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**Dive in Deep.  
Emerge an Expert.**

# Retail and Power BI



# This session is NOT about:

- Creating fantastic Power BI Graphics
- The perfect solution
- Using the power BI embedded

# This session is about:

- Practical Retail reporting using Power BI
- One way of doing this without customizations
- How to made it work in a few hours using Contoso demo data

# What reporting are Retailers looking for ?

- How much is sold ? (Item, Category, Group)
- What is selling ? (Brand, Color, Style)
- Where are the sales ? (Country, Area, Store)
- Who is selling ? (Team, Manager, Cashier)
- Why are the sales like this ? (Year, Month, Date)
- Where are the margins ? (Revenue, Kick-back, Currencies)
- How can we improve ?

**Retail is detail!**

James Gulliver  
(one of founder of modern supermarket retailing 40 years ago)

Example of a simple Retail Power BI

L1Top

- Contoso Retail
  - Contoso Retail FR
  - Contoso Retail RUS
  - Contoso Retail USA
    - Central
    - East
    - West
      - Bellevue
      - Costa Mesa
      - Lone Tree
      - Los Angeles
      - Mission Viejo

TRANSACTIONDATE

01.01.2015

22.08.2018

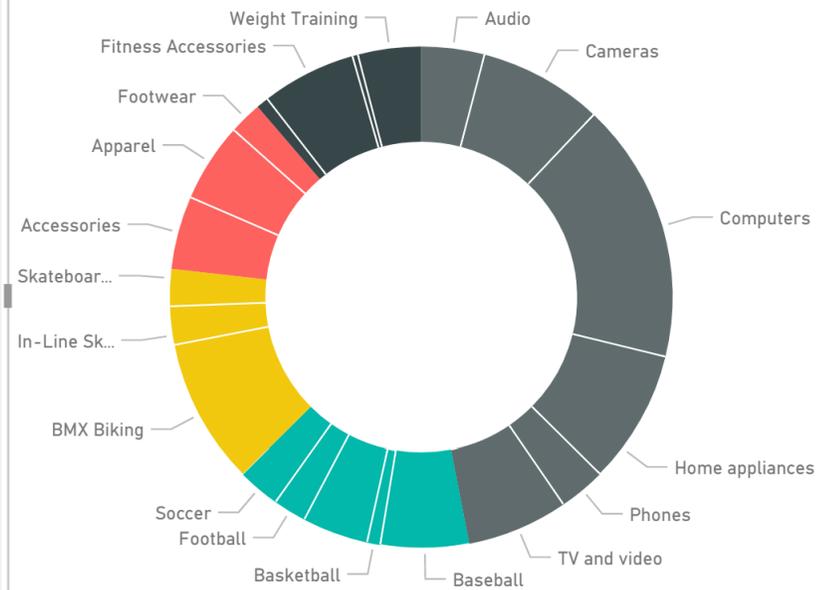
L1Category

- ALL
  - Action Sports
  - Apparel and Footwear
  - Electronics
  - Exercise
    - Cardio Equipment
    - Cycling
    - Fitness Accessories
    - Running and Walkings
      - Running and Walking
        - Men's Running Socks
        - Unisex Running Socks
        - Women's Running Socks
      - Weight Training
    - Fashion
    - Team Sports

Item	Name	Qty	Unit	Turnover
0059	Premium Cricket Bat	679,00	Ea	237 643,21
0183	Deluxe GPS Fitness Watch	676,00	Ea	236 593,24
0009	Premium Full Finger Gloves	5 169,00	Ea	232 605,00
3107	Southridge Video 52" LCD HDTV X590	73,00	Ea	211 699,27
0021	Premium BMX Youth Helmet	5 090,00	Ea	203 549,10
6105	Litware Washer & Dryer L270	73,00	Ea	193 596,00
0020	Signature BMX Youth Helmet	5 059,00	Ea	151 719,41
0058	Signature Cricket Bat	668,00	Ea	146 953,32
6101	Litware Washer & Dryer L420	54,00	Ea	143 208,00
0137	Decline/Flat Bench	681,00	Ea	143 003,19
0182	Basic GPS Fitness Watch	684,00	Ea	136 793,16
6106	Litware Washer & Dryer M255	68,00	Ea	135 252,00
0091	Roller Hockey Skates	646,00	Ea	129 193,54
6102	Litware Washer & Dryer M350	64,00	Ea	127 296,00
0014	Adult Baseball Outfield Glove	653,00	Ea	124 063,47
2305	Fabrikam Independent Filmmaker X400	71,00	Ea	113 600,00
2308	Fabrikam Independent Filmmaker X100	73,00	Ea	110 960,00
6103	NT Washer & Dryer E2100	69,00	Ea	110 393,10
4201	Proseware Icon Floorstanding Speakers	61,00	Ea	109 799,39
2306	Fabrikam Independent Filmmaker X300	67,00	Ea	105 781,00
0156	Mens Fleece Jacket	658,00	Ea	105 273,42
0161	Childrens Sneaker	696,00	Ea	104 393,04
0007	Full Finger BMX Gloves	5 170,00	Ea	103 348,30
2307	Fabrikam Independent Filmmaker X200	66,00	Ea	102 960,00
0018	Adult First Base Mitt	685,00	Ea	102 743,15
0160	Womens Sneaker	684,00	Ea	102 593,16
0159	Mens Sneaker	683,00	Ea	102 443,17
0120	Official Soccer Ball	652,00	Ea	97 793,48
0167	Mens Snow Pants	647,00	Ea	97 043,53
0013	Adult Baseball Infield Glove	645,00	Ea	96 743,55
0172	Womens Snow Pants	645,00	Ea	96 743,55
0098	Deluxe Folding Mat	686,00	Ea	96 033,14
<b>Total</b>		<b>180 474,00</b>		<b>14 664 856,82</b>

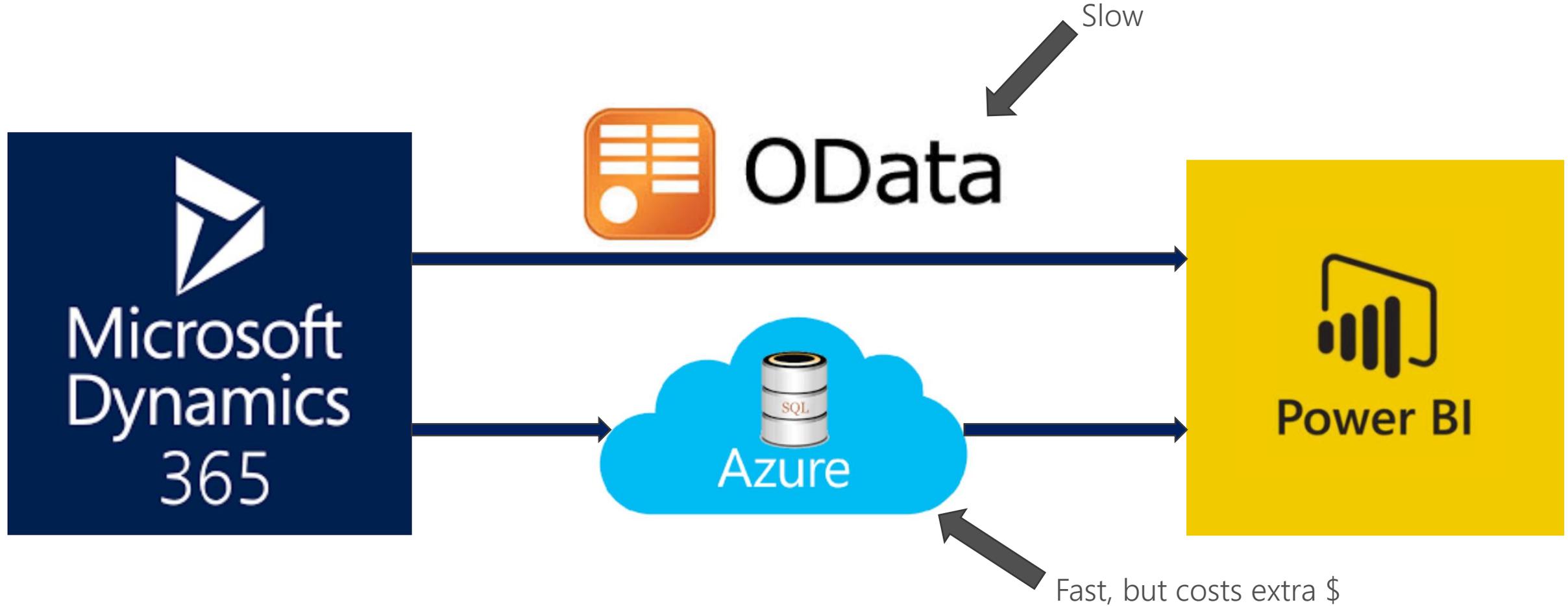
Turnover by L2Category and L3Category

L2Category ● Electronics ● Team Sports ● Action Sports ● Apparel and ... ● Exercise ● Fashion



Some technology stuff.

# How it can be done ?



\*many more options also exists

# How it can be done ?



## OData

- Built-in queries directly to exposed data entities
- Is slow, and cannot handle millions of transactions
- Have some essential data entities needed



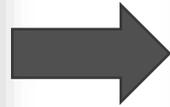
- Recurring export data entities to BOYD
- Can be very fast
- Not all entities are exposed

For “out-of-the-box” power BI analytics we may need them both.

# Example if issue

Retail Product hierarchy is available through ODATA but not through data entity export

- L1Category
- ▣ ALL
    - ▣ Action Sports
    - ▣ Apparel and Footwear
    - ▣ Electronics
    - ▣ Exercise
      - ▣ Cardio Equipment
      - ▣ Cycling
      - ▣ Fitness Accessories
      - ▣ Running and Walkings
        - ▣ Running and Walking
          - ▣ Men's Running Socks
          - ▣ Unisex Running Socks
          - ▣ Women's Running Socks
      - ▣ Weight Training
    - ▣ Fashion
    - ▣ Team Sports



RetailProductHierarchyCategoryEntity [App]

- DeleteActions
- FieldGroups
- Fields
  - CategoryHierarchy
  - CategoryName
  - CategoryHierarchyName
  - ParentCategoryRecordId
  - ParentCategoryName
  - CategoryRecordId
- Keys
- Mappings
- Ranges



Properties

DataEntityView RetailProductHierarchyCategoryEntity

ConfigurationKey	Retail
CountryRegionCodes	
CountryRegionContextField	
DataManagementEnabled	No
DataManagementStagingTa	
Declaration	public class RetailProductHierar
DeveloperDocumentation	
EnableSetBasedSqlOperaticAuto	
EntityCategory	Reference
EntityRelationshipType	Entity
FormRef	RetailCategoryManagement
IsObsolete	No
IsPublic	Yes
IsReadOnly	Yes
Label	@REX1235
ListPageRef	
MessagingRole	None

# Setting up a Azure SQL for BYOD

# 1. Set up/buy a Azure SQL Server and Database

More money = faster 😊

The screenshot shows the 'SQL Server (logical server only)' configuration page in the Azure portal. The left sidebar contains navigation options like 'Create a resource', 'All services', and 'FAVORITES'. The main content area has a search bar and a list of resources. The configuration form includes the following fields:

- Server name:** A text input field with a red border and an exclamation mark icon, containing the placeholder 'Enter server name'.
- Server admin login:** A text input field with the placeholder 'Enter user name'.
- Password:** A text input field.
- Confirm password:** A text input field.
- Subscription:** A dropdown menu showing a redacted subscription name.
- Resource group:** Radio buttons for 'Create new' (selected) and 'Use existing', with an empty text input field below.
- Location:** A dropdown menu set to 'West Europe'.
- Allow azure services to access server:** A checked checkbox.

At the bottom, there are 'Create' and 'Automation options' buttons.

The screenshot shows the 'SQL Database' configuration page in the Azure portal. The left sidebar is similar to the previous screenshot. The main content area shows the 'SQL Database' configuration form with the following fields:

- Database name:** A text input field with the placeholder 'Enter database name'.
- Subscription:** A dropdown menu set to 'DEP 882, DEP 884 NO, DK, SE D365 EG Rete'.
- Resource group:** Radio buttons for 'Create new' and 'Use existing' (selected), with a dropdown menu set to 'D365RetailTraining'.
- Select source:** A dropdown menu set to 'Blank database'.
- Server:** A dropdown menu set to 'd365retailtraining (West Europe)'.
- Want to use SQL elastic pool?:** Radio buttons for 'Yes' and 'Not now' (selected).
- Pricing tier:** A dropdown menu set to 'Standard S0: 10 DTUs, 250 GB'.
- Collation:** A text input field set to 'SQL\_Latin1\_General\_CP1\_CI\_AS'.

On the right side, there is a 'Basic' configuration section with a feedback icon, a price indicator 'Starting at 31.41 DKK / month', and a 'DTUs' slider set to 10. Below this is a 'Max data size' slider set to 100 MB and a question 'Would you like to make th...' with 'Yes' and 'No' radio buttons.

At the bottom, there are 'Create', 'Automation options', and 'Apply' buttons.

# 2. Add Dynamics 365 app to Azure AD

Microsoft Azure

- Create a resource
- All services
- FAVORITES
  - Dashboard
  - Azure Active Directory
  - Resource groups
  - All resources
  - Recent
  - Virtual machines
  - Cloud services (classic)
  - Subscriptions
  - Storage accounts

eg as - Overview  
Azure Active Directory

Search (Ctrl+)

MANAGE

- Overview
- Getting started
- Users
- Groups
- Organizational relationships
- Roles and administrators
- Enterprise applications
- Devices
- App registrations**
- Application proxy

Home > eg as - App registrations > Create

### Create

\* Name *?*  
Retail Power BI ✓

Application type *?*  
Web app / API

\* Sign-on URL *?*  
https://d365retailtraining76a6f2bb547ff25... ✓

Home > eg as - App registrations > Retail Power BI

### Retail Power BI

Registered app

Settings Manifest Delete

Display name  
Retail Power BI

Application type  
Web app / API

Home page  
<https://d365retailtraining76a6f2bb547ff2...>

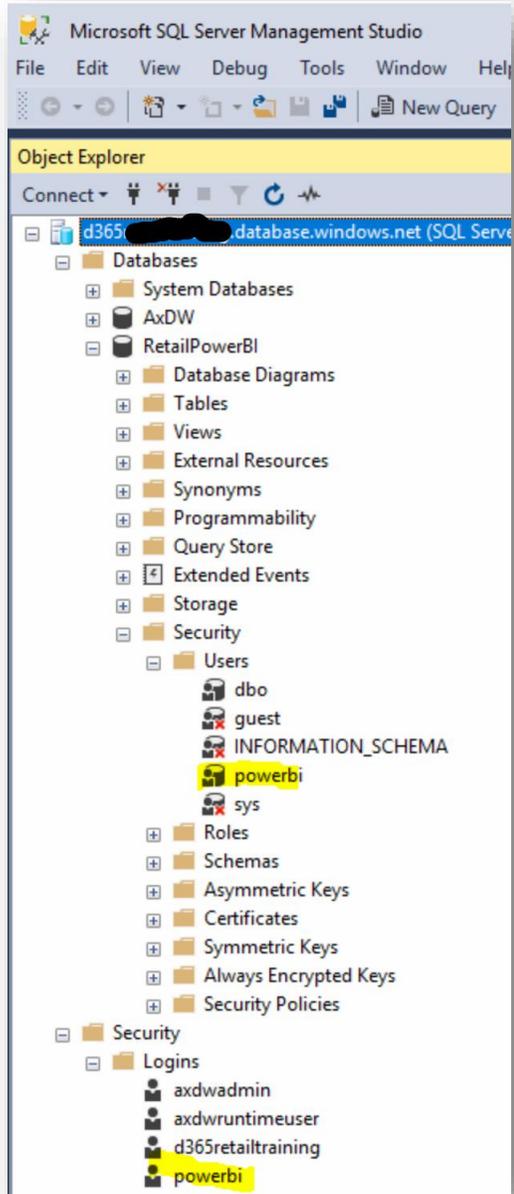
Application ID  
a739[redacted]23ad51f

Object ID  
c7c3373[redacted]4248a5

Managed application in local directory  
[Retail Power BI](#)

Needed for creating recurrent data exports

### 3. Connect to Azure SQL and create users



- Add user(s)
- Add firewall exceptions

```
1  -- =====  
2  -- Create SQL Login template for Azure SQL Database and Azure SQL Data Warehouse Database  
3  -- =====  
4  
5  CREATE LOGIN <SQL_login_name, sysname, login_name>  
6  WITH PASSWORD = '<password, sysname, Change_Password>'  
7  GO  
8  
9  
10 -- =====  
11 -- Create User as DBO template for Azure SQL Database and Azure SQL Data Warehouse Database  
12 -- =====  
13 -- For login <login_name, sysname, login_name>, create a user in the database  
14  
15 CREATE USER <user_name, sysname, user_name>  
16 FOR LOGIN <login_name, sysname, login_name>  
17 WITH DEFAULT_SCHEMA = <default_schema, sysname, dbo>  
18 GO  
19  
20 -- Add user to the database owner role  
21 EXEC sp_addrolemember N'db_owner', N'<user_name, sysname, user_name>'  
22 GO  
23
```

# Setting up Dynamics 365 Operation

# 3. Configure entity export to database (part 1)

The screenshot shows the Dynamics 365 interface for 'Finance and Operations' under the 'Data management' section. The left-hand navigation pane contains several options: 'Import / Export', 'Data projects', 'Import projects', 'Export projects', 'Copy into legal entity projects', 'Configuration', 'Integration', and 'Other'. Within the 'Configuration' section, the 'Configure entity export to database' option is highlighted with a red box. A red arrow points from this option to the right-hand screenshot.

The screenshot shows the configuration page for 'Retail Power BI : Demo Retail Power BI'. The 'Source data formats' section includes a table with the following data:

Source name	Description	Type	Default extension
Retail Power BI	Demo Retail Power BI	Azure SQL DB	

The 'Configure' section contains a 'Connection string' field with the value: 'Data Source=d365[redacted].database.windows.net,1433; Initial Catalog=RetailPowerBI; Integrated Security=False; User ID=powerbi; Password=[redacted]'. Below this are 'Validate' and 'Hide' buttons. A red box highlights the 'Create clustered column store indexes' toggle, which is currently set to 'No'. A red arrow points from the text 'Require Premium Azure SQL' to this toggle.

### 3. Configure entity export to database (part 2)

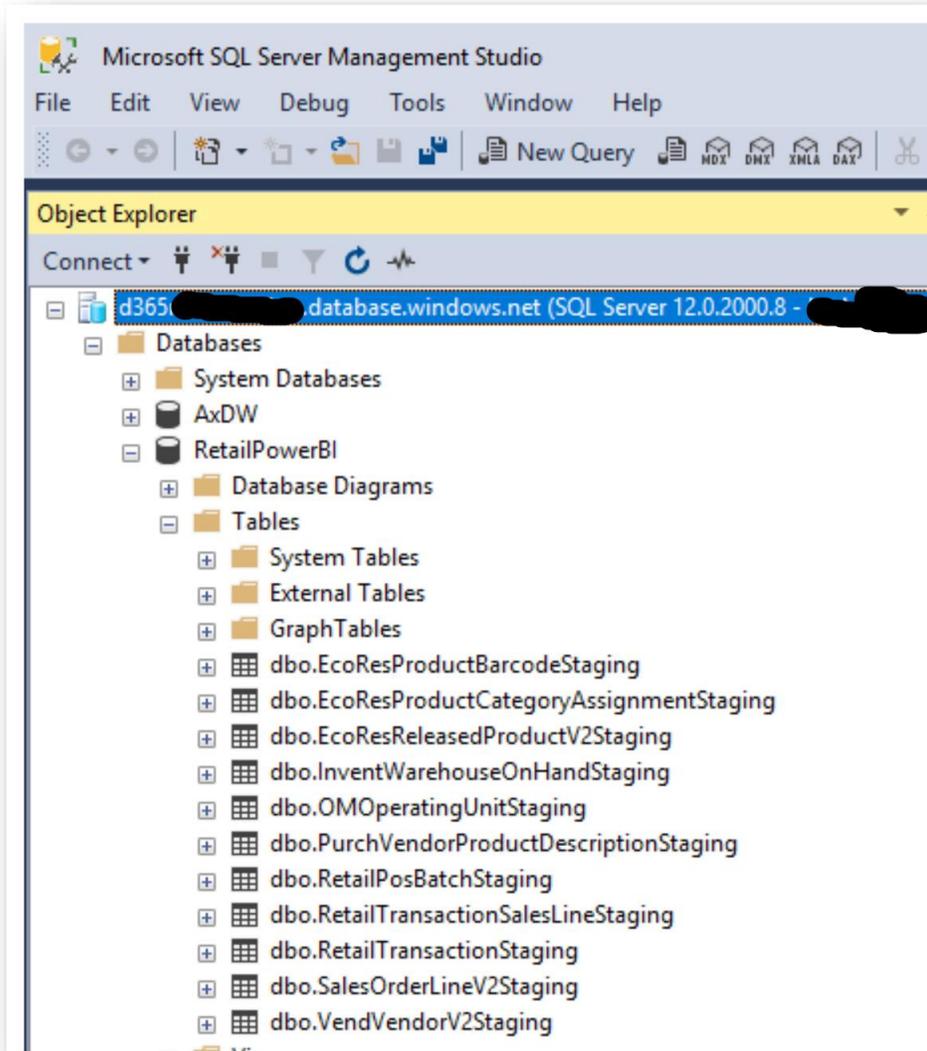
The screenshot shows the Dynamics 365 interface for 'Retail Power BI : Demo Retail Power BI'. The 'Publish' button is highlighted with a red box, and a red arrow points to the 'CHANGE TRACKING' options menu. The 'CHANGE TRACKING' menu is also highlighted with a red box and contains the following options:

- Enable primary table
- Enable entire entity
- Enable custom query
- Disable Change Tracking

The 'Target entities' table is also visible, showing a list of entities with their corresponding staging tables and target entities.

Published	Entity ↑	Staging table	Target entity	Entity type	Change tracking
Yes	External item descriptions for vendors	PurchVendorProductDescription...	PurchVendorProductDescription...	Entity	All tables
Yes	Inventory on-hand by warehouse	InventWarehouseOnHandStaging	InventWarehouseOnHandEntity	Entity	None
Yes	Item - bar code	EcoResProductBarcodeStaging	EcoResProductBarcodeEntity	Entity	All tables
Yes	Operating unit	OMOperatingUnitStaging	OMOperatingUnitEntity	Entity	None
Yes	Product category assignments	EcoResProductCategoryAssignm...	EcoResProductCategoryAssignm...	Entity	None
Yes	Released products V2	EcoResReleasedProductV2Staging	EcoResReleasedProductV2Entity	Entity	None
Yes	Sales order lines V2	SalesOrderLineV2Staging	SalesOrderLineV2Entity	Entity	None
Yes	Sales transactions	RetailTransactionSalesLineStaging	RetailTransactionSalesLineEntity	Entity	None
Yes	Shifts	RetailPosBatchStaging	RetailPosBatchEntity	Entity	None
Yes	Transactions	RetailTransactionStaging	RetailTransactionEntity	Entity	None
Yes	Vendors V2	VendVendorV2Staging	VendVendorV2Entity	Entity	None

### 3. Configure entity export to database (part 3)



Then entity tables are created in the Azure SQL

### 3. Configure entity export to database (part 4)

The screenshot shows the Dynamics 365 Data management interface. On the left, the 'Data management' pane is open, and the 'Export' button is highlighted with a red box and a red arrow. The right pane shows the 'Export' configuration page for 'Retail Power BI'. The 'Export' button in the top navigation bar is also highlighted in yellow.

**Export Configuration Details:**

- Group name: Retail Power BI
- Description: Retail Power BI
- Data project operation type: Export
- Project category: Integration

**Selected entities table:**

Entity	Source data format	Disable	Filter	View map	Default refresh type	Fail batch on err...	Skip staging
External item descriptions for ve...	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Incremental push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Inventory on-hand by warehouse	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Item - bar code	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Incremental push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Operating unit	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Product category assignments	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Released products V2	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sales order lines V2	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sales transactions	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Shifts	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Transactions	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Vendors V2	Retail Power BI	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Full push only	<input type="checkbox"/>	<input checked="" type="checkbox"/>

# 3. Manual Export

Dynamics 365 ▾ Finance and Operations Data management

View execution log Batch job Standard view OPTIONS 🔍

EXECUTION SUMMARY :: RETAIL POWER BI-2018-08-25T20:47:09-E14D2A8A6D924DF98814CC9

### Execution summary :: Export

Data project name	Job ID	Execution status		<a href="#">Refresh</a>
Retail Power BI	Retail power BI-2018-08-25T20:...	Succeeded		
Start time	End time	With errors:		
25.08.2018 20.47.09	25.08.2018 20.54.20	0		

### Entity processing status

[View staging data](#) [Filter](#) ▾

Entity	Status	Exported
External item descriptions for ve...	✓ Succeeded	0
Inventory on-hand by warehouse	✓ Succeeded	48601
Item - bar code	✓ Succeeded	0
Operating unit	✓ Succeeded	87
Product category assignments	✓ Succeeded	1301
Released products V2	✓ Succeeded	585
Sales order lines V2	✓ Succeeded	167181
Sales transactions	✓ Succeeded	198981
Shifts	✓ Succeeded	18
Transactions	✓ Succeeded	48694
Vendors V2	✓ Succeeded	12

### 3. Manual Export – See the records in Azure SQL

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the Object Explorer shows a server instance with a database named 'RetailPowerBI'. The 'Tables' folder is expanded, listing various staging tables such as 'dbo.EcoResProductBarcodeStaging' and 'dbo.RetailTransactionSalesLineStaging'. The 'RetailPowerBI' database is selected, and the 'Tables' folder is expanded to show a list of tables.

The main window shows a SQL query window titled 'SQLQuery1.sql - d3...kurha@eg.no (142)'. The query is a 'SELECT TOP (1000) [DEFINITIONGROUP]' query. The query text is as follows:

```
/****** Script for SelectTopNRows command from SSMS *****/
SELECT TOP (1000) [DEFINITIONGROUP]
, [EXECUTIONID]
, [ISSELECTED]
, [TRANSFERSTATUS]
, [SALESTAXGROUP]
, [ITEMSALESTAXGROUP]
, [TERMINAL]
, [TRANSACTIONNUMBER]
, [BARCODE]
, [COSTAMOUNT]
, [CURRENCY]
, [CUSTOMERACCOUNT]
, [CUSTOMERDISCOUNT]
, [CUSTOMERINVOICEDISCOUNTAMOUNT]
, [CASHDISCOUNTAMOUNT]
, [PRICEGROUPS]
, [OFFERNUMBER]
, [DISCOUNTAMOUNTFORPRINTING]
, [MODFOFDFEITVFRY]
```

The query results are displayed in a table with the following columns: DEFINITIONGROUP, EXECUTIONID, ISSELECTED, TRANSFERSTATUS, SALESTAXGROUP, and ITEMSALES. The results show 13 rows of data, all with a value of 0 in the ISSELECTED column and 'Retail Power BI' in the DEFINITIONGROUP column.

	DEFINITIONGROUP	EXECUTIONID	ISSELECTED	TRANSFERSTATUS	SALESTAXGROUP	ITEMSALES
1	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	OH	RP
2	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	OH	RP
3	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
4	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
5	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
6	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
7	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
8	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
9	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
10	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
11	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
12	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP
13	Retail Power BI	Retail power BI-2018-08-26T14:47:35-572B1582AD50...	0	0	MD	RP

# 3. Set up recurrent export's

### Create recurring data job

[Set processing recurrence](#) [Set monitoring recurrence](#)

**BASIC**

Name:

Description:

Batch group:

ID: {9018983A-B11F-4866-B03B-C0...}

Prevent upload when zero records: No

---

Setup authorization policy

	Application ID	Enabled
<input checked="" type="checkbox"/>		<input type="checkbox"/>

### Define recurrence

Start date: 26.08.2018

Start time: 15.37.27

Time zone: (GMT+01:00) Brussels, Copenhagen, Madrid, Paris

NO END DATE

END AFTER:

END BY:

**RECURRENT PATTERN**

Minutes

Hours

Days

Weeks

Months

Years

Repeat after specified number of hours: Count

# Some information on BYOD

- Export of data entities cleans itself up. (No duplicated transactions)
- Enabling change tracking speed export up, but is not always working because of delete/updates.
- Change tracking is good for tables with lots of transactions.



Let's get the data into Power BI

# Connect to the Azure SQL

The screenshot illustrates the steps to connect to an Azure SQL database in Power BI Desktop. The interface is titled "Untitled - Power BI Desktop" and shows the "Get Data" task pane.

- Get Data Button:** Located in the "View" ribbon, it is highlighted with a red box and a red arrow pointing to it.
- Category Selection:** In the "Get Data" pane, the "Azure" category is selected and highlighted with a red box and a red arrow.
- Azure SQL database:** Under the "Azure" category, "Azure SQL database" is selected and highlighted with a red box and a red arrow.
- Configuration Dialog:** A dialog box titled "SQL Server database" is shown on the right, containing the following fields and options:
  - Server:** `d365retailtraining.database.windows.net`
  - Database (optional):** `RetailPowerBI`
  - Data Connectivity mode:**  Import,  DirectQuery
  - Advanced options:** A link to expand more settings.

# Select the BYOD tables

## Navigator

Display Options ▾

▲ d365retailtraining.database.windows.net: Retail...

sys.database\_firewall\_rules

EcoResProductBarcodeStaging

EcoResProductCategoryAssignmentStaging

EcoResReleasedProductV2Staging

InventWarehouseOnHandStaging

OMOperatingUnitStaging

PurchVendorProductDescriptionStaging

RetailPosBatchStaging

RetailTransactionSalesLineStaging

RetailTransactionStaging

SalesOrderLineV2Staging

VendVendorV2Staging

Select Related Tables

## EcoResProductBarcodeStaging

Preview downloaded on lørdag

DEFINITIONGROUP	EXECUTIONID	IS
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	
Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB49D6	



Load

Edit

Cancel

Then the tables is available

The image shows the Microsoft Power BI Desktop interface. At the top, the title bar reads "Untitled - Power BI Desktop" and the user name "Kurt Hatlevik" is visible in the top right corner. The ribbon is active, showing the "Home" tab with various options: Clipboard (Paste, Cut, Copy, Format Painter), External data (Get Data, Recent Sources, Enter Data, Edit Queries, Refresh), Insert (New Page, New Visual, Ask A Question, Buttons, Text box, Image, Shapes), Custom visuals (From Marketplace, From File), Themes (Switch Theme), Relationships (Manage Relationships), Calculations (New Measure, New Column, New Quick Measure), and Share (Publish). On the left side, there is a vertical navigation pane with icons for Home, Fields, and Visualizations. The main workspace is currently empty, indicated by a dashed border. On the right side, there are two task panes: "VISUALIZATIONS" and "FIELDS". The "VISUALIZATIONS" pane shows a grid of visualization icons, with a "Values" section containing a "Drag data fields here" placeholder. The "FILTERS" pane also has a "Drag data fields here" placeholder. The "FIELDS" pane features a search bar and a list of data tables, including "EcoResProductBarcodeStaging", "EcoResProductCategoryAssignmentStaging", "EcoResReleasedProductV2Staging", "InventWarehouseOnHandStaging", "OMOperatingUnitStaging", "PurchVendorProductDescriptionStaging", "RetailPosBatchStaging", "RetailTransactionSalesLineStaging", "RetailTransactionStaging", "SalesOrderLineV2Staging", and "VendVendorV2Staging".

# Connect to the Dynamics 365 with ODATA

The image shows the Power BI Desktop interface. The 'Get Data' menu is open, and 'OData feed' is selected. A dialog box titled 'OData feed' is displayed, showing the 'Basic' tab selected. The URL field contains the text: `https://d365retailtraining[REDACTED]d06aos.cloudax.dynamics.com/data`. The 'OK' button is highlighted in yellow.

Power BI Desktop - Untitled - Power BI Desktop

File Home View Modeling Help

Paste Cut Copy Format Painter

Clipboard

Get Data Recent Sources Enter Data Edit Queries

Most Common

- Excel
- Power BI datasets
- SQL Server
- Analysis Services
- Text/CSV
- Web
- OData feed**
- Blank Query
- More...

OData feed

Basic  Advanced

URL

`https://d365retailtraining[REDACTED]d06aos.cloudax.dynamics.com/data`

OK Cancel

# Connect to the Dynamics 365 with ODATA

Untitled - Power BI Desktop

File Home View Modeling Help

Clipboard: Paste, Cut, Copy, Format Painter

Get Data, Recent Sources, Enter Data, Edit Queries

Most Common: Excel, Power BI datasets, SQL Server, Analysis Services, Text/CSV, Web, **OData feed**, Blank Query, More...

**OData feed** dialog:

- Basic (selected), Advanced
- URL: `https://d365retailtraining[redacted]d06aos.cloudax.dynamics.com/data`
- Buttons: OK, Cancel

**Navigator** pane:

- Search: hiera
- Display Options: [dropdown]
- Items:
  - PositionHierarchyTypes
  - RetailDefaultReportingHierarchyOrgan...**
  - RetailEcoResCategoryHierarchy
  - RetailEcoResCategoryHierarchyRole
  - RetailProductHierarchyCategories**
  - SalesTaxHierarchies
  - TaxReportSetOffHierarchySetups
- Text: Search results are limited to already expanded items

**RetailProductHierarchyCategories** table:

CategoryName	CategoryHierarchyName	ParentCategoryRecordId	P
ALL	Retail Product Category		
Action Sports	Retail Product Category	2256542268	
BMX Biking	Retail Product Category	2256542268	
BMX Helmets	Retail Product Category	2256542268	
Adult BMX Helmets	Retail Product Category	2256542268	
Youth BMX Helmets	Retail Product Category	2256542268	
BMX Parts & Accessories	Retail Product Category	2256542268	
Accessory Kits	Retail Product Category	2256542268	
BMX Gloves	Retail Product Category	2256542268	

Buttons: Select Related Tables, Load, Edit, Cancel

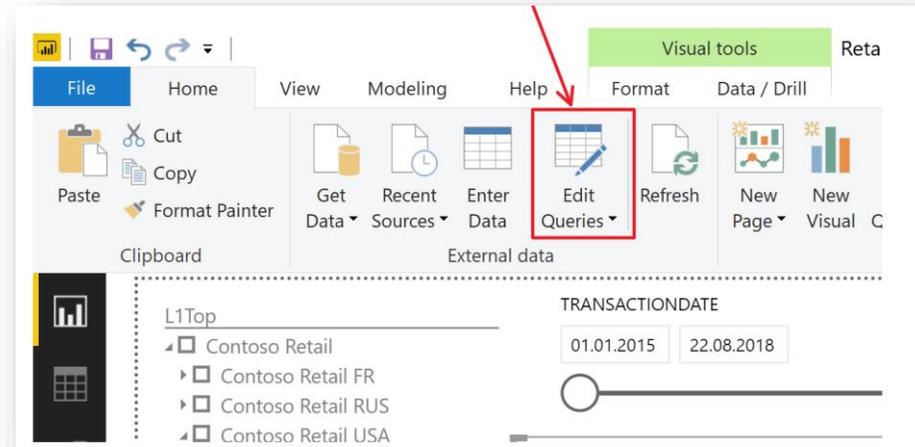
# Why these two data entities ?





Removing the noise

# Remove all columns you don't need



A screenshot of the Power BI Power Query Editor interface. The title bar reads 'Retail Power BI - Power Query Editor'. The ribbon includes 'File', 'Home', 'Transform', 'Add Column', 'View', and 'Help' tabs. The 'Transform' group contains various options like 'Close & Apply', 'New Source', 'Recent Sources', 'Enter Data', 'Data source settings', 'Manage Parameters', 'Refresh Preview', 'Properties', 'Advanced Editor', 'Manage', 'Choose Columns', 'Remove Columns', 'Keep Rows', 'Remove Rows', 'Sort', 'Split Column', 'Group By', 'Data Type: Any', 'Use First Row as Headers', 'Replace Values', 'Merge Queries', 'Append Queries', and 'Combine Files'. Below the ribbon, a list of queries is shown on the left, and a data table is displayed on the right. The table has columns: 'DEFINITIONGROUP', 'EXECUTIONID', 'ISSELECTED', 'TRANSFERSTATUS', and 'SALESTAYGROUP'. A context menu is open over the 'ISSELECTED' column, showing options: 'Copy', 'Remove Columns', 'Remove Other Columns', 'Add Column From Examples...', 'Remove Duplicates', 'Remove Errors', 'Replace Values...', and 'Fill'. The table data is as follows:

	DEFINITIONGROUP	EXECUTIONID	ISSELECTED	TRANSFERSTATUS	SALESTAYGROUP
1	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
2	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
3	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
4	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
5	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
6	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
7	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		

# Filter the records to remove lines as voids

### Filter Rows

Basic  Advanced

Keep rows where 'TRANSACTIONSTATUS'

equals

And  Or

## Reverse sign of negative columns

Retail Power BI - Power Query Editor

File Home Transform Add Column View Help

Group By Use First Row as Headers Count Rows

Table

Any Column

Text Column

Statistics Standard Scientific Information

10<sup>2</sup> Rounding

Date Time

Queries [14]

- Barcodes
- RetailProductCategories
- Products
- ProductOnHand
- OperatingUnits
- VendorItemNumbers
- Shifts
- RetailTransactionLines
- RetailTransactions
- SalesorderLines
- Vendors
- HierarchyOrganizations
- ProductHierarchyCategories
- ProductName

	1.2 LINENUMBER	1.2 NETAMOUNT	1.2 NETAMOUNTINCLUSIVE...	1.2 NETPRICE	1.2 ISORIG	1.2 ORIGINALPRICE
1	1	5,99	-6,32	0	0	0
2	2	7,99	-8,43	0	0	0
3	1	39,99	-42,39	0	0	0
4	2	29,99	-31,79	0	0	0
5	1	39,99	-42,39	0	0	0
6	2	29,99	-31,79	0	0	0
7	3					
8	4					
9	1					
10	1					
11	2					
12	3					
13	4					
14	5					
15	6					
16	7					
17	1	7,99	-8,43	0	0	0

Multiply

Enter a number by which to multiply each value in the column.

Value

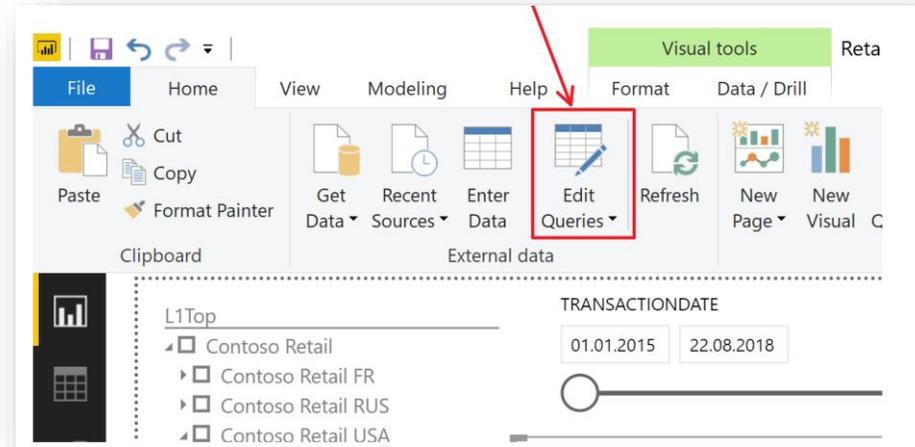
-1

OK Cancel



Removing the noise

# Remove all columns you don't need



A screenshot of the Power BI Power Query Editor interface. The ribbon includes 'File', 'Home', 'Transform', 'Add Column', 'View', and 'Help' tabs. The 'Transform' group contains various options like 'Close & Apply', 'New Source', 'Recent Sources', 'Enter Data', 'Data source settings', 'Manage Parameters', 'Refresh Preview', 'Properties', 'Advanced Editor', 'Manage', 'Choose Columns', 'Remove Columns', 'Keep Rows', 'Remove Rows', 'Sort', 'Split Column', 'Group By', 'Data Type: Any', 'Use First Row as Headers', 'Replace Values', 'Merge Queries', 'Append Queries', and 'Combine Files'. Below the ribbon, a list of queries is shown on the left, and a data table is displayed on the right. The table has columns: 'DEFINITIONGROUP', 'EXECUTIONID', 'ISSELECTED', 'TRANSFERSTATUS', and 'SALESTAYGROUP'. A context menu is open over the 'ISSELECTED' column, showing options: 'Copy', 'Remove Columns', 'Remove Other Columns', 'Add Column From Examples...', 'Remove Duplicates', 'Remove Errors', 'Replace Values...', and 'Fill'.

	DEFINITIONGROUP	EXECUTIONID	ISSELECTED	TRANSFERSTATUS	SALESTAYGROUP
1	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
2	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
3	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
4	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
5	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
6	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		
7	Retail Power BI	Retail Power BI-2018-08-23T18:00:27-9168FF8A64BE42C7B2526CDB4...	0		

# Filter the records to remove lines as voids

### Filter Rows

Basic  Advanced

Keep rows where 'TRANSACTIONSTATUS'

equals

And  Or

## Reverse sign of negative columns

Retail Power BI - Power Query Editor

File Home Transform Add Column View Help

Group By Use First Row as Headers Count Rows

Table

Any Column

Text Column

Statistics Standard Scientific Information

10<sup>2</sup> Rounding

Date Time

Queries [14]

	1.2 LINENUMBER	1.2 NETAMOUNT	1.2 NETAMOUNTINCLUSIVE...	1.2 NETPRICE	1.2 ISORIG	1.2 ORIGINALPRICE
1	1	5,99	-6,32	0	0	0
2	2	7,99	-8,43	0	0	0
3	1	39,99	-42,39	0	0	0
4	2	29,99	-31,79	0	0	0
5	1	39,99	-42,39	0	0	0
6	2	29,99	-31,79	0	0	0
7	3					
8	4					
9	1					
10	1					
11	2					
12	3					
13	4					
14	5					
15	6					
16	7					
17	1	7,99	-8,43	0	0	0

Multiply

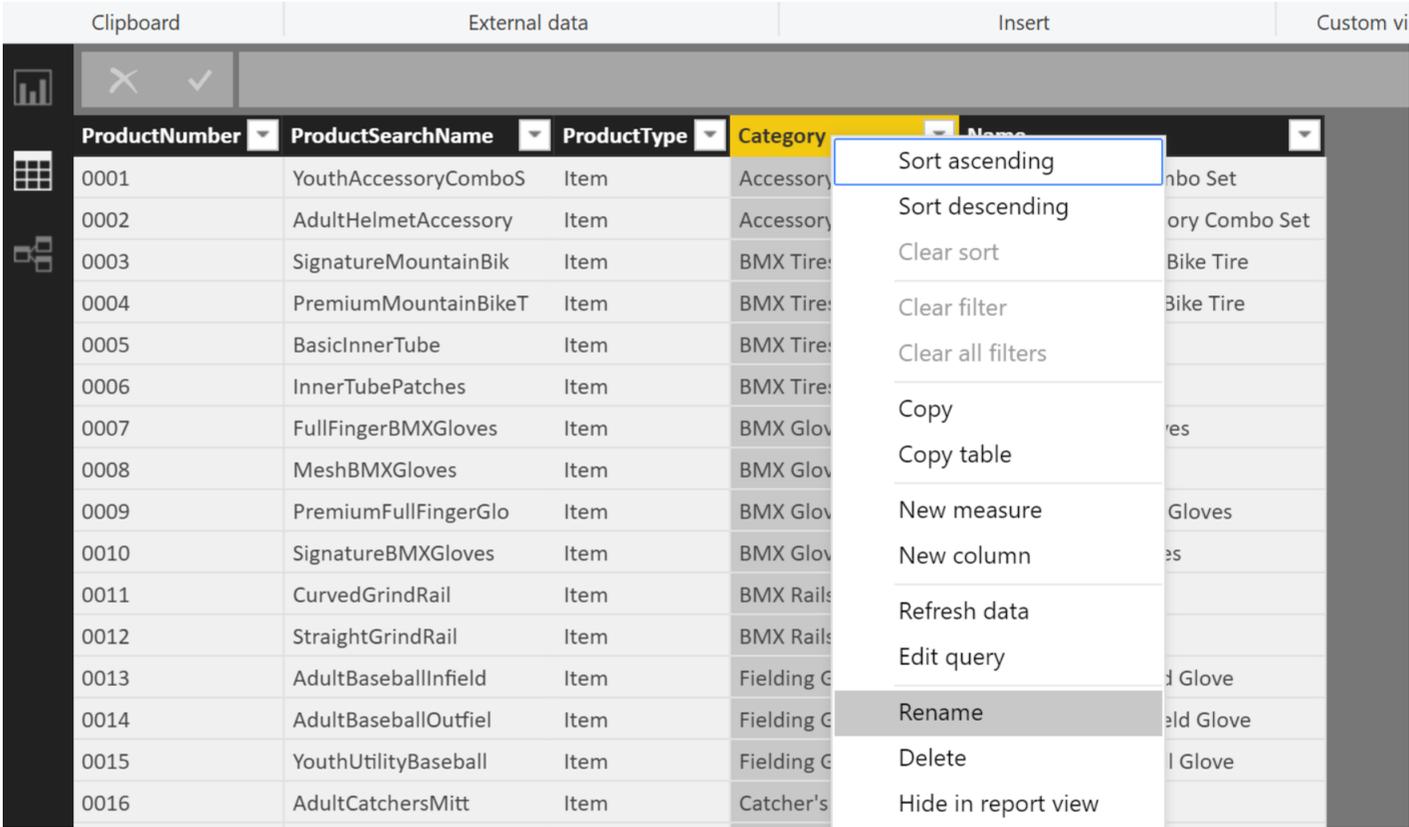
Enter a number by which to multiply each value in the column.

Value

-1

OK Cancel

Tip: Give columns meaningful names



The screenshot shows a data table with columns: ProductNumber, ProductSearchName, ProductType, Category, and Name. A context menu is open over the 'Category' column, listing options such as 'Sort ascending', 'Sort descending', 'Clear sort', 'Clear filter', 'Clear all filters', 'Copy', 'Copy table', 'New measure', 'New column', 'Refresh data', 'Edit query', 'Rename', 'Delete', and 'Hide in report view'. The 'Rename' option is highlighted.

ProductNumber	ProductSearchName	ProductType	Category	Name
0001	YouthAccessoryComboS	Item	Accessory	Combo Set
0002	AdultHelmetAccessory	Item	Accessory	Accessory Combo Set
0003	SignatureMountainBik	Item	BMX Tire	Bike Tire
0004	PremiumMountainBikeT	Item	BMX Tire	Bike Tire
0005	BasicInnerTube	Item	BMX Tire	
0006	InnerTubePatches	Item	BMX Tire	
0007	FullFingerBMXGloves	Item	BMX Glov	es
0008	MeshBMXGloves	Item	BMX Glov	
0009	PremiumFullFingerGlo	Item	BMX Glov	Gloves
0010	SignatureBMXGloves	Item	BMX Glov	es
0011	CurvedGrindRail	Item	BMX Rail	
0012	StraightGrindRail	Item	BMX Rail	
0013	AdultBaseballInfield	Item	Fielding G	d Glove
0014	AdultBaseballOutfiel	Item	Fielding G	eld Glove
0015	YouthUtilityBaseball	Item	Fielding G	l Glove
0016	AdultCatchersMitt	Item	Catcher's	

- This makes it easier for users to "ask a question"



Add the relationships (modeling)

File Home Modeling Help

Clipboard: Paste, Cut, Copy, Format Painter

External data: Get Data, Recent Sources, Enter Data, Edit Queries, Refresh

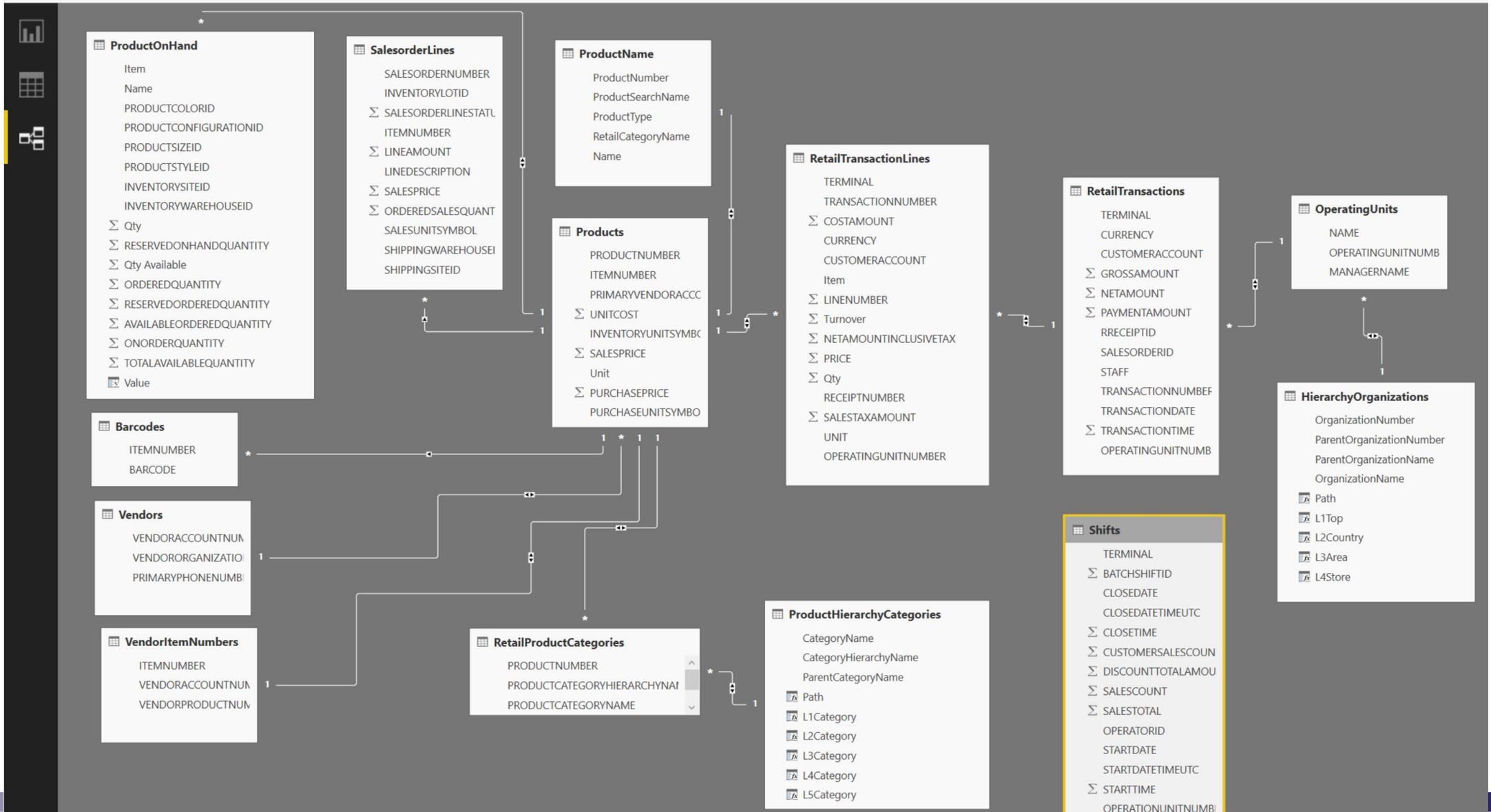
Insert: New Page, New Visual, Ask A Question, Buttons, Text box, Image, Shapes

Custom visuals: From Marketplace, From File

Relationships: Manage Relationships

Calculations: New Measure, New Column, New Quick Measure

Share: Publish





Create Calculated columns

# 1. Create a "Path" calculated column for an organizational hierarchy

Path = PATH('HierarchyOrganizations'[OrganizationName];'HierarchyOrganizations'[PARENTORGANIZATIONNAME])

Number	ParentOrganizationNumber	ParentOrganizationName	OrganizationName	Path	L1Top	L2Country	L3Area
		Contoso Retail	Contoso Retail	Contoso Retail	Contoso Retail		
	000000029	Contoso Retail	Contoso Retail USA	Contoso Retail   Contoso Retail USA	Contoso Retail	Contoso Retail USA	
	000000029	Contoso Retail	Contoso Retail FR	Contoso Retail   Contoso Retail FR	Contoso Retail	Contoso Retail FR	
	000000372	Central	Online	Contoso Retail   Contoso Retail USA   Central   Online	Contoso Retail	Contoso Retail USA	Central
	000000030	Contoso Retail USA	East	Contoso Retail   Contoso Retail USA   East	Contoso Retail	Contoso Retail USA	East
	000000030	Contoso Retail USA	West	Contoso Retail   Contoso Retail USA   West	Contoso Retail	Contoso Retail USA	West
	000000030	Contoso Retail USA	Central	Contoso Retail   Contoso Retail USA   Central	Contoso Retail	Contoso Retail USA	Central
	000000370	East	Annapolis	Contoso Retail   Contoso Retail USA   East   Annapolis	Contoso Retail	Contoso Retail USA	East
	000000370	East	Atlanta	Contoso Retail   Contoso Retail USA   East   Atlanta	Contoso Retail	Contoso Retail USA	East
	000000370	East	Atlantic City	Contoso Retail   Contoso Retail USA   East   Atlantic City	Contoso Retail	Contoso Retail USA	East
	000000370	East	Boston	Contoso Retail   Contoso Retail USA   East   Boston	Contoso Retail	Contoso Retail USA	East
	000000370	East	Burlington	Contoso Retail   Contoso Retail USA   East   Burlington	Contoso Retail	Contoso Retail USA	East
	000000370	East	Cambridge	Contoso Retail   Contoso Retail USA   East   Cambridge	Contoso Retail	Contoso Retail USA	East
	000000370	East	Columbia	Contoso Retail   Contoso Retail USA   East   Columbia	Contoso Retail	Contoso Retail USA	East
	000000370	East	Georgetown	Contoso Retail   Contoso Retail USA   East   Georgetown	Contoso Retail	Contoso Retail USA	East

**FIELDS**

Search

- Barcodes
- HierarchyOrganizations
  - L1Top
    - L1Top Hierarchy
  - L2Country
  - L3Area
  - L4Store
  - OrganizationName
  - OrganizationNumber
  - ParentOrganizationName
  - ParentOrganizationNumber
  - Path**

# 1. Create a "Value" calculated columns based on "path"

`L3Area = PathItem(HierarchyOrganizations[Path];3)`

ParentOrganizationNumber	ParentOrganizationName	OrganizationName	Path	L1Top	L2Country	L3Area	L4
	Contoso Retail	Contoso Retail	Contoso Retail	Contoso Retail			
000000029	Contoso Retail	Contoso Retail USA	Contoso Retail Contoso Retail USA	Contoso Retail	Contoso Retail USA		
000000029	Contoso Retail	Contoso Retail FR	Contoso Retail Contoso Retail FR	Contoso Retail	Contoso Retail FR		
000000372	Central	Online	Contoso Retail Contoso Retail USA Central Online	Contoso Retail	Contoso Retail USA	Central	
000000030	Contoso Retail USA	East	Contoso Retail Contoso Retail USA East	Contoso Retail	Contoso Retail USA	East	
000000030	Contoso Retail USA	West	Contoso Retail Contoso Retail USA West	Contoso Retail	Contoso Retail USA	West	
000000030	Contoso Retail USA	Central	Contoso Retail Contoso Retail USA Central	Contoso Retail	Contoso Retail USA	Central	
000000370	East	Annapolis	Contoso Retail Contoso Retail USA East Annapolis	Contoso Retail	Contoso Retail USA	East	
000000370	East	Atlanta	Contoso Retail Contoso Retail USA East Atlanta	Contoso Retail	Contoso Retail USA	East	
000000370	East	Atlantic City	Contoso Retail Contoso Retail USA East Atlantic City	Contoso Retail	Contoso Retail USA	East	
000000370	East	Boston	Contoso Retail Contoso Retail USA East Boston	Contoso Retail	Contoso Retail USA	East	
000000370	East	Burlington	Contoso Retail Contoso Retail USA East Burlington	Contoso Retail	Contoso Retail USA	East	
000000370	East	Cambridge	Contoso Retail Contoso Retail USA East Cambridge	Contoso Retail	Contoso Retail USA	East	
000000370	East	Columbia	Contoso Retail Contoso Retail USA East Columbia	Contoso Retail	Contoso Retail USA	East	
000000370	East	Georgetown	Contoso Retail Contoso Retail USA East Georgetown	Contoso Retail	Contoso Retail USA	East	

- ▶ L1Top Hierarchy
- ▶ L1Top
- ▶ L2Country
- ▶ L3Area
- ▶ L4Store



- L1Top
  - ▶ Contoso Retail
    - ▶ Contoso Retail FR
      - ▶ Bordeaux
      - ▶ Nice
      - ▶ Paris
    - ▶ Contoso Retail RUS
      - ▶ Moscow
    - ▶ Contoso Retail USA

### 3. Create a "Path" calculated column for a product category hierarchy

Path = Path(ProductHierarchyCategories[CATEGORYNAME];ProductHierarchyCategories[PARENTCATEGORYNAME])

CategoryHierarchyName	ParentCategoryName	Path	L1Category	L2Category	L3Category	L4Category
Retail Product Category	ALL	ALL	ALL			
Retail Product Category	ALL	ALL Action Sports	ALL	Action Sports		
Retail Product Category	Action Sports	ALL Action Sports BMX Biking	ALL	Action Sports	BMX Biking	
Retail Product Category	BMX Biking	ALL Action Sports BMX Biking BMX Helmets	ALL	Action Sports	BMX Biking	BMX Helmet
Retail Product Category	BMX Helmets	ALL Action Sports BMX Biking BMX Helmets Adult BMX Helmets	ALL	Action Sports	BMX Biking	BMX Helmet
Retail Product Category	BMX Helmets	ALL Action Sports BMX Biking BMX Helmets Youth BMX Helmets	ALL	Action Sports	BMX Biking	BMX Helmet
Retail Product Category	BMX Biking	ALL Action Sports BMX Biking BMX Parts & Accessories	ALL	Action Sports	BMX Biking	BMX Parts &
Retail Product Category	BMX Parts & Accessories	ALL Action Sports BMX Biking BMX Parts & Accessories Accessories	ALL	Action Sports	BMX Biking	BMX Parts &
Retail Product Category	BMX Parts & Accessories	ALL Action Sports BMX Biking BMX Parts & Accessories BMX Glo	ALL	Action Sports	BMX Biking	BMX Parts &
Retail Product Category	BMX Parts & Accessories	ALL Action Sports BMX Biking BMX Parts & Accessories BMX Tire	ALL	Action Sports	BMX Biking	BMX Parts &
Retail Product Category	Action Sports	ALL Action Sports In-Line Skating	ALL	Action Sports	In-Line Skating	
Retail Product Category	In-Line Skating	ALL Action Sports In-Line Skating In-Line Skates	ALL	Action Sports	In-Line Skating	In-Line Skate
Retail Product Category	In-Line Skates	ALL Action Sports In-Line Skating In-Line Skates In-Line Hockey S	ALL	Action Sports	In-Line Skating	In-Line Skate
Retail Product Category	In-Line Skates	ALL Action Sports In-Line Skating In-Line Skates In-Line Recreatio	ALL	Action Sports	In-Line Skating	In-Line Skate
Retail Product Category	Action Sports	ALL Action Sports Skateboarding	ALL	Action Sports	Skateboarding	
Retail Product Category	Skateboarding	ALL Action Sports Skateboarding Skateboard Parts	ALL	Action Sports	Skateboarding	Skateboard F
Retail Product Category	Skateboard Parts	ALL Action Sports Skateboarding Skateboard Parts Skateboard B	ALL	Action Sports	Skateboarding	Skateboard F

**FIELDS**

Search

- Barcodes
- HierarchyOrganizations
- OperatingUnits
- ProductHierarchyCategories**
  - CategoryHierarchyName
  - CategoryName
  - L1Category
  - L1Category Hierarchy
  - L2Category
  - L3Category
  - L4Category
  - L5Category
  - ParentCategoryName
  - Path**

### 3. Create a "Value" calculated columns based on "path"

`L1Category = Pathitem(ProductHierarchyCategories[Path];1)`

CategoryName	CategoryHierarchyName	ParentCategoryName	Path	L1Category	L2Category	L3Category	L4Category
ALL	Retail Product Category	ALL	ALL	ALL			
Action Sports	Retail Product Category	ALL	ALL Action Sports	ALL	Action Sports		
BMX Biking	Retail Product Category	Action Sports	ALL Action Sports BMX Biking	ALL	Action Sports	BMX Biking	
BMX Helmets	Retail Product Category	BMX Biking	ALL Action Sports BMX Biking BMX Helmets	ALL	Action Sports	BMX Biking	BMX Helmet
Adult BMX Helmets	Retail Product Category	BMX Helmets	ALL Action Sports BMX Biking BMX Helmets Adult BMX Helmets	ALL	Action Sports	BMX Biking	BMX Helmet
Youth BMX Helmets	Retail Product Category	BMX Helmets	ALL Action Sports BMX Biking BMX Helmets Youth BMX Helmets	ALL	Action Sports	BMX Biking	BMX Helmet
BMX Parts & Accessories	Retail Product Category	BMX Biking	ALL Action Sports BMX Biking BMX Parts & Accessories	ALL	Action Sports	BMX Biking	BMX Parts &
Accessory Kits	Retail Product Category	BMX Parts & Accessories	ALL Action Sports BMX Biking BMX Parts & Accessories Accesso	ALL	Action Sports	BMX Biking	BMX Parts &
BMX Gloves	Retail Product Category	BMX Parts & Accessories	ALL Action Sports BMX Biking BMX Parts & Accessories BMX Glo	ALL	Action Sports	BMX Biking	BMX Parts &
BMX Rails & Ramps	Retail Product Category	BMX Parts & Accessories	ALL Action Sports BMX Biking BMX Parts & Accessories BMX Rail	ALL	Action Sports	BMX Biking	BMX Parts &
BMX Tires & Tubes	Retail Product Category	BMX Parts & Accessories	ALL Action Sports BMX Biking BMX Parts & Accessories BMX Tire	ALL	Action Sports	BMX Biking	BMX Parts &
In-Line Skating	Retail Product Category	Action Sports	ALL Action Sports In-Line Skating	ALL	Action Sports	In-Line Skating	
In-Line Skates	Retail Product Category	In-Line Skating	ALL Action Sports In-Line Skating In-Line Skates	ALL	Action Sports	In-Line Skating	In-Line Skate
In-Line Hockey Skates	Retail Product Category	In-Line Skates	ALL Action Sports In-Line Skating In-Line Skates In-Line Hockey S	ALL	Action Sports	In-Line Skating	In-Line Skate
In-Line Recreational Skates	Retail Product Category	In-Line Skates	ALL Action Sports In-Line Skating In-Line Skates In-Line Recreatio	ALL	Action Sports	In-Line Skating	In-Line Skate
Skateboarding	Retail Product Category	Action Sports	ALL Action Sports Skateboarding	ALL	Action Sports	Skateboarding	
Skateboard Parts	Retail Product Category	Skateboarding	ALL Action Sports Skateboarding Skateboard Parts	ALL	Action Sports	Skateboarding	Skateboard F
Skateboard Bearings	Retail Product Category	Skateboard Parts	ALL Action Sports Skateboarding Skateboard Parts Skateboard B	ALL	Action Sports	Skateboarding	Skateboard F
Skateboard Trucks	Retail Product Category	Skateboard Parts	ALL Action Sports Skateboarding Skateboard Parts Skateboard Tr	ALL	Action Sports	Skateboarding	Skateboard F
Skateboard Wheels	Retail Product Category	Skateboard Parts	ALL Action Sports Skateboarding Skateboard Parts Skateboard W	ALL	Action Sports	Skateboarding	Skateboard F
Skateboards	Retail Product Category	Skateboarding	ALL Action Sports Skateboarding Skateboards	ALL	Action Sports	Skateboarding	Skateboards
Balance Boards	Retail Product Category	Skateboards	ALL Action Sports Skateboarding Skateboards Balance Boards	ALL	Action Sports	Skateboarding	Skateboards
Longboards	Retail Product Category	Skateboards	ALL Action Sports Skateboarding Skateboards Longboards	ALL	Action Sports	Skateboarding	Skateboards

#### FIELDS

Search

- Barcodes
- HierarchyOrganizations
- OperatingUnits
- ProductHierarchyCategories

- CategoryHierarchyName
- CategoryName
- L1Category
- L1Category Hierarchy
- L1Category
- L2Category
- L3Category
- L4Category
- L5Category
- L2Category
- L3Category
- L4Category
- L5Category
- ParentCategoryName
- Path



Create reports and analysis

### 3. Add a Hierarchy Slicer from marked place

The image shows a two-part interface. On the left is the 'VISUALIZATIONS' pane, which contains a grid of various visualization icons. A red box highlights a three-dot menu icon in the bottom-left corner of this grid. A red arrow points from this menu icon to a dropdown menu that appears below it. This menu contains three options: 'Import from file', 'Import from marketplace' (which is highlighted with a red box), and 'Delete a custom visual'. Another red arrow points from the 'Import from marketplace' option to the right-hand side of the image.

The right-hand side of the image shows the 'Power BI Visuals' marketplace. It has tabs for 'MARKETPLACE' and 'MY ORGANIZATION'. Below these is a search bar and a 'Suggested for you' dropdown. A list of categories is shown on the left, with 'Filters' selected. The main area displays three visual cards:

- HierarchySlicer**: Create a hierarchy of different fields and use it as a slicer with Power BI. (4.5 stars) [Add]
- Attribute Slicer**: Visualize and search large sets of data attributes easily. (4.5 stars) [Add]
- Network Visualization and Filter**: Visualize, filter, and explore tabular data using network visualization. [Add]

Red arrows from the 'VISUALIZATIONS' pane point to the 'HierarchySlicer' card and its 'Add' button, and another red arrow points from the 'Import from marketplace' option to the 'HierarchySlicer' card.

### 3. Add a Product category slicer

The image shows a Power BI interface with three main components: a field list on the left, a central ribbon with 'VISUALIZATIONS' and 'FIELDS' tabs, and a field list on the right.

**Left Field List (L1Category):**

- ALL
  - (Blank)
  - Action Sports
  - Apparel and Footwear
  - Electronics
  - Exercise
  - Fashion
    - (Blank)
    - Fashion Accessories
  - Menswear
    - (Blank)
    - Casual Shirts
    - Coats & Jackets
    - Dress Shirts
    - Mens Jeans
    - Mens Shoes
    - Pants
    - Suits & Sportcoats
  - Womenswear
  - Team Sports

**Central Ribbon:**

- VISUALIZATIONS:** Grid of visualization icons.
- FIELDS:** Search bar and list of fields including Barcodes, HierarchyOrganizati..., OperatingUnits, and ProductHierarchyCa... (highlighted).
- Fields:** L1Category Hierarchy (dropdown), L1Category, L2Category, L3Category, L4Category, L5Category.
- Values:** Drag data fields here.
- FILTERS:** (Empty)

**Right Field List (L1Category):**

- ALL
  - Action Sports
  - Apparel and Footwear
  - Electronics
  - Exercise
  - Fashion
    - Fashion Accessories
  - Menswear
    - Casual Shirts
    - Coats & Jackets
    - Dress Shirts
    - Mens Jeans
    - Mens Shoes
    - Pants
    - Suits & Sportcoats
  - Womenswear
  - Team Sports

**Selection Panel (Middle):**

- Selection
  - Single Select
    - On
    - Empty Leaves  (highlighted with a red box and arrow)
    - Off
  - Select All
    - Off

## 4. Add a Organizational hierarchy slicer

The image shows a Power BI report interface with a report viewer on the left and a task pane on the right. The report viewer displays a tree view of an organizational hierarchy under the field 'L1Top'. The hierarchy is as follows:

- L1Top
  - Contoso Retail
    - Contoso Retail FR
    - Contoso Retail RUS
    - Contoso Retail USA
      - Central
        - East
          - Annapolis
          - Atlanta
          - Atlantic City
          - Boston
          - Burlington
          - Cambridge
          - CHRISTOPHERS
          - Columbia
          - Evas Store
          - Georgetown
          - Miami
          - New York
          - Philadelphia
        - West

The task pane on the right is divided into three sections: VISUALIZATIONS, FIELDS, and FILTERS. The FIELDS section is active and shows a search bar and a list of fields. The 'HierarchyOrganizati...' field is expanded, showing a list of fields with checkboxes and icons. The 'L1Top Hierarchy' field is checked and highlighted in yellow. Below it, 'L1Top', 'L2Country', 'L3Area', and 'L4Store' are also checked. Other fields like 'L2Country', 'L3Area', 'L4Store', 'Organization...', 'ParentOrganiz...', and 'Path' are unchecked. The FILTERS section is currently empty.

## 5. Add a Date Slicer

The image shows a Power BI report with a date slicer for the field 'TRANSACTIONDATE'. The slicer is currently set to a range from 25.03.2016 to 22.08.2018. The 'VISUALIZATIONS' pane shows a date slicer icon highlighted with a red box. The 'FIELDS' pane shows 'TRANSACTIONDATE' selected in the field list, also highlighted with a red box. A red arrow points from the field list to the slicer icon.

**VISUALIZATIONS**

**FIELD**

TRANSACTIONDATE

**FILTERS**

Visual level filters

Drag data fields here

Page level filters

Drag data fields here

Report level filters

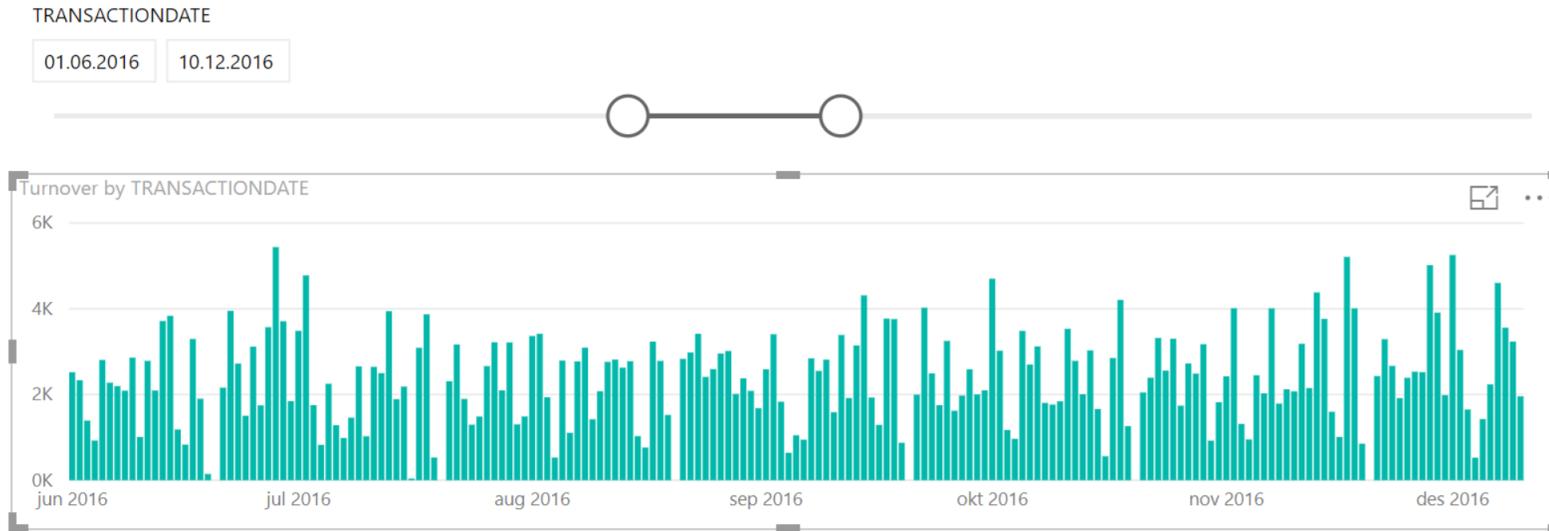
Drag data fields here

**FIELDS**

Search

- ProductOnHand
- Products
- RetailProductCategories
- RetailTransactionLines
- RetailTransactions**
- CURRENCY
- CUSTOMERACCOUNT
- GROSSAMOUNT
- NETAMOUNT
- OPERATINGUNITNU...
- OPERATINGUNITNUM...
- PAYMENTAMOUNT
- RRECEIPTID
- SALESORDERID
- STAFF
- TERMINAL
- TRANSACTIONDATE**
- TRANSACTIONNUMB...

## 6. Add a nice graph



**VISUALIZATIONS** >

**FIELDS**

Search

Σ Qty

RECEIPTNUMBER

Σ SALESTAXAMOUNT

TERMINAL

TRANSACTIONNUMB...

Σ Turnover

UNIT

**RetailTransactions**

CURRENCY

CUSTOMERACCOUNT

Σ GROSSAMOUNT

Σ NETAMOUNT

OPERATINGUNITNU...

OPERATINGUNITNUM...

Σ PAYMENTAMOUNT

RRECEIPTID

SALESORDERID

STAFF

TERMINAL

TRANSACTIONDATE

TRANSACTIONNUMB...

Axis

TRANSACTIONDATE

Legend

Drag data fields here

Value

Turnover

Color saturation

Drag data fields here

Tooltips

Drag data fields here

# 6. Add Some numbers

L1Top

- Contoso Retail
  - Contoso Retail USA
    - Central
    - East
      - Atlanta
      - Atlantic City
      - Cambridge
      - Columbia
      - Miami
      - New York
      - Philadelphia
    - West

TRANSACTIONDATE

04.06.2016 04.10.2016

Turnover by TRANSACTIONDATE



L1Category

- ALL
  - Action Sports
  - Apparel and Footwear
    - Exercise
    - Team Sports

Item	Name	Qty	UNIT	COSTAMOUNT	Turnover	Margin
0033	Lightweight Backpack	23.00	Ea	647,86	1 034,77	386,91
0034	Large Backpack	21.00	Ea	1 241,86	1 889,79	647,93
0035	Sports Backpack	29.00	Ea	929,81	1 449,71	519,90
0036	Laptop Backpack	20.00	Ea	1 259,87	1 999,80	739,93
0037	Wheeled Backpack	23.00	Ea	1 799,85	2 759,77	959,92
0038	Sport Duffel Bag	25.00	Ea	623,84	999,75	375,91
0039	Team Duffel Bag	24.00	Ea	575,86	959,76	383,90
0040	Small Duffel Bag	27.00	Ea	503,83	809,73	305,90
0041	Large Messenger Bag	30.00	Ea	1 487,81	2 399,70	911,89
0042	Medium Messenger Bag	29.00	Ea	1 079,82	1 739,71	659,89
0118	Shatter Proof Sport Sunglasses	35.00	Ea	2 099,79	3 499,65	1 399,86
0119	Youth Sunglasses	33.00	Ea	163,00	263,67	100,67
0140	Boys T-Shirt	33.00	Ea	407,80	659,67	251,87
0141	Girls T-Shirt	36.00	Ea	431,78	719,64	287,86
0142	Childrens Sweatshirt	34.00	Ea	713,80	1 189,66	475,86
0143	Girls Athletic Tank Top	28.00	Ea	419,83	699,72	279,89
0144	Childrens Fleece Crew	27.00	Ea	566,84	944,73	377,89
0145	Childrens Athletic Pants	33.00	Ea	752,20	1 253,67	501,47
0146	Childrens Insulated Snow Pants	28.00	Ea	1 343,83	2 239,72	895,89
<b>Total</b>		<b>1 305,00</b>		<b>45 350,20</b>	<b>73 729,95</b>	<b>28 379,75</b>

**VISUALIZATIONS**

Table

**Values**

- Item
- Name
- Qty
- UNIT
- COSTAMOUNT
- Turnover
- Margin

**FILTERS**

Visual level filters

- COSTAMOUNT (All)
- Item (All)
- Margin (All)
- Name (All)
- Qty (All)

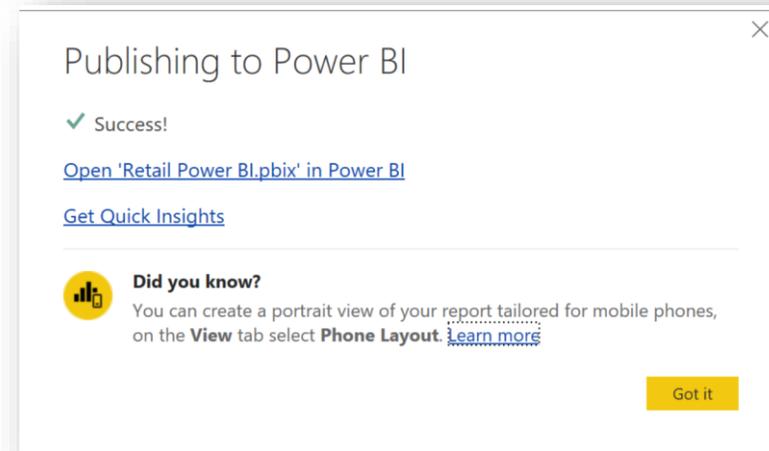
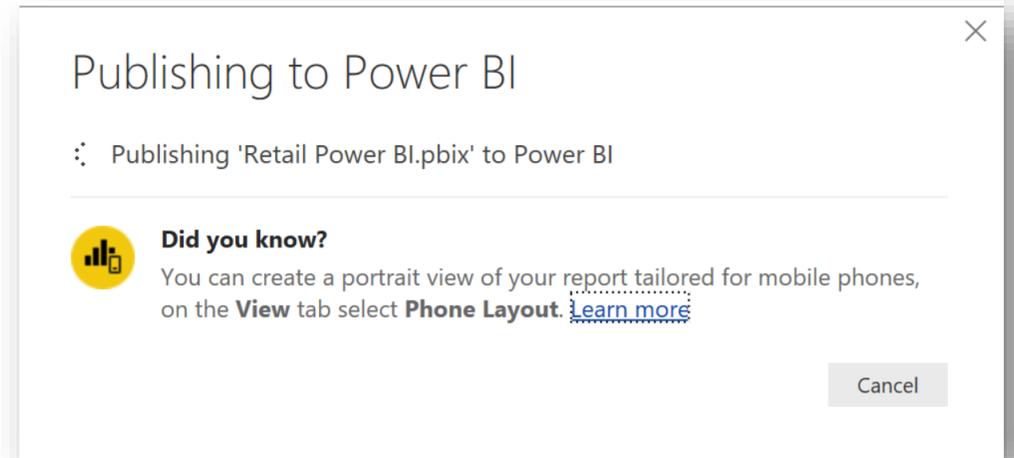
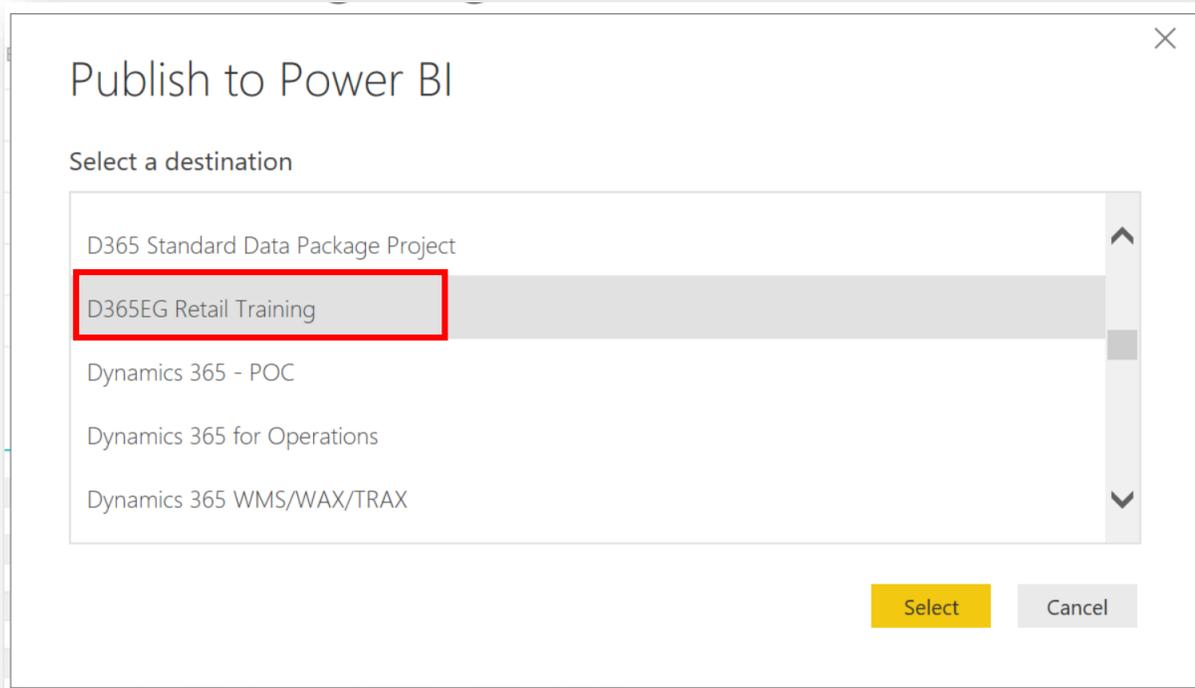
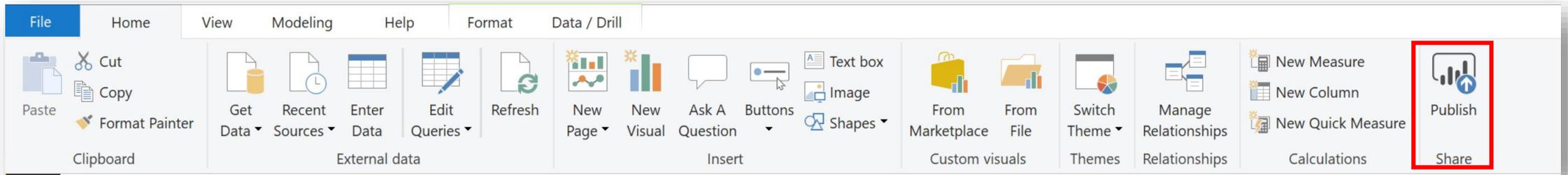
**FIELDS**

Search

- Name
- ProductNumber
- ProductSearchName
- ProductType
- ProductOnHand
- Products
- RetailProductCategories
- RetailTransactionLines**
  - COSTAMOUNT
  - CURRENCY
  - CUSTOMERACCOUNT
  - Item
  - LINENUMBER
  - Margin
  - NETAMOUNTINCLUSI...
  - OPERATINGUNITNU...
  - PRICE
  - Qty
  - RECEIPTNUMBER
  - SALESTAXAMOUNT
  - TERMINAL
  - TRANSACTIONNUMB...
  - Turnover
  - UNIT



Publish and share





- Favorites >
- Recent >
- Apps
- Shared with me
- Workspaces >
- DR D365EG Retail Tr...** >

L1Top

- Contoso Retail
  - Contoso Retail USA
    - Central
    - East
      - Atlanta
      - Atlantic City
      - Cambridge
      - Columbia
      - Miami
      - New York
      - Philadelphia
    - West

L1Category

- ALL
  - Action Sports
  - Apparel and Footwear
  - Exercise
  - Team Sports

TRANSACTIONDATE

6/4/2016 10/4/2016

Turnover by TRANSACTIONDATE



Item	Name	Qty	UNIT	COSTAMOUNT	Turnover	Margin
0033	Lightweight Backpack	30.00	Ea	836.81	1,349.70	512.89
0034	Large Backpack	29.00	Ea	1,673.81	2,609.71	935.90
0035	Sports Backpack	37.00	Ea	1,169.77	1,849.63	679.86
0036	Laptop Backpack	29.00	Ea	1,799.82	2,899.71	1,099.89
0037	Wheeled Backpack	30.00	Ea	2,303.81	3,599.70	1,295.89
0038	Sport Duffel Bag	34.00	Ea	839.79	1,359.66	519.87
0039	Team Duffel Bag	30.00	Ea	719.82	1,199.70	479.88
0040	Small Duffel Bag	37.00	Ea	683.77	1,109.63	425.86
0041	Large Messenger Bag	34.00	Ea	1,679.79	2,719.66	1,039.87
0042	Medium Messenger Bag	35.00	Ea	1,295.78	2,099.65	803.87
0118	Shatter Proof Sport Sunglasses	41.00	Ea	2,519.75	4,099.59	1,579.84
0119	Youth Sunglasses	46.00	Ea	234.91	367.54	132.63
0140	Boys T-Shirt	44.00	Ea	539.73	879.56	339.83
0141	Girls T-Shirt	44.00	Ea	527.74	879.56	351.82
0142	Childrens Sweatshirt	47.00	Ea	986.72	1,644.53	657.81
0143	Girls Athletic Tank Top	41.00	Ea	614.75	1,024.59	409.84
0144	Childrens Fleece Crew	38.00	Ea	797.77	1,329.62	531.85
0145	Childrens Athletic Pants	45.00	Ea	1,048.52	1,709.55	661.03
0146	Childrens Insulated Snow Pants	35.00	Ea	1,775.78	2,799.65	1,023.87
<b>Total</b>		<b>1,761.00</b>		<b>61,019.99</b>	<b>99,458.39</b>	<b>38,438.40</b>

FILTERS

DRILLTHROUGH

Keep all filters

Off

Drag drillthrough fields h



Refresh dataset

Power BI D365EG Retail Training

Search content...

Dashboards Reports Workbooks **Datasets**

NAME ↑	ACTIONS
Retail Power BI	⌵ ↻ 📄 ⌵ ⋮

Setting

- Rename
- Delete
- Analyze in Excel
- Get quick insights
- Security
- Manage permissions
- Download .pbix

General Dashboards **Datasets** Workbooks Alerts Subscriptions

Retail Power BI

### Settings for Retail Power BI

This dataset has been configured by [kurha@eg.no](#).

⊗ Last refresh failed: Mon Aug 27 2018 00:03:11 GMT+0200 (sentraleuropeisk sommertid)  
Scheduled refresh has been disabled. [Show details](#)

[Refresh history](#)

▶ Gateway connection

⌵ Data source credentials

⊗ Your data source can't be refreshed because the credentials are invalid. Please update your credentials

OData  
RetailPowerBI-d365retailtraining.database.windows.net [⊗ Edit credentials](#)

▶ Parameters

▶ Scheduled refresh

▶ Q&A and Cortana

▶ Featured Q&A questions

- Favorites >
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- Shared with me
- Workspaces >
- DR D365EG Retail Tr...** v

- General
- Dashboards
- Datasets**
- Workbooks
- Alerts
- Subscriptions

Retail Power BI

### Settings for Retail Power BI

This dataset has been configured by [kurha@eg.no](mailto:kurha@eg.no).

Last refresh succeeded: Wed Aug 29 2018 19:33:45 GMT+0200 (sentraleuropeisk sommertid)  
Next refresh: Thu Aug 30 2018 00:00:00 GMT+0200 (sentraleuropeisk sommertid)  
[Refresh history](#)

- ▶ Gateway connection
- ▶ Data source credentials
- ▶ Parameters

▾ Scheduled refresh

Keep your data up to date

On

Refresh frequency

Daily ▼

Time zone

(UTC+01:00) Brussels, Copenhagen, Madrid, Paris ▼

Time

6 ▼ 00 ▼ AM ▼ ✕

12 ▼ 00 ▼ AM ▼ ✕

4 ▼ 00 ▼ PM ▼ ✕

[Add another time](#)

Send refresh failure notification email to me

# Share your reports

Reset to default

## Share report

RETAIL POWER BI

Share Access

Only users with Power BI Pro will have access to this report. Recipients will have the same access as you unless row-level security on the dataset further restricts them. [Learn more](#)

Grant access to

Kurt Hatlevik X Enter email addresses

Include an optional message...

Allow recipients to share your report

Send email notification to recipients

Report Link ⓘ

<https://app.powerbi.com/groups/me/reports/50c2b5d3-8304-4665-b5a1-b0c043>

Share Cancel



**FOCUS**<sup>18</sup>  
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