

YSOFT SAFEQ 6

Power BI Template

Documentation

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1 INTEGRATE YSOFT SAFEQ WITH POWER BI

1.1 PREREQUISITES

- Downloaded and installed Power BI Desktop: <https://www.microsoft.com/en-us/download/details.aspx?id=45331>
- Enterprise Reporting is enabled and configured, see more Enterprise Reporting Configuration for more detail.

2 OPTION 1: IMPORT Y SOFT TEMPLATE

To enjoy the full potential of Power BI, one will need to develop a Power BI template for the organizations specific enterprise reporting requirements. However, to get a head-start on such an effort, Y Soft has developed a set of Power BI templates. You can find full description of template import in [Power BI Desktop - Import Template](#) article.

3 OPTION 2: CREATE YOUR OWN REPORT

1. Import data from a SQL Server database.

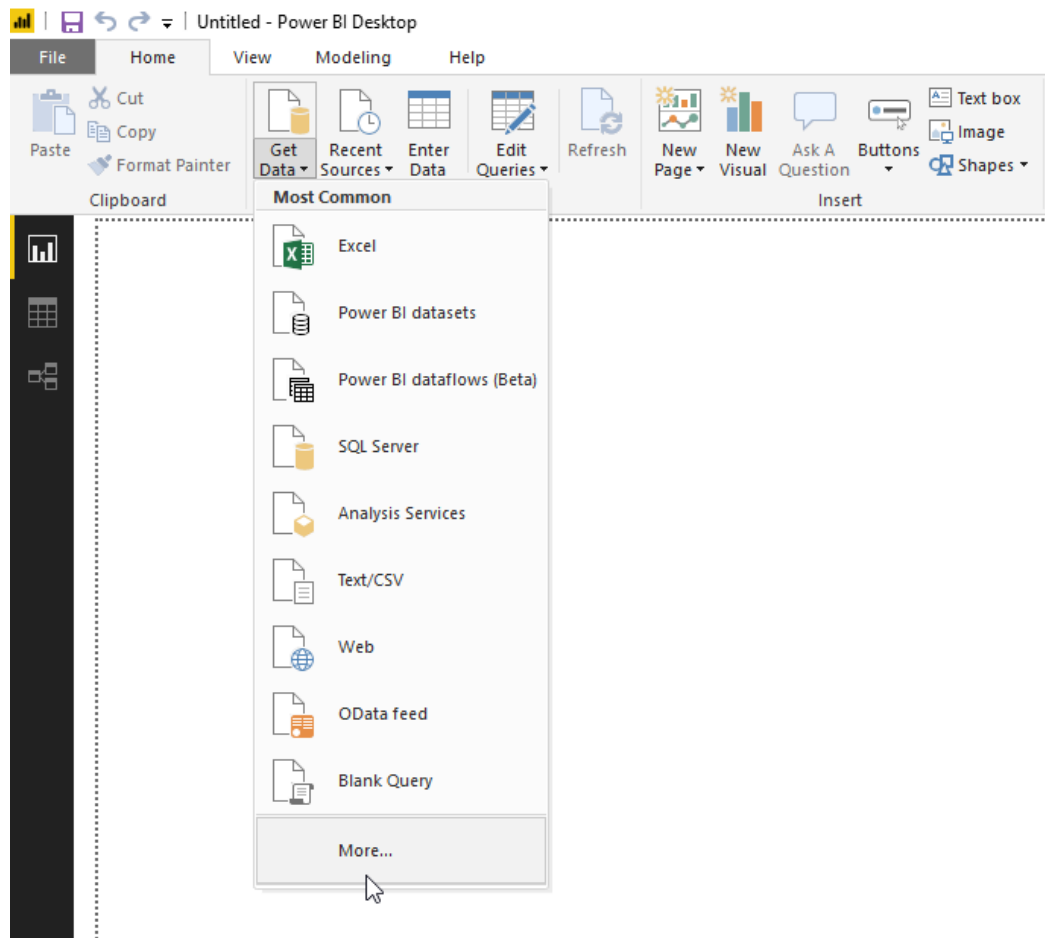
- • **PostgreSQL server database engine:**

1.

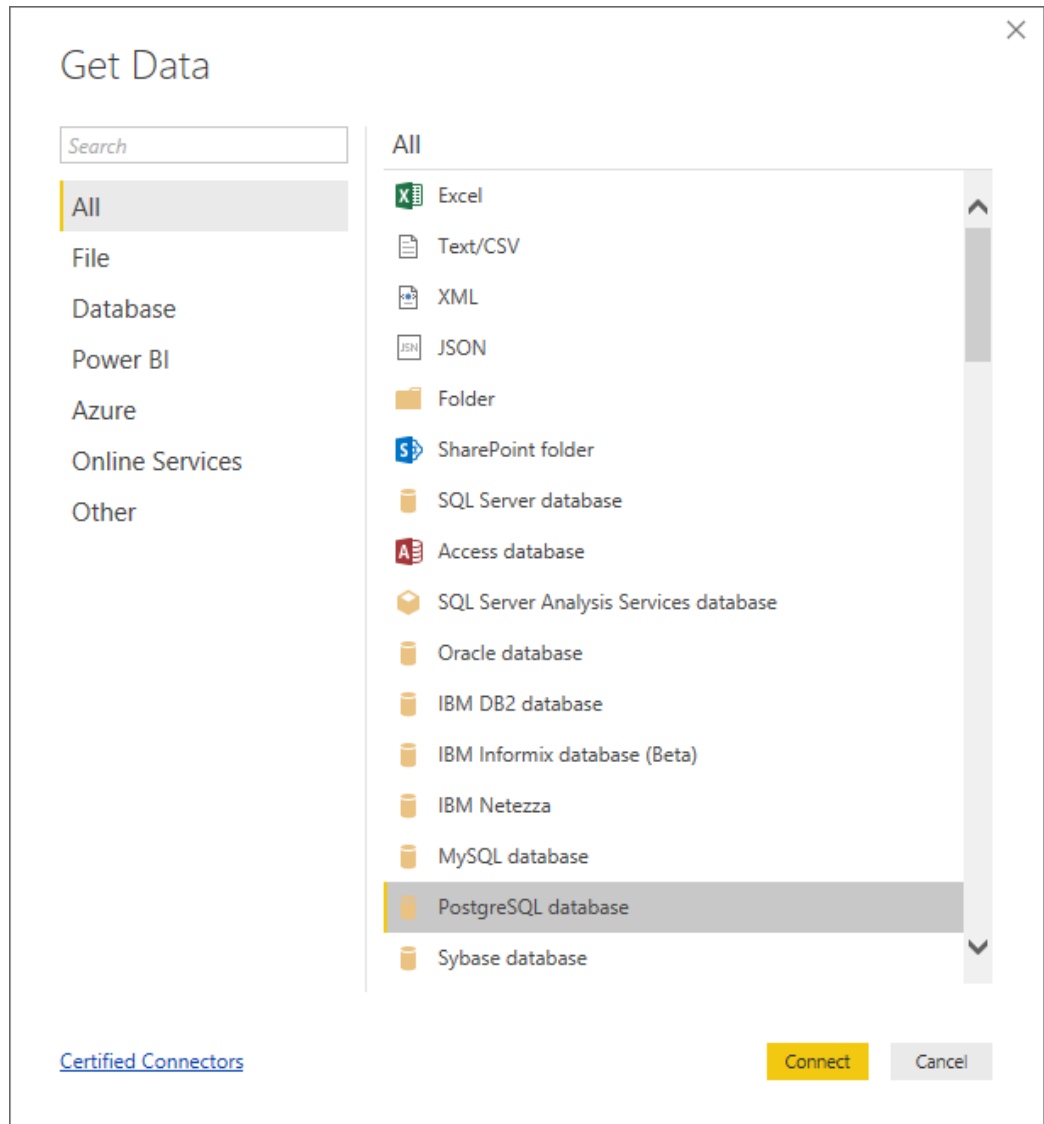
a.

i. Install ODBC driver, see [PostgreSQL ODBC driver for Power BI](#).

ii. Select **"More"** option as shown below.



- iii. Select **"PostgreSQL database"** option.

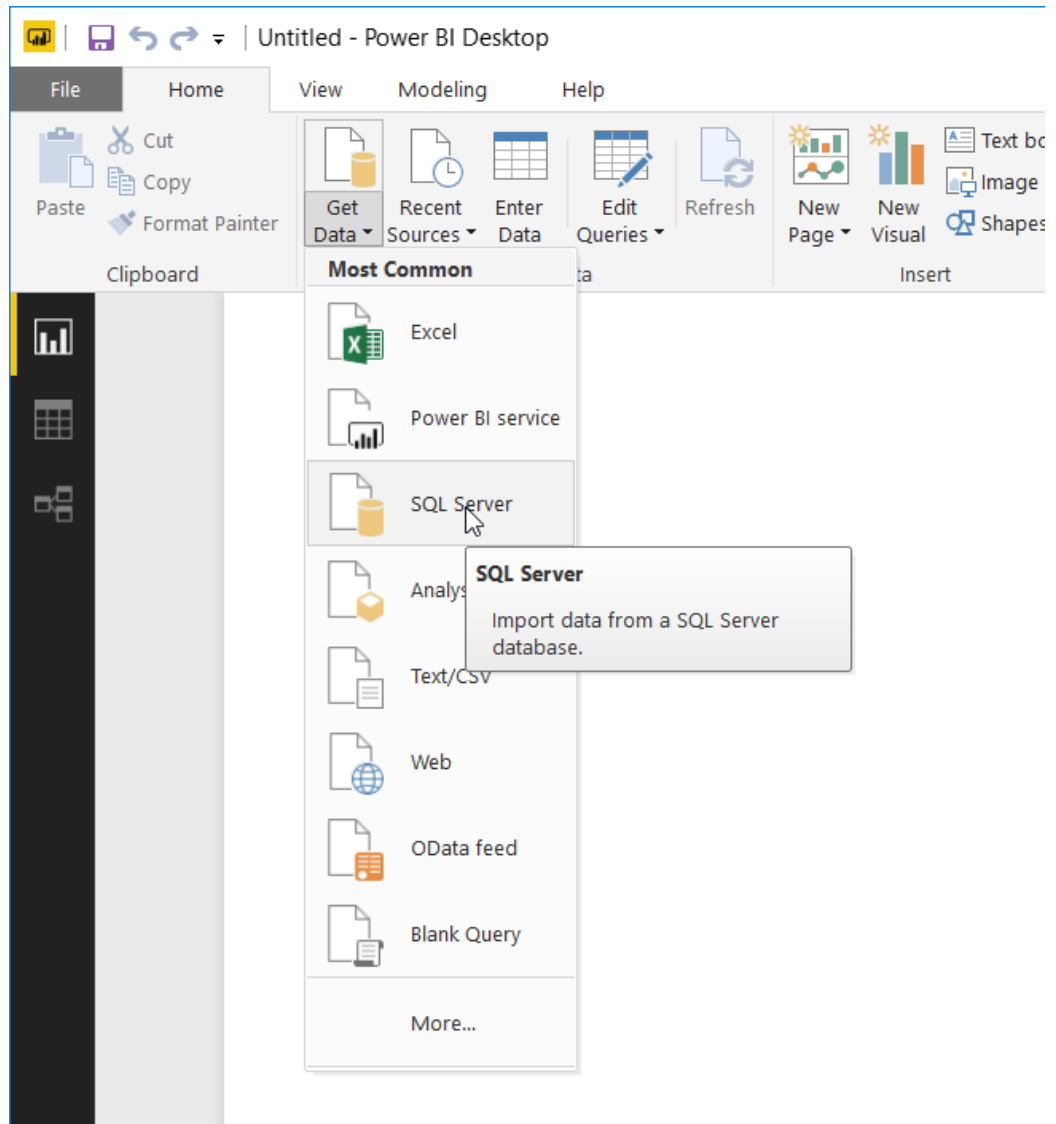


- iv. Specify the IP address of the database server and name of the database associated with YSoft SafeQ: At this point you may need to add Npgsql dependency for Power BI.

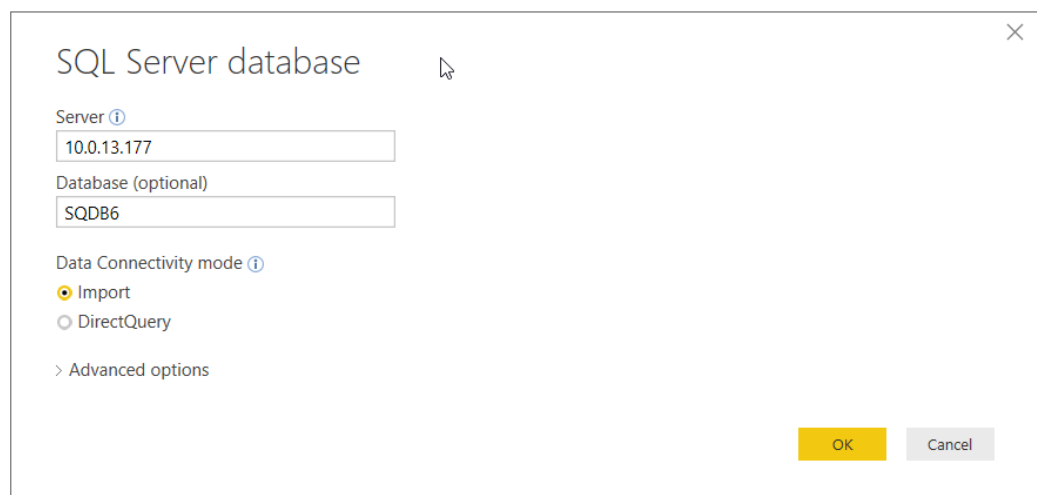


1. • **MS SQL server database engine:**

1. a.
 - i. Install ODBC driver, see [MS SQL ODBC driver for Power BI](#).
 - ii. Select **"SQL Server"** option as shown below.



- iii. Specify the IP address of the database server and name of the database associated with YSoft SafeQ:

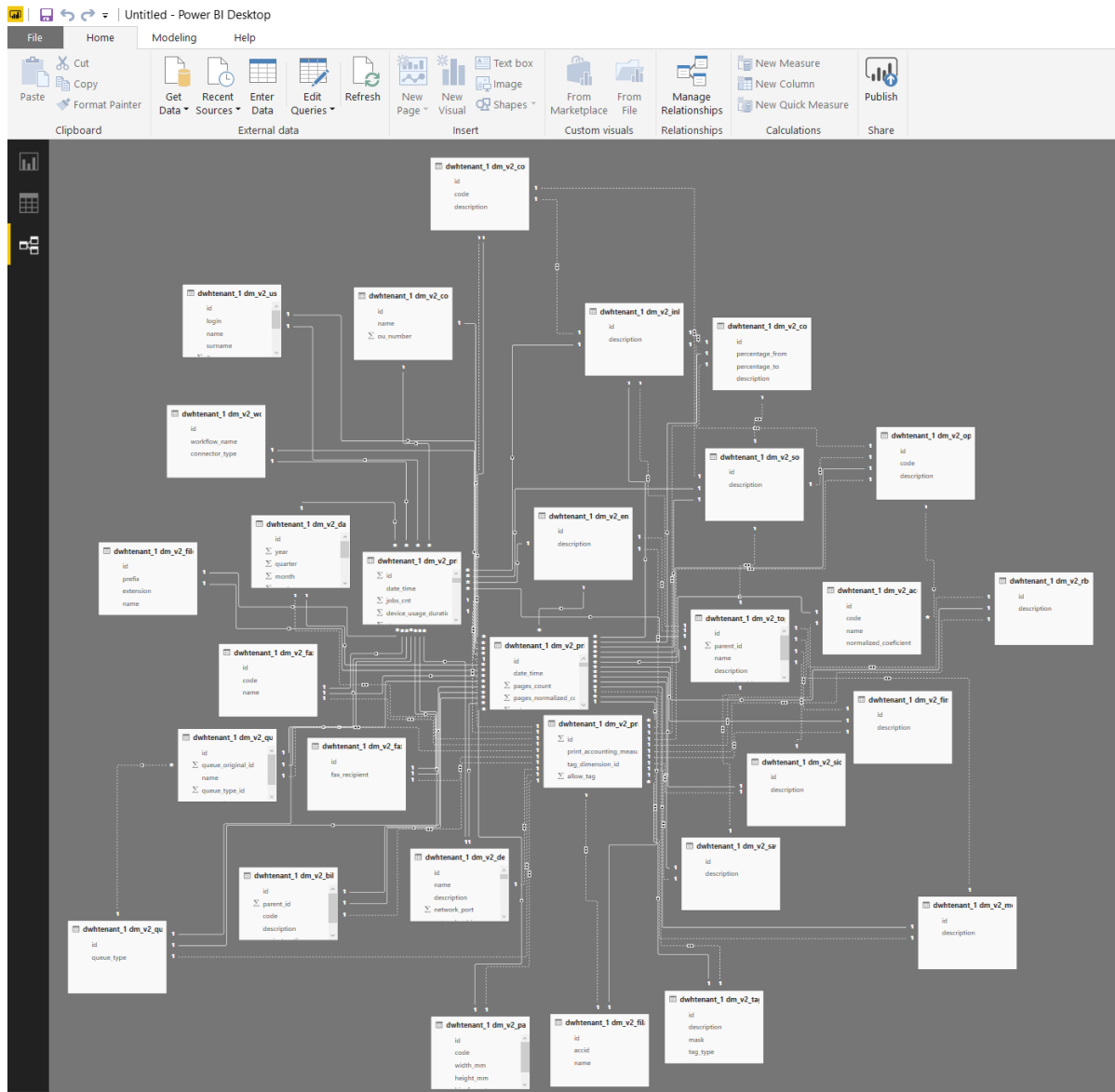


2. **Filter** data mart tables in Navigator and **select** all tables with prefix "dwhtenant_1.dm_v2". Click on **Load** button.
3. Wait for the data to load, this step takes a few minutes, depending on the database size.

The screenshot shows the Power BI Navigator window. On the left, a list of tables is displayed under the connection '10.0.13.177: SQDB6'. All tables with the prefix 'dwhtenant_1.dm_v2' are selected with checkboxes. The table 'dwhtenant_1.dm_v2_accid_dimension' is highlighted. Below the list, a message states: 'Search results are limited to already expanded items'. At the bottom left is a 'Select Related Tables' button. On the right, a preview of the selected table is shown with columns 'id', 'code', and 'name'. The preview displays 20 rows of data. At the bottom right are 'Load', 'Edit', and 'Cancel' buttons.

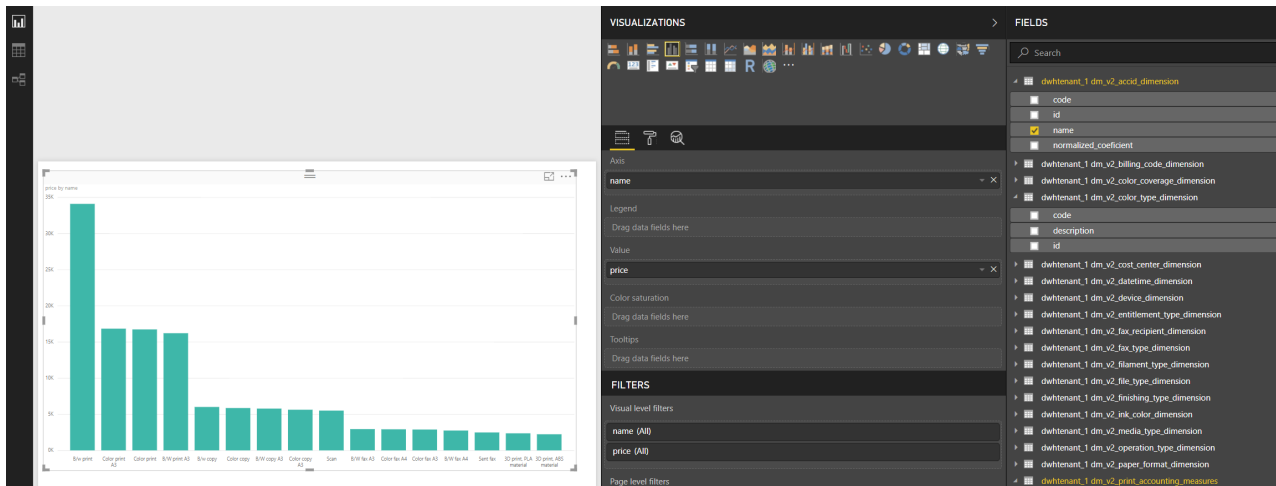
id	code	name
0		unknown
1		Not Known
2	264	Sent fax
3	257	B/w print
4	258	B/w copy
5	272	online account
6	288	Unique print
7	320	Costs per click
8	520	Received fax
9	516	Scan to mail
10	528	Coverage account
11	544	Unique print
12	576	Paper costs (A
13	1025	Color print
14	1026	Color copy
15	1028	Scan to folder
16	1040	VAT
17	1056	(LPR Queue)
18	1088	Paper costs (A
19	2049	One Color pri
20	2050	One Color cor

4. Result - The relationship diagram between the tables is available on vertical tab Relationships.



4 ADD A SAMPLE GRAPH

- **Generate Chart** - Select the Power BI report view from the left pane and select various data to create and render different charts. For example, what is depicted is a simple selection of the ACCID dimension rendered into a Bar Chart.



References:

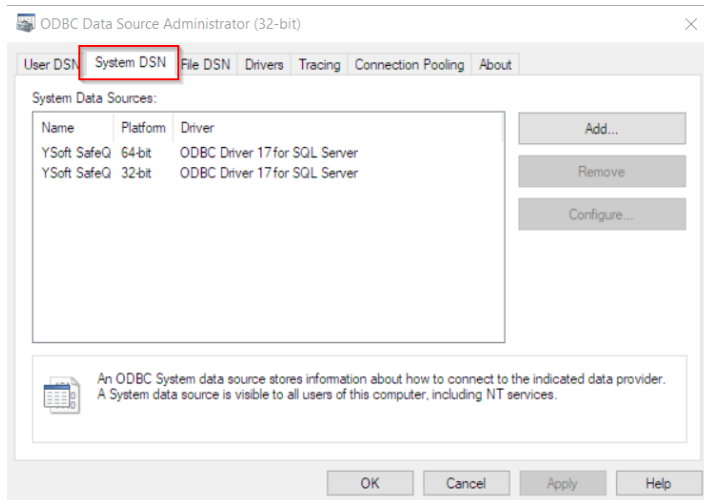
- Microsoft documentation for Power BI designers: <https://docs.microsoft.com/en-us/power-bi/power-bi-creator-landing>
- Microsoft documentation for Power BI admins: <https://docs.microsoft.com/en-us/power-bi/service-admin-administering-power-bi-in-your-organization>

5 ACCESSING THE REPORTS

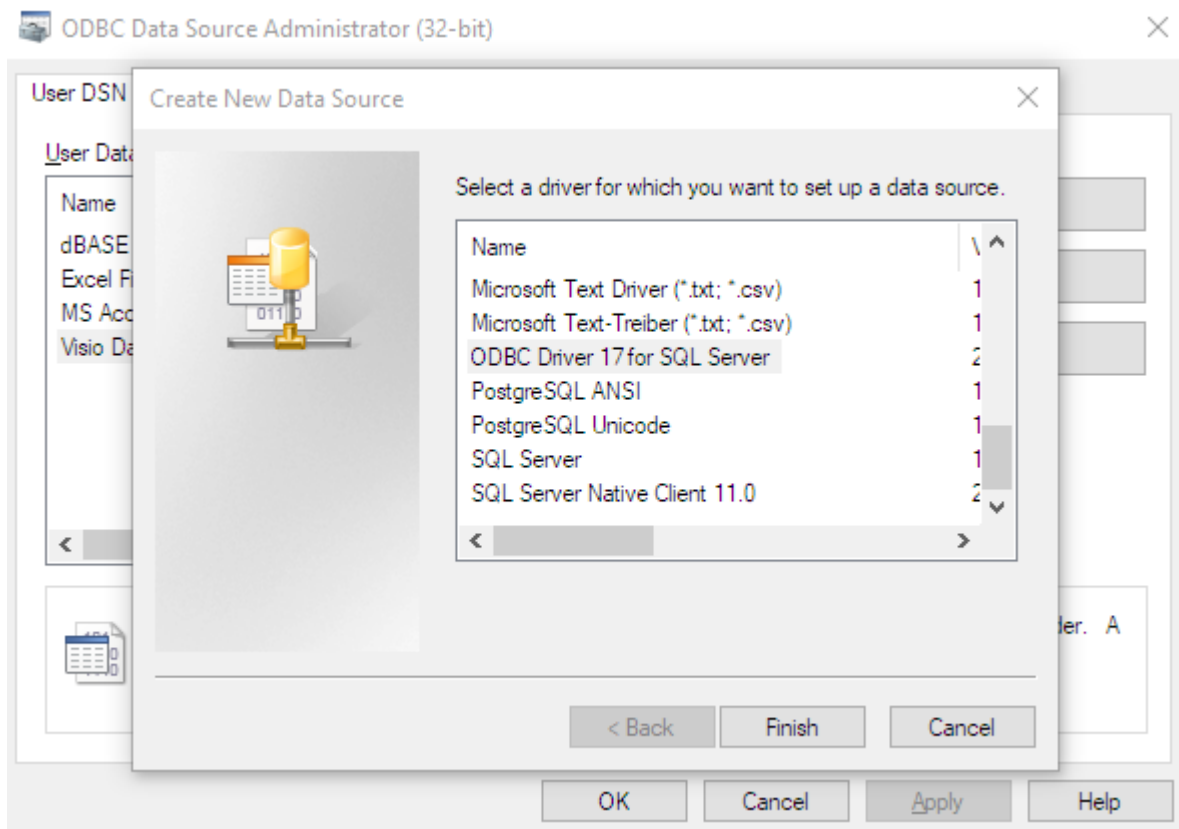
- Quick start guide: <https://docs.microsoft.com/en-us/power-bi/consumer/end-user-experience>
- Accessing reports as consumers: <https://docs.microsoft.com/en-us/power-bi/consumer/power-bi-consumer-landing>
- Export to PDF: <https://docs.microsoft.com/en-us/power-bi/desktop-export-to-pdf>

6 MS SQL ODBC DRIVER FOR POWER BI

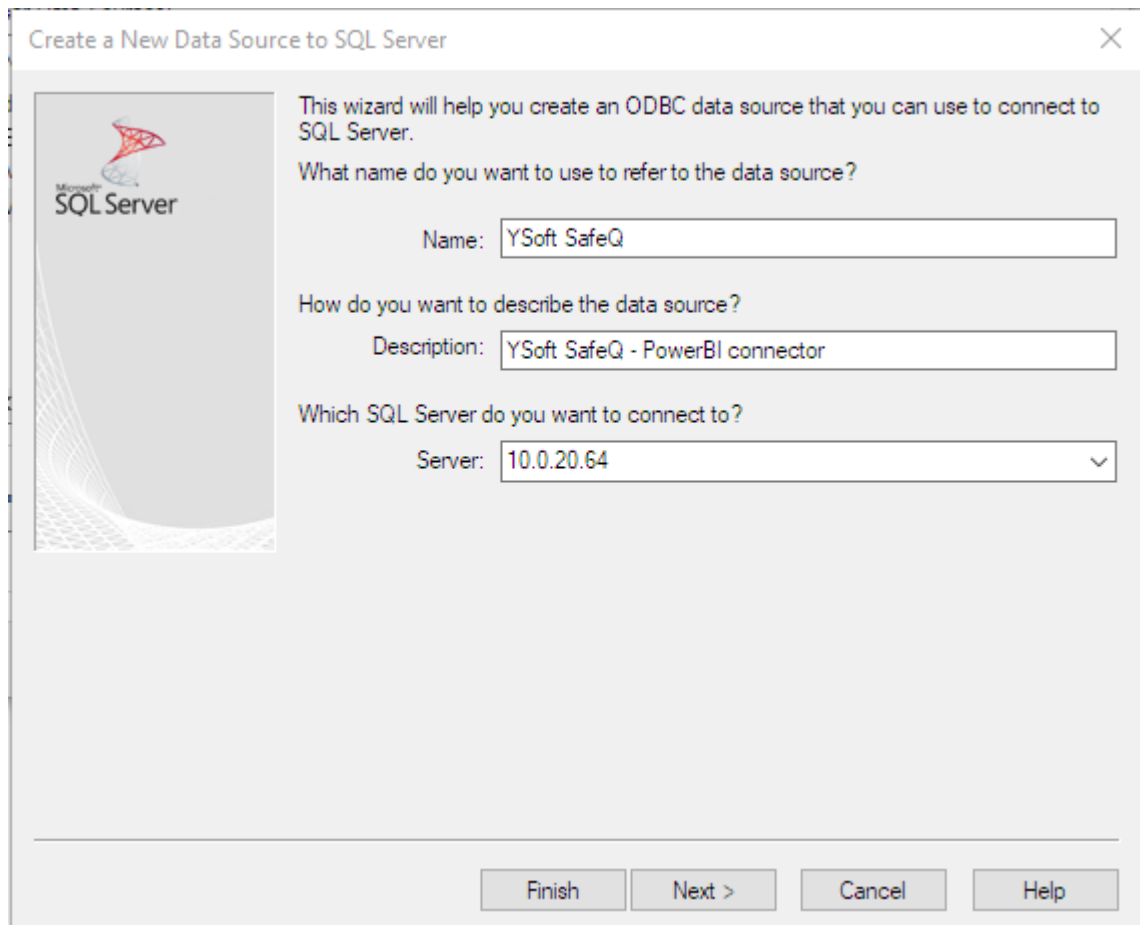
1. Download and install **Microsoft® ODBC Driver 17 for SQL Server®** - <https://www.microsoft.com/en-us/download/details.aspx?id=56567>
2. Open ODBC Data Source administration for 64bit platform, switch to "System DSN" tab.



3. Add a new source, select the installed **ODBC Driver 17 for SQL Server**.



4. Enter database server:



Create a New Data Source to SQL Server

This wizard will help you create an ODBC data source that you can use to connect to SQL Server.

What name do you want to use to refer to the data source?

Name:

How do you want to describe the data source?

Description:

Which SQL Server do you want to connect to?

Server:

Finish Next > Cancel Help

5. Specify database authentication method:

Create a New Data Source to SQL Server



How should SQL Server verify the authenticity of the login ID?

☐ With Integrated Windows authentication.

SPN (Optional):

☐ With Active Directory Integrated authentication.

☒ With SQL Server authentication using a login ID and password entered by the user.

☐ With Active Directory Password authentication using a login ID and password entered by the user.

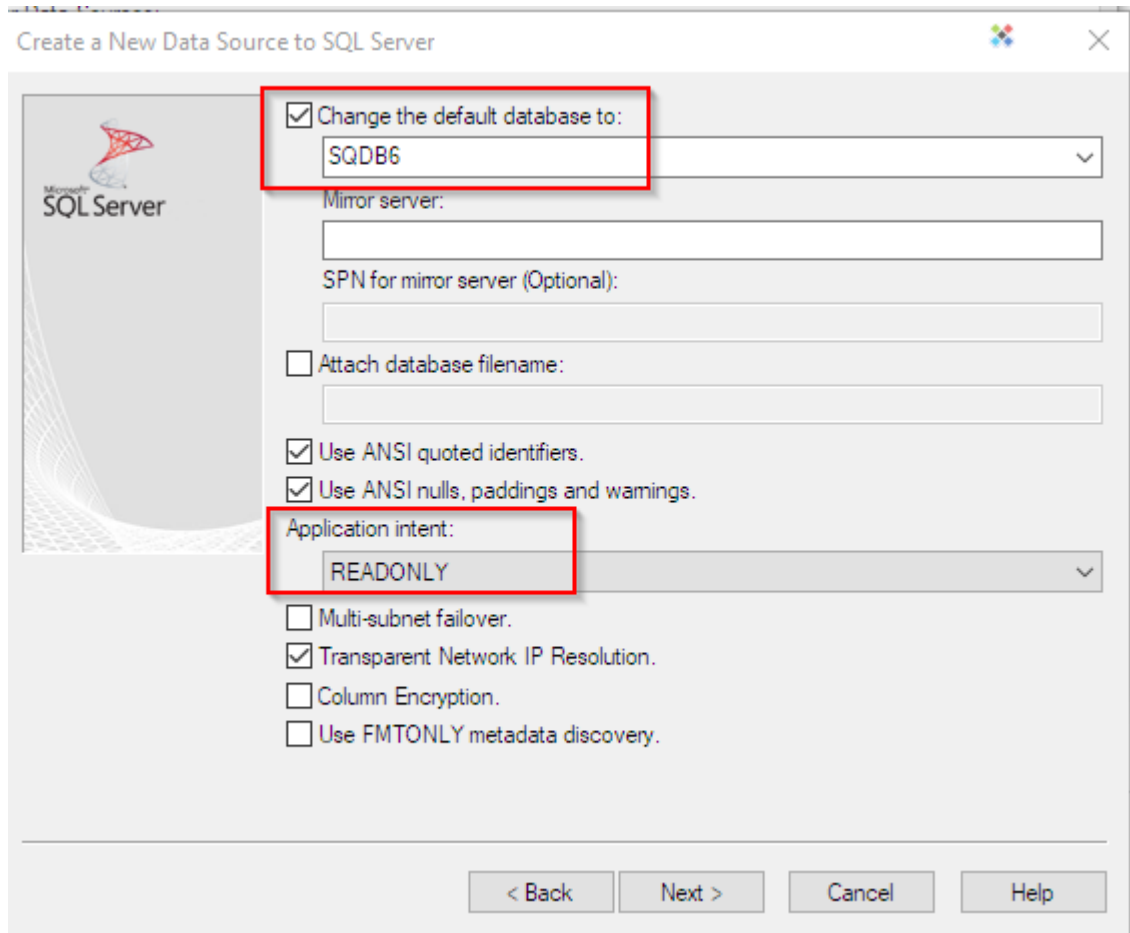
☐ With Active Directory Interactive authentication using a login ID entered by the user.

Login ID:

Password:

< Back Next > Cancel Help

6. Specify database access:
Default database name is SQDB6 or SQDB6_DWH. The namedependson selected database deployment scenario.

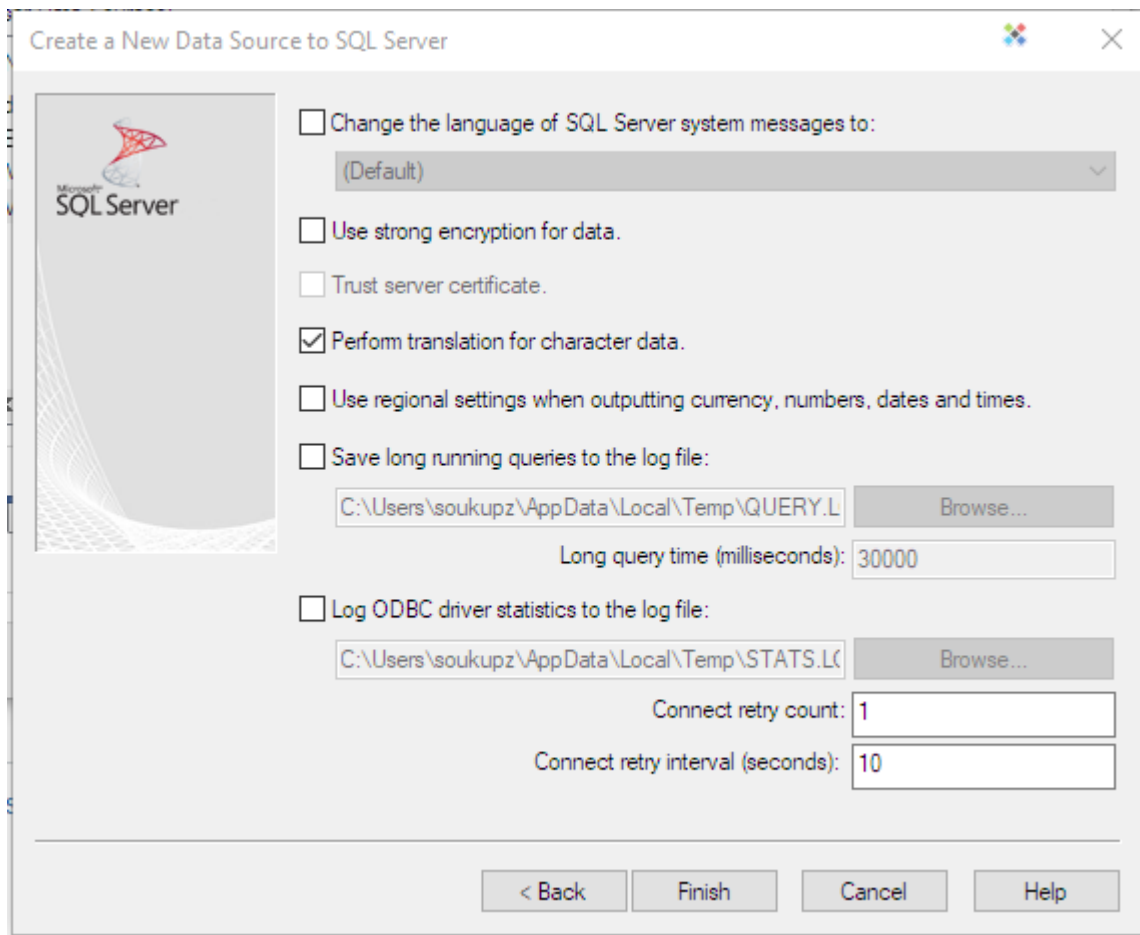


The screenshot shows the 'Create a New Data Source to SQL Server' dialog box. The 'Change the default database to:' checkbox is checked, and the dropdown menu is set to 'SQDB6'. The 'Application intent:' dropdown menu is set to 'READONLY'. Other options include 'Mirror server:', 'SPN for mirror server (Optional):', 'Attach database filename:', 'Use ANSI quoted identifiers.', 'Use ANSI nulls, paddings and warnings.', 'Multi-subnet failover.', 'Transparent Network IP Resolution.', 'Column Encryption.', and 'Use FMTONLY metadata discovery.' The dialog has '< Back', 'Next >', 'Cancel', and 'Help' buttons at the bottom.

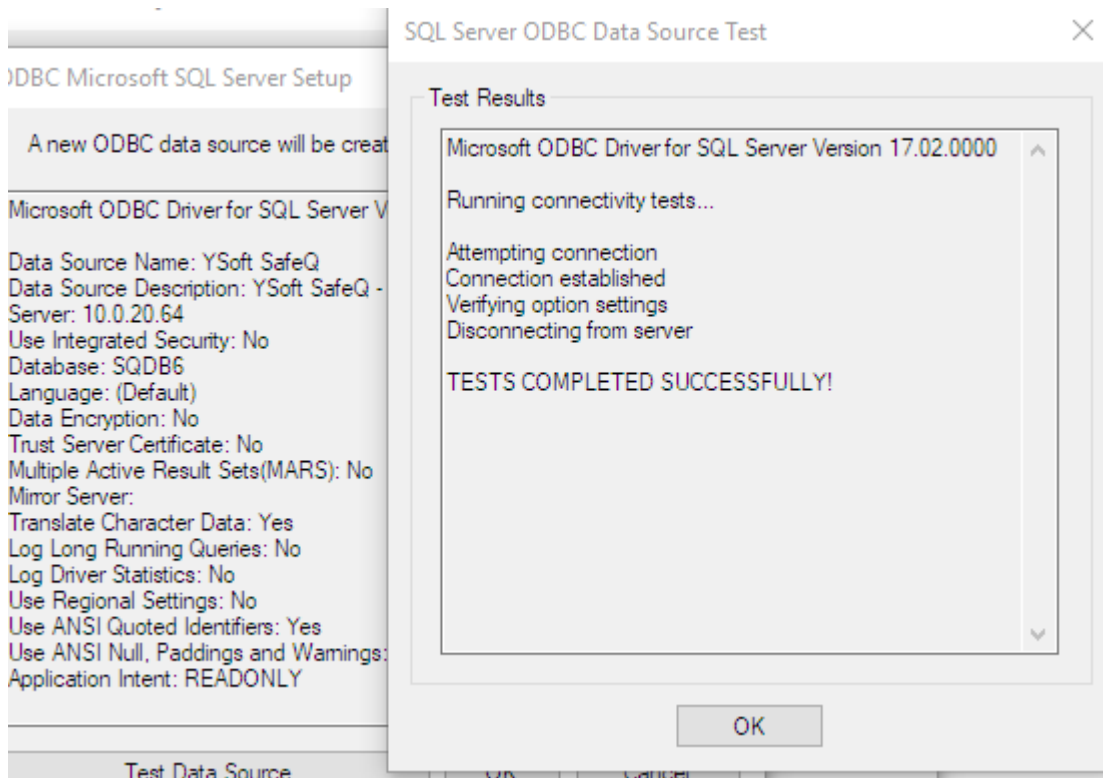
7. No

change :

You may need to adjust configuration for data encryption.



8. Finish and test connection:



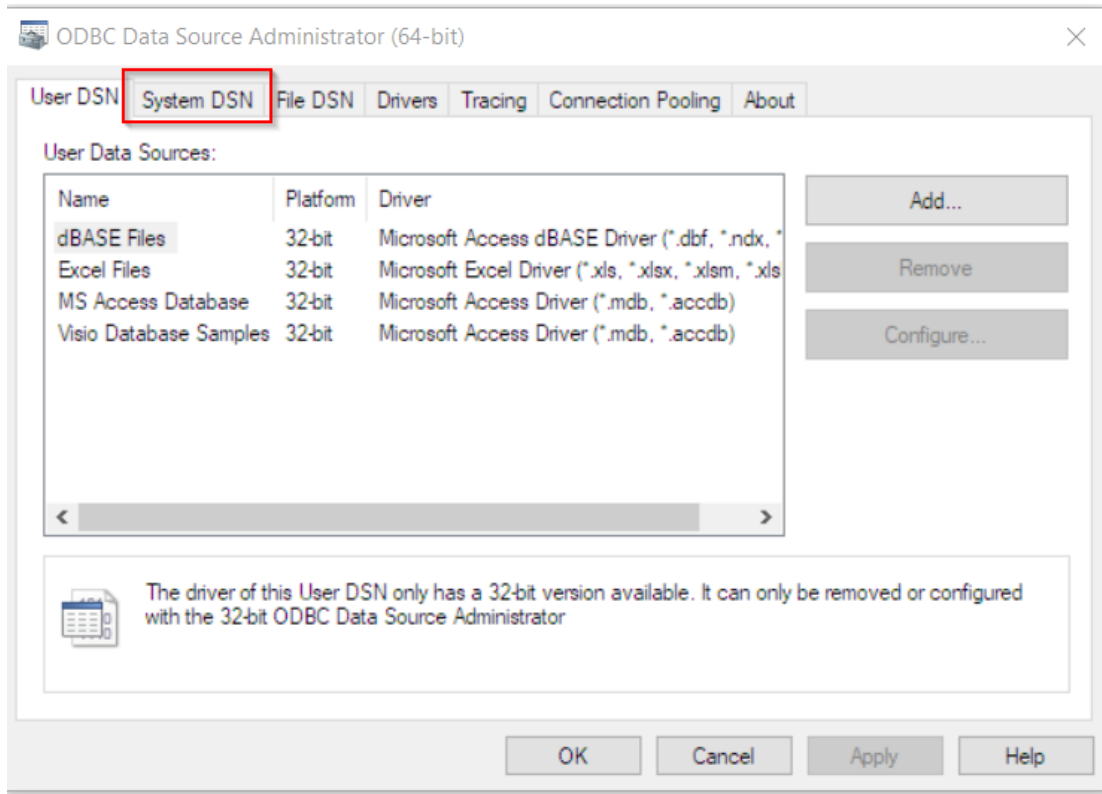
9. Repeat steps 3 to 8 for 32 bit ODBC Data Source as well, use exactly the same name.

Reference:

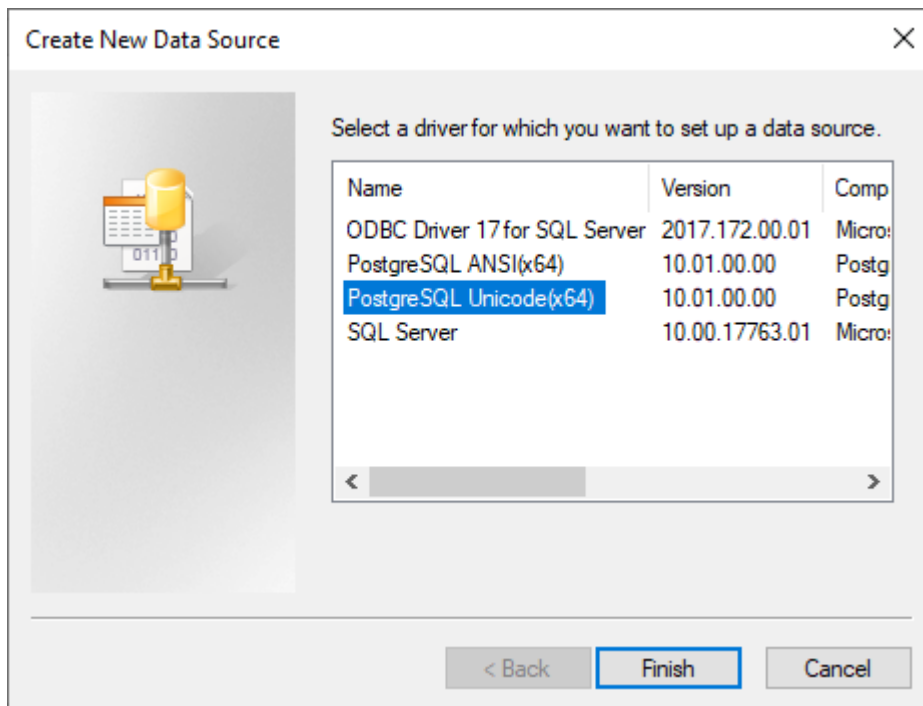
- <https://github.com/mkleehammer/pyodbc/wiki/Connecting-to-SQL-Server-from-Windows>

7 POSTGRESQL ODBC DRIVER FOR POWER BI

1. Download **PostgreSQL ODBC drivers** for both 32 AND 64 bit from <https://www.postgresql.org/ftp/odbc/versions/msi/>
2. Install **psqlodbc_10_01_0000-x64.zip** AND **psqlodbc_10_01_0000-x86.zip**
3. Open ODBC Data Source administration for 64bit platform, switch to "System DSN" tab

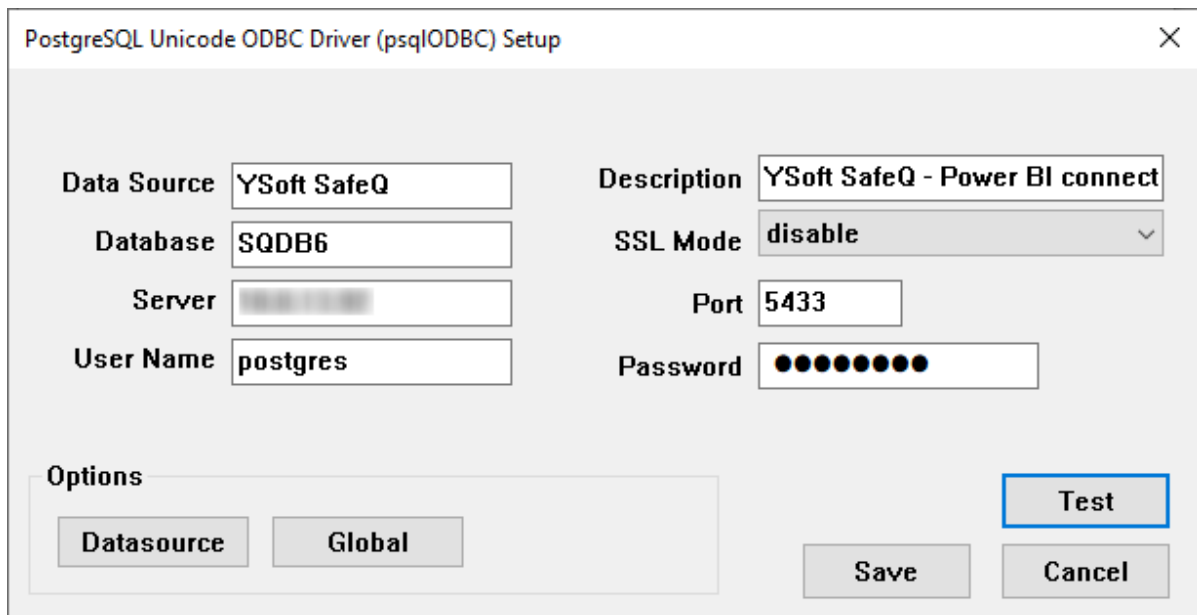


4. Add a new source, select **PostgreSQL Unicode (x64)**.



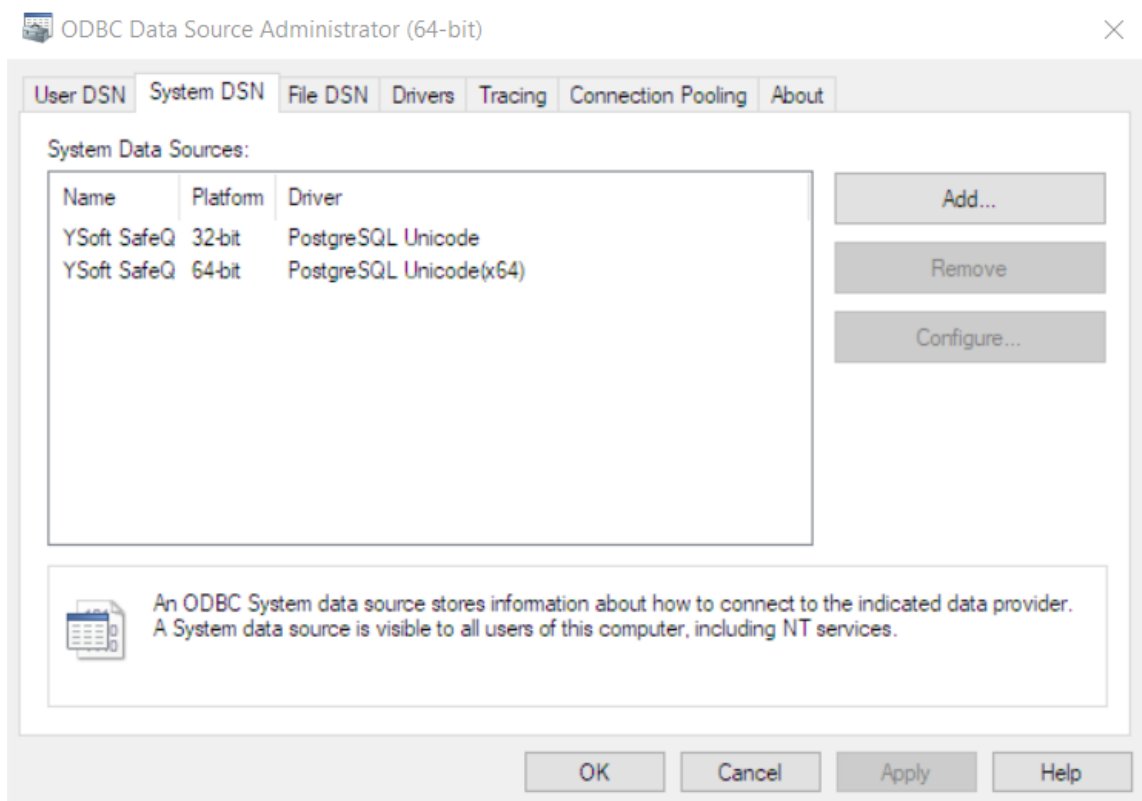
5. Enter database server:

If you want to test connection you have to set all fields. Database, server and username with password could be defined later in Power BI. Default database name is SQDB6 or SQDB6_DWH. The namedependson selected database deployment scenario.



6. Optional: Test connection.
7. Save

8. Repeat steps 3 to 8 for 32 bit ODBC Data Source as well
 - a. use exactly the same name,
 - b. choose **PostgreSQL Unicode** driver.
9. Once completed, the "System DSN" tab looks as follows:



7.1 ALTERNATIVE CONFIGURATION METHOD:

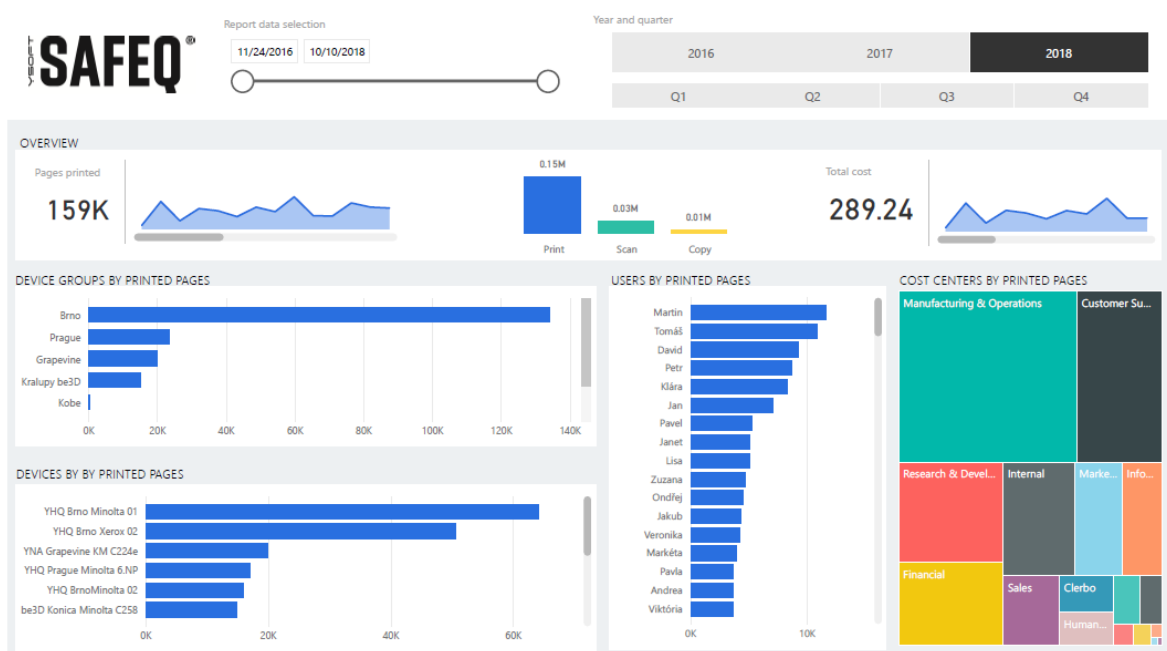
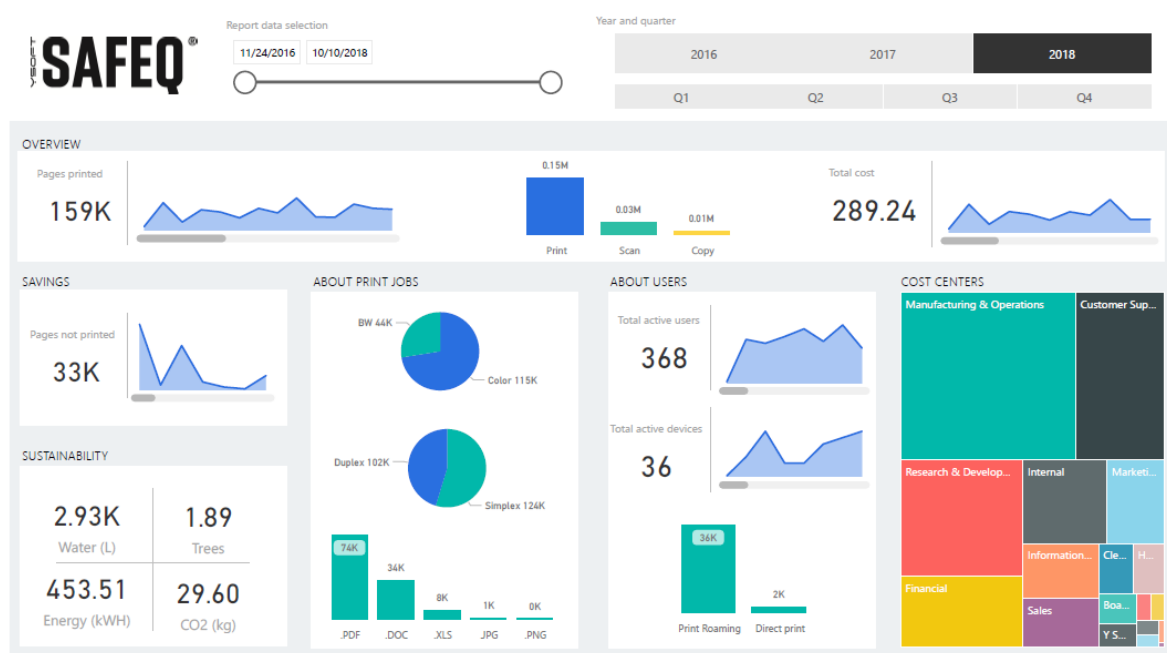
1. Download **PostgreSQL ODBC drivers** for both 32 AND 64 bit from <https://www.postgresql.org/ftp/odbc/versions/msi/>
2. Install `psqlodbc_10_01_0000-x64.zip` AND `psqlodbc_10_01_0000-x86.zip`
3. ⚠️ Adjust variables `$dbServer` and `$db` to point to database server and refer database name.
4. Run the PowerShell script:

```
$dbServer= "ysoft.safeq.db.server.local"
$db= "SQDB6"

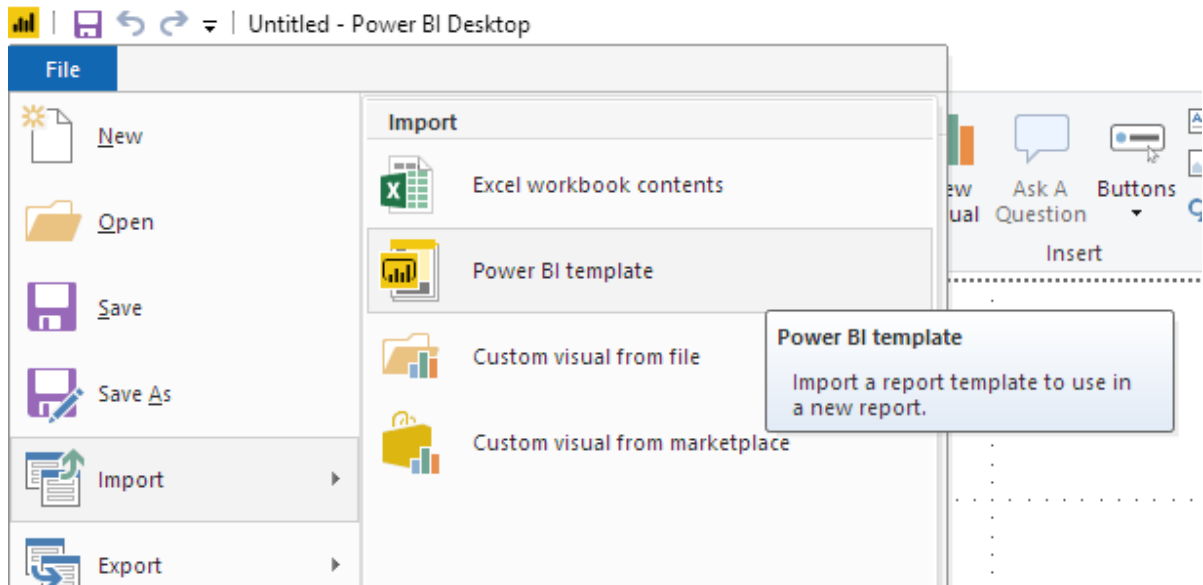
Add-OdbcDsn-Name"YSoft SafeQ"-DriverName"PostgreSQL Unicode"-DsnType"System"-Platform"32-bit"-SetPropertyValue@("Server=$dbServer", "Trusted_Connection=Yes", "Database=$db")
Add-OdbcDsn-Name"YSoft SafeQ"-DriverName"PostgreSQL Unicode(x64)"-DsnType"System"-Platform"64-bit"-SetPropertyValue@("Server=$dbServer", "Trusted_Connection=Yes", "Database=$db")
```

8 POWER BI DESKTOP - IMPORT TEMPLATE

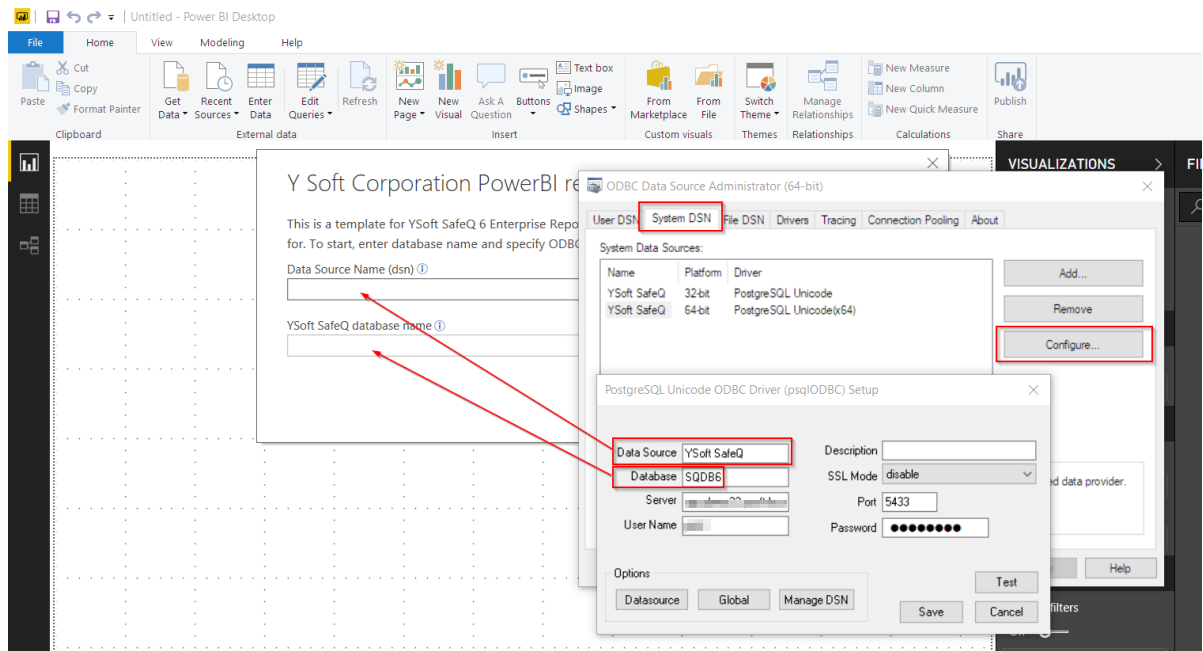
1. Templates are part of full installation package You can locate them under path *Complementary Solutions\Enterprise Reporting*. The main template will render YSoft SafeQ data similarly to what is depicted below.



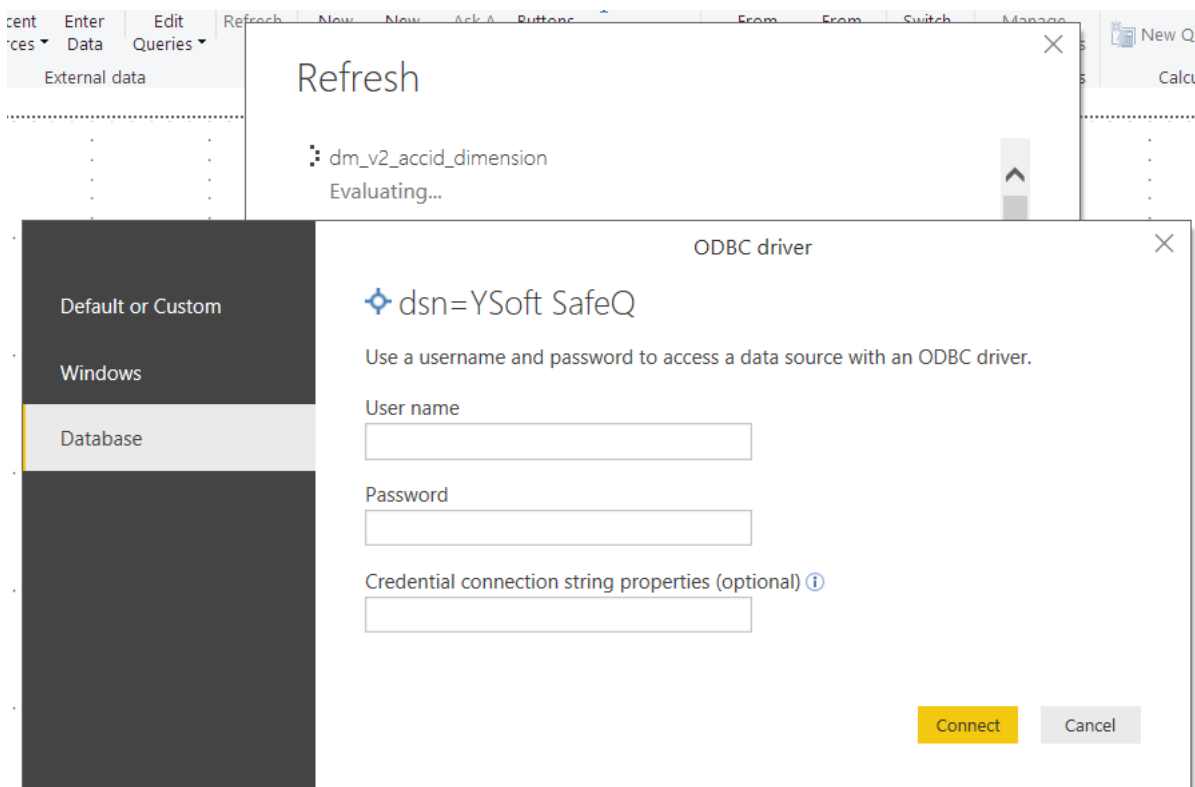
2. Import the template into Power BI Desktop.



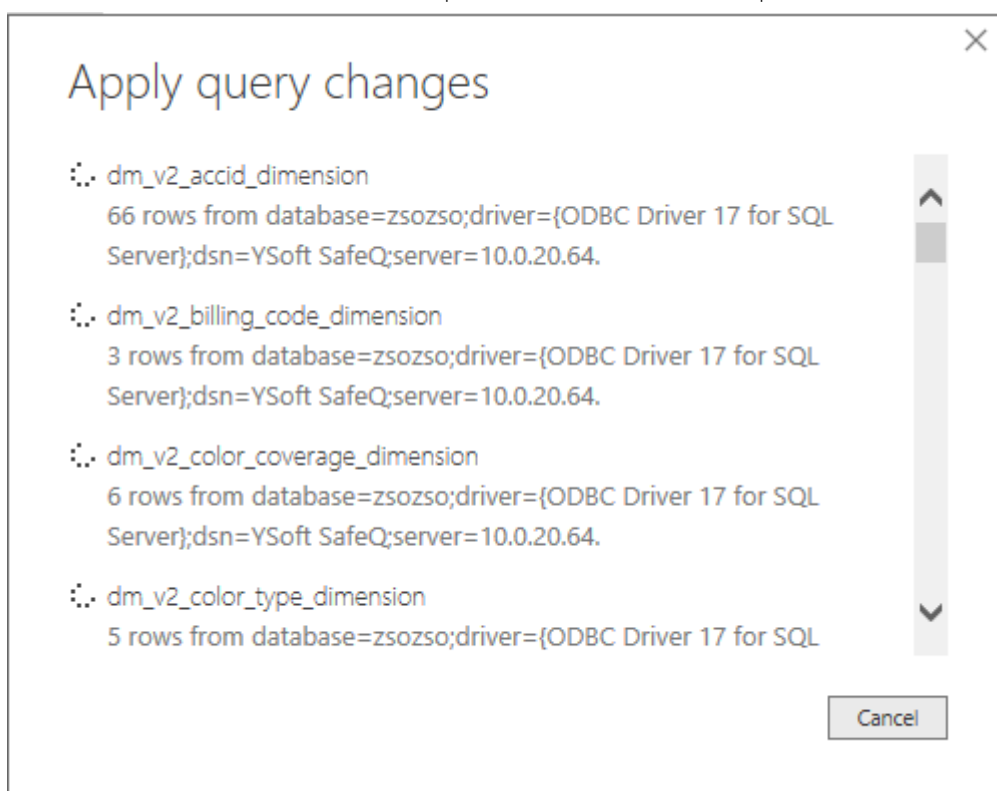
3. ⚠ This step requires to have ODBC connection created and working. See [PostgreSQL ODBC driver for Power BI](#) and [MS SQL ODBC driver for Power BI](#) articles. Enter connection information into the template



- When prompted, enter database access account



- Back on the main PowerBI Desktop screen, wait for the report to load data.



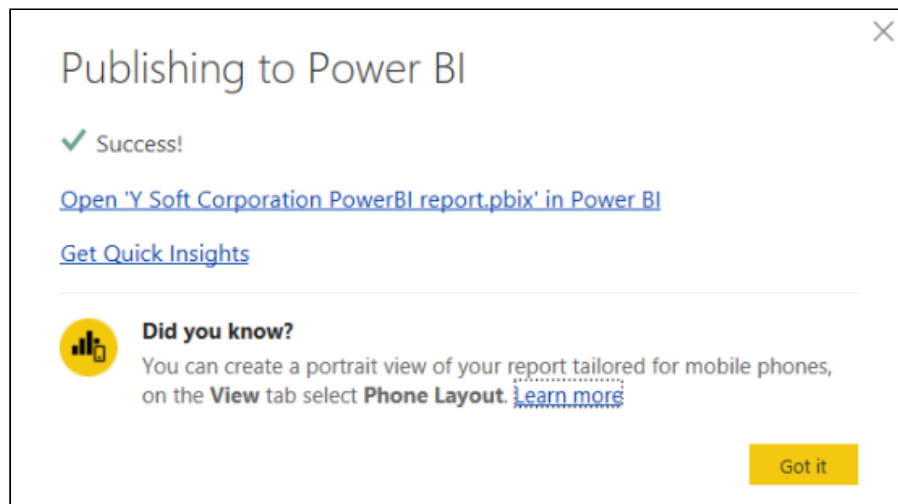
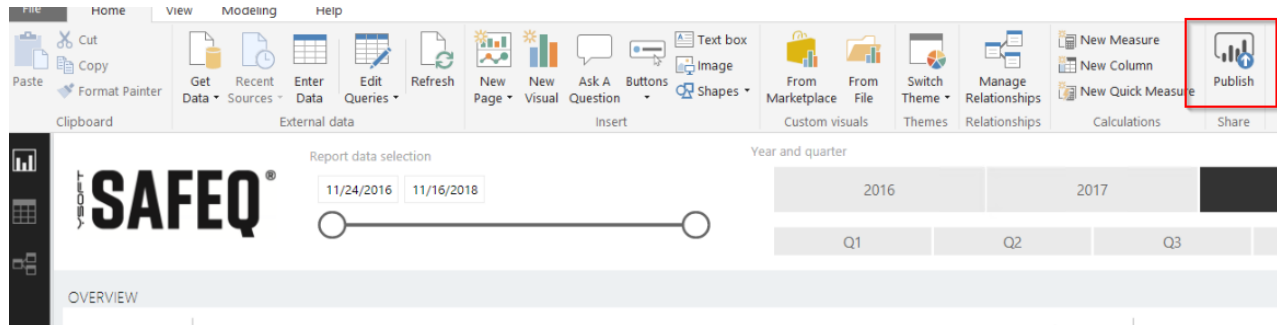
Where to go next: Publish Power BI Report with Power Bi Gateway

9 PUBLISH POWER BI REPORT WITH POWER BI GATEWAY

9.1 PUBLISH/SHARE POWER BI REPORT

Once the report is created (manually or using provided Y Soft template), administrators can share the report and give users access to view it.

i Both viewing and publishing the reports requires "Power BI Pro" account.



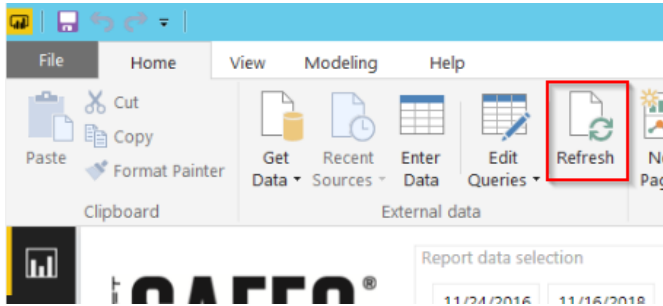
Reference:

- <https://docs.microsoft.com/en-us/power-bi/guided-learning/publishingandsharing?tutorial-step=2>
- <https://docs.microsoft.com/en-us/power-bi/service-features-license-type>

9.2 POWER BI GATEWAY

To keep the published report up to date, it needs to be refreshed periodically. There are two options to achieve this:

1. **Manually:** refresh the data in Power BI Desktop and publish a new version.



2. **Automatically:** implement Power BI Gateway.

9.2.1 IMPLEMENT POWER BI GATEWAY

The Power BI Gateway requires exactly the same ODBC connection configuration as Power BI Desktop is using. Follow respective guides to configure this on the server where deploying the gateway:

- PostgreSQL ODBC driver for Power BI
 - MS SQL ODBC driver for Power BI
-
- To install the Power BI Gateway follow Microsoft documentation: <https://docs.microsoft.com/en-us/power-bi/service-gateway-install>

- Once installed, go to Power BI account and add a data source. Follow Microsoft documentation: <https://docs.microsoft.com/en-us/power-bi/service-gateway-manage>
- The ODBC data have to match in both *Power BI* data source and *Power BI Desktop* data source:

ADD DATA SOURCE

GATEWAY CLUSTERS

Y Soft Corporation printing

YSoft SafeQ

Test all connections

Data Source Settings Users

✓ Connection Successful

Data Source Name

YSoft SafeQ

Data Source Type

ODBC

Connection string

DSN=YSoftSafeQ

Authentication Method

Basic

The credentials are encrypted using the key stored on-premises

Username

Password

Data source settings

Manage settings for data sources that you have connected to using Power BI Desktop.

Data sources in current file Global permissions

Search data source settings

dsn=YSoftSafeQ

From ODBC

Data source name (DSN)

YSoftSafeQ

Advanced options

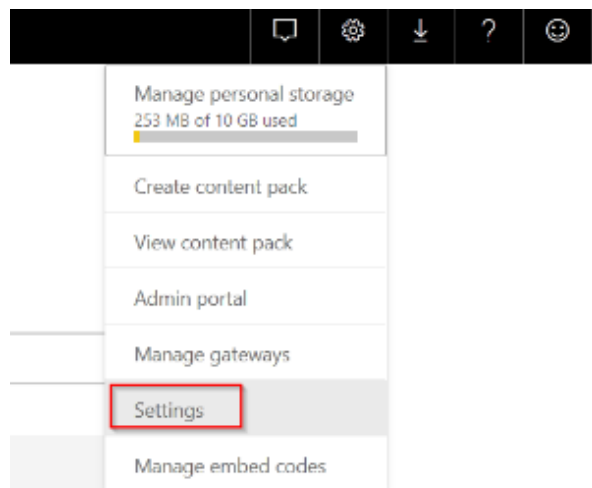
Connection string (non-credential properties) (optional) ⓘ

Example: Driv...

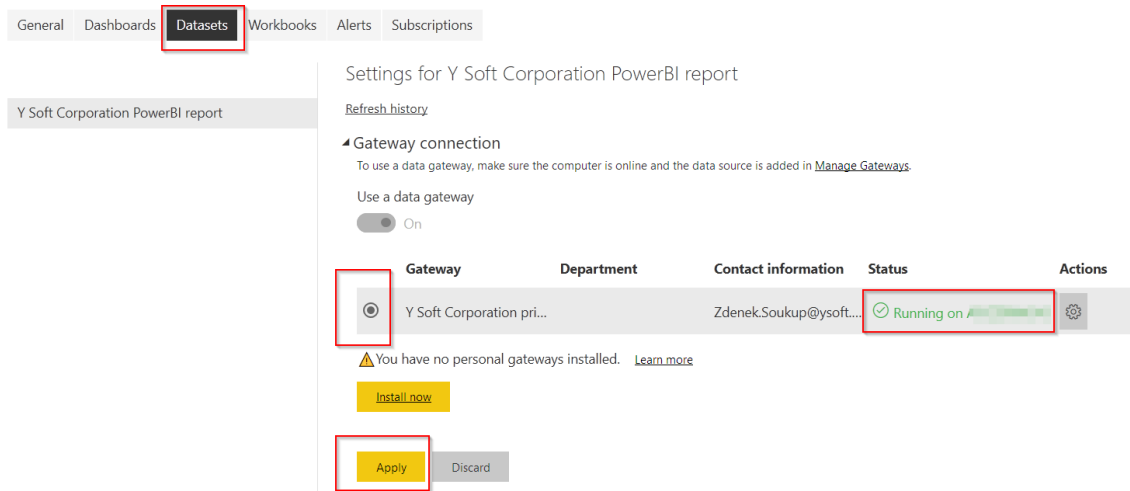
SQL statement (optional)

Change

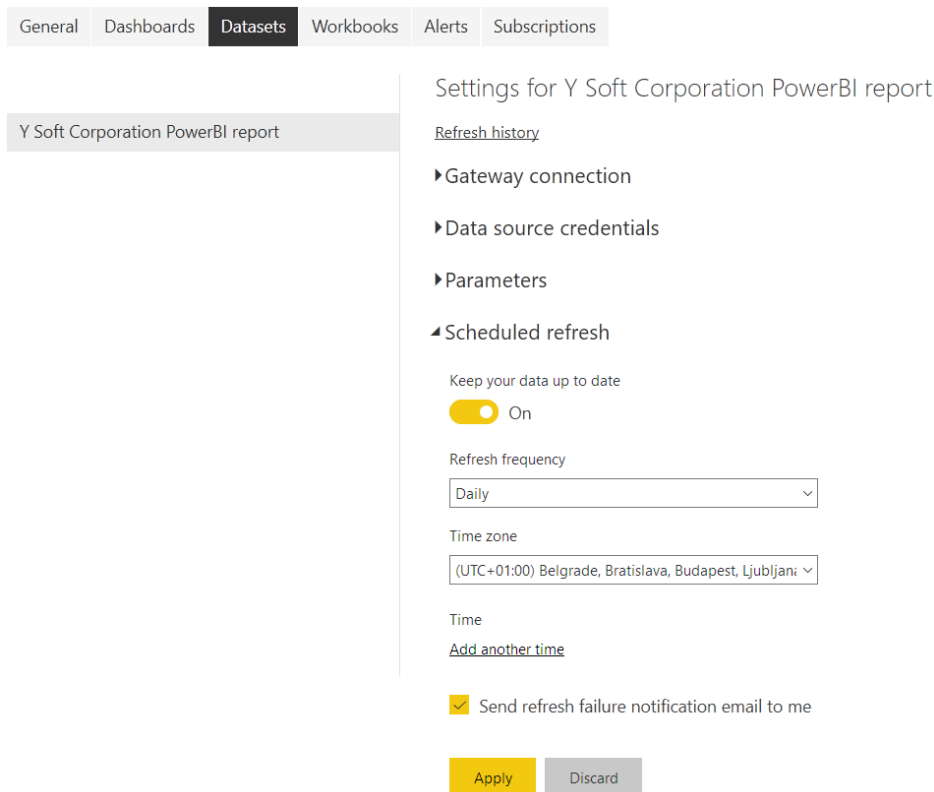
- Confirm correct configuration under your PowerBI account:
- Navigate to Settings:



- Navigate to "Datasets", expand "Gateway connection" section:
- Select the Gateway and apply it to the report.
- Confirm that status is green "Running on ..."



- Again in menu "Datasets", expand "Scheduled refresh" section and enable it:



Reference:

- <https://docs.microsoft.com/en-us/power-bi/service-gateway-getting-started>