



Power BI DAX Fundamentals

Private Workshop Presented by SkyPoint Cloud

This isn't some ordinary Power BI training. When you train with us, you learn real-world techniques, gain in-demand skills, and experience a magical transformation that drives adoption success.

Learning Power BI with SkyPoint is an unrivaled learning experience that combines consulting and pragmatic training.

We're not just your trainer, we're your strategic partner.



Bring People and Data Together



DAX Fundamentals Agenda



Power BI DAX Fundamentals is a 1-day training course for new Power BI authors and SSAS developers who want to learn a foundational set of skills in the DAX querying language. This is an instructor-led class that is focused on learning core concepts of DAX and applying them in a hands-on fashion.

You will learn how to:

- Define DAX and tie it into Power BI
- Build and understand measures
- Think of DAX filters properly as tables
- Create override filters to construct complex measures

Morning Agenda

- Introduction to DAX and Dimensional Modeling
- Understanding and Creating Simple Measures
- Concepts and Basic Application of CALCULATE()
- Concepts and Basic Application of Iterators

Afternoon

- Intermediate Measures Combining CALCULATE() & Iterators
- Skill Integration with Simplified Time Intelligence
- Synthesis of Skills with Full-Time Intelligence

Prerequisites

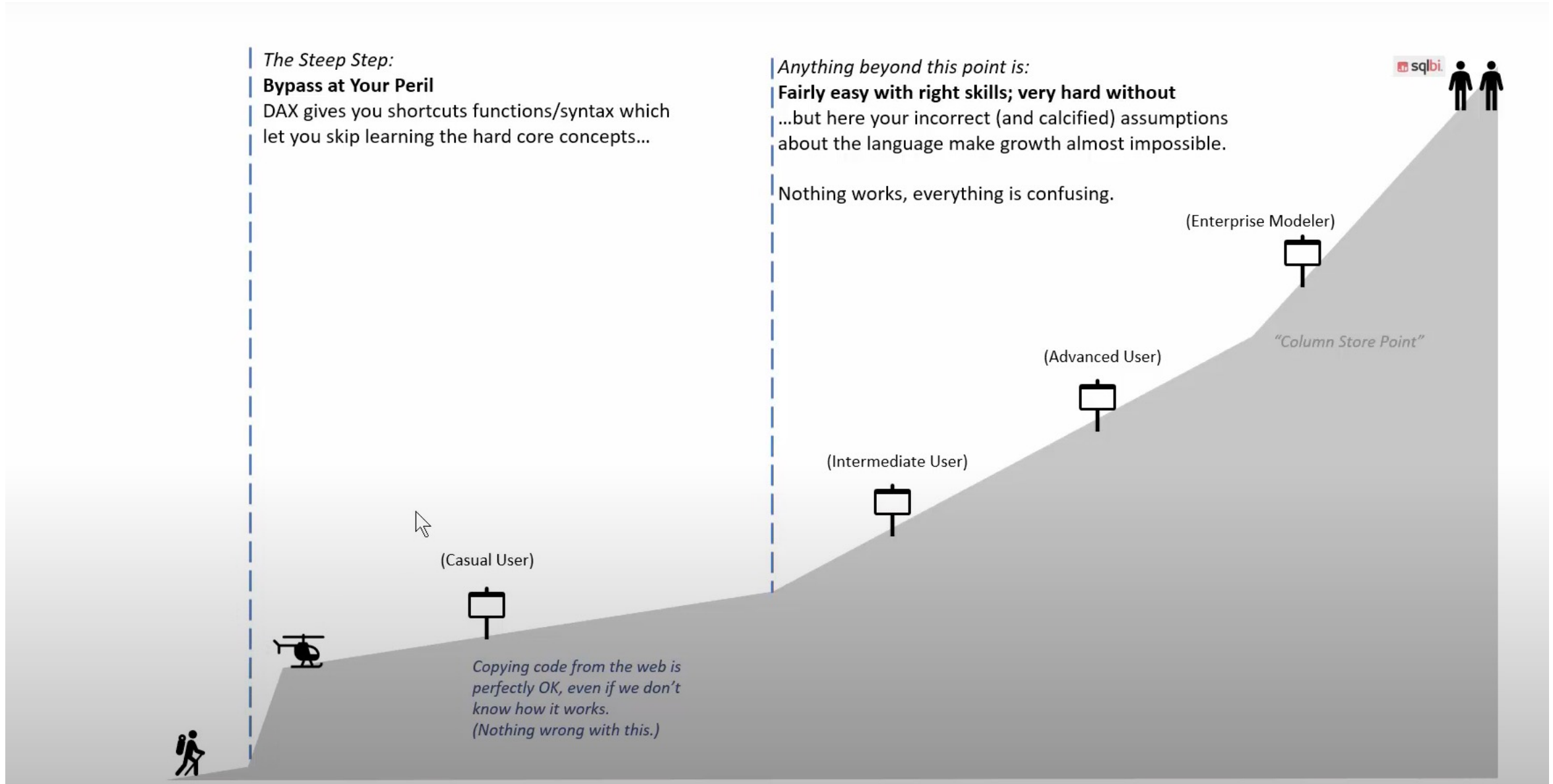
- Beginner/intermediate experience with Power BI or SSAS

AND any one of the following:

- Experience working with Excel Pivot Tables
- Experience working with Excel Array Formulas
- Experience working with a SQL language



DAX Fundamentals Content Preview





DAX Fundamentals Content Preview



Writing DAX in a shortened form isn't bad once you understand how it works. Until you do, this short form hides the very ideas you need to be learning.

Short Form:
Easy to See Intention

Long Form:
Easy to See Mechanics

DAX Contractions (Syntactic Sugar)

Shortcut ways of writing code

```

01 | [Food Sales Short Form] =
02 | CALCULATE(
03 |   SUM( Sales[Sale Amt] ),
04 |   Products[Category] = "Food"
05 | )

```

Aggregator Contraction -> 03 |
Filter Contraction -> 04 |

```

SUMX(
  Sales,
  Sales[Sale Amt]
)

```

```

FILTER(
  ALL( Products[Category] ),
  Products[Category] = "Food"
)

```

DAX Abstractions

Low level code conveniently packaged up

```

01 | [Closing Balance] =
02 | CALCULATE(
03 |   [Total Sales Long Form],
04 |   LASTDATE( 'Dates'[Date] )
05 | )

```

Measure Abstraction -> 03 |
Function Abstraction -> 04 |

```

[Total Sales Long Form] =
SUMX(
  Sales,
  Sales[Sale Amt]
)

```

```

VAR vrHintDefaultLastDay =
  MAXX(
    VALUES( 'Dates'[Date] ),
    'Dates'[Date]
  )
VAR vrOverrideJustLastDay =
  FILTER(
    VALUES( 'Dates'[Date] ),
    'Dates'[Date] = vrHintDefaultLastDay
  )

```

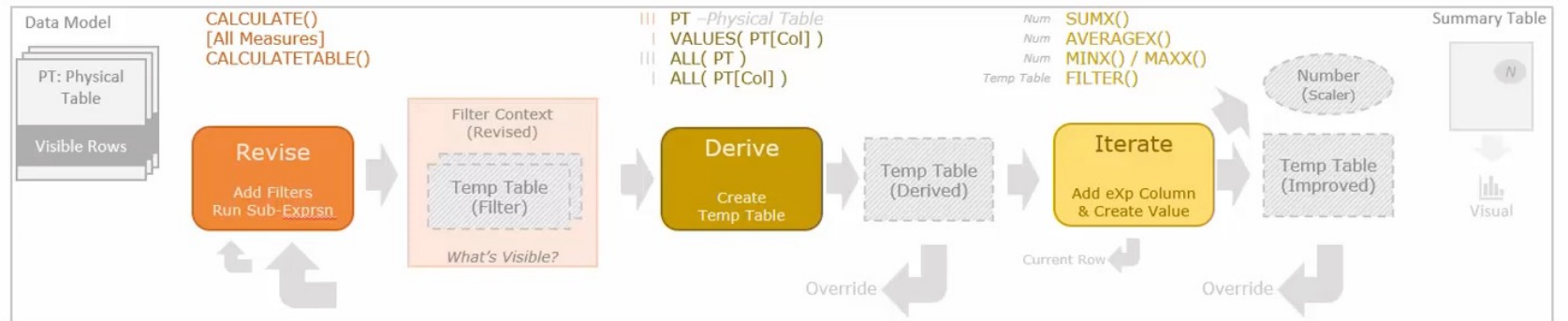




DAX Fundamentals Content Preview

To write DAX at an intermediate level you only need to master:

- 3 Elements
Families of functions and references.
(DAX's "Parts of Speech")



- 7 Patterns
Common arrangements of the Elements.

"Static Override" Pattern

<pre> 01 [Oregon Sales] = 02 CALCULATE(03 SUMX(04 Sales, 05 Sales[Units] * Sales[Price] 06), 07 FILTER(08 ALL(Stores), 09 Stores[State] = "OR" 10) 11) </pre>	<pre> 01 [Beverage Margin] = 02 CALCULATE(03 SUMX(04 Sales, 05 Sales[Margin] 06), 07 FILTER(08 ALL(Products), 09 Products[Category] = "Beverage" 10) 11) </pre>	<pre> 01 [December Transactions] = 02 CALCULATE(03 SUMX(04 Sales, 05 1 06), 07 FILTER(08 ALL('Dates'[Month Num]), 09 'Dates'[Month Num] = 12 10) 11) </pre>
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DAX Fundamentals Content Preview

Data Model:

Shift	Type	Dish	Qty	Prc
Lunch	To Go	Pasta	2	\$7
Lunch	To Go	Burger	1	\$9
Lunch	Dine In	Pasta	1	\$7
Lunch	To Go	Burger	3	\$9
Dinner	To Go	Burger	2	\$9
Dinner	Dine In	Salad	1	\$11
Dinner	Dine In	Pasta	2	\$7

Measure:

Total Pasta or Salad Transactions =
CALCULATE(
[REDACTED],
TREATAS(
{ "Pasta", "Salad" },
Sales[Dish]
)
)

PBI Slicer and Visual:

Shift	Type	Dish
<input type="checkbox"/> Dinner	<input type="checkbox"/> Dine In	<input type="checkbox"/> Burger
<input type="checkbox"/> Lunch	<input type="checkbox"/> To Go	<input type="checkbox"/> Pasta
		<input type="checkbox"/> Salad

4

Total Pasta or Salad Transactions

[Total Pasta or Salad Transactions] – No initial filters

Filter Context:
(Empty)

CALCULATE

CALCULATE creates a new Filter Frame (Filter Context) within which it runs a New Filter Formula.

CALCULATE(
<New Filter Formula>,
<Filter to Add*>
)

CALCULATE – ???

Filter Context:
???



Our Lead Instructor

Make Everyone a Citizen Developer & Achieve Rapid Transformation

This isn't some ordinary training. When you train with us, you learn real-world techniques, gain in-demand skills, and experience a magical transformation that drives adoption success.



Meet Our Lead Instructor

Brian Grant is a masterful Senior Analytics Consultant by day, and a Power BI legend by night.

He teaches visualization that is focused on simplicity and understandability of the right measures, paired with a clean compositional layout



Dashboard in a Day

A hands-on 1-day workshop covering the full spectrum capabilities of Power BI and the Power BI service. [Learn More](#)



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DAX Fundamentals

A 1-day instructor-led class to develop a foundational set of skills in the DAX querying language. [Learn More](#)

See more of Brian's training content on our [blog](#) and [YouTube channel](#).