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# Advanced DAX Patterns Workshop

This **three-day** workshop is an advanced course on DAX and Tabular Patterns, based on DAX expressions. DAX is the native language of both PowerPivot for Excel and SSAS Tabular model in Microsoft SQL Server Analysis Services 2012. The training is aimed at Advanced PowerPivot users and Analysis Services developers that want to master the DAX language.

**Prerequisite:** Attendees need to have a basic knowledge of the SQL 2012 Analysis Services Tabular modeling or they need to be familiar with PowerPivot for Excel and have produced at least some basic reports. A prerequisite of the course is the participation to a SSAS Tabular or PowerPivot Workshop, or having equivalent experience.

**The training is aimed at BI Developers and PowerPivot for Excel users who want to exploit the full potential of DAX language and to improve their skills in data modeling and performance optimization.**

## Training Material Delivered to Each Attendee:

- Access to early draft and preview of the book *Advanced DAX Patterns*. The printed book will be shipped free of charge as soon as it will be available on the market.
- Course slides in PDF format
- Demo files used in the course

## Goals of the Training:

- Creating DAX expressions for measures and calculated columns
- Querying Tabular model and PowerPivot workbooks published on SharePoint by using DAX
- Optimizing DAX expressions and queries, finding bottlenecks and adopting best practices
- Learning how to use DAX query plans in order to maximize performance
- Learning some of the xVelocity engine internals
- Creating advanced data models in PowerPivot and SSAS Tabular by leveraging on DAX features
- Practicing in hands-on lab sessions assisted by our teachers

## Course Outline:

- DAX Introduction
- Evaluation Contexts Recap
  - Filter and Row Context
  - CALCULATE
- Evaluation Contexts and Relationships
- Querying Tabular
- The Vertipaq Engine
- Advanced DAX
  - Understanding Cross filters
  - Internal Materialization
- Advanced Time Intelligence in DAX
- Data Modeling in Tabular
  - DAX Patterns
  - Leveraging Calculated Columns
- Moving Business Logic from ETL to Tabular Model
- Analyzing DAX Execution Plan
- Optimizations and Monitoring
- Memory Configuration

## Hands-On Lab Sessions

**Bring your own notebook** to run hands-on lab sessions assisted by our teachers. We provide a detailed setup guide and exercise files so that you can prepare your computer in advance. We suggest Excel 2013 or SQL Server 2012 with Analysis Services Tabular installed in your notebook. You will receive these notes two weeks before the course. We also provide Remote Desktop connections to Virtual Machines during the course, if you do not have Analysis Services Tabular and Excel 2013 installed in your laptop.

## Public Open Workshops

**We offer a public schedule of open classes, where we** welcome individual registrations of participants from different companies and backgrounds. In this case, we will follow the default course program with all the examples, based on the standard AdventureWorks database along with other samples provided by us.

You can find all the available dates and locations at [www.daxworkshop.com](http://www.daxworkshop.com).

## Private Classes

**We offer private versions of the workshop, which are delivered to participants from a single company.** In this case, we can either follow the standard course or, if required and upon previous agreement, we can prepare a range of examples taken from the company data warehouse or OLTP system. At the end of the course, the participants might have one or more projects already working on their data.

If this is the preferred option, the customer will need to supply us with all the data needed to create the examples and with the relevant documentation describing the database structure and the required analysis at least ten days prior to the beginning of the course. As an alternative, we can extend the course by one day and provide this service at the customer's site, working side by side with the participants to build a set of startup workbooks.

Contact us at [info@sqlbi.com](mailto:info@sqlbi.com) to arrange private classes.

# Register today at

## [www.daxworkshop.com](http://www.daxworkshop.com)

### Our Trainers



#### Marco Russo

Marco is a Business Intelligence consultant and mentor. His main activities are related to data warehouse relational and multidimensional design, but he is

also involved in the complete development lifecycle of a BI solution. He has particular competence and experience in sectors like financial services (including complex olap designs in banking area), manufacturing and commercial distribution.

He achieved the unique SSAS Maestro certification and is also a Microsoft Certified Trainer with several Microsoft Certified Professional certifications.

More info at

[www.sqlbi.com/marco-russo](http://www.sqlbi.com/marco-russo)

#### Alberto Ferrari



Alberto is a Business Intelligence consultant. He shares his interests in two main areas: methodological approach to the BI development lifecycle and performance tuning of ETL and SQL code.

His main activities are with SSIS and SSAS for the bank, manufacturing and statistical areas. He is also a speaker in international conferences like European PASS Conference and PASS Summit.

He achieved the unique SSAS Maestro certification.

More info at

[www.sqlbi.com/alberto-ferrari](http://www.sqlbi.com/alberto-ferrari)

