MySQL DISTINCT

Here you will learn how to use the MySQL DISTINCT clause in the SELECT statement to eliminate duplicate rows in a result set.

## **Introduction to MySQL DISTINCT clause**

When querying data from a table, you may get duplicate rows. To remove these duplicate rows, you use the DISTINCT clause in the SELECT statement.

Here’s the syntax of the DISTINCT clause:

SELECT DISTINCT

select\_list

FROM

table\_name

WHERE

search\_condition

ORDER BY

sort\_expression;

In this syntax, you specify one or more columns that you want to select distinct values after the SELECT DISTINCT keywords.

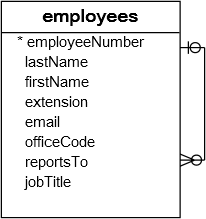
If you specify one column, the DISTINCT clause will evaluate the uniqueness of rows based on the values of that column.

However, if you specify two or more columns, the DISTINCT clause will use the values of these columns to evaluate the uniqueness of the rows.

When executing the SELECT statement with the DISTINCT clause, MySQL evaluates the DISTINCT clause after the FROM, WHERE, and SELECT clause and before the ORDER BY clause:

## **MySQL DISTINCT clause examples**

We’ll use the employees table from the sample database:



First, select the last names from the employees table using the following SELECT statement:

SELECT

lastname

FROM

employees

ORDER BY

lastname;

+-----------+

| lastname |

+-----------+

| Bondur |

| Bondur |

| Bott |

| Bow |

| Castillo |

| Firrelli |

| Firrelli |

| Fixter |

....

| Jones |

| Patterson |

| Patterson |

| Patterson |

| Thompson |

...

+-----------+

23 rows in set (0.00 sec)

As shown clearly in the output, some employees have the same last names e.g.,Bondur,Firrelli .

Second, select unique last names by adding the DISTINCT clause like this:

SELECT

DISTINCT lastname

FROM

employees

ORDER BY

lastname;

As you can see clearly from the output, the DISTINCT clause removes the duplicate last names from the result set.

+-----------+

| lastname |

+-----------+

| Bondur |

| Bott |

| Bow |

| Castillo |

| Firrelli |

...

| Nishi |

| Patterson |

| Thompson |

| Tseng |

| Vanauf |

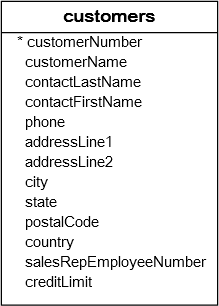
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19 rows in set (0.01 sec)

## **MySQL DISTINCT and NULL values**

When you specify a column that has NULL values in the DISTINCT clause, the DISTINCT clause will keep only one NULL value because it considers all NULL values are the same.

For example, the state column in the customers table has NULL values.



When you use the DISTINCT clause to query the states, you will see distinct states and NULL as follows:

SELECT DISTINCT state

FROM customers;

+---------------+

| state |

+---------------+

| NULL |

| NV |

| Victoria |

| CA |

| NY |

| PA |

...

| Co. Cork |

| Pretoria |

| NH |

| Tokyo |

+---------------+

19 rows in set (0.00 sec)

## **MySQL DISTINCT with multiple columns**

When you specify multiple columns in the DISTINCT clause, the DISTINCT clause will use the combination of values in these columns to determine the uniqueness of the row in the result set.

For example, to get a unique combination of city and state from the customers table, you use the following query:

SELECT DISTINCT

state, city

FROM

customers

WHERE

state IS NOT NULL

ORDER BY

state,

city;

+---------------+----------------+

| state | city |

+---------------+----------------+

| BC | Tsawassen |

| BC | Vancouver |

| CA | Brisbane |

| CA | Burbank |

| CA | Burlingame |

| CA | Glendale |

| CA | Los Angeles |

| CA | Pasadena |

| CA | San Diego |

Without the DISTINCT clause, you will get the duplicate combination of state and city as follows:

SELECT

state, city

FROM

customers

WHERE

state IS NOT NULL

ORDER BY

state ,

city;

+---------------+----------------+

| state | city |

+---------------+----------------+

| BC | Tsawassen |

| BC | Vancouver |

| CA | Brisbane |

| CA | Burbank |

..

| CA | San Francisco |

| CA | San Francisco |

...

| MA | Boston |

| MA | Boston |

| MA | Brickhaven |

| MA | Brickhaven |

| MA | Brickhaven |

...

| NY | NYC |

| NY | NYC |

| NY | NYC |

| NY | NYC |

| NY | NYC |

## **Summary**

* Use the MySQL DISTINCT clause to remove duplicate rows from the result set returned by the SELECT clause.