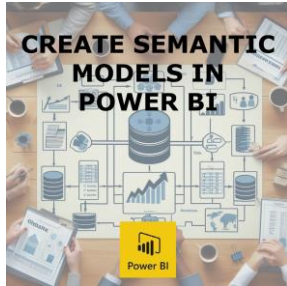


Create semantic models in Power BI



Course name

Create semantic models in Power BI

Duration

40 hours

Objectives

- Design analytical data models
- Connect and transform data with Power BI
- Create efficient, flexible, easy to understand, reusable and business decision driven data sets
- Create complex measures with DAX

Target audience

- Data architects
- Business analysts

Contents

- Kimball's dimensional model
- Power Query on Power BI
- Data modelling on Power BI
- DAX measure creation

Course description

Using huge data volumes and not having a detailed set of functional requirements when designing an analytic solution, requires building systems that are both efficient and flexible.

Independently of the technology of choice, using a design methodology based in best practices is key to the success of any initiative that requires deploying an analytic system.

Microsoft Power BI is a state of the art technology aligned to these best practices that also provides a full stack platform to implement analytic solutions.

This course has been created to cover the needs of those who want to create high quality, efficient, flexible, easy to grow data models, that can cope with not just present but also future analytic requirements from their business users.

This course is divided in two parts:

- Dimensional data modelling (Kimball methodology)
- Data transformation and modelling (Power BI)

Methodology

The instructor will be using slides during the course that will be shared with the participants.

During the course, participants will be resolving practical exercises that will be resolved in class by the instructor.

Participants will be provided a virtual environment so that they can use Power BI independently of their laptop operating system (Windows/Mac/Linux).

Detailed contents

- PART I – Dimensional model (10 hours)
 - Analytical information systems
 - Transactional model limitations
 - Business Intelligence (BI) systems architecture
 - Dimensional model concepts
 - Fact table types
 - Design methodology
 - Surrogate keys
 - Degenerated dimensions
 - Dimension hierarchies
 - Conformed dimensions
 - Slowly Changing Dimensions (SCD)
 - Mini-dimensions
 - Role playing dimensions
 - Multiple granularity levels
 - Currency and units of measure
 - Junk dimensions
 - Date & Time dimensions
 - About query performance
- PART II - Power BI (30 hours)
 - Power BI platform
 - Power Query
 - Connecting to data sources
 - Steps
 - Advanced editor
 - Power Query in Microsoft Excel
 - Data modelling and relationships in Power BI
 - Cardinality
 - Types of relationships
 - Reusing dimensions
 - Granularity in fact tables
 - Modelling stars with different granularity
 - DAX
 - Calendar table
 - Role playing dimensions
 - Create columns
 - Types of measures
 - Create complex measures
 - Filter context
 - Time intelligence
 - Measure creation assistant
 - Visualisation
 - Using and configuring views
 - Creating and using hierarchies
 - Interacting with views
 - Power BI Service
 - Workspaces
 - Publishing data sets (scenarios)
 - Mobile App