

All the tables that are present in the database:

Tables_in_employee_management_ab
attendance_tracker
department_details
employee_details
employee_work_details
leave_data
payroll
production_data

Employee_details table:

Emp_ID	First_Name	Last_Name	DOB	Specialiation	Phone_no	Email_id	Address	Date_of_Join	Department_ID
1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11
2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21
3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6
4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20
5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30
6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33

Department_details table:

Emp_ID	dept_ID	department_name
1	11	VP
2	21	Analyst
3	6	HR
4	20	Cloud Admin
5	30	Financial Analyst
6	33	Service Desk

Payroll table:

	Salary_ID	Emp_ID	Salary_Amount	Salary_Start_Date	Salary_End_Date
▶	1	1	10	2023-12-01	2023-12-31
*	NULL	NULL	NULL	NULL	NULL

❖ Left Join:

This returns a resulting table that all the data from left table and the matched data from the right table. *If some values are present in left table but not present in right table then it will print as 'Null' value in right table.*

Syntax: SELECT column(s) FROM table1 LEFT JOIN table 2 ON join_condition;

- `Select * from employee_details left join department_details ON employee_details.Emp_ID=department_details.Emp_ID;`

Output:

	Emp_ID	First_Name	Last_Name	DOB	Specialiation	Phone_no	Email_id	Address	Date_of_Join	Department_ID	Emp_ID	dept_ID	department_name
▶	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	1	11	VP
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	2	21	Analyst
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	3	6	HR
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	4	20	Cloud Admin
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	5	30	Financial Analyst
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	6	33	Service Desk

On 3 tables:

- `Select * from employee_details left join department_details ON employee_details.Emp_ID=department_details.Emp_ID left join payroll ON employee_details.Emp_ID=payroll.Emp_ID;`

Output:

	Emp_ID	First_Name	Last_Name	DOB	Specialiation	Phone_no	Email_id	Address	Date_of_Join	Department_ID	Emp_ID	dept_ID	department_name	Salary_ID	Emp_ID	Salary_Amount	Salary_Start_Date	Salary_End_Date
▶	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	1	11	VP	1	1	10	2023-12-01	2023-12-31
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	2	21	Analyst	NULL	NULL	NULL	NULL	NULL
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	3	6	HR	NULL	NULL	NULL	NULL	NULL
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	4	20	Cloud Admin	NULL	NULL	NULL	NULL	NULL
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	5	30	Financial Analyst	NULL	NULL	NULL	NULL	NULL
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	6	33	Service Desk	NULL	NULL	NULL	NULL	NULL

❖ **Right Join:**

This returns a resultant table that all the data from the right table & the matched data from the left table.

Syntax: SELECT column(s) FROM table1 RIGHT JOIN table2 ON join_condition;

- `Select * from employee_details right join department_details ON employee_details.Emp_ID=department_details.Emp_ID;`

Output:

	Emp_ID	First_Name	Last_Name	DOB	Specialiation	Phone_no	Email_id	Address	Date_of_Join	Department_ID	Emp_ID	dept_ID	department_name
▶	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	1	11	VP
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	2	21	Analyst
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	3	6	HR
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	4	20	Cloud Admin
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	5	30	Financial Analyst
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	6	33	Service Desk

On 3 tables:

- `Select * from employee_details right join department_details ON employee_details.Emp_ID=department_details.Emp_ID
right join payroll ON employee_details.Emp_ID=payroll.Emp_ID;`

Output:

	Emp_ID	First_Name	Last_Name	DOB	Specialiation	Phone_no	Email_id	Address	Date_of_Join	Department_ID	Emp_ID	dept_ID	department_name	Salary_ID	Emp_ID	Salary_Amount	Salary_Start_Date	Salary_End_Date
▶	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	1	11	VP	1	1	10	2023-12-01	2023-12-31

❖ **FULL Join:**

This returns a resultant table that contains all the data where there is a match on left and right table data. In MySQL, there is no specific keyword called full join. So, we use emulated i.e. Left Join UNION Right Join. We can also use UNION ALL but this will duplicate the values as well while UNION gives unique values.

Syntax: Select * from left_table as L LEFT JOIN right_table as R ON L.key=R.key UNION
Select * from left_table as L RIGHT JOIN right_table as R ON L.key=R.key;

- `Select * from employee_details LEFT JOIN department_details ON employee_details.Emp_ID=department_details.Emp_ID UNION
Select * from employee_details RIGHT JOIN department_details ON employee_details.Emp_ID=department_details.Emp_ID;`

Output:

	Emp_ID	First_Name	Last_Name	DOB	Specialiation	Phone_no	Email_id	Address	Date_of_Join	Department_ID	Emp_ID	dept_ID	department_name
▶	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	1	11	VP
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	2	21	Analyst
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	3	6	HR
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	4	20	Cloud Admin
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	5	30	Financial Analyst
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	6	33	Service Desk

❖ **CROSS Join**

This return all the Cartesian products of the data present in both tables. Hence, all the possible variations are reflected in the output. It is rarely used in the practical purpose.

If table1 has 10 rows and table2 has 5 rows then resultant would be 50 rows.

Syntax:

Select column-lists FROM table1 CROSS JOIN table2;

- `select * from payroll cross join department_details;`

Output:

	Salary_ID	Emp_ID	Salary_Amount	Salary_Start_Date	Salary_End_Date	Emp_ID	dept_ID	department_name
▶	1	1	10	2023-12-01	2023-12-31	1	11	VP
	1	1	10	2023-12-01	2023-12-31	2	21	Analyst
	1	1	10	2023-12-01	2023-12-31	3	6	HR
	1	1	10	2023-12-01	2023-12-31	4	20	Cloud Admin
	1	1	10	2023-12-01	2023-12-31	5	30	Financial Analyst
	1	1	10	2023-12-01	2023-12-31	6	33	Service Desk

❖ Inner Join:

The INNER JOIN keyword selects records that have matching values in both tables.

Syntax: SELECT column_name(s) FROM table1 INNER JOIN table2 ON table1.column_name = table2.column_name;

```
Select * from employee_details inner join department_details;
```

Output:

	Emp_ID	First_Name	Last_Name	DOB	Specialiation	Phone_no	Email_id	Address	Date_of_Join	Department_ID	Emp_ID	dept_ID	department_name
▶	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	1	11	VP
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	1	11	VP
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	1	11	VP
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	1	11	VP
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	1	11	VP
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	1	11	VP
	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	2	21	Analyst
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	2	21	Analyst
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	2	21	Analyst
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	2	21	Analyst
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	2	21	Analyst
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	2	21	Analyst
	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	3	6	HR
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	3	6	HR
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	3	6	HR
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	3	6	HR
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	3	6	HR
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	3	6	HR
	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	4	20	Cloud Admin
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	4	20	Cloud Admin
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	4	20	Cloud Admin
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	4	20	Cloud Admin
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	4	20	Cloud Admin
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	4	20	Cloud Admin
	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	5	30	Financial Analyst
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	5	30	Financial Analyst
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	5	30	Financial Analyst
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	5	30	Financial Analyst
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	5	30	Financial Analyst
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	5	30	Financial Analyst
	1	Anirban	Bhowmik	2023-10-28	Admin	12345678	anirban.bhowmik11@gmail.com	India	2023-10-28	11	6	33	Service Desk
	2	Aman	Singh	1887-12-01	Associate	987654321	aman_kumar_singh@gmail.com	Bangalore	2023-12-01	21	6	33	Service Desk
	3	Vishal	Bhatia	1990-02-02	HR	9876543	vishak_bhatia.corporate@gmail.com	Pune	2023-11-06	6	6	33	Service Desk
	4	Nitin	Banerjee	1979-01-05	Cloud	998877	banerjee.nitin@yahoo.com	Kolkata	2023-12-12	20	6	33	Service Desk
	5	Ishan	Gogoi	1982-03-23	Finance	12312312	09ishan_gogoi@rediff.com	Assam	2023-12-20	30	6	33	Service Desk
	6	Sandeep	Sharma	1988-08-30	General	9809809	sandeep_kumar_sharma88@yahoo.com	Gujarat	2023-12-19	33	6	33	Service Desk

```
• select * from payroll inner join department_details ON payroll.Emp_ID=department_details.Emp_ID;
```

Output:

	Salary_ID	Emp_ID	Salary_Amount	Salary_Start_Date	Salary_End_Date	Emp_ID	dept_ID	department_name
▶	1	1	10	2023-12-01	2023-12-31	1	11	VP