



20768C - Version: 1

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Developing SQL Data Models



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 **3 days Course**

Description:

The focus of this 3-day instructor-led course is on creating managed enterprise BI solutions. It describes how to implement both multidimensional and tabular data models and how to create cubes, dimensions, measures, and measure groups.

Intended audience:

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

Prerequisites:

Experience of querying data using Transact-SQL

Objectives:

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

Topics:

Module 1: Introduction to Business Intelligence and Data Modeling

- Introduction to Business Intelligence
- The Microsoft business intelligence platform
- Lab : Exploring a BI Solution

Module 2: Creating Multidimensional Databases

- Introduction to Multidimensional Analysis
- Data Sources and Data Source Views
- Cubes
- Overview of Cube Security
- Configure SSAS
- Monitoring SSAS
- Lab : Creating a multidimensional database

Module 3: Working with Cubes and Dimensions

- Configuring Dimensions
- Defining Attribute Hierarchies
- Implementing Sorting and Grouping Attributes
- Slowly Changing Dimensions
- Lab : Working with Cubes and Dimensions

Module 4: Working with Measures and Measure Groups

- Working with Measures
- Working with Measure Groups
- Lab : Configuring Measures and Measure Groups

Module 5: Introduction to MDX

- MDX fundamentals
- Adding Calculations to a Cube
- Using MDX to Query a Cube
- Lab : Using MDX

Module 6: Customizing Cube Functionality

- Implementing Key Performance Indicators
- Implementing Actions
- Implementing Perspectives
- Implementing Translations
- Lab : Customizing a Cube

Module 7: Implementing a Tabular Data Model by Using Analysis Services

- Introduction to Tabular Data Models
- Creating a Tabular Data Model
- Using an Analysis Services Tabular Data Model in an Enterprise BI Solution
- Lab : Working with an Analysis Services Tabular Data Model

Module 8: Introduction to Data Analysis Expression (DAX)

- DAX Fundamentals
- Using DAX to Create Calculated Columns and Measures in a Tabular Data Model
- Lab : Creating Calculated Columns and Measures by using DAX

Module 9: Performing Predictive Analysis with Data Mining

- Overview of Data Mining
- Creating a Custom Data Mining Solution
- Validating a Data Mining Model
- Connecting to and Consuming a Data-Mining Model
- Using the Data Mining add-in for Excel
- Lab : Using Data Mining

