

# Many to Many relationship

many (\*)

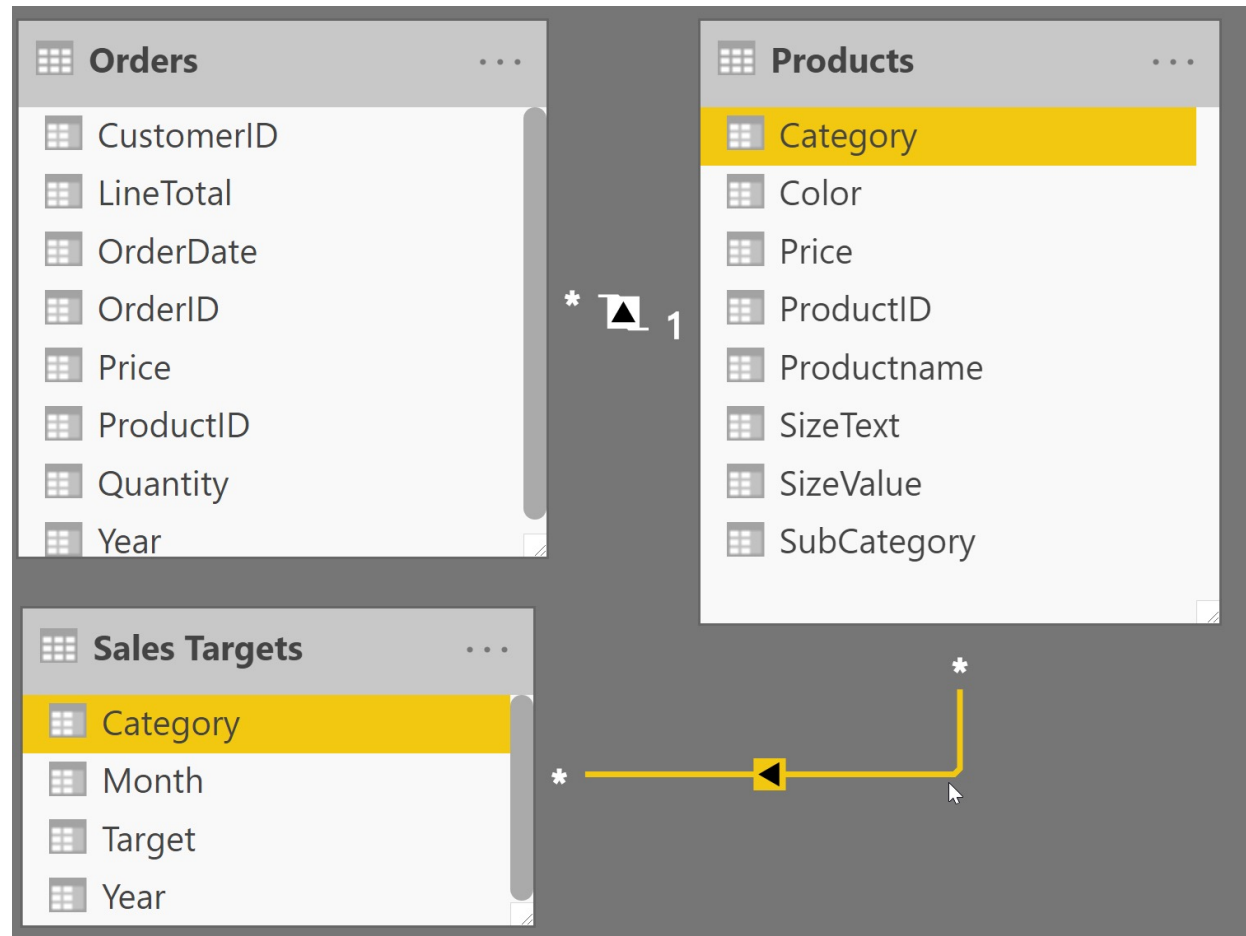
Year	Month	Category	Target
2017	12	Accessory	€ 10.000
2017	12	Bicycle	€ 200.000
2018	1	Accessory	€ 7.000
2018	1	Bicycle	€ 250.000
2018	2	Accessory	€ 4.000
2018	2	Bicycle	€ 150.000
2018	3	Accessory	€ 5.000
2018	3	Bicycle	€ 250.000
2018	4	Accessory	€ 7.000
2018	4	Bicycle	€ 250.000
2018	5	Accessory	€ 7.000
2018	5	Bicycle	€ 200.000
2018	6	Accessory	€ 9.000
2018	6	Bicycle	€ 250.000

many (\*)

ProductID	Productname	Category	SubCategory
303182	Nicros	Bicycle	Mountain
303201	Nicros	Bicycle	Mountain
303202	Nicros	Bicycle	Mountain
303221	Nicros	Bicycle	Mountain
303222	Nicros	Bicycle	Mountain
401001	Mini Nicros	Bicycle	Kids
401002	Mini Nicros	Bicycle	Kids
402001	Micro Nicros	Bicycle	Kids
402002	Micro Nicros	Bicycle	Kids
1101	Active Outdoors Crochet Glove	Accessory	Gloves
1102	Active Outdoors Crochet Glove	Accessory	Gloves
1103	Active Outdoors Crochet Glove	Accessory	Gloves

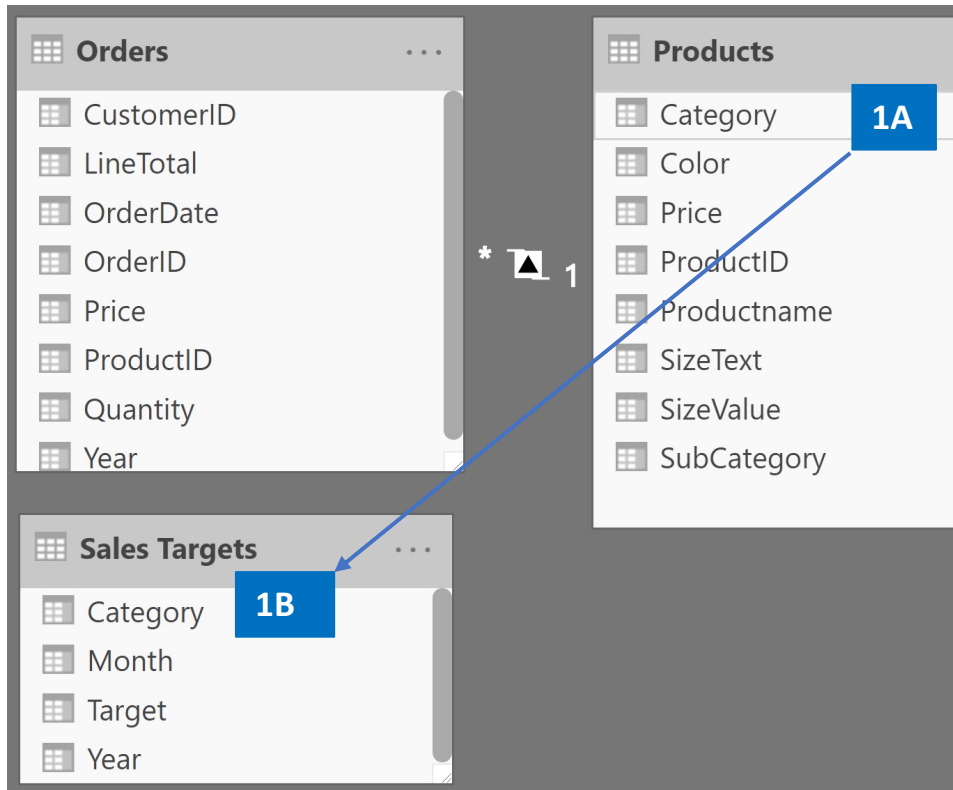
# Many to Many relationship

- Power BI also supports Many to Many relationships like between Products and Sales Targets. Category is in neither tables unique.
- Many to many relationships should only be used between Dimension and Fact tables with a filter direction from Dimension to Fact.



For more information about Many to Many Relationships, [click here](#).

# Many to many relationship: Step by Step



## Create relationship

Select tables and columns that are related.

Products

ProductID	Productname	Color	SizeText	SizeValue	Price	Category	SubCategory
101151	Descent	steel satin	15	15	2939,85	Bicycle	Competition
101152	Descent	steel yellow	15	15	2939,85	Bicycle	Competition
101171	Descent	steel satin	17	17	2939,85	Bicycle	Competition

Sales Targets

Year	Month	Category	Target
2017	12	Accessory	€ 10.000
2017	12	Bicycle	€ 200.000
2018	1	Accessory	€ 7.000

Cardinality

Many to Many (\*:\*)

☒ Make this relationship active

☐ Assume referential integrity

Cross filter direction

Single (Products filters Sales Targets)

Single (Products filters Sales Targets)

Single (Sales Targets filters Products)

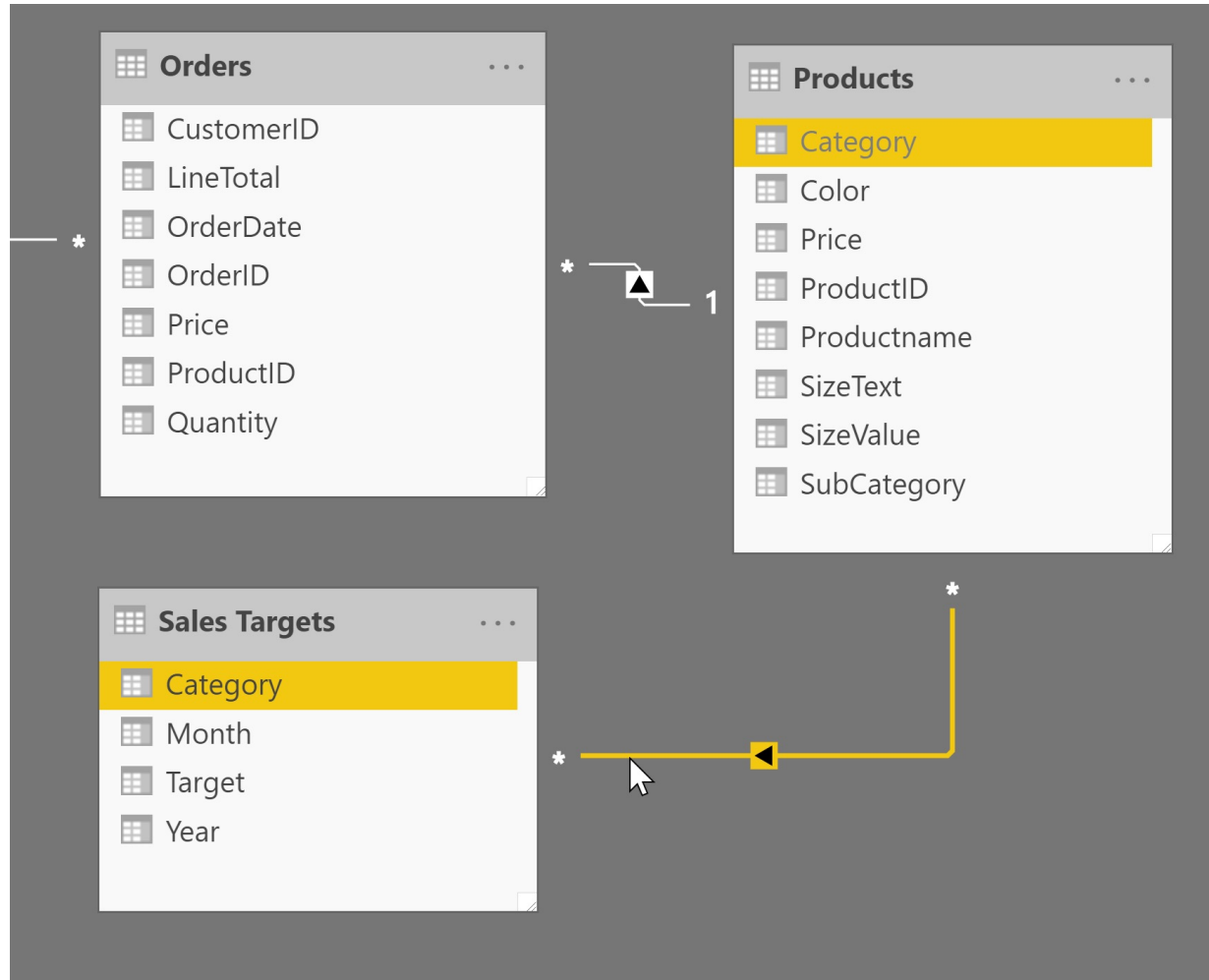
Both

Single (Products filters Sales Targets)

1. Drag Column from Dimension table to Column in Fact table.
2. Choose Cross filter direction. Always from Dimension to Fact Table!
3. Select the Checkbox to activate the relationship.

# Exercise 05B: Many – many relationship Products – Sales Targets

- Create a many to many relationship between Products and Sales Targets:



# Optional Exercise 05C: Report - Create KPI Matrix

- Create a Matrix to compare the LineTotal with Sales Targets:

Category	LineTotal	Target
Accessory	€ 110.057	€ 169.200
Bicycle	€ 3.973.608	€ 5.765.000
<b>Total</b>	<b>€ 4.083.665</b>	<b>€ 5.934.200</b>

- Can you also add the Year?

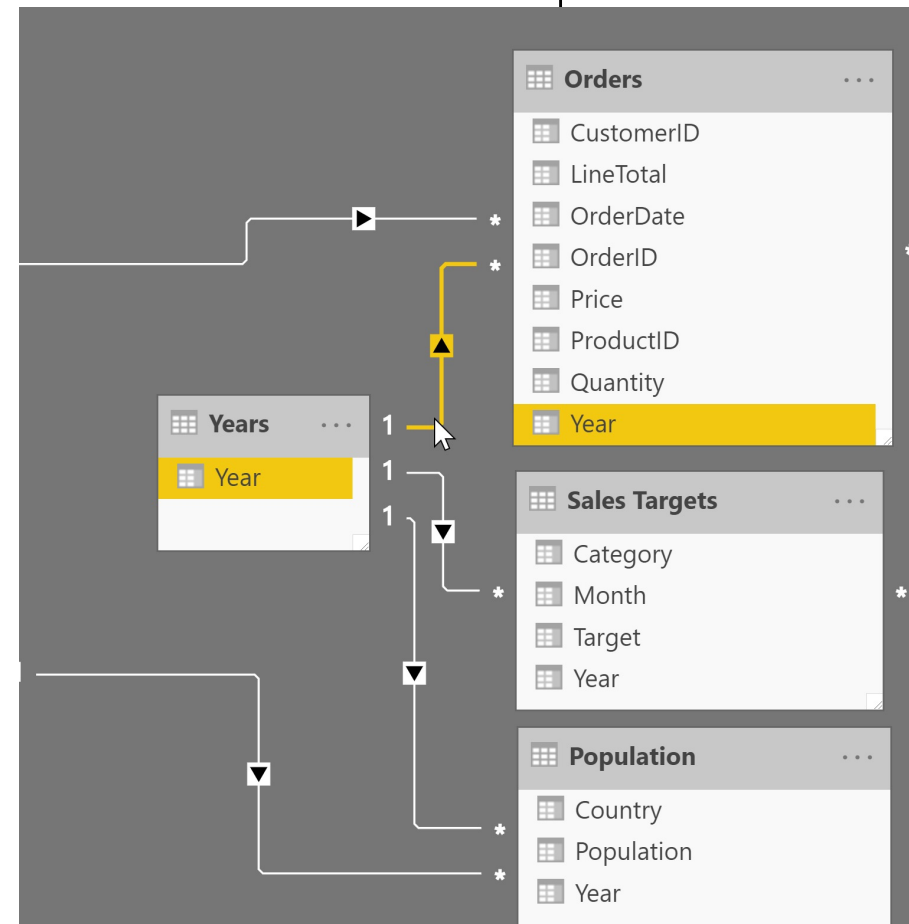
Category Year	Accessory		Bicycle	
	LineTotal	Target	LineTotal	Target
2017	€ 9.099,91	€ 10.000,00	€ 250.290,74	€ 200.000,00
2018	€ 78.311,02	€ 79.000,00	€ 2.788.774,16	€ 2.800.000,00
2019	€ 22.646,02	€ 80.200,00	€ 934.543,50	€ 2.765.000,00

# Optional Exercise 05D: Power Query - Years Table

- Add a Year column in the table Orders
- Create a Years table and connect it to the 3 fact tables. Hint: duplicate the Orders Query and remove all columns except the Year and remove all duplicate rows.

The screenshot shows the Power Query Editor interface. On the left, the 'Queries [12]' pane lists various queries, including 'Transform File from Sale...', 'Sample Query [2]', and 'Other Queries [8]'. The 'Years' query is highlighted at the bottom. The main area displays the formula bar with '= Table.DuplicateColumns(#Source, {"Year"})' and a preview of the 'Years' table with three rows of data.

	Year
1	2017
2	2018
3	2019



# Optional Exercise 05E: Report - Create KPI Matrix

- Create a Matrix to compare actual Revenue and Sales Targets.
- Can you also drilldown to the Month level?

Category Year	Accessory		Bicycle	
	LineTotal	Target	LineTotal	Target
2017	€ 9.099,91	€ 10.000,00	€ 250.290,74	€ 200.000,00
2018	€ 78.311,02	€ 79.000,00	€ 2.788.774,16	€ 2.800.000,00
2019	€ 22.646,02	€ 80.200,00	€ 934.543,50	€ 2.765.000,00