
- The report is built on the original semantic model. If there are any changes from Power BI, this may break your copy of the report.

## Filter out pseudo-duplicates

To remove pseudo-duplicates from the Usage Report, you can add a **Report views** measure to filter them out.

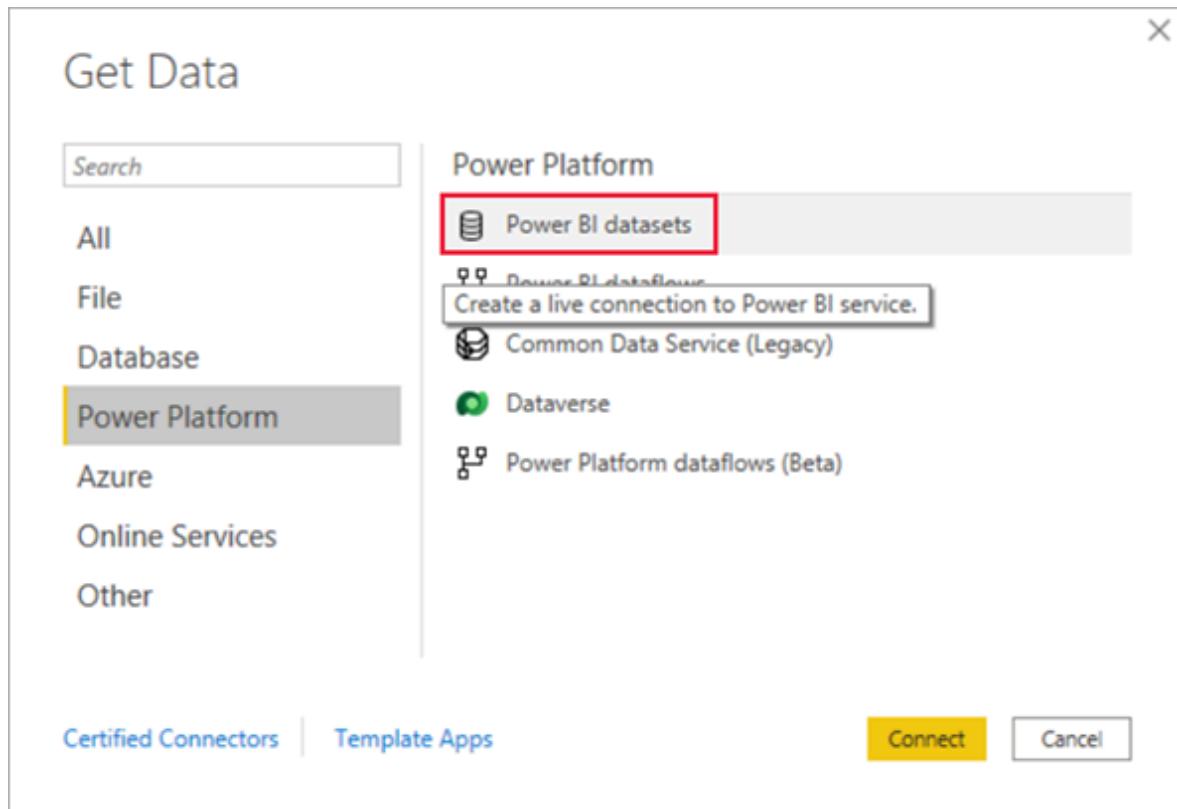
- Under **Model measures**, expand **Views**, and add **Report views** to the **Filters** pane.



## Create a usage report in Power BI Desktop

You can create a usage report in Power BI Desktop, based on the Usage Metrics Report semantic model. To establish a connection to the Usage Metrics Report semantic model and create your own report, you have to be signed in to the Power BI service in Power BI Desktop.

1. Open Power BI Desktop.
2. If you aren't signed in to the Power BI service, on the **File** menu select **Sign in**.
3. To connect to the Usage Metrics Report semantic model, on the **Home** ribbon select **Get Data > More**.
4. In the left pane, select **Power Platform**, then select **Power BI semantic models > Connect**.

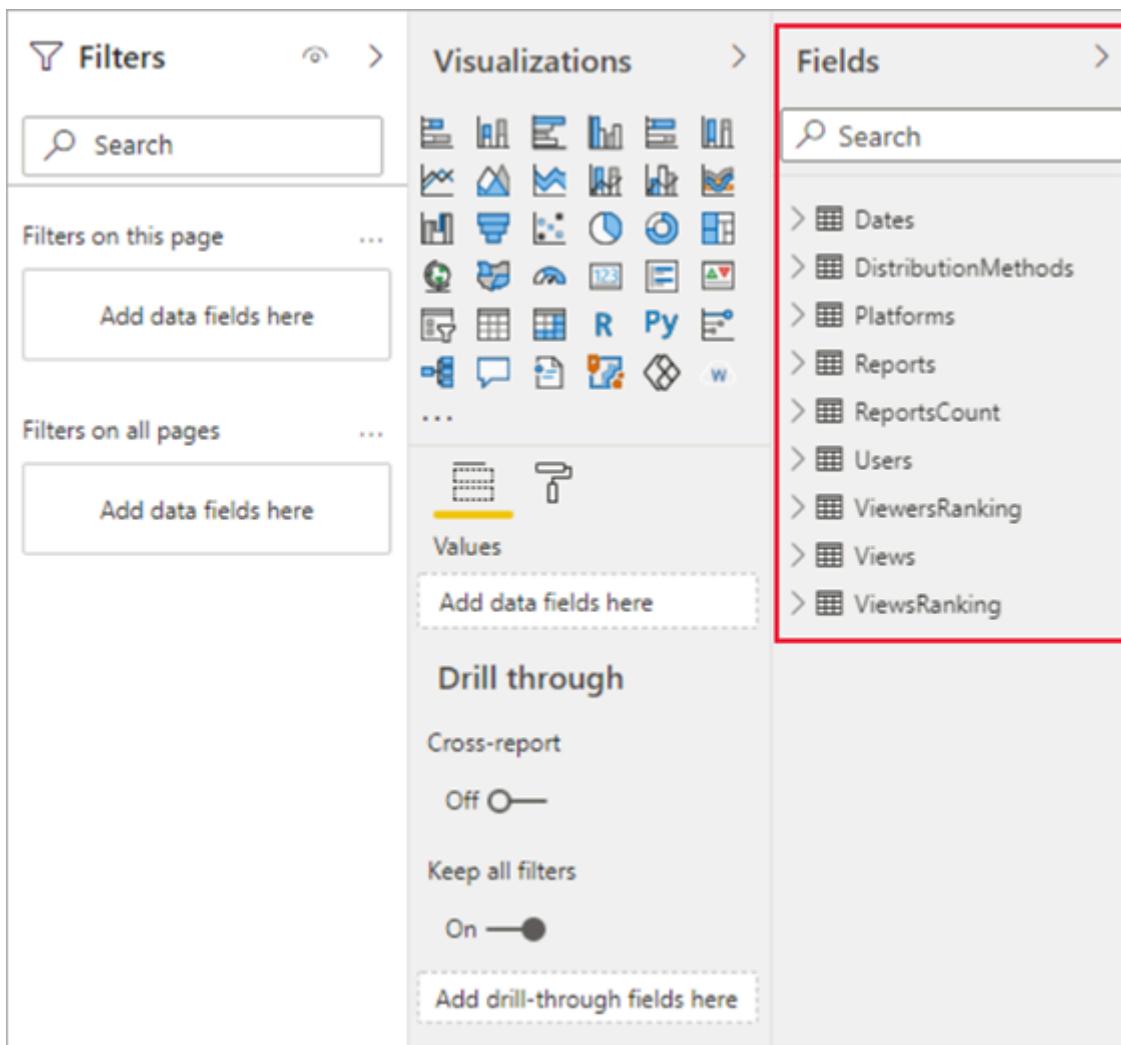


5. Scroll to the desired semantic model or type *Usage Metrics* in the search box.
6. Verify in the Workspace column that you're selecting the correct semantic model, then select **Create**.

Select a dataset to create a report				
<input type="text"/> Usage Metrics				
Name	Endorsement	Owner	Workspace	Refreshed
Dashboard Usage Metrics Model		Megan Bowen	Human Resources	14 minutes ago
Dashboard Usage Metrics Model		Megan Bowen	IT Spend Analysis	55 minutes ago
Report Usage Metrics Model		Megan Bowen	Sales and Marketing	16 minutes ago
Report Usage Metrics Model		Megan Bowen	Retail Analysis	13 minutes ago
Report Usage Metrics Model		Megan Bowen	IT Spend Analysis	an hour ago
Usage Metrics Report		Megan Bowen	Retail Analysis	2 hours ago
Usage Metrics Report		Megan Bowen	IT Spend Analysis	an hour ago

**Create** **Cancel**

7. Check the Fields list in Power BI Desktop, which gives you access to the tables, columns, and measures in the selected semantic model.



8. Now you can create and share custom usage reports, all from the same *Usage Metrics Report* semantic model.

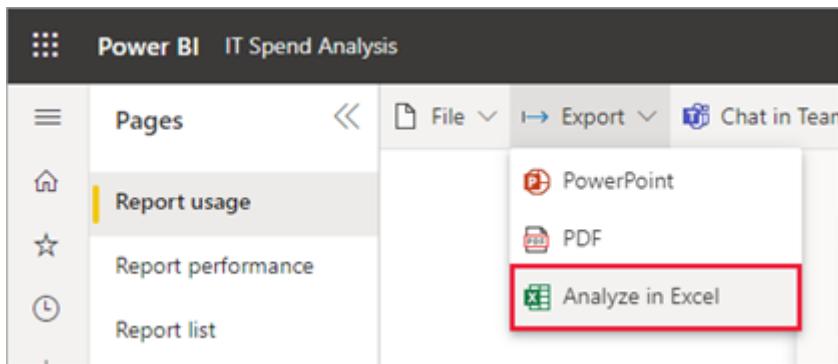
#### ⓘ Note

When you create a usage metrics report, it's built on the original semantic model. If there are any changes from Power BI, this may break your copy of the report.

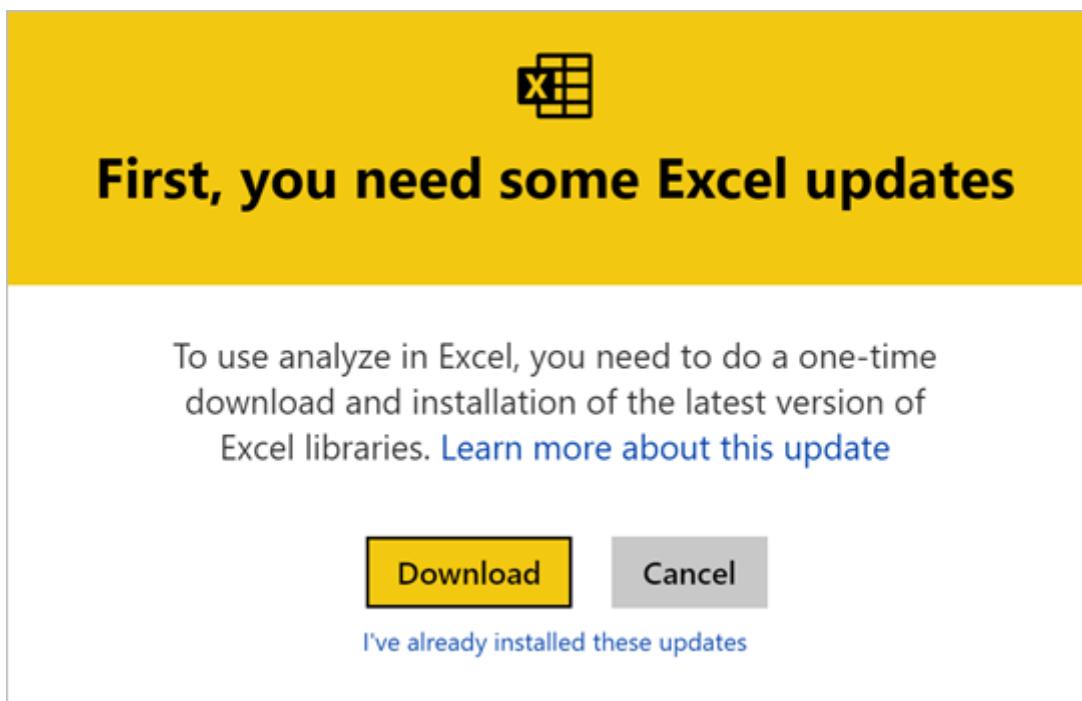
## Analyze usage data in Excel

When you connect to the usage data in Excel, you can create PivotTables that use the pre-defined measures. Note that Excel PivotTables do not support drag-and-drop aggregation of numeric fields when connecting to a Power BI semantic model.

1. First, if you haven't done so already, [create a copy of the usage metrics report](#).
2. Open the usage metrics report, select **Export > Analyze in Excel**.



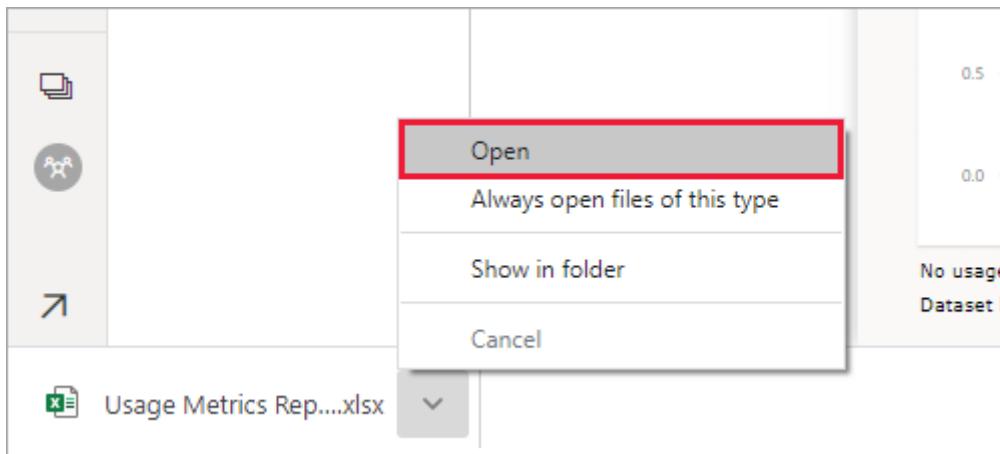
3. If you see the **First, you need some Excel updates** dialog box, select **Download** and install the latest updates for Power BI connectivity. Otherwise, select **I've already installed these updates**.



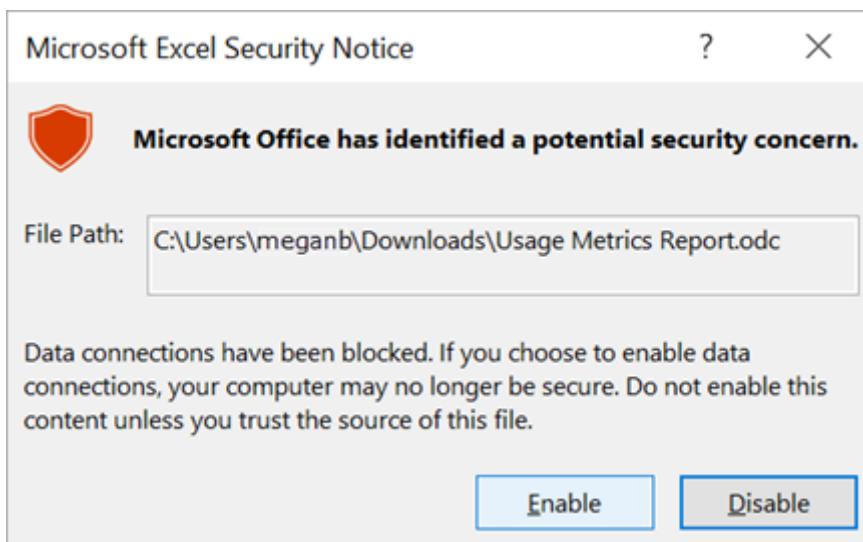
**ⓘ Note**

Some organizations may have Group Policy rules that prevent installing the required Analyze in Excel updates to Excel. If you can't install the updates, check with your administrator.

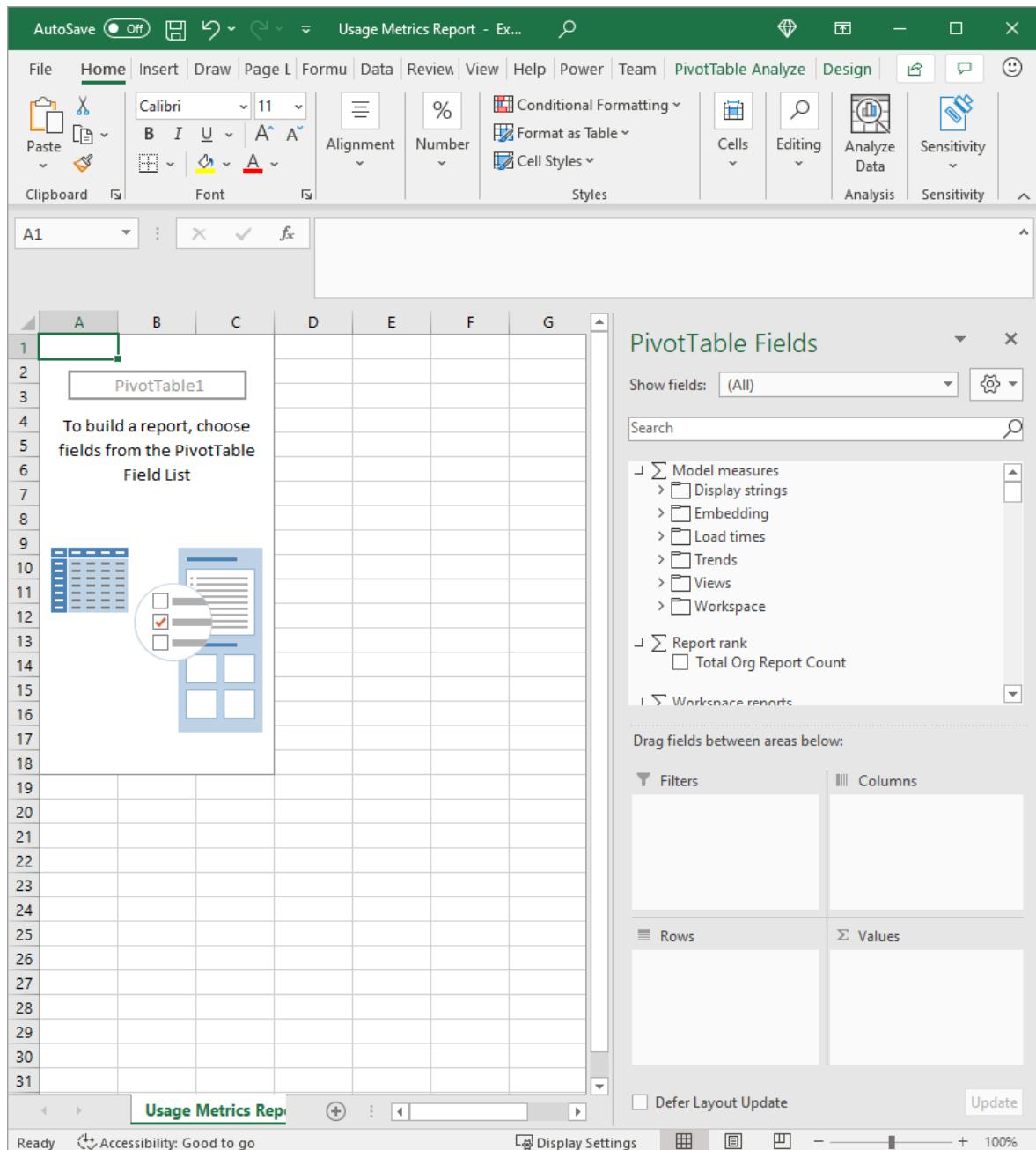
4. In the browser dialog asking what you want to do with the Usage Metrics report.odc file, select **Open**.



5. Power BI launches Excel. Verify the file name and path for the .odc file, then select **Enable**.



6. Now that Excel has opened and you have an empty PivotTable, you can drag fields onto the Rows, Columns, Filters, and Values boxes and create custom views into your usage data.



## Usage metrics in national/regional clouds

Power BI is available in separate national/regional clouds. These clouds offer the same levels of security, privacy, compliance, and transparency as the global version of Power BI, combined with a unique model for local regulations on service delivery, data residency, access, and control. Usage metrics are currently available in following national/regional clouds:

- US Government Community Cloud
- US Government Community Cloud High
- US Department of Defense
- China

For more information, see [national/regional clouds ↗](#).

# Considerations and limitations

It's important to understand that differences can occur when comparing the improved usage metrics report with its predecessor. Particularly Report View metrics are now based on activity data collected from the Power BI service. Previous versions of the usage metrics report relied only on client telemetry, which doesn't always match usage metrics collected from the service. Moreover, the improved usage metrics report uses a different definition for a "Report View." A Report View is an open-report event, as recorded in the service each time someone opens a report. Changing report pages is no longer considered an additional Report View. We now include a Report Page View metric, which specifically counts every page view.

## ⓘ Note

Report Page Views rely on client telemetry and can be affected by undercounting and overcounting of activities due to inconsistent network connections, ad blockers, or other client-side issues. Report View metrics relies on activity data collected from Power BI service, and matches the aggregate counts of activities in audit logs and activity logs.

In addition to the above differences between previous and improved usage metrics reports, note the following limitations for the preview release:

- Dashboard usage metrics still rely on the previous version of the usage metrics reports and aren't yet available in modern usage metrics.
- Performance data and Report Page View metrics rely on the client/device sending data to Power BI. Depending on network latency, ad blockers, firewalls, and network rules set by your organization, this data may never reach Power BI. Therefore, the performance and Report Page View data may not include all views or all users.
- Certain types of views aren't included in performance measurements. For example, when a user selects a link to a report in an email message, the Report View is accounted for in the report usage but there is no event in the performance metrics.
- Report performance metrics aren't available for Paginated Reports. The Pages tab on the Report usage page as well as the charts on the Report performance page don't show data for these types of reports.
- User masking isn't working as expected when using nested groups. Nested groups (subgroups) are groups that are members of existing groups. If your organization

has disabled Per-user data in usage metrics for content creators in the Power BI admin portal tenant settings, only the members on the top level are being masked. Members of subgroups are still visible.

- If you're using user masking in an embed scenario in your report, the usage metrics semantic model refresh will fail.
- Initializing the Usage Metrics Report semantic model might take a few minutes, resulting in showing a blank usage metrics report because the Power BI user interface does not wait for the refresh to finish. Check the refresh history in the Usage Metrics Report semantic model settings to verify that the refresh operation succeeded.
- Initializing the Usage Metrics Report semantic model might fail due to a timeout encountered during refresh. Refer to the [Troubleshooting section](#) below to resolve this or any general refresh issue.
- Sharing is disabled for the usage metrics report. To give people read access to the report, open the report and use the **Manage permissions** option to grant direct access.
- In some scenarios, you may notice the performance data is missing. This can occur if a user opens a report and interacts with the report before it has completed loading or if an error occurred during the report load.
- If your organization is using [Azure Private Link](#) in Power BI, because client-telemetry is not available the usage metrics reports will only contain Report Open events.
- If your organization is using [Azure Private Link](#) and **Block Public Internet Access** in Power BI, the refresh for the semantic model will fail and the usage metrics report won't show any data.
- In order to create and refresh the usage metrics report, the user is required to authenticate to enable the backend API calls to extract the tenant telemetry. For privacy reasons, guest users aren't allowed this authentication. This authentication is only allowed for members of the tenant.
- Page views that are made from mobile devices aren't shown in the usage metrics report.
- Duplicate reports with different Report ObjectIds in the usage metrics report can show up for the following scenarios:
  - Reports have been deleted and re-created with the same name

- If a report has been deleted and then re-created with the same name, it continues to show up in the filters for the usage metrics report.
- Report is included in an App
  - When a report is included in a Power BI App, it generates a new Report ObjectId for the embedded report with the same name.
- Semantic model re-initialization
  - Each time a new semantic model is created, a new report could be created.

 **Note**

Both GUID and ObjectIDs may be used interchangeably. Each Report ObjectId is uniquely represented by a 32 hexadecimal GUID (a globally unique identifier).

- The usage metrics report is not supported in My Workspace.
- During the process of [disaster recovery \(while Business continuity and disaster recovery \(BCDR\) is in progress\)](#) any new incoming data experiencing data loss may be irrecoverable.
- Certain metrics in usage metrics report aren't included in audit logs. For example, report page views aren't part of audit logs.
- When a report is deleted, the ReportIds can show up in the usage metrics but not be available in the Reports semantic model.
- Customers may be unable to view or download the usage metrics semantic model from Power BI service.
- To access the user metrics report's semantic model settings and refresh history, follow the steps in [Update usage metrics report credentials](#).
- The report views count is influenced by subscriptions running on the reports. When the subscription service captures a snapshot of the report for emails, it triggers a flow that logs a ViewReport event.

## Frequently asked questions

In addition to the above considerations and limitations, the following questions and answers about usage metrics might be helpful for users and administrators.

## **Why do I see fewer Report Page Views than Report Views, shouldn't they be at least the same?**

Report Views rely on server telemetry that is generated when the report is first opened. Once a report is open, its page definitions are already loaded onto the user's device. Report Page Views rely on usage information from the user's device reaching Power BI. This can sometimes be blocked, as described in [Considerations and Limitations](#).

## **I can't run usage metrics on a report.**

You can only see usage metrics for reports you own or have permissions to edit.

## **What time period is covered by the report?**

The usage report is based on activity data for the last 30 days, excluding activities of the current day. You can narrow the time period by using the Date slicer on the Report usage page, such as to analyze only last week's data.

## **When will I see the most recent activity data?**

The usage report includes activity data up until the last complete day based on the UTC time zone. The data shown in the report is also dependent on the refresh time for the semantic model. Power BI refreshes the semantic model once per day.

## **The data doesn't seem up to date.**

Note that it might take up to 24 hours for new activity data to appear in the usage report.

## **What is the data source for the usage data?**

The Usage Metrics Report semantic model imports data from a Power BI internal usage metrics store by using a custom Usage Metrics Data Connector. You can update the credentials for the Usage Metrics Data Connector on the Usage Metrics Report semantic model settings page.

## **How can I connect to the data? Or change the default report?**

You can create a copy of the read-only, pre-built usage report. The report copy connects to the same Usage Metrics Report semantic model and enables you to edit the report.

details.

## **What is a "Viewer" and what is a "View"?**

A viewer is someone who opened the report at least once during the time period. A view is an open-report event. A report view is recorded each time someone opens a report. Note that the definition of a view differs from previous usage metrics reports. Changing report pages is no longer considered an additional view.

## **How is the "View trend" calculated?**

The view trend reflects view count changes over time. It compares the first half of the selected time period with the second half. You can change the time period by using the Date slicer on the Report usage page, such as to calculate week-over-week or biweekly trends.

## **What do "Distribution" and "Platform" mean?**

Distribution shows how the viewers obtained access to a report: shared directly, through workspace access, or through an app. The Platform indicates the technology a viewer used to open a report: via PowerBI.com, Mobile, or Embedded.

## **How does report ranking work?**

Based on view count, the rank shows the popularity of a report in comparison to all other reports in the organization. A rank of 1 would mean the report has the most views of all reports in the organization.

## **What are "Unnamed Users"?**

Your organization can decide to exclude user information from your usage report. If excluded, the usage report refers to users as Unnamed.

## **What is the "Typical report opening time"?**

The typical report opening time corresponds to the 50th percentile of the time it takes to open the report. In other words, it is the time below which 50% of the open-report actions are completed. The Report performance page also breaks down the typical report opening time by consumption method, and browser type.

## How is the "Opening time trend" calculated?

The opening time trend reflects open-report performance changes over time. It compares the opening times for the report of the first half of the selected time period with the opening times of the second half. You can change the time period by using the Date slicer on the Report performance page, such as to calculate week-over-week or biweekly trends.

## There are four reports in the previous version of the usage metrics report, but the improved version only displays three.

The improved usage metrics report only includes reports that have been opened in the past 30 days, while the previous version covers the past 90 days. You can update it to cover only the past 30 days, if you want. If a report isn't included in the improved usage metrics report, it likely hasn't been used in more than 30 days.

## Troubleshoot refresh issues

If you suspect data consistency or refresh issues, it might make sense to delete the existing Usage Metrics Report semantic model. Then you can run View Usage Metrics again to generate a new semantic model with its associated usage metrics reports.

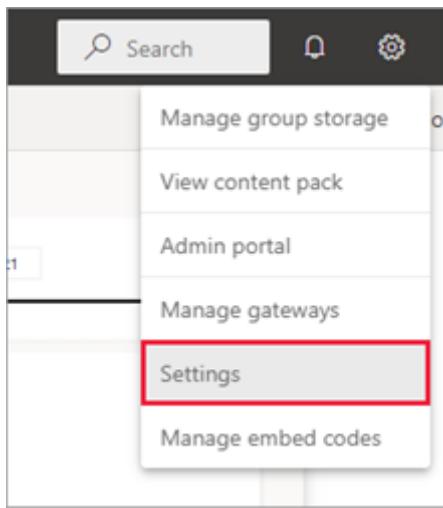
### Note

You can create a Power Automate flow to perform a refresh that can force the Report Usage model to reload data. When using this option, some refresh issues may not get resolved. For example, if an older version is in the workspace.

Follow these steps to delete the semantic model and then create a fresh data refresh report.

## Delete the semantic model

1. Open the workspace that contains the report for which you want to reset the Usage Metrics Report semantic model.
2. In the black header bar at the top, select the **Settings** icon, then select **Settings**.



3. Switch to the **Semantic models** tab, and select the Usage Metrics Report semantic model.

A screenshot of the Power BI workspace settings page. The title is 'Power BI IT Spend Analysis'. The navigation bar includes 'General', 'Alerts', 'Subscriptions', 'Dashboards', 'Datasets' (which is selected and highlighted with a red box), 'Workbooks', 'Dataflows', and 'App'. On the left, there's a sidebar with icons for 'General', 'Alerts', 'Subscriptions', 'Dashboards', 'Datasets' (selected), 'Workbooks', 'Dataflows', and 'App'. The main content area shows a dataset named 'IT Spend Analysis Sample' with a sub-section for 'Usage Metrics Report'. This section displays the URL 'https://app.powerbi.com/groups/b418839a-002a-485d-8e82-48980c20e833/settings/datasets/6431f150-7f4d-4cf4-81cf-c189c1cd3873'. Other details shown include 'Settings for Usage Metrics Report', 'Last refresh succeeded: Thu May 06 2021 12:26:08 GMT-0700 (Mountain Standard Time)', 'Next refresh: Fri May 07 2021 01:11:00 GMT-0700 (Mountain Standard Time)', and a link to 'Refresh history'. A 'Data source credentials' link is also present.

4. Copy the workspace and semantic model IDs from the URL displayed in the address bar of your browser.



5. In your browser, go to [Semantic models - Delete Semantic model In Group](#), and select the Try It button.

The screenshot shows a Microsoft Docs page for the 'Delete Dataset In Group' API endpoint. The left sidebar contains a navigation tree for 'Power BI REST APIs' under 'Datasets'. The main content area has a title 'Datasets - Delete Dataset In Group' and a sub-section 'Service: Power BI REST APIs API Version: v1.0'. It describes the action as 'Deletes the specified dataset from the specified workspace.' Below this, it lists 'Required scope: Dataset.ReadWrite.All' and 'To set the permissions scope, see [Register an app](#)'. A 'Try it' button is highlighted with a red box. The code snippet shown is:

```
HTTP
DELETE https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}
```

### ⓘ Note

This Try it button does not apply to GCC customers since their API endpoint is different.

You can use this API to delete the semantic model. You can use API tools to make an API call on this endpoint to delete the semantic model.

6. If you don't see a Try it button, use the trigger **Scheduled cloud flow**. Select a starting time and run it every hour. Then refresh the semantic model. Let the flow run once, then switch off the flow. Read more about [cloud flows in Power Automate](#).
7. Sign in to Power BI, paste the Workspace ID in the **groupId** text box and the semantic model ID into the **datasetId** text box, and then select **Run**.

Contents Exit focus mode

## Datasets - Delete Dataset In Group

Service: Power BI REST APIs  
API Version: v1.0

Deletes the specified dataset from the specified workspace.

**Required scope:** Dataset.ReadWrite.All  
To set the permissions scope, see [Register an app](#).

HTTP Copy Try It

```
DELETE https://api.powerbi.com/v1.0/myorg/groups/{groupId}/datasets/{datasetId}
```

Request URL DELETE https://api.powerbi.com/v1.0/myorg/groups/7547b19f

Parameters +

groupId*	7547b19f-dc50-4212-b
datasetId*	b7805a9f-951f-43a0-a
name	value

Headers +

name	value
------	-------

Request Preview Run

HTTP Copy

```
DELETE https://api.powerbi.com/v1.0/myorg/groups/7547b19f-dc50-4212-b/b7805a9f-951f-43a0-a
Authorization: Bearer eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiIsIngkCl...
```

- Under the Run button, verify that the service returns a Response Code of 200. That code indicates that you have successfully deleted the semantic model and its associated usage metrics reports.

Run ▶

Response Code: 200

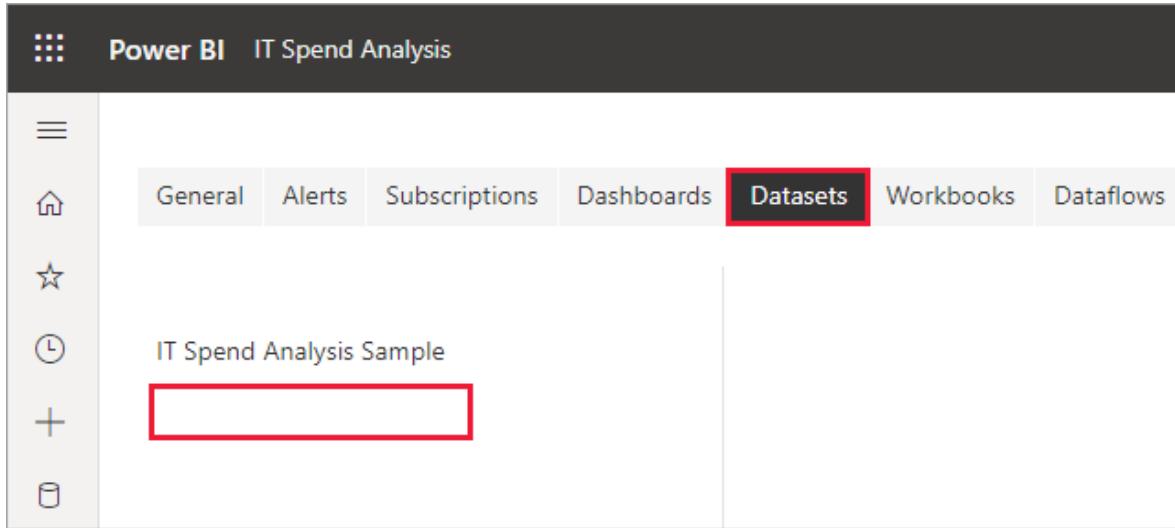
Headers

HTTP Copy

```
cache-control: no-store, must-revalidate, no-cache
content-length: 0
content-type: application/octet-stream
pragma: no-cache
requestid: 9c61a780-7ab4-40f9-9012-90b120e60b6b
```

Create a fresh usage metrics report

1. Back in the Power BI service, you see the semantic model is gone.



2. If you still see the Usage Metrics report in the Reports list, refresh your browser.

3. Start over and [create a fresh usage metrics report](#).

## Related content

- [Administering Power BI in the admin portal](#)

More questions? [Try the Power BI Community](#)

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## Feedback

Was this page helpful?

Yes

No

[Provide product feedback](#) | [Ask the community](#)

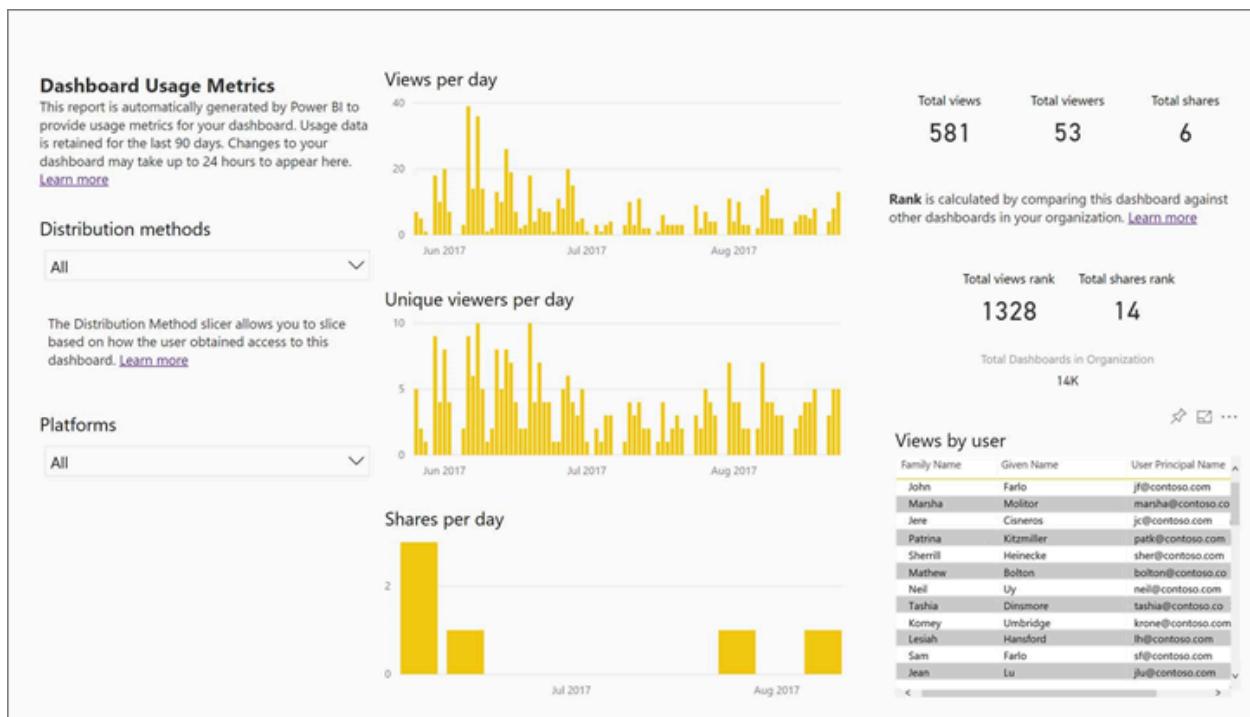
# Monitor report usage metrics

Article • 12/25/2024

Usage metrics help you understand the impact of your dashboards and reports. When you run either dashboard usage metrics or report usage metrics, you discover how those dashboards and reports are being used throughout your organization, who's using them, and for what purpose. This article outlines usage metrics reports.

Interested in the new usage report? It's currently in preview. See [Monitor usage metrics in the workspaces \(preview\)](#) for details.

Usage metrics reports are read-only. However, you can copy a usage metrics report. Copying creates a standard Power BI report that you can edit. You can also build your own reports in Power BI Desktop based on the underlying semantic model, which contains usage metrics for all dashboards or all reports in a workspace. To begin with, the copied report shows metrics just for the selected dashboard or report. You can remove the default filter and have access to the underlying semantic model, with all the usage metrics of the selected workspace. You may even see the names of specific users, if your admin has allowed that.



## ⓘ Note

Usage metrics track usage of reports that are embedded in SharePoint Online. However, usage metrics don't track dashboards and reports embedded via the

“user owns credentials” or “app owns credentials” flow. Usage metrics also don’t track usage of reports embedded via [publish to web](#).

## Why usage metrics are important

Knowing how your content is being used helps you demonstrate your impact and prioritize your efforts. Your usage metrics may show that one of your reports is used daily by a huge segment of the organization and it may show that a dashboard you created isn't being viewed at all. This type of feedback is invaluable in guiding your work efforts.

You can only run usage metrics reports in the Power BI service. However, if you save a usage metrics report or pin it to a dashboard, you can open and interact with that report on mobile devices.

## Prerequisites

- You need a Power BI Pro or Premium Per User (PPU) license to run and access the usage metrics data. However, the usage metrics feature captures usage information from all users, regardless of the license they're assigned.
- To access usage metrics for a particular dashboard or report, you must have edit access to that dashboard or report.
- Your Power BI admin has to have enabled usage metrics for content creators. Your Power BI admin may have also enabled collecting per-user data in usage metrics. Read about how to [enable these options in the admin portal](#).

## View a Usage Metrics report

1. Start in the workspace that contains the dashboard or report.
2. From the workspace content list, select **More options (...)** for the report and select **View usage metrics report**.

The screenshot shows the Power BI Content view. There are three items listed:

- Retail Analysis Sample (Dashboard)
- Retail Analysis Sample (Report)
- Retail Analysis Sample

The second item, "Retail Analysis Sample" (Report), has a "More options" button (three dots) highlighted with a red box. A context menu is open over this item, listing the following options:

- Analyze in Excel
- Delete
- Quick insights
- Save a copy
- Settings
- View usage metrics report** (highlighted with a red box)
- View lineage
- Create paginated report
- Manage permissions

Or open the report, then on the command bar, select **More options (...)** > **Open usage metrics**.

The screenshot shows the Power BI command bar for a report titled "Total Sales Variance by FiscalMonth and District Manager". The command bar includes standard options like File, Export, Share, Chat in Teams, Get insights, Edit, and a "More options" button (three dots) highlighted with a red box. A context menu is open over the "More options" button, listing the following options:

- Create subscription
- See related content
- Open lineage view
- Open usage metrics** (highlighted with a red box)
- Pin to a dashboard
- View dataset

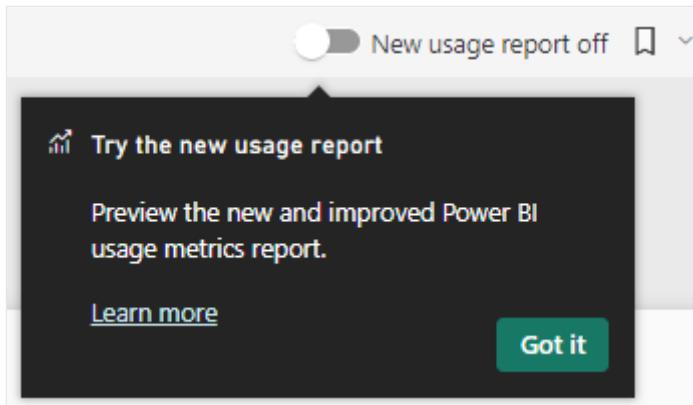
3. The first time you do this, Power BI creates the usage metrics report and lets you know when it's ready.

The screenshot shows a notification message in a Power BI report. The message reads:

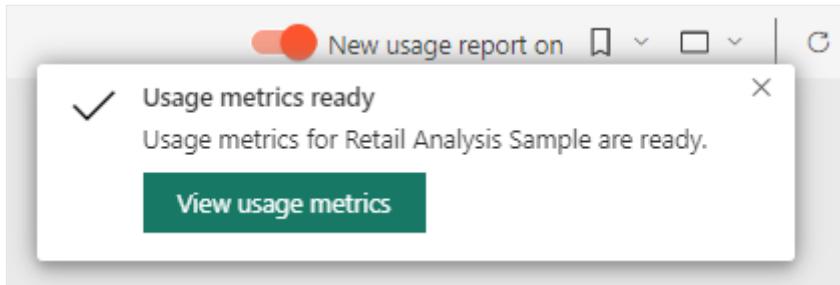
✓ Usage metrics ready  
Usage metrics for Retail Analysis Sample are ready.

View usage metrics

4. To see the results, select **View usage metrics**.
5. Power BI prompts you to ask if you want to **Try the new usage report**. Select **Got it**.



6. To display the improved usage metrics report, in the upper right corner, toggle the **New usage report** switch to **On**.



7. If you turn the new usage report on, see the article [Monitor usage metrics in the workspaces \(preview\)](#) to continue.

If you stay with the current usage report, continue in this article.

Usage metrics are a powerful ally as you work to deploy and maintain Power BI dashboards and reports. Wondering which pages of your report are most useful, and which ones you should phase out? Slice by **Report page** to find out. Wondering if you should build a mobile layout for your dashboard? Slice by **Platforms** to discover how many users are accessing your content via the mobile apps vs. via web browser.

8. Optionally, hover over a visualization and select the pin icon to add the visualization to a dashboard. Or, from the top menu bar, select **Pin Live Page** to add the entire page to a dashboard. From the dashboard, you can monitor the usage metrics more easily or share them with others.

 **Note**

If you pin a tile from a usage metrics report to a dashboard, you can't add that dashboard to an app.

## Dashboard Usage Metrics report

**Dashboard Usage Metrics**

This report is automatically generated by Power BI to provide usage metrics for your dashboard. Usage data is retained for the last 90 days. Changes to your dashboard may take up to 24 hours to appear here. [Learn more](#)

**Distribution methods**

All

The Distribution Method slicer allows you to slice based on how the user obtained access to this dashboard. [Learn more](#)

**Platforms**

All

**Views per day**

**Unique viewers per day**

**Shares per day**

**Total views** 581   **Total viewers** 53   **Total shares** 6

**Rank** is calculated by comparing this dashboard against other dashboards in your organization. [Learn more](#)

**Total views rank** 1328   **Total shares rank** 14

Total Dashboards in Organization 14K

**Views by user**

Family Name	Given Name	User Principal Name
John	Farlo	jf@contoso.com
Marsha	Molitor	marsha@contoso.co
Jere	Cisneros	jc@contoso.com
Patrina	Kitzmiller	patk@contoso.com
Sherill	Heinecke	sher@contoso.com
Mathew	Bolton	bolton@contoso.co
Neil	Uy	neil@contoso.com
Tashia	Dinsmore	tashia@contoso.co
Kormey	Umbridge	krone@contoso.com
Lesiah	Hansford	lh@contoso.com
Sam	Farlo	sf@contoso.com
Jean	Lu	jlu@contoso.com

## Report Usage Metrics

**Report Usage Metrics**

This report is automatically generated by Power BI to provide usage metrics for your report. Usage data is retained for the last 90 days. Changes to your report may take up to 24 hours to appear here. [Learn more](#)

**Distribution methods**

All

The Distribution Method slicer allows you to slice based on how the user obtained access to this report. [Learn more](#)

**Platforms**

All

**Views per day**

**Unique viewers per day**

**Total views** 186   **Total viewers** 28

**Rank** is calculated by comparing this report against other reports in your organization. [Learn more](#)

**Total views rank** 682

Total Reports in Organization 1692

**Views by user**

Family Name	Given Name	User Principal Name
John	Farlo	jf@contoso.com
Marsha	Molitor	marsha@contoso.co
Jere	Cisneros	jc@contoso.com
Patrina	Kitzmiller	patk@contoso.com
Sherill	Heinecke	sher@contoso.com
Mathew	Bolton	bolton@contoso.co
Neil	Uy	neil@contoso.com
Tashia	Dinsmore	tashia@contoso.co
Kormey	Umbridge	krone@contoso.com
Lesiah	Hansford	lh@contoso.com
Sam	Farlo	sf@contoso.com
Jean	Lu	jlu@contoso.com

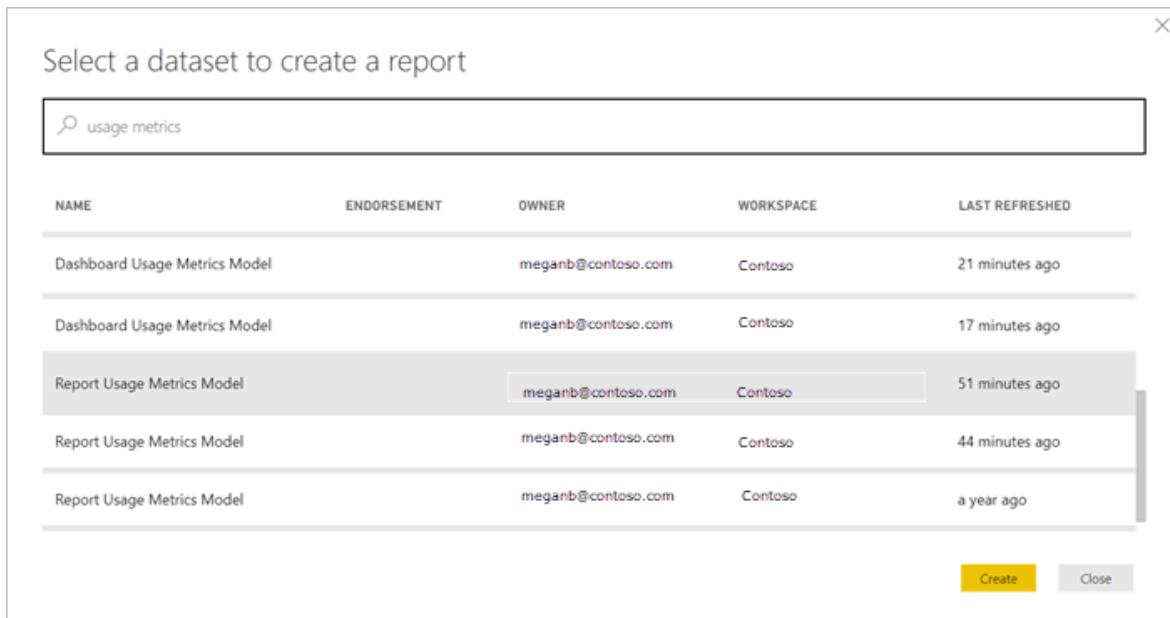
## About the Usage Metrics report

When you select **Usage metrics** or the icon  next to a dashboard or report, Power BI generates a pre-built report with usage metrics for that content for the last 90 days. The report looks similar to the Power BI reports you're already familiar with. You can slice based on how your end users received access, whether they accessed via the web or mobile app, and so on. As your dashboards and reports evolve, so too will the usage metrics report, which updates every day with new data.

Usage metrics reports don't show up in **Recent**, **Workspaces**, **Favorites**, or other content lists. They can't be added to an app. If you pin a tile from a usage metrics report to a dashboard, you can't add that dashboard to an app.

To dig into the report data, or to build your own reports against the underlying semantic model, you have two options:

- Make a copy of the report in the Power BI service. See [Save a copy of the Usage Metrics report](#) later in this article for details.
- Connect to the semantic model from Power BI Desktop. For every workspace, the semantic model has the name "Report Usage Metrics Model." See [Establish a connection to a published semantic model](#) for details.



NAME	ENDORSEMENT	OWNER	WORKSPACE	LAST REFRESHED
Dashboard Usage Metrics Model		meganb@contoso.com	Contoso	21 minutes ago
Dashboard Usage Metrics Model		meganb@contoso.com	Contoso	17 minutes ago
Report Usage Metrics Model		meganb@contoso.com	Contoso	51 minutes ago
Report Usage Metrics Model		meganb@contoso.com	Contoso	44 minutes ago
Report Usage Metrics Model		meganb@contoso.com	Contoso	a year ago

## Which metrics are reported?

[\[+\] Expand table](#)

Metric	Dashboard	Report	Description
Platforms slicer	yes	yes	Was the dashboard or report accessed via the Power BI service (powerbi.com) or a mobile device? Mobile

Metric	Dashboard	Report	Description
	includes all our iOS and Android apps.		
Report page slicer	no	yes	If the report has more than 1 page, slice the report by the page(s) that was viewed. "Blank" means a report page was recently added (within 24 hours the actual name of the new page appears in the slicer list) or report pages have been deleted. "Blank" captures these types of situations.
Views per day	yes	yes	Total number of views per day - a view is defined as a user loading a report page or dashboard.
Unique viewers per day	yes	yes	Number of <i>different</i> users who viewed the dashboard or report (based on the Microsoft Entra user account).
Views per user	yes	yes	Number of views in the past 90 days, broken down by individual users.
Shares per day	yes	no	Number of times the dashboard was shared with another user or group.
Total views	yes	yes	Number of views in the past 90 days.
Total viewers	yes	yes	Number of unique viewers in the past 90 days.
Total shares	yes	no	Number of times the dashboard or report was shared in the past 90 days.
Total in organization	yes	yes	Count of all dashboards or reports in the entire organization that had at least one view in the past 90 days. Used to calculate rank.
Rank: Total views	yes	yes	For total views of all dashboards or reports in the organization over the past 90 days, where does this dashboard or report rank.
Rank: Total shares	yes	no	For total shares of all dashboards in the organization over the past 90 days, where does this dashboard or report rank.

## Save a copy of the Usage Metrics report

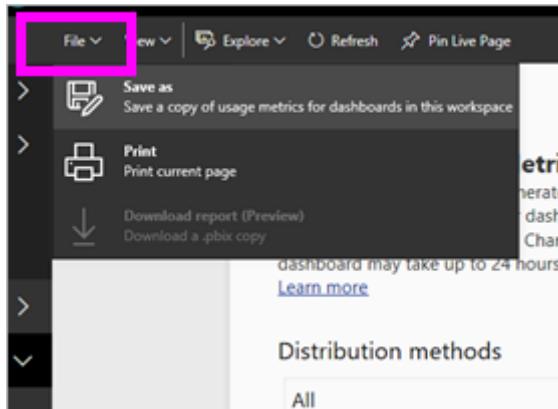
Use **Save as** to convert the usage metrics report to a regular Power BI report that you can customize to meet your specific needs. Better yet, the underlying semantic model includes the usage details for all dashboards or reports in the workspace. This opens up more possibilities. You could, for example, create a report that compares the dashboards

in your workspace, based on usage. Or you could create a usage metrics dashboard for your Power BI app by aggregating usage across all the content distributed within that app. See how to remove the filter and [see all usage metrics for the workspace](#) later in this article.

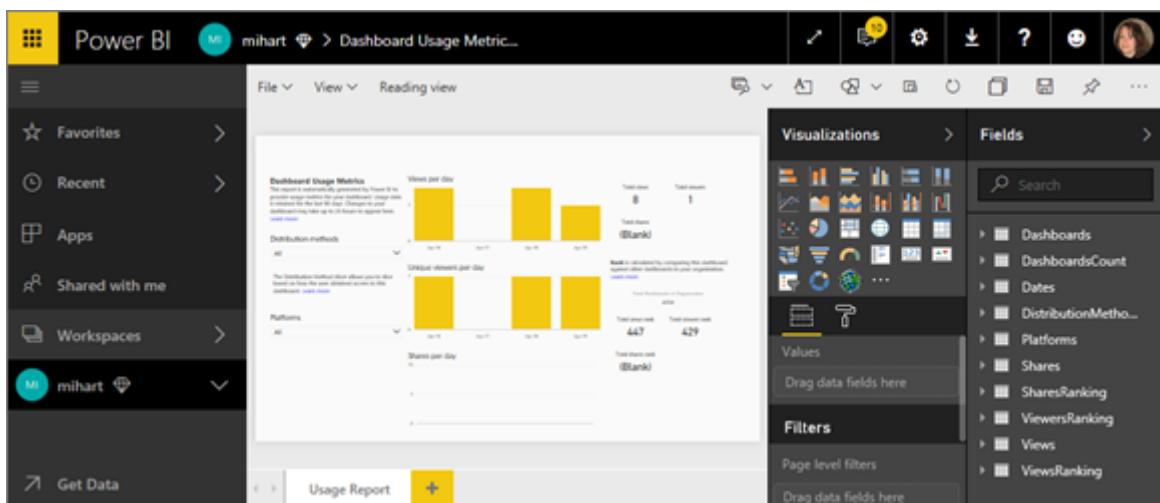
## Create a copy of the usage report

When you create a copy of the read-only, pre-built usage report, Power BI creates an editable copy of the report. At first glance, it looks the same. However, you can now open the report in Editing view, add new visualizations, filters, and pages, modify or delete existing visualizations, and so on. Power BI saves the new report in the current workspace.

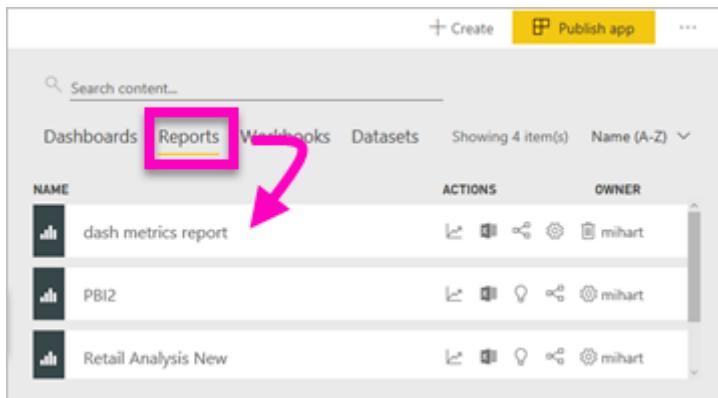
1. From the pre-built usage metrics report, select **File > Save As**. Power BI creates an editable Power BI report, saved in the current workspace.



2. Open the report in Editing view and [interact with it as you would with any other Power BI report](#). For example, add new pages and build new visualizations, add filters, format the fonts and colors, and so on.



3. The new report is saved to the **Reports** tab in the current workspace, and added to the **Recent** content list.



## Create a custom report in Power BI Desktop

You can use Power BI Desktop to build custom usage metrics reports based on the underlying semantic model. See [Establish a connection to a published semantic model](#) for details.

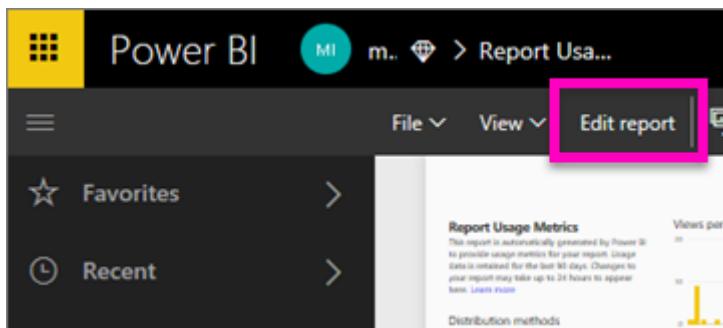
### ! Note

Power BI Desktop uses a Live Connection to the Report Usage Metrics Model semantic model. This cannot be changed to DirectQuery since the semantic model is owned by Power BI. Attempting to do so will result in an error in Power BI Desktop.

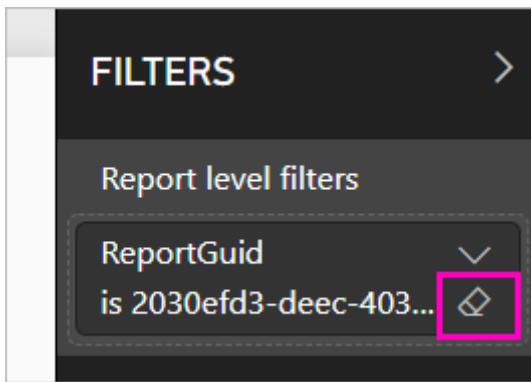
## See *all* workspace usage metrics

To see the metrics for all the dashboards or for all the reports in the workspace, you have to remove a filter. By default, the report is filtered to display metrics for only the dashboard or report that you used to create it.

1. Select **Edit report** to open the new editable report in Editing view.



2. In the Filters pane, locate the **Report level filters** bucket and remove the filter by selecting the eraser next to **ReportGuid**.



Now your report displays metrics for the entire workspace.

## Power BI admin controls for usage metrics

Usage metrics reports are a feature that the Power BI administrator can turn on or off. Administrators have granular control over which users have access to usage metrics; they are **On** by default for all users in the organization.

 **Note**

Only admins for the Power BI tenant can see the Admin portal and edit settings.

By default, per-user data is enabled for usage metrics, and content consumer account information is included in the metrics report. If admins don't want to expose this information for some or all users, they can disable the feature for specified security groups or for an entire organization. Account information then shows in the report as *Unnamed*.

When admins disable usage metrics for their entire organization, they can use the **delete all existing usage metrics content** option to delete all existing reports and dashboard tiles that were built using the usage metrics reports. This option removes access to usage metrics data for users in the organization who may already be using it. Deleting existing usage metrics content is irreversible.

See [Audit and usage metrics](#) in the Admin portal article for details on these settings.

## Usage metrics in national/regional clouds

Power BI is available in separate national/regional clouds. These clouds offer the same levels of security, privacy, compliance, and transparency as the global version of Power BI, combined with a unique model for local regulations on service delivery, data residency, access, and control. Because of this unique model for local regulations, usage

metrics aren't available in national/regional clouds. For more information, see [national/regional clouds](#).

## Considerations and limitations

The usage metrics report isn't supported for My Workspace.

### Discrepancies between audit logs and usage metrics

It's important to understand that differences can occur when comparing usage metrics and audit logs, and why. *Audit logs* are collected using data from the Power BI service, and *usage metrics* are collected on the client. Aggregate counts of activities in audit logs may not always match usage metrics, because of the following differences:

- Usage metrics may sometimes undercount activities because of inconsistent network connections, ad blockers, or other issues that can disrupt sending the events from the client.
- Certain types of views aren't included in usage metrics, as described earlier in this article.
- Usage metrics may sometimes overcount activities, in situations where the client refreshes without the need for a request being sent back to the Power BI service. For example, switching report pages doesn't issue a request a report load to the server since the page definition is already in the browser.
- Sharing is disabled for the usage metrics report. To give people read access to the report, you first need to give them access to the workspace.
- Certain metrics in usage metrics report aren't included in audit logs. For example, report page views aren't part of audit logs.

### Discrepancies between REST APIs and usage metrics

The Power BI [Reports REST APIs](#) and [Admin REST APIs](#) also use Power BI service data. For the reasons described in the previous section, report counts (the number of reports) from the APIs can differ from report counts in usage metrics. Report counts derived from the APIs are unaffected by client issues and should be considered accurate. Also note that the admin APIs give you the "current state" of the Power BI deployment and only consider what exists at the time of the request. The report usage metrics report has 90 days of data, and the "total count" represents unique reports viewed over 90 days. If reports are deleted after they are viewed, they are not counted by the admin APIs but will be counted in the historical data feeding the usage report.

## Report usage metrics aren't supported with Private Links

If your organization is using [Private Links](#), report usage metrics will contain no data. There is currently a limitation when transferring client information over private links.

## Other considerations

You need to view the content in your report, from within that workspace, at least once. If there are no views of the content from the workspace itself at least once, data isn't correlated from the application views in the Usage Metrics Report. To unblock the processing of data for this report, just view the content from your workspace at least once.

## Frequently asked questions

In addition to potential differences between usage metrics and audit logs, the following questions and answers about usage metrics may be helpful for users and administrators.

### I can't run usage metrics on a dashboard or report

A: You can only see usage metrics for content you own or have permissions to edit.

### Do usage metrics capture views from embedded dashboards and reports?

A: Usage metrics currently don't support capturing usage for embedded dashboards, reports, and the [publish to web](#) flow. In those cases, we recommend using existing web analytics platforms to track usage for the hosting app or portal.

### I can't run usage metrics on any content at all.

A1: Admins can turn off this feature for their organization. Contact your admin to see if this is the case.

A2: Usage metrics reports are a Power BI Pro feature.

### The data doesn't seem up to date. For example, distribution methods don't show up, report pages are missing, and so on.

A: It can take up to 24 hours for data to update.

**There are four reports in the workspace but the usage metrics report only displays three.**

A: The usage metrics report only includes reports (or dashboards) that have been accessed in the past 90 days. If a report (or dashboard) doesn't show up, likely it hasn't been used in more than 90 days.

## Related content

- [Administering Power BI in the admin portal](#)

More questions? [Try the Power BI Community](#) ↗

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## Feedback

Was this page helpful?

 Yes

 No

[Provide product feedback](#) ↗ | [Ask the community](#) ↗

# Give users access to workspaces in Power BI

Article • 01/23/2024

After you [create a workspace](#) in Power BI, or if you have an admin role in a workspace, you can give others access to it by adding them to the different roles. Workspace creators are automatically admins. For an explanation of the different roles, see [Roles in workspaces](#).

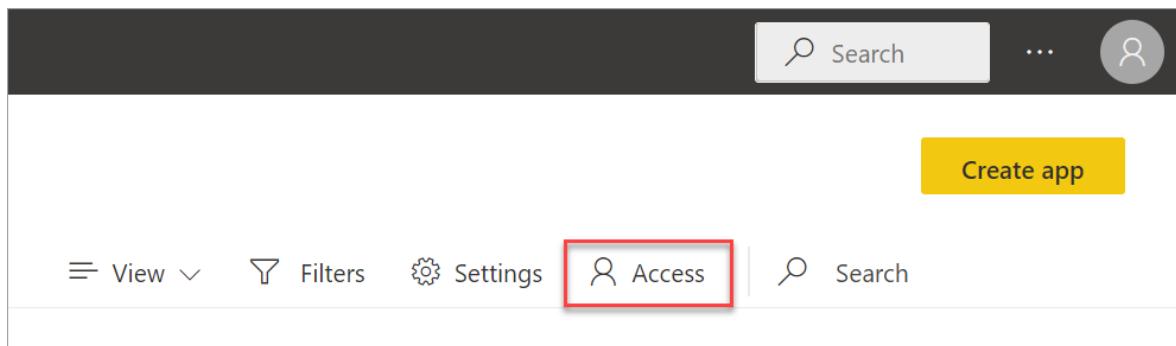
## ⓘ Note

To enforce row-level security (RLS) for Power BI Pro users who browse content in a workspace, assign them the Viewer Role.

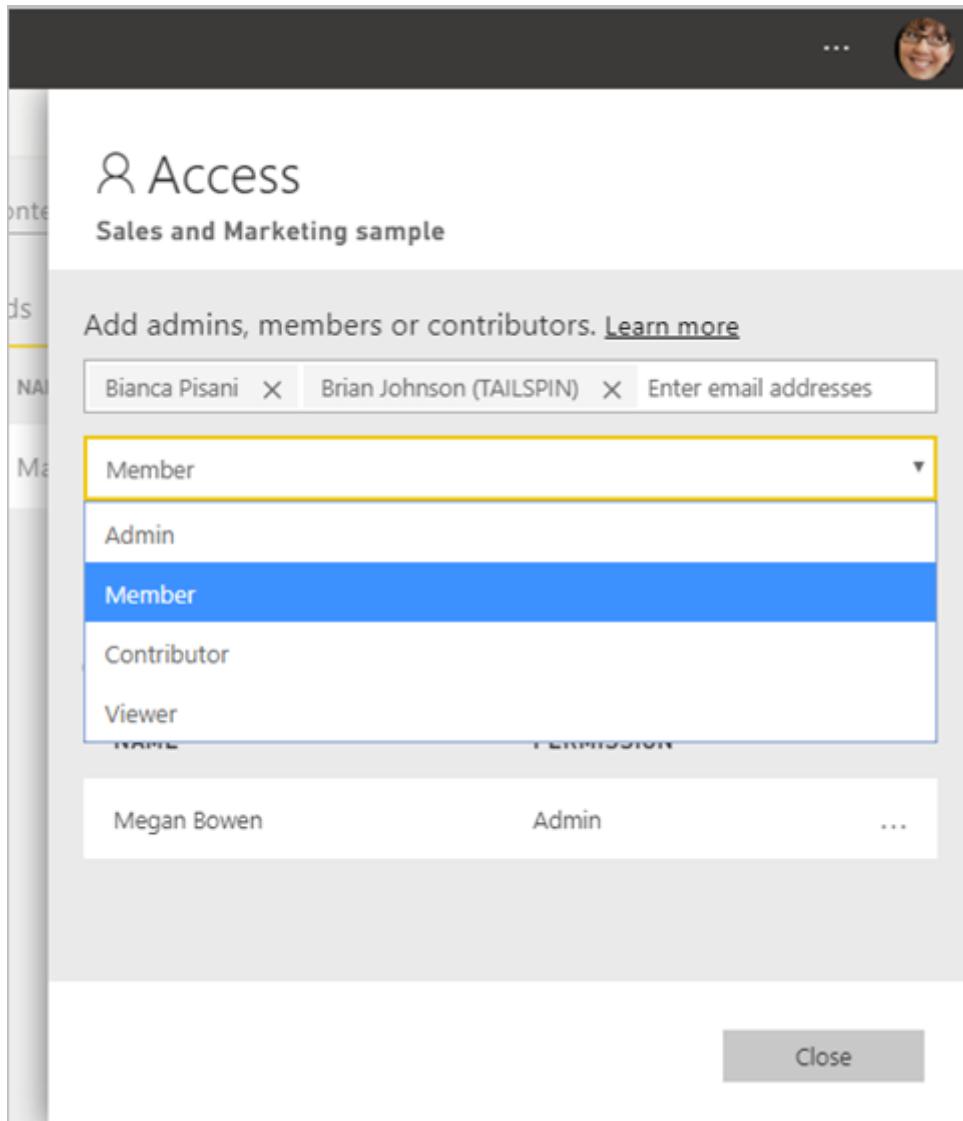
After you add or remove a user or a group for workspace access, the permission change only takes effect the next time the user logs into Power BI.

## Give access to your workspace

1. Because you have the Admin role in the workspace, on the workspace content list page, you see **Access**.



2. Add security groups, distribution lists, Microsoft 365 groups, or individuals to these workspaces as admins, members, contributors, or viewers.



3. Select Add > Close.

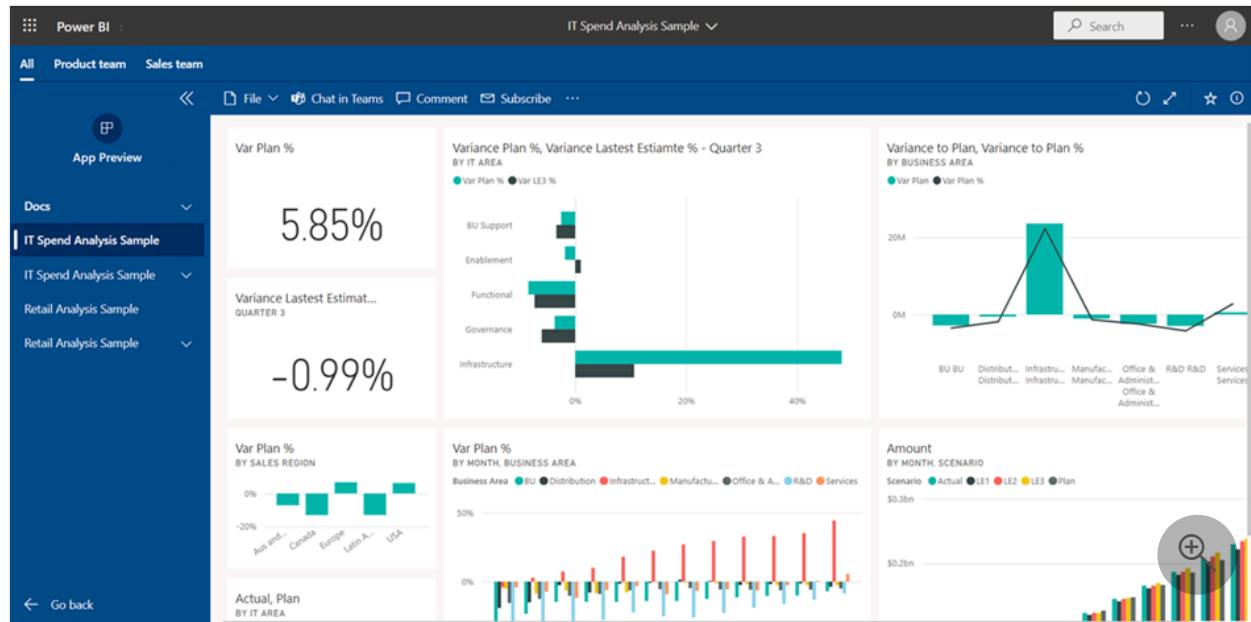
## Related content

- Read about [the workspace experience in Power BI](#).
- [Create workspaces](#).
- [Publish an app from a workspace in Power BI](#).
- Questions? [Try asking the Power BI Community](#).

# Publish an app in Power BI

Article • 03/12/2025

In Power BI, you can create official packaged content and distribute it to a broad audience as an *app*. You [create apps in workspaces](#), where you can collaborate on Power BI content with your colleagues. The finished app can be published to large groups of people in your organization. The [app user view](#) section of this article outlines the app user's experience in the Power BI service and in the Power BI mobile apps.



Here are the steps to publishing an app in Power BI:

- [Create the app](#)
- [Add content to the app](#)
- [Create and manage multiple audiences](#)
- [Publish the app](#)

Business users often need access to multiple Power BI dashboards, reports, and other content to get data insights. With Power BI apps, you can create collections of content and publish these collections as apps. These apps can be available to your whole organization or only to specific people or groups. You can create multiple *audiences* for your app, and show or hide different content to each audience. Apps and audiences helps make managing permissions on these collections easier for report creators and admins.

Business users get your apps in a few different ways:

- They can find and install apps from Apps marketplace or AppSource.
- You can send them a direct link.

- If your Fabric admin has given you permissions, you can install the app automatically in users' Power BI accounts.
- If you distribute your app to external users, those users receive an email with a direct link. Power BI doesn't send any email to internal users when you distribute or update an app.

App users can't modify the contents of the app. They can interact with apps in the Power BI service or mobile apps and can filter, highlight, and sort the data. App owners can grant permission to other users, allowing them to share semantic models and create their own content in the app.

## Licenses for apps

To create or update an app, you need a Power BI Pro or Premium Per User (PPU) license. For app *users*, there are two options.

- **If the workspace for this app is *not* in a Power BI Premium capacity:** All business users need Power BI Pro or Premium Per User (PPU) licenses to view your app.
- **If the workspace for this app *is* in a Power BI Premium capacity/F64 or higher Fabric capacity:** Business users without Power BI Pro or Premium Per User (PPU) licenses in your organization can view app content. However, users can't copy the reports, or create reports based on the underlying semantic models. Read these articles for details:
  - [What is Power BI Premium?](#)
  - [Microsoft Fabric concepts and licenses](#)

## Create and publish your app

When the content in your workspace is ready, you can start the publishing process. Determine how many different audience groups you need, then choose which content you want to publish to each audience. You can create up to 25 audience groups in one app.

## Set up the app

1. In the workspace list view, select **Create app** to start the process of creating and publishing an app from the workspace.

The screenshot shows the 'Sample Reports' dashboard. At the top, there's a navigation bar with icons for 'New', 'Upload', 'Create deployment pipeline', and 'Create app'. The 'Create app' button is specifically highlighted with a red box. Below the navigation bar, there's a section titled 'Build your app' with various configuration options.

2. On the **Setup** tab, give the app a name and add a description to help people find the app. You can also set a theme color, add a link to a support site, and specify contact information.

① Setup\*    ② Content\*    ③ Audience\*

**Build your app**

**App name \***  
Sample Reports App

**Description \***  
Enter a summary

**Describe your app.**

**App logo**  
 [Upload](#) [Delete](#)

**App theme color**

**Contact information**

Show app publisher  
 Show items contacts from the workspace  
 Show specific individuals or groups

Enter a name or email address

**Advanced settings** ▾

3. Select Next: [Add content](#).

## Allow saving a copy of a report

In the **Setup** tab, decide if you want to allow app users who have build permissions to save copies of reports to their workspace. After they save the reports, app users can

customize their report copies to meet their needs.

1. Expand **Advanced settings** and select **Allow users to make a copy of the reports in this app**.

The screenshot shows the 'Advanced settings' section of a Power BI app's configuration. It includes options for the navigation pane, access to hidden content, global app settings, and a support site. The 'Allow users to make a copy of the reports in this app' checkbox is checked and has a red border around it, indicating it is the selected setting.

**Advanced settings**

**Navigation pane**

Expand navigation pane by default  
 Collapse navigation pane by default

**Access to hidden content**

Turn on this setting if you want to grant access to content even if it's hidden from navigation.  
Learn more about access [↗](#)

Off

**Global app settings**

Install this app automatically.

Allow users to make a copy of the reports in this app.

**Support site**

Share where your users can find help

This setting allows app users who have build permissions to save a copy of a report from the app user view. You can also grant build permissions to your app users through the app by using the **Advanced** option under the **Manage audience access** pane.

2. Select Next: [Add content](#).

## Allow access to hidden content

The **Setup** tab also includes an option to grant users access to hidden content.

### ✖ Caution

If users have a direct link to *any* of the content in your app, they can access the hidden content, even if that item is visually hidden in the navigation pane for that audience.

1. Expand **Advanced settings**.
2. Under **Access to hidden content**, toggle the setting to **On**.

## Advanced settings ^

### Navigation pane

- Expand navigation pane by default
- Collapse navigation pane by default

### Access to hidden content

Turn on this setting if you want to grant access to content even if it's hidden from navigation.

Learn more about access [\[link\]](#)

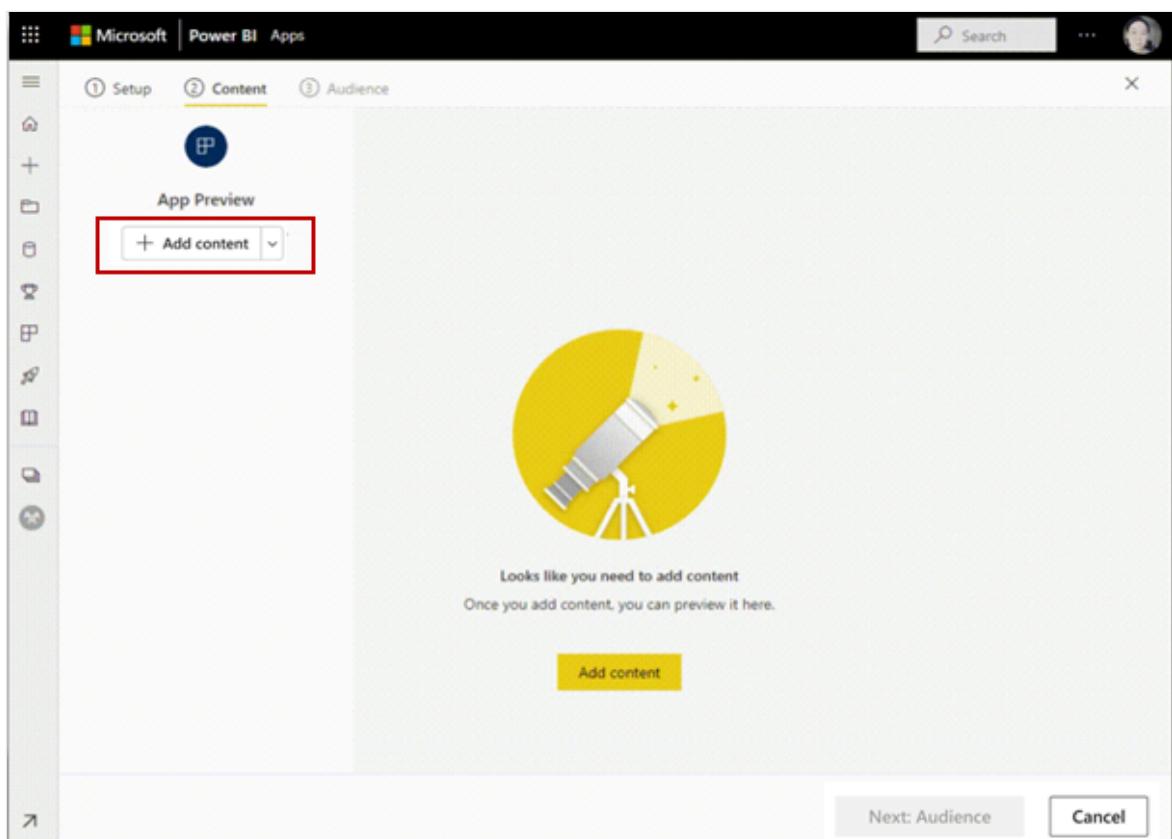


3. Select Next: [Add content](#).

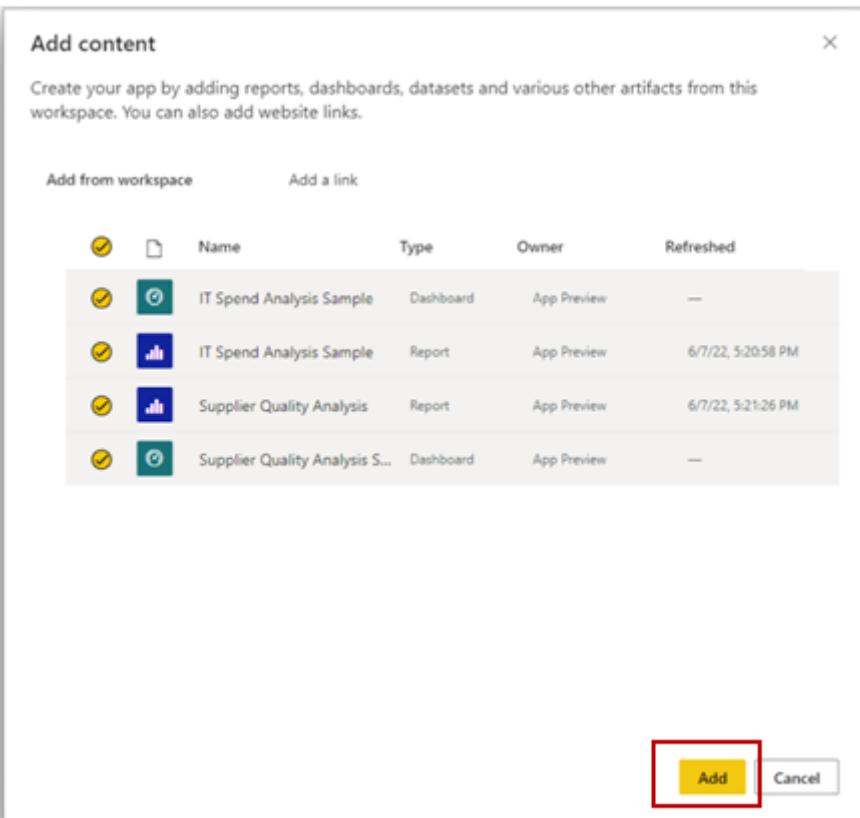
## Add content to the app

On the **Content** tab, you add the content from the workspace to the app.

1. Select Add content on the Content tab.



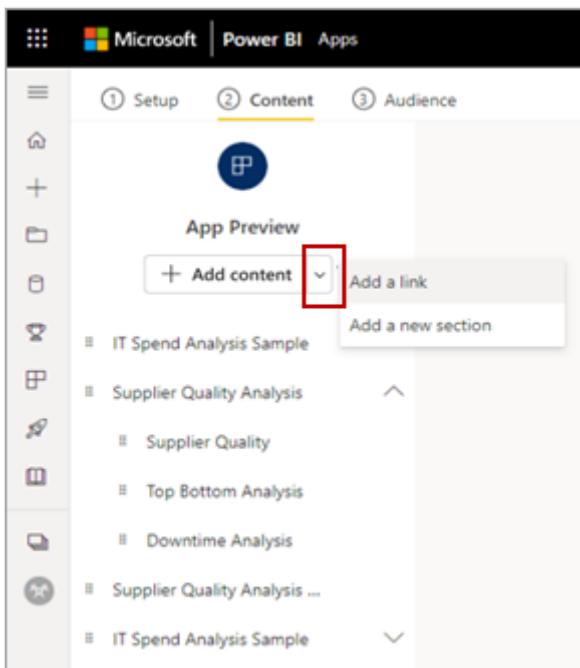
2. Select the contents that you want to add from the current workspace.



### ➊ Note

When you publish an app, it includes all app content by default for each audience group. However, when you update an app, newly added content isn't included by default.

3. You can add links to other websites to the app. Select **Add a link** from the drop-down menu next to **Add content**.



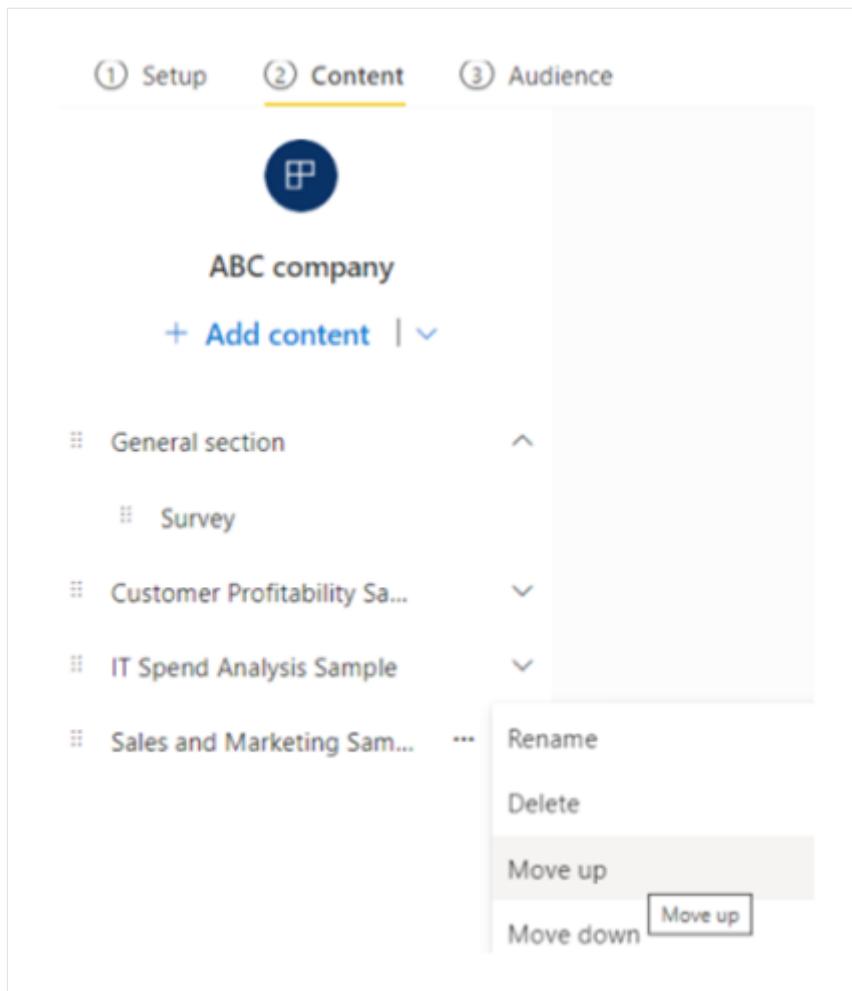
After you add the content, you can change the order of the content:

- Drag the content up or down in the list.

The screenshot shows a software interface with a navigation bar at the top featuring three tabs: 'Setup', 'Content' (which is highlighted in yellow), and 'Audience'. Below the tabs is a large blue circular icon with a white 'P' symbol. The main content area is titled 'ABC company'. A blue button labeled '+ Add content' with a downward arrow is located below the title. Under the heading 'General section', there is a list of items. The first item, 'Survey Sales and Marketing Sam...', has its entire name selected and highlighted with a red box. The other items in the list are 'Customer Profitability Sa...', 'IT Spend Analysis Sample', and 'Sales and Marketing Sam...'. Each item has a small triangle icon to its right, indicating it can be moved.

- Survey Sales and Marketing Sam...
- Customer Profitability Sa...
- IT Spend Analysis Sample
- Sales and Marketing Sam...

- Select the **Move up** or **Move down** options next to each item.



4. Select Next: Add audience.

## Add Power BI reports with paginated report visuals

If you include Power BI reports that have paginated report visuals, we recommend including the referred paginated reports in the app. The published Power BI report will then work with the published version of the paginated report instead of the report stored in the workspace.

During publishing, Power BI can detect reports with visuals that reference missing paginated reports:

## ⌚ Successfully published

x

### Performance reports

Give people the link below, or direct them to Apps > Get apps in the Power BI service.

<https://msit.powerbi.com/Redirect?action=OpenApp&appId=aa025c17-c474-438c-a560-74409be340b6&ctid=7>

Copy

Some of your audience may not have permission to view an embedded paginated report in your app. To give them access, go to the workspace where the paginated report is and grant the necessary permissions.

[Go to app](#)

[Close](#)

You can address the issue in one of two ways:

- Include the paginated report in the app and make sure the audience that has access to the Power BI report also has access to the paginated report.
- Make sure the audience has access to the paginated report in the workspace.

## Create and manage multiple audiences

On the **Audience** tab, you create and manage audience groups within the app.

1. To create an audience, select **New Audience**.
2. Select the default audience label to change the audience name.
3. Select the hide/show icon next to each item in the workspace to determine the content that this app audience can see.

### ⓘ Important

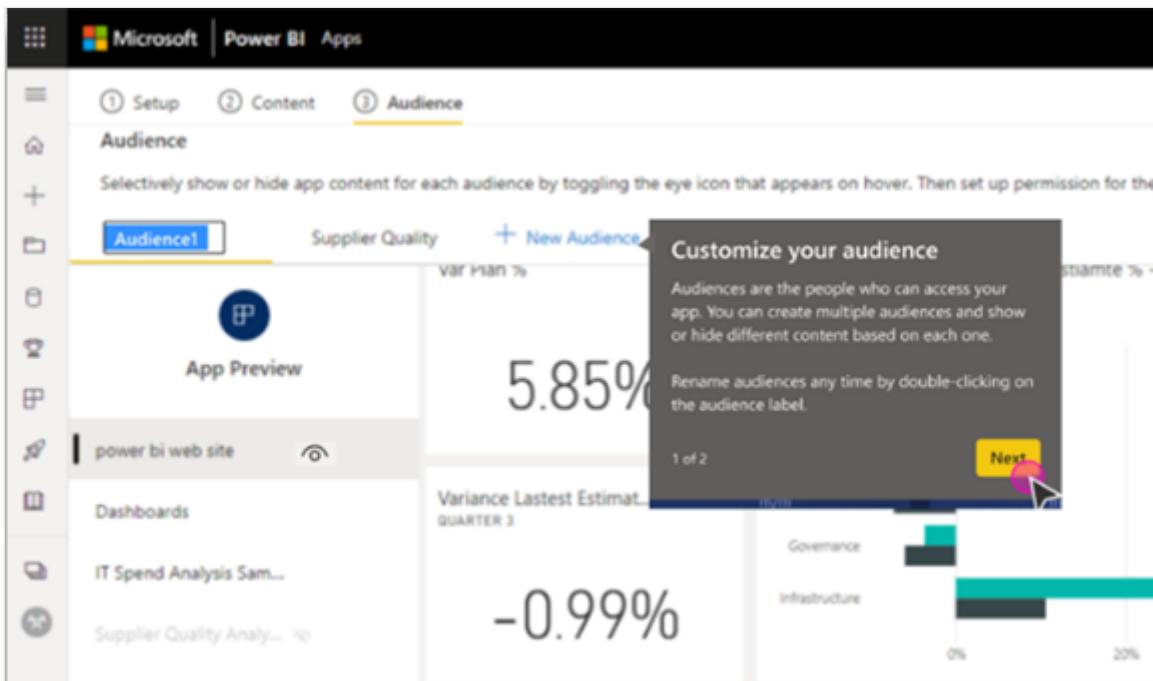
- Hiding content from the audience makes it unavailable in the published app for that audience. However, if you select [Allow access to hidden content](#), a user with a direct link to *any* of the content in the app can access the hidden content, even if that item is visually hidden in the navigation pane for that audience.
- Dashboard tiles pointing to reports that aren't added to the app, or are added but hidden from the audience, won't work. These dashboard tiles display an error: "The report shown in this tile doesn't exist or you don't have permission to view it."
- If you only add dashboards with report tiles to your app, the app doesn't display anything to your audience. Be sure to add the reports related to

added dashboards and make them visible to the audience or select **Allow access to hidden content**.

- Paginated reports with subreports don't display the content of the subreport if it's hidden from the audience.
- Users of drillthrough reports can't navigate to the destination reports if the destination reports are hidden.

To address these issues, make sure that all the dependent reports are added to the app and visible for the audience. If they're hidden from the audience, select **Allow access to hidden content**.

4. In the **Manage audience access** pane, specify groups or users to add to the current audience group.



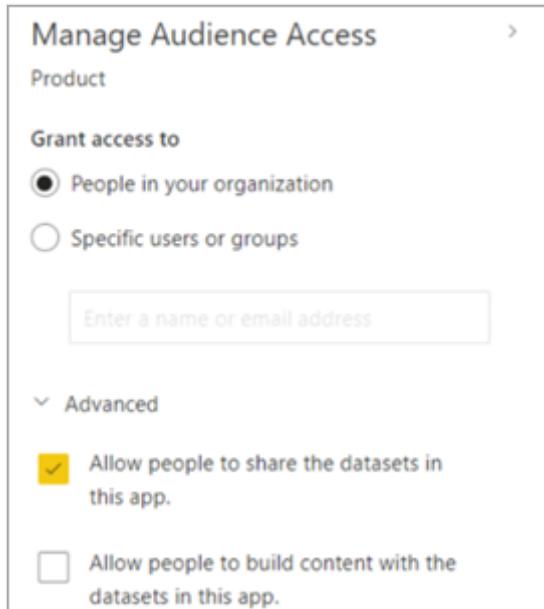
### **Important**

- If your app relies on semantic models from other workspaces, make sure that all app users have access to the underlying semantic models.
- If the app or report is in the same workspace as the semantic model, make sure you add the report associated with the semantic model to the app as well.

5. For each audience group, grant access to either everyone in your organization or only to specific users or groups. You can also expand the **Advanced** option to configure the following settings per audience group:

**Allow users to share the semantic models in this app:** This option gives app users permission to share the underlying semantic models of the app audience.

**Allow users to build content with the semantic models in this app:** This option lets your app users create their own reports and dashboards based on the app audience semantic models.



### ① Note

- The advanced settings apply to all the audiences, including the workspace users. They can share the semantic models and build content with the semantic models in this app as long as they have at least a Viewer role in the workspace. See [Roles in workspaces](#) for more about roles.
- Build permissions only apply to semantic models *in the same workspace* as the app. If semantic models are in other workspaces, you must explicitly grant build permissions on those semantic models, or at least add the users to the Viewer role in the other workspace.

## Publish the app

After you set up the audiences and the content for each audience, you're ready to publish your app. You can install the app automatically for users if your Fabric admin has enabled this setting for you in the Fabric Admin Portal. Read more about [automatically installing an app](#) in this article.

1. Select Publish app.

## Manage Audience Access

>

Product Team

### Grant access to

- Entire organization
- Specific users or groups

Enter a name or email address

> Advanced

**Publish app**

Cancel

2. After you successfully publish the app, you see a **Successfully published** message that includes a shareable app link. You can copy and share that link with your app users.

### ✓ Successfully published

x

#### IT Spend Analysis Sample

Give people the link below, or direct them to Apps > Get apps in the Power BI service.

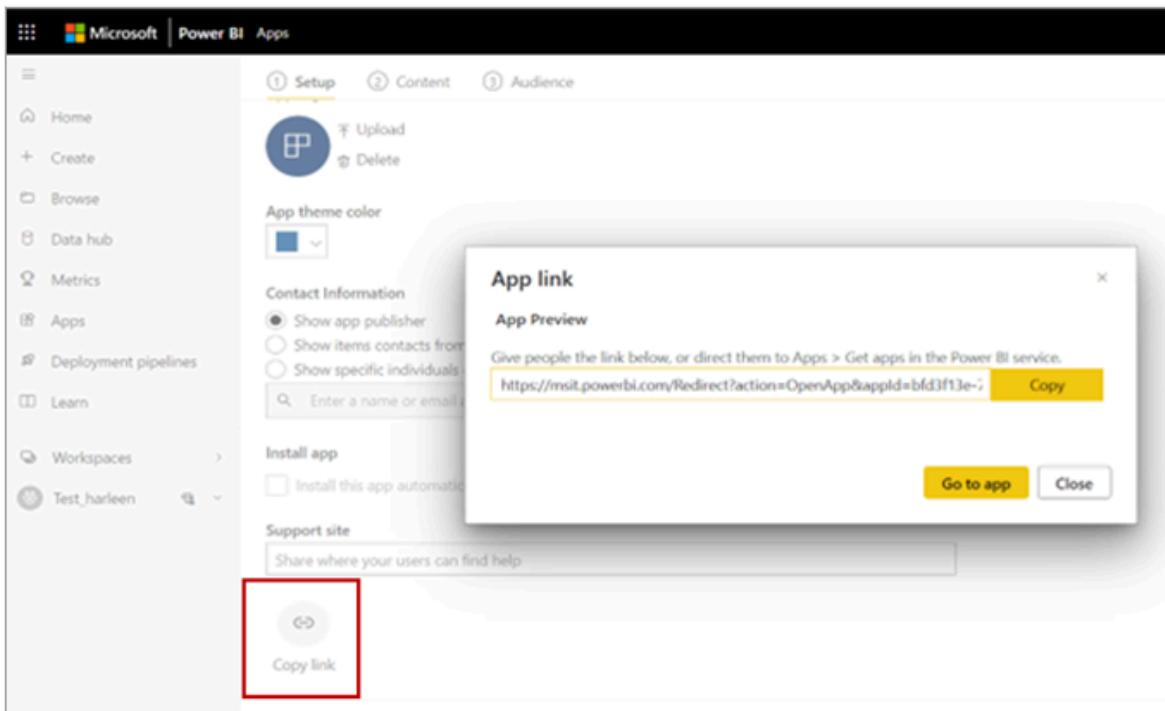
<https://msit.powerbi.com/Redirect?action=OpenApp&appId=229fcfd26-1>

Copy

Go to app

Close

You can also share the published app by selecting the **Copy link** button at the bottom of the **Setup** page. That creates a shareable app link to share with your app consumers.



App users can also request access to your app by searching for the app from Apps marketplace or AppSource. See the [app user view](#) section of this article for more about the app experience for end users.

## Publish the app to your entire organization

You can add your entire organization to any of the app audience groups when you publish your app.

- In **Manage audience access**, select **Entire organization**.

However, the option to add the entire organization is disabled in these three scenarios:

- You've selected **Install this app automatically** on the **Setup** tab. Automatic installation of an app for an entire organization isn't allowed.
- You're a guest user who has been assigned a workspace role.
- Your admin doesn't allow you to assign an app to your entire organization. You can ask your admin to change this setting in the [App tenant settings](#) section of tenant settings in the Admin portal.

## Change the settings for users who don't have access

You can control what users see when they attempt to view an app but they don't have access. The default setting triggers the access request flow. Users see that they're denied access and can submit a request for access.

By default, access requests come to you in email. See the section in this article for more on [managing access requests](#).

You can also display a custom message to users when access to an app is denied.

## Customize the access request behavior

Some organizations have processes and systems outside of Power BI for reviewing and managing access requests. The custom message setting lets you explain or provide a link to how a user can get access to the Power BI app. You can change the default access request behavior for a Power BI app by going to the Power BI app settings and configuring the **Access requests** options as desired. Select **Replace with automated custom message**.

### Settings for Feature Usage

- ▶ Endorsement
- ◀ Access requests
  - Define how access requests are handled in this app.
    - Default [Learn more about access requests](#) ↗
    - Replace with automated custom message
  - Users requesting access to the app or its content will get a custom message. Explain why they don't have access or how they can get it.

**Custom message \***

Add a custom message

1 This field is required. 450 characters left

**Apply** **Discard**

You can create your own custom message and include a link for users to request access. This option lets you provide instructions about how a user can get access to your Power BI app, rather than receiving requests via email. You might choose this option, for example, if your organization uses an automated system for handling access requests. When users who don't have access to your Power BI app try to view it, they see a message with the instructions you provide.

## Settings for Feature Usage

- ▶ Endorsement
- ◀ Access requests
  - Define how access requests are handled in this app.
  - Default [Learn more about access requests](#)
  - Replace with automated custom message

Users requesting access to the app or its content will get a custom message. Explain why they don't have access or how they can get it.

Custom message \*

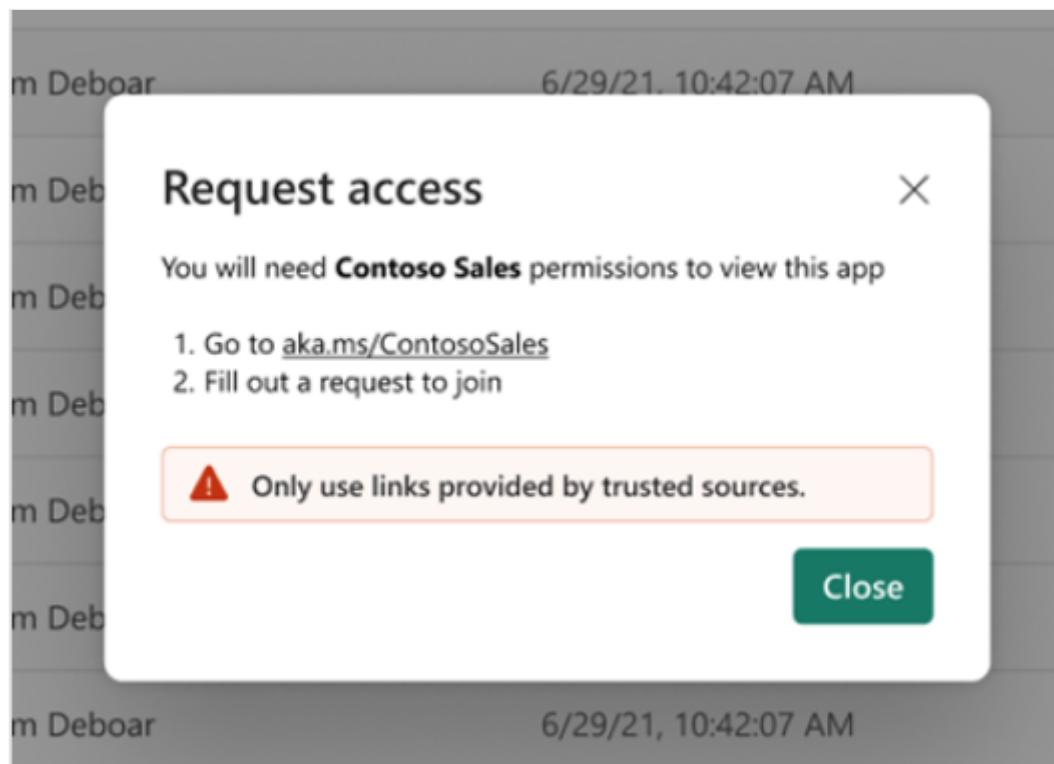
You will need **Contoso Sales** permissions to view this app

1. Go to [aka.ms/ContosoSales](http://aka.ms/ContosoSales)  
2. Fill out a request to join

450 characters left

**Apply** **Discard**

The **Custom message** text area in the **Access requests** example shows sample instructions. Instructions can be rich text with formatting and links. The following example shows the message users see when they try to view a Power BI app they don't have access to.



**① Note**

Custom messages aren't supported in Power BI mobile apps for iOS and Android. If you choose to show a custom message to users who don't have access to your Power BI app, users on mobile still see the default access request flow.

## Manage app access requests

After you publish an app, you can manage app permissions.

- In the Apps list page, select **More options (...)** next to an app, then select **Manage permissions**.

The screenshot shows the Microsoft Power BI Apps list page. On the left, there's a sidebar with navigation links: Home, Create, Browse, Data hub, Metrics, Apps (which is selected and highlighted in blue), Deployment pipelines, Learn, Workspaces, and My workspace. The main area is titled "Apps" and contains a brief description: "Apps are collections of dashboards and reports in one easy-to-find place." Below this is a table with three rows of app details:

Name	Publisher	Published
Test	Harleen Kaur	7/11/22, 9:48:35 AM
ABC company	Sagar Sugandhi	7/18/22, 3:41:05 PM

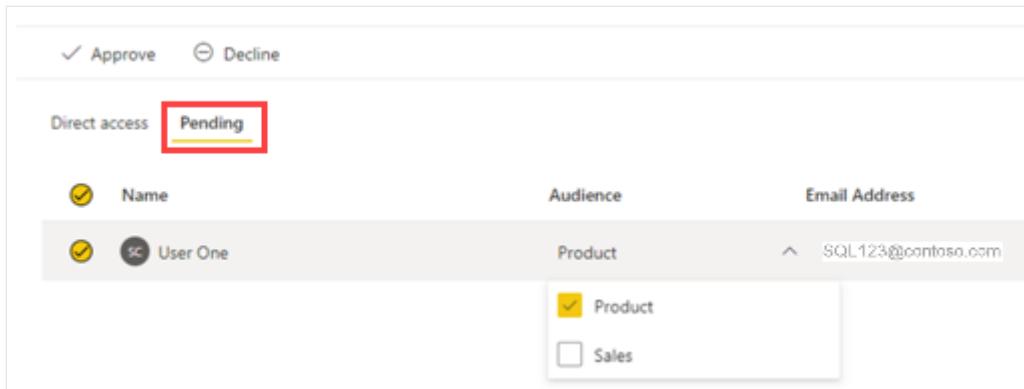
For the "ABC company" row, there are three buttons in the far-right column: "Edit", "Delete", and "Manage permissions". The "Manage permissions" button is highlighted with a red box.

A notification banner in the workspace displays if there are any pending access requests. Select **View** to access the app permission management page directly.

The screenshot shows the Power BI workspace interface. At the top, a yellow banner displays the message: "⚠ You have app pending access to grant permissions" with a "View" button and a close "X" icon. Below the banner, the workspace header includes the app name "ABC company" (with a circular profile icon), a "Create a pipeline" button, and a "Update app" button. The header also features standard navigation icons for "New", "View", "Filters", "Settings", "Access", and "Search".

The Permission management page contains these tabs:

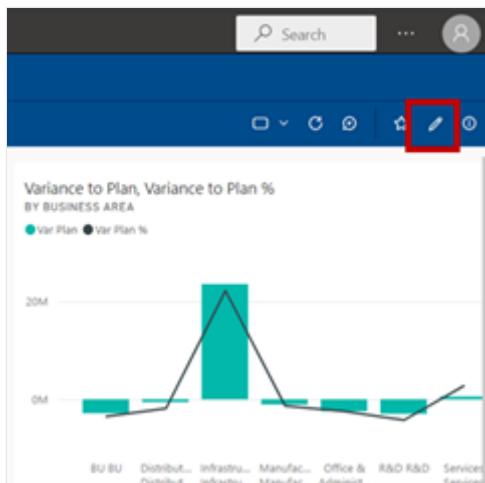
- **Direct access:** Lists all the users who already have access to the app.
- **Pending access:** Lists all pending requests.



## Change your published app

Follow these steps to modify a published app.

1. Open the workspace that corresponds to the app. If you're a workspace Admin or Member, you can also open the workspace from the app, by selecting the **Edit app** pencil.



2. Make changes to the content of your app.

The workspace is your staging area, so your changes aren't live in the app until you publish again. This lets you make changes without affecting the published apps.

### i Important

If you remove a report and update the app, app users lose all customizations they've made, such as bookmarks, comments, and so on. These customizations can't be restored, even if you add the report back to the app.

3. Select **Update app** in the Workspace content view.

The screenshot shows the Power BI app management interface. At the top, there's a navigation bar with 'IT Spend Analysis Sample' and various icons. Below it is a search bar and a toolbar with options like '+ New', 'Create a pipeline', 'View', 'Filters', 'Settings', 'Access', and 'Search'. A red box highlights the 'Update app' button in the top right corner. The main area displays a table with two rows of data:

All	Name	Type	Owner	Refreshed	Next refresh	Endorsement	Sensitivity
IT Spend Analysis Sample	Report	IT Spend Analysis Sa...	7/28/22, 3:43:53 PM	—	—	Non-Business	
IT Spend Analysis Sample	Dataset	IT Spend Analysis Sa...	7/28/22, 3:43:53 PM	N/A	—	Non-Business	

4. Update **Setup, Content, and Audience**, if you need to, then select **Update app**.

The people you've published the app to automatically see the updated version of the app.

#### ⓘ Note

If you removed app permissions as part of the update, new app installers won't get those permissions. However, **the update won't remove the permissions from users who already have them**. To remove such existing access, go to the Direct access tab on the semantic model's manage permissions page and remove the permissions manually.

## Copy a link to a specific item in an app

### Prerequisite to copying a link

Before you can copy a link to an item in an app, you have to publish the app. The **Copy link** in the Content tab for the item doesn't appear until the app is published.

### Items you can copy a link to

You can copy a link to these items in an app:

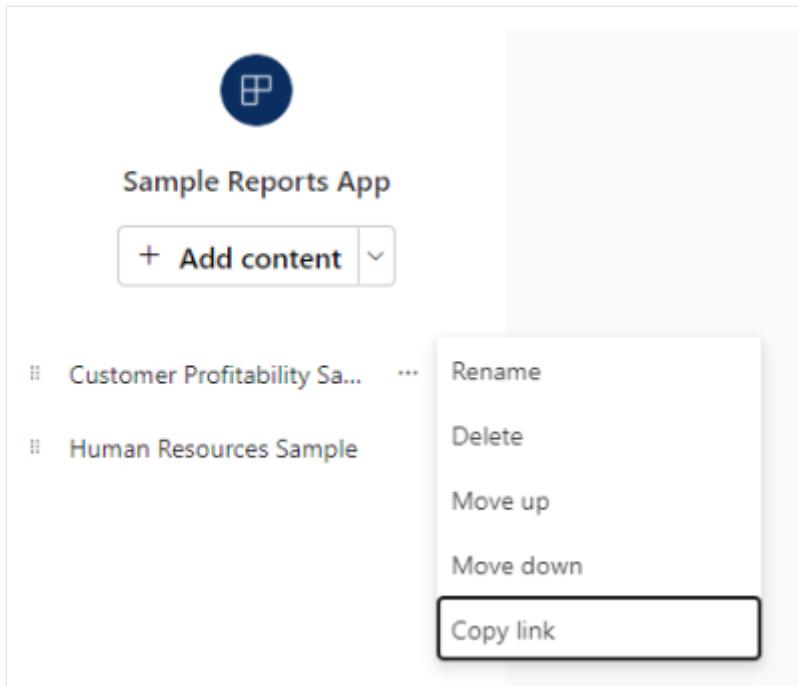
- A Power BI report
- A paginated report
- A dashboard
- A scorecard

You can't copy a link to an Excel workbook in an app.

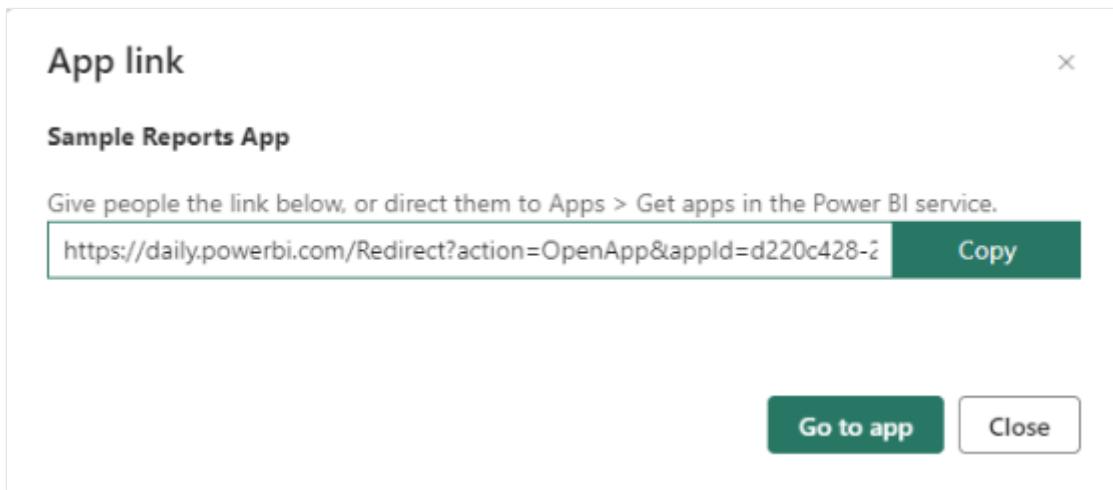
### Copy the link

1. In the app, select **More options (...)** next to the item that you want to copy the link to.

2. Select **Copy link**.



3. In the App link dialog box, select **Copy** and then **Close** or **Go to app**.

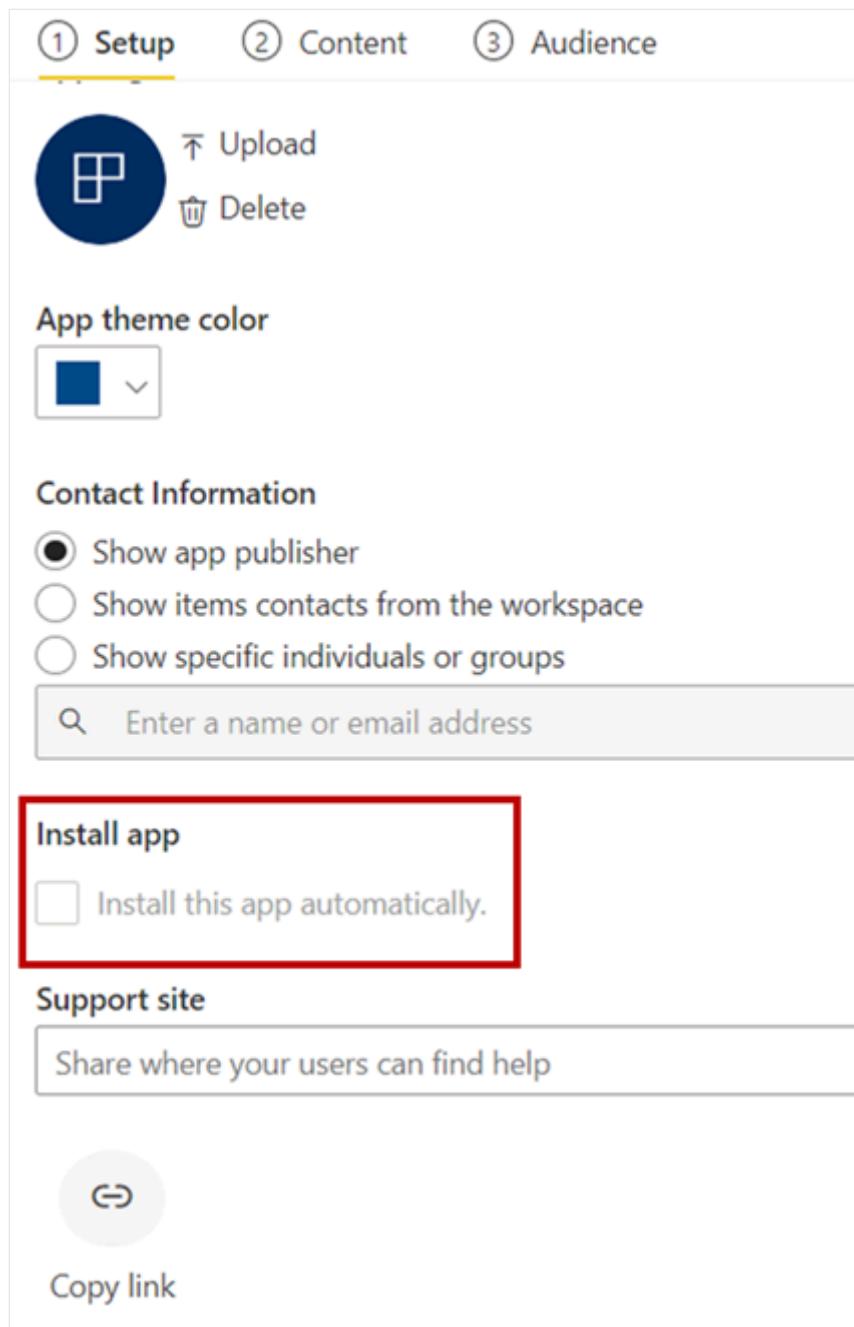


## Automatically install apps for end users

If an admin gives you permission, you can install apps automatically when you publish them, and push the apps to users. This push functionality makes it easier to distribute the right apps to the right people or groups. Your app appears automatically in your end users' Apps content list. They don't have to search for it from the Apps marketplace or Microsoft AppSource or follow an installation link. See how admins enable [publishing apps to end users](#) in the Fabric admin portal article.

## How to publish an app automatically to end users

After the admin has assigned permissions to you, you have a new option to **install the app automatically**. When you check the box and select **Publish app** (or **Update app**), the app is published to all audience groups defined in the **Audience** tab of the app.



The screenshot shows the 'Setup' tab selected in the navigation bar. Below it, there's a file icon with 'Upload' and 'Delete' options. An 'App theme color' dropdown is set to blue. Under 'Contact Information', the 'Show app publisher' radio button is selected. A search bar allows entering a name or email address. The 'Install app' section is highlighted with a red box; it contains a checkbox labeled 'Install this app automatically.' Below this are sections for 'Support site' (with a placeholder for sharing a URL) and 'Copy link' (with a copy icon).

## How users get published apps

After you publish an app to your users, it shows up in their Apps list automatically. This lets you identify the apps that specific users or job roles in your organization need to have available.

Apps						<a href="#">Get apps</a>
						<a href="#">View</a> <a href="#">Filters</a> <a href="#">Search</a>
	Name	Publisher	Published	App type	Version	Endorsement ↑
	Enterprise	Harleen Kaur	5/4/22, 11:06:55 AM	Org app	—	—
	Test_harleen	Harleen Kaur	7/27/22, 8:33:25 AM	Org app	—	—
	IT Spend Analysis Sample	Harleen Kaur	7/28/22, 3:51:54 PM	Org app	—	—

## Considerations for automatically installing apps

Keep these things in mind when publishing apps and pushing them automatically to end users:

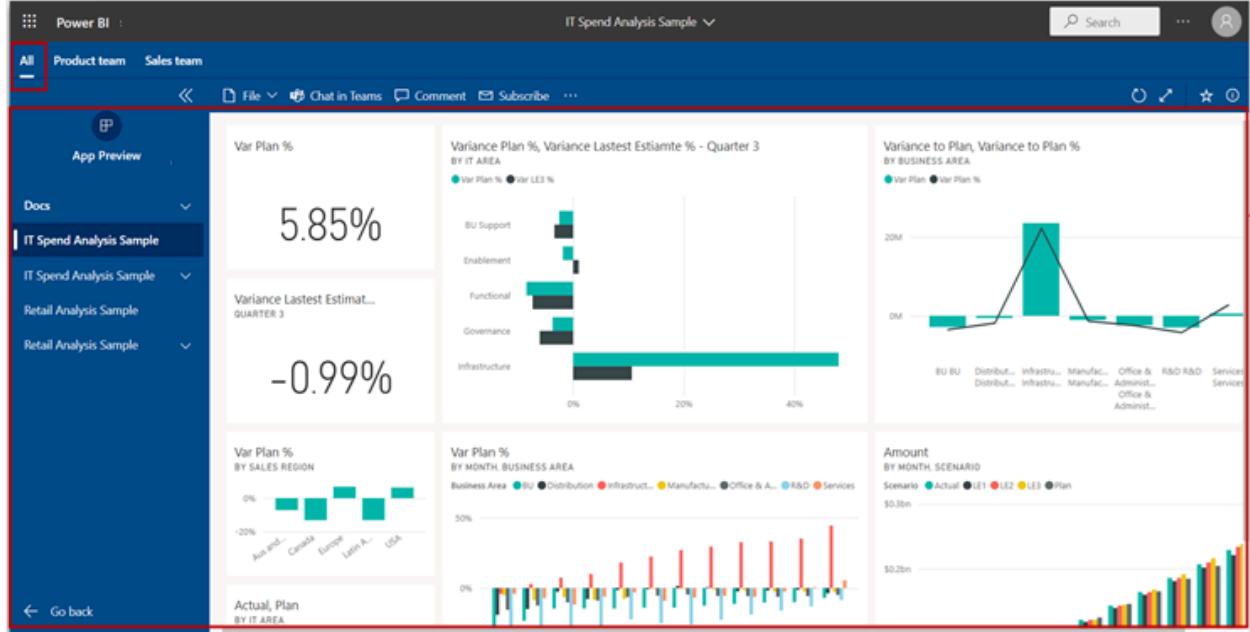
- You can't automatically install an app for an entire organization. If you select the checkbox for **install app automatically**, the option for **entire organization** becomes inactive.
- Installing an app automatically to users can take time. Most apps install immediately for users, but publishing apps can take time, depending on the number of items in the app and the number of people given access. We recommend publishing apps during off hours with plenty of time before users need them. Verify with several users before sending broad communication about app availability.
- If users don't immediately see the app in the **Apps** list, they should refresh or close and reopen their browser.
- Try not to overwhelm users. Be careful not to publish too many apps to your users, so they perceive the pre-installed apps are useful to them. It's best to control who can publish apps to end users to coordinate timing. Establish a point of contact for getting apps in your organization published to end users.
- Guest users who haven't accepted an invite don't get apps automatically installed for them.

## App user view

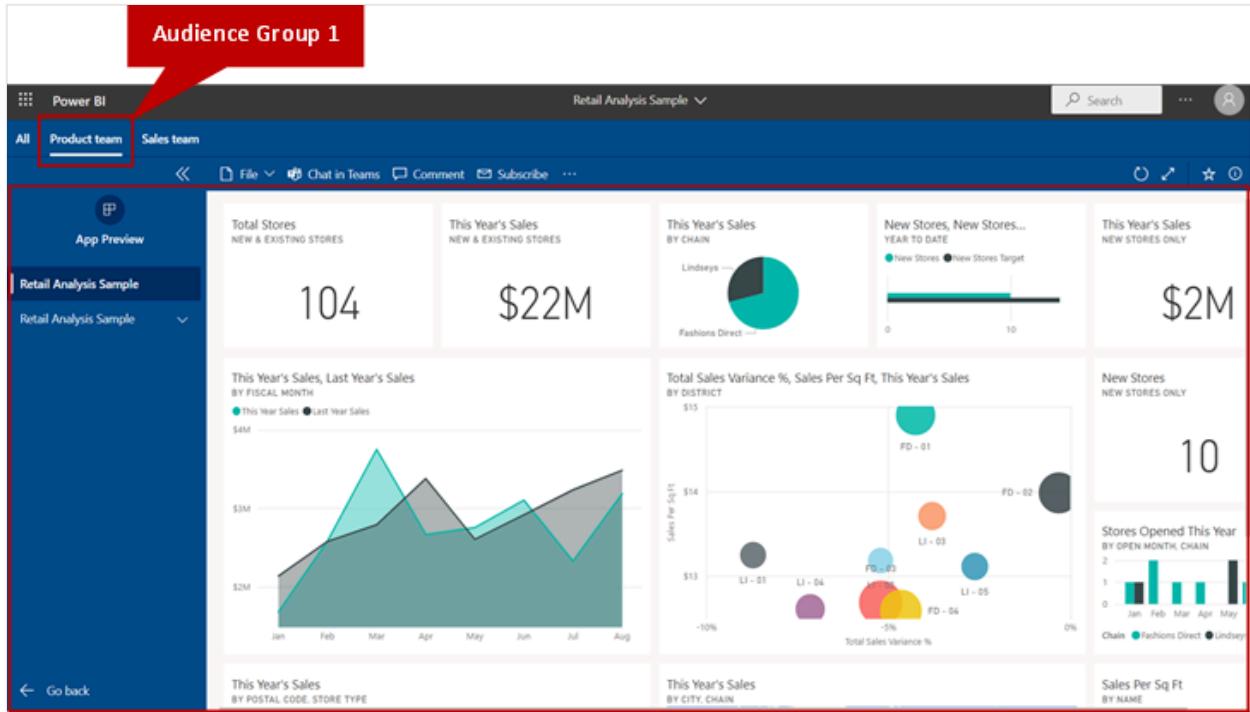
App users in the Power BI service and in the Power BI mobile apps only see the content based on the access permissions for their respective audience groups. Users who have access to multiple audience groups see group tabs on the top bar to switch between different audience views easily. For example, if the user is part of both product team and sales team groups, they see three view tabs, as shown in the following image. By default,

users see the All tab view, which is a consolidated view showing all content that they have access to. App users can browse different audience group tabs to see the content for each group.

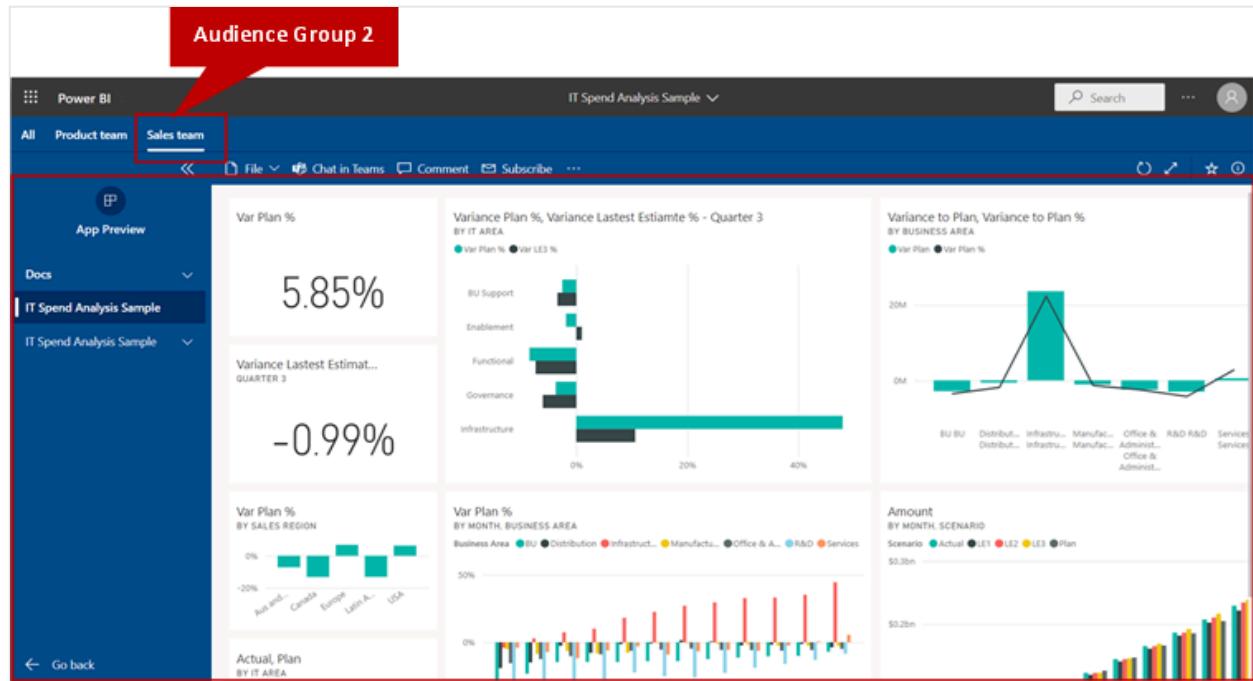
## The consolidated All view



## Audience group one, Product Team



## Audience group two, Sales Team

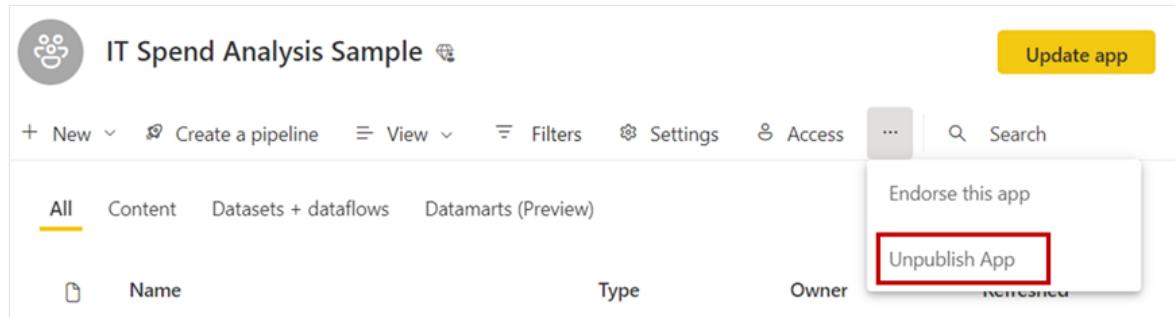


Read more about how [app users experience apps](#).

## Unpublish an app

Any Admin or Member of a workspace can unpublish the app.

- In a workspace, select **More options (...)** > **Unpublish app**.



This action uninstalls the app for everyone you've published it to, and they no longer have access to it. This action doesn't delete the workspace or its contents.

### Important

When you unpublish an app, users lose their customizations, even if you republish the app later. They lose any personal bookmarks, comments, and so on associated with content in the app. Only unpublish an app if you need to remove it.

# Considerations and limitations

To maintain app reliability and performance here are some app, audience group, and access limits to consider:

- You can create one app per workspace.
- App publish and update operations have a timeout of 1 minute. If your app is running into timeout error during update, consider reducing the number of items included in the app.
- In some cases an app can be too large to update. In these cases a *Can't update the app* message is displayed and the app must be optimized before updating. To optimize a large app try one or more of the following: reduce the number of items in the app; convert reports in the app to a different format like [Power BI enhanced report format](#); recreate the app as an [org app](#). After optimizing the app, try to update it again. If the *Can't update the app* message persists, continue to optimize the app until update is successful.
- You can create up to 25 audience groups per app.
- A total of 10,000 users and user groups combined can have access to an app.
- Each user group is counted as one entry against the 10,000 total.
- You can add up to 1,000 users or user groups per audience group (please note the total app user and user groups limit above). We recommend you use one or more user groups that contain all the users who should have access.
- If a user you added to an audience group already has access to the app through the workspace, they're not shown in the access list for the app.
- Each workspace user or user group is counted per audience group. For example, if you have four workspace users and five app audience groups those four workspace users will be counted per audience group (4x5), accounting for 20 users against the 10,000 users or user groups limit per app. Additionally, each workspace user or user group is counted against the 1,000 users or user groups per audience group.
- Consider how many workspace users or user groups have access to the app and how many users and user groups you have added to audience groups when creating additional audience groups. It is possible to hit the maximum number of 10,000 users or user groups per app before hitting the limit of 25 audience groups per app. For example, if you create 10 audience groups and have 1,000 users per audience group (accounting for workspace users too) you would hit the 10,000 app user or user groups limit and any additional audience groups with additional users or user groups will block the app from publishing or updating.
- If you include a report that uses chained semantic models in an app, also known as [DirectQuery for Power BI semantic models and Analysis Services](#), when you add a user to an audience group, make sure to give permissions to all the semantic

models in the chain. We recommend using Microsoft Entra Security Groups to manage permissions here. For more information, visit [Strategy for using groups](#). The same consideration should be made for semantic models in a different workspace other than the app, make sure to give permissions to semantic models in a different workspace.

- If you include a paginated report that uses a semantic model, in an app, when you add a user to an audience group, make sure to give permission to the semantic model.

Additional things to keep in mind about publishing apps:

- AppSource is an external service that only has public-facing service apps. For organizational apps, users can just go to Apps marketplace to find them. Template apps are also available from Apps marketplace.
- You can either pin an entire report page to a dashboard using Live pin or pin a single visual as a tile from a report to the dashboard.
- When you select a visual pinned as a tile in a dashboard in a published app, you're directed to the underlying report in the app. If the app creator chose not to include a report that has a related dashboard in the app, you're not directed to the underlying report when you select the related tile.
- To see an entire report page pinned as a live pin to a dashboard or a drill-down report to work, the app creators have to include the report in the app audience.
- The support site URL is shown in the item information card.
- By default, all the newly added content, to an already published app, is marked as invisible. You must go to each audience group and manually unhide it.
- Having multiple audiences isn't fully supported in deployment pipelines. Content visibility of new content that you add to an org app must still be managed manually via audience management.
- When using "Add a Link", you can only open embed links in the content area.
- Apps can have a maximum of 200 dashboards.
- Creating a subscription from a scorecard from within an app isn't supported. As a workaround, workspace admins or item owners can create subscriptions from the source scorecard and add app consumers as recipients, recipients can manage their subscriptions in preferences > notifications.

## Related content

- [Create apps in workspaces](#)
- [Install and use apps in Power BI](#)
- [Power BI apps for external services](#)
- [Power BI Admin Portal](#)

- Questions? [Try asking the Power BI Community](#)
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# Manage workspaces

Article • 12/04/2024

As a Fabric administrator, you can govern the workspaces that exist in your organization on the **Workspaces** tab in the Admin portal. For information about how to get to and use the Admin portal, see [About the Admin portal](#).

On the **Workspaces** tab, you see a list of all the workspaces in your tenant. Above the list, a ribbon provides options to help you govern the workspaces. These options also appear in the **More options (...)** menu of the selected workspace. The list of options varies depending on workspace type and status. All the options are described under [workspace options](#).

The screenshot shows the 'Workspaces' tab in the Admin portal. At the top, there's a ribbon with 'Refresh', 'Export', 'Details', 'Edit', 'Access', and 'Recover'. Below the ribbon is a table header with columns: Name, Description, Type, State, Capacity name, Capacity SKU ..., and Upgrade status. The table lists several workspaces:

Name	Description	Type	State	Capacity name	Capacity SKU ...	Upgrade status
Quarterly Results		Workspace	Orphaned			
Yearly Reports		Workspace	Active			
Region East		Workspace	Orphaned			
Region West		Workspace	Active	admin	P1	
Region North		Workspace	Active			
Planning		Workspace	Active	admin	P1	
Region South		Workspace	Active			
Forecasting		Workspace	Active	admin	P1	
Atlantic sales		Workspace	Active	admin	P1	

In the 'Region East' row, a context menu is open, showing options: Details, Access, Edit, and Recover. The 'Edit' option is highlighted.

The following table describes the columns of the list of workspaces.

[Expand table](#)

Column	Description
Name	The name given to the workspace.
Description	The information that is given in the description field of the workspace settings.
Type	The type of workspace. There are two types of workspaces:  <b>Workspace</b> (also known as "app workspace")  <b>Personal Group</b> ("My workspaces")

Column	Description
State	The state lets you know if the workspace is available for use. There are five states, <b>Active</b> , <b>Orphaned</b> , <b>Deleted</b> , <b>Removing</b> , and <b>Not found</b> . For more information, see <a href="#">Workspace states</a> .
Capacity name	Name given to the workspace's capacity.
Capacity SKU Tier	The type of license used for the workspace's capacity. Capacity SKU Tiers include <b>Premium</b> and <b>Premium Per User (PPU)</b> . For more information about capacity tiers, see <a href="#">Configure and manage capacities in Premium</a> .
Upgrade status	The upgrade status lets you know if the workspace is eligible for a Microsoft Fabric upgrade.

The table columns on the **Workspaces** tab correspond to the properties returned by the [admin Rest API](#) for workspaces. Personal workspaces are of type **PersonalGroup**, all other workspaces are of type **Workspace**. For more information, see [Workspaces](#).

## Workspace states

The following table describes the possible workspace states.

[\[+\] Expand table](#)

State	Description
Active	A normal workspace. It doesn't indicate anything about usage or what's inside, only that the workspace itself is "normal".
Orphaned	A workspace with no admin user. You need to assign an admin.
Deleted	A deleted workspace. When a workspace is deleted, it enters a retention period. During the retention period, a Microsoft Fabric administrator can restore the workspace. See <a href="#">Workspace retention</a> for detail. When the retention period ends, the workspace enters the <i>Removing</i> state.
Removing	At the end of a deleted workspace's retention period, it moves into the <i>Removing</i> state. During this state, the workspace is permanently removed. Permanently removing a workspace takes a short while, and depends on the service and folder content.
Not found	If the customer's API request includes a workspace ID for a workspace that doesn't belong to the customer's tenant, "Not found" is returned as the status for that ID.

# Workspace options

The ribbon at the top of the list and the More options (...) menus of the individual workspaces provide options that help you manage the workspaces. The Refresh and the Export options are always present, while the selection of other options that appear depends on the workspace type and status. All the options are described below.

[+] Expand table

Option	Description
Refresh	Refreshes the workspace list.
Export	Exports the table as a .csv file.
Details	Lists the items that are contained in the workspace.
Edit	Enables you to edit the workspace name and description.
Access	Enables you to manage workspace access. You can use this feature to delete workspaces by first adding yourself to a workspace as an admin then opening the workspace to delete it.
Get access	Grants you temporary access to another user's MyWorkspace. See <a href="#">Gain access to any user's My workspace</a> for detail.
Capacity	Enables you to assign the workspace to Premium capacity or to remove it from Premium capacity.
Recover	Enables you to restore an orphaned workspace.
Restore	Enables you to restore the MyWorkspace of a user that has left the organization, or a deleted collaborative workspace. For MyWorkspaces, see <a href="#">Restore a deleted My workspace as an app workspace</a> . For collaborative workspaces, see <a href="#">Restore a deleted collaborative workspace</a>
Permanently delete	Enables you to permanently delete a deleted collaborative workspace before the end of its retention period. See <a href="#">Permanently delete a deleted collaborative workspace during the retention period</a> .

## ⓘ Note

Admins can also manage and recover workspaces using PowerShell cmdlets.

Admins can also control users' ability to create new workspace experience workspaces and classic workspaces. See [Workspace settings](#) in this article for details.

# Workspace limits

Workspaces can contain a maximum of 1,000 Fabric and Power BI items.

## Workspace retention

By default, when a workspace is deleted, it isn't permanently and irrevocably deleted immediately. Instead, it enters a retention period during which it's possible to restore it. At the end of the retention period, it's removed permanently, and it will no longer be possible to recover it or its contents.

The retention period for personal workspaces (*My workspaces*) is 30 days.

The retention period for collaborative workspaces is configurable. The default retention period is seven days. However, Fabric administrators can change the length of the retention period by turning on the **Define workspace retention period** setting in the admin portal and specifying the desired retention period (from 7 to 90 days).

During the retention period, Fabric administrators can [restore the workspace](#).

At the end of the retention period, the workspace is deleted permanently and it and its contents are irretrievably lost.

While a workspace is in the retention period, Fabric administrators can [permanently delete it before the end of the retention period](#).

## Configure the retention period for deleted collaborative workspaces

By default, deleted collaborative workspaces are retained for seven days. Fabric administrators can change the length of the retention period (from 7 to 90 days) using the **Define workspace retention period** tenant setting.

1. In the Fabric admin portal, go to **Workspace settings > Define workspace retention period**.
2. Turn on the setting and enter the number of days for desired retention period. You can choose anywhere from 7 to 90 days.
3. When done, select **Apply**.

### Note

When the **Define workspace retention period** setting is off, deleted collaborative workspaces automatically have a retention period of 7 days.

This setting does not affect the retention period of *My workspaces*. *My workspaces* always have a 30-day retention period.

## Restore a deleted collaborative workspace

While a deleted collaborative workspace is in a retention period, Fabric administrators can restore it and its contents.

1. In the Fabric admin portal, open the Workspaces page and find the deleted collaborative workspace you want to restore. Collaborative workspaces are of type *Workspace*. A workspace that is in a retention period has the status *Deleted*.
2. Select the workspace and then choose **Restore** from the ribbon, or select **More options (...)** and choose **Restore**.
3. In the Restore workspaces panel that appears, give a new name to the workspace and assign at least one user the Admin role in the workspace.
4. When done, select **Restore**.

## Permanently delete a deleted collaborative workspace during the retention period

While a deleted collaborative workspace is in a retention period, Fabric administrators permanently delete it before the end of its retention period.

1. In the Fabric admin portal, open the Workspaces page and find the deleted collaborative workspace you want to restore. Collaborative workspaces are of type *Workspace*. A workspace that is in a retention period has the status *Deleted*.
2. Select the workspace and then choose **Permanently delete** from the ribbon, or select **More options (...)** and choose **Permanently delete**.

You're asked to confirm the permanent deletion. After you confirm, the workspace and its contents are no longer recoverable.

## Govern My workspaces

Every Fabric user has a personal workspace called *My workspace* where they can work with their own content. While generally only *My workspace* owners have access to their *My workspaces*, Fabric admins can use a set of features to help them govern these workspaces. With these features, Fabric admins can:

- Gain access to the contents of any user's My workspace
- Designate a default capacity for all existing and new My workspaces
- Prevent users from moving My workspaces to a different capacity that might reside in noncompliant regions
- Restore deleted My workspaces as app workspaces

These features are described in the following sections.

## Gain access to any user's My workspace

To gain access to a particular My workspace

1. In the Fabric Admin portal, open the Workspaces page and find the personal workspace you want to get access to.
2. Select the workspace and then choose **Get Access** from the ribbon, or select **More options (...)** and choose **Get Access**.

### Note

Once access is obtained, the ribbon and the More options (...) menu will show **Remove Access** for the same My workspace. If you do not remove access by selecting one of these options, access will automatically be revoked for the admin after 24-hours. The My workspace owner's access remains intact.

Once you have access, the My workspace will show up in the list of workspaces accessible from the navigation pane. The icon  indicates that it's a My workspace.

Once you go inside the My workspace, you can perform any actions as if it's your own My workspace. You can view and make any changes to the contents, including sharing or unsharing. But you can't grant anyone else access to the My workspace.

## Designate a default capacity for My workspaces

A Fabric admin or capacity admin can designate a capacity as the default capacity for My workspaces. To configure a default capacity for My workspaces, go to the **details** section in your [capacity settings](#).

For details, see [Designate a default capacity for My workspaces](#)

## Prevent My workspace owners from reassigning their My workspaces to a different capacity

Fabric admins can designate a default capacity for My workspaces. However, even if a My workspace has been assigned to Premium capacity, the owner of the workspace can still move it back to Pro license mode. Moving a workspace from Premium license mode to Pro license mode might cause the content contained in the workspace to become noncompliant with respect to data-residency requirements, since it might move to a different region. To prevent this situation, the Fabric admin can block My workspace owners from moving their My workspace to a different license mode by turning off the **Users can reassign personal workspaces** tenant admin setting. See [Workspace settings](#) for detail.

## Restore a deleted My workspace as an app workspace

When users are deleted from the company's Active Directory, their My workspaces show up as Deleted in the State column on the Workspaces page in the Admin portal. Fabric admins can restore deleted My workspaces as app workspaces that other users can collaborate in.

During this restoration process, the Fabric admin needs to assign at least one Workspace admin in the new app workspace, as well as give the new workspace a name. After the workspace has been restored, it will show up as *Workspace* in the Type column on the Workspaces page in the Admin portal.

To restore a deleted My workspace as an app workspace

1. In the Fabric Admin portal, open the Workspaces page and find the deleted personal workspace you want to restore.
2. Select the workspace and then choose **Restore** from the ribbon, or select **More options (...)** and choose **Restore**.
3. In the Restore workspaces panel that appears, give a new name to the workspace and assign at least one user the Admin role in the workspace.
4. When done, select **Restore**.

After the deleted workspace has been restored as an app workspace, it's just like any other app workspace.

## Moving data around

Workspaces and the data they contain reside on capacities, and can be moved around by assigning them to different capacities by choosing the workspace license mode. Such movement might be between capacities in different regions.

Moving workspaces from one capacity to another, has the following restrictions:

- When you move a workspace, all jobs related to items in the workspace get cancelled.
- Workspaces with Fabric items (such as lakehouses and notebooks) can't move from Premium or Fabric license mode to Pro or Premium Per User license mode.
- Fabric items can't move between regions.

This means the following:

- **Moving a workspace from one capacity to another within the same region**

If the workspace has Fabric items (such as lakehouses or notebooks), you can only move it from one Premium or Fabric capacity to another Premium or Fabric capacity. If you want to move the workspace from Premium or Fabric license mode to Pro or Premium Per User license mode, you won't be able to do so unless you delete all Fabric items first.

If the workspace has no Fabric items (that is, it has only Power BI items) moving the workspace from Premium or Fabric license mode to Pro or Premium Per User license mode is supported.

- **Moving a workspace from one capacity to a capacity in a different region**

If the workspace has no Fabric items (that is, it has only Power BI items) then moving the workspace to another capacity in a different region is supported.

If you want to move a workspace that contains Fabric items, you must delete all the Fabric items first. After the workspace is migrated to a different region, it can take up to an hour before you can create new Fabric items.

## Related content

- [About the admin portal](#)

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## Feedback

Was this page helpful?

 Yes

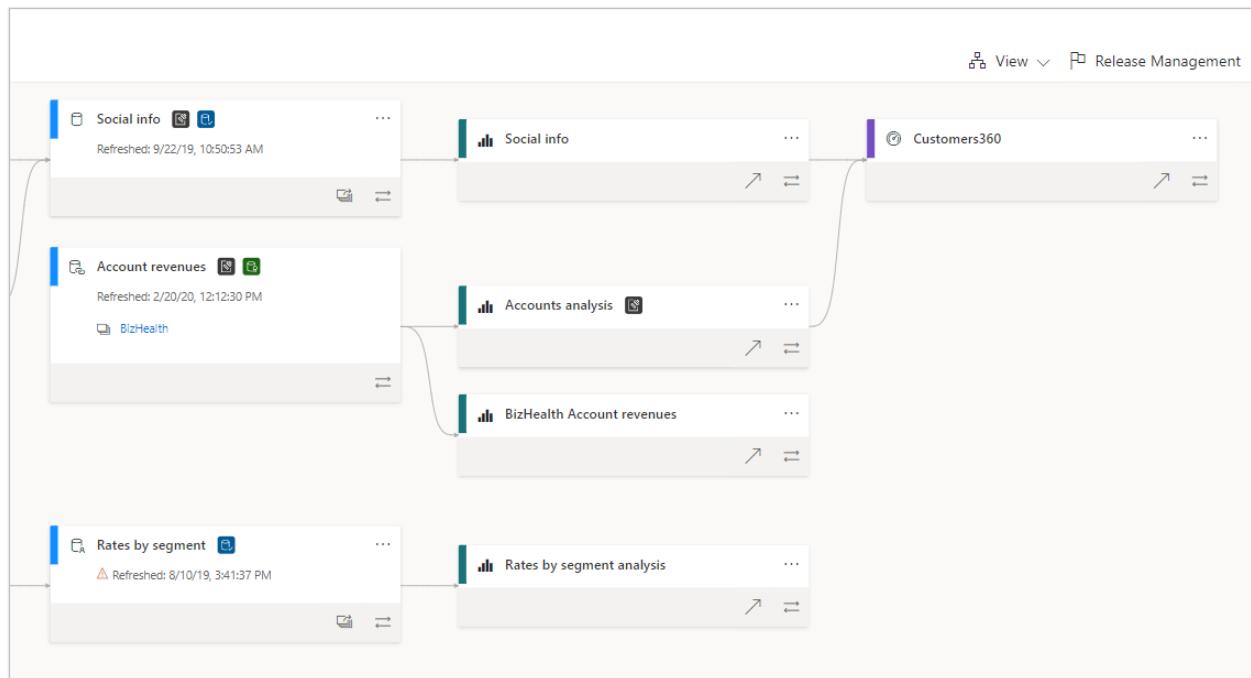
 No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

# Data lineage

Article • 11/10/2023

In modern business intelligence (BI) projects, understanding the flow of data from the data source to its destination can be a challenge. The challenge is even bigger if you've built advanced analytical projects spanning multiple data sources, artifacts, and dependencies. Questions like "What happens if I change this data?" or "Why isn't this report up to date?" can be hard to answer. They might require a team of experts or deep investigation to understand. Power BI's data lineage view helps you answer these questions.



Power BI has several artifact types, such as dashboards, reports, semantic models, and dataflows. Many semantic models and dataflows connect to external data sources such as SQL Server, and to external semantic models in other workspaces. When a semantic model is external to a workspace you own, it might be in a workspace owned by someone in IT or another analyst. External data sources and semantic models make it harder to know where the data is coming from, ultimately. For complex projects and for simpler ones, we introduce lineage view.

In lineage view, you see the lineage relationships between all the artifacts in a workspace, and all its external dependencies. It shows connections between all workspace artifacts, including connections to dataflows, both upstream and downstream.

## ⓘ Note

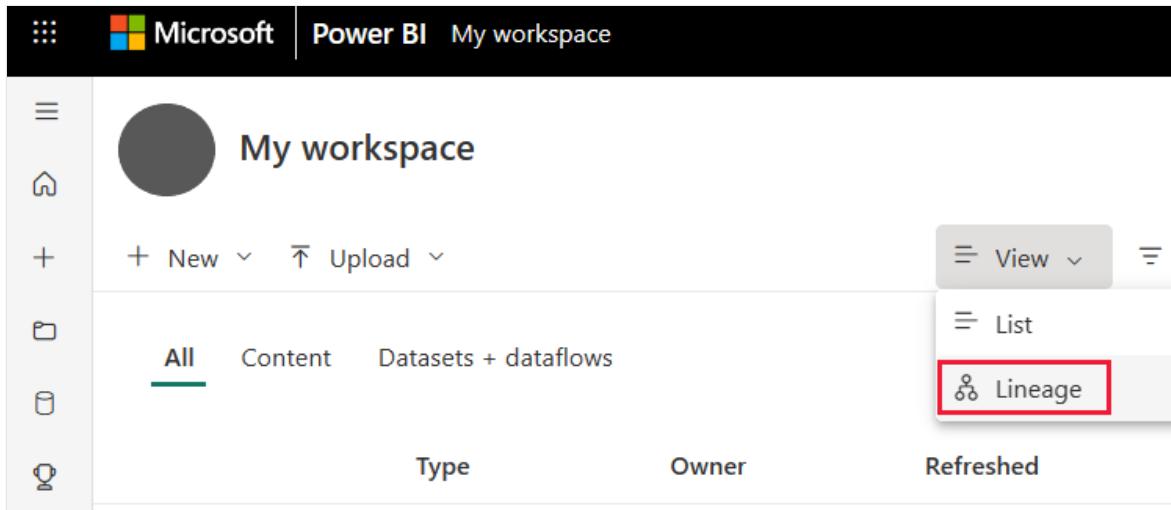
This video might use earlier versions of Power BI Desktop or the Power BI service.

<https://www.microsoft.com/en-us/videoplayer/embed/RE4HmJG?postJs||Msg=true>

## Explore lineage view

Every workspace automatically has a lineage view. You need at least a *Contributor* role in the workspace to view it. See [Permissions](#) in this article for details.

- To access lineage view, go to the workspace list view. Tap the arrow next to **View** and select **Lineage**.

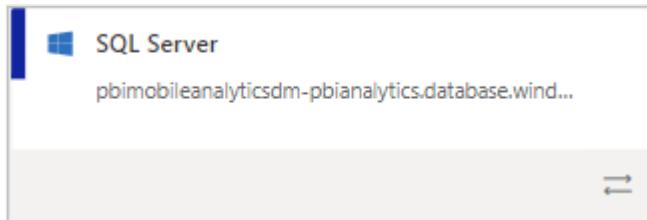


The screenshot shows the Microsoft Power BI interface. At the top, there's a navigation bar with the Microsoft logo, 'Power BI', and 'My workspace'. On the left, a sidebar contains icons for 'New', 'Upload', 'View' (which is currently selected), 'List', and 'Lineage' (which is highlighted with a red box). The main area is titled 'My workspace' and shows a list of workspace artifacts. The list includes columns for 'Type', 'Owner', and 'Refreshed'. There are buttons for '+ New', 'Upload', and 'View' (with sub-options 'List' and 'Lineage').

In this view, you see all the workspace artifacts and how the data flows from one artifact to another.

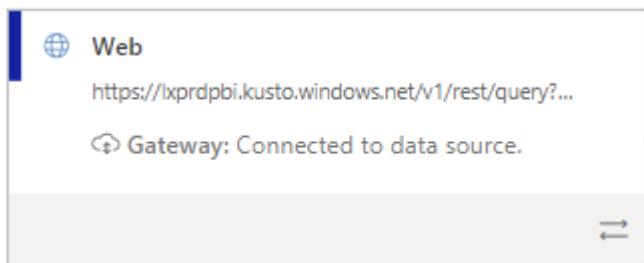
### Data sources

You see the data sources from which the semantic models and dataflows get their data. On the data source cards, you see more information that can help identify the source. For example, for Azure SQL server, you also see the database name.



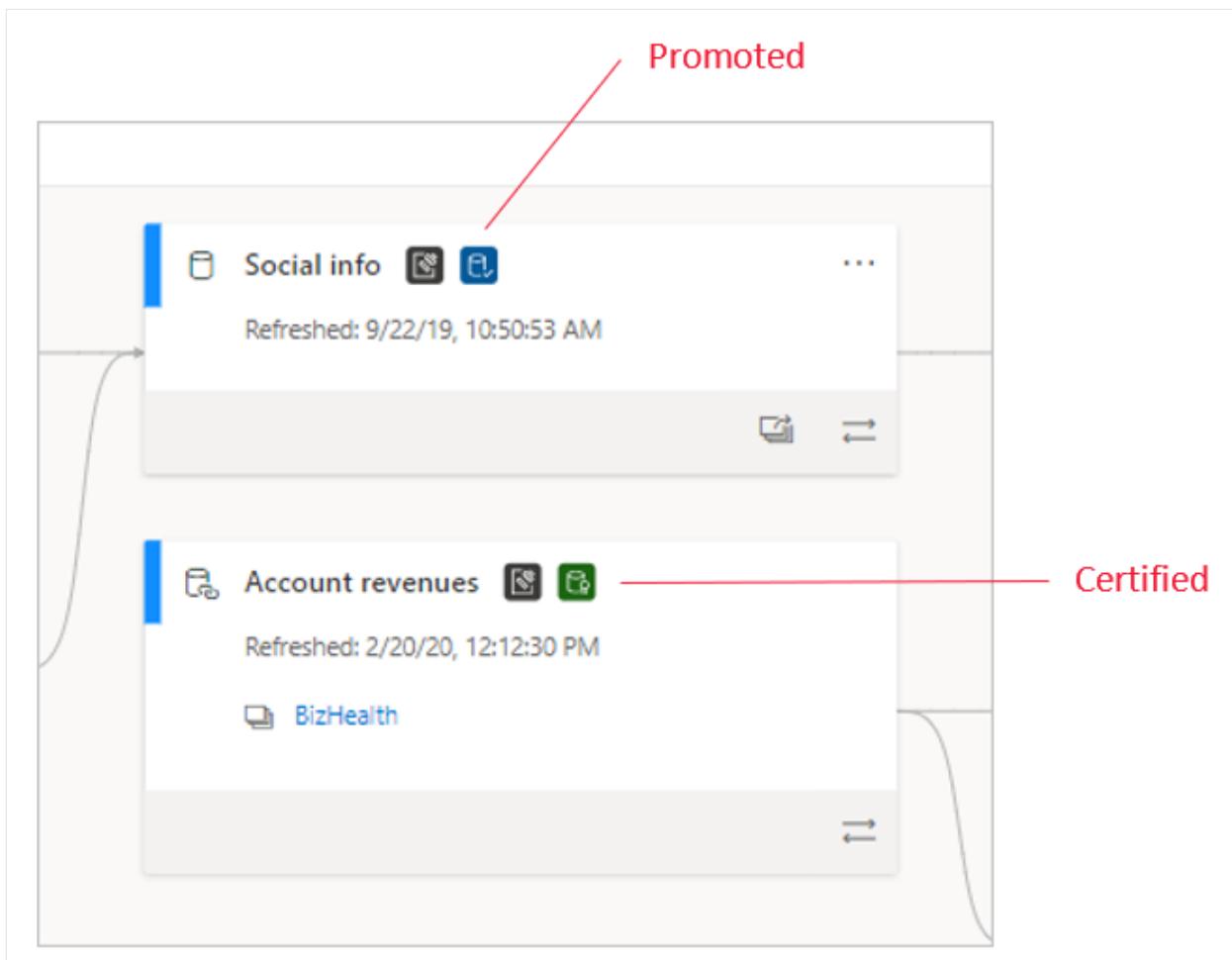
### Gateways

If a data source is connected via an on-premises gateway, the gateway information is added to the data source card. If you have permissions, either as a gateway admin or as a data source user, you see more information, such as the gateway name.



## Semantic models and dataflows

On semantic models and dataflows, you see the last refresh time, as well as if the semantic model or dataflow is certified or promoted.



If a report in the workspace is built on a semantic model or a dataflow that's located in another workspace, you see the source workspace name on the card of that semantic model or dataflow. Select the name of the source workspace to go to that workspace.

- For any artifact, select **More options (...)** to view the options menu. It features all the same actions that are available in list view.

To see more metadata on any artifact, select the artifact card itself. Additional information about the artifact is displayed in a side pane. In the following image, the side pane displays the metadata of a selected semantic model.

**Revenues forecast** X

Sensitivity Highly Confidential\Extended ⓘ

Configured by

Refreshed 9/25/19, 12:58:09 PM

Next refresh --

Endorsement Certified

Total Tables 5

---

Authoring tool raw data

---

AuthoringTool Daily All

---

Products

---

Sales

---

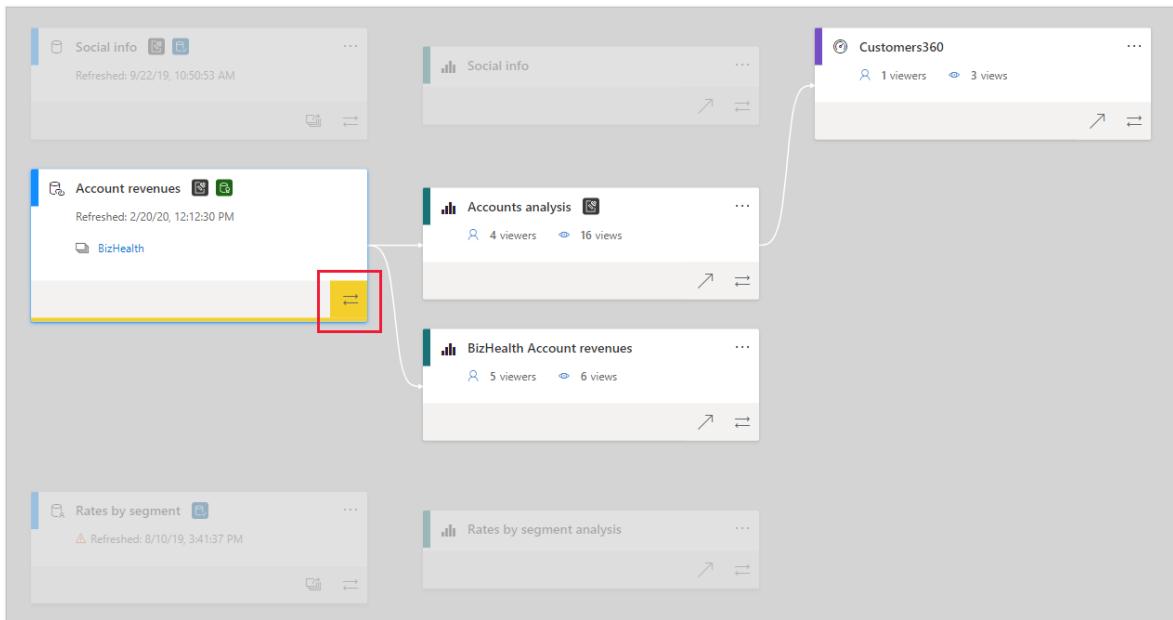
TenantName

---

## Show lineage for any artifact

Say you want to see the lineage for a specific artifact.

- Select the double arrows under the artifact.

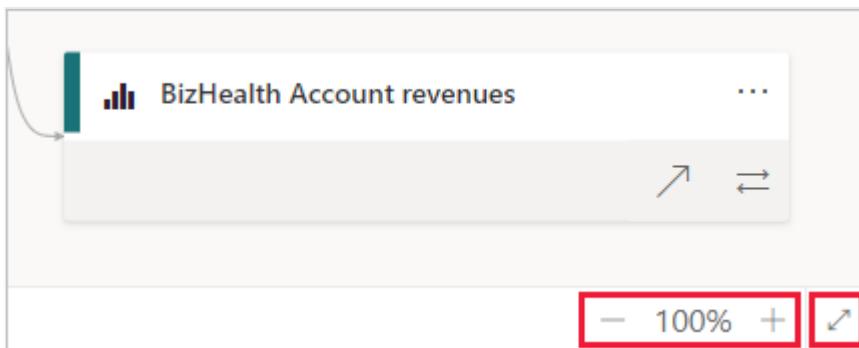


Power BI highlights all the artifacts related to that artifact, and dims the rest.

## Navigation and full screen

Lineage view is an interactive canvas. You can use the mouse and touchpad to navigate in the canvas, as well as to zoom in or out.

- To zoom in and out, use either the menu in the bottom-right corner or your mouse or touchpad.
- To have more room for the graph itself, use the full screen option at the bottom-right corner.



## Permissions

- You need a Power BI Pro license to see lineage view.
- Lineage view is available only to users with access to the workspace.
- Users must have an Admin, Member, or Contributor role in the workspace. Users with a Viewer role can't switch to lineage view.

# Considerations and limitations

- Lineage view isn't available in Internet Explorer. For more information, see [Supported browsers for Power BI](#).
- Correct display of semantic model<->dataflow lineage is guaranteed only if the **Get Data** UI is used to set up the connection to the dataflow, and the **Dataflows** connector is used. Correct display of semantic model<->dataflow lineage isn't guaranteed if a manually created Mashup query is used to connect to the dataflow.

## Next steps

- [Introduction to semantic models across workspaces](#)
- [Semantic model impact analysis](#)

# Semantic model impact analysis

Article • 11/10/2023

When you make changes to a semantic model, or are considering making changes, it's important to be able to assess the potential impact of those changes on downstream reports and dashboards that depend on that semantic model. **Semantic model impact analysis** provides you with information that can help you make this assessment.

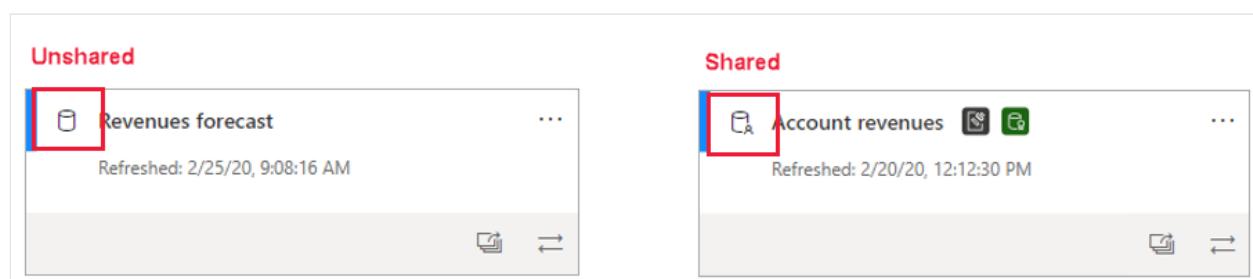
- It shows you how many workspaces, reports, and dashboards might be affected by your change, and provides easy navigation to the workspaces where the affected reports and dashboards are located so that you can investigate further.
- It shows you how many unique visitors and the number of views there are on the potentially affected items. This helps you determine the overall impact of the change for the downstream item. For instance, it's probably more important to investigate the effect of a change on a report that has 20,000 unique viewers than it is to investigate the effect of the change on a report that has three viewers.
- It provides an easy way to notify the relevant people about a change you made or are thinking about making.

Semantic model impact analysis is easily launched from within [data lineage view](#).

## Identify shared semantic models

You can perform semantic model impact analysis on both shared and unshared semantic models. However, it's particularly useful for semantic models that are shared across workspaces, where it's much more complicated to get a clear picture of downstream dependencies than it is with unshared semantic models, all of whose dependencies are located in the same workspace as the semantic model itself.

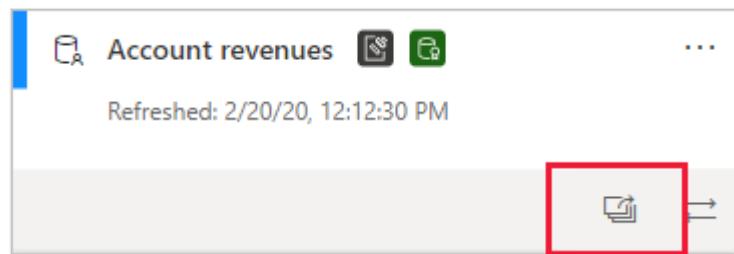
In lineage view, you can tell the difference between shared semantic models and unshared semantic models by the icon that appears in the upper left-hand corner of the semantic model's card.



# Perform semantic model impact analysis

You can perform impact analysis on any semantic model in the workspace, whether it's shared or not. You can't perform impact analysis on external semantic models that are displayed in lineage view but are in fact located in another workspace. To perform impact analysis on an external semantic model, you need to navigate to the source workspace.

To perform semantic model impact analysis, select the impact analysis button on the semantic model card.



The impact analysis side panel opens.

A screenshot of the Impact analysis side panel. It shows an "Impact summary" section with counts for workspaces (5), reports (7), dashboards (3), and views (149). Below this is a "Usage metrics" section with a table of items and their metrics. Annotations include a red box around the impact summary section and another red box around the usage metrics table. Red arrows point from the text labels "Impact summary" and "Usage metrics" to their respective sections in the UI.

Name	Viewers	Views
BizHealth > This workspace	5	35
FinanceCorp	2	5
Marketing	2	109
FY20 Overview	1	77
FY20 report	2	32
Operations & development	0	0
Limited access	0	0

- The **impact summary** shows you the number of potentially impacted workspaces, reports, and dashboards, as well as the total number of views for all the downstream reports and dashboards that are connected to the semantic model.
- The **notify contacts** link opens a dialog where you can create a message about any semantic model changes you make, and send it to the contact lists of the affected

workspaces.

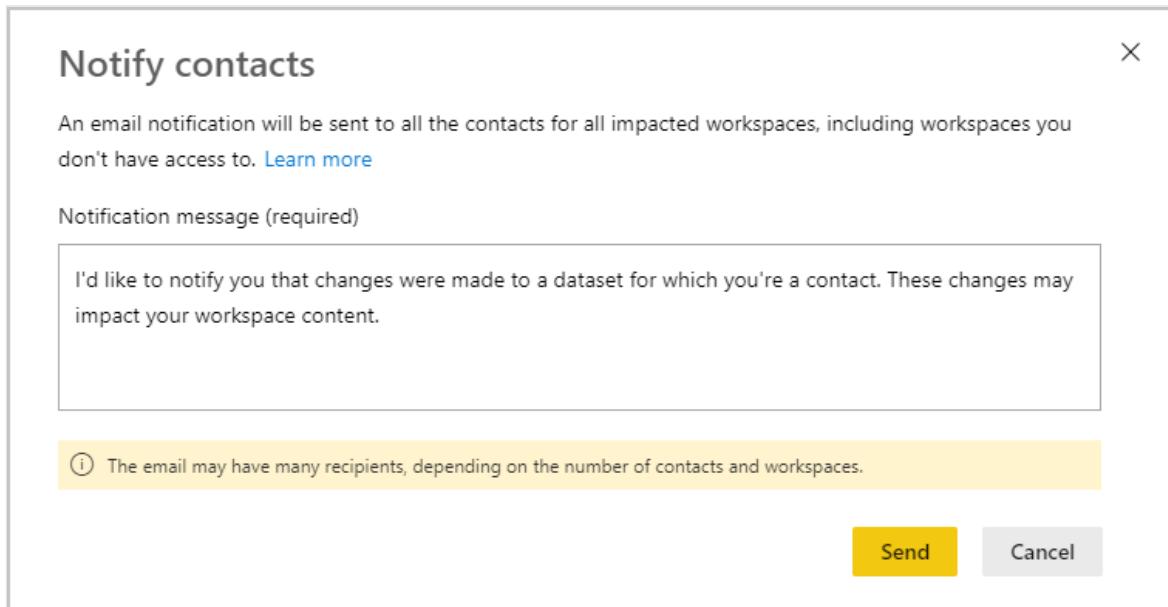
- The **usage metrics** show you, for each workspace, the total number of views for the potentially impacted reports and dashboards it contains, and for each report and dashboard, the total number of viewers and views, where:
  - Viewers: The number of distinct users that viewed a report or dashboard.
  - Views: The number of views for a report or dashboard

The usage metrics relate to the last 30 days, excluding the current day. The count includes usage coming via related apps. The metrics help you understand semantic model use across the tenant, as well as assess the impact any changes to your semantic model might have.

## Notify contacts

If you've made a change to a semantic model or are thinking about making a change, you might want to contact the relevant users to tell them about it. When you notify contacts, an email is sent to the [contact lists](#) of all the impacted workspaces. Your name appears on the email so the contacts can find you and reply back in a new email thread.

1. Select **Notify contacts** in the impact analysis side pane. The notify contacts dialog appears.



2. In the text box, provide some detail about the change.

3. When the message is ready, select **Send**.

### ⓘ Note

Notify contacts is not available if the semantic model you're performing impact analysis on is located in a classic workspace.

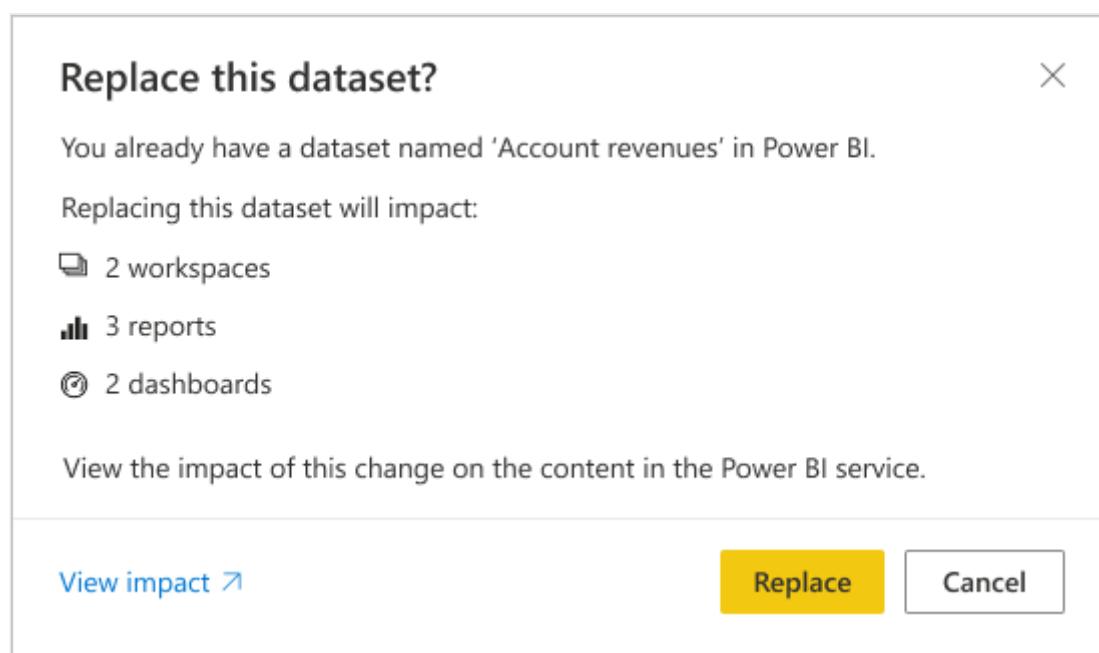
## Privacy

In order to perform impact analysis on a semantic model, you must have write permissions to it. In the impact analysis side pane, you only see real names for workspaces, reports, and dashboards that you have access to. Items that you don't have access to are listed as **Limited access**. This is because some item names may contain personal information.

Even if you don't have access to some workspaces, you still see summarized usage metrics for those workspaces, and your notify contacts messages will still reach the contact lists of those workspaces.

## Impact analysis from Power BI Desktop

When you make a change to a semantic model in Power BI Desktop and then republish it to the Power BI service, a message shows you how many workspaces, reports, and dashboards are potentially impacted by the change, and asks you to confirm that you want to replace the currently published semantic model with the one you modified. The message also provides a link to the full semantic model impact analysis in the Power BI service, where you can see more information and take action to mitigate the risks of your change.



### ① Note

The information shown in the message only indicates potential impact. It doesn't necessarily indicate that anything has broken. Semantic model changes often have no adverse effect on their downstream reports and dashboards. Still, you get this message that gives you clarity concerning potential impact.

In the message, the number of workspaces is only shown if more than one workspace contains impacted reports and dashboards.

## Considerations and limitations

- Usage metrics aren't supported for personal workspaces.

## Next steps

- [Intro to semantic models across workspaces](#)
- [Data lineage](#)

# Data source impact analysis

Article • 11/10/2023

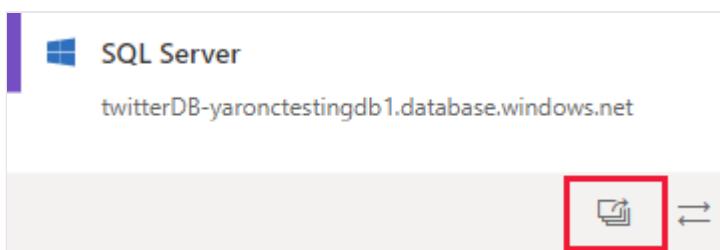
Data source impact analysis helps you see where your data source is being used throughout your organization. This can be useful when the data source is temporarily or permanently taken offline, and you want to get an idea about who is impacted. Impact analysis shows you how many workspaces, dataflows, and semantic models use the data source, and provides easy navigation to the workspaces where the affected dataflows and semantic models are located so that you can investigate further.

Data source impact analysis can also help you spot data duplication in the tenant, such as when a number of different users build similar models on top of the same data source. By helping you discover such redundant semantic models and dataflows, data source impact analysis supports the goal of having *a single source of truth*.

## Perform data source impact analysis

To perform data source impact analysis:

1. Go to the workspace that contains the data source you're interested in and open [lineage view](#).
2. Find the data source's card and select the impact analysis icon.

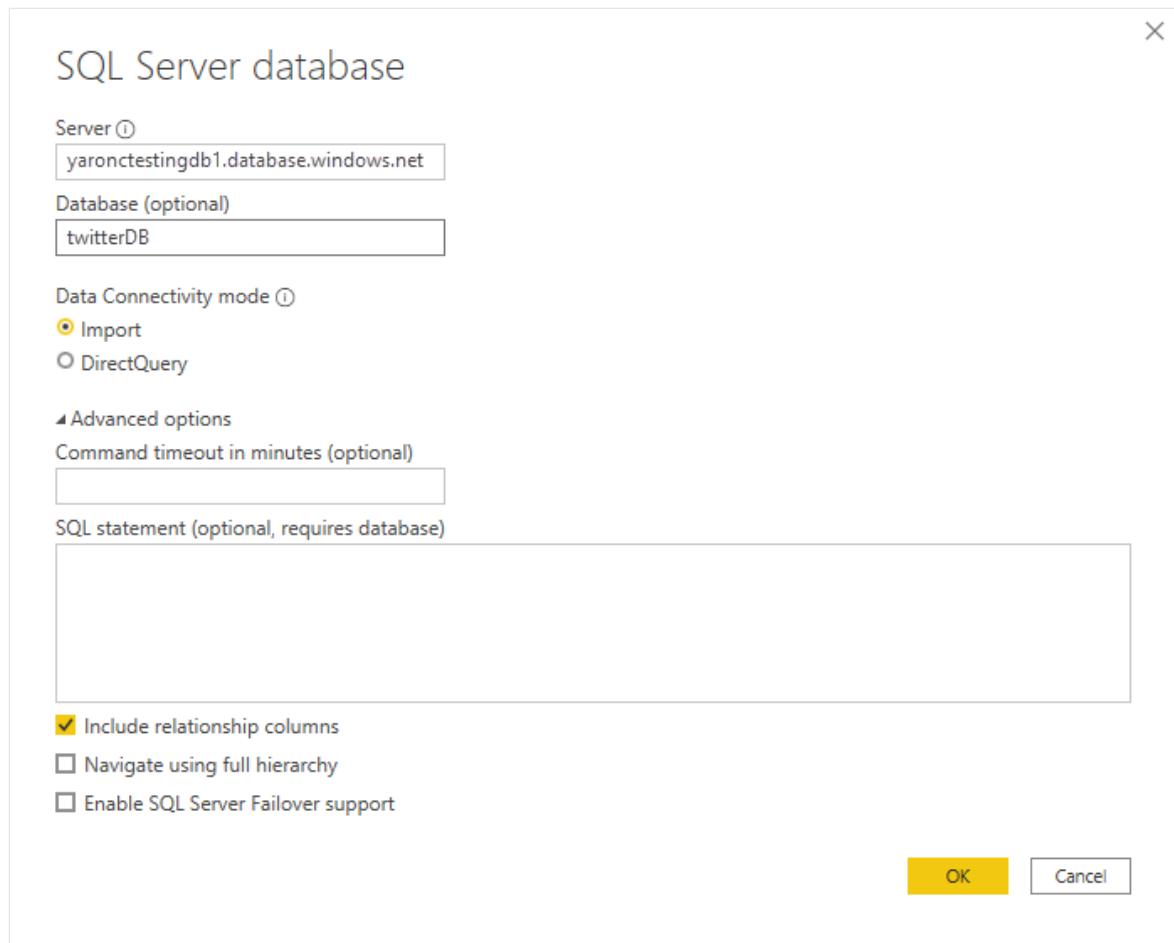


The impact analysis side panel opens.

The screenshot shows the 'Impact analysis' dialog in Power BI Desktop. At the top, it displays the 'Data source type' as 'SQL Server' and the 'Path to data source' as 'twitterDB-yaronctestingdb1.database.windows.net'. Below this, the 'Impact summary' section provides a quick overview of usage counts: 7 Workspaces, 9 Dataflows, 2 Datasets, and 5 Datamarts. A note indicates that the impact analysis is calculated for the current Power BI tenant only. The 'Usage breakdown' section details the usage across different tenants and workspaces:

- FinanceCorp**: This workspace includes 'Social info'.
- BizHealth**: Includes 'Web telemetry'.
- Sales & Marketing**: Includes 'Customer360 model'.
- +4 workspaces**: Limited access.

- **Data source type:** Indicates the data source type.
- **Path to data source:** Path to the data source as defined in Power BI Desktop. In this example, the path to the SQL server database data source is the connection string *twitterDB-yaronctestingdb1.database.windows.net*, as defined in Power BI Desktop, shown in the following image. It consists of the database name *twitterDB* and the server name *yaronctestingdb1.database.windows.net*.



- **Impact summary:** The number of potentially impacted workspaces, dataflows, and semantic models. This count includes workspaces you don't have access to.
- **Usage breakdown:** For each workspace, the names of the impacted dataflows and semantic models. To further explore the impact on a particular workspace, select the workspace name to open the workspace. Then use [semantic model impact analysis](#) to see the usage details about connected reports and dashboards.

## Notify contacts

If you make a change to a data source or are thinking about making a change, you might want to contact the relevant users to tell them about it. When you notify contacts, an email is sent to the [contact lists](#) of all the impacted workspaces. For classic workspaces, the email is sent to the workspace administrators. Your name appears on the email so the contacts can find you and reply back in a new email thread.

1. Select **Notify contacts** in the impact analysis side pane. The notify contacts dialog appears.

## Notify contacts

X

An email notification will be sent to all the contacts for all impacted workspaces, including workspaces you don't have access to. [Learn more](#)

Notification message (required)

I'd like to notify you that changes were made to a data source for which you're a contact. These changes may impact your workspace content.

 The email may have many recipients, depending on the number of contacts and workspaces.

Send

Cancel

2. In the text box, provide some detail about the change.

3. When the message is ready, select **Send**.

## Privacy

In the impact analysis side pane, you only see real names for workspaces, datasets, and dataflows that you have access to. Items that you don't have access to are listed as *Limited access*, since some item names might contain personal information.

The counts in the impact summary include all impacted dataflows and semantic models, even those that reside in workspaces you don't have access to.

## Considerations and limitations

Data source impact analysis isn't yet supported for paginated reports, so you won't see if the data source has any direct impact on these kinds of reports in the tenant.

## Next steps

- [Semantic model impact analysis](#)
- [Data lineage](#)

# How to apply sensitivity labels in Power BI

Article • 11/16/2023

Sensitivity labels from Microsoft Purview Information Protection on your reports, dashboards, semantic models, dataflows, and .pbix files can guard your sensitive content against unauthorized data access and leakage. Labeling your data correctly with sensitivity labels ensures that only authorized people can access your data. This article shows you how to apply sensitivity labels in the Power BI service and in Power BI Desktop.

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

## Give us your feedback

The product team would love to get your [feedback](#) about the Power BI information protection capabilities and its integration with Microsoft Purview Information Protection. Help us meet your information protection needs! Thanks!

## Apply sensitivity labels in the Power BI service

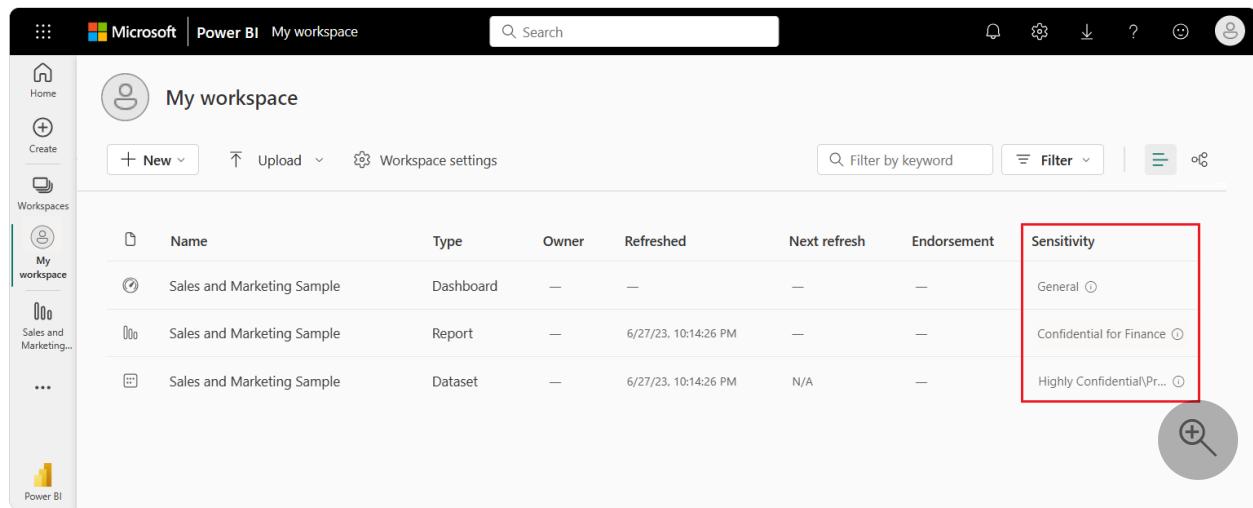
In the Power BI service, you can apply sensitivity labels to reports, dashboards, semantic models, and dataflows.

Here are the requirements to apply sensitivity labels in the Power BI service:

- You must have a [Power BI Pro or Premium Per User \(PPU\) license](#) and edit permissions on the content you want to label. Note: If you have a Free license, you can apply sensitivity labels on the content in your *My workspace*, provided that the other requirements listed here have been met.
- Sensitivity labels must be enabled for your organization. Contact your Power BI admin for information about your configuration.
- You must belong to a security group that has permissions to apply sensitivity labels, as described in [Enable sensitivity labels in Power BI](#).
- All [licensing and other requirements](#) must be met.

## View sensitivity labels

When data protection is enabled on your tenant, sensitivity labels appear in the **Sensitivity** column in the list view of dashboards, reports, semantic models, and dataflows.



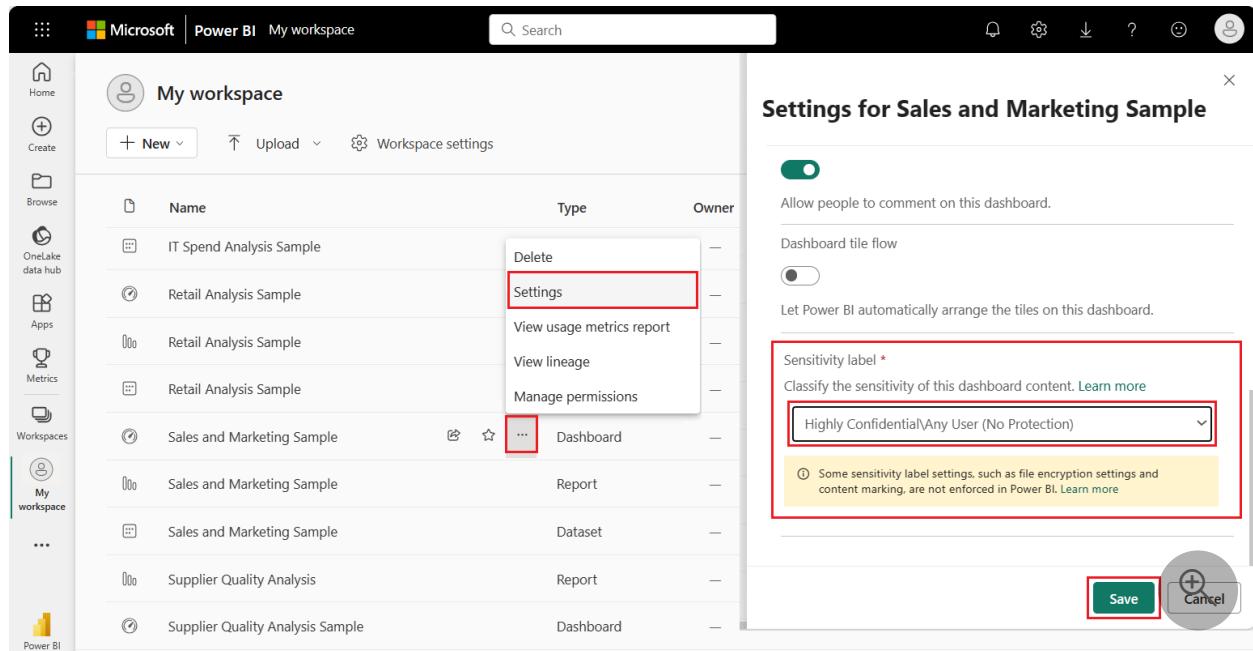
The screenshot shows the 'My workspace' list view in Power BI. A red box highlights the 'Sensitivity' column, which contains three entries: 'General', 'Confidential for Finance', and 'Highly Confidential\Pr...'. The 'Highly Confidential\Pr...' entry is partially cut off. The left sidebar shows navigation options like Home, Create, Workspaces, My workspace (which is selected), Sales and Marketing..., and Power BI.

## Set the sensitivity label on a report or dashboard

You can apply or change the sensitivity label on a report or dashboard by following these steps:

1. On the **More options...** menu for a report or dashboard, select **Settings**.
2. In the **Settings** side pane, go to the **Sensitivity label** section.
3. Select the appropriate sensitivity label in the drop-down list.
4. Select **Save** to apply the modified settings.

The following image shows how to set the sensitivity label for a dashboard to *Highly Confidential\Any User (No Protection)*:



The screenshot shows the 'My workspace' list view. A red box highlights the 'Settings' option in the context menu for the 'Sales and Marketing Sample' dashboard. The right side of the screen displays the 'Settings for Sales and Marketing Sample' pane. A red box highlights the 'Sensitivity label' dropdown, which is set to 'Highly Confidential\Any User (No Protection)'. Below the dropdown, a yellow box contains a note: 'Some sensitivity label settings, such as file encryption settings and content marking, are not enforced in Power BI. Learn more'. At the bottom of the pane are 'Save' and 'Cancel' buttons, with the 'Save' button also highlighted with a red box.

## (!) Note

If the **Sensitivity label** setting isn't available, you might not have the correct **usage rights** to change the setting. If you're not able to change a sensitivity label, consider asking the person who originally applied the label to make the change. You can also contact the Microsoft 365/Office security administrator and request the necessary usage rights for the label.

## Set the sensitivity label on a semantic model or dataflow

You can apply or change the sensitivity label on a semantic model or dataflow by following similar steps:

1. On the **More options...** menu for a semantic model or dataflow, select **Settings**.
2. In the **Settings** view, select the **Semantic models** or **Dataflows** tab, depending on your configuration.
3. Expand the **Sensitivity label** section.
4. Select the appropriate sensitivity label in the drop-down list.
5. Select **Apply** to save the modified settings.

The following images show how to set the sensitivity label for a semantic model to *General*:

The screenshot shows the Microsoft Power BI workspace interface. On the left, there's a sidebar with icons for Home, Create, Browse, OneLake data hub, Apps, Metrics, Workspaces, and My workspace (which is selected). The main area is titled "My workspace" and lists several semantic models: "IT Spend Analysis Sample", "Retail Analysis Sample", "Retail Analysis Sample", "Retail Analysis Sample", "Sales and Marketing Sample", "Sales and Marketing Sample", "Sales and Marketing Sample", and "Supplier Quality Analysis". A context menu is open over the first "Retail Analysis Sample". The menu items are: "Analyze in Excel", "Create report", "Auto-create report", "Create paginated report", "Delete", "Get quick insights", "Rename", "Open data model", "Settings" (which is highlighted with a red box), "Manage permissions", and "View lineage". Below the menu, there's a table with columns for Name, Refreshed, Next refresh, and Endorsement. The table rows correspond to the semantic models listed above. At the bottom right of the workspace, there's a search bar and some other navigation icons.

The screenshot shows the Microsoft Power BI interface. On the left, there's a sidebar with icons for Home, Create, Browse, OneLake data hub, Apps, Metrics, Workspaces, My workspace (which is selected), and Power BI. The main area has tabs for General, Dashboards, Datasets (which is selected), Workbooks, Reports, and Dataflows. Under the Datasets tab, there's a list of sample datasets: Artificial Intelligence Sample, Corporate Spend, IT Spend Analysis Sample, Retail Analysis Sample, Sales and Marketing Sample (which is selected), and Supplier Quality Analysis Sample. To the right, there's a panel titled 'Settings for Sales and Marketing Sample' with sections for Dataset description, Sensitivity label, Parameters, Q&A, and Featured Q&A questions. The 'Sensitivity label' section is highlighted with a red box. It contains a dropdown menu set to 'General', a note about some settings not being enforced, and 'Apply' and 'Discard' buttons.

### (!) Note

If the **Sensitivity label** setting isn't available, you might not have the correct **usage rights** to change the setting. If you're not able to change a sensitivity label, consider asking the person who originally applied the label to make the change. You can also contact the Microsoft 365/Office security administrator and request the necessary usage rights for the label.

## Apply sensitivity labels in Power BI Desktop

Here are the requirements to apply sensitivity labels in Power BI Desktop:

- You must have a [Power BI Pro or Premium Per User \(PPU\) license](#).
- Sensitivity labels must be enabled for your organization. Contact your Power BI admin for information about your configuration.
- You must belong to a security group that has permissions to apply sensitivity labels, as described in [Enable sensitivity labels in Power BI](#).
- All [licensing and other requirements](#) must be met.
- You must be signed in.

Watch the following short video on how to apply sensitivity labels and then try it out yourself.

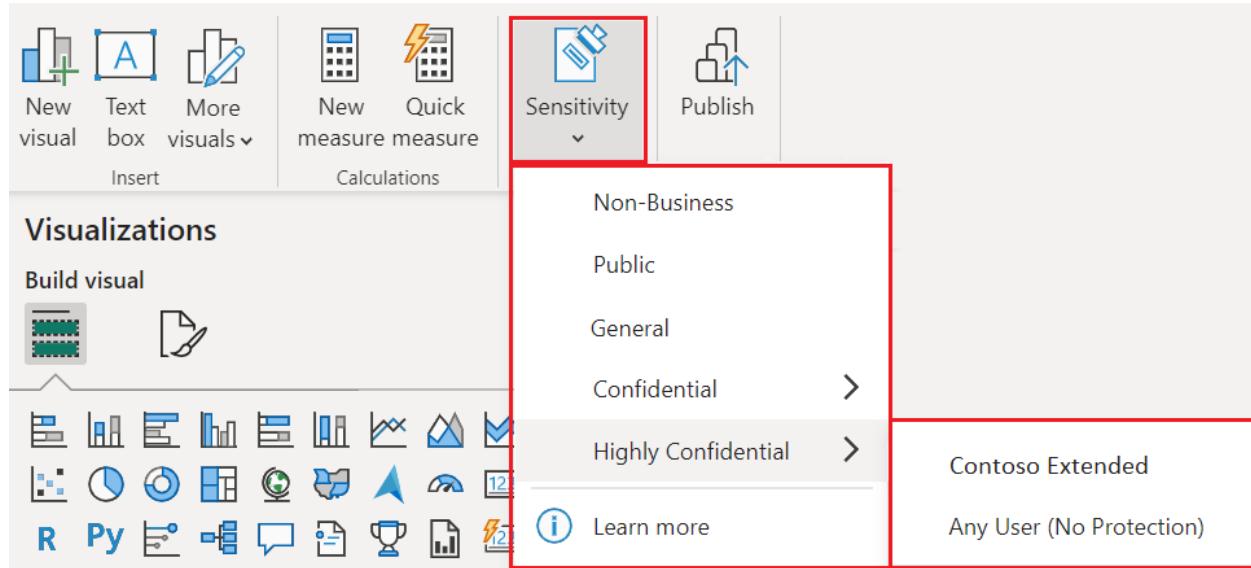
## ⓘ Note

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

[https://www.microsoft.com/en-us/videoplayer/embed/RE4M5Gj?postJsIIMsg=true ↗](https://www.microsoft.com/en-us/videoplayer/embed/RE4M5Gj?postJsIIMsg=true)

## Set the sensitivity label on a file

To apply a sensitivity label on a file you're working on, select the **Sensitivity** option on the toolbar. Select the appropriate sensitivity label in the drop-down list.

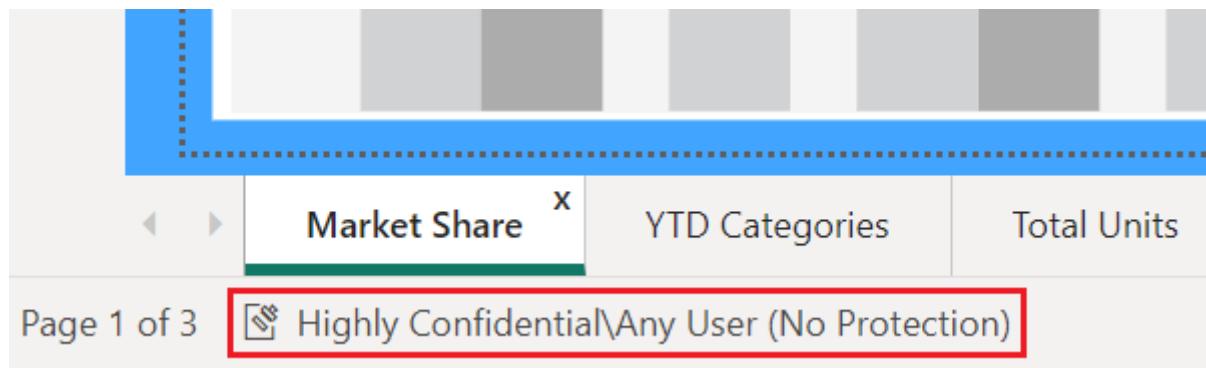


## ⓘ Note

If the **Sensitivity** option isn't available, you might not have an appropriate license, or you might not belong to a security group that has permissions to apply sensitivity labels, as described in [Enable sensitivity labels in Power BI](#).

If a specific sensitivity label isn't available, you might not have the correct **usage rights** to change the setting. If you're not able to change a sensitivity label, consider asking the person who originally applied the label to make the change. You can also contact the Microsoft 365/Office security administrator and request the necessary usage rights for the label.

After you apply the sensitivity label, it's visible in the status bar.



## Work with sensitivity labels on uploaded or downloaded files

When you publish a .pbix file to the Power BI service from Power BI Desktop, or when you upload a .pbix file to the Power BI service directly via the **OneLake data hub**, the .pbix file's label is applied to both the report and the semantic model that are created in the service.

If the .pbix file you're publishing or uploading replaces existing assets (that is, the file has the same name as the .pbix file), you see a dialog prompt. At the prompt, choose whether to keep the labels on the assets or have the .pbix file's label overwrite those labels. If the .pbix file is unlabeled, the labels in the service are retained.

When you download a .pbix file from the Power BI service by using the **Download this file** option, if both the report and semantic model to download have labels and the two labels are different, the label applied to the .pbix file is the more restrictive of the two.

## Remove sensitivity labels

You can remove sensitivity labels only in Power BI Desktop.

To remove a sensitivity label from a .pbix file, select the **Sensitivity** option on the toolbar. Select the current sensitivity label setting in the drop-down list. The sensitivity label is removed from the file.

## Considerations and limitations

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

## Next steps

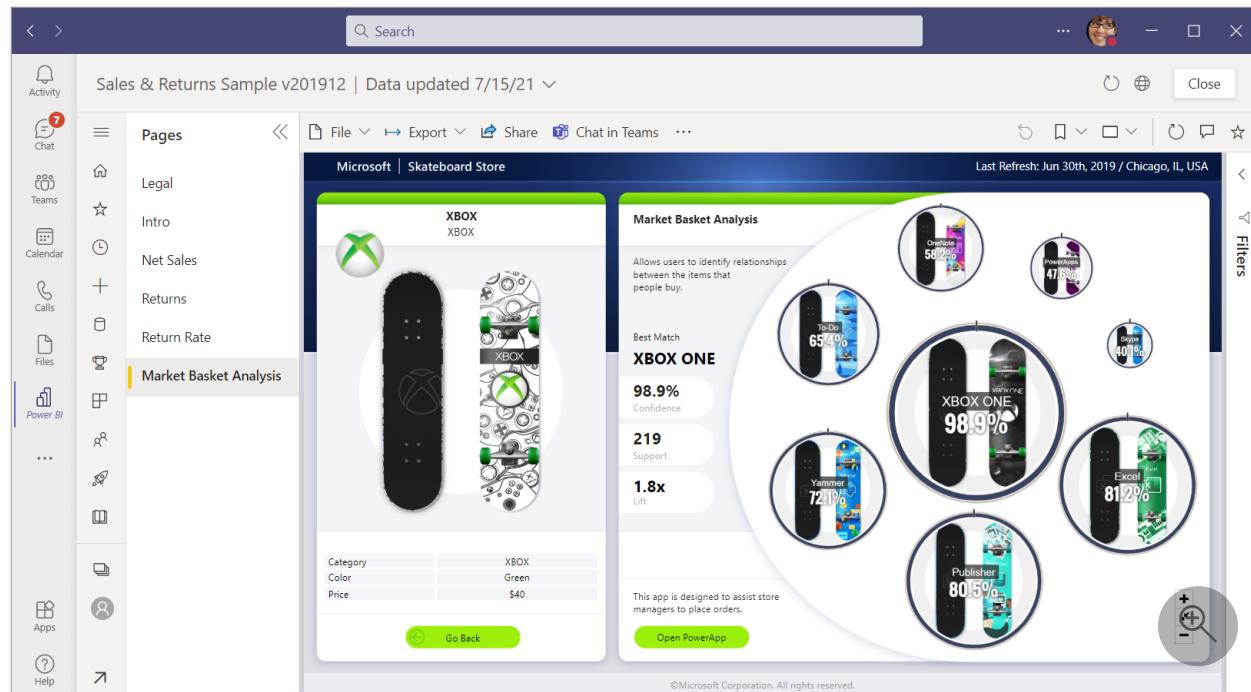
This article described how to apply sensitivity labels in Power BI. The following articles provide more details about data protection in Power BI.

- [Overview of sensitivity labels in Power BI](#)
- [Enable sensitivity labels in Power BI](#)
- [Using Microsoft Defender for Cloud Apps controls in Power BI](#)

# Collaborate with Power BI in Microsoft Teams, Outlook, and Office

Article • 03/02/2023

Organizations rely on Microsoft Teams, Microsoft Outlook, and Microsoft Office to enable remote work and keep employees in sync. This article outlines options for sharing and collaborating on interactive Power BI content in Microsoft Teams, Outlook, and Office.



## ⓘ Note

The Power BI app is generally available in Microsoft Teams. The Power BI app is in public preview in Microsoft Outlook and Microsoft Office. Learn more about the [public preview](#).

- [Add the Power BI app to Microsoft Teams](#): Integrate the Power BI service experience into Microsoft Teams.
- [Add the Power BI app to Microsoft Outlook and Office](#): Integrate the Power BI service experience into Microsoft Office products.
- [Embed interactive reports in Teams channels and chats](#) with a Power BI tab: Help your colleagues find and discuss your team's data.
- Create a [link preview in the Teams message box](#) when you paste links to your reports, dashboards, and apps.

- [Chat in Microsoft Teams directly from the Power BI service](#): Share a filtered view of your reports and dashboards and start conversations.
- [View all the Power BI tabs you have](#) in Microsoft Teams: Select the **In Teams** tab on the Power BI app home page.
- [Create a Teams usage report](#) automatically in the Power BI app in Teams: Analyze your Teams activity.
- [Get notified](#) in the Teams activity feed when important things happen in Power BI.
- Discover and use Power BI in Teams mobile.

## Requirements

In general, for Power BI to work in Microsoft Teams, ensure these elements:

- Ensure the Power BI app is enabled in the Teams Admin center apps list.
- Your users with a Power BI (Free) license can access personal analytics, including using the built-in Teams analytics report, and create reports in their My workspace.
- Your users with a Power BI (Free) license can also access content shared to them from a workspace that's part of a [Power BI Premium capacity \(P SKU\)](#).
- Your users with a Power BI Pro or Premium Per User (PPU) license can share content with others or build content in workspaces.
- Users need to sign in within the Power BI app for Teams or the Power BI service to activate their Power BI license.
- Users meet the requirements to use the [Power BI](#) tab in Microsoft Teams.

## Grant access to reports

Embedding a report in Microsoft Teams or sending a link to an item doesn't automatically give users permission to view the report. You need to [allow users to view the report in Power BI](#). You can use a Microsoft 365 Group for your team to make it easier.

 **Important**

Make sure to review who can see the report within the Power BI service and grant access to those not listed.

One way to ensure everyone in a team has access to reports is to place the reports in a single workspace and give the Microsoft 365 Group for your team access.

# Share with external users

You can integrate a Power BI report in Teams and share it with external users. Here are the steps to follow.

1. You invite the external user to the organization, and they accept your invitation.  
See [Distribute Power BI content to external guest users using Azure Active Directory B2B](#) for details.
2. Give the external user permission on the report. Individual permissions assignment works best.
3. Make sure the external user has a Power BI license assigned to them. If the content is in a Premium capacity, the user only needs a Free license. If not, the user can [sign up for an individual free trial of Power BI Pro](#) or get a Premium Per User (PPU) license.

## Known issues and limitations

- Power BI doesn't support the same localized languages that Microsoft Teams does. As a result, you might not see proper localization within the embedded report.
- Power BI dashboards can't be embedded in the **Power BI** tab for Microsoft Teams.
- Users without a Power BI license or permission to access the report see a "Content isn't available" message.
- You might have issues if you use Internet Explorer 10.
- [URL filters](#) aren't supported with the **Power BI** tab for Microsoft Teams.
- In US Government Community Cloud, the Power BI app for Microsoft Teams and the new tab are available. However, the following experiences aren't available:
  - Power BI messaging extension, which provides link previews, search, and link unfurling
  - Power BI activity feed notifications
  - Chat in Microsoft Teams
- In other national/regional clouds, the new **Power BI** tab isn't available. An older version might be available that doesn't support workspaces or reports in Power BI apps.
- After you save the tab, you can't change the tab name through the tab settings. Use the **Rename** option to change it.
- Link previews don't work in meeting chat or private channels.
- The messaging extension may process request and response data in a region that's different from your Power BI tenant home region.

## Power BI app in Outlook and Office

The Power BI app for Microsoft Teams is available in Microsoft Outlook and Microsoft Office as a public preview. If you've installed the Power BI app in Microsoft Teams, it's also installed in Outlook and Office. Otherwise, in Outlook and Office you can install the Power BI app from the store. When you install the app, it also appears in Teams. The Power BI app in Teams continues to be generally available. The Power BI app supports Outlook for the web and Outlook for Windows.

### **Important**

To participate in the preview, you must be enrolled in Microsoft 365 First Release for web experiences and in Office Insiders Beta Channel for Windows experiences. The public preview is rolling out incrementally for First Release and Office Insiders users. This means some users in your organization might not yet see the experiences in Outlook and Office.

In Outlook and Office, the preview app has some additional limitations:

- File downloads aren't supported yet. This means export options and file downloads don't download files.
- On the **Create** tab, the **Paste or manually enter data** option isn't supported yet.
- Viewing items in full screen option isn't supported yet.
- Deep links aren't supported yet in Outlook and Office. Items open in a new browser tab.
- In Outlook, generating link previews for URLs that you paste into email isn't supported yet.

## Microsoft Power Platform in Microsoft Teams

The other Microsoft Power Platform apps also integrate with Microsoft Teams.

- [Power Platform admin experience](#)
- [Power Automate](#)
- [Power Apps](#)
- [Power Virtual Agents](#)

## Next steps

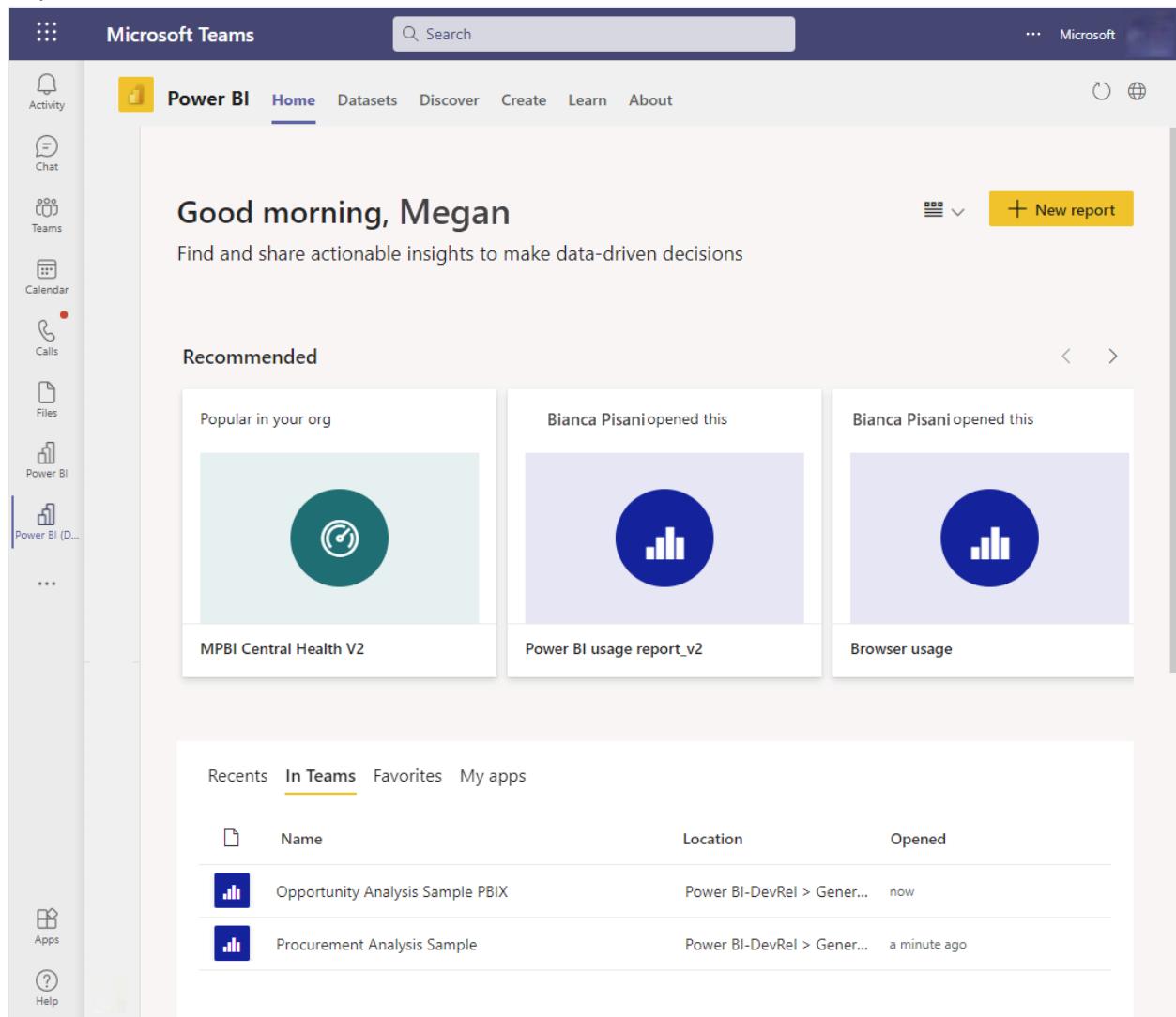
- [Embed Power BI content in Microsoft Teams.](#)
- [Get a Power BI link preview in Microsoft Teams.](#)
- [Chat in Microsoft Teams directly from the Power BI service.](#)

More questions? [Ask the Power BI Community.](#)

# Add the Power BI app to Microsoft Teams

Article • 02/21/2025

This article describes how you can install, pin, and interact with Power BI directly inside Microsoft Teams. The Power BI personal app brings the entire basic Power BI service experience to Microsoft Teams.



With the Power BI app in Microsoft Teams, you can [collaborate with Power BI in Teams](#). The app is your personal experience of Power BI. It's as if the Power BI service lives inside Microsoft Teams. After you install it, you can do almost everything in Microsoft Teams that you can do in the Power BI service.

- Create, view, and edit dashboards, reports, and apps.
- Create and participate in workspaces.
- Share content, either through email or through Microsoft Teams.

Also, there's a feature in the Power BI app in Teams that you don't see when you view the Power BI service ([app.powerbi.com](http://app.powerbi.com)) in a web browser. On the Power BI home page

in Teams, you can [see all the Power BI tabs you viewed](#) in Teams.

There are a few features that you can access only in the Power BI service in a browser. For details, see the [Known issues and limitations](#) section of this article.

 **Note**

When you install the Power BI app in Microsoft Teams, if you are in Microsoft 365 Targeted Release or Office Insiders Beta Channel, then the public preview of the Power BI app in Microsoft Outlook and Microsoft Office is also installed. For details, see [public preview in Outlook and Office](#).

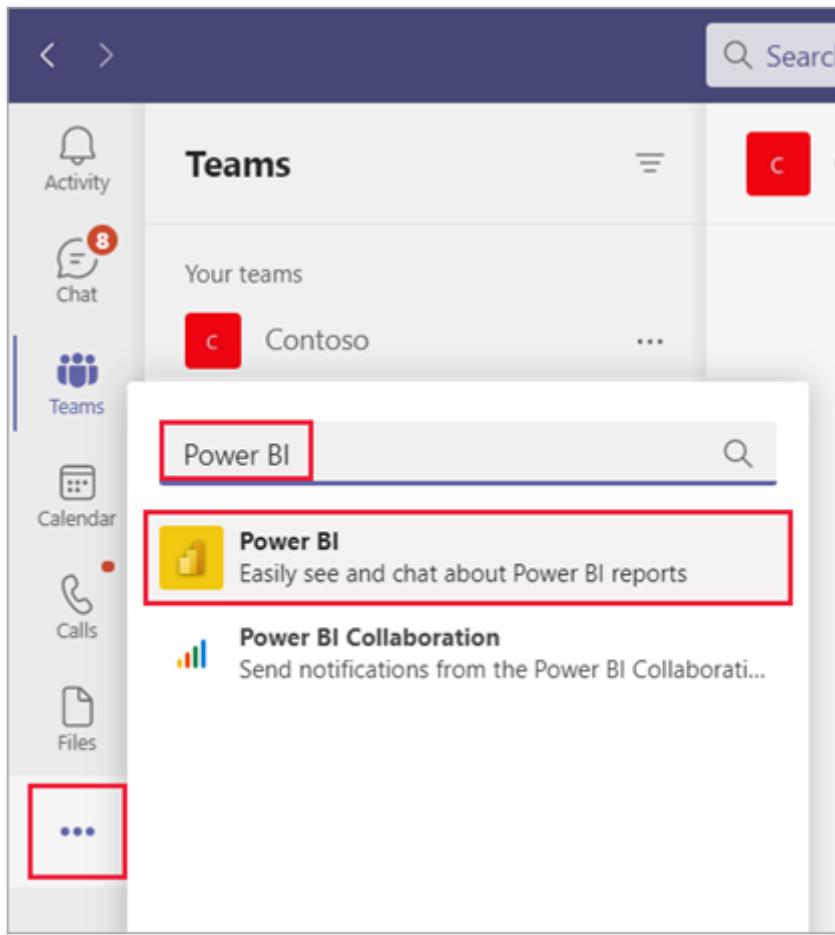
## Requirements

Install the Power BI app in Microsoft Teams to ensure the following elements are in place:

- Power BI app is enabled in the Teams Admin center apps list.
- Your users with a Fabric (Free) license can access personal analytics. They can use the built-in Teams analytics report and create reports in their My workspace.
- Your users with Fabric (Free) licenses can also access content that's shared with them from a workspace that's part of a [Power BI Premium capacity \(P SKU\)](#) or [Fabric F64 or greater capacity](#).
- Your users with a Power BI Pro or Premium Per User (PPU) license can share content with others or build content in workspaces.
- Users signed in within the Power BI app for Teams or the Power BI service and activated their Power BI license.
- Users meet the requirements to use the **Power BI** tab in Microsoft Teams.

## Install the Power BI app

Select **More added apps (...)** in the left navigation bar, and then search for and select **Power BI**.



That's it! The Power BI app is installed in Microsoft Teams.

## Sign in to Power BI

The first time you open the Power BI app in Teams, you need to sign in to Power BI.

- If multifactor authentication (MFA) for Power BI is configured for your account, you'll see a message requesting additional permissions.

## Almost there!

We need to ask for additional permissions.  
You should only need to do once for Power BI.



Microsoft Teams



Power BI

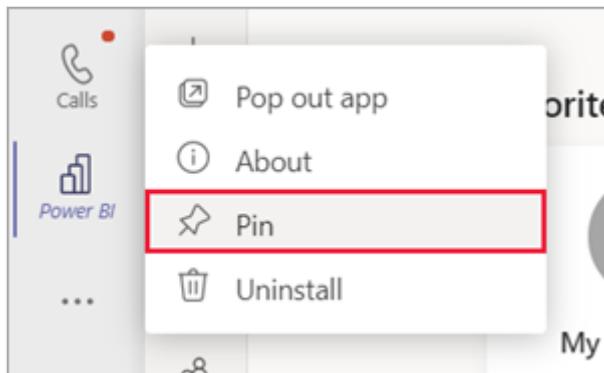
Continue

Select **Continue**, and then provide the next factor of authentication (as configured by your organization).

- If MFA for Power BI isn't configured for your account, you'll be prompted to go through the regular Power BI sign in process.

## Pin the Power BI app to the Teams navigation pane

To keep the app available in Teams, pin it to the Teams navigation pane. Right-click the Power BI icon in the Teams navigation pane, and select **Pin**.

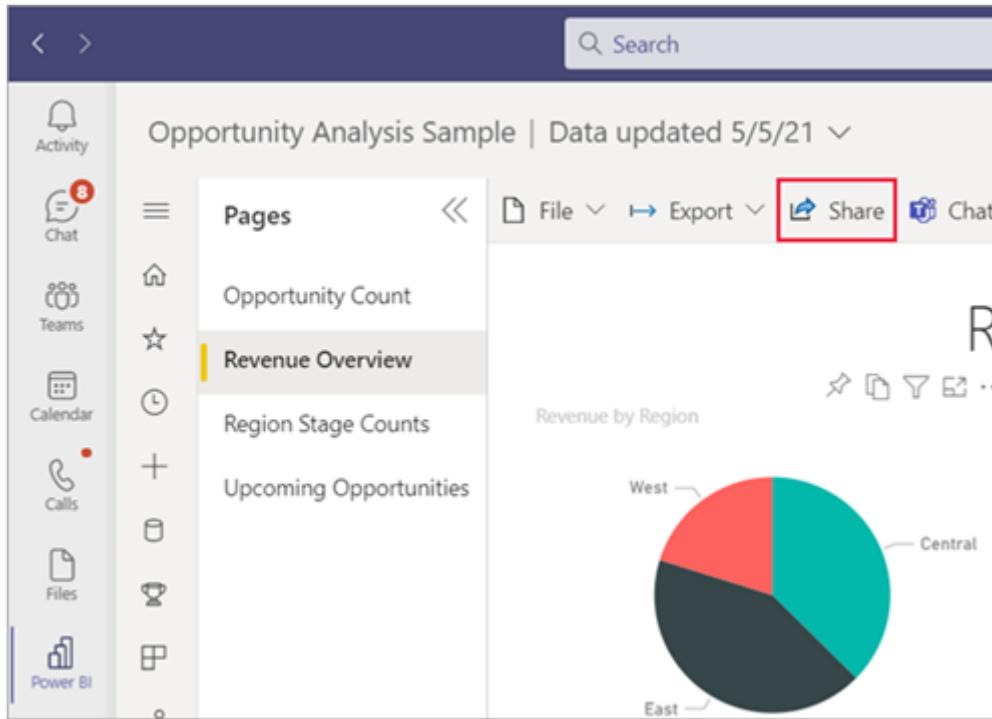


That's it. Now you can view your Power BI content in Teams whenever you want.

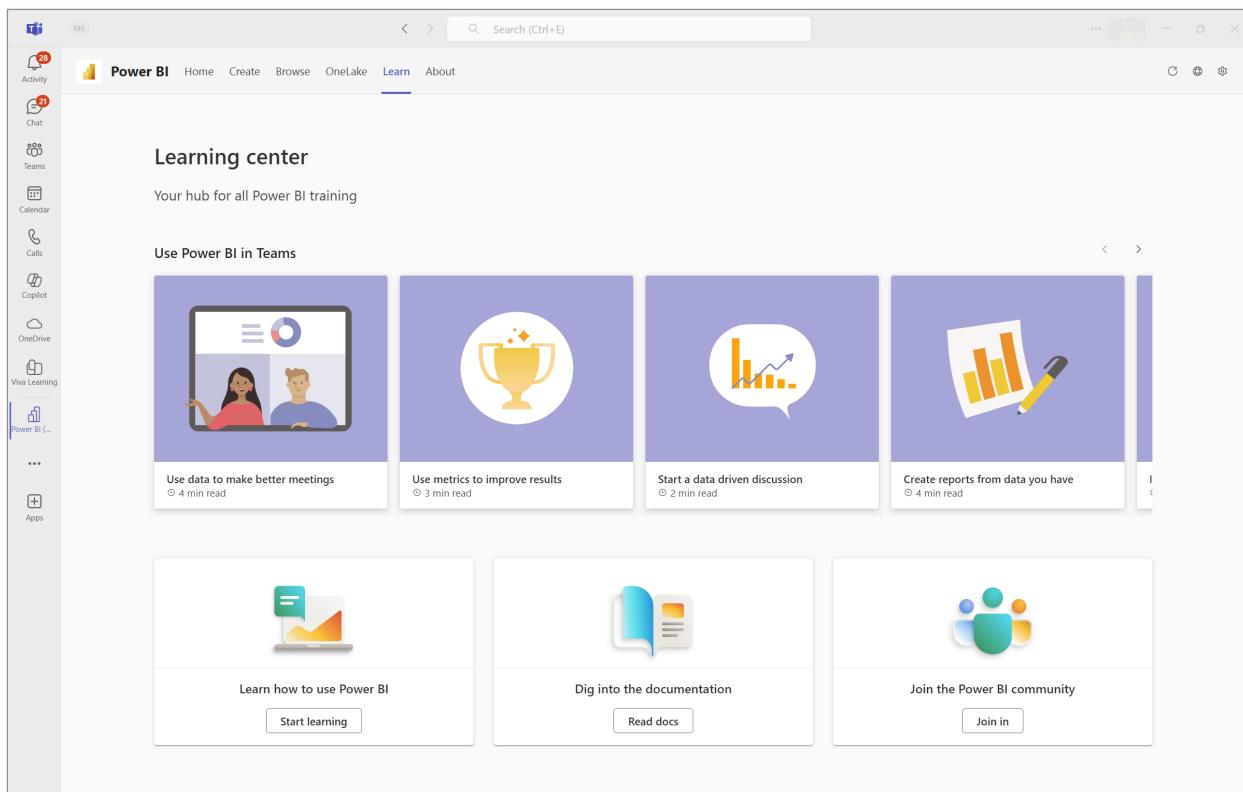
## Interact with your content in Microsoft Teams

The interaction with your content in Microsoft Teams is the same as with the Power BI service. You interact with your dashboards, reports, apps, or workspaces in the same ways.

You can even share a report with your coworkers from the Power BI app in Microsoft Teams.



The Power BI app in Microsoft Teams also features a hub for training. Select **Learn** to view the **Learning Center**.



The Power BI app in Microsoft Teams helps you multi-task by remembering where you navigated to for one hour. When you leave the app and return within one hour, the app *automatically takes you back* to where you were working by navigating to:

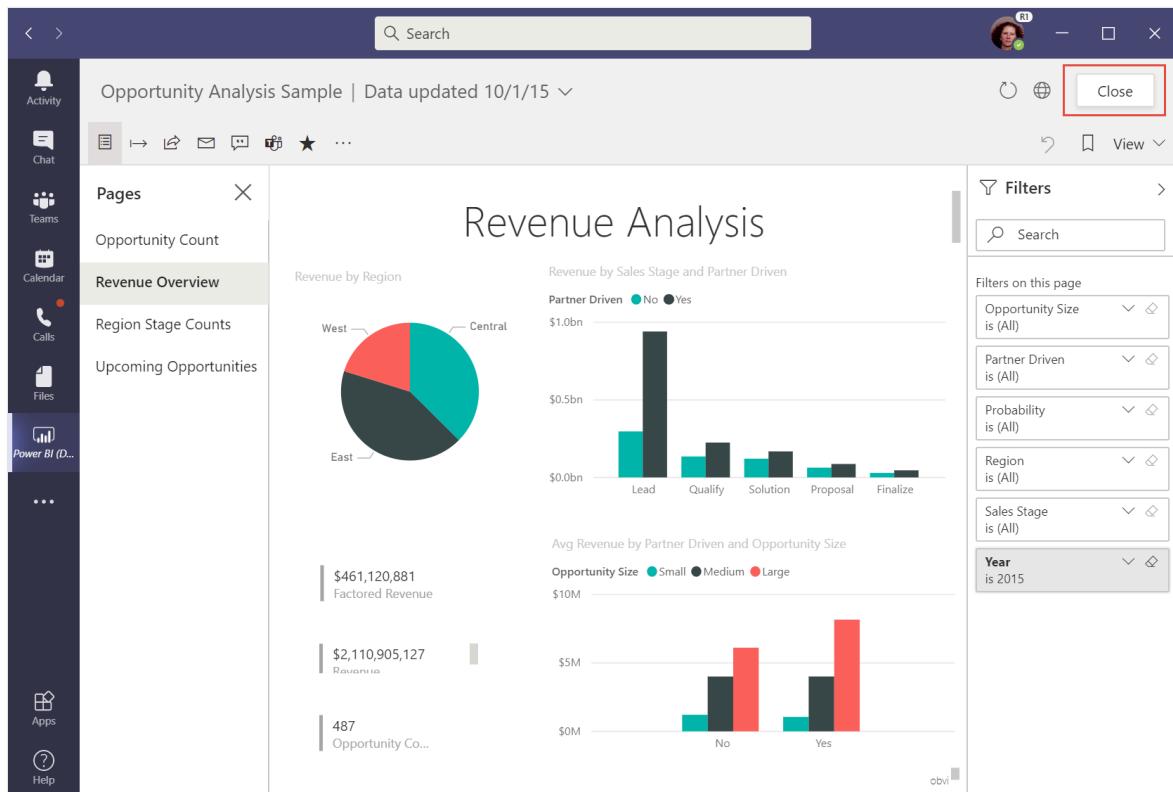
- Items you visited, such as the report page you were on and the filters you applied.
- Places you visited, such as Home, Create, Data hub, Workspaces, and so on.

When using the Power BI app in Microsoft Teams Desktop, you can use the Microsoft Teams back button to navigate back within the Power BI app. When using the app in Microsoft Teams in a web browser, use the browser back button.

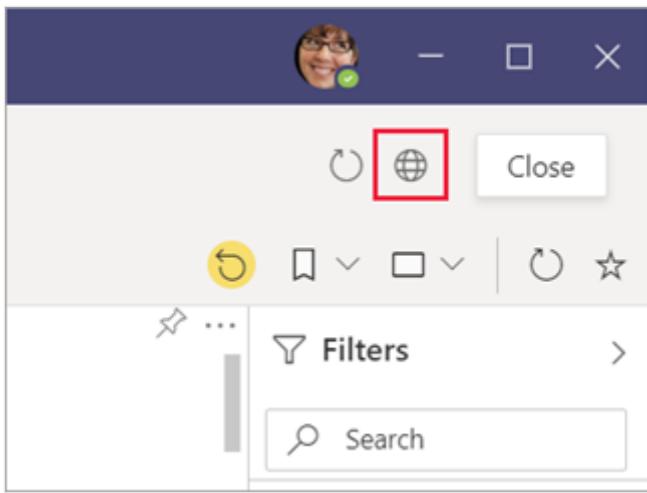
## Differences in interactions

A few interactions are different in the Teams app than they are in the browser.

- When you look at a dashboard or report, you don't see the Power BI navigation pane. To access the navigation pane, select **Close** to go back to Home or the workspace.



- To open the report in the Power BI service instead of viewing it in Microsoft Teams, select **Open this on the web**.



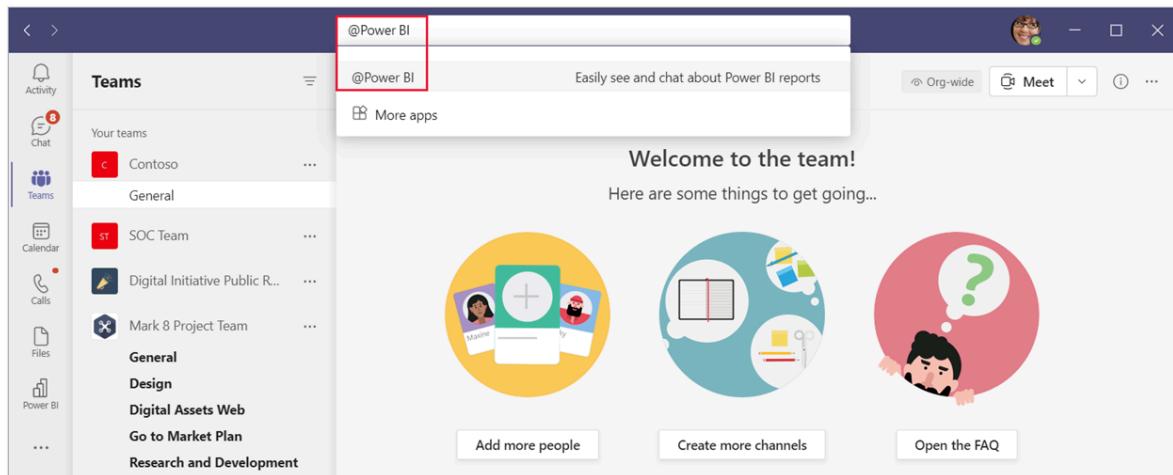
## Search for Power BI content in Teams

With the search experience in Teams, you can find recent reports, dashboards, and apps and open them within the Power BI app for Teams. Give the search experience a try.

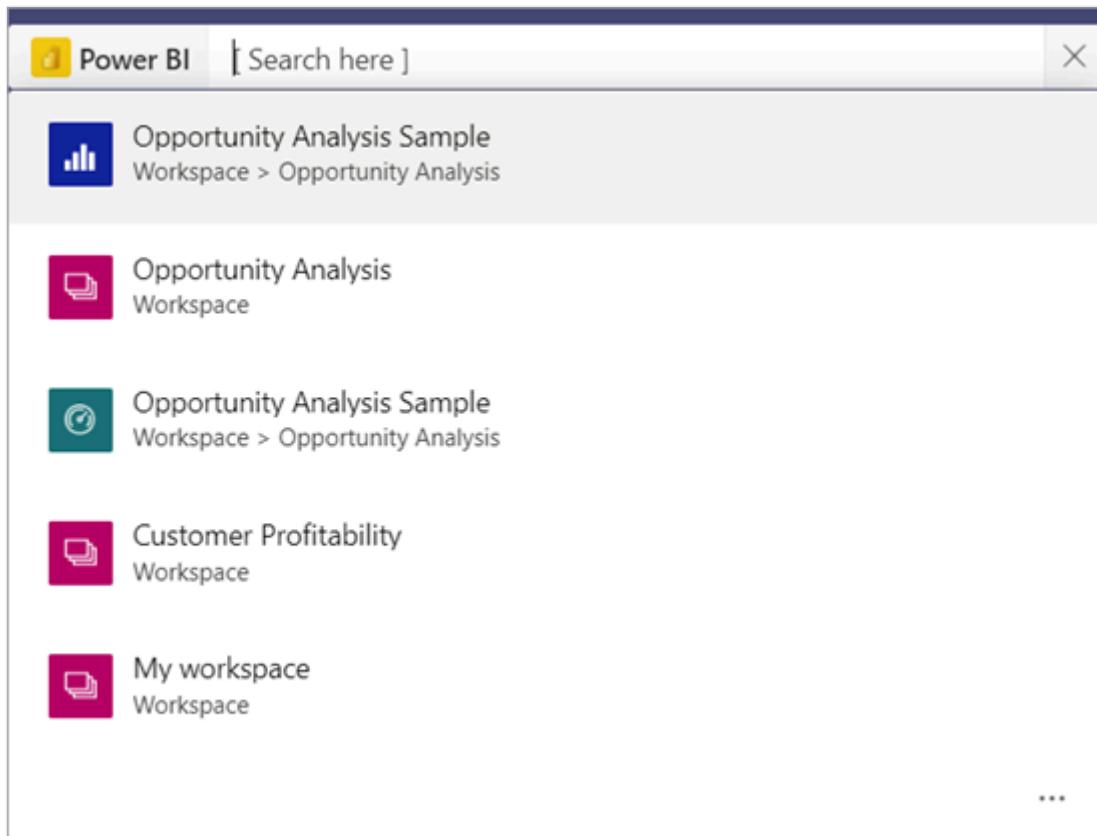
1. In the Teams search bar, enter *@Power BI*.

### ⚠ Note

Be sure to include the space between *Power* and *BI*.



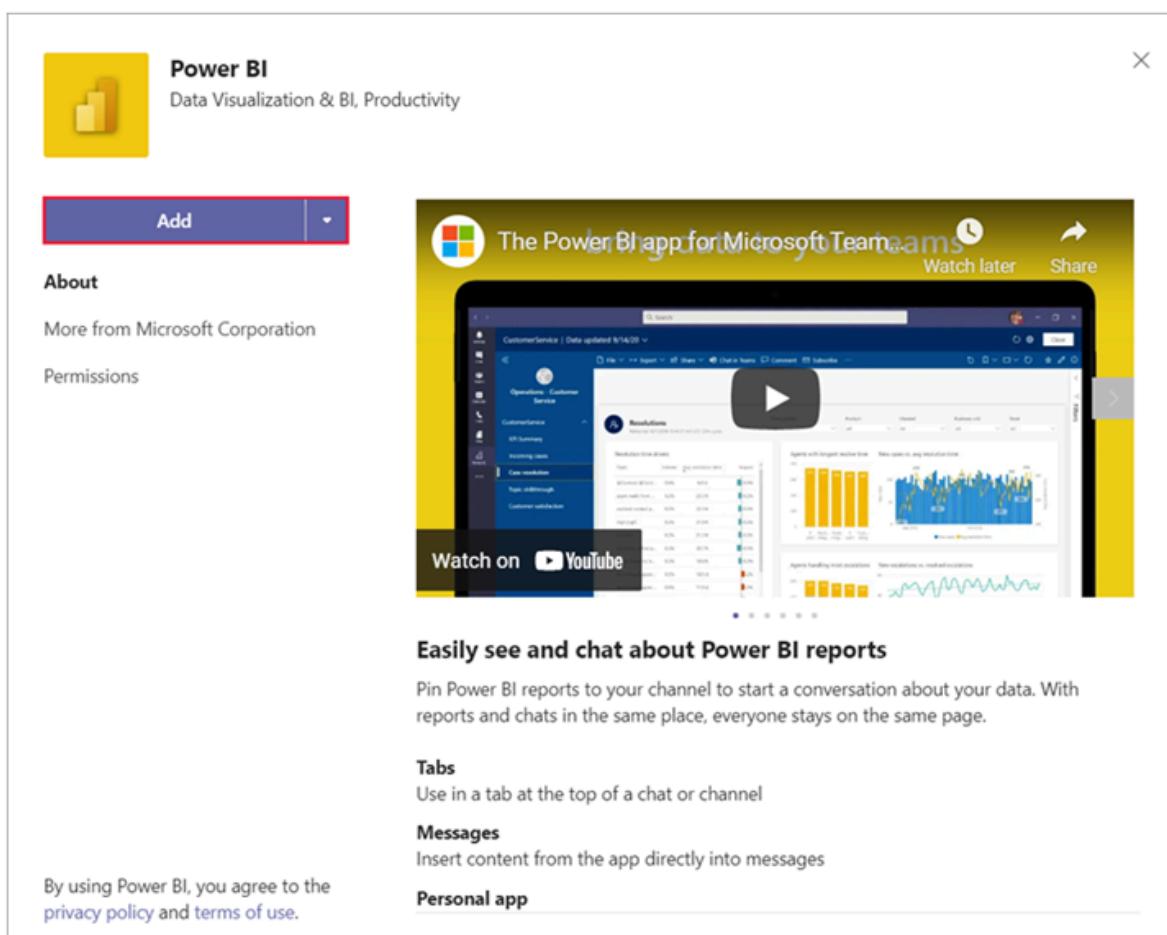
2. Select an item from the list, or enter something to search for.



### 3. Select Open.

The first time you use this capability, you need to sign in.

### 4. If you haven't installed the Power BI app yet, Teams asks you to add it.



# Increase Power BI app adoption in Teams

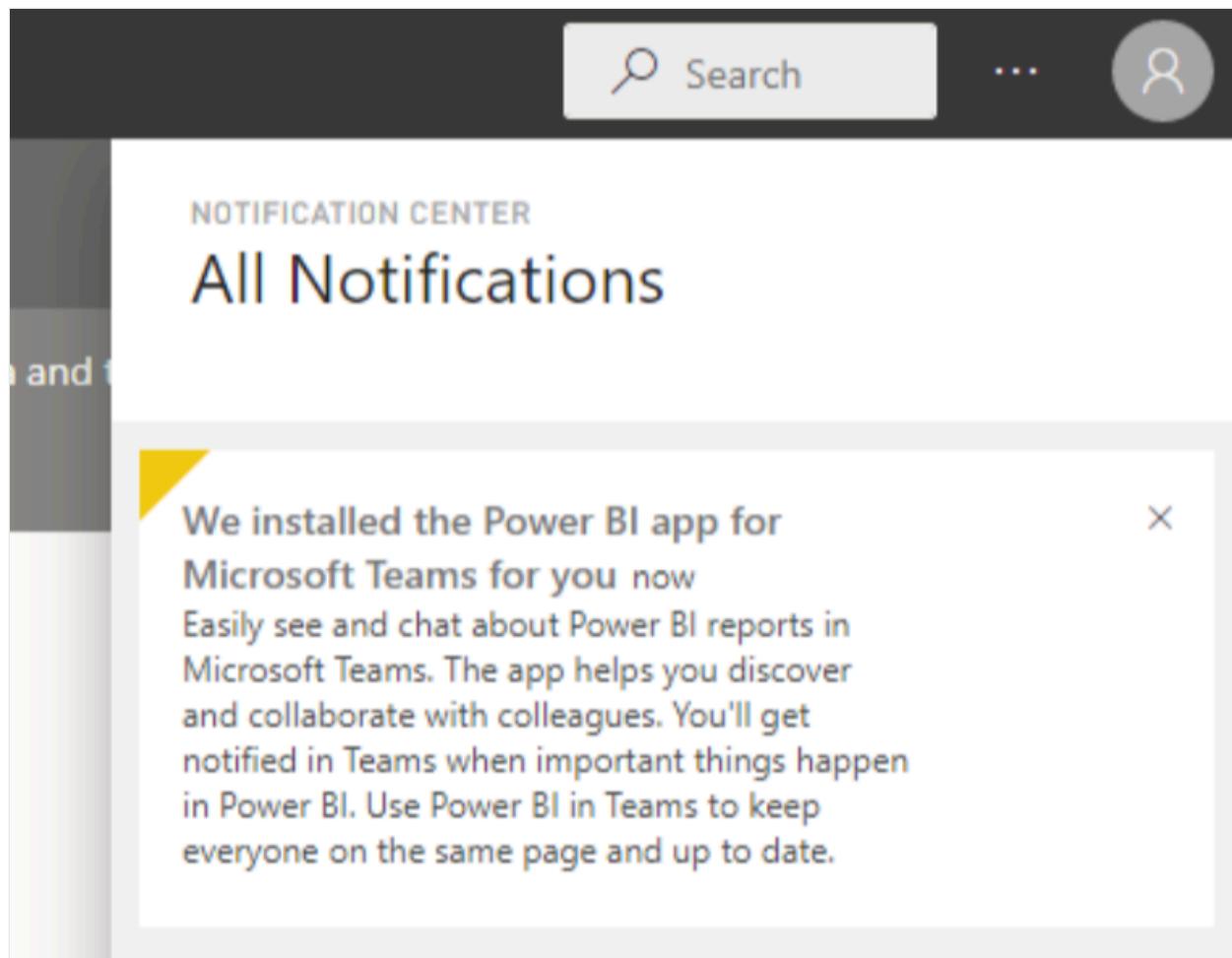
Your organization can make it easier for everyone to find and use data by installing and pinning the Power BI app for Teams for users. Pinning is optional but recommended.

Are you a leader in your organization? You can encourage individuals and teams to use the Power BI app in Teams by installing it for themselves. Read the [Guide to enabling your organization to use Power BI in Microsoft Teams](#) to learn about the options for broad and targeted rollout and decide what's right for your organization.

## Install the Power BI app for Teams automatically

Are you a Power BI admin or a Teams admin? By default, the Power BI app for Teams is installed automatically in some circumstances. See [Install the Power BI app for Teams automatically](#) for details. To encourage the users in your organization to use the app more regularly, pin the app proactively in Teams through an app setup policy. It's useful to include Power BI as a pinned app, so users in Teams can easily find and use data. After November 1, 2021, installation occurs automatically for users who visit the Power BI service and meet the criteria.

Power BI end users might see a notification in the Power BI service notification pane that says the Microsoft Teams app was automatically installed.



## Known issues and limitations

- Some options in the Power BI service aren't available in Microsoft Teams. These options include:
  - Notifications.
  - Downloading apps such as Power BI Desktop and Power BI Paginated Report Builder.
  - Sending feedback.
  - Settings such as managing personal storage and accessing the admin portal.
- Power BI doesn't support the same localized languages that Microsoft Teams does. As a result, you might not see proper localization within a report.
- The Power BI app for Microsoft Teams is available to Commercial Cloud and US Government Community Cloud (GCC) customers.
- Search experience isn't available in US GCC.
- To automatically take you back when navigating back to the app, your navigation history is saved approximately every 15 seconds. The history is stored locally on your computer or in your web browser window. If you navigate to a place and

filter, then quickly switch to another part of Teams, such as to Chat, Calendar, or Teams, your navigation may not be captured. If you change computers or start a new browser window, the history isn't available.

## Related content

- [Enable remote work in Microsoft Teams with Power BI](#)

More questions? [Try asking the Power BI Community](#).

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## Feedback

Was this page helpful?



Yes



No

[Provide product feedback](#) | [Ask the community](#)

# Embed Power BI content in Microsoft Teams

Article • 05/02/2023

You can easily embed interactive Power BI reports in Microsoft Teams channels and chats.

## Requirements

To embed a report on the **Power BI** tab in Teams, you need to meet these requirements:

- Teams has the **Power BI** tab.
- You have at least a Viewer role in the workspace that hosts the item.
- You have permission to view the organizational app

For information about the different roles, see [Roles in workspaces](#).

To view a report on the **Power BI** tab in Teams, your users need to meet these requirements:

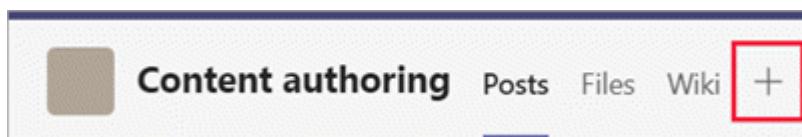
- They're Teams users with access to channels and chats.
- They have permission to view the items in Power BI.

See [Collaborate in Microsoft Teams with Power BI](#) for background on how Power BI and Microsoft Teams work together, including other requirements.

## Embed a report in Microsoft Teams

Follow these steps to embed your report in a Microsoft Teams channel or chat.

1. Open a channel or chat in Microsoft Teams, and select the + icon.



2. Select the **Power BI** tab.

## Add a tab

X

Turn your favorite apps and files into tabs at the top of the channel  
[More apps](#)

Search



Recent ▾



3. Select Save to Add the Power BI tab and go to report configuration.



Power BI

About X



## Select "Save" to create a tab

Key insights, just a tab away.



Post to the chat about this tab

Back

Save

4. You see a configuration screen like this one:



Choose a Power BI report, app, or scorecard

Paste a Power BI link ⓘ

Add link

Add tab

Or select from your Power BI content

[Browse workspaces >](#)

New to Power BI? Show your data in a report. [Create report](#)

5. Choose any of these options to embed an item in the tab:

- Paste a link to a supported item in the **Paste a Power BI link** box and select **Add tab**. The tab is then configured.

 **Note**

If you use **Share link** to embed your report, make sure that other users have access to this report and have the required permissions. They don't get access automatically unless your sharing link includes permissions.

- Select **Browse workspaces** to select a report from a workspace or a Power BI app. Choose any report, app, or scorecard available for you in the **Select a report, app or scorecard** dialog. You can use the **Search** box to find the artifact you're looking for.
- Select **Create new** to create a new report.

## Reset a report in Microsoft Teams tab

If you want to change the item in a **Power BI** tab, you can reset it and configure a new item. Follow these steps.

1. Right-click the Teams tab name, and select **Settings**.
2. Select the **Reset tab** button.

The tab resets. You will see the configuration screen in the tab where you can set a new report, app, or scorecard.

The **Settings** dialog helps you adjust permissions for reports. To set permission for organizational apps, work with the app owners.

To rename the tab, Right-click the Teams tab name, and select **Rename**.

## Items you can embed in the Power BI tab

You can embed the following item types on the **Power BI** tab:

- Power BI interactive reports (.pbix files).
- Power BI paginated reports (.rdl files).
- Power BI scorecards
- Power BI organizational apps
- Power BI interactive reports in organizational apps

These items must be hosted in Power BI workspaces, including My workspace, or published through a Power BI organizational app.

You can pick these items from the Browse workspaces option or paste a link to the item.

## Links you can use to configure the Power BI tab

Using a link to configure your Power BI tab provides you additional options to customize the experience for your users.

- Use links with 'include my changes' to open a specific page and apply specific filters when users open the tab.
- Use sharing links to reduce the need for users to request access to reports.

When configuring the Power BI tab, the links you use can include the following options:

- Sharing links generated by the Share option in Power BI
- Links with include my changes (shared views)
- Links generated by copy link to visual
- Links from the address bar

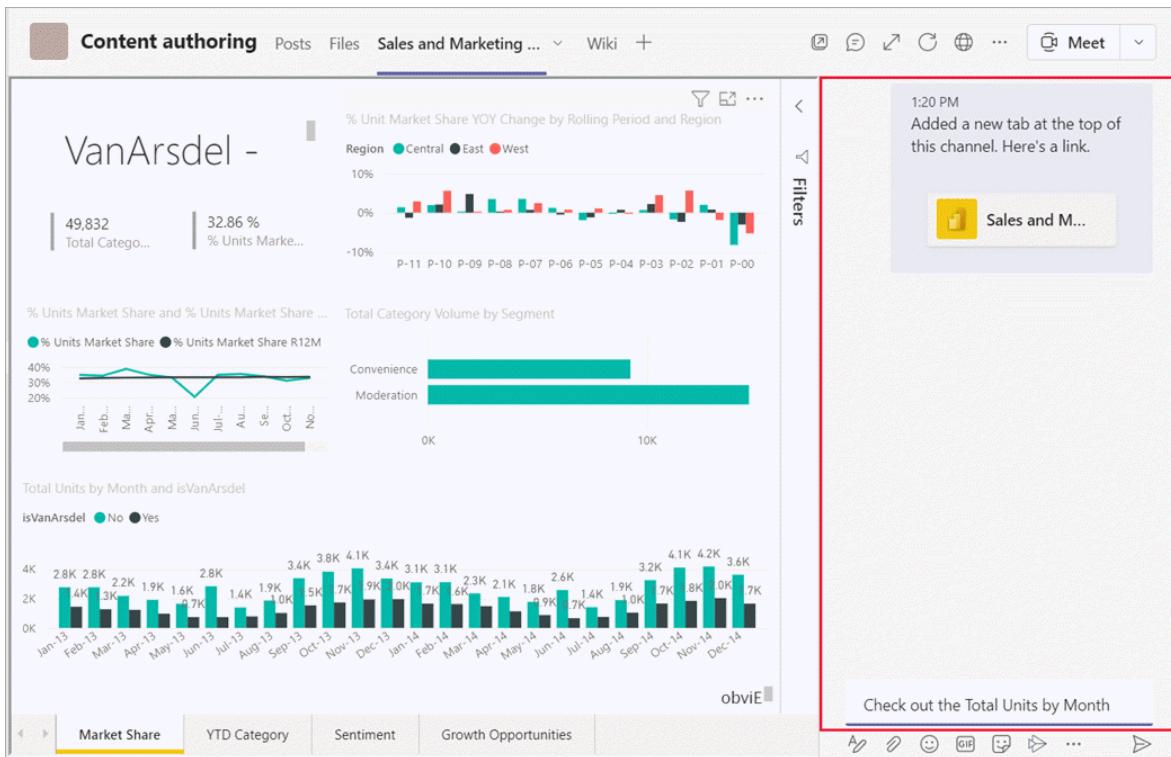
## Start a conversation

When you add a Power BI report tab to Microsoft Teams, Microsoft Teams automatically creates a tab conversation for the report.

- Select the **Show tab conversation** icon in the upper-right corner.



The first comment is a link to the report. Everyone in that Microsoft Teams channel can see and discuss the report in the conversation.



## Known issues and limitations

- In Microsoft Teams, when you export data from a visual in a Power BI report, the data is automatically saved to your *Downloads* folder. It's an Excel file called **data (n).xlsx**, where *n* is the number of times you've exported data to the same folder.
- You can't embed Power BI dashboards in the **Power BI** tab for Microsoft Teams.
- **URL filters** aren't supported with the **Power BI** tab for Microsoft Teams.
- In national/regional clouds, the **Power BI** tab isn't available.
- After you save the tab, you don't change the tab name through the tab settings. Use the **Rename** option to change it.
- When you view Power BI tabs in Teams mobile, the best viewing experience is through the **Power BI mobile apps**. In the Teams Mobile tabs list, select **More options (...)** > **Open in browser**. When you have the Power BI mobile app installed on your device, the report opens in the Power BI mobile app.
- When embedding Power BI organizational apps in Teams Tabs, items that can't be embedded in Teams will open in a new browser window.
- For the best experience using links, use links created by the **Share** option in Power BI.
- Links don't support **query string parameters**.
- Links don't support personal bookmarks, since those can't be shared with other users.
- Cross-tenant links aren't supported.
- For other issues, see "Known issues and limitations" in [Collaborate in Microsoft Teams](#).

## Next steps

- Collaborate in Microsoft Teams with Power BI

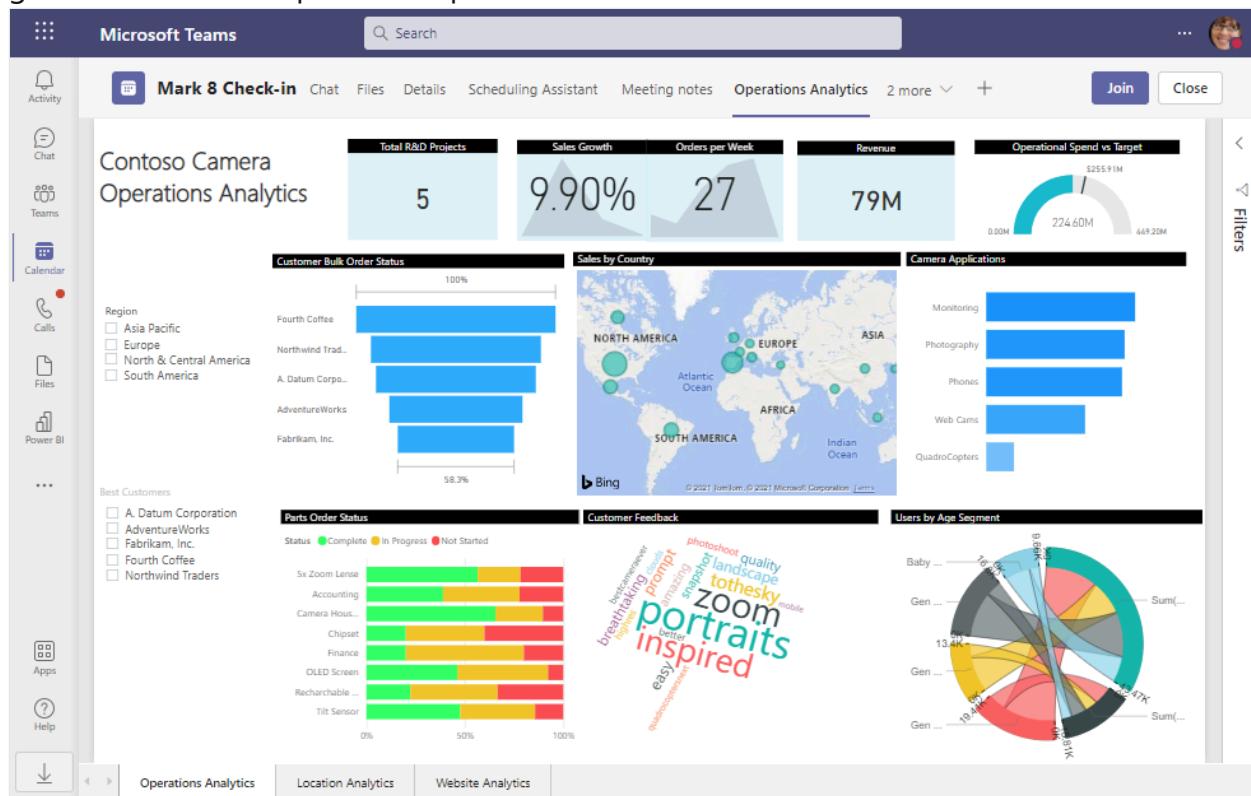
More questions? [Try asking the Power BI Community ↗](#).

# Use data to make meetings productive in Microsoft Teams

Article • 02/25/2025

**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. This article shows you how to use data, trends, and metrics to show the impact of the work you and your team are doing. It's easy to use Power BI in meetings to help keep crucial data top of mind. It helps everyone know which data is the most important and builds skills that help your team make agile decisions based on your progress toward objectives. By staying focused on driving towards measurable outcomes, your team gains a sense of the positive impact of their work.



Here's how you can use data before, during, and after your meetings.

- **Before the meeting.** Add the reports and scorecards directly to the meeting invite so everyone can access them.
- **During the meeting.** Open and present these reports from the calendar. You can even use chat to share more reports and scorecards or to find answers to questions raised in the meeting.
- **After the meeting.** Send a summary with the key results discussed and actions the team decided to take to help achieve the desired outcomes.

# Ask data-driven questions

Here are some questions you can add to your meeting agenda to start discussion and determine the best actions to take to achieve your desired outcomes:

- Are we making progress toward our objectives as quickly as we expected to?
- What actions can we take in the next week or month that are most likely to improve our metrics?
- What metrics can we start tracking to get a better sense of progress toward our desired outcomes?

Review your data weekly, or at least monthly, to get in the habit of asking questions and discussing the best actions to take in the next week or two. It helps the team learn to use data as they plan their work.

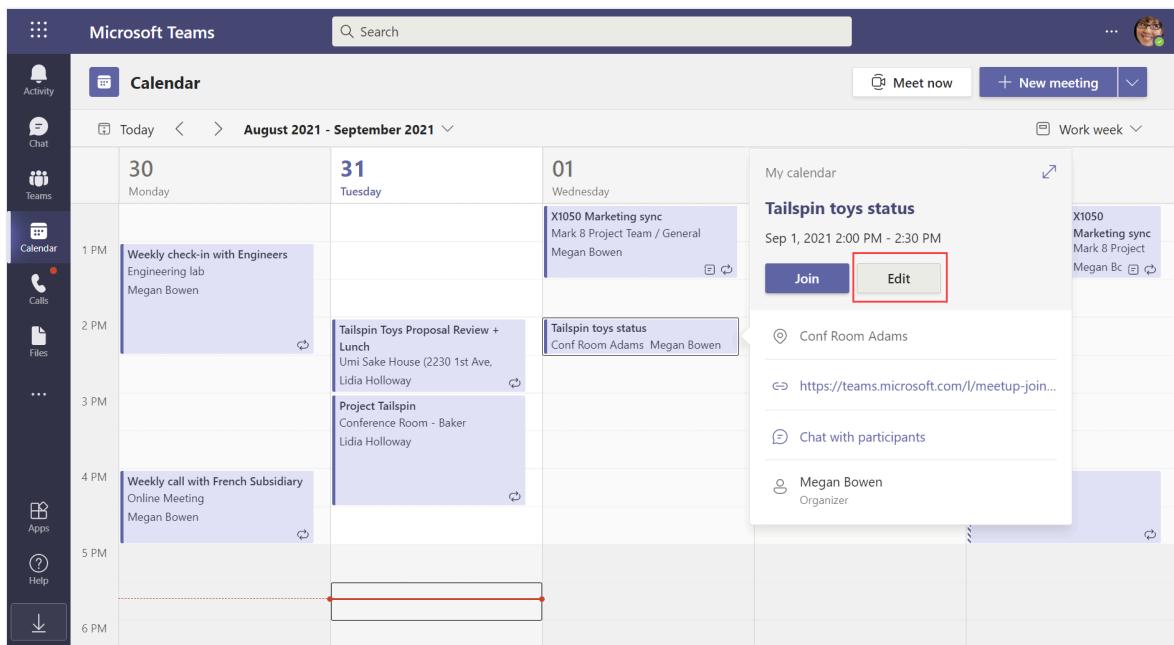
## Before the meeting

To get ready for the meeting, add a Power BI report or scorecard to the meeting invite. Review the data in the report or scorecard and encourage other participants to do the same. Then everyone is ready for the meeting.

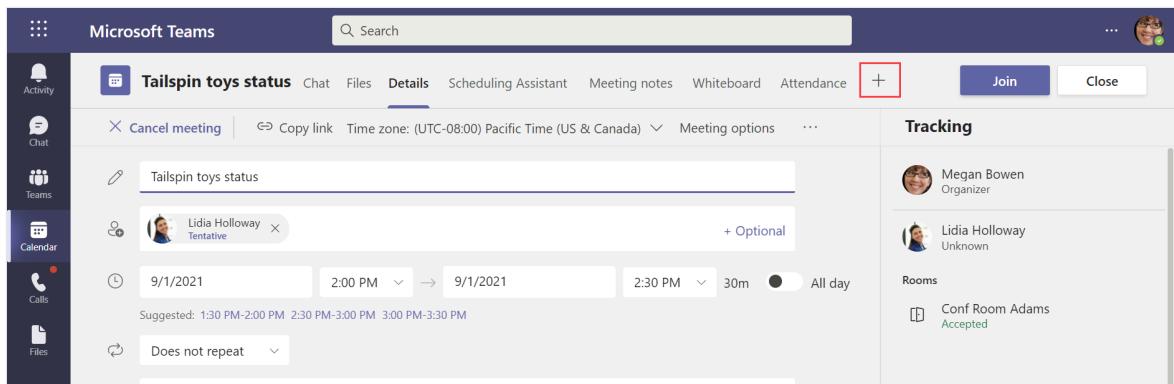
### Add Power BI

Here's how to add a Power BI report or scorecard to a meeting.

1. Schedule a meeting in Teams.
2. Send the meeting invite.
3. Select **Edit** to open the meeting in the calendar. You only see the option to edit if you're the meeting organizer.

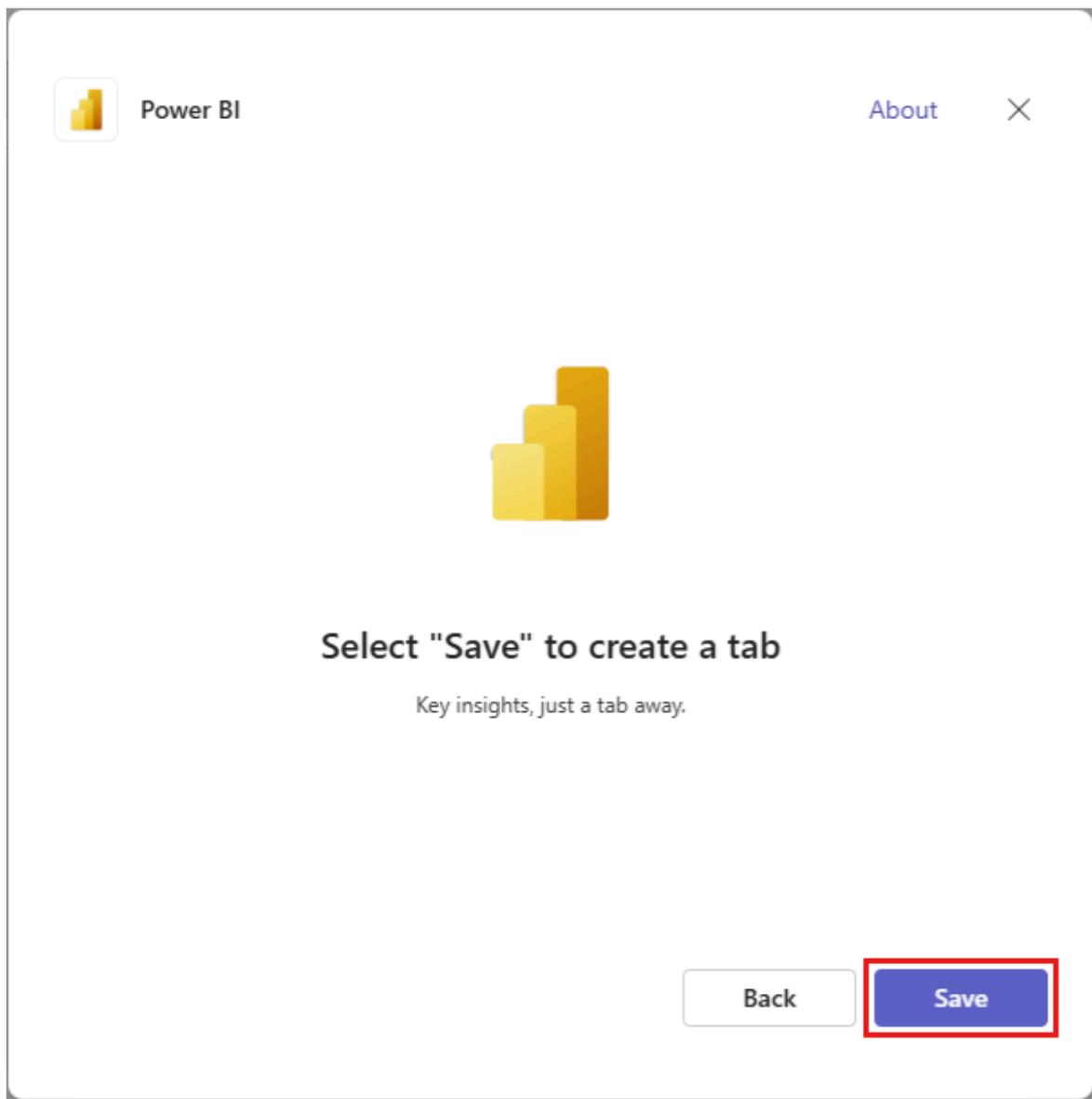


#### 4. Select the + Add a tab button.



#### 5. Select Power BI. On the screen that opens, select Add.

#### 6. In the confirmation dialog, select Save.



7. On the new Power BI tab that you created, select **Browse workspaces** to navigate to the report or scorecard that you want to add, or enter the link in the **Paste a Power BI link** field.
8. Select **Add**. The name displayed on the tab in Teams changes to the name of the report or scorecard that you selected.
9. See [Give team members permission](#) for how to share with your colleagues.
10. 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 read the data before the meeting. It helps everyone be aware of the latest data and improves the discussion during the meeting.

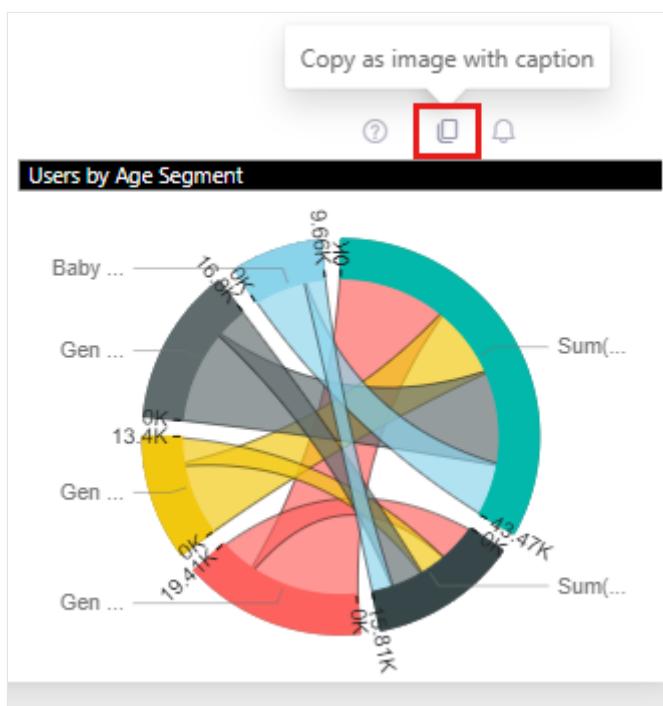
## During the meeting

When you're in a meeting, data can help guide the discussion or answer questions raised by attendees. It's easy to present data in Power BI during the meeting, share links to data with meeting attendees, and find data that can answer questions.

1. After joining the meeting, navigate to the Teams window.
2. Open the calendar in Teams.
3. Open the meeting in the calendar.
4. Anyone in the meeting can select the Power BI tab to view the report you added to the meeting.
5. Use the meeting window to present your screen.

## Capture visuals that are important for everyone to see

1. View the report in the Power BI app in Teams.
2. Select a visual.
3. Select **Copy as image with caption** to copy the visual.



4. In the **Image with caption created** dialog, select **Copy** to copy the visual to the clipboard.

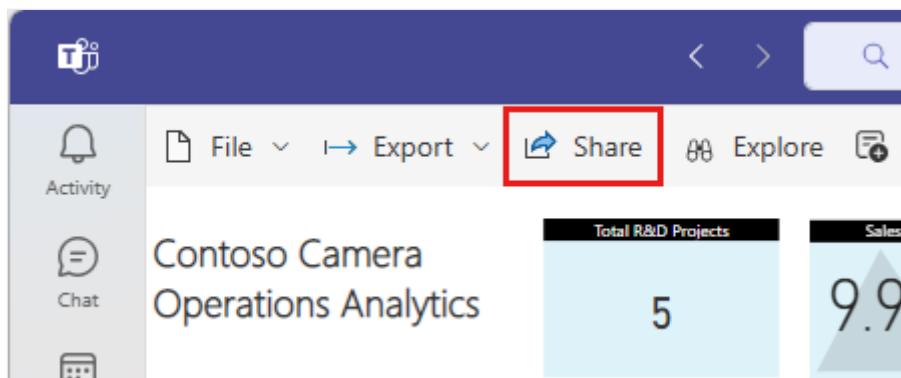
5. Paste the visual into the meeting chat.

## Send a message in the meeting chat from a report

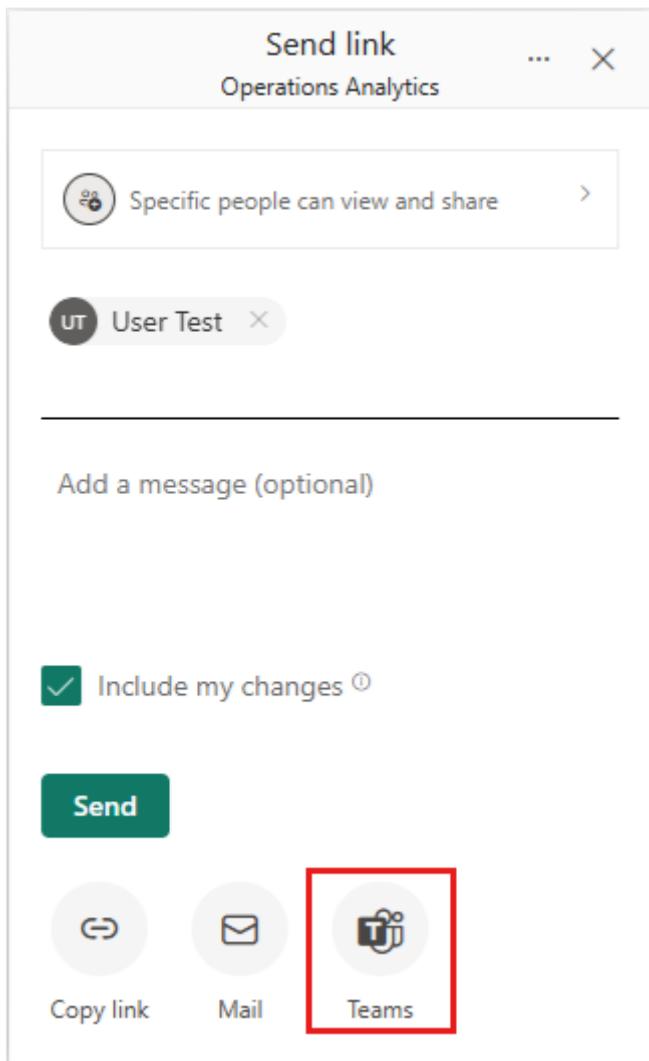
1. View the report in the Power BI app in Teams or in the Power BI service.

2. Select the report or a specific visual.

3. Select the **Share** button.



4. In the **Send link** dialog, enter a name or email address to activate the Send button and icons for sharing.

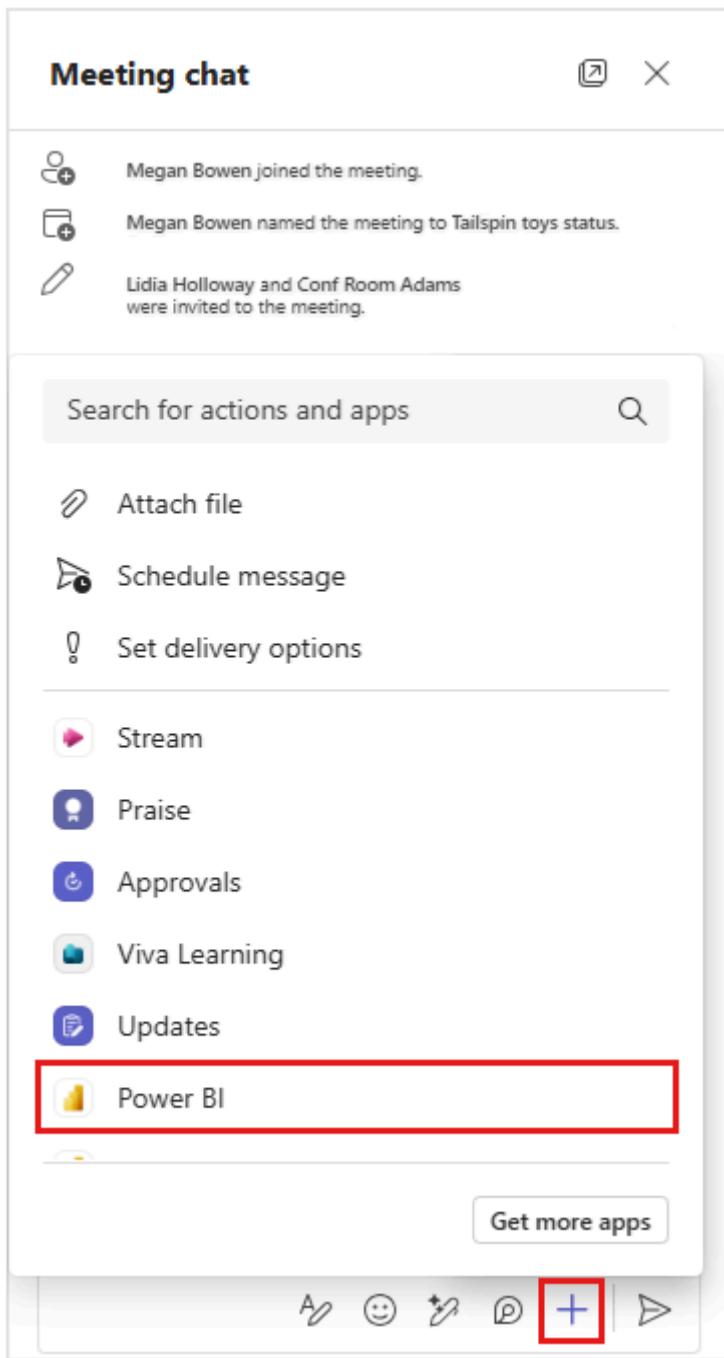


5. Select the Teams icon. In the **Share** dialog that opens, you can search for and select a Teams channel or conversation to share the report in. Then select **Share**.
6. Type your message above the link that's provided.
7. Select **Send**.

Your message appears as part of the meeting chat. Attendees can open it to see the data with the filters and slicers applied.

## Answer questions with data in chat

1. Open the meeting chat.
2. Select **Actions and apps** icon with the plus sign.



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. In the sent message, select the Open button for the report or scorecard.

## After the meeting

It's useful to share a summary of the most important data points discussed and the actions the team plans on taking to help achieve outcomes. If you captured visuals

during the meeting in chat, you can pull them into a meeting summary post in the chat or in a follow-up message.

Consider using key data points to create metrics and track them in a scorecard. Consistently tracking progress against a metric through a series of meetings is a great way to keep your team or project on track.

## Related content

- [Add the Power BI app to Microsoft Teams](#)
  - [Use Power BI metrics to improve results in Microsoft Teams](#)
  - [Lead data-driven discussions in Microsoft Teams](#)
  - [Create reports from data in Microsoft Teams](#)
  - [Analyze your Teams collaboration data](#)
- 

## Feedback

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# Use Power BI metrics to improve results in Microsoft Teams

Article • 02/25/2025

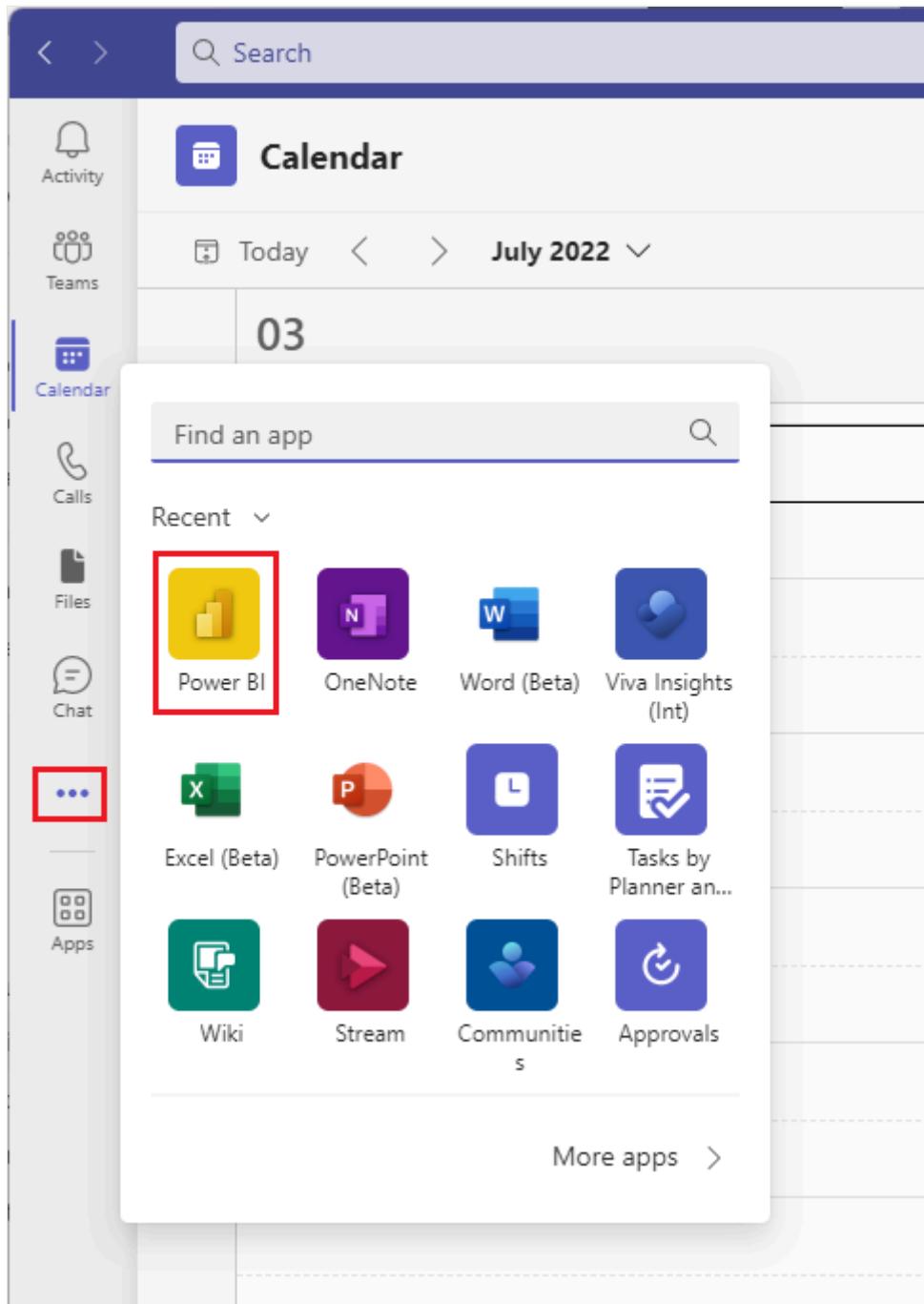
**APPLIES TO:**  Power BI Desktop  Power BI service

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.

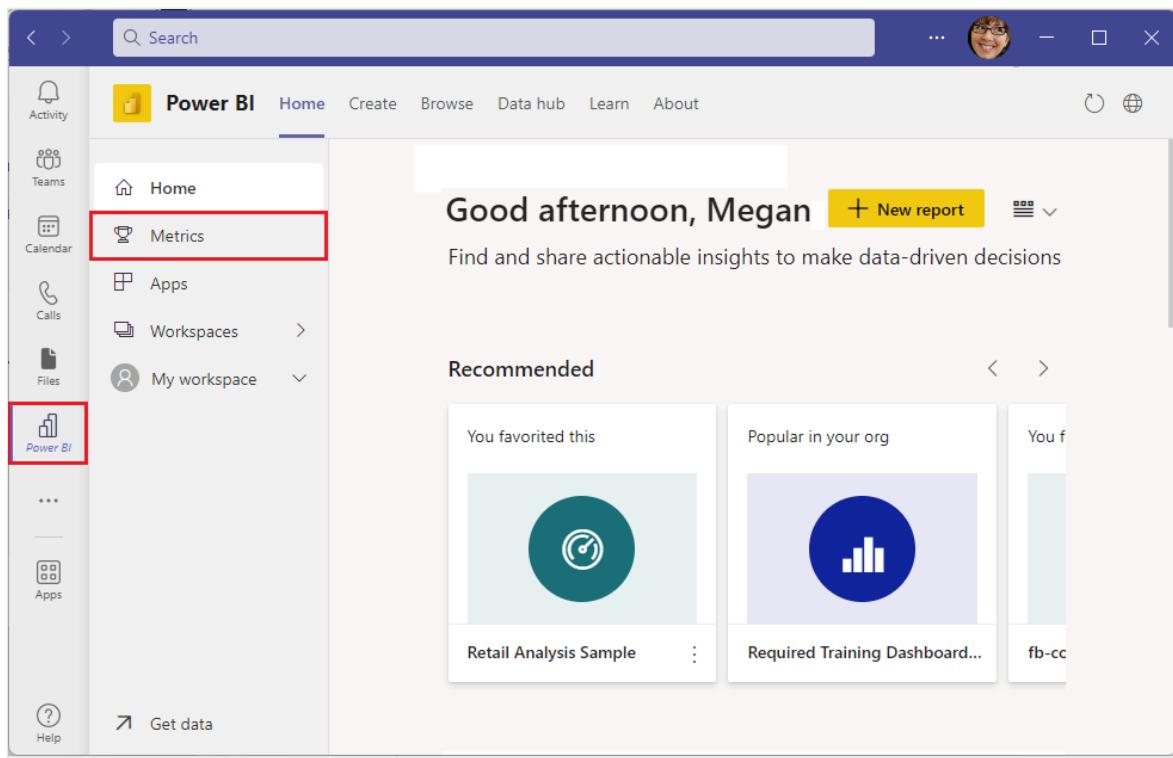


Now Power BI opens right inside Microsoft Teams.

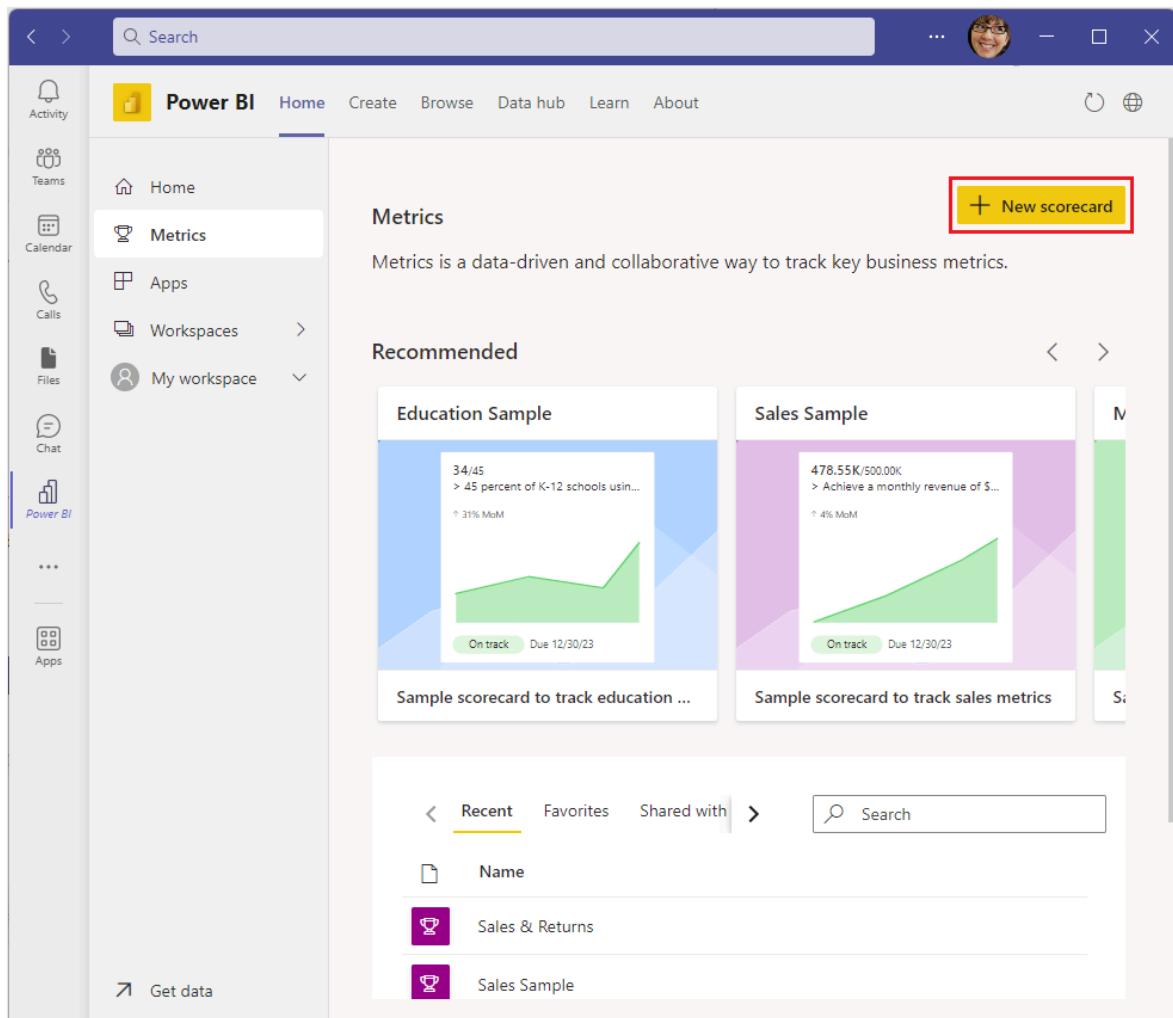
## Create your first metric in a scorecard

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.

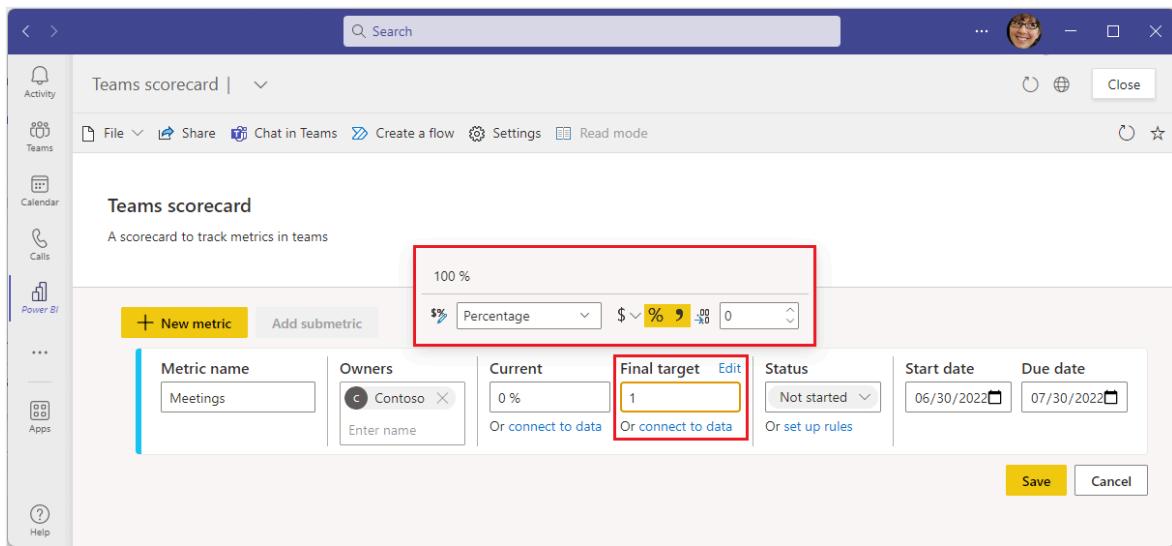


### 3. Select New scorecard.

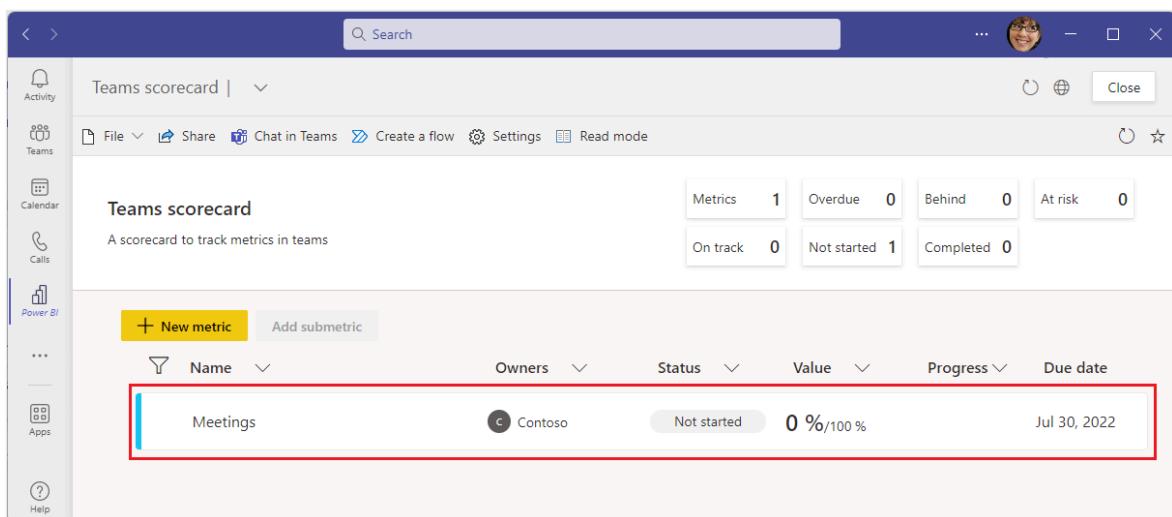


### 4. Give the scorecard a name and description.

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 saving your scorecard with its metrics, you can share with your team by adding it to a Teams meeting, channel, or chat as a tab or as a link in the meeting chat. Read more about [creating scorecards and metrics in Power BI](#).

## Track metrics with your team

To keep your metrics top of mind for your team, add your scorecards as tabs to your channels and meetings.

1. Open a channel or meeting.
2. Select the **+ Add a tab** button and add the Power BI tab.

The screenshot shows the Microsoft Teams interface. On the left, there's a sidebar with icons for Activity, Teams (selected), Calendar, and Calls. The main area shows a 'Teams' channel with a 'Content' tab selected. The 'Content' tab has options like File, Share, Chat in Teams, Create a flow, Edit, and a plus sign icon. Below the tabs, a 'Teams scorecard' is displayed with the description 'A scorecard to track metrics in teams'. It includes a 'Metrics' section with values 1 and 0, and status boxes for 'On track' and 'No'.

3. Pick a scorecard. If you keep **Post to the channel about this tab** selected, Teams adds a post to the chat, about the new tab.

4. Select **Save**.

The screenshot shows the Power BI 'Workspaces' page. At the top, there's a yellow 'Power BI' logo, an 'About' link, and a close button. Below that, there are tabs for 'Workspaces', 'Apps', and 'Shared with me', with 'Workspaces' being the active tab. A search bar is also present. The main area lists workspaces, with 'Teams scorecard' highlighted. Below the list, there's a tree view of other workspaces: '\*MSX Leader Insights', '1ES\_CredentialReporting', '1ES\_LiveSecretsReporting', and 'Adv\_Sync\_Tracker'. Underneath the workspace list, there's a 'Tab name' input field containing 'Teams scorecard'. At the bottom, there are two buttons: 'Manage permissions in Power BI' and 'Show action bar' (with a checked checkbox). There are also two checkboxes: one for 'Post to the channel about this tab' (which is checked) and one for 'Back'. The 'Save' button is highlighted with a red border.

5. Now you see the scorecard as a tab in the channel.

The screenshot shows the Microsoft Teams interface. On the left, there's a sidebar with icons for Activity, Teams, Calendar, Calls, Files, and Apps. The main area has a search bar at the top. Below it, there are tabs: Content, Posts, Files, and Teams scorecard (which is highlighted with a red box). Under the Content tab, there are sections for 'Your teams' (listing 'A team', 'General', 'App', 'Content', 'Editing', 'Review', and '1 hidden channel'), 'Support' (listing 'Demo - Contoso' and 'Azure'), and 'Join or create a team'. At the bottom right of the main area, there are buttons for File, Share, Chat in Teams, Create a flow, Edit, and a refresh icon.

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.

This screenshot is similar to the one above, showing the Microsoft Teams interface. However, a new message has been added to the 'Teams scorecard' channel. The message, timestamped at 12:13 PM, says: 'I added a tab at the top of this channel. Check it out!' It includes a small thumbnail image of the scorecard and a 'Teams score...' button. The rest of the interface is identical to the first screenshot.

## 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.

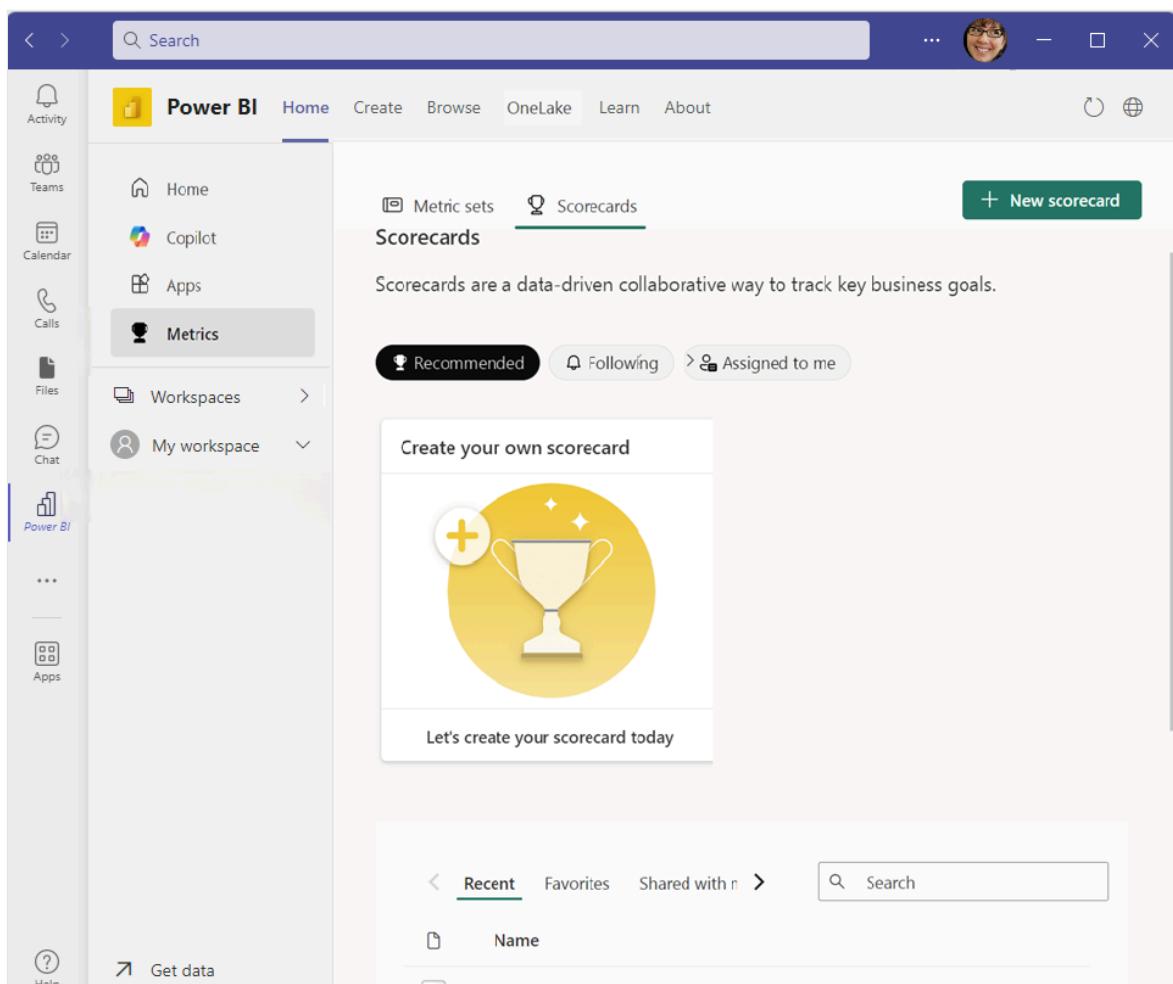
- Set the metric status automatically. You can create automated rules to set the status of metrics, so the goal's status always reflects the data correctly.

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.



## Related content

- [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
- 

## Feedback

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No

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# Lead data-driven discussions in Microsoft Teams

Article • 01/23/2024

**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**.

The screenshot shows the Power BI service interface. At the top, there's a yellow icon with a thumbs-up, followed by the text "Power BI". To the right are links for "About" and "X". Below the header, there are three tabs: "Workspaces" (underlined), "Apps", and "Shared with me". A search bar with a magnifying glass icon and the word "Search" is also present. The main content area has a heading "Name ▾". Underneath, there's a list of items:

- > MSX Insights PRD
- > Next Best Workload
- ▽ Sales and Marketing sample 1/17/2023, 12:19:28 PM
  - Sales and Marketing Sample PBIX
  - > SMC Analytical Framework
  - > Solutions [DataverseADL]

Below this list, there's a section titled "Tab name" with a text input field containing "Sales and Marketing Sample PBIX". Further down, there are three checkboxes:

- Manage permissions in Power BI >
- Show action bar
- Post to the chat about this tab

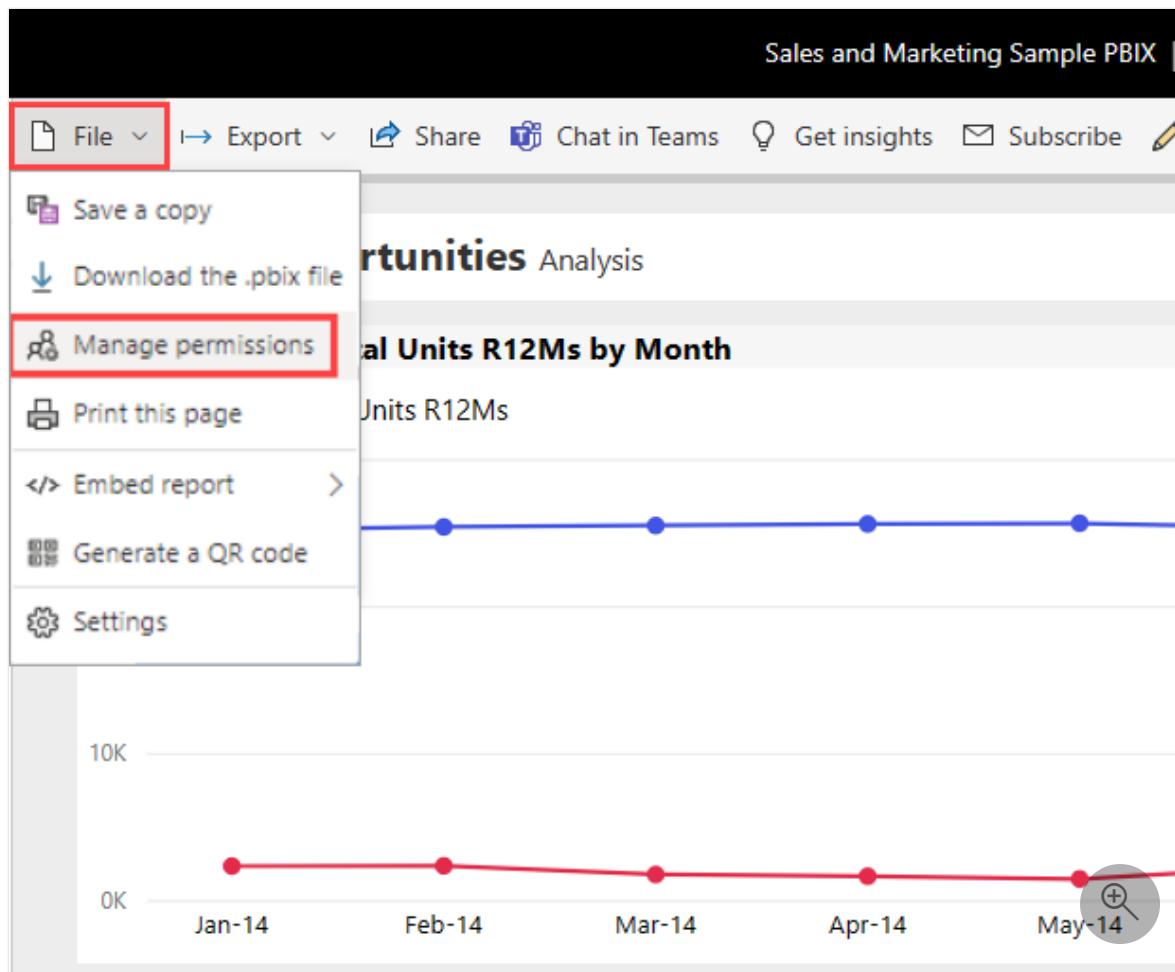
At the bottom right are two buttons: "Back" and a blue "Save" button, which is highlighted with a red border.

You can share in channels, meetings, and even in chats.

## Give team members permission

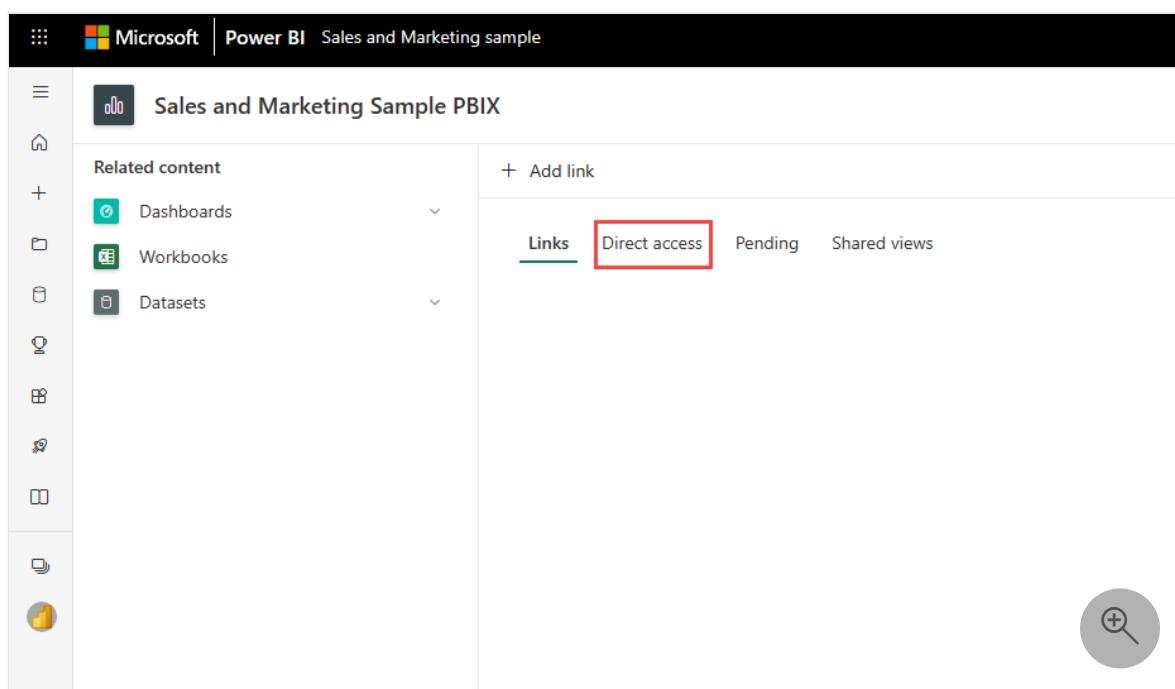
Make sure your team has permission to the report or scorecard by sharing it with them.

1. Open the item in Power BI in Teams, or in the Power BI service, and select **File > Manage Permissions**.



If you don't see this option, you might not have permission to share the item. If you do not, don't worry. The attendees can request access themselves when they try to view the report.

## 2. Select Direct access.



## 3. Select Add user.

The screenshot shows the Microsoft Power BI interface for a 'Sales and Marketing Sample PBIX' file. On the left, there's a sidebar with various icons and sections like 'Related content' (Dashboards, Workbooks, Datasets). The main area has tabs for 'Links', 'Direct access' (which is underlined in green), 'Pending', and 'Shared views'. A red box highlights the '+ Add user' button. Below this, a table lists 'People and groups with access' with one entry: 'Mark & Project Team'. In the bottom right corner, there's a magnifying glass icon.

4. Add the names of your colleagues. Decide what permissions you want them to have, whether to send them an email, and select **Grant access**.

The screenshot shows the 'Grant people access' dialog box. It includes a search bar with 'Alex Wilber' and a list of permissions with checkboxes:

- Allow recipients to share this report
- Allow recipients to build content with the data associated with this report
- Send an email notification

There's also an 'Add a message (optional)' field and 'Grant access' and 'Cancel' buttons.

## Chat about data with rich links and cards

When discussing data, it's important that your colleagues can open the underlying data to see and explore trends. This helps them answer questions and understand the full context of requests you're making. It's also an easy way to encourage more use of data in decision making.

## Discussing data is easy

1. Open a report in the Power BI app in Teams, or in the Power BI service.
2. (Optional) If you want, select a specific visualization, and then click **Chat in Teams**.

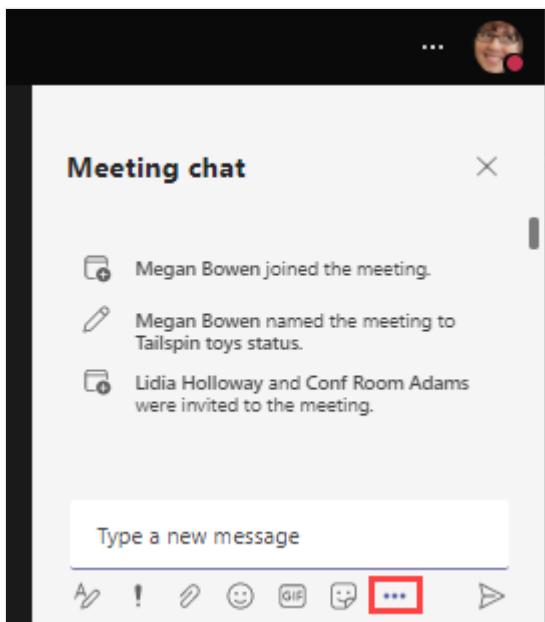
Region	Manufacturer	Product	Total Category Volume
East	Natura		81,620
	Aliqui		76,706
	VanArsdel		51,118
Currus	Currus UE-05		6,892
	Currus UE-14		4,860
	Currus UE-15		4,679
	Currus UE-24		4,621
	Currus UC-25		2,361
	Currus UC-26		1,349
	Currus MA-09		1,254
	Currus UM-02		1,212
	Currus MA-13		1,018
	Currus UC-18		1,012
	Currus UC-19		1,011
	Currus UC-21		938
	Currus RP-09		781
	Currus RP-10		781
	Currus YY-03		767
	Currus RS-01		755
	Currus RS-08		600
	Currus RP-17		597
	Currus RP-18		597
	Currus UC-02		541
Currus UM-01		515	
Currus MA-05		460	

3. Send a message to a channel where you work with your team.

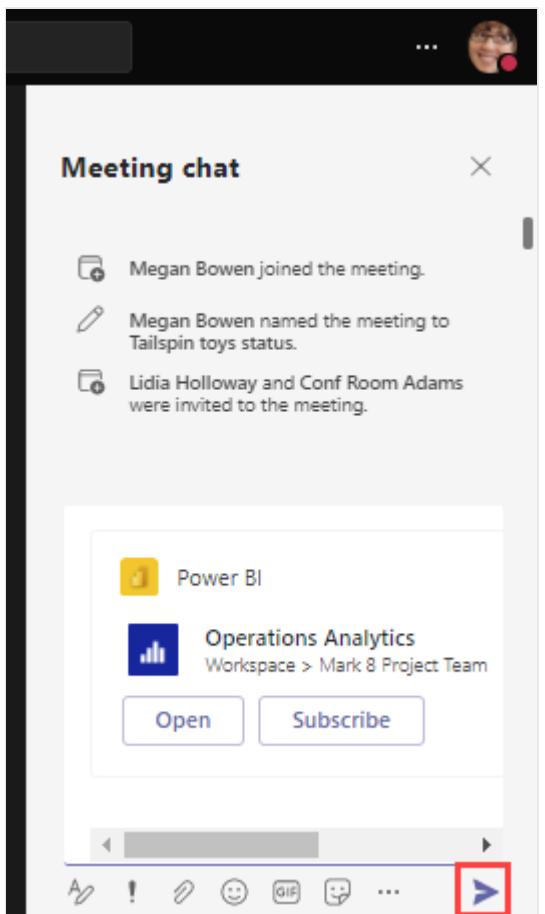
The link will include the full context of the data you were looking at, including the page, the visual, and any filters you applied. When your colleagues open the link, they quickly see the data you're referring to.

## Send your colleagues links to reports

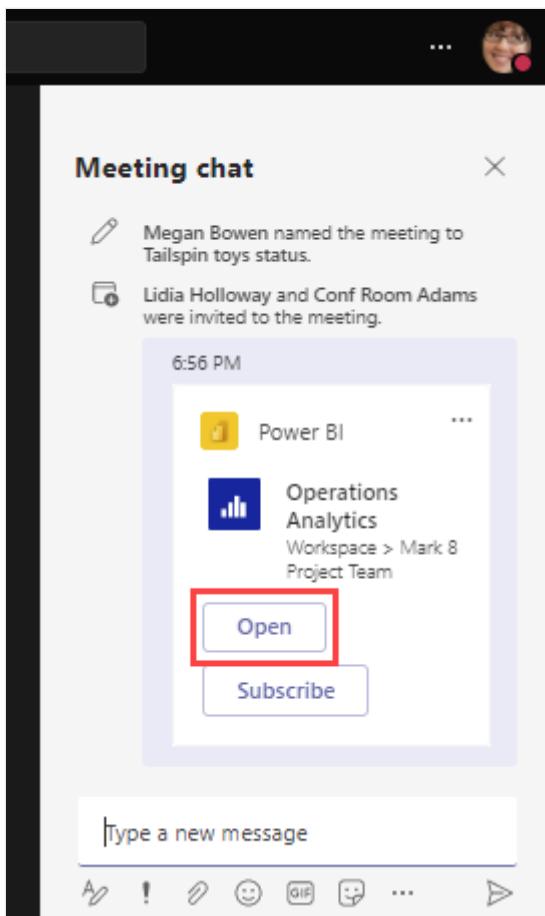
1. In the Teams channel or chat, start a new conversation.
2. In the command bar for the editor, select **Messaging extensions (...)**.



3. Select Power BI.
4. Search for the content you want to share, or select from your list of recent items.
5. Pick a Power BI item.
6. Select Send.



A rich card is added to the conversation, making it easy for anyone to open the item.



It's a great way to help without leaving the conversation, and saves everyone time.

## Create rich cards to paste in chat

If you use Power BI in a web browser, it's easy to send a link to a colleague.

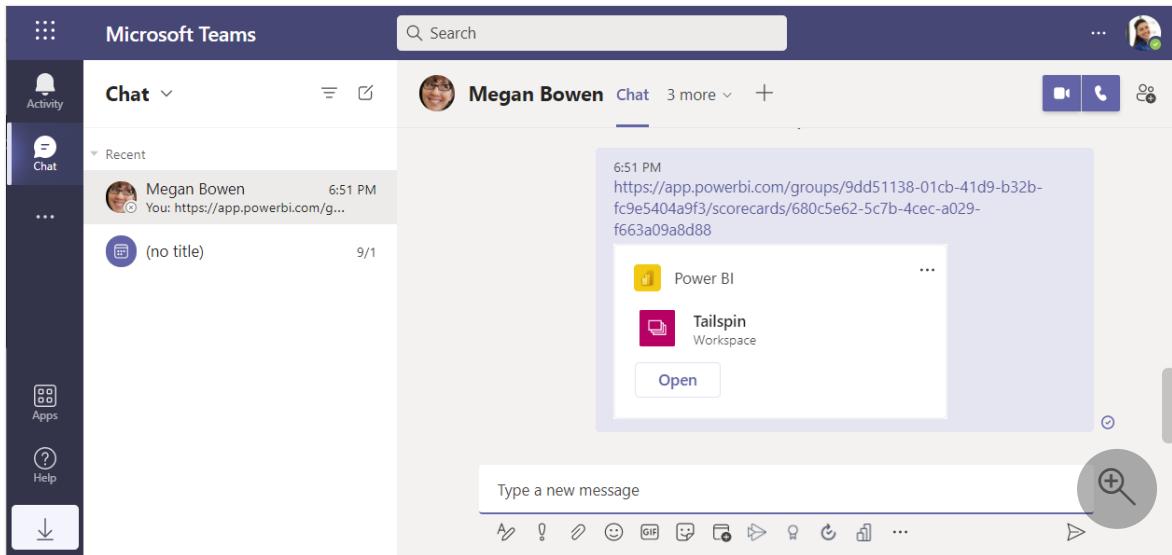
1. Open a report in the Power BI service in the browser, and copy the link.

A screenshot of a Microsoft Edge browser window. The address bar shows a URL starting with "app.powerbi.com/groups/9dd51138-01cb-41d9-b32b-fc9e5404a9f3/scorecards/680c5e62". A red box highlights this URL. The main content area displays a "Tailspin project" report with metrics like "Goals: 1", "On track: 1", and "At risk: 0". Below this is a table with a single row showing "Completion rate" with values "Owner: Megan Bowen", "Status: On track", "Value: 10 %/100 %", "Progress Due date: Oct 1, 2021", and a "Notes" column with a plus sign icon.

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.



## Related content

- Add the Power BI app to Microsoft Teams
- Use data to make better meetings in Microsoft Teams
- Use Power BI metrics to improve results in Microsoft Teams
- Create reports from data in Microsoft Teams
- Analyze your Teams collaboration data

# Create reports from data in Microsoft Teams

Article • 11/10/2023

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

It's easy to create Power BI reports in Microsoft Teams. This article has a few examples of reports you can create. When you're ready, you can also use tools like Power BI Desktop for more advanced report authoring.

## Create an automatic report from data you have

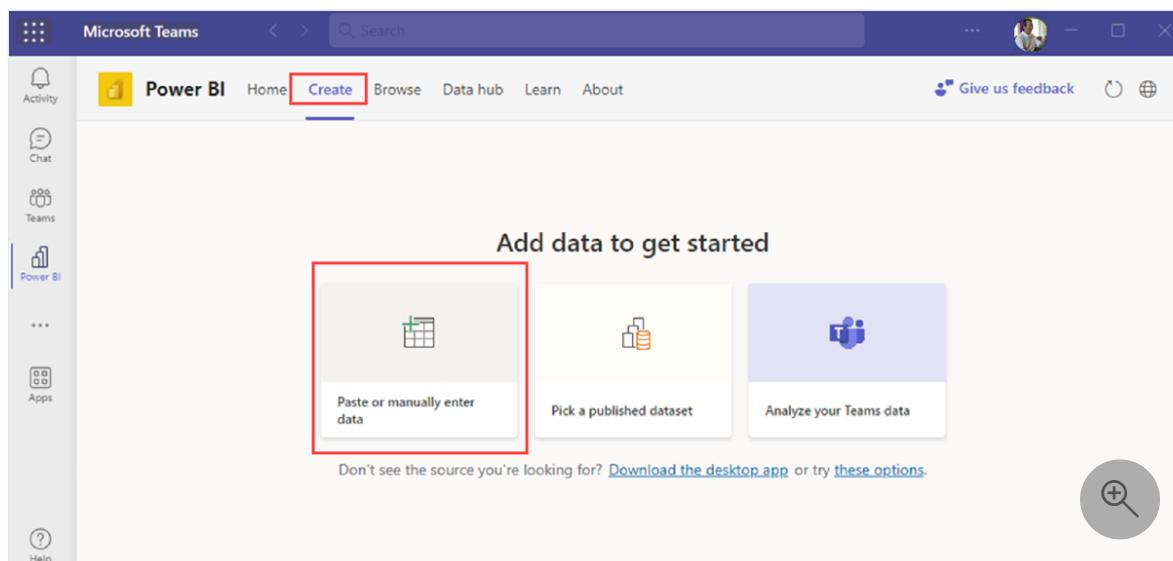
If you have a table with data, such as an Excel spreadsheet, and want to try visualizing in Power BI, create your report with the help of Microsoft Teams. You can start in Microsoft Teams or the Power BI service.

### Create an automatic report with Microsoft Teams

1. Open the Power BI app from Microsoft Teams.

Need to install the Power BI app? [Install the app, then pin it](#) to the Teams navigation pane.

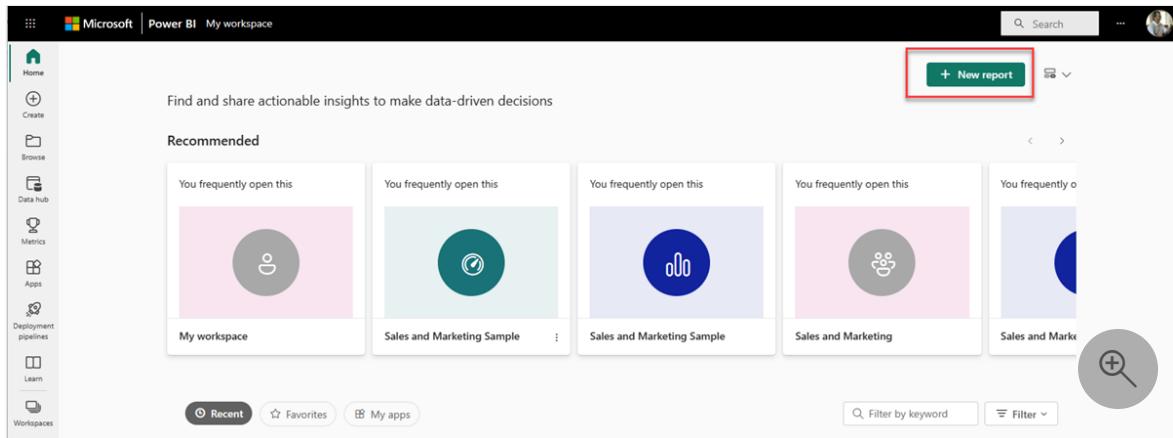
2. Select the **Create** tab, then choose **Paste or manually enter data** to open the Power BI service on your browser.



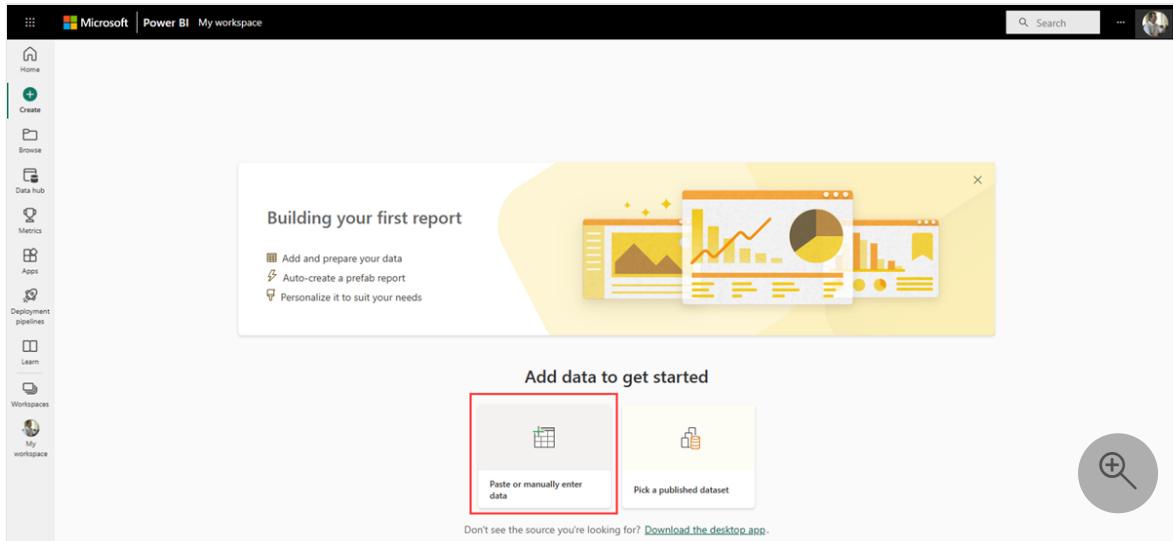
3. After the Power BI service opens in your browser, go to Step 3 in [Create an automatic report with the Power BI service](#) to finish creating your report.

## Create an automatic report with the Power BI service

1. Open the Power BI service.
2. Select the **New report** button.



3. Select Paste or manually enter data.

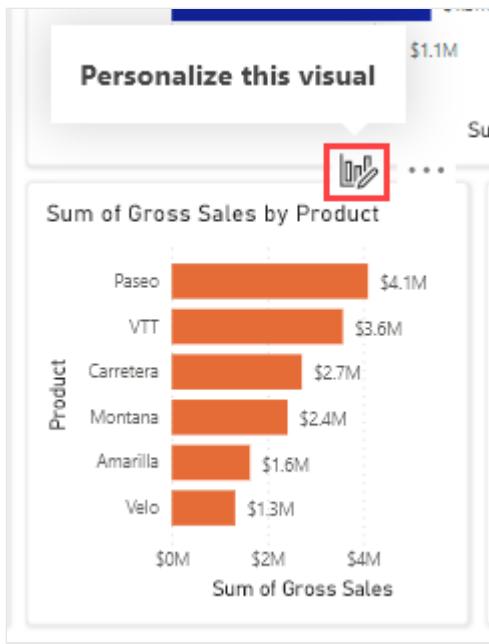


4. Copy the data or spreadsheet you want to visualize, then select the first cell in the Power Query dialog box and paste the data.
5. Select **Use first row as headers** from the dropdown menu if you want to apply the setting. Then name your table and choose **Auto-create report**.

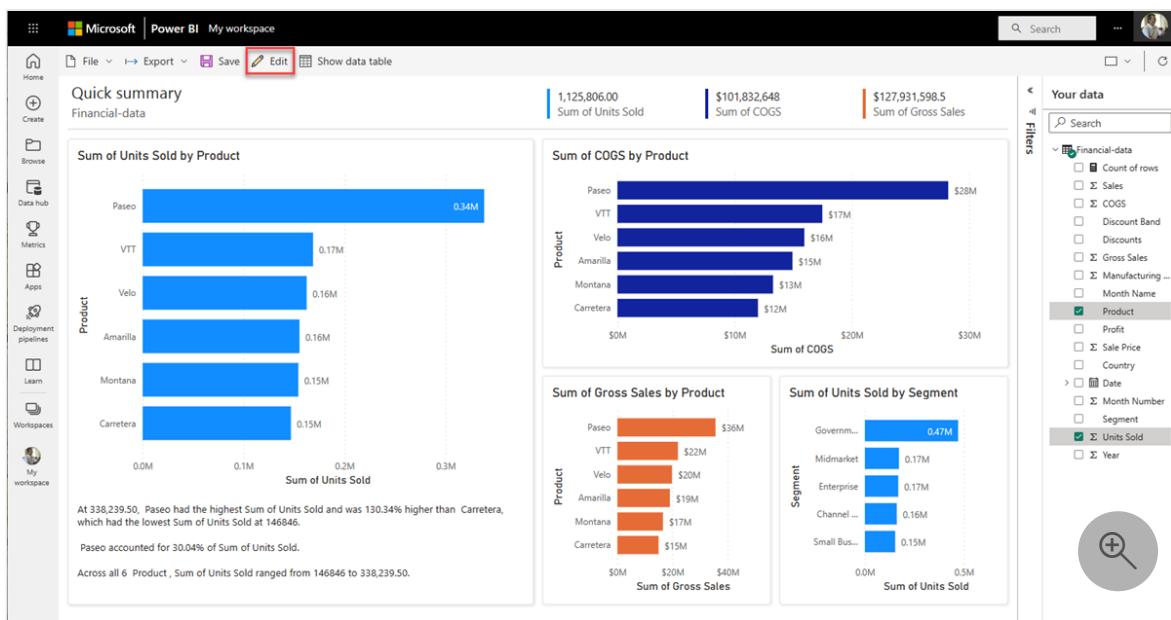
## 6. Set a sensitivity label, if prompted.

Power BI automatically analyzes and visualizes your data in a prebuilt report.

## 7. Customize your visuals. If you want to customize a single visual on your report, select the **Personalize this visual** icon.



8. Save the report.
9. After you save the report, you can customize the whole report by selecting **Edit**.



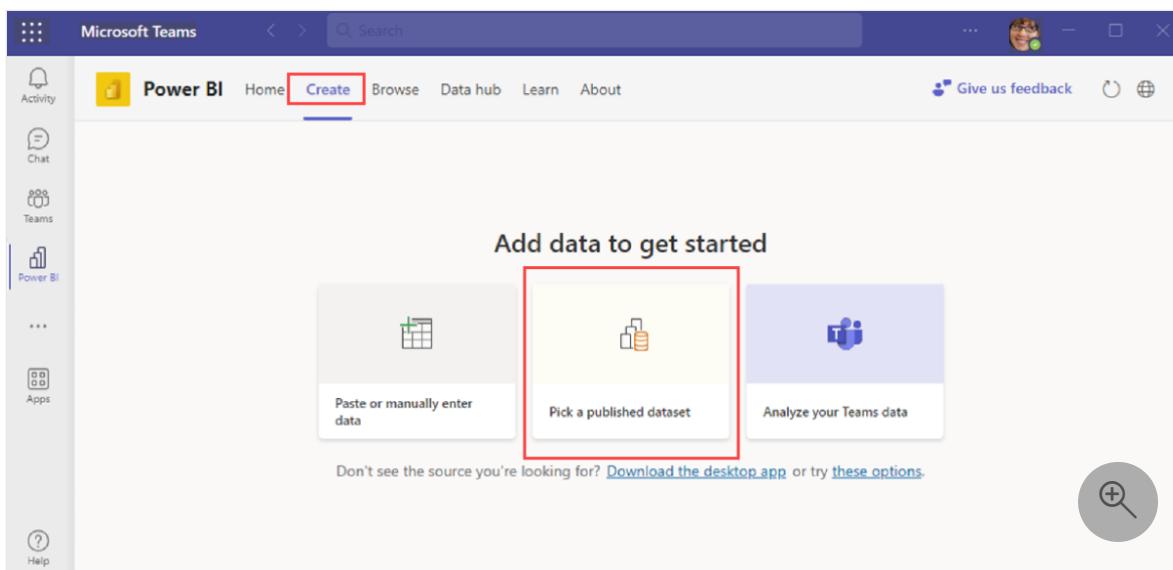
When you're done, save and share the report with your colleagues in Teams.

## Create a report from a semantic model in your organization

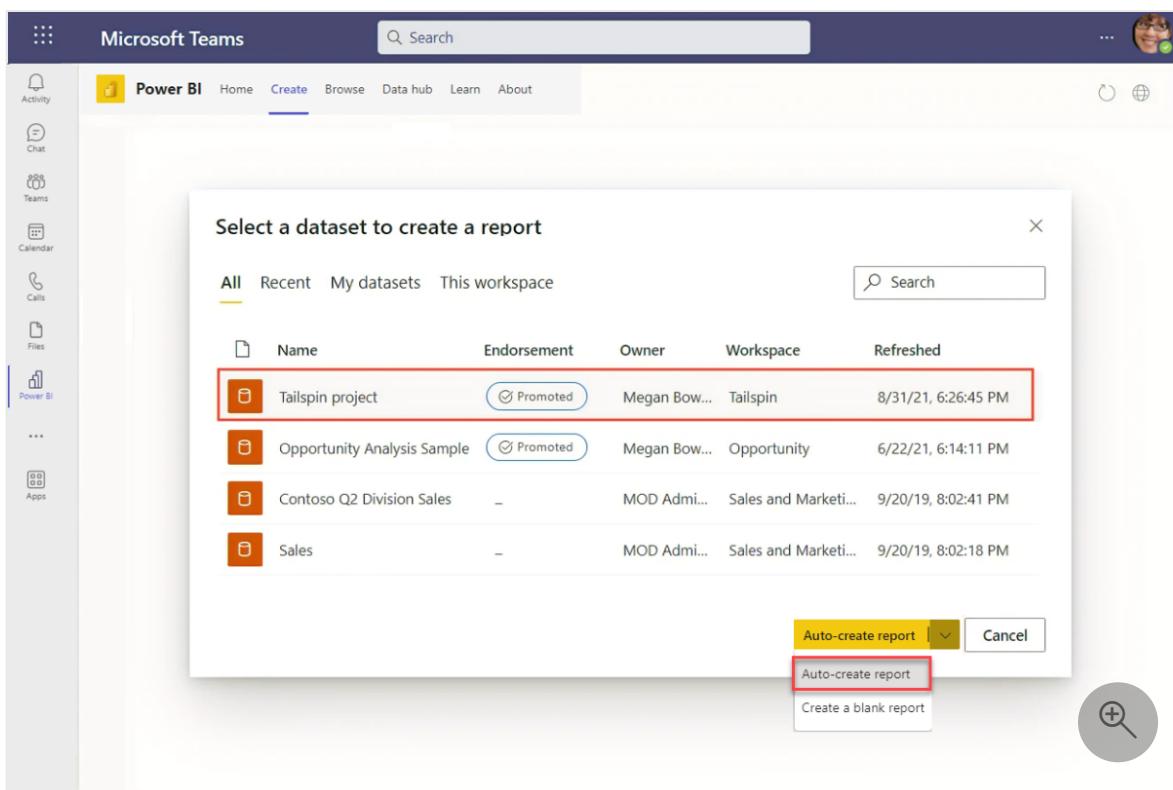
Many organizations share semantic models that you can use to build your reports. These semantic models are great because they offer up-to-date authoritative data. Semantic models marked *certified* or *promoted* are likely to be higher quality and better maintained, so your reports keep working longer.

To build a report from a semantic model shared with you, follow these steps.

1. Open the Power BI app for Microsoft Teams.
2. Select the **Create** tab > **Pick a published semantic model**.



3. Select a semantic model > **Auto-create report**.



4. Start exploring the data.
  - Use visualizations like charts, tables, and maps to show data in various ways.
  - Select data points to see other visuals update to filter data to your selection. Change formatting to make the report useful and readable by your colleagues.
5. After you complete your work, save and share the report.

# Explore semantic models and reports shared with you

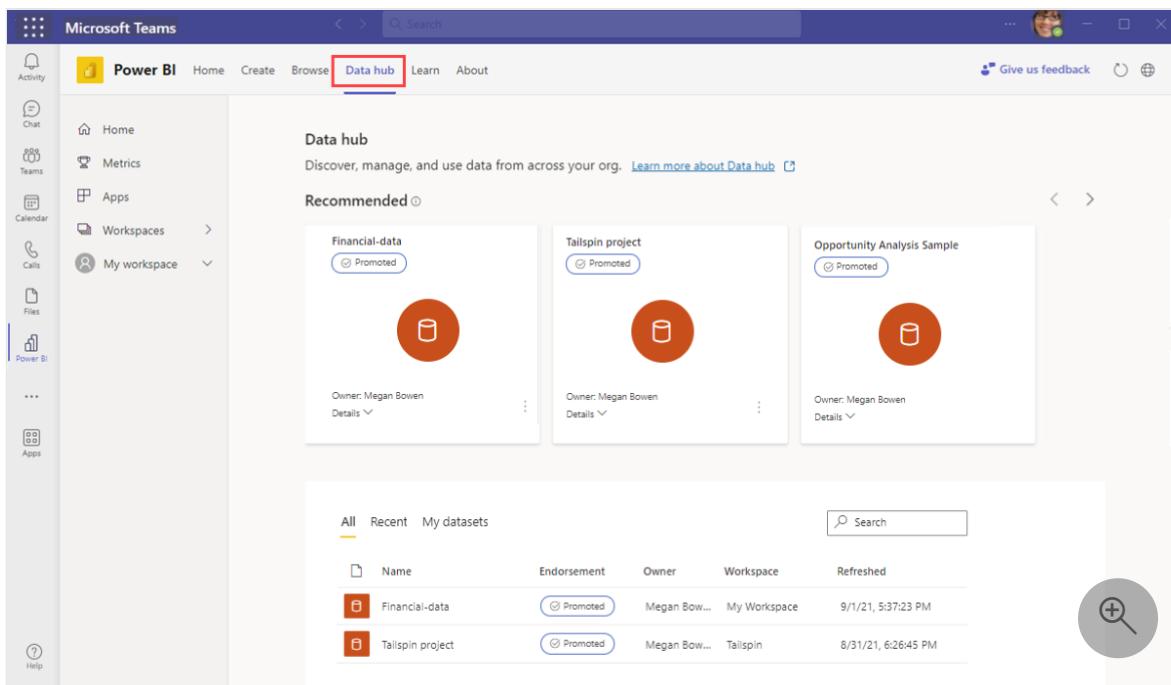
It's easy to find all the semantic models your organization has shared with you. They're in the OneLake data hub in the Power BI app for Microsoft Teams. Again, semantic models marked *certified* or *promoted* are likely to be higher quality and better maintained.

1. Open the Power BI app for Microsoft Teams.

Need to install the Power BI app? [Install the app, then pin it](#) to the Teams navigation pane.

2. Go to the **OneLake data hub** tab.

3. Select a semantic model from the list or from the recommended semantic models.



4. Explore the **Semantic model details** page.

The screenshot shows the Microsoft Teams interface with a Power BI dataset named "Revenue Opportunities" from Adele Vance. The dataset was refreshed on 12/21/22 at 1:25:30 PM. There are options to "Visualize this data" (Create a report), "Share this data" (Share dataset), and "Explore related reports". A sidebar titled "Tables" lists tables such as Account, Fact, Opportunity, Partner, Product, and SalesStage. A tooltip explains how to select multiple tables for a paginated report.

- Discover prebuilt reports that use the semantic model.
- Create a report in Power BI from the semantic model with **Create a report**.
- Share data and give people access to the semantic model to work.
- Select a table or column to export data or select more than one table to create a paginated report.

When you find interesting reports relevant to your team, bring them into your collaboration. Add them to channels, meetings, and chats as tabs or in a conversation.

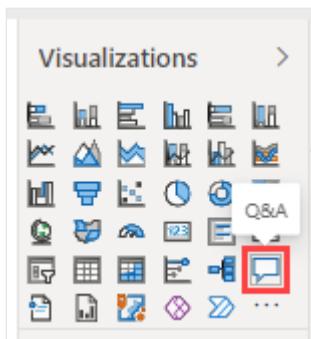
## Enhance reports in the Power BI service and in Teams

It's easy to keep working on your reports right in the Power BI service and Power BI in Teams. Take advantage of the artificial intelligence capabilities built into Power BI.

### Q&A visual

For example, ask a question about your data by adding a *Q&A visual*, where you can ask natural language questions and get answers in the form of a visual.

1. In the Visualizations pane, select the Q&A icon.



Power BI generates a list of suggested questions you can choose from or type your own.

The screenshot shows the Power BI interface with the 'Visualizations' pane open on the right. The main area displays a list of suggested analytical queries:

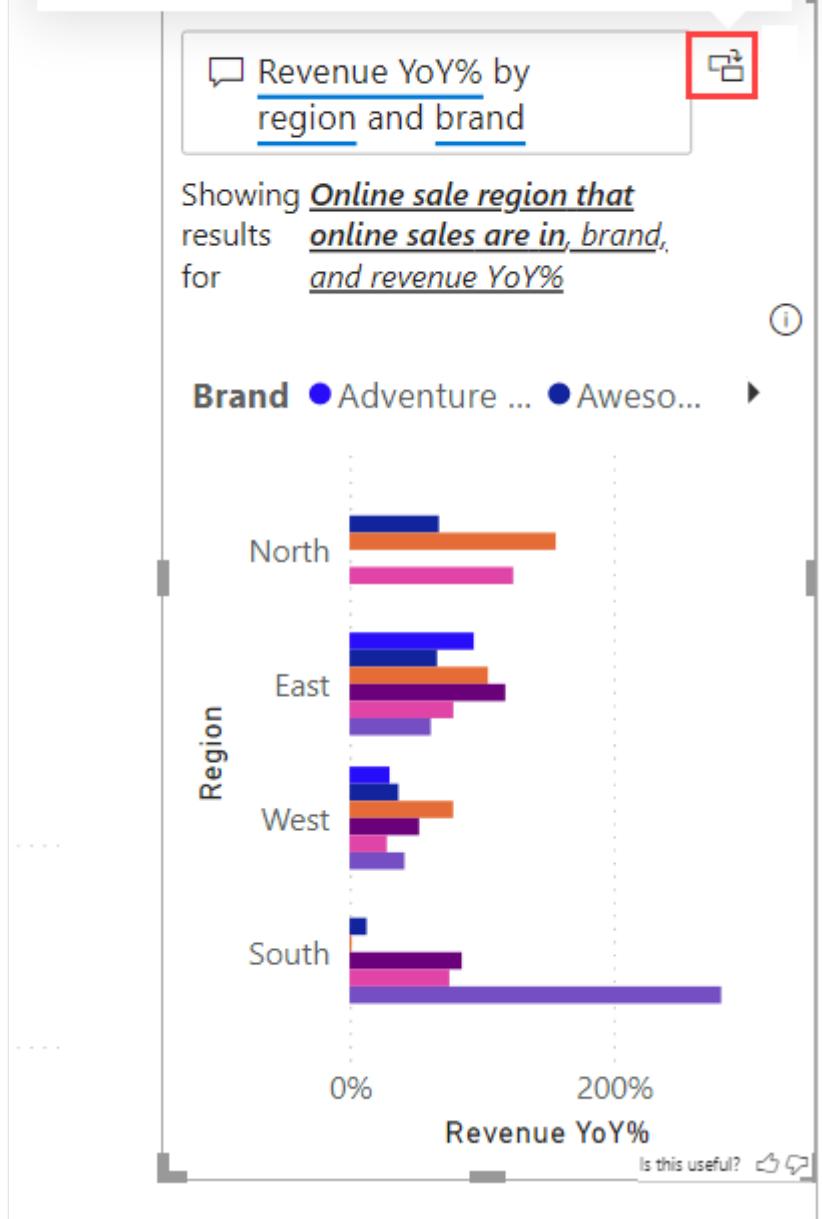
- Cancellations and average revenue per transaction by city
- Average purchase size by customer segment
- Top 5 cities by sales for the last year
- Number of website visits and sales amount by customer
- Revenue YoY% by region and brand

An 'Ask a question about your data' button is visible at the top left. The 'Visualizations' pane on the right lists various visualization types and includes a 'Filters' section and a search bar.

General
Question field
Suggesti... On
Title Off
Backgro... On
Lock asp... Off
Border Off
Shadow Off

2. If you like the visual that Power BI creates, you can convert it from a Q&A visual to a standard visual on the page.

Turn this Q&A result into a standard visual.

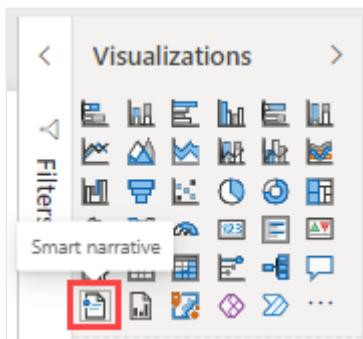


For more information, see [Create a Q&A visual in a report in Power BI](#).

## Smart narrative visual

You can also easily create a *smart narrative* visual, a dynamically generated text box that provides relevant insights that you can customize.

1. In the Visualizations pane, select the **Smart narrative** visual icon.



Power BI generates a text description of key takeaways in your report.

The screenshot shows a Power BI dashboard with the following components:

- Top Row:** Four KPI cards: "Number of visits" (61K), "Average daily and unique users" (353), "Average duration (min)" (2.95), and "Average conversion rate (%)" (31.15).
- Middle Row:**
  - A horizontal bar chart titled "Age by page" comparing Gen X, Gen Y, and Baby Boomers.
  - A vertical bar chart titled "Tweets by country and sentiment" showing percentages for North America, Europe, Asia, Africa, and South America.
  - A world map showing tweet locations with orange dots.
  - A bar chart titled "Unique Visitors, Daily Users and Return ..." comparing Desktop, Mobile, and Tablet.
- Right Side:** A "Format text box" pane with settings for "General", "Title", "Background", "Border", "Shadow", and "Visual height". A red box highlights the text box area.
- Generated Text (in red box):**

At 20031, HomePage had the highest Visits and was 66.45% higher than Shipping Details, which had the lowest Visits at 12032.

Visits and total Average of Duration (min) are negatively correlated with each other.

HomePage accounted for 32.77% of Visits.

Visits and Average of Duration (min) diverged the most when Page was HomePage, when Visits were 20028 higher than Average of Duration (min).

Gen Z (2000s - now) had the highest Unique Visitors at 5058, followed by Gen X (60 - 80s), Gen Y (80 - 2000s), and Baby Boomers (45 - 60s).

Across all 4 Age Segment, Unique Visitors ranged from 2747 to 5058.

Complete had the highest total Count of Sentiment at 59, followed by In Progress at 42 and Not ...

1. You can add a visual to your dashboard and it will automatically generate a text summary for you.
2. You can edit the visual, change the way it looks, and change the inline values it generates.

For more information, see [Create smart narrative summaries](#).

## Create sophisticated reports in Power BI Desktop

Power BI Desktop is a downloadable Windows app to make sophisticated reports. It's like PowerPoint, but it uses data visualizations to help you gain insights into your data. Power BI Desktop has powerful capabilities like data import, cleaning, modeling, and much more.

To get started with Power BI Desktop, follow these steps.

1. Install Power BI Desktop. You can download it from the [Microsoft Store](#).

[Get Power BI Desktop](#)

2. Create a report in Power BI Desktop.

In the following tutorial sample, you prepare and model your data. Then create a report based on the model you've created. You can't do both tasks in a report in the Power BI service.

[Tutorial: From dimensional model to stunning report in Power BI Desktop](#)

3. [Publish the report](#) to the Power BI service.

4. Share the report with your colleagues in Teams.

## Next steps

- [Add the Power BI app to Microsoft Teams](#)
- [Use data to make meetings productive in Microsoft Teams](#)
- [Use Power BI metrics to improve results in Microsoft Teams](#)
- [Lead data-driven discussions in Microsoft Teams](#)
- [Analyze your Teams collaboration data](#)

# Analyze your Teams collaboration data

Article • 10/31/2024

**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.

## Note

On December 31st, 2024, the **Teams activity analytics** report feature will be discontinued. Starting January 1st, 2025, users will no longer be able to generate new reports with this feature, and existing reports will cease to update. Users are advised to use the built-in analytics views available in Teams. For more details, see [View analytics for your teams in Microsoft Teams](#).

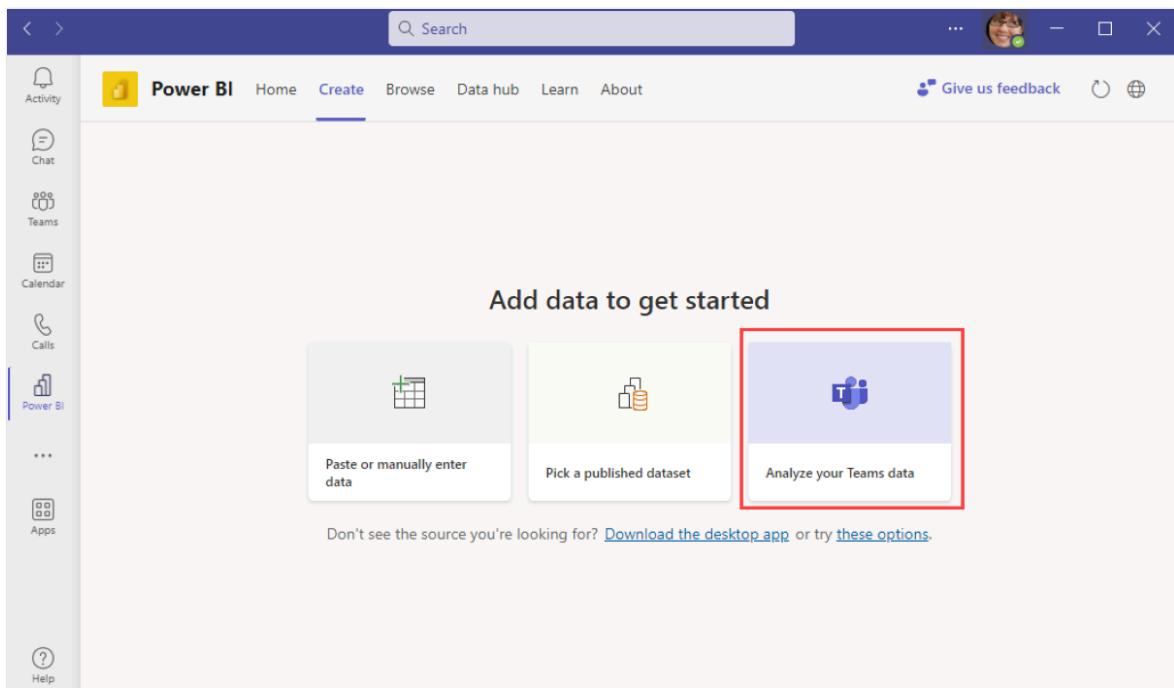
For more information about the retirement of the Teams activity analytics report feature and how this might affect you, see [Power BI in Teams – Announcing the retirement of the Teams activity analytics report](#).

To get insights about collaboration in Microsoft Teams, follow these steps.

1. Open the Power BI app for Microsoft Teams.

Need to install the Power BI app? [Install the Power BI app](#), then pin it to the Teams navigation pane.

2. Go to the **Create** tab and select **Analyze your Teams data**.



3. Explore your usage in the automatically generated report.

4. Explore engagement in the teams you participate in.

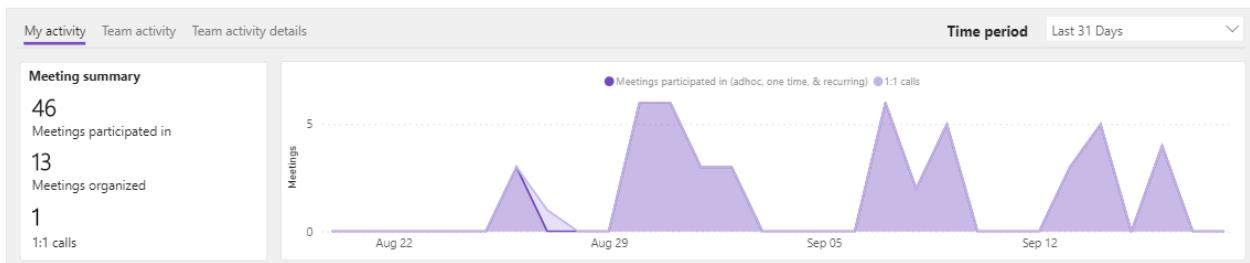
The report is saved in your Power BI account and stays refreshed. You can come back every few days to see how your actions change the trends. When working in a team, it's great to discuss the data and ways to improve.

## Questions to ask about your collaboration

### Am I effective in meetings?

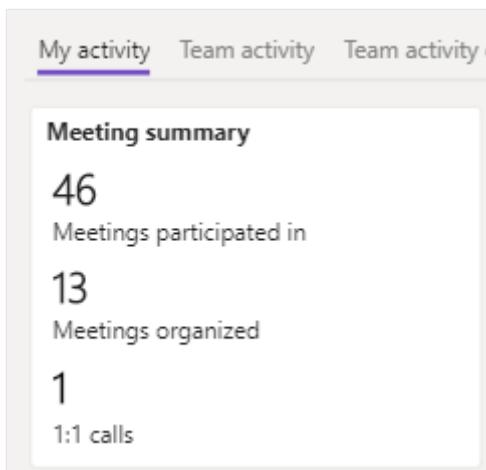
When looking at your meeting participation, you can see where you spend your time. Look at whether you spend most of your time in meetings or if you have enough focus time to get work done. You can see if you're mostly participating in or organizing meetings. Depending on your organization and your role, the balance of what's "right" might change, but it's important to ask the following questions:

- Are the meetings I'm in clearly furthering the objectives of my role and my organization?
- Am I setting the pace of delivery effectively by organizing important meetings to support my objectives?



## Am I building relationships with my colleagues?

Remote and hybrid work enables many of us to work from anywhere, which can impact the relationships we have with colleagues. It helps to build strong relationships with colleagues to succeed, overcome challenges, and build a cohesive work environment. Look at the 1:1 calls metric to see if you're making the connections you need for the future.



## Am I using chat effectively?

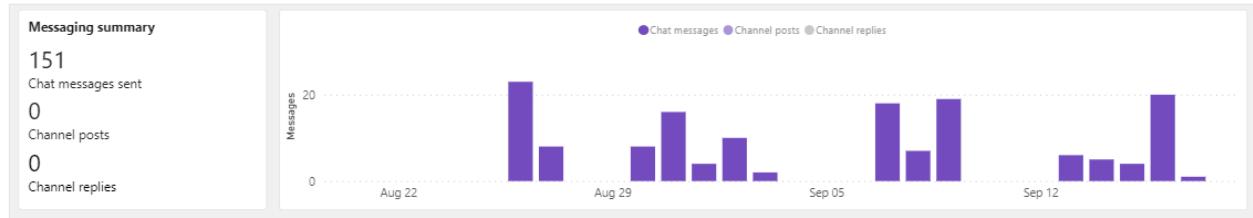
Chat experiences help us communicate quickly with others without interrupting their flow of work. Chat messages are fast, easy to write, and allow the recipient to multi-task by responding when they're able. To use chat effectively, consider how you're using chat across the experiences Teams offers.

### 💡 Tip

Start a chat with a coworker by stating why you're contacting them, rather than just typing "Hi" or "Are you busy?" Just ask your question. That way, they can respond quickly rather than wait for you to ask the question.

## Am I sending too many chats?

Look at the number of chat messages you send in a day and the trend. If you're sending numerous messages (20, 30, 40, 50), see what they were and review them. Consider whether a meeting or a 1:1 call could have achieved the same outcome while creating a stronger connection with your colleague. You may even want to send a document rather than writing chats. Consider asking your colleague which option is the most effective for them.

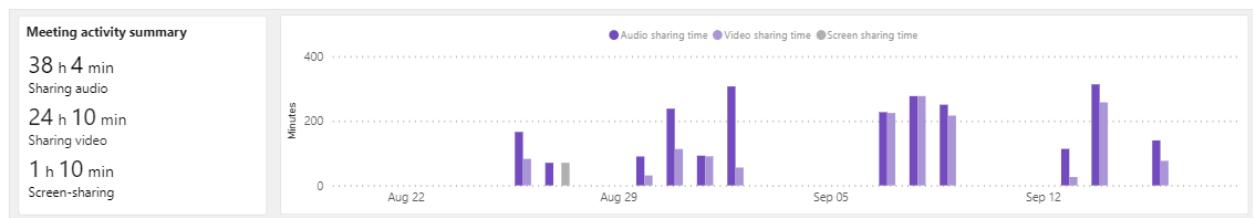


## Am I using channels effectively?

Teams and channels help keep your entire workgroup or project team up to date. Sometimes it's easier to message someone directly instead of posting in a channel. This practice can raise challenges since others teammates lack visibility into work happening around them and don't have the opportunity to offer input. It's also harder for them to help and finish something when someone goes on vacation. If you're primarily using Chats, consider if Channels would be a good option to add to your collaboration habits.

## Am I using in-meeting experiences in the best way?

Looking at meeting activities such as audio, video, and screen sharing, you can gain insight into how effectively you're using in-meeting experiences. If you're sharing audio but not video, you may be missing opportunities to make a stronger connection with other meeting attendees. If you're screen sharing a lot, it could indicate that you're driving the discussion forward in these meetings.



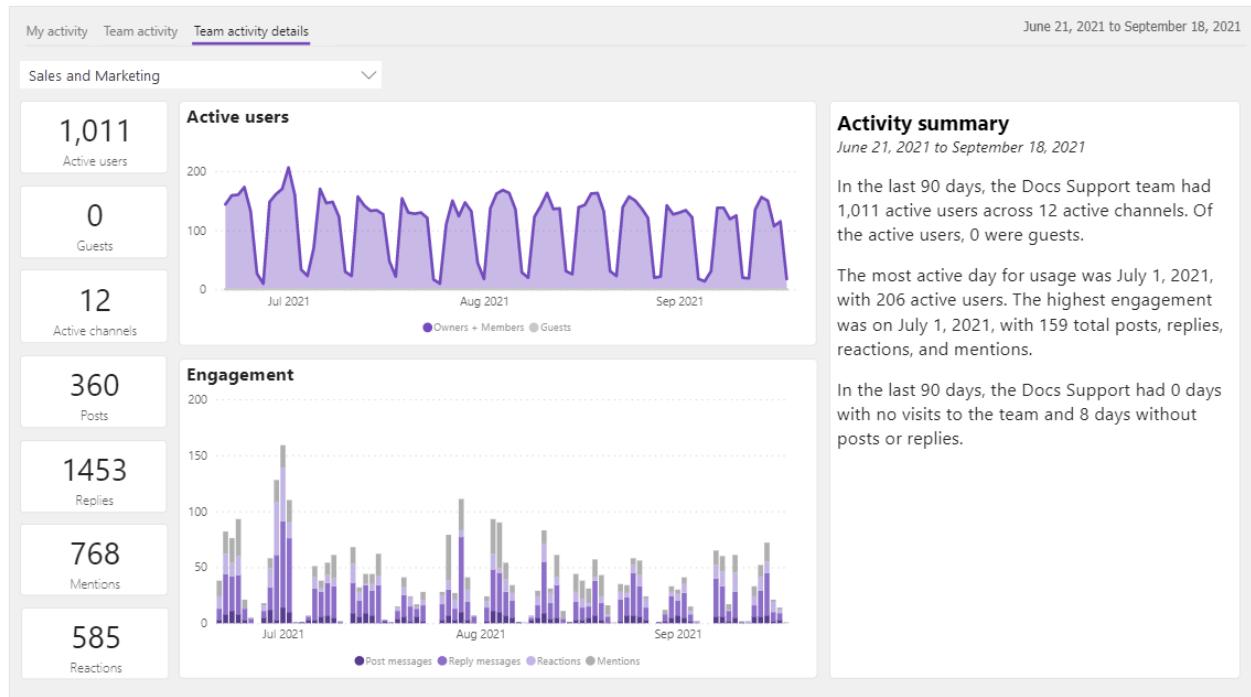
## Understand activity in teams you access and own

Sometimes where you work is as important as how you work. The **Teams activity** view gives you a summary of how your teams collaborate. You can quickly see which teams

you might be overlooking and which ones you might close. If multiple teams cover the same topic, consider merging them to help everyone work together.

My activity		Team activity		Team activity details		June 21, 2021 to September 18, 2021										
						Team name	Posts and replies last 7 days	Active users	Guests	Active channels	Total Posts	Total Replies	Meetings organized	Days without active users	Days without posts or replies	
Customer Profitability							403	2,707	3	4	1,260	3322	12	0	2	
Public Relations							110	1,011	0	12	360	1453	0	0	8	
Sales and Marketing							61	325	0	9	56	166	4	1	30	
Retail Analysis							40	19,869	3	66	188	309	2	0	12	
Store Portal							35	2,855	1895	27	135	380	0	0	3	
Leadership							32	859	0	22	79	150	0	0	32	
Human Resources							6	334	0	11	33	77	0	1	40	

When you view the details for a specific team, you can get more detailed usage data. As a team owner, you might show this view in a meeting to seek input to improve your collaboration. It's also a great way to evaluate if you should retire a team with few active users or low engagement.



## Related content

- Add the Power BI app to Microsoft Teams
- Use data to make meetings productive in Microsoft Teams
- Use Power BI metrics to improve results in Microsoft Teams
- Lead data-driven discussions in Microsoft Teams
- Create reports from data in Microsoft Teams

## Feedback

Was this page helpful?

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# Chat in Microsoft Teams directly from the Power BI service

Article • 12/13/2024

You can open a Teams chat about Power BI dashboards, reports, visuals, and semantic models directly from the Power BI service. Use the **Chat in Teams** feature to quickly start conversations when you view reports, dashboards, and [semantic models](#) in the Power BI service.

## Requirements

To use the **Chat in Teams** functionality in Power BI, make sure the **Share to Teams** tenant setting in the Power BI admin portal is enabled. This setting allows organizations to hide the **Chat in Teams** button. For more information, see the [Power BI admin portal](#) article.

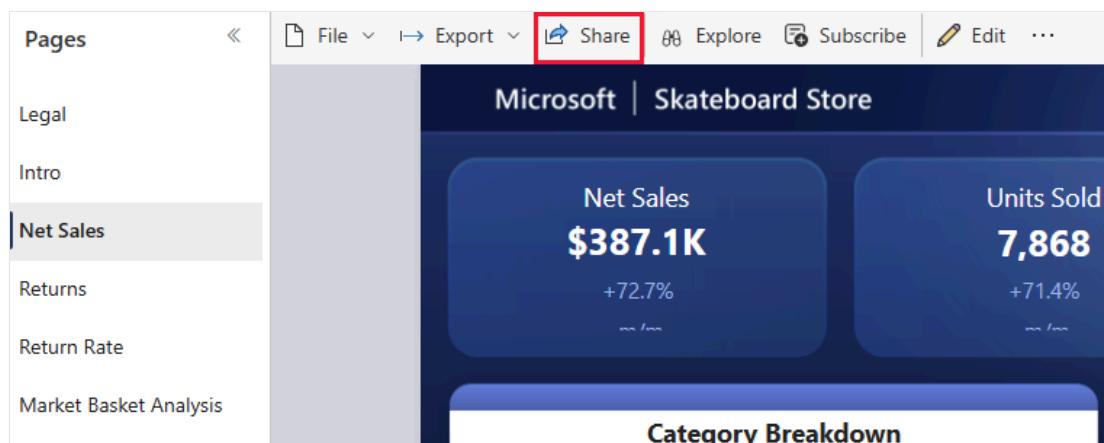
See [Collaborate in Microsoft Teams with Power BI](#) for background on how Power BI and Microsoft Teams work together, including other requirements.

## Chat about Power BI content in Microsoft Teams

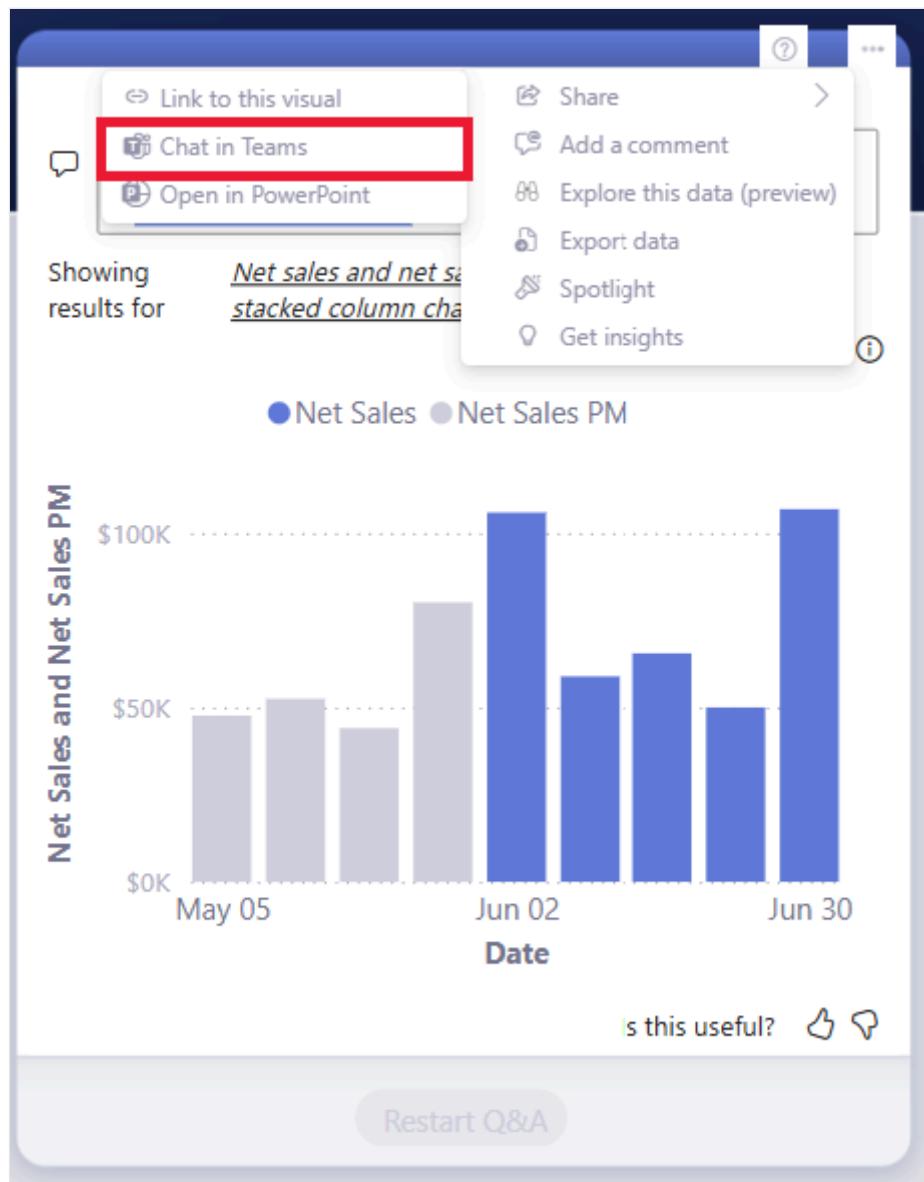
Follow these steps to share links to reports, dashboards, visuals, and semantic models in the Power BI service, and in Microsoft Teams channels and chats.

1. In either the Power BI service or in Microsoft Teams, select one of these options:

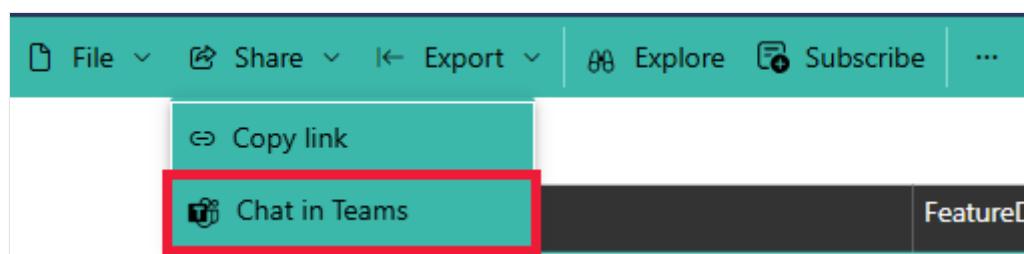
- **Chat in Teams** in the action bar of a dashboard, report, or semantic model:



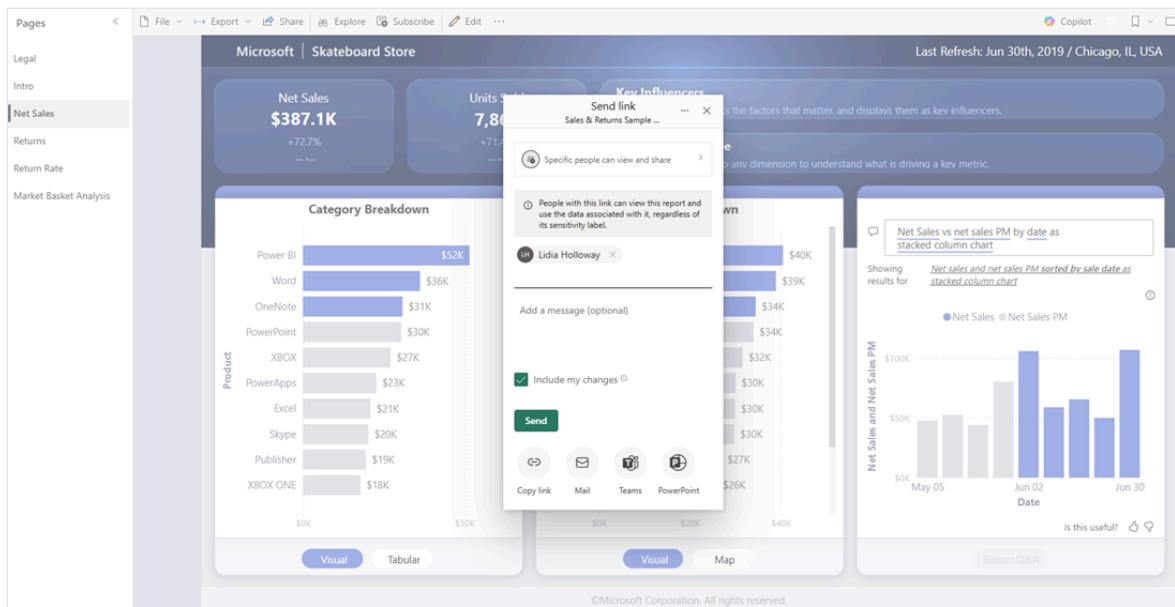
- **Chat in Teams** in the context menu for a single visual:



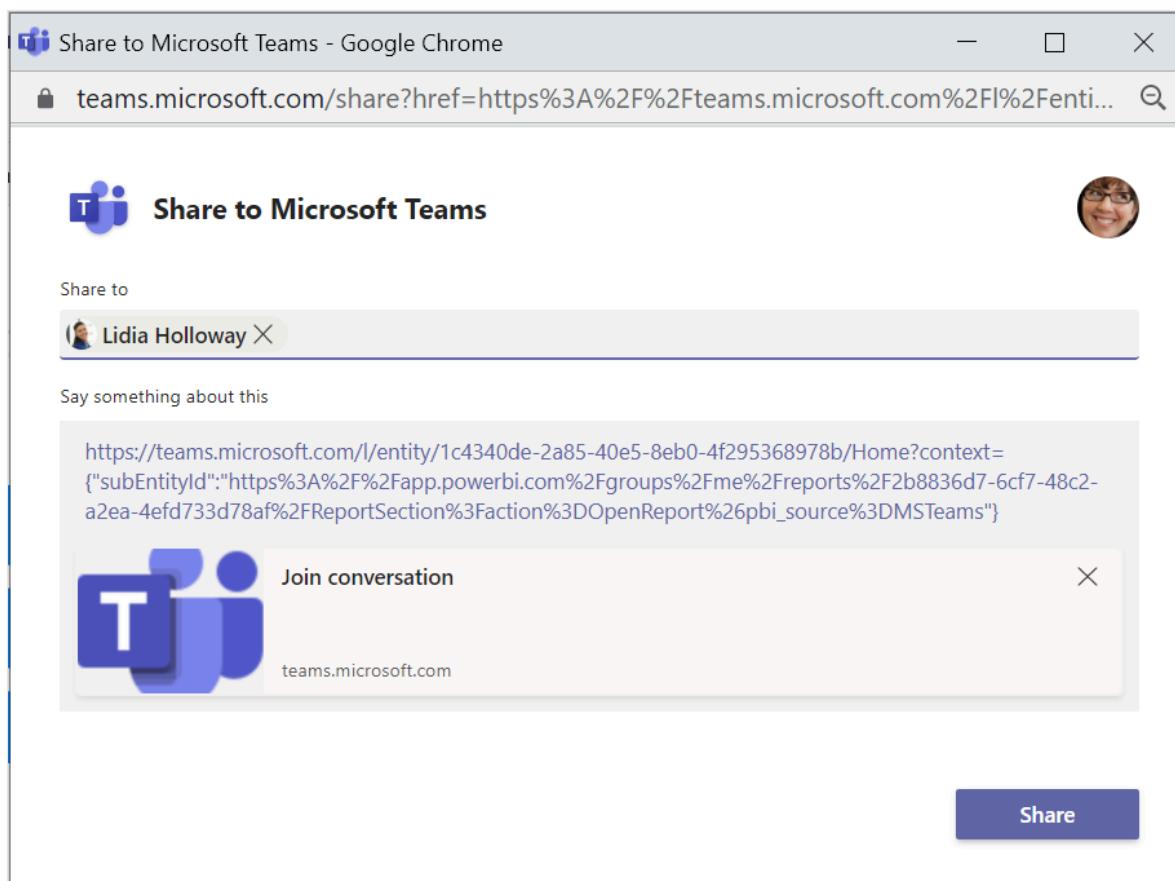
- Chat in Teams in the action bar of an app.



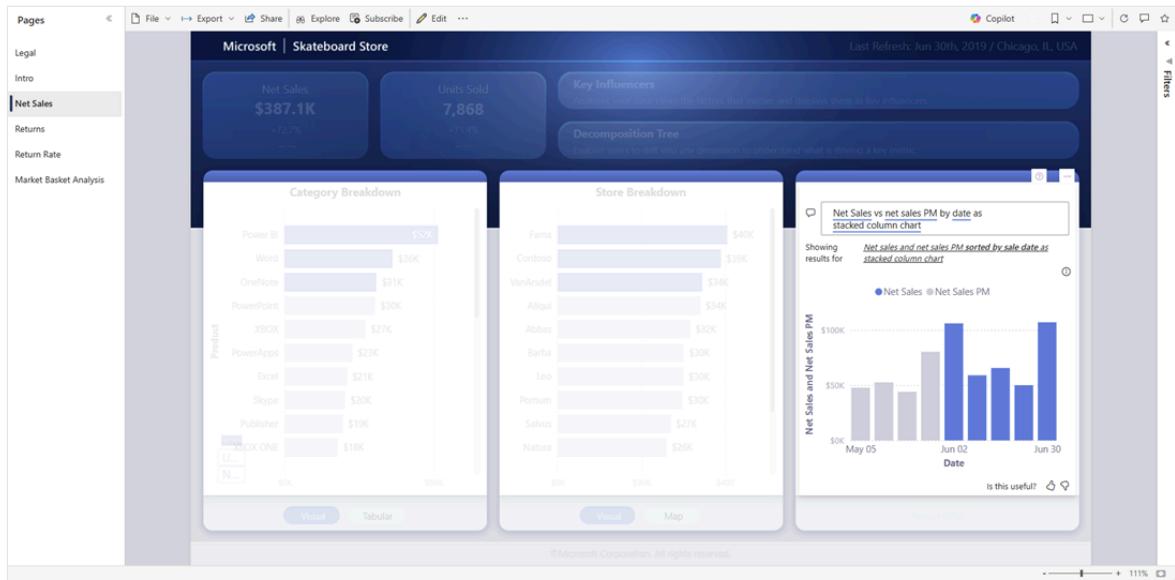
2. In the **Share to Microsoft Teams** dialog, select the person, group, or channel you want to send the link to. You can enter a message if you want. You might be asked to sign in to Microsoft Teams first.



3. Select **Share** to send the link. The link is added to existing conversations or starts a new chat.



4. Select the link to open the item in the Power BI service.
5. If you used the contextual menu for a specific visual, the visual is highlighted when the report opens.



## Known issues and limitations

- Users without a Power BI license or permission to access the report see a "Content isn't available" message.
- The **Chat in Teams** button might not work if your browser uses strict privacy settings. Use the **Having trouble? Try opening in a new window** option if the dialog doesn't open correctly.
- **Chat in Teams** doesn't include a link preview.
- Link previews and **Chat in Teams** don't give users permissions to view the item. Permissions must be managed separately.
- The **Chat in Teams** button isn't available in visual context menus when a report author sets **More options** to **Off** for the visual.
- For other issues, see the [Known issues and limitations](#) section of the "Collaborate in Microsoft Teams" article.

## Related content

- [Collaborate in Microsoft Teams with Power BI](#)

Questions? Try asking the [Power BI Community](#).

## Feedback

Was this page helpful?

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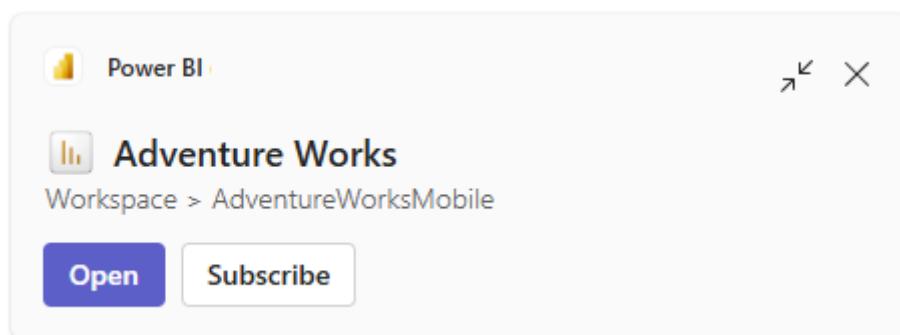
# Link preview cards in Microsoft Teams chats and channels

Article • 02/10/2025

This article describes link preview cards that are generated in Teams chats and channels for links to [supported Power BI item types](#). It is intended for chat participants who are interested to know what the cards show and how they can enhance collaboration.

## About link preview cards

When you paste a link to a Power BI report, app, dashboard, or workspace into a Teams chat or channel, a preview card showing some details about the linked-to item is generated in the chat/channel window. The purpose of the preview card is to enhance collaboration by helping chat participants decide whether to open the link or not.



If a chat participant decides to open the link, the item opens directly in their Power BI app in Teams - there's no need to switch applications. This saves time and helps them stay focused on the task at hand.

### ⓘ Important

When you paste a link into the chat, it might take a second or two for the link preview card to appear. **Wait for the card to appear before sending the message!** If you press send before the card appears, it will never be generated.

Typically, the preview card provides the following:

- The name of the linked-to item.
- The location of the item.
- An *Open* button that opens the item in the Power BI app in Teams.

- A *Subscribe* button that navigates the user to the Subscriptions pane in the Power BI app in Teams.

The preview card is sensitive to the permissions and licenses that the chat participant has. Thus if a chat participant doesn't have permissions to view the item, an *Open to request access* button appears on the card instead of the *Open* button.

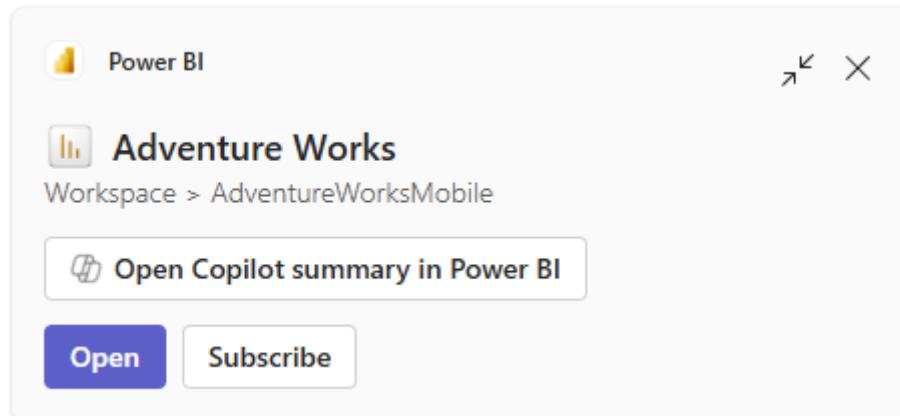
 **Note**

In chats and channels with more than 60 participants, the card is not sensitive to each participant's permissions. Rather, all participants see the card as it appears to the user who pasted the link into the chat. This can lead to unexpected card behavior. See the [considerations and limitations](#) for more detail.

## Link preview cards for reports that have Copilot summaries

If the linked-to item is a report, and the report and the chat participant meet the [Copilot summary requirements for Power BI](#), the link preview card will have an *Open Copilot summary in Power BI* button that opens the report in the Power BI app in Teams, with the summary displayed in the Copilot pane. The purpose of this button is to save the user time in deciding whether to explore the report further. As mentioned, the button is only available for users who have the appropriate permissions, and only if the report meets the requirements for Copilot summaries in Power BI.

The following image shows the link preview card with the *Open Copilot summary in Power BI* button.



## Item types with link preview card support

Link preview cards are generated for the following Power BI items.

- Reports
- Org apps
- Dashboards
- Workspaces

## Considerations and limitations

- In chats or channels with more than 60 participants, permissions and licensing of card viewers isn't checked. All participants see the card as it was generated for the person who pasted the link in the chat. This can lead to the following unexpected behaviors:
  - Chat participants who don't have permissions to view the item may still see the *Open* button, even though they won't be able to open the item when they select the button.
  - Chat participants who don't have the appropriate license for Copilot might see the *Open Copilot summary in Power BI* button, but won't be able to open the report with the Copilot summary when they select the link.
- See the [Known issues and limitations](#) section of the "Collaborate in Microsoft Teams" article for other issues.

## Related content

- [Collaborate in Microsoft Teams with Power BI](#)
- [Summarize a report in the Copilot pane](#)

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## Feedback

Was this page helpful?



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# View all the Power BI tabs you use in Microsoft Teams

Article • 02/25/2025

This article describes how you can view all the Power BI tabs you've viewed in Microsoft Teams. They're kept on the **In Teams** pivot on the home experience in Power BI app for Teams. When you work in channels, you can add a Power BI report as a tab as an easy way to share with everyone, and ensure the most important data is always top of mind. When you use the Power BI app in Teams, you'll see a new **In Teams** pivot on your Power BI home. This new capability makes it easy to find Power BI tabs you've visited previously in Teams channels.

You could already access all your reports, dashboards, and Power BI organizational apps in the [Power BI app for Teams](#). You could find and install apps, discover semantic models to use in creating new reports, track your metrics, and more.

Now the home page in the Power BI app for Teams also gathers all your Power BI tabs in your Teams team channels in one place.

## Using the In Teams list

Here are a few things to know about the **In Teams** list:

- The list shows the 20 Power BI tabs you've used most recently in Team channels.
- If you haven't opened any Power BI tabs in Teams, the list won't include any items.
- The list won't include Power BI tabs you use in chats, group chats, or in meetings.
- You can open the reports in the Power BI app for Teams.
- Select the value in the **Location** column to navigate to the tab in the Teams channel and keep collaborating with your colleagues.
- The **In Teams** pivot is only available in the Power BI app for Teams. You don't see it in the Power BI service when using [app.powerbi.com](https://app.powerbi.com) in a web browser.

## Known issues and limitations

Review these known issues and limitations:

- For information about other issues, see the [Known issues and limitations](#) section of the "Collaborate in Microsoft Teams" article.

## Related content

- [Add the Power BI app to Microsoft Teams](#)
- [Enable remote work in Microsoft Teams with Power BI](#)

Questions? Try asking the Power BI Community .

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## Feedback

Was this page helpful?

 Yes

 No

[Provide product feedback !\[\]\(26280820a26aee5c5ee76b15873ab35b\_img.jpg\)](#) | [Ask the community !\[\]\(5ac508903d317d0bf02b985ee6588829\_img.jpg\)](#)

# Analyze your Teams usage in the Power BI app for Teams

Article • 02/21/2025

## ⓘ Note

On January 31st, 2025, the **Teams activity analytics** report feature will be discontinued. Starting February 1st, 2025, users will no longer be able to generate new reports with this feature, and existing reports will cease to update. Users are advised to use the built-in analytics views available in Teams. For more details, see [View analytics for your teams in Microsoft Teams](#).

For more information about the retirement of the Teams activity analytics report feature and how this might affect you, see [Power BI in Teams – Announcing the retirement of the Teams activity analytics report](#).

This article describes how to automatically generate a Power BI report to analyze your Microsoft Teams activity, by using the Power BI app in Teams.

Only you can see this report about your Teams activity, unless you choose to share it. Microsoft Teams also offers a [summary report for Teams admins](#). It gives admins an overview of the usage activity in Teams, including the number of active users and channels, guests, and messages in each team.

## Requirements

To view your Teams activity analytics in Microsoft Teams, ensure these elements:

- Sign in to the Power BI service to activate your Power BI license.
- Your users with a Microsoft Fabric (free) license can use the Teams activity analytics report.
- [Install the Power BI app for Teams](#).

## Create the Teams analytics report

Open the Power BI app in Teams. Select **Create**, then choose **Analyze your Teams data**.

Power BI automatically creates your report, displays it in your Power BI Teams app, and saves it to your **My workspace**. The report is yours. As with any of your reports, you can

view it in Teams or in the Power BI service. You can edit it, save a copy of it, or download the *.pbix* file to edit it in Power BI Desktop.

## Pages in the Teams activity report

The Teams activity analytics report has three pages that show different aspects of your activity in Teams.

### My activity page

The **My activity** page shows a summary of your recent activity in Teams. The default time period is the past 31 days, but you can change it to show 7, 14, or 90 days instead.

To see definitions of the fields in the user activity report, see the [Microsoft Teams user activity report](#) article.

### Team activity page

The **Team activity** page lists all the teams you're a member of, and lists activity in each one, for example, posts and replies, active users, and guests.

### Team activity details page

On the **Team activity details** page, you choose one of the teams that you're a member of, and drill in to view its activities in the past 90 days. The page features a [smart narrative visual](#). It automatically generates the **Activity summary**, a text description that calls attention to notable activity.

## View your Teams activity report

After you've created your Teams activity analytics report the first time, you can go back to it. On the Home tab in the Power BI app in Teams or in the Power BI service, you see it listed in **Recents**.

## Refresh your data

Select the **Refresh** icon in Power BI in Teams to refresh the data.

You see the most currently available data in Teams. It's not a real-time feed. It shows a snapshot of the data, which is typically one or two days old.

Your recent activity in Microsoft Teams typically takes one-to-two days to be available in reporting provided by Teams. The report created in Power BI is automatically set up to refresh your activity data from Teams to pull in a snapshot of this data once a day.

## Related content

- [Add the Power BI app to Microsoft Teams.](#)
  - [Enable remote work in Microsoft Teams with Power BI.](#)
  - More questions? [Ask the Power BI Community.](#) ↗
- 

## Feedback

Was this page helpful?

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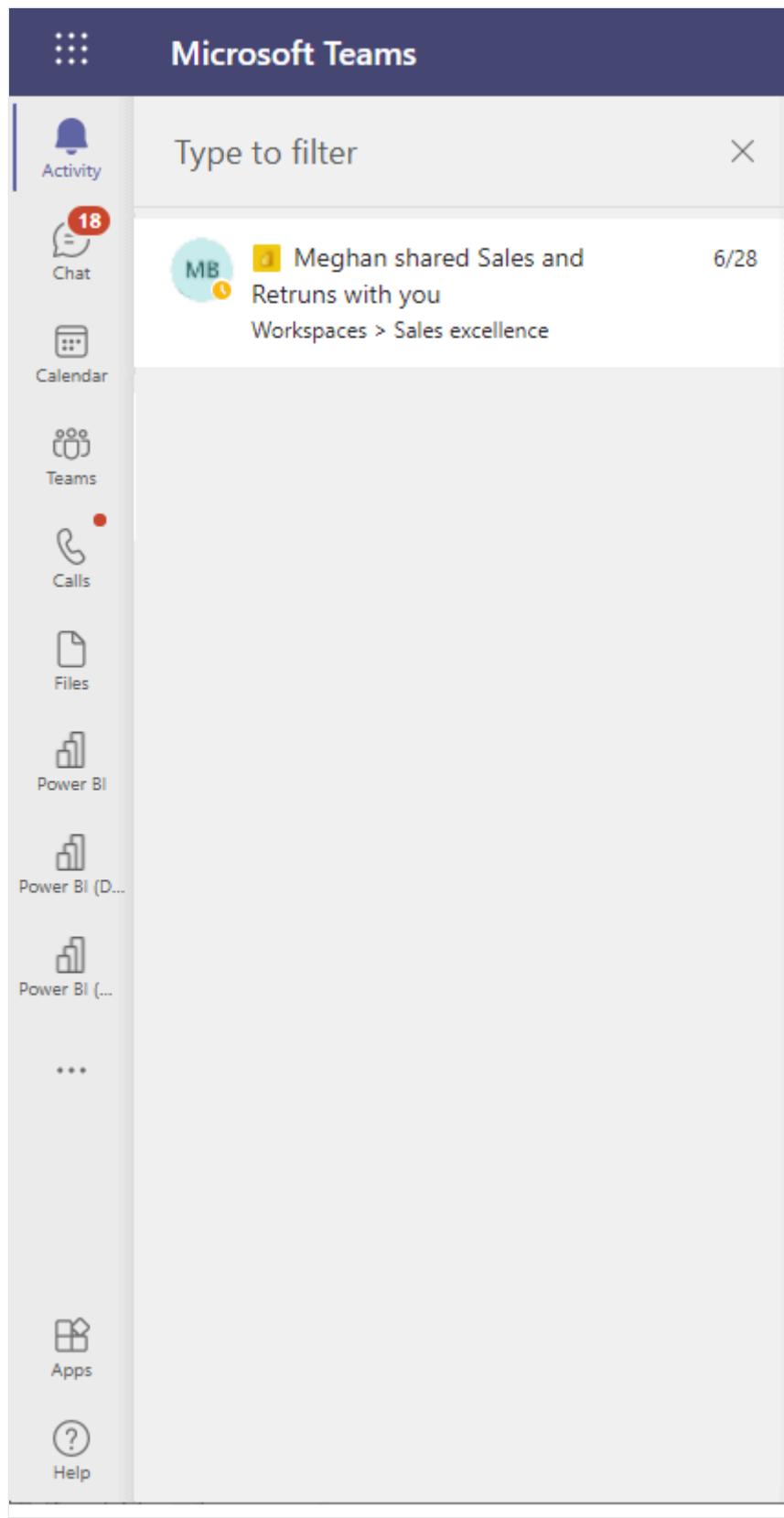
 No

[Provide product feedback](#) ↗ | [Ask the community](#) ↗

# Get notifications in Microsoft Teams about Power BI activity

Article • 02/25/2025

This article describes how to receive notifications about activity from Power BI in Microsoft Teams. The *Teams activity feed* collects all these notifications so they're easy to find. By using Power BI notifications in Teams, you can collaborate faster because important activity arrives right where you already work.



To receive notifications in Teams, install the [Power BI app for Teams](#). After you install the Power BI app for Teams, you start getting notifications when important things happen, such as:

- Someone shares a report to you and sends a message about it through Power BI
- Someone requests access to a report you own or manage
- Someone assigns you a goal
- Someone @mentions you in a metric

- The status changes for a metric you own

## Use Power BI notifications in the Teams activity feed

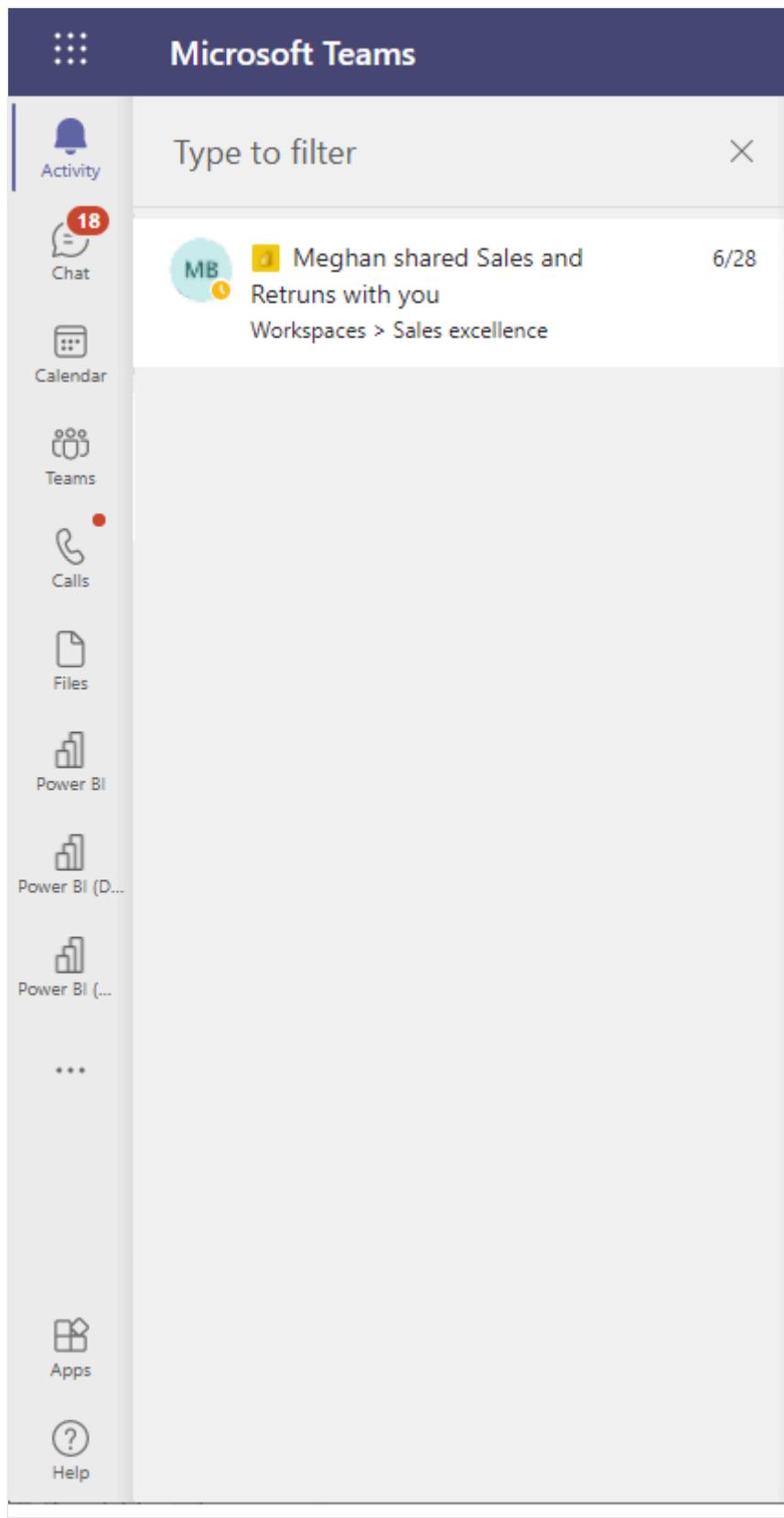
Here are a few things to know about Power BI notifications in the Teams activity feed:

- To receive notifications in Teams, you need to install the [Power BI app for Teams](#).
- When you open a notification, it opens directly in Teams.
- You can use Teams settings to control how you receive notifications sent by Power BI.
- Sharing and request access notifications work only for content in workspaces, not in Power BI organizational apps.
- Teams mobile doesn't support Power BI notifications.
- Only individual users can receive notifications, not user groups.
- A Power BI admin can turn off the notifications through the [Enable Microsoft Teams integration in the Power BI service](#) tenant setting.

## Notifications Power BI can send to the Teams activity feed

### Report sharing

When someone shares a report to you, Teams displays the notification as a banner in the Teams activity feed by default.



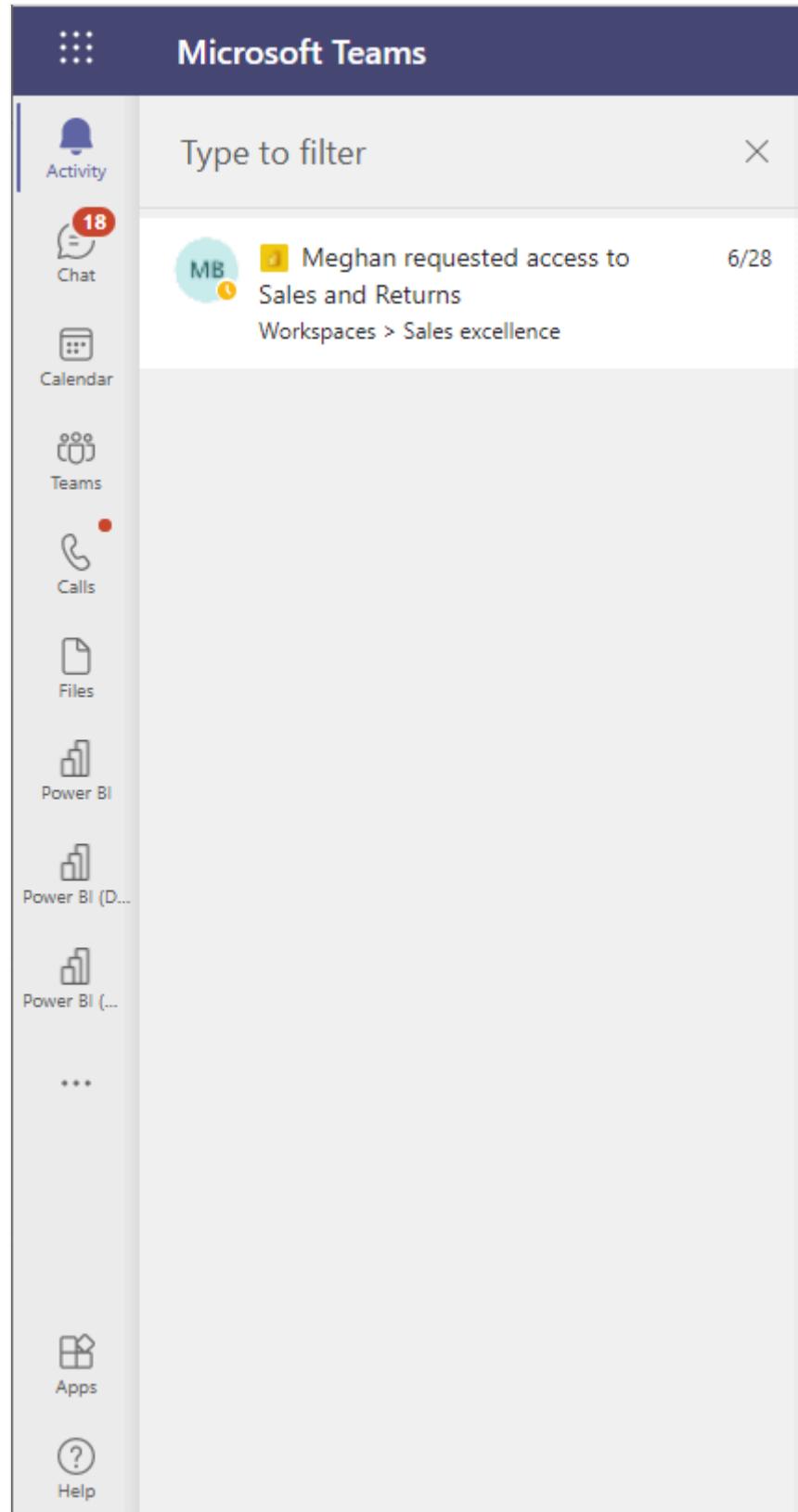
When you select the notification, the report opens directly within the activity feed experience by default.

To open the report in the Power BI app for Teams, select **Open in Power BI**. You can pop-out the report by right-clicking the Power BI icon in the Teams left navigation. Doing so helps you multi-task by keeping the report open while you work on other activities in Teams.

You can customize how to receive these notifications through the **Actions and updates** setting.

## Report request access

When someone requests access to a report, you receive a notification in Teams if you're a report owner or in the report's contact list.



After you open the notification, you can grant access to users directly within Teams. Doing so helps you quickly give colleagues the access they need. Users who you grant access get a **report sharing** notification in Teams and by e-mail.

You can customize how to receive these notifications through the **Actions and updates** setting.

## Metrics notifications

The following notifications are supported for metrics.

### Metrics assignments

When a user assigns you as the owner of a goal, you get a notification from then in Teams.

When you select the notification, the scorecard opens within the activity feed experience and displays the **Details** pane for the metric.

You can customize how to receive these notifications through the **Mentions** setting.

### Mentions in a note

When someone @mentions you in a note on a new or existing check-in, Teams sends you a notification from them.

When you select the notification, the scorecard opens within the activity feed experience and displays the **Details** pane for the metric.

You can customize how to receive these notifications through the **Mentions** setting.

### Metrics status updates

When the status of the metric gets updated by an automated status rule, you receive a notification in Teams if you're the owner of the metric. For connected metrics, you get a notification from the user who configured the data connection. For manual metrics, you get a notification from the user who edited the value.

When you select the notification, the scorecard opens within the activity feed experience and displays the **Details** pane for the metric.

You can customize how to receive these notifications through the **Actions and updates** setting.

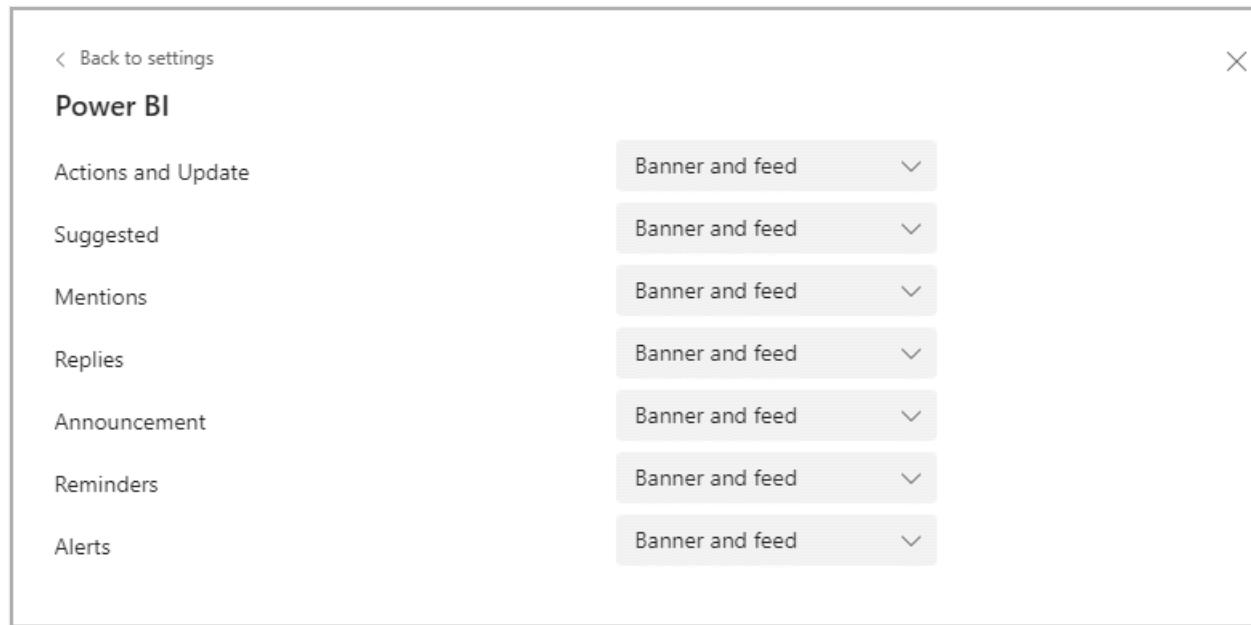
# Customize how you receive Power BI notifications

In Teams settings, you can customize how you receive notifications sent by Power BI.

Select the **Settings** menu next to your profile picture in the Teams header, then select **Notifications** and go to the **Power BI** section.

## ⓘ Note

The **Power BI** section in Teams is visible only after you receive your first notification from Power BI.



The currently supported notifications are in the **Actions and updates** and **Mentions** categories. The remaining categories are reserved for future use and don't currently control any notifications.

## Admin control over notifications

We recommend that Power BI admins allow notifications in Teams. However, the [Microsoft Teams integration in the Power BI service](#) tenant setting controls whether the Power BI service sends these notifications. When disabled, users no longer receive notifications in Microsoft Teams.

To help users receive notifications in Teams, you can work with your Teams admins to install Power BI broadly in the organization through an app setup policy.

# Known issues and limitations

Review the following known issues and limitations:

- See [Known issues and limitations](#) to learn about the latest issues.
- The recipient needs to have access to the scorecards to get the metrics notifications.

## Related content

- [Add the Power BI app to Microsoft Teams.](#)
- [Enable remote work in Microsoft Teams with Power BI.](#)

More questions? [Try asking the Power BI Community ↗](#).

---

## Feedback

Was this page helpful?

 Yes

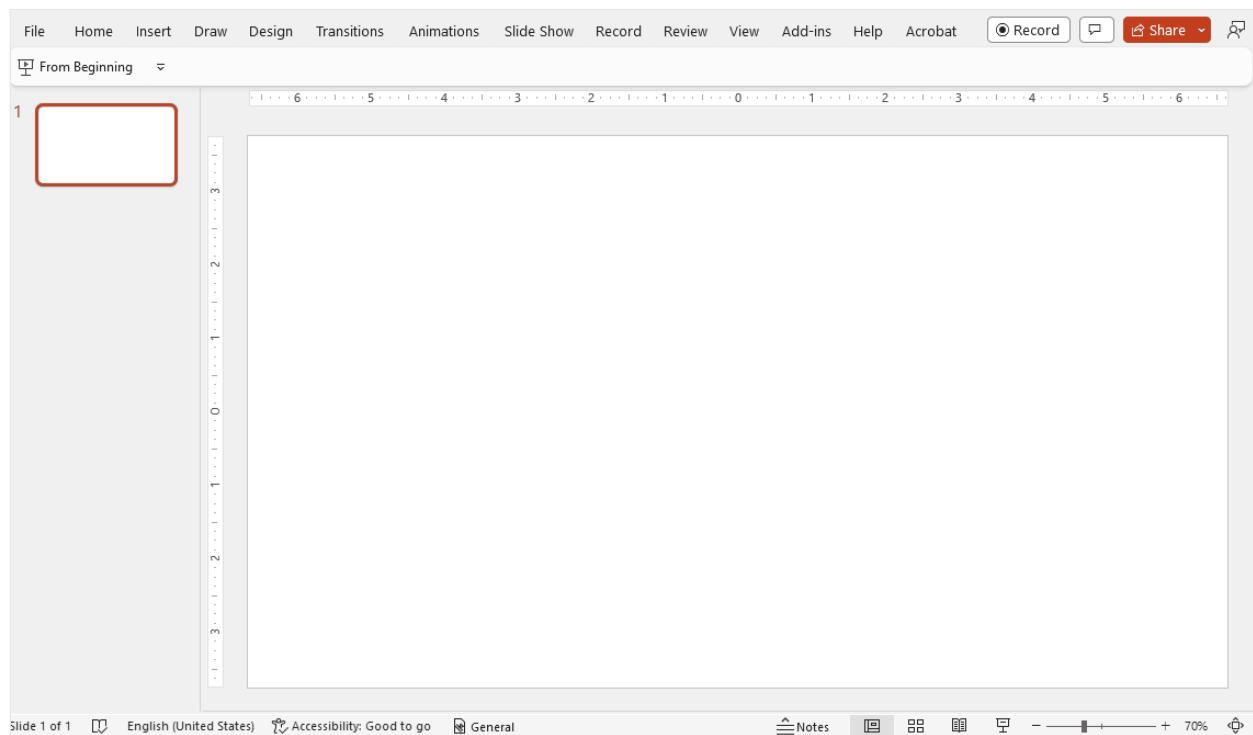
 No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

# About storytelling with Power BI in PowerPoint

Article • 03/30/2024

With the Power BI add-in for PowerPoint, you can enhance your data storytelling in PowerPoint with live, interactive Power BI data. Not only will the data shown in your presentations be always up to date, but also, while you're presenting, you'll be able to filter and drill down on data in response to questions and feedback from your audience without having to switch contexts.



The add-in currently supports adding individual report pages and individual visuals to PowerPoint slides.

- When you add a whole report page, the left-hand page navigation pane isn't brought in by the add-in, but any page navigation visuals on the report page itself will function normally as they do in the Power BI service.
- Adding individual visuals is useful when you want your slide to focus on a single chart, graph, or table.

You can add report pages or visuals to PowerPoint presentations starting from either PowerPoint or Power BI. For Power BI to be used as the starting point, Power BI storytelling functionality must be [enabled in your organization](#).

To start adding live Power BI data to your presentations, see [Add live Power BI data to PowerPoint](#).

# Requirements

To use the Power BI add-in for PowerPoint, you must have access to the Office add-in store, or the add-in must be available to you as an [admin managed add-in](#).

To be able to view live Power BI data in PowerPoint, you must have an active Power BI account and a Fabric Free license, and access to the data. If the Power BI report isn't located in a Premium capacity or Fabric F64 or greater capacity, a Power BI Pro license is needed.

The Power BI add-in for PowerPoint requires Office version 2312 (Build 17126) or higher.

## Security

Power BI data added to PowerPoint using the Power BI add-in remains in Power BI. No data is exported from Power BI. As such, the data respects all Power BI permissions and data security, including [row-level security \(RLS\)](#), so your data remains secure.

## Information for the Power BI administrator

If you're a Power BI administrator, see [Information for Power BI administrators](#) for further details about the add-in.

## Considerations and limitations

- The Power BI storytelling add-in requires WebView2 to run Power BI in PowerPoint. WebView2 comes standard on recent Windows versions, but if you get an error when you try to use the add-in, you may need to install it manually. See [Troubleshoot the Power BI add-in for PowerPoint](#) for details.
- The add-in currently supports Power BI report pages and visuals only. Other types of items such as dashboards and paginated reports aren't supported.
- [Business-to-business \(B2B\)](#) scenarios aren't supported.
- The [add-in side pane options Delete and Reload](#) are available only in the PowerPoint desktop application. This is because PowerPoint for the web doesn't support the add-in side menu.
- **In national/regional clouds, the add-in is supported as an admin managed add-in only**, as the Office add-in store isn't accessible from national/regional clouds. Admins should see [Deploying the add-in in sovereign clouds](#) for information about how to get and deploy the add-in.

## Related content

- [Add live Power BI data to PowerPoint](#)
  - [View and present live Power BI data in PowerPoint](#)
  - [Information for Power BI administrators](#)
  - [Troubleshoot the Power BI add-in for PowerPoint](#)
  - More questions? [Try asking the Power BI Community](#)
- 

## Feedback

Was this page helpful?

 Yes

 No

[Provide product feedback](#) | [Ask the community](#)

# Add live Power BI data to PowerPoint

Article • 07/01/2024

You can use live data from Power BI to help create a story with your PowerPoint presentations. Add individual visuals and whole report pages to your PowerPoint slides with the Power BI add-in or create a new PowerPoint presentation with live data from the Power BI Service. With the Power BI add-in, you can also use recommended content from the add-in to use on an existing slide. You also insert a direct URL link into the Power BI add-in.

After you use your preferred method to load the data, the report or visual will be live and you can select the data as desired. Any changes you make while editing the presentation will automatically save. The next time you open the presentation, the report or visual will appear in the state you last left it in. For more information, see [View and present live Power BI data in PowerPoint](#).

## ⓘ Note

If you don't see the **Power BI** button, choose **Get Add-ins** and look for "Microsoft Power BI" in the Office Add-ins store. If the add-in is admin managed, it will appear in a separate ribbon.

## ⓘ Important

If you get a **Cannot run Power BI error message** when you try to use the Power BI add-in, it is most likely because you need to install WebView2, a component necessary for running Power BI in PowerPoint. WebView2 is very simple and quick to install. See [Troubleshoot the Power BI add-in for PowerPoint](#) for details.

Decide how you want to load your data and follow the procedure in one of following sections:

- [Create a new presentation and add live Power BI data](#)
- [Add live Power BI data to an existing presentation](#)
- [Use the direct URL to add live data to a presentation](#)

## Create a new presentation and add live Power BI data

 Note

The **Open in PowerPoint** and **Export** options are not available in national/regional clouds.

## Create new presentation from a report or visual

Add the report or visual to a new PowerPoint presentation with the following method:

1. Go to the report or visual.
2. Make any changes or select filters that you want to the data before you add it to a new PowerPoint presentation.
3. Select **Share** the live data is a report.
4. Or, if the live data is in a visual, select **More options (...)** then **Share**.
5. When you add a report:
  - a. Specify what users can access the content as described in the [sharing reports documentation](#).
  - b. Check the **Include my changes** box if you want to add the data in its current state.
  - c. Select **Apply**.
6. Choose **Open in PowerPoint**.
7. In the **Embed live data in PowerPoint** dialog that appears, choose **Open in PowerPoint**. Then a new PowerPoint presentation will open with the visual already loaded into the add-in.



## Embed live data in PowerPoint

X

Copy the report URL and paste it into your existing presentation. Or click Open in PowerPoint, to create a new presentation.

Report page link:

<https://contoso.com/links/xxxxxxxxxx?ctid=xxxxxxxxxx...>

**Copy**



This report has an applied sensitivity label. The label won't automatically be applied to the presentation. [Learn more](#)

**Open in PowerPoint**

**Cancel**

## Export a report to add live data to a new presentation

1. Select Export.
2. Choose PowerPoint.
3. In the Export to PowerPoint dialog that appears, choose Embed live data from the dropdown menu.



## Export to PowerPoint

X

Choose how to export:

Embed live data

Embed live data

Export as image

Embed report with the data filters you selected

Report page link:

<https://contoso.com/groups/me/reports/xxxxxxxx-xx...>

**Copy**



This report has an applied sensitivity label. The label won't automatically be applied to the presentation. [Learn more](#)

**Open in PowerPoint**

**Cancel**

4. Check the **Embed report with the data filters you selected** box if you want to export the current state.
5. Select **Open in PowerPoint**.

 **Note**

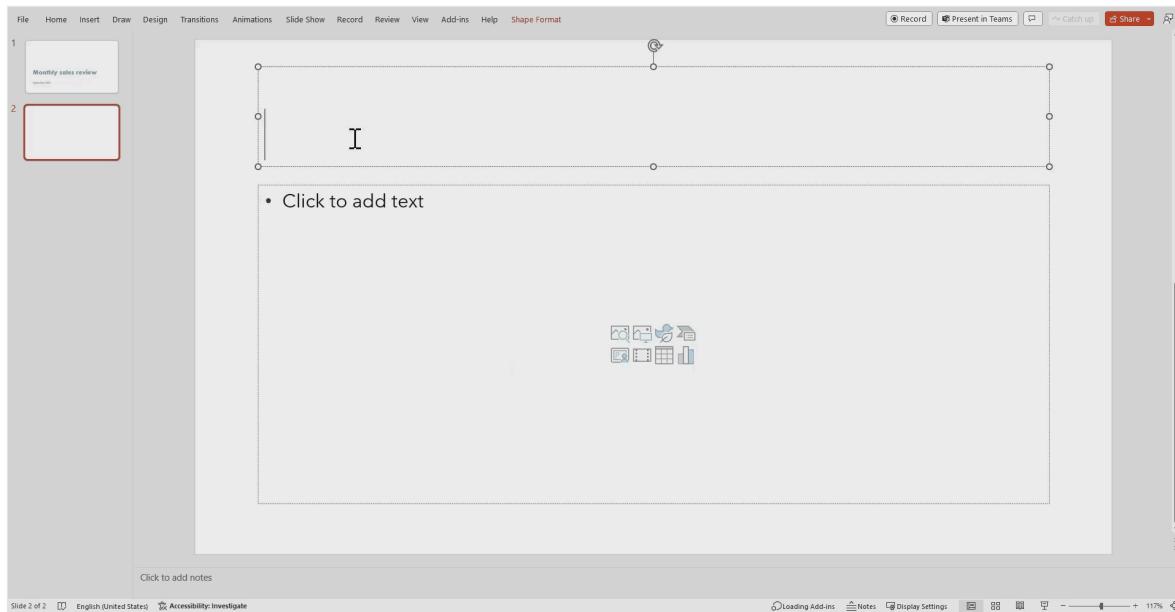
Although this option is located in the Export menu and leads to the "Embed live data", no data actually becomes part of the PowerPoint file. The data remains secure in Power BI.

## Add live Power BI data to an existing presentation

### Use the content recommended by the Power BI add-in

1. On the slide you want to add live content, type the title of the slide. The title should include the name of the report you wish to add.
2. select **Add-Ins** from the top ribbon.
3. Select the Power BI add-in.
4. The add-in then automatically scans the title of your slide then suggests Power BI content that might be relevant under the *Recommended* section.

For example, if the title of your slide is "New stores sales," the add-in shows you a list of Power BI reports that contain those keywords. The add-in also shows you reports you recently visited in Power BI, so you can easily access reports you're working on or frequently use.



5. Once you find the report you want, select it to insert it on the page.
6. When you have the report open on PowerPoint, you can select a specific page or visual to insert. You can also update filters or slicers before you insert it on the page.

If the slide doesn't yet have a title, a dialog will suggest a title based on the content of the add-in. The title can be the report name, the page or visual name, or both.

7. If you want to allow others to access this report, select the **Give people automatic access to this data** checkbox, so that when others in your org view this presentation, they can see the data you added to the slide.

#### ⓘ Note

You must have permission to share the content you want to insert or you won't have the option to give others access to the data.

8. When you're ready to insert the page, select the **Insert** button to add the live content.

#### ⓘ Note

If the report you want to add doesn't appear in the list of recommended content, use the [Use the direct URL to add live data to a presentation](#) method.

# Use the direct URL to add live data to a presentation

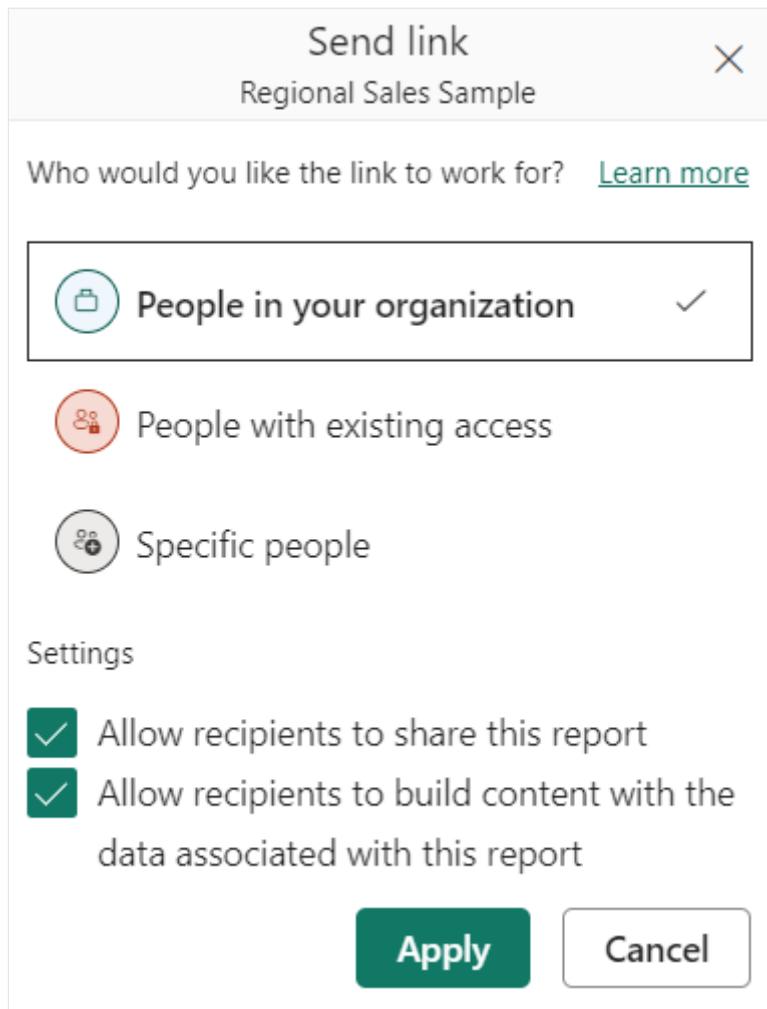
If you want to add a live report page to your presentation with a URL, there are three ways to get the report page URL, you can get the URL from the **Share** option, **Export** option, or directly from the browser's address bar.

## ⓘ Note

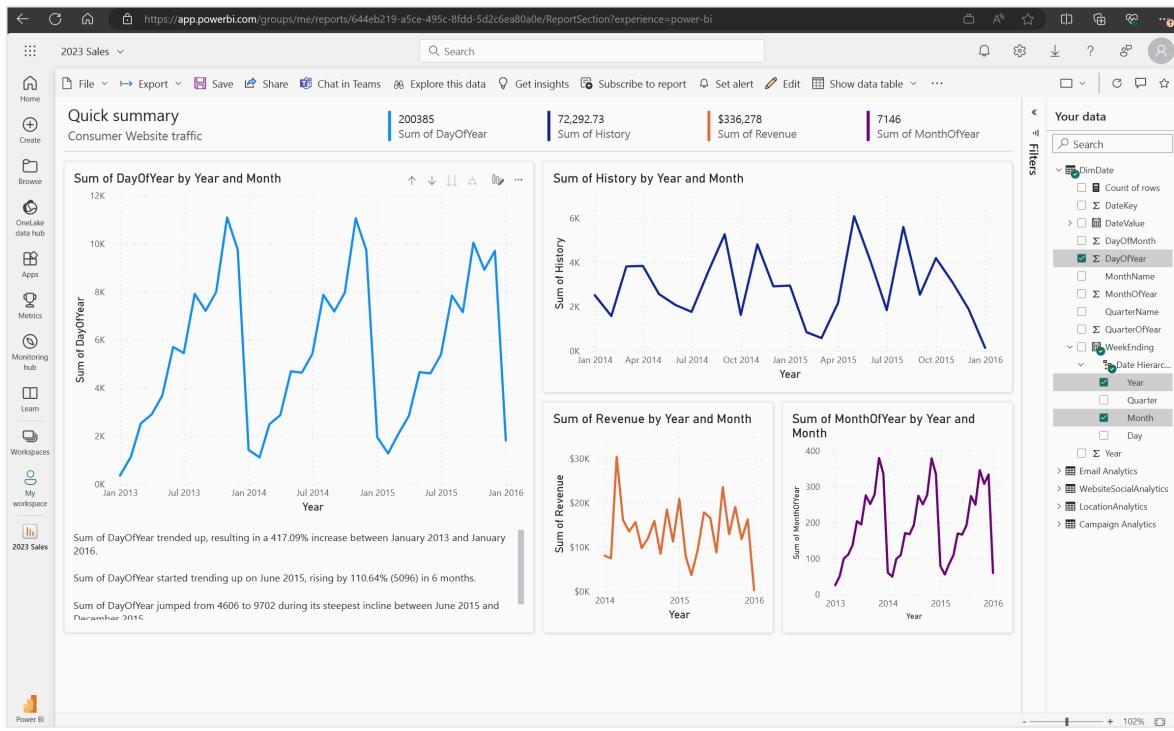
Use the **Share** option if you want to be sure that all users who open the presentation can view the report. With other methods, users can or can't view the report based on their permissions.

Use the following procedure to add live data to a presentation with a URL:

1. In the Power BI service, open the report to the page you want to insert.
2. If you want, set the page to your desired state using filters, selection, slicers, etc.
3. If you use the share method, select **Share**:
  - a. Specify what users can access the content.
  - b. Check the **Include my changes** box if you want to add the data in its current state.
  - c. Select **Apply**.



- d. Copy the URL.
4. Or, if you use a visual:
  - a. Select **More options (...)**.
  - b. Select **Share**.
  - c. Then choose **Link to this visual** to get the visual's URL.
  - d. Copy the URL.
5. Or to use the browser link:
  - a. Copy the URL from the browser's address bar.
6. After you copy the URL with one of the previously mentioned methods, go to your PowerPoint Presentation.
7. Go to the slide you want to add the data.
8. Select the **Power BI add-in** from the ribbon.
9. Paste the URL into the text box.
10. Select the **Insert** button and the visual will load into the slide.

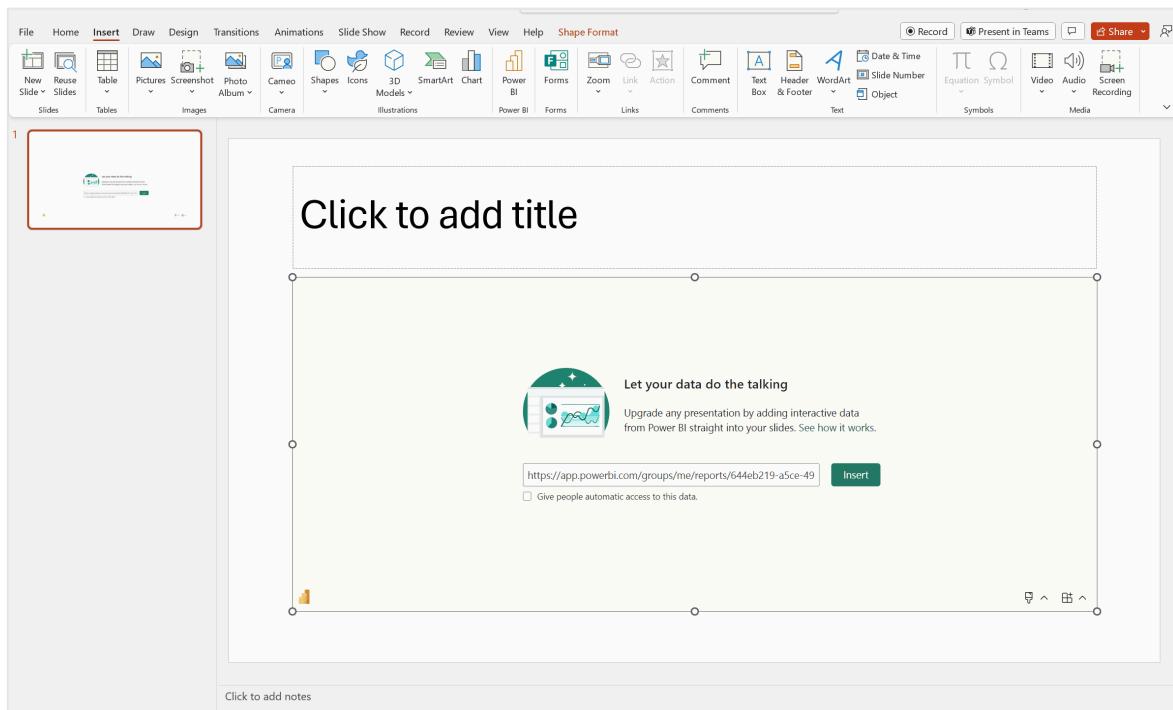


## Change a direct link to a shareable link

If you have sharable links enabled for your organization and you have permissions to reshare a report, you can turn your link into shareable link in the Power BI add-in. When you use a sharable link, other users viewing the presentation have the required permissions to see the report and don't have to request access when viewing the presentation. So, you don't have to give everyone access in the Power BI service before you use the report in your presentation. For admins to learn more about how to enable sharable links, read [Allow shareable links to grant access to everyone in your organization](#).

Use the following procedure to create a shareable link to a report in your presentation:

1. Copy the report page from the browser address bar.
2. Paste the direct link into the Power BI add-in.
3. Check the box next to **Give people automatic access to this data**. The add-in changes the direct link to a shareable link.
4. Select the **Insert** button and the report loads into the slide. The report is now accessible to everyone who views the presentation.



## Related content

- [About storytelling with Power BI in PowerPoint](#)
- [View and present live Power BI data in PowerPoint](#)
- [Information for Power BI administrators](#)
- [Troubleshoot the Power BI add-in for PowerPoint](#)
- More questions? [Try asking the Power BI Community ↗](#)

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## Feedback

Was this page helpful?

Yes

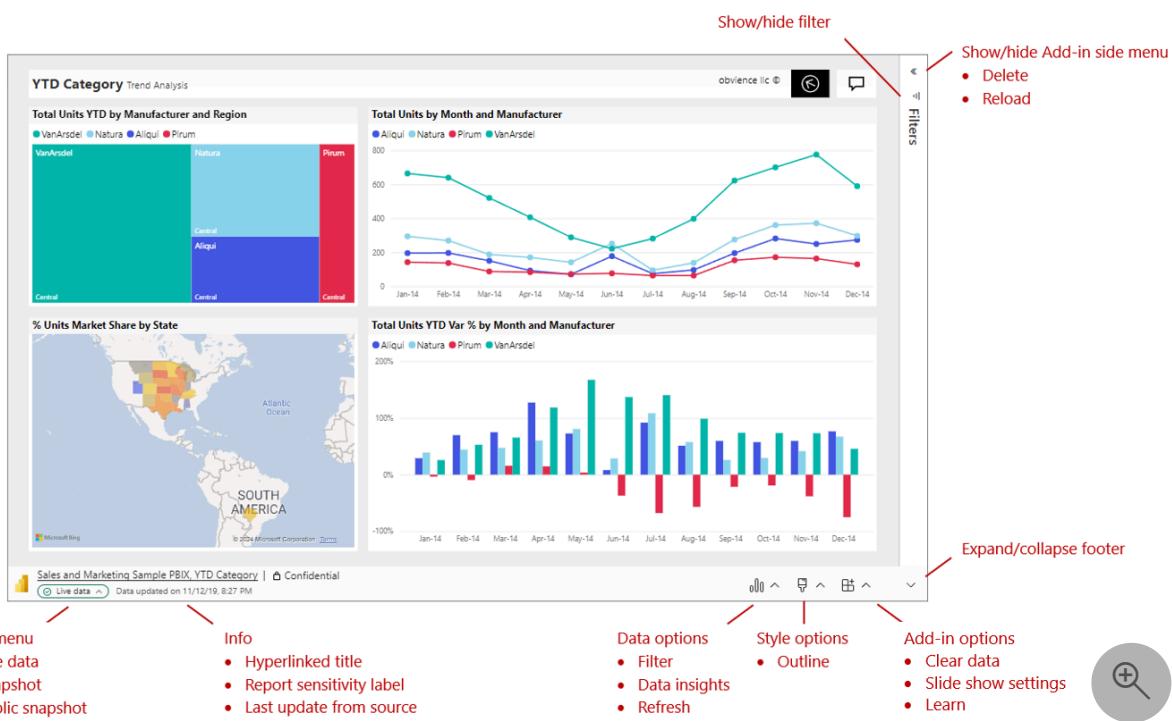
No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

# View and present live Power BI data in PowerPoint

Article • 12/11/2024

As soon as you add a live Power BI report page or visual to PowerPoint, you can start interacting with your data just as you would in Power BI. The initial view is determined by the URL you used. The following image shows a report page loaded into the add-in, with the add-in features labeled. The same add-in features are available when you load an individual visual.



Expand table

Select for option details		
View menu	Info	Data options
Style options	Add-in options	Expand/collapse toolbar
Add-in side menu		

## Understanding what you see

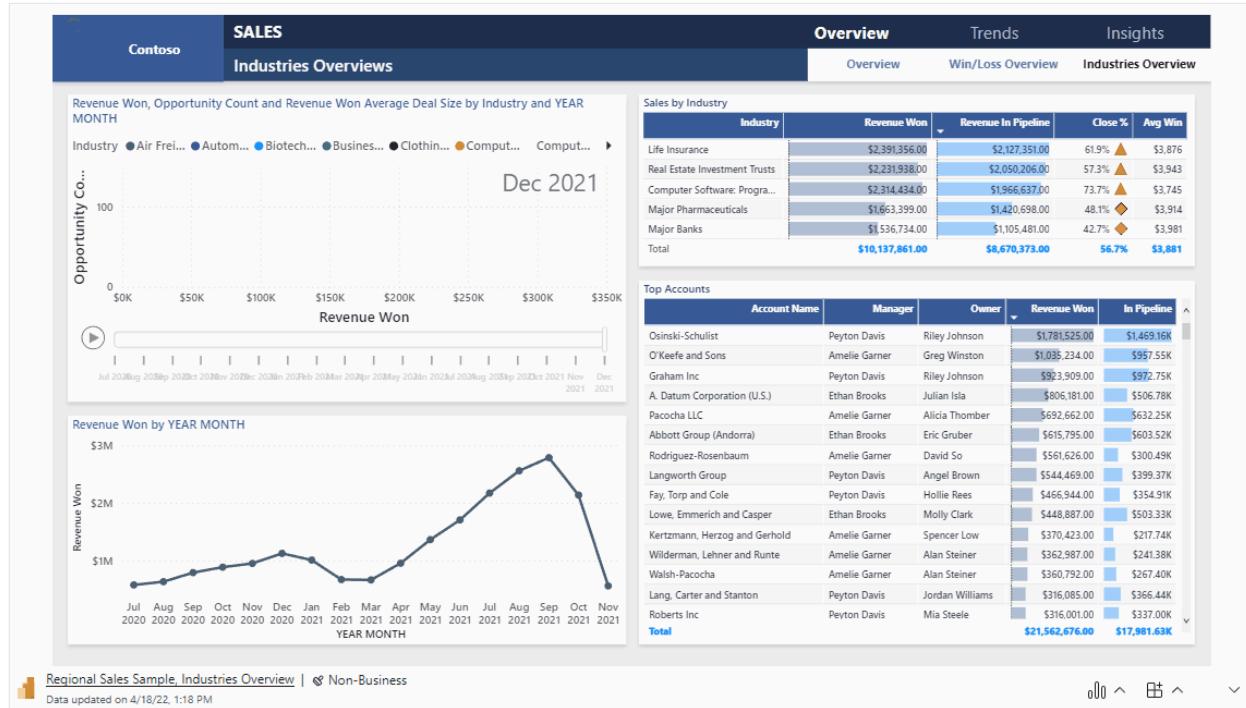
In the add-in, you see:

- **The report page or visual.** The report page or visual is fully interactive, in both edit and slideshow modes, unless it has been [frozen as a static image](#). The left-hand report page navigation pane that you see in the Power BI service isn't included. If there are page navigation visuals in the report itself, you can use them to navigate to other pages in the report.
- **A toolbar across the bottom of the report page.** The toolbar contains info and menus with controls that help you work with the data and set up your presentations. See the [Controls](#) section for more detail.
- **A Show/Hide arrow at the upper right side** that opens the add-in side pane (desktop application only). The add-in side pane contains more controls for working with the add-in, such as deleting the add-in or forcing a refresh of the report while the add-in is open. See [Add-in side pane](#) for more detail.

**Tip:** To get a cleaner view and more space, you can collapse the toolbar by toggling the [Expand/Collapse the toolbar](#) in the bottom right corner of the add-in.

## Interact with data

You interact with the data just as you would in the Power BI service. You can apply filters and slicers, select data points, and drill down on data.



The live report page or visual is interactive in both edit and slide-show modes. Changes you make to the report or visual's state (via filtering, selection, slicing, etc.) in edit mode while setting up your slides are saved. By contrast, changes you make to the report or visual's state in slide show mode aren't saved. When you exit the show, the report or visual returns to the state it was in when you left edit mode.

As you work with the report or visual in edit mode, you can always restore the initial view if you want to go back to it. Use the **Reset** option in the [Data options](#) menu.

## Prepare a slide show

To get more space and a cleaner display for your slide show, you can collapse the toolbar across the bottom of the report page or visual using the [Expand/collapse toolbar](#) control.

If you need to present a slide show multiple times, you most likely want to set it up just once, and have it automatically return to its beginning state when it's finished, so you're ready to go for the next time. The add-in makes this easy. Since data selections you make in edit mode are saved, while selections you make in slide show mode aren't, you can set up the presentation just once in advance in edit mode, and then present it as a slide show multiple times without having to set it up again each time, no matter how much slicing, dicing, and filtering you do in the course of the show - when the slide show is over, the report page or visual goes back to the state it was in at the beginning of the slide show.

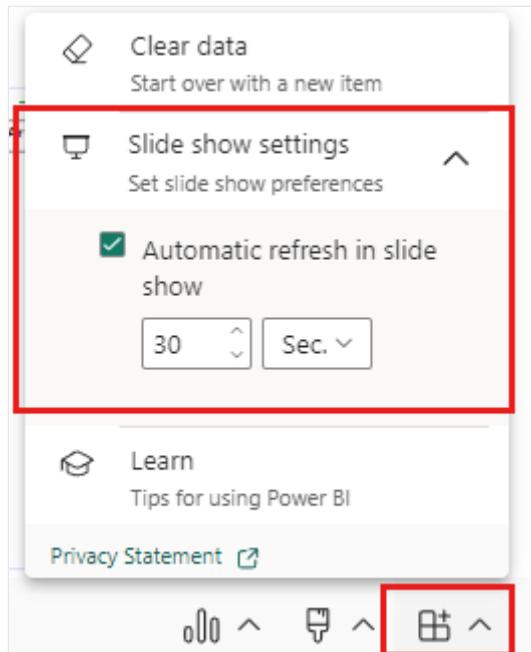
## Automatically refresh data during slide shows

PowerPoint allows you to continuously play back a presentation in slide show mode. This feature is especially useful when you want to present information in public displays without any human interaction. For information about setting up a continuously running slideshow, see [Create a self-running presentation](#).

If a presentation that is running continuously has slides that include the Power BI add-in, the data in the add-in might become outdated, since normally the add-in only gets the data from Power BI when the slide is loaded or when the user manually refreshes the data being presented.

To prevent the data in the add-in from becoming stale while being played back as part of a slideshow, you can set the add-in to automatically pull fresh data from Power BI while the presentation is in slide show mode. This ensures that the presentation will always show the most recent data.

To enable automatic refresh, go to the add-in footer, select **Add-in options**, choose **Slide show settings**, check **Automatic refresh in slide show**, and set the desired frequency.



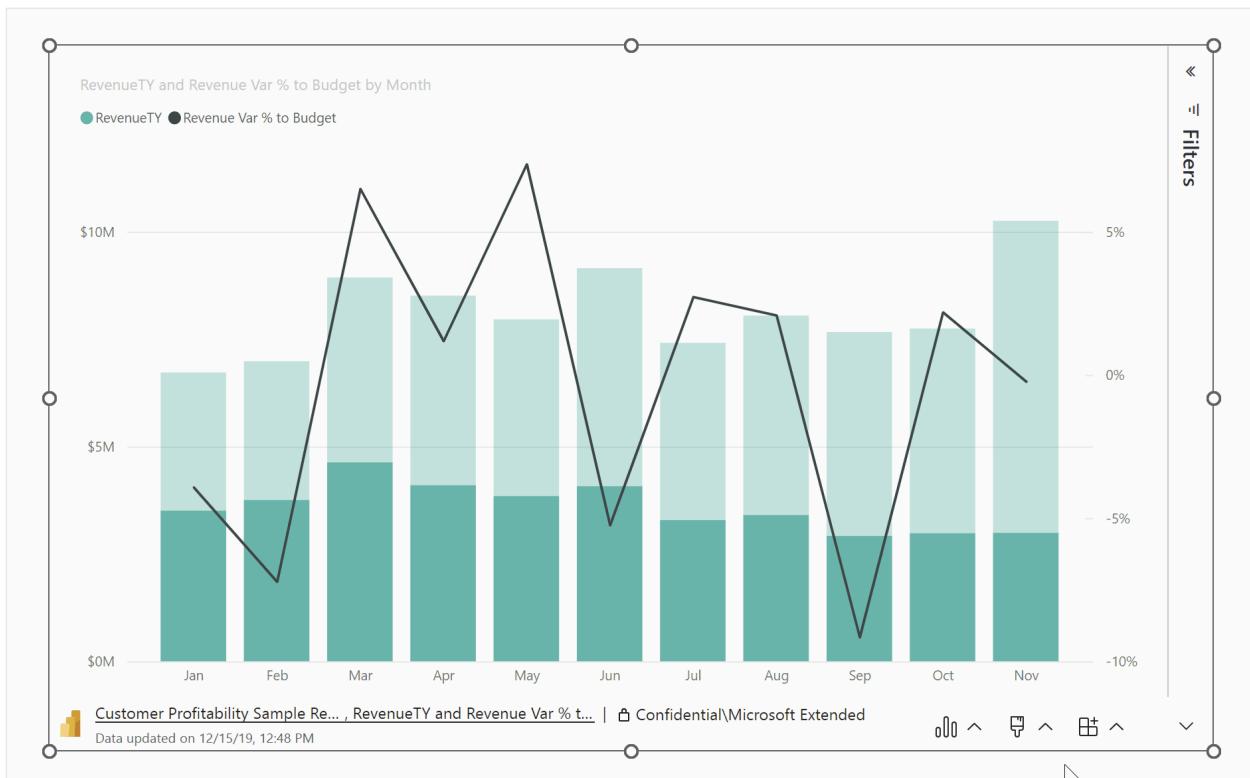
### ① Note

This feature requires that your Office version meet the add-in's [minimum Office version requirement](#). Auto refresh only happens in slide show mode, and not while you're editing the presentation.

## Add styles to your presentation

You can improve the appearance of your presentation by applying styles to the add-in. Currently, you can put a border around the add-in to give it a clear definition on the slide.

To put a border around the add-in, open [Style options](#) and select **Outline**. To change the line color, width, style, or transparency, expand the **Outline** option.



## Enrich your presentation with data insights

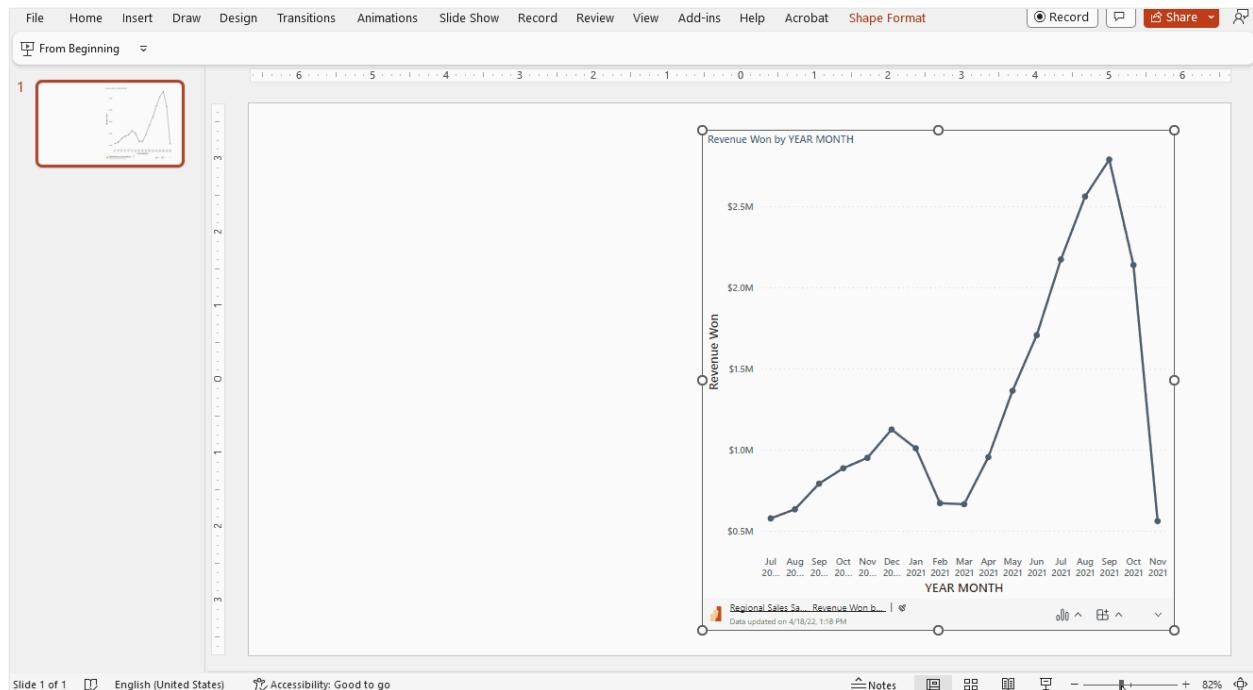
Data insights help you explore and find insights such as anomalies and trends as you consume and interact with your data. With the add-in, you can easily generate insights, which you can then paste directly into your slide or copy to the clipboard for pasting elsewhere, such as in the slide's notes.

### ⓘ Note

Not all visuals can generate insights. See [Smart narrative considerations and limitations](#) for details.

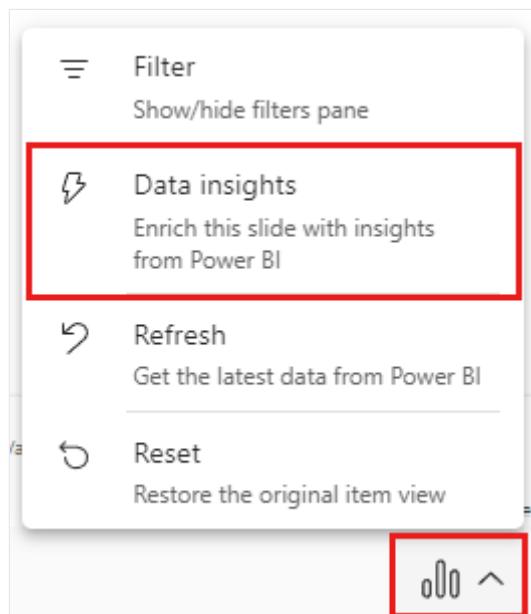
Once you've copied an insight to the slide or clipboard, the text is static and won't change when the data changes. To update the insight, you need to re-generate it.

The following animation shows how you can generate data insights, edit them in the **Data insights** dialog, and then paste them directly into the slide or copy them into the notes.



To generate data insights:

1. Select Data options > Data insights.



2. The insight appears in the Data insights dialog. The text is editable and you can change it as desired. When you're satisfied with the text, you can either paste it directly onto the slide as a PowerPoint textbox, or you can copy it onto the clipboard, from where you paste it wherever you like - into the slide notes, for example.

## Data insights

×

Add intelligent insights about this data to your slide.

At \$2,788,511.00, Sep 2021 had the highest Revenue Won and was 397.03% higher than Nov 2021, which had the lowest Revenue Won at \$561,033.00.

Across all 17 YEAR MONTH, Revenue Won ranged from \$561,033.00 to \$2,788,511.00.

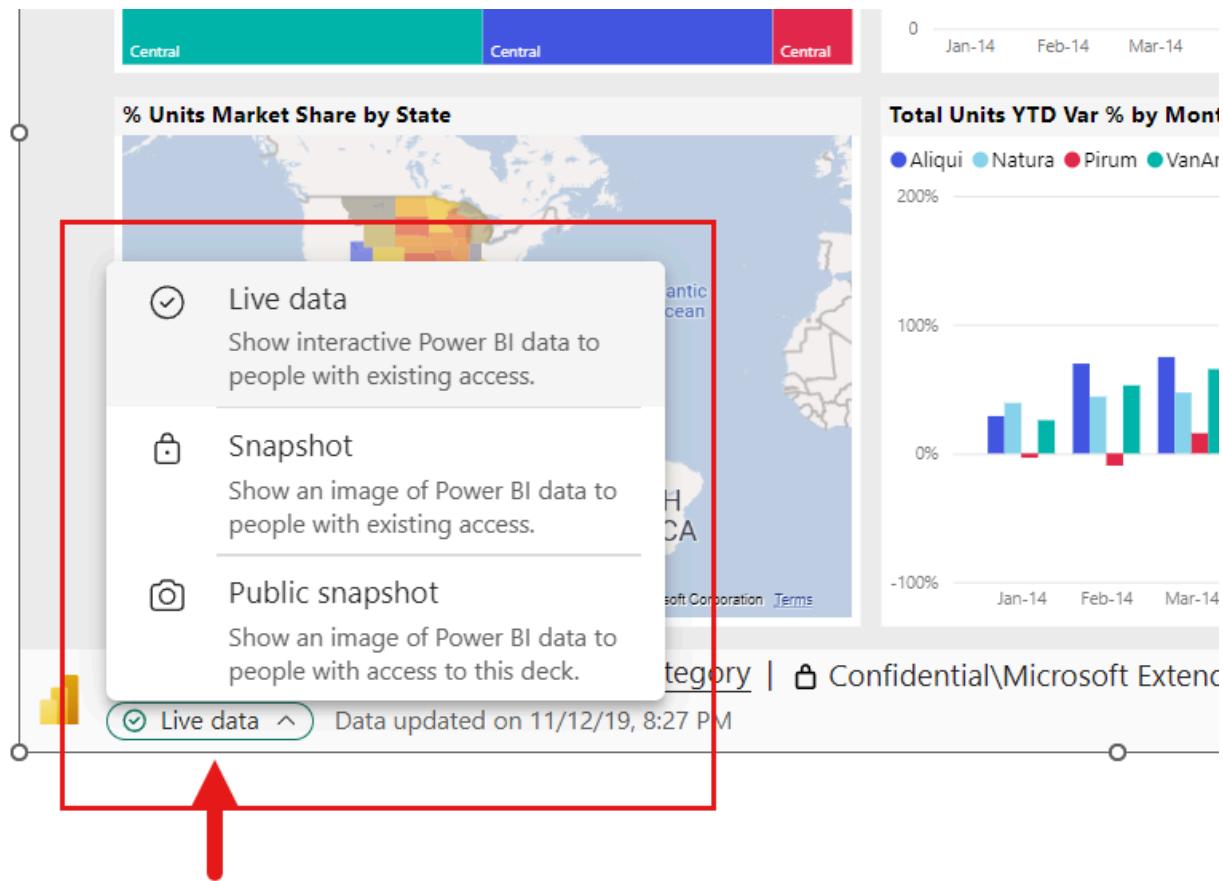
Powered by Power BI, Data generated on 2/18/2023, 3:05:52 PM

[Paste on slide](#)

[Copy to clipboard](#)

## Freeze a snapshot of the current view

Every time you open your presentation, the report page or visual reloads into the add-in, bringing fresh data from the Power BI service. There might be times when you don't want this to happen, and instead would like the data to remain static. For this you can use the [View](#) menu in the toolbar. Choosing one of the snapshot options turns the current live view into a static, non-interactive image. Then, when you next open the presentation, you'll see the static view you saved.



The menu allows you to set the view to live data or to a snapshot. Two snapshot options provide you some control over who will be able to see the Power BI content in the snapshot:

- **Snapshot:** When you choose Snapshot, only users who have permission to view the report in Power BI will be able to see the static image of the Power BI content. Users who don't have permission will be able to request access. This option helps keep you from inadvertently showing Power BI content to unauthorized users.
- **Public snapshot:** If you choose Public snapshot, anyone who can view the presentation will be able to see the static image of the Power BI content, regardless of their permissions in Power BI.

To restore the interactive view, select **Live data**. The live report page or visual will reload in the state it was last in, but with the latest data from Power BI.

### Note

The view menu with the snapshot options requires Office version 2312 (Build 17126) or later. If your Office version meets this requirement, don't use the *Save as image* option located in the add-in side pane.

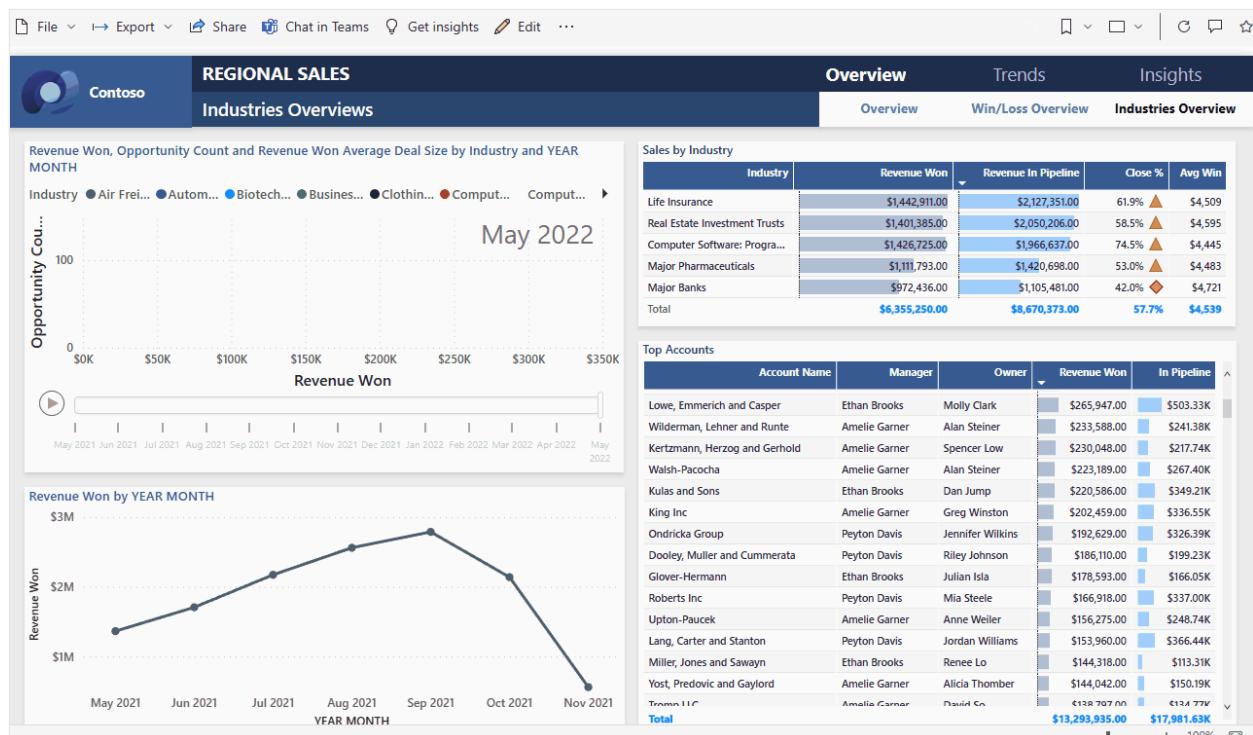
You can only switch between **Live Data** and **Snapshot** in the PowerPoint desktop application - you can't do this in PowerPoint for the web. However, PowerPoint for

the web **does** respect the choice you made in the desktop application. So whatever view you selected in the desktop app will be the view that you'll see in PowerPoint for the web.

## Share your presentation

When you share the presentation with others, to be able to view the data in the presentation they'll need an active Power BI account and a Microsoft Fabric free license, as well as access to the data. If the Power BI report or visual isn't located in a Premium capacity or Fabric F64 or greater capacity, they'll need a Power BI Pro license. None of this applies if you've frozen the view as a static image.

To make sure people in your organization can access the report or visual and take advantage of the live data experience, when you add a live report page or visual to a presentation, be sure to use the link generated in Power BI by the [Share > PowerPoint option](#). This ensures that the people in your org who you shared the presentation with will be able to see the live data when they open the presentation.

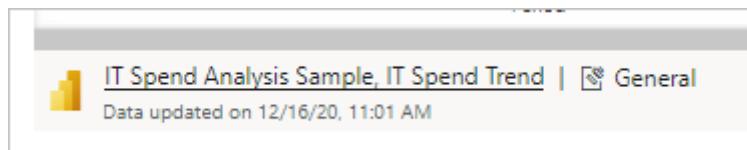


Users who don't have permission to view the report or visual can request access directly from the presentation, and will be able to view the data once they've received access.

## Controls

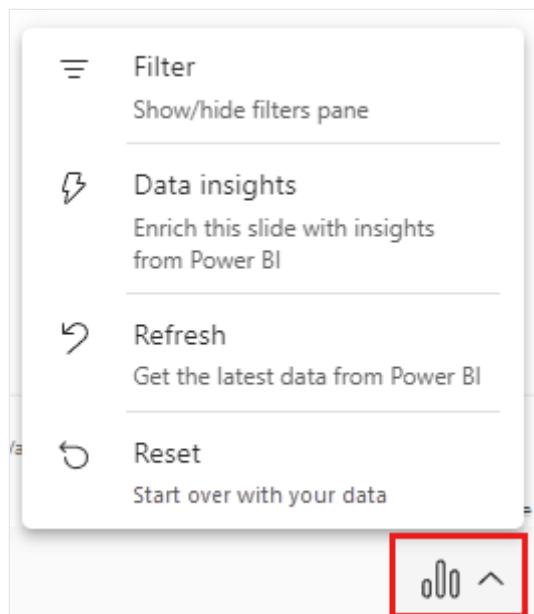
Controls that help you work with your data in PowerPoint are described below.

## Data info



- **Hyperlinked title:** Report name and page or visual name. Select the title to open Power BI to that report page or visual.
- **Report sensitivity label:** Shows the sensitivity label applied to the report in Power BI. Note: this isn't the sensitivity label (if any) applied to the PowerPoint file itself.
- **Last update from source:** Shows the time and date of the last data update from the data sources.

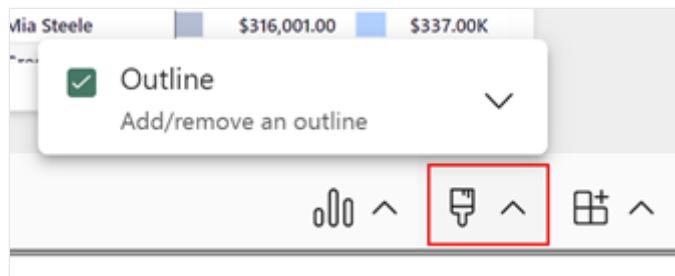
## Data options



- **Filter:** Shows or hides the filters pane, where you can filter your data, just like in the Power BI service. This option is available only if filters have been defined on the page or visual.
- **Data Insights:** Generates [insights](#) displays them in a dialog as editable text. You can then either paste them directly onto the slide or copy them to the clipboard for use elsewhere.
- **Refresh:** Refreshes the report page or visual with the latest data from the Power BI service. Note: Refresh doesn't trigger getting data from the data sources.
- **Reset:** Provides two options:
  - **Sync:** Choose this option if you want to make sure you've got the latest version of the report or visual from the Power BI service, including any definition changes, such as new or deleted visuals, filters, or slicers.

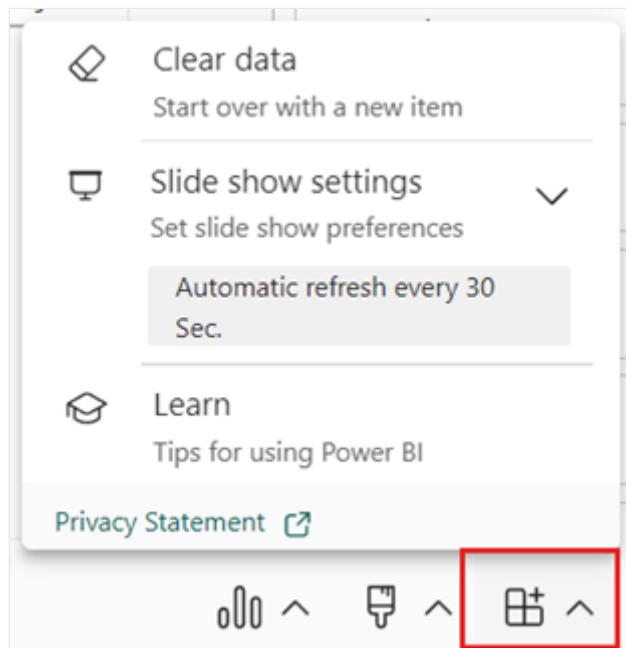
- **Restore:** Choose this option if you want to clear any configurations you done to the report or visuals in the presentation, such as applying filters or slicers. It returns the add-in to the state it was in when it was initially added to the presentation.

## Style options



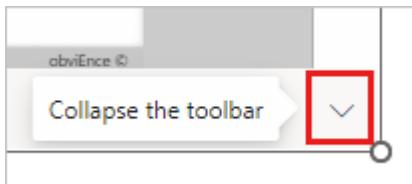
- **Outline:** Puts a border around the add-in. Select the expand arrow to access border line-style formatting options.

## Add-in options



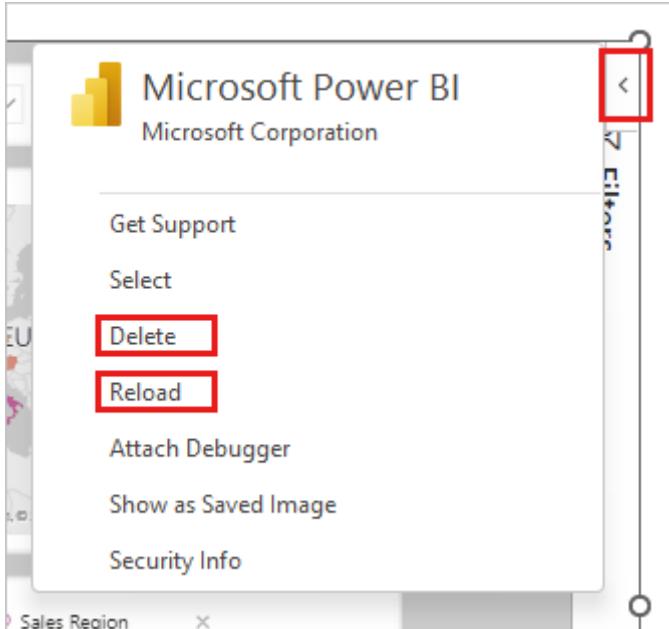
- **Clear data:** Removes the report page or visual from the add-in and returns you to the add-in **Insert** screen, where you can start over by pasting in the URL of a different report page or visual.
- **Slide show settings:** Controls data refresh during slide shows. With this setting, you can turn on/turn off automatic data refresh during a slide show, and set the refresh frequency. For more information, see [Automatically refresh data during slide shows](#).
- **Learn:** Opens help pages.

## Expand/collapse toolbar



Expands or collapses the toolbar across the bottom of the report or visual. This feature is useful in Slide Show mode, when you need more space and want a cleaner display.

## Add-in side pane



- **Delete:** Removes the add-in from the PowerPoint slide.
- **Reload:** The report page reloads every time PowerPoint is opened, so you need to use this option only if the report has changed while you've had PowerPoint open.

If all you want to do is refresh the data, use the **Refresh** option in the [Data options](#) menu instead.

### ⓘ Note

The add-in side pane is available only in the PowerPoint desktop application. It isn't supported in PowerPoint for the web.

## Keyboard Shortcuts

To get around the report, you can use the usual [Power BI keyboard shortcuts](#), with the following exceptions:

[+] [Expand table](#)

Keyboard shortcut	Action
Ctrl + Enter	Focus in
Ctrl + [	Focus out
Ctrl + ]	Move forward over open panels
Ctrl + Shift + ]	Move backward over open panels
Ctrl	Hide Power BI tooltips

## Related content

- [About storytelling with Power BI in PowerPoint](#)
- [Add live Power BI data to PowerPoint](#)
- [Information for Power BI administrators](#)
- [Troubleshoot the Power BI add-in for PowerPoint](#)
- More questions? [Try asking the Power BI Community](#) ↗

---

## Feedback

Was this page helpful?



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# Power BI add-in for PowerPoint - Admin info

Article • 12/30/2024

The Power BI add-in for PowerPoint enables users to add live, interactive data from Power BI to PowerPoint presentations. This article targets Fabric administrators and presents information they need to know to manage the add-in in their tenant.

- If you're looking for information about how to add live Power BI data to a PowerPoint presentation using the add-in, see [Add live Power BI data to PowerPoint](#).
- If you're looking for information about working with embedded Power BI data in your presentation, see [View and present live Power BI data in PowerPoint](#).

## Requirements

To use the Power BI add-in for PowerPoint, users must either have access to the Office add-in store, or the add-in must be made available to them as an [admin managed add-in](#).

In national/regional clouds, the add-in must be deployed as an admin managed add-in, since the Office add-in store isn't accessible from national/regional clouds. For more information, see [Deploying the add-in in national/regional clouds](#).

## Licensing

To be able to view live Power BI data in PowerPoint, users must have an active Power BI account and a Fabric Free license, and access to the data. If the Power BI report isn't located in a Premium capacity or Fabric F64 or greater capacity, a Power BI Pro license is needed.

If autolicensing for Power BI is enabled, users without a Power BI account will be signed up automatically when they open a presentation containing a live Power BI report page or visual. **This may impact the assignment and availability of licenses in your organization.** For more information, see [Power BI license assignment](#).

If autolicensing isn't enabled, users without Power BI accounts will be requested to sign up.

# Power BI entry points

By default, the Power BI service includes entry points that enable users to insert the add-in into new PowerPoint presentations directly from Power BI. Power BI admins can disable this functionality by turning off the **Enable Power BI add-in for PowerPoint** tenant setting. See [Enable Power BI add-in for PowerPoint](#) for detail.

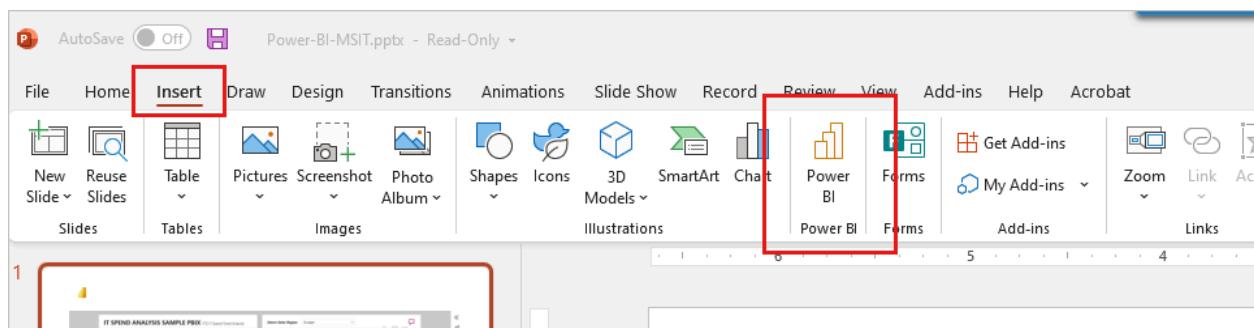
## ⓘ Note

Disabling this functionality in Power BI does not prevent people from adding Power BI report pages and visuals to PowerPoint slides starting from PowerPoint. To completely block adding live Power BI report pages and visuals to PowerPoint slides using the add-in, the functionality must be disabled in both Power BI and PowerPoint.

Power BI entry points for the add-in aren't available in national/regional, government, and air-gapped clouds. See the [Microsoft Office documentation](#) for information about the availability of the add-in in PowerPoint in these clouds.

## Power BI add-in button in PowerPoint Insert ribbon

If your organization has a Microsoft 365 Office subscription, a button for the add-in will appear in the PowerPoint ribbon.



The button is a shortcut to the add-in offering in the Office add-in store. The button itself doesn't provide access to the store. If the user doesn't have access to the store, the button won't work.

## ⓘ Note

The rollout of the Power BI add-in for PowerPoint depends on the update cadence of your organization's Microsoft 365 subscription. Hence the add-in may not

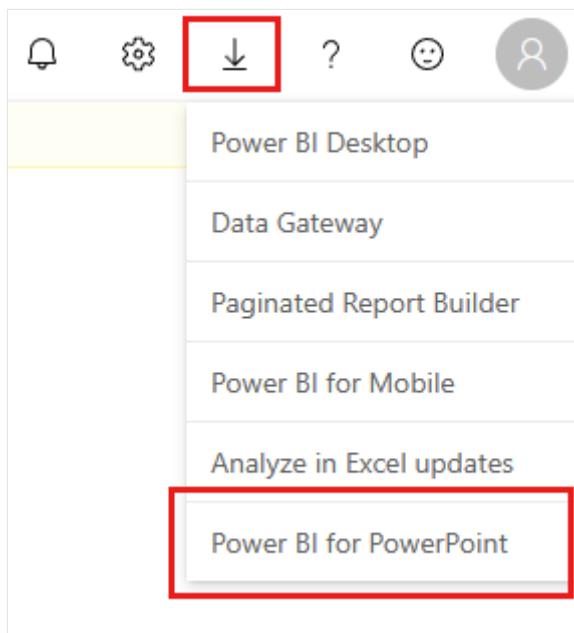
immediately be available in your organization. To ensure availability of the add-in, use the latest version of Microsoft 365.

## Deploying the add-in in national/regional clouds

In national/regional clouds, the add-in is supported as an admin managed add-in only. If you're a Power BI admin in a tenant located in a national/regional cloud, you must download the add-in from Power BI in your national/regional cloud and deploy it using Centralized Deployment. The add-in that is available from the public cloud won't work in national/regional clouds. Users in national/regional clouds must use the add-in you've deployed.

To download and deploy the add-in:

1. Sign into the Power BI service with an admin account.
2. Select the **Download** icon and choose **Power BI for PowerPoint** to download the add-in. You'll have this option only if your tenant is in a national/regional cloud.



3. Deploy the add-in according to the instructions at [Deploy add-ins in the Microsoft 365 admin center](#).

For a summary of the ways the add-in differs when deployed in a national/regional cloud from when it's deployed in a public cloud, see [The Power BI add-in for PowerPoint in national/regional clouds](#).

## Related content

- About storytelling with Power BI in PowerPoint
  - The Power BI add-in for PowerPoint in national/regional clouds
  - Add live Power BI data to PowerPoint
  - View and present live Power BI data in PowerPoint
  - Troubleshoot the Power BI add-in for PowerPoint
  - More questions? Try asking the Power BI Community ↗
- 

## Feedback

Was this page helpful?

 Yes

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# The Power BI add-in for PowerPoint in national/regional clouds

Article • 02/25/2024

Users of the Power BI add-in for PowerPoint in national/regional clouds enjoy the same interactive, data-visualization storytelling capabilities as users in public clouds. However, in national/regional clouds there's no connection to the Microsoft Office add-in store, and as a result there are a few differences in how the add-in is deployed, and in how you can embed live Power BI data in a PowerPoint presentation. This article summarizes these differences and describes them briefly. The differences are also called out in the rest of the storytelling documentation where relevant.

## Add-in deployment

In national/regional clouds, the add-in is supported as an admin managed add-in only. If you're an admin of a tenant located in a national/regional cloud, you must download the add-in from Power BI in your national/regional cloud and deploy it using Centralized Deployment. The add-in that is available from the public cloud won't work. Users in national/regional clouds must use the add-in you've deployed. For more information, see [Deploying the add-in in national/regional clouds](#).

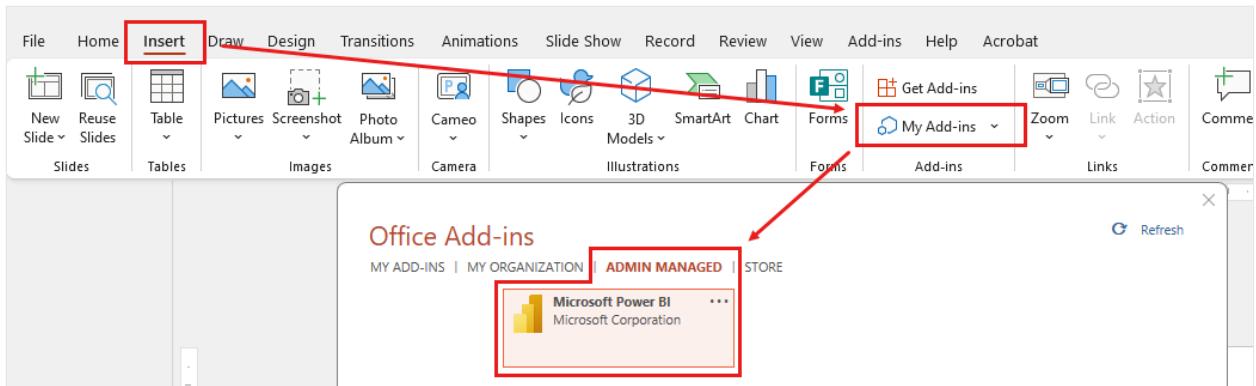
## Power BI entry points

National/regional clouds don't support entry points to the add-in from Power BI. This means that:

- In the Power BI service, the tenant setting [Enable Power BI add-in for PowerPoint](#) is irrelevant. If you're a tenant admin, you can ignore it.
- In the Power BI service, the **Open in PowerPoint** option isn't available. To embed a report or visual in the add-in users must copy the link to the item in the Power BI service, then paste it into the add-in in PowerPoint manually.

## Power BI add-in button

In national/regional clouds, the add-in button doesn't appear on PowerPoint's **Insert** ribbon. Instead, to insert the add-in, users must find it under **Insert > My Add-ins > ADMIN MANAGED**.



## Related content

- About storytelling with Power BI in PowerPoint
- Information for Power BI administrators
- Add live Power BI data to PowerPoint
- View and present live Power BI data in PowerPoint
- Troubleshoot the Power BI add-in for PowerPoint
- More questions? [Try asking the Power BI Community](#)

# What's new in the Power BI add-in for PowerPoint

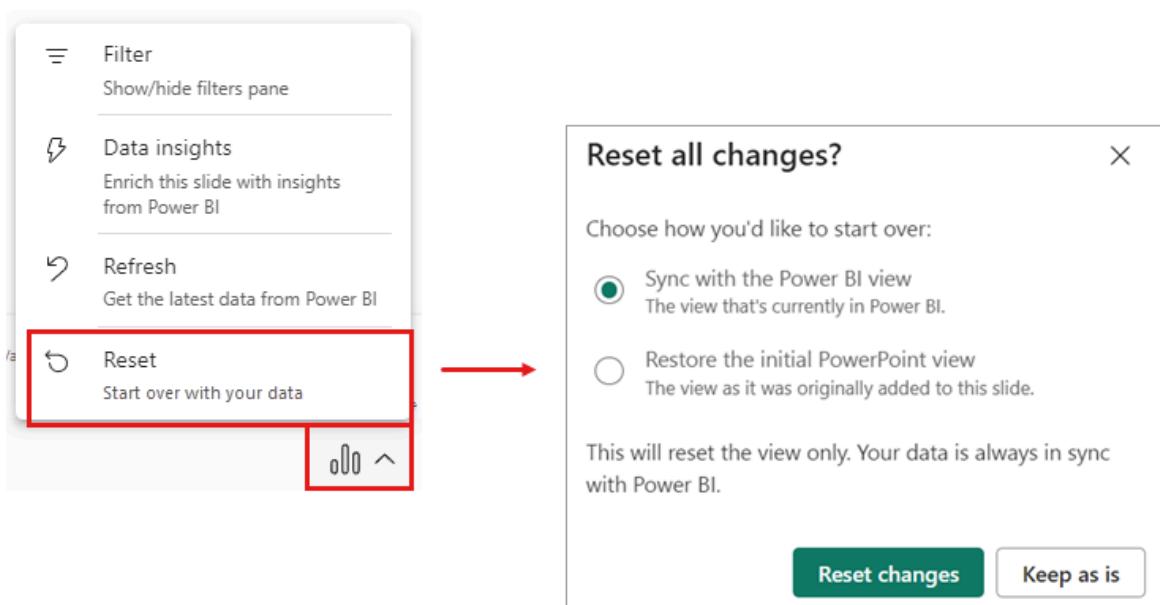
Article • 12/11/2024

## December 2024

### New reset behavior

When you embed a Power BI report in your PowerPoint presentation, you want to know that it will remain stable and unaltered. For this reason, the Power BI add-in refreshes data from the Power BI service without modifying the view of the report itself. However, since reports in the Power BI service are dynamic and subject to change (such as the addition of new visuals, additional filters, etc.), you might sometimes want to pull the latest changes into your presentation. To do this, you used to have to remove the report from the presentation and then re-embed it. Now, the enhanced **Reset** command makes this easy. The command has two options:

- **Sync:** Brings in the latest version of the report as it appears in the Power BI service, complete with any changes in the report definition, such as new filters, visuals, etc.
- **Restore:** Resets the report to the state it was in when it was initially embedded into the presentation.



May 2024

## Image mode improvements

Add-ins that were saved as *Public snapshot* can be printed, and don't require you to go over all the slides to load the add-ins for a permissions check before the public image is made visible.

For add-ins that were saved as *Public snapshot*, you might be able to improve loading times by using the *Show as saved image* option on the add-in side menu. This replaces the entire add-in with an image representation of it. This can be useful when you are presenting your presentation and need the fastest loading times possible.

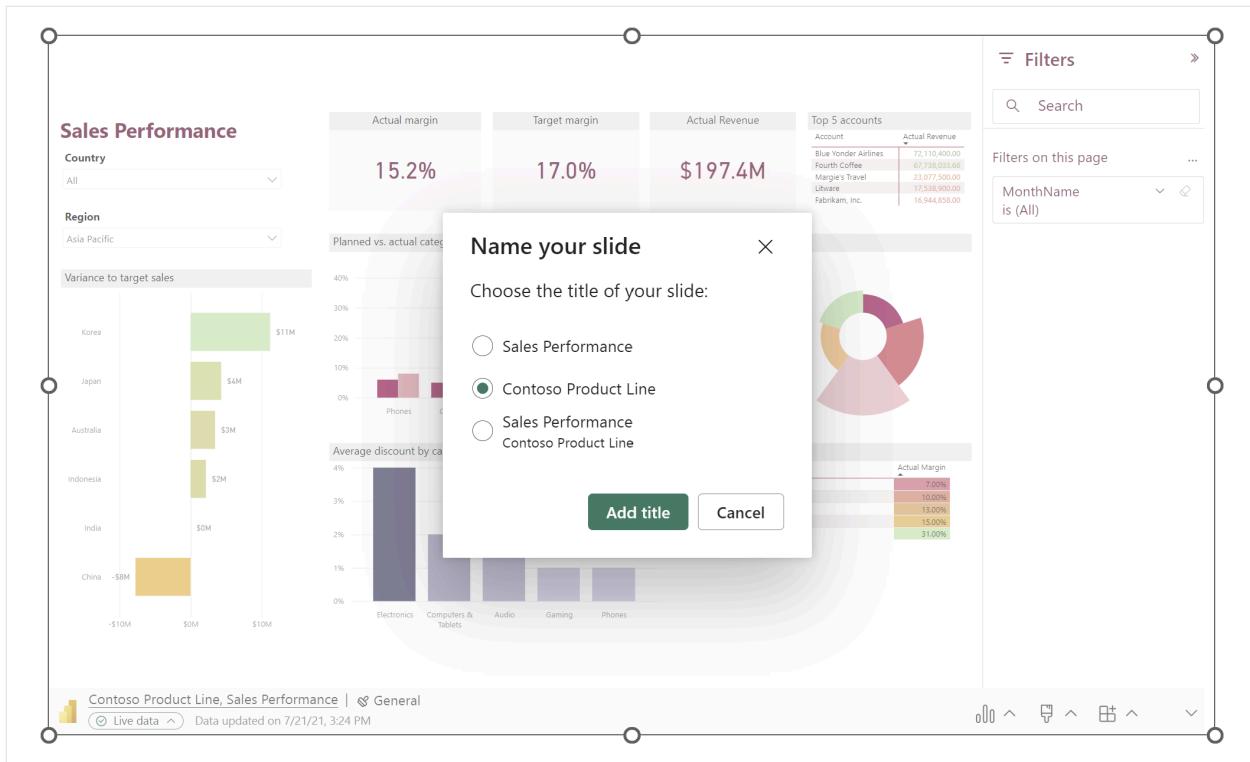
## Data updated notification

When a presentation is open for a long time, the Power BI data shown in the add-in can become outdated. To make sure the data you have in your slides is up to date, a new notification tells you when more up-to-date data exists in Power BI, and gives you an option to refresh the data with the latest data from Power BI.

## April 2024

### Autopopulating the slide title

When you add the Power BI add-in to an empty slide that doesn't have a title yet, the Power BI add-in offers you suggestions for the slide title based on the content of the add-in. The title can be the report name, the page or visual name, or both. Just choose the desired option and select **Add title**.



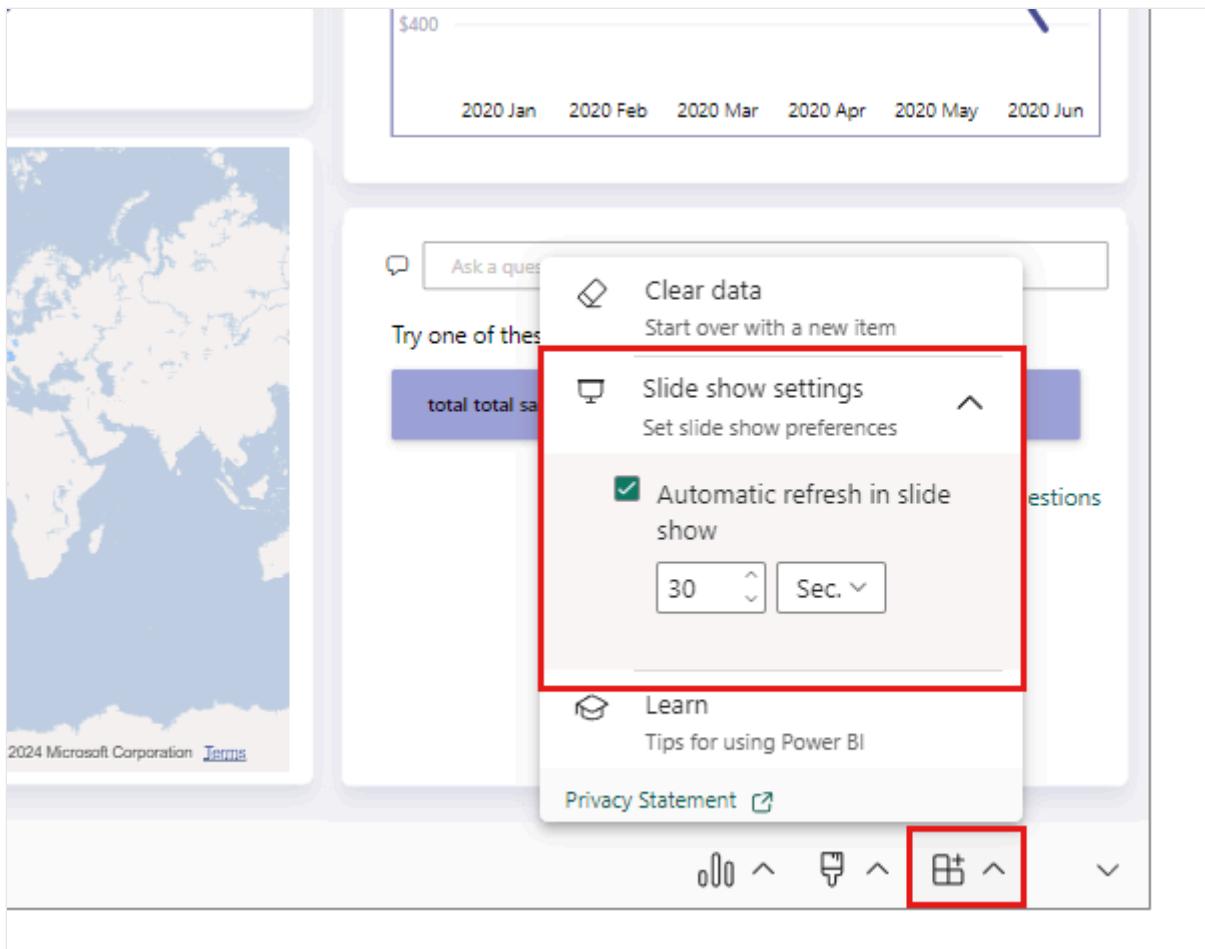
## Continuous slide show auto refresh

PowerPoint allows you to continuously play back a presentation. This is especially useful when you want to present information in public displays without any human interaction.

Until now, if the presentation you wanted to run continuously as a slide show had slides with the Power BI add-in, there was the possibility that the data in the add-in would become outdated, since the add-in only got the data from Power BI when the slide loaded or when you manually refreshed the data being presented.

With this new automatic refresh in slide show feature, you can now set the add-in to automatically pull fresh data from Power BI while the presentation is in slide show mode, ensuring that your presentation always shows the most recent data.

To set up automatic refresh for your slide show, go to the add-in footer, select **Add-in options**, choose **Slide show settings**, check **Automatic refresh in slide show** and set the desired refresh frequency.



### ⓘ Note

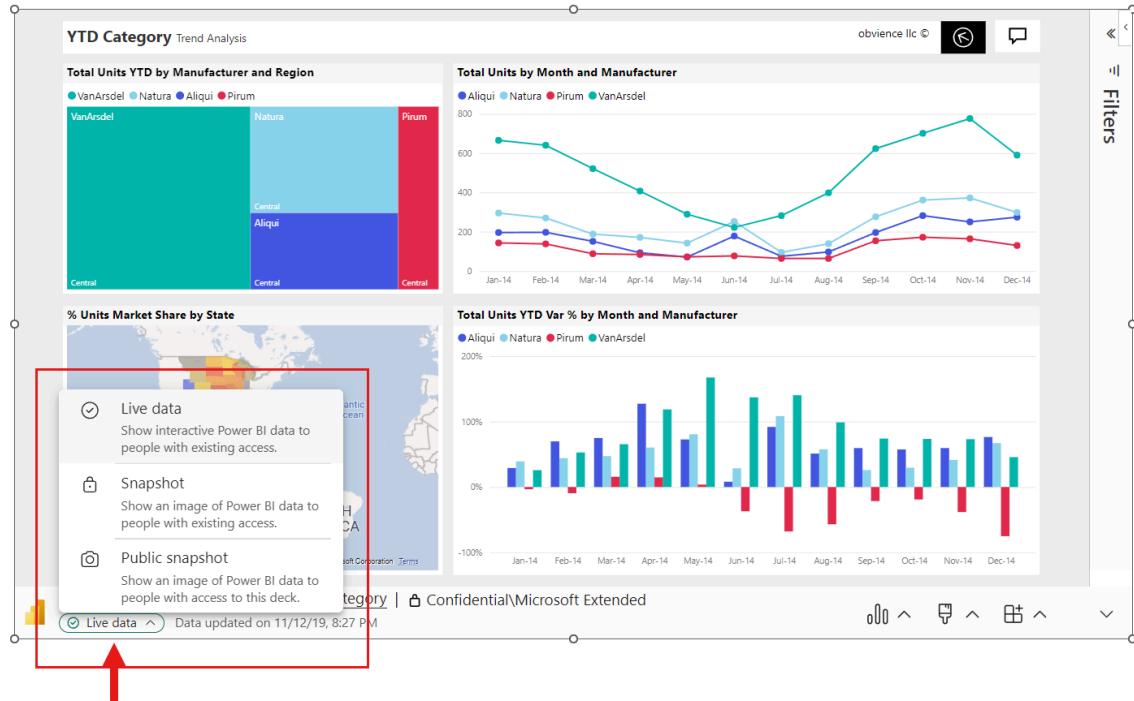
This feature requires that your Office version meet the add-in's [minimum Office version requirement](#). Auto refresh only happens in slide show mode, and not while you're editing the presentation.

## March 2024

### Improved static image mode

The "save as static image" functionality that enables you to turn your live view of Power BI data into a static image has been improved and expanded!

- A new dropdown menu in the add-in footer makes it easy to switch between live data and a static image.



- New static image options make it possible to use static images without having to worry about inadvertently exposing Power BI content to unauthorized users.
  - **Snapshot:** When you choose Snapshot, only users who have permission to view the report in Power BI will see the static image. Users who don't have permission will be able to request access. This option helps prevent inadvertently showing Power BI content to unauthorized users.
  - **Public snapshot:** When you choose Public snapshot, anyone who can view the presentation will see the static image, regardless of their permissions in Power BI.

The improved functionality also helps prevent inadvertent exposure of Power BI content in the slide thumbnails you see in such places as the navigation pane and slide sorter. Now thumbnails of slides that include an add-in merely display a blue-cube until the slide with the add-in actually loads and Power BI permissions are checked. At that point the thumbnail captures an image of whatever is displayed in the slide.

The improved save-as-static-image functionality requires **Office version 2312 (Build 17126)** or later. If your Office version meets this requirement, don't use the *Save as image* option located the add-in side pane.

You can only switch between live data and a static image in the PowerPoint desktop application - you can't do this in PowerPoint for the web. However, PowerPoint for the web **does** respect the choice you made in the desktop application. So whatever view you selected in the desktop app will be the view that you'll see in PowerPoint for the web.

# February 2024

## Change a direct link to a shareable Link

When you paste a direct report link (the URL copied from the browser) to the Power BI add-in in a presentation, you can now make that link shareable within the Power BI add-in. Previously, when you pasted a direct report link into the Power BI add-in, there was no option to make it sharable in the add-in before you added it to the presentation. Viewers of the presentation had to have access to the report before you used the direct report link or they wouldn't be able to see the data.

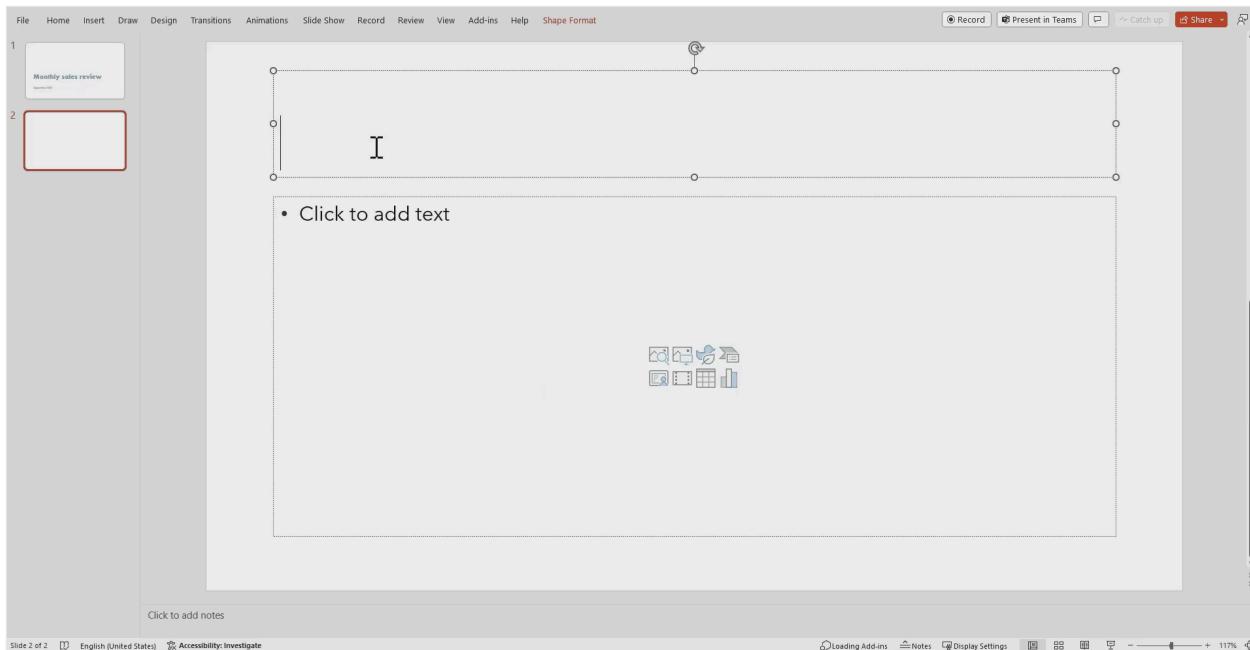
Now, if you have permissions to reshare a report, the Power BI add-in can replace the link you pasted with a shareable link. When you have sharable links enabled, you'll see a checkbox added below the report URL that asks you if you want to give viewers automatic access to the data. Mark this checkbox and Power BI add-in creates a shareable link for you. If you use a sharable link, other users viewing the presentation will have the required permissions to see the report and won't need to request access when viewing the presentation.

You must have sharable links enabled for your organization to use this feature. For more information on using sharable links, go to [Change a direct link to a shareable link](#).

# December 2023

## Suggested content

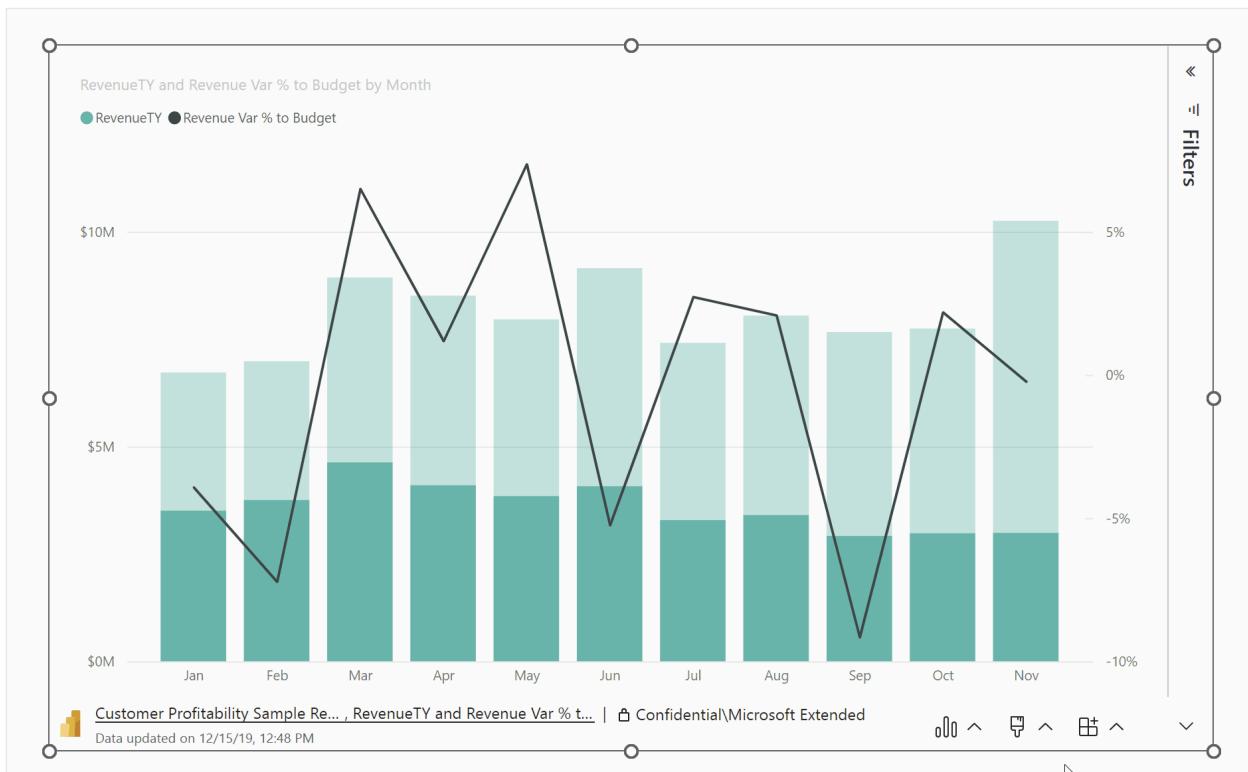
It's easier to find and insert the Power BI reports you need for your presentation. Now, when you add the Power BI add-in to your slide, the add-in automatically scans the title of the slide and suggests Power BI content that might be relevant. Let's say the title of your slide is "New stores sales," for example. The add-in shows you a list of Power BI reports that contain data about sales. The add-in also shows you your recently visited Power BI reports, and makes it easy to access reports you're working on or frequently use. [Learn more about the new feature ↗](#)



# April 2023

## Put a border around your add-in

Now you can add a custom outline to your Power BI add-in. Customize color, weight, transparency, and more to make your data stand out.



# March 2023

# Storytelling with Power BI in PowerPoint is now GA

With exciting, recently released features you can now:

- Easily add single visualizations to your slides
- Generate and add Smart insights to your presentations
- Enjoy the Power BI/PowerPoint integration in national/regional clouds

[Check out the blog ↗!](#)

## National cloud support

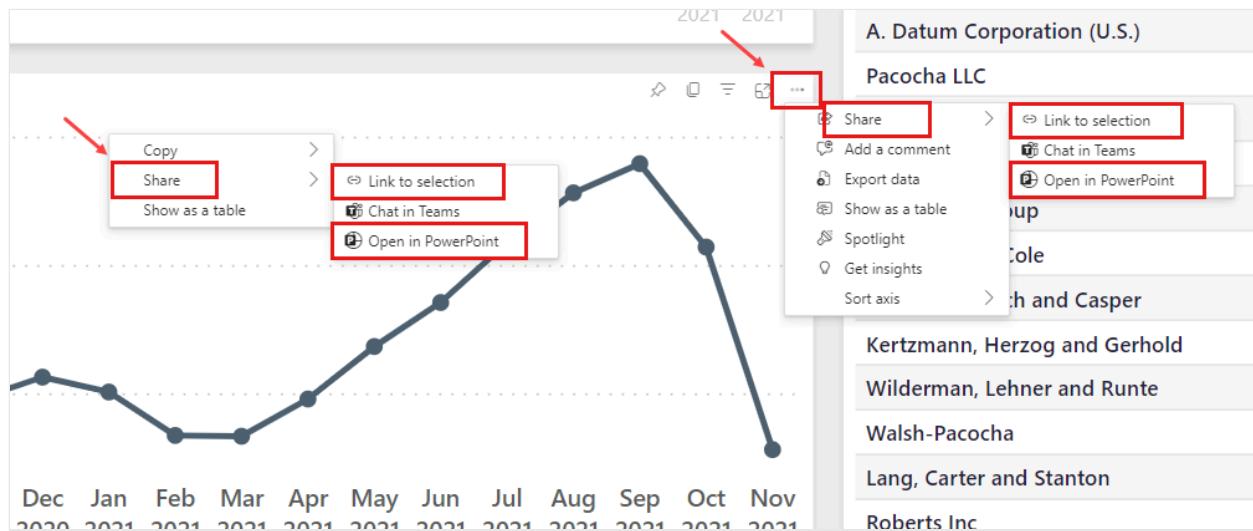
The Power BI add-in for PowerPoint is now supported in national/regional clouds as an admin-managed add-in. For more information, see [Deploying the add-in in national/regional clouds](#).

## February 2023

### Add individual live Power BI visuals to your PowerPoint slides

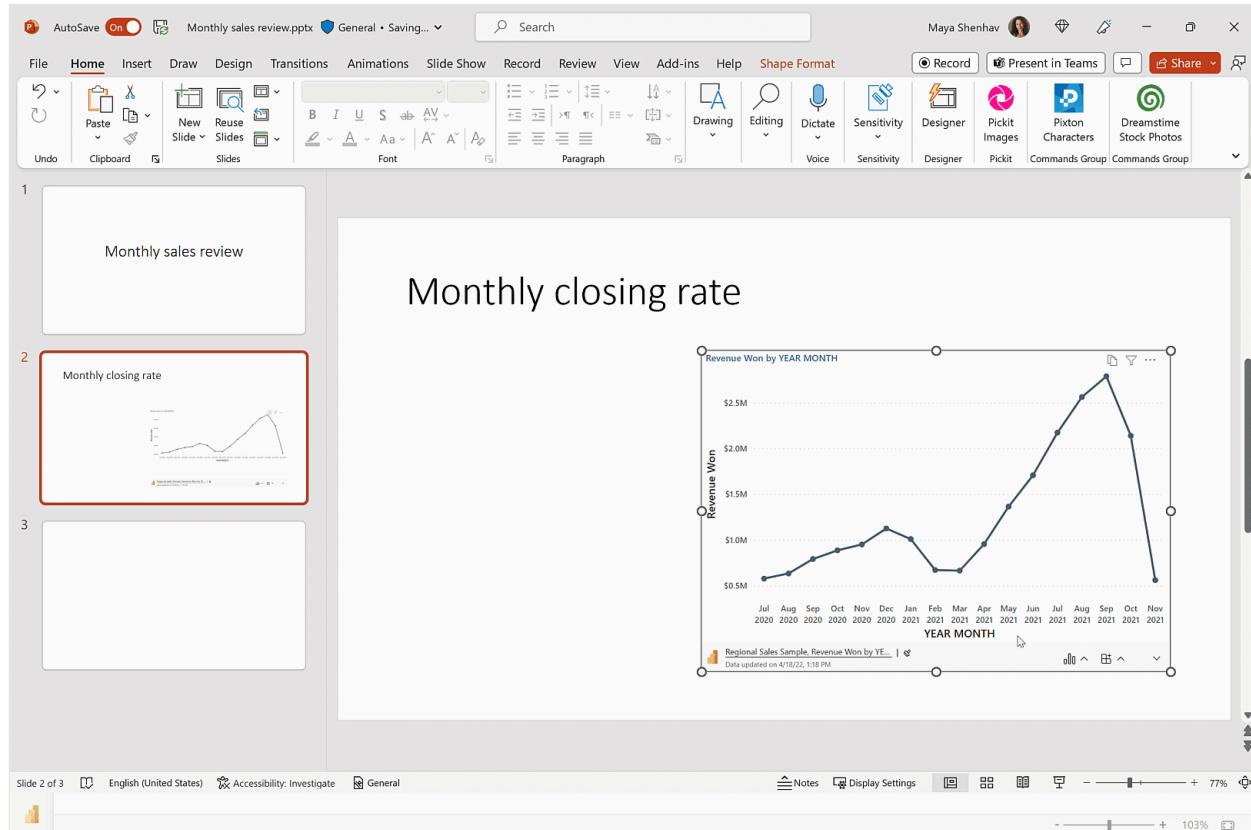
Ever want to put just a single live visual on a slide? Well, now it's super easy. Right select on the visual and choose **Open in PowerPoint** to open a new presentation with the visual already loaded into the add-in. If you're adding the visual to an existing presentation, choose **Link to selection** to get the visual's URL for pasting into the add-in in the existing presentation. You can do the same from the **More options (...)** menu.

Check out the [documentation](#) for details.



**Enhance your presentations with Power BI data insights**

Power BI's data insights help you find and explore insights such as anomalies and trends as you consume and interact with your data. Now with the add-in, you can easily generate insights, which you can then either paste directly into your slide or copy to the clipboard for pasting elsewhere, such as in the slide's notes. [Learn more](#).



## Related content

- [About storytelling with Power BI in PowerPoint](#)
- [Add live Power BI data to PowerPoint](#)
- [View and present live Power BI data in PowerPoint](#)
- [Troubleshoot the Power BI add-in for PowerPoint](#)
- More questions? [Try asking the Power BI Community](#)

## Feedback

Was this page helpful?

Yes

No

[Provide product feedback](#) | [Ask the community](#)

# Troubleshoot the Power BI add-in for PowerPoint

Article • 02/25/2024

This article describes what to do if you get the following error when trying to use the Microsoft Power BI add-in.

**Cannot run Power BI.**

Your current browser engine isn't supported by Power BI.

Please upgrade to a modern browser to be able to run Power BI here. [Learn more](#)

## Why am I getting this error?

The most likely reason for getting this error is that WebView2 isn't installed on your device. The Power BI storytelling add-in requires WebView2 to run Power BI in PowerPoint. If WebView2 isn't installed, you need to install it before you'll be able to use the add-in.

Another reason you might get this error is if your PowerPoint presentation is protected by Windows Information Protection. WebView2 and the Power BI storytelling add-in aren't supported for such presentations. For more information, see [How do I know if my presentation is protected by Windows Information Protection?](#).

## What is WebView2?

Microsoft Edge WebView2 is a control used to provide web-based features in Microsoft 365 desktop applications such as PowerPoint. It uses Microsoft Edge as the rendering engine, and requires that Microsoft Edge WebView2 Runtime be installed on the device that is running the Office application.

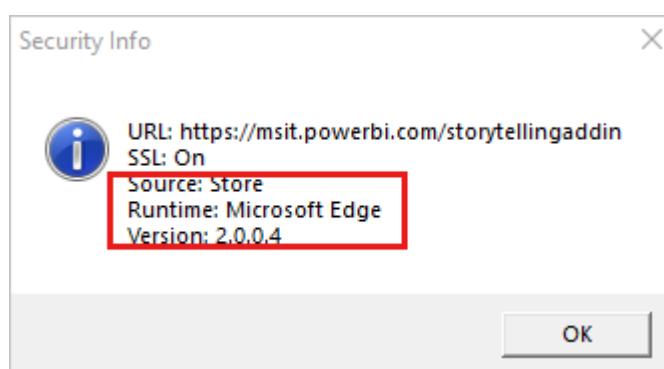
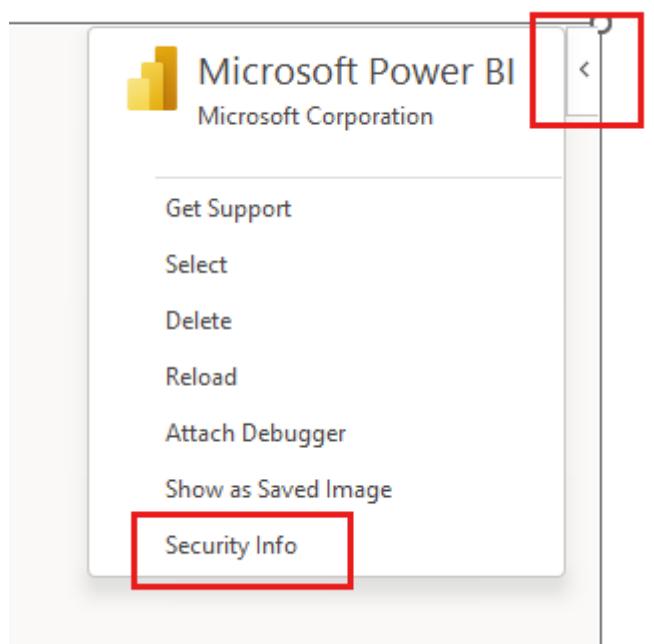
WebView2 comes standard on recent Windows versions, but may not be included in earlier versions. If your version of Windows doesn't include WebView2, you need to install it manually to be able to use the Power BI add-in.

See [Microsoft Edge WebView2](#) and Microsoft 365 Apps to learn more about Office Add-ins runtime and WebView2.

## How to install WebView2?

It takes just a minute to install WebView2. You can get and install it from [Download Microsoft Edge WebView2](#).

When the installation is done, check to make sure WebView2 is installed. Open the add-in side menu, select **Security Info**. The Security Info window will appear.



If the Security Info window says **Runtime: Microsoft Edge**, WebView2 is installed.

**Note**

After installing WebView2, you might need to close and re-open all Office applications.

## I installed WebView2, but the Power BI storytelling add-in still doesn't run

If WebView2 is installed but you still can't use the add-in, it may be because the Office build and/or Windows edition on your device don't meet minimum requirements. The minimum system requirements are as follows:

- **Office version**
  - If you have a Microsoft 365 Office subscription: Build number 16.0.13530.20424 or later.
  - If you have a non-subscription version of Office: Office 2021 or later.
- **Windows version**
  - If you have a Microsoft 365 Office subscription: Windows 8.1, Windows 10, or Windows 11.
  - If you have a non-subscription version of Office: Windows 10 and above.

If your system doesn't meet the above requirements, you need to upgrade your [Windows](#) and/or [Office](#) versions before you'll be able to run the Storytelling add-in.

### (!) Note

For Office builds 16.0.13530.20424 or later, but earlier than 16.0.14326.xxxxx, a system admin needs to update a registry key as described in [Adding a registry key](#) below.

If your device does meet the minimum system requirements, the problem may be because the presentation is protected by Windows Information Protection. The WebView2 isn't supported for such presentations.

The following sections show you how to check your device's Office build and Windows edition, and, if necessary, [how to tell whether your presentation is protected by Windows Information Protection](#).

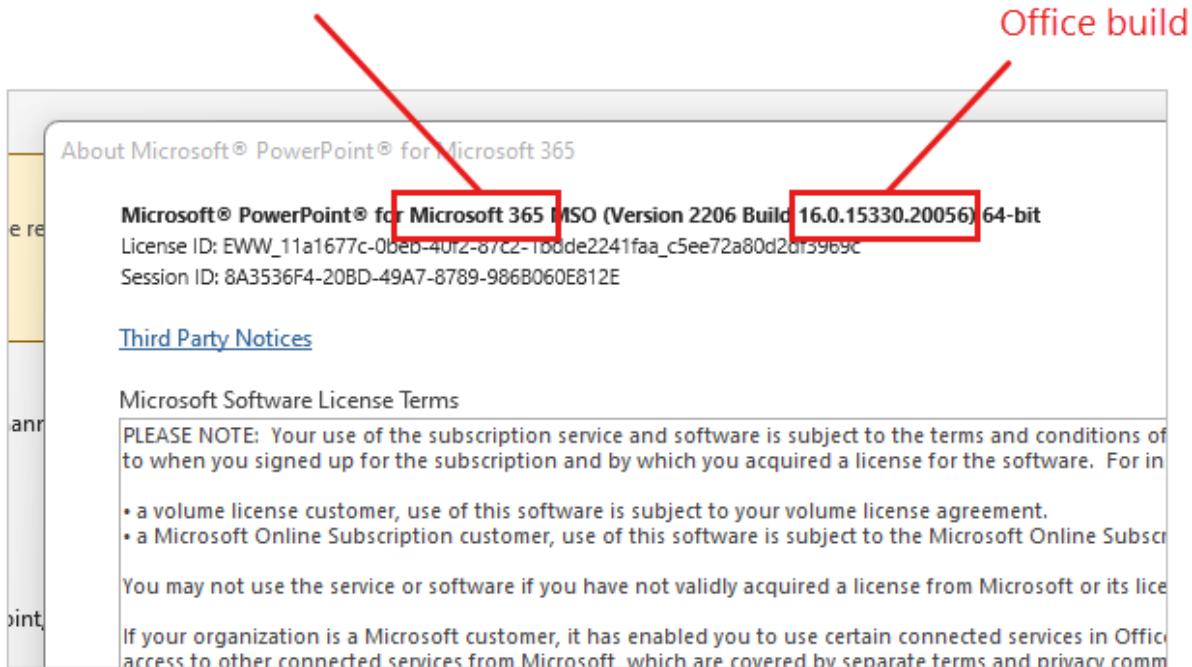
## Check your Office build and subscription type

In PowerPoint, choose **File > Account**, and then press **About PowerPoint**. The following info box will appear. Take note of the **build number** and the **subscription/non-**

subscription indication.

### Subscription/non-subscription indication

- **Microsoft 365** indicates a subscription version
- **Office 2021** or similar indicates a non-subscription version



## Check your Windows version

Open File Explorer, right-click This PC, and choose Properties. In the Windows specifications section, note the Windows edition.

Windows specifications	
Edition	Windows 11 Enterprise
Version	21H2
Installed on	11/7/2021
OS build	22000.675
Experience	Windows Feature Experience Pack 1000.22000.675.0
Microsoft Services Agreement	
Microsoft Software License Terms	

## Adding a registry key

If you have a Microsoft 365 Office subscription, and the Office build on your device is 16.0.13530.20424 or later but earlier than 16.0.14326.xxxxx, someone with admin

permissions on your device can use the following steps to create a registry key that enables you to use the add-in.

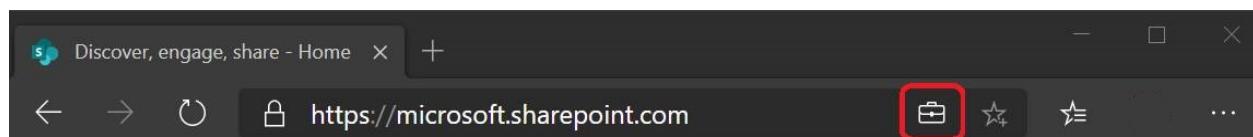
1. Open the Registry Editor by typing `regedit` in the Start menu search bar and selecting the Registry Editor app.
2. Navigate to the following registry key:  
`HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\Wef`
3. Right-click on the `Wef` folder and select `New > DWORD (32-bit) Value`.
4. Name the new value `Win32WebView2`.
5. Double-click on the new value and set its value data to `1`.
6. Close the Registry Editor.
7. Restart your Office application.

## How do I know if my presentation is protected by Windows Information Protection?

The Power BI storytelling won't work in PowerPoint presentations that are protected by [Windows Information Protection](#) (WIP), previously known as Enterprise Data Protection (EDP). This is because WebView2, which the Power BI add-in for PowerPoint requires, isn't supported when Windows Information Protection is enabled.

If you get the **Cannot run Power BI** error even though you're sure that WebView2 is installed on your computer and that your system meets the minimum requirements, use the following instructions to check whether WIP protection could be causing your problem.

- For PowerPoint presentation files on your computer, the [File ownership column](#) in [File Explorer](#) will say **Work** if the file is protected by WIP.
- For PowerPoint presentation files stored in SharePoint or OneDrive, open the SharePoint or OneDrive folder in [Microsoft Edge](#). The briefcase icon in the address bar (shown below) will appear if WIP is protecting the files.



## More resources

- Browsers used by Office Add-ins

## Related content

- [About storytelling with Power BI in PowerPoint](#)
- [Add live Power BI data to PowerPoint](#)
- [View and present live Power BI data in PowerPoint](#)
- More questions? [Try asking the Power BI Community](#) ↗

# Export a report to PowerPoint

Article • 11/05/2024

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

There are several different ways that Power BI and PowerPoint work together. In this article, you learn how to export a Power BI report and create a PowerPoint slide deck with one slide for each report page. The report is static; the slides retain the state of the report at the time of export.

Another option is to embed a live version of your report page in PowerPoint. You can interact with your data just as you would in Power BI. For more information about embedding a live report page, visit these articles:

- [Add a live Power BI report page in PowerPoint](#)
- [Use the Power BI Add-in for PowerPoint](#)
- [Administer the Power BI add-in for PowerPoint](#)

## Export a report to PowerPoint

When you export to PowerPoint, the following occurs:

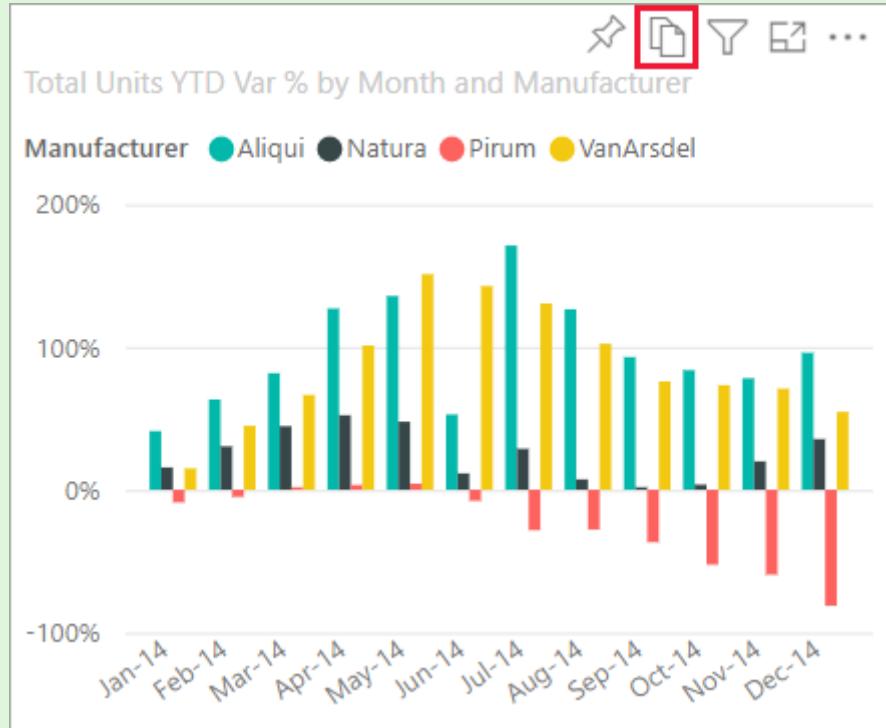
- Each page in the Power BI report becomes an individual slide in PowerPoint.
- Each page in the Power BI report is exported as a single high-resolution image in PowerPoint.
- You can preserve the filters and slicers settings that are added to the report.
- A link is created in PowerPoint that links back to the Power BI report.

Getting your **Power BI report** exported into **PowerPoint** is quick. Follow the steps outlined in the next section.

### Tip

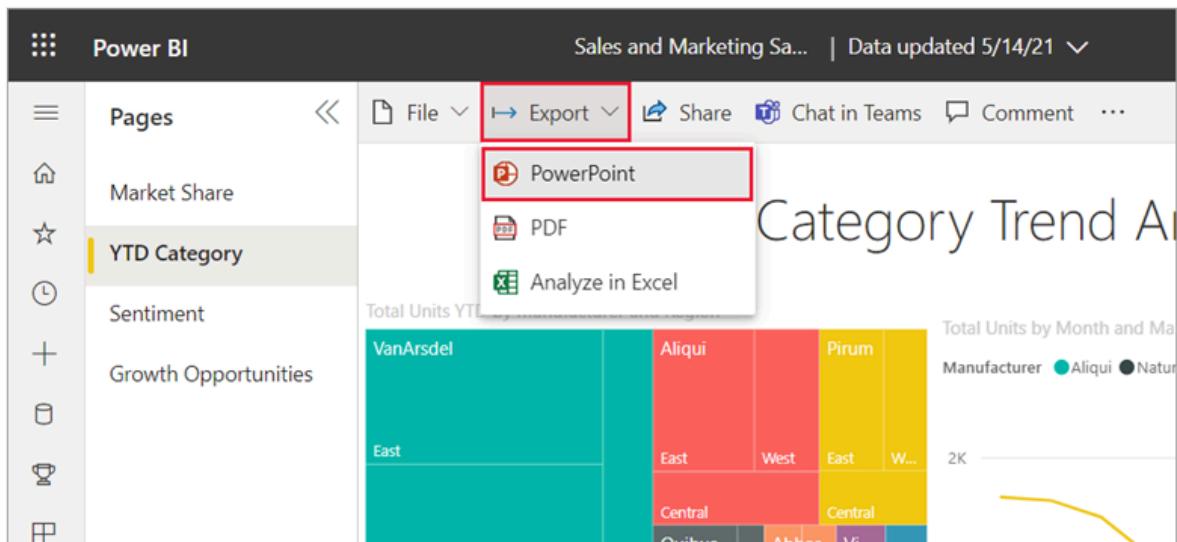
You can also copy one visual at a time from the Power BI service and paste it into PowerPoint (or any other program that supports pasting). Select the **Copy as image** icon to copy the visual to your clipboard. Then, open PowerPoint and paste the

visual. For more information, see [Copy visuals as static images](#).



## Export your Power BI report to PowerPoint

1. In the Power BI service, select a report to display it on the canvas. Then, select Export > PowerPoint from the menu bar.



2. In the Export to PowerPoint dialog that appears, choose Export as image, and then choose the other options as desired.



## Export to PowerPoint



Choose how to export:

Export as image



Export with:

Current Values

Default Values

Exclude hidden report tabs

Only export current page

Export

Cancel

- **Current values** exports the report in the current state. This includes the active changes you made to slicer and filter values. Most users select this option. If you've scrolled, **Current values** doesn't include the scroll state of the visual, but instead exports the top portion of the data.
- **Default values** exports the report in the original state, as the designer shared it. Any changes made to the original state aren't reflected.
- **Exclude hidden report tabs** exports only report tabs that are visible to you in your browser. If you prefer to get all the hidden tabs as part of your export, leave this check box cleared. If the check box is grayed out, it means there are no hidden tabs in the report. An example of a hidden tab would be a tooltip tab. [Custom tooltips](#) are created by report designers and don't display as report tabs in the Power BI service for business users.
- **Only export current page** exports only the current page you're viewing in the report. By default, **Only export current page** is unchecked and all pages are exported from your report.

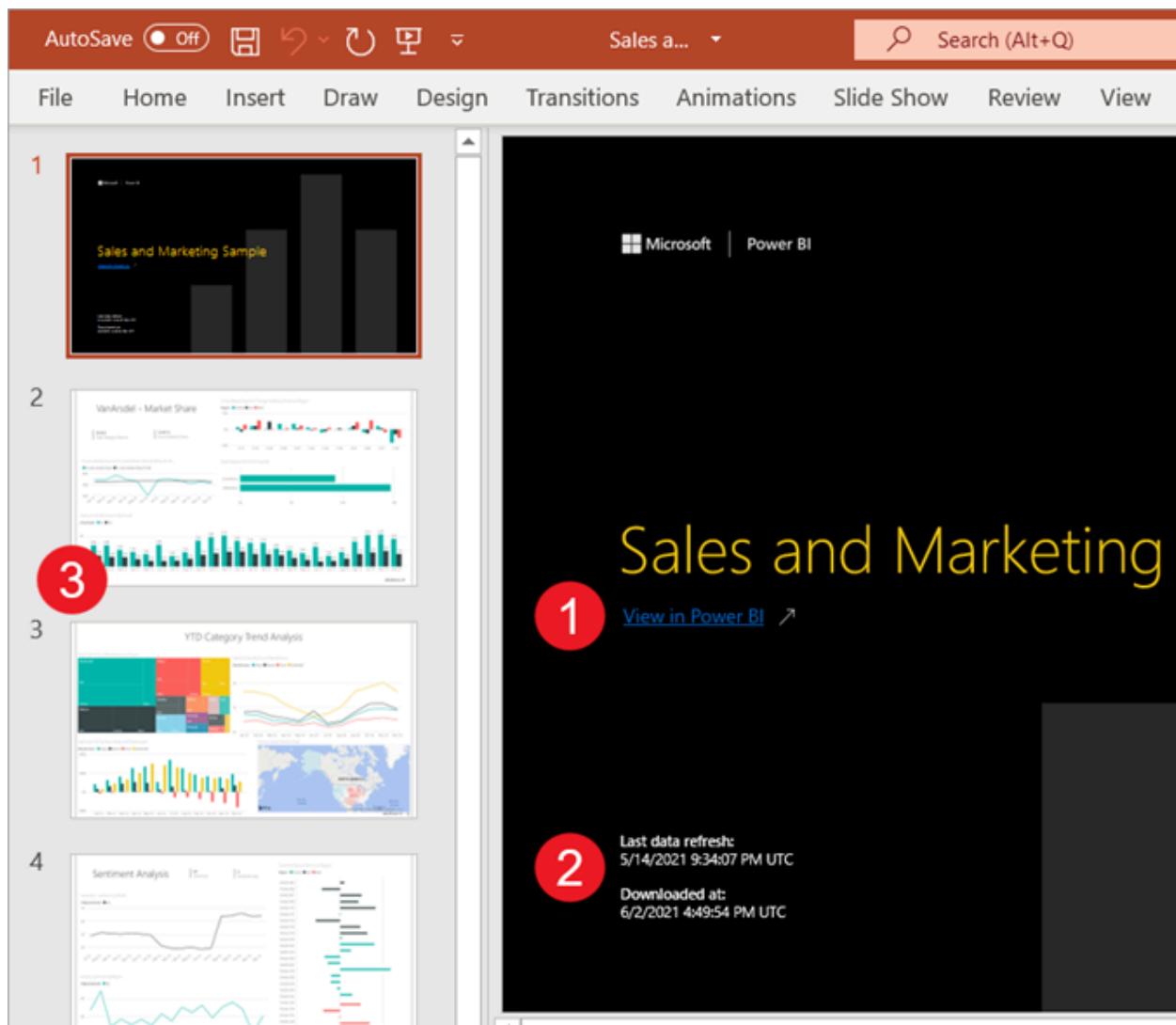
3. After you make your selections, select **Export** to continue. A notification banner in the upper-right corner of the Power BI service browser window tells you that the report is being exported to PowerPoint.

Exporting might take a few minutes. Factors that can affect the time required include the structure of the report and the current load on the Power BI service. You can continue to work in Power BI while the report is being exported.

After the Power BI service completes the export process, the notification banner changes to let you know that your file has been downloaded and is available.

## Open the PowerPoint file

When you open the PowerPoint file that Power BI exported, you find a few cool and useful elements. Take a look at the following image, and check out the numbered elements that describe some of those cool features. Pages in PowerPoint are always created in the standard 9:16 size, regardless of the original page sizes or dimensions in the Power BI report.



1. The first page of the slide deck includes the name of your report and a link so that you can **View in Power BI** the report on which the slide deck is based.

2. You get some useful information about the report, too. **Last data refresh** shows the date and time on which the exported report is based. **Downloaded at** shows the date and time when the Power BI report was exported into a PowerPoint file. The **Downloaded at** time is the time of the export in UTC (Universal Coordinated Time).

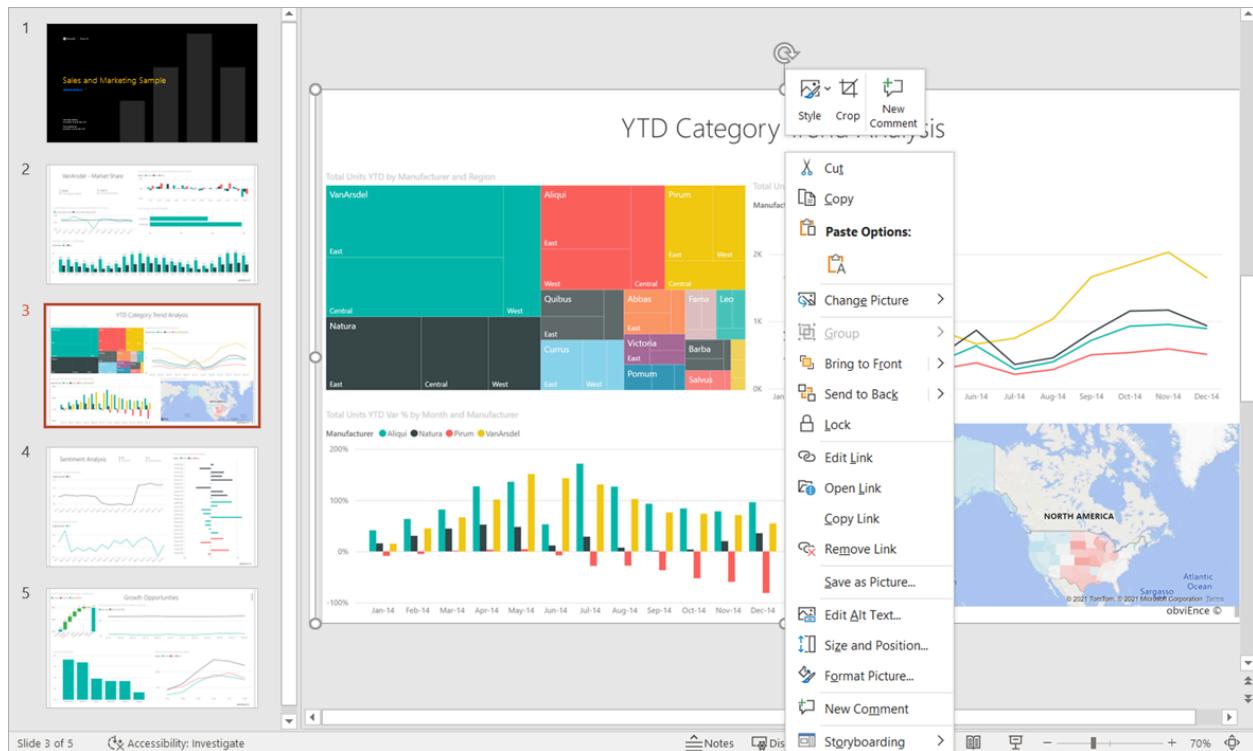
3. Each report page is a separate slide, as shown in the nav pane.

### ① Note

PowerPoint includes the name of each visual on the page and adds alt text for each item. The report creator can include alt text when designing the report. Otherwise, the default is "No alt text provided."

4. Your published report is rendered in the language according to your Power BI settings, or otherwise by the locale setting of your browser. To see or set your language preference in your browser, select the cog icon  > **Settings** > **General** > **Language**. For locale information, see [Supported languages and countries/regions for Power BI](#).

When you view an individual slide, you see that each report page is an independent image. Scrolling in PowerPoint isn't available since each slide is a static image.



What you do with your PowerPoint deck from there, or any of the high-resolution images, is up to you.

# Considerations and limitations

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

## If you don't see the Export option

- Make sure that you're viewing a report (not a dashboard).
- It's possible that your administrator disabled this feature. Contact your administrator for details. Administrators: See [Export reports as PowerPoint presentations or PDF documents](#).

## Visuals that aren't supported

The following aren't supported for **Export to PowerPoint**. Either the **PowerPoint** export option is greyed out or isn't listed at all on the **Export** dropdown. In some cases, such as for R visuals, the report exports but the visual renders as a gray box with an error message.

- Power BI [custom visuals](#). The exception is those Power BI custom visuals that are [certified](#)
- [ESRI ArcGIS](#) visuals
- [R](#) visuals
- [Power Apps](#) visuals
- [Python](#) visuals
- [Power Automate](#) visuals
- [The Paginated report](#) visual
- Visio visuals
- Visuals [displayed as a Data point table](#) or displayed with "Show data point as a table" can't export to PowerPoint

## Reports that can't be exported

- Reports with more than 50 report pages. Paginated reports don't have this limitation. See [Print a paginated report](#) for details.
- Reports larger than 500 MB when exported.
- Reports being exported to older versions of PowerPoint.
- Reports that take longer than an hour to process.
- Report pages that take longer than 6 minutes to load.
- The resolution of exported report pages is 1,280 pixels x 720 pixels.

- You can share a dashboard with someone outside of your organization, or with a user who isn't in your Power BI tenant. But that user can't export the shared dashboard's associated reports to PowerPoint. For example, if you're aaron@contoso.com, you can share with david@cohownery.com. But david@cohownery.com can't export the associated reports to PowerPoint.

## General

- Export to PowerPoint isn't supported when the admin setting **Azure private link > Block public internet access** is enabled in Power BI. In this case, the export fails. The export might also fail if the admin setting **Azure private link** is on and **Block public internet access** is off.
- Background images are cropped with the chart's bounding area. We recommend that you remove background images before you export to PowerPoint.
- Semantic model refresh operations using an XMLA endpoint.
- If the report uses a custom font, that font is replaced with a default font.
- [URL filters](#) aren't currently respected when you choose **Current Values** for your export.
- The Power BI service uses your Power BI language setting as the language for the PowerPoint export. To see or set your language preference, in your browser, select the cog icon  > **Settings** > **General** > **Language**.
- Visuals [displayed as a Data table or displayed with "Show as a table"](#) export the visual in its default state, without the table.
- Visuals in a drill-down state are exported in their default state.
- If you access a report using a bookmark, the export will also be executed against the bookmark (filters will be the same as that of the bookmark) and **not** against the filters applied when the export is triggered. You can get around this by creating a bookmark with the required filters and then export the report.
- Export to PowerPoint isn't currently supported for tenants in the China North region.
- Export to PDF supports Unicode 6 and earlier. If for example, Unicode 7 is used, Power BI export displays that image as a blank box.

## Related content

- [Add a live Power BI report page in PowerPoint](#)
- [Use the Power BI Add-in for PowerPoint](#)
- [Copy visuals as static images](#)
- [Print a report](#)

# Feedback

Was this page helpful?

 Yes

 No

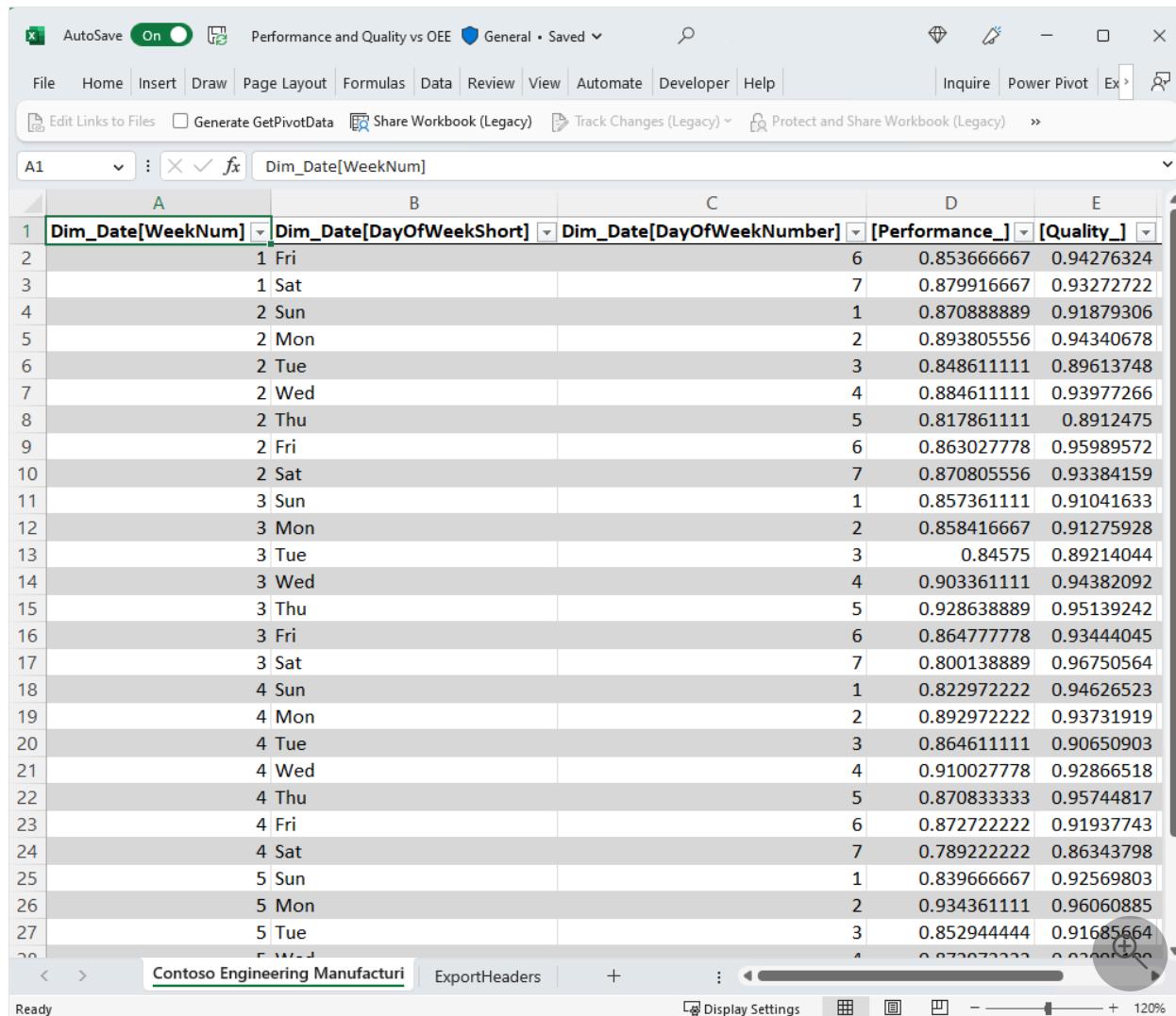
[Provide product feedback ↗](#) | [Ask the community ↗](#)

# Connect Excel to Power BI semantic models

Article • 03/07/2025

Microsoft Excel is arguably the most common data analysis tool for information workers and organizations across the globe. Part of Excel's appeal is that you can start your data journey in a few clicks, with quick calculations, data visualizations, and ad-hoc analysis.

You can discover, connect to, and explore centralized Power BI data inside the spreadsheet grid of Microsoft Excel. The versatility of Excel and the unified governance and security standards of Power BI ensures you're using the right data to make better decisions that support business goals and fosters an enhanced data culture.



The screenshot shows a Microsoft Excel spreadsheet titled "Performance and Quality vs OEE". The ribbon menu is visible at the top, showing tabs for File, Home, Insert, Draw, Page Layout, Formulas, Data, Review, View, Automate, Developer, and Help. The Data tab is selected. The Power Pivot tab is also visible in the ribbon. The formula bar at the top displays the formula "Dim\_Date[WeekNum]". The main content area contains a table with columns A through E. Column A is labeled "Dim\_Date[WeekNum]", column B is "Dim\_Date[DayOfWeekShort]", column C is "Dim\_Date[DayOfWeekNumber]", column D is "[Performance]", and column E is "[Quality]". The data rows show various dates from week 1 to week 5, with corresponding day names and numerical values for performance and quality. The bottom of the screen shows the Excel ribbon and some status indicators.

A	B	C	D	E
1 Dim_Date[WeekNum]	Dim_Date[DayOfWeekShort]	Dim_Date[DayOfWeekNumber]	[Performance]	[Quality]
2	1 Fri		6	0.853666667 0.94276324
3	1 Sat		7	0.879916667 0.93272722
4	2 Sun		1	0.870888889 0.91879306
5	2 Mon		2	0.893805556 0.94340678
6	2 Tue		3	0.848611111 0.89613748
7	2 Wed		4	0.884611111 0.93977266
8	2 Thu		5	0.817861111 0.8912475
9	2 Fri		6	0.863027778 0.95989572
10	2 Sat		7	0.870805556 0.93384159
11	3 Sun		1	0.857361111 0.91041633
12	3 Mon		2	0.858416667 0.91275928
13	3 Tue		3	0.84575 0.89214044
14	3 Wed		4	0.903361111 0.94382092
15	3 Thu		5	0.928638889 0.95139242
16	3 Fri		6	0.864777778 0.93444045
17	3 Sat		7	0.800138889 0.96750564
18	4 Sun		1	0.822972222 0.94626523
19	4 Mon		2	0.892972222 0.93731919
20	4 Tue		3	0.864611111 0.90650903
21	4 Wed		4	0.910027778 0.92866518
22	4 Thu		5	0.870833333 0.95744817
23	4 Fri		6	0.872722222 0.91937743
24	4 Sat		7	0.789222222 0.86343798
25	5 Sun		1	0.839666667 0.92569803
26	5 Mon		2	0.934361111 0.96060885
27	5 Tue		3	0.852944444 0.91685664
28	5 Wed		4	0.873072222 0.92901280

## Access Power BI semantic models in Excel

When you access Power BI semantic models in Excel, the semantic models inherit properties. Inherited properties, like endorsement labels and sensitivity labels from

Microsoft Purview Information Protection, help make sure that the data stays secure. Semantic models tagged with the labels Certified or Promoted are likely to be better quality and more authoritative than semantic models without a label.

## Benefits of using Power BI semantic models in Excel

Using Power BI semantic models in Excel allows you to leverage the powerful data analysis capabilities of Excel while ensuring data governance and security provided by Power BI. This integration helps you make better decisions and supports business goals by using accurate and authoritative data.

Connect to Power BI semantic models in Excel by starting in the Power BI service or in Excel for the web or the Excel desktop app.

- Start in Power BI with [Analyze in Excel](#).
- Start in [Excel for the web or the Excel desktop app](#).
- After you connect, you can [design refreshable reports with Power BI data](#) in an Excel PivotTable or a table.
- For Power BI admins, you can [monitor usage of Power BI semantic models in Excel](#).

## Prerequisites

Here are things to keep in mind when you connect to Power BI semantic models in Excel:

- Your organization's tenant administrator must enable the **Users can work with Power BI semantic models in Excel using a live connection** tenant setting. Learn more about the [Excel live connection](#) tenant setting in the admin portal documentation.
- For on-premises datasets, your organization's tenant administrator also must enable the **Allow XMLA endpoints and Analyze in Excel with on-premises datasets** tenant setting. Learn more about the [Allow XMLA endpoints](#) tenant setting in the admin portal documentation.
- You must have **Build** permission to the Power BI semantic model or have at least a **Contributor** role in the Power BI workspace containing your semantic model.
- You must have a Fabric license: Fabric (free), Pro, or Premium Per User (PPU). Fabric free license users can only work with datasets in My workspace or a Power BI Premium capacity or Fabric F64 or greater capacity. Learn more about [Power BI licenses](#).

- You can use Excel workbooks containing refreshable Power BI data in both Excel Desktop and Excel for the web.

## Related content

- Create Excel workbooks with refreshable Power BI data
- Design refreshable reports in Excel with Power BI data
- Monitor usage of Power BI semantic models in Excel
- Read about [using Excel data types from Power BI](#) in the Excel documentation.
- Questions? [Try the Power BI Community](#)

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## Feedback

Was this page helpful?

 Yes

 No

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# Power BI semantic model experience in Excel

Article • 02/20/2025

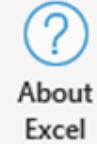
In Excel Desktop or Excel for the web, you can discover all the Power BI semantic models that you have access to. You can explore that data in Excel spreadsheets using PivotTables and other Excel capabilities. With the Power BI semantic model experience in Excel, you can:

- Easily search for your Power BI data in Excel and analyze that data using PivotTables and connected tables.
- Navigate to the Data hub in the Power BI service (<https://app.powerbi.com>), where you can discover other data artifacts (including Power BI datamarts) and trusted data in your organization.
- Get more insights on the semantic model you're exploring in Excel by viewing related Power BI reports.

## Requirements

The following requirements must be met before you proceed:

- Your organization's tenant administrator must enable the **Users can work with Power BI semantic models in Excel using a live connection** tenant setting. Learn more about the [Excel live connection](#) tenant setting in the admin portal documentation.
- For on-premises datasets, your organization's tenant administrator also must enable the \*\*Allow
- XMLA endpoints and Analyze in Excel with on-premises datasets\*\* tenant setting. Learn more about the [Allow XMLA endpoints](#) tenant setting in the admin portal documentation.
- Your version of Excel Desktop must be an updated version of Excel for the web. To see if you have the right build for Excel Desktop, open **File > Account > About Excel** and confirm that the first five digits of the Build number are greater than or equal to 15128.



## About Excel

Learn more about Excel, Support, Product ID, and Copyright information.

Version 2206 (Build 15330 20114 Click-to-Run)

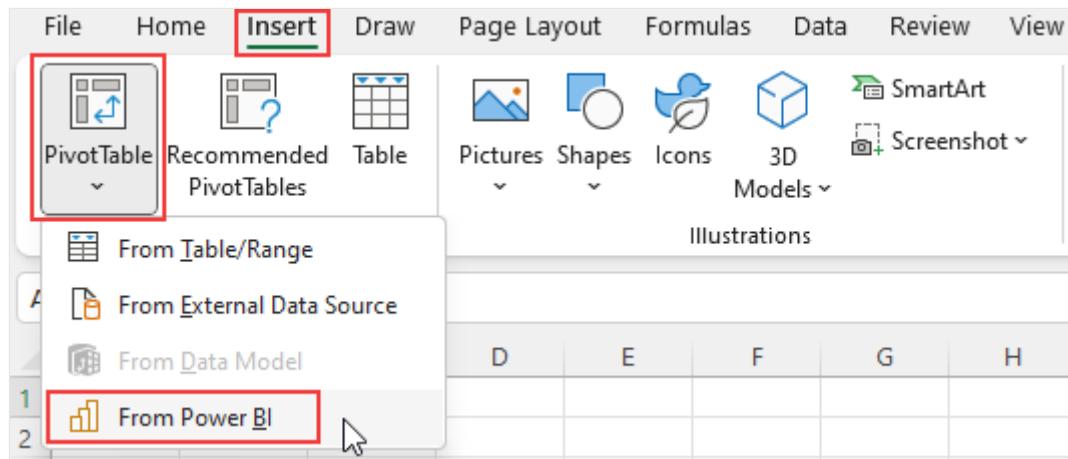
Microsoft Current Channel (OuterRing)

- You must have **Build** permission to the Power BI semantic model or have at least a **Contributor** role in the Power BI workspace containing your semantic model.
- You must have a Fabric license: Fabric (free), Pro, or Premium Per User (PPU). Fabric (free) license users can only work with datasets in My workspace or a Power BI Premium capacity or Fabric F64 or greater capacity. Learn more about [Power BI licenses](#).
- You can use Excel workbooks containing refreshable Power BI data in both Excel Desktop and Excel for the web.

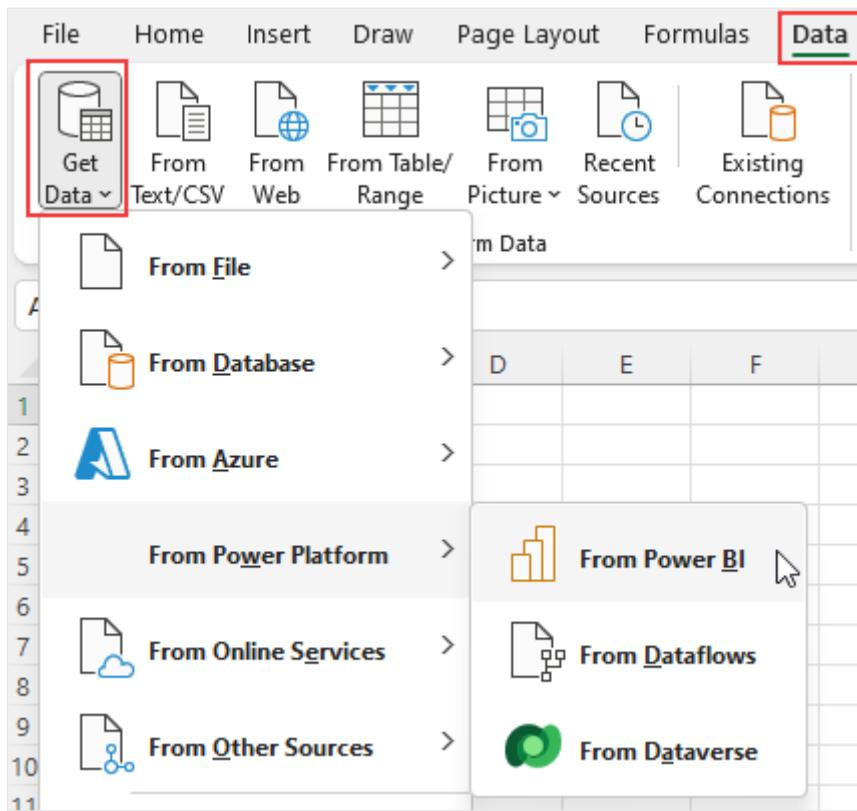
## Discover Power BI semantic models in Excel

To connect to live Power BI semantic models from inside Excel, use one of these two options:

- On the **Insert** tab in Excel, select **PivotTable > From Power BI**.



- On the **Data** tab in Excel Desktop, select **Get Data > Power Platform > From Power BI**.



After you select **From Power BI** using either of these options, a pane opens on the right of the screen that shows Power BI semantic models you have access to.

# Power BI Datasets

▼ X



🔍 contoso X



**Contoso - Dynamics 365 Sa...**



Workspace: Sales Excellence

Owner: Megan Bowen

Refreshed: 1/24/2023, 9:58:12 AM

▼ Tables in this dataset (14):

grid Accounts

grid Opportunity

grid What If Parameter: Opportunity Forec...

grid Campaigns

▼ Reports using this dataset (1):



[Contoso - Dynamics 365 Sales](#)

+ Insert PivotTable

+ Insert Table



**Contoso Sales**



Workspace: Sales Excellence

Owner: Megan Bowen

Refreshed: 4/6/2017, 5:01:00 AM

Tables in this dataset (0)

> Reports using this dataset (1):



- + 100%

Each semantic model card shows the following information:

- Name and owner of the Power BI semantic model
- Power BI workspace hosting the semantic model
- Timestamp for the last time the semantic model was refreshed
- Names of the tables in the semantic model
- Redirect web link to Power BI report(s) using the semantic model in the Power BI service.

## Connect to your Power BI data in Excel

To start exploring your Power BI data in Excel, select one of the preloaded semantic models in the pane or find more semantic models by typing your search parameters in the search bar and pressing Enter on your keyboard.

When you find the semantic model you want, select **Insert PivotTable** or **Insert Table** in the card. The **Insert Table** option is available in Excel Desktop.

The screenshot shows the 'Power BI Datasets' pane open in Excel. At the top, there's a search bar labeled 'Search for a dataset'. Below it, the 'Sales Pipeline' dataset is listed. The dataset card includes details: 'Workspace: Marketing and Sales analytics', 'Owner: Megan Bowen', and 'Refreshed: 2/22/2022, 2:54:40 AM'. Two buttons at the bottom of the card, '+ Insert PivotTable' and '+ Insert Table', are highlighted with red boxes. The entire pane has a light gray background with dark gray borders around the cards.

Power BI Datasets

Search for a dataset

Sales Pipeline

Workspace: Marketing and Sales analytics

Owner: Megan Bowen

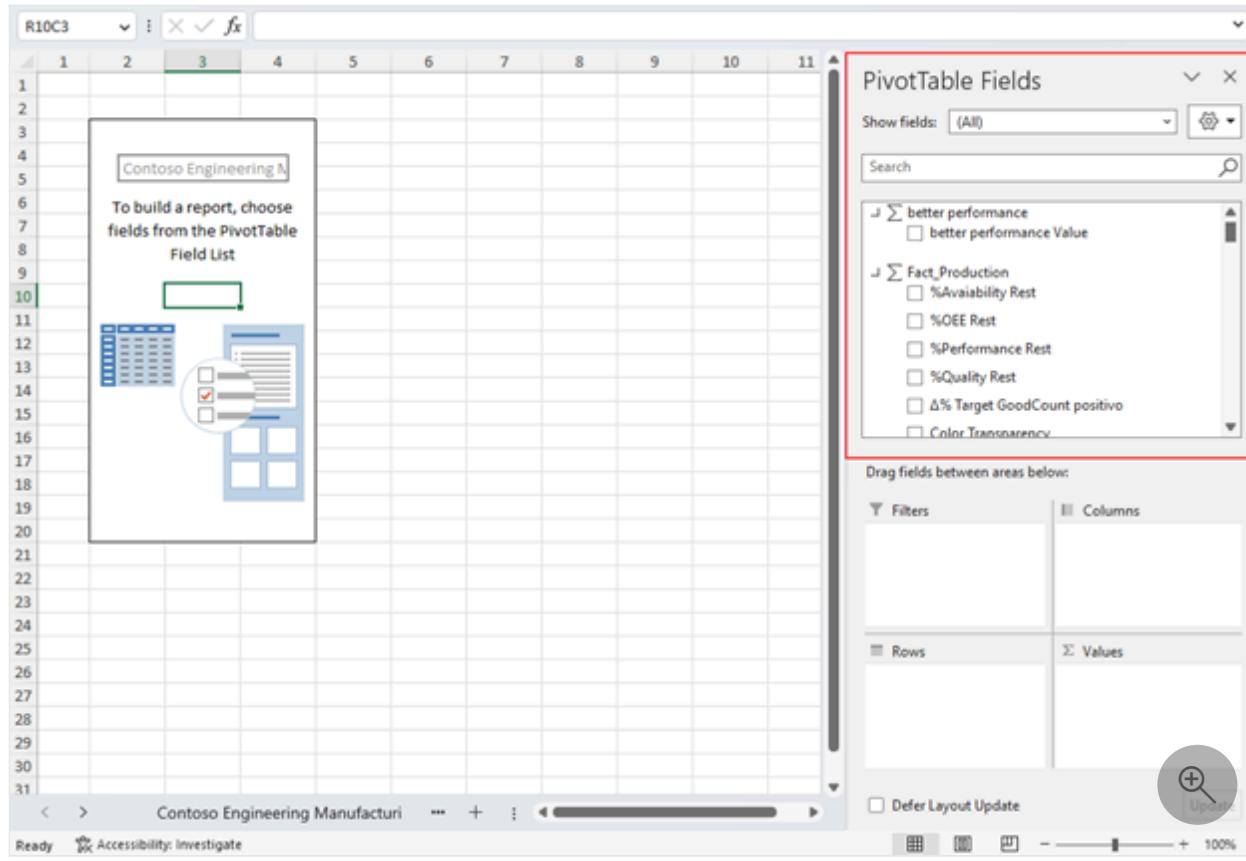
Refreshed: 2/22/2022, 2:54:40 AM

> Tables in this dataset (10):

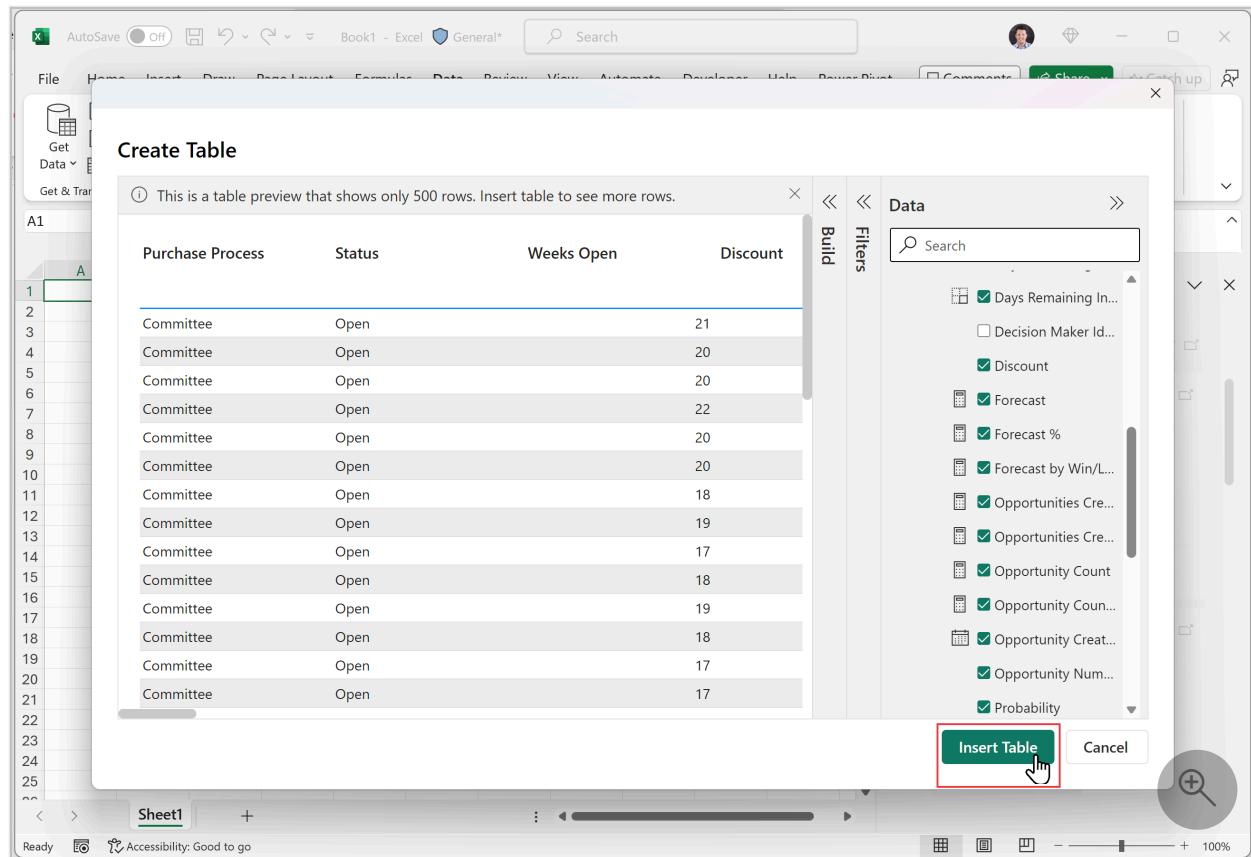
> Reports using this dataset (1):

+ Insert PivotTable    + Insert Table

When you select **Insert PivotTable**, a blank PivotTable is added to a new worksheet in your Excel workbook. In **PivotTable Fields**, you can see all the tables and measures from your Power BI semantic model. You can start building your report in Excel.



When you select **Insert Table**, the **Create Table** dialog opens, where you can use the Data, Build, and Filters panes to design the table you'd like. Use the **Insert Table** button to add the table to the Excel sheet.



## Considerations and limitations

Review the following considerations and limitations:

- After you select **From Power BI** in the Excel ribbon, the artifacts loaded in the pane aren't all the semantic models you have access to. They're a selection of your most used semantic models. Use the search bar in the pane to get more semantic models.
- The **Insert Table** option is only available in Excel Desktop.
- The order of Power BI semantic models in the pane may be different from their order in the Data hub in the Power BI service.
- For newly created semantic models, recently refreshed semantic models, or semantic models that you just got access to, it may take up to 24 hours for these semantic models to show up in the Power BI Semantic models pane. If you don't see the semantic model you want, navigate to the Power BI OneLake data hub (<https://app.powerbi.com/datahub>) from the Power BI Semantic models pane in Excel and use **Analyze in Excel** to create an Excel workbook for that semantic model.
- Excel and Power BI visuals use different query languages and data load behaviors, so data load performance can be different between Excel and Power BI.
- The Power BI Datasets Excel add-in is currently unavailable in Excel for the web in all Sovereign clouds.

## Related content

For more information about getting data into Excel, see [Create a PivotTable from Power BI semantic models](#) in the Excel documentation.

You can also access **featured tables** in Excel, in the **Data Types** gallery. To learn more about featured tables and how to access them, see [Access Power BI featured tables in Excel organization data types](#). You can also read about [using Excel data types from Power BI](#) in the Excel documentation.

- Create Excel workbooks with refreshable Power BI data
- Design refreshable reports in Excel with Power BI data
- Questions? [Try the Power BI Community](#)

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## Feedback

Was this page helpful?



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# Create Excel workbooks with refreshable Power BI data

Article • 02/20/2025

When you view reports in the Power BI service (<https://app.powerbi.com>), you might want to further enrich the report data with other assumptions, perform what-if analysis, or validate the numbers in a specific Power BI visual or an entire Power BI report.

In this article, you learn how to create Excel workbooks containing connected Power BI data that you can refresh directly inside the workbook. That way, you can focus on your analysis in Excel and be confident that you're working with up-to-date data.

## Prerequisites

The following are prerequisites you need before proceeding.

- Your organization's tenant administrator must enable the **Users can work with Power BI semantic models in Excel using a live connection** tenant setting. Learn more about the [Excel live connection](#) tenant setting in the admin portal documentation.
- For on-premises datasets, your organization's tenant administrator also must enable the **Allow XMLA endpoints and Analyze in Excel with on-premises datasets** tenant setting. Learn more about the [Allow XMLA endpoints](#) tenant setting in the admin portal documentation.
- You must have **Build** permission to the Power BI semantic model or have at least a **Contributor** role in the Power BI workspace containing your semantic model.
- You must have a Power BI license: Fabric Free, Pro, or Premium Per User (PPU). Fabric Free license users can only work with datasets in My workspace or a Power BI Premium capacity or Fabric F64 or greater capacity. Learn more about [Power BI licenses](#).
- You can use Excel workbooks containing refreshable Power BI data in both Excel Desktop and Excel for the web.

## Evaluate in Excel choose Power BI data

Power BI provides you with options to ensure that you can extract the right granularity of data depending on how you want to analyze that data in Excel, either with Excel PivotTables or Excel tables. In the Power BI service, use the following two features to create an Excel workbook:

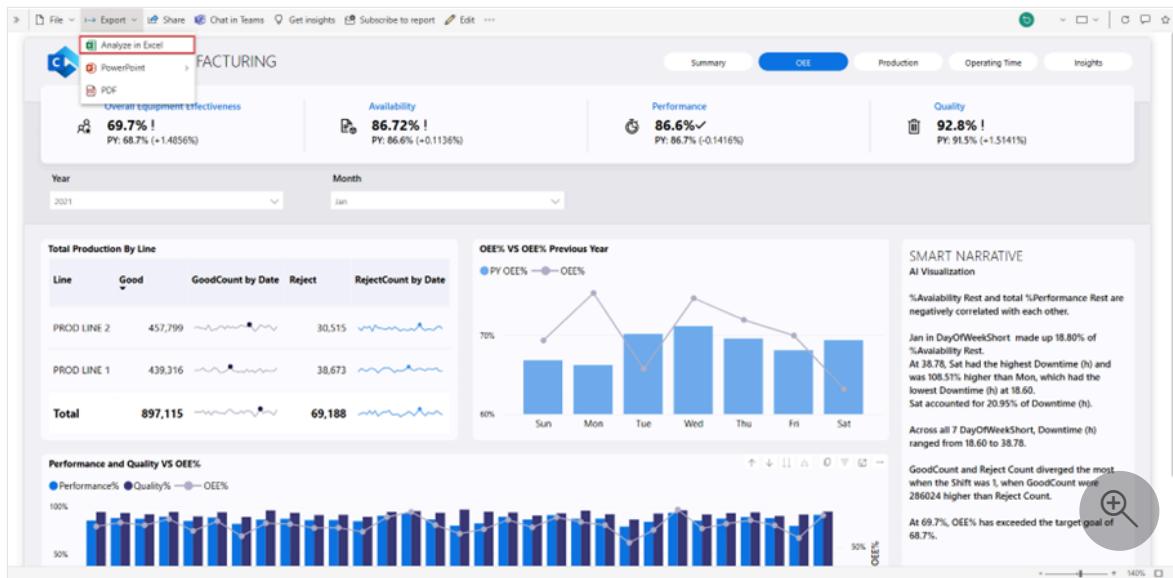
- Analyze in Excel
- Export to Excel with live connection
- Create connected PivotTables and Tables in Excel

## Analyze in Excel

With Analyze in Excel, you can create an Excel workbook containing the entire semantic model for a specific Power BI report and analyze that semantic model in Excel using PivotTables, Pivot Charts, and other Excel features.

In the Power BI service, you can use any of the following Analyze in Excel entry points to create an Excel workbook:

- Open a Power BI report. Select **Export > Analyze in Excel** from the top ribbon.



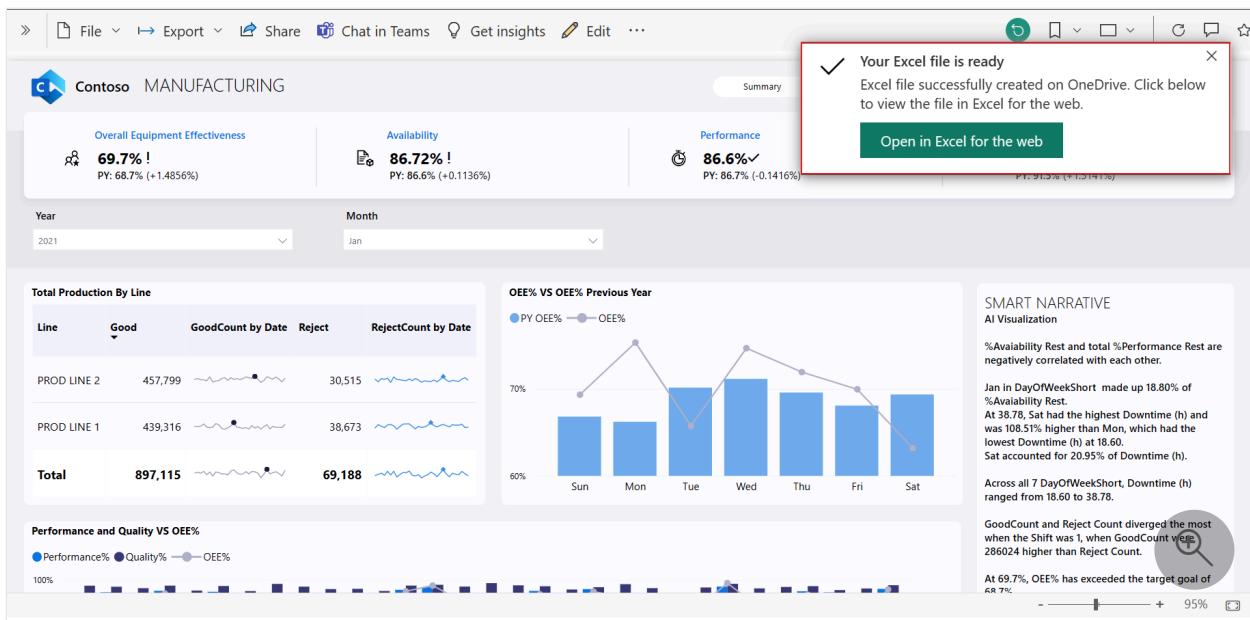
- Go to the workspace containing your Power BI semantic model or report, select **More options (...)** next to the semantic model or report name and select **Analyze in Excel**.

The screenshot shows the Microsoft Data hub interface. At the top, it says "Data hub" and "Discover, manage, and use data from across your org." with a link to "Learn more about Data hub". Below this is a section titled "Recommended" with five dataset cards. The second card, "NC460 Sales Team", has a context menu open over it, with "Analyze in Excel" highlighted. Other options in the menu include "Create report", "Auto-create report", "Create paginated report", "Create formatted table", "Delete", "Rename", "Settings", "Download this file", "View lineage", and "Share". Below the menu is a table with columns "Name", "Location", "Refreshed", "Endorsement", and "Sensitivity". The table contains three rows of data.

- Select a semantic model in a Power BI workspace. In the **Semantic model details** page, select **Analyze in Excel** on the menu bar.

The screenshot shows the "Semantic model details" page for the "Contoso Engineering Manufacturing Data" dataset. The top navigation bar includes "File", "Refresh", "Share", "Create a report", "Analyze in Excel" (which is highlighted with a red box), "Lineage", and "...". The main content area is divided into sections: "Dataset details" (Workspace: My Workspace, Endorsement: Promoted, Refreshed: 9/12/22, 8:53:33 AM), "Visualize this data" (button to "+ Create a report"), and "Share this data" (button to "Share dataset"). Below these is a section titled "Explore related reports" with a link to "Check out other reports and scorecards that already use this dataset.". At the bottom is a table with columns "Name", "Type", "Endorsement", "Workspace", "Unique viewers", and "Views". The table shows one row for "Contoso Engineering Manufacturing Data" (Report, -, MOD Administrator, 0, 0).

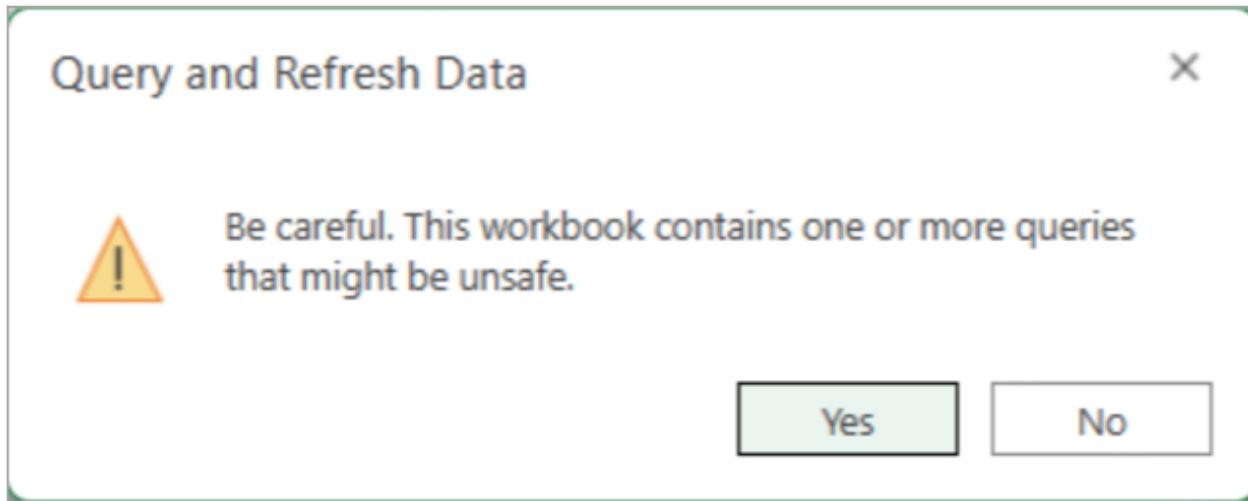
After you select Analyze in Excel, Power BI generates an Excel workbook and saves it to your OneDrive SharePoint account. It has the same name as the Power BI report, so you can open the workbook directly in Excel for the web.



## ⓘ Note

If you don't have a OneDrive SharePoint account, Power BI downloads the Excel workbook to your local computer.

When you choose **Open in Excel for the web**, your Excel workbook opens in a separate browser tab. To enable the Power BI query in Excel, select **Yes** on the **Query and Refresh Data** dialog.



After you select **Yes** in the dialog, you can see the tables and measures from your Power BI semantic model in the PivotTable Fields. You can start building your PivotTable reports in Excel.

A screenshot of the Microsoft Excel Online interface. The main area shows a worksheet titled "Contoso Engineering Manufacturing Data - Saved". A PivotTable is visible in the center-left, with its fields pane open on the right. The pane is titled "PivotTable Fields" and contains sections for "Filters", "Rows", "Columns", and "Values". A red box highlights the "Values" section, which lists various data items like "better performance", "Fact\_Production", and "Measure". The ribbon at the top has "PivotTable" selected. The status bar at the bottom indicates "Calculation Mode: Automatic" and "Give Feedback to Microsoft".

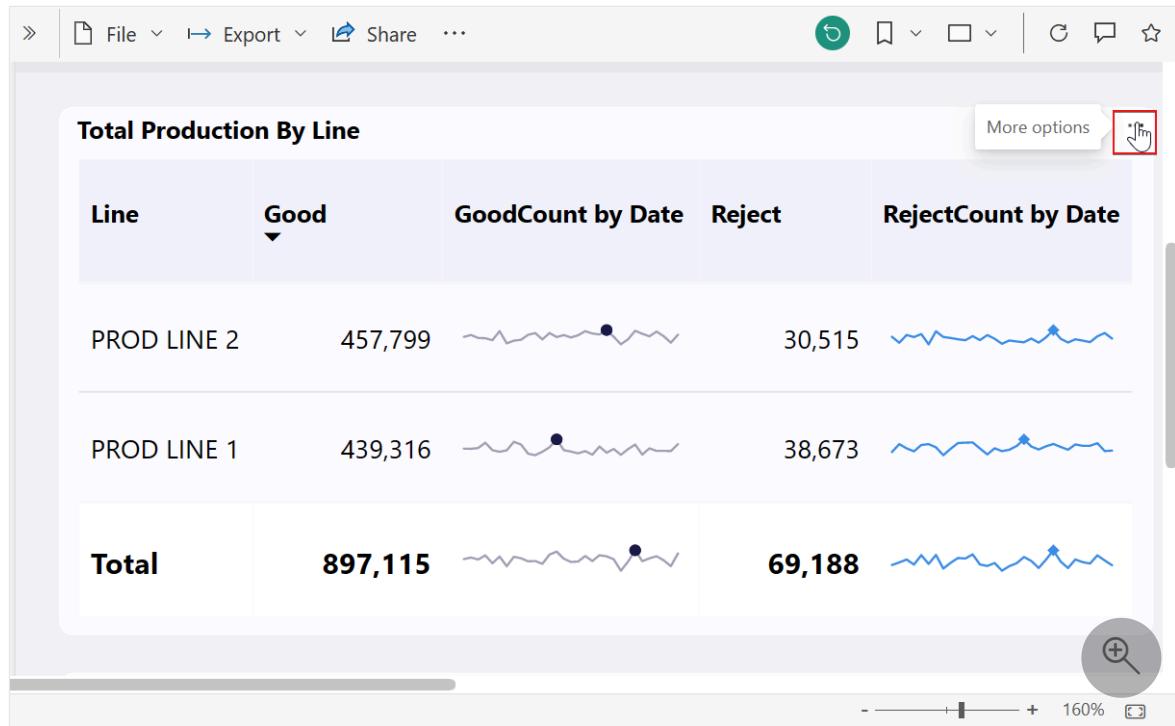
If you want to work with your data in the Excel Desktop app, select the **Editing** button in the ribbon and select **Open in Desktop app**.

A screenshot of the Microsoft Excel Online interface, similar to the previous one but with a different ribbon configuration. The ribbon now has "Editing" selected, indicated by a red box around the "Editing" button in the "Share" dropdown. The "Viewing" option is also shown. The rest of the interface, including the PivotTable, fields pane, and status bar, is identical to the first screenshot.

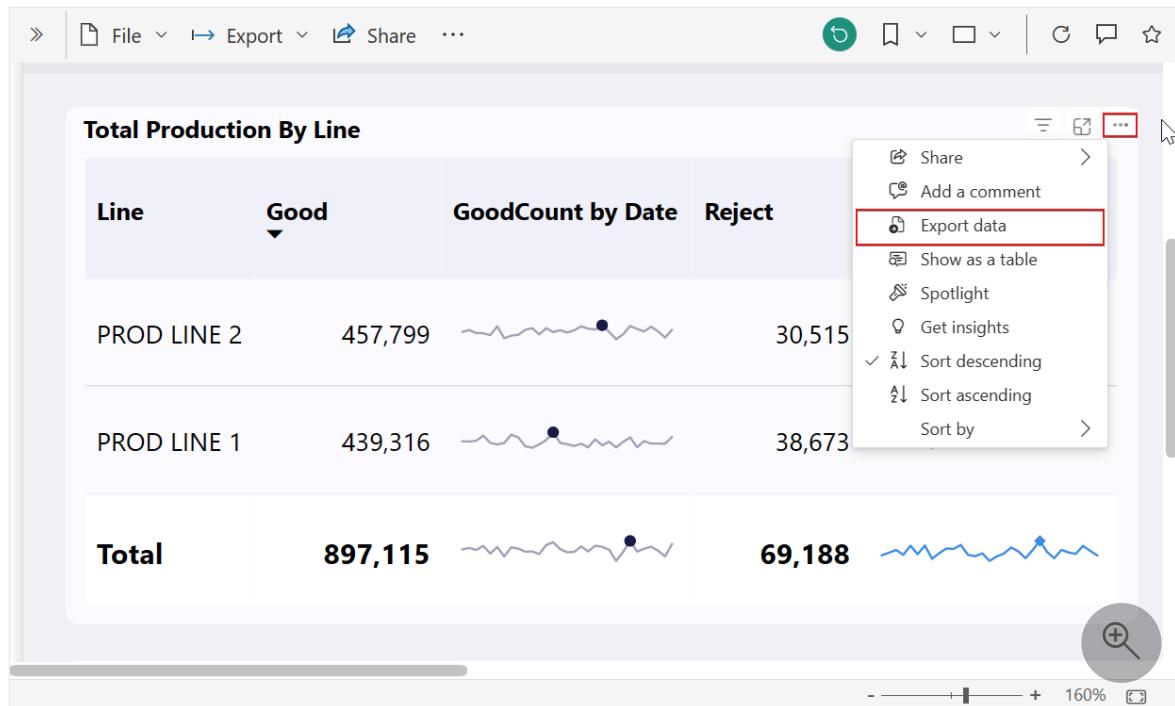
## Export to Excel with live connection

While viewing a Power BI visual, you can further explore the visual data in Excel and keep the data connected. You can export a table of refreshable data from a Power BI visual to Excel:

1. Choose a visual in a Power BI report, select **More options (...)**.



2. On the Options menu, select **Export data**. You have different options to select what type of data you want to export to Excel.

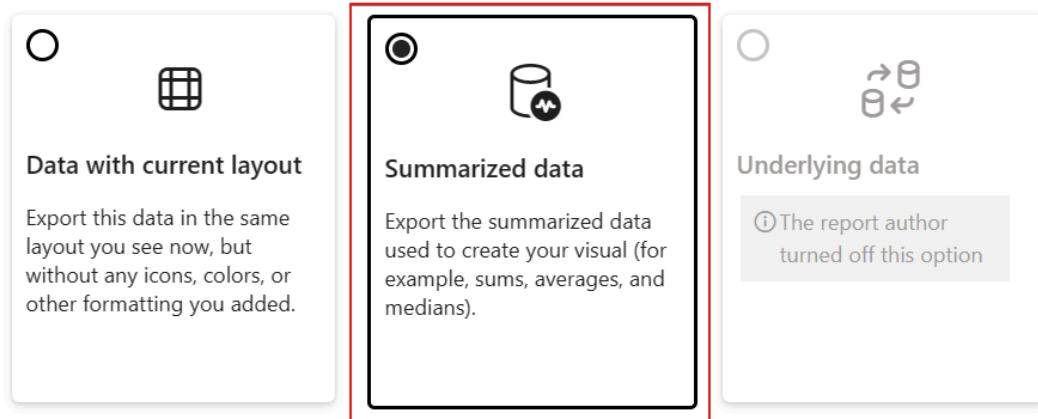


3. Select the **Summarized data card**, and choose the **.xlsx (Excel) with live connection (500,000 row max)** option under File format.

## Which data do you want to export?

X

Export your data in the format that suits your needs. If you have a lot of data, the number of rows you export might be limited depending on the file type you select. [Learn more about exporting data](#)



File format:

.xlsx (Excel) with live connection (500,000 row max) ▾

Export

Cancel



4. After you select **Export**, Power BI downloads an Excel workbook containing the live Power BI data to your computer.

The first time you open the Excel workbook, it might open in read-only mode until you select **Enable Editing**, depending on your Protected View settings in Office.



5. Depending on your [Trusted document](#) settings, you might also need to select **Enable Content** to load the Power BI data to the Excel grid.



The data from the Power BI visual is now visible as an Excel table that can be refreshed against Power BI.

A screenshot of Microsoft Excel showing a table with columns Dim\_Date[WeekNum], Dim\_Date[DayOfWeekShort], Dim\_Date[DayOfWeekNumber], [Performance\_], and [Quality\_]. The table has 27 rows of data. A filter icon is visible above the first row.

### ⚠ Note

The **ExportHeaders** worksheet in the Excel workbook contains details about the filters applied to the Power BI visual that the data was exported from.

In addition, you can use the OneLake Data Hub's Table Preview to export an Excel workbook with a live connection.

A screenshot of the OneLake Data Hub Table Preview interface. It shows a table of opportunities with columns: Name, Opportunity ID, Rank, SizeID, and Oppo. An 'Export' button is highlighted with a red box and a cursor. To the right is a 'Tables' sidebar with various export options like Excel, PDF, and XML.

Name	Opportunity ID	Rank	SizeID	Oppo
Opportunity #1	1	12		1 Small
Opportunity #10	10	84		1 Small
Opportunity #100	100	387		3 Large
Opportunity #101	101	77		1 Small
Opportunity #102	102	308		2 Medium
Opportunity #103	103	85		1 Small
Opportunity #104	104	246		2 Medium
Opportunity #105	105	369		3 Large
Opportunity #106	106	289		2 Medium
Opportunity #107	107	333		3 Large
Opportunity #108	108	481		3 Large
Opportunity #109	109	439		3 Large
Opportunity #11	11	116		1 Small
Opportunity #110	110	331		3 Large
Opportunity #111	111	409		3 Large
Opportunity #112	112	38		1 Small
Opportunity #113	113	101		1 Small
Opportunity #114	114	404		3 Large

## Excel add-in

You can use the Power BI Excel add-in to insert connected PivotTables and connected query tables starting from Excel. This helps you quickly find and insert refreshable Power BI data into your new or existing workbooks without leaving Excel.

### ⓘ Note

To use the Power BI Excel Add-in, ensure that in Excel Trust Center the following settings aren't checked:

- Disable all Application Add-ins (may impair functionality)
- Don't allow any web add-ins to start.

### ⓘ Note

The connected tables feature is now available in the Microsoft 365 Current Channel. Connected tables are available to all Monthly Enterprise Channel and Semi-Annual Enterprise Channel customers in their next regularly scheduled [Microsoft 365 update](#). The connected tables feature is available for everyone in Excel for the Web. The add-in is visible in Excel for users with a Power BI Pro license.

You can open the Excel Add-in from the Excel ribbon.

Starting on the **Insert** ribbon:

- Expand the **PivotTable** drop down
- Select **From Power BI (Microsoft)**

Starting on the **Data** ribbon:

- Expand the **Get Data** drop down
- Expand the **From Power Platform** menu
- Select **From Power BI (Microsoft)**

The Power BI add-in **Datasets Pane** opens in Excel and provides the following capabilities:

- List of Power BI semantic models that you have at build or edit permission on.
- Search for semantic models
- Open OneLake Data Hub in Power BI service in a new browser window
- Open semantic model in Power BI service in a new browser window
- See metadata for datasets like the workspace, owner, and the last refreshed date.

- See the tables in the semantic model
- See the related reports you have access to and open them in a new browser window.
- **Insert PivotTable** which lets you create a connected PivotTable just like Analyze in Excel does starting from the service.
- **Insert Table** which lets you design a table and insert it as an Excel query table in the Excel grid, referred to as a connected table.

You can use Excel's refresh capabilities to update the data in the Excel workbook for your connected PivotTable or connected table.

## Considerations and limitations

- Row-level security (RLS) and object-level security (OLS) are supported for Analyze in Excel and Export with Live Connection. RLS is enforced at the data-model level while OLS is enforced at the table or column level and both security layers apply to all users who access data in a specific Power BI report. Read more about [row-level security](#) and [object-level security](#).
- When inserting a connected PivotTable or connected query table, the Microsoft Purview Information Protection sensitivity label for the semantic model is automatically applied to the Excel workbook. If the Excel workbook has a sensitivity label already, the strictest label is applied.
- For Analyze in Excel, only Power BI semantic models that use Import mode preserve hierarchies in the PivotTable Fields in the Excel workbook. Power BI semantic models that are built on Direct Lake, DirectQuery, or composite models don't retain their hierarchies when you use Analyze in Excel.
- Analyze in Excel doesn't support specifying a locale by modifying the connection string after the workbook is generated.
- You might see an error message if the data is larger than 2 GB. In that case, either reduce the amount of data, for example by applying filters, or use the XMLA endpoint. For more information, see [XMLA endpoint](#).
- Users external to the tenant hosting the Power BI semantic model can't analyze Power BI data nor load Power BI data with live connection in Excel.
- Analyze in Excel and Export with live connection aren't supported in Power BI Report Server or Power BI PaaS Embedded, except for Power BI reports in Premium capacities.
- Analyze in Excel might not work as expected if field parameters are used in the underlying Power BI semantic model.
- Analyze in Excel and Export with live connection aren't available for Power BI semantic models with a live connection to Azure Analysis Services (AAS) or SQL Server Analysis Services (SSAS).

- Say you have a Power BI report that's built on a live connection to a data source, and you add other measures to the report in Power BI. If you use the Export with live connection option to export data from a visual in that report, the measures that you added won't be available in the data you export to Excel. Only measures from the data source are available in the exported data.
- Mac users can only use Excel for the web to explore Excel workbooks containing Power BI semantic models.
- The column name and order in a Power BI visual may not be preserved when data is exported to Excel from that visual.
- If the 'User Datasets Across Workspaces' tenant admin switch is off, users need to use **Write** permissions to use the semantic model. Learn more about [using semantic models across workspaces](#).
- If you're facing issues with exporting a summarized data card with live connection, please uncheck the "Show items with no data" option and try exporting again.

## Related content

- Now that you created the Excel workbook with refreshable Power BI data, it's time to [design a report in Excel with that Power BI data](#)
- [Connect Excel to Power BI semantic models](#)
- Questions? [Try the Power BI Community](#)

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## Feedback

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# Design refreshable reports in Excel with Power BI data

Article • 03/07/2025

Now that you [created an Excel workbook with refreshable Power BI data](#), you can start analyzing your data and designing reports in the workbook using familiar spreadsheet functionality.

You connected to the Power BI semantic model in one of two ways:

- If you connected using [Analyze in Excel](#) or the Power BI semantic model experience in Excel, your Excel workbook contains an empty PivotTable and Fields list from the Power BI semantic model.
- If you connected via [export with live connection](#), your Excel workbook contains an Excel table.

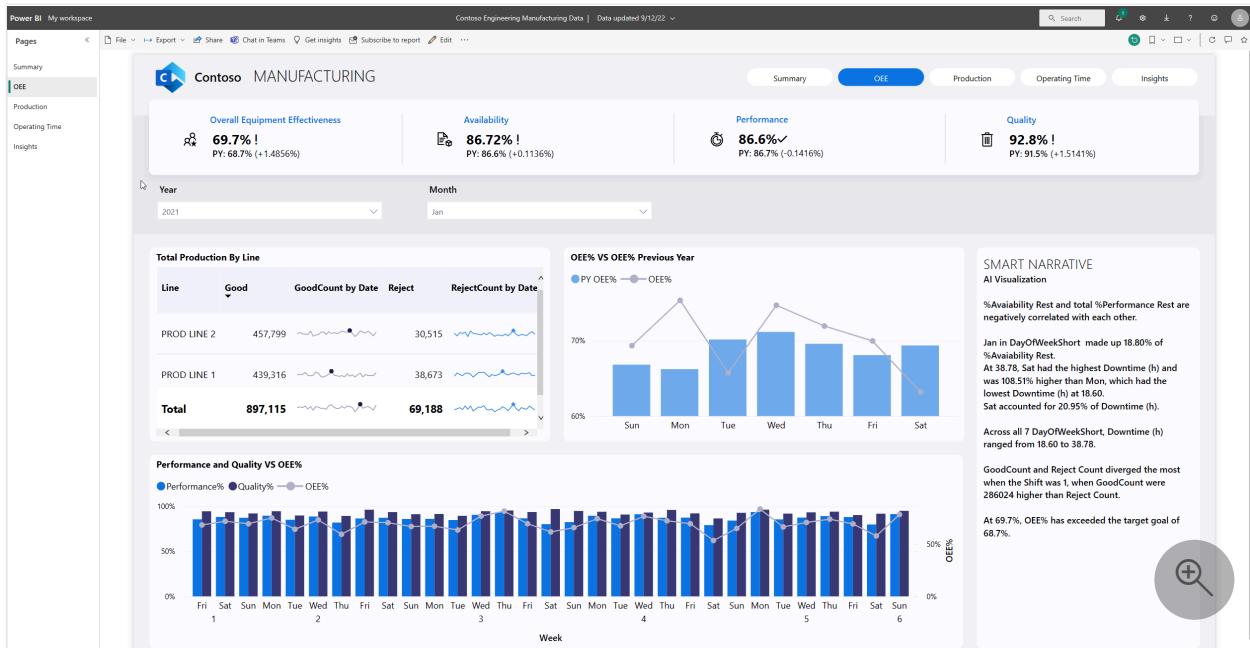
## Prerequisites

The following prerequisites are required before you proceed:

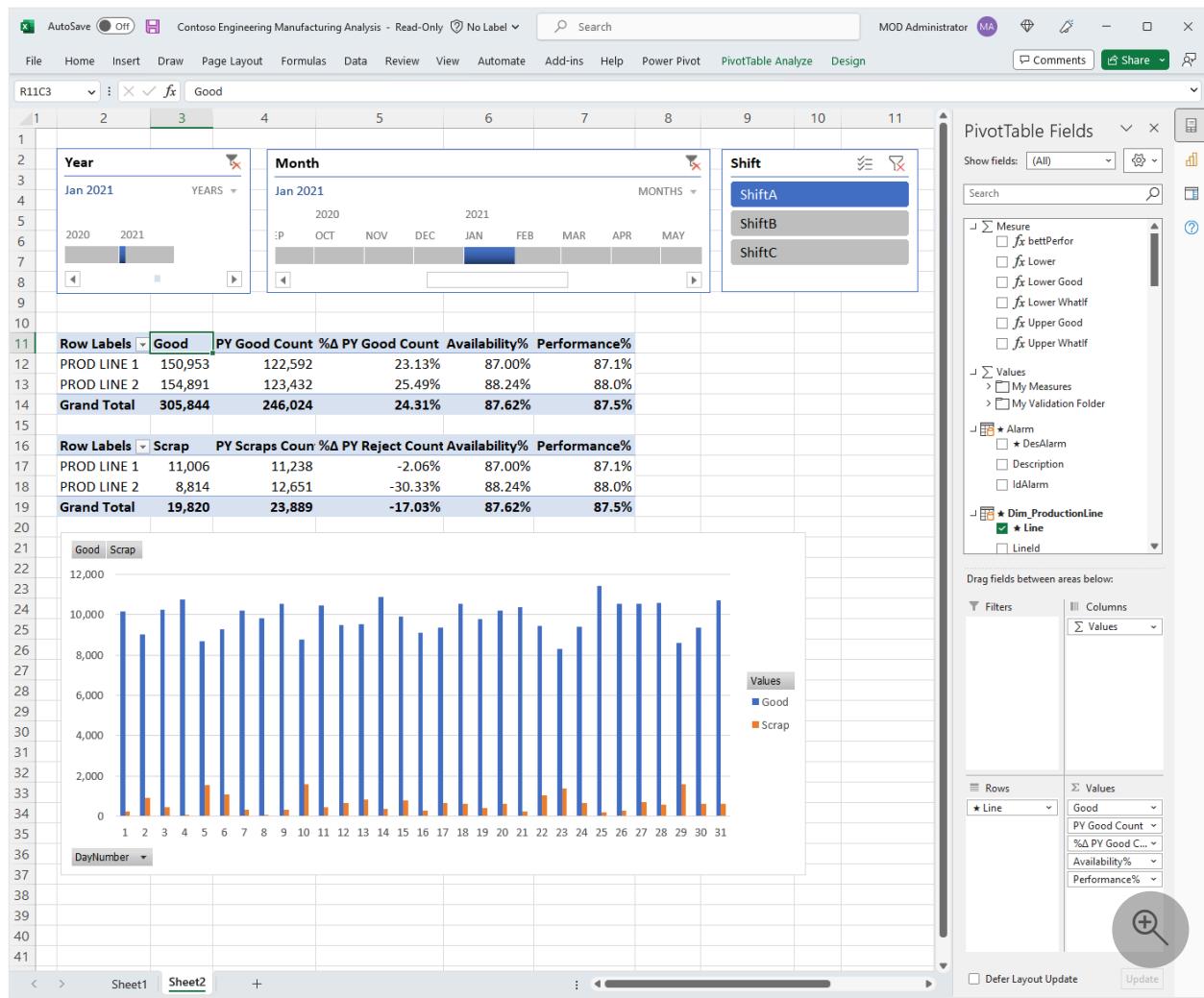
- Your organization's tenant administrator must enable the **Users can work with Power BI semantic models in Excel using a live connection** tenant setting. Learn more about the [Excel live connection](#) tenant setting in the admin portal documentation.
- For on-premises datasets, your organization's tenant administrator also must enable the **Allow XMLA endpoints and Analyze in Excel with on-premises datasets** tenant setting. Learn more about the [Allow XMLA endpoints](#) tenant setting in the admin portal documentation.
- You must have **Build** permission to the Power BI semantic model or have at least a **Contributor** role in the Power BI workspace containing your semantic model.
- You must have a Power BI license: Fabric (free), Pro, or Premium Per User (PPU). Fabric (free) license users can only work with datasets in My workspace or a Premium capacity or Fabric F64 or greater capacity. Learn more about [Power BI licenses](#).
- You can use Excel workbooks containing refreshable Power BI data in both Excel Desktop and Excel for the web.

## Analyze your Power BI data with PivotTables

With Analyze in Excel or the Power BI semantic model experience in Excel, you connected to a Power BI semantic model that you want to explore in Excel. The Excel workbook contains a Power BI connection string that links your Excel workbook to the Power BI semantic model.



To create your own PivotTable report or perform validation analysis on your data start adding fields from the PivotTable Fields into the Excel grid.



## Analyze your Power BI data with Excel tables

With the export with live connection, you can create an Excel workbook containing an Excel table connected to Power BI. This Excel workbook also contains a Power BI connection string that links your Excel workbook to the Power BI data.

The screenshot shows a Microsoft Excel spreadsheet titled "Performance and Quality vs OEE". The ribbon menu includes AutoSave, Home, Insert, Draw, Page Layout, Formulas, Data, Review, View, Automate, Developer, and Help. The status bar indicates "General • Saved". The formula bar shows "A1 Dim\_Date[WeekNum]". The table structure is as follows:

	A	B	C	D	E
1	Dim_Date[WeekNum]	Dim_Date[DayOfWeekShort]	Dim_Date[DayOfWeekNumber]	[Performance_]	[Quality_]
2		1 Fri		6	0.853666667
3		1 Sat		7	0.879916667
4		2 Sun		1	0.870888889
5		2 Mon		2	0.893805556
6		2 Tue		3	0.848611111
7		2 Wed		4	0.884611111
8		2 Thu		5	0.817861111
9		2 Fri		6	0.863027778
10		2 Sat		7	0.870805556
11		3 Sun		1	0.857361111
12		3 Mon		2	0.858416667
13		3 Tue		3	0.84575
14		3 Wed		4	0.903361111
15		3 Thu		5	0.928638889
16		3 Fri		6	0.864777778
17		3 Sat		7	0.800138889
18		4 Sun		1	0.822972222
19		4 Mon		2	0.892972222
20		4 Tue		3	0.864611111
21		4 Wed		4	0.910027778
22		4 Thu		5	0.870833333
23		4 Fri		6	0.872722222
24		4 Sat		7	0.789222222
25		5 Sun		1	0.839666667
26		5 Mon		2	0.934361111
27		5 Tue		3	0.852944444
28		F Wed		4	0.873072222

Below the table, there are buttons for "Contoso Engineering Manufacturi", "ExportHeaders", and "Display Settings". The status bar shows "Ready" and "120%".

You can customize the table by adding unique formatting to the Excel table. That formatting is preserved when you refresh the data in Excel.

	A	B	C	D	E
1	WeekNum	DayofWeek	DayofWeekNum	Performance	Quality
2		1 Fri		6	85.4%
3		1 Sat		7	88.0%
4		2 Sun		1	87.1%
5		2 Mon		2	89.4%
6		2 Tue	3	3	84.9%
7		2 Wed		4	88.5%
8		2 Thu		5	81.8%
9		2 Fri		6	86.3%
10		2 Sat		7	87.1%
11		3 Sun		1	85.7%
12		3 Mon		2	85.8%
13		3 Tue		3	84.6%
14		3 Wed		4	90.3%
15		3 Thu		5	92.9%
16		3 Fri		6	86.5%
17		3 Sat		7	80.0%
18		4 Sun		1	82.3%
19		4 Mon		2	89.3%
20		4 Tue		3	86.5%
21		4 Wed		4	91.0%
22		4 Thu		5	87.1%
23		4 Fri		6	87.3%
24		4 Sat		7	78.9%
25		5 Sun		1	84.0%
26		5 Mon		2	92.1%

## Refresh the data

Whether you have an Excel PivotTable or table connected to a Power BI semantic model, you can update data in your Excel workbook by either refreshing a specific object (PivotTable, Pivot Chart, or table), or by refreshing all objects connected to a specific Power BI semantic model.

### Refresh a single object

To refresh a specific object in Excel, right-click the object and select **Refresh** in the menu.

The screenshot shows a Microsoft Excel interface with the 'Home' tab selected. A context menu is open over a cell containing the value '150953'. The menu includes options like 'Copy', 'Format Cells...', 'Number Format...', and 'Refresh'. The 'Refresh' option is highlighted with a red box. In the background, there is a PivotTable with columns for 'Year' and 'Month', and a data grid below it.

	A	B	C	D	E	F	G	H
1								
2		Year		Month				
3		Jan 2021	YEARS	Jan 2021	2020	2021	MONTHS	
4					OCT	NOV	DEC	JAN
5		2020	2021		JAN	FEB	MAR	APR
6								MAY
7								
8								
9								
10								
11		Row Labels	Good		Availability%	Performance%		
12	PROD LINE 1	150,953	177,507	23,13%	87.00%	87.1%		
13	PROD LINE 2	154,8	177,507	49%	88.24%	88.0%		
14	Grand Total	305,8	355,014	31%	87.62%	87.5%		
15								
16								
17								
18								
19								
20								
21								

## Refresh all objects

To refresh all objects connected to a Power BI semantic model, use either of these options:

- Select the Data tab in Excel, select Refresh All > Refresh.

The screenshot shows the Microsoft Excel ribbon with the 'Data' tab selected. A context menu is open over a PivotTable in cell C12, displaying options like 'Refresh All', 'Refresh', 'Cancel Refresh', and 'Connection Properties...'. The 'Refresh' option is highlighted with a red box.

Row Labels	Good	PY Good Count	%Δ PY Good Count	Availability%	Performance%
PROD LINE 1	150,953	122,592	23.13%	87.00%	87.1%
PROD LINE 2	154,891	123,432	25.49%	88.24%	88.0%
<b>Grand Total</b>	<b>305,844</b>	<b>246,024</b>	<b>24.31%</b>	<b>87.62%</b>	<b>87.5%</b>

### ➊ Note

If you have other connections in your Excel workbook, Refresh All updates all the data in your workbook, including Power BI data.

- In the Excel Desktop ribbon, select Data > Queries & Connections. In the Queries & Connections pane, select Refresh.

The screenshot shows the Microsoft Excel ribbon with the 'Data' tab selected. The 'Queries & Connections' button is highlighted with a red box. The 'Queries & Connections' pane is open on the right side of the screen, showing a connection named 'Contoso Engineering Manufacturing...' with a 'Refresh' button highlighted with a red box.

Row Labels	Scrap	PY Scraps Co
PROD LINE 1	11,006	1:
PROD LINE 2	8,814	1:
<b>Grand Total</b>	<b>19,820</b>	<b>2</b>

## Related content

- [Create Excel workbooks with refreshable Power BI data](#)

- Connect Excel to Power BI semantic models
  - Questions? [Try the Power BI Community ↗](#)
- 

## Feedback

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# Access Power BI featured tables in Excel organization data types

Article • 11/10/2023

*Featured tables* are a way to link your data in Microsoft Excel to data from Power BI. They make it easier to add enterprise data to your Excel sheets. In the Data Types Gallery in Excel, you find data from featured tables in Power BI semantic models. This article explains how.

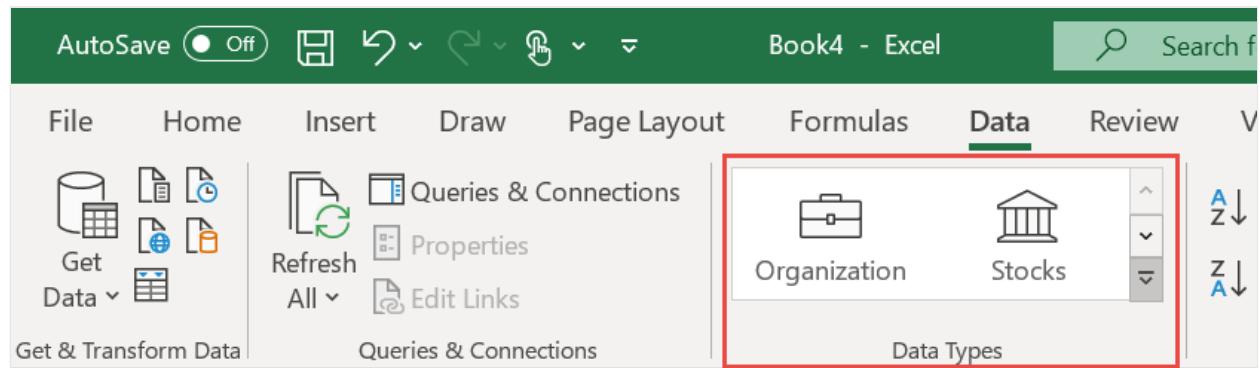
To learn how to create featured tables in Power BI, see [Set featured tables in Power BI Desktop](#).

## ⓘ Note

In Excel, you can also [analyze data from any Power BI semantic model](#) that you can access in Power BI.

## The Excel Data Types gallery

Featured tables from Power BI semantic models appear as *data types* on the Data ribbon, in the Excel Data Types gallery.



When expanded, the gallery shows the generic data types such as **Stocks** and **Geography**. You also see the top 10 **Organization** data types available to you, from featured tables in Power BI semantic models.

The screenshot shows the Power BI Data Types gallery. At the top, there are three main categories: Organization (briefcase icon), Stocks (bank building icon), and Geography (map icon). Below these, a section titled "From your organization" is highlighted with a red border. It contains icons for Customers, Products, Suppliers, District, and Store, each with a briefcase icon. Further down, there is an icon for Account Ba... (partially visible) and a "More from your organization..." button with a briefcase icon.

Organization      Stocks      Geography

**From your organization**

Customers      Products      Suppliers      District      Store

Account Ba...

More from your organization...

## Search for Power BI data in the Data Types Gallery

To search for data in a Power BI featured table, select a cell or a range in your Excel sheet containing a value that matches the value in a featured table. Select the **More** arrow next to the Data Types gallery.

The screenshot shows the Microsoft Excel ribbon with the "Data" tab selected. In the "Data" tab, there is a "Get & Transform D..." group with icons for Get Data, Refresh, All, and Queries & Connections. There is also a "Queries & Connections" group with icons for Properties and Edit Links. To the right, the "Data Types" gallery is open, displaying "Organization" and "Stocks" with a briefcase icon. A red box highlights the "More" arrow at the bottom right of the gallery.

AutoSave (Off)      featured-district-manager.xlsx

File      Home      Insert      Draw      Page Layout      Formulas      **Data**      Review

Get & Transform D...      Queries & Connections  
Get Data      Refresh      All      Properties  
Data Types      Edit Links

If you see the table you're looking for, select it. Otherwise, select **More from your organization**. Excel displays all the featured tables you have access to in the pane.

The screenshot shows the Microsoft Excel ribbon with the 'Data' tab selected. In the 'Get & Transform Data' group, there are icons for 'Get Data' and 'Queries & Connections'. The 'Queries & Connections' section is expanded, showing options like 'Refresh', 'All', and 'Edit Links'. Below this is a 'Featured' section with icons for 'Organization', 'Stocks', and 'Geography'. Under 'From your organization (preview)', there are icons for 'Office VSO/A...', 'Projects (Micr...)', 'Customer Cu...', 'Customers', and 'Products'. A red box highlights the 'More from your organization...' button.

In the **Data Selector** pane, type in the **Filter** box to narrow your options. Select the table you want to use.

The screenshot shows the Microsoft Excel ribbon with the 'Data' tab selected. In the 'Get & Transform Data' group, there are icons for 'Get Data' and 'Queries & Connections'. The 'Queries & Connections' section is expanded, showing options like 'Refresh', 'All', and 'Edit Links'. Below this is a 'Featured' section with icons for 'Organization', 'Stocks', and 'Geography'. Under 'From your organization (preview)', there are icons for 'Office VSO/A...', 'Projects (Micr...)', 'Customer Cu...', 'Customers', and 'Products'. A red box highlights the 'More from your organization...' button.

If Excel finds matching rows with high confidence, the cells are immediately linked to those rows. The linked item icon indicates the cells are linked to the rows in Power BI.

The screenshot shows a table in Excel with two rows selected: 'Bigfoot Breweries' and 'Escargots Nouveaux'. A red box highlights the first row. To the left of the first column, there is a small icon of a briefcase with a question mark, indicating a link to another table.

If a cell has more than one potential matching row, the cell shows a question mark icon, and the **Data Selector** pane opens. In the following example, we selected a range from *B3:B9*, then selected the Power BI featured table **Store**. All the rows had matches except cell B9, "508 - Pasadena Lindseys". The **Data Selector** shows two possible matches, the same value in two different tables.

The screenshot shows a Microsoft Excel spreadsheet with a Data Selector sidebar open. The spreadsheet has columns A, B, and C, and rows numbered 1 through 23. Row 3 contains a dropdown menu titled "Store Number Name" with several options listed below it. The option "508 - Pasadena Lindseys" is highlighted with a red border. The Data Selector sidebar on the right displays search results for "508 - Pasadena Lindseys". It shows two entries under the heading "Pasadena Lindseys": "MD" and "Select". Below these, there is another entry for "Pasadena Lindseys" with "MD" and "Select" options. At the bottom of the sidebar, there is a link "Show more results".

The *Organization* data option can return rows from multiple featured tables. Excel groups the potential matching rows by the data type they came from. Excel sorts the data types based on their strongest potential matching row. Use the chevron arrows to collapse and expand the data types to matching rows.

The screenshot shows the Data Selector pane open in Excel. The search term 'north south' has been entered into the search bar at the top. The results are categorized by data type: Organization, Customer Current Orders, Customers, and Products. The 'North/South' entry under 'Customer Current Orders' and 'Customers' is highlighted with a red box. The 'Northwoods Cranberry Sauce' entry under 'Products' is also highlighted with a red box. Each suggestion row contains the name of the item, its ID (e.g., NORTS, 8), and a 'Select' button.

Category	Suggestion	ID	Action
Customer Current Orders	North/South	NORTS	Select
	North/South	NORTS	Select
Products	Northwoods Cranberry Sauce	8	Select
	Northwoods Cranberry Sauce	8	Select

For each suggestion, select the row name in the **Data Selector** pane to see more details within the row to help you pick the right row. Once you've found it, press **Select** to link the row to the cell in Excel.

# Data Selector

← | Details

## North/South

CustomerID

NORTS

ContactName

Simon Crowther

ContactTitle

Sales Associate

Address

South House 300 Queensbridge

City

London

PostalCode

SW7 1RZ

Country

UK

Phone

(171) 555-7733

Select

Powered by Power BI

Explore related data

Now that you've created the connection between the values in your Excel sheet and the data from the Power BI featured table, you can explore that data. Use the data to enhance your Excel reporting.

## View related data in a card

Select the **Card** icon in the cell to show a card with data from any fields and calculated fields in the featured table. The title of the card shows the value of the row label field in the featured table.

The screenshot shows a Microsoft Excel grid with a Power BI feature card overlaid on it. The grid has a column labeled 'CompanyName' containing company names like Karkki Oy, Leka Trading, Ma Maison, Lyngbysild, New England Seafood Cannery, Exotic Liquids, Bigfoot Breweries, and Escargots Nouveaux. The cell for 'Ma Maison' is highlighted with a red border. A Power BI card is displayed over this cell, titled 'Ma Maison'. The card includes the following data:

- Data retrieved: 7/24/2020 12:21
- SupplierID: 25
- ContactName: Jean-Guy Lauzon
- ContactTitle: Marketing Manager
- Address: 2960 Rue St. Laurent
- City: Montréal
- Region: Québec
- PostalCode: H1J 1C3

At the bottom right of the card, there is a small icon with three horizontal bars and a circular arrow, followed by the text '((o))'.

## Insert related data from Power BI

Select the **Insert Data** icon, then select a field name from the list of fields to add its value to the grid.

B	C	D	E
CompanyName			
Karkki Oy			
Leka Trading			
Ma Maison			
Lyngbysild			
New England Seafood Cannery			
Exotic Liquids			
Bigfoot Breweries			
Escargots Nouveaux			
	CompanyName		
	Address		
	City		
	CompanyName		
	ContactName		
	ContactTitle		
	Country		
	Fax		
	Phone		
	PostalCode		
	Region		
	SupplierID		

The field value or values are placed in the adjacent cells. The cell formula refers to the linked cell and the field name, so you can use the data in Excel functions.

The screenshot shows an Excel table with two columns: 'CompanyName' and 'Address'. The formula bar at the top contains the formula `=[@CompanyName].Address`. The 'Address' column is highlighted with a red border.

CompanyName	Address
Karkki Oy	Valtakatu 12
Leka Trading	471 Serangoon Loop, Suite #402
Ma Maison	2960 Rue St. Laurent
Lyngbysild	Lyngbysild Fiskebakken 10
New England Seafood Cannery	Order Processing Dept. 2100 Paul Revere Blvd.
Exotic Liquids	49 Gilbert St.
Bigfoot Breweries	3400 - 8th Avenue Suite 210
Escargots Nouveaux	22, rue H. Voiron

## Use cell formulas

In an Excel table, you can refer to the linked table column and then add data fields using the . (period) reference.

The screenshot shows an Excel table with two columns: 'CompanyName' and 'Address'. The formula bar at the top contains the formula `=[@CompanyName].`. A dropdown menu is open over the formula, listing various fields: Address, City, CompanyName, ContactName, ContactTitle, Country, Phone, PostalCode, and SupplierID. The 'City' option is highlighted with a red border.

CompanyName	Address
Karkki Oy	Valtakatu 12
Leka Trading	471 Serangoon
Ma Maison	2960 Rue St. L
Lyngbysild	Lyngbysild Fisk
New England Seafood Cannery	Order Process
Exotic Liquids	49 Gilbert St.
Bigfoot Breweries	3400 - 8th Avenue Suite 210
Escargots Nouveaux	22, rue H. Voiron

Likewise in a cell, you can refer to the cell and use the . (period) reference to retrieve fields.

	B	C	D
CompanyName	=B3.		
Karkki Oy		on Loop, Suite #402	
Leka Trading		Laurent	
Ma Maison		skebakken 10	
Lyngbysild		ssing Dept. 2100 Paul Revere Blvd.	
New England Seafood Can			
Exotic Liquids			
Bigfoot Breweries	3400 - 8th Avenue Suite 210		
Escargots Nouveaux	22, rue H. Voiron		

## Show a card, change, or convert to text

Linked cells have additional right-click menu options. Right-click a cell. Along with the usual options, you also see:

- Show Data Type Card
- Data Type > Convert to Text
- Data Type > Change
- Refresh

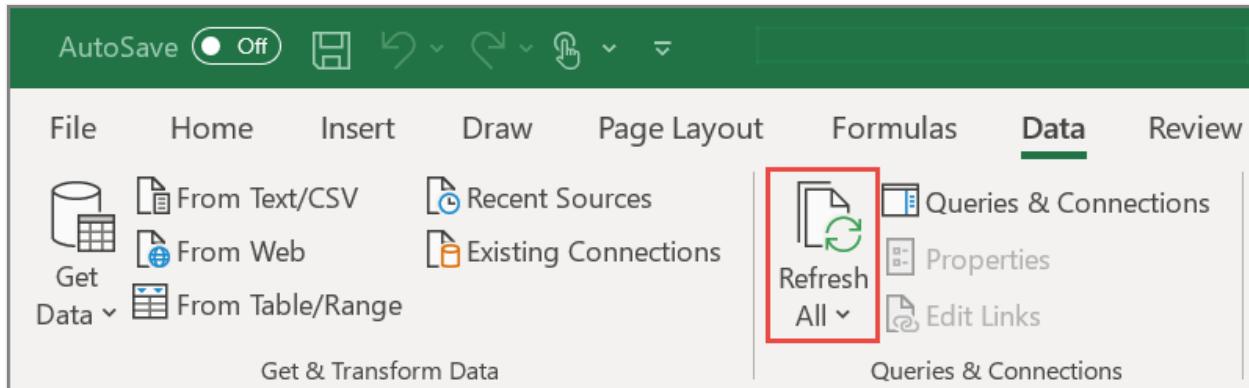
The screenshot shows a context menu for a linked cell in Excel. The menu includes standard options like Paste Options and Smart Lookup, followed by specific Power BI-related options. The 'Convert to Text' option is highlighted with a red box.

**Convert to Text** removes the link to the row in the Power BI featured table. Importantly, the text in the cell is the row label value of the linked cell. If you linked a cell to a row you didn't intend to, select **Undo** in Excel to restore the initial cell values.

## Data caching and refresh

When Excel links a cell to a row from a Power BI featured table, it retrieves and saves all the field values in the Excel file. Anyone you share the file with can refer to any of the fields, without requesting data from Power BI.

Use the **Refresh All** button in the **Data** ribbon to refresh data in linked cells.



You can also refresh individual cells. Right-click the cell and select **Data Types** > **Refresh**.

## Licensing

The Excel Data Types Gallery and connected experiences to Power BI featured tables are available for Excel subscribers with a Power BI Pro service plan.

## Security

You see only featured tables from semantic models you have permission to access in Power BI. When refreshing data, you must have permission to access the semantic model in Power BI to retrieve the rows. You need [Build or Write permission on the semantic model](#) in Power BI.

Excel caches the data returned for the entire row. Anyone you share the Excel file with can see the data for all the fields in all the linked cells.

## Administrative control

Power BI admins can control who in the organization can use featured tables in the Excel Data Types Gallery. See [Allow connections to featured tables](#) in the Admin portal article for details.

## Auditing

Administration audit logs show these events for featured tables:

- **AnalyzedByExternalApplication:** Gives admins visibility into which users are accessing which featured tables.
- **UpdateFeaturedTables:** Gives admins visibility into which users are publishing and updating featured tables.

For a complete list of audit log events, see [Track user activities in Power BI](#).

## Considerations and limitations

Here are the current limitations:

- The integration is available in Excel in the current channel.
- Featured tables in Power BI semantic models that use the following capabilities aren't shown in Excel:
  - DirectQuery semantic models.
  - Semantic models with a live connection.
- Excel shows only data in columns, calculated columns, and measures defined in the featured table. The following aren't provided:
  - Measures defined on related tables.
  - Implicit measures calculated from relationships.
- When you use Power BI featured tables in Excel, your Power BI data might be processed in a region or geography that's different than where your Power BI tenant data is stored at rest.

The Data Types experience in Excel is similar to a lookup function. It takes a cell value provided by the Excel sheet, and searches for matching rows in Power BI featured tables. The search experience has the following behaviors:

- Row matching is based on text columns in the featured table. It uses the same indexing as Power BI Q&A capability, which is optimized for English-language search. Searching in other languages may not result in accurate matches.
- Most numerical columns aren't considered for matching. If the *Row Label* or *Key Column* are numeric, they're included for matching.
- Matching is based on Exact and Prefix matches for individual search terms. A cell's value is split based on spaces or other whitespace characters like tabs. Then each word is considered a search term. A row's text field values are compared to each search term for Exact and Prefix matches. A Prefix match is returned if the row's text field starts with the search term. For example, if a cell contains "Orange County", then "Orange" and "County" are distinct search terms.

- Rows with text columns whose values exactly match “Orange” or “County” are returned.
  - Rows with text columns whose values start with “Orange” or “County” are returned.
  - Importantly, rows that contain “Orange” or “County” but don’t start with them aren’t returned.
- Power BI returns, at most, 100 row suggestions for each cell.
  - Some symbols aren’t supported.
  - Setting or updating the featured table isn’t supported in the XMLA endpoint.
  - Excel files with a data model can be used to publish featured tables. Load the data into Power BI desktop and then publish the featured table.
  - Changing the Table name, Row Label, or Key Column in the featured table might impact Excel users with linked cells to rows in the table.
  - Excel shows when the data was retrieved from the Power BI semantic model. This time isn’t necessarily the time that the data was refreshed in Power BI, or the time of the most recent data point in a semantic model. For example, say a semantic model in Power BI was refreshed a week ago, but the underlying source data was a week old when the refresh happened. The actual data would be two weeks old, but Excel would show data retrieved as the date and time at which the data was pulled into Excel.

## Next steps

- Set featured tables in Power BI Desktop.
- Read about [using Excel data types from Power BI](#) in the Excel documentation.
- Questions? [Ask the Power BI Community.](#)

# Monitor usage of Power BI semantic models in Excel

Article • 01/23/2024

If you are a Power BI administrator, you might want to track who is connecting to your organization's Power BI data from Excel to ensure there's no unauthorized access to the data. The Power BI activity logs allows you to monitor the usage of Power BI semantic models and improve your organization's data governance or meet regulatory compliance requirements (where applicable).

## Identify users connected to semantic models from Excel

To identify users connecting to Power BI semantic models from Excel desktop or Excel for the web, do the following steps.

1. Open PowerShell.
2. Run the [Get-PowerBIActivityEvent](#) cmdlet to download event data for the **AnalyzedByExternalApplication** activity.

The **AnalyzedByExternalApplication** activity identifies users who interact with semantic models published to the Power BI service from an external application. Here's a sample cmdlet for a day's activity data:

PowerShell

```
Get-PowerBIActivityEvent - StartDateTime '2022-03-15T00:00:00' -  
EndDateTime '2022-03-15T23:59:59' -ActivityType  
'AnalyzedByExternalApplication'
```

```

Select Administrator: Windows PowerShell
PS C:\WINDOWS\system32> Get-PowerBIActivityEvent -StartTime '2022-03-15T00:00:00' -EndTime '2022-03-15T23:59:59' -ActivityType 'AnalyzedByExternalApplication'
[]
PS C:\WINDOWS\system32> Get-PowerBIActivityEvent -StartTime '2022-03-15T00:00:00' -EndTime '2022-03-15T23:59:59' -ActivityType 'AnalyzedByExternalApplication'
[
    {
        "Id": "413f[REDACTED]",
        "RecordType": 20,
        "CreationTime": "2022-03-15T21:55:11Z",
        "Operation": "AnalyzedByExternalApplication",
        "OrganizationId": "1b[REDACTED]",
        "UserType": 0,
        "UserKey": "10[REDACTED]",
        "Workload": "PowerBI",
        "UserId": "Inet[REDACTED].com",
        "ClientIP": "[REDACTED] 8",
        "UserAgent": "MSOLAP 15.0 Client",
        "Activity": "AnalyzedByExternalApplication",
        "ItemName": "Excel Online",
        "DatasetName": "XYZ Financial Report",
        "ObjectId": "Excel Online",
        "DatasetId": "bd[REDACTED]",
        "IsSuccess": true,
        "RequestId": "64[REDACTED]",
        "ActivityId": "34[REDACTED]"
    },
    {
        "Id": "b494[REDACTED]",
        "RecordType": 20,
        "CreationTime": "2022-03-15T21:58:40Z",
        "Operation": "AnalyzedByExternalApplication",
        "OrganizationId": "1b[REDACTED]",
        "UserType": 0,
        "UserKey": "10[REDACTED]",
        "Workload": "PowerBI",
        "UserId": "[REDACTED]",
        "ClientIP": "[REDACTED] 8",
        "UserAgent": "MSOLAP 15.0 Client",
        "Activity": "AnalyzedByExternalApplication",
        "ItemName": "Excel.exe",
        "DatasetName": "Workforce Demographics Report",
        "ObjectId": "Excel.exe",
        "DatasetId": "44[REDACTED]",
        "IsSuccess": true,
        "RequestId": "86[REDACTED]",
        "ActivityId": "A0[REDACTED]"
    }
]

```

User is connecting from Excel for the web

User is connecting from Excel Desktop

## Related content

- Create Excel workbooks with refreshable Power BI data
- Design refreshable reports in Excel with Power BI data
- Read about [using Excel data types from Power BI](#) in the Excel documentation.
- Questions? [Try the Power BI Community](#)

# Set featured tables in Power BI Desktop to appear in Excel

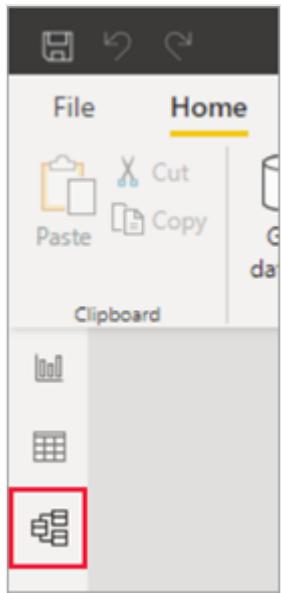
Article • 11/10/2023

In the Data Types Gallery in Excel, users can find data from *featured tables* in your Power BI semantic models. In this article, you learn how to set tables as *featured* in your semantic models. These tags make it easier for users to add enterprise data to their Excel sheets. Here are the basic steps for setting and sharing featured tables.

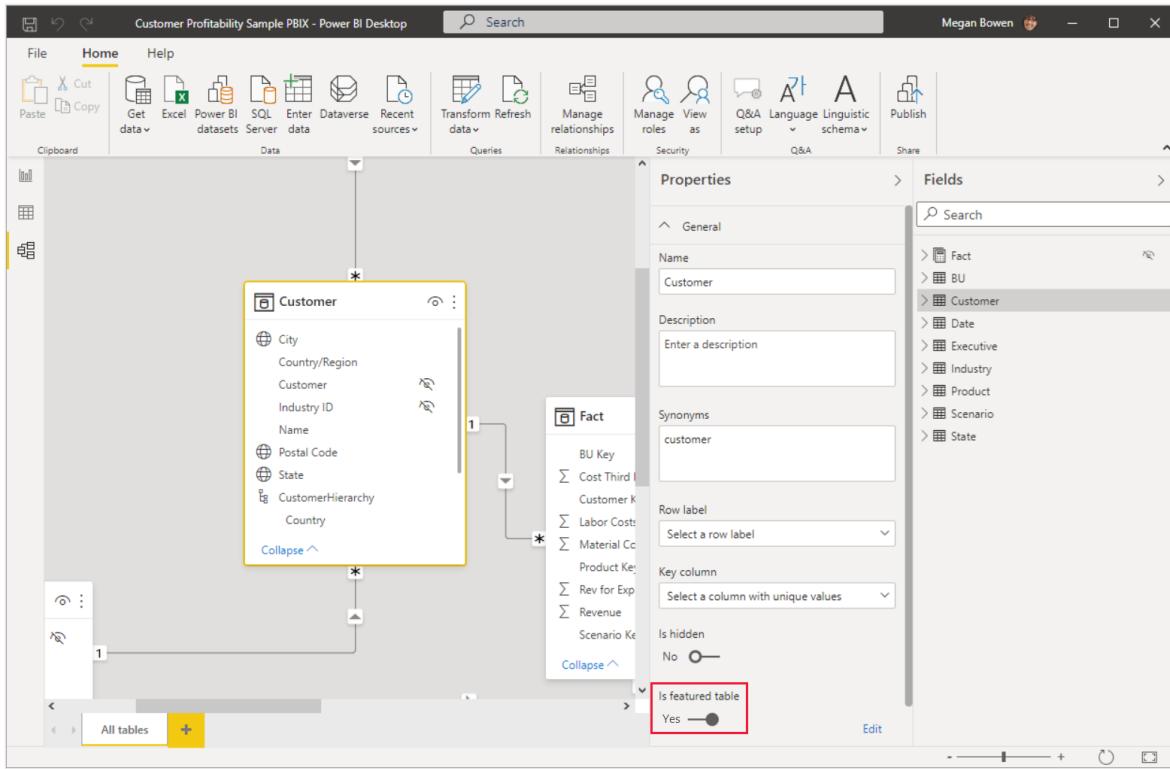
1. Identify featured tables in your semantic models in Power BI Desktop (this article).
2. Save those semantic models with featured tables to a shared workspace. Report creators can create reports with those featured tables.
3. The rest of the organization can connect to those featured tables, referred to as *data types* in Excel, for relevant and refreshable data. The article [Access Power BI featured tables in Excel](#) describes how to consume these featured tables in Excel.

## Select a table

1. In Power BI Desktop, go to Model view.



2. Select a table, and set **Is featured table** to Yes.



3. In the Set up this featured table dialog box, provide the required fields:

- A Description.

**Tip**

Start the description with "Featured table" to help Power BI report creators identify it.

- A **Row label**. The Row label field value is used in Excel so users can easily identify the row. It appears as the cell value for a linked cell, in the **Data Selector** pane, and in the **Information** card.
- A **Key column**. The Key column field value provides the unique ID for the row. This value enables Excel to link a cell to a specific row in the table.

Set up this featured table

The data in featured tables is discoverable in connected products. [Learn more](#)

Description \*

List of customers and their contact information.

Row label \*

CompanyName

Key column \*

CustomerID

**Save**   **Cancel**

This screenshot shows a configuration dialog for a 'featured table'. At the top, it says 'Set up this featured table' and notes that data is discoverable in connected products with a link to 'Learn more'. Below this are three input fields: 'Description \*' containing 'List of customers and their contact information.', 'Row label \*' containing 'CompanyName', and 'Key column \*' containing 'CustomerID'. At the bottom right are two buttons: a yellow 'Save' button and a grey 'Cancel' button.

4. After you publish or import the semantic model to the Power BI service, the featured table appears in the Excel Data Types Gallery. You and other report creators can also create reports built on this semantic model.

5. In Excel:

- Restart Excel. Excel caches the list of data types so you need to restart Excel to see newly published featured tables.
- Because some semantic models aren't supported, featured tables defined in those semantic models don't appear in Excel. See the next section, [Considerations and limitations](#), for details.

## The Data Types experience in Excel

The Data Types experience in Excel is similar to a lookup function. It takes a cell value provided by the Excel sheet, and searches for matching rows in Power BI featured tables. The search experience has the following behaviors:

- Row matching is based on text columns in the featured table. It uses the same indexing as Power BI Q&A capability, which is optimized for the English-language search. Searching in other languages might not result in accurate matches.
- Featured tables use Power BI Q&A indexing when users query data in those tables. For more information, see [How does indexing work with Q&A](#).
- Most numerical columns aren't considered for matching. If the Row label or Key column is numeric, they're included for matching.
- Matching is based on Exact and Prefix matches for individual search terms. A cell's value is split based on spaces or other whitespace characters like tabs. Then each

word is considered a search term. A row's text field values are compared to each search term for Exact and Prefix matches. A Prefix match is returned if the row's text field starts with the search term. For example, if a cell contains "Orange County", then "Orange" and "County" are distinct search terms.

- Rows with text columns whose values exactly match "Orange" or "County" are returned.
- Rows with text columns whose values start with "Orange" or "County" are returned.
- Importantly, rows that contain "Orange" or "County" but don't start with them aren't returned.

## Considerations and limitations

### Considerations

- You can [promote or certify semantic models in Power BI](#), which is called *endorsement*. Excel prioritizes tables in endorsed semantic models in the Data Types Gallery. Excel lists featured tables in certified semantic models first, then tables in promoted semantic models. Excel lists featured tables in unendorsed semantic models after that.
- Creating featured tables is available by default. You can change the **Featured tables** capability through **File > Options and Settings > Options > Preview Features**.
- You can use Excel files with a data model to publish featured tables. Load the data into Power BI Desktop and then publish the featured table.

### Limitations

Here are the current limitations:

- The integration is available in Excel in the current channel.
- Featured tables in Power BI semantic models that use the following capabilities aren't shown in Excel:
  - DirectQuery semantic models
  - Semantic models with a live connection
- Excel shows only data in columns, calculated columns, and measures defined in the featured table. The following aren't provided:
  - Measures defined on related tables
  - Implicit measures calculated from relationships

- Power BI returns at most 100 row suggestions for each cell.
- Some symbols aren't supported.
- Setting or updating the featured table isn't supported in the XMLA endpoint.
- Changing the Table name, Row Label, or Key Column in the featured table may impact Excel users with linked cells to rows in the table.
- Excel shows when the data was retrieved from the Power BI semantic model. This time isn't necessarily the time that the data was refreshed in Power BI, or the time of the most recent data point in a semantic model. For example, say a semantic model in Power BI was refreshed a week ago, but the underlying source data was a week old when the refresh happened. The actual data would be two weeks old, but Excel would show data retrieved as the date/time at which the data was pulled into Excel.
- See [Considerations and limitations](#) in the article "Access Power BI featured tables in Excel" for other Excel considerations.

## Next steps

- [Access Power BI featured tables in Excel](#)
- Read about [using Excel data types from Power BI](#) in the Excel documentation.
- Questions? [Try the Power BI Community](#)

# Troubleshoot the connection from Excel to Power BI data

Article • 01/23/2024

There may be times when connecting Excel to Power BI data that you get an unexpected result, or the feature doesn't work as you expected. This page provides solutions for common issues when analyzing Power BI data in Excel.

## Note

There are separate articles for different connection types. Those articles are as follows:

- [Start in Power BI with Analyze in Excel](#).
- [Start in Excel to connect to Power BI semantic models](#).

If you encounter a scenario that's not listed below, ask for assistance on the [Power BI community site](#), or create a support ticket.

If you need to troubleshoot an issue with Power BI data in Excel, see the following sections:

- [Forbidden error](#)
- [Unable to access on-premises Analysis Services](#)
- [Can't drag anything to the PivotTable Values area \(no measures\)](#)

If you need to troubleshoot an issue in Power BI with Analyze in Excel, see the following sections:

- [Connection cannot be made error](#)
- [Can't find OLAP cube model error](#)
- [Token expired error](#)

## Forbidden error

A user may have more than one Power BI account. When Excel tries to connect to Power BI by using credentials from one of those accounts, it may attempt to use credentials that don't have access to the desired semantic model or report.

When this situation occurs, you may receive an error titled **Forbidden**. This error means you may be signed into Power BI with credentials that don't have permission to access the semantic model. After encountering the **Forbidden** error and when you see the prompt, type the credentials that have permission to access the semantic model you're trying to use.

If you still run into errors, log into Power BI with the account that has permission. Then, verify that you can view and access the semantic model in Power BI that you're attempting to access in Excel.

## Unable to access on-premises Analysis Services

If you're trying to access a semantic model that has a live connection to SQL Server Analysis Services or Azure Analysis Services data, you may receive an error message. This error may occur because a user can't connect to Power BI semantic models. This situation may happen when you build semantic models on live connections to Analysis Services unless the user has read access to the data in Analysis Services in addition to the semantic models permissions in Power BI.

## Can't drag anything to the PivotTable Values area

Excel connects to Power BI through an external OLAP model. When these applications connect, the *PivotTable* requires you to define **measures** in the external model because all calculations are performed on the server. This requirement is different from working with a local data source, such as tables in Excel and working with semantic models in **Power BI Desktop** or the **Power BI service**). In those cases, the tabular model is available locally, and [you can use implicit measures](#). Implicit measures are generated dynamically, and not stored in the data model. In these cases, the behavior in Excel is different from the behavior in **Power BI Desktop** or the **Power BI service**. For instance, there may be columns in the data that can be treated as measures in Power BI, but can't be used as measures, or values, in Excel.

To address this issue, you have a few options:

- [Create measures in your data model in Power BI Desktop](#). Then, publish the data model to the **Power BI service** and access that published semantic model from Excel.
- [Create measures in your data model from Excel PowerPivot](#).

- If you imported data from an Excel workbook that had only tables and no data model, then you can [add the tables to the data model](#). Then, follow the steps in the previous step to create measures in your data model.

Once you define your measures in the model in the Power BI service, you can use them in the **Values** area in Excel PivotTables.

## Connection cannot be made

The primary cause for a **Connection cannot be made** error is that your computer's OLE DB provider client libraries aren't current.

## Can't find OLAP cube model

The primary cause for a **Can't find OLAP cube model** error is that the semantic model you're trying to access has no data model, and therefore the semantic model can't be analyzed in Excel.

## Token expired error

The primary cause for a **Token expired** error is that you haven't recently used the **Analyze in Excel** feature on the computer you're using. To resolve this error, reenter your credentials or reopen the file, and the error should go away.

## Related content

- [Analyze in Excel](#)
- [Tutorial: Create your own measures in Power BI Desktop](#)
- [Measures in PowerPivot](#)
- [Create a Measure in PowerPivot](#)
- [Add worksheet data to a Data Model using a linked table](#)

# Error: We couldn't find any data in your Excel workbook

Article • 10/21/2024

## ⓘ Note

This article applies to Excel 2007 and later.

Use the information in this article to understand and resolve an error where data isn't found in the Excel workbook when you try importing it into the Power BI service.

When you import an Excel workbook into the Power BI service, you might see the following error:

Output

Error: We couldn't find any data formatted as a table. To import from Excel into the Power BI service, you need to format the data as a table. Select all the data you want in the table and press Ctrl+T.

We couldn't find any data formatted as a table ✖

To import from Excel into the Power BI service, you need to format the data as a table. Select all the data you want in the table and press Ctrl + T.

[Learn more about solving this issue](#) Close

## Quick solution

1. Edit your workbook in Excel.
2. Select the range of cells that contain your data. The first row should contain your column headers, the column names.
3. Press **Ctrl + T** to create a table.
4. Save your workbook.
5. Return to the Power BI service and import your workbook again, or if you're working in Excel 2016 and you've saved your workbook to OneDrive for work or school, in Excel, select **File > Publish**.

## Details

## Cause

In Excel, you can create a *table* out of a range of cells, which makes it easier to sort, filter, and format data.

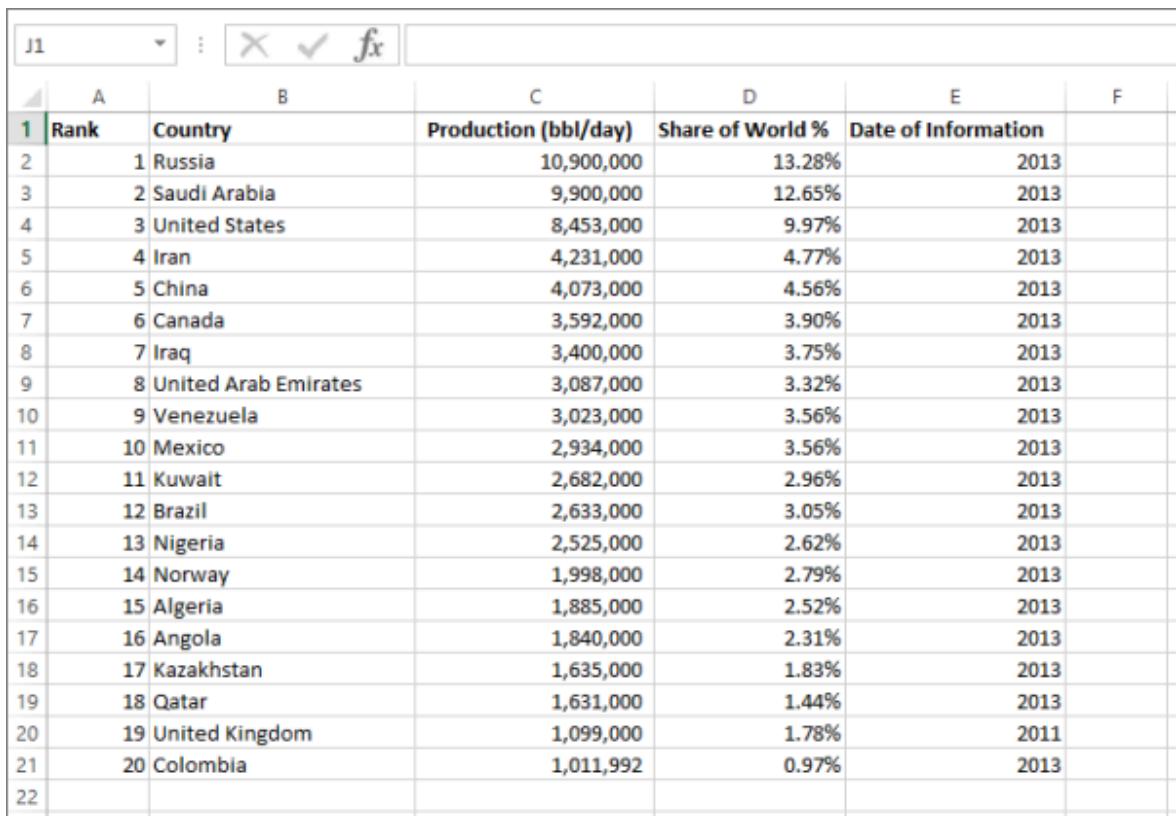
When you import an Excel workbook, Power BI looks for these tables and imports them into a semantic model. If it doesn't find any tables, you see this error message.

## Solution

1. Open your workbook in Excel.

 Note

The pictures here are of Excel 2013. If you're using a different version, things might look a little different, but the steps are the same.



The screenshot shows an Excel spreadsheet with a table of oil production data. The table has six columns: Rank, Country, Production (bbl/day), Share of World %, Date of Information, and F. The data starts from row 1 and continues to row 22. The first few rows of data are:

Rank	Country	Production (bbl/day)	Share of World %	Date of Information	F
1	Russia	10,900,000	13.28%	2013	
2	Saudi Arabia	9,900,000	12.65%	2013	
3	United States	8,453,000	9.97%	2013	
4	Iran	4,231,000	4.77%	2013	
5	China	4,073,000	4.56%	2013	
6	Canada	3,592,000	3.90%	2013	
7	Iraq	3,400,000	3.75%	2013	
8	United Arab Emirates	3,087,000	3.32%	2013	
9	Venezuela	3,023,000	3.56%	2013	
10	Mexico	2,934,000	3.56%	2013	
11	Kuwait	2,682,000	2.96%	2013	
12	Brazil	2,633,000	3.05%	2013	
13	Nigeria	2,525,000	2.62%	2013	
14	Norway	1,998,000	2.79%	2013	
15	Algeria	1,885,000	2.52%	2013	
16	Angola	1,840,000	2.31%	2013	
17	Kazakhstan	1,635,000	1.83%	2013	
18	Qatar	1,631,000	1.44%	2013	
19	United Kingdom	1,099,000	1.78%	2011	
20	Colombia	1,011,992	0.97%	2013	
21					
22					

2. Select the range of cells that contain your data. The first row should contain your column headers, the column names.

A1 : X ✓ fx Rank

A	B	C	D	E	F
Rank	Country	Production (bbl/day)	Share of World %	Date of Information	
1	1 Russia	10,900,000	13.28%	2013	
2	2 Saudi Arabia	9,900,000	12.65%	2013	
3	3 United States	8,453,000	9.97%	2013	
4	4 Iran	4,231,000	4.77%	2013	
5	5 China	4,073,000	4.56%	2013	
6	6 Canada	3,592,000	3.90%	2013	
7	7 Iraq	3,400,000	3.75%	2013	
8	8 United Arab Emirates	3,087,000	3.32%	2013	
9	9 Venezuela	3,023,000	3.56%	2013	
10	10 Mexico	2,934,000	3.56%	2013	
11	11 Kuwait	2,682,000	2.96%	2013	
12	12 Brazil	2,633,000	3.05%	2013	
13	13 Nigeria	2,525,000	2.62%	2013	
14	14 Norway	1,998,000	2.79%	2013	
15	15 Algeria	1,885,000	2.52%	2013	
16	16 Angola	1,840,000	2.31%	2013	
17	17 Kazakhstan	1,635,000	1.83%	2013	
18	18 Qatar	1,631,000	1.44%	2013	
19	19 United Kingdom	1,099,000	1.78%	2011	
20	20 Colombia	1,011,992	0.97%	2013	
21					
22					

3. In the ribbon on the **Insert** tab, select **Table**. Or, as a shortcut, press **Ctrl + T**.

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER POWER QU

PivotTable Recommended PivotTables Tables Table Pictures Online SmartArt Shapes \* Screenshots Illustrations Store Bing Maps My Apps People Graph Recommended Charts Charts

A1 : Table (Ctrl+T)

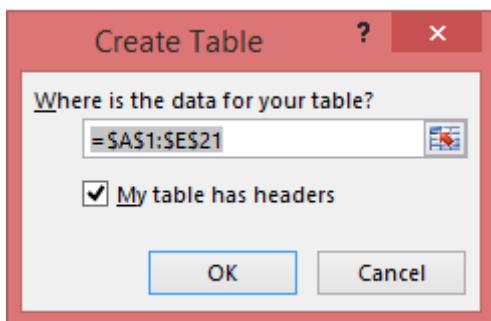
Create a table to organize and analyze related data.

Tables make it easy to sort, filter, and format data within a sheet.

Microsoft Power Query for Excel Tell me more

A	B	C	D	E	F
Rank	Country	Production (bbl/day)	Share of World %	Date of Information	
1	1 Russia	10,900,000	13.28%	2013	
2	2 Saudi Arabia	9,900,000	12.65%	2013	
3	3 United States	8,453,000	9.97%	2013	
4	4 Iran	4,231,000	4.77%	2013	
5	5 China	4,073,000	4.56%	2013	
6	6 Canada	3,592,000	3.90%	2013	
7	7 Iraq	3,400,000	3.75%	2013	
8	8 United Arab Emirates	3,087,000	3.32%	2013	
9	9 Venezuela	3,023,000	3.56%	2013	
10	10 Mexico	2,934,000	3.56%	2013	
11	11 Kuwait	2,682,000	2.96%	2013	
12	12 Brazil	2,633,000	3.05%	2013	
13	13 Nigeria	2,525,000	2.62%	2013	
14	14 Norway	1,998,000	2.79%	2013	
15	15 Algeria	1,885,000	2.52%	2013	
16	16 Angola	1,840,000	2.31%	2013	
17	17 Kazakhstan	1,635,000	1.83%	2013	
18	18 Qatar	1,631,000	1.44%	2013	
19	19 United Kingdom	1,099,000	1.78%	2011	
20	20 Colombia	1,011,992	0.97%	2013	
21					
22					

4. You see the following dialog. Make sure My table has headers is selected, then choose OK.



Now your data is formatted as a table.

A	B	C	D	E	F
Rank	Country	Production (bbl/day)	Share of World %	Date of Information	
1	1 Russia	10,900,000	13.28%	2013	
2	2 Saudi Arabia	9,900,000	12.65%	2013	
3	3 United States	8,453,000	9.97%	2013	
5	4 Iran	4,231,000	4.77%	2013	
6	5 China	4,073,000	4.56%	2013	
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9	8 United Arab Emirates	3,087,000	3.32%	2013	
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12	11 Kuwait	2,682,000	2.96%	2013	
13	12 Brazil	2,633,000	3.05%	2013	
14	13 Nigeria	2,525,000	2.62%	2013	
15	14 Norway	1,998,000	2.79%	2013	
16	15 Algeria	1,885,000	2.52%	2013	
17	16 Angola	1,840,000	2.31%	2013	
18	17 Kazakhstan	1,635,000	1.83%	2013	
19	18 Qatar	1,631,000	1.44%	2013	
20	19 United Kingdom	1,099,000	1.78%	2011	
21	20 Colombia	1,011,992	0.97%	2013	
22					

5. Save your workbook.

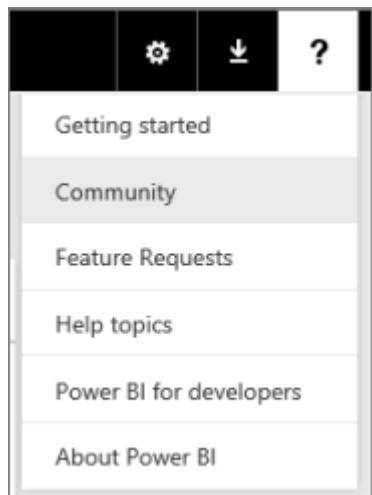
6. Return to the Power BI service. Select Create from the navigation pane, then select the Excel tile under Add data to start building a report.

## Add data to get started

The screenshot shows a user interface for adding data to Power BI. At the top, the heading "Add data to get started" is displayed. Below it are three options: "Excel" (represented by an Excel icon), "CSV" (represented by a CSV icon), and "Paste or manually enter data" (represented by a grid icon with a plus sign). A red box highlights the "Excel" option. Below these options, a message reads: "Don't see the source you're looking for? [Download the desktop app.](#)".

7. Import your Excel workbook again. This time, the import should find the table and succeed.

If the import still fails, let us know by selecting **Community** in the help menu:



## Feedback

Was this page helpful?

Yes

No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

# Integrate Power BI data alerts with Power Automate

Article • 12/15/2022

Use [Power Automate](#) to integrate Power BI with your favorite apps and services. With Power Automate, you create automated workflows to get notifications, synchronize files, collect data, and more. In this article, you automate generating an email from a Power BI data alert.

## Prerequisites

This article shows how to create two different flows: one from a template and one from scratch. To follow along, [create a data alert in Power BI](#), and [sign up for Power Automate](#). It's free!

## Create a flow from a template

In this task, we use a template to create a flow that's triggered by a Power BI data alert (notification).

1. Sign in to Power Automate (<https://flow.microsoft.com> ).
2. Select **Templates**, search for **Power BI > Send an e-mail to any audience when a Power BI data alert is triggered**.

The screenshot shows the Microsoft Power Automate web interface. In the top left, there's a logo for 'Contoso Electronics'. The top navigation bar includes 'Power Automate', a search bar with the placeholder 'Search for helpful res...', and environment settings for 'Environments Contoso (default)'. On the far right, there are icons for 'MA' and other user options.

The main area has a sidebar on the left with links like 'Home', 'Action items', 'My flows', 'Create', and 'Templates' (which is highlighted with a red box). Below the sidebar is a search bar with the text 'power bi' and a dropdown menu for sorting: 'Sorted by popularity'.

The main content area displays a grid of flow templates. The first template in the top row is also highlighted with a red box:

Template	Description	Creator	Views
Run sentiment analysis on tweets and push results to a Power BI dataset	Run sentiment analysis on tweets and push results to a Power BI dataset	By Microsoft	3412
Trigger a flow with a Power BI data-driven alert	Trigger a flow with a Power BI data-driven alert	By Microsoft	49185
Send an e-mail to any audience when a Power BI data alert is triggered	Send an e-mail to any audience when a Power BI data alert is triggered	By Microsoft	33826
Add rows to dataset in Power BI after approval on Microsoft Form submission	Add rows to dataset in Power BI after approval on Microsoft Form submission	By Microsoft Flow Community	6845
Update Power BI dataset when a SharePoint file is updated	Update Power BI dataset when a SharePoint file is updated	By Microsoft Flow Community	5499
Send e-mail from my personal Outlook.com to anyone on Power BI data alerts	Send e-mail from my personal Outlook.com to anyone on Power BI data alerts	By Microsoft	3772
Trigger an alert in Microsoft Teams when a Power BI alert is triggered	Trigger an alert in Microsoft Teams when a Power BI alert is triggered	By Microsoft	
Post a message to a Slack channel when a Power BI data alert is triggered	Post a message to a Slack channel when a Power BI data alert is triggered	By Microsoft	
Alert your team via email when a Power BI data alert is triggered	Alert your team via email when a Power BI data alert is triggered	By Microsoft	

## Build the flow

This template has one trigger, a Power BI data alert, and one action, to send an email. As you select a field, Power Automate displays dynamic content that you can include. In this example, we include the tile value and the tile URL in the message body.

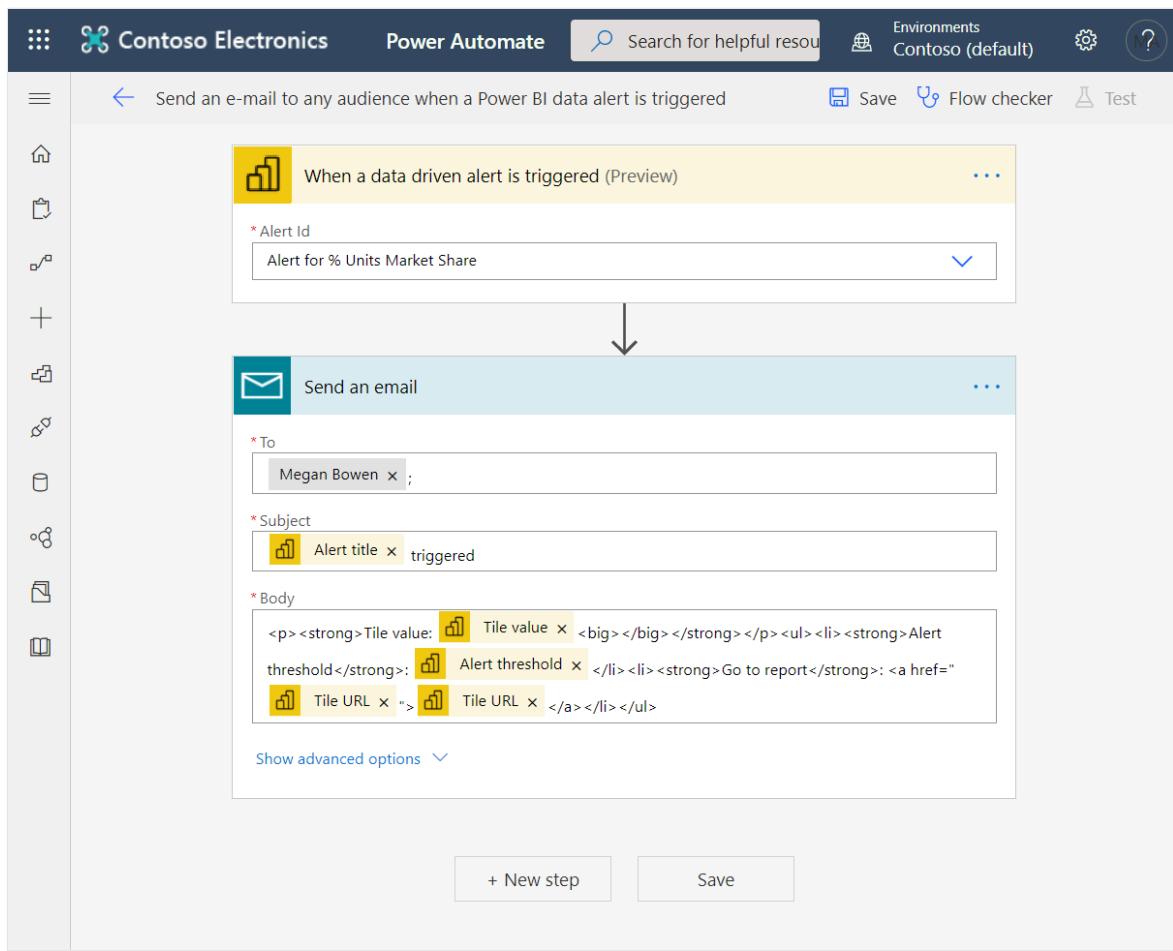
1. Select **Continue**.

The screenshot shows the Microsoft Power Automate interface. On the left, there's a navigation sidebar with options like Home, Action items, My flows, Create, Templates, Connectors, Data, Monitor, AI Builder, Process advisor (preview), Solutions, and Learn. The main area has a title "Send an e-mail to any audience when a Power BI data alert is triggered". Below the title is a diagram showing a yellow box labeled "Power BI" with three bars, connected by an arrow to a teal box labeled "Mail" with an envelope icon. A descriptive text below the diagram says: "Use this template to send any audience an e-mail when a Power BI data-driven alert is triggered. The email will come from Microsoft Power Automate. For example: send support team a heads up when incident volume > 100." At the bottom, a modal window titled "This flow will connect to:" lists two options: "Power BI" and "Mail". Both have checkboxes checked and a "Continue" button at the bottom.

2. In the Alert ID box, select a Power BI data alert. To learn how to create an alert, see [Data alerts in Power BI](#).

The screenshot shows the Microsoft Power Automate flow editor. The top bar includes the Contoso Electronics logo, Power Automate, a search bar, environments (Contoso default), settings, and help. The main area shows a flow with two steps: "When a data driven alert is triggered (Preview)" and "Send an email". The "Alert Id" input field in the first step is highlighted with a red box. The "To" input field in the second step is also highlighted with a red box.

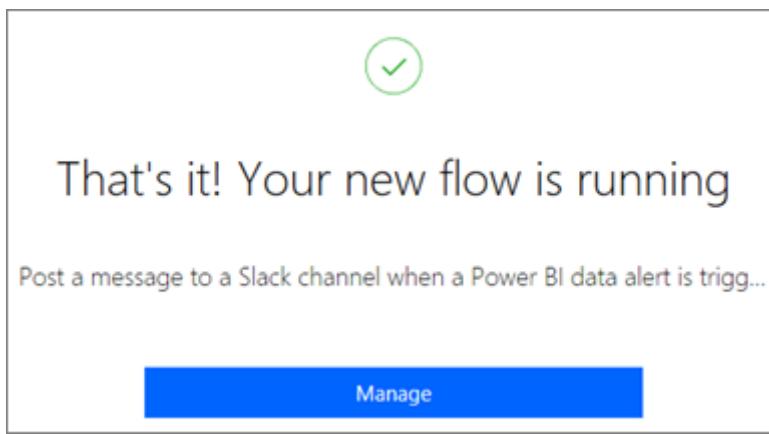
3. Enter one or more valid email addresses.
4. Power Automate automatically generates a **Subject** and **Body** for you, which you can keep or modify. The body text uses HTML for formatting.



5. When you're done with the message, select **New step** or **Save**. Power Automate creates and evaluates the flow.

If Power Automate finds errors, it lets you know.

6. Select **Edit flow** to fix the errors. Otherwise, select **Done** to run the new flow.



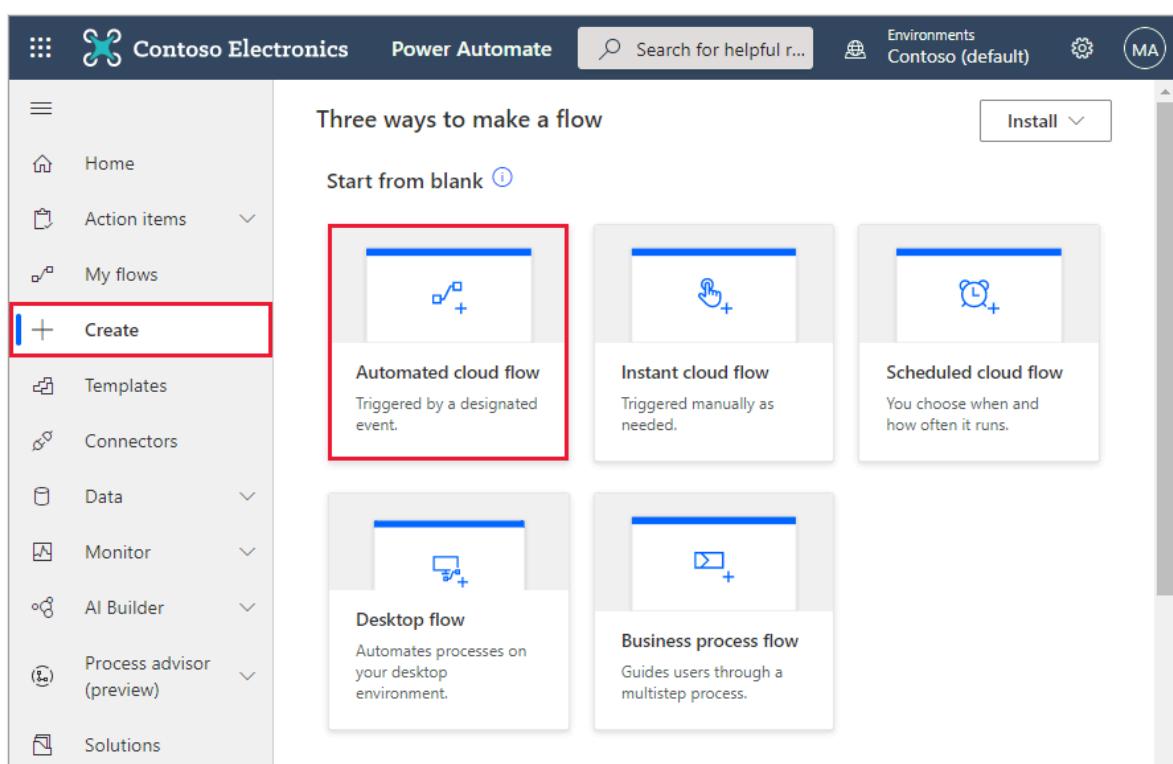
7. When a change triggers a data alert, Power Automate sends an email to the addresses you indicated.



## Create a flow from scratch

In this task, we create a simple flow from scratch that is triggered by a Power BI data alert (notification).

1. Sign in to [Power Automate](#).
2. Select **Create > Automated flow**.



3. In **Build an automated flow**, give your flow a name.
4. In **Choose your flow's trigger**, search for **Power BI**.
5. Select **Power BI - When a data driven alert is triggered > Create**.

**Build an automated cloud flow**

Flow name

Percent Units Market Share

Choose your flow's trigger \*

power bi

When a data driven alert is triggered  
Power BI

When Power Virtual Agents calls a flow (V2)  
Power Virtual Agents

When a Contact Form 7 form is submitted  
Power Form 7

When a dataflow refresh completes  
Power Query Dataflows

Skip Create Cancel

## Build your flow

1. In the Alert ID box, select the name of your alert. To learn how to create an alert, see [Data alerts in Power BI](#).

Contoso Electronics Power Automate

Percent Units Market Share

When a data driven alert is triggered (Preview)

\* Alert Id

The alert id to track.

Alert for % Units Market Share

Enter custom value

+ New step Save

2. Select **New step**.
3. In **Choose an action**, search for **Outlook > Create event**.

The screenshot shows the Power Automate interface. At the top, there's a header with the company name "Contoso Electronics" and the "Power Automate" tab selected. A search bar says "Search for helpful resources" and there are "Save", "Flow checker", and "Test" buttons. On the left, there's a sidebar with various icons. The main area shows a trigger card: "When a data driven alert is triggered (Preview)". Below it is a "Choose an action" dialog. In the search bar of this dialog, the word "outlook" is typed. Under the search bar, there are tabs: All, Built-in, Standard, Premium, Custom, and My clipboard. The "All" tab is selected. Under "Actions", there are four options: "Office 365 Outlook", "Outlook Tasks", "Outlook.com", and "Outlook Customer...". Below this, there's a section for "Triggers" and "Actions". The "Actions" section contains four items: "Update contact (V2) Office 365 Outlook", "Update my contact's photo Office 365 Outlook", "Create event (V4) Office 365 Outlook" (which is highlighted with a red box), and "Create contact (V2) Office 365 Outlook".

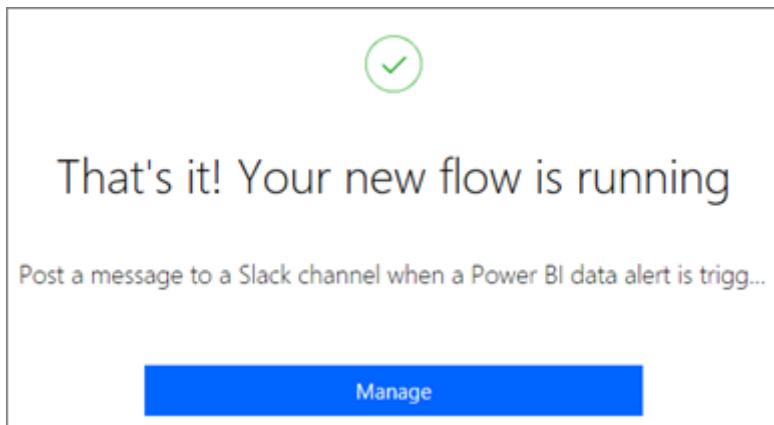
4. Fill in the event fields. As you select a field, Power Automate displays dynamic content that you can include.

This screenshot shows the "Create event (V4)" configuration dialog. It has a title bar with a calendar icon, the text "Create event (V4)", and a help/ellipsis icon. The form contains five fields with asterisks indicating required input:

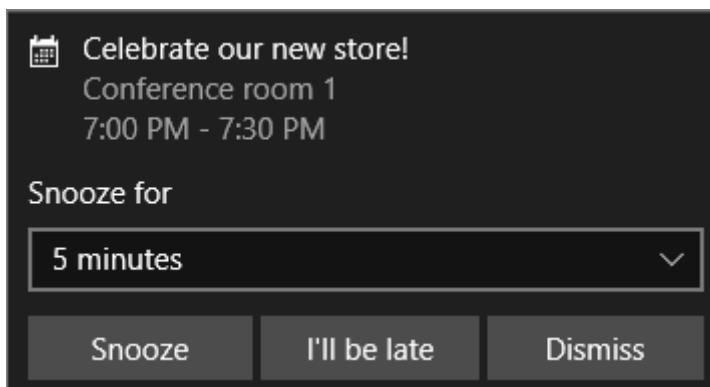
* Calendar id	Calendar
* Subject	Celebrate our new store!
* Start time	7:00 pm
* End time	7:30 pm
* Time zone	(UTC-07:00) Mountain Time (US & Canada)

Below the form is a link "Show advanced options ▾".

5. Select **Create flow** when done. Power Automate saves and evaluates the flow. If there are no errors, select **Done** to run this flow. The new flow is added to your **My flows** page.



6. When your Power BI data alert triggers the flow, you'll receive an Outlook event notification similar to this one.



## Related content

- Get started with Power Automate
- Export and email a Power BI report with Power Automate
- Create a Power Automate button visual
- More questions? [Try the Power BI Community](#)

## Feedback

Was this page helpful?

Yes

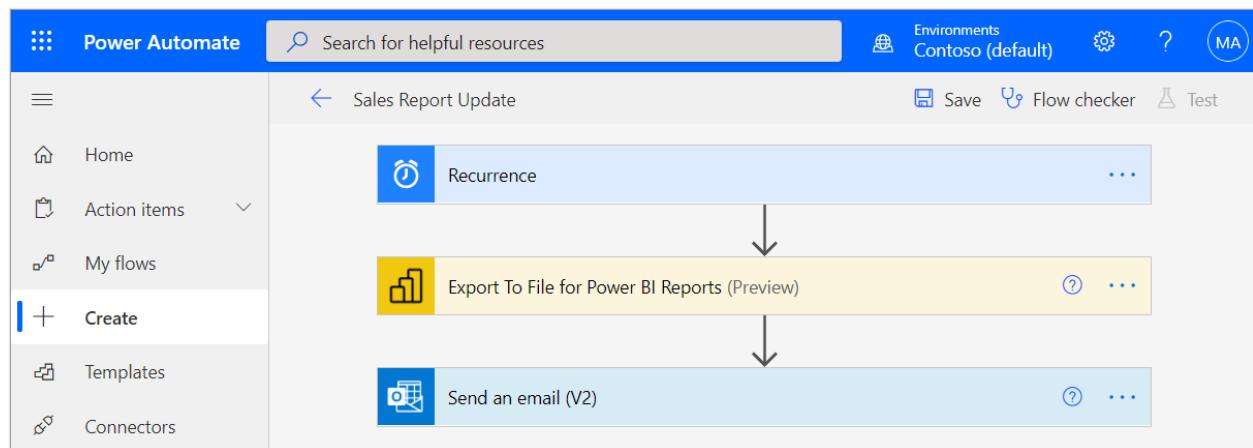
No

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# Export and email a Power BI report with Power Automate

Article • 03/03/2025

With [Power Automate](#), you can automate exporting and distributing Power BI reports in different formats and scenarios. In this article, you create your own flow from scratch. Use the **Export to File for Power BI Reports** action to automatically distribute a Power BI report via email.



Power Automate is a no-code way to interact with the Export To File API in the user interface. See [Export to File for Power BI Reports](#) to start interacting with the API directly. Before you use Power Automate to export Power BI Reports, see [Export reports from Power BI to PDF](#) for PDF and [Export your Power BI report to PowerPoint](#).

## Prerequisites

To follow along, make sure you have the following prerequisites:

- At least one workspace in your Power BI tenant backed by a reserved capacity. This capacity can be any of the A1/EM1 - A6/P3 SKUs. Read more about [reserved capacities in Power BI Premium](#).
- Access to the standard connectors in Power Automate which come with any Office 365 subscription.

## Create a flow from scratch

In this task, you create a simple flow from scratch. The flow exports a Power BI report as a PDF, and attaches it to an email that is sent on a weekly basis.

1. Sign in to [Power Automate](#).

## 2. Select Create > Scheduled cloud flow.

The screenshot shows the Microsoft Power Automate interface. On the left, there's a sidebar with options like Home, Approvals, My flows, Create, Templates, Connectors, Data, Monitor, AI Builder, Process advisor, Solutions, Learn, and Ask a chatbot. The 'Create' section is selected. In the main area, there are two sections: 'Three ways to make a flow' and 'Start from a template'. The 'Scheduled cloud flow' option under 'Three ways to make a flow' is highlighted with a red box. Under 'Start from a template', there are several 'Top picks' including 'Follow up on a message', 'Schedule a reply', 'Start an approval when a file is added to SharePoint', 'Save a message to OneNote', 'Get notified when you're @mentioned in an email', 'Create a Planner task when a channel post starts with TODO', 'Forward emails to a channel', and 'Create a Teams chat from an email when it has 'createchat''. A search bar at the top right says 'Search all templates'.

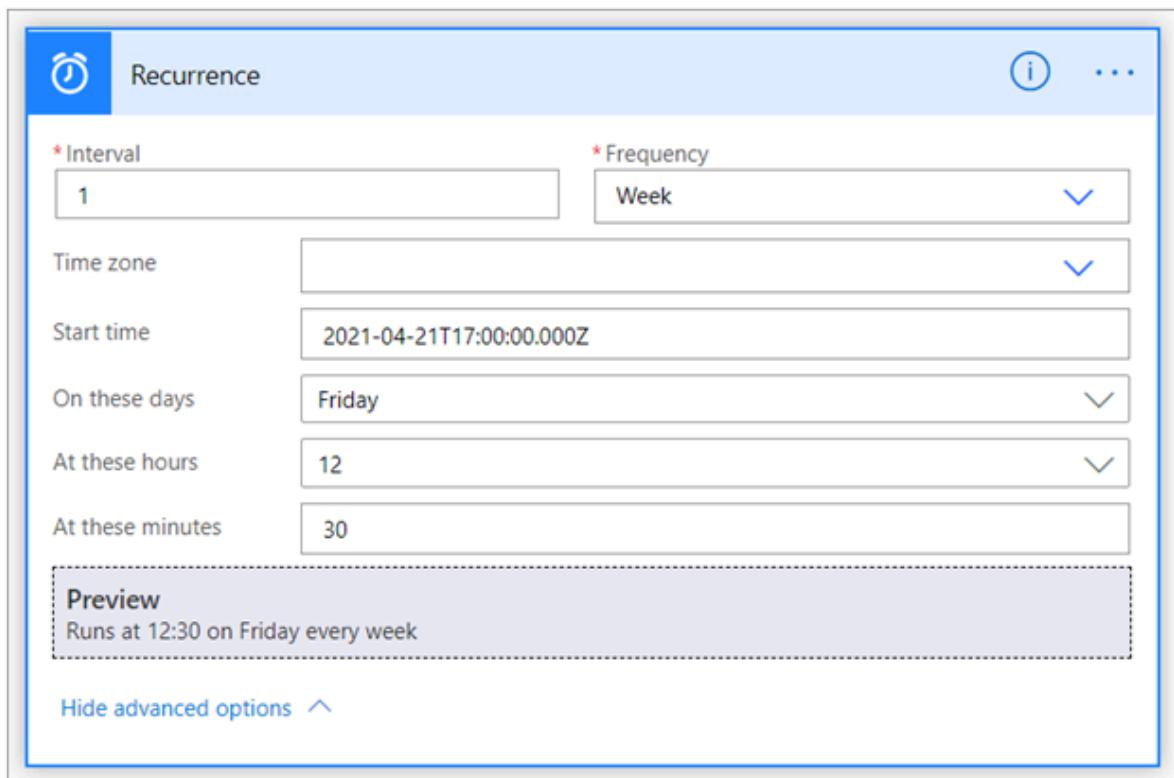
## 3. In Build a scheduled flow, give your flow a name.

4. In Run this flow, select the starting date and time for your flow and the repetition frequency.

5. In On these days, select which days you want your flow to run, and select **Create**.

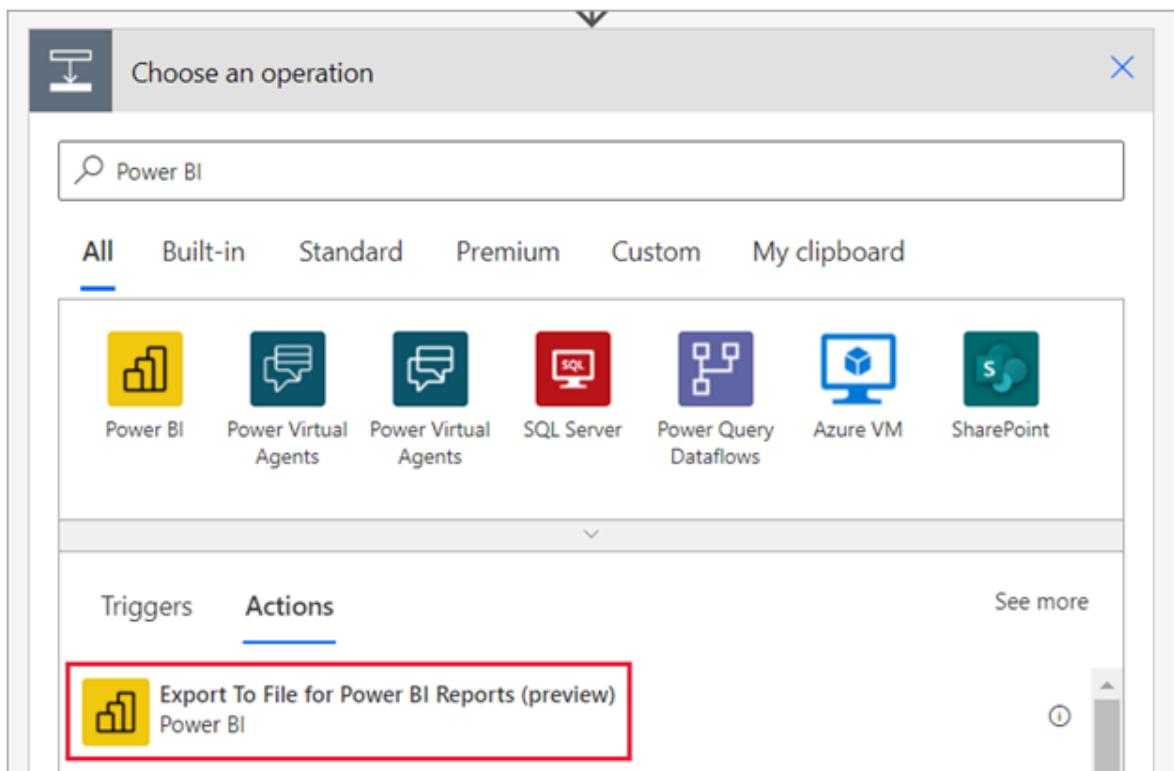
The dialog box is titled 'Build a scheduled cloud flow'. It features a central illustration of a computer monitor with a grid icon, a desk lamp, and a clock, with a large blue alarm clock icon overlaid. Below the illustration, text reads: 'Stay on top of what's important without the effort—you choose when and how often the flow runs.' Examples listed are: 'Automate team reminders to submit expense reports' and 'Auto-backup data to designated storage on a regular basis'. To the right, there are fields for 'Flow name' (set to 'Sales Report Update'), 'Run this flow \*' (set to 'Starting 4/21/21 at 10:00 AM' and 'Repeat every 1 Week'), 'On these days' (with Friday selected), and 'This flow will run:' (set to 'On Friday every week'). At the bottom are 'Skip', 'Create' (highlighted in blue), and 'Cancel' buttons.

6. In Recurrence, select **Edit** > **Show advanced options**. Enter a value in **At these hours** and **At these minutes** to set a specific time for your flow to run.



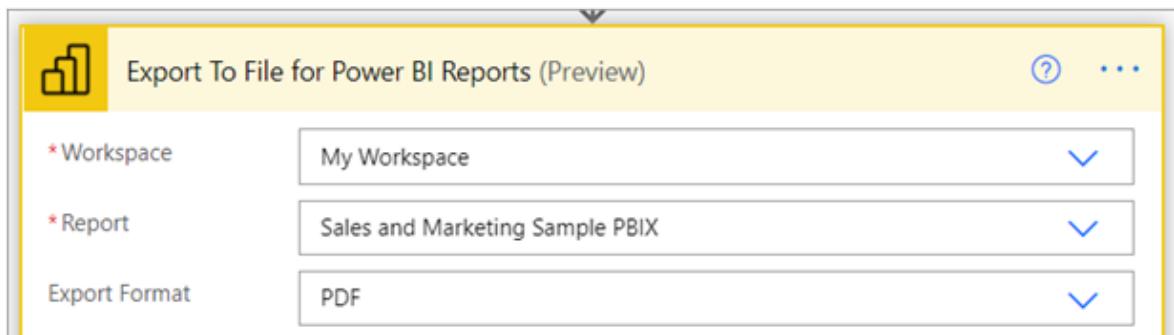
7. Select New Step.

8. In Choose an operation, search for Power BI and select Export To File for Power BI Reports.



9. In Export to File for Power BI Reports, select a Workspace and Report from the dropdowns.

10. Select the desired Export Format for your Power BI report.



① Note

If you export multiple pages to PNG format, a series of *.png* files, each file representing one report page, will be compressed into a *.zip* file which will be attached to your email.

11. Optionally, indicate specific pages to export in the **Pages** `pageName -1` field. The page name parameter is different from the display page name. To find the page name, navigate to the page in the Power BI service, and copy the last portion of the URL as shown in the example.

```
https://app.powerbi.com/groups/workspaceGuid/reports/reportGuid/xxxxxxxxxx
```

Something like this:

```
https://app.powerbi.com/groups/338cd931-b957-4ba6-a5fa-
b0113dab53aa/reports/85ac7583-3bb2-4c2c-a1fa-5a4a875ba88c/ReportSection?
ctid=72f988bf-86f1-41af-91ab-2d7cd011db47&experience=power-bi
```

12. Optionally, indicate a specific bookmark to display in the **Bookmark Name** field. You can find the bookmark name in the report URL after `bookmarkGuid=`, as shown in the example. Only *report* bookmarks are supported, not *personal* bookmarks. You can specify other parameters for the Power BI report. Find detailed descriptions of these parameters in the [Export to File for Power BI Reports](#).

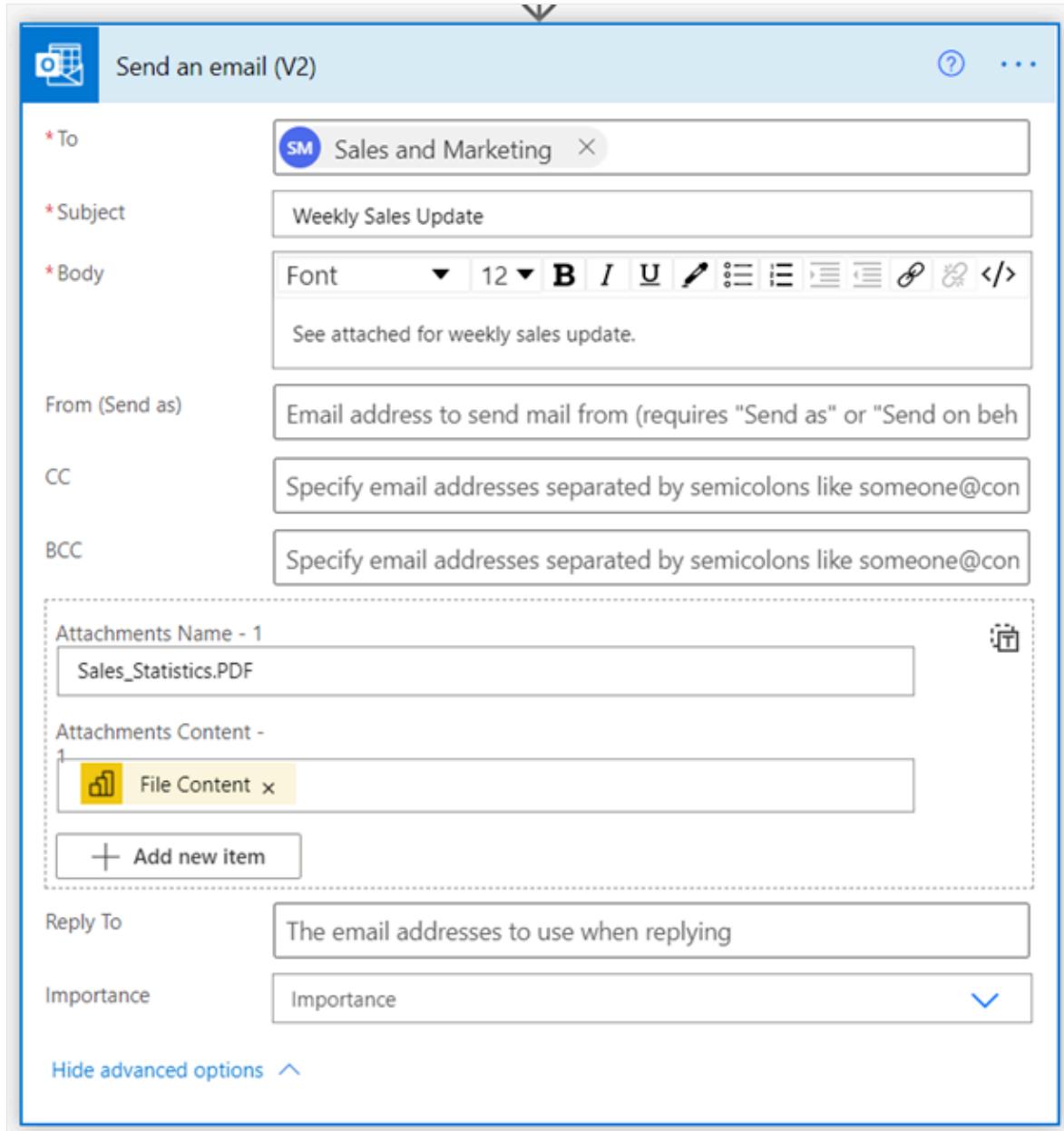
```
https://app.powerbi.com/groups/workspaceGuid/reports/reportGuid/ReportSection?
bookmarkGuid=xxxxxxxxxx
```

13. Select **New Step**.

14. In **Choose an operation**, search for **Outlook** and select **Send an email (V2)**.

15. In **Send an email (V2)**, complete the **To**, **Subject**, and **Body** fields for your email.

16. Select **Show advanced options**. In **Attachments Name – 1**, enter a name for your attachment. Add a file extension to the file name (for example, .PDF) that matches your desired **Export Format**.
17. In **Attachment Content**, select **File Content** to attach your exported Power BI report.



18. When you're done, select **Next step** or **Save**. Power Automate creates and evaluates the flow, and lets you know if it finds errors.
19. If there are errors, select **Edit flow** to fix them. Otherwise, select the **Back** arrow to view the flow details and run the new flow. When you run the flow, Power Automate exports a Power BI report in the specified format and sends it as an email attachment as scheduled.

## Row-level security in Power Automate

Optionally, if you want to send the report based on row-level security (RLS), you need to add the following details:

The screenshot shows three separate settings boxes within a dashed border:

- Identities Username - 1**: Contains the value "alex@contoso.com" with a copy icon.
- Identities Dataset - 1**: Contains the value "33334444-dddd-5555-eeee-6666ffff7777" with a copy icon.
- Identities Roles Item - 1**: Contains the value "Sales Team" with a copy icon.

Each box has an "Add new item" button below it.

- **Identities Username - 1** = The effective username reflected by a token for applying RLS rules. For an on-premises model, username can be composed of alpha-numerical characters, or any of the following characters: '.', '-', '\_', '!', '#', '^', '~', '\', and '@'. For cloud models, username can be composed of all ASCII characters. Also, username can be up to 256 characters, and can't contain spaces.
- **Identities Semantic model - 1** = You can get this value by going to the settings of the semantic model, and then copying the semantic model ID from the address bar, as shown in this example and in the following image:

<https://app.powerbi.com/groups/me/settings/datasets/xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxx>

🔗 <https://app.powerbi.com/groups/me/settings/datasets/54493009-3ecd-4b92-b491-a8a77b0411f9>

- **Identities Roles Item - 1** = RLS name defined in the report

## Related content

- [Integrate Power BI data alerts with Power Automate](#)
- [Get started with Power Automate](#)
- [Create a Power Automate button visual](#)
- More questions? [Try the Power BI Community](#)

# Feedback

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# Export Power BI paginated reports with Power Automate

Article • 12/06/2024

With [Power Automate](#), you can automate the export and distribution of Power BI paginated reports to supported formats and scenarios. In this article, you learn which templates you can use to build your own flows to export your paginated reports.

Power Automate is a no-code way to interact with the Export To File API in the user interface. See the [connector reference article for the Power BI REST API](#) to start interacting with the API directly.

## Prerequisites

To follow along, make sure you have:

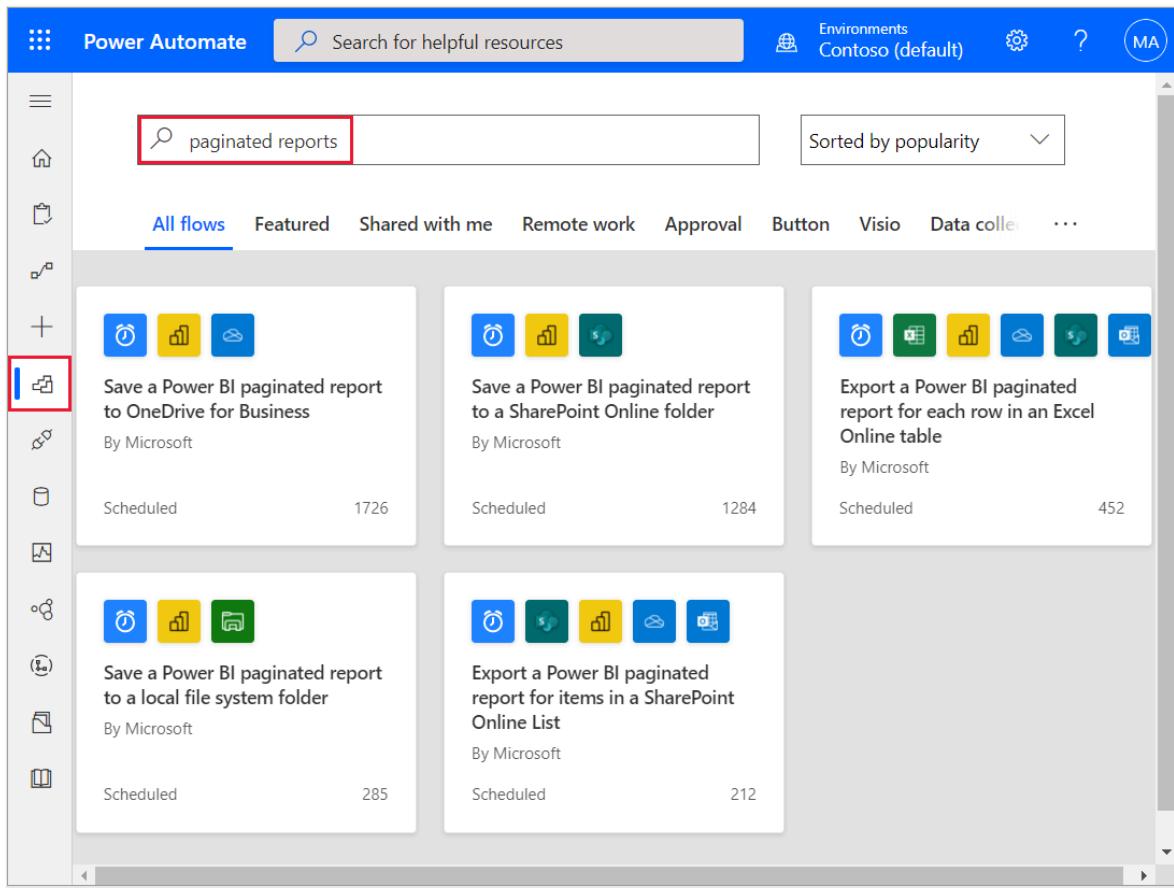
- At least one workspace in your Power BI tenant backed by a reserved capacity. This capacity can be any of the A4/P1 – A6/P3 SKUs. Read more about [reserved capacities in Power BI Premium](#).
- At least one workspace in your Power BI tenant backed by a reserved capacity. This capacity can be any of the A4–A6 or P1/F2 and above SKU. Read more about reserved capacities in [Power BI Premium and Microsoft Fabric concepts - Microsoft Fabric | Microsoft Learn](#).
- Access to the standard connectors in Power Automate, which come with any Office 365 subscription.

### Note

You can also follow along if you have a [Power BI Premium Per User \(PPU\) license](#) but you're limited to one export within a five-minute window.

## Create a flow from a template

1. Go to [flow.microsoft.com](https://flow.microsoft.com) and sign in to Power Automate.
2. Select **Templates**, and search for **paginated reports**.



## Select a template

Select a template from the following list to start the step-by-step walkthrough.

- Save a Power BI paginated report to OneDrive for work or school or a SharePoint Online folder.
- Export a Power BI paginated report for items in a SharePoint Online List, or for each row in an Excel Online table.
- Save a Power BI paginated report to a local system folder.

## Considerations and limitations

When you use Power Automate to export a paginated report that takes more than two minutes to download, the export fails due to the Power Automate [outbound synchronous request](#) limitation.

## Related content

- [Power BI export API for paginated reports](#)
- [Get started with Power Automate](#)
- Questions? [Try the Power BI Community](#) ↗

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# Feedback

Was this page helpful?

 Yes

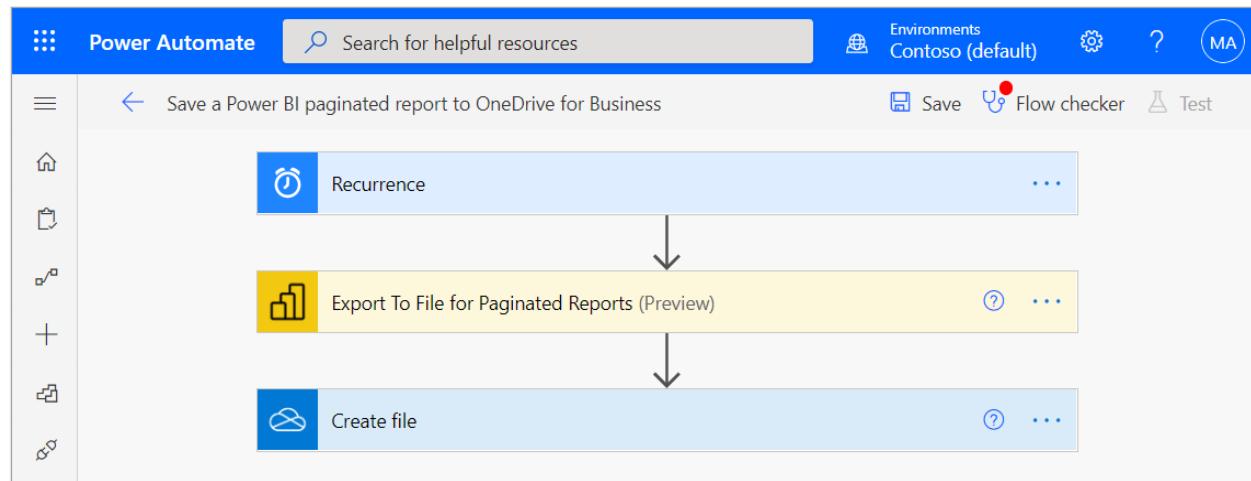
 No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

# Save a paginated report to OneDrive for work or school or SharePoint Online

Article • 01/09/2023

With [Power Automate](#), you can automate exporting and distributing Power BI paginated reports to a variety of supported formats and scenarios. In this article, you use Power Automate to automate saving a Power BI paginated report to OneDrive for work or school or a SharePoint Online folder.



For more information about Power Automate templates for Power BI paginated reports, see [Export Power BI paginated reports with Power Automate](#).

## Prerequisites

Before you begin, make sure you meet these criteria:

- You can publish to My Workspace, or you have at least a [Contributor role](#) for any other workspace.
- You have access to the standard connectors in Power Automate, which come with any Office 365 subscription.

## Save a paginated report to OneDrive for work or school or a SharePoint Online folder

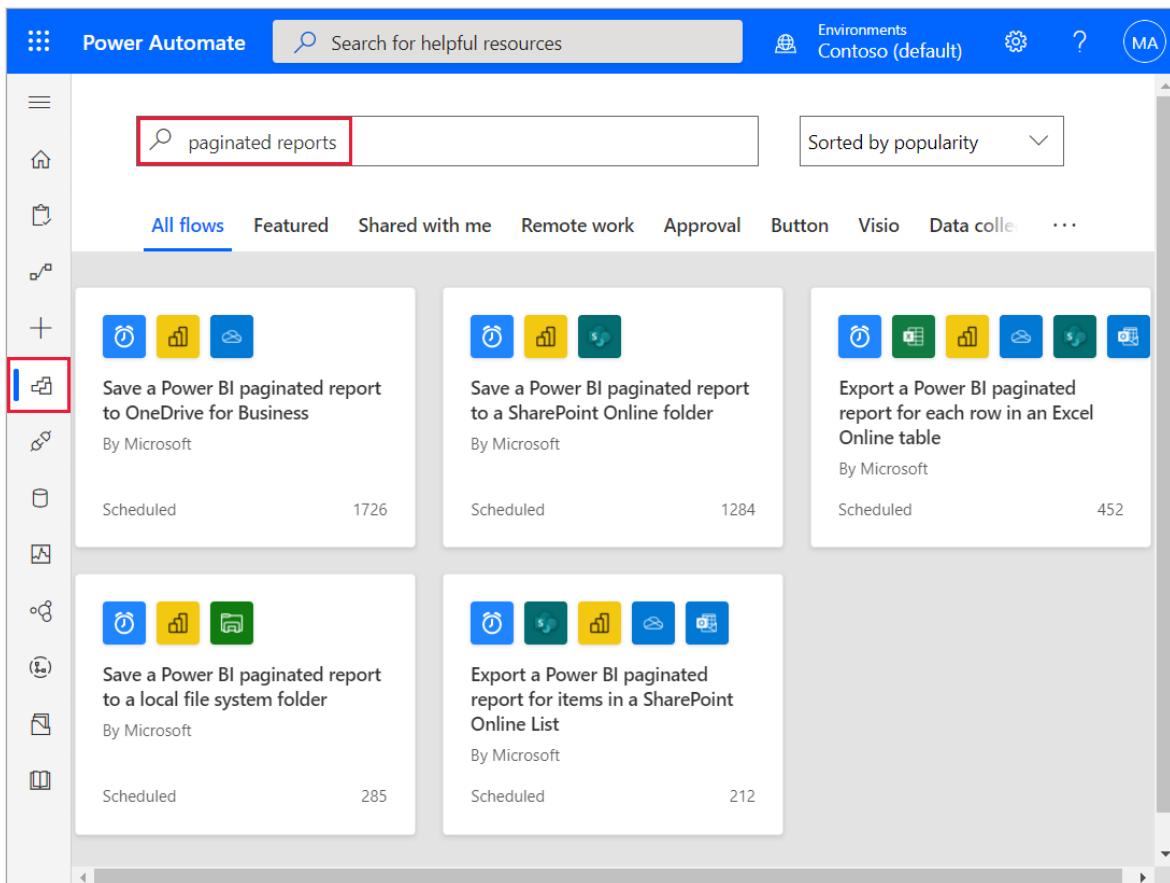
With either of these templates, you set up recurring exports of a paginated report in a desired format to OneDrive for work or school or a SharePoint Online folder. See the prerequisites if this is your first time using the Export to File for Paginated Reports action in a Power Automate flow.

## ⓘ Note

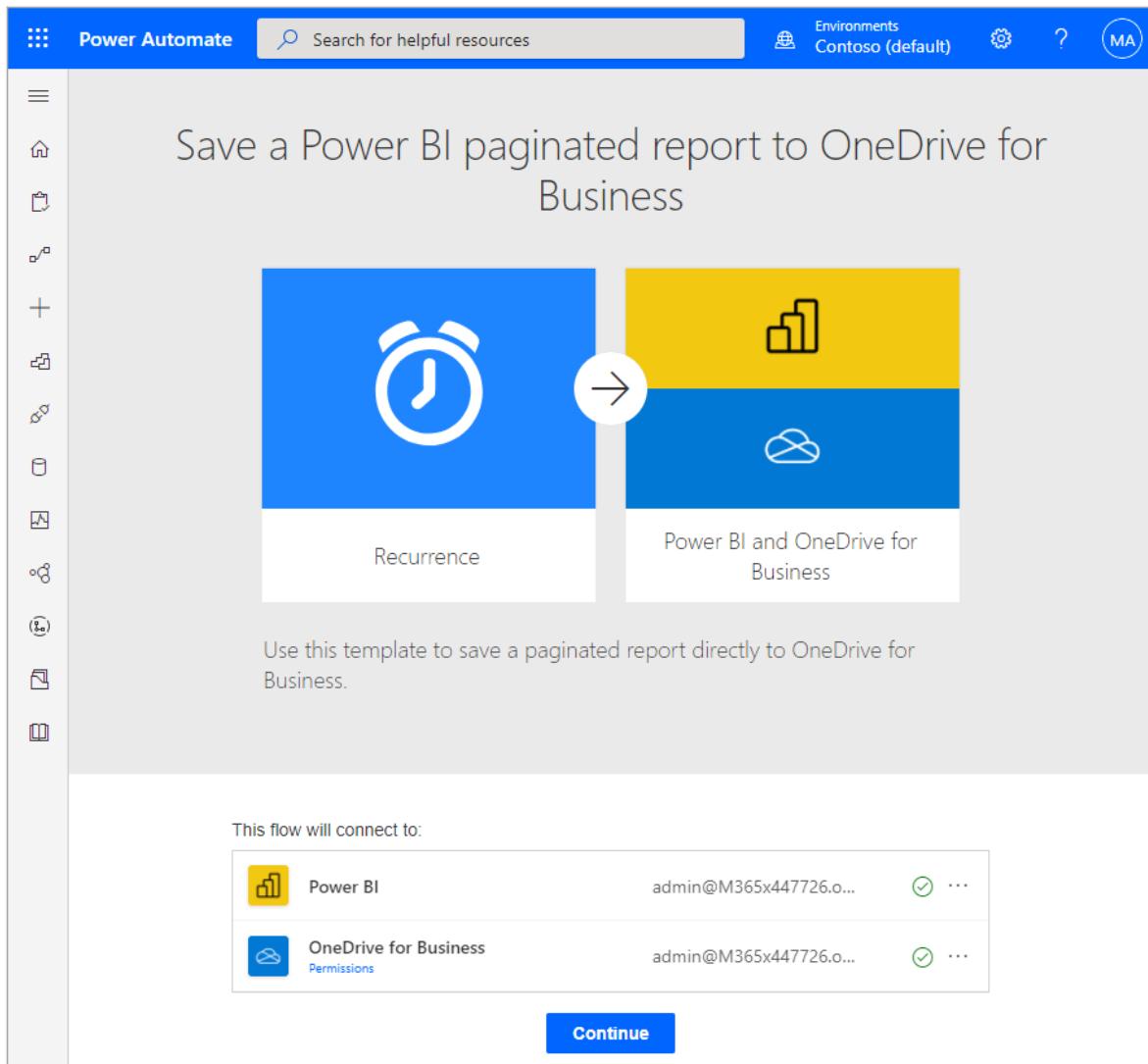
The following steps and images show setting up a flow using the **Save a Power BI paginated report to OneDrive for work or school** template. Follow the same steps to create a flow using the **Save a Power BI paginated report to a SharePoint Online folder** template. When selecting where you want to export your paginated report, select a SharePoint Online folder instead of a OneDrive for work or school folder.

1. Go to [flow.microsoft.com](https://flow.microsoft.com) and sign in to Power Automate.

2. Select **Templates**, and search for **paginated reports**.



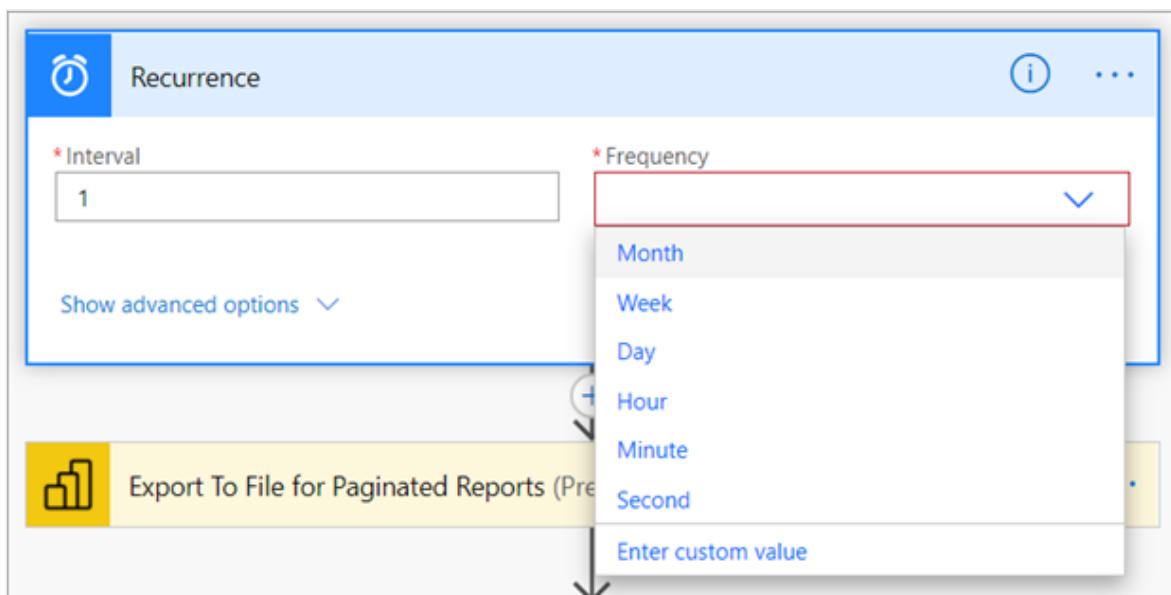
3. Select **Save a Power BI paginated report to OneDrive for work or school** or **Save a Power BI paginated report to a SharePoint Online folder**. Make sure you're signed into Power BI and OneDrive for work or school or SharePoint Online.



4. Select **Continue**.

5. Select **Continue**.

6. To set the recurrence for your flow, select a **Frequency** and enter a desired **Interval** value.



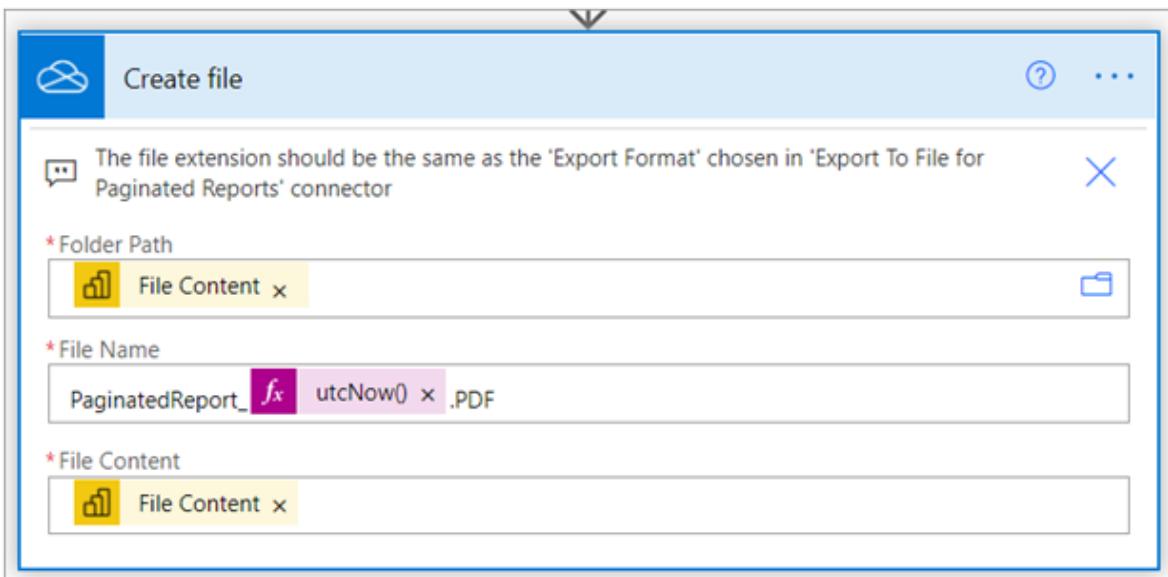
7. For more options, select **Show advanced options** to set other Recurrence parameters, including **Time zone**, **Start time**, **On these days**, **At these hours**, and **At these minutes**.

The screenshot shows the 'Recurrence' configuration dialog. At the top, there are two main settings: 'Interval' (set to 2) and 'Frequency' (set to Week). Below these are five dropdown fields: 'Time zone' (set to (UTC-07:00) Mountain Time (US & Canada)), 'Start time' (set to 2021-04-21T12:00:00Z), 'On these days' (set to Friday), 'At these hours' (set to 12), and 'At these minutes' (set to 30). A 'Preview' section at the bottom shows the resulting schedule: 'Runs at 12:30 on Friday every 2 weeks'. There is also a 'Hide advanced options' link.

8. In the **Workspace** box, select a workspace in a reserved capacity. In the **Report** box, select the paginated report in the selected workspace you wish to export. In the **Export Format** box, select the desired export format. Optionally, you can specify parameters for the paginated report. For detailed descriptions of the API parameters, see the [connector reference for the Power BI REST API](#).

The screenshot shows the 'Export To File for Paginated Reports (Preview)' dialog. It has three main sections: 'Workspace' (set to My Workspace), 'Report' (set to Salesperson Directory), and 'Export Format' (set to PDF). The 'Report' section includes a small 'X' icon to the right of the report name, indicating it can be cleared.

9. In **Folder Path**, select the OneDrive for work or school or SharePoint Online folder where you want to export your paginated report.



10. Power Automate automatically generates a **File Name** and **File Content** for you.

You can change the file name, but keep the dynamically generated **File Content** value.

11. When you're done, select **Next step** or **Save**. Power Automate creates and evaluates the flow, and lets you know if it finds errors.

12. If there are errors, select **Edit flow** to fix them. Otherwise, select the **Back** arrow to view the flow details and run the new flow.

When you run the flow, Power Automate exports a paginated report in the specified format to OneDrive for work or school or SharePoint Online.

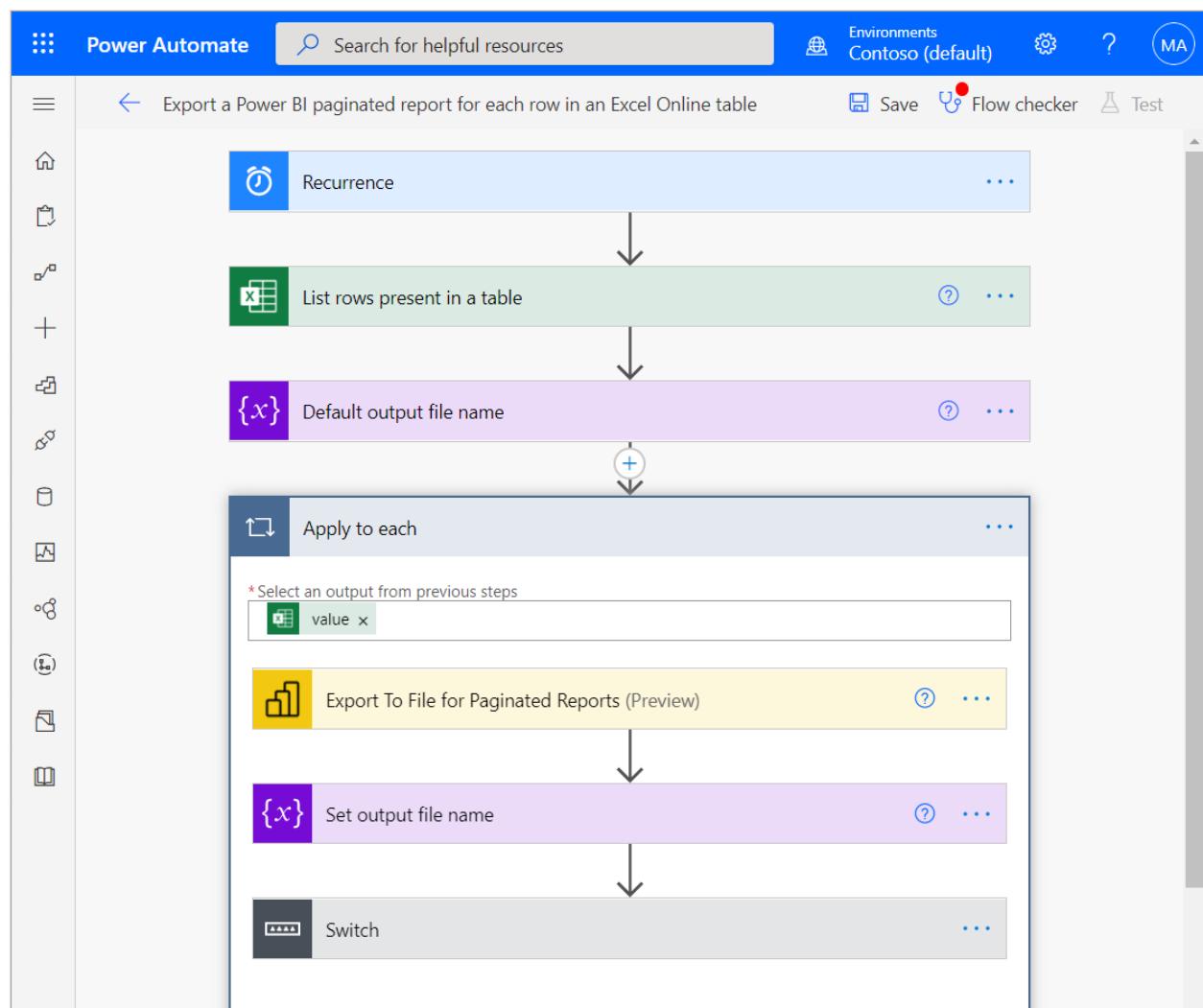
## Next steps

- [Export Power BI paginated reports with Power Automate](#)
- [Get started with Power Automate](#)
- Questions? [Try the Power BI Community ↗](#)

# Export a paginated report for each row in an Excel Online table or SharePoint list

Article • 01/20/2023

With [Power Automate](#), you can automate exporting and distributing Power BI paginated reports to various supported formats and scenarios. In this article, you use a Power Automate template to automate setting up recurring exports of single or multiple paginated reports. You export them in a desired format for each row in an Excel Online table or SharePoint Online list. You can distribute the exported paginated report to OneDrive for work or school or a SharePoint Online site, or email it via Office 365 Outlook.



Each row in your Excel Online table or SharePoint Online list can represent a single user to receive a paginated report on a subscription basis. Or instead, each row can represent a unique paginated report you wish to distribute. Your table or list requires a column

that specifies how to distribute a report, whether OneDrive, SharePoint Online, or Outlook. The Power Automate flow uses this column in its Switch statement.

Looking for other Power Automate templates for Power BI paginated reports? See [Export Power BI paginated reports with Power Automate](#).

## Prerequisites

To follow along, make sure you meet these criteria:

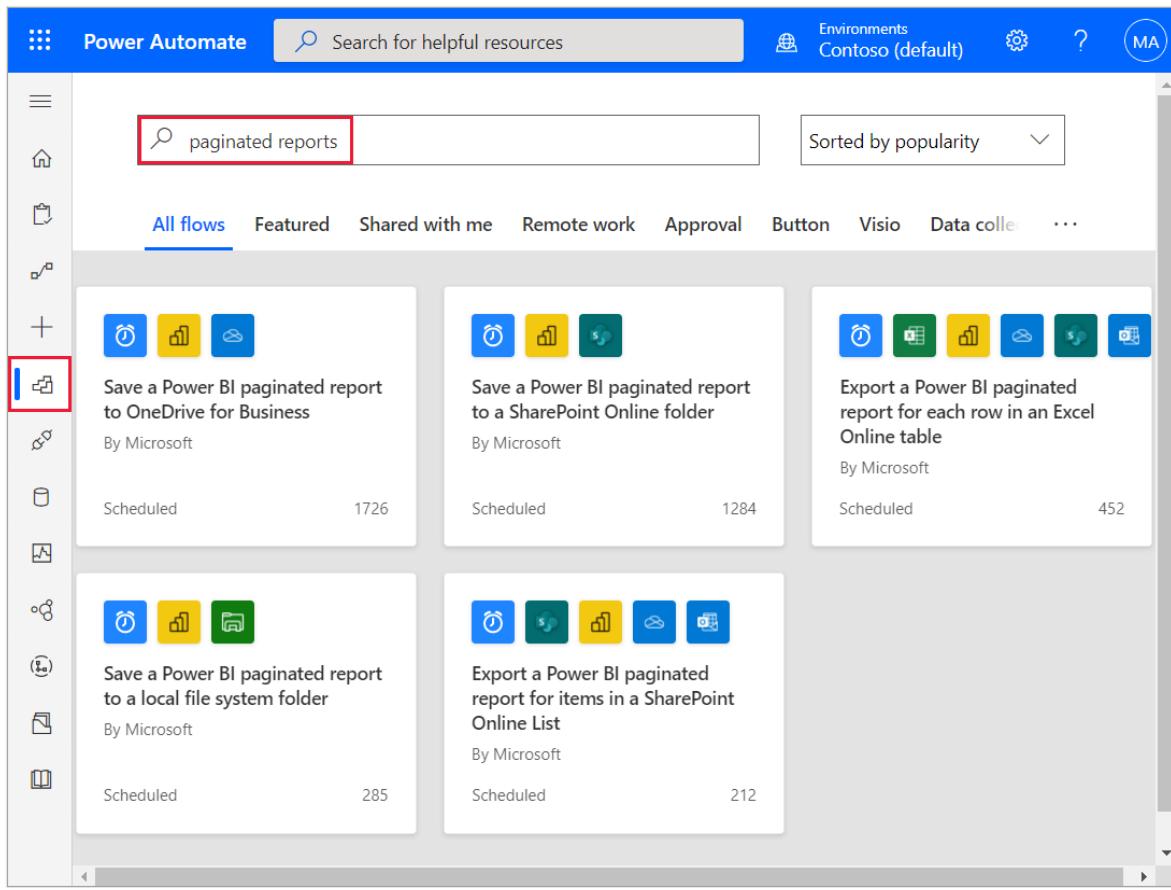
- You can publish to My Workspace, or you have at least a [Contributor role](#) for any other workspace.
- Access to the standard connectors in Power Automate, which come with any Office 365 subscription.
- If you're using an Excel Online table, it needs to be formatted as a table in Excel. See [Create a table](#) to learn how.

## Export a paginated report for each row in a table or list

### Note

The following steps and images show setting up a flow using the **Export a Power BI paginated report for each row in an Excel Online table** template. You can follow the same steps to create a flow using the **Export a Power BI paginated report for items in a SharePoint Online list** template. Instead of an Excel Online table, a SharePoint Online list will contain the information about how to export the paginated report.

1. Sign in to Power Automate [flow.microsoft.com](https://flow.microsoft.com).
2. Select **Templates**, and search for **paginated reports**.



3. Select the **Export a Power BI paginated report for each row in an Excel Online table** or **Export a Power BI paginated report for items in a SharePoint Online list** template. Make sure you're signed into Excel Online, Power BI, OneDrive for work or school, SharePoint Online, and Office 365 Outlook. Select **Continue**.

Power Automate Search for helpful resources Environments Contoso (default) ? MA

Export a Power BI paginated report for each row in an Excel Online table

Recurrence → Excel Online (Business), Power BI, OneDrive for Business, and 2 more

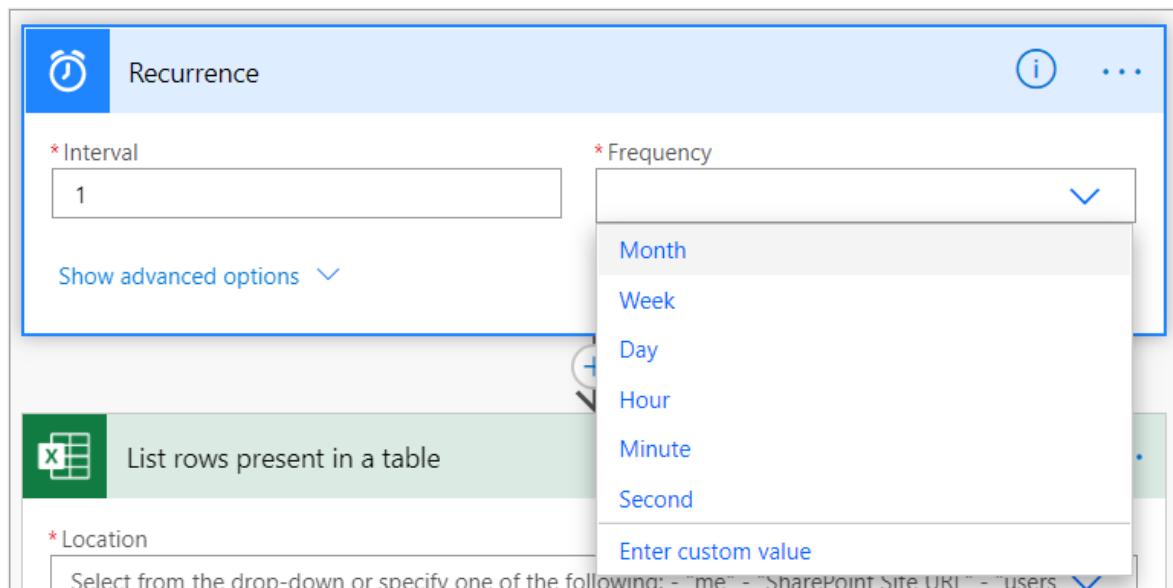
Use this template to export a paginated report with different values for each item in an Excel Online table.

This flow will connect to:

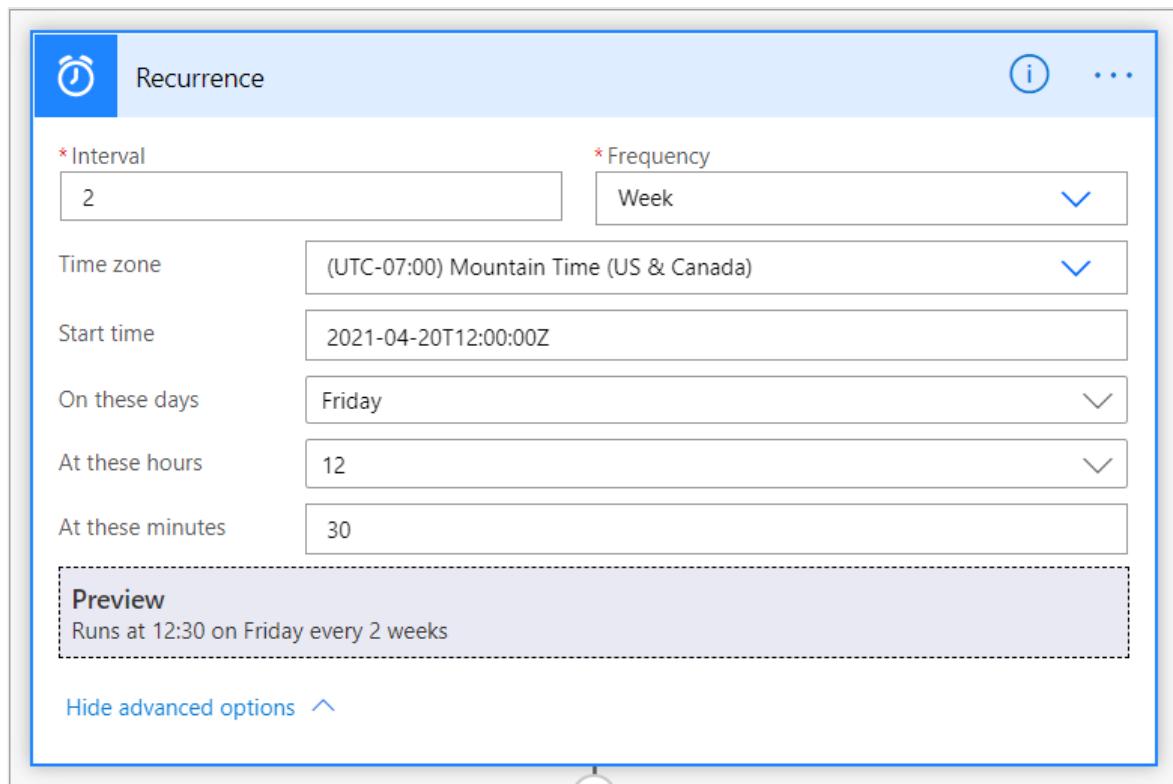
	Excel Online (Business)	admin@M365x447726.o...	✓	...
	Power BI	admin@M365x447726.o...	✓	...
	OneDrive for Business Permissions	admin@M365x447726.o...	✓	...
	SharePoint Permissions	admin@M365x447726.o...	✓	...
	Office 365 Outlook Permissions	admin@M365x447726.o...	✓	...

Continue

4. To set the **Recurrence** for your flow, select an option in **Frequency** and enter a desired **Interval** value.



5. (Optional) Select **Show advanced options** to set specific Recurrence parameters, including **Time zone**, **Start time**, **On these days**, **At these hours**, and **At these minutes**.



6. In the **Location** box, select OneDrive for work or school or the SharePoint Online site where your Excel Online table or SharePoint Online list is saved. Then, select the **Document Library** from the dropdown list.

 List rows present in a table

\* Location  
OneDrive for Business

\* Document Library  
OneDrive

\* File  
Select an Excel file through File Browse.

\* Table  
Select a table from the drop-down.

Show advanced options ▾

7. Select the Excel Online file or SharePoint Online list in the **File** box. Select the name of the table or list from the dropdown list in the **Table** box.

 List rows present in a table

\* Location  
OneDrive for Business

\* Document Library  
OneDrive

\* File  
/Contoso Purchasing Data - Q1.xlsx

\* Table  
Table1

Show advanced options ▾

 Tip

See [Create a table](#) to learn how to format data as a table in Excel.

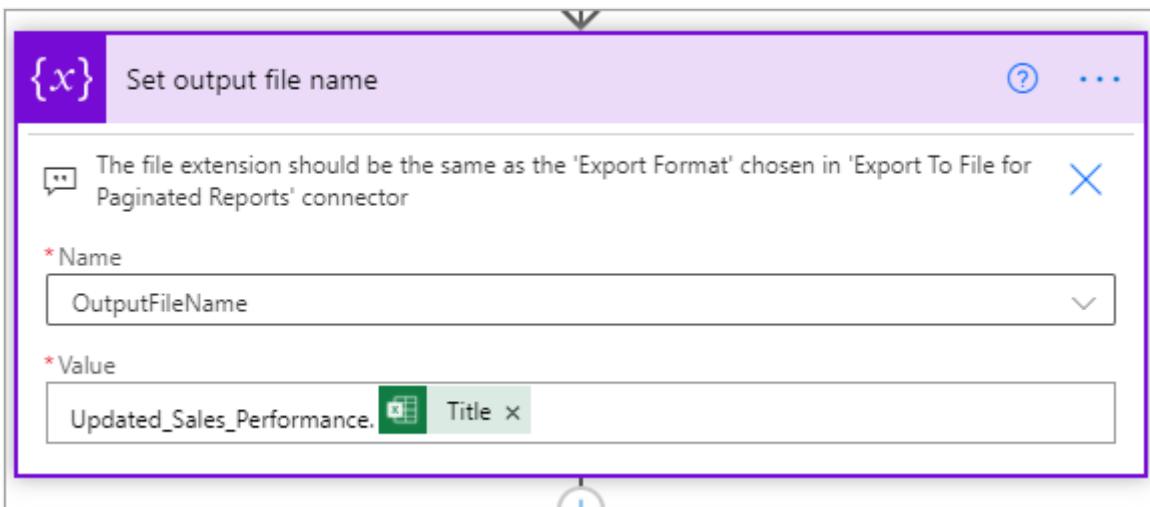
8. Initialize a variable to use for the file name. You can keep or modify the default values for **Name** and **Value**, but leave the **Type** value as **String**.

The screenshot shows a configuration dialog with a purple header bar containing the text '{x}' and 'Default output file name'. On the right side of the header are a help icon and a three-dot ellipsis. Below the header, there are three input fields: a text field labeled '\*Name' with the value 'OutputFileName', a dropdown menu labeled '\*Type' set to 'String', and a text field labeled 'Value' containing the expression 'PaginatedReport\_ *fx* utcNow() .PDF'. The entire dialog has a light gray background.

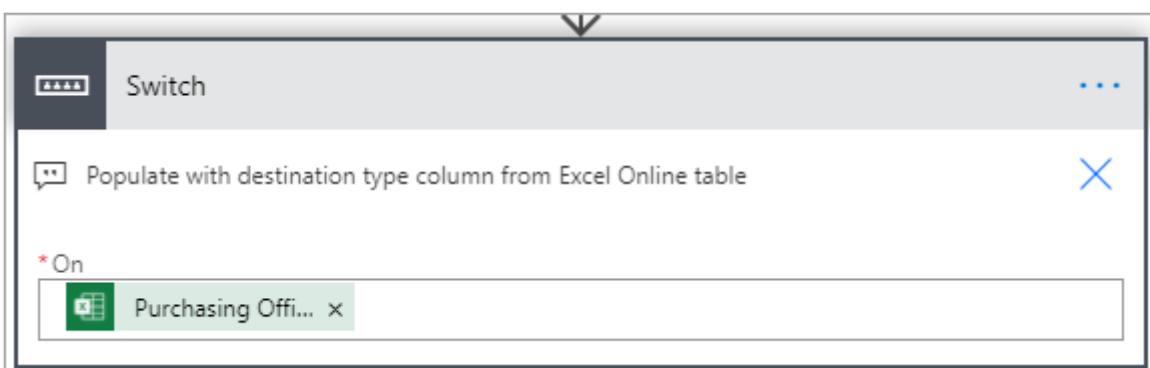
9. In the **Workspace** box, select a workspace in a reserved capacity. In the **Report** box, select the paginated report in the selected workspace you want to export. If you set **Enter a custom value** from the dropdown list, you can set **Workspace** and **Report** to equal a column in your Excel Online table or SharePoint Online list. These columns should contain Workspace IDs and Report IDs, respectively.
10. Select an **Export Format** from the dropdown list, or set it equal to a column in your Excel Online table containing desired export formats, for example PDF, DOCX, or PPTX. Optionally, you can specify parameters for the paginated report. Find detailed descriptions of the parameters in the [connector reference for the Power BI REST API](#).

The screenshot shows a configuration dialog with a yellow header bar containing a chart icon and the text 'Export To File for Paginated Reports (Preview)'. On the right side of the header are a help icon and a three-dot ellipsis. Below the header, there are three input fields: a text field labeled '\*Workspace' with the value 'Contoso Purchasing Data', a text field labeled '\*Report' with the value 'Sales Performance', and a dropdown menu labeled 'Export Format' set to 'XLSX'. At the bottom of the dialog, there is a dashed-line section labeled 'Identities Username - 1' with a small edit icon. The entire dialog has a light gray background.

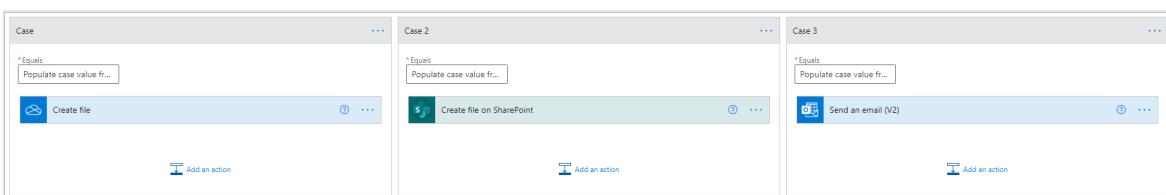
11. In the **Value** box, enter a name for the paginated report once it's exported. Be sure to enter a file extension. You can set it statically, for example `.pdf`, `.docx`, or `.pptx`. Or, set it dynamically by selecting the column in your Excel table corresponding to your desired export format.



12. In the **Switch** section, populate the **On** box with the column in your Excel Online table corresponding to the desired method of delivery: **OneDrive**, **SharePoint**, or **Email**.



13. In the **Case**, **Case 2**, and **Case 3** sections, enter the values present in the Excel Online table column selected in the previous step.



14. In the case where you're saving your paginated report to OneDrive, select the **Folder Path** where it should be saved.

Case

\* Equals  
OneDrive

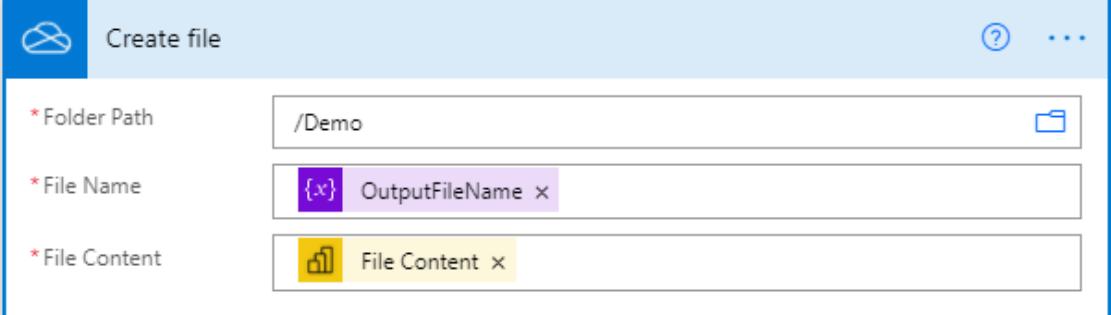
Create file

\* Folder Path /Demo

\* File Name {x} OutputFileName x

\* File Content File Content x

Add an action



15. In the case where you're saving your paginated report to SharePoint Online, enter the **Site Address** and **Folder Path** where it should be saved.

Case 2

\* Equals  
SharePoint

Create file on SharePoint

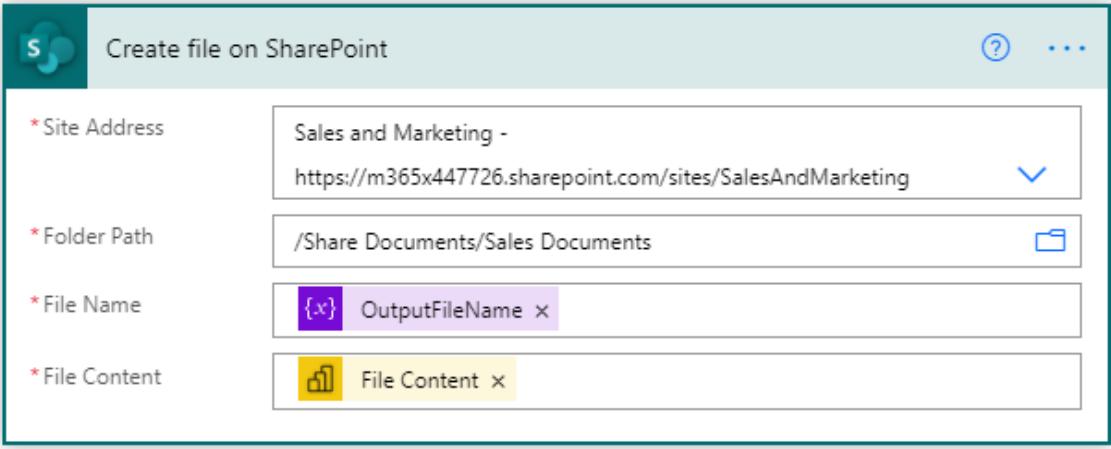
\* Site Address Sales and Marketing -  
https://m365x447726.sharepoint.com/sites/SalesAndMarketing

\* Folder Path /Share Documents/Sales Documents

\* File Name {x} OutputFileName x

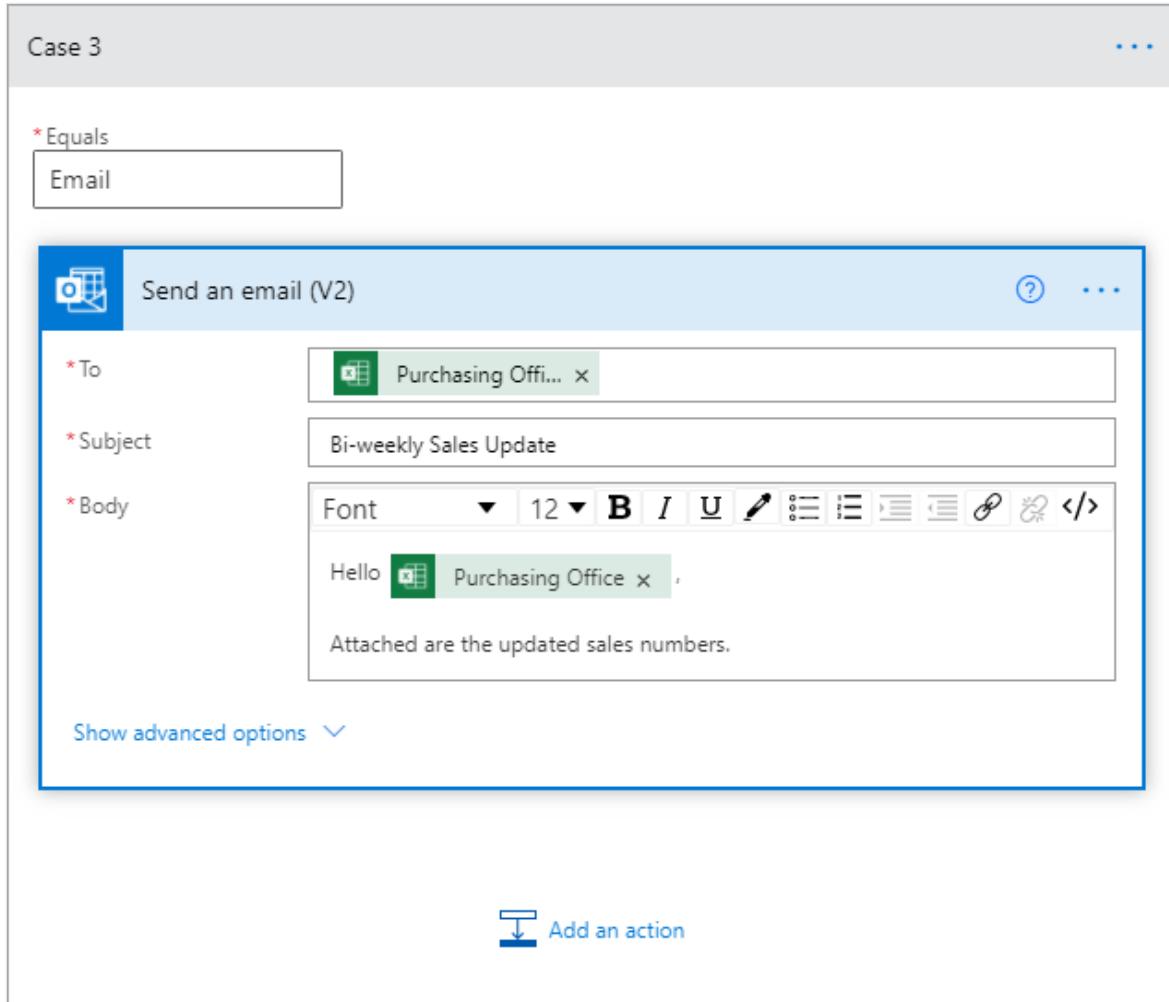
\* File Content File Content x

Add an action



16. In the case where you're sending your paginated report as an email via Outlook, populate the **To**, **Subject**, and **Body** boxes. These boxes can contain static content,

or dynamic content from your Excel Online table or SharePoint Online list. Power Automate attaches your paginated report to this email automatically.



17. When you're done, select **New step** or **Save**. Power Automate creates and evaluates the flow, and lets you know if it finds errors.
18. If there are errors, select **Edit flow** to fix them. Otherwise, select the **Back** arrow to view the flow details and run the new flow.

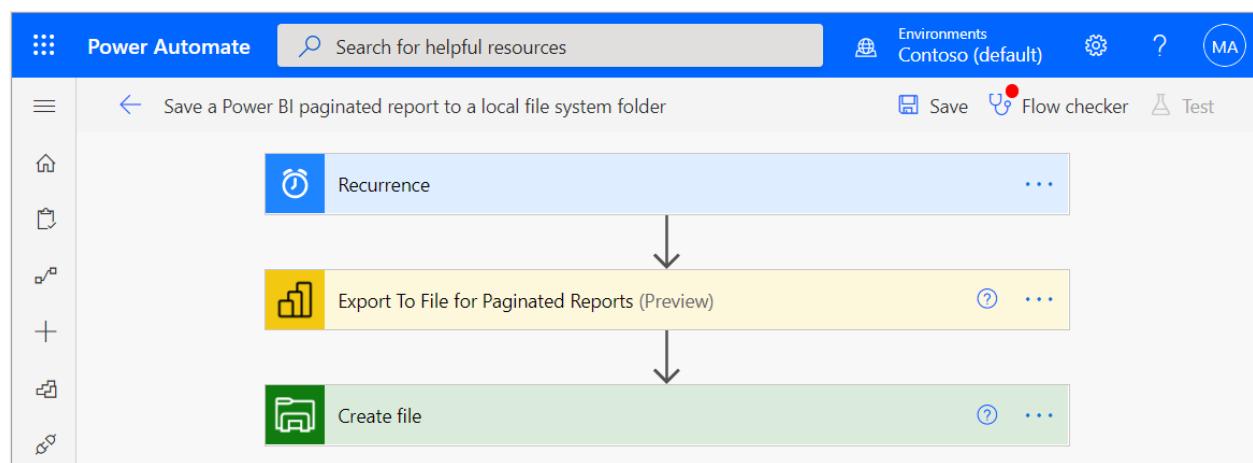
## Next steps

- Export Power BI paginated reports with Power Automate
- Get started with Power Automate
- More questions? [Ask the Power BI Community](#)

# Save a Power BI paginated report to a local folder with Power Automate

Article • 01/19/2023

With [Power Automate](#), you can automate exporting and distributing Power BI paginated reports to a variety of supported formats and scenarios. In this article, you use a template to set up recurring exports of a paginated report to your file system, in a desired format. See the Prerequisites if it's your first time using the Export to File for Paginated Reports action in a Power Automate flow.



Looking for other Power Automate templates for Power BI paginated reports? See [Export Power BI paginated reports with Power Automate](#).

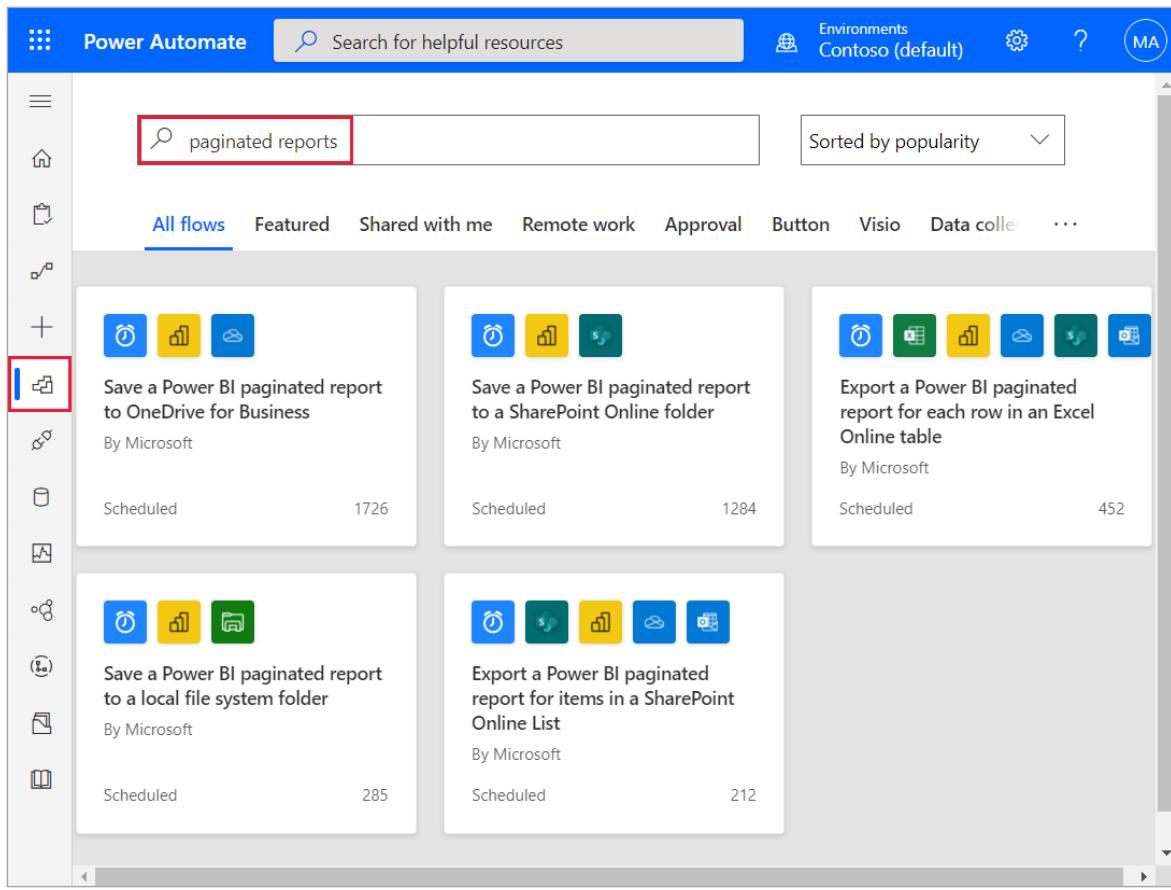
## Prerequisites

To follow along, make sure you meet these criteria:

- You can publish to My Workspace, or you have at least a [Contributor role](#) for any other workspace.
- You have access to the standard connectors in Power Automate, which come with any Office 365 subscription.

## Save a Power BI paginated report to a local folder

1. Sign in to Power Automate [flow.microsoft.com](https://flow.microsoft.com).
2. Select **Templates**, and search for **paginated reports**.



3. Select the **Save a Power BI paginated report to a local file system** template. Make sure you're signed into Power BI and connected to your local file system. Select **Continue**.

Power Automate

Search for helpful resources

Environments  
Contoso (default)

?

MA

Save a Power BI paginated report to a local file system folder

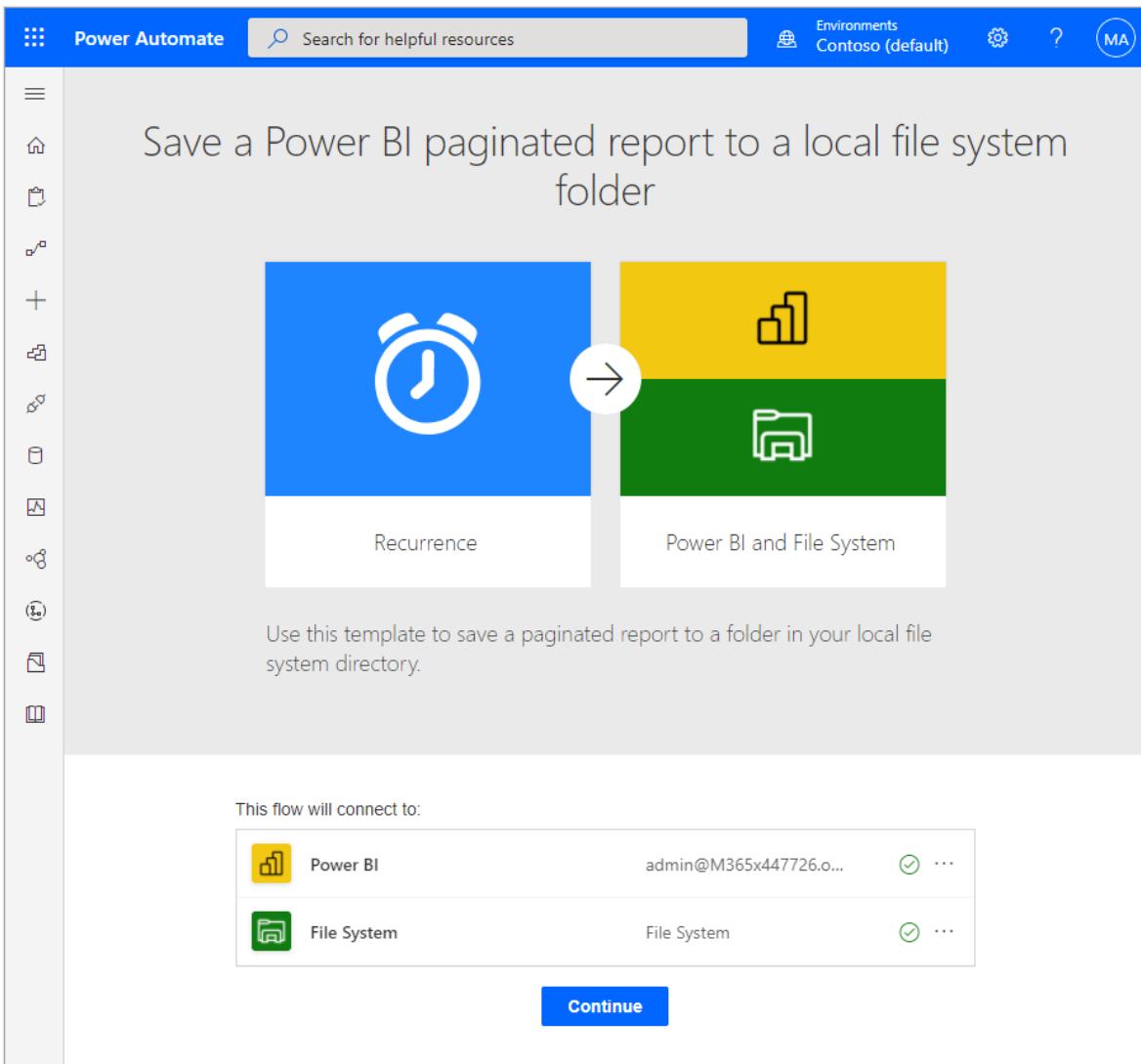
Recurrence → Power BI and File System

Use this template to save a paginated report to a folder in your local file system directory.

This flow will connect to:

 Power BI	admin@M365x447726.o...	 ...
 File System	File System	 ...

Continue



4. If you need a new connection, select the ellipses and choose **Add new connection** to connect to your file system. Enter a **Connection Name**, the path to your desired **Root folder**, and authenticate by entering your **User name** and **Password**. Select a **gateway** from the list if you're using an on-premises data gateway.

**File System**

\* Connection Name  
File System

\* Root folder  
C:\

Authentication Type  
Windows

\* Username  
DOMAIN\adminuser

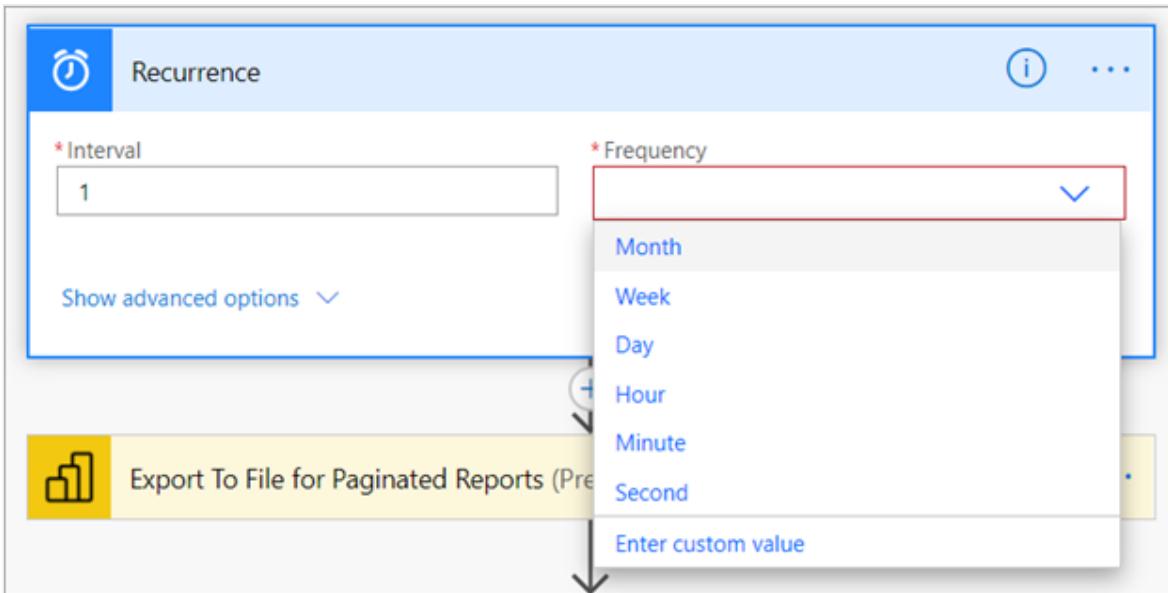
\* Password  
.....

gateway  
gateway

+ New gateway

**Create**   **Cancel**

5. To set the **Recurrence** frequency for your flow, select an option from the **Frequency** dropdown and enter a desired **Interval** value.



6. Optionally, select **Show advanced options**. Set additional **Recurrence** parameters such as **Time zone**, **Start time**, **On these days**, **At these hours**, and **At these minutes**.

 Recurrence  ...

* Interval 2	* Frequency Week
Time zone (UTC-07:00) Mountain Time (US & Canada)	
Start time 2021-04-21T12:00:00Z	
On these days Friday	
At these hours 12	
At these minutes 30	

**Preview**  
Runs at 12:30 on Friday every 2 weeks

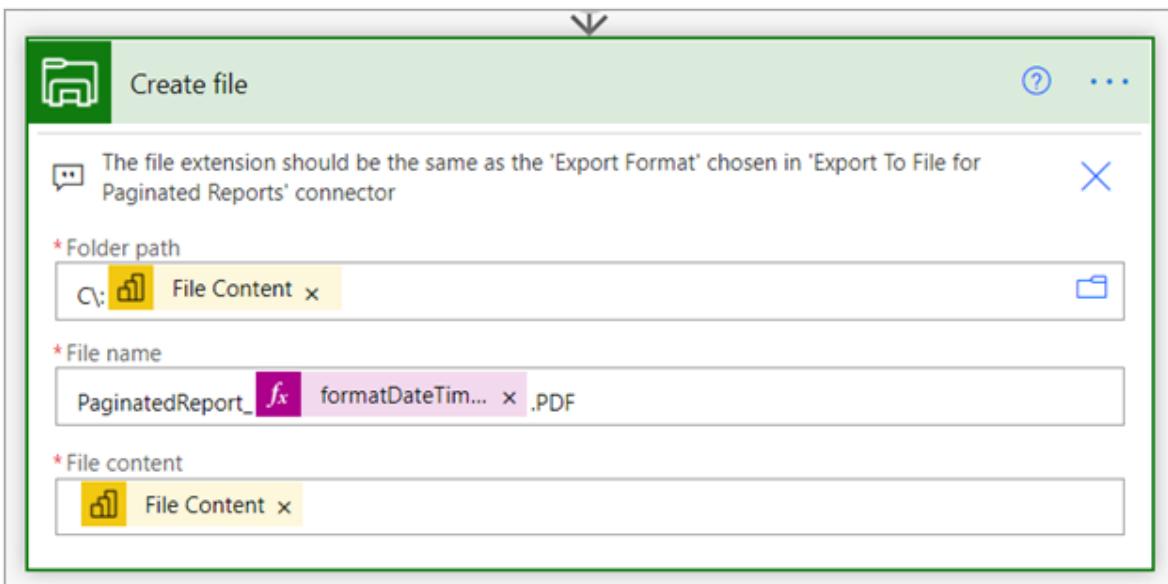
[Hide advanced options](#) 

7. In the **Workspace** box, select a workspace in a reserved capacity where the report is. In the **Report** box, select the paginated report that you wish to export in the workspace. In the **Export Format** box, select the desired export format. Optionally, you can specify parameters for the paginated report. See detailed descriptions of the parameters in the [connector reference for the Power BI REST API](#).

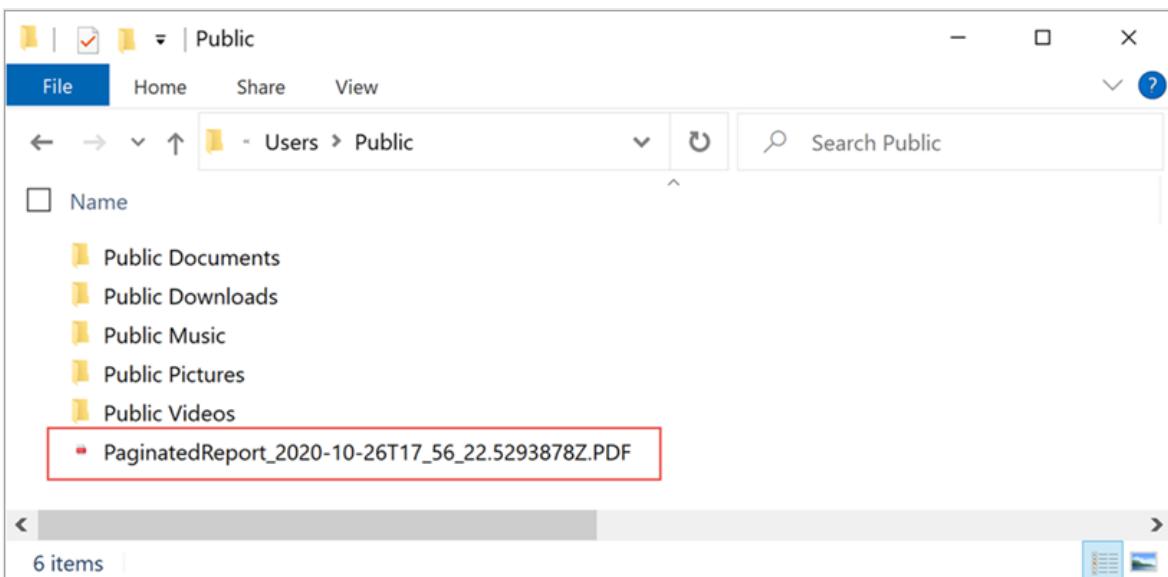
 Export To File for Paginated Reports (Preview)  ...

* Workspace My Workspace	
* Report Salesperson Directory	
Export Format PDF	

8. In the **Create file** dialog, in **Folder Path**, select the folder where you want to export your paginated report.



9. Power Automate automatically generates a **File name** and **File content** for you. You can modify the **File name**, but keep the dynamically generated **File content** value.
10. When you're done, select **Next step** or **Save**. Power Automate creates and evaluates the flow.
11. If Power Automate finds errors, select **Edit flow** to fix them. Otherwise, select the Back arrow to view the flow details and run the new flow.
12. When you run the flow, Power Automate exports a paginated report in the specified format to the selected folder in your file system.



## Next steps

- [Export Power BI paginated reports with Power Automate](#)
- [Get started with Power Automate](#)
- More questions? [Ask the Power BI Community ↗](#)

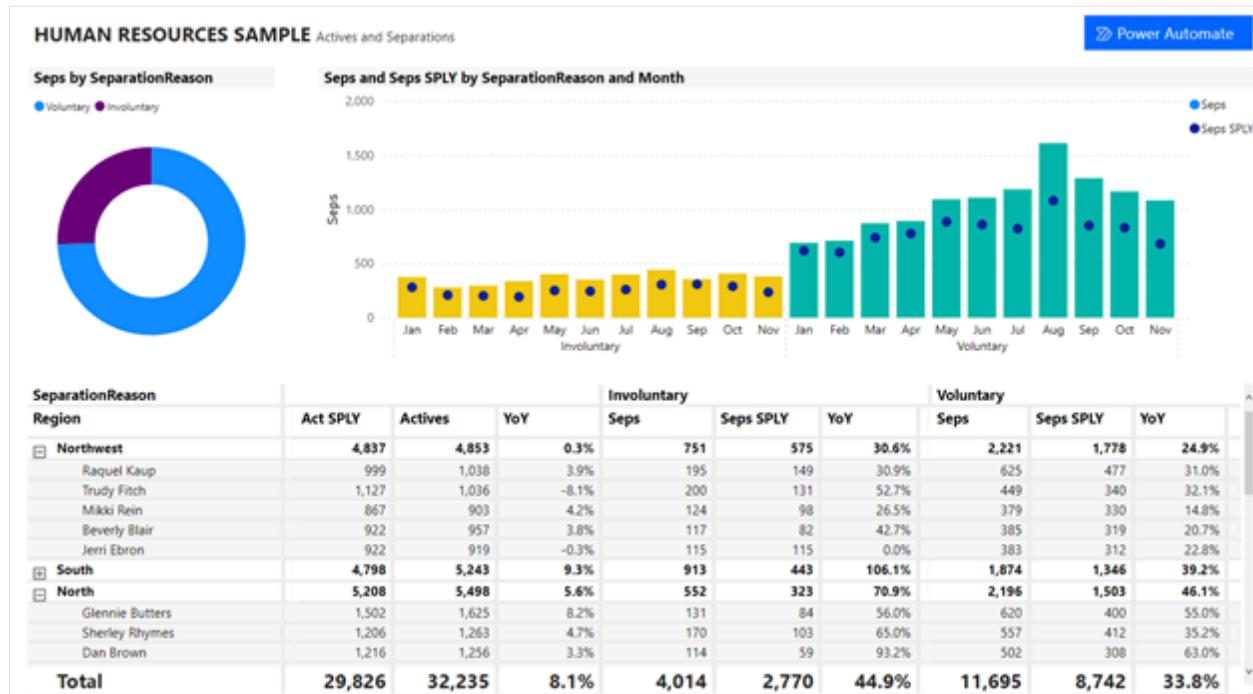


# Create a Power Automate visual for Power BI

Article • 05/14/2024

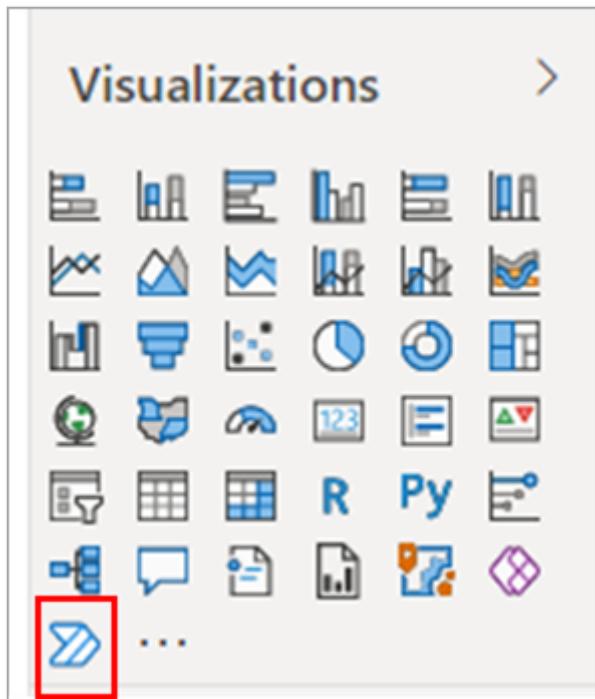
APPLIES TO: Power BI Desktop Power BI service

When you create a Power Automate visual in a Power BI report, your end-users can run an automated flow, just by clicking a button in your report. Furthermore, the flow can be data contextual, meaning that the flow inputs can be dynamic, based on the filters the end-users set.

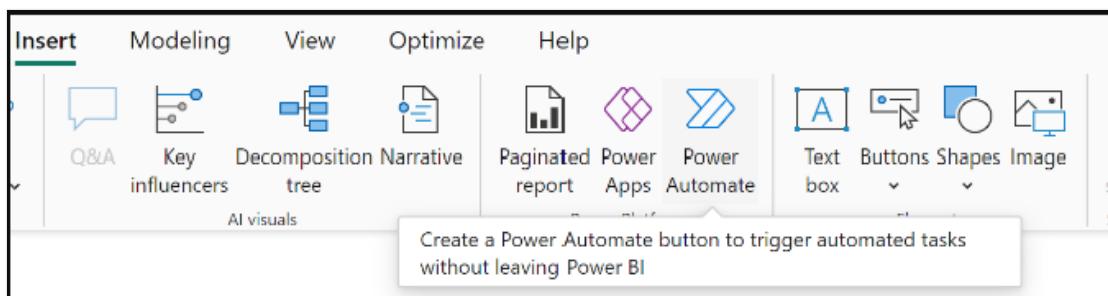


## Add the Power Automate visual

1. Select the Power Automate icon from the **Visualizations** pane.



In Power BI Desktop, you can also add the visual from the ribbon. On the **Insert** tab, select **Power Automate** in the **Power Platform** section.



Once you select the visual, it automatically gets added to your current report page, with getting started instructions.

2. Scroll, resize the visual, or select the **Focus mode** icon to see all the instructions.

The screenshot shows the Power Automate visual in a Power BI report. At the top, there's a blue header bar with the 'Power Automate' logo and the word 'Environments' followed by 'Contoso (default)'. Below the header, a message says 'Create a button that triggers automated tasks without leaving Power BI. [Learn more](#)'. A vertical dotted line connects five numbered steps on the left to their corresponding descriptions on the right.

- 1 Select an environment**  
Use the environment selector in the header to choose a Power Automate environment.
- 2 Add data**  
Drag the fields needed for your flow (automated task) into the field well.
- 3 Set up your flow**  
To create a flow, select Edit in the More actions (...) menu.
- 4 Apply and share**  
Select Apply to connect the flow to your button. Make sure you share the flow with the report readers who need access to use it.
- 5 Format your button**  
Resize and format your Power Automate button.

3. After you've reviewed the instructions, resize the button and place it where you'd like on the report.

## Change the environment in which your flow is created

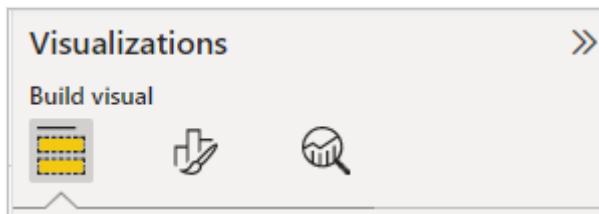
To select your preferred environment for creating your flow, use the environment picker in the Power Automate visual. This includes environments where you have any built-in security role, as well as any environments where you are a co-owner of one or more flows. If you cannot find your preferred environment, see the article [Troubleshoot missing environments](#) to learn more about the requirements.

The screenshot shows the Power Automate visual in a Power BI report. The 'Environments' section in the header shows 'Contoso (default)'. A dropdown arrow next to it reveals a list of environments: 'Contoso (default)' and 'CRM536103'. The first step of the process is visible below the dropdown.

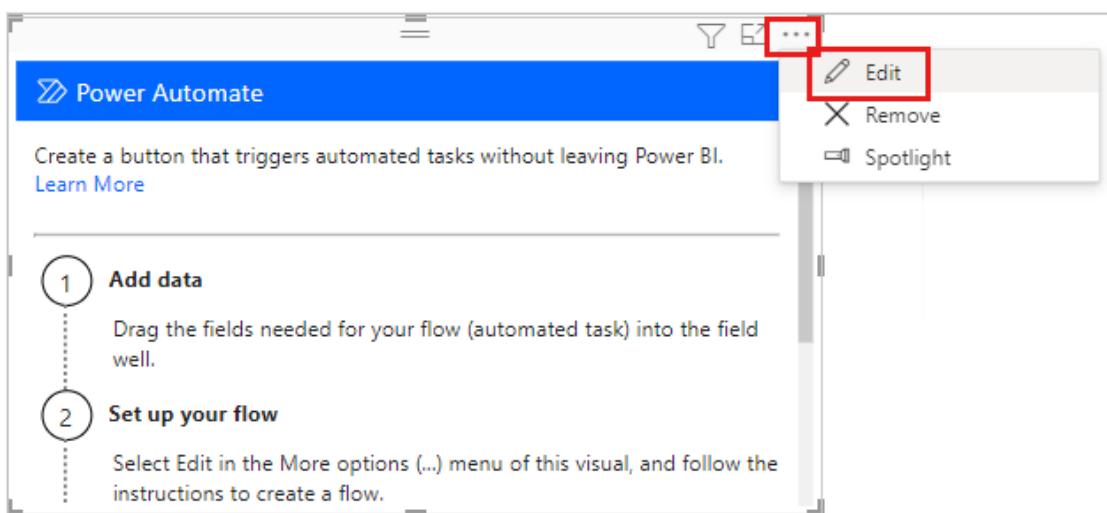
- 1 Select an environment**  
Use the environment selector in the header to choose a Power Automate environment.

## Edit the flow

- With the flow selected, add any data fields to the **Power Automate Data** region, to be used as dynamic inputs to the flow.



- Select **More options (...)** > **Edit** to configure the button.

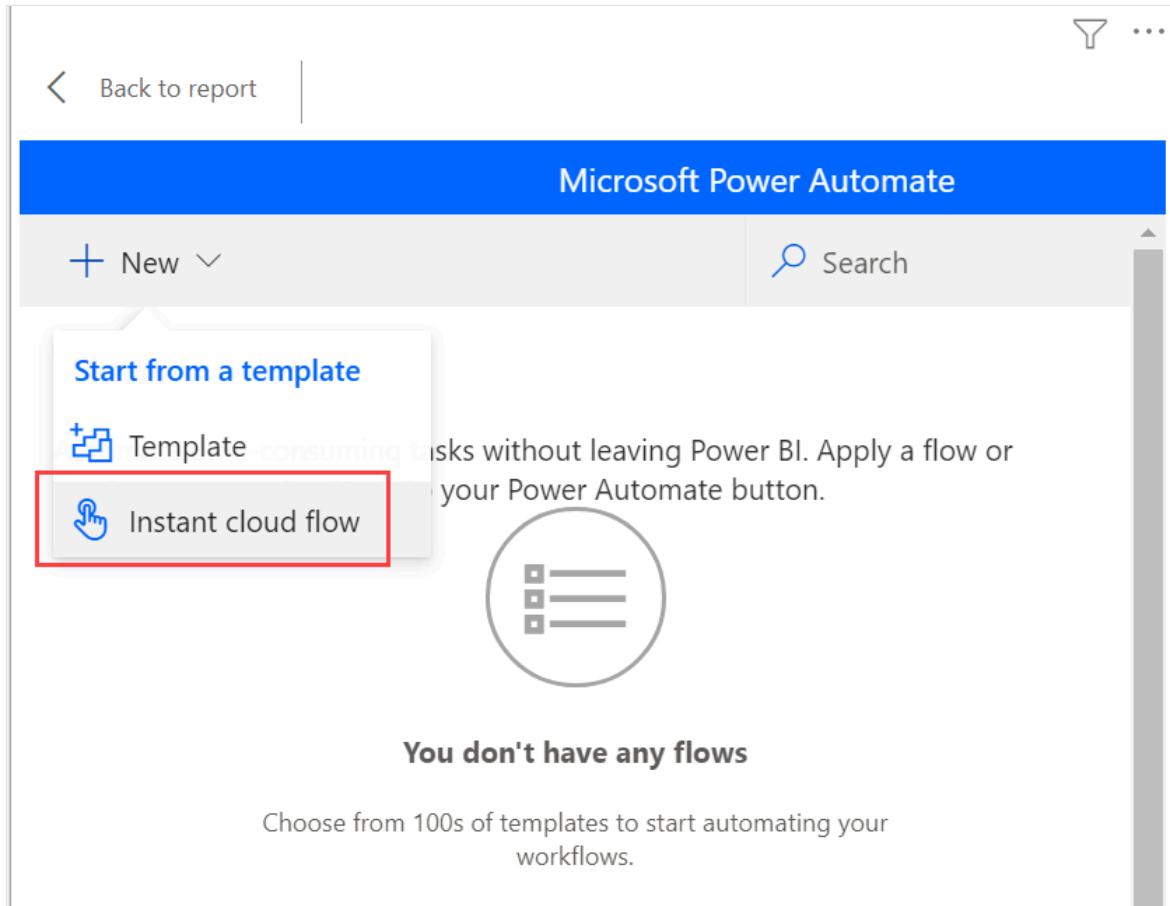


- In edit mode of the visual, either select an existing flow to apply to the button, or create a new flow to be applied to the button.

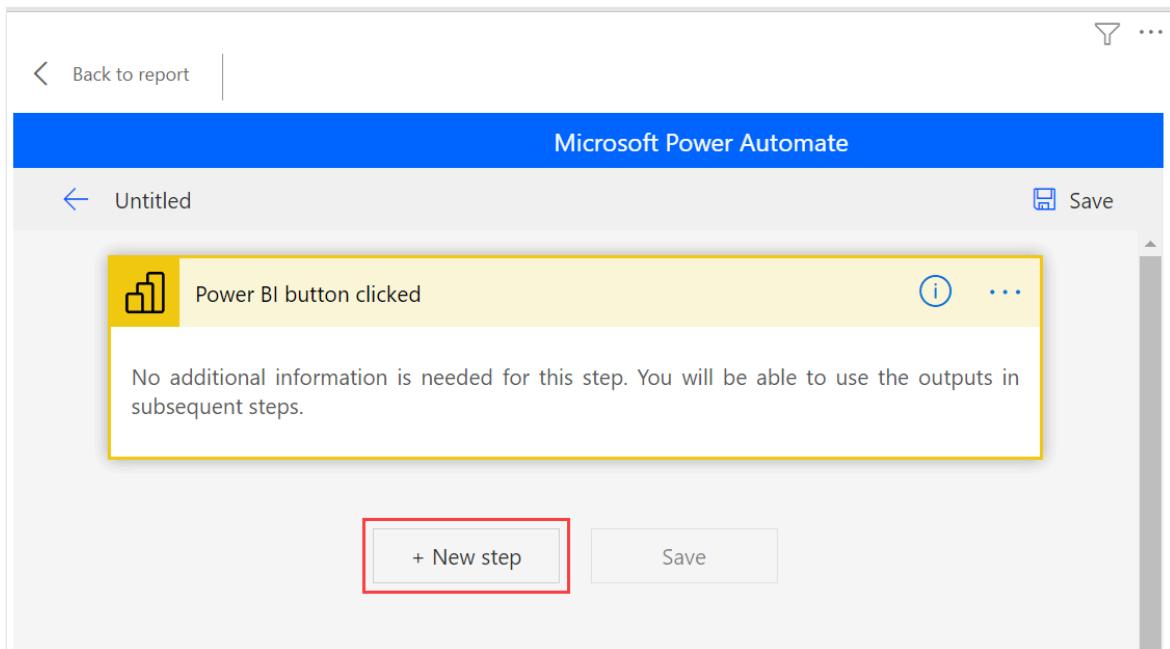
The screenshot shows the Microsoft Power Automate interface with the following elements:

- Header:** Microsoft Power Automate, Back to report, New, Apply, Edit, Delete, Install, Search.
- Section: Flows**
  - Automate time-consuming tasks without leaving Power BI. Apply a flow or create a new one to attach to your Power Automate button.
  - Create an item for a SharePoint list from Power BI** (selected, indicated by a blue circle).
  - Update an Excel table from Power BI**
  - Create a task from Power BI**
- Section: Power BI templates you might like**
  - Send a Teams message from Power BI** By Microsoft, Instant, 16
  - Update an Excel table from Power BI** By Microsoft, Instant, 11
  - Create an item for a SharePoint list from Power BI** By Microsoft, Instant, 3
  - Create a task from Power BI** By Microsoft, Instant, 1

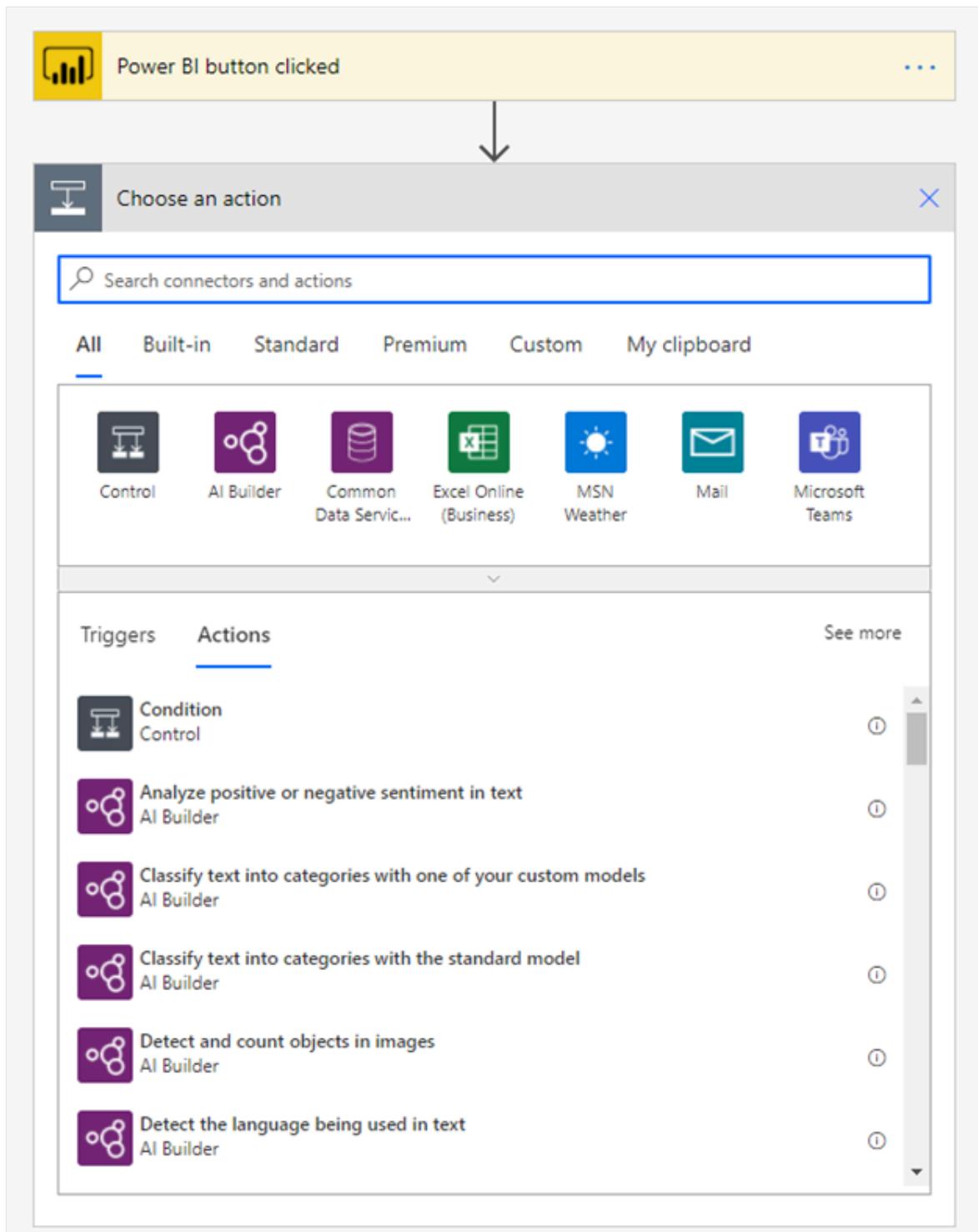
4. You can start from scratch or start with one of the built-in templates as an example. To start from scratch, select **New > Instant cloud flow**.



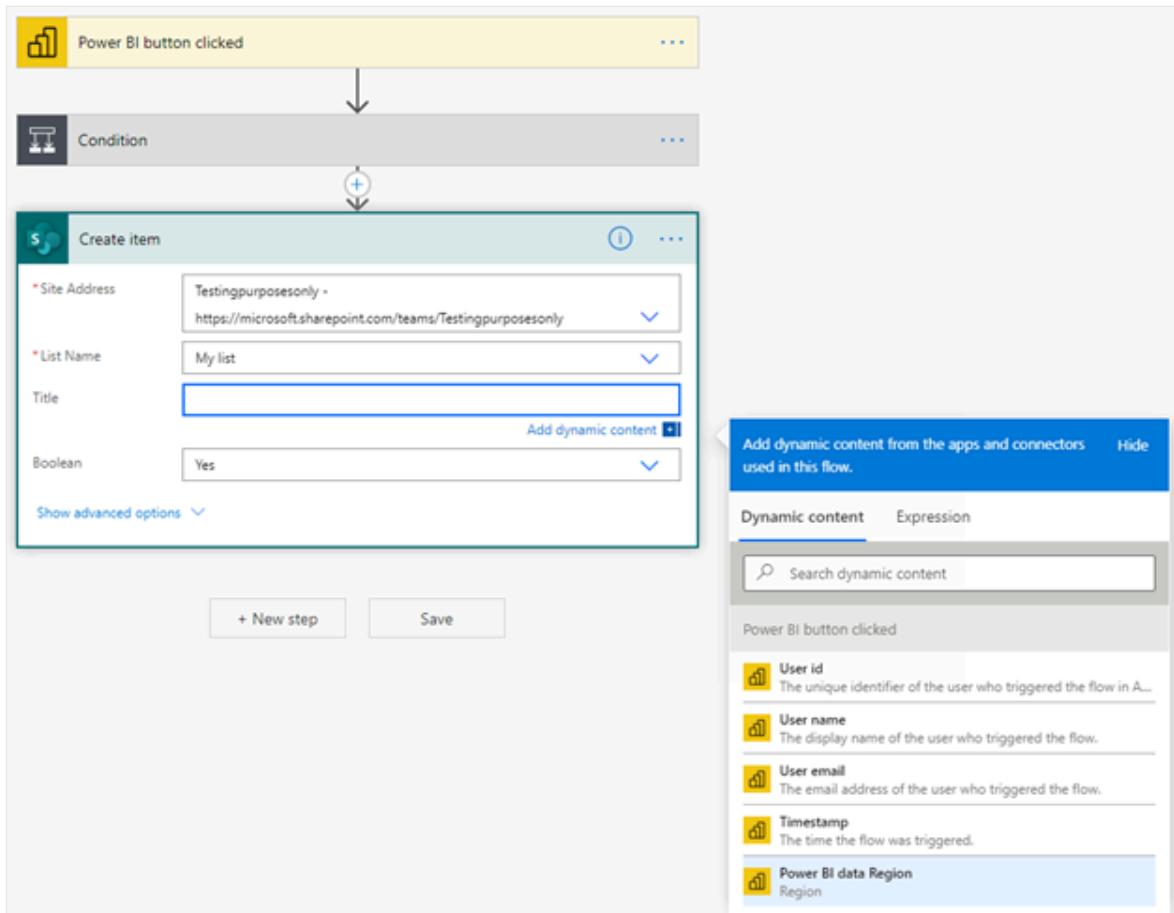
5. Select **New step**.



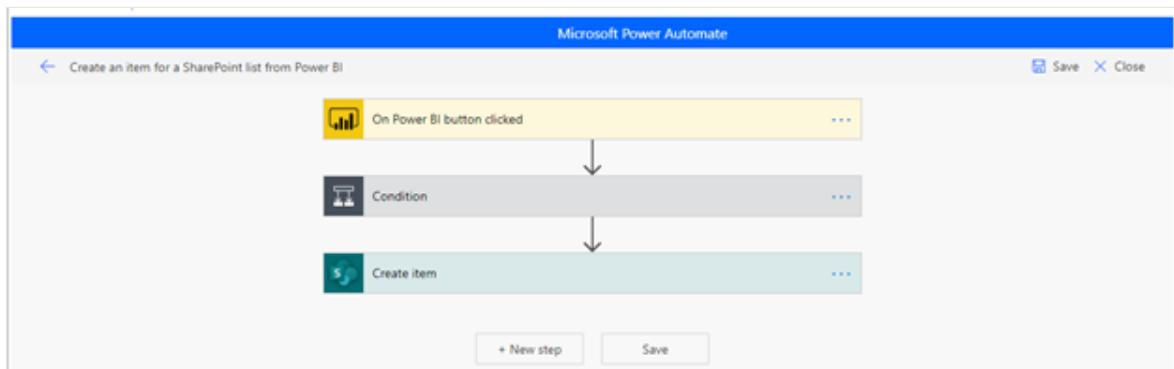
6. Here, you can choose a subsequent action or specify a Control if you want to specify additional logic to determine the subsequent action.



7. Optionally, you can reference the data field(s) as dynamic content if you want the flow to be data contextual. This example uses the Region data field to create an item in a SharePoint list. Based on the end-user's selection, Region could have multiple values or just one.



8. After you've configured your flow logic, name the flow, and select **Save**.



9. Select the arrow button to go to the Details page of the flow you just created.



Here's the Details page for a saved flow.

The screenshot shows the Microsoft Power Automate interface for a flow titled "Create an item for a SharePoint list from Power BI".

**Details:**

- Flow: Create an item for a SharePoint list from Power BI
- Description: Create an item for a SharePoint list from Power BI
- Status: On
- Created: Nov 11, 02:10 PM
- Modified: Nov 11, 02:10 PM
- Type: Instant
- Plan: Per-user plan

**Connections:**

- Power BI

**Owners:**

- SN

**Run only users:**

Your flow hasn't been shared with anyone.

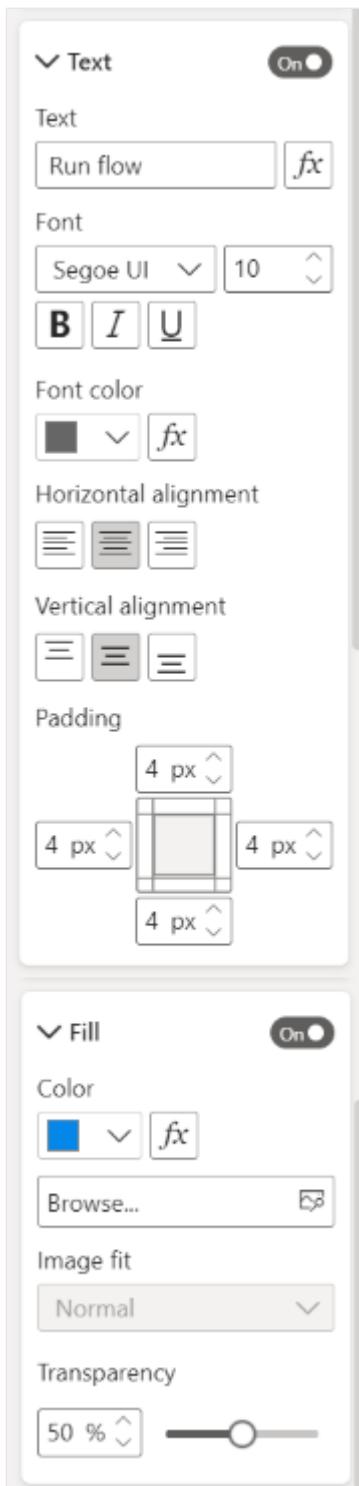
**28-day run history:**

Your flow hasn't been run yet. Select Run to see it work.

10. Select the **Apply** button to attach the flow you've created to your button.

## Format the flow

Optionally, you can change the button text, font color, font size, or fill color of the button. These options along with other settings are available in the **Format** pane:

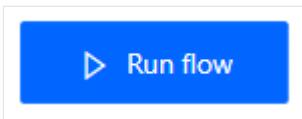


## Test the flow

After you've applied a flow to the button, we recommend testing it before you share the flow with others. These Power BI flows can only run in the context of a Power BI report. You can't run these flows in a Power Automate web app or elsewhere.

If your flow is data contextual, make sure you test how the filter selections in the report impact the flow outcome.

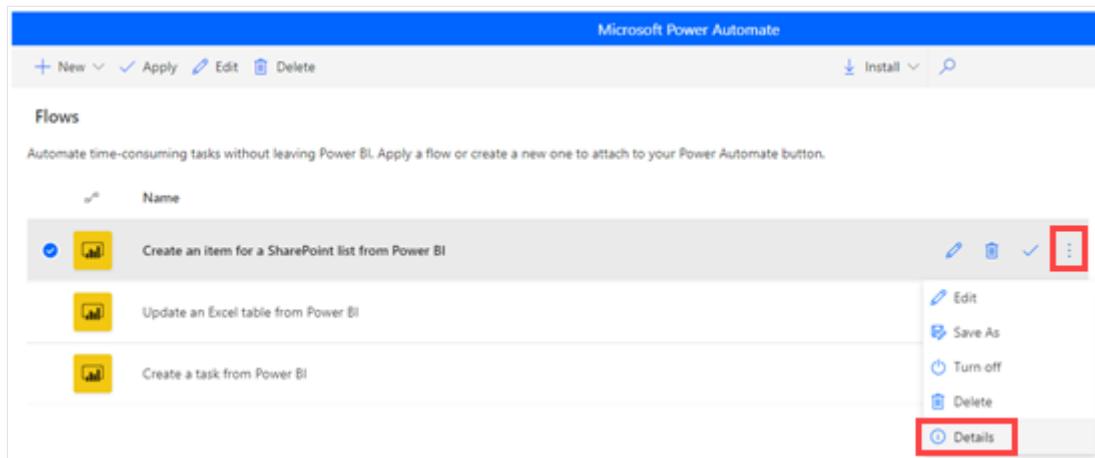
1. To test the flow in edit mode of the report, select **Back to report**, then press **Ctrl** while you select the button to run the flow.



► Run flow

The button text indicates that the flow has been triggered.

2. To check if the flow has run successfully, select the **More commands (...)** menu > **Details** in the flow that has been triggered:



Microsoft Power Automate

+ New ✓ Apply ⚡ Edit 🗑 Delete

Flows

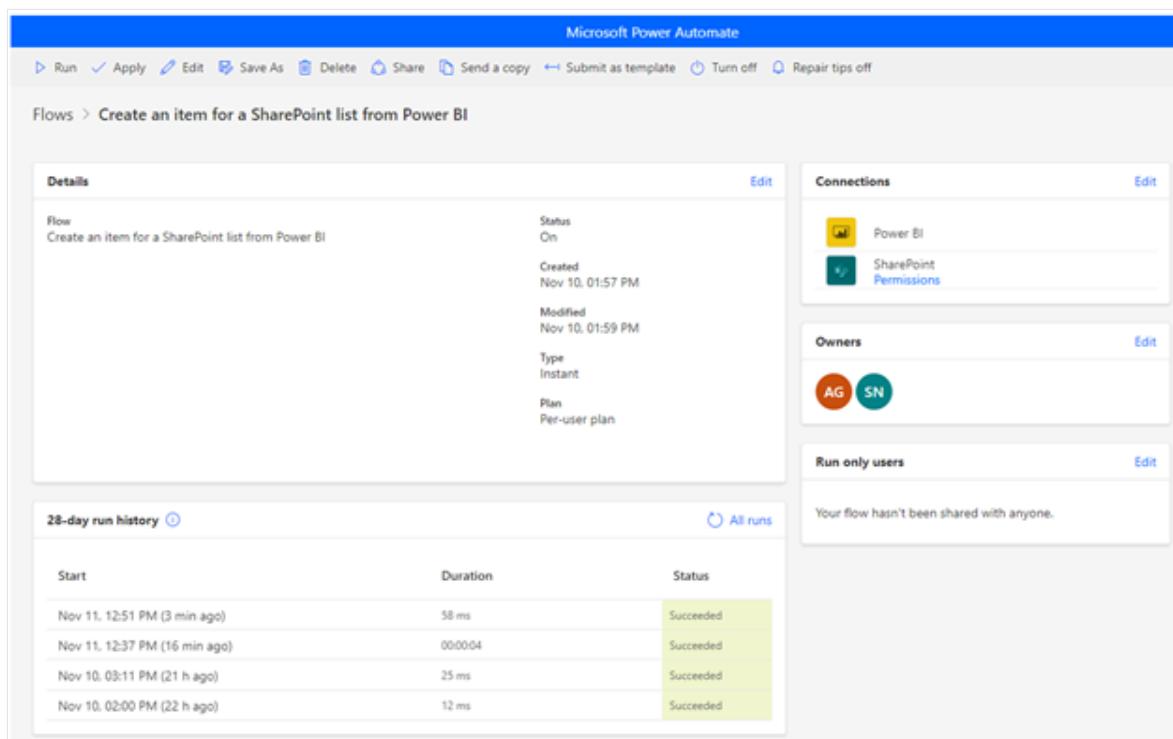
Automate time-consuming tasks without leaving Power BI. Apply a flow or create a new one to attach to your Power Automate button.

Name
Create an item for a SharePoint list from Power BI
Update an Excel table from Power BI
Create a task from Power BI

⋮

Edit Save As Turn off Delete Details

3. On the **Details** page, you can see the **run history** and **status** for the flow:



Microsoft Power Automate

Run ✓ Apply ⚡ Edit Save As 🗑 Delete Share Send a copy Submit as template Turn off Repair tips off

Flows > Create an item for a SharePoint list from Power BI

Details		Connections
Flow	Create an item for a SharePoint list from Power BI	Status On  Created Nov 10, 01:57 PM  Modified Nov 10, 01:59 PM  Type Instant  Plan Per-user plan
		Power BI SharePoint Permissions
		Owners AG SN
		Run only users Edit Your flow hasn't been shared with anyone.

28-day run history ⏪ All runs

Start	Duration	Status
Nov 11, 12:51 PM (3 min ago)	58 ms	Succeeded
Nov 11, 12:37 PM (16 min ago)	00:00:04	Succeeded
Nov 10, 09:11 PM (21 h ago)	25 ms	Succeeded
Nov 10, 02:00 PM (22 h ago)	12 ms	Succeeded

### ⓘ Important

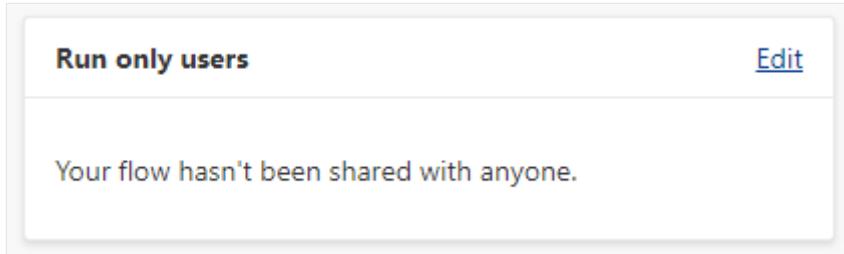
You can only run these Power BI flows within the context of a Power BI report. You can't start flows from the Power Automate portal. To test the flow in edit mode of the report, select Back to report, and then press Ctrl + click on the button to run the flow in the context of the report. You can also navigate to edit mode or to

Power Automate to view the run history of the flow and ensure it is running successfully.

## Share the flow

When the flow is running successfully, you can share it with your report readers.

1. Select **Edit** in the **Run only users** section:



2. Specify which users or groups you want to give run access to:

## Manage run-only permissions

X

### Users and groups SharePoint

#### Invite users or groups

Let others run this flow and see the results, but not edit in any way.

Enter names, email addresses, or user groups

#### Currently shared with

This flow has not been shared with any users. Add a person and see their name here.

#### Connections Used

These connections will provide the users listed here to have run-only access to this flow. Unless providing their own connection, run-only users will not have access to these connections outside this flow.



Power BI

Access to this connection is provided by the owner of the flow.

Use this connection



SharePoint

Access to this connection is provided by the owner of the flow.

Use this connection



Save

Cancel

## Give users edit access

Alternatively, you can give any users edit access to the flow, not just run permissions.

- Select **Share** Share, and specify the users or groups that you want to add as an owner:

The screenshot shows the 'Owners' settings page in Power Automate. On the left, there's a section for 'Owners' with a note about adding another owner allowing others to edit, update, and delete the flow. A 'Learn more' link is provided. On the right, under 'Users and groups', there's a 'SharePoint' tab and a search bar labeled 'Add a user or group as owner'. Below that is a red-bordered input field for 'Enter names, email addresses, or user groups'. Under 'Connections in use', it says 'Connections listed are actively being used in this flow.' and provides links to 'Manage connections'. Two connections are listed: 'Power BI' (with a yellow bar chart icon) and 'SharePoint' (with a blue SharePoint icon).

## Considerations and limitations

- Additional manual inputs to the button aren't supported.
- The visual isn't supported for [embedded analytics](#).
- The visual doesn't work in Publish to Web (public) scenarios, because unauthenticated scenarios aren't supported by Power Automate.
- The visual doesn't support export scenarios.
- The Power Automate visual is limited to process a maximum of 1000 records.
- The user running the flow within the Power BI report needs to have permissions to run the flow. Grant these permissions through direct sharing by the user or by sharing to a Microsoft Entra group.
- Create flows that you will [use](#) with the Power BI button trigger **directly within the Power BI report**. Avoid going directly to Power Automate to create these flows, as the trigger will not have access to the data fields necessary for creating the flow.
- Power BI data is sent to, and processed in, a geography where the flow is deployed.

## Related content

For more information about Power Automate, take a look at the following articles:

- [Integrate Power BI data alerts with Power Automate](#)
- [Export and email a Power BI report with Power Automate](#)
- [Get started with Power Automate](#)
- More questions? [Try the Power BI Community](#)

---

## Feedback

Was this page helpful?

 Yes

 No

[Provide product feedback ↗](#) | [Ask the community ↗](#)

# About Power BI in-place semantic model (preview) sharing with guest users in external organizations

Article • 12/21/2023

The B2B semantic model sharing capability (preview) allows customers to share semantic models with external users that external users can access in their organization's tenant. **In-place semantic model sharing** means that data providers can allow authorized guest users to work with shared semantic models in their own Power BI tenants.

With existing B2B capabilities, data providers have previously shared data with external partners by requiring them to be a guest user in their organization through Microsoft Entra Business-to-Business (Microsoft Entra B2B). The guest user would then access content in the data provider's organization (tenant). With Power BI in-place semantic model sharing, data providers can now share data from their Power BI tenants in-place to guest users' tenants. In-place semantic model sharing allows consumers to have near real-time access to shared data, and to access that shared data from within their own tenant.

With in-place sharing, data is never copied to the consumer tenant, however data consumers can search the shared semantic models directly in the source data systems. When consumers access these semantic models in their own tenant, they can build their own composite models and reports on top of the shared data. Since consumers can build their own models and reports, they won't need to manually transfer data between organizations. This capability becomes useful when you want to share data with external partners, subsidiaries, consulting organizations, and other business partners.

This article provides a basic introduction to in-place semantic model sharing in Power BI. For more information on existing Microsoft Entra B2B in Power BI, see [Distribute Power BI content to external guest users with Microsoft Entra B2](#).

## Considerations and Limitations

- If you use in-place semantic model sharing, data might move to another region if the consumer and provider tenants are located in different regions. This is because data is cached on the consumer tenant to build composite models and reports on top of the shared data. Regardless, storage and computation for shared semantic models remains within the provider tenant. This may potentially impact EU Data Boundary compliance.

- Existing limitations for Microsoft Entra B2B in Power BI and B2B collaboration in Microsoft Entra ID still apply to in-place semantic model sharing.
- Live connect mode isn't currently supported for in-place semantic model sharing. Power BI will need to change queries in the DirectQuery mode, which consumes resources on shared capacity or a Premium capacity. For more information on DirectQuery versus LiveConnect, see [Data refresh in Power BI](#).
- If **Private Links** and **Block Public Internet Access** are enabled for a Provider's Power BI tenant, consumers won't see semantic models shared by this provider in their own tenant.
- Semantic models hosted in My Workspace, V1 Workspace (classic), or Admin Monitoring workspaces aren't supported. Only V2 (new) workspaces are supported for in-place sharing.
- For Azure Analysis services (AAS), customers are expected to connect directly to the AAS instance. Live connection to AAS data sources isn't supported.
- This capability isn't supported for composite models, meaning, consumers can't build content for external semantic models that are composite models.
- Only pro and premium users can share semantic models externally. However, pro trial users won't be able to use this capability. In-place semantic model sharing isn't available for free users.
- All composite model limitations apply. For more information, see [Use composite models in Power BI Desktop](#).
- The size of the data model being shared externally and the complexity of the query affect premium capacity utilization. The source (data provider's) tenant is responsible for this cost.
- All DirectQuery limitations apply. For more information, see [Use DirectQuery in Power BI Desktop](#).
- In-place semantic model sharing is not supported for cross-sovereign cloud scenarios. This means that users in a government cloud cannot share or receive shared semantic models from a commercial cloud tenants. Read more on cross-cloud B2B limitations in [Cross-cloud B2B](#).
- A report that was created by a user in the host tenant, using a semantic model in the same host tenant will result in failure if opened in Power BI Desktop by a guest user. Only reports created using the 'external data' tab in Power BI Desktop can be re-opened in Power BI Desktop by the guest user.

# Requirements

- You'll need to enable access for external guest users with Microsoft Entra B2B. For more information, see the enable access section of [Distribute content to external guest users with Microsoft Entra B2B](#).
- If the provider tenant is MFA enabled, the consumer tenant needs to also be MFA enabled to access the **External Data** tab in their Power BI desktop. Additionally, the provider tenant needs to turn on the **Trust multi-factor authentication from Microsoft Entra tenants** option. Read [To change inbound trust settings for MFA and device claims](#) for more information.
- The following tenant settings across workspaces and existing B2B capabilities need to be enabled:
  - [Control the use of semantic models across workspaces](#)
  - [Allow Microsoft Entra guest users to access Power BI](#)
  - [Allow XMLA endpoints and analyze in Excel with on-premises datasets](#)
  - [Allow live connections](#)
- For using in-place semantic model sharing, Power BI admins will need to turn on the following settings in the admin portal:
  - [Allow guest users to work with shared semantic models in their own tenants](#)
  - [Allow specific users to turn on external data sharing](#)
- Before sharing the semantic model, make sure to enable the **semantic model external sharing** option for the specified semantic model.

# Security

Storage and computation for semantic models shared with external users remains within the provider tenant. Users with appropriate permissions in the consumer tenant get live access to this semantic model. As such, the shared data respects Power BI permissions and data security such as row-level security (RLS), so your data remains secure.

# Information for the Power BI administrator

If you're a Power BI administrator, see [Information for Power BI administrators](#) for details on how to enable semantic model sharing to external organizations.

# Next Steps

- Use Power BI in-place semantic model sharing (preview) to share semantic models with external users
- Access shared semantic models in Power BI as a guest user from an external organization (preview)

# Use Power BI in-place semantic model sharing (preview) to share semantic models with external users - data provider

Article • 01/27/2025

Data providers can use in-place semantic model sharing (preview) to share semantic models with external users that they can access in their organization's tenant. A data provider is the source data owner who intends to share a semantic model externally with a data consumer (external user). This article provides guidance on how to enable external sharing and share semantic models.

## ⓘ Note

Before a data provider can share, there are two new tenant settings that must be enabled for the specified data provider by their Power BI admins. For more information about these settings, see [Information for Power BI administrators](#).

## Enable external sharing

Before sharing the semantic model, the provider must first enable external sharing. The following instructions are for the provider who wants to share the data:

1. Select the semantic model you intend to share with external guest user.
2. To access semantic model settings, go to **File** and select **Settings**.
3. Scroll to the bottom of the page and select on the dropdown for **External sharing**.
4. Turn on the external sharing switch and select **Apply**. This allows external users (who have at least *build* access to this semantic model) to discover, connect to, and work with this semantic model within their own Power BI tenant.

The screenshot shows the 'Settings for Financial Sample' page in the Power BI interface. At the top, there are tabs for General, Alerts, Subscriptions, Dashboards, Datasets (which is selected), Workbooks, Reports, Dataflows, and App. Below the tabs, a section for 'Financial Sample' is shown with a 'View dataset' link. A yellow warning box states: 'Refresh can't be scheduled because the data set doesn't contain any data model connections, or is a worksheet or linked table. To schedule refresh, the data must be loaded into the data model.' Under the dataset name, it says 'This dataset has been configured by AdminUser@pbidatly.onmicrosoft.com Refresh history'. A 'Dataset description' field is present with a character limit of 500 characters. On the right, there's a sidebar with various dataset management options like Sensitivity label, Parameters, Q&A, etc. The 'External sharing' section is highlighted with a red box and a red arrow pointing to the 'On' toggle switch. It explains that external users will be able to discover, connect to, and work with the dataset within their own Power BI tenant. A note below states: 'By sharing your data, you will make it accessible for consumption and creation experiences in a third-party Power BI tenant. This may mean that your data moves to another region.' Buttons for 'Apply' and 'Discard' are at the bottom of the sharing section.

### (!) Note

If **Allow specific users to turn on external data sharing** is disabled by the Power BI admin for the specific user/user groups, they won't be able to turn on this semantic model property.

## Share the Semantic model

1. Open the semantic model that you want to share with external users
2. Share the semantic model with an external user.

### (!) Note

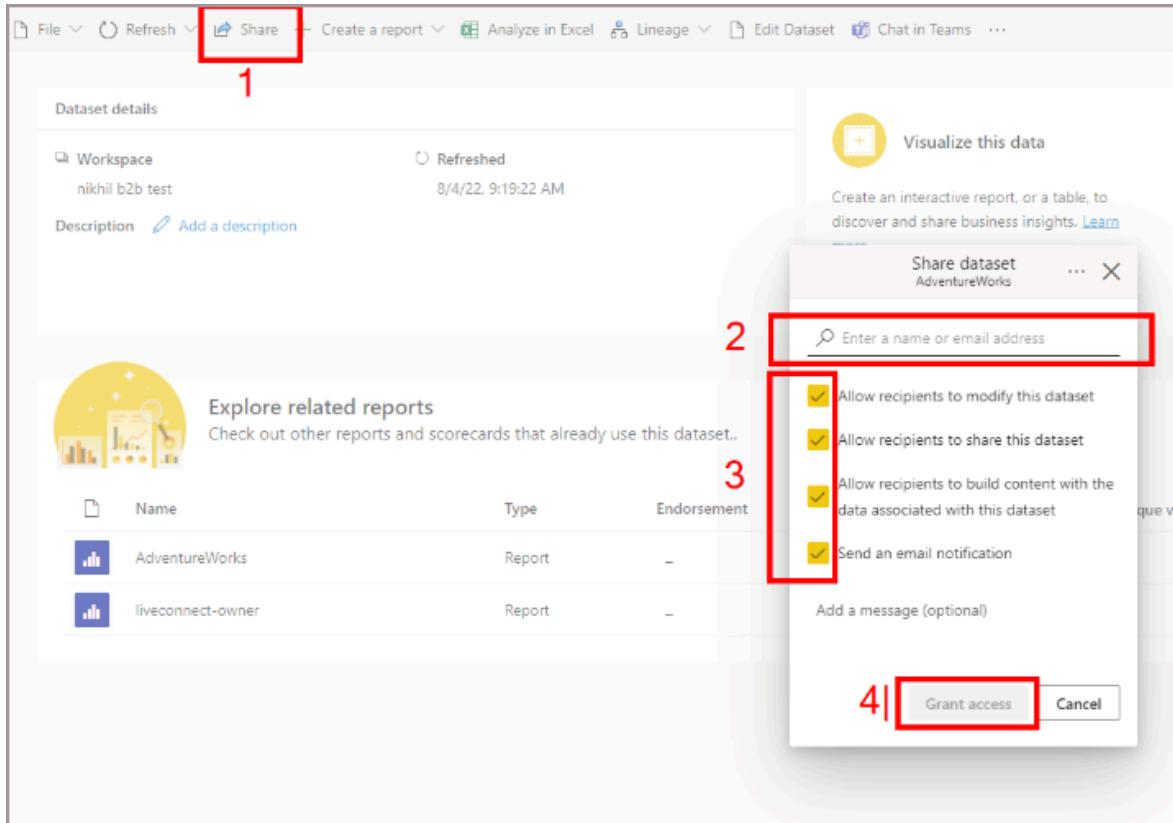
Only registered guest users in your Microsoft Entra tenant can access the shared semantic model. Registered guest users will be tagged as **EXT** in their domain name to show they're an external guest.

3. External users need to have at least "Build" access to the semantic model to access semantic models in their own tenant. So, select the **Allow recipients to build content with the data associated with this semantic model** checkbox.

### (!) Note

The Allow recipients to modify this semantic model option isn't supported for B2B external sharing. So, guests won't be able to modify the source semantic model. This means that even if this option is checked, external guests can't change the semantic model.

#### 4. Select Grant access.



## Related content

- Access shared semantic models in Power BI as a guest user from an external organization (preview)

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# Access shared semantic models in Power BI as a guest user from an external organization (preview) - consumer

Article • 01/27/2025

External data consumers can view and access semantic models in their own tenants that have been shared with them by a data provider via in-place semantic model sharing (preview). A data consumer is a user who doesn't own the semantic model, but needs to access it. This article provides guidance on how to access and build reports in your own tenant based on external semantic models in other tenants that have been shared with you.

## Enable the shared semantic models preview feature

Before you can access the semantic models shared in-place, you need to enable the feature in the *Preview features* option of your Power BI desktop:

1. In your tenant, go to **Options & settings**.
2. Select **Options** and then **Preview features**.
3. Select the checkbox next to the **DirectQuery for PBI semantic models and AS** option
4. Select the checkbox next to the **Connect to external semantic models shared with me** option.

## Access shared semantic models

Once enabled on provider side, consumers can see the semantic models in the OneLake catalog in Power BI Desktop, on a tab called *External data*. Use the following instructions to access and build reports with a semantic model that a data provider shared to your tenant:

 **Important**

If external sharing is ever disabled by the provider, reports built on top of the external semantic model will lose functionality within a few minutes and display an error message.

1. In your tenant, go to the OneLake data hub in Power BI Desktop.
2. Select **External data** to see a list of external semantic models that have been shared with you.
3. Select the semantic model you wish to access or build a report with. Once you select the semantic model, it becomes a *composite model*.
4. Once you've accessed the semantic model, you can perform one of the following actions:
  - Save the semantic model as a *.pbix* file.
  - Publish it to the Power BI service.
  - Combine its data with other available semantic models.
  - Build a report based on this model.

## Publish reports made from shared semantic models

1. After publishing a *.pbix* file with external data reference, consumers can do the following:
  - Build further reports on top of the existing report
  - Share any content built on top with others in their organization

### ⓘ Note

For others to have access to a composite model or content built on top of an external semantic model, they must also have access to the underlying external data..

## Related content

- [Use composite models](#)

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# Use in-place semantic model sharing to enable external users to view and share semantic models in their own tenants (preview) - Admin info

Article • 02/07/2024

Power BI in-place semantic model sharing allows data providers to share semantic models with external users that they can access in their organizations tenants. This article provides instructions for the Power BI administrator on how to enable tenant settings to allow in-place semantic model sharing.

## Requirements

For a full list of requirements necessary to use in-place dataset sharing, see the requirements section of [About Power BI in-place semantic model sharing with guest users in external organizations](#).

## Licensing

Users must have an active Power BI account and a Power BI Pro or Premium license. For detailed information on licensing requirements, see the licensing requirements section of [Distribute Power BI content to external guest users with Microsoft Entra B2B](#).

## Guest users can work with shared semantic models in their own tenants

Microsoft Entra B2B guest users can access semantic models shared with them in their own tenants. Use the following steps to enable access by external users of semantic models shared with them by users within your organization:

1. In the admin portal, go to [Tenant settings](#).
2. Click on [Guest users can work with shared semantic models in their own tenants](#).
3. Set the toggle to [Enable](#).

 Note

This setting is off by default for customers. If this setting is disabled, a guest user will still be able to access the semantic model in the provider tenant but not in their own tenant.

## Allow specific users to turn on external data sharing

As a Power BI admin, you can specify which users or user groups can share semantic models externally with guests from a different tenant through the in-place mechanism. Disabling this setting prevents any user from sharing semantic models externally by restricting the ability of users to turn on external sharing for semantic models they own or manage.

### Note

The **Allow specific users** setting is on by default for customers. However, external users won't be able access any semantic models shared in-place if the setting **Allow specific users to turn on external data sharing** is off.

1. In the admin portal, go to **Tenant settings**.
2. Click on **Allow specific users to turn on external data sharing**.
3. Make sure the toggle is set to **Enable**.
4. Specify if you want this setting to apply to **The entire organization**, **Specific security groups**, or to exclude specific security groups. Click the checkbox next to **Except specific security groups** to add any groups you want to exclude.
5. Click **Apply**.

## Related content

- Use Power BI in-place semantic model sharing (preview) to share semantic models with external users
- Access shared semantic models in Power BI as a guest user from an external organization (preview)

# Work with third-party apps in Power BI

Article • 06/02/2024

With Power BI, you can use an app built by a company or individual other than Microsoft. For example, you might use a third-party app that integrates Power BI tiles into a custom-built web application. When you use a third-party app, you need to grant that application certain permissions to your Power BI account and resources. It's important that you only grant permissions to applications that you know and trust. Permissions to an application can be revoked at any time. For more information, see [Revoke third party app permissions](#).

The following section describes the access types an application can request.

## Power BI App permissions

### View all Dashboards

This permission allows an application to view all dashboards you have access to. This access includes dashboards that you own, have gotten from apps, have been shared with you, and are in groups that you belong to. The application can't make any modifications to the dashboard. This permission can be used by an application to embed your dashboard content into its experiences.

### View all Reports

This permission allows an application to view all reports you have access to. This access includes reports that you own, have gotten from apps, and are in groups that you belong to. Part of viewing the report, means that the application can also see the data within it. The application can't make any modifications to the reports themselves. Among other things, this permission can be used by an application to embed your report content into its experiences.

### View all Semantic models

This permission allows an application to list all semantic models that you have access to. This access includes semantic models that you own, have gotten from apps, and are in groups that you belong to. An application can see the names of all your semantic models and their structure including table and column names. This permission gives

rights to read the data in a semantic model. The permission doesn't give the application rights to add or make changes to a semantic model.

## Read and Write all Semantic models

This permission allows an application to list all semantic models that you have access to. This access includes semantic models that you own, have gotten from apps, and are in groups that you belong to. An application can see the names of all your semantic models and their structure including table and column names. This permission gives rights to read and write the data in a semantic model. The application can also create new semantic models, or make modifications to existing ones. This permission is commonly used by an application to send data directly to Power BI.

## View user's Groups

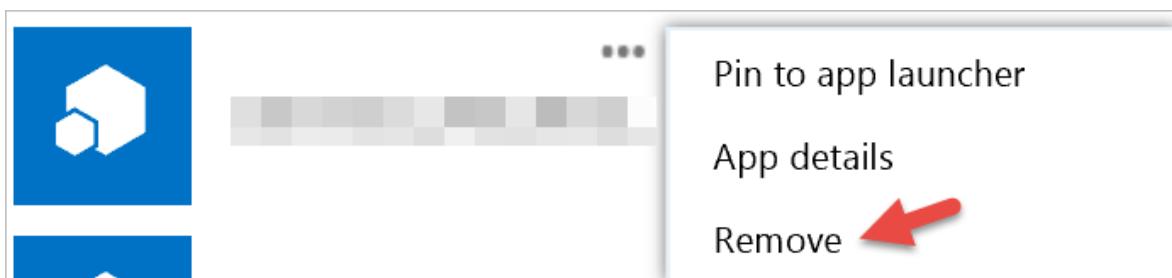
This permission allows an application to list all groups that you're a member of. It can use this permission along with some of the other permissions listed to view or update content for that particular group. The application can't make modifications to the group itself.

## Revoke third-party app permissions

You revoke permissions for a third-party app by going to the Office 365 My Apps site.

On the **Microsoft My apps** site, here's how to revoke third-party permissions:

1. Go to [Office 365 My Apps site](#).
2. On the **My apps** page, locate the third-party app.
3. Hover over the app tile, select the (...) button, and choose **Remove**.



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