

Power BI

The digital signage & kiosk software **FrontFace** can be extended by plugins that add additional functionality. This way you can e.g., display special content types, integrate external data sources or systems, and add entirely new features to the software.

Description:

With the Power BI Plugin, Microsoft Power BI dashboards and reports can be integrated into FrontFace playlists and touch menus. In addition to just displaying the content (digital signage), interactive use is also possible if the embedded dashboards and reports do support this.

Access is through the Power BI Cloud (Power BI Online) and requires a [Power BI Pro or Premium account](#) to set up. The integration is then done through an appropriate [Power BI capacity](#) that serves up the content. Alternatively, reports can be accessed with a regular Power BI user account through a sharing link, but this requires that Single Sign On (SSO) be configured on the player PC through Microsoft Entra ID (previously Azure AD). Furthermore, a permanent Internet connection is required.

Installation:

Please refer to the user manual of *FrontFace* on detailed information on how to install a plugin.

Notice: If you have previously downloaded and installed the trial version of the plugin, you have to install the full version over the existing trial version in order to get the full version running. The procedure is exactly the same as for installing a new plugin. If you already used the trial version of the plugin in your project, all settings will remain after installing the full version!

Setup and Usage:

After installing the **Power BI Plugin** for FrontFace in your project using the **FrontFace Assistant**, you can add the plugin to a playlist page or touch menu button as a media object of type "Plugin".

In the settings dialog you must first select the desired access mode. Either **"Connect with Power BI Capacity"** or **"Integrate Power BI Report with Share Link"**.

If you choose the latter option, a Windows user must be logged in on the player PC for whom a Single Sign On (SSO) login with Office 365 is configured via Microsoft Entra ID so that it can log in to Power BI without any further steps. Please note that MFA (Multi Factor Authentication) must be deactivated for this!

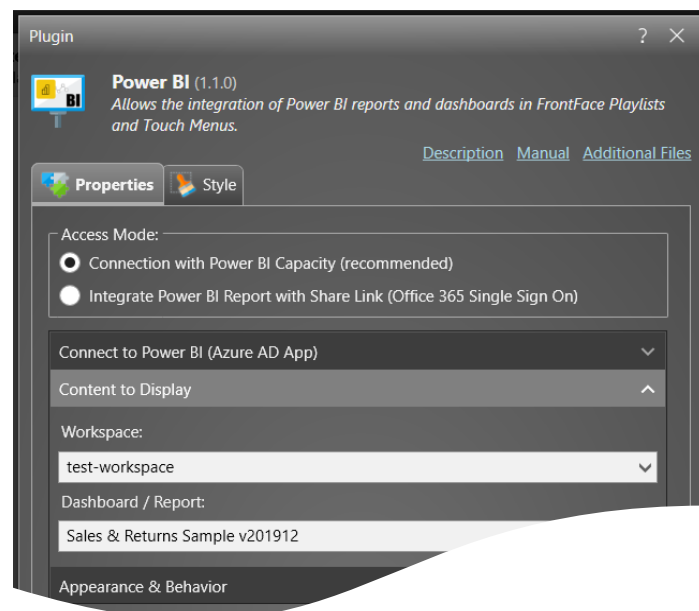
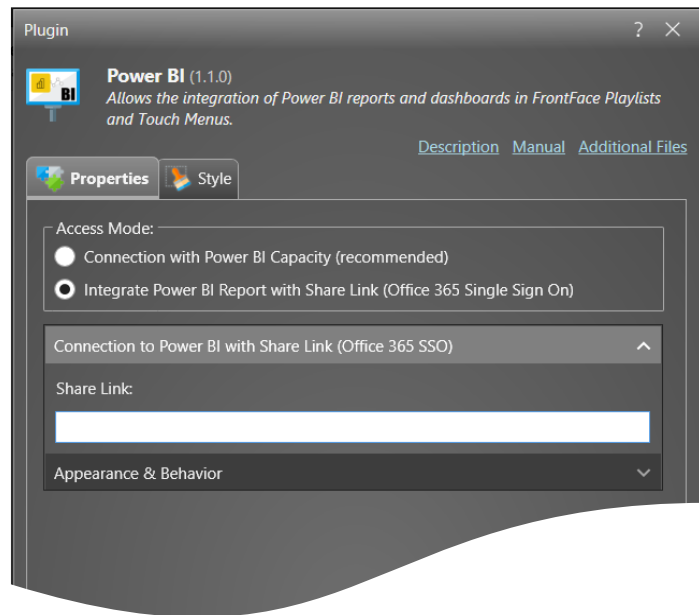
Otherwise, you just need to enter the URL of the share link generated in Power BI for the report to be displayed.

Alternatively, (if you did not choose SSO) you must first enter under **"Connect to Power BI (Azure AD App)"** the access data for the Power BI cloud. These include the **Office 365 tenant ID**, the **client ID** and the **client secret** of the **app registration**. The next section describes how you get this information.

After entering the credentials, click on **"Connect and Select Content"** to connect to the Power BI Cloud. Then, under **"Content to Display"** the list of available workspaces with their reports and dashboards is populated.

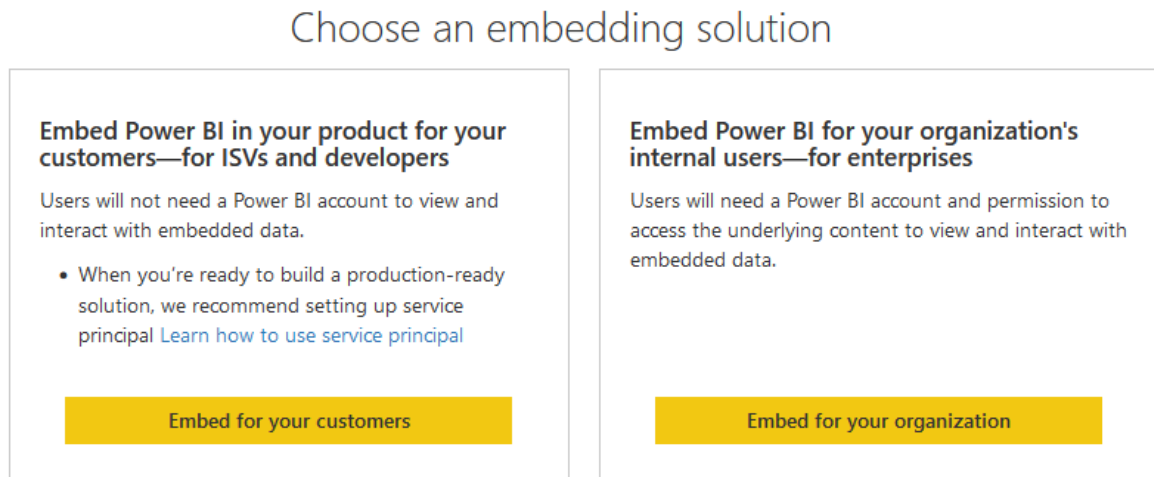
Select a workspace, and then select the dashboard or report to show.

In the **"Appearance & Behavior"** section, you can still specify various settings, e.g., whether interactions with the displayed content should be allowed or whether elements such as the navigation bar or the filter selection should be hidden/shown. Furthermore, you can also choose an interval for an automatic reloading of the content if updates should take place while the content is shown on the screen.



Setting up access to the Power BI Cloud and providing reports and dashboards:

1. Navigate to [Power BI Embedded Setup](#):



- Choose **Embed for your customers**, which is the type for embedding Power BI on non-interactive systems (**Embed for your organization** always requires an interactive sign-in which is typically not available on digital signage player PCs).
- Follow the instructions on the screen. This will create an **Azure AD App Registration** and a **workspace** where you can upload your reports and dashboards. After registering the app, you then have the following credentials:
 - **Tenant ID**
 - **App ID**
 - **Client Secret**
 - **Workspace ID**
 - **Name of the created Microsoft Entra ID App**
- Make sure you have set the following permissions for the app:
 - **Dashboard.Read.All**
 - **Report.Read.All**
 - **Dataset.Read.All**
 - **Workspace.Read.All**

2. Set up a service principal for non-interactive embedding:

- Create an [Microsoft Entra ID Security Group](#).
- Make sure the group type is **Security**.
- Add your App ID as a **member** to this new security group (you can search either for the name of your app or if you don't find it in the list, you can try searching using the previously created App ID).

3. Enable admin access for Power BI:

- Navigate to [Power BI Admin Portal](#).

- Allow admin access to your previously created security group:

Developer settings

- ▶ Embed content in apps
Enabled for the entire organization
- ▲ Allow service principals to use Power BI APIs
Unapplied changes

Web apps registered in Azure Active Directory (Azure AD) will use an assigned service principal to access Power BI APIs without a signed in user. To allow an app to use service principal authentication its service principal must be included in an allowed security group. [Learn more](#)

Enabled

⚠ Service principals can use APIs to access tenant-level features controlled by Power BI service admins and enabled for the entire organization or for security groups they're included in. You can control access of service principals by creating dedicated security groups for them and using these groups in any Power BI tenant level-settings. [Learn more](#)

Apply to:

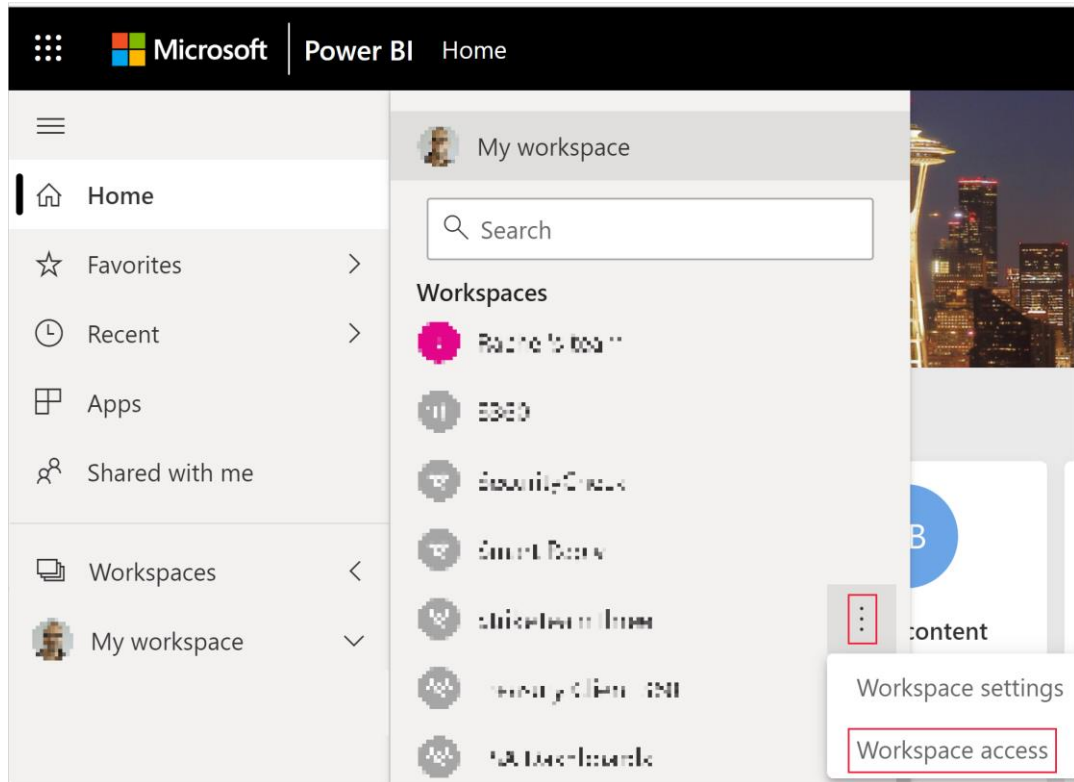
The entire organization

Specific security groups (Recommended)

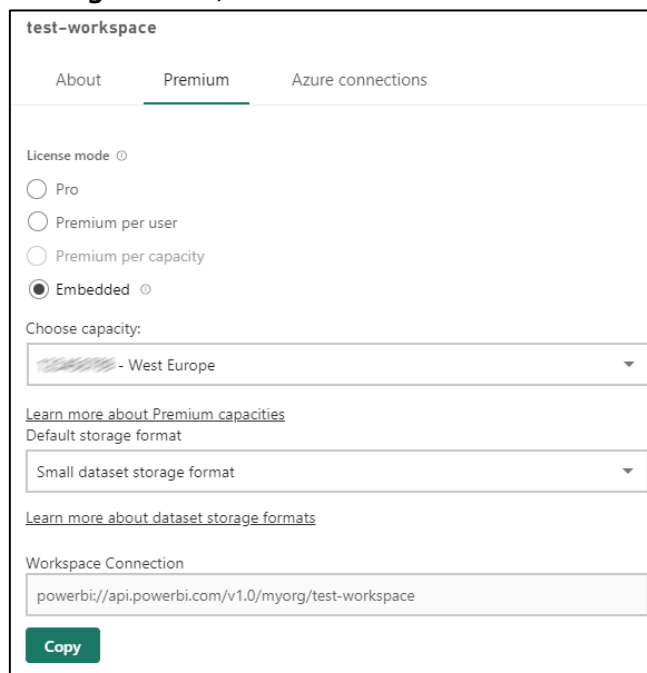
Except specific security groups

4. Add your service principal to access your workspace:

- Navigate to [Power BI Online](#).
- Click on **Workspaces**, hover over your recently created workspace and click on the three dots and then click on **Workspace access**:



- There you can add your security group as administrator to enable access (this can take up to 15 minutes to apply).
- Then open your workspace settings (same procedure, just click on **Workspace settings** instead) and click on **"Premium"**:



- Select **“embedded”** as **“license mode”** and choose your capacity which you have bought before (see [here](#)).
- This final step can also be done at a later point of time and is not required for testing, since if you leave the **“license mode”** to **“Pro”** or **“Premium”**, you can still display your reports and dashboards, but a small warning bar will always appear telling you that a **capacity** is needed to embed Power BI in production mode.

5. Upload your content (reports/dashboards):

- To finally embed your content using the **Power BI Plugin for FrontFace** you need to upload your report(s) to your workspace: You can publish a report for example via the **Power BI Desktop App** by clicking on **“Publish”**.
- Based on your uploaded reports you can also create dashboards (but only online using the Power BI Service).

Help and Support:

If you need help or technical support when using this plugin or the *FrontFace* software, you can contact our support. For more information, please visit: <http://www.mirabyte.com/en/support/>