



**Course:**

## **Excel Data Analysis with PowerPivot**

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**Duration:** 2 Days

**Prerequisites:**

Before attending this course, students need to be able to:

- Demonstrate a good working knowledge of Microsoft Windows
- Demonstrate a good working knowledge of Microsoft Excel
- Demonstrate a basic knowledge of Database Relationships (if relevant to your work)
- Understand formula/function writing to manipulate data
- Microsoft Excel Advanced

**Outlines**

**1. Introduction to PowerPivot**

- 1.1. Using a PivotTable on an Excel table
- 1.2. Using PowerPivot in Microsoft Office
- 1.3. Understanding the data model
- 1.4. The PowerPivot add-in
- 1.5. Using OLAP tools and converting to formulas
- 1.6. Understanding PowerPivot for Excel
- 1.7. Creating a Power View report

**2. Using the unique features of PowerPivot**

- 2.1. Loading data from external sources
- 2.2. Using the DAX language
- 2.3. Refreshing the PowerPivot data model

**3. Introducing DAX**

- 3.1. Understanding DAX calculations
- 3.2. Understanding calculate columns and fields
- 3.3. Handling errors in DAX expressions
- 3.4. Formatting DAX code
- 3.5. Common DAX functions
- 3.6. Using basic DAX functions

**4. Understanding data models**

- 4.1. Understanding the basics of data modeling
- 4.2. More about relationships
- 4.3. Understanding normalization and denormalization
- 4.4. Denormalizing within SQL queries
- 4.5. Understanding over-denormalization



- 4.6. Understanding OLTP and marts
- 4.7. Using advanced relationships

## **5. Loading data**

- 5.1. Understanding data sources
- 5.2. Loading from a database
- 5.3. Opening existing connections
- 5.4. Loading from Access
- 5.5. Loading from SQL Server Analysis Services

## **6. Understanding evaluation contexts**

- 6.1. Introduction to evaluation contexts
- 6.2. Testing your evaluation context understanding
- 6.3. Creating a row context with iterations
- 6.4. Understanding FILTER, ALL, and context iterations
- 6.5. Working with many tables
- 6.6. Evaluation contexts recap
- 6.7. Creating a parameter table

## **7. Understanding CALCULATE**

- 7.1. Why is CALCULATE needed?
- 7.2. CALCULATE examples
- 7.3. Using CALCULATE inside a row context
- 7.4. Understanding circular dependencies
- 7.5. CALCULATE rules
- 7.6. Understanding ALLSELECTED

## **8. Using hierarchies**

- 8.1. Understanding hierarchies
- 8.2. Using parent/child hierarchies

## **9. Performing date calculations in DAX**

- 9.1. Building a calendar table
- 9.2. Aggregating and comparing over time
- 9.3. Closing balance over time
- 9.4. Computing moving averages

## **10. Using DAX as a query language**

- 10.1. Understanding EVALUATE
- 10.2. Creating an Excel table with EVALUATE
- 10.3. Using common functions in queries
- 10.4. Using ADDCOLUMNS
- 10.5. Using SUMMARIZE



- 10.6. Linking back a DAX query
- 10.7. Computing ABC analysis with a linked-back table
- 10.8. Using CROSSJOIN
- 10.9. Using GENERATE