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Course: IT FDN 130 A Au 22: Foundations Of Databases & SQL Programming

Github URL: <https://github.com/seanpo206/ITFnd130>

Assignment 06 – DB Foundation

Introduction

A SQL view is one of a number of abstract layers commonly used by SQL administrators. A SQL view is a specific version of a table that is generated in real time using one or more SELECT statements that is stored within the database itself.

When to Use a SQL View

The primary purpose behind SQL views is to:

1. Simplify and hide complex SQL code by allowing that code to be used and reused by self and/or others.
2. Since views are stored within the database itself, views offer yet another alternative location to store SQL code.
3. Protect the raw data within a database from intended or unintended corruption
4. Secure sensitive data away from end users by creating a view that excludes said sensitive data. Additionally, one can assign permissions to that view via group assignments.
5. Offer enhanced and/or specialized presentation of raw data.

The differences and similarities between a View, Function, and Stored Procedure

Views, functions and stored procedures have both similarities and differences. In order to explain this, it is first important to define each.

View: is a SQL process where simple and complex SELECT statements can be saved within the database itself. Views are not executable, but can be referenced in subsequent SQL coding. Additionally, views can restrict access to sensitive data by omitting it. Lastly, views can simplify and make subsequent SQL code that utilizes those views less cluttered and thus simplified.

Function: is a SQL process where columns of input are accepted, some action is performed on that input, and results are returned in light of those actions. The actionable results are called values. There are two types of functions.

1. Values returned as a table
2. A single value

Functions are saved within the database itself.

Stored Procedure: is a SQL process where you can save a simple or complex set of SQL coding that can act as a executable. Stored procedures are also saved within the database itself. The primary purpose of a stored procedure is to establish SQL code used in rote to make it automated and easily referable when writing larger queries.

The primary similarities and differences between a view, function and stored procedure are

	View	Function	Stored Proc.
Stored in DB	✓	✓	✓
Can execute SQL code			✓
Primary objective is to create & manage actionable values		✓	
Query Language	✓	✓	
Programming Language		✓	✓
Recommended to include Order By clause			✓

Summary

Abstract layers can be valuable tools in manipulating data. Three tools that are essential in creating and managing abstract layers are views, functions and stored procedures. There are multiple similarities and differences between these three. The primary similarity is that all three can be saved within the database itself.