Introduction to the inline view in Oracle

An inline view is not a real [view](https://www.oracletutorial.com/oracle-view/) but a [subquery](https://www.oracletutorial.com/oracle-basics/oracle-subquery/) in the FROM clause of a [SELECT](https://www.oracletutorial.com/oracle-basics/oracle-select/) statement. Consider the following SELECT statement:

SELECT

column\_list

FROM

table;

Code language: SQL (Structured Query Language) (sql)

In the FROM clause, you can specify a table from which you want to query data. Besides a table, you can use a [subquery](https://www.oracletutorial.com/oracle-basics/oracle-subquery/) as shown in the following example:

SELECT

column\_list

FROM

(

SELECT

\*

FROM

table\_name

) t;

The subquery specified in the FROM clause of a query is called an inline view. Because an inline view can replace a table in a query, it is also called a derived table. Sometimes, you may hear the term subselect, which is the same meaning as the inline view.

Let’s use the products table in the [sample database](https://www.oracletutorial.com/getting-started/oracle-sample-database/) for the demonstration.



### **A) simple Oracle inline view example**

The following [query](https://www.oracletutorial.com/oracle-basics/oracle-select/) retrieves the top 10 most expensive products from the products table:

SELECT

\*

FROM

(

SELECT

product\_id,

product\_name,

list\_price

FROM

products

ORDER BY

list\_price DESC

)

WHERE

ROWNUM <= 10;

### **B) Inline view joins with a table example**

The following example [joins](https://www.oracletutorial.com/oracle-basics/oracle-inner-join/) an inline view with a table in the FROM clause. It returns the product categories and the highest list price of products in each category:

SELECT

category\_name,

max\_list\_price

FROM

product\_categories a,

(

SELECT

category\_id,

MAX( list\_price ) max\_list\_price

FROM

products

GROUP BY

category\_id

) b

WHERE

a.category\_id = b.category\_id

ORDER BY

category\_name;

### **C) LATERAL inline view example**

Consider the following statement:

Fortunately, since Oracle 12c, by using the LATERAL keyword, an inline view can reference the table on the left of the inline view definition in the FROM clause as shown in the following example:

SELECT

product\_name,

category\_name

FROM

products p,

LATERAL(

SELECT

\*

FROM

product\_categories c

WHERE

c.category\_id = p.category\_id

)

ORDER BY

product\_name;

### **D) Oracle inline view: data manipulation examples**

You can issue data manipulation statement such as [INSERT](https://www.oracletutorial.com/oracle-basics/oracle-insert/), [UPDATE](https://www.oracletutorial.com/oracle-basics/oracle-update/), and [DELETE](https://www.oracletutorial.com/oracle-basics/oracle-delete/) against [updatable](https://www.oracletutorial.com/oracle-view/oracle-updatable-view/) inline view.

For example, the following statement increases the list prices of CPU products by 15%:

UPDATE

(

SELECT

list\_price

FROM

products

INNER JOIN product\_categories using (category\_id)

WHERE

category\_name = 'CPU'

)

SET

list\_price = list\_price \* 1.15;

Code language: SQL (Structured Query Language) (sql)

And the following example deletes all video cards with the list price less than 1,000:

DELETE

(

SELECT

list\_price

FROM

products

INNER JOIN product\_categories

USING(category\_id)

WHERE

category\_name = 'Video Card'

)

WHERE

list\_price < 1000;

Code language: SQL (Structured Query Language) (sql)

In this tutorial, you have learned about the inline view in Oracle to simplify complex queries and condense several separate queries into one query.

**Difference between RowNum and RowId**

| **ROWID** | **ROWNUM** |
| --- | --- |
| ROWID is representative of the allocation of physical memory. | ROWNUM is representative of the sequence allocated to any data retrieval bunch. |
| ROWID is the permanent identity or address of a row. | ROWNUM is a temporarily assigned sequence to a row. |
| ROWID is a 16-digit Hexadecimal number in the format BBBBBBBB.RRRR.FFFF. Here B is Block, R is Row, and F is File. | ROWNUM is a numeric sequence number. |
| The output of ROWID is the physical address of a row. | The output of ROWNUM is the sequence number of a row. |
| ROWID helps to retrieve data from a row. | ROWNUM allows retrieving a row containing data. |
| ROWID comprises of the position of the row, data object number, the data block in the data file, as well as data file in which row resides. | ROWNUM comprises of sequence numbers of the rows. |
| Oracle automatically generates a unique ROWID at the time of insertion of a row. | ROWNUM is a dynamic value that is retrieved automatically with specific statement outputs. |
| The fastest way of accessing data is by using ROWID. | Accessing data is unrelated to ROWNUM. |