

Power BI

beginners free 10 weeks online training course

Power BI

beginners free 10 weeks online training course



Power BI Week 1

Monday 18th Jan 2021

Introduction to Power BI and your first Power BI report.

- Hi & Intros: David, Conrad
- Logistics: Classroom course
- Recording on Youtube. Leave if not happy to be recorded
- Each week sign up on Meetup.com for the weekly event & Q&A workshop
- Each session will be a new Zoom link
- Questions into the chat or raise your hand
- 2 screens is better than 1.
- Microphones on mute

David Moss



Azure | Power Platform | D365 Solutions Architect

Delivering end to end Azure AI & BI hybrid solutions with a passion for D365, Power Platform & Power BI reports across IoT, e-commerce, telcos, fintech & manufacturing verticals.

MVP Data Platform

Since 2017 awarded MVP - Microsoft Valued Professional - for my community contributions.

Leader of Power BI meetup user groups in London and online.
Community & conference presenter.

ACMA, CGMA Accountant

A qualified ACMA accountant all my career which keeps me commercially aware & business facing partner on D365 F&O projects.



@wottabyte



wottabyte

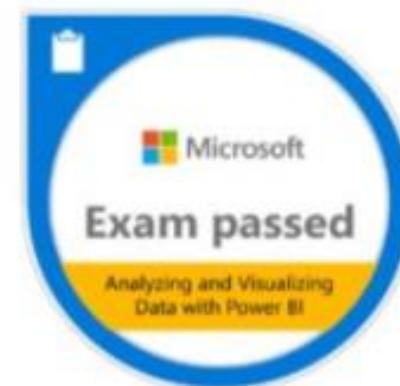
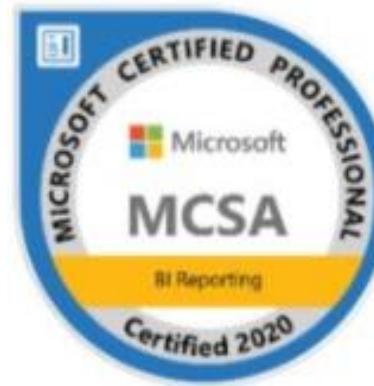


www.wottabyte.com



Conrad Moss : Power BI Developer

- Certified MCSA BI Reporting : Power BI & Excel
- Power BI Certification 70-778 preparing to take DA-100
- Manchester United fan



Linkedin : QR Codes



David Moss

Solutions Architect - Azure | Power Platform | D365 | (SC Cleared)



Conrad Moss

Power BI Developer at Hamilton Insurance Group

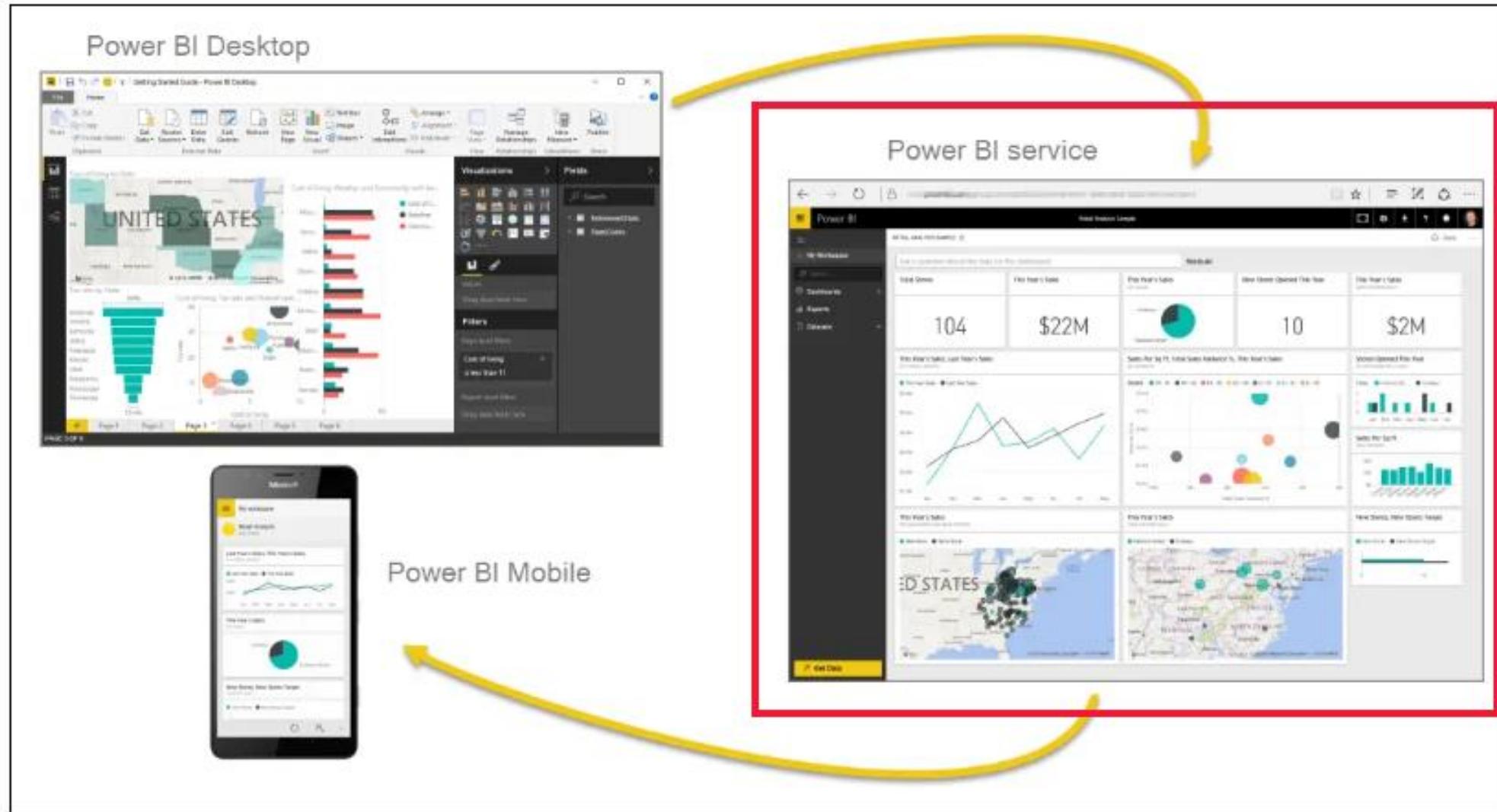


Power BI

beginners free 10 weeks online training course

- Week 1: Monday 18th Jan 2021 : Introduction to Power BI and your first Power BI report.
- Week 2: Monday 25th Jan 2021 : Use Power Query Editor to get data & prepare your data.
- Week 3: Monday 1st Feb 2021 : Use Power BI desktop to structure & create datamodels.
- Week 4: Monday 8th Feb 2021 : Design & configure Power BI visuals like charts, maps & KPIs.
- Week 5: Monday 15th Feb 2021 : Add user friendly report navigation features, slicers & tooltips.
- Week 6: Monday 22nd Feb 2021: Publish & share Power BI reports & dashboards.
- Week 7: Monday 1st March 2021: Get to grips with Power BI cloud service & mobile features.
- Week 8: Monday 8th March 2021: Enhance your data with DAX for KPIs reporting.
- Week 9: Monday 15th March 2021: Data analytics reporting & AI features in Power BI.
- Week 10: Monday 22nd March 2021: Power BI at work with workspaces, datasets & security.

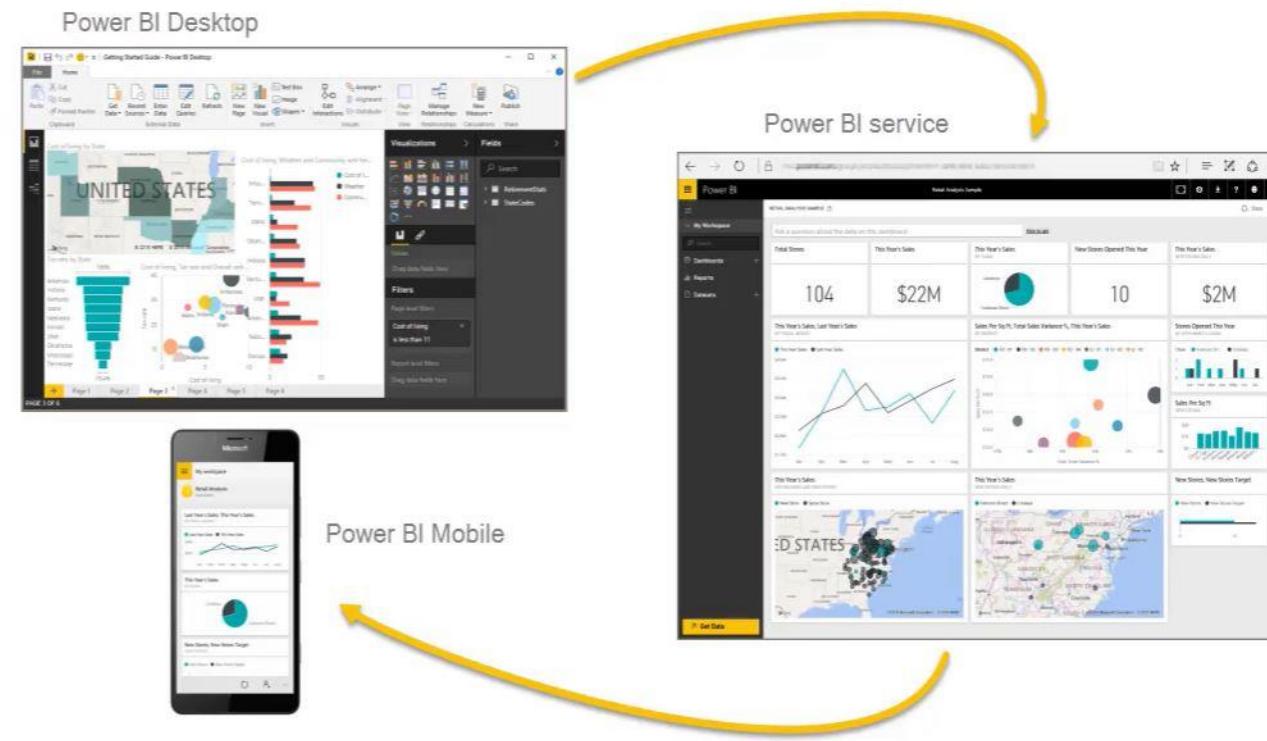
What is Power BI ?



PBI Desktop, PBI Service, PBI Mobile apps

Parts of Power BI

These three elements—Desktop, the service, and Mobile apps—are designed to let people create, share, and consume business insights



Visual tools 2018SU06 Blog Demo - Power BI Desktop

File Home View Modeling Help Format Data / Drill Insert Themes Relationships Calculations Share

Cut Copy Format Painter Get Data Recent Sources Enter Data Edit Queries Refresh New Page Ask A Question Buttons Text box Image From Marketplace From File Switch Theme Manage Relationships New Measure New Column New Quick Measure Publish

Sales for Top 5 Categories

Net Satisfaction

Average Sale Amount by Class

Units by Class & Brand

PowerBI tips

VISUALIZATIONS FIELDS

\$1.03M Germany
\$2.42M Canada
\$1.25M France
\$1.48M Great Britain

Legend: Sales Amount (Orange), Units (Red)

Bar chart showing Sales Amount for top 5 categories:

Category	Sales Amount
Computers	\$8.2M
Home Appliances	\$4.3M
TV and Video	\$2.9M
Cameras and camcorders	\$2.0M
Cell phones	\$1.2M
Audio	\$0.9M
Music, Movies and Audio Books	\$0.5M
Games and Toys	\$0.3M

Line chart showing Units for top 5 categories:

Category	Units
Computers	21.2K
Home Appliances	8.2K
TV and Video	5.8K
Cameras and camcorders	5.5K
Cell phones	3.5K
Audio	3.9K
Music, Movies and Audio Books	1.0K
Games and Toys	2.0K

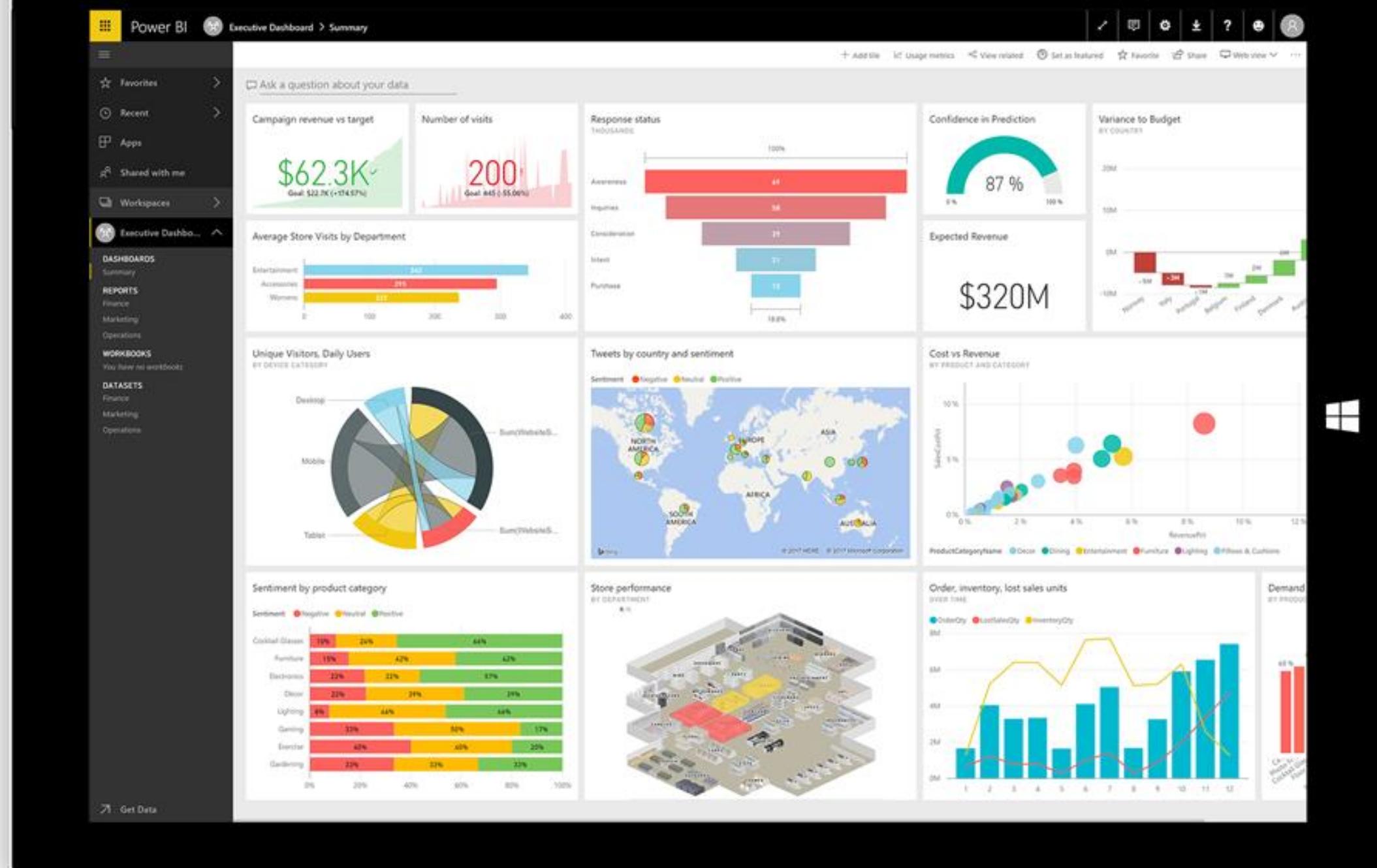
Donut chart showing Average Sale Amount by Class:

Class	Avg. Sale Amount
Deluxe	\$1.75M
Economy	\$7.78M
Regular	\$9.38M

Scatter plot showing Units by Class & Brand:

Avg. Repurch	Avg. NSAT	Class	Brand
2.2	2.3	Deluxe	Brand A
2.3	2.4	Deluxe	Brand B
2.4	2.5	Economy	Brand C
2.5	2.6	Economy	Brand D
2.6	2.7	Economy	Brand E
2.7	2.8	Regular	Brand F

PAGE 1 OF 7



Quick Survey of audience

<https://forms.office.com/Pages/ResponsePage.aspx?id=WkuituyrDEaGarPmYT9Z1NvMNOjKOFdHsnEJjP6WpoNUREdYRjdPUUQ0SzIQVzYzUEdJSkVKV1U5Ni4u>

Student go to form and submit
Trainer display live online results in Power BI dashboard



Power BI Desktop

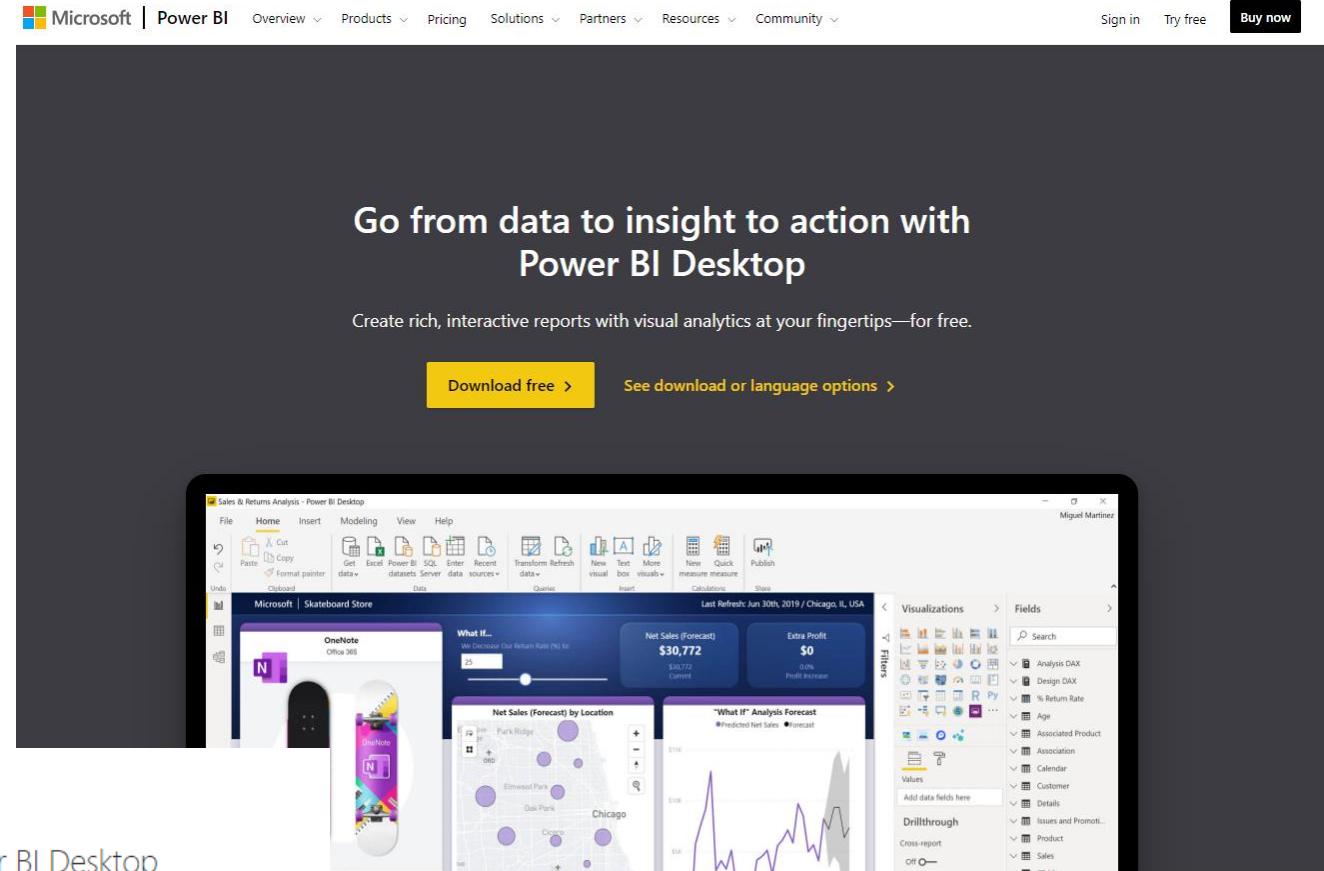
- Download Power BI Desktop from www.powerbi.com
- Install
- Build your first report - use blog next page
- Quick look at PBI Desktop features
- Save your report as .pbix
- Get a Microsoft account
- Publish to Power BI Service app.powerbi.com
- Workshop this eve at 21:00 – 22:00 for 1-2-1 help.

Power BI Desktop

- Download Power BI Desktop
- Windows Store - W10 app
- Or Download desktop version
- 32 bit or 64 bit
- Windows not Apple

What is PBI desktop ?

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



Thank you for downloading Microsoft Power BI Desktop

If your download does not start after 30 seconds, [click here to download manually](#)

Installation note:

In the following Install Instructions, please start at the step after the mention of clicking the Download button.

⊕ [Install Instructions](#)

Untitled - Power BI Desktop

David Moss

File Home Insert Modeling View Help External Tools

Cut Copy Get data Clipboard

Paste Format painter

Power BI Desktop

Get data Recent sources

CryptoTrader.pbix C: > Users > david > Documents >...

coinmarketcap only web.p... C: > Users > david > Documents >...

CryptoTrader.pbix Documents

32.4 ControlChart 6 sigma.... C: > Users > david > Documents >...

Open other reports

WHAT'S NEW

Take a look at what's new and improved in Power BI in this month's update.

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

Ready to learn more about Power BI?

- Get started with Power BI Desktop
- Download a sample
- Watch our training videos
- See what others have built
- All guided learning

Visualizations Fields

Add data fields here

Drill through

Cross-report Off

Keep all filters On

Add drill-through fields here

Getting started with Power BI Desktop

Building reports Query view concepts Uploading your reports

Create a Phone report

VIEWS ALL VIDEOS

Show this screen on startup

Page 1 +

Page 1 of 1

Lesson 1 - build your first report

- <https://docs.microsoft.com/en-us/power-bi/create-reports/desktop-excel-stunning-report>



Publish to www.powerbi.com

- Sign in at www.powerbi.com
- You need a MS a/c not gmail !!
- <https://docs.microsoft.com/en-us/power-bi/fundamentals/service-self-service-signup-for-power-bi>

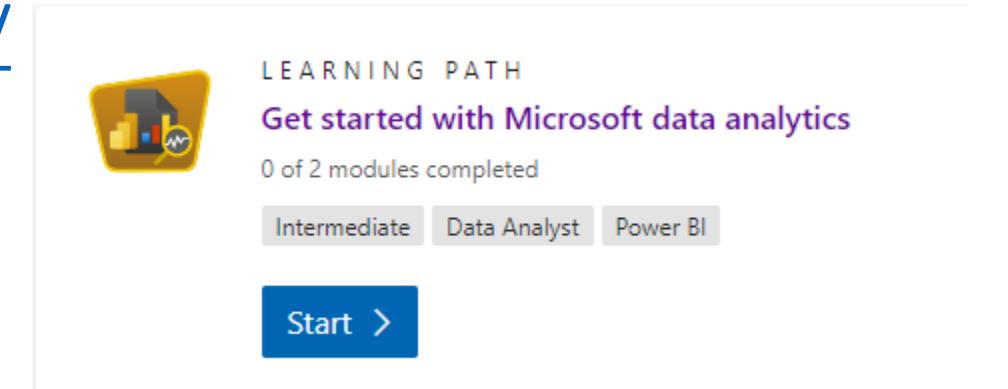
Workshop this eve at 21:00 – 22:00 GMT

- **Q&A Workshop - Power BI Beginner Training Lesson 1**
- <https://www.meetup.com/The-Power-BI-Apprentice/events/275805195/>



Preparation for next week

- Microsoft Learn : <https://docs.microsoft.com/en-us/learn/certifications/exams/da-100>
- Get started with MS data analytics <https://docs.microsoft.com/en-us/learn/patterns/data-analytics-microsoft/>
- Microsoft documentation : <https://docs.microsoft.com/en-us/power-bi/learning-catalog/>



Social Media : Meetup , LinkedIn, YouTube

← → ⌂ meetup.com/The-Power-BI-Apprentice

Meetup [Start a new group](#)

The Power BI Apprentice

London, United Kingdom

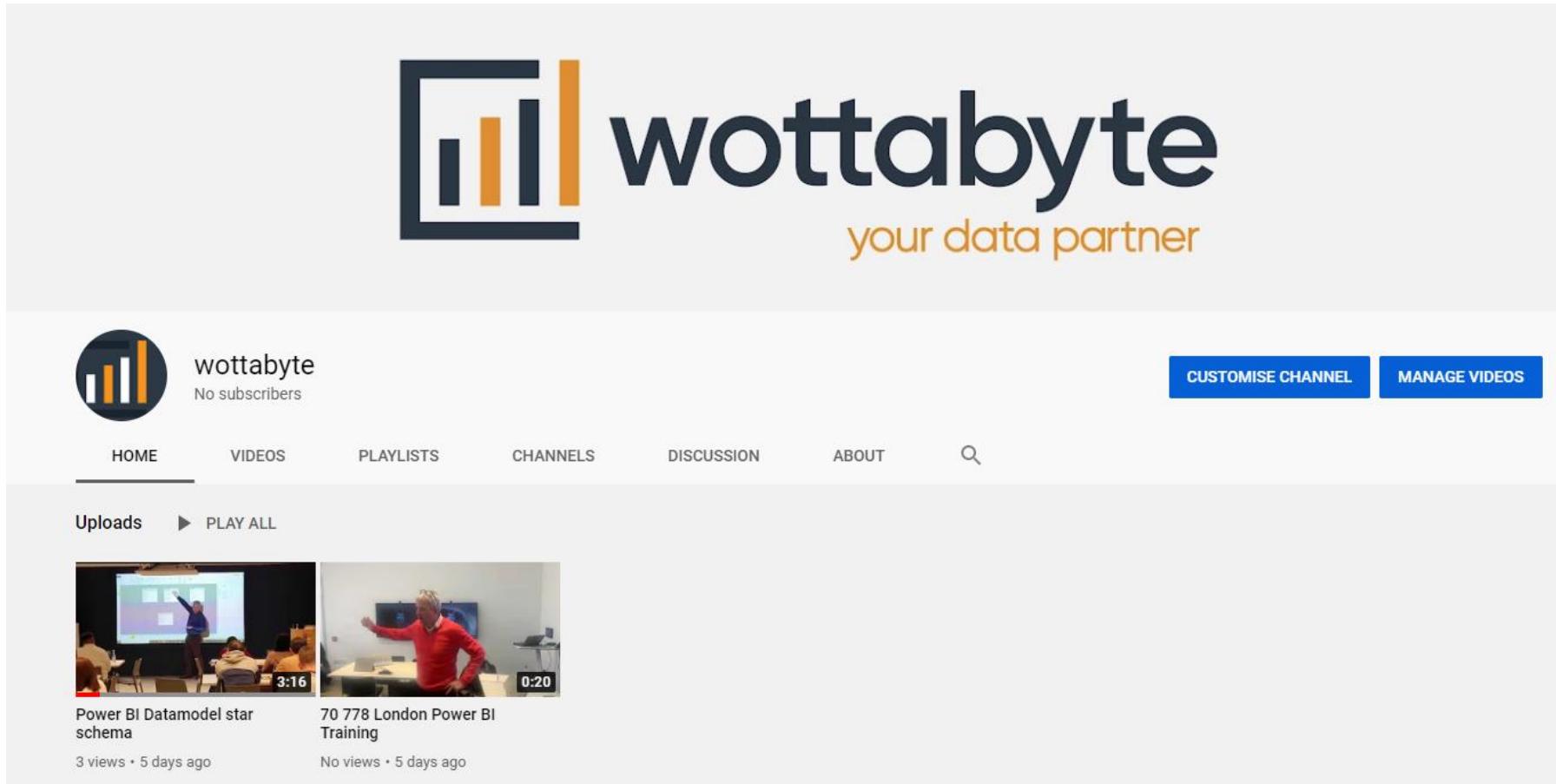
517 members · Public group

Organized by David Moss

Share: [f](#) [t](#) [in](#)

You Tube

<https://www.youtube.com/channel/UCDtmmwK3YxWqzDNZ5L3pdMw>



The image shows a screenshot of a YouTube channel page. At the top, there is a large logo for "wottabyte" with the tagline "your data partner". Below the logo, the channel name "wottabyte" is displayed next to a circular profile picture containing a bar chart icon. It shows "No subscribers". There are two blue buttons: "CUSTOMISE CHANNEL" and "MANAGE VIDEOS". A navigation bar with links for "HOME", "VIDEOS", "PLAYLISTS", "CHANNELS", "DISCUSSION", and "ABOUT" is visible. A search bar is also present. The main content area is titled "Uploads" and includes two video thumbnails. The first video, "Power BI Datamodel star schema", has a duration of 3:16 and was uploaded 5 days ago with 3 views. The second video, "70 778 London Power BI Training", has a duration of 0:20 and was uploaded 5 days ago with 0 views.

wottabyte
No subscribers

CUSTOMISE CHANNEL MANAGE VIDEOS

HOME VIDEOS PLAYLISTS CHANNELS DISCUSSION ABOUT

Uploads ► PLAY ALL

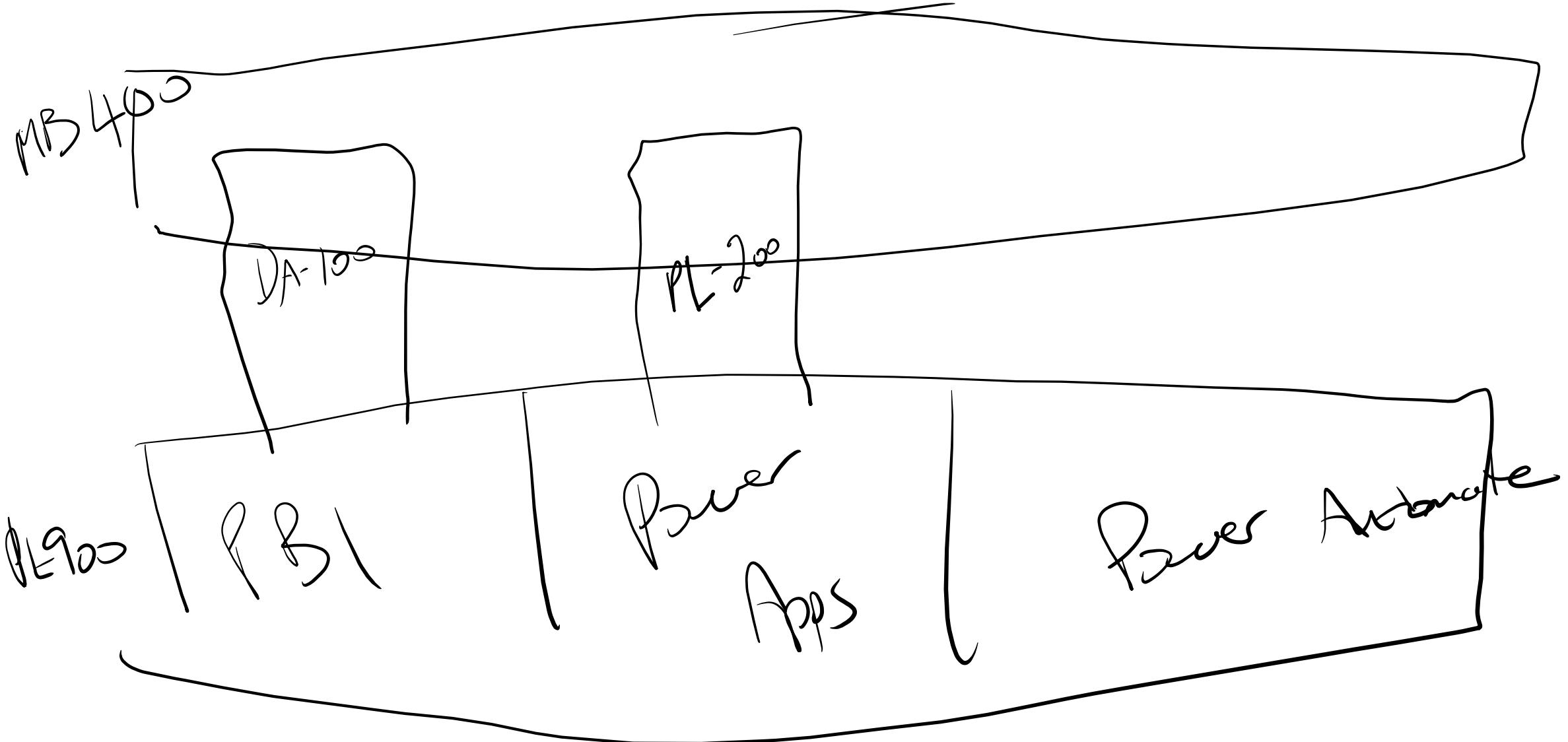
Power BI Datamodel star schema
3:16
3 views • 5 days ago

70 778 London Power BI Training
0:20
No views • 5 days ago

The End



Power Platform



Power BI – LESSON 2 of 10

beginners free 10 weeks online training course



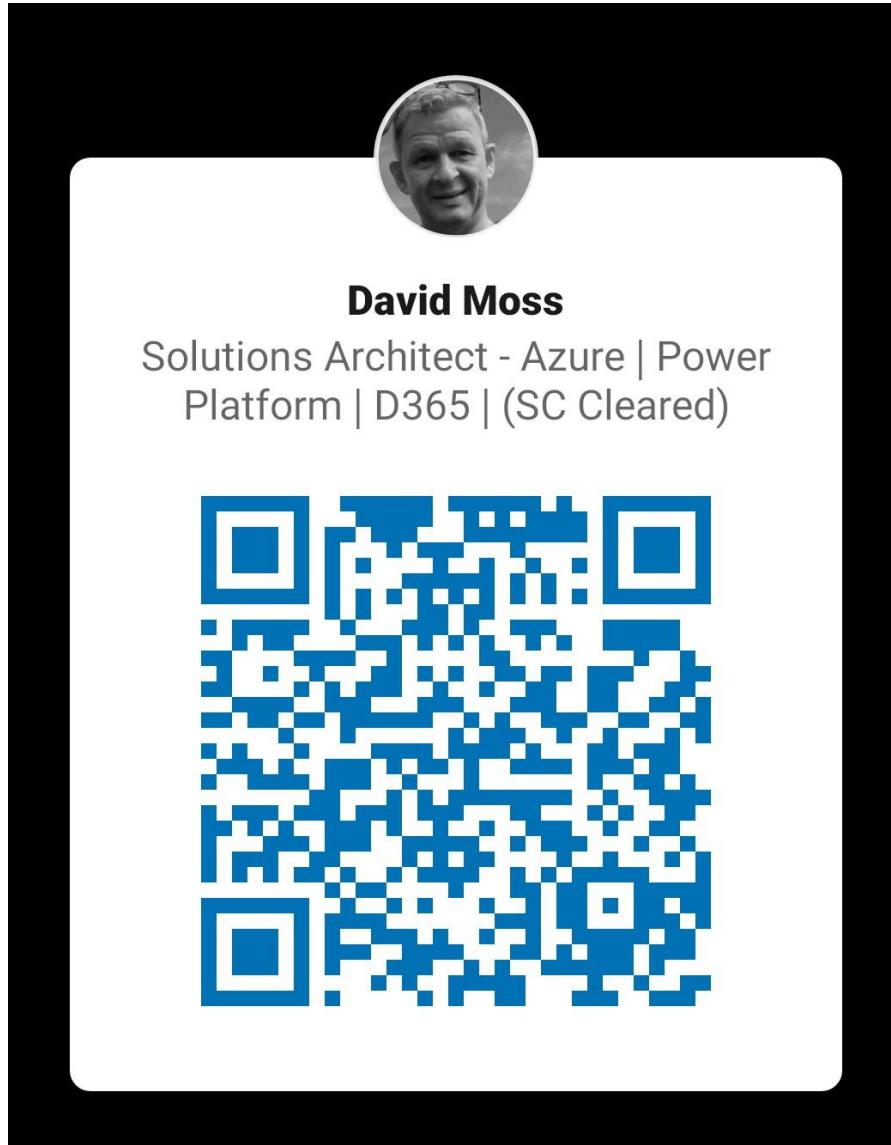
Power BI Week 2

Monday 25th Jan 2021

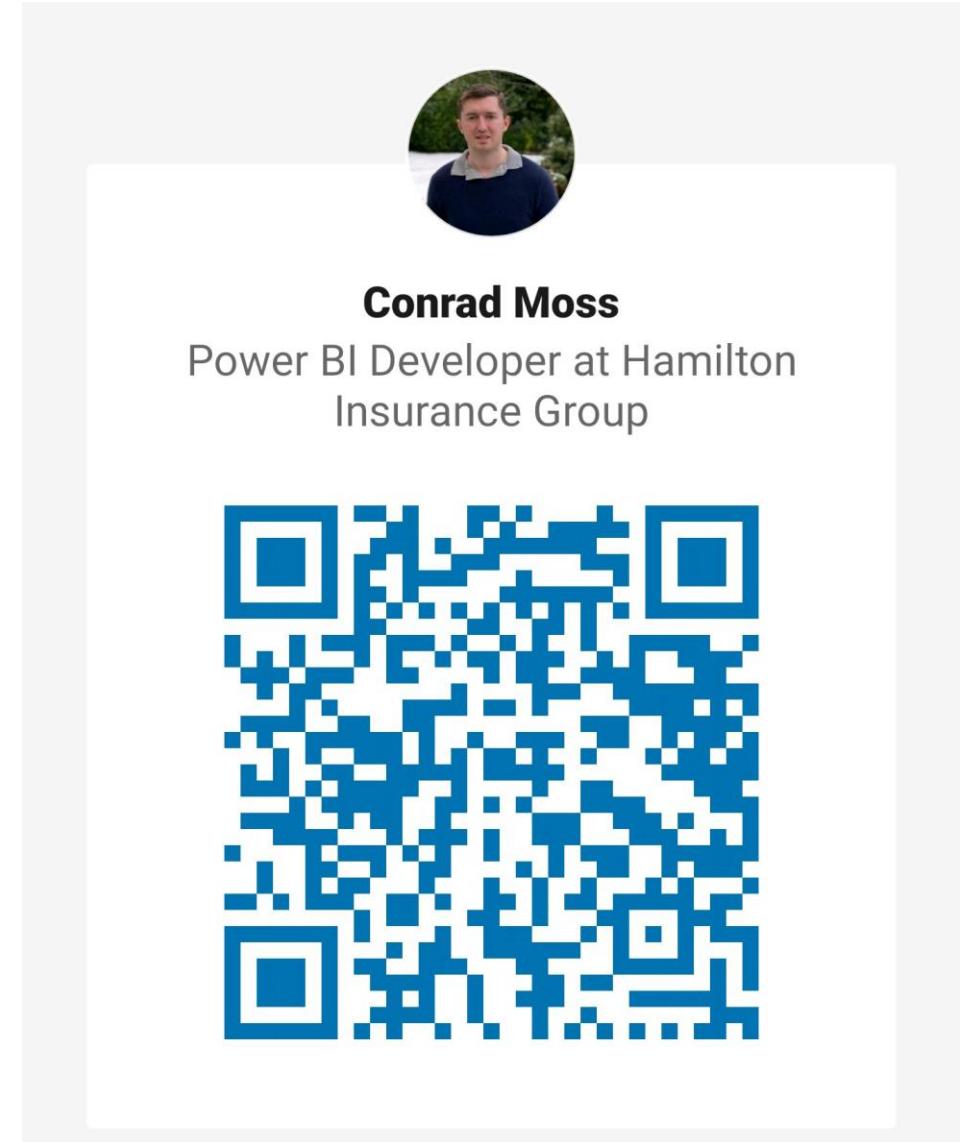
Use Power Query Editor to get data & prepare your data

- Hi & Intros: David & Conrad
- Logistics: Classroom course
- Recording on Youtube. Leave if not happy to be recorded
- Each week sign up on Meetup.com for the weekly event & Q&A workshop
- Each session will be a new Zoom link
- Questions into the chat or raise your hand
- 2 screens is better than 1.
- Microphones on mute
- Workshop at 21:00 : register now at <https://www.meetup.com/The-Power-BI-Apprentice/events/>

Linkedin : QR Codes



A LinkedIn profile card for David Moss. It features a circular profile picture of a man with short hair, smiling. Below the picture, the name "David Moss" is displayed in bold black font. Underneath the name, the title "Solutions Architect - Azure | Power Platform | D365 | (SC Cleared)" is shown in a smaller gray font. At the bottom of the card is a large blue QR code.



A LinkedIn profile card for Conrad Moss. It features a circular profile picture of a man with short hair, wearing a dark blue sweater over a light-colored collared shirt. Below the picture, the name "Conrad Moss" is displayed in bold black font. Underneath the name, the title "Power BI Developer at Hamilton Insurance Group" is shown in a smaller gray font. At the bottom of the card is a large blue QR code.

Power BI

beginners free 10 weeks online training course

- Week 1: Monday 18th Jan 2021 : Introduction to Power BI and your first Power BI report.
- Week 2: Monday 25th Jan 2021 : Use Power Query Editor to get data & prepare your data.
- Week 3: Monday 1st Feb 2021 : Use Power BI desktop to structure & create datamodels.
- Week 4: Monday 8th Feb 2021 : Design & configure Power BI visuals like charts, maps & KPIs.
- Week 5: Monday 15th Feb 2021 : Add user friendly report navigation features, slicers & tooltips.
- Week 6: Monday 22nd Feb 2021: Publish & share Power BI reports & dashboards.
- Week 7: Monday 1st March 2021: Get to grips with Power BI cloud service & mobile features.
- Week 8: Monday 8th March 2021: Enhance your data with DAX for KPIs reporting.
- Week 9: Monday 15th March 2021: Data analytics reporting & AI features in Power BI.
- Week 10: Monday 22nd March 2021: Power BI at work with workspaces, datasets & security.

Power BI Week 2

Monday 25th Jan 2021

- 1st a quick QUIZ !! www.mentimeter.com
- **50 24 12 1**
- <https://www.menti.com/csb5wsjst2>



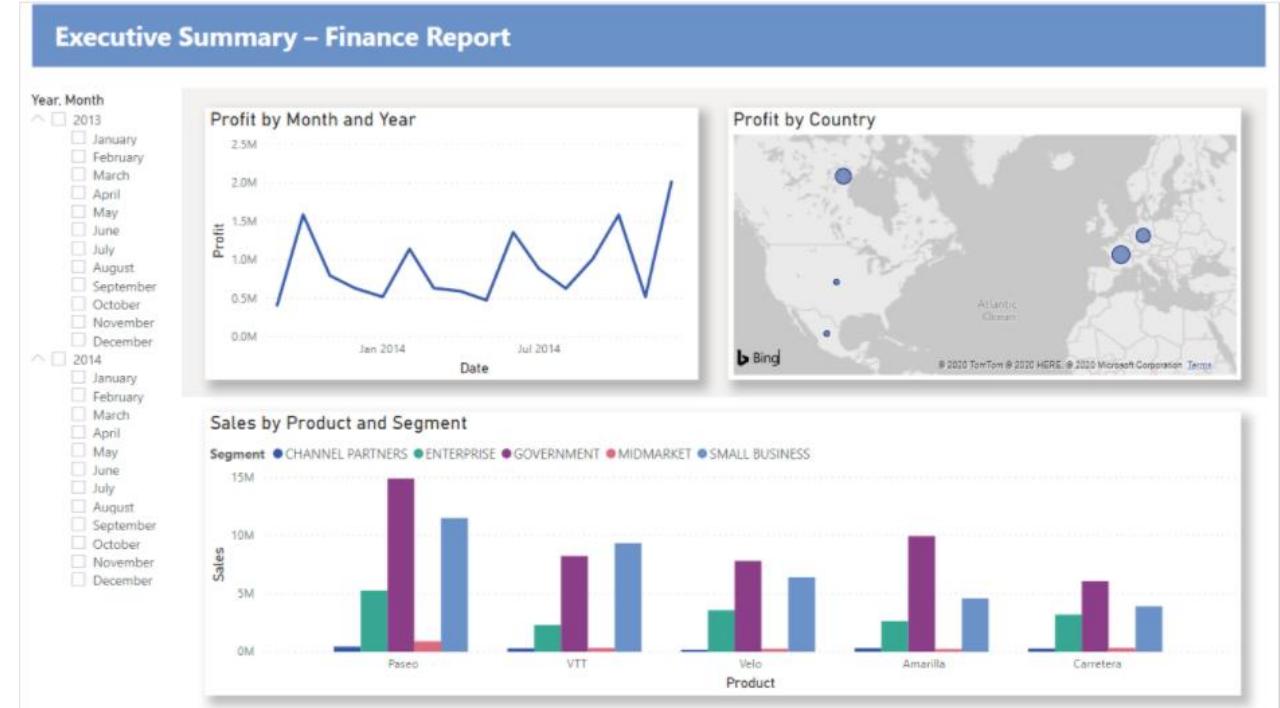
Power BI Week 2

Monday 25th Jan 2021

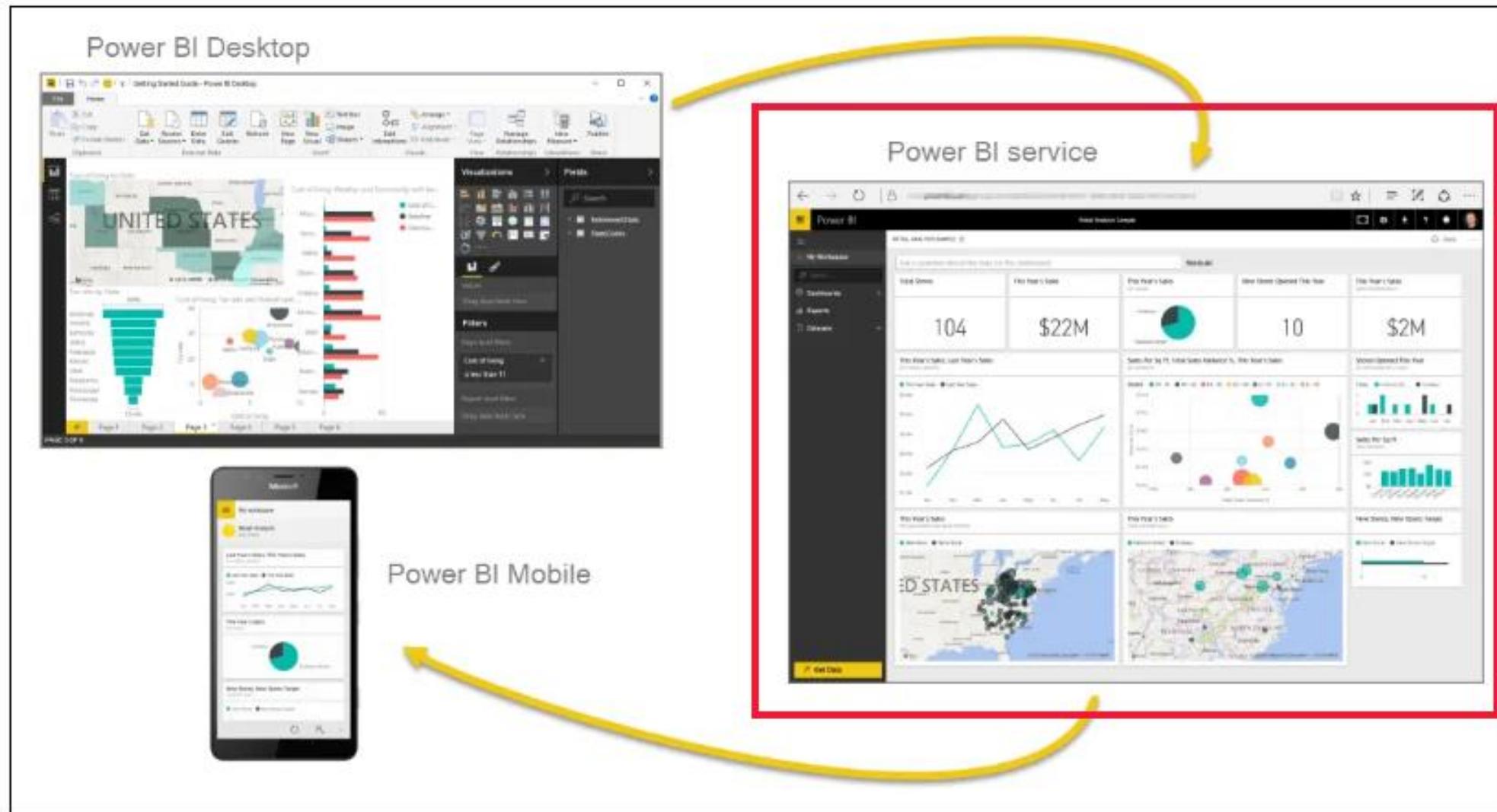
- 1st lets finish of Lesson 1
- Complete Power BI report from Lesson 1
- Sign up & login for Power BI Service account (needs a Microsoft a/c)
- Publish report to the Power BI service
- Explain what is Power BI Service basics
- Navigate report in Power BI Service
- Back to get & prepare data with Power Query Editor

Complete Power BI report from Lesson 1

- Open blog <https://docs.microsoft.com/en-us/power-bi/create-reports/desktop-excel-stunning-report>
- Demo a step
- Show finished report
- Save Power BI desktop report as .pbix locally
- Conrad demo

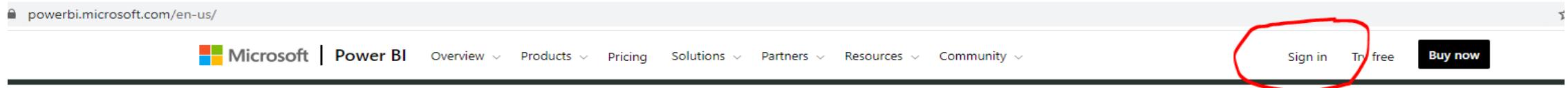


What is Power BI ?



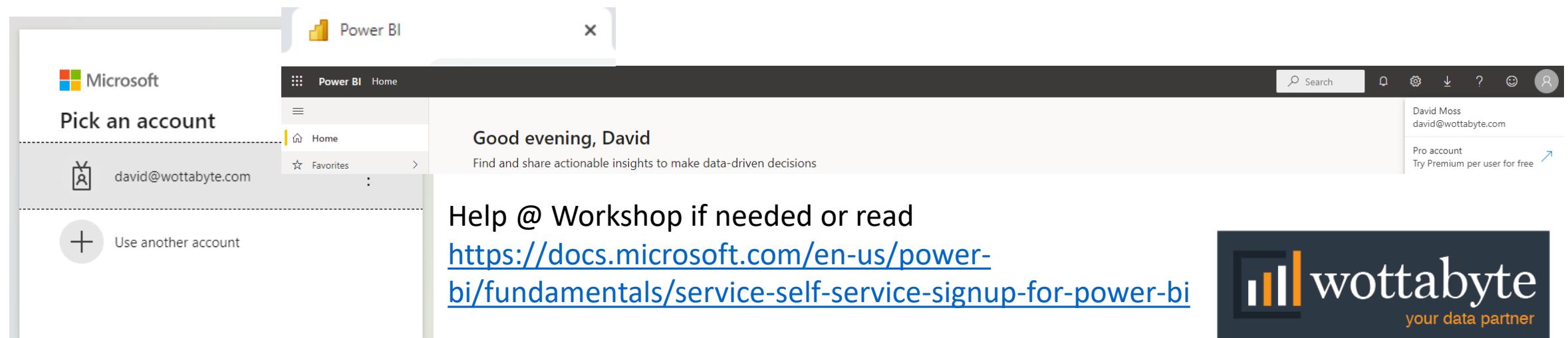
Create a Power BI Service account

Sign up & login with Power BI account (needs a Microsoft a/c)



The screenshot shows the Microsoft Power BI website at powerbi.microsoft.com/en-us/. The navigation bar includes links for Microsoft, Power BI, Overview, Products, Pricing, Solutions, Partners, Resources, Community, Sign in (which is circled in red), Try free, and Buy now.

- Goto www.powerbi.com and click 'Sign in'. Free license.
- Work or school a/c ? If none then create a Microsoft a/c but cannot use a gmail. <https://docs.microsoft.com/en-us/power-bi/consumer/end-user-sign-in>
- If fails we can help you during the workshop later this eve.
- Show Power BI Service Home page My workspace is blank.



The screenshot shows the Power BI Service Home page. A modal window titled "Pick an account" is open, showing the email "david@wottabyte.com". The main content area displays a "Good evening, David" greeting and the message "Find and share actionable insights to make data-driven decisions". Below this, there is a note: "Help @ Workshop if needed or read <https://docs.microsoft.com/en-us/power-bi/fundamentals/service-self-service-signup-for-power-bi>". On the right side, the user profile "David Moss" and email "david@wottabyte.com" are shown, along with a "Pro account" status and a "Try Premium per user for free" button. The wottabyte logo is visible in the bottom right corner.

Workshop this eve at 21:00 – 22:00 GMT

Monday 25th Jan 2021

- **Q&A Workshop - Power BI Beginner Training Lesson 2 of 10**
- <https://www.meetup.com/The-Power-BI-Apprentice/events/275871416/>



Quick Survey of audience

<https://forms.office.com/Pages/ResponsePage.aspx?id=WkuituyrDEaGarPmYT9Z1NvMNOjKOFdHsnEJjP6WpoNUREdYRjdPUUQ0SzIQVzYzUEdJSkVKV1U5Ni4u>

Student go to form and submit
Trainer display live online results in Power BI dashboard



Publish to Power BI

.pbix report

- Back in Power BI Desktop
- open .pbix then Click Publish
- Select My Workspace and click confirm.
- Check success message
- Goto www.powerbi.com
- Open My Workspace
- See your report
- Navigate report

Publishing to Power BI

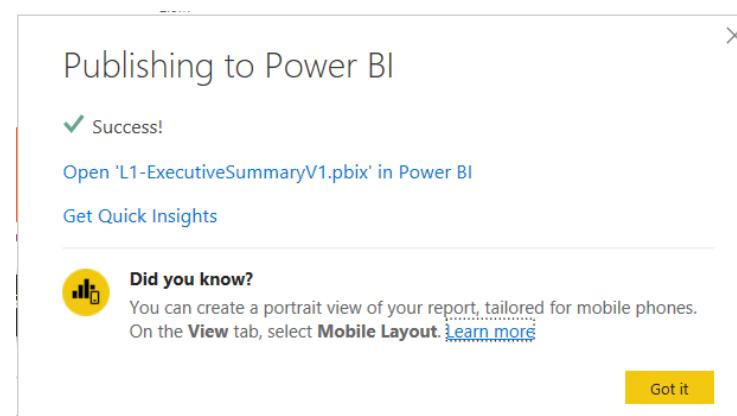
▪ Publishing 'L1-ExecutiveSummaryV1.pbix' to Power BI



Did you know?

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

Cancel

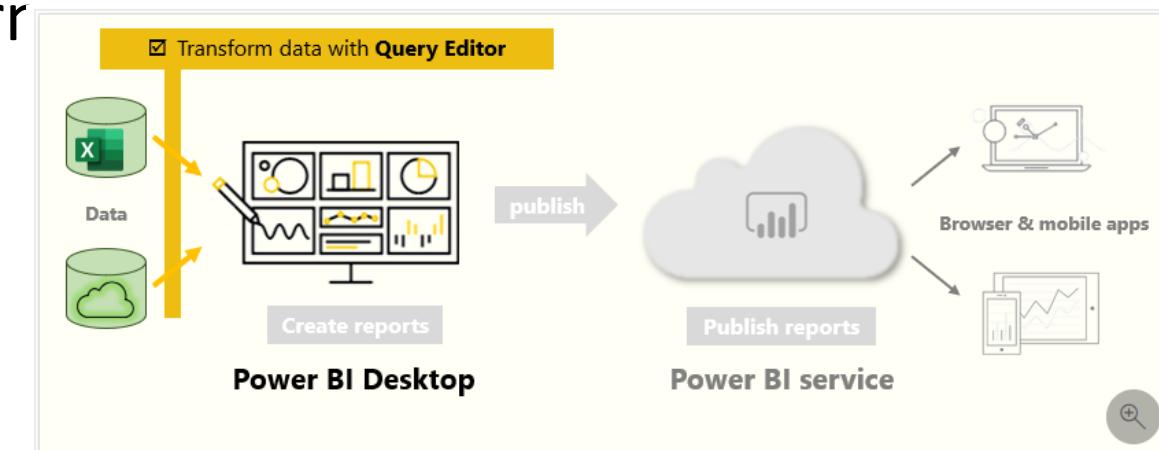
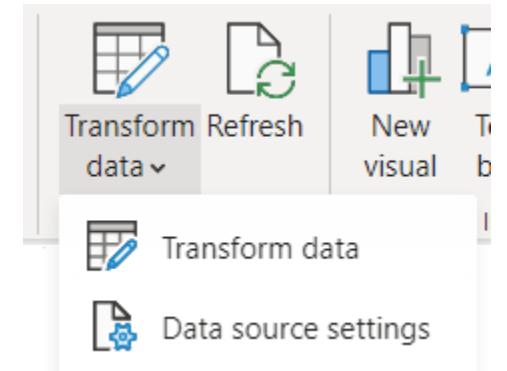


Power BI Week 2

Monday 25th Jan 2021

Use Power Query Editor to get data & prepare your data

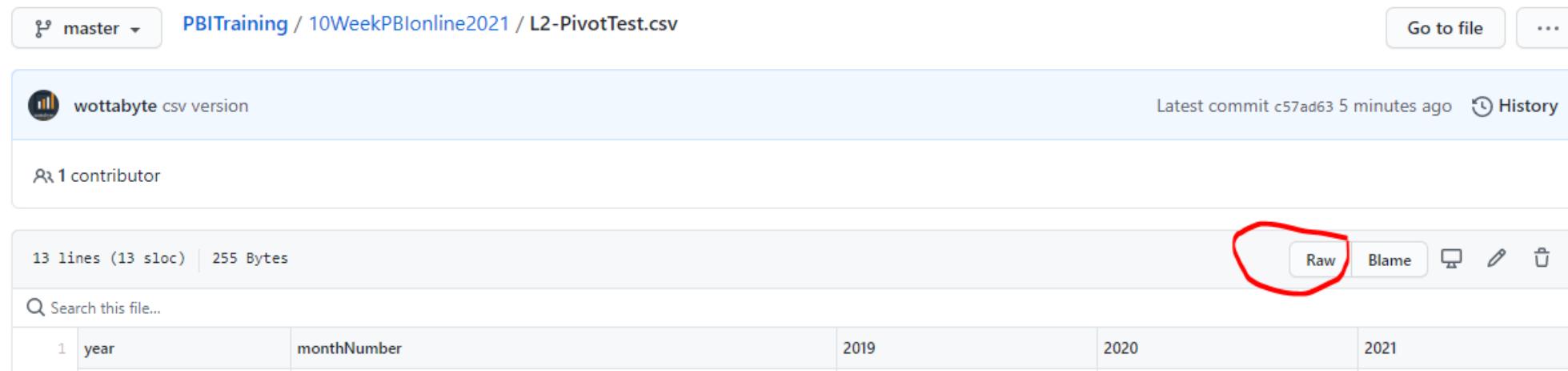
- Back to get & prepare data with Power Query Editor
- From Power BI Desktop open Power Query Editor...how ?
- Show PQE features
- Power Query Language = M
- BTW it's the same in Excel
- Get data & transform as demo in Learr



Power BI Week 2

Power Query Editor: Capitalize & UNpivot data demo

- Csv > raw ? See url :
<https://github.com/wottabyte/PBITraining/tree/master/10WeekPBlonline2021>
- PQE use Web
- Lowercase then capitalize
- Pivot years
- Close & Apply



The screenshot shows a GitHub file page for `L2-PivotTest.csv`. The page includes navigation buttons for 'master' branch, 'Go to file', and an ellipsis. Below the file name, it shows the file was last committed 5 minutes ago by `wottabyte`. It also indicates there is 1 contributor. The file size is 13 lines (13 sloc) and 255 Bytes. A search bar is present. At the bottom, there is a preview of the CSV data:

1	year	monthNumber	2019	2020	2021
---	------	-------------	------	------	------

A red circle highlights the 'Raw' button in the file operations menu at the bottom right.

Power BI Week 2 CourseWork

Monday 25th Jan 2021

- Microsoft Learn - Complete Learning Path 'Prepare Data for analysis'
- Module – 'Get data in Power BI'
- Module – 'Clean, transform and load data in Power BI'
- Download the slides from GitHub



Prepare data for analysis

3 hr 26 min • Learning Path • 0 of 2 modules completed

Intermediate Data Analyst Power BI



Get data in Power BI

1 hr 25 min • Module • 0 of 12 units completed

★★★★★ 4.8 (2,587)



Clean, transform, and load data in Power BI

2 hr 1 min • Module • 0 of 10 units completed

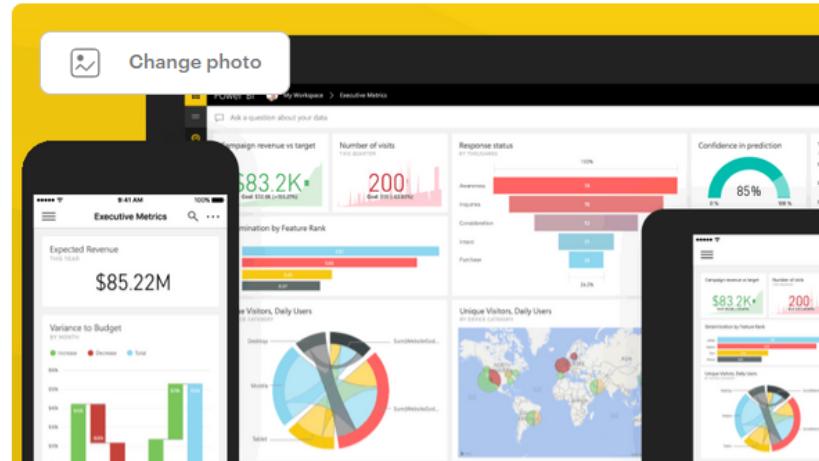
★★★★★ 4.8 (2,754)

<https://docs.microsoft.com/en-us/learn/patterns/prepare-data-power-bi/>

Social Media : Meetup , LinkedIn, YouTube

[meetup.com/The-Power-BI-Apprentice](https://www.meetup.com/The-Power-BI-Apprentice)

Meetup [Start a new group](#)



The Power BI Apprentice

London, United Kingdom · 517 members · Public group

Organized by David Moss

Share: [f](#) [t](#) [in](#)

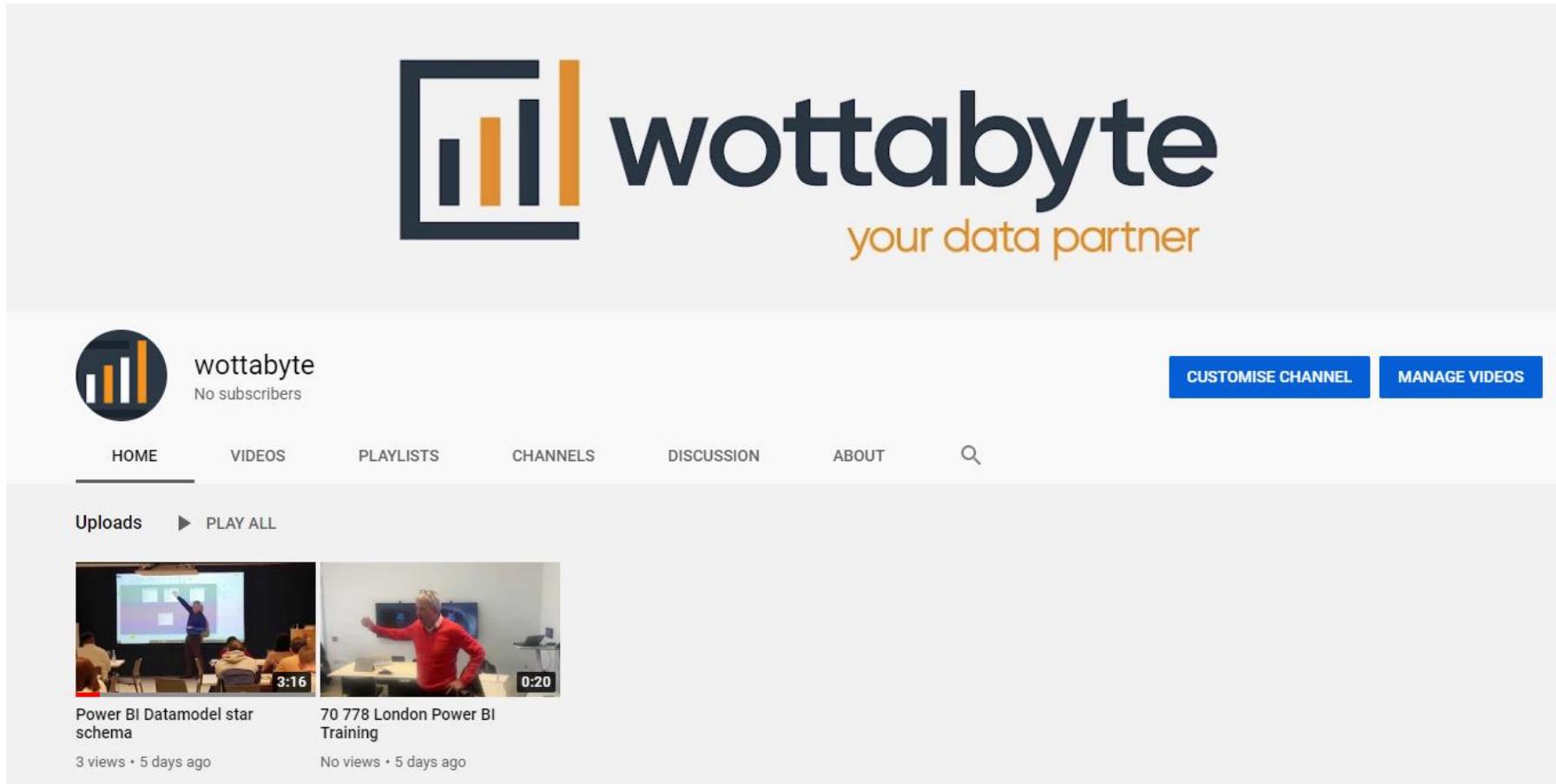
@wottabyte

wottabyte

www.wottabyte.com

You Tube

<https://www.youtube.com/channel/UCDtmmwK3YxWqzDNZ5L3pdMw>



The image shows a screenshot of a YouTube channel page. At the top, there is a large logo for "wottabyte" with the tagline "your data partner". Below the logo, the channel name "wottabyte" is displayed next to a circular profile picture containing a bar chart icon. It shows "No subscribers". There are two blue buttons: "CUSTOMISE CHANNEL" and "MANAGE VIDEOS". A navigation bar with links for "HOME", "VIDEOS", "PLAYLISTS", "CHANNELS", "DISCUSSION", and "ABOUT" is visible. A search bar is also present. The main content area is titled "Uploads" with a "PLAY ALL" button. Two video thumbnails are shown: one for "Power BI Datamodel star schema" (3:16) and another for "70 778 London Power BI Training" (0:20). Both videos were uploaded 5 days ago.

wottabyte
No subscribers

CUSTOMISE CHANNEL MANAGE VIDEOS

HOME VIDEOS PLAYLISTS CHANNELS DISCUSSION ABOUT

Uploads ► PLAY ALL

Power BI Datamodel star schema
3:16
3 views • 5 days ago

70 778 London Power BI Training
0:20
No views • 5 days ago

Power BI Week 3

1st February

Use Power BI desktop to structure & create datamodels

Watch your email & social media channels for when event goes live for registration.

The End



Power BI – LESSON 3 of 10

beginners free 10 weeks online training course



Power BI Week 3

Monday 1st Feb 2021



Use Power BI desktop to structure & create datamodels

The screenshot shows the Power BI desktop interface with the 'Home' tab selected in the ribbon. The main area displays a data model diagram with four tables: opportunity, lead, account, and contact. The opportunity table has relationships with lead, account, and contact. The lead table has relationships with account and contact. The account table has a relationship with contact. Each table has its schema listed below it. A message bar at the top indicates an upgrade to the new model view is available.

File Home Help External Tools

Paste Cut Copy Get data v Excel Power BI datasets SQL Server Enter data Recent sources v Transform Refresh data Manage relationships Manage roles View as Q&A Language setup A+ A Linguistic schema v Publish Share

Clipboard Data Queries Relationships Security Q&A Share

Upgrade to the new model view for an improved design that makes it easy to identify data sources and manage relationships. Keep in mind, this change is permanent. Learn more Upgrade now X

opportunity

- accountid
- accountidname
- accountidyominame
- actualclosedate
- actualvalue
- actualvalue_base
- budgetamount
- budgetamount_base
- budgetstatus
- budgettypename
- campaignid

lead

- accountid
- accountidname
- accountidyominame
- address1_addressid
- address1_addresstype...
- address1_city
- address1_country
- address1_fax
- address1_latitude

account

- accountcategorycode
- accountcategorycode...
- accountclassificationc...
- accountclassificationc...
- accountid
- accountnumber
- accountratingcode
- accountratingcodena...
- address1_addressid
- address1_addresstype...
- address1_addresstype...

contact

- accountid
- accountidname
- accountidyominame
- accountrolecode
- accountrolecodename
- address1_addressid
- address1_addresstype...
- address1_city
- address1_country
- address1_county

All tables PowerBI Training Online Free 10 weeks Wottabyte David Moss MVP Solutions Architect +

Power BI Week 3

Monday 1st Feb 2021

Use Power BI desktop to structure & create datamodels

- Hi & Intros: David, Conrad (get ready to scan Linkedin QR code)
- Logistics: Classroom course
- Recording on Youtube. Leave if not happy to be recorded
- Each week sign up on Meetup.com for the weekly event & Q&A workshop
- Each session will be a new Zoom link
- Questions into the chat or raise your hand
- 2 screens is better than 1.
- Microphones on mute

Linkedin : QR Codes



David Moss

Solutions Architect - Azure | Power Platform | D365 | (SC Cleared)



Conrad Moss

Power BI Developer at Hamilton Insurance Group



Microsoft Power BI Associate

DA-100 Certification

docs.microsoft.com/en-us/learn/certifications/exams/da-100

 Microsoft | Docs Documentation Learn Q&A Code Samples 

Learn Products Roles Learn TV Certifications Certifications FAQ & Help LE

Docs / Learn / Browse Certifications / Exam DA-100: Analyzing Data with Microsoft Power BI - Learn

 Exam DA-100: Analyzing Data with Microsoft Power BI

<https://docs.microsoft.com/en-us/learn/certifications/exams/da-100>

YOU Tube DA-100 : <https://www.youtube.com/watch?v=CI7hdjq0ZxI>

Workshop this eve at 21:00 – 22:00 GMT

Monday 1st Feb 2021

- **Q&A Workshop 3 - Power BI Beginner Training**
- <https://www.meetup.com/The-Power-BI-Apprentice/events/276011703/>

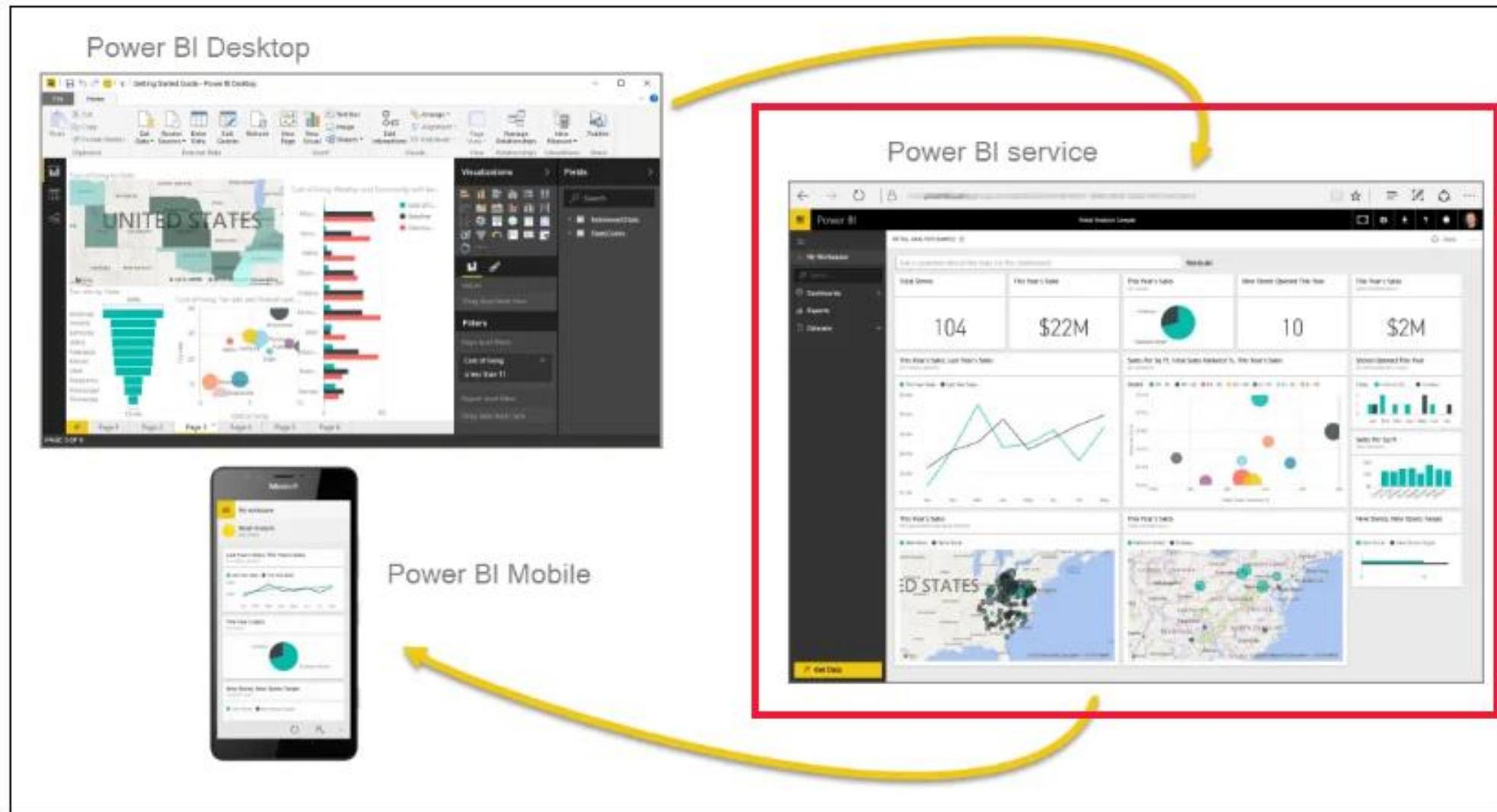


Power BI

beginners free 10 weeks online training course

- Week 1: Monday 18th Jan 2021 : Introduction to Power BI and your first Power BI report.
- Week 2: Monday 25th Jan 2021 : Use Power Query Editor to get data & prepare your data.
- Week 3: Monday 1st Feb 2021 : Use Power BI desktop to structure & create datamodels.
- Week 4: Monday 8th Feb 2021 : Design & configure Power BI visuals like charts, maps & KPIs.
- Week 5: Monday 15th Feb 2021 : Add user friendly report navigation features, slicers & tooltips.
- Week 6: Monday 22nd Feb 2021: Publish & share Power BI reports & dashboards.
- Week 7: Monday 1st March 2021: Get to grips with Power BI cloud service & mobile features.
- Week 8: Monday 8th March 2021: Enhance your data with DAX for KPIs reporting.
- Week 9: Monday 15th March 2021: Data analytics reporting & AI features in Power BI.
- Week 10: Monday 22nd March 2021: Power BI at work with workspaces, datasets & security.

What is Power BI ?



Power BI Week 2 CourseWork

From Monday 25th Jan 2021

- Microsoft Learn - Complete Learning Path 'Prepare Data for analysis'
- Module – 'Get data in Power BI'
- Module – 'Clean, transform and load data in Power BI'
- Download the slides from GitHub



Prepare data for analysis

3 hr 26 min • Learning Path • 0 of 2 modules completed

Intermediate

Data Analyst

Power BI



Get data in Power BI

1 hr 25 min • Module • 0 of 12 units completed

★★★★★ 4.8 (2,587)



Clean, transform, and load data in Power BI

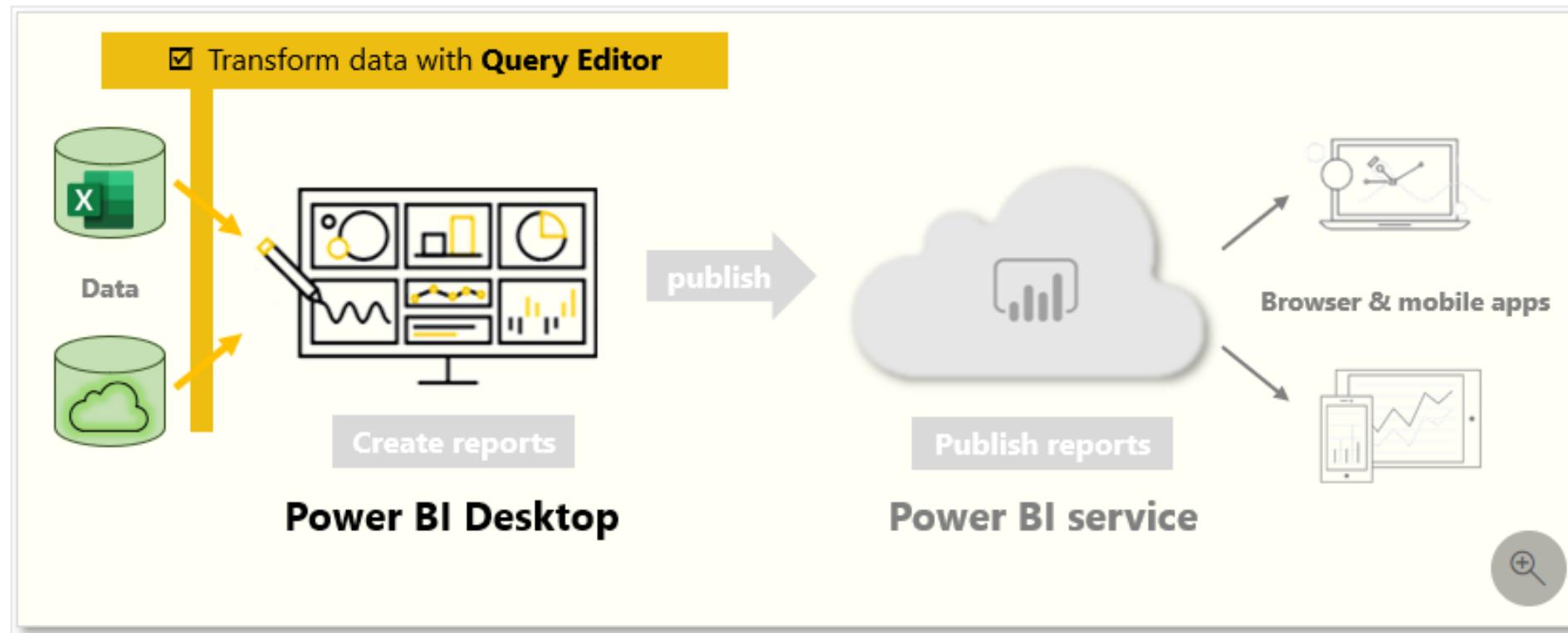
2 hr 1 min • Module • 0 of 10 units completed

★★★★★ 4.8 (2,754)

<https://docs.microsoft.com/en-us/learn/patterns/prepare-data-power-bi/>

Power BI Week 3

Power BI Workflow



Power BI Week 2

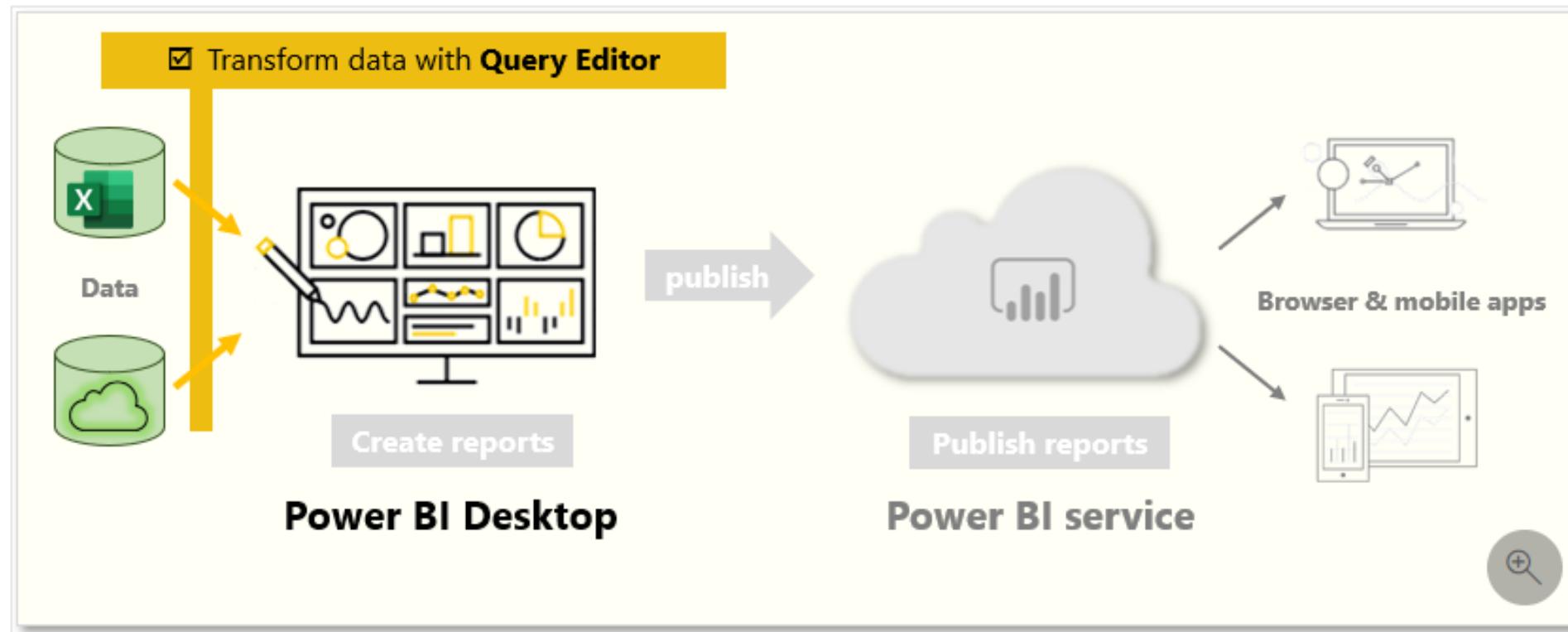
Published to Power BI Service ??

The screenshot shows the Power BI Service interface. The top navigation bar includes back, forward, and refresh buttons, along with a URL bar showing <app.powerbi.com/groups/83187624-88fe-4068-a710-9ebb83c4c148/list/dashboards>. The main title is "Power BI DA-100 2021 10 week online". On the left, a sidebar lists Home, Favorites, Recent, Create, Datasets, Apps, Shared with me, and Deployment pipelines. The main content area displays a dashboard titled "DA-100 2021 10 week online" with a user icon. Below it are buttons for "+ New", "Create a pipeline", and tabs for All, Content (which is selected), and Datasets + dataflows. A table lists two reports: "L1-ExecutiveSummaryV2" and "L2-PivotedData", both categorized as Report.

Name	Type
L1-ExecutiveSummaryV2	Report
L2-PivotedData	Report

Power BI Week 3

Power BI Workflow



Quick Survey of audience

<https://forms.office.com/Pages/ResponsePage.aspx?id=WkuituyrDEaGarPmYT9Z1NvMNOjKOFdHsnEJjP6WpoNUREdYRjdPUUQ0SzIQVzYzUEdJSkVKV1U5Ni4u>

Student go to form and submit
Trainer display live online results in Power BI dashboard



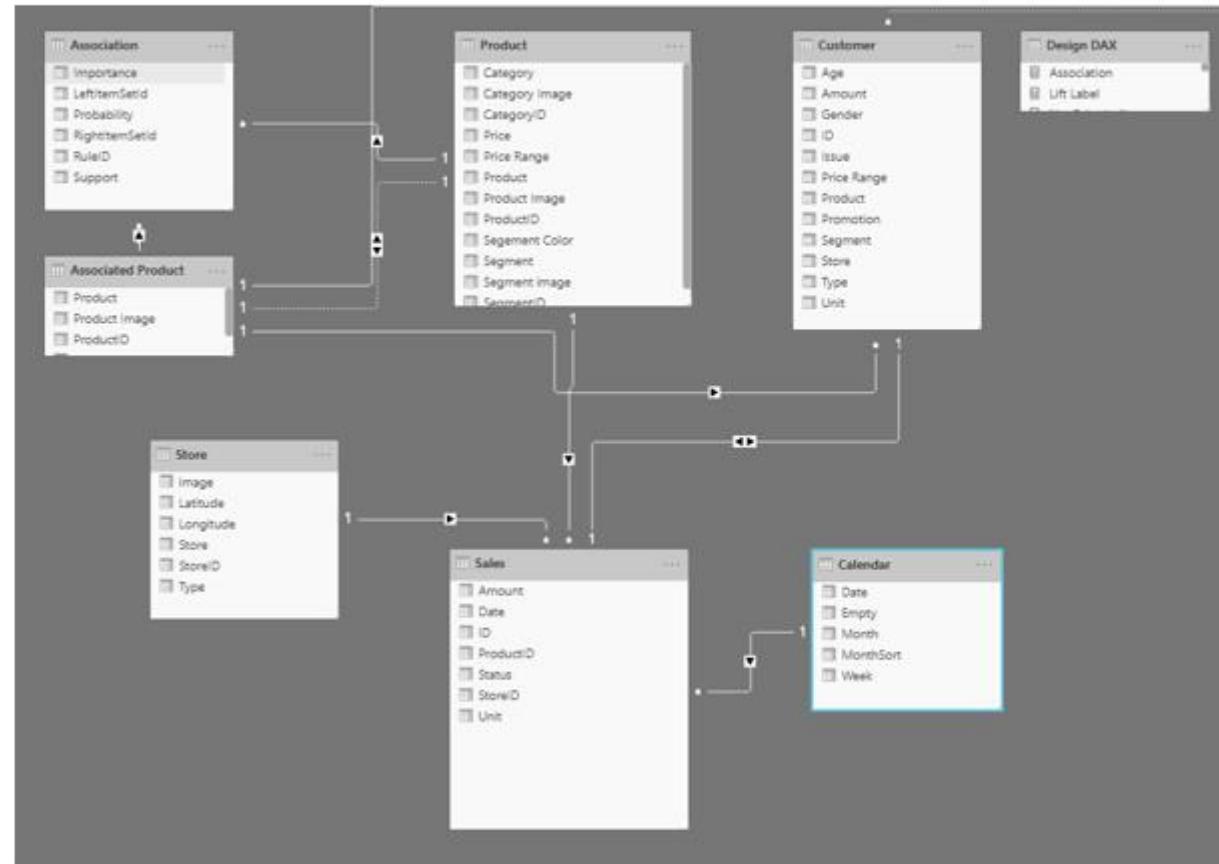
Power BI Week 3

Intro to data modelling



Introduction to Data Modeling

- Benefits of a good data model:
 - Accurate reports.
 - Faster data exploration.
 - Simpler aggregations.
 - Easier to maintain.



Power BI Week 3

Joins & Relationships



Microsoft
Power Platform

Joins and Relationships

The screenshot shows the Power BI Data Model interface. On the left, the 'Employee' table is displayed with columns: Category Name, City, Employee Name, EmployeeID, Product Group, StandardCost, State, and Category Name Hierarchy. On the right, the 'Sales' table is shown with columns: Amount, CountryID, EmployeeID, Freight, Freight_1, ListPrice, Order Date, OrderDate, and OrderQty. A relationship is established between the EmployeeID column in the Employee table and the EmployeeID column in the Sales table, indicated by a line with a 1 and an * symbol. A red arrow points from the Employee table towards the Manage relationships dialog box. The dialog box is titled 'Manage relationships' and contains a table of existing relationships:

Active	From: Table (Column)	To: Table (Column)
<input type="checkbox"/>	Country (Country)	CountryName (Country)
<input checked="" type="checkbox"/>	Country (Country)	Territory (Country)
<input checked="" type="checkbox"/>	Customers (ID)	SalesVals (ID)
<input checked="" type="checkbox"/>	Order (OrderDate)	Sales (OrderDate)
<input checked="" type="checkbox"/>	Product ID (ProductID)	Product (ProductID)
<input checked="" type="checkbox"/>	Sales (CountryID)	CountryName (CountryID)
<input checked="" type="checkbox"/>	Sales (Order Date)	Budget (Date)
<input checked="" type="checkbox"/>	Sales (Order Date)	Calendar (Date)
<input checked="" type="checkbox"/>	Sales (ProductID)	Product (ProductID)
<input checked="" type="checkbox"/>	Territory (Country)	CountryName (Country)

Buttons at the bottom of the dialog box include New..., Autodetect..., Edit..., Delete, Close, and a large yellow 'OK' button.

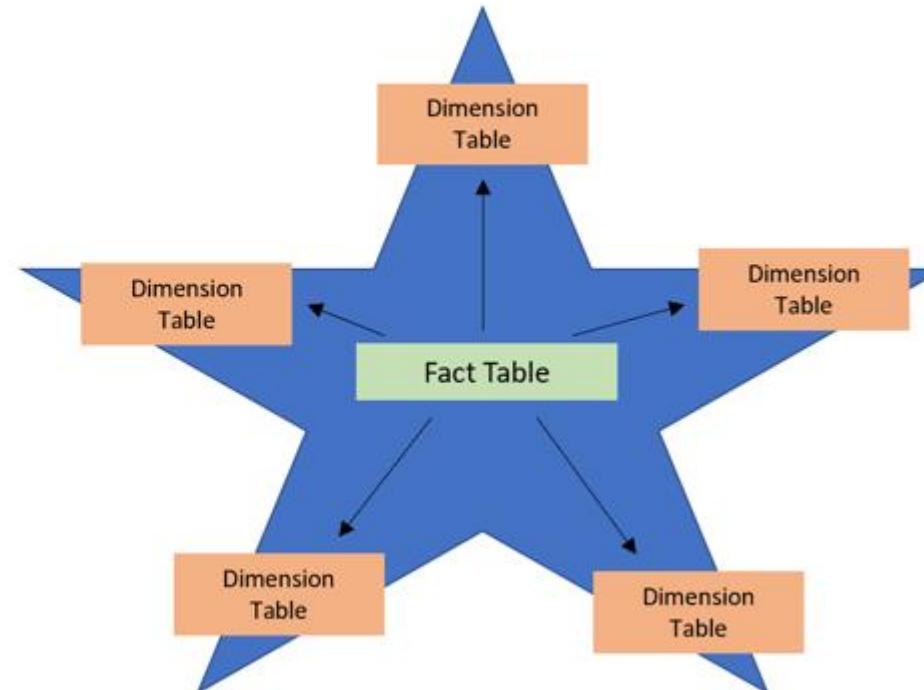
Power BI Week 3

Star Schemas



Star Schemas

- Tables are classified as dimension or fact tables.
 - Dimension: Describes business entities.
 - Fact: Store observations or events.





Components of a data model – Fact Table



Fact Table

- Contains **Measures** (or items to be aggregated) of a business process

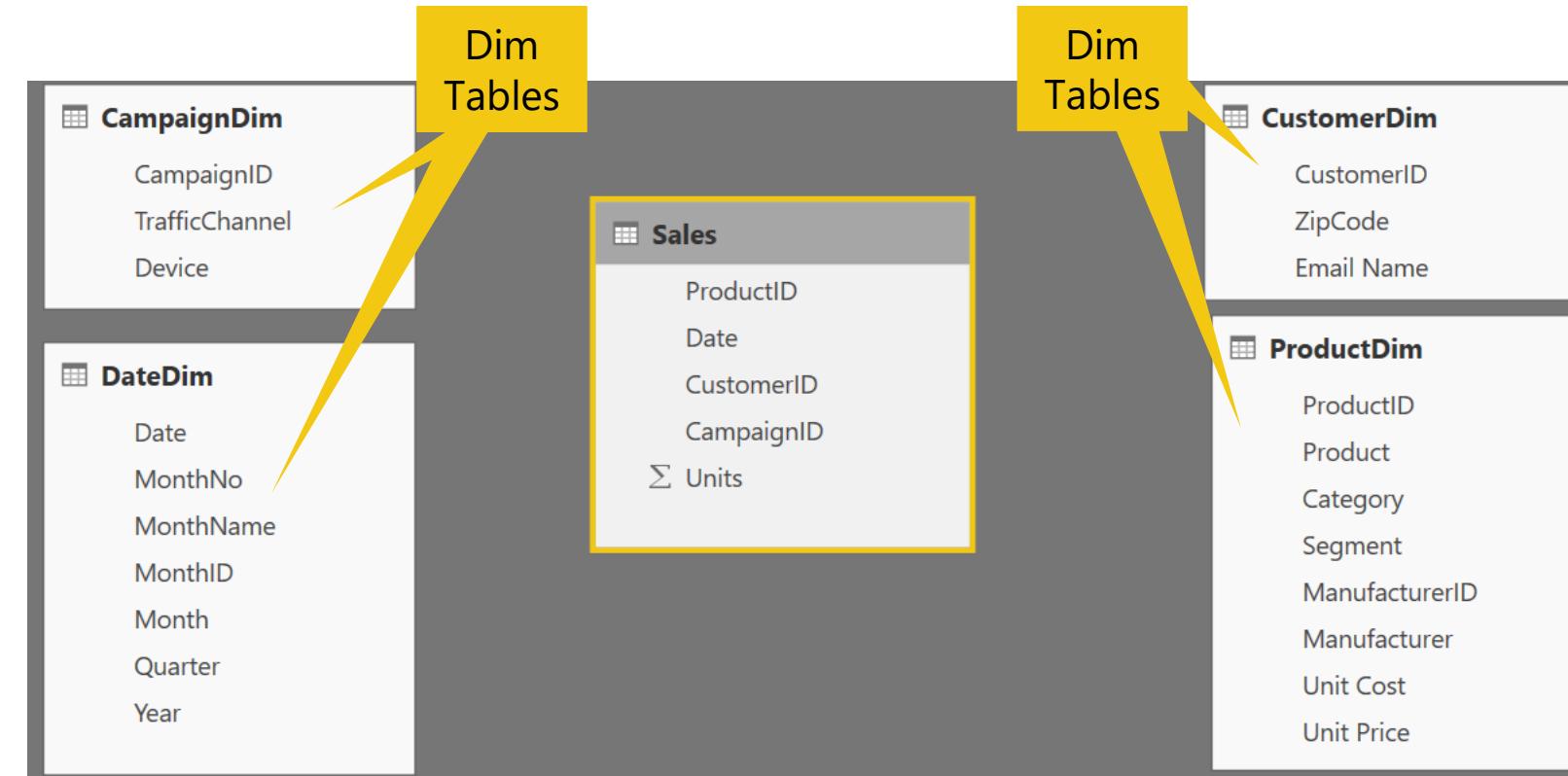
Examples:

- Transactions
 - Sales Revenue
 - Units
 - Cost
-
- Measures are usually sliceable.

Examples: By Month,
By Customer



Components of a data model – Dim Table



Dim Table

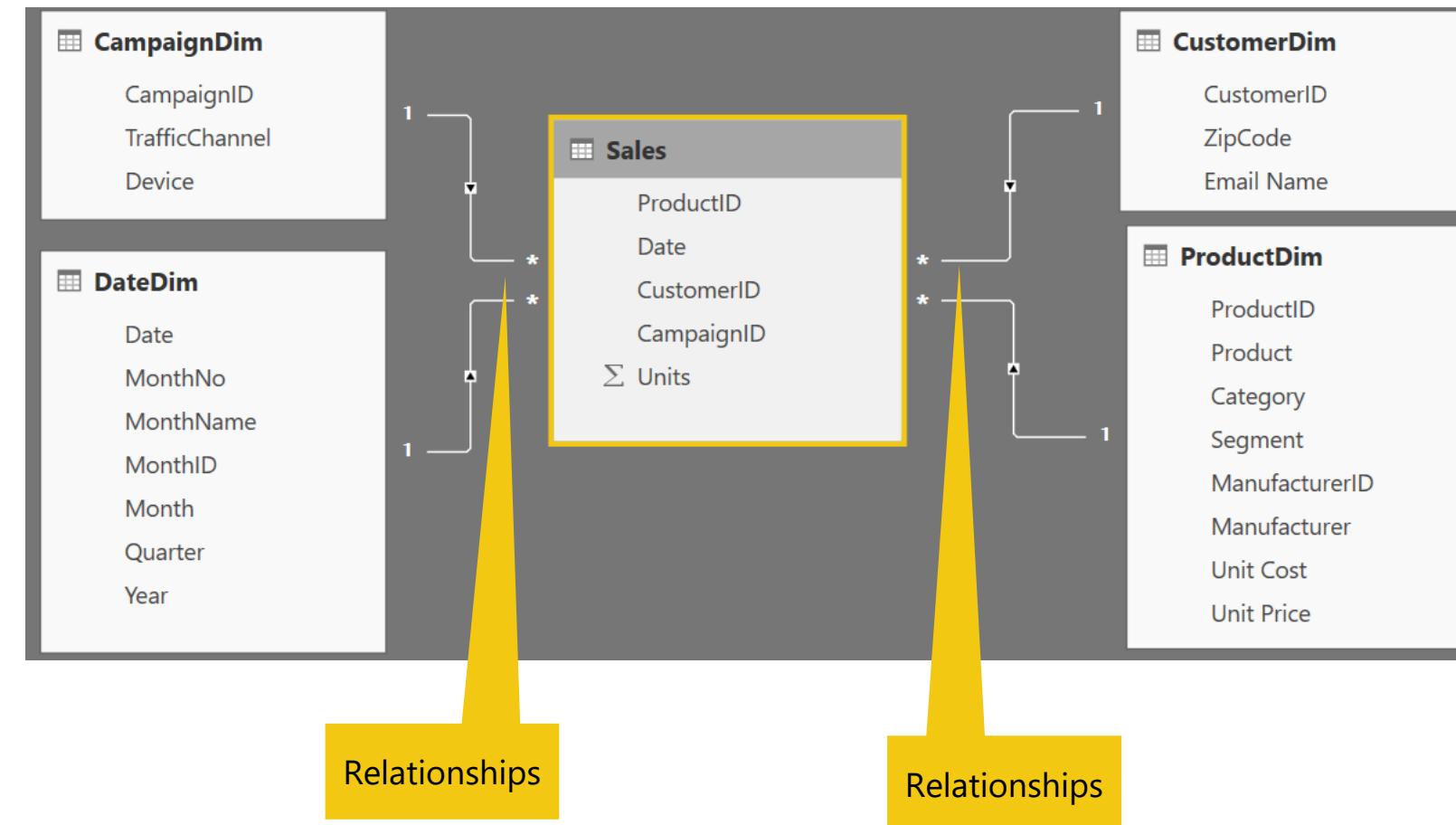
A Dim (or Dimension) table contains descriptive attributes that define how a fact should roll up.

Examples:

By month, By Customer, By Geo



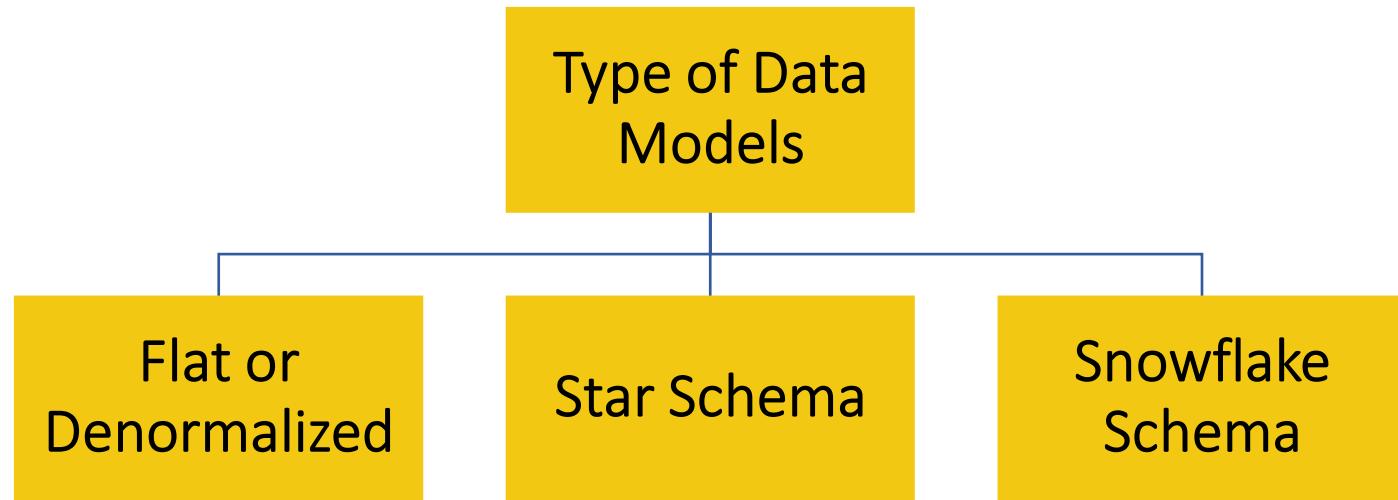
Components of a data model - Relationships



Relationships

- Connection between 2 tables (usually fact & Dim tables) using columns from each
- 3 kinds of Relationships
 - 1 to Many
 - 1 to 1
 - Many to Many
(with a bridge table)

Data Model Brings Facts and Dimensions Together



Note: This is not an exhaustive list, but are the most common model types used by Power BI.



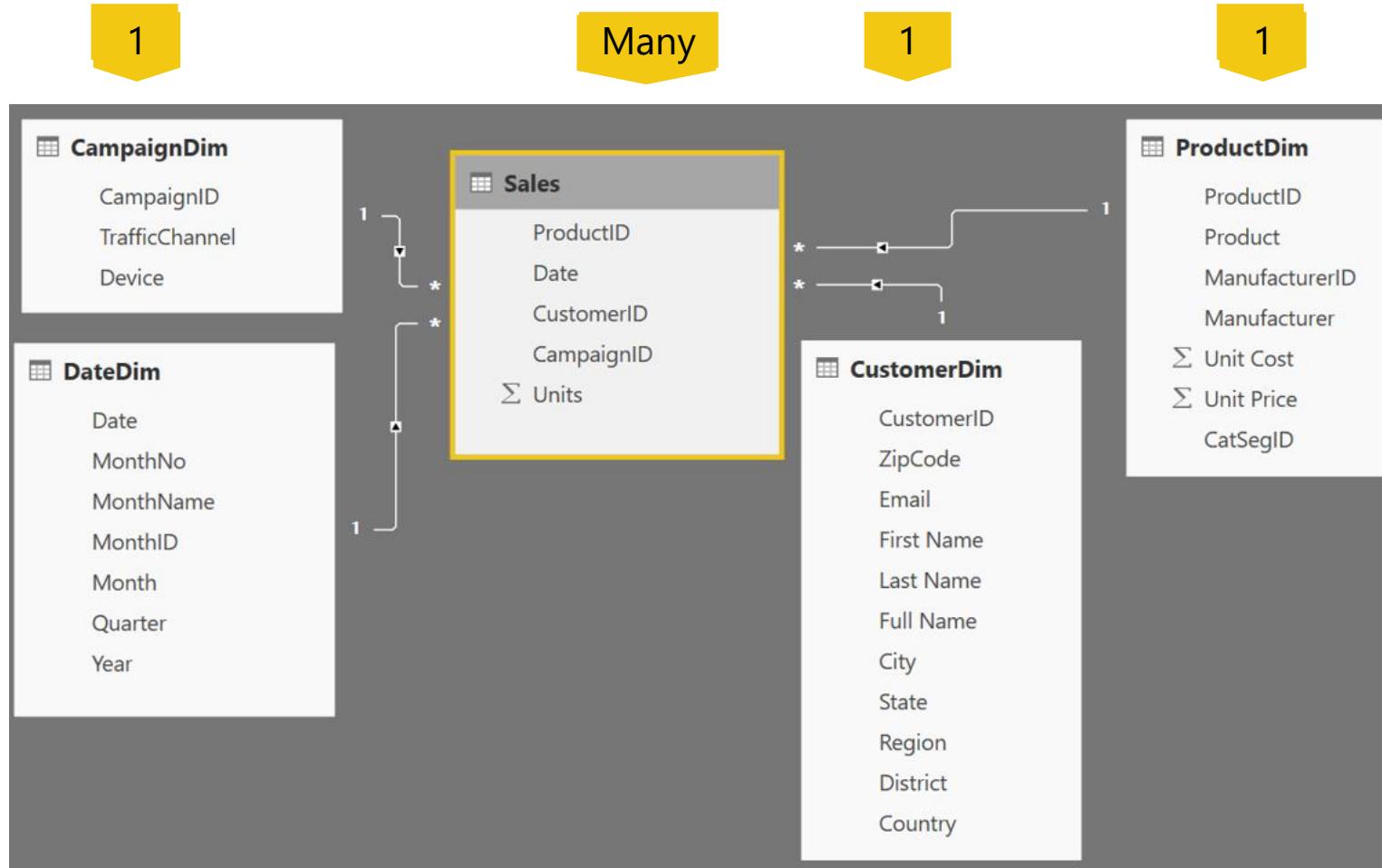
Flat or Denormalized Schema

	1 ² ₃ ProductID	A ^B _C Product	Date	1 ² ₃ CustomerID	A ^B _C Email	A ^B _C Last Name	A ^B _C First Name	A ^B _C Full Name	1 ² ₃ CampaignID	1 ² ₃ Units	1.2 CatSegID	
1	676	Maximus UC-41	9/25/2011	70283	Farrah.Kent@xyz...com	Kent	Farrah	Farrah Kent		22	1	10
2	585	Maximus UC-50	3/24/2014	70283	Farrah.Kent@xyz...com	Kent	Farrah	Farrah Kent		15	1	10
3	585	Maximus UC-50	11/30/2014	138334	Martha.Mcclain@xyz...com	Mcclain	Martha	Martha Mcclain		8	1	10
4	585	Maximus UC-50	6/21/2015	27193	Hedda.Mcintosh@xyz...com	Mcintosh	Hedda	Hedda McIntosh		22	1	10
5	585	Maximus UC-50	1/6/2013	238970	Lunea.Walker@xyz...com	Walker	Lunea	Lunea Walker		21	1	10
6	585	Maximus UC-50	3/22/2013	182241	Upton.Page@xyz...com	Page	Upton	Upton Page		17	1	10
7	449	Maximus UM-54	9/25/2011	195385	Drake.Wells@xyz...com	Wells	Drake	Drake Wells		22	1	4
8	449	Maximus UM-54	9/30/2014	168009	Wallace.Bender@xyz...com	Bender	Wallace	Wallace Bender		17	1	4
9	449	Maximus UM-54	8/12/2014	110391	Astra.Erickson@xyz...com	Erickson	Astra	Astra Erickson		20	1	4
10	449	Maximus UM-54	4/16/2014	49327	Echo.Bradley@xyz...com	Bradley	Echo	Echo Bradley		7	1	4
11	449	Maximus UM-54	2/28/2013	65952	Yoko.Gross@xyz...com	Gross	Yoko	Yoko Gross		17	1	4
12	449	Maximus UM-54	6/6/2013	97	Yoshi.Grant@xyz...com	Grant	Yoshi	Yoshi Grant		10	1	4
13	449	Maximus UM-54	5/14/2013	56757	Brian.Carrillo@xyz...com	Carrillo	Brian	Brian Carrillo		10	1	4
14	449	Maximus UM-54	4/9/2015	248715	Mark.Hewitt@xyz...com	Hewitt	Mark	Mark Hewitt		19	1	4
15	449	Maximus UM-54	4/28/2013	248715	Mark.Hewitt@xyz...com	Hewitt	Mark	Mark Hewitt		8	1	4
16	449	Maximus UM-54	3/28/2014	240831	Oscar.Avila@xyz...com	Avila	Oscar	Oscar Avila		18	1	4
17	449	Maximus UM-54	2/26/2014	201004	Duncan.Mcintosh@xyz...com	Mcintosh	Duncan	Duncan McIntosh		19	1	4
18	615	Maximus UC-80	5/14/2012	212645	Jacob.Santiago@xyz...com	Santiago	Jacob	Jacob Santiago		22	1	10
19	615	Maximus UC-80	5/14/2012	70666	Hilary.Coller@xyz...com	Collier	Hilary	Hilary Collier		22	1	10
20	615	Maximus UC-80	5/14/2012	114459	Chester.Mitchell@xyz...com	Mitchell	Chester	Chester Mitchell		22	1	10
21	615	Maximus UC-80	5/14/2012	221670	Sage.Yang@xyz...com	Yang	Sage	Sage Yang		22	1	10
22	615	Maximus UC-80	6/3/2012	168009	Wallace.Bender@xyz...com	Bender	Wallace	Wallace Bender		22	1	10
23	615	Maximus UC-80	6/3/2012	154439	Iliana.Dunlap@xyz...com	Dunlap	Iliana	Iliana Dunlap		22	1	10
24	615	Maximus UC-80	6/4/2012	191391	Joelle.Lee@xyz...com	Lee	Joelle	Joelle Lee		22	1	10

- All attributes for model exist in a single table
- Highly inefficient
- Model has extra copies of data > slow performance
- Size of a flat table can blow up really quickly as data model becomes complex



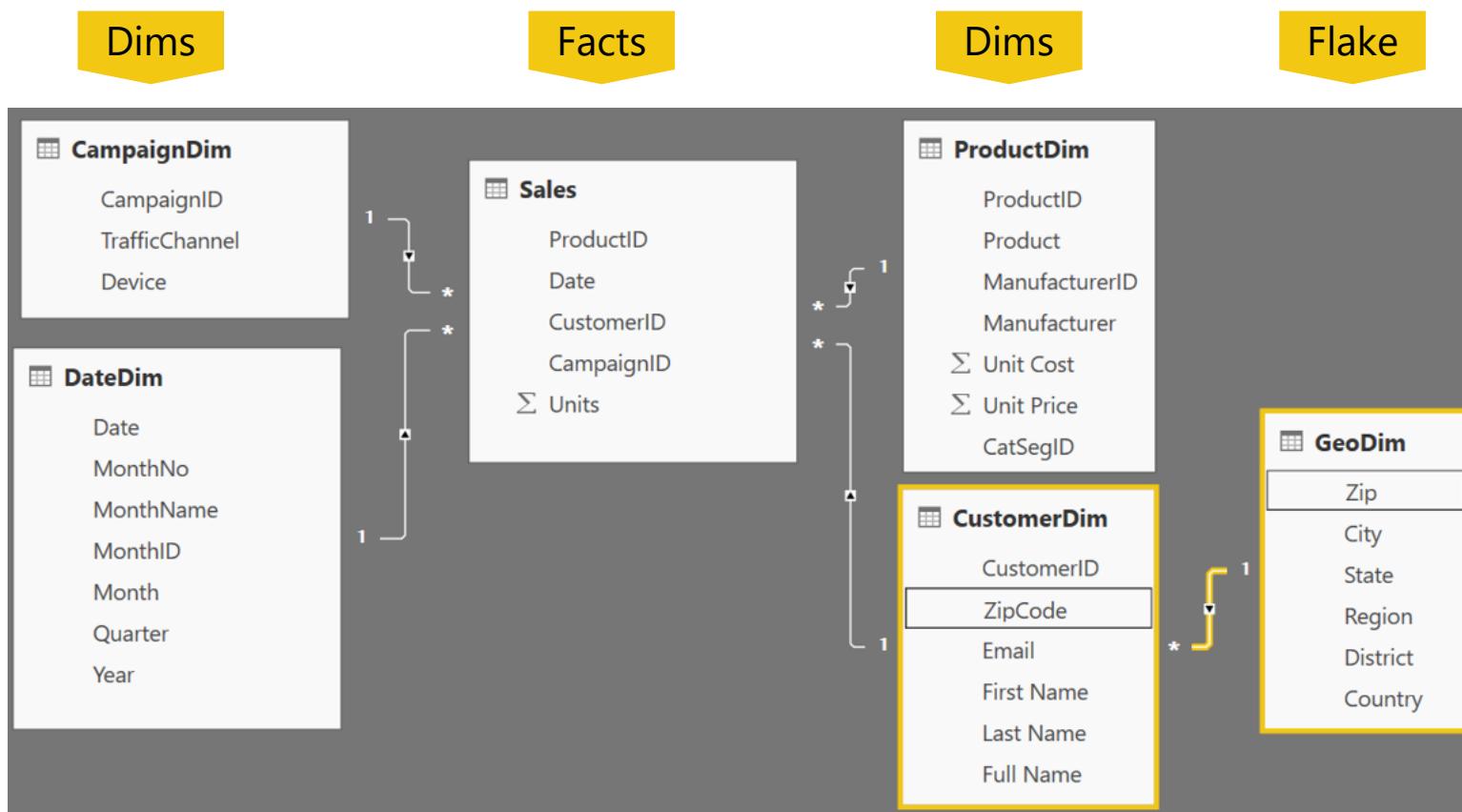
Star Schema



- Fact table in the middle
- Surrounded by Dims
- Looks like a ‘Star’
- Fact table is the “Many” side of the (one to many) relationship



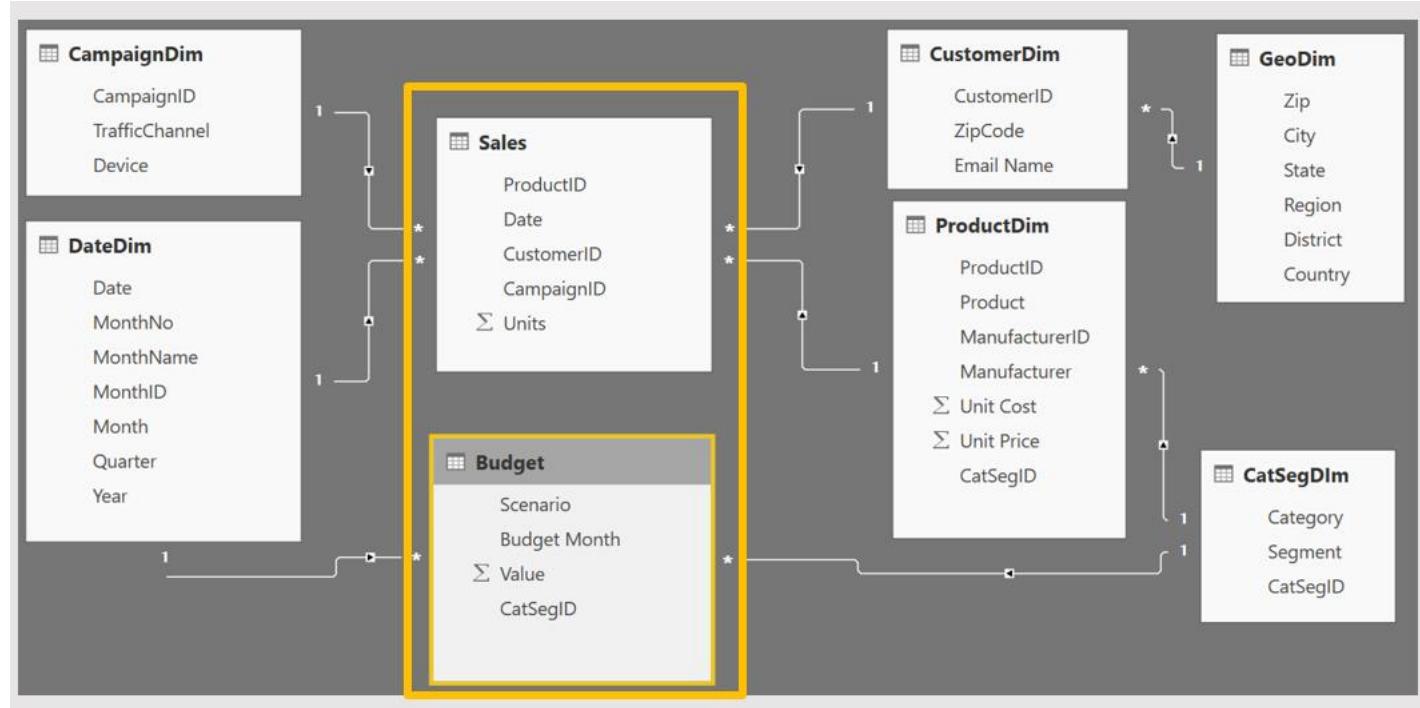
Snowflake Schema



- Center is a Star schema
- Fact table in middle
- Surrounded by Dims
- Dims “snowflake” off of other Dims
- If you have many, it looks like a ‘Snowflake’
- Dim or Fact tables can be the “Many” side of the relationship



Granularity & Multiple Fact Tables



Sales (Daily by Product)

Budget (Monthly by Product Category & Product Segment)

- Grain (**granularity**) measures the level of detail in a table

Example:

One row per order or per Item
Daily or Monthly date grain

- If your facts have **very different granularities**, split them into **Multiple Fact** tables & connect them to shared dimensions at the lowest common granularity.

Power BI Week 3

Use Datamodel from Lesson 1

DEMO

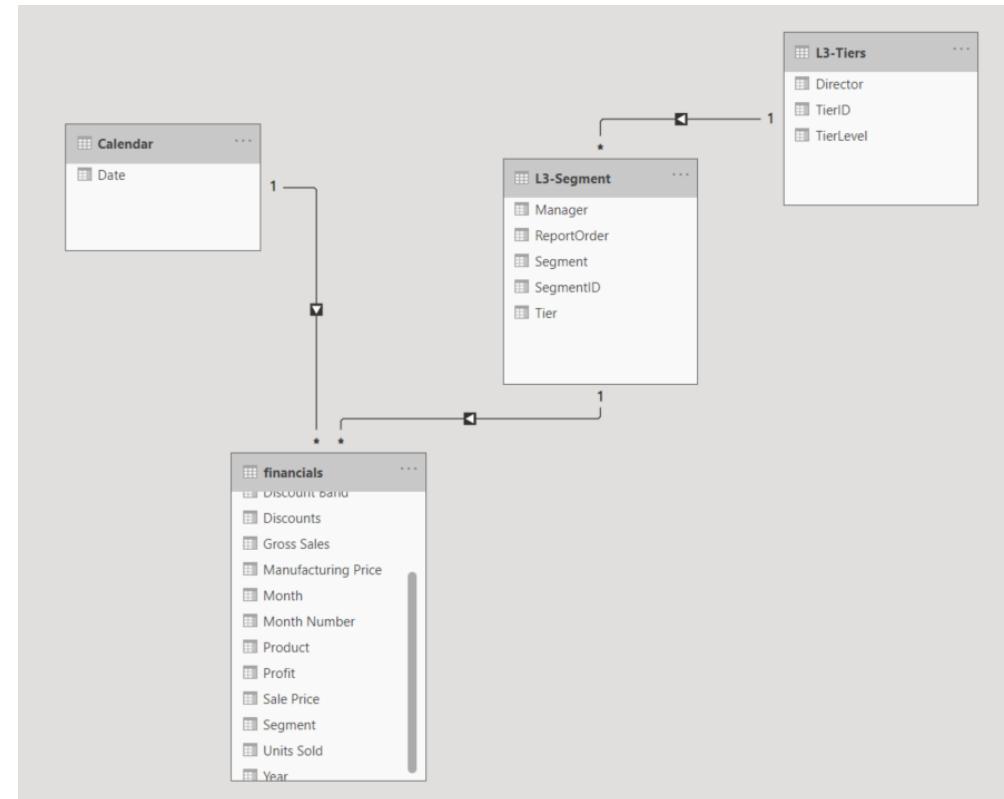
Add Segment & Tiers dimensions

Use web connector with Raw csv url from GitHub

Create Star Schema

Create a report with Dimensional data

Hide related fields in fact [financials](Segment)
& in L3-Segment[Tier]



Segments: <https://raw.githubusercontent.com/wottabyte/PBITraining/master/10WeekPBIonline2021/L3-Segment.csv>

Tiers: <https://raw.githubusercontent.com/wottabyte/PBITraining/master/10WeekPBIonline2021/L3-Tiers.csv>

Power BI Week 3

Intro to DAX – Data Analysis Expressions

DAX is a library of functions & operators

Used to Calculated Columns, Measures & Calculated Tables.

Demo CC : Add to date table from lesson 1

DAX: Year

DAX: Month Number

DAX: FY = "FY" & YEAR('Calendar'[Date])

DAX: mmyyyy = FORMAT('Calendar'[Date], "mmm") & " " &
RIGHT(YEAR('Calendar'[Date]), 2)

Datamodel fix month order by adding month number

Fix mmyyyy order by adding

yyyymm = 'Calendar'[year]*100 + 'Calendar'[month number]

Power BI Week 3

Measures

Measures:

Demo Default summarization then

Demo Measure : Total Revenue = sum of Sales

Demo Calculate : Sales by a fixed Country = “France”

Demo Sales by Country

If time go onto Time Intelligence

Time Intelligence

Demo Sales Previous Year & TOTALYTD & %

More DAX: Userelationships, semi additive,

Power BI Week 3

Template

Power BI Week 3 CourseWork

Monday 1st Feb 2021

- Microsoft Learn – ‘Model Data in Power BI’
- Module – ‘Design a data model in Power BI’
- Module – ‘Clean, transform and load data in Power BI’



Model data in Power BI

4 hr 12 min remaining • Learning Path • 0 of 3 modules completed

Intermediate Data Analyst Power BI



Design a data model in Power BI

49 min remaining • Module • 8 of 11 units completed

★★★★★ 4.8 (1,696)



Introduction to creating measures using DAX in Power BI

2 hr 40 min remaining • Module • 0 of 10 units completed

★★★★★ 4.7 (1,296)



Optimize a model for performance in Power BI

43 min remaining • Module • 0 of 8 units completed

★★★★★ 4.7 (1,535)

<https://docs.microsoft.com/en-us/learn/patterns/model-power-bi/>

Lesson 3 of 10 Power BI free online training

POWER BI BEGINNER DATAMODELLING TECHNIQUES

MONDAY 1st FEB
17:00 GMT



Q&A Workshop 3

POWER BI BEGINNER DATAMODELLING TECHNIQUES

MONDAY 1st FEB
17:00 GMT



Power BI Week 3

Template



Lesson 4 of 10 Power BI Beginner

Power BI Reports & configure charts

MONDAY 8th FEB
17:00 GMT



Power BI – LESSON 4 of 10

beginners free 10 weeks online training course



Power BI Week 4

Template



Lesson 4 Slides to follow after the actual Lesson on Monday 8th Feb 2021

Power BI Week 4

Template

