**SQL VIEWS**

Views in SQL are a type of virtual table that simplifies user interactions with data across one or more tables. Unlike traditional tables, a view in SQL does not store data on disk; instead, it dynamically retrieves data based on a predefined query each time it is accessed.

SQL views are especially useful for managing complex queries, enhancing security, and presenting data in a more simplified format. In this guide, we will cover the SQL CREATE VIEW statement, as well as how to update and delete views, and how to use the WITH CHECK OPTION clause.

**Creating Views**

We can create a view using the CREATE VIEW statement. A View can be created from a single table or multiple tables.

Syntax:

CREATE VIEW view\_name AS

SELECT column1, column2.....

FROM table\_name

WHERE condition;

**Parameters**

* view\_name: Name for the View
* table\_name: Name of the table
* condition: Condition to select rows

Creating views from a single table

CREATE VIEW DetailsView AS

SELECT NAME, ADDRESS

FROM StudentDetails

WHERE S\_ID < 5;

Procedure:

* view\_name: Name for the View
* table\_name: Name of the table
* condition: Condition to select rows

**Creating Views for multiple tables**

In this example we will create a View named MarksView from two tables StudentDetails and StudentMarks. To create a View from multiple tables we can simply include multiple tables in the [SELECT](https://www.geeksforgeeks.org/sql-select-query/) statement. Query:

Syntax:

CREATE VIEW MarksView AS

SELECT StudentDetails.NAME, StudentDetails.ADDRESS, StudentMarks.MARKS

FROM StudentDetails, StudentMarks

WHERE StudentDetails.NAME = StudentMarks.NAME;

**Deleting Views In SQL**

Syntax:

**DROP VIEW** view\_name;

**Updating View In SQL**

Syntax:

**UPDATE** view\_name

**SET** column1 = value1, column2 = value2...., columnN = valueN

**WHERE** [condition];

**Deleting Row in View**

Deleting rows from a view is also as simple as deleting rows from a table. We can use the DELETE statement of SQL to delete rows from a view. Also deleting a row from a view first deletes the row from the actual table and the change is then reflected in the view.

Syntax:

**DELETE FROM** DetailsView

**WHERE** NAME="Suresh";

**WITH CHECK OPTION clause:**

The WITH CHECK OPTION clause in SQL is a very useful clause for views. It applies to an updatable view.

The WITH CHECK OPTION clause is used to prevent data modification (using INSERT or UPDATE) if the condition in the WHERE clause in the CREATE VIEW statement is not satisfied.

If we have used the WITH CHECK OPTION clause in the CREATE VIEW statement, and if the UPDATE or INSERT clause does not satisfy the conditions then they will return an error.

Syntax:

CREATE VIEW SampleView AS

SELECT S\_ID, NAME

FROM StudentDetails

WHERE NAME IS NOT NULL

WITH CHECK OPTION;

For instance, if we now try to insert a new row with a null value in the NAME column then it will give an error because the view is created with the condition for the NAME column as NOT NULL. For example, though the View is updatable then also the below query for this View is not valid:

## **Uses of a View**

A good database should contain views for the given reasons:

1. Restricting data access – Views provide an additional level of table security by restricting access to a predetermined set of rows and columns of a table.
2. Hiding data complexity – A view can hide the complexity that exists in multiple joined tables.
3. Simplify commands for the user – Views allow the user to select information from multiple tables without requiring the users to actually know how to perform a join.
4. Store complex queries – Views can be used to store complex queries.
5. Rename Columns – Views can also be used to rename the columns without affecting the base tables provided the number of columns in view must match the number of columns specified in a select statement. Thus, renaming helps to hide the names of the columns of the base tables.
6. Multiple view facility – Different views can be created on the same table for different users.