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IT FDN 130 A
Assignment 06

SQL View

When to Use a SQL View

A virtual table based on the output of a SELECT query is represented by a SQL View. Instead of physically storing data, it offers a means of streamlining intricate searches, improving security, and offering a standardized interface to the underlying data.

When?

- Simplify Complex Queries: If you have a complicated query that you need to perform often, you may make it simpler by enclosing it in a view.
  Example: XXX AS X
- Provide Security: A view can be used to restrict which users can see particular table columns.
- Data Abstraction: By hiding the underlying table structure from the user, Views may be utilized to provide a condensed or personalized version of the data.
- Aggregation and Summarization: If you frequently need to combine many tables together or compute aggregates (such as sums, averages, etc.), you may use a view to capture such computations.
  Example:
  FROM XXXXX AS a
  JOIN XXXXXX AS b
  ON a.XXXXXX= b.XXXXXX
- Consistent Data Interface: Even if the underlying tables change, a view may offer a reliable and consistent interface for working with data.

Example：

```
CREATE VIEW XXXXXXXX
AS
SELECT XXXX, XXXXXX, XXXXXX
FROM XXXXXXX
ORDER BY 1, 2, 3; (CAN CHANGE)
Go
```

View, Function, and Stored Procedure:

Different:

Feature	View	Function	Stored Procedure
Purpose	Virtual table for querying	Encapsulates business logic and calculations	Executes actions (modifies data, logic)
Return Type	Result set (table)	Scalar value or table (in case of table-valued function)	No direct return, but can output results
Side Effects	No (except in updatable views)	None (cannot modify data)	Yes (can modify data via INSERT, UPDATE, etc.)
Usage	Simplifies complex queries	Used for calculations and returning values	Used for performing a series of actions or tasks

Similar:

- In SQL, they are all reusable objects.
- To prevent writing the same code repeatedly, they all encapsulate some logic.
- SQL code may be modularized and organized using all of these.