

40 HORAS

## INTRODUCTION

This course describes how to implement a data warehouse platform to support a BI solution. Students will learn how to create a data warehouse with Microsoft® SQL Server® 2014, implement ETL with SQL Server Integration Services, and validate and cleanse data with SQL Server Data Quality Services and SQL Server Master Data Services.

## AUDIENCIA

This course is intended for database professionals who need to fulfil a Business Intelligence Developer role. They will need to focus on hands-on work creating BI solutions including Data Warehouse implementation, ETL, and data cleansing. Primary responsibilities include:

- Implementing a data warehouse.
- Developing SSIS packages for data extraction, transformation, and loading.
- Enforcing data integrity by using Master Data Services.
- Cleansing data by using Data Quality Services.

## AT COURSE COMPLETION

After completing this course, students will be able to:

- Describe data warehouse concepts and architecture considerations.
- Select an appropriate hardware platform for a data warehouse.
- Design and implement a data warehouse.
- Implement Data Flow in an SSIS Package.
- Implement Control Flow in an SSIS Package.
- Debug and Troubleshoot SSIS packages.
- Implement an ETL solution that supports incremental data extraction.
- Implement an ETL solution that supports incremental data loading.
- Implement data cleansing by using Microsoft Data Quality Services.
- Implement Master Data Services to enforce data integrity.
- Extend SSIS with custom scripts and components.
- Deploy and Configure SSIS packages.
- Describe how BI solutions can consume data from the data warehouse

## PREREQUISITES

Before attending this course, students must have:

- At least 2 years' experience of working with relational databases, including:
  - Designing a normalized database.
  - Creating tables and relationships.

- Querying with Transact-SQL.
- Some exposure to basic programming constructs (such as looping and branching).

## COURSE OUTLINE

### Module 1: Introduction to Data Warehousing Overview of Data Warehousing

- Considerations for a Data Warehouse Solution

### Module 2: Data Warehouse Hardware Considerations

- Considerations for building a Data Warehouse
- Data Warehouse Reference Architectures and Appliances

### Module 3: Designing and Implementing a Data Warehouse

- Logical Design for a Data Warehouse
- Physical design for a data warehouse

### Module 4: Creating an ETL Solution with SSIS

- Introduction to ETL with SSIS
- Exploring Data Sources
- Implementing Data Flow

### Module 5: Implementing Control Flow in an SSIS Package

- Introduction to Control Flow
- Creating Dynamic Packages
- Using Containers
- Managing Consistency

### Module 6: Debugging and Troubleshooting SSIS Packages

- Debugging an SSIS Package
- Logging SSIS Package Events
- Handling Errors in an SSIS Package

### Module 7: Implementing an Incremental ETL Process

- Introduction to Incremental ETL
- Extracting Modified Data
- Loading Modified data

### Module 8: Enforcing Data Quality

- Introduction to Data Quality
- Using Data Quality Services to Cleanse Data
- Using Data Quality Services to Match data

## Module 9: Using Master Data Services

- Master Data Services Concepts
- Implementing a Master Data Services Model
- Managing Master Data
- Creating a Master Data Hub

## Module 10: Extending SQL Server Integration Services

- Using Scripts in SSIS
- Using Custom Components in SSIS

## Module 11: Deploying and Configuring SSIS Packages

- Overview of SSIS Deployment
- Deploying SSIS Projects
- Planning SSIS Package Execution

## Module 12: Consuming Data in a Data Warehouse

- Introduction to Business Intelligence
- Introduction to Reporting
- An Introduction to Data Analysis