

## SQL Joins

Link: <https://www.youtube.com/watch?v=xUsY2jWQa1w&t=95s>

TABLE 1	TABLE 2
1	1
1	1
1	2
2	2
3	4
3	null
3	

Self Join (Default Join):

Fetches values that match to the left table.

Number of rows that will be extracted: 8

Explanation: 1 has 6 matches, 2 has 2 matches, 3 has 0 matches

```
7  -->> INNER Join
8  SELECT *
9  FROM table_1    t1
10 JOIN table_2    t2 on t1.id = t2.id;
11
12
```

Data output   Messages   Notifications

	Id integer	Id integer
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	2	2
8	2	2

Left Join:

Rule of thumb: Left join = inner join + fetch any additional records from left table which is not present in right table

Number of rows that will be extracted: 11 (8+3)

Explanation: inner[1 has 6 matches, 2 has 2 matches] + 3 has 3 matches in left table.

-->> LEFT Join

```
SELECT *  
FROM table_1      t1  
LEFT JOIN table_2  t2 on t1.id = t2.id;
```

	id integer	id integer
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	2	2
8	2	2
9	3	[null]
10	3	[null]
11	3	[null]

Right Join:

The opposite of Left Join, meaning: Right join = inner join + fetches any additional records from right table which is not present in left table

Number of rows that will be extracted: 10 (8+2)

Explanation: inner[1 has 6 matches, 2 has 2 matches] + 4 has 1 match in right table + null has 1 match in right table

```
23 -->> RIGHT Join  
24 SELECT *  
25 FROM table_1      t1  
26 RIGHT JOIN table_2  t2 on t1.id = t2.id;  
27  
28 right join = inner join + fetches any records from right table which is not present in left table.  
29  
30  
31
```

	id integer	id integer
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	2	2
8	2	2
9	[null]	4
10	[null]	[null]

Full Join:

Full join = inner join

- + fetch additional records from left table which is not present in right table
- + fetch additional records from right table which is not present in left table

Number of rows that will be extracted: 13 (8+2+3)

Explanation: inner[1 has 6 matches, 2 has 2 matches] + 4 has 1 match in the right table + null has 1 match in the right table + 3 has 3 matches in the left table.

```
33 -->> FULL Join
34 SELECT *
35 FROM table_1      t1
36 FULL JOIN table_2  t2 on t1.id = t2.id;
37
38
39 full join = inner join
40     + fetch addiitonal records from left table which is not present in right table
41     + fetch additional records from right table which is not present in left table.
42
43
```

Data output Messages Notifications

	Id integer	Id integer
1	1	1
2	1	1
3	1	1
4	1	1
5	1	1
6	1	1
7	2	2
8	2	2
9	3	[null]
10	3	[null]
11	3	[null]
12	[null]	4
13	[null]	[null]

Successfully run. Total query runtime: 1

Cross Join:

For every record in left table fetches all the records in right table

Number of rows that will be extracted: 42

	TABLE 1	TABLE 2
6	1	1
6	1	1
6	1	2
6	2	2
6	3	4
6	3	null
6	3	