



## **MSBI( SSAS, SSIS, SSRS) Course Content:35-40hours**

### Course Outline

### **SQL Server Analysis Services Course Content**

#### **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 the UDM and the 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, writeback dimensions
- Modeling changing dimensions – Dimension Intelligence w/ Wizard



- Using the Add Business Intelligence Wizards – write-back, semi-additive measures, time intelligence, account intelligence

### **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
- Welcome to the Real Time – Proactive Caching
- Cube processing options

### **MDX**

- Basic syntax
- Using the MDX query editor in SQL Server Management Studio
- Adding calculated members
- Adding scripts
- Adding named sets

### **SSAS Administration**

- Best practices – health monitoring
- XMLA scripting (SQL Mgmt Studio)
- Security – roles and permissions
- Disaster Recovery – backup / restore

### **Introduction to Reporting Clients**

- Excel 2007/ Power pivot
- SQL RS & Report Builder
- Sharepoint Performance Point Services 2010

### **SQL Server Integration Services Course Content**

#### **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**

- 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

### **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 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 DTUTIL
- Managing packages with SQL Server Management Studio
- Scheduling packages with SQL Server Agent

## SSIS 2012 new features

- CDC (Change data capture) control Flow & Dataflow task
- SSIS Catalog Reports (Dashboard)
- Package upgrades from legacy to SSIS 2012

## SQL Server Reporting Services Course Content

### SSRS:

- Introducing 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

### **Programming Reporting Services**

- The Many Reporting Services APIs
- Integrating Reporting Services into Applications using URL Access
- Using the Report Viewer Controls

### **Advanced Reporting Services Programming**

- Using the Reporting Services Web Service
- Working with Custom Assemblies

### **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