SQL Tutorial

SQL

Agenda

- Inner Join in SQL
- Left Join in SQL
- Right Join in SQL
- Full Join in SQL
- 'Insert Into' Statement
- Update Statement
- Update & Delete Statement
- Merge in SQL

Employee

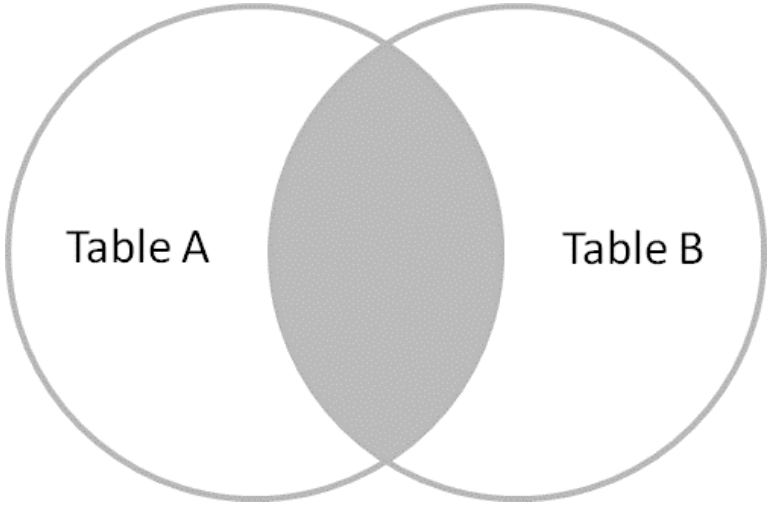
e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	95000	45	Male	Operations
2	Bob	80000	21	Male	Support
3	Anne	125000	25	Female	Analytics
4	Julia	73000	30	Female	Analytics
5	Matt	159000	33	Male	Sales
6	Jeff	112000	27	Male	Operations

Department

d_id	d_name	d_location
1	Content	New York
2	Support	Chicago
3	Analytics	New York
4	Sales	Boston
5	Tech	Dallas
6	Finance	Chicago

Inner Join

Inner Join returns records that have matching values in both tables. It is also known as a simple join.

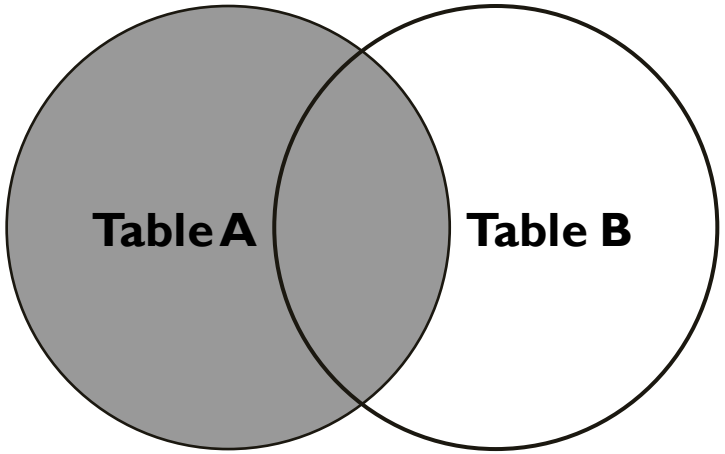


Inner Join: Syntax


```
SELECT columns
FROM table1
INNER JOIN table2
ON table1.column_x = table2.column_y;
```

Left Join

Left Join returns all the records from the left table and the matched records from the right table.

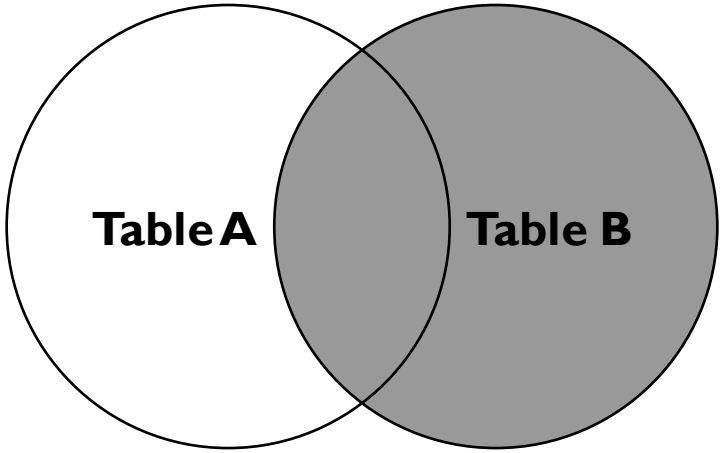


Left Join: Syntax


```
SELECT columns
FROM table1
LEFT JOIN table2
ON table1.column_x = table2.column_y;
```

Right Join

RIGHT JOIN returns all the records from the right table and the matched records from the left table.

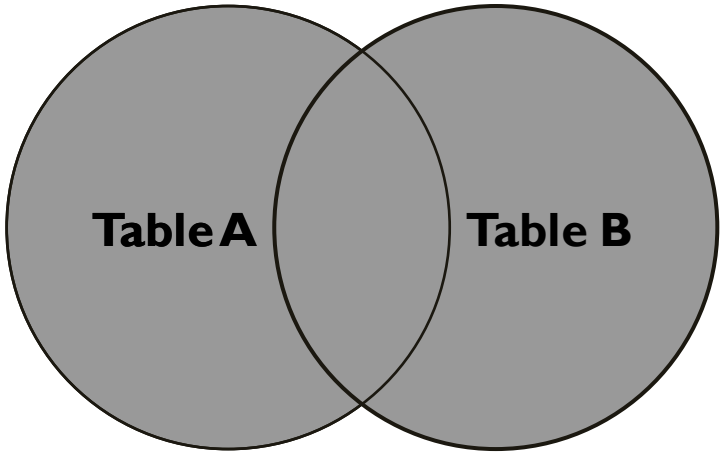


Right Join: Syntax


```
SELECT columns
FROM table1
RIGHT JOIN table2
ON table1.column_x = table2.column_y;
```

Full Join

It returns all rows from the LEFT table and the RIGHT table with NULL values in place where the join condition is not met.



Full Join: Syntax


```
SELECT columns
FROM table1
FULL JOIN table2
ON table1.column_x = table2.column_y;
```

Insert Query: Syntax


```
INSERT INTO table_name
VALUES (value1,
value2,value3,...valueN);
```

Update Statement

Update is used to modify the existing records in a table.

```
UPDATE table_name
SET col1=val1, col2=val2.....
[WHERE condition];
```

Update Using Join

Department Table

d_id	d_name	d_location
1	Content	New York
2	Support	Chicago
3	Analytics	New York
4	Sales	Boston
5	Tech	Dallas
6	Finance	Chicago

Employee Table

e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	93000	40	Male	Operations
3	Anne	140000	25	Female	Analytics
6	Jeff	112000	27	Male	Operations
7	Adam	110000	28	Male	Content
8	Priya	85000	37	Female	Tech

Updated Employee Table

e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	93000	40	Male	Operations
3	Anne	140000	35	Female	Analytics
6	Jeff	112000	27	Male	Operations
7	Adam	110000	38	Male	Content
8	Priya	85000	37	Female	Tech

Delete Using Join

Department Table

d_id	d_name	d_location
1	Content	New York
2	Support	Chicago
3	Analytics	New York
4	Sales	Boston
5	Tech	Dallas
6	Finance	Chicago

Employee Table

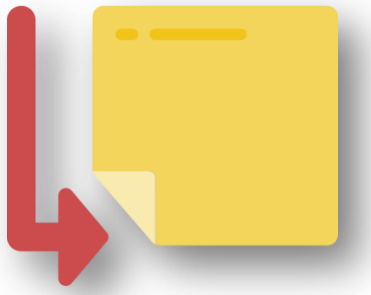
e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	93000	40	Male	Operations
3	Anne	140000	25	Female	Analytics
6	Jeff	112000	27	Male	Operations
7	Adam	110000	28	Male	Content
8	Priya	85000	37	Female	Tech

Modified Employee Table

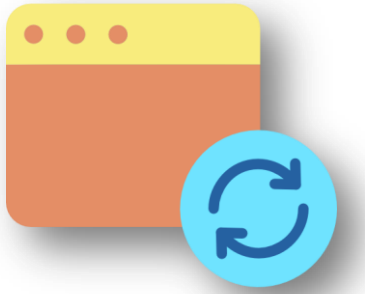
e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	93000	40	Male	Operations
6	Jeff	112000	27	Male	Operations
8	Priya	85000	37	Female	Tech

Merge

MERGE is the combination of INSERT, DELETE, and UPDATE statements.



Insert



Update

Delete

Merge

Source Table

e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	93000	40	Male	Operations
2	Bob	80000	21	Male	Support
3	Anne	130000	25	Female	Analytics
6	Jeff	112000	27	Male	Operations
7	Adam	100000	28	Male	Content
8	Priya	85000	37	Female	Tech

Target Table

e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	95000	45	Male	Operations
2	Bob	80000	21	Male	Support
3	Anne	125000	25	Female	Analytics
4	Julia	73000	30	Female	Analytics
5	Matt	159000	33	Male	Sales
6	Jeff	112000	27	Male	Operations

Merge

Source Table

e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	93000	40	Male	Operations
2	Bob	80000	21	Male	Support
3	Anne	130000	25	Female	Analytics
6	Jeff	112000	27	Male	Operations
7	Adam	100000	28	Male	Content
8	Priya	85000	37	Female	Tech

Target Table

e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	95000	45	Male	Operations
2	Bob	80000	21	Male	Support
3	Anne	125000	25	Female	Analytics
4	Julia	73000	30	Female	Analytics
5	Matt	159000	33	Male	Sales
6	Jeff	112000	27	Male	Operations

Merge


```
MERGE [Target] AS T
USING [Source] AS S
        ON [Join Condition]
WHEN MATCHED
        THEN [Update Statement]
WHEN NOT MATCHED BY TARGET
        THEN [Insert Statement]
WHEN NOT MATCHED BY SOURCE
        THEN [Delete Statement];
```

Merge

Source Table

e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	93000	40	Male	Operations
2	Bob	80000	21	Male	Support
3	Anne	130000	25	Female	Analytics
6	Jeff	112000	27	Male	Operations
7	Adam	100000	28	Male	Content
8	Priya	85000	37	Female	Tech

Employee_Source

Target Table

e_id	e_name	e_salary	e_age	e_gender	e_dept
1	Sam	95000	45	Male	Operations
2	Bob	80000	21	Male	Support
3	Anne	125000	25	Female	Analytics
4	Julia	73000	30	Female	Analytics
5	Matt	159000	33	Male	Sales
6	Jeff	112000	27	Male	Operations

Employee_Target

Quiz

Quiz

With an inner join, we are:

A	Matching information between two or more tables
B	Selecting non-correlated information from two tables
C	Selecting information inside one table
D	None of these

Solution

With an inner join, we are:

A	Matching information between two or more tables
B	Selecting non-correlated information from two tables
C	Selecting information inside one table
D	None of these

Quiz

Which of these is True about right join:

A	Returns all the records from the left table and the matched records from the right table
B	It returns all rows from the LEFT table and the RIGHT table with NULL values in place where the join condition is not met
C	Returns all the records from the right table and the matched records from the left table.
D	None of these

Solution

Which of these is True about right join:

A	Returns all the records from the left table and the matched records from the right table
B	It returns all rows from the LEFT table and the RIGHT table with NULL values in place where the join condition is not met
C	Returns all the records from the right table and the matched records from the left table.
D	None of these

Quiz

Which of the following is the correct UPDATE statement:

A	UPDATE Customers SET CustmerName='Aled' Where empNo=10;
B	UPDATE table Customers SET CustmerName='Aled' Where empNo=10;
C	UPDATE Customers table SET CustmerName='Aled' Where empNo=10;
D	UPDATE Customers SET CustmerName='Aled' as empNo=10;

Solution

Which of the following is the correct UPDATE statement:

A	UPDATE Customers SET CustmerName='Aled' Where empNo=10;
B	UPDATE table Customers SET CustmerName='Aled' Where empNo=10;
C	UPDATE Customers table SET CustmerName='Aled' Where empNo=10;
D	UPDATE Customers SET CustmerName='Aled' as empNo=10;

Quiz

The MERGE statement can have at most …… WHEN MATCHED clauses

A	4
B	3
C	2
D	1

Solution

The MERGE statement can have at most …… WHEN MATCHED clauses

A	4
B	3
C	2
D	1

Thank You