

NATURAL JOIN in Oracle

What is NATURAL JOIN in Oracle?

A Natural Join in Oracle is a SQL query technique that combines row(s) from two or more Tables, View or Materialized View.

A Natural Join performs join based on column(s) of the tables which are participating in a join that have the same column name and data type. To perform this join operation, the Natural Join keyword explicitly is used.

A NATURAL JOIN is a JOIN operation that creates an implicit join clause for you based on the common columns in the two tables being joined.

Common columns are columns that have the same name in both tables. A NATURAL JOIN can be an INNER join, a LEFT OUTER join, or a RIGHT OUTER join. The default is an INNER join.

If the SELECT statement in which the NATURAL JOIN operation appears has an asterisk (*) in the select list, the asterisk will be expanded to the following list of columns (in this order):

1. All the common columns
2. Every column in the first (left) table that is not a common column
3. Every column in the second (right) table that is not a common column
4. An asterisk qualified by a table name (for example, COUNTRIES*) will be expanded to every column of that table that is not a common column.

Rules and Restrictions of Natural Join in Oracle

Given below are rules and regulations:

1. The Natural Join does not require to pass join condition explicitly (common column condition), it finds automatically common column name and data type and performs join.
2. If all participating tables, more than one column have the same name and data type then Natural Join would use them as well for joining conditions.

3. The column(s) is/are used in Natural Join can't have a column qualifier.

Oracle Natural Join Example:

The Employee table is joined to the Department table by the DepartmentId column, which is the only column of the same name in both the tables. If other common columns were present, the join would have used them all.

```
SELECT Name, Salary, Gender, Age, City, DepartmentName
FROM Employee
NATURAL JOIN Department;
```

Natural Joins with a WHERE Clause

```
SELECT Name, Salary, Gender, Age, City, DepartmentName
FROM Employee
NATURAL JOIN Department
WHERE Gender = 'Male';
```

Difference between Natural JOIN and INNER JOIN in Oracle:

NATURAL JOIN:

1. Natural Join joins two tables based on the same attribute name and datatypes.
2. In Natural Join, the resulting table will contain all the attributes of both the tables but keep only one copy of each common column.
3. In Natural Join, if there is no condition specified then it returns the rows based on the common column.
4. Syntax: `SELECT * FROM table1 NATURAL JOIN table2;`

INNER JOIN:

1. Inner Join joins two tables on the basis of the column which is explicitly specified in the ON clause.
2. In Inner Join, the resulting table will contain all the attributes of both the tables including duplicate columns also.
3. In Inner Join, only those records will return which exists in both the tables.
4. Syntax: `SELECT * FROM table1 INNER JOIN table2 ON table1.Column_Name = table2.Column_Name;`