SQL Server Analysis Services Tabular Models and Power BI

Course ISI-1487 4 Days Instructor-led, Hands-on

Introduction

This four-day instructor-led course is aimed at database professionals who fulfill a Business Intelligence (BI) developer role. This course looks at implementing multidimensional databases by using SQL Server Analysis Services (SSAS), and at creating tabular semantic data models for analysis with SSAS.

The primary audience for this course are database professionals who need to fulfill BI Developer role to create enterprise BI solutions. Primary responsibilities will include:

- Implementing multidimensional databases by using SQL Server Analysis Services
- Creating tabular semantic data models for analysis by using SQL Server Analysis Services
- The secondary audiences for this course are 'power' information workers/data analysts.

At Course Completion

After completing this course, students will be able to:

- Describe the components, architecture, and nature of a BI solution
- Implement a tabular database
- Use DAX to query a tabular model
- Perform Power BI desktop data transformation.
- Describe Power BI desktop modelling.
- Create a Power BI desktop visualization.
- Implement the Power BI service.
- Describe how to connect to Excel data.
- Describe how to collaborate with Power BI data.
- Connect directly to data stores.
- Describe the Power BI developer API.
- Describe the Power BI mobile app.

Prerequisites

This course requires that you meet the following prerequisites:

- Basic knowledge of the Microsoft Windows operating system and its core functionality.

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- Working knowledge of Transact-SQL.
- Working knowledge of relational databases.

Course Materials

The student kit includes a workbook and other necessary materials for this class.

Course Outline

Module 1: Introduction to Business Intelligence and Data Modeling

This module introduces key BI concepts and the Microsoft BI product suite.

Lessons

- Introduction to Business Intelligence
- The Microsoft business intelligence platform

Lab : Exploring a Data Warehouse

After completing this module, you will be able to:

- Describe the concept of business intelligence
- Describe the Microsoft business intelligence platform

Module 2: Implementing a Tabular Data Model by Using Analysis Services

This module describes how to implement a tabular data model in PowerPivot.

Lessons

- Introduction to tabular data models
- Creating a tabular data model
- Using an analysis services tabular model in an enterprise BI solution

Lab : Working with an Analysis services tabular data model

After completing this module, you will be able to:

- Describe tabular data models
- Create a tabular data model
- Be able to use an analysis services tabular data model in an enterprise BI solution

Module 3: Introduction to Data Analysis Expression (DAX)

This module describes how to use DAX to create measures and calculated columns in a tabular data model.

Lessons

- DAX fundamentals
- Using DAX to create calculated columns and measures in a tabular data model

Lab : Creating Calculated Columns and Measures by using DAX

After completing this module, you will be able to:

- Describe the fundamentals of DAX
- Use DAX to create calculated columns and measures in a tabular data model

Module 4: Power BI Desktop Data Transformations

This module describes how to import data into Power BI.

Lessons

- What is Power BI?
- Power BI data
- Transformations

Lab : Import Data to Power BI

- Import data to Power BI desktop
- Import data from CSV files
- Import data from a less structured file

After completing this module, students will be able to:

- Describe what Power BI is and what it does.
- Describe the types of data.
- Perform data transformations.

Module 5: Power BI Desktop Modeling

This module introduces Power BI desktop modeling.

Lessons

- Optimizing data models
- Calculations
- Hierarchies

Lab : Manage Power BI data

- Manage table relationships
- Last year comparison
- Year to date
- Market share
- Optimize the data model

After completing this module, students will be able to:

- Optimize data models.
- Perform calculations with Power BI data.
- Describe and create hierarchies.

Module 6: Power BI Desktop Visualization

At the end of this module students will be able to create a Power BI desktop visualization.

Lessons

- Visualizing your data
- Working with multiple visualizations

Lab : Create reports with visualizations

- Cross-tabular reports
- Part-to-Whole reports
- Relationship reports
- Trend reports
- Rank reports

After completing this module, students will be able to:

- Visualize data using Power BI
- Work with multiple visualizations.

Module 7: Power BI Service

This module describes how to implement the Power BI service.

Lessons

- Working with the Power BI service
- Configuring a dashboard
- Viewing a Power BI Dashboard

Lab : Implementing the Power BI service

- Upload a Power BI report
- Share a Power BI dashboard
- Configure data refresh

After completing this module, students will be able to:

- Work with the Power BI service.
- Configure a Power BI dashboard.
- View a Power BI dashboard.

Module 8: Working with Excel

This module describes how to connect to Excel as a source of data.

Lessons

- Importing data from excel
- Analyzing data in Excel

Lab : Working with Excel

- Uploading an Excel file with an Excel table
- Uploading an Excel file with a data model

After completing this module, students will be able to:

- Import data from excel.
- Analyze data in Excel.

Module 9: Organization Content Packs, Security, and groups

This module describes how to collaborate with Power BI data.

Lessons

- Collaboration
- Content packs

Lab : Working with Organization Content Packs

- Create a content pack
- Edit a content pack
- Share a content pack

After completing this module, students will be able to:

- Share data for collaborative purposes.
- Create, edit, and share content packs.

Module 10: Direct Connectivity

This module describes various connectivity options using Power BI.

Lessons

- Cloud data
- Connecting to analysis services

Lab : Direct Connectivity

- Direct connectivity from Power BI desktop
- Direct connectivity from the Power BI service

After completing this module, students will be able to:

- Access data in SQL Azure.
- Connect to SQL Server Analysis Services.

Module 11: Developer API

This module describes the developer API within Power BI.

Lessons

- The developer API
- Custom visuals

Lab : Using the developer API

- Using custom visuals

After completing this module, students will be able to:

- Describe the developer API.
- Use the developer API to create custom visuals.

Module 12: Power BI mobile app

This module describes the Power BI mobile app.

Lessons

- The Power BI mobile app
- Using the Power BI mobile app
- Power BI embedded

After completing this module, students will be able to:

- Describe the Power BI mobile app.
- Download and use the Power BI mobile app.
- Describe Power BI embedded and when you would want to use it.