Power BI: Mastering DAX for Data Analysis - TTDPB05

Transform your Power BI reports with advanced DAX techniques, optimized calculations, and performance-driven strategies.

Duration: 1 Day
Skill Level: Intermediate
Available Format: Instructor-Led Online; Instructor-Led, Onsite In Person ; Blended; On Public Schedule

Get the latest hands-on skills required to write efficient, accurate, and powerful DAX expressions in Power BI. **DAX gives you control over your data, allowing you to create advanced calculations, apply custom logic, and build high-performance reports that drive insights.** This hands-on course goes beyond the basics, giving you the techniques to optimize report performance, control filter and row context, create dynamic calculations, and implement security measures. Learn from an expert instructor and apply real-world solutions that make your Power BI models smarter and more effective.

What You'll Learn

Overview

If you are already using Power BI but want to get more out of your reports, **Mastering DAX and Data Analysis** is for you. DAX (Data Analysis Expressions) is the formula language that powers Power BI, giving you the ability to create dynamic calculations, shape data effectively, and improve report performance. Whether you are struggling with complex measures, trying to fix unexpected results, or looking to speed up slow reports, learning DAX will help you take full control of your data.

In this fast-paced, hands-on, expert-led course, you will work with real-world scenarios to build DAX skills that make a measurable difference in how you create and manage Power BI reports. You will learn how to write accurate and efficient expressions, control

how filters and row context impact your calculations, and apply advanced functions to solve common data challenges. You will also explore best practices for optimizing performance, setting up security roles, and using external tools to analyze and refine your formulas. By the end of the course, you will be able to create faster, smarter, and more insightful Power BI models that drive better decisions.

This course is designed for Power BI users who already have a solid understanding of basic report building and want to sharpen their skills with DAX driven data modeling and calculations. If you are a data analyst, business intelligence professional, or report developer, or if you work with Power BI in any role where accuracy and efficiency matter, this course will give you the tools and confidence to create more powerful and reliable reports. No prior DAX expertise is required. You just need a working knowledge of Power BI and a desire to improve your reporting skills.

Objectives

In this expert-led, hands-on course, you will build the skills to confidently write and troubleshoot DAX expressions, improving the accuracy and efficiency of your Power BI reports.

By the end of this course, you will be able to:

- Write clear and effective DAX expressions that return the right results and are easy to maintain.
- Control how filters and row context affect your calculations so your reports always reflect the right data.
- Speed up slow reports by using best practices for DAX and optimizing your data model.
- Use CALCULATE and other key functions to create dynamic, flexible measures that respond to different filters and conditions.
- Set up Row-Level Security (RLS) to control access to data and ensure users only see what they should.
- Work with external tools like DAX Studio to analyze and fine-tune your expressions for better performance.

If your team requires different topics, additional skills or a custom approach, our team will collaborate with you to adjust the course to focus on your specific learning objectives and goals.

Audience

This course is designed for Power BI users who want to take their DAX skills to the next level and build more efficient, insightful reports. Ideal roles include data analysts, business intelligence professionals, report developers, and anyone responsible for data modeling in Power BI.

Suggested Learning Paths: Power BI Suite

Business User/Report Developer
1. **TTDPB01: Power BI: Essentials (2 days)**. Foundation for all learners.
2. **TTDPB04: Power BI: Creating Reports (1 day)**. Learn to design and build insightful reports.
3. *(Optional)* **TTDPB03: Power BI: Data Transformation & Modeling (2 days)**. If you need to clean and prepare data before reporting.

For Data Analysts & Power Users *(Focus: Data Preparation, Analysis, and Advanced Calculations)*
1. **TTDPB01: Power BI: Essentials (2 days)**. Foundation for all learners.
2. **TTDPB03: Power BI: Data Transformation & Modeling (2 days).** Learn Power Query and data modeling best practices.
3. **TTDPB05: Power BI: Mastering DAX for Data Analysis (1 day)**. Essential for writing complex calculations and optimizing analysis.
4. *(Optional)* **Power BI: Creating Reports (1 day)**. If they also need to design and present reports.

For Data Engineers *(Focus: Data Preparation & Optimization)*
1. **TTDPB01: Power BI: Essentials (2 days).** Foundation for all learners.
2. **TTDPB03: Power BI: Data Transformation & Modeling (2 days).** Core course for data cleaning and model structuring.
3. *(Optional)* **TTDPB05: Power BI: Mastering DAX for Data Analysis (1 day).** If you need to optimize performance with calculated measures.

Pre-Requisites

To ensure a smooth learning experience and to gain the most from attending this course, you should have:

- Familiarity with the Power BI data model, relationships, and report-building features.
- Basic experience writing measures and calculated columns in Power BI.

- An understanding of aggregations, filters, and fundamental data concepts.

Take Before: In order to gain the most from this course, you should have incoming skills equivalent to those in the course listed below, or should have attended this as a prerequisite:

TTDPB04   Power BI: Creating Reports

TTDPB01   Power BI Essentials

Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Course agenda, topics and labs are subject to adjust during live delivery in response to student skill level, interests and participation.

1. What is DAX and what is it used for?
- DAX syntax
- Similarities to Excel
- Formatting DAX

2. Use DAX to add data and calculations
- Measures
- Calculated columns
- Tables
- Security Roles

3. Relationships and DAX
- Cardinality
- Dimension tables and fact tables
- Filter direction

4. Evaluation Contexts
- Filter Context
- Row Context
- Altering the filter context: CALCULATE

5. Other important functions
- FILTER

- ALL
- DIVIDE
- IF, AND, OR, NOT
- SUM, SUMX
- VALUES, DISTINCT
- ADDCOLUMNS, SUMMARIZE
- RELATED, RELATEDTABL

6. Using DAX in creative ways

- Activating a relationship
- Creating a Dynamic title
- Formatting a value

7. DAX Variables

- Declaring a variable
- Returning a value
- Using variables to troubleshoot errors
- External Tools
- DAX Studio
- DAX Formatter
- DAX.DO
- Tabular Editor

8.Row-level Security

- Security overview in Power BI
- Row-level security
- Static Method
- Dynamic Method

Related Courses

TTDPB05   Power BI: Mastering DAX for Data Analysis
TTDPB04   Power BI: Creating Reports
TTDPB01   Power BI Essentials
TTDPB03   Power BI: Data Transformation and Modeling

Setup Made Simple! All of our Power BI course software, digital course files or course notes, labs, data sets and solutions, live coaching support channels and rich extended learning and post training resources are provided for you in our **easy access, single source, no install required** online **Learning Experience Platform (LXP),** remote lab and content environment. Or we can provide a local installation (trial edition) to setup and use on your machine. Access periods and versions vary by course. Please inquire about set up details and options for your specific course of interest.

Regardless of setup option, we will collaborate with you to ensure your team is set up and ready to go well in advance of the class.

For More Information

Please contact us or call 844-475-4559 toll free for more information about our training services (instructor-led, self-paced or blended), coaching and mentoring services, public course enrollment or questions, partner programs, courseware licensing options and more.