20466 Implementing Data Models and Reports with Microsoft SQL Server

Course Overview

The focus of this five-day instructor-led course is on creating managed enterprise BI solutions. It describes how to implement multidimensional and tabular data models, deliver reports with Microsoft SQL Server Reporting Services, create dashboards with Microsoft SharePoint Server PerformancePoint Services, and discover business insights by using data mining. IMPORTANT NOTE: This course is designed for customers who are interested in learning SQL Server 2012 OR SQL Server 2014; it covers the new features in SQL Server 2014, but also the important capabilities across the SQL Server data platform.

Who Should Attend

This course is intended for database professionals who need to fulfill a Business Intelligence Developer role to create analysis and reporting solutions. Primary responsibilities include:
- Implementing analytical data models, such as OLAP cubes.
- Implementing reports, and managing report delivery.
- Creating business performance dashboards.
- Supporting data mining and predictive analysis.

Course Objectives

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 Data Model in SQL Server Analysis Services.
- Use DAX to enhance a tabular model.
- Create reports with Reporting Services.
- Enhance reports with charts and parameters.
- Manage report execution and delivery.
- Implement a dashboard in SharePoint Server with PerformancePoint Services.
- Use Data Mining for Predictive Analysis.

Other Prerequisites

This is a 5-day class

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This course requires that you meet the following prerequisites:
At least 2 years’ experience of working with relational databases, including:
Designing a normalized database.
Creating tables and relationships.
Querying with Transact-SQL.
Some basic knowledge of data warehouse schema topology (including star and snowflake schemas).
Some exposure to basic programming constructs (such as looping and branching).
An awareness of key business priorities such as revenue, profitability, and financial accounting is desirable.

Course Outline

1 Introduction to Business Intelligence and Data Modeling

Elements of an Enterprise BI Solution
The Microsoft Enterprise BI Platform
Planning an Enterprise BI Project
Lab : Exploring a BI Solution
Exploring the Data Warehouse
Exploring the Analysis Services Data Model
Exploring Reports

2 Creating Multidimensional Databases

Introduction to Multidimensional Analysis
Creating Data Sources and Data Source Views
Creating a Cube
Overview of Cube Security
Lab : Creating a Multidimensional Database
Creating a Data Source
Creating and Modifying a Data Source View
Creating and Modifying a Cube
Adding a Dimension

3 Working with Cubes and Dimensions

Configuring Dimensions
Defining Attribute Hierarchies
Sorting and Grouping Hierarchies
Lab : Defining Dimensions
Configuring Dimensions and Attributes
Creating Hierarchies
Creating a Hierarchy with Attribute Relationships
Creating a Ragged Hierarchy
Browsing Dimensions and Hierarchies in a Cube
After completing this module, you will be able to:
Configure dimensions
Define attribute hierarchies
Sort and group attributes
4 Working with Measures and Measure Groups

Working with Measures
Working with Measure Groups
Lab : Configuring Measures and Measure Groups
Configuring Measures
Defining a Regular Relationship
Configuring Measure Group Storage
After completing this module, you will be able to:
Configure measures
Configure measure groups

5 Introduction to MDX

MDX Fundamentals
Adding Calculations to a Cube
Using MDX to Query a Cube
Lab : Using MDX
Creating Calculated Members
Querying a Cube by Using MDX

6 Enhancing a Cube

Working with Key Performance Indicators
Working with Actions
Working with Perspectives
Working with Translations
Lab : Customizing a Cube
Implementing an Action
Implementing Perspectives
Implementing a Translation

7 Implementing an Analysis Services Tabular Data Model

Introduction to Analysis Services Tabular Data Models
Creating a Tabular Data Model
Using an Analysis Services Tabular Data Model in the
Enterprise
Lab : Implementing an Analysis Services Tabular Data Model
Creating an Analysis Services Tabular Data Model Project
Configuring Columns and Relationships
Deploying an Analysis Services Tabular Data Model

8 Introduction to DAX

DAX Fundamentals
Enhancing a Tabular Data Model with DAX
Lab : Using DAX to Enhance a Tabular Data Model
Creating Calculated Columns
Creating Measures
Creating a KPI
Implementing a Parent-Child Hierarchy
Implementing Reports with SQL Server Reporting Services

Introduction to Reporting Services
Creating a Report with Report Designer
Grouping and Aggregating Data in a Report
Publishing and Viewing a Report
Lab: Creating a Report with Report Designer
Creating a Report
Grouping and Aggregating Data
Publishing a Report

Enhancing Reports with SQL Server Reporting Services

Showing Data Graphically
Filtering Reports by Using Parameters
Lab: Enhancing a Report
Adding a Chart to a Report
Adding Parameters to a Report
Using Data Bars and Sparklines
Using a Map

Managing Report Execution and Delivery

Managing Report Security
Managing Report Execution
Subscriptions and Data Alerts
Troubleshooting Reporting Services
Lab: Configuring Report Execution and Delivery
Configuring Report Execution
Implementing a Standard Subscription
Implementing a Data-Driven Subscription

Delivering BI with SharePoint PerformancePoint Services

Introduction to SharePoint Server as a BI Platform
Introduction to PerformancePoint Services
PerformancePoint Data Sources and Time Intelligence
Reports, Scorecards, and Dashboards
Lab: Implementing a SharePoint Server BI Solution
Creating a SharePoint Server Site for BI
Configuring PerformancePoint Data Access
Creating PerformancePoint Reports
Creating a PerformancePoint Scorecard
Creating a PerformancePoint Dashboard
13 Performing Predictive Analysis with Data Mining

Overview of Data Mining
Creating a Data Mining Solution
Validating a Data Mining Model
Consuming Data Mining Data
Lab: Using Data Mining to Support a Marketing Campaign
Using Table Analysis Tools
Creating a Data Mining Structure
Adding a Data Mining Model to a Data Mining Structure
Validating a Data Mining Model
Using a Data Mining Model in a Report