

## SQL Server® Integration Services: Hands-On - 4 Days Migrating Data for Business Intelligence

*Course 134 Overview*

- You Will Learn How To**
- Migrate and transform data using SQL Server Integration Services (SSIS)
  - Upgrade DTS packages and perform imports and exports
  - Assemble tasks to perform complex data migrations
  - Enhance package functionality with scripting
  - Extract, Transform and Load (ETL) data
  - Integrate business intelligence components

**Course Benefits** In order to improve business intelligence capabilities, organizations must effectively and securely manage data migration across a myriad of platforms. In this course, you gain the skills to automate complex migration tasks and audit the success or failure of migration processes. You learn to solve data management problems by creating dynamic packages for migrating, processing and reporting on data for business intelligence.

**Who Should Attend** SQL Server developers, administrators and analysts who need to migrate and transform data among diverse platforms. A basic knowledge of databases, SQL and scripting is helpful.

**Hands-On Training** During this course, you perform extensive hands-on exercises that provide in-depth experience. Exercises include:

- Upgrading packages with the DTS Migration Wizard
- Converting data among heterogeneous sources: Oracle, Access and others
- Manipulating package variables with scripting
- Handling errors and managing exception rows
- Administering the storage, security and execution of packages
- Writing data to multiple destinations with multicasting

# SQL Server® Integration Services: Hands-On - 4 Days

## Migrating Data for Business Intelligence

### Course 134 Outline

#### Introduction to Integration Services

- Defining SQL Server Integration Services
- Exploring the need for migrating diverse data
- The role of business intelligence (BI)

#### SSIS Architecture and Tools

##### Managing heterogeneous data

- Leveraging the Extract, Transform and Load (ETL) capabilities of SSIS
- Running wizards for basic migrations
- Creating packages for complex tasks

##### Illustrating SSIS architecture

- Distinguishing between data flow pipeline and package runtime
- Executing packages on the client side or hosted in the SSIS service

##### Upgrading legacy DTS

- Executing existing DTS packages in the SSIS environment
- Converting DTS packages to SSIS with the migration wizard
- Logging migration results
- Choosing between migrating DTS packages and rewriting

#### Implementing Tasks and Containers

##### Utilizing basic SSIS objects

- Configuring connection managers
- Adding data flow tasks to packages
- Reviewing progress with data viewers
- Assembling tasks to perform complex data migrations
- Migrating multiple files with FOREACH container

##### Operating system-level tasks

- Copying, moving and deleting files
- Transferring files with the FTP task
- Communicating with external sources
- Sending messages through mail

##### Processing XML

- Iterating XML nodes
- Writing XML files from databases

#### Extending Capabilities with Scripting

##### Writing expressions

- Making properties dynamic with variables
- Building expressions in Expression Builder

- Utilizing expressions in loop iterations

##### Script Task

- Extending functionality with the Script Task
- Debugging, breakpoints, watches

#### Transforming with the Data Flow Task

##### Performing transforms on columns

- Converting and calculating columns
- Transforming with Character Map

##### Combining and splitting data

- Profiling data
- Merge, Union, Conditional Split
- Multicasting and converting data

##### Manipulating row sets and BLOB data

- Aggregate, sort, audit and look up data
- Importing and exporting BLOB data
- Redirecting error rows

##### Performing database operations

- Executing a SQL task
- Bulk inserting data from text files

#### Error Handling, Logging and Transactions

##### Organizing package workflow

- Defining success, failure, completion and expression precedence constraints
- Handling events and event bubbling

##### Designing robust packages

- Choosing log providers
- Adapting solutions with package configurations
- Auditing package execution results

#### Administering Business Intelligence

##### Managing and securing packages

- Storing packages in Package Store and msdb
- Encrypting packages with passwords and user keys

##### Integrating with other BI components

- Displaying data in Reporting Services
- Accessing package data with ADO.NET