

# Difference Between JOIN and UNION in SQL

The simple difference between JOIN and UNION in SQL is that JOIN combines the two tables into new columns, whereas UNION adds the data in two tables into new rows.

## Key Differences Between JOIN and UNION in SQL

JOIN	UNION
When performing a JOIN, both tables do not require the same number of columns.	When performing a UNION, select statements must have the same number of columns.
The datatypes of the columns do not have to be the same when performing a JOIN.	When performing a UNION, the datatypes of the columns should be the same.
JOIN connects tables based on their logical relationship to one another.	UNION is used to combine multiple select queries into a single result set.
The JOIN clause is classified into four types: LEFT, RIGHT, FULL OUTER, and INNER JOIN.	There are two major types of the UNION clause- the UNION and the UNION ALL.
JOIN is commonly used to combine data from multiple tables.	UNION is commonly used to combine data from multiple select queries.

## JOIN and UNION in SQL

JOIN and UNION are two important clauses in SQL. Both are used to combine data from two or more tables. The usage of each clause differs according to the usage of the clause. Let us understand both JOIN and UNION clauses in SQL in detail.

### What is JOIN in SQL?

You can retrieve data from two or more tables using JOIN based on logical relationships between the tables. JOIN specifies how SQL Server should use data from one table to select rows from another. A JOIN condition specifies how two tables in a query are related by:

- Choosing which column from each table will be used for the JOIN. A common JOIN condition specifies a foreign key from one table and its corresponding key in the other table.
- Specifying a logical operator (such as = or >) to be used when comparing column values.

What is UNION in SQL?

The UNION operator joins the results of two or more SELECT command queries into a single distinct result set. This operator removes any duplicates from the combined results. The syntax used for the UNION in SQL is as follows.

```
SELECT column_1, column_2,...column_n
```

```
FROM table_1
```

```
UNION
```

```
SELECT column_1, column_2,...column_n
```

```
FROM table_2;
```

The UNION operator does not permit duplicates, but we can use the UNION ALL clause in SQL if we want duplicates to be present in two or more combinations of SELECT statements.

