

Assignment06_David_Levinson

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Foundations Of Databases & SQL Programming

Assignment 06

Introduction

This week we learned about using Views, Functions, and Stored Procedures in SQL. As with previous weeks, these are valuable tools to know and each can be used for different use cases as we work with data in tables.

When you would use a SQL view

Instead of saving sql code on your computer, you can save it directly onto the database. On the computer a text file with SQL code is called a SQL script. As you spend more time writing increasingly complex SQL queries, you can keep them saved on your computer and on the db. This is great for ease of use and redundancy if your computer failed. It's also handy to have all of the views for the database available there, without having to search where they are stored. If multiple team members are working with data, a view is a more scalable manner to do this.

A base, or basic, view shows you data from the table, similar to a `SELECT *` statement. As mentioned above, this allows you to abstract the users from directly accessing the table. The view allows them to see the data in the same manner.

Similarities and Differences between Views, Functions, and Stored Procedures

SQL has built in functions, but you can also create your own custom functions. Functions are reusable code blocks. There are two types of functions; one that return a table of values, and one one that return a single value. Views and

functions are similar, in fact Figure 1 is an example of a function and a view that return the same results.

```
-- View
Create View vProducts
AS
    Select ProductID, ProductName, CurrentPrice = UnitPrice, CategoryId
    From Northwind.dbo.Products;
go
Select * from vProducts; -- 77rows
Go

-- Function
Create Function dbo.fProducts() # Using the dbo prefix is common
Returns Table
AS
    Return(
        Select ProductID, ProductName, CategoryId, Discontinued
        From Northwind.dbo.Products
    );
```

Figure 1: Similarities between Views and Functions

Unlike a view, a function can accept parameters. **Stored Procedures are a Named Set of SQL Statements to perform a task.**

Summary

Overall, Views can be used to simplify retrieving data from tables. Functions can perform calculations with reusable code. Stored Procedures can be used to perform a task. As we grow our SQL skills I expect to use each of these for various use cases.