

# DAX

## Time Intelligence

Alish Bista - 10/15/2025

# Time Intelligence Functions

# DATESYTD

## Year To Date

- Returns all dates from the beginning of the year to the last date in current context
- Syntax: DATESYTD('Date'[Date])
- Must be used inside CALCULATE to modify filter context
- Commonly used to create year-to-date accumulation measures

```
Sales Amount YTD :=  
CALCULATE (  
    [Sales Amount],  
  
    DATESYTD ( 'Date' [Date] )  
)
```

# QTD and MTD

## Quarter and Month-to-Date

- DATESQTD('Date'[Date]) - Returns dates from start of quarter to current date
- DATESMTD('Date'[Date]) - Returns dates from start of month to current date
- All follow the same pattern as DATASYTD
- Use within CALCULATE to modify the filter context

```
Sales Amount QTD :=  
CALCULATE([Sales Amount],  
DATESQTD('Date'[Date]))
```

```
Sales Amount MTD :=  
CALCULATE([Sales Amount],  
DATESMTD('Date'[Date]))
```

# TOTAL Functions

## Just Total

- TOTALYTD, TOTALQTD, TOTALMTD are shorthand versions
- Expression comes first, then date column
- Syntax: TOTALYTD([Measure], 'Date'[Date])
- These functions hide the underlying CALCULATE function
- Better practice: use CALCULATE explicitly for code clarity

```
YTD Sales :=  
TOTALYTD([Sales Amount],  
'Date'[Date])
```

# SAMEPERIODLASTYEAR

## I Know What You Did Last Year

- Returns the same set of dates shifted back exactly one year
- Essential for year-over-year comparisons
- Works at any granularity: year, quarter, month, or day level
- Always use within CALCULATE function

```
PY Sales :=  
CALCULATE (  
    [Sales Amount],  
    SAMEPERIODLASTYEAR ('Date' [Date])  
)
```

# DATEADD

## Date Adds Up

- More flexible than SAMEPERIODLASTYEAR
- Syntax: DATEADD('Date'[Date], NumberOfIntervals, Interval)
- Interval options: YEAR, QUARTER, MONTH, DAY
- Negative numbers go back in time, positive go forward
- Returns partial periods based on current selection

```
PY Sales :=  
CALCULATE([Sales Amount],  
DATEADD('Date'[Date], -1,  
YEAR))
```

```
PQ Sales :=  
CALCULATE([Sales Amount],  
DATEADD('Date'[Date], -1,  
QUARTER))
```

# PREVIOUS/NEXT

## Last Time And Next Time

- Dedicated functions: PREVIOUSYEAR, PREVIOUSQUARTER, PREVIOUSMONTH, PREVIOUSDAY
- Also: NEXTYEAR, NEXTQUARTER, NEXTMONTH, NEXTDAY
- Return single contiguous period regardless of selection length
- If Q2 selected, PREVIOUSMONTH returns only March

```
Last PM Sales :=  
CALCULATE ([Sales  
Amount],  
PREVIOUSMONTH ('Date' [  
Date]))
```



**Q&A**