PBI002-Power BI – Advanced Level

Duration: 3 Days

Overview

You want to analyse data from single or multiple sources? You want to create your individual dataset based on these sources and transform your results into beautiful and easy-to-make visualizations? Moreover, you want to share your results with your colleagues or collaborate on your project? Finally, you want to be able to access your data from multiple devices?

Then the Power BI tools are the tools to choose for you!

In this course you will learn why Power BI offers you a comprehensive set of Business Intelligence tools for your data analysis goals and how to use these tools to fulfil all of the above tasks - and more. Imagine to quickly structure your data, to easily add calculations to it and to create and publish nice-looking charts in just a few minutes. With Power BI desktop you can shape and combine data with powerful, build-in tools. The course introduces the tools that are available for preparing your data, and transforming it into a form ready for reporting.

This is what you will learn:

- Get to know the different tools of the Power BI universe and learn how to use them Understand Power BI Desktop and its components
- Learn how to use the Query Editor to connect Power BI to various source types, how to work on the Data Model and understand the difference between those two steps
- How to work in the different views of the Data Model
- How to create calculated columns and measures
- How to build relationships between different tables
- How to create a report with different interactive visualization types
- Learn how to use Power BI service to create dashboards and to share and publish your results
- How to access your results from multiple devices using Power BI Mobile How to create custom visuals using typescript and the Power BI Developer Tools
- And more!

Who Should Attend?
- People who already has basic knowledge and skill in Power BI and want to explore the power of Power BI in using DAX
- People who want to understand how to create customized visuals with the Power BI Developer tools

Prerequisites

Before attending this course, students must have:
- Excellent knowledge of relational databases and reporting
- Basic knowledge of Power BI
- Some exposure to basic programming constructs (such as looping and branching).
- An awareness of key business priorities such as revenue, profitability, and financial accounting is desirable.
- Familiarity with Microsoft Office applications – particularly Excel.

Module 1: Using DAX in Power BI
- Introduction to DAX
- What is DAX?
- DAX data types
- Calculated columns
- Measures
- Naming convention
- Measures vs. calculated columns
- Handling errors
- Aggregation functions
- Counting values
- Logical functions
- The SWITCH function
- Information functions
- MAX and MIN functions
- Mathematical functions
- DIVIDE function
- Using variables
- Rounding, text, and date functions
- Relational functions

Module 2: Table functions
- Table functions
- Introduction to table functions
- FILTER function
- ALL function
- ALLEXCEPT function
- Mixing filters
- DISTINCT function
- VALUES and ALLNOBLANKROW functions
- ISEMPTY function
- RELATEDTABLE function
- Tables and relationships
- Calculated tables

Module 3: Evaluation contexts
- Introduction to evaluation contexts
- Filter context

- Row context
- There are always two contexts
- Context errors
- Working with evaluation contexts
- EARLIER in nested row contexts
- EARLIER and variables

Module 4: CALCULATE function
- Introduction to CALCULATE
- CALCULATE examples
- Filters are tables
- OR conditions in CALCULATE
- Clear filter on one column only
- CALCULATE tasks
- Variables and evaluation contexts

Module 5: Evaluation contexts and relationships
- Introduction to evaluation contexts and relationships
- Row context and relationships
- Filter context and relationships
- CALCULATE examples
- Filtering many columns
- Filter arguments in CALCULATE
- FILTER and CROSSFILTER functions
- HASONEVALUE function
- ALLSELECTED function
- Context transition
- Automatic CALCULATE in measures
- Equivalent filter context
- Circular dependency
- Conclusions about relationships

Module 6: Building a Date table
- CALENDAR function
- CALENDARAUTO function
- Mark as Date table
- Set sorting options
- Multiple dates

Module 7: Working with iterators
- Introduction to iterators
- Example: daily average
- Useful iterators
- MIN-MAX sales per customer
- Statistical and financial functions
- RANKX function and examples

Module 8: Time intelligence in DAX
- Introduction to time intelligence
- Aggregations over time
- Year to date functions
- Previous year and DATEADD functions
- Example: previous year calculation
- PARALLELPERIOD function
- Running total
- Moving annual total
- Semi additive measures
- Calculations over weeks
- Time intelligence conclusions

Module 9: Querying with DAX
- EVALUATE syntax
- FILTER and CALCULATETABLE functions
- SUMMARIZE and SELECTCOLUMNS functions
- CROSSJOIN function
- GENERATE function
- Tables, relationships, and data lineage
- ROW, LOOKUPVALUE, and CONTAINS functions
- TOPN function
- UNION, INTERSECT, and EXCEPT functions
- SUMMARIZECOLUMN and GROUPBY functions

Module 10: Query measures
- Parameters in queries
- DAX measures in MDX queries
- Querying in DAX - conclusions

Module 11: Advanced filter context
- Introduction to advanced filter context
- Filter propagation and strange results
- Key topics
- Base tables and expanded tables
- Context propagation
- Filter is on columns, not tables
- Filter context operators
- KEEPFILTERS function

Module 12: Hierarchies in DAX
- Introduction to hierarchies
- Parent-child hierarchies
- Hiding levels in parent-child hierarchies

Module 13: Advanced relationships
- Ambiguity in bidirectional filters
- USERELATIONSHIP function
- Multi-column relationships
- Static segmentation
- Dynamic segmentation
- Working at different granularity
- Many-to-many relationships

Module 14: Bookmarks
- Using bookmarks
- Arranging bookmarks
- Bookmarks as a slide show
- Visibility - using the Selection pane
- Bookmarks for shapes and images
- Bookmark groups
- Using Spotlight
- Bookmarks in the Power BI service

Module 15: Action buttons and Numeric slicers
- Creating the BACK button
- Understanding Default, Hover and Select
- The DEFAULT formatting
- Using Numeric slicers
- Formatting the numeric inputs
- Formatting the slider

Module 16: Power BI for Developer
- The developer API
- Create Power BI visuals using R