

Базы данных. SQL. L/R JOIN. Multiple JOIN.



Окулов Антон

R.class

Пример

id	name
1	Иванов Семен
2	Петрова Светлана
3	Жуков Роман

users

id	name
1	Бухгалтерия
2	Автосервис
4	Производство

departments



INNER JOIN

```
SELECT * FROM users  
INNER JOIN departments ON users.id = departments.id;
```

id	name	id	name
1	Иванов Семен	1	Бухгалтерия
2	Петрова Светлана	2	Автосервис

LEFT JOIN

```
SELECT * FROM users  
LEFT JOIN departments ON users.id = departments.id;
```

LEFT JOIN

```
SELECT * FROM users
```

```
LEFT JOIN departments ON users.id = departments.id;
```

id	name	id	name
1	Иванов Семен	1	Бухгалтерия
2	Петрова Светлана	2	Автосервис
3	Жуков Роман	NULL	NULL

LEFT JOIN

RIGHT JOIN

```
SELECT * FROM users  
RIGHT JOIN departments ON users.id = departments.id;
```

RIGHT JOIN

```
SELECT * FROM users  
RIGHT JOIN departments ON users.id = departments.id;
```

id	name	id	name
1	Иванов Семен	1	Бухгалтерия
2	Петрова Светлана	2	Автосервис
NULL	NULL	4	Производство

RIGHT JOIN

Пример

id	name
1	Суворов Алексей
2	Окулов Ярослав
3	Созинов Илья
4	Збруев Роман

workers

worker_id	project_id
1	1
1	2
2	3
3	1
4	1
4	2

projects_workers

id	name	project_client
1	КайзерДом	Сергей И.
2	Юнитраст	Иван С.
3	Доска почета	Аркадий Г.

projects

Задача

Реализуем “умный поиск”

Выбрать имена всех сотрудников, которые работают над проектами в названии которых есть буква “р”



JOIN

```
SELECT `workers`.`name` FROM `workers`  
JOIN `projects_workers`  
ON `workers`.`id` = `projects_workers`.`worker_id`  
JOIN `projects`  
ON `projects`.`id` = `projects_workers`.`project_id`  
WHERE `projects`.`name` LIKE '%p%';
```

JOIN

```
SELECT `workers`.`name` FROM `workers`  
JOIN `projects_workers`  
ON `workers`.`id` = `projects_workers`.`worker_id`  
JOIN `projects`  
ON `projects`.`id` = `projects_workers`.`project_id`  
`name` LIKE '%p%';
```

name
Суворов Алексей
Суворов Алексей
Созинов Илья
Збруев Роман
Збруев Роман

+ GROUP BY

```
SELECT `workers`.`name`, COUNT(*) FROM `workers`  
JOIN `projects_workers`  
ON `workers`.`id` = `projects_workers`.`worker_id`  
JOIN `projects`  
ON `projects`.`id` = `projects_workers`.`project_id`  
WHERE `projects`.`name` LIKE '%p%'  
GROUP BY `workers`.`name`;
```

+ GROUP BY

```
SELECT `workers`.`name`, COUNT(*) FROM `workers`  
JOIN `projects_workers`  
ON `workers`.`id` = `projects_workers`.`worker_id`  
JOIN `projects`  
ON `projects`.`id` = `projects_workers`.`project_id`  
WHERE `projects`.`name` LIKE '%p%'  
GROUP BY `workers`.`name`;
```

name	COUNT(*)
Суворов Алексей	2
Созинов Илья	1
Збруев Роман	2

id	name
1	Суворов Алексей
2	Окулов Ярослав
3	Созинов Илья
4	Збруев Роман

workers



worker_id	project_id
1	1
1	2
2	3
3	1
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projects_workers

id	name	project_client
1	КайзерДом	Сергей И.
2	Юнитраст	Иван С.
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projects



id	name
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projects



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projects_workers

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2	Юнитраст	Иван С.
3	Доска почета	Аркадий Г.

projects

The diagram illustrates three database tables and their relationships. The 'workers' table (left) has columns 'id' and 'name'. The 'projects' table (right) has columns 'id', 'name', and 'project_client'. The 'projects_workers' junction table (center) has columns 'worker_id' and 'project_id'. Red curved arrows at the top point from the 'id' columns of the 'workers' and 'projects' tables to the 'worker_id' and 'project_id' columns of the 'projects_workers' table, respectively. A large red arrow at the bottom points from the 'workers' label to the 'workers' table. Another large red arrow at the bottom points from the 'projects_workers' label to the 'projects_workers' table.

id	name
1	Суворов Алексей
2	Окулов Ярослав
3	Созинов Илья
4	Збруев Роман

workers

worker_id	project_id
1	1
1	2
2	3
3	1
4	1
4	2

projects_workers

id	name	project_client
1	КайзерДом	Сергей И.
2	Юнитраст	Иван С.
3	Доска почета	Аркадий Г.

projects

The diagram illustrates three database tables and their relationships. The 'workers' table on the left lists four individuals. The 'projects' table on the right lists three projects. The 'projects_workers' junction table in the center links workers to projects. Red curved arrows at the top show a many-to-many relationship between workers and projects. Red straight arrows at the bottom point from the labels 'workers' and 'projects' to their respective tables. A red straight arrow points from the label 'projects_workers' to the junction table.

id	name
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3	Созинов Илья
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workers

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1	2
2	3
3	1
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projects_workers

id	name	project_client
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projects

id	name
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2	Окулов Ярослав
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workers

worker_id	project_id
1	1
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projects_workers

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projects

Bcë :)

