MS 20768 C: Developing SQL Data Models

Days: 3

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

Working knowledge of Transact-SQL

Working knowledge of relational databases

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

Description: 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.

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

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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

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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