DEMYSTIFYING DAX

An Introduction to Data Analysis eXressions

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Scenic City Summit

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Please download and install the Slido app on all computers you use

What is your current DAX skill level?

ⓘ Start presenting to display the poll results on this slide.

Agenda

DAX Overview

Consider the Context

DAX Learning Path

Demo

DAX Resources

OHIO STATE
2025
CHAMPIONS
2024
NATIONAL
CHAMPS
WON FOR THE AGES
33
2025
32
NATIONAL
CHAMPS
WON FOR THE AGES

WHAT

is DAX?

DATA ANALYSIS EXPRESSIONS

- Functional language
- Similar syntax to Excel formulas
- Created specifically for working in data models

DAX Prerequisites?

No prior coding experience necessary!

Solid, working knowledge of data modeling & star schemas

Experience with Excel formulas is beneficial

WHO

should learn to write DAX?

WHY

should analysts learn to write DAX?

WHY

should analysts learn to write DAX?

250+ DAX functions at your disposal

Implement custom business logic

Perform complex calculations

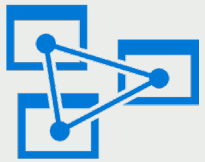
Utilize time intelligence functions

Extend formatting options in visuals

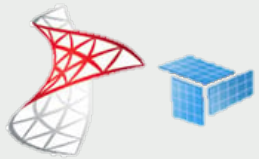
Power BI

Microsoft Fabric

Power Pivot for Excel



Azure Analysis Services Tabular



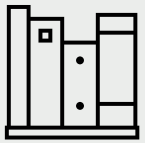
SQL Server Analysis Services Tabular

WHERE

can DAX be written?

HOW

should analysts learn to write DAX?



DAX Resources

Microsoft DAX Function Reference

learn.microsoft.com/en-us/dax/dax-function-reference

Official DAX reference guide with syntax and information for all DAX functions

DAX Guide

dax.guide/

SQL BI DAX reference guide with syntax and information for all DAX functions

SQL BI

www.sqlbi.com/

Marco Russo & Alberto Ferarri's blog, training, & resources

DAX Formatter

www.daxformatter.com/

Make your DAX easy to read with this free formatting tool!

DAX Patterns

www.daxpatterns.com/

Reusable, complex DAX for ranking, cumulative totals, comparing different granularities, etc.

HOW

should analysts learn to write DAX?

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DAX is Used to Create...

Measures

Flexible calculations that can be used multiple times in Power BI visuals, Excel PivotTables, and more

Calculated Columns

The DAX expression is calculated for every row in the table

Calculated Tables

The DAX expression creates a new table in the data model

Queries

Write DAX to pull data out of a Power BI model or SSAS model in the form of a “temporary” table.

Visual Calculations

Calculations that exist in the context of a single Power BI visual.

Consider the Context

Filter Context

“The set of filters applied to the data model before the evaluation of a DAX expression starts.”

- Marco Russo & Alberto Ferrari

Row Context

To complete their aggregations, some DAX functions iterate over every row in a data table and need to know what row they are on. The “current row” is the row context.

DAX Learning Path

DAX 101

- Data modeling & DAX syntax
- Basic Aggregations:
  - COUNTROWS(), SUM(), COUNT(), DISTINCTCOUNT(), AVERAGE(), MIN(), MAX()
- Quick Measures
- IF()
- Basic Operators
- DIVIDE()
- Introduce CALCULATE()
- Basic filters in CALCULATE()
- Nesting measures

DAX 201

- Iterator Functions:
  - SUMX(), AVERAGEX(), MINX(), MAXX(), CONCATENATEX()
- DAX Variables
- CALCULATE Modifiers:
  - FILTER(), ALL(), ALLSELECTED(), etc.
- Visual Calculations
- SWITCH()

DAX 301

- Time Intelligence Functions:
  - TOTALYTD(),TOTALMTD() SAMEPERIODLASTYEAR(), DATEDIFF(), DATESINPERIOD(), etc.

DAX 401

- Custom Time Intelligence
- Implement DAX patterns
- DAX queries
- Context switching
- Calculation Groups

DEMO

DAX Tips

Keep your DAX measures organized in a metrics table

Use comments to document your DAX

Format your DAX code to keep it readable

Apply formatting to your DAX measures

Currency symbols, decimal places, thousand separator

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