

PostgreSQL GROUP BY Cheat Sheet

Basic Syntax

SELECT column1, AGG_FUNC(column2)

FROM table

WHERE condition

GROUP BY column1;

Common Aggregate Functions

COUNT(*) - Count all rows

COUNT(col) - Count non-null values in column

SUM(col) - Sum of values

AVG(col) - Average of values

MIN(col) - Minimum value

MAX(col) - Maximum value

STRING_AGG() - Concatenate strings

GROUP BY Rules

- Columns in SELECT must be either grouped or aggregated
- You can group by:
 - Column names: GROUP BY department
 - Column positions: GROUP BY 1
 - Expressions: GROUP BY date_trunc('month', created_at)

HAVING vs WHERE

WHERE - Filters individual rows before grouping

HAVING - Filters groups after aggregation

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Example:

```
WHERE salary > 1000  
HAVING COUNT(*) > 5
```

Example Query

```
SELECT department, COUNT(*) AS team_size, AVG(salary) AS avg_salary  
FROM employees  
WHERE is_active = true  
GROUP BY department  
HAVING AVG(salary) > 50000  
ORDER BY avg_salary DESC;
```

Tips

- Use GROUPING SETS, ROLLUP, or CUBE for advanced grouping.
- Combine GROUP BY with date_trunc() for time-based aggregation:
GROUP BY date_trunc('month', order_date)
- Use aliases for aggregate results like AS total_sales.