# 20767 Implementing a SQL Data Warehouse

## Course Overview

View Course Dates & Register Today

**This is a 5-day class**

This five-day instructor-led course provides students with the knowledge and skills to provision a Microsoft SQL Server database. The course covers SQL Server provision both on-premise and in Azure, and covers installing from new and migrating from an existing install.

## Who Should Attend

The primary audience for this course are database professionals who need to fulfil a Business Intelligence Developer role. They will need to focus on hands-on work creating BI solutions including Data Warehouse implementation, ETL, and data cleansing.

## Course Objectives

After completing this course, students will be able to:
- Describe the key elements of a data warehousing solution
- Describe the main hardware considerations for building a data warehouse
- Implement a logical design for a data warehouse
- Implement a physical design for a data warehouse
- Create columnstore indexes
- Implementing an Azure SQL Data Warehouse
- Describe the key features of SSIS
- Implement a data flow by using SSIS
- Implement control flow by using tasks and precedence constraints
- Create dynamic packages that include variables and parameters
- Debug SSIS packages
- Describe the considerations for implement an ETL solution
- Implement Data Quality Services
- Implement a Master Data Services model
- Describe how you can use custom components to extend SSIS
- Deploy SSIS projects
- Describe BI and common BI scenarios

## Course Outline

### 1 Introduction to Data Warehousing

Overview of Data Warehousing
Considerations for a Data Warehouse Solution

### 2 Planning Data Warehouse Infrastructure

Considerations for data warehouse infrastructure.
Planning data warehouse hardware.

# 20767 Implementing a SQL Data Warehouse

## 3 Designing and Implementing a Data Warehouse

Data warehouse design overview
Designing dimension tables
Designing fact tables
Physical Design for a Data Warehouse

## 4 Columnstore Indexes

Introduction to Columnstore Indexes
Creating Columnstore Indexes
Working with Columnstore Indexes

## 5 Implementing an Azure SQL Data Warehouse

Advantages of Azure SQL Data Warehouse
Implementing an Azure SQL Data Warehouse
Developing an Azure SQL Data Warehouse
Migrating to an Azure SQ Data Warehouse
Copying data with the Azure data factory

## 6 Creating an ETL Solution

Introduction to ETL with SSIS
Exploring Source Data
Implementing Data Flow

## 7 Implementing Control Flow in an SSIS Package

Introduction to Control Flow
Creating Dynamic Packages
Using Containers
Managing consistency.

## 8 Debugging and Troubleshooting SSIS Packages

Debugging an SSIS Package
Logging SSIS Package Events
Handling Errors in an SSIS Package

## 9 Implementing a Data Extraction Solution

Introduction to Incremental ETL
Extracting Modified Data
Loading modified data
Temporal Tables

## 10 Enforcing Data Quality

Introduction to Data Quality
Using Data Quality Services to Cleanse Data
Using Data Quality Services to Match Data

## 11 Using Master Data Services

ntroduction to Master Data Services
Implementing a Master Data Services Model
Hierarchies and collections
Creating a Master Data Hub

# 20767 Implementing a SQL Data Warehouse

### 12 Extending SQL Server Integration Services (SSIS)

Using scripting in SSIS
Using custom components in SSIS

### 13 Deploying and Configuring SSIS Packages

Overview of SSIS Deployment
Deploying SSIS Projects
Planning SSIS Package Execution

### 14 Consuming Data in a Data Warehouse

Introduction to Business Intelligence
An Introduction to Data Analysis
Introduction to reporting
Analyzing Data with Azure SQL Data Warehouse