

## About this course

This three-day instructor-led course is aimed at database professionals who fulfil 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.

## Audience profile

The primary audience for this course are database professionals who need to fulfil 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
- Create a multidimensional database with analysis services
- Implement dimensions in a cube
- Implement measures and measure groups in a cube
- Use MDX syntax
- Customize a cube
- Implement a tabular database
- Use DAX to query a tabular model
- Use data mining for predictive analysis

## 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: Creating Multidimensional Databases**

This module describes the steps required to create a multidimensional database with analysis services.

Lessons

- Introduction to multidimensional analysis
- Creating data sources and data source views
- Creating a cube
- Overview of cube security

Lab : Creating a multidimensional database

After completing this module, you will be able to:

- Use multidimensional analysis
- Create data sources and data source views
- Create a cube
- Describe cube security

## **Module 3: Working with Cubes and Dimensions**

This module describes how to implement dimensions in a cube.

Lessons

- Configuring dimensions
- Define attribute hierarchies
- Sorting and grouping attributes

Lab : Working with Cubes and Dimensions

After completing this module, you will be able to:

- Configure dimensions
- Define attribute hierarchies.
- Sort and group attributes

## **Module 4: Working with Measures and Measure Groups**

This module describes how to implement measures and measure groups in a cube.

Lessons

- Working with measures
- Working with measure groups

Lab : Configuring Measures and Measure Groups

After completing this module, you will be able to:

- Work with measures
- Work with measure groups

Module 5: Introduction to MDX

This module describes the MDX syntax and how to use MDX.

Lessons

- MDX fundamentals
- Adding calculations to a cube
- Using MDX to query a cube

Lab : Using MDX

After completing this module, you will be able to:

- Describe the fundamentals of MDX
- Add calculations to a cube
- Query a cube using MDX

## **Module 6: Customizing Cube Functionality**

This module describes how to customize a cube.

Lessons

- Implementing key performance indicators
- Implementing actions
- Implementing perspectives
- Implementing translations

Lab : Customizing a Cube

After completing this module, you will be able to:

- Implement key performance indicators

- Implement actions
- Implement perspectives
- Implement translations

## **Module 7: 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 8: 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 9: Performing Predictive Analysis with Data Mining**

This module describes how to use data mining for predictive analysis.

Lessons

- Overview of data mining
- Using the data mining add-in for Excel
- Creating a custom data mining solution

- Validating a data mining model
- Connecting to and consuming a data mining model

Lab : Perform Predictive Analysis with Data Mining

After completing this module, you will be able to:

- Describe data mining
- Use the data mining add-in for Excel
- Create a custom data mining solution
- Validate a data mining solution
- Connect to and consume a data mining solution