

Microsoft SQL Server Analysis Services Tabular

Course code: GOC6412

This course is intended for anyone who wants to professionally analyze data using SQL Server Analysis Services (SSAS) in tabular mode and learn the basics of the DAX language. Participants will learn how to create their own tabular model, understand the fundamentals of DAX, and discover how to deploy the created solution to a production environment — either on their own server or in the cloud. They will also learn how to secure the solution appropriately and automate its maintenance.

What You Will Learn

- You will get familiar with SQL Server Analysis Services
- You will learn in which products the tabular engine is used
- You will learn how to create your own tabular model, understand the difference between dimension and fact tables, create relationships between them, and define hierarchies
- You will learn the basics of the DAX language
- You will master the creation of measures, calculated tables, and get introduced to time intelligence calculations
- You will learn how to deploy the created model to a production environment, secure it properly, and automate essential maintenance tasks

Prerequisites

- Basic understanding of data warehouse concepts at the level of course GOC645
- Basic knowledge of relational databases and T-SQL at the level of course GOC277

Course Outline

- Introduction to Analysis Services and the Tabular Engine
- Overview of SQL Server Analysis Services
- Key concepts and use cases
- Learn which products use the tabular engine (SSAS, Power BI, Power Pivot)
- Creating a Tabular Model in Analysis Services
- Dimension and fact tables
- Relationships between tables
- Hierarchies
- DAX Language
- Calculated columns
- Measures
- Calculated tables
- Expanding Business Logic with Examples
- Manipulating calculation context
- Time intelligence calculations
- Iterators
- Calculation Groups
- Performance Optimization
- VertiPaq storage
- Partitioning
- Factors negatively affecting performance
- Basics of Querying in DAX
- Introduction to DAX queries
- Application in SQL Server Reporting Services (optional)
- Deployment to On-Premises or Cloud
- Deployment to on-premises server

GOPAS Praha

Kodaňská 1441/46
101 00 Praha 10
Tel.: +420 234 064 900-3
info@gopas.cz

GOPAS Brno

Nové sady 996/25
602 00 Brno
Tel.: +420 542 422 111
info@gopas.cz

GOPAS Bratislava

Dr. Vladimíra Clementisa 10
Bratislava, 821 02
Tel.: +421 248 282 701-2
info@gopas.sk



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- Deployment to Microsoft Azure Analysis Services
- Deployment to Microsoft Fabric workspaces
- Roles and Security
- Designing a security model
- Row-level security in roles
- Automation of Management and Maintenance
- Key steps in management and maintenance (processing, backup, partitioning)
- Demonstration of automation on a physical or virtual server
- Demonstration of automation in the cloud

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GOPAS Bratislava

Dr. Vladimíra Clementisa 10
Bratislava, 821 02
Tel.: +421 248 282 701-2
info@gopas.sk



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