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Table of Contents

[1. Create and configure a workspace 2](#_Toc205185912)

[2. Configure and update a workspace app 3](#_Toc205185913)

[3. Publish, import, or update items in a workspace 3](#_Toc205185914)

[3.1 Publish report with power bi desktop 3](#_Toc205185915)

[3.2 Import with workspace 4](#_Toc205185916)

[3.3 Update item in workspace: 4](#_Toc205185917)

[4.Create dashboards 4](#_Toc205185918)

[5.Choose a distribution method 6](#_Toc205185919)

[5.1 Workspace roles 6](#_Toc205185920)

[5.2 Item level sharing 6](#_Toc205185921)

[5.3 Power Bi Apps 7](#_Toc205185922)

[6.Configure subscriptions and data alerts 8](#_Toc205185923)

[6.1 Data alerts 8](#_Toc205185924)

[7.Promote or certify Power BI content 10](#_Toc205185925)

[8.Identify when a gateway is required 11](#_Toc205185926)

[9.Configure a semantic model scheduled refresh 12](#_Toc205185927)

[9.1 Scheduling refresh 12](#_Toc205185928)

[10.Assign workspace roles 20](#_Toc205185929)

[11.Configure item-level access (OLS) 21](#_Toc205185930)

[12.Configure access to semantic models 23](#_Toc205185931)

[13.Implement row-level security roles 23](#_Toc205185932)

[14.Configure row-level security group membership 23](#_Toc205185933)

[15.Apply sensitivity labels 23](#_Toc205185934)

## 1. Create and configure a workspace

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## [2](https://learn.microsoft.com/en-us/training/modules/publish-share-power-bi/1-introduction-content-packs 2). Configure and update a workspace app

If you want to configure an app , you should have a pro license .

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## 3. Publish, import, or update items in a workspace

### 3.1 Publish report with power bi desktop

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### 3.2 Import with workspace

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### 3.3 Update item in workspace:

You can simply click on edit in the report.

## 4.Create dashboards

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After pinning your visuals, you can resize and move the visuals to suit your needs.

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## 5.Choose a distribution method

There are 3 ways of sharing power bi report:

1. Workspace roles
2. Item level sharing
3. Power bi Apps

### 5.1 Workspace roles

Power BI Service provides four distinct workspace roles: Viewer, Contributor, Member, and Admin. These roles determine the level of access and permissions a user has within a workspace. It's important to note that workspace roles operate on an all-or-nothing basis, meaning that users with access to a workspace can view or interact with all the reports, dashboards, and semantic models within it. You cannot selectively exclude specific items from being shared when using this approach.

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### 5.2 Item level sharing

Item-level sharing in Power BI Service provides a more granular approach to sharing content compared to workspace roles. While workspace roles grant access to all items within a workspace, item-level sharing allows you to share specific reports or dashboards with selected individuals or groups. This method is particularly useful when you want to maintain tighter control over who can access sensitive or restricted content.

When you share a report or dashboard, recipients can view and interact with the content but cannot edit it. Additionally, they gain access to the underlying semantic model unless Row-Level Security (RLS) is applied. RLS ensures that users only see the data they are authorized to view, adding an extra layer of security for sensitive datasets.

Item-level sharing also offers flexibility in how you share content. You can share via links or directly grant access to specific individuals or groups. Sharing links can be configured to allow access to "People in your organization," "People with existing access," or "Specific people." Each option provides varying levels of control, enabling you to tailor access based on your organization's needs.

One of the key advantages of item-level sharing is that it overcomes the "all-or-nothing" limitation of workspace roles. For example, you can share a single report with external partners without exposing other workspace content. However, it's important to manage permissions carefully to ensure that only authorized users can access the shared content.

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### 5.3 Power Bi Apps

Power BI Apps provide a streamlined way to share collections of dashboards, reports, and other content with a larger audience without requiring them to be part of your workspace or sharing individual items separately. This approach is particularly useful for organizations that need to distribute curated content to specific groups or even the entire organization while maintaining control over access and updates.

One of the key advantages of Power BI Apps is the ability to package multiple pieces of content into a single, cohesive experience. This eliminates the need to manage permissions for individual items, simplifying the process for both content creators and consumers. Users can access the app through a direct link, the Apps marketplace or AppSource, or even have it automatically installed in their Power BI accounts if configured by an admin. This flexibility ensures that the right content reaches the right audience efficiently.

Another significant benefit of using Power BI Apps is the control it provides when updating content. The workspace acts as a staging area where changes can be made and tested without immediately affecting the published app. Once the updates are ready, the app can be republished, ensuring that users only see the finalized version. This capability is invaluable for maintaining consistency and avoiding disruptions, especially in scenarios where reports and dashboards are frequently updated.

It's important to note that each workspace can only have one app, and the content included in the app must originate from that workspace. This limitation ensures that the app remains tightly coupled with its source workspace, simplifying management and ensuring consistency across shared content.

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Source : <https://learn.microsoft.com/en-us/training/modules/choose-content-distribution-method/2-understand-sharing-models>

## 6.Configure subscriptions and data alerts

### 6.1 Data alerts

Configuring data alerts is a simple process to complete for a dashboard in Power BI. Data alerts can notify you or a user that a specific data point is above, below, or at a specific threshold that you can set.

These alerts are features that are only available on Power BI service and they're available on such report elements such as **KPI visuals, gauges, and cards**.

After you have uploaded your reports to Power BI service and have pinned your chosen visuals to a dashboard, select the ellipsis (**...**) in the corner of the tile you want to set an alert for and then select **Manage Alerts**.

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6.2 Configure subscriptions:

In **Power BI**, a **subscription** allows users to **receive reports or dashboards via email** on a scheduled basis. It helps keep stakeholders informed without requiring them to open Power BI manually.

You go to the content that you want to subscribe.

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## 7.Promote or certify Power BI content

Ensuring the quality and security of your organization's data is critical. Power BI provides tools to help you manage and protect your content effectively. Let's explore two essential practices for maintaining trustworthy and secure Power BI content. The first one is about endorsing your content, which helps users identify high-quality data. The second practice involves applying sensitivity labels to protect sensitive information.

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You can do that also for the dataset:

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## 8.Identify when a gateway is required

A Power BI Gateway is a bridge that connects on-premises data sources to Power BI, Power Automate, Power Apps, and other Microsoft cloud services.

On-premises data sources are those that aren't stored in the cloud. It enables secure data transfer between on-premises systems and Microsoft cloud services without moving the data to the cloud.

A cloud computing diagram with orange and blue icons

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## 9.Configure a semantic model scheduled refresh

The **Scheduled refresh** feature in Power BI allows you to define the frequency and time slots to refresh a particular dataset. Scheduling the refresh of your data will save you time because you don't have to manually refresh the data. It also ensures that users can access the most up-to-date data.

In this example, you are creating a report but then realize that the version of the employee data that you're using isn't the most up to date. You check the refresh status and notice that it was last refreshed some time ago, and no refresh is scheduled to take place.

You have 2 ways to perform refresh: Scheduling refresh or Manual refresh.

### 9.1 Scheduling refresh

#### 9.1.1 Full load refresh

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#### 9.2.2 Incremental refresh

The **Incremental refresh** feature in Power BI is a popular feature because it allows you to refresh large semantic models quickly and as often as you need, without having to reload historical data each time.

Traditionally, complex code was required for running incremental refreshes, but you can now define a refresh policy within Power BI Desktop. The refresh policy is applied when you publish to Power BI service, which then does the work of managing partitions for optimized data loads, resulting in the following benefits:

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**Steps to implement incremental refresh:**

1. **Define the filter parameters.**

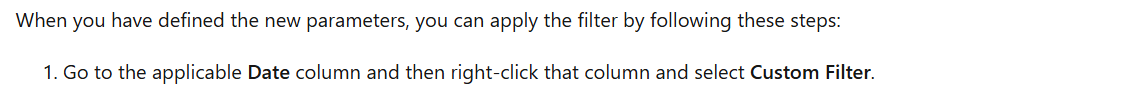
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1. **Use the parameters to apply a filter.**



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1. **Define the incremental refresh policy.**

When you have filtered the data, you can define the incremental refresh policy for the data table, which sets up the refresh process.

Right-click the applicable table and then select **Incremental refresh**.

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On the Incremental refresh window that displays, turn on the Incremental refresh option. Then, configure the refresh as required. In this example, you will define a refresh policy to store data for five full calendar years, plus data for the current year up to the current date, and incrementally refresh 10 days of data.

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1. **Publish changes to Power BI service.**

**Warning**

Incremental refresh should only be used on data sources and queries that support query folding.

Source : <https://learn.microsoft.com/en-us/training/modules/manage-datasets-power-bi/6-incremental-refresh>

#### 9.2 On demand refresh

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#### 9.3 Check the refresh status:

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## 10.Assign workspace roles

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Contributors can schedule a report !

## 11.Configure item-level access (OLS)

As a data modeler, you can consider restricting user access to Power BI model objects. **Object-level security (OLS)** can restrict access to specific tables and columns, and their metadata. Typically, you apply OLS to secure objects that store sensitive data, like employee personal data.

To set up OLS, you start by creating roles. You can create roles in Power BI Desktop in the same way you do when setting up RLS. Next, you need to add OLS rules to the roles. This capability isn’t supported by Power BI Desktop, so you’ll need to take a different approach, for example by using the TMDL view for Power BI Desktop (currently in preview). This feature lets you script, modify, and apply changes using **Tabular Model Definition Language (TMDL)**, providing an alternative experience to semantic modeling using code, instead of a graphical user interface such as Model view.

To turn on this public preview feature, go to **File > Options and settings > Options > Preview features** and check the box next to **TMDL View**.

Once the preview feature is enabled, the TMDL view tab will appear on the left side of the Power BI Desktop window:

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When first opening TMDL view, the code editor will be empty, you can script any semantic model object such as table, measure, column or role by selecting the objects from the **Data pane** (you can find the **Role** in the **Model** view) and dragging them into the code editor.

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By default, all model tables and columns aren’t restricted. You can set them to **None** or **Read**. When set to **None**, users associated with the role can’t access the object. When set to **Read**, users associated with the role can access the object. When you’re restricting specific columns, ensure the table isn’t set to **None**. A screenshot of a computer

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## 12.Configure access to semantic models

We can provide to a dataset with 2 methods: Give access to workspace and with app (Build permission).

The issue is that we give also access to all dataset in app and workspace.

We can grant access directly to a dataset with Power bi service.

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You can choose the access level and enable users to create content using this datasetA close-up of a contact us

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## 13.Implement row-level security roles

As a data modeler, you set up RLS by creating one or more roles. A role has a unique name in the model, and it usually includes one or more rules. Rules enforce filters on model tables by using Data Analysis Expressions (DAX) filter expressions.

The static method in row-level security (RLS) uses a fixed value in the DAX filter, while the dynamic method uses a DAX function.

You can create role uniquely in **report view and model view** on Power bi desktop.

13.1 Row level security static method:

Power BI row-level security (RLS) uses DAX to control who can see which data. Consider it as always adding another filter to the appropriate users, regardless of the filters, slicers, or interactions that the users choose on a Power BI report.

We will divide it into 3 steps:

1. Create a role
2. Create Dax query
3. Views as to check the result
4. Deploy to Power bi service

1)Create a role

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2)Create Dax query

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3)View as

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4)Deploy the report to Power BI service

You can deploy the report to Power BI service by selecting the Publish button on the Home tab and then selecting a workspace.

13.2 Row level security dynamic method:

## 14.Configure row-level security group membership

Add members to the role in Power BI service

To add members to the role in Power BI service, go to your workspace in Power BI service. Find the semantic model that you created with the same name as your report. Select the ellipsis (...) button and then select Security.

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You can add the user to the group and check.(If the user has member, contributor, view role to the workspace, he can see it although the RLS)

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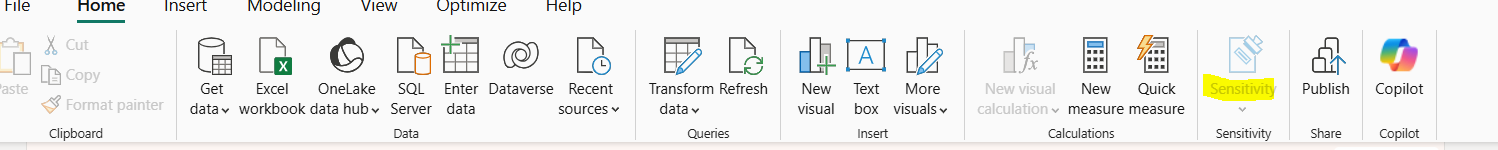
It is also possible to create a group with Microsoft entra ID and assign several user in it and add the newly created group to the security role .

## 15.Apply sensitivity labels

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On powerbi desktop :



On powerbi service :

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