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8/16//25

IT FDN 130 Foundations of Databases and SQL Programming

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

Introduction

This document will explain when to use a View and the differences and similarities between a View, Function and Stored Procedure.

When to Use A View

A view is a way to save code without having to type it out again. We can create a view for the code below to make the data easier to extract in the future.

```
SELECT Categories.CategoryName, Products.ProductName, Products.UnitPrice
FROM dbo.Categories JOIN dbo.Products
ON Categories.CategoryID = Products.CategoryID
ORDER BY CategoryName, ProductName
```

If we make it into a view next time:

```
CREATE or ALTER VIEW vProductsByCategories
WITH SCHEMABINDING
AS
SELECT TOP 100000 Categories.CategoryName, Products.ProductName, Products.UnitPrice
FROM dbo.Categories JOIN dbo.Products
ON Categories.CategoryID = Products.CategoryID
ORDER BY CategoryName, ProductName
```

Then we can access the data much more easily:

```
SELECT * FROM vProductsByCategories
```

This method also adds an abstraction layer, which helps in hiding complexity for the user and the ability to change what is behind the data without changing the interface (Root, Randal. "Creating Views Functions And Stored Procedures Part 1." *Youtube*, 2020, https://www.youtube.com/watch?v=N_rPXaj-74o&list=PLfycUyp06LG8cefs0gA38wO7nFrRjD5Ad&index=1. Accessed 16 8 2025.).

Views, Functions and Stored Procedures

Views, Functions and Stored Procedures are all tactics for not having to rewrite code, but they work in different ways. A View is simply a saved query that is saved and named in the database.

A Function is similar to a view, but with a few key differences. Functions can return a single value as the result of a calculation. Functions also can create parameters which are built into the query, whereas Views cannot. However, a WHERE clause can be used with a View to produce the same result.

A Stored Procedure is also similar to a View and Function, but with a few differences. Firstly, a Stored Procedure is executed rather than selected. Because of this execution, a Stored Procedure can make tables, inserts, updates, deleted, etc. That's why with complex reporting, Stored Procedures could very well be preferred.

The tie that binds all these tools is not repeating work unnecessarily. They let you save queries or statements into smaller packages that can be used on demand.

Summary

This document explored Views, when to use them and their purpose. Additionally it explained the similarities and differences between Views, Functions and Stored Procedures.