

## Microsoft SQL Server 2008 Integration Services

### Course Summary

#### Description

This course will enable technology professionals with little or no ETL experience to be comfortable and productive with the SSIS tools and technologies. In this course you will learn about the Business Intelligence Development Studio (BIDS) and working with Control and Data Flows to build workflows to extract, transform, and load data using a variety of data sources, transformations, and destinations. You will also become familiar with SSIS package management and package deployment along with learning to write solid code using debugging, error handling, and logging techniques.

#### Objectives

At the end of this course, students will be able to:

- Use BIDS to create well-designed packages.
- Understand Control Flows, how to build them using many of the built-in tasks, including the various containers.
- Use the Data Flow task to perform primary ETL operations.
- Understand variable and configurations to make your packages dynamic and resilient to changes in environments.
- Understand the features in BIDS and Integration Services that help you troubleshoot a package.
- Deploy and manage packages effectively.
- Write script so that you can go beyond the built-in tasks, data sources and destinations, and transformations, as well as building and using custom components.
- Understand best practices that will make it easier to develop and maintain a package over its entire life cycle.
- Use Integration Services for tasks other than traditional ETL operations.

#### Topics

- A Guided Tour of Integration Services
- Control Flow
- Data Flows
- Variables and Configurations
- Advanced Control Flow
- Error Handling and Logging
- Advanced Data Flow
- Package Deployment
- Package Management
- Scripting and Custom Components
- Best Practices
- Going Beyond ETL

#### Audience

Students should have prior knowledge of SQL Server 2008 and the use of SQL Server Management Studio for development and Administrative tasks.

#### Prerequisites

Students should be able to create CRUD (create, retrieve, update, and delete) queries using T-SQL, understand basic relational databases design, run script files and diagnose problems that occur, and have experience building applications that access data stored in SQL Server. You must also know how to connect to an instance of SQL Server 2008 using the various connection dialog boxes in Management Studio and development tools.

#### Duration

Three days

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### Course Outline

#### I. A Guided Tour of Integration Services

- A. Understanding Integration Services
- B. Exploring and Executing an Integration Services Package in BIDS
- C. Exploring and Executing a Package Outside of BIDS
- D. Control Flow

#### II. Overview of Control Flow in Integration Services

- A. Working with Workflow Tasks
- B. Precedence Constraints

#### III. Data Flows

- A. The Data Flow Task
- B. Data Viewers
- C. Data Flow Transformations

#### IV. Variables and Configurations

- A. Understanding Variables
- B. Using Variables in Control Flow
- C. Using Variables in Data Flow
- D. Configurations
- E. Using Variables and Configurations between Packages

#### V. Advanced Control Flow

- A. Advanced Control Flow Overview
- B. Using Containers
- C. Transactions Support in Integration Services

#### VI. Error Handling and Logging

- A. When Things Go Wrong
- B. Checkpoints
- C. Handling Errors and Debugging
- D. Packaging Logging
- E. Event Handling

#### VII. Advanced Data Flow

- A. Synchronous and Asynchronous Transformations
- B. Using Advanced Transformations
- C. Handling Slowly Changing Dimensions

#### VIII. Package Deployment

- A. Deploying Packages
- B. Create a Package Deployment Utility
- C. Installing a Package
- D. Redeploying Updated Packages

#### IX. Package Management

- A. Overview of Package Management
- B. Managing Integration Services Packages
- C. Executing Packages
- D. Integration Services Security

#### X. Scripting and Custom Components

- A. Extending Integration Services Capabilities through Code
- B. Scripting in Control Flows with the Script Task
- C. Scripting in Data Flows with the Script Component
- D. Custom Integration Services Components

#### XI. Best Practices

- A. Best Practices for Using Integration Services
- B. Best Practices for Package Development and Design
- C. Data Flow Best Practices
- D. Deployment and Management Best Practices

#### XII. Going Beyond ETL

- A. Using Integration Services beyond ETL
- B. Migrating and Maintaining SQL Servers with Integration Services
- C. Working with Analysis Services
- D. Working with Windows Management Instrumentation