

Developing SQL Data Models (MS-20768)

Modality: Virtual Classroom

Duration: 3 Days

SATV Value: 3

CLC:

NATU:

SUBSCRIPTION: Master

*If you enroll in this course without the Master Subscription plan, you receive a **Free Official Exam Voucher** (excluding purchases using Training Vouchers / SATV) for the 70-768 Exam. This course does not include Exam Voucher if enrolled within the Master Subscription, however, you can request to purchase the Official Exam Voucher separately.*

About this course

The basic focus of Microsoft training course is help student prepare for Microsoft 70-768: Developing SQL Data Models certification exam. It further focuses on teaching students for developing SQL data models along with this, it also teaches how to execute tabular, multidimensional data models and creating managed enterprise BI solutions, cubes, measures, dimensions and lastly, measure groups. It will also give a detailed view of SQL (Structured Query Language) and data modeling. The data modelling is the procedure of authenticating an intricate software system design as a simple diagram. This diagram is made using symbols and text to represent the flow data required. This very diagram can be utilized as a blueprint for re-structuring a legacy application or for developing a new software. On the other hand, SQL is a programming language for executing various tasks, operating on the data and managing relational databases.

The average salary for Data Engineer with SQL Skills is **\$82,958** per year.

Course Objectives

The attendees of this course will learn to:

- Use Analysis Services to develop a multidimensional database.
- Estimate groups in a cube and execute actions.
- Cube customization.
- To query tabular model with use of DAX.
- BI solution's structure, component and nature description.
- Execute dimensions in the cube.

- Use MDX syntax.
- Predict analysis with use of data mining.
- Execute a tabular database.

Audience

The data professional who require to complete BI developer role for developing enterprise BI solution are the main attendees of the course.

The initial tasks comprise of:

- Use SQL Server Analysis Services to create tabular semantic models for analysis.
- Use SQL Analysis Services to implement multidimensional databases.

Prerequisites

The attendees of the course must have knowledge to:

- Use Transact-SQL for querying data.

Course 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 BI Solution

- Exploring a Data Warehouse
- Exploring a data model

After completing this module, students will be able to:

- Describe BI scenarios, trends, and project roles.
- Describe the products that make up the Microsoft BI platform.

Module 2: Creating Multidimensional Databases

This module describes how to create multidimensional databases using SQL Server Analysis Services.

Lessons

- Introduction to Multidimensional Analysis
- Creating Data Sources and Data Source Views
- Creating a Cube
- Overview of Cube Security
- Configure SSAS
- Monitoring SSAS

Lab : Creating a multidimensional database

- Creating a Data Source
- Creating and Modifying a data Source View
- Creating and Modifying a Cube

After completing this module, you will be able to:

- Describe considerations for a multidimensional database.
- Create data sources and data source views.
- Create a cube
- Implement security in a multidimensional database.
- Configure SSAS to meet requirements including memory limits, NUMA and disk layout.
- Monitor SSAS performance.

Module 3: Working with Cubes and Dimensions

This module describes how to implement dimensions in a cube.

Lessons

- Configuring Dimensions
- Defining Attribute Hierarchies
- Sorting and Grouping Attributes
- Slowly Changing Dimensions

Lab : Working with Cubes and Dimensions

- Configuring Dimensions
- Defining Relationships and Hierarchies
- Sorting and Grouping Dimension Attributes

After completing this module, you will be able to:

- Configure dimensions.
- Define attribute hierarchies.

- Implement sorting and grouping for attributes.
- Implement slowly changing dimensions.

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

- Configuring Measures
- Defining Dimension Usage and Relationships
- Configuring Measure Group Storage

After completing this module, you will be able to:

- Configure measures.
- Configure 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

- Querying a cube using MDX
- Creating a Calculated Member

After completing this module, you will be able to:

- Use basic MDX functions.
- Use MDX to add calculations to a cube.
- Use MDX to query a cube.

Module 6: Customizing Cube Functionality

This module describes how to customize a cube.

Lessons

- Introduction to Business Intelligence
- The Implementing Key Performance Indicators
- Implementing Actions
- Implementing Perspectives
- Implementing Translations

Lab : Customizing a Cube

- Implementing a KPI
- Implementing an action
- Implementing a perspective
- Implementing a translation

After completing this module, you will be able to:

- Implement KPIs in a Multidimensional database
- Implement Actions in a Multidimensional database
- Implement perspectives in a Multidimensional database
- Implement translations in a Multidimensional database

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

This module describes how to implement a tabular data model in Power Pivot.

Lessons

- 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

- Creating an Analysis Services Tabular Data Model
- Configure Relationships and Attributes
- Configuring Data Model for an Enterprise BI Solution.

After completing this module, students will be able to:

- Describe tabular data models
- Describe how to create a tabular data model
- Use an Analysis Services Tabular 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

- Creating Calculated Columns
- Creating Measures
- Creating a KPI
- Creating a Parent ? Child Hierarchy

After completing this module, students will be able to:

- Describe the key features of DAX
- Create calculated columns and measures by using DAX

Module 9: Performing Predictive Analysis with Data Mining

This module describes how to use data mining for predictive analysis.

Lessons

- 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

- Creating a Data Mining Structure and Model
- Exploring Data Mining Models
- Validating Data Mining Models
- Consuming a Data Mining Model
- Using the Excel Data Mining add-in

After completing this module, students will be able to:

- Describe considerations for data mining
- Create a data mining model
- Validate a data mining model
- Connect to a data-mining model
- Use the data mining add-in for Excel