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Date: March 5th, 2025

Course: IT FDN 130 A Wi 25

GITHub Link: github.com/avangund/DB-Foundations

Assignment 6

Introduction

The following paper will explain the advantages of using a View within SQL. This week, Views were created based off the base tables from Week 5. The second part of the write-up will analyze the similarities and differences between Views, Functions and Stored Procedures.

Explain when you would use a SQL View

A SQL View can be utilized to enhance data integrity. Views can also be used for the **storing** of SQL statements.

Unlike a base table, where underlying data can be altered, and potentially sensitive data could be seen by SQL users. Working off a **SQL View** allows for more quality control; permissions can be granted so that sensitive information cannot be seen within the view and changes are not made to a base table.

Figure 1

In weeks 1-5 of the SQL course, scripts were saved into a SQL formatted file. While this is one way to share SQL files, Views allow for streamlined use without having to rewrite queries. Another strength is easier review of SQL statements by being able to see Views within database versus opening a new file. This week, we created Views starting with the replication of base tables. We then used Select Statements to filter the desired data of columns and rows. Once the database was refreshed, our View tables appeared. Instead of sharing a SQL file with co-workers, these views can now be seen within the database (Figure 1).
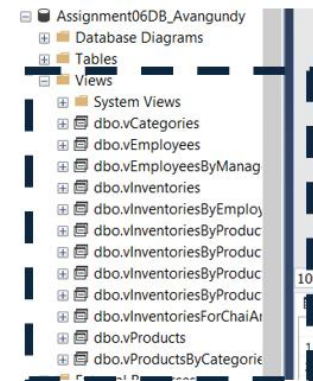
Explain are the differences and similarities between a View, Function, and Stored Procedure

This week, we utilized Views to save our SQL statements outside of the base tables. To start, a select statement was written by identifying the columns needed, the tables the columns were held, and deciphering the common keys to join the tables. Then, the statements were rewritten with Create As (Figure 2) to create views.


```
--Select ProductName, InventoryDate, Count
--From Products Join Inventories
--  On Products.ProductID=Inventories.ProductID
--    Order By 1,2,3;

Go
Create View [dbo].[vInventoriesByProductsByDates]
AS
    Select Top 1000000 ProductName, InventoryDate, Count
From Products Join Inventories
    On Products.ProductID=Inventories.ProductID
        Order By 1,2,3;
Go
```

Figure 2

Functions were utilized less in this week's assignment; however, their similarities can be seen starting off with a similar select statement and substituting "Create View" for "Create Function." The differences are that functions are utilized to return values while Views return tables (Hands on Coding Tutorials, 2020). Another difference according to Professor Root is that Functions contain a "Return" table function in the statement.

A Stored Procedure contains an "Exec" statement instead of "Select" statement (Hands on Coding Tutorials, 2020). The main difference is that the Stored Procedures can be utilized to Insert or Delete data.

Summary

Views are an important aspect of SQL because they allow for base tables to remain unaltered and for the privacy of certain information. Views, Functions and Store Procedures are powerful ways to save Statements which will inevitably lead to less redundancy and risk of error.

References

"Choosing Between Views, Functions, and Stored Procedures in SQL With Examples." YouTube, Hands on Coding Tutorials, 18 Jan. 2020, www.youtube.com/watch?v=TSCPXpXL4OI.