Implementing a Data Warehouse with Microsoft® SQL Server® 2012

Varighet: 5 Days   Kurskode: M10777

Beskrivelse:

This 5-day instructor-led course describes how to implement a BI platform to support information worker analytics. Students will learn how to create a data warehouse with SQL Server 2012, implement ETL with SQL Server Integration Services, and validate and cleanse data with SQL Server Data Quality Services and SQL Server Master Data Services.

The Beta version of this course (10777AB) utilizes pre-release software in the virtual machine for the labs. Microsoft SQL Server 2012 Release Candidate 0 (RC0) is used in this course. Some of the exercises in this course are SQL Azure enabled.

Målgruppe:

The primary audience for this course are 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 will include:Implementing as data warehouse Developing SSIS packages for data extraction and loading/transfer/transformation Enforcing data integrity using Master Data Services Cleansing data using Data Quality Services

Agenda:

- 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.

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- Debug and Troubleshoot SSIS packages.

- Implement an SSIS solution that supports incremental DW loads and changing data.

- Integrate cloud data into a data warehouse ecosystem infrastructure.

- Implement data cleansing by using Microsoft Data Quality Services.

- Implement Master Data Services to enforce data integrity at source.

- Extend SSIS with custom scripts and components.

- Deploy and Configure SSIS packages.

- Describe how information workers can consume data from the data warehouse.

Forkunnskaper:

In addition to their professional experience, students who attend this training should have technical knowledge equivalent to the following course:

- 10774A: Writing Queries with Microsoft SQL Server Transact-SQL

Test og sertifisering

- This course helps people prepare for the exam 70-463.

Innhold:

Module 1: Introduction to Data Warehousing
This module provides an introduction to the key components of a data warehousing solution and the high-level considerations you must take into account when embarking on a data warehousing project.

- Describe data warehouse concepts and architecture considerations
- Considerations for a Data Warehouse Solution
- Lab : Exploring a Data Warehousing Solution

Module 2: Data Warehouse Hardware Considerations
This module describes the considerations for selecting the appropriate hardware platform for your data warehouse solution.

- The Challenges of Building a Data Warehouse
- Data Warehouse Reference Architectures
- Data Warehouse Appliances

Module 3: Designing and Implementing a Data Warehouse
This module describes how to implement the logical and physical architecture of a data warehouse based on industry proven design principles.

- Logical Design for a Data Warehouse
- Physical Design for a Data Warehouse
- Lab : Implementing a Data Warehouse Schema

Module 4: Design and implement a schema for a data warehouse
This module discusses considerations for implementing an ETL process, and then focuses on SQL Server Integration

- Services (SSIS) as a platform for building ETL solutions.
- Introduction to ETL with SSIS
- Exploring Source Data
- Implementing Data Flow
- Lab : Implementing Data Flow in an SSIS Package

Module 5: Implementing Control Flow in an SSIS Package
This module describes how to implement control flow which allows users to design robust ETL processes for a data warehousing solution that coordinate data flow operations with other automated tasks.

- Introduction to Control Flow
- Creating Dynamic Packages
- Using Containers
- Managing Consistency
- Lab : Implementing Control Flow in an SSIS

Module 6: Debugging and Troubleshooting SSIS Packages
This module describes how you can debug packages to find the cause of errors that occur during execution. It then discusses the logging functionality built into SSIS that you can use to log events for troubleshooting purposes. Finally, the module describes common approaches for handling errors in control flow and data flow.

- Debugging an SSIS Package
- Logging SSIS Package Events
- Handling Errors in an SSIS Package
- Lab : Debugging and Troubleshooting an SSIS Package

Module 7: Implementing an Incremental ETL Process
This module describes the techniques you can use to implement an incremental data warehouse refresh process.

- Introduction to Incremental ETL
- Extracting Modified Data
- Loading Modified Data
- Lab : Extracting Modified Data
- Lab : Loading Incremental Changes

Module 8: Incorporating Data from the Cloud in a Data Warehouse
This modules describes how integrate cloud data into a data warehouse ecosystem.

- Overview of Cloud Data Sources
- SQL Server Azure
- Azure Data Market
- Lab : Using Cloud data in a Data Warehouse Solution

Module 9: Enforcing Data Quality
This modules describes how to use Data Quality Services (DQS) for cleansing and deduplicating your data.

- Introduction to Data Cleansing
- Using Data Quality Services to Cleanse Data
- Using Data Quality Services to Match Data
- Lab : Cleansing Data
- Lab : De-Duplicating Data

Module 10: Using Master Data Services
This module introduces Master Data Services and explains the benefits of using it in a business intelligence (BI) context. It also describes the key configuration options, explains how to import and export data and apply rules that help to preserve data integrity, and introduces the new Master Data Services Add-in for Excel.

- Master Data Services Concepts

Module 11: Extending SSIS
This module describes how to extend SSIS by using custom scripts and components.

- Using Custom Components in SSIS
- Using Scripting in SSIS
- Lab : Using Scripts and Custom Components

Module 12: Deploying and Configuring SSIS Packages
This modules describes how to deploy and configure SSIS packages.

- Overview of Deployment
- Deploying SSIS Projects
- Planning SSIS Package Execution
- Lab : Deploying and Configuring SSIS Packages

Module 13: Consuming Data in a Data Warehouse
This module describes how information workers can consume data from the data warehouse.

- Using Excel to Analyze Data in a data Warehouse.
- An Introduction to PowerPivot
- An Introduction to Crescent
- Lab : Using a Data Warehouse

Package
- Lab : Using Transactions and Checkpoints

- Implementing a Master Data Services Model
- Using the Master Data Services Excel Add-in
- Lab : Implementing Master Data Services

Ytterligere informasjon:

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Package
- Lab : Using Transactions and Checkpoints

- Implementing a Master Data Services Model
- Using the Master Data Services Excel Add-in
- Lab : Implementing Master Data Services