



Power BI Desktop – Interactive Reports & Dashboards

Part 1

Last Update: 08/02/2019

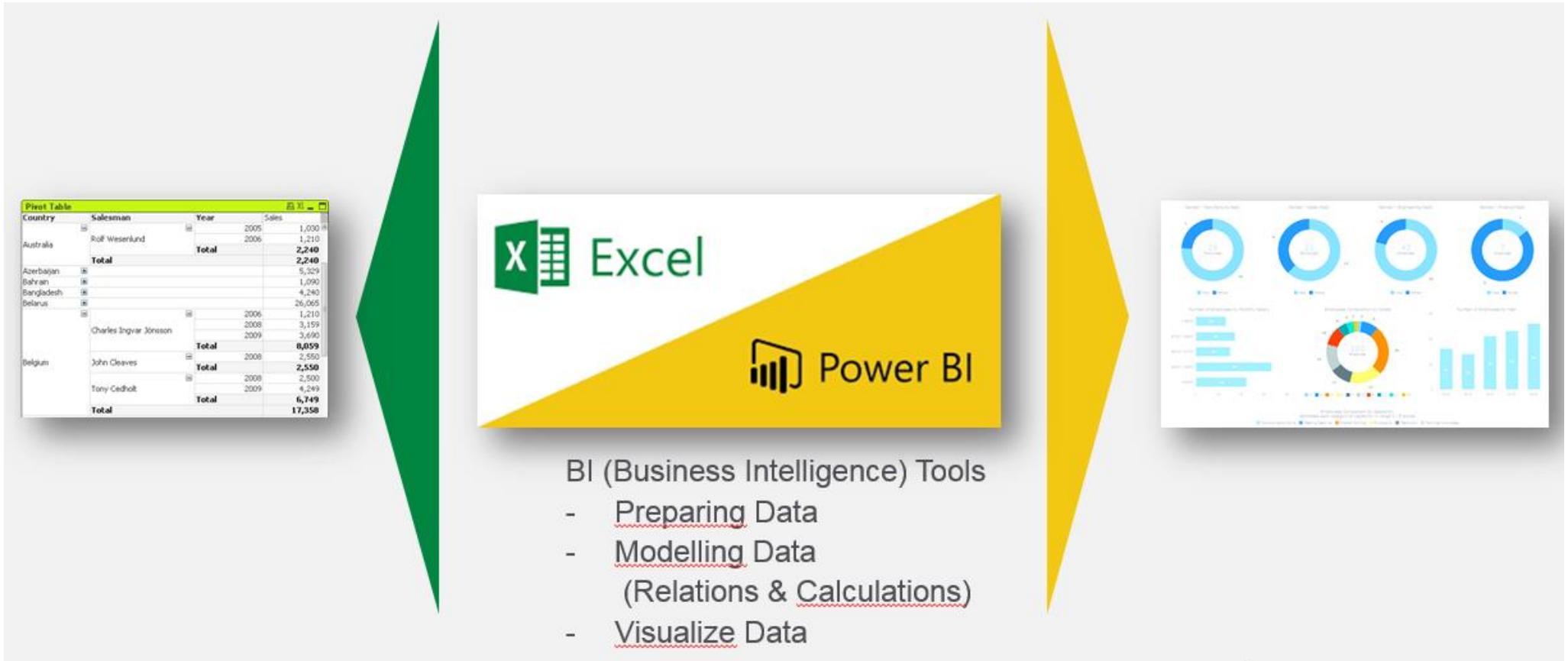
Agenda – Power BI Desktop

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1 Overview Power BI Desktop – Power BI Service



Power BI Tools – available in Excel & in Power BI Desktop



The diagram illustrates the integration of Power BI tools. On the left, a screenshot of an Excel Pivot Table shows sales data for various countries and years. In the center, the Microsoft Excel logo is displayed above the Power BI logo, which features a bar chart icon. To the right, a screenshot of a Power BI dashboard is shown, featuring four donut charts and several bar charts.

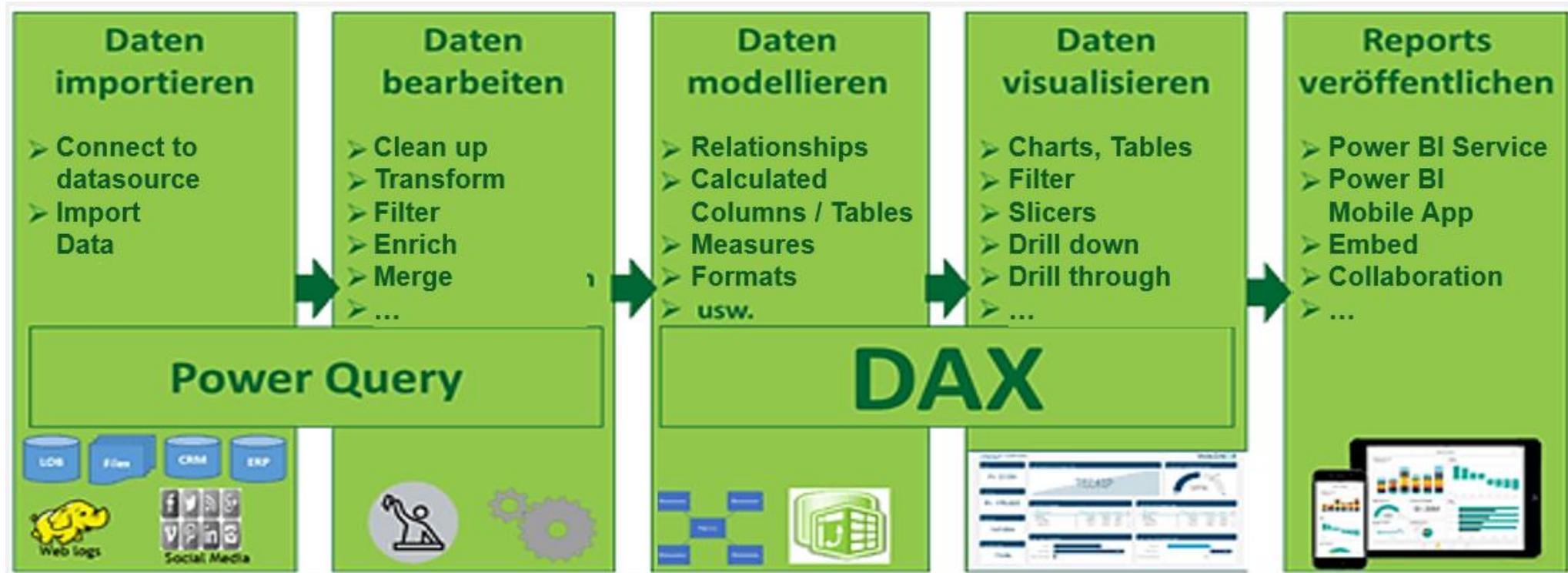
Pivot Table:

Country	Salesman	Year	Sales
Australia	Rolf Wessenlund	2005	1,000
		2006	1,210
	Total		2,210
Azerbaijan		2005	5,329
		2006	1,090
	Total		6,419
Bahrain		2005	4,240
		2006	26,065
	Total		26,065
Belarus		2005	1,210
		2006	3,199
	Total		4,409
Belgium	Charles Ingvar Jonsson	2005	3,690
		2006	6,059
	Total		9,750
Belgium	John Cleaves	2005	2,550
		2006	2,500
	Total		5,050
Tony Cedholt		2005	4,249
		2006	6,749
	Total		11,000

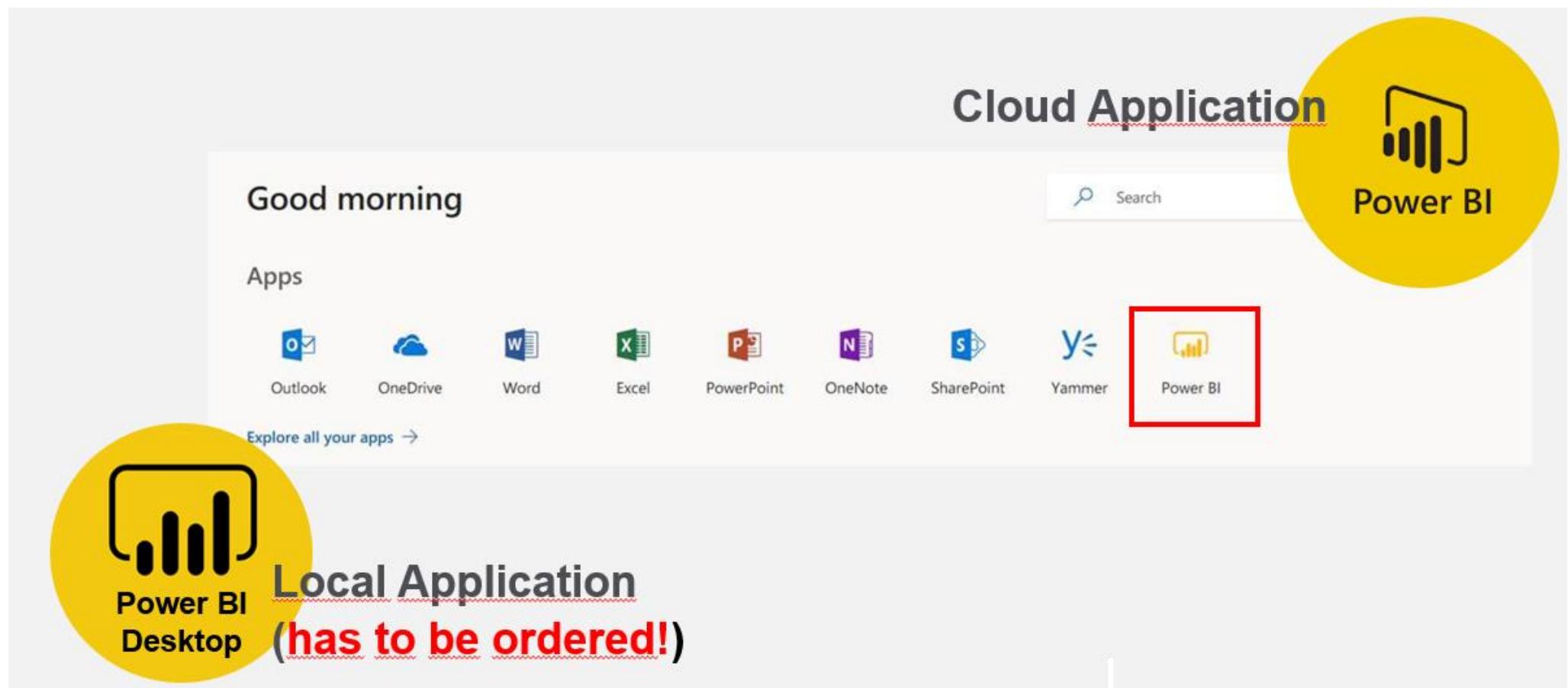
BI (Business Intelligence) Tools

- Preparing Data
- Modelling Data
- (Relations & Calculations)
- Visualize Data

Working with the Power BI Tools



Power BI – embedded Office 365



Power BI Desktop – Power BI Service



Power BI Desktop

Power BI Desktop

- free desktop application
- meshed with Power BI service
- allows structuring, modeling and visualization of data
- results are stored in a PBIX file
- the PBIX file can be published in Power BI service



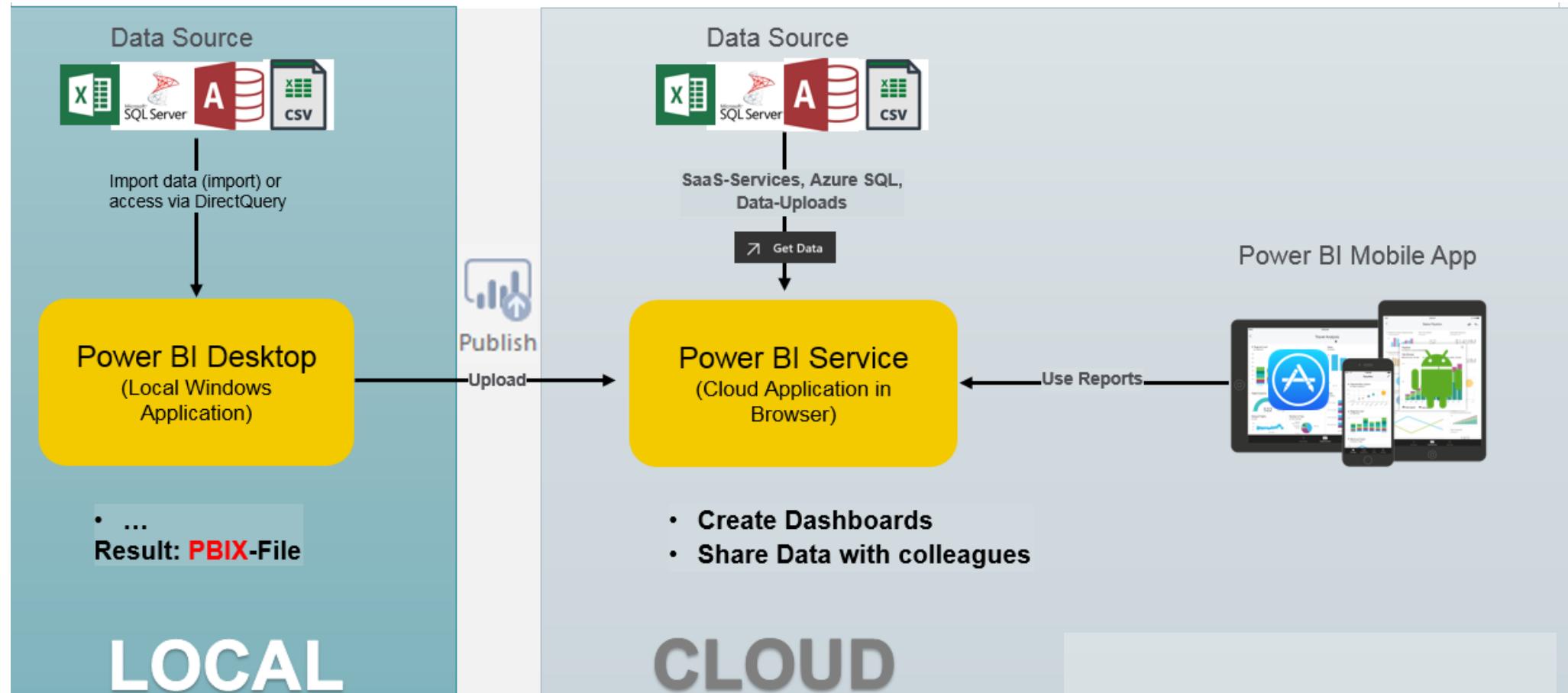
Power BI

Power BI

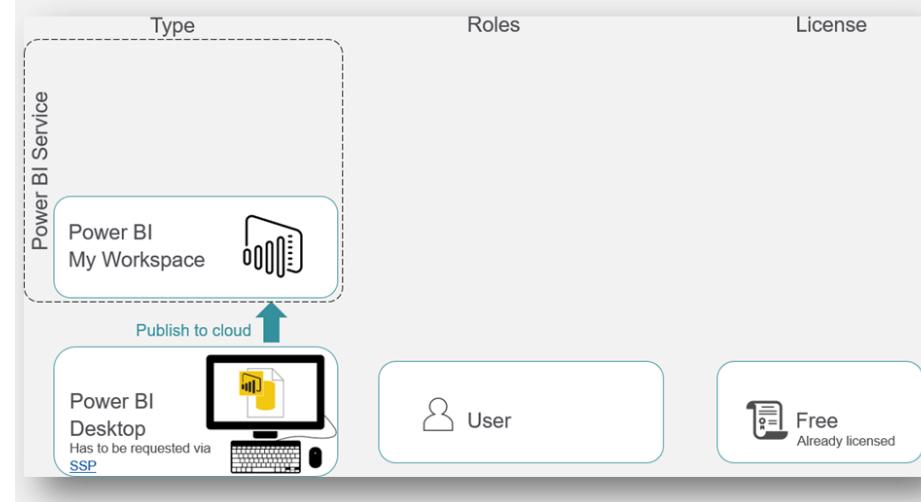
- cloud-based business analytics service
- allows fast visualization & analysis
- provides critical business data through interactive reports & dashboards
- reports / dashboards are provided and released via the Power BI service



How to work with both applications?



Notes on use

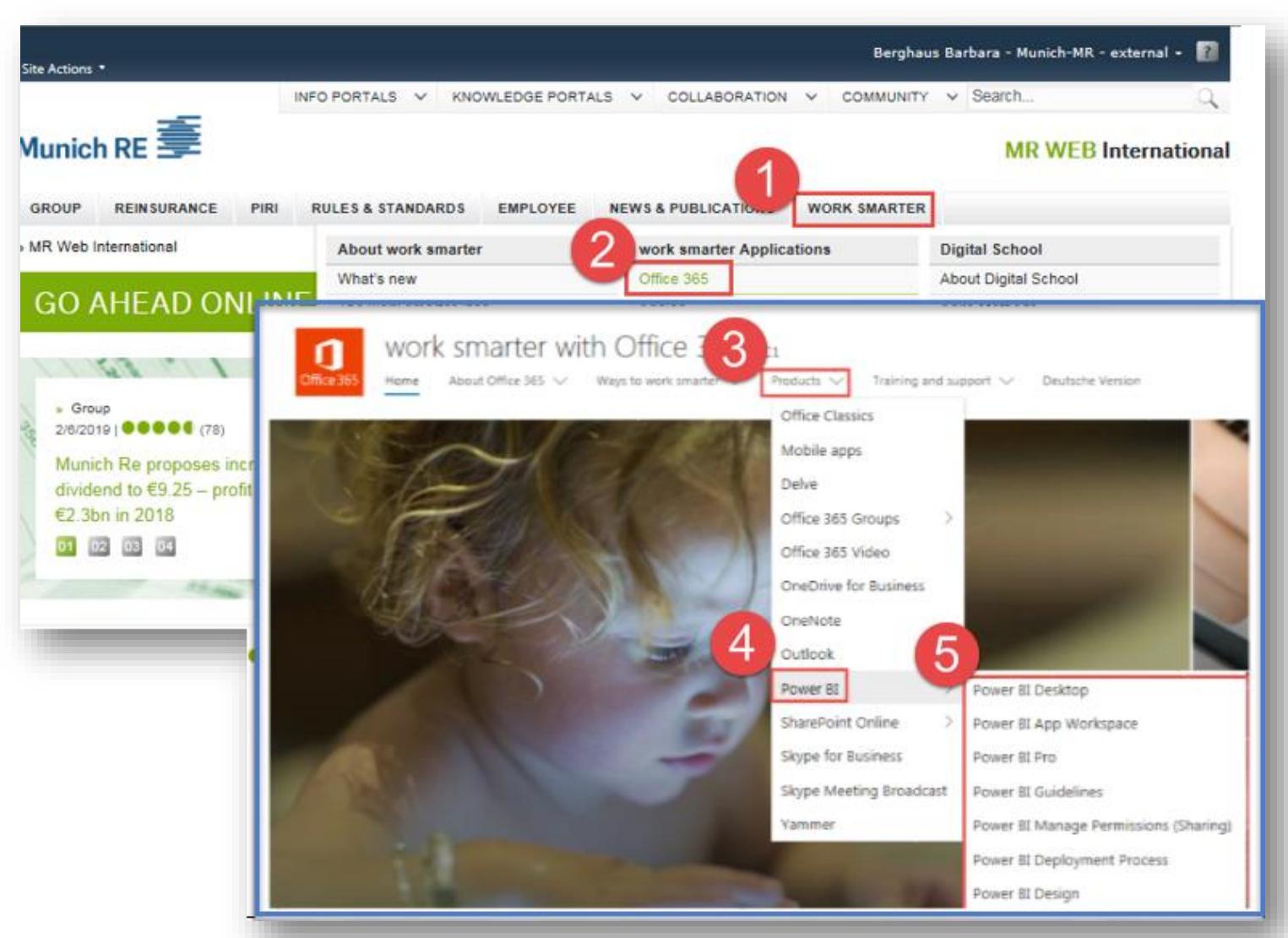
Versions & Permissions	<h1>Which license do I need?</h1> <table border="1" data-bbox="518 420 2135 854"> <tr> <td data-bbox="518 420 1260 822"> <p>For Personal Use:</p> <p>All Munich Re employees are licensed for Power BI Free & Power BI Premium.</p> <p>There is no need to order a license!</p> </td><td data-bbox="1260 420 2135 822"> <p>For Internal Sharing:</p> <p>Make sure you request in this order!</p> <ol style="list-style-type: none"> 1. Power BI App Workspace via SSP. 2. Power BI Pro license via IAM. </td></tr> </table>			<p>For Personal Use:</p> <p>All Munich Re employees are licensed for Power BI Free & Power BI Premium.</p> <p>There is no need to order a license!</p>	<p>For Internal Sharing:</p> <p>Make sure you request in this order!</p> <ol style="list-style-type: none"> 1. Power BI App Workspace via SSP. 2. Power BI Pro license via IAM.
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Internal Sharing *	<table border="1" data-bbox="534 171 2138 906"> <thead> <tr> <th>Type</th><th>Roles</th><th>License</th></tr> </thead> <tbody> <tr> <td data-bbox="534 219 1051 377"> Power BI App Workspaces are the places where you create Power BI Apps. </td><td data-bbox="1051 219 1522 377"> Consumers View dashboards, reports, workbooks, datasets </td><td data-bbox="1522 219 2138 377"> Premium Already licensed Published/Final Version </td></tr> <tr> <td data-bbox="534 377 1051 616"> So you need to request a Power BI App Workspace first, before you create the Power BI App. This you can publish und use to share your dashboards and reports to a wider audience, or even to your entire organization </td><td data-bbox="1051 377 1522 616"> Admin Manage members Member Edit workspace items </td><td data-bbox="1522 377 2138 616"> Pro Has to be requested via IAM Fun-o365-License-Power_BI_Pro Working/Draft Version </td></tr> <tr> <td data-bbox="534 616 1051 906"> Consumers of a Power BI App don't need any additional license </td><td data-bbox="1051 616 1522 906"> User </td><td data-bbox="1522 616 2138 906"> Free Already licensed </td></tr> </tbody> </table>	Type	Roles	License	Power BI App Workspaces are the places where you create Power BI Apps .	Consumers View dashboards, reports, workbooks, datasets	Premium Already licensed Published/Final Version	So you need to request a Power BI App Workspace first, before you create the Power BI App. This you can publish und use to share your dashboards and reports to a wider audience, or even to your entire organization	Admin Manage members Member Edit workspace items	Pro Has to be requested via IAM Fun-o365-License-Power_BI_Pro Working/Draft Version	Consumers of a Power BI App don't need any additional license	User	Free Already licensed
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Use these links to find a detailed description	<p>1 Power BI App Workspace: https://munichre.sharepoint.com/sites/work-smarter/SitePages/Power-BI-App-Workspace.aspx</p>												
	<p>2 Power BI Pro: https://munichre.sharepoint.com/sites/work-smarter/SitePages/Power-BI-Pro.aspx</p>												

External Sharing	 <p>With the approval of Compliance and Security there is the possibility to share Power BI reports externally.</p> <p>Please contact David Le IT-Architect, IT1.6.1.2</p>		
Confidentiality	<p>Up to which confidentiality level may I publish data?</p> <table border="1" data-bbox="545 898 1787 1192"><tr><td data-bbox="545 898 1170 1192">For Personal Use: Confidentiality C0 to C3</td><td data-bbox="1170 898 1787 1192">For Internal Sharing: Confidentiality C0 to C3</td></tr></table>	For Personal Use: Confidentiality C0 to C3	For Internal Sharing: Confidentiality C0 to C3
For Personal Use: Confidentiality C0 to C3	For Internal Sharing: Confidentiality C0 to C3		

Work Smarter

- The most important and up to date information can be found on the intranet
- Open Internet Explorer / Chrome
- On **MR Web International** you find the **WORK SMARTER** area
- Click on **Web Analytics**
...
- ... & then on **Products / Power BI** which contains study materials and help



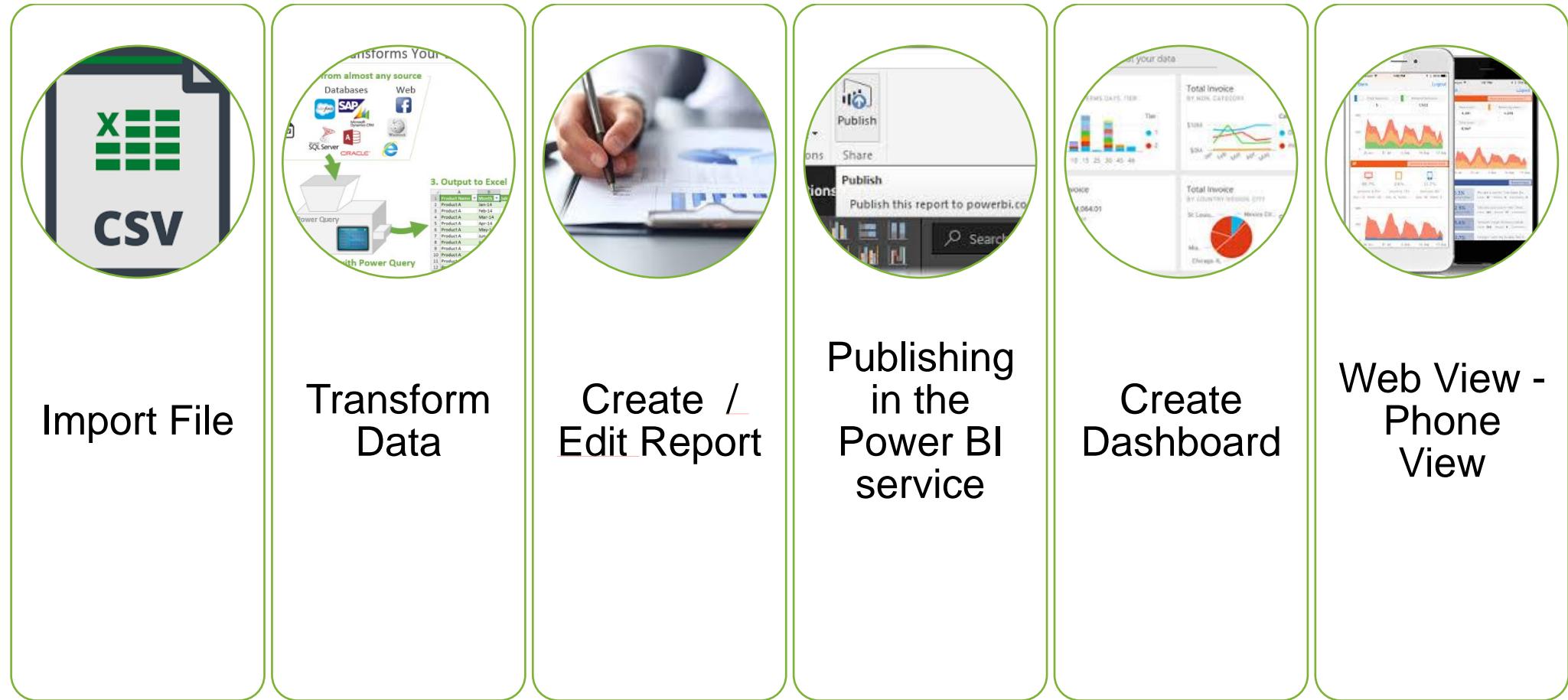
Power BI Group in Yammer

- Join the Power BI Group
- You will receive alerts about all news directly by e-mail
- Here you will also find links to help and learning materials

2 Working with Power BI Desktop - Quickstart

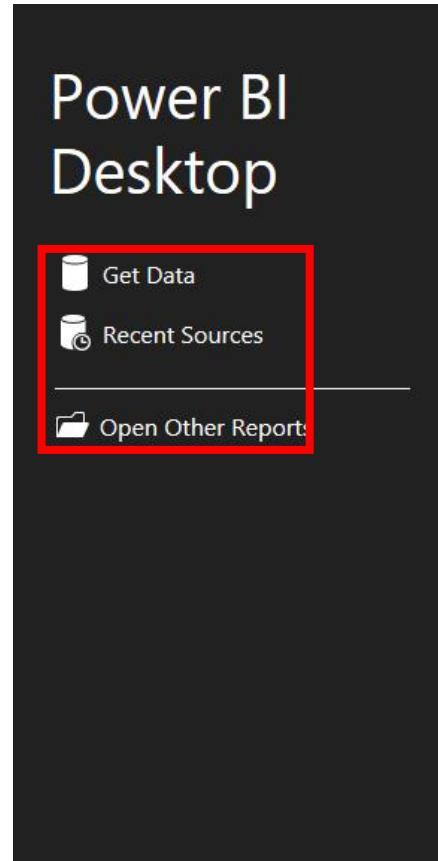


Quickstart



Quickstart: CSV to Dashboard

- Start Power BI Desktop (via **Start Menu**)
-> Welcome Screen
- You can get data directly from the *Launcher* (using links in the left pane), view *Recent Sources* or *Open Other Reports*
- The right part of the **Welcome window** gives you quick access to various resources
- When you close the screen, the **Report canvas** from Power BI Desktop appears

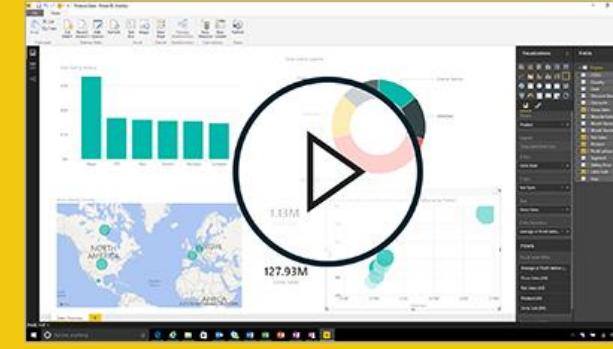


FORUMS
Visit the Power BI Forum to ask questions or interact with other users in the Power BI community.

POWER BI BLOG
Keep up to date with the latest news, resources, and updates from the Power BI team.

TUTORIALS
[Analyzing Sales Data](#)
[Facebook Analytics](#)
[Importing data from a Web page](#)

Getting started with Power BI Desktop

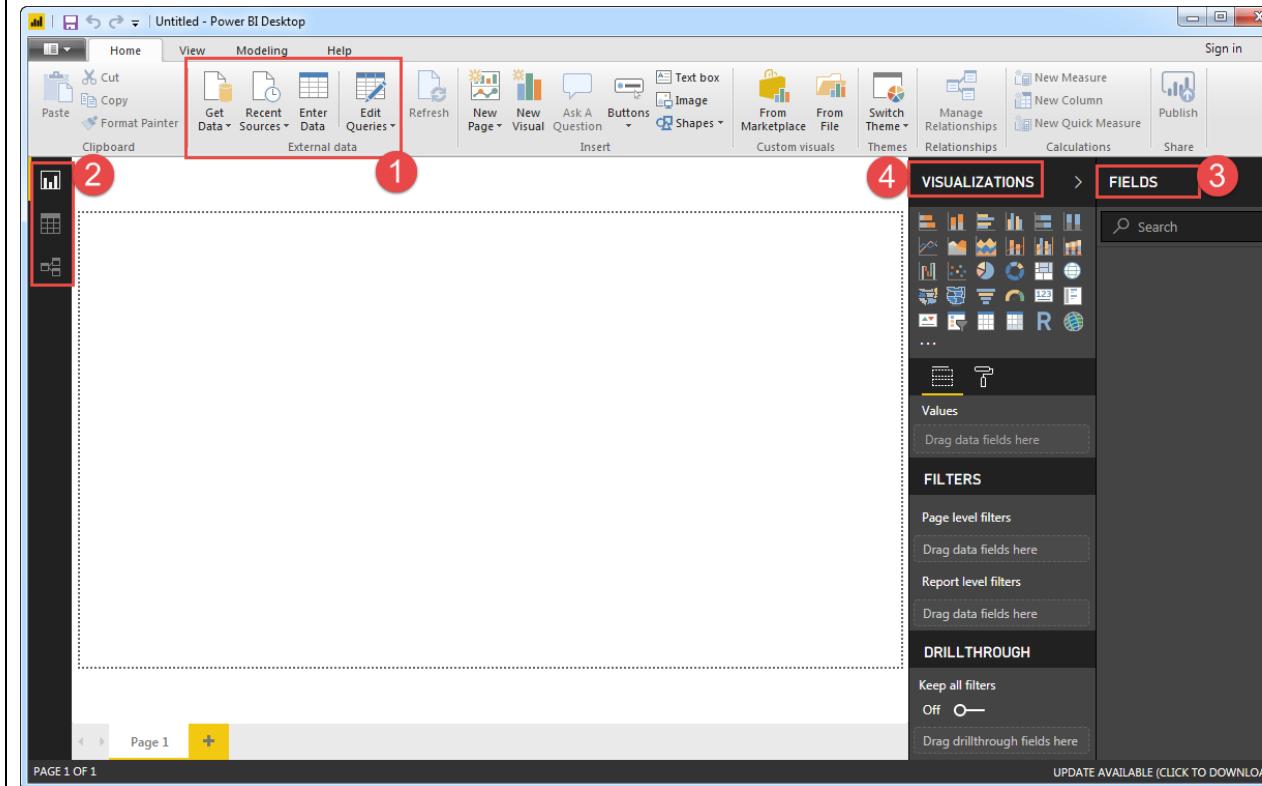


Building reports **Query view concepts** **Uploading your reports**

[View all videos](#)

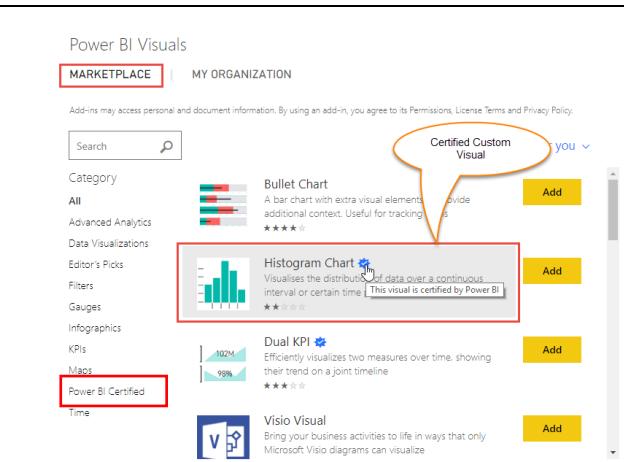
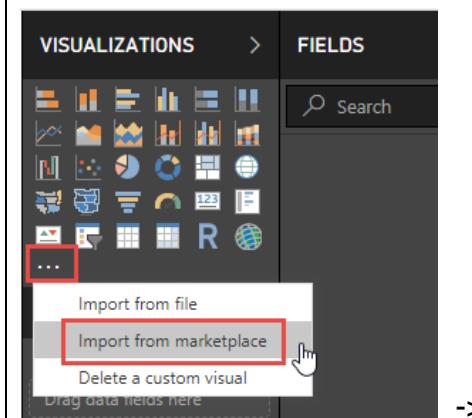
✓ Show this page on startup

1. Power BI Desktop also includes the **Query Editor**, which opens in a separate window.
In the **External Data** group, you can import data, create queries and transform data
2. Power BI Desktop has three important **views**:
 - **Report**
 - **Data**
 - **Relationships**
 The current view is indicated by the yellow bar on the left edge
3. The **Data Model** is displayed in the **Fields pane**
4. Finally, in the **Visualizations pane**, you create the report



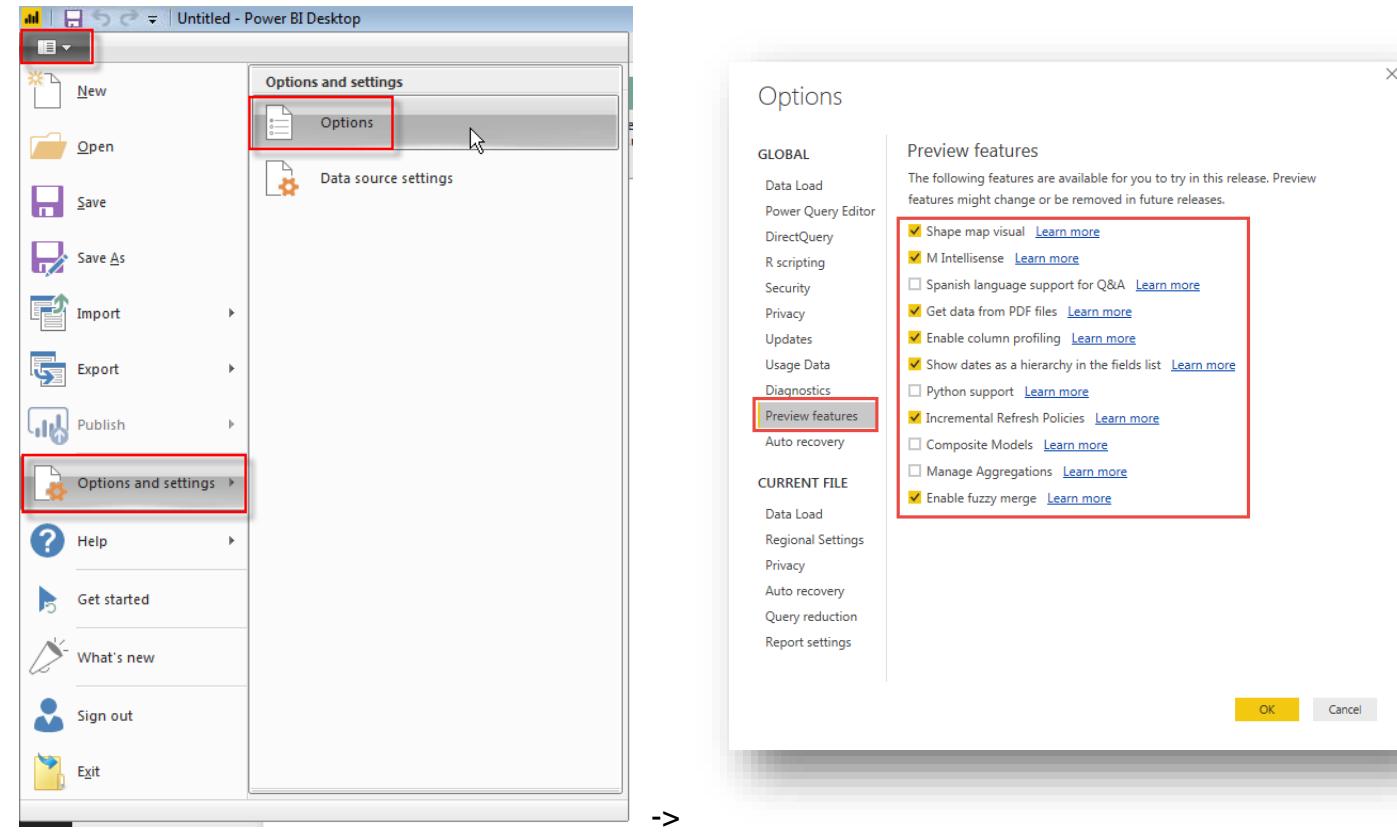
Custom Visuals

- Power BI supports new custom visualization types, called **Custom Visuals**
- This provides you with new and interesting visualization options
- Please only use certified custom visuals!



Updates

- Every month Microsoft publishes new features or enhancements to existing functionalities
- Some new features are implemented in **Preview mode** and need to be activated in order to use.
- These features might change or be removed in future releases
- Activate the corresponding settings via ***Options and settings / Options***

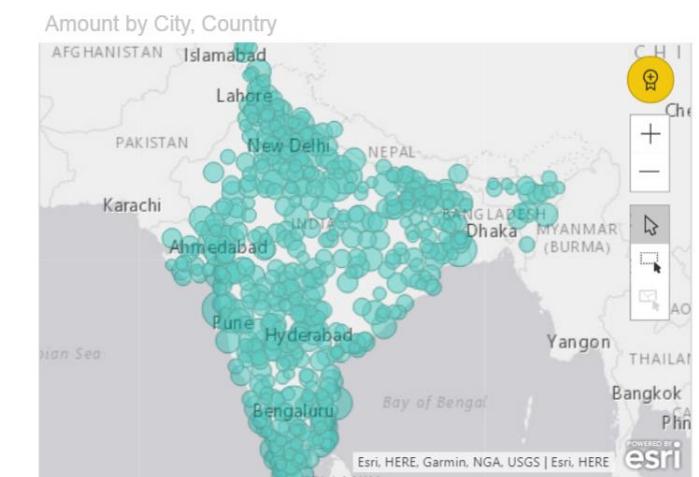
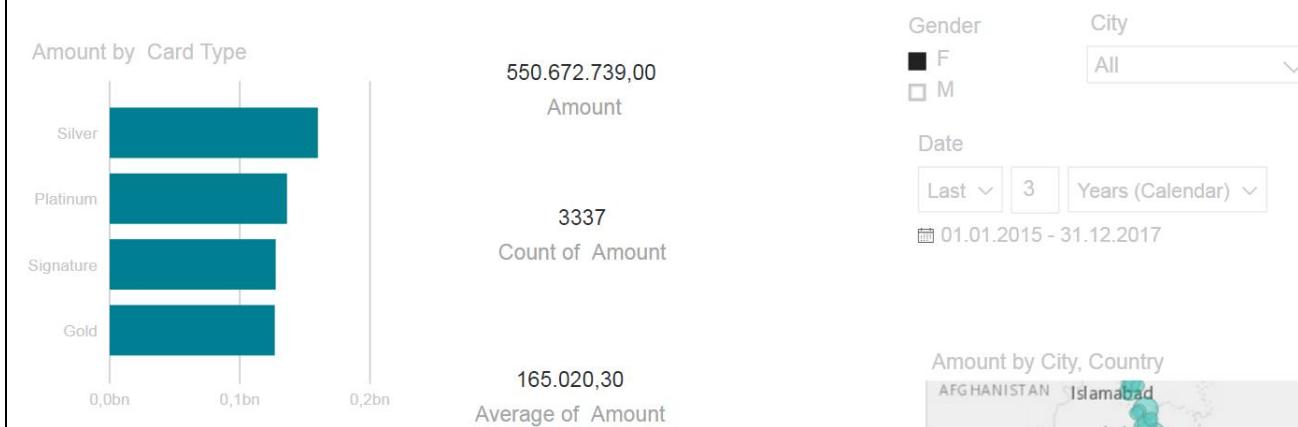


1 Get Data

- Open the file **0 Quickstart.csv** in Excel

A1									
1	City, Country, Date, Card Type, Exp. Type, Gender, Amount								
2	Achalpur, India, 19-Apr-14, Signature, Fuel, M, 138246								
3	Achalpur, India, 20-Apr-15, Gold, Bills, M, 241504								
4	Achalpur, India, 24-Jul-14, Signature, Grocery, M, 192579								
5	Achalpur, India, 28-Oct-14, Gold, Bills, M, 173336								
6	Achalpur, India, 29-May-14, Gold, Entertainment, F, 55347								
7	Achalpur, India, 30-May-14, Signature, Grocery, F, 216180								

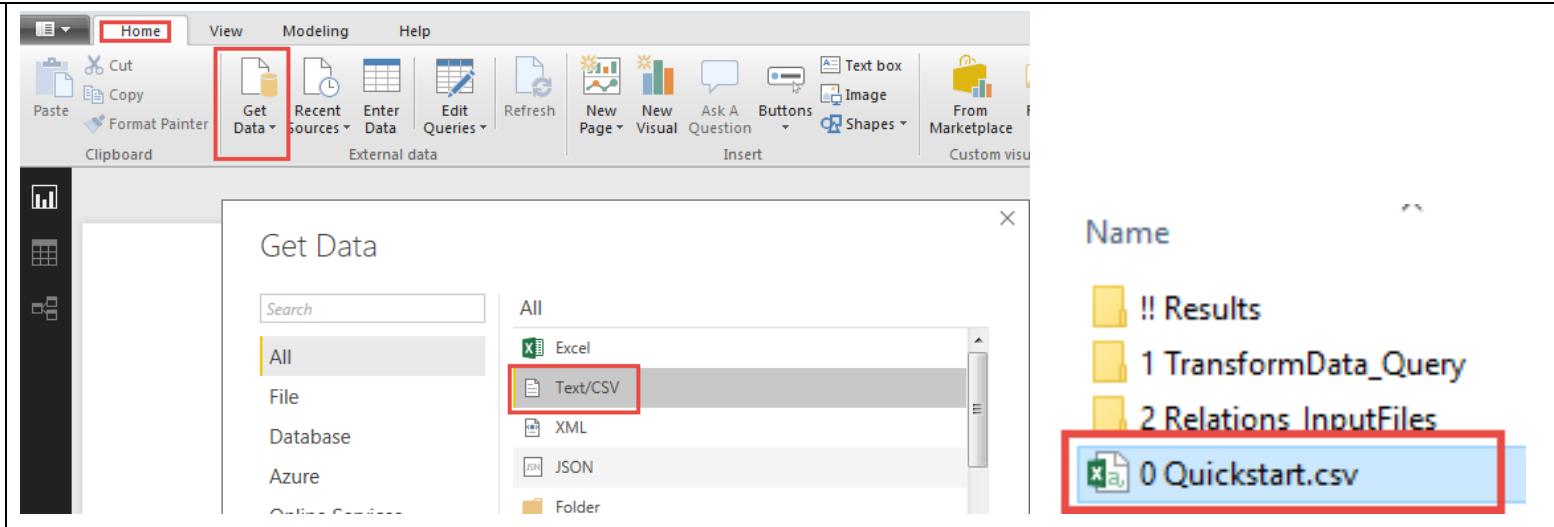
- The credit card information should be visualized in a report in **Power BI Desktop** & published to **Power BI Service** in order to create a dashboard





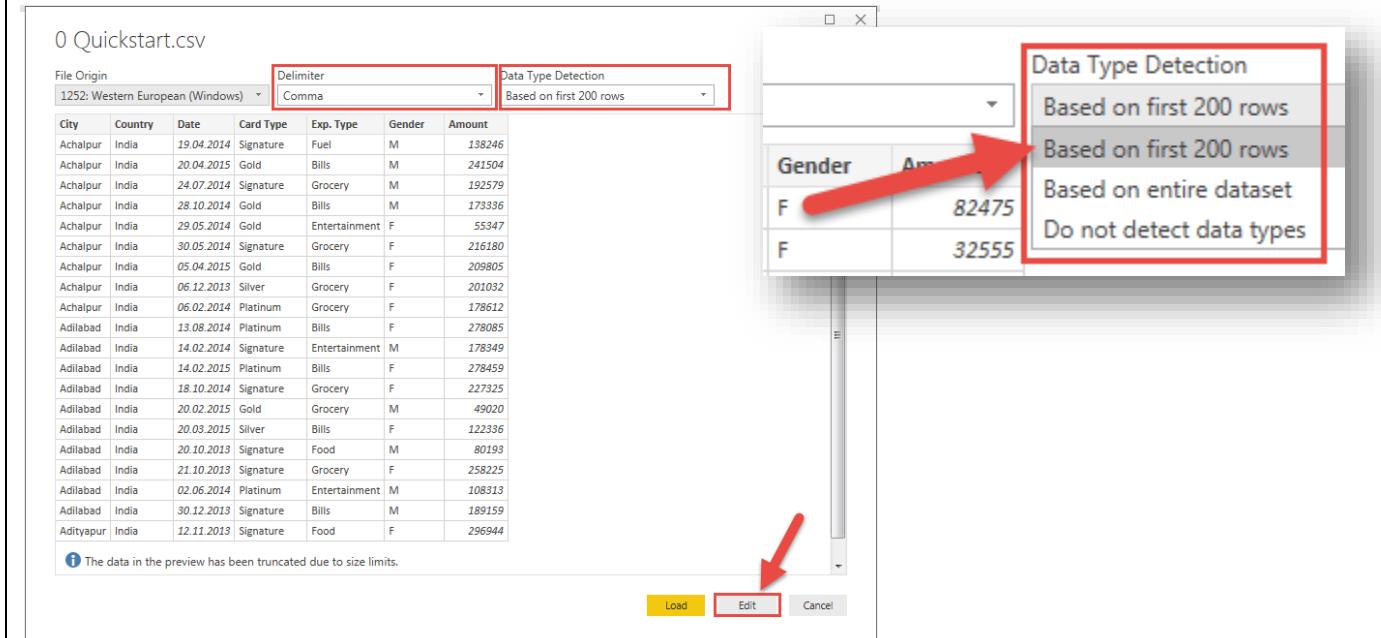
Exercise 1 Get Data

- The **Get Data** window provides all sorts of data sources. The following figure shows how to connect to data.
- To do this, first mark the **Home** tab and then **Get Data / More**.
- For the quick start mark **CSV**.
- Choose **0 Quickstart.csv** in the folder **!! PBID_Exercises**



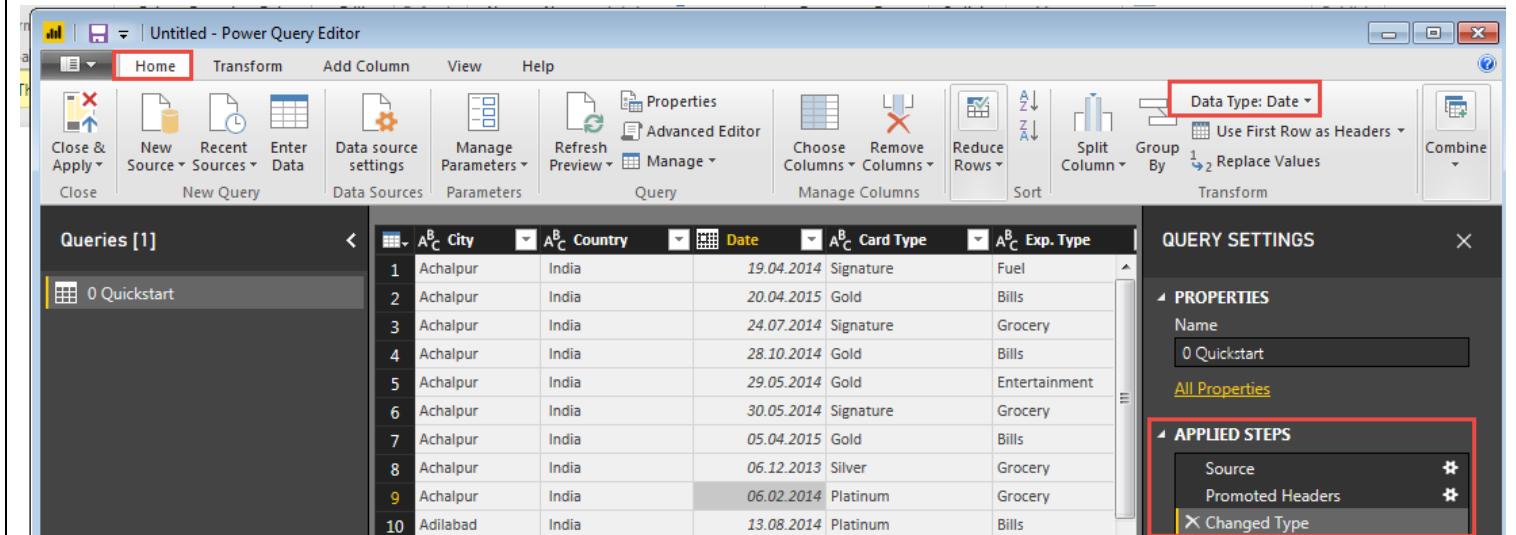
The screenshot shows the 'Get Data' window in Power BI Desktop. The 'Home' tab is selected at the top. In the center, there's a search bar and a list of data sources under 'All'. The 'Text/CSV' option is highlighted with a red box. On the right, a sidebar shows a list of files: '!! Results', '1 TransformData_Query', '2 Relations InputFiles', and '0 Quickstart.csv', which is also highlighted with a red box.

- Power BI Desktop gives you a preview
- In the preview, you can see if all columns of the CSV file have been recognized correctly
- By default, the display of data is based on the **first 200 rows** - this can be changed here
- If you want to check your data select **Edit**
- The **Query Editor** will be opened in a new window



The screenshot shows the preview of '0 Quickstart.csv'. The 'Delimiter' dropdown is set to 'Comma'. In the bottom right corner, there's a 'Load' button, an 'Edit' button (which is highlighted with a red box), and a 'Cancel' button. A red arrow points from the 'Edit' button to a context menu titled 'Data Type Detection' with three options: 'Based on first 200 rows', 'Based on entire dataset', and 'Do not detect data types'.

- In the right pane of the Query Editor, the **Applied Steps** area displays the processing steps already performed by the tool
- You should always check the data types of the columns
- Change the data type of the **Amount** field from whole number to Decimal.here **Home / Data Type:** **Decimal Number** or **\$-fixed Decimal** (since it is a monetary amount)

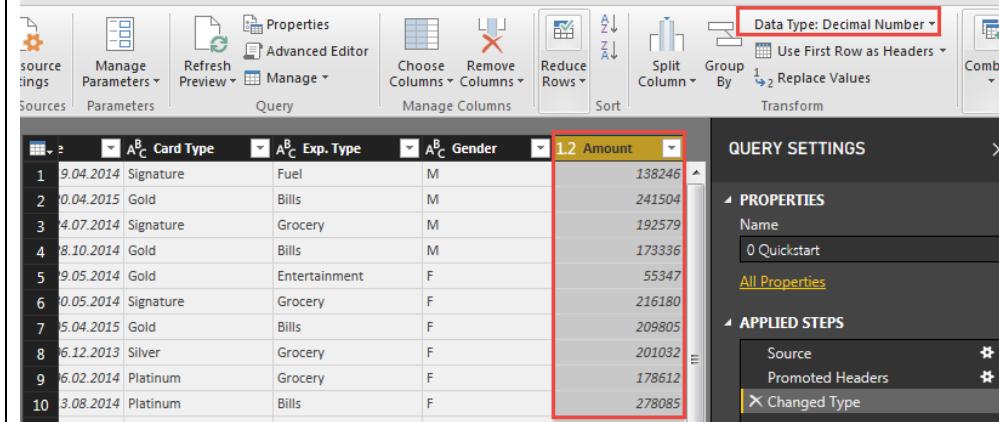


Queries [1]

	A ^B C City	A ^B C Country	Date	A ^B C Card Type	A ^B C Exp. Type
1	Achalpur	India	19.04.2014	Signature	Fuel
2	Achalpur	India	20.04.2015	Gold	Bills
3	Achalpur	India	24.07.2014	Signature	Grocery
4	Achalpur	India	28.10.2014	Gold	Bills
5	Achalpur	India	29.05.2014	Gold	Entertainment
6	Achalpur	India	30.05.2014	Signature	Grocery
7	Achalpur	India	05.04.2015	Gold	Bills
8	Achalpur	India	06.12.2013	Silver	Grocery
9	Achalpur	India	06.02.2014	Platinum	Grocery
10	Adilabad	India	13.08.2014	Platinum	Bills

QUERY SETTINGS

- PROPERTIES**
 - Name: 0 Quickstart
 - All Properties
- APPLIED STEPS**
 - Source
 - Promoted Headers
 - Changed Type



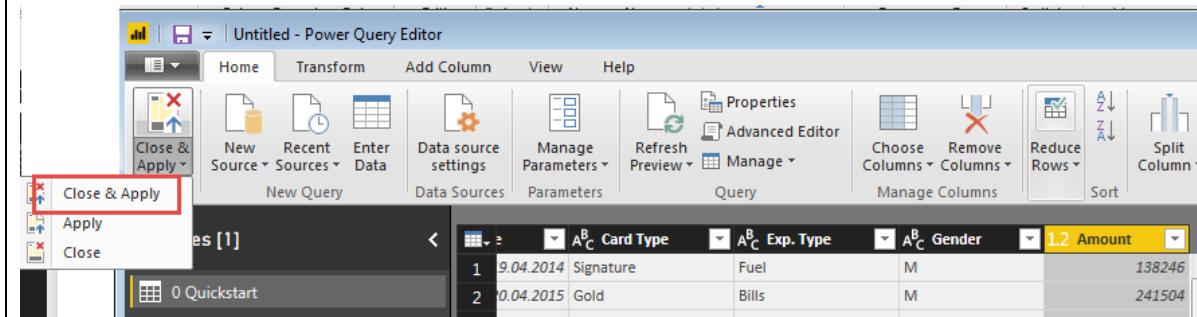
Properties

Query Settings

- PROPERTIES**
 - Name: 0 Quickstart
 - All Properties
- APPLIED STEPS**
 - Source
 - Promoted Headers
 - Changed Type

	A ^B C Card Type	A ^B C Exp. Type	A ^B C Gender	1.2 Amount	
1	9.04.2014	Signature	Fuel	M	138246
2	0.04.2015	Gold	Bills	M	241504
3	4.07.2014	Signature	Grocery	M	192579
4	8.10.2014	Gold	Bills	M	173336
5	9.05.2014	Gold	Entertainment	F	55347
6	0.05.2014	Signature	Grocery	F	216180
7	5.04.2015	Gold	Bills	F	209805
8	6.12.2013	Silver	Grocery	F	201032
9	6.02.2014	Platinum	Grocery	F	178612
10	3.08.2014	Platinum	Bills	F	278085

Close & Apply: the data will then be loaded into the data model



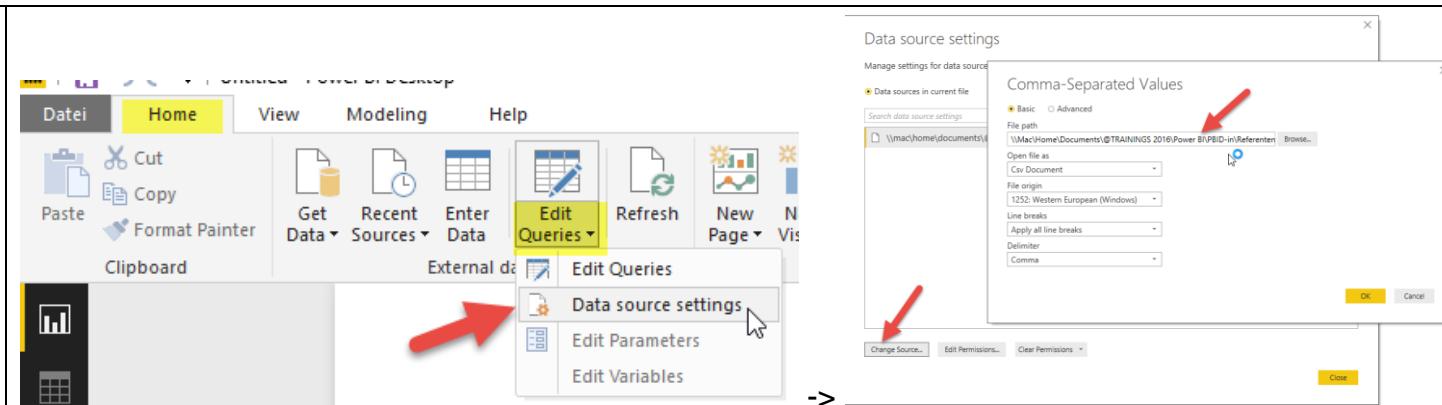
Close & Apply

Queries [1]

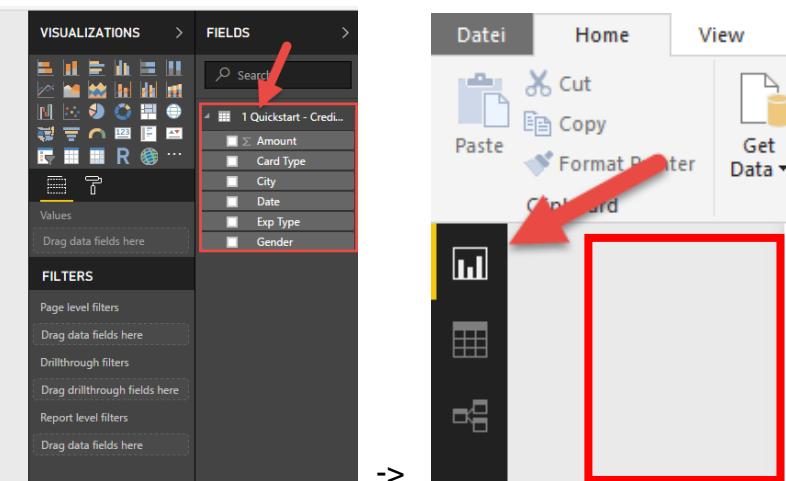
	A ^B C Card Type	A ^B C Exp. Type	A ^B C Gender	1.2 Amount	
1	9.04.2014	Signature	Fuel	M	138246
2	0.04.2015	Gold	Bills	M	241504

Additionally

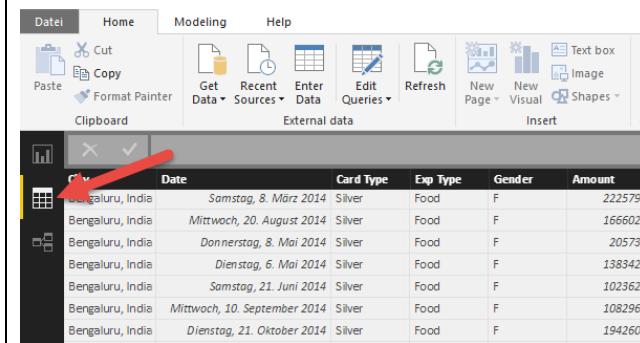
- If the path to your data source changes, you should correct the path in order to refresh your data:
Home / Edit Queries / Data source settings



- The loaded CSV file with all fields is displayed in the **Fields** pane
- Since you are currently in the **Report** pane, nothing is displayed yet



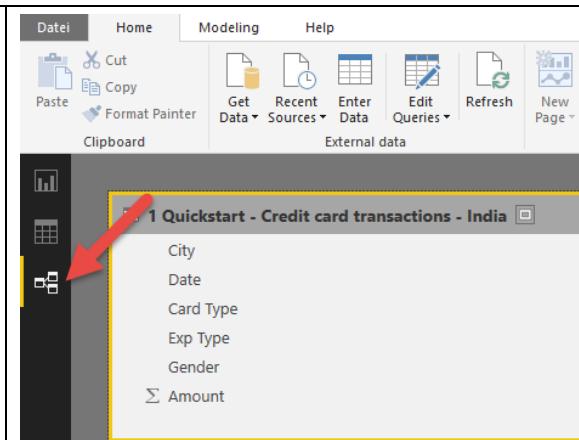
- If you switch to **Data view**, the imported data is displayed as a table



The screenshot shows the Power BI desktop interface with the 'Data view' selected. A red arrow points to the table icon in the ribbon. The table displays a list of transactions from Bengaluru, India, with columns for Date, Card Type, Exp Type, Gender, and Amount. The data is as follows:

	Date	Card Type	Exp Type	Gender	Amount
Bengaluru, India	Samstag, 8. März 2014	Silver	Food	F	222579
Bengaluru, India	Mittwoch, 20. August 2014	Silver	Food	F	166602
Bengaluru, India	Donnerstag, 8. Mai 2014	Silver	Food	F	20573
Bengaluru, India	Dienstag, 6. Mai 2014	Silver	Food	F	138342
Bengaluru, India	Samstag, 21. Juni 2014	Silver	Food	F	102362
Bengaluru, India	Mittwoch, 10. September 2014	Silver	Food	F	108296
Bengaluru, India	Dienstag, 21. Oktober 2014	Silver	Food	F	194260

- Use the third icon to switch to the **Relationships** view
- Here you can create relationships between tables of your data model



The screenshot shows the Microsoft Power BI desktop interface. The ribbon at the top has several tabs: Datei, Home, Modeling (which is currently selected), and Help. Below the ribbon is a toolbar with icons for Paste, Cut, Copy, Format Painter, Clipboard, Get Data, Recent Sources, Enter Data, Edit Queries, Refresh, New Page, and View. On the left side, there's a navigation pane with a tree view showing a project named '1 Quickstart - Credit card transactions - India'. This tree includes nodes for City, Date, Card Type, Exp Type, Gender, and Amount. A red arrow points to the 'Card Type' node.

2 Create a report

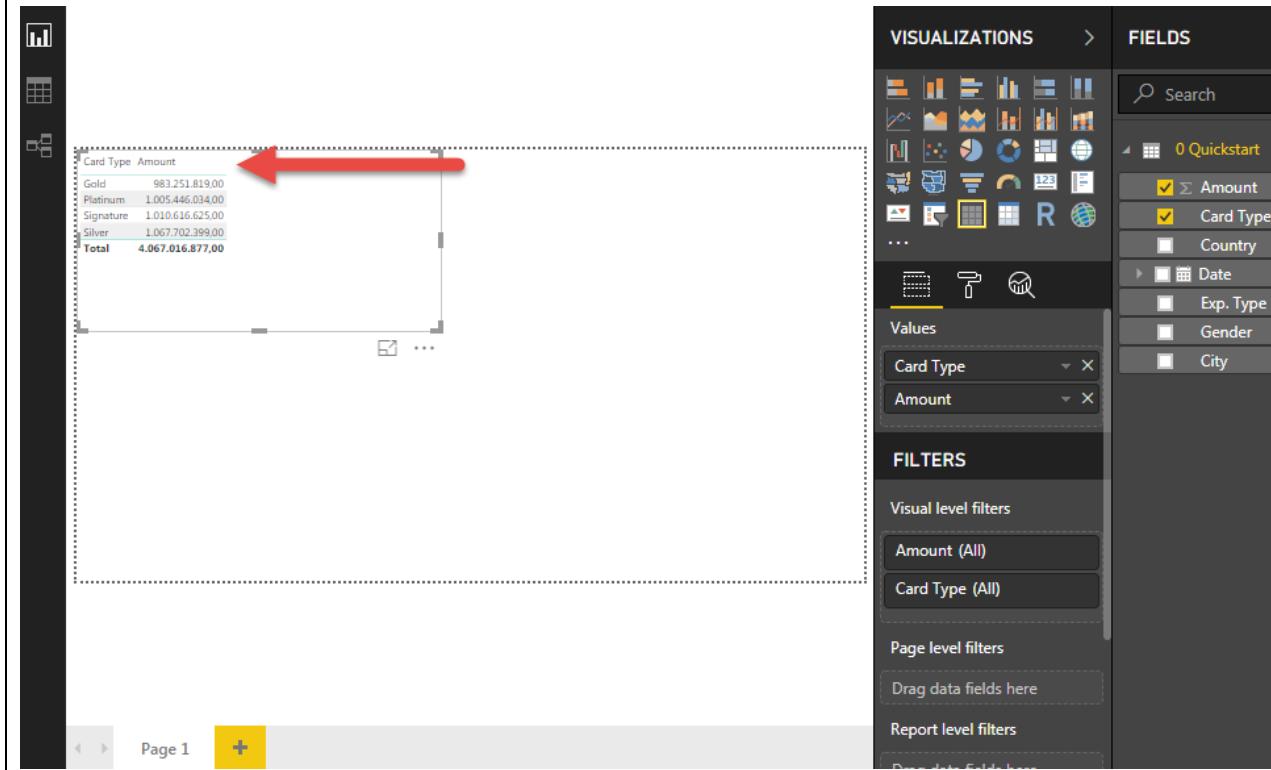
Visualizations can be created in different ways



Exercise 2

Example **Amount by Card Type**: **Stacked Bar Chart**

- Select the fields in the Fields pane
-> the visual **Table** is displayed when you drag a non-numeric field first
- Then choose the visualization type **Stacked Bar Chart** or
- First select the visualization type **Stacked Bar Chart** & then assign the fields to the



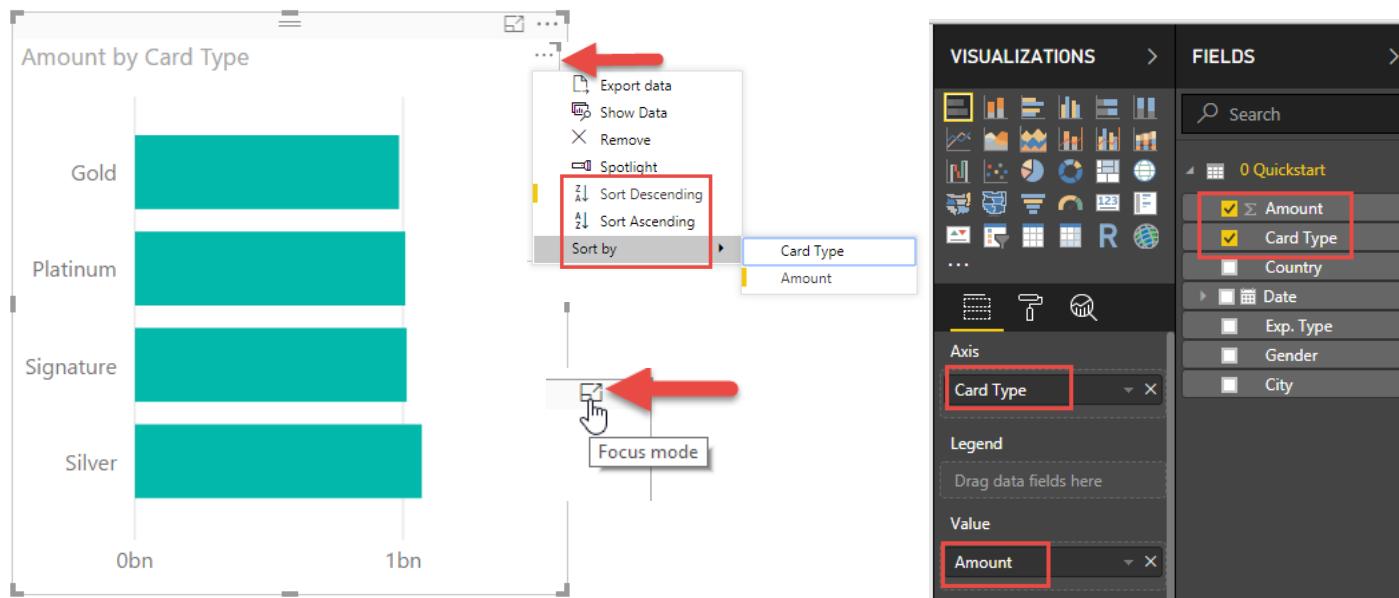
The screenshot shows the Microsoft Power BI desktop interface. On the right, the 'Visualizations' pane is open, displaying various chart and table icons. A red arrow points to the 'Table' icon. The main canvas area shows a table visualization titled 'Card Type Amount' with the following data:

Card Type	Amount
Gold	983.251.819,00
Platinum	1.005.446.034,00
Signature	1.010.616.625,00
Silver	1.067.702.399,00
Total	4.067.016.877,00

To the right of the canvas, the 'FIELDS' pane is open, showing a list of fields from the 'Quickstart' dataset: Amount, Card Type, Country, Date, Exp. Type, Gender, and City. The 'Amount' and 'Card Type' fields are checked. The 'Values' section shows 'Card Type' and 'Amount' assigned. The 'FILTERS' section shows 'Amount (All)' and 'Card Type (All)' under 'Visual level filters'. The 'Page level filters' section contains a placeholder 'Drag data fields here'. The 'Report level filters' section is empty.

corresponding areas in the second step

- You can sort your visual by all fields which are used in the visual
- The commands **Focus mode** & **Spotlight** provide you with possibilities to show details of your visualizations

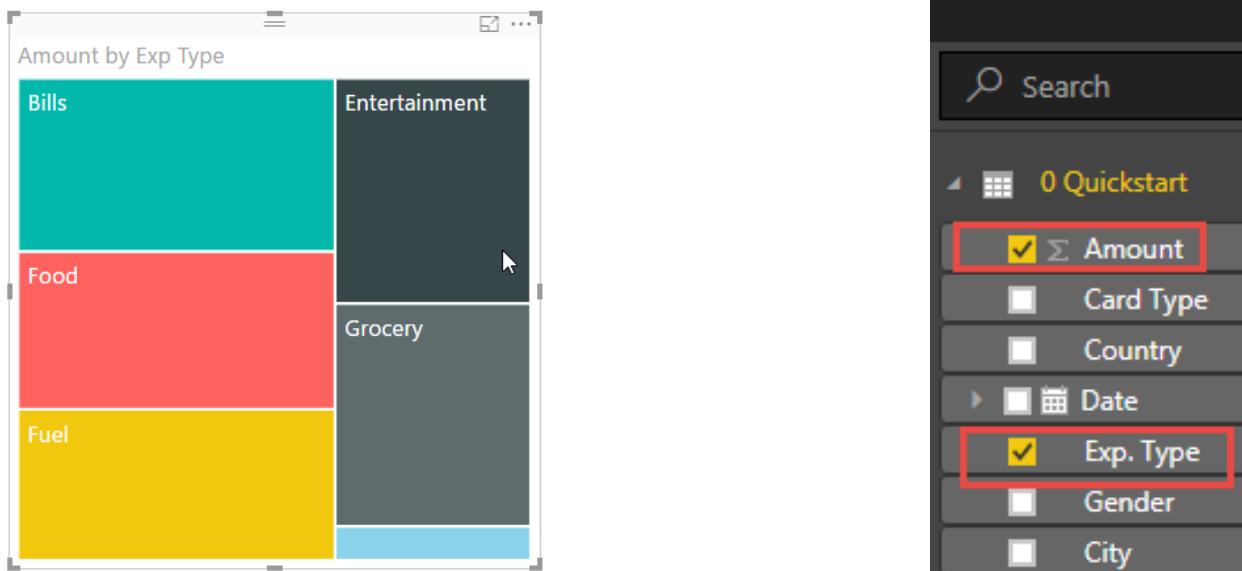


Card Type	Amount
Gold	~1.2bn
Platinum	~1.1bn
Signature	~1.0bn
Silver	~0.9bn

 **Exercise 3**

Example
Amount by Exp. Type
 Type: **Treemap**

- Select the fields & create a pie chart first
- For a structural comparison, the diagram types **Donut** & **Treemap** are also available here
- Create a **tree map** visual
- This chart type can also be used to visualize hierarchical structures



Category	Amount
Bills	~45%
Entertainment	~15%
Food	~20%
Fuel	~10%
Grocery	~10%

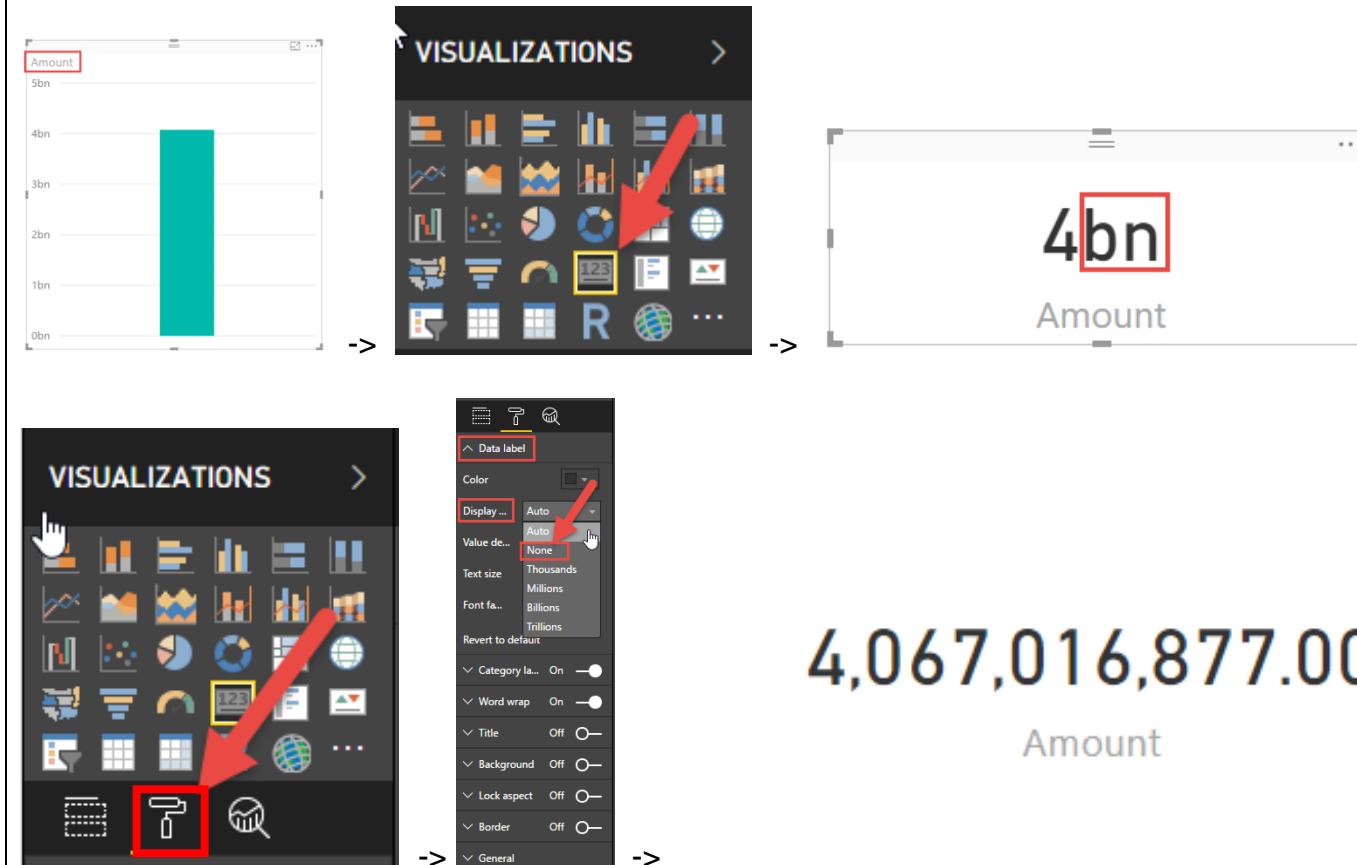


Exercise 4

Example **Amount / Count of Amount / Average of Amount**

Type **Card**

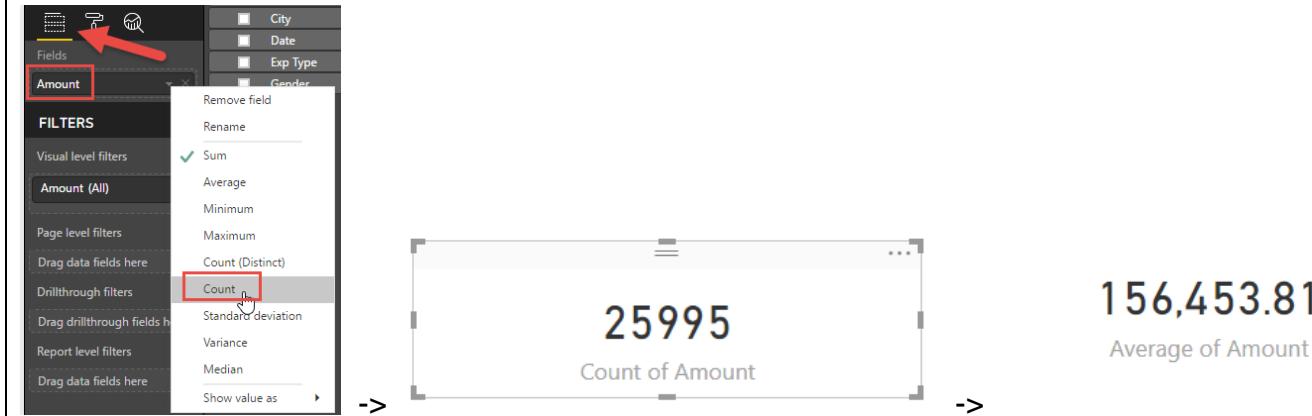
- Drag the field **Amount** into the visualization canvas
- Change from the standard visual to the visualization **Card**
-> by default a **sum is evaluated**
- Change the formatting of the number:
select **Data Label / Display** & switch from **Auto** to **None**
-> the entire number is displayed then



The screenshot illustrates the steps to change a standard visualization into a card:

- A bar chart for the field "Amount" is shown on the left.
- An arrow points to the "VISUALIZATIONS" icon in the ribbon.
- The "Card" visualization icon is highlighted with a yellow box and a red arrow.
- The resulting card visualization displays the value "4bn".
- An arrow points to the "Data label" settings in the ribbon.
- The "Display" dropdown is set to "None", indicated by a red box and a red arrow.
- The final card visualization shows the full value "4,067,016,877.00" under the heading "Amount".

- Copy the field twice & change the evaluation to **Count & Average**



The screenshot shows the creation of multiple fields and their evaluation changes:

- The "Fields" section contains a list of fields: City, Date, Exp Type, Gender, and Amount.
- An arrow points to the "Amount" field in the "Fields" list.
- A context menu is open for the "Amount" field, with "Count" highlighted in red.
- The resulting card visualization displays the value "25995" under the heading "Count of Amount".
- An arrow points to the "Fields" section again.
- A context menu is open for the "Amount" field, with "Average" highlighted in red.
- The resulting card visualization displays the value "156,453.81" under the heading "Average of Amount".

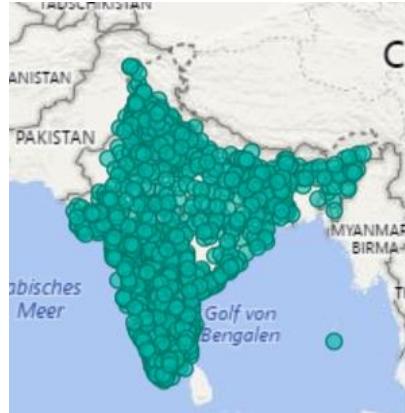


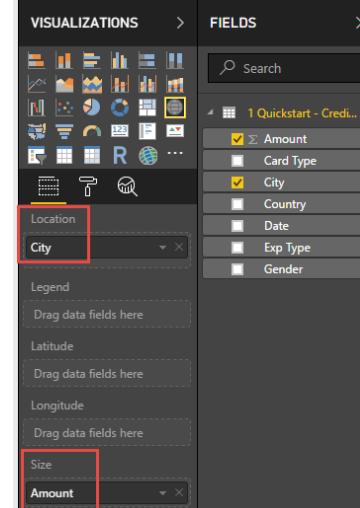
Exercise 5

Example Amount by City

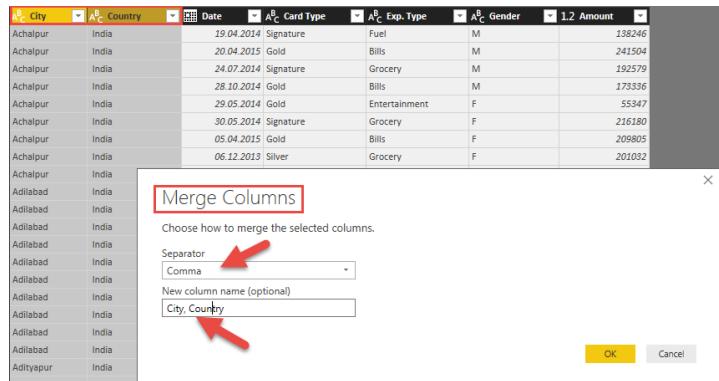
Type **Map**

- If you drag the **City** field into the canvas, a map is shown as a standard automatically
- The bubble size should be controlled by the **Amount** field: drag **Amount** to the **Size area**
- If the city names in the map are not assigned correctly, the uniqueness of the assignment can be improved in the **Query Editor**
 - Open the Query Editor
 - Duplicate the two columns **City & Country**
 - Highlight the two copies: first **City**, then **Country**
 - Rightclick the column-title & select the **Merge columns** command
 - Tip:
 - Use the visual **ArcGIS Maps** visual instead of Bing map – it will show the cities in a correct way





L2	Amount	A _b City, Country
138246	Achalpur, India	
241504	Achalpur, India	
192579	Achalpur, India	
173336	Achalpur, India	
55347	Achalpur, India	
216180	Achalpur, India	
209805	Achalpur, India	
201032	Achalpur, India	
178612	Achalpur, India	
278085	Adilabad, India	

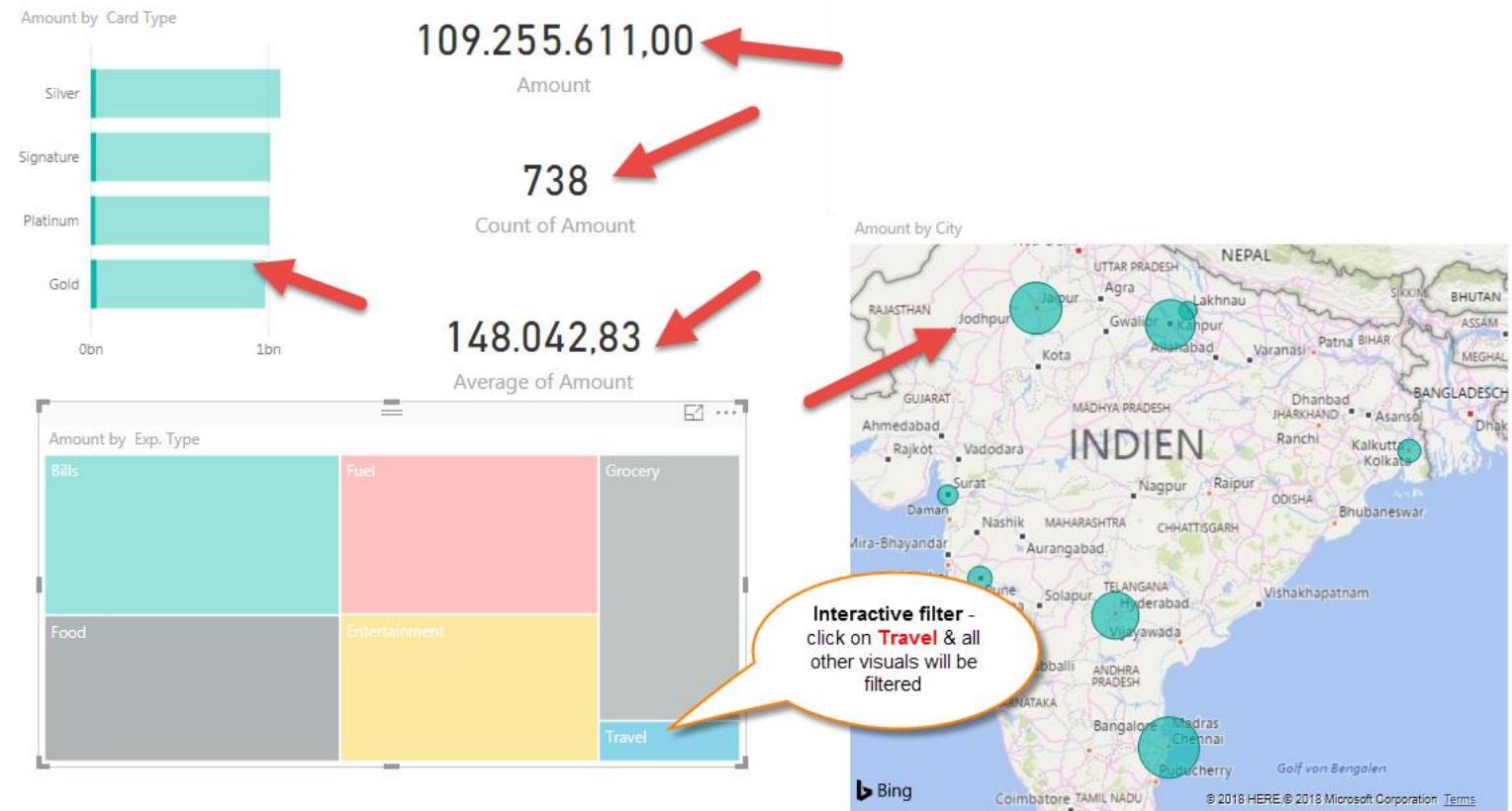


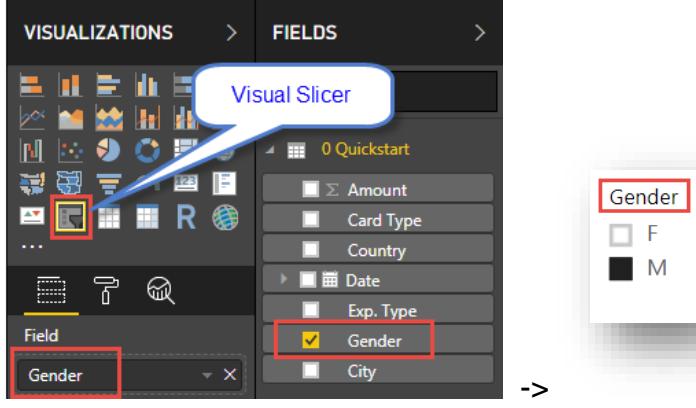


ArcGIS Maps
for Power BI

Filter the visualizations

- All visualizations of a report are interdependent & change when a filter is set by mouse click
- Another click resets the filter



<h3>Using Slicers</h3>	<p>Slicers are a great choice when you want to:</p> <ul style="list-style-type: none"> - Display commonly-used or important filters on the report canvas for easier access - Create more focused reports by putting slicers next to important visuals <p>Slicers work additionally to the interactive filters</p>
<p> Exercise 6</p> <p>Slicer Gender / City</p> <ul style="list-style-type: none"> - Drag & drop the field Gender to the canvas - Then choose the visual Slicer 	 <p>The screenshot shows the Power BI Fields pane. A callout bubble labeled "Visual Slicer" points to the "Gender" field in the list, which is highlighted with a yellow box. Another callout bubble points to the "Field" dropdown menu at the bottom left, which also has "Gender" highlighted.</p>
<ul style="list-style-type: none"> - Create a second slicer for City <p>1 With the little arrow you can change the layout of the slicer 2 With Selection Controls you activate the entry Select All 3 With More options you can activate the search line</p>	 <p>The screenshot shows a "City" slicer with a dropdown menu open. A callout bubble labeled "Slicer as Dropdown" points to the dropdown arrow. Another callout bubble labeled "with Search-line" points to the search bar, and another labeled "with Select All" points to the "Select All" checkbox. To the right, a context menu is open with three numbered steps: 1 points to the layout arrow, 2 points to the "Selection Controls" section in the menu, and 3 points to the search icon.</p>



Exercise 7

Slicer Date (by Year)

- If you want to slice your data by year you select the field **Date**
- Assign the visual **Slicer** & choose the layout **Relative**
- Select the option **Last Years (Calendar)**
-> this will set the filter relative to the last 4 years

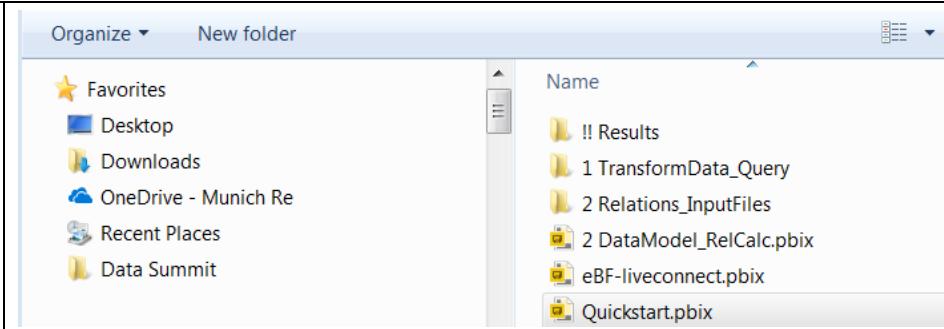
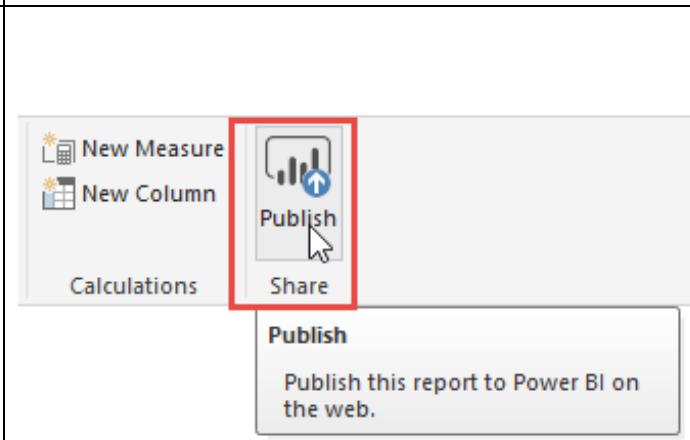


Exercise 8

Color theme Munich Re:

- Via **Home / Switch Theme / Import theme** the Munich Re Colors can be imported from the **MunichRe.json** file
- All visuals are formatted then accordingly
- The JSON-file can be opened and adjusted with a text editor

Name	Aenderungsdatum
!! Results	08.11.2018 10:45
1 TransformData_Query	08.11.2018 10:45
2 Relations_InputFiles	08.11.2018 10:45
MunichRe.json	22.10.2018 06:59

<h3>Save report</h3> <ul style="list-style-type: none"> - Save the report locally via File / Save as / Quickstart -> *.PBIX file will be created 	 <p>The screenshot shows a Windows File Explorer window with the title bar "Organize ▾ New folder". The left pane lists "Favorites" including Desktop, Downloads, OneDrive - Munich Re, Recent Places, and Data Summit. The right pane lists files under "Name" with extensions ".pbix": !! Results, 1 TransformData_Query, 2 Relations_InputFiles, 2 DataModel_RelCalc.pbix, eBF-liveconnect.pbix, and Quickstart.pbix.</p>
<h3>3 Publish report</h3> <p> Exercise 9</p> <ul style="list-style-type: none"> - Use the Publish command to start publishing your PBIX file - Did you already log in with your e-mail address when starting Power BI Desktop? If so, then your report will be published without further inquiry - Now you are provided with a link to access your report - If you simply close this window, then you have access to the Power BI service via the Intranet (Collaboration / Office 365) 	 <p>The screenshot shows the Power BI Desktop ribbon with the "Calculations" tab selected. A red box highlights the "Publish" button in the ribbon. Below the ribbon, a tooltip says "Publish this report to Power BI on the web." To the right, a "Publish to Power BI" dialog box is open. It shows a list of destinations: "My workspace" and "Demo Power BI Workspace". A red callout bubble points to "My workspace" with the text: "You can choose My Workspace to publish to your personal space. If you have ordered a Power BI App Workspace, it will be also shown already here." An arrow points from the "Select" button at the bottom right of the dialog to the "Select" button in the ribbon.</p>

Publishing to Power BI

✓ Success!

[Open 'Quickstart.pbix' in Power BI](#)

[Get Quick Insights](#)



Did you know?

You can create a portrait view of your report tailored for mobile phones,
on the **View** tab select **Phone Layout**. [Learn more](#)

[Got it](#)

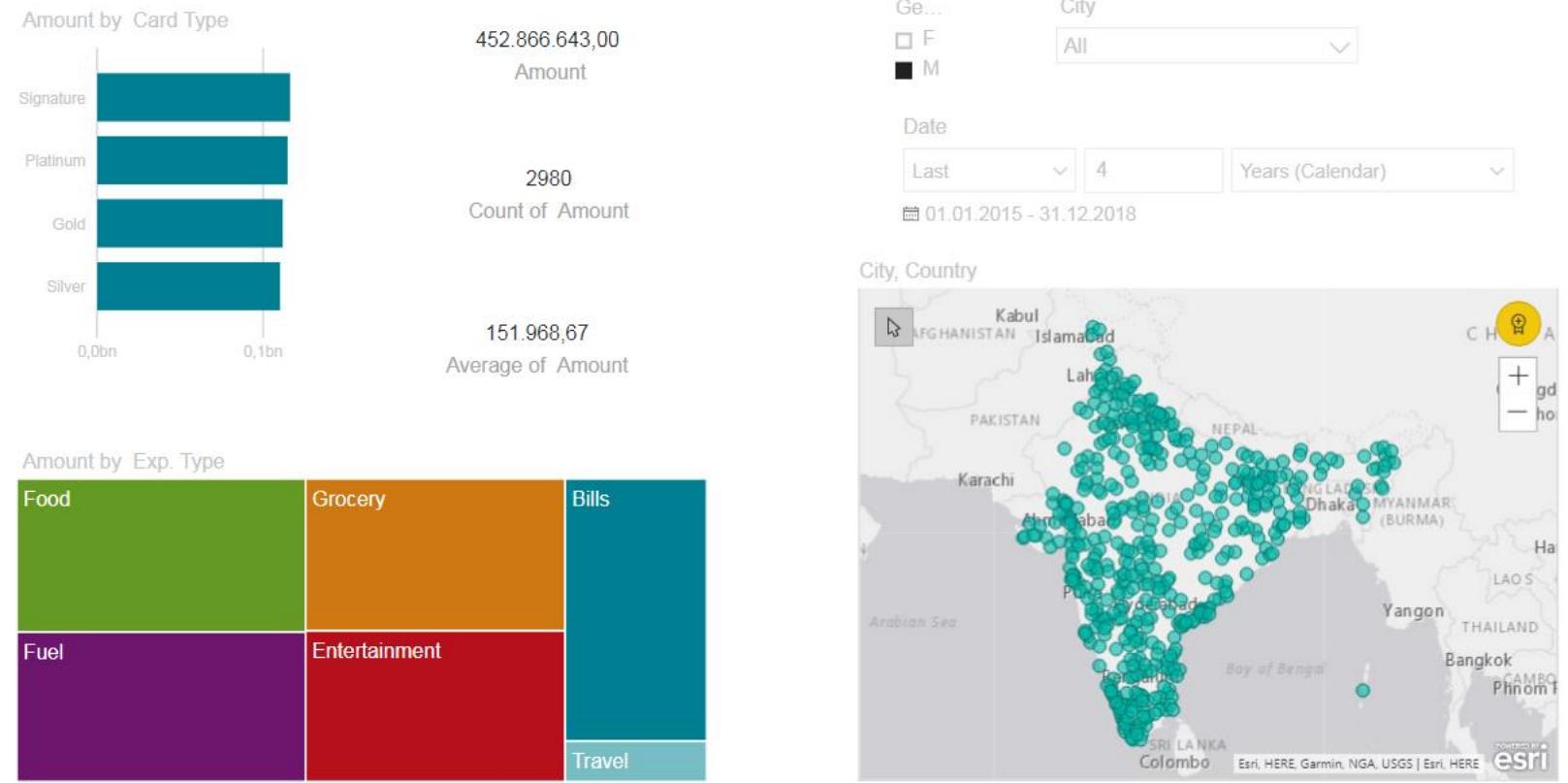
<https://www.office.com/?auth=2&home=1>

4 Create a dashboard

Power BI Service

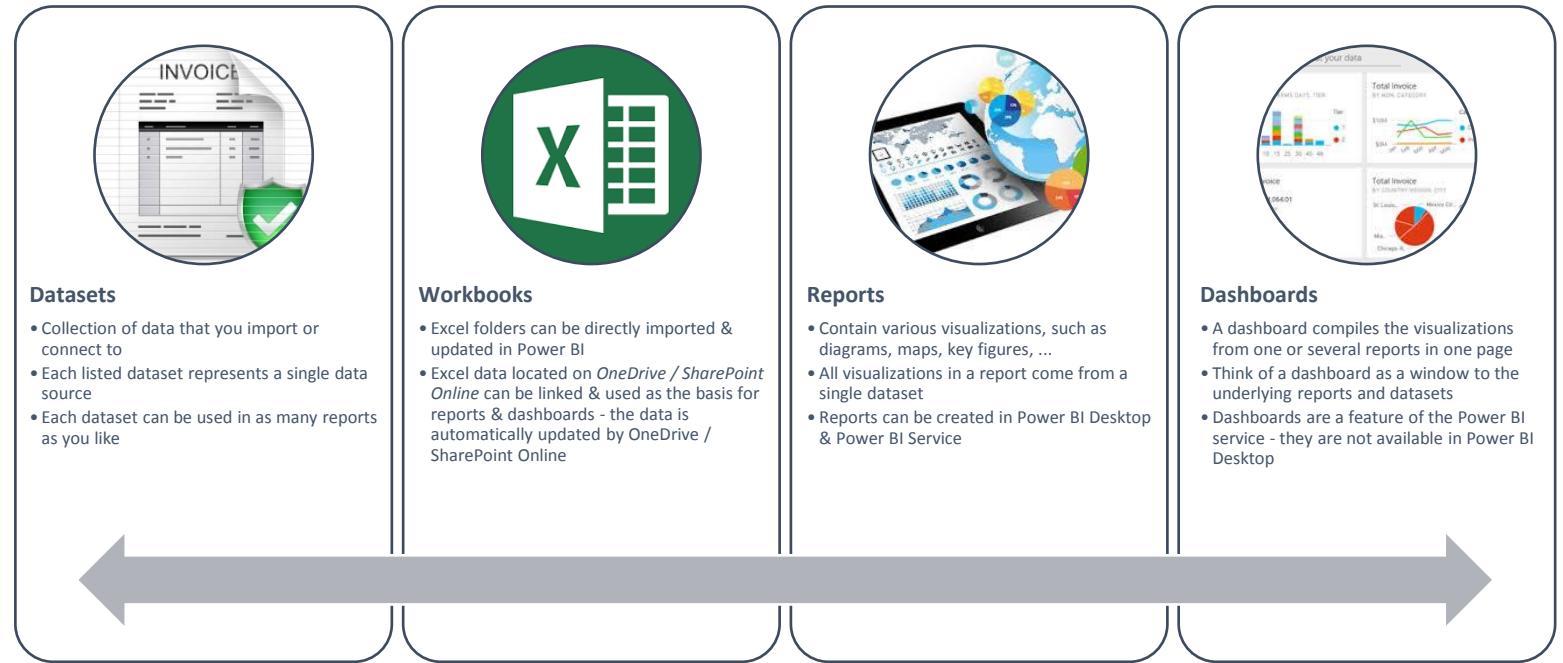
The Power BI window

- The report you have created is displayed directly when you open the Power BI window
- All filter options that you already know from the Power BI desktop are also available here



My Workspace – Elements

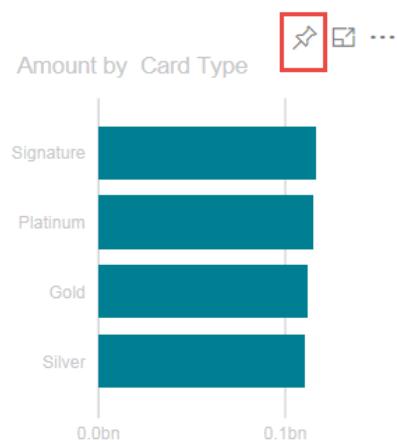
- **My Workspace** displays three elements:
 - **Datasets**
 - **Reports**
 - **Dashboards**



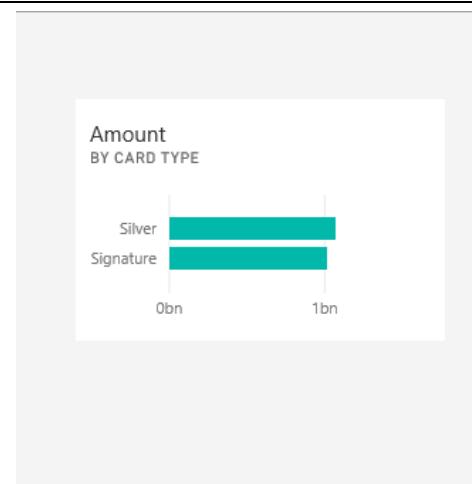
Exercise 10

Create a dashboard

- Click the **Pin visual**-icon
- You are asked if you want to integrate the visualization into an existing or a new dashboard
- Create a new dashboard with a meaningful name
- The new dashboard is shown in the navigation pane on the left



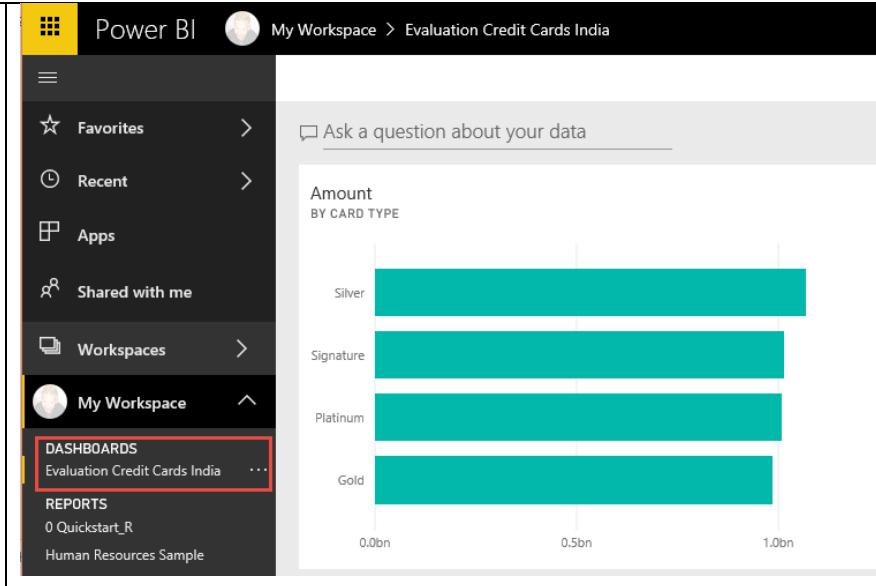
->



Pin

Cancel

- A dashboard summarizes visualizations from different reports, so that all necessary key figures and evaluations from different company divisions can be seen at a glance
- The created dashboard will now be displayed in the navigation pane on the left side

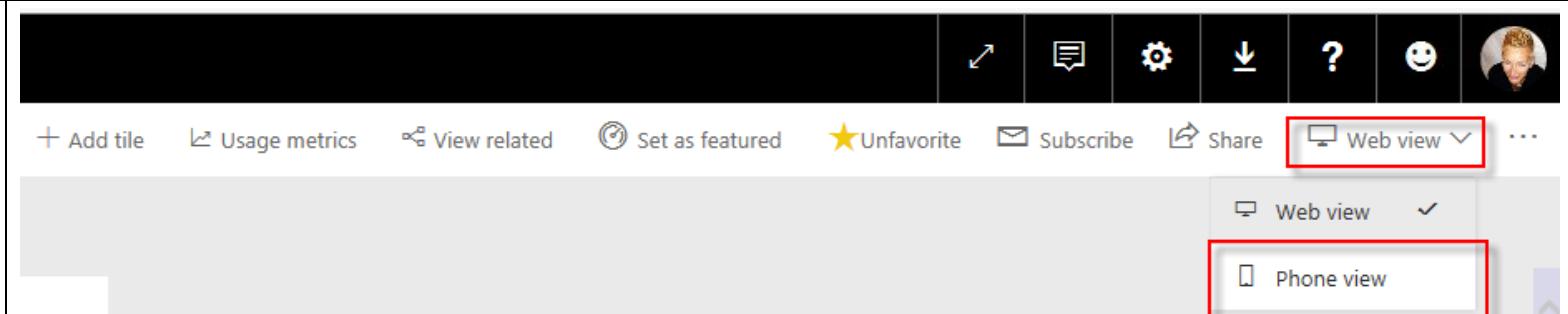


5 Mobile View



Exercise 11

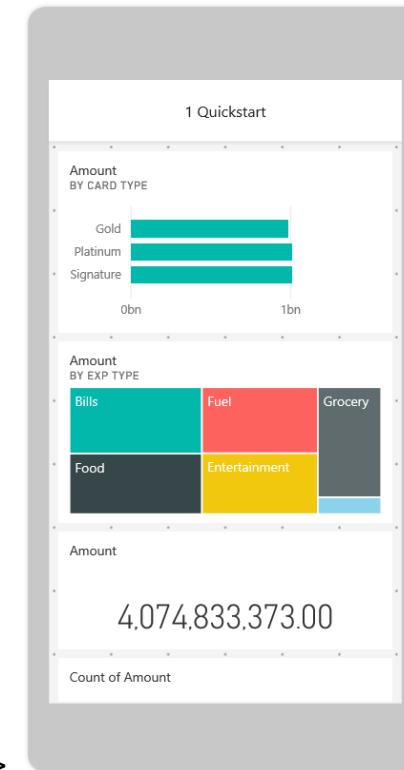
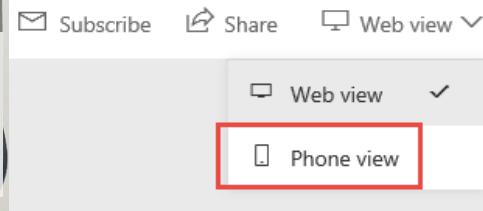
- If you display your dashboard, you can switch from the **Web View** to the **Phone View**
- In the Corporate Phone / BYOD, the Power BI app is now also available



- Log in to your organization's smartphone, you can then also view dashboards on your smartphone
- Comments & alarms for falling below or exceeding specific values in tiles can be viewed here
- Via the command **Phone view** the display of the dashboard can be checked on the smartphone
 - individual tiles can be hidden if necessary

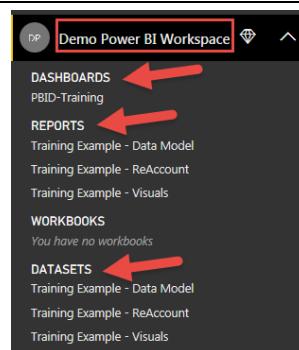


The Power BI app on the smartphone

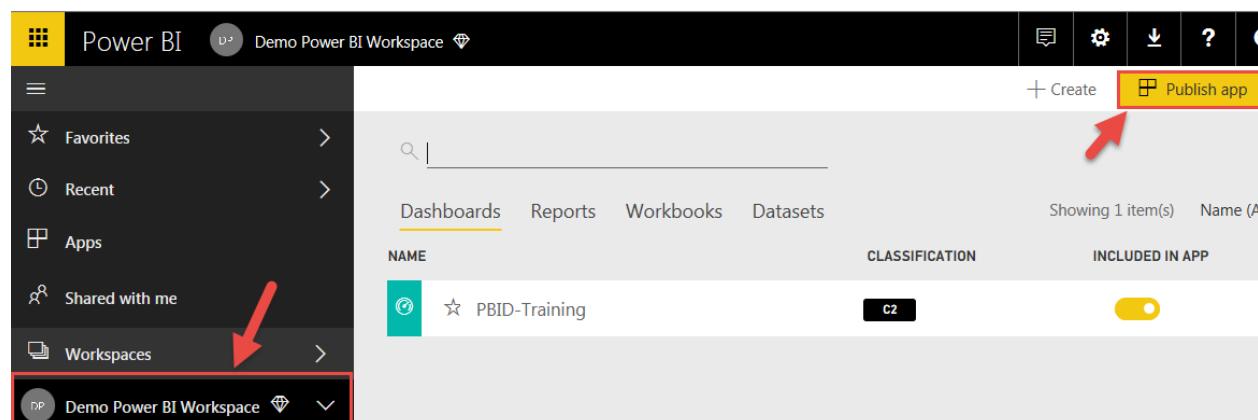


6 Power BI App Workspace

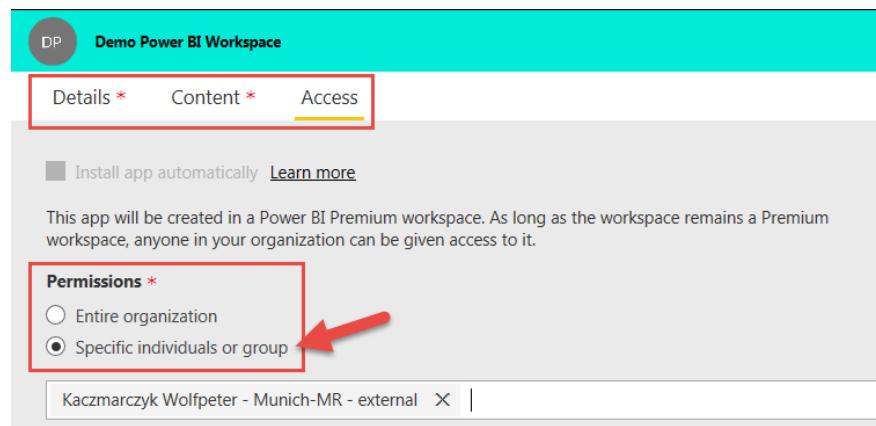
- Your **Workspace App** complies Datasets, Reports & Dashboards



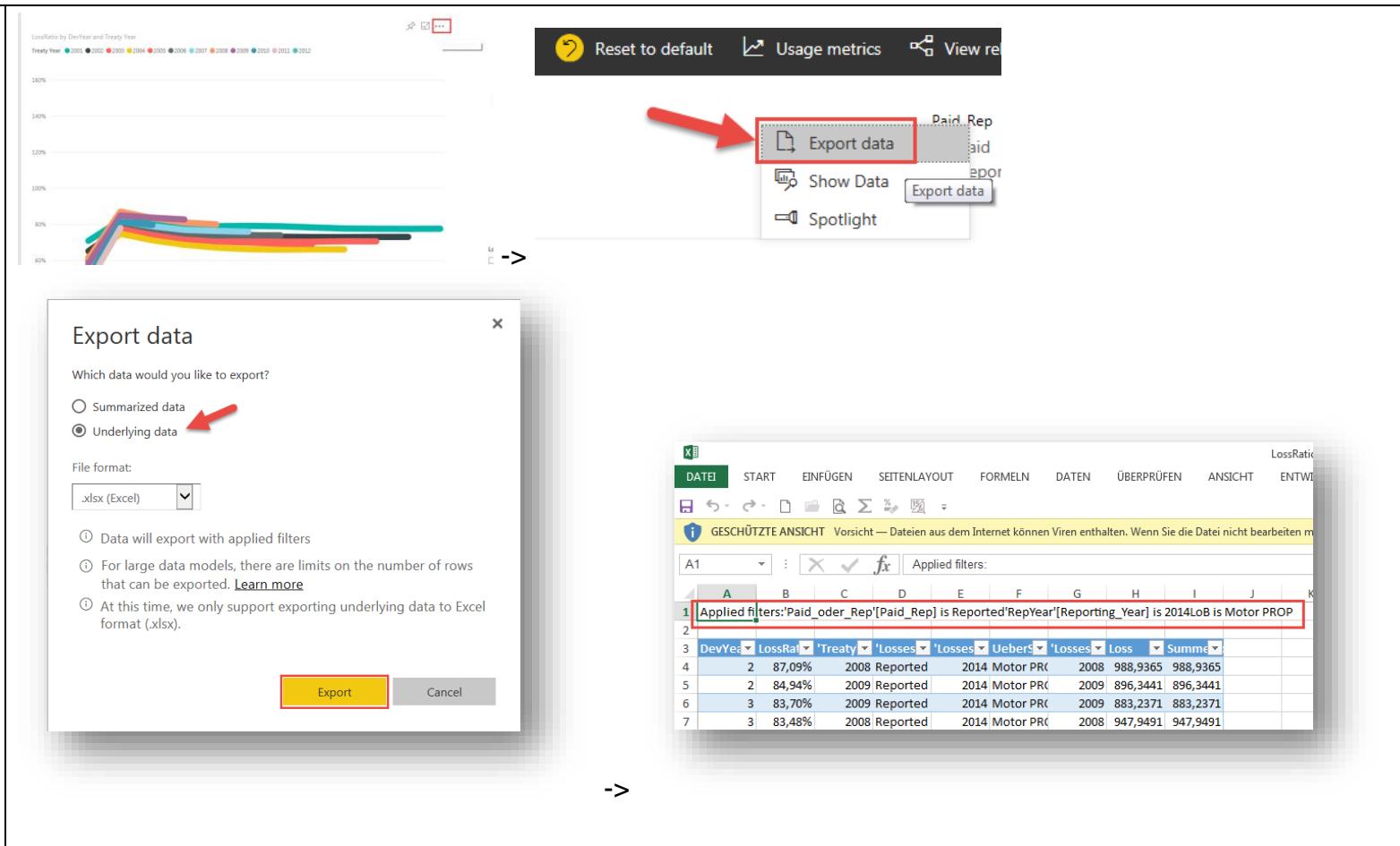
- **Share Data:**
Highlight your Workspace – in the top right corner you will then find the command **Publish app**



- A dialog opens in which you can define the layout of the app & access for internal colleagues
- You can define access rights for individuals or AD groups here



- If you publish your app for the **entire organization**: make sure that no personal data is published
- In **Power BI Service**, you can call detailed data for each visual using the command ***Export data / Underlaying data***
- This makes it possible for the reader to view the data in detail in Excel



The image illustrates the workflow for exporting data from a Power BI visualization to Excel.

Step 1: Power BI Service Visualization

A screenshot of a Power BI visualization titled "LossRatio by DevYear and Treaty Year". The chart shows a line graph with multiple colored lines representing different years. Above the chart, there are buttons for "Reset to default", "Usage metrics", and "View re...". A red arrow points to the "Export data" button in a dropdown menu.

Step 2: Export Data Dialog

A modal dialog titled "Export data" is shown. It asks "Which data would you like to export?". Two options are available: "Summarized data" (radio button) and "Underlying data" (radio button, which is selected and highlighted with a red arrow). Below this, a "File format:" dropdown is set to ".xlsx (Excel)". A list of informational points follows:

- ① Data will export with applied filters
- ② For large data models, there are limits on the number of rows that can be exported. [Learn more](#)
- ③ At this time, we only support exporting underlying data to Excel format (.xlsx).

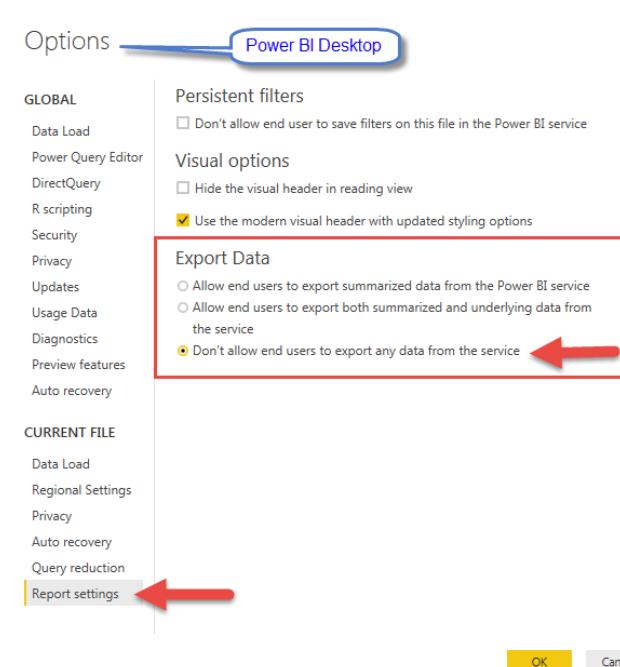
At the bottom are "Export" and "Cancel" buttons, with "Export" highlighted with a red box.

Step 3: Excel Worksheet

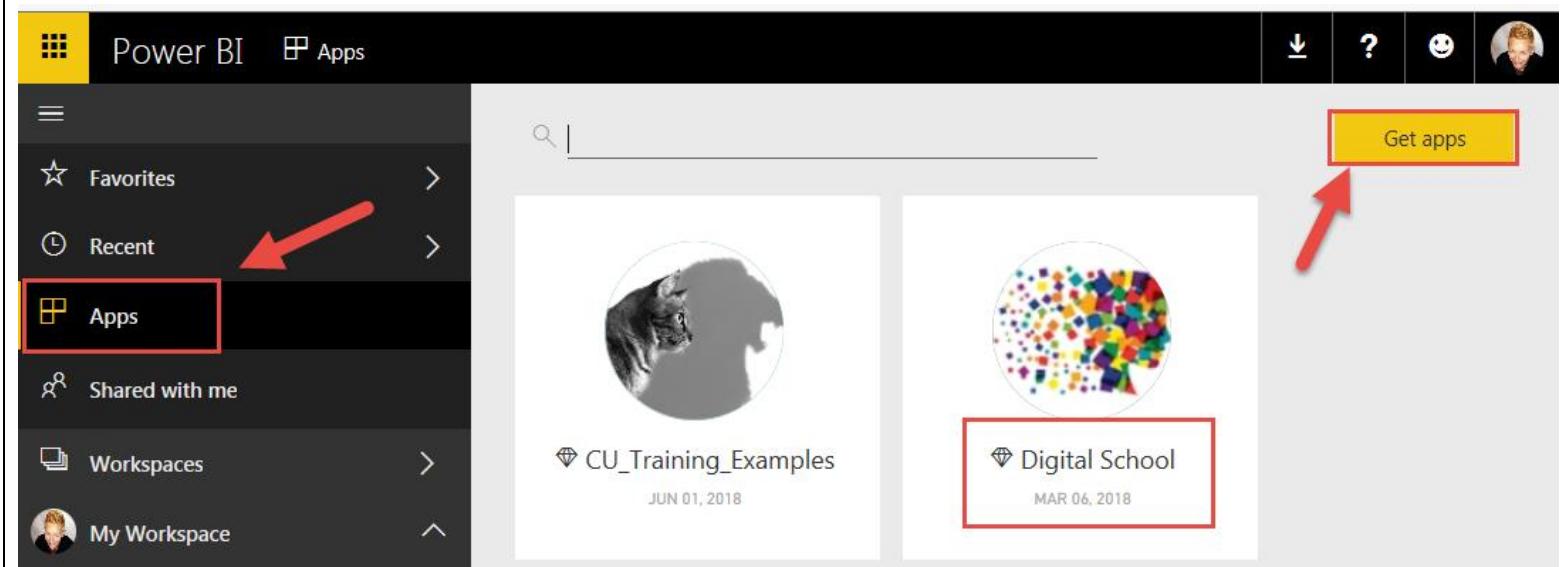
An Excel screenshot shows the exported data. The first row contains column headers: "DATEI", "START", "EINFÜGEN", "SEITENLAYOUT", "FORMELN", "DATEN", "ÜBERPRÜFEN", "ANSICHT", and "ENTWICKLUNG". Row 1 displays a warning: "GESCHÜTZTE ANSICHT Vorsicht — Dateien aus dem Internet können Viren enthalten. Wenn Sie die Datei nicht bearbeiten möchten, schließen Sie sie bitte wieder." Row 2 contains the formula: "Applied filters:'Paid_oder_Report'[Paid_Report] is Reported'RepYear'[Reporting_Year] is 2014LoB is Motor PROP". Rows 3 through 7 show data for DevYear, LossRatio, Treaty, Losses, Uebers, and Loss columns, with some cells containing dropdown arrows.

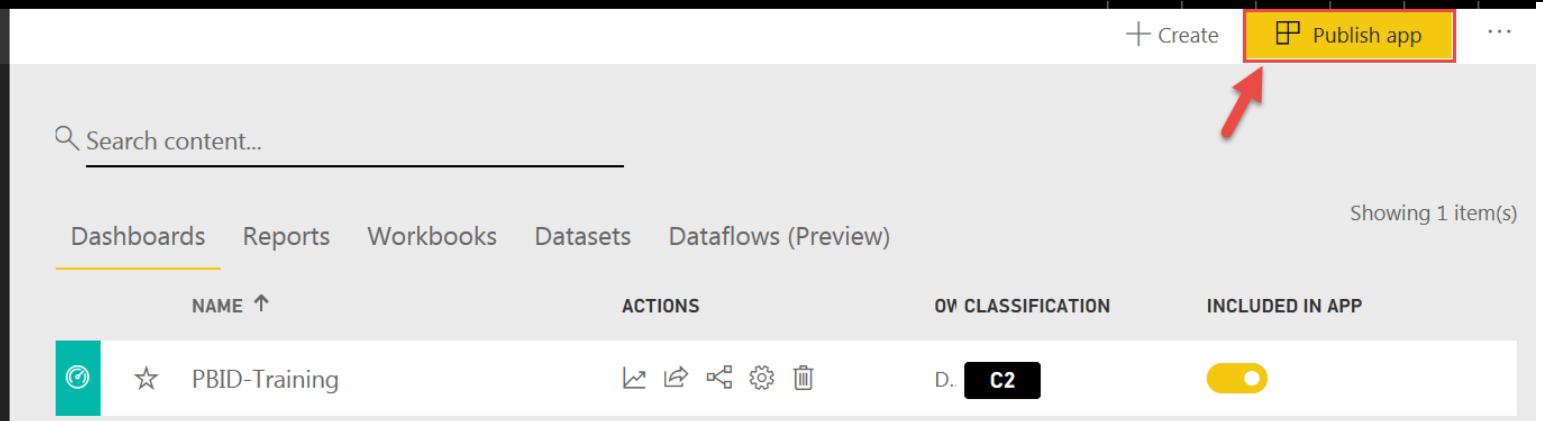
Tip

- You can prevent people from using the Visual Header at all
- In Power BI Desktop activate **Option Settings / Current File / Report Settings / Don't allow**


Access to Apps

- In the navigation bar on the left, the entry **Apps** leads you to an overview of the apps released for you
- You can also search for other apps here:
Get apps



Who needs the Power BI Pro license?	<ul style="list-style-type: none"> - Please note that colleagues who want to collaborate with you and edit the visuals or work with the data in the App Workspace will need a Power BI Pro License to do so. - If a user is only going to use the Published App, they do not need another license as read only access to the app is provided for App's published to Application workspaces. - At the time an App is published, the App is created with a point-in-time view of the content in the Application workspace. The current content may be in the process of being enhanced or modified and may differ from the content in the App, therefore, you should provide access to the content via granting access to the App not to the App workspace. 								
Publish app <ul style="list-style-type: none"> - Share your app only with the button Publish app - Only in this case the consumer of your app does not need the Power BI Pro license 	 <p>The screenshot shows the Power BI service interface with the 'Dashboards' tab selected. In the top right corner, there is a toolbar with several buttons: '+ Create', 'Publish app' (which is highlighted with a yellow box and has a red arrow pointing to it), and '...'. Below the toolbar, there is a search bar labeled 'Search content...'. Underneath the search bar, there are tabs for 'Dashboards', 'Reports', 'Workbooks', 'Datasets', and 'Dataflows (Preview)'. The 'Dashboards' tab is underlined. On the right side of the interface, there is a message 'Showing 1 item(s)'. The main content area displays a single dashboard named 'PBID-Training' with a teal icon. The dashboard has columns for 'NAME ↑', 'ACTIONS', 'OW CLASSIFICATION', and 'INCLUDED IN APP'. The 'INCLUDED IN APP' column shows a yellow toggle switch that is turned on.</p> <table border="1"> <thead> <tr> <th>NAME ↑</th> <th>ACTIONS</th> <th>OW CLASSIFICATION</th> <th>INCLUDED IN APP</th> </tr> </thead> <tbody> <tr> <td>PBID-Training</td> <td>🔗 ↤ 🔍 🚧 🗑️</td> <td>D. C2</td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>	NAME ↑	ACTIONS	OW CLASSIFICATION	INCLUDED IN APP	PBID-Training	🔗 ↤ 🔍 🚧 🗑️	D. C2	<input checked="" type="checkbox"/>
NAME ↑	ACTIONS	OW CLASSIFICATION	INCLUDED IN APP						
PBID-Training	🔗 ↤ 🔍 🚧 🗑️	D. C2	<input checked="" type="checkbox"/>						

Switch back to Power BI Desktop

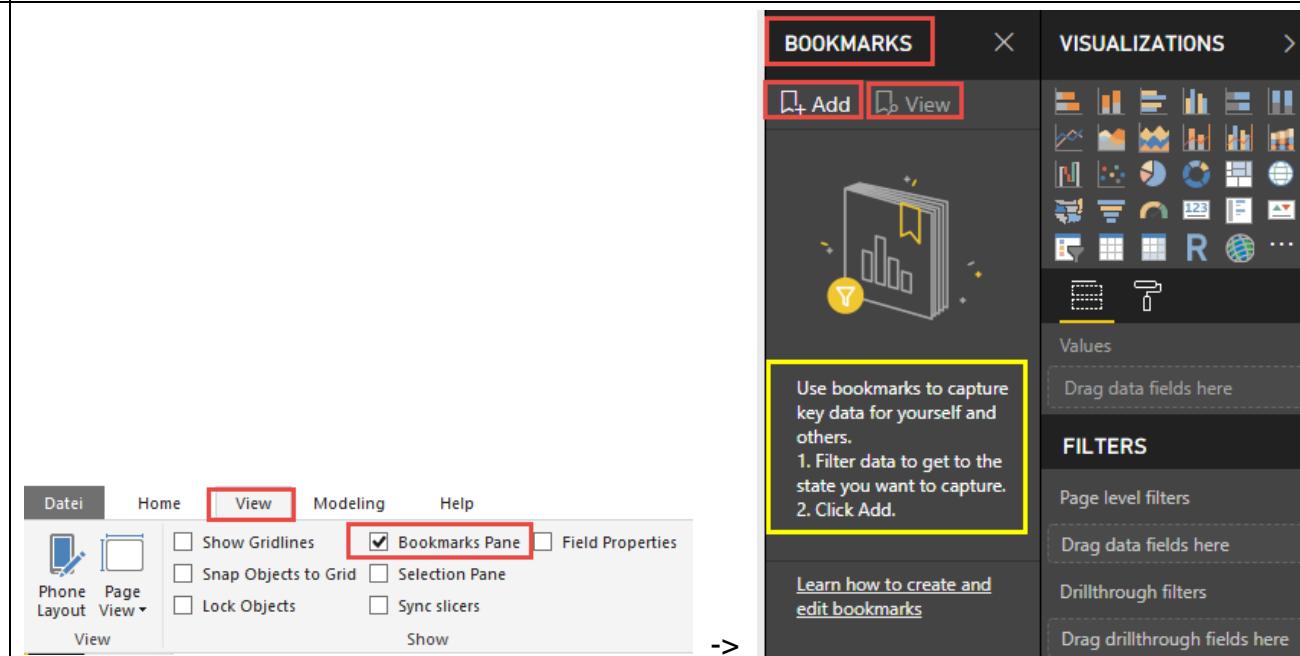
7 Working with Bookmarks

- If you want to present your reports in Power BI Desktop or in Power BI Service you can use a very simple & comfortable way by using bookmarks
- You can create a collection of bookmarks, arrange them in the order you want, and subsequently step through each bookmark in a presentation to highlight a series of insights, or the story you want to tell with your visuals and reports.
- With bookmarks you can prepare your data similar to PowerPoint – being sure that you always present actual data
- Let's say you need to show your credit card information filtered by **Gender** or by **Date**

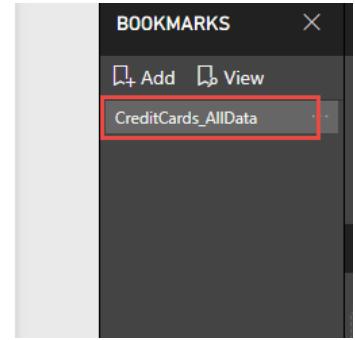
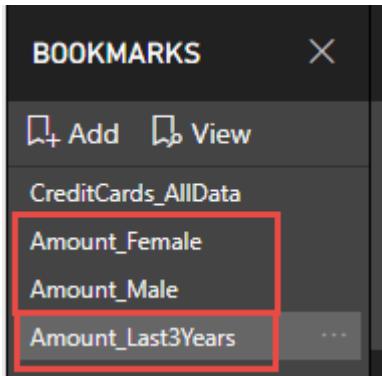
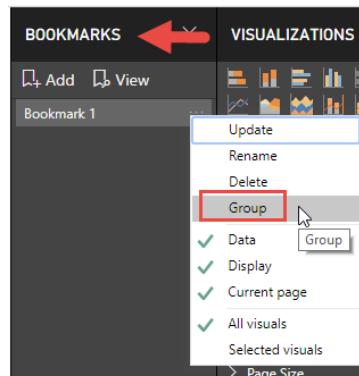
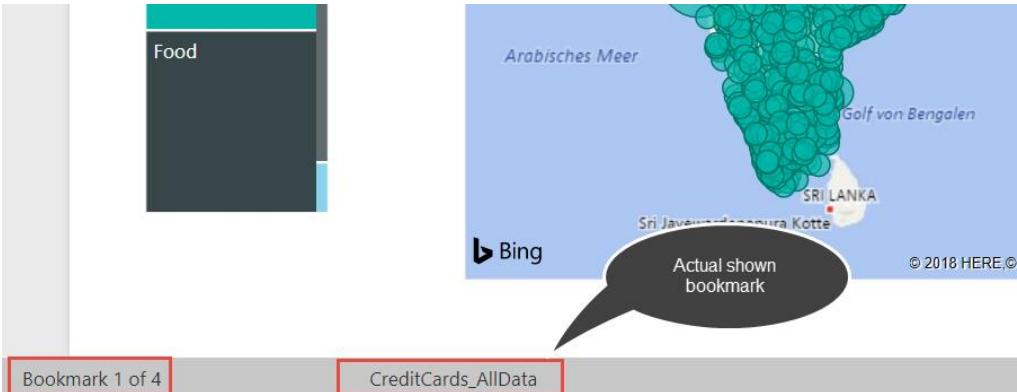
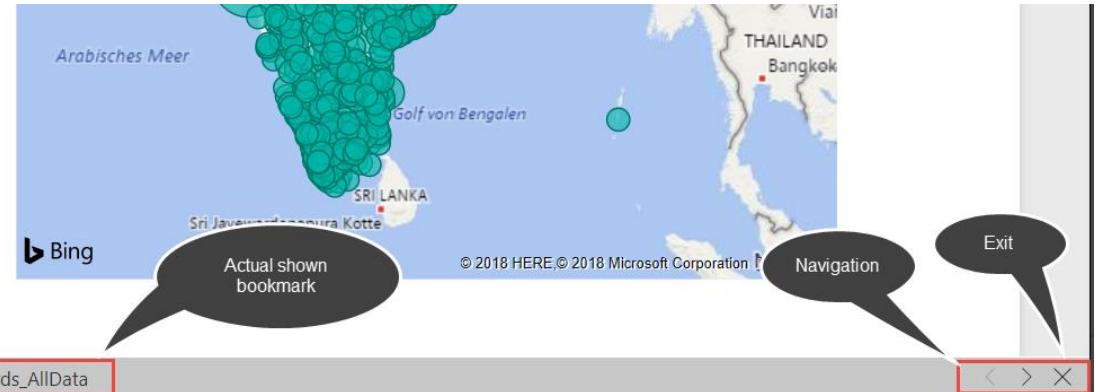


Exercise 12

- Open the tab **View** & tick the option **Bookmarks Pane**
- A new pane appears on the right - it offers two commands: **Add** & **View**
- With the command **Add** you can create bookmarks
- With the command **View** you can display bookmarks like in a slideshow



The screenshot shows the Power BI Desktop ribbon with the 'View' tab selected. In the ribbon settings, the 'Bookmarks Pane' checkbox is checked. To the right, the Power BI interface displays the 'BOOKMARKS' pane, which includes an 'Add' button, a 'View' button, and a descriptive text box explaining how to use bookmarks to capture key data. Below the ribbon, the main workspace shows a visualization of a bar chart and a 'VISUALIZATIONS' pane containing various chart and report icons.

<ul style="list-style-type: none"> - Turn off all filters in your report & click the button Add -> a new entry appears in the Bookmark pane - Doubleclick that entry & rename it: CreditCards_AllData 	<p>Exp. Type Gender Date</p> <table border="0"> <tr> <td><input type="checkbox"/> Bills</td> <td><input type="checkbox"/> F</td> <td>Last</td> <td>10</td> <td>Years (Calendar)</td> </tr> <tr> <td><input type="checkbox"/> Entertainment</td> <td><input type="checkbox"/> M</td> <td colspan="3">01.01.2008 - 31.12.2017</td> </tr> <tr> <td><input type="checkbox"/> Food</td> <td></td> <td colspan="3"></td> </tr> <tr> <td><input type="checkbox"/> Fuel</td> <td></td> <td colspan="3"></td> </tr> <tr> <td><input type="checkbox"/> Grocery</td> <td></td> <td colspan="3"></td> </tr> <tr> <td><input type="checkbox"/> Travel</td> <td></td> <td colspan="3"></td> </tr> </table>	<input type="checkbox"/> Bills	<input type="checkbox"/> F	Last	10	Years (Calendar)	<input type="checkbox"/> Entertainment	<input type="checkbox"/> M	01.01.2008 - 31.12.2017			<input type="checkbox"/> Food					<input type="checkbox"/> Fuel					<input type="checkbox"/> Grocery					<input type="checkbox"/> Travel					
<input type="checkbox"/> Bills	<input type="checkbox"/> F	Last	10	Years (Calendar)																												
<input type="checkbox"/> Entertainment	<input type="checkbox"/> M	01.01.2008 - 31.12.2017																														
<input type="checkbox"/> Food																																
<input type="checkbox"/> Fuel																																
<input type="checkbox"/> Grocery																																
<input type="checkbox"/> Travel																																
<ul style="list-style-type: none"> - Create three more bookmarks & filter to Gender & Date <p>Tip:</p> <ul style="list-style-type: none"> - You can group bookmarks for a better overview - When you highlight a group the command View will start the show from that group 																																
<ul style="list-style-type: none"> - When you click the command View the presentation of your bookmarks starts - Please save the PBIX-file 																																

Refresh



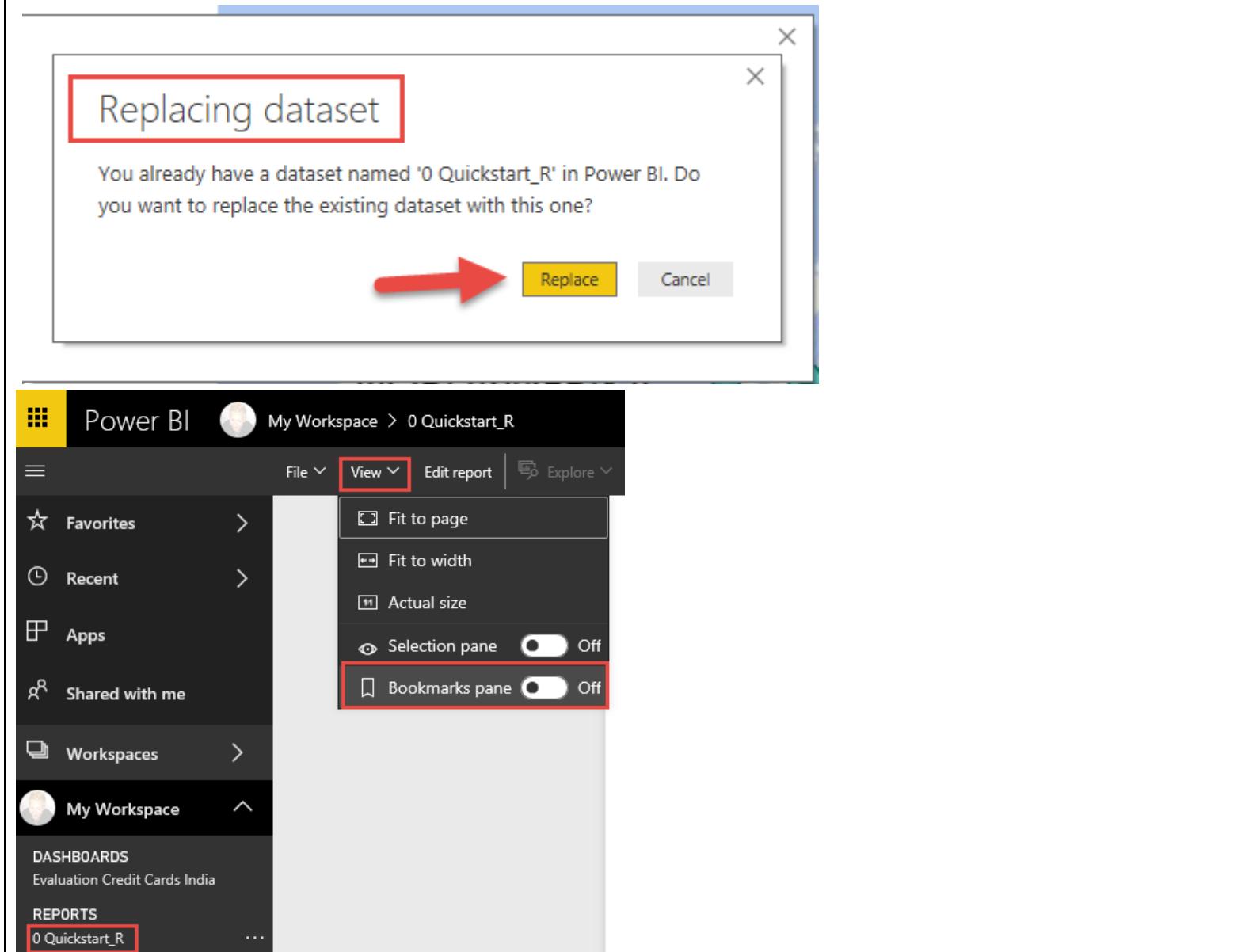
Exercise 13

- If you change the **PBIX-file** & want to update your published data in the **Power BI Service**, please use the **Publish**-function of the desktop-tool again
- The data already published will be replaced

- In **Power BI Service** you can open the **Bookmarks pane** & use the created bookmarks as shown before
- Please note:
in **Power BI Desktop** you can create & view bookmarks
in **Power BI Service** you can only use the previously created bookmarks

Tip:

- When your data is stored in **OneDrive for Business**, an automatic refresh is provided on an hourly base



The screenshot shows the Power BI Service interface. At the top, there is a confirmation dialog box titled "Replacing dataset" with the message: "You already have a dataset named '0 Quickstart_R' in Power BI. Do you want to replace the existing dataset with this one?". A large red arrow points to the "Replace" button. Below the dialog, the main interface shows the "My Workspace" page for the report "0 Quickstart_R". The "View" dropdown menu is open, displaying options: "Fit to page", "Fit to width", "Actual size", "Selection pane" (with a toggle switch set to "Off"), and "Bookmarks pane" (with a toggle switch set to "Off"). The "Bookmarks pane" option is highlighted with a red box. The left sidebar lists "Favorites", "Recent", "Apps", "Shared with me", "Workspaces", and "My Workspace" (which is currently selected). The "DASHBOARDS" and "REPORTS" sections also list "0 Quickstart_R".

Navigation with Bookmarks

Using bookmarks in Power BI help you capture the currently configured view of a report page, including filtering and the state of visuals, and later let you go back to that state by simply selecting the saved bookmark

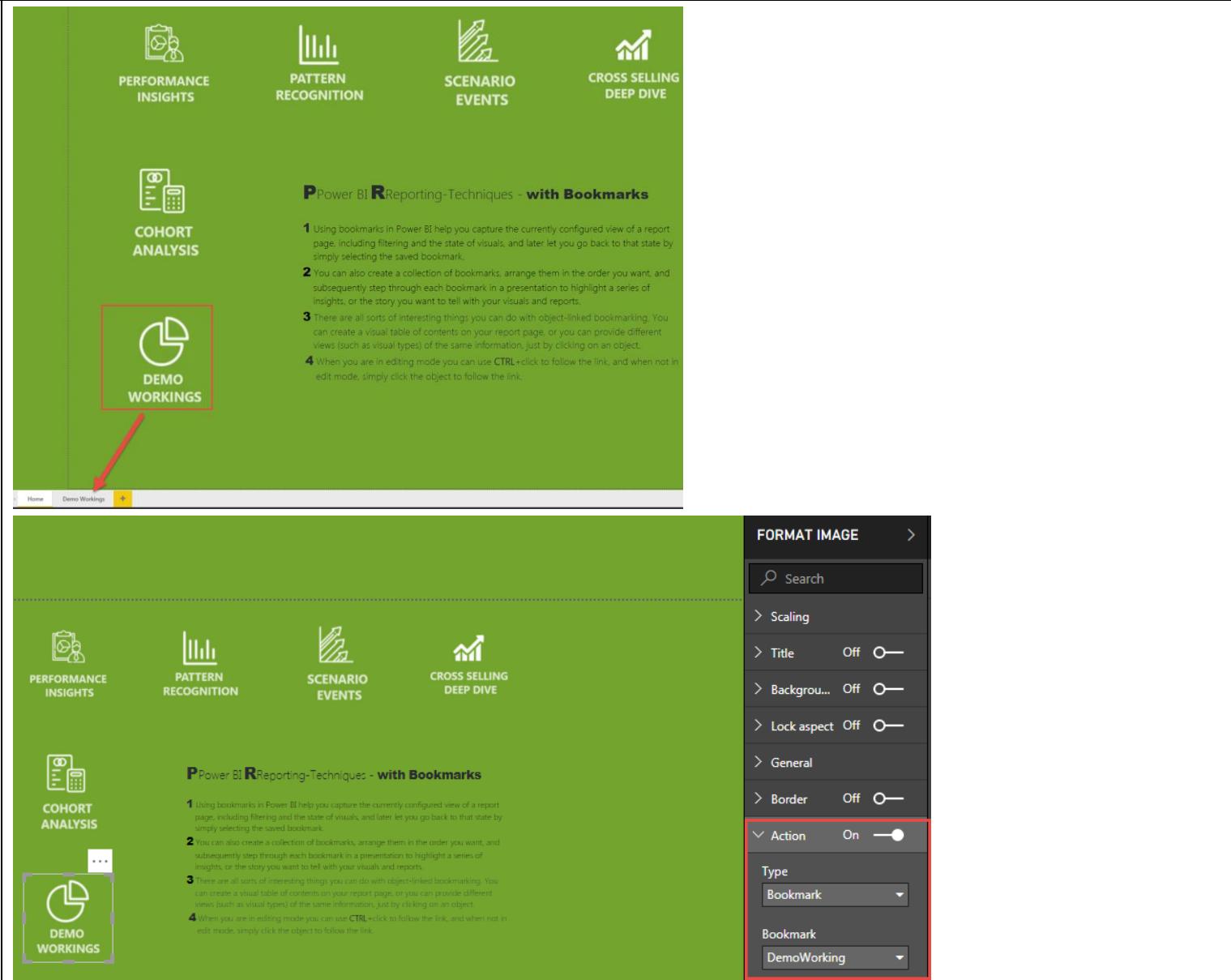


Exercise 14

- Open **1 Bookmarks.pbix**
- Add the wallpaper & the icons (Folder Icons)
- Create a bookmark for the report page **Demo Workings**

Format the picture

- With **Action / Type** you can select **Bookmark**
- Pick the created bookmark
- Now you can navigate with a click to the said page (**CTRL + click** in Edit-mode)



The image consists of two screenshots of the Power BI Report Designer interface.

Screenshot 1: Shows a green report page with several icons: PERFORMANCE INSIGHTS, PATTERN RECOGNITION, SCENARIO EVENTS, CROSS SELLING DEEP DIVE, COHORT ANALYSIS, and DEMO WORKINGS. A red arrow points from the 'DEMO WORKINGS' icon to the bottom navigation bar, which includes 'Home' and 'Demo Workings'. Below the navigation bar is a 'P Power BI R Reporting-Techniques - with Bookmarks' section containing four numbered steps.

Screenshot 2: Shows the same green report page after configuration. The 'DEMO WORKINGS' icon now has a blue border and a small '...' icon. To the right, a 'FORMAT IMAGE' pane is open, showing settings for 'Scaling', 'Title', 'Background', 'Lock aspect', 'General', 'Border', and 'Action'. The 'Action' section is expanded, showing 'Type: Bookmark' and 'Bookmark: DemoWorking'. The 'Action' setting is highlighted with a red border.

P Power BI R Reporting-Techniques - with Bookmarks

- 1 Using bookmarks in Power BI help you capture the currently configured view of a report page, including filtering and the state of visuals, and later let you go back to that state by simply selecting the saved bookmark.
- 2 You can also create a collection of bookmarks, arrange them in the order you want, and subsequently step through each bookmark in a presentation to highlight a series of insights, or the story you want to tell with your visuals and reports.
- 3 There are all sorts of interesting things you can do with object-linked bookmarking. You can create a visual table of contents on your report page, or you can provide different views (such as visual types) of the same information, just by clicking on an object.
- 4 When you are in editing mode you can use CTRL+click to follow the link, and when not in edit mode, simply click the object to follow the link.

3 Store & Update Data

What can be updated?

**Automatic update
(eg. for data from
OneDrive for
Business)**

- No user configuration required
- Data refresh settings are configured for you by Power BI
- Only the data for the dataset within the Power BI service is updated - the local file is not updated

**Custom manual or
scheduled update
(for example, for
PBIX files) ***

- You can manually refresh a dataset with **Refresh now** or set up an update schedule with **Schedule refresh** in the dataset settings
- This type of data update is required for Power BI desktop files and Excel workbooks that connect to external online and local data sources

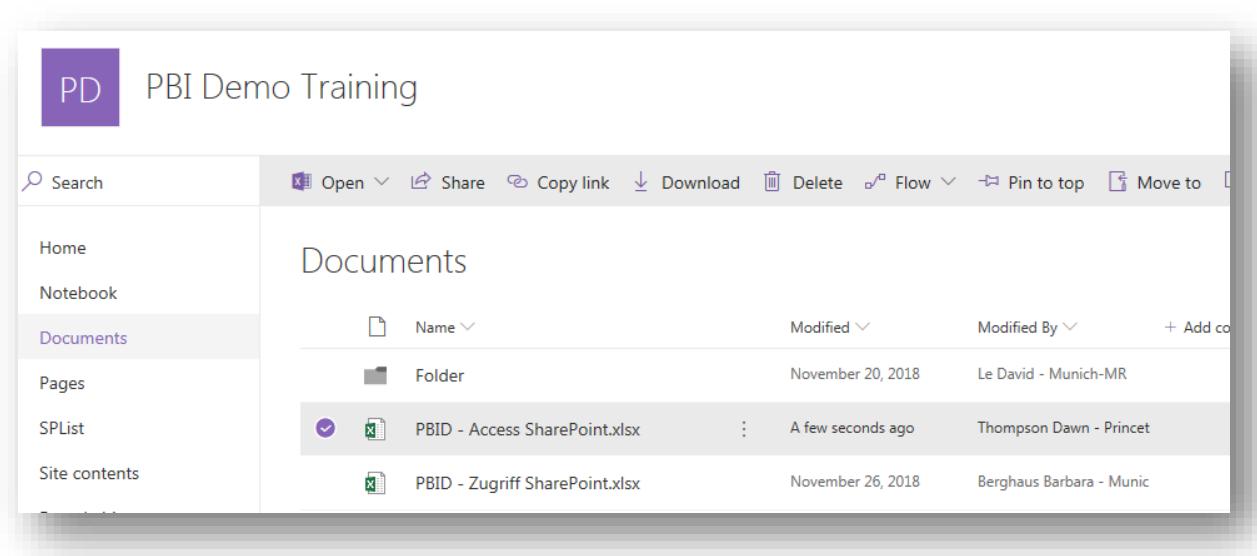
**Live / DirectQuery
(eg. for SSAS data
source)**

- Direct connection between Power BI & the data source
- Datasets that are configured for a **live** or **DirectQuery connection** will be updated approximately every hour or when interacting with the data

* To update local data in the Power BI Service, you need access to Munich Re's gateway
- please contact the person responsible for the product.

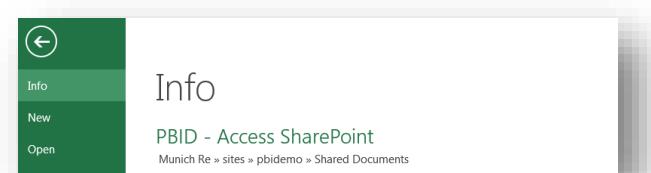
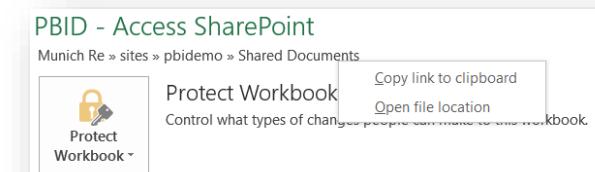
4 Access Files from SharePoint (Demo!)

- Navigate to SharePoint and open the Excel file via the browser (not from a synchronized folder in Windows Explorer)
- Now open the Excel file with the Excel client.



	Name	Modified	Modified By
	Folder	November 20, 2018	Le David - Munich-MR
	PBID - Access SharePoint.xlsx	A few seconds ago	Thompson Dawn - Princet
	PBID - Zugriff SharePoint.xlsx	November 26, 2018	Berghaus Barbara - Munic

- Navigate to the **File menu** in Excel
- **File / Information**
- In the Information tab you will find a button for copying the file path

PBID - Access SharePoint
Munich Re > sites > pbidemo > Shared Documents

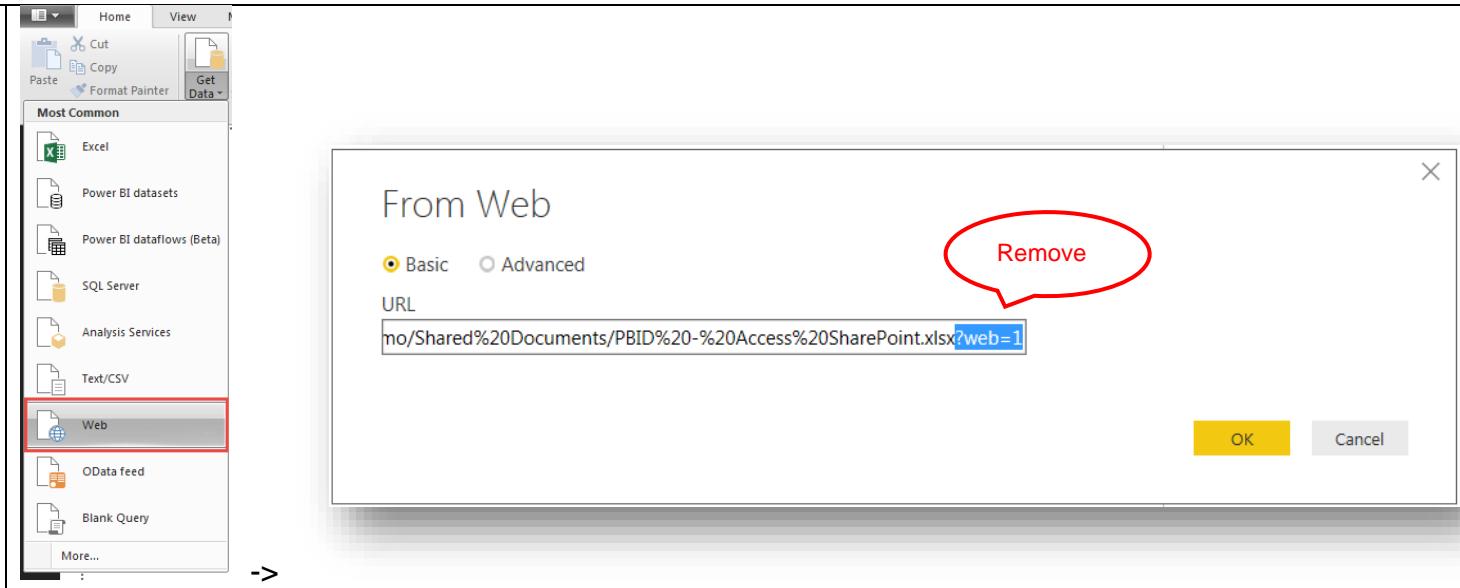
Protect Workbook
Control what types of changes can be made to this workbook.

Copy link to clipboard
Open file location

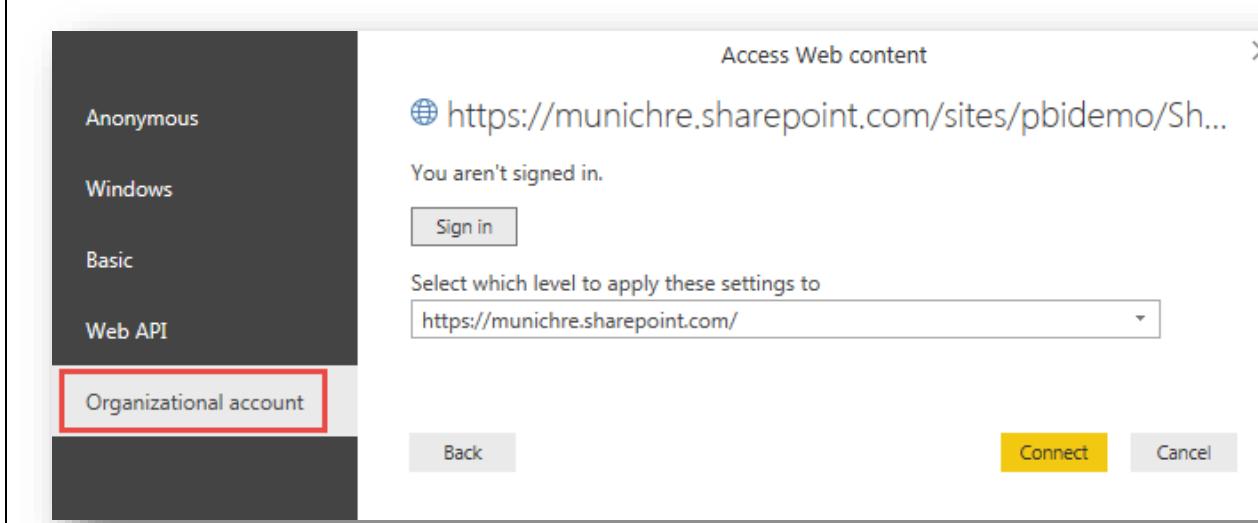
->

Now you can insert this URL for use in Power BI Desktop:

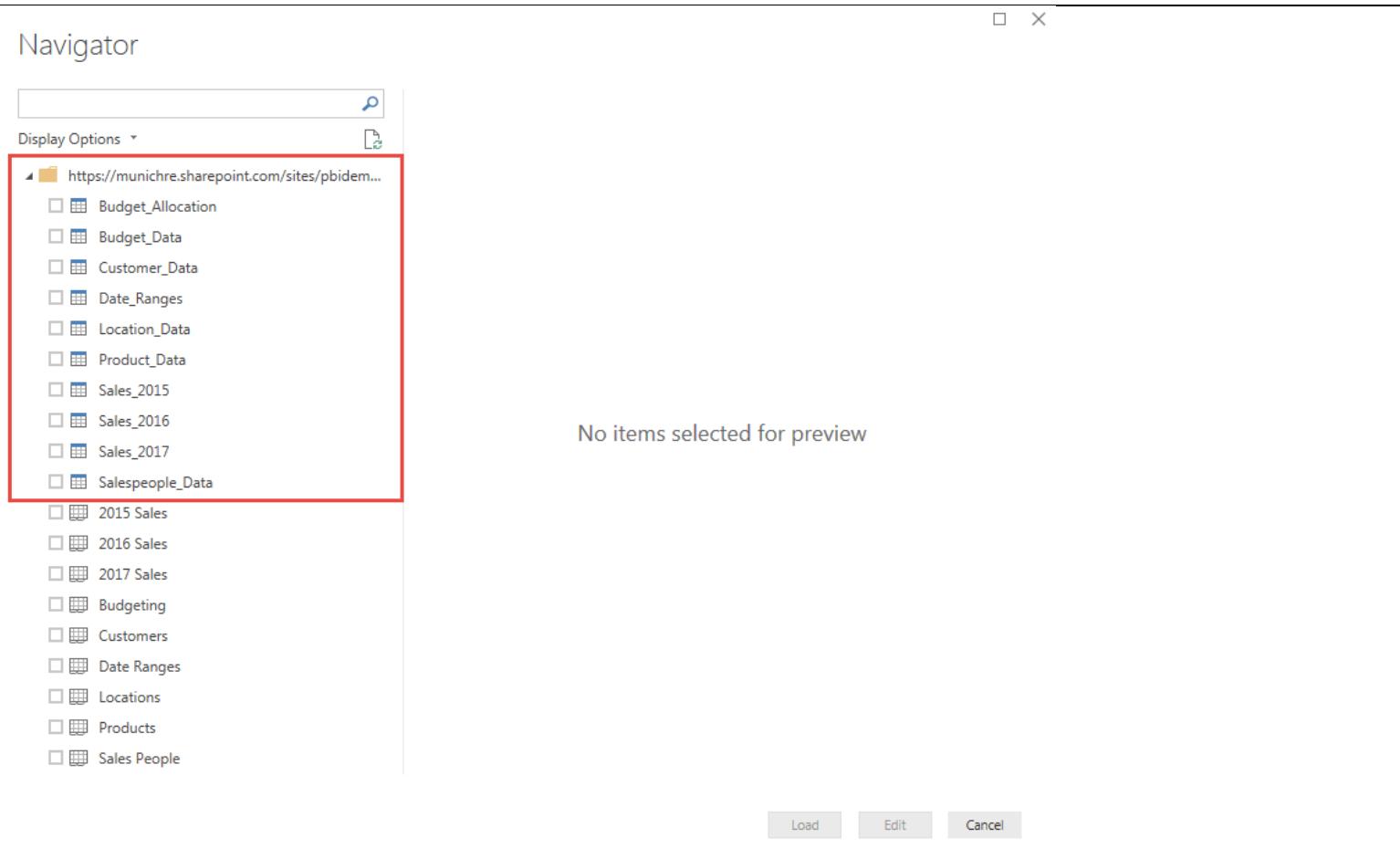
- Select the Web Connector and remove the "? Web = 1"



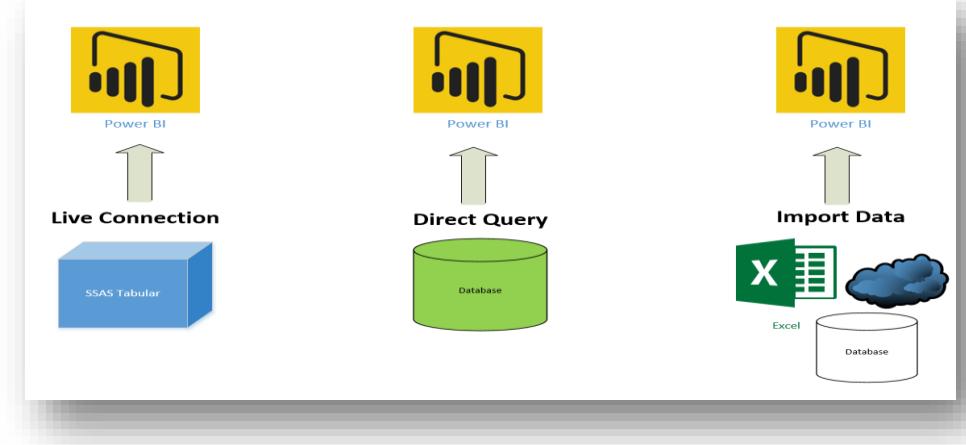
- Please use the ***Organizational Account*** as authorization method



- The Excel sheets are displayed & the data can be imported for reports
- You can also use this procedure if you want to access data from **OneDrive For Business!**



5 Import Data – Connect Data

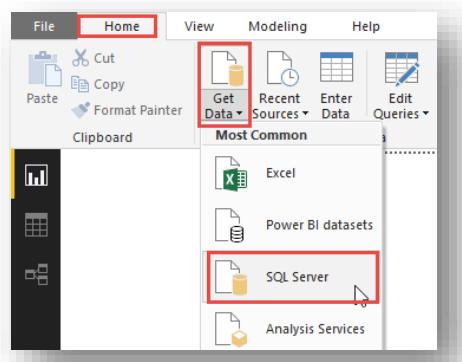
	 <p>The diagram illustrates three ways to connect Power BI to data sources:</p> <ul style="list-style-type: none"> Live Connection: Represented by a blue cube labeled "SSAS Tabular". A grey arrow points from the cube up to a yellow "Power BI" icon. Direct Query: Represented by a green cylinder labeled "Database". A grey arrow points from the cylinder up to a yellow "Power BI" icon. Import Data: Represented by a white cylinder labeled "Database", an Excel icon, and a cloud icon. A grey arrow points from the cylinder up to a yellow "Power BI" icon.
Data import	<ul style="list-style-type: none"> The selected tables and columns are imported into Power BI Desktop. When creating or interacting with a visualization, Power BI Desktop uses the imported data. You must refresh the data, which will re-import the entire record to show any changes made to the underlying data since the first import or last update. Import records in the Power BI services are limited to 10 GB for the premium version and 1 GB for the free version (with the compression capabilities allowing much larger records to be imported).
DirectQuery	<ul style="list-style-type: none"> In Power BI Desktop, no data is imported or copied here. When you create a visualization or interact with a visualization, Power BI Desktop queries the underlying data source so that you always see the latest data. With DirectQuery, you can create visualizations over very large datasets that you would not even be able to import through Import Data.
Live Connection	<ul style="list-style-type: none"> Works similar to DirectQuery, but access is only possible for a very limited selection of data sources: <ul style="list-style-type: none"> SSAS Tabular • SSAS Multidimensional • Power BI Service Power BI here serves only for visualization, all other tasks are processed in the modeling engines of the data sources.

IMPORT or CONNECT

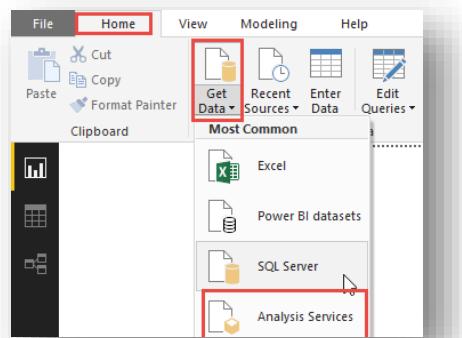
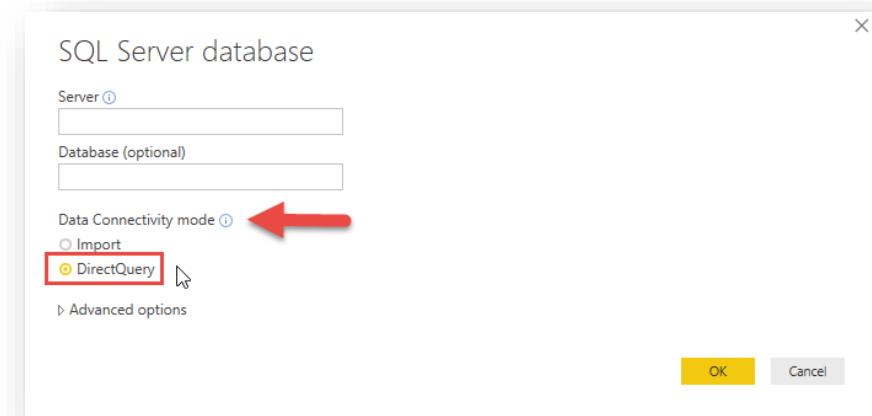
Exercise 15

- Open a new PBIX-file
- Select **Get Data / SQL-Server**

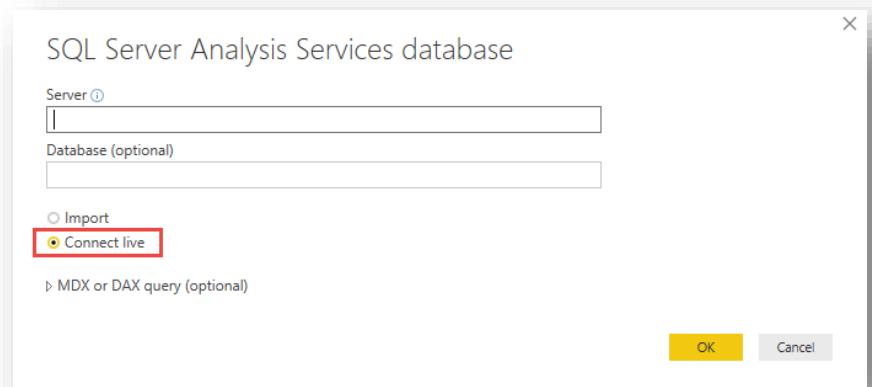
- Select **Get Data / Analysis services**



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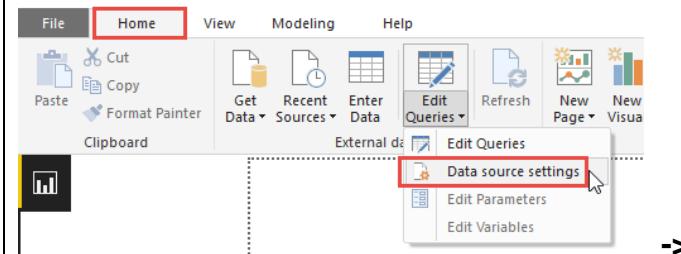


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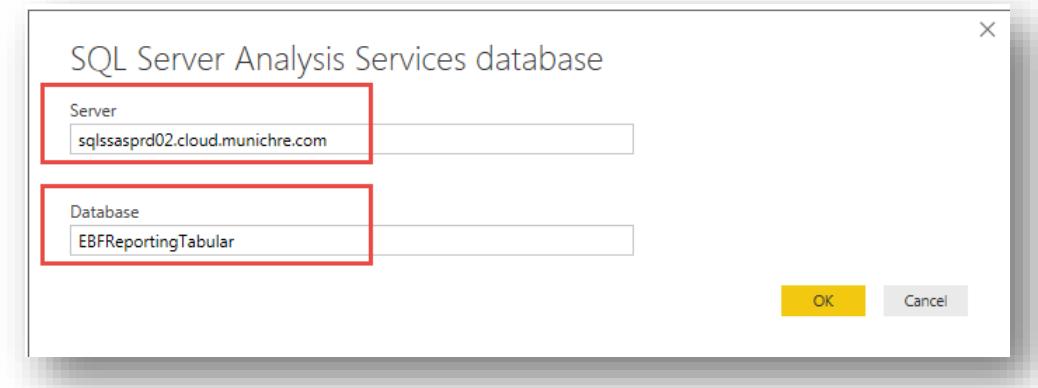


Example Live connection

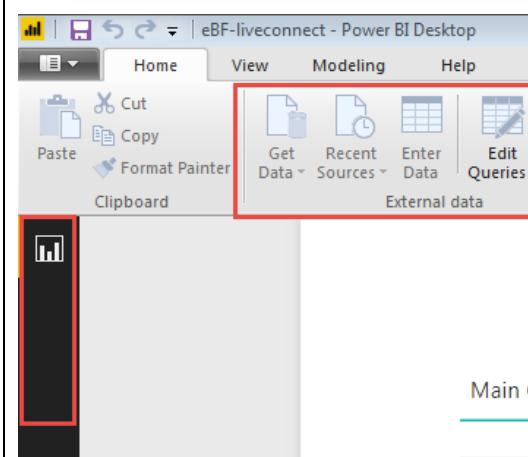
- Open **eBF-liveconnect.pbix**
- Except of the command **Data source queries** all other commands of the group **External data** is inactive



→



- Also **Data view & Relationships view** are not shown here – indicating that these tasks are processed in the modeling engines of the data sources



Main C