XL8001-*Power Query and Power Pivot in Excel*

DURATION: 3 Days; Instructor-led

DESCRIPTION

Over the past few years, the concept of self-service business intelligence (BI) has taken over the corporate world. Self-service BI is a form of business intelligence in which end users can independently generate their own reports, run their own queries, and conduct their own analyses, without the need to engage the IT department.

The demand for self-service BI is a direct result of several factors:

- More power users
- Changing analytical needs
- Speed of BI

Recognizing the importance of the self-service BI revolution and the role Excel plays in it, Microsoft has made substantial investments in making Excel a player in the self-service BI arena by embedding both Power Pivot and Power Query directly into Excel.

You can integrate multiple data sources, define relationships between data sources, process analysis services cubes, and develop interactive dashboards that can be shared on the web. Indeed, the new Microsoft BI tools blur the line between Excel analysis and what is traditionally IT enterprise-level data management and reporting capabilities.

With these new tools in the Excel wheelhouse, it's becoming important for business analysts to expand their skill sets to new territory, including database management, query design, data integration, multidimensional reporting, and a host of other skills. Excel analysts have to expand their skill set knowledge base from the one-dimensional spreadsheets to relational databases, data integration, and multidimensional reporting.

That's where this course comes in. Here, you're introduced to the mysterious world of Power Pivot and Power Query. You find out how to leverage the rich set of tools and reporting capabilities to save time, automate data clean-up, and substantially enhance your data analysis and reporting capabilities.

PREREQUISITES

Intermediate knowledge of Microsoft Excel is essential

AUDIENCE

Excel users whoever seriously use Excel to deal with business Intelligence.

COURSE OBJECTIVES

The objective of this course is to give you a solid overview of the self-service BI functionality offered by Power Pivot and Power Query. Upon completion of this course, you will be able to:

- Extract data from databases and external files for use in Excel reporting
- Scrape and import data from the web
- Build automated processes to clean and transform data
- Easily slice data into various views on the fly, gaining visibility from different perspectives
- Analyze large amounts of data and report them in a meaningful way
- Create powerful, interactive reporting mechanisms and dashboards

METHODOLOGY

This course will be conducted with heavy hands-on exercises, discussions, and case study with minimum theory.

OUTLINES

Module 1: Thinking Like a Database

- Exploring the Limits of Excel and How Databases Help
- Getting to Know Database Terminology
- Understanding Relationships

Module 2: Introducing Power Pivot

- Understanding the Power Pivot Internal Data Model
- Linking Excel Tables to Power Pivot

Module 3: The Pivotal Pivot Table

- Introducing the Pivot Table
- Defining the Four Areas of a Pivot Table
- Creating Your First Pivot Table
- Customizing Pivot Table Reports
- Understanding Slicers
- Creating a Standard Slicer
- Getting Fancy with Slicer Customizations
- Controlling Multiple Pivot Tables with One Slicer
- Creating a Timeline Slicer

Module 4: Using External Data with Power Pivot

- Loading Data from Relational Databases
- Loading Data from Flat Files
- Loading Data from Other Data Sources
- Refreshing and Managing External Data Connections

Module 5: Working Directly with the Internal Data Model

- Directly Feeding the Internal Data Model
- Managing Relationships in the Internal Data Model
- Managing Queries and Connections
- Creating a New Pivot Table Using the Internal Data Model
- Filling the Internal Data Model with Multiple External Data Tables.
- Defining the Four Areas of a Pivot Table

Module 6: Adding Formulas to Power Pivot

- Enhancing Power Pivot Data with Calculated Columns
- Utilizing DAX to Create Calculated Columns
- Understanding Calculated Measures
- Free Your Data with Cube Functions

Module 7: Diving into DAX

- DAX Language Fundamentals
- Understanding Filter Context

Module 8: Introducing Power Query

- Power Query Basics
- Understanding Column-Level Actions
- Understanding Table Actions

Module 9: Power Query Connection Types

- Importing Data from Files
- Importing Data from Database Systems
- Managing Data Source Settings
- Data Profiling with Power Query

Module 10: Transforming Your Way to Better Data

- Completing Common Transformation Tasks
- Creating Custom Columns
- Grouping and Aggregating Data
- Working with Custom Data Types

Module 11: Making Queries Work Together

- Reusing Query Steps
- Understanding the Append Feature
- Understanding the Merge Feature
- Understanding Fuzzy Match

Module 12: Extending Power Query with Custom Functions

- Creating and Using a Basic Custom Function
- Creating a Function to Merge Data from Multiple Excel Files
- Creating Parameter Queries

Module 13: Improve Power Pivot Performance

- Limit the Number of Rows and Columns in Your Data Model Tables
- Use Views Instead of Tables
- Avoid Multi-Level Relationships
- Let the Back-End Database Servers Do the Crunching
- Beware of Columns with Many Unique Values
- Limit the Number of Slicers in a Report
- Create Slicers Only on Dimension Fields
- Disable the Cross-Filter Behavior for Certain Slicers
- Use Calculated Measures Instead of Calculated Columns
- Upgrade to 64-Bit Excel

Module 14: Tips for Working with Power Query

- Getting Quick Information from the Queries & Connections Pane
- Organizing Queries in Groups
- Selecting Columns in Queries Faster
- Renaming Query Steps
- Quickly Creating Reference Tables
- Viewing Query Dependencies
- Setting a Default Load Behavior
- Preventing Automatic Data Type Changes
- Disabling Privacy Settings to Improve Performance
- Disabling Relationship Detection