

Time intelligence functions

INTERMEDIATE DAX IN POWER BI



Maarten Van den Broeck
Content Developer at DataCamp

Time intelligence functions

- Manipulate and compare data using time periods



- Many time intelligence functions exist

- Compare current period with previous period
- Estimate monthly/quarterly/yearly goals

Time intelligence functions returning a date

- NEXTDAY(<dates>)
 - *Returns the next day*

dates	NEXTDAY
2009-07-07	2009-07-08
2009-07-08	2009-07-09
2009-07-09	2009-07-10

Time intelligence functions returning a date

- `NEXTDAY(<dates>)`
 - *Returns the next day*
- `SAMEPERIODLASTYEAR(<dates>)`
 - *Returns the last year*

dates	NEXTDAY	LASTYEAR
2009-07-07	2009-07-08	2008-07-07
2009-07-08	2009-07-09	2008-07-08
2009-07-09	2009-07-10	2008-07-09

- `DATESBETWEEN(<dates>, <start_date>, <end_date>)`
 - *Returns dates between start and end date*

Time intelligence functions returning a date

- `NEXTDAY(<dates>)`
 - *Returns the next day*
- `SAMEPERIODLASTYEAR(<dates>)`
 - *Returns the last year*

dates	NEXTDAY	LASTYEAR
2009-07-07	2009-07-08	2008-07-07
2009-07-08	2009-07-09	2008-07-08
2009-07-09	2009-07-10	2008-07-09

- `DATESBETWEEN(<dates>, <start_date>, <end_date>)`
 - *Returns dates between start and end date*

dates	DATESBETWEEN
2009-07-07	
2009-07-08	2009-07-08
2009-07-09	2009-07-09
2009-07-10	

Time intelligence functions returning a date

```
Mid Season Sales =  
CALCULATE(  
    SUM(Fact_Table[Sales]),  
    DATESBETWEEN(Dim_Date[Date Key],  
        DATE(2014, 10, 04),  
        DATE(2014, 10, 26)  
    )  
)
```

Time intelligence functions returning a date

```
TOTALYTD(<expression>, <dates> [,<filter>])
```

```
TOTALQTD(<expression>, <dates> [,<filter>])
```

```
TOTALMTD(<expression>, <dates> [,<filter>])
```

Returns the year, quarter, or month to date value of the expression.

```
Sum_YTD =  
TOTALYTD(  
    SUM(Fact_Table[Value]),  
    Dim_Date[Date Key]  
)
```

Time intelligence functions returning a date

TOTALYTD(<expression>, <dates> [,<filter>])

TOTALQTD(<expression>, <dates> [,<filter>])

TOTALMTD(<expression>, <dates> [,<filter>])

Returns the year, quarter, or month to date value of the expression.

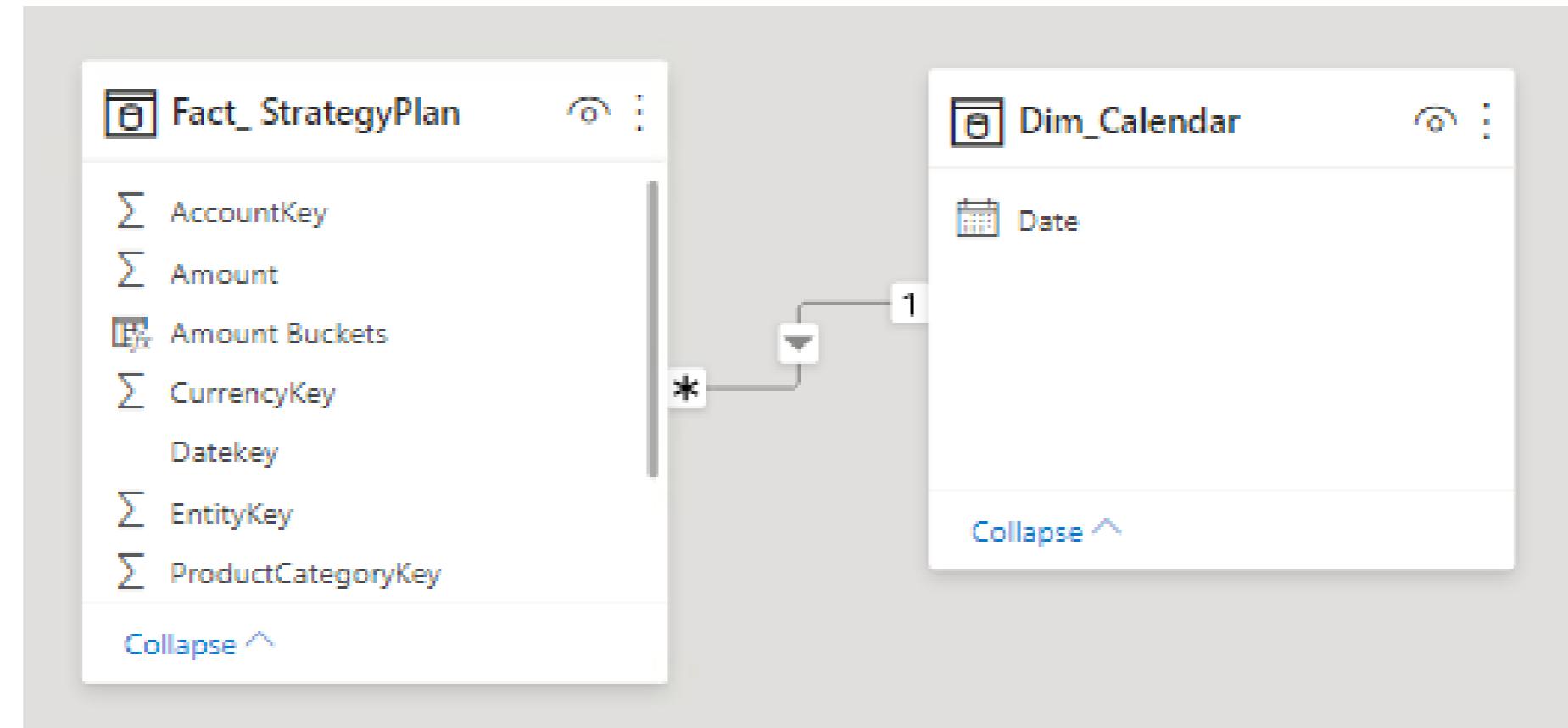
Sum_YTD =

```
TOTALYTD(  
    SUM(Fact_Table[Orders]),  
    Dim_Date[Date Key]  
)
```

Year	Month	Value	Sum_YTD
2021	Jan	6,532	6,532
2021	Feb	4,263	10,795
2021	Mar	1,256	12,051
Total		12,051	12,051

Best practices for time intelligence functions

- Use a separate date dimension table



A date column in the fact table could contain missing dates!

Let's practice!

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Time intelligence in Power BI

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Maarten Van den Broeck

Content Developer at DataCamp

Let's practice!

INTERMEDIATE DAX IN POWER BI

Congratulations!

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Content Developer at DataCamp

What you've learned so far

Chapter 1

Logical functions:

- IF()
- SWITCH()

Chapter 3

Table manipulation functions

- ADDCOLUMNS()
- SUMMARIZE()

Chapter 2

Row-level security

- USERPRINCIPALNAME()

Chapter 4

Time intelligence functions

- SAMEPERIODLASTYEAR()
- TOTALYTD()

Use it or lose it

Download our cheat sheet on the course landing page!



The image shows a screenshot of a DataCamp DAX glossary cheat sheet. The title is "Glossary of DAX functions and operators". The content is organized into several sections:

- Date & time functions**: Includes CALENDAR, TOTALYTD, SAMEPERIODLASTYEAR.
- Time intelligence functions**: Includes TOTALYTD, SAMEPERIODLASTYEAR.
- Relationship functions**: Includes CROSSFILTER, RELATED.
- Table manipulation functions**: Includes SUMMARIZE, DISTINCT, ADDCOLUMNS, SELECTCOLUMNS.
- Text functions**: Includes SUBSTITUTE.
- Information functions**: Includes USERPRINCIPALNAME.
- DAX statements**: Includes VAR.
- Other functions**: Includes BLANK.

On the right side, there are two tables:

Comparison operators	Meaning
=	Equal to
= =	Strict equal to
>	Greater than
<	Smaller than
> =	Greater than or equal to
= <	Smaller than or equal to
< >	Not equal to

Text operator	Meaning	Example
&	Concatenates text values	Concatenates text values [City]&, "[State]"
Logical operator	Meaning	Example
&&	AND condition	([City] = "Bru") && ([Return] = "Yes")
	OR condition	([City] = "Bru") ([Return] = "Yes")
IN {}	OR condition for each row	Product[Color] IN {"Red", "Blue", "Gold"}

At the bottom right, there is a note: "Can't find the function you're looking for? Take a look at the Microsoft documentation". The DataCamp logo is at the bottom left.

See you again soon!

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