

Power BI Advanced: DAX & Data Modeling (Koenig Original)

Learn to model data, write advanced DAX, and build visuals, dashboards and paginated reports in Power BI.

5 Days

40 HOURS

6

MODULES

102

TOPICS

COURSE OVERVIEW

This course covers connecting to and importing data from multiple sources, then preparing and shaping it through query merging, profiling and dimensional data modelling. It progresses through DAX calculations, including measures, calculated columns, row context, iterator functions, table manipulation functions and time intelligence. It then addresses building and enhancing visual reports, applying advanced visualisation and analytics techniques, and using Copilot. Finally, it covers paginated reports, dashboards, and managing workspaces, datasets, parameters and row-level security.

WHO THIS COURSE IS FOR

BI Developers

Data Analysts

Report Developers

Business Intelligence Consultants

Data Modelers

LEARNING OBJECTIVES

- Connect to data from Excel, Access, CSV, web and Azure SQL sources
- Resolve data load, path and refresh errors
- Shape and merge data using query editor techniques
- Design dimensional data models with fact and dimension tables
- Apply DAX measures, calculated columns and iterator functions
- Modify filter context using CALCULATE and USERELATIONSHIP
- Build time intelligence calculations such as DatesYTD and DateAdd
- Create paginated reports, dashboards and workspace apps

6 Modules, 102 Topics

01

Get Data in Power BI

LESSON 1: GETTING DATA FROM MULTIPLE SOURCES

- Excel (Locally Stored and Cloud-Based Excel file)
- Access
- .CSV files and folders
- Web
- Data Verse and Data flow
- Azure SQL Database

LESSON 2: RESOLVE DATA IMPORT ERRORS

- Resolving Data Load Error
- Resolving Data Path Error
- Resolving Refresh Error

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Preparing Data in Power BI

LESSON 1: INTRODUCTION TO ENHANCING DATA STRUCTURE

- Enhancing Data Structure - Join Types Merge Queries
- Profile data in Power BI
- Shape the initial data
- Simplify the data structure
- Evaluate and change column data types

LESSON 2: INTRODUCTION TO DESIGNING A DATA MODEL

- Introduction to Dimensional Modeling
- Elements of the Dimensional Data Model: Attributes
- Elements of the Dimensional Data Model: Fact Table
- Elements of the Dimensional Data Model: Dimension Table
- Understanding cardinality
- Creating Relationships and their effects
- Define data granularity
- Configuring Tables
- Work with relationships and cardinality
- Resolve modelling challenges
- Creating Hierarchy

Calculation with DAX

LESSON 1: INTRODUCTION TO DAX

- Write DAX formulas
- Calculated Column
- Measures
- Create simple measures
- Create compound measures
- Create quick measures
- Calculate Tables
- Compare calculated columns with measures

LESSON 2: BASIC MATH CALCULATION

- Summarization and Aggregation

LESSON 3: WORKING WITH CONTEXT IN THE DATA MODEL

- Getting data from other tables using RELATED and RELATEDTABLE
- Modifying the context using CALCULATE function
- Use of USERELATIONSHIP function

LESSON 4: USING DAX TO PERFORM ADVANCE CALCULATION

- Understanding Row Context with Iterator function: SUMX
- Understanding Row Context with Iterator function: AVERAGEX
- Understanding Row Context with Iterator function: MAXX
- Understanding Row Context with Iterator function: RANKX

LESSON 5: CREATING AND MANIPULATING TABLE IN DAX WITH FUNCTIONS

- FILTER
- SUMMARIZE
- SUMMARIZECOLUMNS
- GROUP BY
- ADD COLUMN
- CALENDAR & CALENDARAUTO

LESSON 6: WORKING WITH TIME

- DatesYTD
- DatesQTD
- DatesMTD
- Year on Year growth calculation
- DateAdd
- Parallelperiod
- SameperiodLastYear
- Importance of Variables and Comments
- Introduction to Optimizing Model Performance

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Visualize Your Data

LESSON 1: INTRODUCTION

- Creating reports with different visuals
- Cluster and Stacked column and bar chart
- Map visualizations
- Matrices and tables
- Create scatter, waterfall, and funnel charts
- Modify colors in charts and visuals
- Page layout and formatting
- Formatting different Visuals

LESSON 2: ENHANCING REPORT

- Filtering and Sorting Reports
- Sync Slicers
- Creating Drill Through Pages
- Applying Conditional Formatting
- Bookmarks and Selection

LESSON 3: INTRODUCTION TO ADVANCED DATA VISUALIZATION CONCEPTS

- Create and import a custom report theme
- Enable personalized visuals in a report
- Review report performance using Performance Analyzer
- Explore statistical summary
- Identify outliers with Power BI visuals
- Apply clustering techniques
- Conduct time series analysis
- Use the Analyze feature
- Use advanced analytics custom visuals
- Advanced Analytics - Grouping
- Advanced Analytics - Binning
- Creating Animated Scatter Charts
- Using Visuals to Forecast Values

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Advance Feature of Power BI

LESSON 1: DOWNLOADING REPORT BUILDER AND CREATING PAGINATED REPORT

- Introduction to paginated reports
- Get data
- Create a paginated report
- Work with charts on the report
- Publish the report

LESSON 2: INTRODUCTION TO CREATING DASHBOARDS

- Creating Dashboards - Editing Published Reports and Pinning to a New Dashboard
- Accessing Power Automate
- Enhancing Dashboard with Videos
- Enhancing Dashboard Tile Alerts
- Using Q&A and Quick Insights and Add to Dashboards

LESSON 3: COPILOT IN POWER BI

- Data preparation using AI
- Copilot Chat in Power BI

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Managing Workspace and Datasets

LESSON 1: INTRODUCTION TO WORKSPACE

- Managing Workspace
- Distribute a report or dashboard
- Monitor usage and performance
- Creating and Publishing Apps

LESSON 2: INTRODUCTION TO MANAGING DATASETS

- Creating Parameters
- Editing Parameters in the Service and Refreshing Datasets and Visuals
- Working with What if Parameter
- Implementing Row Level Security

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Hands-on exercises throughout the course
- Delivery by certified instructors and subject matter experts
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

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Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

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