

Introduction

In this paper I will review the concept of an SQL View, the purpose and typical use. I will also compare SQL View, Functions, and Stored Procedures. I hope this review will help students and my peers to understand when and how to use SQL View and when a Function or a Stored Procedure is a better option.

When to use SQL View

A View in SQL Server is a saved and backed up SQL query. It can be compared to a virtual table containing data meeting the criteria from the said query. Views are saved in the database server. A unique name needs to be assigned to the name in order to create a View.

Virtual aspect of the View is very important as the View doesn't hold any real data and is not a real table. View allows viewing access and (sometimes) limited edit options for users. All those features drive most common use-cases for SQL View. Whenever a specifically structured data is needed to be shared with others (especially less experienced users) View is a great option. Views restrict access and thus protect sensitive data from potential risky changes (alterations and removals) that could impact larger database. Views help speed up and facilitate reporting and make that option more accessible, also to less experienced users.

Differences and similarities between View, Function, and Stored Procedure

View, Function, and a Stored Procedure are database objects (saved SQL queries) returning a very specific result (table). All are focused on improving database security, usability, and efficiency.

Views

As described above views help return a virtual table allowing user to observe a very specific chunk of the database (addressing query requirements).

Stored Procedures

Stored Procedures are saved queries running a very specific operation. Stored Procedure often are used to run common statements like INSERT, DELETE, UPDATE. Based on predetermined input and output parameters stored procedures are creating substantial performance gains. Using Stored Procedures minimizes the risk of operations run on the database as users are granted permissions only to pre-coded statements instead of underlying tables.

Functions

Functions are, like Stored Procedures pre-compiled queries executed whenever called. Function must return a value and cannot modify the data received as parameters.

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<https://github.com/MZegota/DBFoundations>

Differences overview

Procedures allow for SELECT and Insert, Update, Delete statements. Views and Functions allow only SELECT Statements. Stored Procedures don't need to return a value, they allow for NULL and zero as a result. Functions and Views allow for input only parameters. Stored Procedures can include input and output parameters being defined. Views and Functions can be called from Stored Procedures, Procedures cannot be called from Functions. Functions and Views can use WHERE/HAVING sections, Stored Procedures don't allow that.

Summary

Based on the video and reading materials provided for the sixth session of our course, I reviewed answers to questions on use of SQL views. I presented use cases for the views and main similarities between Views, Functions, and Stored Procedures.