

Introduction to MSBI

- History of MSBI
- Use of BI in Industry
- Components of MSBI
- Need for SSIS and ETL / DWH Entities
- Architecture of ETL
- Architecture of SSIS
- Understanding Sql Server Data Tools
- Understanding SSIS Package
- Introduction to Parameters & Event Handlers
- Configuring SSIS Tools and Options
- Control Flow Tasks Architecture
- Data Flow Tasks and ETL Architecture
- Data Pipelines and Data Buffers

ETL Entities in SSIS

- SSIS Data Types and Data Conversions
- SSIS Working and Control Flow Options
- SSIS Local and Global Variables - Usage
- Dynamic Precedence Constraints
- Dynamic Connection Managers in DFT
- Data Flow Transformations and Usage
- Handling ETL Enumerations in SSIS
- ETL with Loops & Indexed Connections
- Fast Load Options in OLE-DB Connections

SSIS Expressions & Package Debugging

- Conditional Precedence Expressions
- SSIS Parameters Usage and Variables
- Control Flow Breakpoints - Usage
- Data Flow Data Viewers and Audits
- SSIS Expressions & Debugging Options
- Debugging SSIS Packages & Limitations
- Debugging Procedures in Real-time

Data Flow Transformations and ETL

- Row and Column Transformations
- Combining and Splitting Data
- Performing SQL Database Operations
- MERGE Vs UNION ALL Transformations
- Lookup, Fuzzy Lookup and Grouping
- SORT Vs AGGREGATE Transformations

- OLE-DB Command Usage & Parameters
- Derived Columns & Data Conversions
- SSIS Parameter Mappings & Options

SSIS Customizations with .NET

- SSIS SCRIPT Task (.NET) and Coding
- Scripts for Control Flow Limitations
- Scripts for Data Flow Limitations
- ADO Connections
- Custom Code Handling in SSIS
- Script Tasks & Notify Operators

Master - Child Packages & Fact Data Loads

- Configuring Master Packages, Parameters
- Configuring Child Packages, Parameters
- Parameter Bindings, Execute Process
- Using CDC Transformation and Controls
- CDC Source and CDC Splitter Options
- CDC State Options and Usage
- Using CDC for Type I & Type II ETL Loads
- CDC Connections – Performance Advantages
- OLE DB Transformation and Parameters
- ADO.Net Connection Limitations in SSIS

SSIS - Events, Errors and Logging

- SSIS Package Events and Audits
- Package Level Event Handling Options
- SSIS Event Bubbling Escalations
- SSIS Logging & Project Connections
- Windows Event Logs and SSIS Jobs
- SQL Server Logging and Audit Tables
- Global Connections and Project Audits
- Logging Fuzzy Data Loads and ETL
- Need For XML Connections & ADO
- XML Connections & BLOB Data
- Using SSIS Data Profile Viewer Task
- Reusing SSIS Pipeline Execution Plans

Deployment Procedures

- Project Builds & Bit Level Options
- Creating ISPAC Files
- Securing SSIS Manifest Files (PROD)
- 64 bit and 32 bit Configurations
- Validation & Verification Techniques
- Configuration Options and Connections
- Control Loops and Indexed Connections
- Package Backups and Package Password
- Project Level Passwords and Encryption

SSIS Project Deployments

- SSIS Deployment and SSIS Catalog DB
- SSIS Catalog Project Files and Options
- Security - Logins, Users, SSISAdmin Roles
- SSIS Catalog Folders in SSIS Database
- Post Deployments and Connections
- Package Configurations, Parameters
- SSIS Package Validations and Reports
- SSIS Package Executions and Reports
- SSIS Package Executions with T-SQL scripts
- Tuning Deployment and Configurations
- SSIS Package Performance Reports

SSIS Package Security and Reports

- SSIS Package Security Options
- Encrypting SSIS Catalog Packages
- SSIS Package Store and SSISDB
- Security Audits Reports and Limitations
- SSIS Folder Level Security Options
- Project Level Security and SSIS Roles
- Container and Package Logging

SSIS Package Upgrades

- SSIS Project Migration Utilities
- Importing ISPAC and Manifest Files
- SSIS Project ImportWizard - Usage
- Upgrading Packages & Configurations
- Command-Line Deployments & Options
- Package Backup Procedures & Options
- Scheduling Packages (Jobs), Operators
- MSDB and SSIS Catalog DB Files