

Power BI Desktop – Level 3 – 1 day course

About the course

CMBI's "Power BI Desktop – Level 3" course is aimed at experienced analysts and developers, who want to continue building on the Power BI knowledge obtained in the Levels 1 and 2 courses.

This **1-day advanced course** takes a deep-dive into the more programmatic aspects of Power BI. At the end of the session, you will be able to create your own Power Query functions using the M programming language, write powerful measures with DAX and use custom visualisations to create compelling reports that will revolutionise the way you work with your data.

Who should do this course?

This course is designed for analysts and developers that have some experience building solutions with Power BI. We recommend that attendees complete CMBI's "Power BI Desktop – Levels 1 and 2" training sessions prior to attending this course. Familiarity with programming, scripting or database concepts are an advantage.

Delivery Method

CMBI presents each training workshop as a series of practical exercises, giving attendees hands-on experience with personalised one-on-one support in each session.

Training can either be hosted onsite at your premises or remotely, using industry-leading video conferencing software.

Materials and support

CMBI's course materials support learning and re-enforcement well beyond the workshop.

Each 8-hour session includes an associated set of support materials to help attendees complete the tasks on the day, as well as provide support after course completion:

- Supporting course notes PDF document (approximately 60 pages, printed on request)
- Complete Power BI models for all exercises
- Datasets for all examples
- Optional Q&A time at the end of the session for anyone interested in asking specific questions

How it works

Location: we come to you or host remotely

Duration:
1 day, 9am - 5pm (onsite); or
2 x 4-hour sessions (remotely)

Price: \$2,499 + GST per team

Materials & support:

Each 8-hour session includes:

- ✓ Supporting course notes PDF (approx. 60 pages)
- ✓ Power BI models and datasets for all exercises
- ✓ Interactive exercises with personalised support

Course content

Unit 1: Creating Parameters in Power Query

- ✓ What are parameters?
- ✓ Why use parameters?
- ✓ Create a basic parameter object
- ✓ Add a parameter to a query
- ✓ Create a parameter that selects from a drop-down list

Unit 3: Power Query Functions

- ✓ M programming language
- ✓ Create variables by 'drilling down' in Power Query
- ✓ Explore some useful Power Query functions:
 - Duration.Days()
 - List.Dates()
 - DateTime.LocalNow()

Unit 5: DAX - USERELATIONSHIP() Function

- ✓ Understand Active vs Inactive relationships
- ✓ View relationship properties
- ✓ Use the default active relationship in a measure
- ✓ Use USERELATIONSHIP() to reference an inactive relationship in a measure
- ✓ Create visualisations that display both Active and Inactive relationships

Unit 7: DAX – SUMX() Function

- ✓ Iterating over a table with SUMX()
- ✓ Understand how SUMX() works
- ✓ Use SUMX() to create a measure
- ✓ Explore AVERAGEX() and other 'X' functions
- ✓ Use AVERAGEX() to create a measure

Unit 8: Exploring Visualisations in Power BI

- ✓ Create and format a Shape Map visualisation
- ✓ Understand Shape Map keys
- ✓ Explore native and custom Shape Maps
- ✓ Create a Q&A visual to ask natural language questions
- ✓ Convert a question into a visualisation using Q&A
- ✓ Define a term in Q&A
- ✓ Review Q&A questions in the setup console
- ✓ Explore Binning & Grouping data
- ✓ Explore grouped data with hierarchies
- ✓ Create dynamic labels with Cards
- ✓ Use Quick Measure to create a concatenated list of values

Unit 8: Formatting the Report Canvas

- ✓ Change the page background colour
- ✓ Change the page wallpaper
- ✓ Format the report filter pane
- ✓ Add lines to the report
- ✓ Add pictures to draw attention to key metrics

Unit 2: Custom Functions in Power Query

- ✓ What is a custom function?
- ✓ Why use custom functions?
- ✓ Create a custom function from a regular query
- ✓ Invoke a custom function
- ✓ Organise Power Query projects into Query Groups

Unit 4: Building Dynamic Date Tables in Power Query

- ✓ Advantage of self-maintaining date tables
- ✓ Building a dynamic Date table
- ✓ Adding Date attributes from a Date value
- ✓ Create relationships to the Date table
- ✓ Filtering on date values
- ✓ Filtering on relative date ranges

Unit 6: DAX – FILTER() Function

- ✓ Understanding iterator functions
- ✓ Create a calculated table with FILTER()
- ✓ Use FILTER() to filter on a column value
- ✓ Use FILTER() to filter on a measure condition
- ✓ Use FILTER() with multiple filter conditions
- ✓ Understand when to use FILTER() with CALCULATE()
- ✓ Treatment of filter context: FILTER() vs. CALCULATE()
- ✓ FILTER() and performance

Unit 8: DAX – RANKX() Function

- ✓ What is RANKX()?
- ✓ Use RANKX() to rank values in a list
- ✓ Use ALL() with RANKX() to rank over the total population
- ✓ Add conditional formatting to reports (data bars, icons)

Unit 9: Exploring Custom Visuals

- ✓ What are custom visualisations?
- ✓ Understand how to import custom visuals into a report
- ✓ Import a custom visual file
- ✓ Explore custom visuals on AppSource
- ✓ Considerations when selecting custom visuals
- ✓ Experiment with some useful custom visuals, including:
 - Chiclets
 - Sparklines
 - Scrollers
 - Waffle Charts
 - Stack Shuffle
 - Text Filter
 - Word Cloud
 - Enlighten Aquarium