Accelerated SQL Server Integration Services Training

Duration: **4 Day**

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Overview

Important note: The May 2026 delivery of this course will be based on**SQL Server 2016**. For training sessions scheduled after this date, the course content will be updated to **SQL Server 2025**.

This intensive course provides practical coverage of designing, developing, deploying, and operating **SQL Server Integration Services (SSIS)** solutions.

With a strong focus on enterprise SSIS environments, the course covers**ETL (Extract, Transform, Load)** processes used to extract information from source systems, transform data, and load it into target platforms. Participants will also work with data integration, file and data management, SSIS server administration, package execution, monitoring, and enterprise deployment practices.

Rather than focusing solely on creating SSIS packages, the training also examines how SSIS solutions can be designed, optimized, deployed, and managed for enterprise data integration and data warehousing scenarios.

What Will I Learn?

During this course, you will learn how to create and develop SSIS projects and packages and design SSIS solutions for different data integration requirements.

You will explore the use of SSIS for file and data management, data extraction and loading, and the implementation of ETL processes. The course also covers ETL techniques for dimension and fact tables together with loading and processing SSAS dimensions and cubes.

In addition, you will develop the skills required to deploy, configure, execute, monitor, and administer SSIS solutions in server and production environments.

Prerequisites

- Basic experience with Business Intelligence solutions and SQL Server
- Previous experience with SQL Server SSIS is not required

What You Will Learn

By the end of the course, participants will be able to:

- Create and develop new SSIS projects and packages.
- Use SSIS for file and data management processes.
- Load SSAS dimensions and cubes.
- Select an appropriate SSIS project and deployment approach.
- Understand and apply ETL concepts within SSIS.
- Deploy SSIS solutions to servers and manage their execution in production environments.

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Outline

Module 1: SSIS Overview and Core Features

- Introduction to Business Intelligence
- Microsoft tools for BI
- Introduction to data integration
- Overview of SSIS features
- Lab 01: SSIS Overview and Core Features

Module 2: Data Warehousing

- Dimensional modeling
- Optimizing a dimensional database
- Preparing data for advanced analytics
- Lab 02: Preparing a Data Warehouse

Module 3: SSIS Control Flow Objects and Features

- Understanding Control Flow
- Control Flow concepts
- Control Flow objects
- Control Flow features
- Lab 03: Using Control Flow to Orchestrate SSIS Execution

Module 4: Extracting, Transforming, and Loading Data with SSIS Data Flows

- The SSIS Data Flow Task
- Data Flows and Data Paths
- Data connections and Connection Managers
- Data Flow components
- Lab 04: Using SSIS Data Flows to Perform Data Movements

Module 5: Working with Files and Importing and Exporting File Data

- Automating file system maintenance with SSIS
- Extracting data from files
- Loading data into files
- Considerations when working with Excel
- Lab 05: Working with Files in SSIS

Module 6: Optimizing Data Extraction and Loading

- Fundamentals of data extraction optimization
- Determining the "Delta"
- Change Tracking
- Change Data Capture (CDC)
- Fundamentals of data loading optimization
- Lab 06: Using Change Data Capture in SSIS Data Flows

Module 7: Data Quality and Cleansing

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- Data quality
- Data profiling
- Data Quality Services
- Fuzzy Matching
- Lab 07: Data Profiling and Cleansing

Module 8: Advanced Enterprise Information Management

- Script Task and Script Component
- Text mining
- Advanced analytics and SSIS
- Lab 08: Validating Data Using Regular Expressions

Module 9: Dimension ETL with SSIS

- Dimension ETL theory
- SQL Server Temporal Tables
- SSIS Slowly Changing Dimension Wizard
- Custom Dimension ETL
- Lab 09: Dimension ETL with SSIS

Module 10: Fact ETL with SSIS

- Fact Table ETL theory
- Preparing data for fact tables
- Advanced concepts
- Lab 10: Fact ETL with SSIS

Module 11: Project Deployment Model – Execution and Reporting

- Power Pivot
- Power Query
- Lab 11: Power Query

Module 12: Processing SSAS Objects with SSIS

- SSAS Tabular and Multidimensional
- Processing methods in SSIS
- Dynamic processing and partition creation
- Lab 12: Analysis Services Processing

Module 13: Project Deployment

- Project Deployment Model
- Deployment to the SSISDB Catalog
- Administration, security, and configuration
- Execution
- Monitoring
- The Master Package concept
- Lab 13: SSIS Project Deployment, Configuration, Execution, and Monitoring

Module 14: Package Deployment

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- Package Deployment Model
- Deployment to the SSIS Package Store
- Administration, configuration, and security
- Execution
- Monitoring and logging
- Lab 14: SSIS Package Deployment, Configuration, Execution, and Monitoring

Module 15: Transactions and Restartability

- Using breakpoints in SSDT
- Implementing transactions in SSIS
- Using SQL Server Database Snapshots
- Restartability of SSIS packages
- Responding to events
- Lab 15: Using Transactions and Checkpoints in SSIS Packages

Module 16: Optimization and Scalability

- Leveraging SSIS and Transact-SQL
- Understanding Data Flow Engine internals
- SSIS optimization techniques
- SSIS performance troubleshooting
- Lab 16: Optimizing SSIS Packages for Performance