



iClarity IT SERVICES
CLARITY THROUGH INFORMATION

• BI Consulting • Placement Services • IT Training



Microsoft Business Intelligence (SQL Server, SSIS, SSRS, SSAS)

Course Content

Private and Confidential

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TABLE OF CONTENTS

SQL Server - SQL basics and DBA for beginners	3
SQL Server Integration Services (SSIS)	4
❖ Introduction	4
❖ Visual Studio Shell 2010	4
❖ Introduction to Control Flow	4
❖ Advanced Control Flow	4
❖ Introduction to Data Flow	4
❖ Variables and Configurations	4
❖ Debugging and Error Handling	4
❖ Advanced Data Flow	4
❖ Customizing SSIS Code	4
❖ SSIS Package Deployment	4
❖ SSIS Package Management	4
SQL Server Reporting Services (SSRS)	5
❖ Introducing SQL Server Reporting Services	5
❖ Creating Reports	5
❖ Calculations and Formatting	5
❖ Grouping and Sorting	5
❖ Report Parameters	5
❖ Creating Matrix Reports and Charts	5
❖ Managing Reporting Services	5
❖ Reporting Services Security	5
❖ Programming Reporting Services	5
❖ Advanced Reporting Services Programming	5
❖ Snapshots and Subscriptions	5
❖ Ad-Hoc Reporting with Report Builder	5
SQL Server Analysis Services (SSAS)	6
❖ OLAP Modeling	6
❖ SSAS IDE	6
❖ Intermediate SSAS	6
❖ Advanced SSAS	6
❖ Cube Storage and Aggregation	6
❖ Beginning MDX (All Basics)	6
❖ Intermediate MDX	6
❖ SSAS Administration	6



SQL Server - SQL basics and DBA for beginners

(Duration 10 hours Theory + 30 hours Lab)

- SQL Overview
- RDBMS Concepts
- RDBMS Databases
- SQL Syntax (DML, DDL, DCL)
- SQL Data Types
- SQL Operators
- SQL Expressions
- SQL in Action
- SQL Joins
- SQL Indexes
- SQL Functions
- SQL T-SQL
- Q&A
- SQL Tuning Basics



SQL Server Integration Services (SSIS)

(Duration 20 hours Theory + 30 hours Lab)

❖ Introduction

- Product History
- Architecture Overview
- SQL Server Data Tool
- Deploying and Managing SSIS

❖ Visual Studio Shell 2010

- Launching VS 2010
- Project Templates
- Package Designer
- Properties Window
- The Variables Window
- The SSIS Menu

❖ Introduction to Control Flow

- Control Flow Overview
- The Execute SQL Task
- The Bulk Insert Task
- The FTP/ File System Task
- The Send Mail Task
- Q&A
- Snap Test

❖ Advanced Control Flow

- Containers grouping and looping
- The Web Service Task
- The Analysis Services Task
- The Execute Process/Package Task

❖ Introduction to Data Flow

- Data Flow Overview
- Data Sources
- Data Destinations
- Data Transformations
- Transformation (Copy, Derived)
- The Conditional Split Transformation
- The Aggregate /Sort Transformation
- Data Viewers
- Q&A
- Snap Test

❖ 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
- Q&A
- Snap Test

❖ Debugging and Error Handling

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

❖ Advanced Data Flow

- Data sources and destinations
- The Lookup Transformation
- The Fuzzy Lookup and Fuzzy Grouping Transformations
- Multicast /Merge/Merge Join Transf.
- Data Mining Query Transformation
- The SCD Transformation
- Q&A
- Snap Test

❖ Customizing SSIS Code

- Introduction to SSIS scripting
- The SSIS script editor
- The SSIS object model
- The Script Task/ Script Component
- Introduction to SSIS component development

❖ SSIS Package Deployment

- The deployment utility
- The Deployment options
- Deployment security
- Executing packages – DTEXEC ..

❖ SSIS Package Management

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



SQL Server Reporting Services (SSRS)

(Duration 20 hours Theory + 30 hours Lab)

❖ 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
- Q&A
- Snap Test

❖ Grouping and Sorting

- Creating Groups
- Calculating Totals and Percentages
- Interactive Sorting
- Creating Drill-Down Reports
- Q&A
- Snap Test

❖ Report Parameters

- Creating Report Parameters
- Creating Drop-Down Parameters
- Multi-Valued Parameters
- Debugging Parameter Issues
- Q&A
- Snap Test

❖ 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

❖ 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
- Q&A

❖ 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



SQL Server Analysis Services (SSAS)

(Duration 20 hours Theory + 30 hours Lab)

❖ OLAP Modeling

- Modeling source schemas-stars and snowflakes
- Understanding dimensional modeling- Dimensions (Type 1, 2, or 3) or rapidly changing
- Understanding fact (measures) and cube modeling

❖ SSAS IDE

- 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

❖ Beginning MDX (All Basics)

- Basic syntax
- Using the MDX query editor in SQL Server Management Studio
- Most-used Functions & Common tasks
- New MDX functions

❖ Intermediate MDX

- Adding calculated members
- Adding scripts
- Adding named sets

❖ SSAS Administration

- Best practices – health monitoring
- XMLA scripting (SQL Mgmt Studio)
- Other Documentation methods
- Security – roles and permissions
- Disaster Recovery – backup / restore
- Clustering – high availability