

Course Outline

2795- Designing an ETL Solution architecture using Microsoft SQL Server 2005 integration services



Duration: 2 days (12 hours)

Learning Objectives:

- Plan data transfer and staging solutions for an ETL operation
- Plan an SSIS solution
- Design and implement data flows
- Incorporate logging, error handling, and reliability into a package
- Optimize an SSIS solution
- Deploy and operate an SSIS solution

Target Audience:

This course is intended for experienced Business Intelligence (BI) professionals. The target students for this course already have experience of using the SQL Server 2005 tools to implement ETL functionality, but need to develop their understanding of design principles and best practices when planning, implementing, and deploying an ETL solution

Prerequisites:

Have hands-on experience with database development tasks. For example:

Creating Transact-SQL queries

Writing and optimizing advanced queries (for example, queries that contain complex joins or subqueries)

Creating database objects such as tables, views, and indexes

Be familiar with SQL Server 2005 features, tools, and technologies. In particular, they must have built an SSIS package

Have foundational conceptual understanding of data warehousing, data marts, and Business Intelligence. Students must be well-versed on the subjects of data warehousing, data marts, and BI, and preferably have read at least one book by Ralph Kimball or Bill Inmon

Have a conceptual understanding of ETL processes

Have foundational understanding of Microsoft Windows security. For example, how groups, delegation of credentials, and impersonation function in a security context

Have foundational understanding of Web-based architecture. For example, SSL, SOAP, and IIS-what they are and what their role is

Already know how to use

Microsoft Office Visio

Microsoft SQL Server Business Intelligence Development Studio

Microsoft SQL Server Management Studio

Performance Monitor

Microsoft SQL Server Profiler

Topics Covered:

- Planning for ETL
 - Identifying Data sources and destinations
 - Evaluating Source data
 - Identifying staging requirements
 - Identifying ETL requirements
 - Examining source data
- Planning SSIS solution
 - Planning Packages
 - Planning package development
 - Designing package control flow
 - Implementing SSIS packages
 - Designing an SSIS solution
 - Creating a package template
 - Implementing SSIS packages
- Designing data flow
 - Understand data flow
 - Designing data flow operations
 - Handling data changes
 - Implementing data flow
 - Designing data flow
 - Implementing data flow
- Logging, Error Handling, and Reliability
 - Logging ETL operations
 - Handling Errors in SSIS
 - Implementing reliable ETL Processes with SSIS
 - Implementing reliable packages
 - Implementing logging
 - Implementing Error handling
 - Implementing transactions and Checkpoints
- Optimizing an SSIS solution
 - Monitoring SSIS performance
 - Optimizing SSIS packages
 - Scaling out SSIS packages
- Deploying and Operating an SSIS solution
 - Deploying SSIS packages
 - Backing Up an SSIS package