Time intelligence functions

INTERMEDIATE DAX IN POWER BI

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Time intelligence functions

- Manipulate and compare data using time periods

- Compare current period with previous period

- Estimate monthly/quarterly/yearly goals

- Many time intelligence functions exist

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

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  - *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>])
```

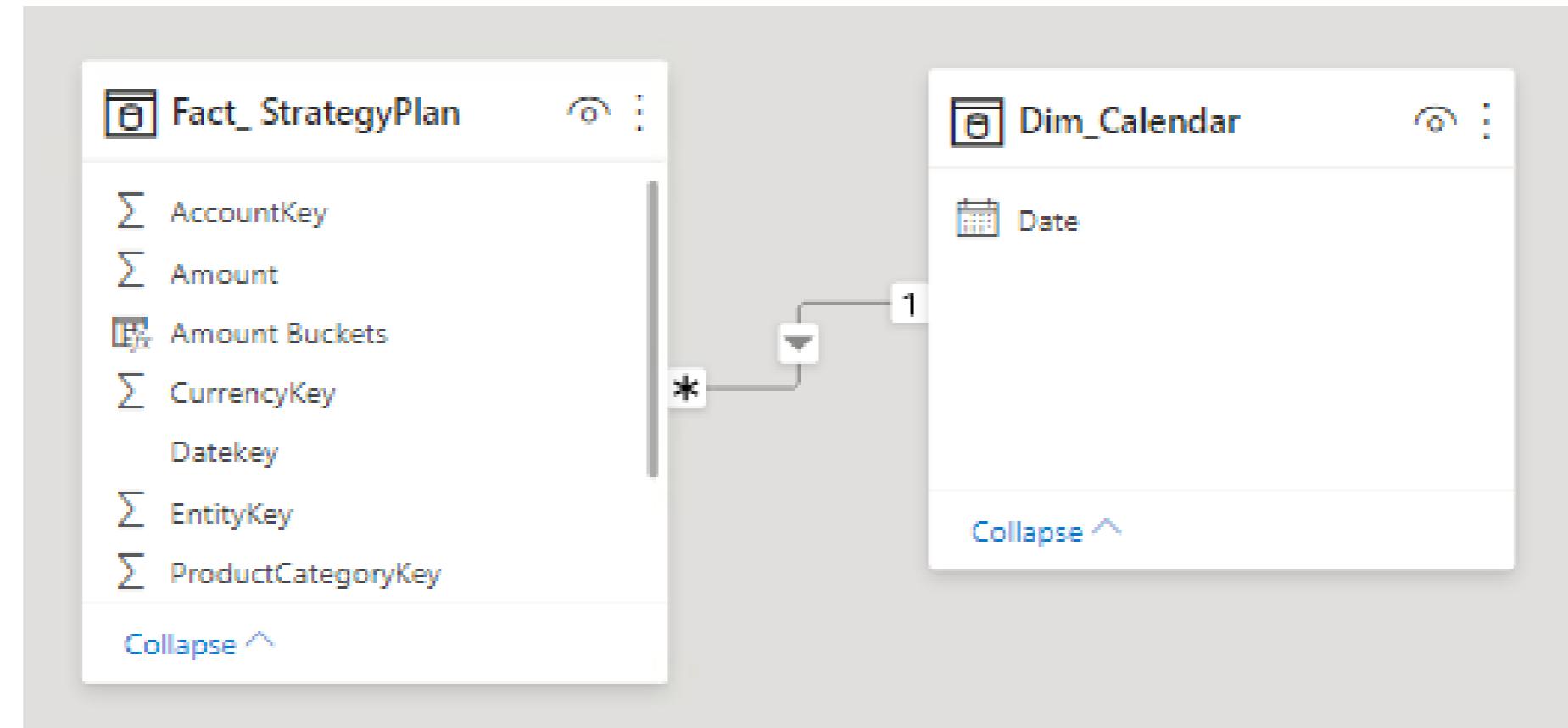*Returns the year, quarter, or month to date value of the expression.*

```
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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Let's practice!

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Congratulations!

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What you've learned so far

Chapter 1

Logical functions:

- `IF()`

- `SWITCH()`

Chapter 2

Row-level security

- `USERPRINCIPALNAME()`

Chapter 3

Table manipulation functions

- `ADDCOLUMNS()`

- `SUMMARIZE()`

Chapter 4

Time intelligence functions

- `SAMEPERIODLASTYEAR()`

- `TOTALYTD()`

Use it or lose it

Download our cheat sheet on the course landing page!

See you again soon!

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