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

Assignment06

<https://github.com/HombreSQL/FndSQLClassIT>

# SQL View, Function, Stored Procedure

## Intro

In this article, I will explain when you would use a SQL View and talk about the differences and similarities between View, Function, and Stored Procedure.

## 1. SQL View

"A view is nothing more than a SQL statement that is stored in the database with an associated name. A view is actually 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."

(tutorialspoint, <https://www.tutorialspoint.com/sql/sql-using-views.htm>, 2022) (External Site)

## 2. View, Function, and Stored Procedure

*Similarities and Differences between View, Function, and Stored Procedure:*

Like **Views or Functions, Stored Procedures** (Sprocs or Procs) are a **Named Set of SQL Statements**.

Creating Views, Functions, and Stored Procedures are all similar. (Figure 1)

```

-- View
Create View vProducts
AS
    Select ProductID, ProductName, CurrentPrice = UnitPrice, CategoryID, Discontinued
    From Northwind.dbo.Products;
go
Select * from vProducts;
Go

-- Function
Create Function dbo.fProducts() # Using the dbo prefix is common in Microsoft SQL Server
Returns Table
AS
    Return(
        Select ProductID, ProductName, CategoryId, Discontinued
        From Northwind.dbo.Products
    );
go
Select * from dbo.fProducts();
Go

-- Stored Procedure
Create Procedure pProducts()
AS
    Select ProductID, ProductName, CategoryId, Discontinued
    From Northwind.dbo.Products;
go
Execute pProducts();
Go

```

**Figure 1: CREATE VIEW, FUNCTION, STORED PROCEDURE Syntax.**

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

**View** is simple showcasing data stored in the database tables whereas a **Stored Procedure** is a group of statements that can be executed.

**Views** and **Functions** almost serve the same purpose. But the major difference is that **Function** can accept parameters, whereas **Views** cannot. And also the output of the **User Defined Function** can be directly used in the SELECT clause, whereas you cannot do it with a View.

**Views** and **Stored Procedures** enhance security by ensuring that operations being performed are allowed by the user.

## Summary

Views, Functions, Stored Procedures are a **Named Set of SQL Statements**.