

Implementing a SQL Data Warehouse

Course: 20767

Course Details

Audience(s): IT Professional(s)

Technology: Microsoft SQL Server 2016

Duration: 40 Hours

ABOUT THIS COURSE

This forty hours course provides students with the knowledge and skills to provision a Microsoft SQL Server 2016 database. The course covers SQL Server 2016 provision both on-premise and in Azure, and covers installing from new and migrating from an existing install.

AUDIENCE PROFILE

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 Content

Module 1: Introduction to Data Warehousing

Lessons

- Overview of Data Warehousing
- Considerations for a Data Warehouse Solution

Lab: Exploring a Data Warehouse Solution

Module 2: Planning Data Warehouse Infrastructure

Lessons

- Considerations for data warehouse infrastructure
- Planning data warehouse hardware

Lab: Planning Data Warehouse Infrastructure

Module 3: Designing and Implementing a Data Warehouse

Lessons

- Designing dimension tables
- Designing fact tables
- Physical Design for a Data Warehouse

Lab: Implementing a Data Warehouse Schema

Module 4: Columnstore Indexes

Lessons

- Introduction to Columnstore Indexes
- Creating Columnstore Indexes
- Working with Columnstore Indexes

Lab: Using Columnstore Indexes

Module 5: Implementing an Azure SQL Data Warehouse

Lessons

- 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

Lab: Implementing an Azure SQL Data Warehouse

Module 6: Creating an ETL Solution

Lessons

- Introduction to ETL with SSIS
- Exploring Source Data
- Implementing Data Flow

Lab: Implementing Data Flow in an SSIS Package

Module 7: Implementing Control Flow in an SSIS Package

Lessons

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

Lab: Implementing Control Flow in an SSIS Package

Lab: Using Transactions and Checkpoints

Module 8: Debugging and Troubleshooting SSIS Packages

Lessons

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

Lab: Debugging and Troubleshooting an SSIS Package

Module 9: Implementing a Data Extraction Solution

Lessons

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

Lab: Extracting Modified Data

Lab: Loading a data warehouse

Module 10: Enforcing Data Quality

Lessons

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

Lab: Cleansing Data

Lab: De-duplicating Data

Module 11: Using Master Data Services

Lessons

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

Lab: Implementing Master Data Services

Module 12: Extending SQL Server Integration Services (SSIS)

Lessons

- Using scripting in SSIS
- Using custom components in SSIS

Lab: Using scripts

Module 13: Deploying and Configuring SSIS Packages

Lessons

- Overview of SSIS Deployment
- Deploying SSIS Projects
- Planning SSIS Package Execution

Lab: Deploying and Configuring SSIS Packages

Module 14: Consuming Data in a Data Warehouse

Lessons

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

Lab: Using a data warehouse

At This Course Completion

At completing this course the student will be able to:

- Provision a Database Server.
- Upgrade SQL Server.
- Configure SQL Server.
- Manage Databases and Files (shared).