

## **SQL Server Integration Services (SSIS)**

### **Introduction to SQL Server Integration Services**

- › Product History
- › SSIS Package Architecture Overview
- › Development and Management Tools
- › Deploying and Managing SSIS Packages
- › Source Control for SSIS Packages

### **SSIS for DBAs: Using SQL Server Management Studio**

- › The Import and Export Wizard
- › Importing and Exporting Data
- › Working with Packages
- › Database Maintenance Plans
- › Creating Database Maintenance Plans using SSMS
- › Scheduling and Executing Plans
- › Examining Database Maintenance Plan Packages

### **Business Intelligence Development Studio (BIDS)**

- › Launching BIDS
- › Project templates
- › The package designer
- › The Toolbox
- › Solution Explorer
- › The Properties window
- › The Variables window
- › The SSIS menu

### **Introduction to Control Flow**

- › Control Flow Overview
- › Precedence Constraints
- › The Execute SQL Task
- › The Bulk Insert Task
- › The File System Task
- › The FTP Task
- › The Send Mail Task

### **Advanced Control Flow**

- › Containers – grouping and looping
- › The Web Service Task
- › The WMI tasks
- › The Analysis Services tasks
- › The Execute Process Task
- › The Execute Package Task

### **Introduction to Data Flow**

- › Data Flow Overview
- › Data Sources
- › Data Destinations
- › Data Transformations
- › The Copy Column Transformation
- › The Derived Column Transformation
- › The Data Conversion Transformation
- › The Conditional Split Transformation
- › The Aggregate Transformation
- › The Sort Transformation
- › Data Viewers

## **Variables and Configurations**

- › Variables Overview
- › Variable scope
- › SSIS system variables
- › Using variables in control flow
- › Using variables in data flow
- › Using variables to pass information between packages
- › Property expressions
- › Configuration Overview
- › Configuration options
- › Configuration discipline

## **Debugging, Error Handling and Logging**

- › SSIS debugging overview
- › Breakpoints in SSIS
- › SSIS debugging windows
- › Control Flow: The OnError event handler
- › Data Flow: Error data flow
- › Configuring Package Logging
- › Built-in log providers

## **Advanced Data Flow**

- › Revisiting data sources and destinations
- › The Lookup Transformation
- › Getting Fuzzy: The Fuzzy Lookup and Fuzzy Grouping Transformations
- › The Multicast Transformation
- › The Merge and Merge Join Transformations
- › The Data Mining Query Transformation
- › The Data Mining Model Training Destination
- › The Slowly Changing Dimension Transformation

## **Extending SSIS through Custom Code**

- › Introduction to SSIS scripting
- › The SSIS script editor
- › The SSIS object model
- › Script in Control flow: The Script Task
- › Script in Data flow: The Script Component
- › Introduction to SSIS component development

## **SSIS Package Deployment**

- › Configurations and deployment
- › The deployment utility
- › Deployment options
- › Deployment security
- › Executing packages – DTEXEC and DTEXECUI

## **SSIS Package Management**

- › The SSIS Service
- › Managing packages with SQL Server Management Studio
- › Scheduling packages with SQL Server Agent

## SQL Server Reporting Services (SSRS)

### Introduction to SQL Server Reporting Services

- › Tour of Features
- › Reporting Services Architecture
- › Reporting Services Terminology
- › Reporting Services Editions
- › Taking Reporting Services for a Spin

### Creating Reports

- › Deconstructing Reporting Services
- › Shared Data Sources
- › Creating Reports from Scratch

### Calculations and Formatting

- › Creating Expressions
- › Using the Global Collections
- › Formatting Items
- › Conditional Formatting

### Grouping and Sorting

- › Creating Groups
- › Calculating Totals and Percentages
- › Interactive Sorting
- › Creating Drill-Down Reports

### Report Parameters

- › Creating Report Parameters
- › Creating Drop-Down Parameters
- › Multi-Valued Parameters
- › Debugging Parameter Issues

### Creating Matrix Reports and Charts

- › Creating a Basic Matrix Report
- › Matrix Subtotals
- › Creating a Basic Chart
- › Exploring the Charting Possibilities

### Managing Reporting Services

- › Deploying Reports and Data Sources
- › Exporting Reports and Printing
- › Using the Web-Based Report Manager
- › Using SQL Server Management Studio-based Reporting Services Manager

### Snapshots and Subscriptions

- › Caching and Snapshots
- › Creating Standard Subscriptions
- › Creating Data-Driven Subscriptions
- › Managing Subscriptions

### Ad-Hoc Reporting with Report Builder

- › The Report Builder Architecture
- › Creating Report Model Projects
- › Running Report Builder

## SQL Server Analysis Services (SSAS)

### What Is Microsoft BI?

- › Core concept – BI is the cube or UDM
- › Example cube as seen using Excel pivot table
- › MS BI is comprehensive – more than Analysis Services on SQL Server
- › Demonstration of SQL Reporting Services with cube as data source

### Using SSAS in BIDS

- › Understanding the development environment
- › Creating Data Sources and Data Source Views
- › Creating cubes – using Cube Build Wizard
- › Refining Dimensions and Measures in BIDS

### Intermediate SSAS

- › KPIs
- › Calculations
- › Translations – cube metadata and currency localization
- › Actions – regular, drill-through and reporting

### Cube Storage and Aggregation

- › Storage topics – basic aggregations, MOLAP
- › Advanced Storage Design – MOLAP, ROLAP, HOLAP
- › Partitions – relational and Analysis Services partitions
- › Customizing Aggregation Design - Processing Design
- › Welcome to the Real Time – Proactive Caching
- › Cube processing options

### MDX

- › Basic syntax
- › Using the MDX query editor in SQL Server Management Studio
- › Most-used Functions & Common tasks
- › New MDX functions
- › Adding calculated members
- › Adding scripts
- › Adding named sets