Course Summary

Description

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.

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.

Objectives
At the end of 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.

Topics

- Introduction to Business Intelligence and Data Modeling
- Creating Multidimensional Databases
- Working with Cubes and Dimensions
- Working with Measures and Measure Groups
- Introduction to MDX
- Enhancing a Cube
- Implementing an Analysis Services Tabular Data Model
- Introduction to DAX
- Implementing Reports with SQL Server Reporting Services
- Enhancing Reports with SQL Server Reporting Services
- Managing Report Execution and Delivery
- Delivering BI with SharePoint PerformancePoint Services
- Performing Predictive Analysis with Data Mining

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MOC 20466 D Implementing Data Models and Reports with SQL Server 2014

Course Summary (cont’d)

Audience

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.

Prerequisites

This course requires that you meet the following prerequisites and have at least 2 years of experience 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.

Duration

Five days
MOC 20466 D Implementing Data Models and Reports with SQL Server 2014

Course Outline

I. Introduction to Business Intelligence and Data Modeling
As a SQL Server database professional, you may be required to participate in, or perhaps even lead, a project with the aim of implementing an effective enterprise BI solution. Therefore, it is important that you have a good understanding of the various elements that comprise a BI solution, the business and IT personnel typically involved in a BI project, and the Microsoft products that you can use to implement the solution.
A. Elements of an Enterprise BI Solution
B. The Microsoft Enterprise BI Platform
C. Planning an Enterprise BI Project
Lab: Exploring a BI Solution

II. Creating Multidimensional Databases
This module provides an introduction to multidimensional databases and introduces the core components of an Online Analytical Processing (OLAP) cube.
A. Introduction to Multidimensional Analysis
B. Creating Data Sources and Data Source Views
C. Creating a Cube
D. Overview of Cube Security
Lab: Creating a Multidimensional Database

III. Working with Cubes and Dimensions
This module describes how to create and configure dimensions and dimension hierarchies in an Analysis Services multidimensional data model.
A. Configuring Dimensions
B. Defining Attribute Hierarchies
C. Sorting and Grouping Hierarchies
Lab: Defining Dimensions

IV. Working with Measures and Measure Groups
This module describes measures and measure groups. It also explains how you can use them to define fact tables and associate dimensions with measures.
A. Working with Measures
B. Working with Measure Groups
Lab: Configuring Measures and Measure Groups

V. Introduction to MDX
This module describes the fundamentals of MDX and explains how to build calculations, such as calculated members and named sets.
A. MDX Fundamentals
B. Adding Calculations to a Cube
C. Using MDX to Query a Cube
Lab: Using MDX

VI. Enhancing a Cube
This module describes how to enhance a cube with Key Performance Indicators (KPIs), actions, perspectives, and translations.
A. Working with Key Performance Indicators
B. Working with Actions
C. Working with Perspectives
D. Working with Translations
Lab: Customizing a Cube

VII. Implementing an Analysis Services Tabular Data Model
This module describes Analysis Services tabular data models and explains how to develop a tabular data model using the SQL Server Data Tools for Business Intelligence (BI) add-in for Visual Studio.
A. Introduction to Analysis Services Tabular Data Models
B. Creating a Tabular Data Model
C. Using an Analysis Services Tabular Data Model in the Enterprise
Lab: Implementing an Analysis Services Tabular Data Model

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MOC 20466 D Implementing Data Models and Reports with SQL Server 2014

Course Outline (cont’d)

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<th>XI. Managing Report Execution and Delivery</th>
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<td>This module explains the fundamentals of the DAX language. It also explains how you can use DAX to create calculated columns and measures, and how you can use them in your tabular data models.</td>
<td>This module describes how to apply security and report execution settings, and how to create subscriptions to deliver reports.</td>
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<tr>
<td>A. DAX Fundamentals</td>
<td>A. Managing Report Security</td>
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<td>B. Enhancing a Tabular Data Model with DAX</td>
<td>B. Managing Report Execution</td>
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<td>Lab: Using DAX to Enhance a Tabular Data Model</td>
<td>C. Subscriptions and Data Alerts</td>
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<th>IX. Implementing Reports with SQL Server Reporting Services</th>
<th>II. Delivering BI with SharePoint PerformancePoint Services</th>
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<tr>
<td>This module introduces Microsoft SQL Server Reporting Services and discusses the tools and techniques that a professional BI developer can use to create and publish reports.</td>
<td>This module introduces Microsoft SharePoint Server as a platform for BI, and then focuses on building BI dashboards and scorecards with PerformancePoint Services.</td>
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<tr>
<td>A. Introduction to Reporting Services</td>
<td>A. Introduction to SharePoint Server as a BI Platform</td>
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<td>B. Creating a Report with Report Designer</td>
<td>B. Introduction to PerformancePoint Services</td>
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<td>C. Grouping and Aggregating Data in a Report</td>
<td>C. PerformancePoint Data Sources and Time Intelligence</td>
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<td>D. Publishing and Viewing a Report</td>
<td>D. Reports, Scorecards, and Dashboards</td>
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<td>Lab: Creating a Report with Report Designer</td>
<td>Lab: Implementing a SharePoint Server BI Solution</td>
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<th>X. Enhancing Reports with SQL Server Reporting Services</th>
<th>XIII. Performing Predictive Analysis with Data Mining</th>
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<td>This module describes how to enhance a SQL Server reporting Services report with charts and other visualizations, and how to use parameters to filter data in a report.</td>
<td>This module introduces data mining, describes how to create a data mining solution, how to validate data mining models, how to use the Data Mining Add-ins for Microsoft Excel, and how to incorporate data mining results into Reporting Services reports.</td>
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<td>A. Showing Data Graphically</td>
<td>A. Overview of Data Mining</td>
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<td>B. Filtering Reports by Using Parameters</td>
<td>B. Creating a Data Mining Solution</td>
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<td>Lab: Enhancing a Report</td>
<td>C. Validating a Data Mining Model</td>
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<td>D. Consuming Data Mining Data</td>
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<td>Lab: Using Data Mining to Support a Marketing Campaign</td>
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