20466 - Implementing Data Models and Reports with Microsoft SQL Server

Duration: **5 days**

Overview:

The focus of this five-day Microsoft 20466 training 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 is a Microsoft Official Course (MOC).

Target Audience:

This course is intended for database professionals who need to fulfil 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.

Pre-requisites:

Before attending this course, students must have:

- At least 2 years' experience of working with relational databases, including:
- Designing a normalised 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. Read more…

Module 1: Introduction to Business Intelligence and Data Modeling

Lessons
- 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

Module 2: Creating Multidimensional Databases

Lessons
- 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

Module 3: Working with Cubes and Dimensions

Lessons
- 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

Module 4: Working with Measures and Measure Groups

Lessons
- Working with Measures
- Working with Measure Groups

Lab : Configuring Measures and Measure Groups
- Configuring Measures
- Defining a Regular Relationship
- Configuring Measure Group Storage

Module 5: Introduction to MDX

Lessons
- 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

Module 6: Enhancing a Cube

Lessons
- Working with Key Performance Indicators
- Working with Actions
- Working with Perspectives
- Working with Translations

Lab : Customising a Cube
- Implementing an Action
- Implementing Perspectives
- Implementing a Translation

Module 7: Implementing an Analysis Services Tabular Data Model

Lessons
- 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

Module 8: Introduction to DAX

Lessons
- 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

Module 9: Implementing Reports with SQL Server Reporting Services

Lessons
- 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

Module 10: Enhancing Reports with SQL Server Reporting Services

Lessons
- 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

Module 11: Managing Report Execution and Delivery

Lessons
- 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

Module 12: Delivering BI with SharePoint PerformancePoint Services

Lessons
- 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

Module 13: Performing Predictive Analysis with Data Mining

Lessons
- 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