

SQL Tuning Assignment

1. View and stored procedure

A view is a stored SELECT statement. Views are queried like tables and do not accept parameters. Views do not accept parameters.

Assuming we have following two tables:

Table: User

userId	firstName	lastName	gender
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Table: Profile

profileId	userId	profileDescription
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We can create a view like this:

```
CREATE VIEW vw_user_profile
AS
    SELECT u.userId, u.firstName, u.lastName, p. profileDescription from User u left join
    Profile p on u.userId = p.userId
GO
```

Then this view can be simply treated like a table:

```
SELECT * from vw_user_profile;
```

A stored procedure is one or more Transact-SQL statements that execute as a batch. Stored procedures are more complex than views. Stored procedures can have both input and output parameters and can contain statements like IF and WHILE to control the flow of the code. It is good programming practice to use stored procedures for all repetitive actions in the database.

example:

```
CREATE PROCEDURE user_profile_procedure @ID int
AS
BEGIN
    PRINT 'Test Procedure...';
    SELECT profile_description FROM vw_user_profile WHERE user_id = @ID
END
GO
```

Later on, we can simply do:

```
EXECUTE user_profile_procedure 234;
```

2. Materialized view VS. view

View is a virtual table, Views can be created from one or more than one base tables or views. It is not precomputed and stored on the disk, instead a View is computed each time when it is used or accessed. Whenever a view is used the query expression in Create View command is executed at that particular moment. Hence, you always get the updated data in a View.

Materialized View is the Physical copy of the original base tables. The Materialized View is like a snapshot or picture of the original base tables. Unlike View, the Materialized Views are precomputed and stored on a disk, and they are not updated each time they are used. Instead, the materialized view has to be updated manually or with the help of triggers.

3. Reference

- <https://docs.microsoft.com/en-us/sql/t-sql/lesson-2-3-creating-views-and-stored-procedures?redirectedfrom=MSDN>
- <https://dev.to/rachelsoderberg/comparing-sql-views-and-stored-procedures-4pfb>
- <https://stackoverflow.com/questions/5194995/what-is-the-difference-between-a-stored-procedure-and-a-view>
- <https://techdifferences.com/difference-between-view-and-materialized-view.html>
- <https://stackoverflow.com/questions/93539/what-is-the-difference-between-views-and-materialized-views-in-oracle/93579>