20463: Implementing a Data Warehouse with Microsoft® SQL Server® 2014

Duration: 5 Days
Method: Instructor-Led Training (ILT) | Live Online Training

Course Description

This course describes how to implement a data warehouse platform to support a Business Intelligence (BI) solution. Participants will learn how to create a data warehouse with Microsoft SQL Server 2014, implement ETL with SQL Server Integration Services, and validate and cleanse data with SQL Server Data Quality Services and SQL Server Master Data Services.

NOTE: *It covers the new features in SQL Server 2014, but also the important capabilities across the SQL Server data platform.*

Target Audience

This course is intended for:

- Database Professionals who need to fulfil a BI Developer role. They will need to focus on hands-on work creating BI solutions including Data Warehouse implementation, ETL, and data cleansing.
- Persons who are interested in learning SQL Server 2012 or SQL Server 2014.

Prerequisites

To attend this course, candidates must have:

- At least 2 years' experience of working with relational databases, including:
- Designing a normalized database.
- Creating tables and relationships. Querying with Transact-SQL.
- Some exposure to basic programming constructs (such as looping and branching).
- An awareness of key business priorities such as revenue, profitability, and financial accounting.

Course Objectives

Upon successful completion of this course, attendees will be able to:
- Describe data warehouse concepts and architecture considerations.
- Select an appropriate hardware platform for a data warehouse.
- Design and implement a data warehouse.
- Implement Data Flow in an SSIS Package.
- Implement Control Flow in an SSIS Package.
- Debug and Troubleshoot SSIS packages.
- Implement an ETL solution that supports incremental data extraction.
- Implement an ETL solution that supports incremental data loading.
- Implement data cleansing by using Microsoft Data Quality Services.
- Implement Master Data Services to enforce data integrity.
- Extend SSIS with custom scripts and components.
- Deploy and Configure SSIS packages.
- Describe how BI solutions can consume data from the data warehouse.

Course Topics

Module 1: Introduction to Data Warehousing
- Overview of Data Warehousing
- Considerations for a Data Warehouse Solution

Module 2: Data Warehouse Hardware Considerations
- Considerations for building a Data Warehouse
- Data Warehouse Reference Architectures and Appliances

Module 3: Designing and Implementing a Data Warehouse
- Logical Design for a Data Warehouse
- Physical Design for a data warehouse

Module 4: Creating an ETL Solution with SSIS
- Introduction to ETL with SSIS
- Exploring Data Sources
- Implementing Data Flow

Module 5: Implementing Control Flow in an SSIS Package
- Introduction to Control Flow
- Creating Dynamic Packages
- Using Containers
- Managing Consistency

Module 6: Debugging and Troubleshooting SSIS Packages
- Debugging an SSIS Package
- Logging SSIS Package Events
- Handling Errors in an SSIS Package

Module 7: Implementing a Data Extraction Solution
- Planning Data Extraction
- Extracting Modified Data

Course Topics *Continued*

Module 8: Loading Data into a Data Warehouse
- Planning Data Loads
- Using SSIS for Incremental Loads
- Using Transact-SQL Loading Techniques

Module 9: Enforcing Data Quality
- Introduction to Data Quality
- Using Data Quality Services to Cleanse Data
- Using Data Quality Services to Match Data

Module 10: Master Data Services
- Introduction to Master Data Services
- Implementing a Master Data Services Model
- Managing Master Data
- Creating a Master Data Hub

Module 11: Extending SQL Server Integration Services
- Using Scripts in SSIS
- Using Custom Components in SSIS

Module 12: Deploying and Configuring SSIS Packages
- Overview of SSIS Deployment
- Deploying SSIS Projects
- Planning SSIS Package Execution

Module 13: Consuming Data in a Data Warehouse
- Introduction to Business Intelligence (BI)
- Enterprise Business Intelligence
- Self-Service BI and Big Data

LABS INCLUDED