

SQL Server and MSBI Course Content

BY

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Introduction to MSBI and Data warehouse concepts

1. Definition of Data Warehouse
2. Why Data Warehouse
3. DWH Architecture
4. Star and Snowflake schema
5. Transaction Data
6. Dimension Table
7. Fact Table
8. OLTP(Online Transaction Processing System)
9. OLAP(Online Analytical Processing System)

SQL Server Programming

1. SQL Intro
2. Constrains
3. DDL commands
4. DML Commands
5. Joins
6. String Functions
7. Date Functions
8. Aggregate Functions
9. Temp Table, Table Variable
10. CTE(Common Table Expression)
11. Sub Queries
12. Operators
13. Case Statements
14. While Loop and If else Statements
15. Views
16. Stored procedures
17. Functions
18. Cursor
19. Triggers
20. Indexes
21. Identity
22. Exception Handling

SQL Server Reporting Services

1. Core Components of SSRS Reports

2. Types of Reports
3. Basic SSRS Report
4. Data Sources and Shared Data Sources
5. Datasets and Shared Datasets
6. Report Parameters
7. Cascading parameters
8. Drill down Report
9. Drill Through Report
10. Report Formatting
11. Custom Expressions
12. Subscriptions
13. Report Manager and Report Server
14. Report Security
15. Improving Report Performance

SQL Server Integration Services

1. Getting started with SSIS

- SSIS Overview
- Import and Export Wizard
- SSIS Architecture
 - i. Packages
 - ii. Control Flow
 - iii. Data Flow
 - iv. Variables
 - v. Parameters
 - vi. Error Handling and Logging
- Creating a Solution and Project
- Exploring SQL Server Data Tools
- The SSIS Package Designer
 - i. Control Flow
 - ii. Connection Managers
 - iii. Variables
 - iv. Data Flow
 - v. Parameters
 - vi. Event Handlers
 - vii. Package Explorer
 - viii. Executing a Package
- Creating Your First Package

2. Control Flow

- What is Control Flow
- Using Precedence Constraints

- Manipulating Files with the File System Task
- Coding Custom Script Tasks
- Using the Execute SQL Task
- Using the Execute Process Task
- Using the Expression Task
- Using the Send Mail Task
- Using the FTP Task
- Creating a Data Flow

3. Data Flow lesson

- Extracting Data from Sources
- Loading Data to a Destination
- Changing Data Types with the Data Conversion Transform
- Creating and Replacing Columns with the Derived Column Transform
- Rolling Up Data with the Aggregate Transform
- Ordering Data with the Sort Transform
- Joining Data with the Lookup Transform
- Auditing Data with the Row Count Transform
- Combining Multiple Inputs with the Union All Transform
- Cleansing Data with the Script Component
- Separating Data with the Conditional Split Transform
- Altering Rows with the OLE DB Command Transform
- Handling Bad Data with the Fuzzy Lookup
- Removing Duplicates with the Fuzzy Grouping Transform

4. Containers

- Sequence Containers
- For Loop Containers
- Foreach Loop Container

5. Making Packages Dynamic

- Making a Package Dynamic with Variables
- Making a Package Dynamic with Parameters
- Making a Connection Dynamic with Expressions
- Making a Task Dynamic with Expressions

6. Configuring Packages

- Using Configuration Tables to deploy SSIS package
- Using Configuration Files to deploy SSIS package

7. Troubleshooting SSIS Package

- Logging Package Data
- Using Event Handlers
- Troubleshooting Errors
- Using Data Viewers
- Using Breakpoints

8. Administering SSIS

- Creating and Configuring the SSIS Catalog
 - Deploying Packages to the Package Catalog
 - Configuring the Packages
 - Configuring the Service
 - Securing SSIS Packages
 - Running SSIS Packages
 - Scheduling Packages
- 9. Loading a Warehouse**
- Dimension Load
 - Fact Table Load

SQL Server Analysis Services

1. Definition of Cube
2. Advantage of Cube
3. Star and snowflake schema
4. Dimensions and Dimension Types
5. Measures and Measure Types
6. Fact Table and Types
7. Data Source
8. DSV(Data Source View)
9. Hierarchy and Types
10. Cube Structure
11. Dimension Usage and Relationships
12. Calculations
13. Partitions
14. KPIs
15. Actions
16. Aggregations
17. Perspectives
18. Translations
19. Browser
20. Storage Models

21.

22. (ROLAP, MOLAP and HOLAP)