

Mastering Microsoft Excel and Power Query including M Language

Module 1: Introduction

- Application of Power Query
- Important: Excel versions, Expectations & course pathways
- Workaround for loading as Pivot Table

Module 2: The Power of Power Query

- Analyse Large Data Quickly! Pivot Table or Power Query?
- Power Query Overview: Import Large Data from Another File
- Power Query Editor & Basic Transformation
- Quick Insights on Data Quality & Distribution
- Formula Bar, Applied Steps & introduction to M Code
- Close & Load Destinations
- Refresh Data & PQ Refresh Options
- Import CSV File & Extract Text Based on Pattern
- Merge Data with Another File
- Old School Method: What if There Was NO Power Query?
- Activity: Get Familiar with Power Query

Module 3: Important Power Query Tips & Tricks

- Feature Name Change in Office 365 in 2021
- Uploading Data from Excel
- The Hidden Table Method
- Handling Changes to the Source
- Data Types
- Data Types vs. Formatting & Null Values
- Power Query Navigation Shortcuts
- Finding & Correcting Errors in Data
- More Data Views: Duplicate OR Reference Query?
- Keeping an Eye on Query Dependencies
- Delete, Manage, Copy Queries & Backup Results

Module 4: Helpful Power Query Transformations

- Text Transformations
- Merging Columns & What to Watch Out For
- Fill & Replace Values to Create Proper Datasets
- Sort Data including Multiple Levels
- Remove Duplicates including Multiple Columns
- Number Transformations & What to Watch Out For
- Working with Filter (AND & OR Conditions)
- Change Type & Remove Columns Trap
- Column from Examples - Extract Patterns Quickly
- Allocate Data to Groups or Buckets

- Conditional Columns in Power Query
- Aggregating (Grouping) Data on Multiple Levels
- Group by for All Rows
- Unpivot Columns - Basics
- Unpivot & How to Overcome Common Errors
- Pivot Columns - Basics
- Problem with Split by Delimiter
- Split Columns by Rows instead of Columns
- Date Transformations (Extract Age, Weekday etc.)
- Creating Dates from Text or Columns
- Time Transformations (Calculating Hours worked)
- Date & Number Errors When Importing Data

Module 5: Custom Column & Basic M Manipulation

- Important Basic Power Query M Logic
- Why Use Custom Columns
- Introduction to "Add Custom Column"
- Custom Columns Type Compatibility & Intrinsic Functions
- Skipping Steps in Power Query
- Adjusting FILTER & Conditional Columns to Reference a Dynamic Variable
- Drill-Down in Power Query
- Custom Formulas for Template Creation

Module 6: Power Query Online Data Sources (Online)

- Connecting to different Sources
- Import Data from a Website
- Automatically Connect to Files on Websites
- Import Data from PDF
- Import Data from ODATA
- Get Google Sheet Data with Power Query
- Connect to Outlook Online (Microsoft Exchange)
- Connect to SharePoint or OneDrive for Business
- Pro Tip: How to Change Source from Local to SharePoint

Module 7: Combining / Appending Data

- Why Append Data? The Difference Between Merge & Append
- Combine / Append Data from Multiple Workbooks
- Combine All Files in a Folder (with Excel Tables)
- Combine All Files in a Folder (Without Excel Tables)
- How to Adjust Folder Path from Local to SharePoint Drive
- Combine All Sheets in a File (Pivot Table from Multiple Sheets)
- Overcome Potential Errors when Combining Sheets (Become Pro)
- Consolidate Data from Multiple Sheets in the Current Workbook

Module 8: Merge Options - Join Kind Options Explained

- Overview of Merge Options and Join Kinds
- Left Outer Join & Right Outer Join
- Merge Based on Multiple Columns
- Can You Find the Mistake? Merging Text Columns
- Merge Data to Get Multiple Match Results & Bonus Tip
- Inner & Full Join in Power Query
- Left & Right Anti Join when Merging in Power Query
- How to Use Fuzzy Match in Power Query
- Fuzzy Match with Transformation Table

Module 9: When to Use Power Pivot & Load to Data Model

- When to Load Data to the Data Model
- Availability of Power Pivot
- Pivot Table from Multiple Excel Tables
- Power Pivot Table with Data Model & Power Query
- Create a Calendar Table in Power Pivot
- Pivot Slicers & TimeLine with Power Pivot & Power Query

Module 10: Solving Complex Data Analysis Problems with Merge

- Learning Objectives for this Section
- Messy Data from Multiple Rows to One Row (Create Proper Data Set)
- Search and Replace Bulk Values
- Calculate Value Difference to Previous Row
- Approximate Match Lookup with Merge

Module 11: Advanced Problem Solving using the Power Query Interface

- Learning Objectives for this Section
- Assign Unique Number to Group
- Advanced Unpivot Techniques
- Advanced Pivot Techniques
- Incremental Data Load & Self Referencing Query (Hidden Tip)

Module 12: Understanding M Formula Language (Let, Lists, Records & Improving Performance)

- M Language - How M Thinks (let Expression & Values)
- Defining & Invoking Custom M Functions
- Reference Guide for Standard M Functions
- Lists & Records and how to Reference a Specific Cell in a Table
- Summarizing Brackets & Lookup Operators in M code
- Creating Lists and Tables inside Power Query
- Understand Each Keyword & the Purpose of _ (underscore)
- Using Power Query Parameters
- IF Then & Lookup Operators to Lookup Values in Previous Row
- Error Handling - Bulk Replace Lookup with Try Otherwise
- Speed up Queries: Table.Buffer & How to Test Impact (Hidden Tip)
- Query Folding - Improve Performance for Relational Databases

Module 13: Working with List & Table Functions

- What You Learn in this Section
- Create a Calendar Table from to End Date
- Power Query Text Functions (Text.Contains, Text.Replace)
- How to Use List Functions in Custom Column
- Merge Values from Rows into One Cell

Module 14 Creating & Invoking Custom Functions

- What You Learn in this Section
- Unpivot & Consolidate Data from Multiple Sheets (with Custom Function)
- Rank by Group (Nested Rank) with Power Query
- Running totals by Month (Invoking functions)

Module 15: Flexible Importing of Data with the Help of Functions

- What You Learn in this Section
- Better Collaboration: File Path as Parameter in Power Query
- Better Collaboration: File Path from a Cell (Formula.Firewall Error)
- Import from Folder: Mixed Letter Case Headers & Trailing Spaces
- Import All Sheets BUT Data s from Different Rows