MySQL UNION - Complete Tutorial

What is a union?

Unions combine the results from multiple SELECT queries into a consolidated result set.

The only requirement for this to work is that the number of columns should be the same from all the SELECT queries which need to be combined .
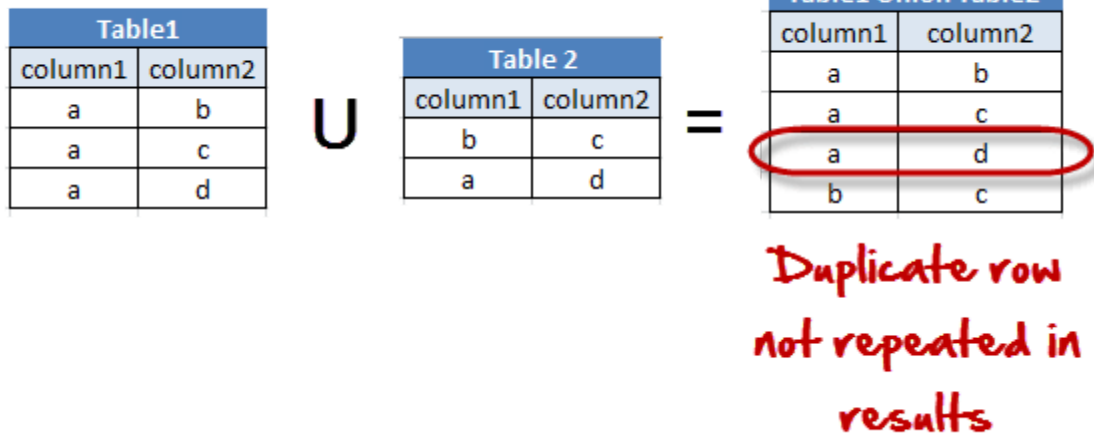
Suppose we have two tables as follows

Let's now create a UNION query to combines both tables using DISTINCT

```
SELECT column1, column2 FROM `table1`
UNION DISTINCT
SELECT  column1,column2  FROM `table2`;
```

Here duplicate rows are removed and only unique rows are returned.

Union-Distinct

Table1	
column1	column2
a	b
a	c
a	d

U

Table 2	
column1	column2
b	c
a	d

=

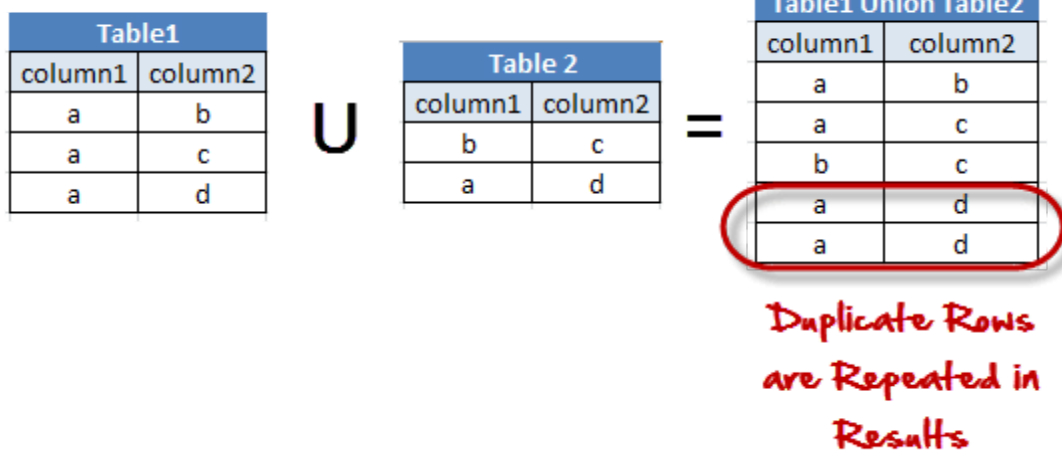| Table1 Union Table2	
column1	column2
a	b
a	c
a	d
b	c

Duplicate row not repeated in results

Note: MySQL uses the DISTINCT clause as default when executing UNION queries if nothing is specified.

Let's now create a UNION query to combines both tables using ALL

```
SELECT `column1`,` column1` FROM `table1`
UNION ALL
SELECT ` column1`,` column1`  FROM `table2`;
```

Here duplicate rows are included and since we use ALL.

Union-ALL

Table1	
column1	column2
a	b
a	c
a	d

U

Table 2	
column1	column2
b	c
a	d

=

Table1 Union Table2	
column1	column2
a	b
a	c
b	c
a	d
a	d

Duplicate Rows are Repeated in Results

Why use unions

Suppose there is a flaw in your database design and you are using two different tables meant for the same purpose. You want to consolidate these two tables into one while omitting any duplicate records from creeping into the new table. You can use UNION in such cases.

Summary

- The UNION command is used to combine more than one SELECT query results into a single query containing rows from all the select queries.
- The number of columns and data types in the SELECT statements must be the same in order for the UNION command to work.
- The DISTINCT clause is used to eliminate duplicate values from the UNION query result set. MySQL uses the DISTINCT clause as the default when executing UNION queries if nothing is specified.
- The ALL clause is used to return all even the duplicate rows in the UNION query.

Practical examples using MySQL workbench

In our myFlixDB let's combine

membership_number and full_names from Members table

with

movie_id and title from movies table

We can use the following query

```
SELECT `membership_number`,`full_names` FROM `members`
UNION
SELECT `movie_id`,`title` FROM `movies`;
```

Executing the above script in MySQL workbench against the myflixdb gives us the following results shown below.

membership_number	full_names
1	Janet Jones
2	Janet Smith Jones

3	Robert Phil
4	Gloria Williams
5	Leonard Hofstadter
6	Sheldon Cooper
7	Rajesh Koothrappali
8	Leslie Winkle
9	Howard Wolowitz
16	67% Guilty
6	Angels and Demons
4	Code Name Black
5	Daddy's Little Girls
7	Davinci Code
2	Forgetting Sarah Marshall
9	Honey mooners
19	movie 3
1	Pirates of the Caribbean 4
18	sample movie
17	The Great Dictator