Deepika Tripathi

May 23 ,2022

SQL Views

Assignment06

**SQL Views**

# Introduction

As your SQL Select statements become complex, you may decide to save them in a text file for repeated use. (A text file with SQL code in it is called a SQL Script!) Alternatively, you can save your Select statements within a database's file as a SQL View, Function, or Stored Procedure.

SQL Views and Functions are "Named" Select statements whose code is stored in a database. Stored Procedures are similar, but they are not restricted to just Select statements.

# SQL Views

A view is nothing more than a SQL statement that is stored in the database with an associated name. A view is a composition of a table in the form of a predefined SQL query. A view can contain all rows of a table or select rows from a table. A view can be created from one or many tables which depends on the written SQL query to create a view.

Views, which are a type of virtual tables allow users to do the following −

* Structure data in a way that users or classes of users find natural or intuitive.
* Restrict access to the data in such a way that a user can see and (sometimes) modify exactly what they need and no more.
* Summarize data from various tables which can be used to generate reports.

Database views are created using the CREATE VIEW statement. Views can be created from a single table, multiple tables or another view.

To create a view, a user must have the appropriate system privilege according to the specific implementation. The basic CREATE VIEW syntax is as follows –

Text

Description automatically generated

***Fig1: Basic syntax of*** SQL View

Any view that is used to extract data for reporting purposes is called a "Reporting View." They can save simple, or complex Select statements, but more complex ones are typical.

Here is an example of a view saving a complex select statement. The select statement includes a join, column aliases, concatenation, and the choose function.

Create -- Drop

View vAuthorsByTitles

AS

Select

[Title] = T.title

,[Author]= A.au\_fname + ' ' + A.au\_lname

,[Order On Title] = Choose(TA.au\_ord, '1st', '2nd', '3rd')

From pubs.dbo.titles as T

Join pubs.dbo.titleauthor as TA

On T.title\_id = TA.title\_id

Join pubs.dbo.authors as A

On TA.au\_id = A.au\_id

***Fig2: Use of*** SQL View with Join, column aliases, Concatenation & function

# **Differences and similarities between a View, Function, and Stored Procedure**.

## View And Functions

In addition to SQL Server's built-in functions, you can create custom functions. These are often called User Defined Functions or just UDFs. There are two basic types of functions; functions that return a table of values and functions that return a single value.

* Functions and Views are similar as both can return a table of values.
* Unlike views, functions can use parameters to change the results of the query
* Unlike views, you can create UDFs to return a single (scalar) value as an expression.

## Stored Procedure

A stored procedure is a prepared SQL code that you can save, so the code can be reused repeatedly. So, if you have an SQL query that you write repeatedly, save it as a stored procedure, and then just call it to execute it.

You can also pass parameters to a stored procedure, so that the stored procedure can act based on the parameter value(s) that is passed.

Graphical user interface, text, application

Description automatically generated

***Fig3: Basic syntax of*** SQL Stored Procedures

# Summary

SQL Views, Function & Stored Procedures are used to retrieve data from the database. A view is a composition of a table in the form of a predefined SQL query. A view can contain all rows of a table or select rows from a table.