
# MySQL - RDBMS

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# Sub query

- Sub queries with UPDATE and DELETE are not supported in all RDBMS.
- In MySQL, Sub-queries in UPDATE/DELETE is allowed, but sub-query should not SELECT from the same table, on which UPDATE/DELETE operation is in progress.

# Views

- RDBMS view represents view (projection) of the data.
- View is based on SELECT statement.
- Typically it is restricted view of the data (limited rows or columns) from one or more tables (joins and/or sub-queries) or summary of the data (grouping).
- Data of view is not stored on server hard-disk; but its SELECT statement is stored in compiled form. It speed up execution of view. → MySQL views.

# Views - MySQL

DML ✓ DML ✗

- Views are of two types: Simple view and Complex view
- Usually if view contains computed columns, group by, joins or sub-queries, then the views are said to be complex. DML operations are not supported on these views.
- DML operations on view affects underlying table.
- View can be created with CHECK OPTION to ensure that DML operations can be performed only the data visible in that view.

# View

- Views can be differentiated with: SHOW FULL TABLES.
- Views can be dropped with DROP VIEW statement.
- View can be based on another view.

→ Can also be altered with ALTER VIEW.

- Applications of views
  - Security: Providing limited access to the data.
  - Hide source code of the table.
  - Simplifies complex queries.

## View types:

Simple view

Complex view

Inline view — derived tables

} mysql

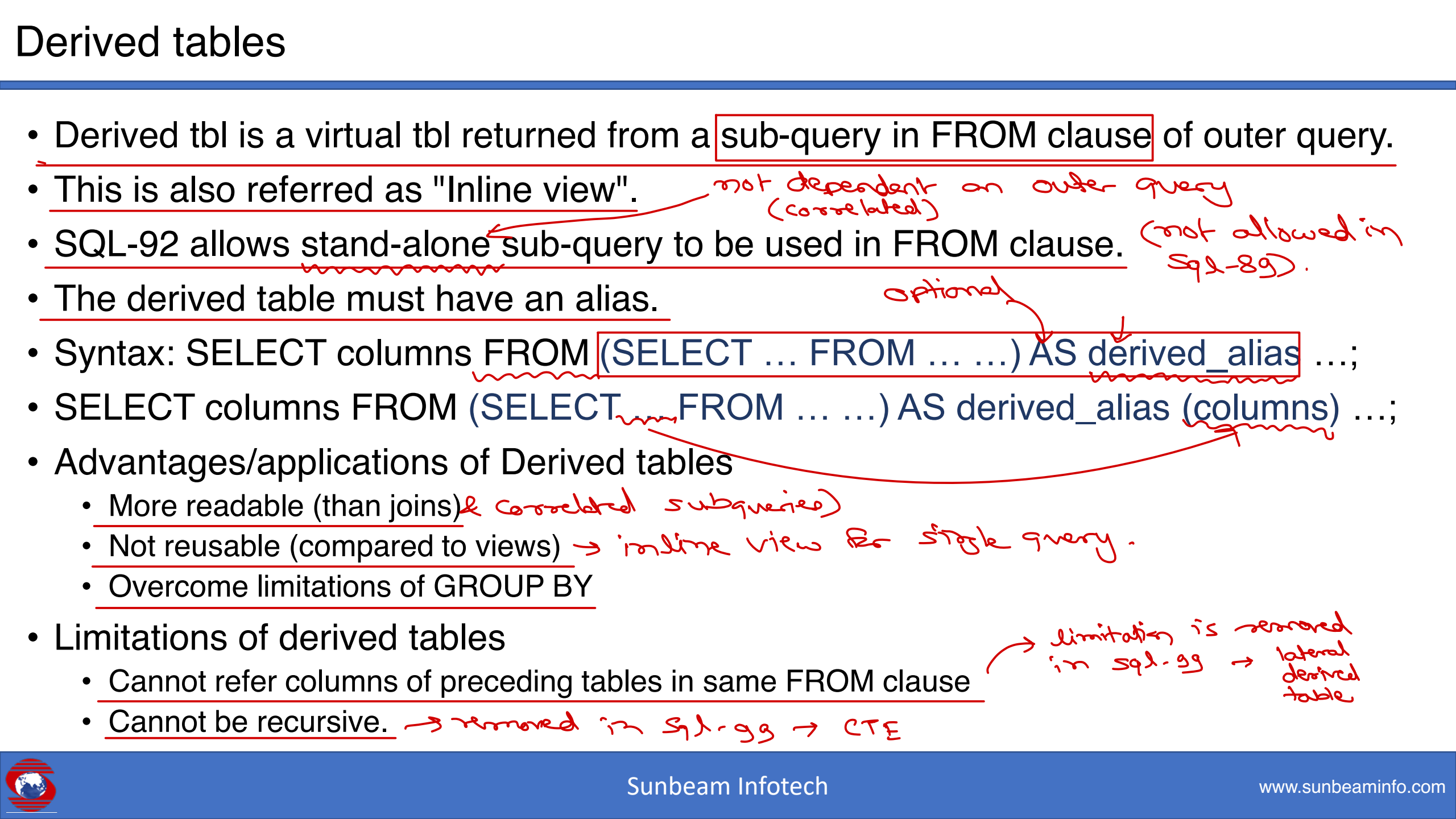
Materialized view

} Oracle, Hive, MS-SQL

↳ CREATE MATERIALIZED VIEW viewName AS SELECT ... ;

# Derived tables

- Derived tbl is a virtual tbl returned from a sub-query in FROM clause of outer query.
- This is also referred as "Inline view".
- SQL-92 allows stand-alone sub-query to be used in FROM clause.
- The derived table must have an alias.
- Syntax: SELECT columns FROM (SELECT … FROM … …) AS derived_alias …;
- SELECT columns FROM (SELECT … FROM … …) AS derived_alias (columns) …;
- Advantages/applications of Derived tables
  - More readable (than joins)
  - Not reusable (compared to views)
  - Overcome limitations of GROUP BY
- Limitations of derived tables
  - Cannot refer columns of preceding tables in same FROM clause
  - Cannot be recursive.




# Thank you!

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