

1. SQL Server Integration Services

What Is Microsoft BI?

- Core concept – BI

Introduction to SQL Server Integration Services

- Product History
- SSIS Package Architecture Overview
- Development and Management Tools

- 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

Business Intelligence Development Studio

- 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 Send Mail Task

Advanced Control Flow

- Containers – grouping and looping
- The Execute Process Task
- The Execute Package Task

- Other Container Tasks

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
- Configuration Overview
- Configuration options

Debugging, Error Handling and Logging

- SSIS debugging overview
- Breakpoints in SSIS
- SSIS debugging windows
- Control Flow: The On Error 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 Slowly Changing Dimension Transformation

Extending SSIS through Custom Code

- Introduction to SSIS scripting
- Script in Control flow: The Script Task

- Script in Data flow: The Script Component

SSIS Package Deployment

- Configurations and deployment
- The deployment utility
- Deployment options

2. SQL Server Analysis Services

OLAP Modeling

- Modeling source schemas—stars and snowflakes
- Understanding fact (measures) and cube modeling

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
- Perspectives
- Translations – cube metadata and currency localization
- Actions – regular, drill-through and reporting

Advanced SSAS

- Using multiple fact tables
- Modeling intermediate fact tables
- Modeling M:M dimensions, Fact (degenerate) dimensions, Role-playing dimensions, write back dimensions

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
- Rapidly changing dimensions / ROLAP dimensions
- Cube processing options

3. SQL Server Reporting Services

- Tour of Features
- Reporting Services Architecture
- Reporting Services Terminology
- Reporting Services Editions

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

Reporting Services Security

- Two Parts to Reporting Services Security
- Securing Access to Reports

- Data Source Security

Ad-Hoc Reporting with Report Builder

- The Report Builder Architecture
- Creating Report Model Projects

- Running Report Builder