

CS – 32 Data Warehousing with SQL Server 2012

Unit : 1

Introduction to Data Warehousing

- What Is a Data Warehouse?
- Data Warehousing Today
 - Business intelligence
 - Customer Relationship Management
 - Data Mining
- Future Trends in Data Warehousing.
 - Unstructured Data
 - Search
 - service oriented architecture (SOA)
 - Real-time data warehousing
- Data Warehouse Architecture
 - Data flow architecture
 - System architecture

Unit : 2

Designing and Implementation of Data Warehousing

- Logical Design for data warehouse
 - Data Warehousing Schemas
 - Star Join (Star Schema) and Snowflake structure
- Physical Design for data warehouse
 - Physical Design Structures
 - Tablespaces
 - Tables and Partitioned Tables
 - Views
 - Integrity Constraints
 - Dimensions
- Design dimension table fact table for data warehouse
- Design and implement effective physical data structure for data warehouse

Unit : 3

Creating ETL Solutions with SSIS Implementing Control Flow in SSIS

- Introduction to ETL with SSIS
- Introduction to SQL Server Data Tools
- Implementing data flow using SSIS
 - Configuring the Data Flow
 - Sources
 - Transformations
 - Derived Column
 - Conditional Split

- Destinations
 - Introduction to Control Flow
 - SSIS Tasks
 - SSIS Containers
 - For Loop Container
 - Foreach Loop Container
 - Foreach File enumerator
 - Foreach Item enumerator
 - Foreach SMO enumerator
 - Foreach Nodelist enumerator
 - Foreach ADO enumerator
 - Foreach ADO.NET Schema
 - Foreach From Variable enumerator
 - Sequence Container
 - Create Dynamic Packages Using Containers
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Unit : 4

Enforcing Data Quality Extending SQL Server Integration Services

- Introduction to Data Quality
 - Installing and setting up the DQS
 - Creating a Knowledge Base
 - Using Data Quality Service to cleanse data
 - Using Data Quality Service to match data
 - Using Scripts in SSIS
 - Script Task
 - The Script Task Dts Object
 - Script Component
 - Using Custom components in SSIS
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Unit : 5

Deploying & Configuring SSIS Packages Consuming Data in Data Warehouse

- Overview of SSIS Development
 - Packages
 - Control Flow vs. Data Flow
 - Package Functionality Extension Objects
 - Deploying SSIS Projects
 - Deploying Packages to SQL Server Integration Services Catalog
 - Deployment Models In SSIS
 - Planning SSIS Package Execution
 - Introduction to Business Intelligence
 - Introduction to Reporting
 - Basic Reports in SQL Reporting Services
 - Parameters in Reporting Services
 - Charts in SSRS
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- SQL Server Reporting Services Configuration Manager (For Deploy Project in Report Server)
- Introduction to Data Analysis
- Create Cube and Dimensions Using Data Analysis

Notes : For Lab Practice : Microsoft SQL Server 2012 or Higher version

Reference Books :

- 1) Implementing a Data Warehouse with Microsoft® SQL Server® 2012 Dejan Sarka Matija Lah Grega Jerkič
- 2) Building a Data Warehouse: With Examples in SQL Server – Vincent Rainardi-Apress (2014)
- 3) Data mining Explained A manager's guide to customer centric business intelligence by
- 4) Data mining by Pieter Adriaans Dolf Zantinge
- 5) Data warehousing in the real world A practical guide for business DSS by Sam Anahory

Reference Websites :

- 1) <https://www.tutorialgateway.org/ssis/>
- 2) https://www.tutorialspoint.com/ms_sql_server/ms_sql_server_integration_services.htm
- 3) <https://www.guru99.com/ssis-tutorial.html>