SQL Views, Functions, and Stored Procedures

# Introduction

Views, Functions, and Stored Procedures are all important tools that allow a database designer or owner to equip other database users with pre-programmed Select statements and other actions while still maintaining data integrity and functional reliability. They can be especially helpful in an environment where you anticipate the need to run specific queries frequently.

# SQL Views

Views can be used to save complex code for frequent reuse, and in specific are for saving Select statements. You can select against a view just like “Select \* From…” table format. Views are often used as the basis for applications, so that the original database tables can be updated or revised without having direct impact on the application, while the view can be simply updated to maintain consistency in the view output.

Other points:

* A base view is often created first and represents the table itself. Be sure to title your views with a “v” suffix to clearly communicate that it is not an original database table.
* While any sort or order by statement should not necessarily be stored in the view itself as this may be wasteful if re-ordering. That said, it is becoming more common in industry and one must be familiar with it. To add an order by statement in the view, you must include “Select TOP(100) Percent” first.
* SchemaBinding is always needed to prevent the deletion of underlying tables or attributes that the a given View relies on.
* Using a view is a great way to deny users access to any altering of the tables themselves, but still give them full read access to all the data.

# View vs. Function vs. Stored Procedure

All three allow you to save Select statements and are all programming constructs, but the capabilities increase from view to function to stored procedure.

Function can be treated as a table or single value, as opposed to the View limitation as table only. Parameters can set up into functions however, allowing you pass in arguments to return individualized results in real time.

Stored Procedures can perform actions like insert, delete, and update data. As such, when calling on a Stored Procedure you “Execute” it instead of Select. Procedures are much more far reaching in that they also allow you to call multiple statements in a single procedure and are not necessarily simple single value or single table outputs.

# Conclusions

All three of these programming constracts have the proper time and place for use, and the functionalities of each overlap to some extent. Above all else, utilizing clean naming conventions and aliases allow you to accurately execute and update the SQL query s.cript