

Power BI- Advanced

Detailed Content

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 - Measures and Filters

Filters on a Measure

Create simple aggregate measures

Using measures on a report page

Applying visual layouts and slicers / filters

Initial Filter Context / Original Filter Context / Query Context

DAX - The CALCULATE function

Introduction to the CALCULATE function

Modifying filters with CALCULATE

Add, replace, clear column filters

Limitation of CALCULATE

Adding Filters

Replacing Filters

The total row

Removing / Clearing Filters

The ALL and similar functions

DAX - Evaluation Contexts

Overview of evaluation contexts in DAX

The Filter Context

The Row Context

Initial Filter (Query) context

Initial Row context

Seeing Row context

Introducing a row context

DAX - The Rules of Evaluation

Introduction to the rules of evaluation

The five steps

Starting set of filters

Specify filtering

Filters are applied

Propagation of filters

Evaluation of expression

Stepping through the rules in an example

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 - The FILTER function

Introduction to the FILTER function

FILTER returning a table

Create a table with FILTER

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 - Variables

Overview of variables in DAX

Creating and using variables

Use variables to store a constant

Use variables to avoid repetition

Where to from here

Where to from here

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

Testing dynamic RLS in Desktop

RLS data access according to organisation hierarchy

DAX parent-child functions

Publish and assign roles in Power BI Service

Publish and assign roles in Power BI Service

Create App Workspace

Create App Workspace

Create App Workspace

Report Features

Introduction to advanced features

Introduction to advanced features

Overview of Drill-through

Create report page with drill-through filters

Create report page with drill-through filters

Interacting with drill-through

Overview of custom report tooltips

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

Overview of Grouping and Binning

Create a group

Power BI- Advanced

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

Extended Topic A - API Data Sources

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

Extended Topic B - Streaming Data Sources

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

Extended Topic C - Files in Folders

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 (Extended Topic D) -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
Unpivot & Rename

Extended Topic B - Query Parameters (Dynamic Web Query)

Importing a web query using parameters
Creating a custom function
Defining a List to create a new Query
Invoking custom functions
Using Error checking processes
Cleaning queries
Create measures and visualise queried data

Extended Topic C - Group By

Using the Group By feature

Data Normalisation Appendix

The Normal Forms
1st Normal Form