SQL Server DB Fundamentals Co-op Project

System design

201905 (Group 1)

Supported by

Data Tech Consulting Services

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1. Project Overview

This project is designed to perform the upgrade of some major technologies used to support the course for Jay Liu at Victoria Training Center, and this document describes the detailed work items required for this technology upgrade.

This requirement document is to request working on the following technology enhancement or migration, to modernize, optimize, and consolidate the existing version of the course, SQL Server Database Fundamentals. With the project completion, the enhanced features running on the upgraded system design will offer a better designed, documented, improved, and standardized environment, which supports a new look of the technologies the course runs on, and offer a nicely-looking infrastructure of the new version of the course.

1. Enhancement Summary

The following list contains all required tasks, portions, technologies, and framework to support and offer a new look of the corresponding course.

* 1. Data Size (C1, C2, C3)

Our Group will firstly enlarge the table ‘Orders’ by inserting new rows, and the table will automatically generate new ID. Then we will enlarge the ‘Order Detail’ Database using the new rows generated in ‘Orders’ Table

* 1. Data Age (C1)

We will simple update all related date in ‘Orders’ and ‘Order Details’ table by adding 20 years for each column

* 1. New Virtual Machines (C1, C2)

Not Applied

* 1. SQL Server 2012 Installation (C1, C2)

Not Applied

* 1. More Data Referencing (C2, C3, C4, C5)

Connecting the ‘Order Details’ table with ‘Category’ table; linking credit card with customer information, and updating ‘Orders’ table with new ‘customers’ table; Adding ‘Total Price’ Column in ‘Orders’ table.

* 1. Remove Existing Modules (C8, C9)

Remove the existing project with long-version of T-SQL programming, but remain and enrich the existing short-version of T-SQL programming.

* 1. Ad-Hoc Queries (C7, C8)

Add new module to introduce Ad-hoc Queries, to demo OpenQuery, OpenRowSet, and OpenDataSource, for distributed queries, including directly reading data from Access and Excel as data sources.

* 1. Managing Ad-Hoc Queries (C7, C8)

Consider managing the request above by creating a consolidated stored procedure, and let the SP handle each case: running query from Excel file, from Access file, or from SQL Server

* 1. Parameterized Query (C8)

Using SQL query or T-SQL, build a demo of Key Performance Indicator (KPI) data measurement. For ex., using last two years’ data of orders, combining Employees, to indicate annual sales increase, say total orders sold

1. Project Timeline

The project runs with the following scheduled tasks vs time durations, as the step-by-step plan below.

Week 1: Team build-up, Groups setup, and Group Lead of each group

Required image download ready – Project started

Week 2: Finalizing Groups, and determining Group Leads

System Requirements drafted – 5% completed

Week 3: System Requirements submitted – 10% completed

Week 4: System Design (1) – 15% completed

Week 5: System Design (2), completed and submitted - 20% completed

Week 6: Development starts - 30% completed

Week 7: Development in progress, 40% completed

Week 8: Development in progress, 50% completed

Week 9: Development in progress, 60% completed

Week 10: Development in progress, 70% completed

Week 11: Development in progress, 80% completed

Week 12: Development in progress, 90% completed

Week 13: Final review, testing and documentation, 95% completed

Week 14: Completed work submission, 100% completed

Final Meeting: Project Closing

1. Offerings & Constraints

* Data Tech Consulting Services Inc. (DataTech) is the vendor cooperating and coordinating the projects, and as the end of the projects, DataTech offers reference check for all co-op project resources.
* All participating resources must finish all their tasks with their groups from the beginning until the end, and when and only when your name appears in the last version of the registry list at the project closing time, DataTech will then offer the reference service.
* You can ask for a short leave for vacation or any other reasons, by telling your group lead or members, and they are fine to cover you, or wait for your availability for catching up the progress designed by your group.
* With absence up to THREE times of unavailability when reporting your status update, you are still eligible to continue your projects, but after THREE times of missing status update, you will automatically be removed from the projects for the current round. Of course, you are still allowed to come back for the future rounds of projects.