

Power BI Foundations – Course Outline

Foundations of Structure and Design

Overview

The main purpose of the course is to cover five core foundations of Power BI Desktop:

1. Transforming and shaping data,
2. Modeling data through table relationships,
3. Extending the model and effective use of Data Analysis eXpressions (DAX),
4. Designing an interactive report through visualizations, and
5. Publishing, establishing user roles, and setting a refresh schedule in the Power BI Service.

Student profile

The course is for individuals working with Microsoft Excel that are comfortable with XLOOKUP / VLOOKUP and use of Pivot Tables. This course does not require you to be an IT professional.

Prerequisites

Students familiar with basic Excel functions and Pivot Tables is a plus but is not required.

Materials

Course Power Point slides provided in PDF format.

Sample dataset that we will work through during and after each course session.

Online access to each course session video (Available for 3 months after the end of the course).

Periodic reporting challenges to test your knowledge between sessions.

Optional: We strongly encourage you to purchase the book: **Supercharge Power BI by Matt Allington** as a learning supplement to this course.

COURSE OUTLINE

This is a hands-on course where we will build a reporting solution while learning core foundations in Power BI Desktop. We will work together through each foundation, checking our knowledge with in-class questions, as well as periodic assignments to be completed before the next session.

Power BI Overview and Best Practices

Introducing Power BI

A quick look at Power BI Desktop

Uses of Power BI and how each benefit the organization.

Introduction to using Excel data in Power BI

Upload Excel data to Power BI

Clean and Transform Data in Power Query

Review of available data sources in Power BI Desktop

Connecting to Excel data sources

Introduction to the Query Editor

Clean and transform basic data with Power Query

Cleaning irregularly formatted data

Merging columns

Merging table columns

Appending tables

Connecting to a folder with multiple files as a single dataset

Unpivoting pivoted an Excel data source into a tabular format

Troubleshooting and protecting against common errors in Power Query

Modeling and Evaluation Context

Introduction to modeling data

Fact vs. Dimension tables

Denormalized vs. Normalized data models

How cardinality and granularity impact our data model

Establishing a Star Schema Data Model

How to manage your data relationships

Introduction to expanded tables

Introduction to Evaluation Context

Create a measure table

Create calculated columns and measures

The need for row context and the purpose of measure iterators

Use of CALCULATE/measures within row context

Visualizing results in report visuals

Visualizing current filter context

Use of CALCULATE and Iterators

Using CALCULATE to overwrite current filter context

Using CALCULATE to add to current filter context

Using CALCULATE to modify existing relationships

Review table functions FILTER, ALL, VALUES, DISTINCT

Further review of how iterators are evaluated

Using the FILTER function within CALCULATE

Modifying Filter Context Through Time Intelligence

Use of classic time intelligence

Use of custom time intelligence

Displaying time intelligence measures in the matrix visualization

Report Design and Meaningful Visualization

Overview of Power BI visuals

Modify colors in charts and visuals

Visual hierarchies and drill-down

Use of field parameters

Using and modifying Interactions among report visuals

Providing User Driven Report Interaction

Use of disconnected tables

Adding helper tables to the report

Adding visual help text for report users

Providing user control through buttons

Providing custom tool tip visuals

Adding a hidden slicer panel

Publishing and Sharing

Publish Power BI Desktop reports to the Microsoft Service

Create and configure a dashboard

Introduction to sharing reports and workspaces

Use of an enterprise or personal gateway

Set a recurring refresh schedule

Creating row-level security

Share reports at scale within your organization

Quick insights in Power BI

Manually republish your reports