



Power BI

Advanced 1 Day Course

Course Introduction

Overview of Power BI

Data Model

Data Modelling in the Real World
Dataset for these exercises

Data Analysis eXpressions (DAX) – Introduction

Introduction to DAX
Learning DAX
Advice when creating DAX
Third party tools to assist
Measures Table
Create a Table for Measures

DAX – Evaluation Contexts

Overview of evaluation contexts in DAX
The Filter Context
The Row Context
Initial Filter (Query) context
Initial Row context
Create a simple measure in the Measures table
The Rules of Evaluation
Exploring the Rules

DAX – Contexts & Relationships

Introduction to Relationships
Filter context follows relationships
Explore the filter context
How filter context follows relationships
Filter context against relationships
The Both cross-filter direction
Modify the filter direction
The CROSSFILTER function
Impact on totals

DAX – Filter Context Modification

The CALCULATE function
How CALCULATE works
Modifying the filter context
Modify existing filter context
Limitation of CALCULATE
The FILTER function
FILTER returning a table

Modify existing filter context with both FILTER and CALCULATE
Difference between these methods
Using ALL function in FILTER
Identical CALCULATE and FILTER
Extended exercise – ALL functions

DAX – Context in Calculated Columns

Introduction to columns
Row context in Calculated Columns
Relationships in row context
Row to Filter context transformation
The RELATEDTABLE function
Calculated column in a fact table
Options to resolve these errors
Steps to debug an error
The RELATED function
Extended exercise – the LOOKUP function

DAX – Functions in Context

Common time intelligence functions
Date hierarchy in Power BI
Create a time intelligence measure
The arguments of the DAX YTD function
Format of year end date
Alternate Financial year end
Rules of evaluation quiz
Dynamic totals
Test for totals row in a matrix
Toggle display of totals in the measure

DAX – Row Context in Measures

Overview of the row context
Simple iterator in a measure
Row context and a related table
Extended exercise to calculate costs
Re-using measures
Implicit CALCULATE in a measure
How to work with implicit CALCULATE

DAX – Variables

Overview of variables in DAX
Creating and using variables

Use variables to store a constant
Use variables to avoid repetition
Location of variable evaluation
Use variables to simplify an expression
Where to from here

Row Level Security

Overview of RLS in Power BI
Create dynamic RLS using USERNAME or USERPRINCIPALNAME
Load data and enable RLS
Testing dynamic RLS in Desktop
RLS data access according to organisation hierarchy
DAX parent-child functions
Publish and assign roles in Power BI Service
Create App Workspace

Report Features

Introduction to advanced features
Overview of Drill-through
Create report page with drill-through filters
Interacting with drill-through
Overview of custom report tooltips
Modify standard tooltip display
Create a custom tooltip
Apply the tooltip to a field
Apply the tooltip to a visual
Overview of Grouping and Binning
Create a group
Create a bin
Binning a date field

Date Dimension

Overview of Date Dimension in BI
Power BI Desktop settings
Download or Create own table
Data Table with a DateKey
Convert a DateKey to a Date
Create date table in Power Query
Extended exercise - Use parameter to specify date table start and end
Create date table with DAX
Using CALENDARAUTO in DAX

Product Information



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Data Sources – App / API

- Overview of Web and API data sources
- Query an API data source
- HTTP and JSON terminology
- Transform a JSON response
- Publish to Power BI Service and setup refresh schedule

Data Sources – Streaming

- Overview of real time streaming data sources
- Push Datasets and Streaming Datasets
- Pushing data into a dataset
- Query data from PubNub stream
- Configure Dashboard tile to show streaming data from PubNub
- Create a REST API to push data into Power BI
- Create JSON object to insert data via this API
- Push data to created API using HTTP Post
- Create Dashboard tile to show updating data

Data Sources – Folder

- Overview of using a folder data source
- Query a folder containing multiple source files
- Column consistency
- Specify a template file to define columns
- View created queries / functions and dependencies
- Understand the created process of querying the folder
- Extended exercise – introduce additional files and unwanted files

Additional Study –Power Query M

Formula Language

- Overview of Power Query M Formula Language
- Basics of Power Query M
- Values, Records, Lists

Operators

- Conditional Testing
- Error handling
- Accessing table data
- More advanced Power Query M
- Each Expression
- Refer to other queries
- Understand a web query
- Remove Rows by Filter

Product Information