SaigonCTT

Implementing a Data Warehouse with Microsoft SQL Server
(Course 20463C)

About this Course

- This course describes how to implement a data warehouse platform to support a BI solution. Students 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:** This course is designed for customers who are interested in learning SQL Server 2012 or SQL Server 2014. It covers the new features in SQL Server 2014, but also the important capabilities across the SQL Server data platform.

Duration

- 40 h

At Course Completion

After completing this course, students 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

Student Prerequisites

This course requires that you meet the following prerequisites, at least 2 years' experience:

- 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 is desirable.

Course Outline

Module 1: Introduction to Data Warehousing

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

Module 2: Planning Data Warehouse Infrastructure

- Considerations for Data Warehouse Infrastructure
- Planning Data Warehouse Hardware

Module 3: Designing and Implementing a Data Warehouse

- Data Warehouse Design Overview
- Designing Dimension Tables
- Designing Fact Tables
- 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

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 Cleanse 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
- Enterprise Business Intelligence
- Self-Service BI and Big Data