

PostgreSQL: ANY vs IN vs EXISTS vs ALL Cheat Sheet

IN

Use when you want to test if a value matches any value in a list or subquery result.

Example:

```
SELECT name FROM employees WHERE department_id IN (1, 2, 3);
```

-- Same as:

```
SELECT name FROM employees WHERE department_id = ANY (ARRAY[1,2,3]);
```

ANY

Use when you want to compare a value against any result from a subquery or array using a comparison operator.

Example:

```
SELECT name FROM employees WHERE salary > ANY (  
    SELECT salary FROM employees WHERE department_id = 10  
);
```

EXISTS

Use when you want to check if at least one row is returned by a subquery.

Example:

```
SELECT name FROM employees e  
WHERE EXISTS (  
    SELECT 1 FROM departments d WHERE d.id = e.department_id  
);
```

ALL

Use when you want to compare a value against all values from a subquery or array.

Example:

```
SELECT name FROM employees WHERE salary > ALL (  
    SELECT salary FROM employees WHERE department_id = 20  
);
```

Summary:

Clause	Purpose	Example Use Case	
----- ----- -----			
IN	Value is equal to any in a list	department_id IN (1,2,3)	
ANY	Satisfies condition with any value	salary > ANY(subquery)	
EXISTS	Subquery returns any row	EXISTS (SELECT 1 FROM ...)	
ALL	Satisfies condition for all values	salary > ALL(subquery)	