

Advanced SQL Joins for HR & Project Management Data Analysis

Project Title:

Advanced SQL Joins for HR & Project Management Data Analysis

Overview:

This project demonstrates complex SQL query design using non-recursive JOIN operations over a rich HR + Project dataset. It replicates real-world business queries for project tracking, employee assignment, department collaboration, and manager-location relationships.

The project explores one-to-many, many-to-many, and self-joins across multiple realistic tables such as employees, departments, projects, and employee_projects.

Skills Demonstrated:

- INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL OUTER JOIN
- JOINS across multiple tables (e.g., employee → project → department)
- Department-level performance and salary insights
- Manager-employee and department-location relationships
- CROSS-department collaboration and shared project logic
- Grouping, filtering, aggregate functions with JOINS
- Window functions like ROW_NUMBER and RANK (for top performers or recent projects)

Key Highlights:

1. Find top-N employees per department by salary and project duration.
2. Identify employees who have worked on projects across multiple departments or years.
3. Build collaboration maps: who worked with whom on how many projects.
4. Show complete employee info with department, manager, and location using LEFT JOINS.

5. Generate project and department reports even for unassigned resources.
6. Capture performance distribution, shared project counts, employee-manager hierarchy.

Ideal For:

Clients in HR tech, enterprise reporting, or project management seeking SQL experts to build dashboards, reports, or internal systems using JOIN-based data modeling.