

# Apply filters to SQL queries

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## Project description

In this project we will be using different queries to return data from databases.

## Retrieve after hours failed login attempts

```
MariaDB [organization]> clear
MariaDB [organization]> SELECT *
  -> FROM log_in_attempts
  -> WHERE login_time > '18:00' AND success = 0;
```

event_id	username	login_date	login_time	country	ip_address	success
2	apatel	2022-05-10	20:27:27	CAN	192.168.205.12	0
18	pwashing	2022-05-11	19:28:50	US	192.168.66.142	0
20	tshah	2022-05-12	18:56:36	MEXICO	192.168.109.50	0
28	aestrada	2022-05-09	19:28:12	MEXICO	192.168.27.57	0
34	drosas	2022-05-11	21:02:04	US	192.168.45.93	0
42	cgriffin	2022-05-09	23:04:05	US	192.168.4.157	0
52	cjackson	2022-05-10	22:07:07	CAN	192.168.58.57	0
69	wjaffrey	2022-05-11	19:55:15	USA	192.168.100.17	0
82	abernard	2022-05-12	23:38:46	MEX	192.168.234.49	0
87	apatel	2022-05-08	22:38:31	CANADA	192.168.132.153	0
96	ivelasco	2022-05-09	22:36:36	CAN	192.168.84.194	0
104	asundara	2022-05-11	18:38:07	US	192.168.96.200	0
107	bisles	2022-05-12	20:25:57	USA	192.168.116.187	0
111	aestrada	2022-05-10	22:00:26	MEXICO	192.168.76.27	0
127	abellmas	2022-05-09	21:20:51	CANADA	192.168.70.122	0
131	bisles	2022-05-09	20:03:55	US	192.168.113.171	0
155	cgriffin	2022-05-12	22:18:42	USA	192.168.236.176	0
160	jclark	2022-05-10	20:49:00	CANADA	192.168.214.49	0
199	yappiah	2022-05-11	19:34:48	MEXICO	192.168.44.232	0

```
19 rows in set (0.755 sec)
```

This query takes all the data from the database log\_in\_attempts and returns where the login\_time is greater than 18:00 and the login was unsuccessful. We do this by using the AND operator and including with it the two conditions: one where the time is greater than 18:00 and another where the Boolean success is 0.

## Retrieve login attempts on specific dates

```
MariaDB [organization]> SELECT *  
-> FROM log_in_attempts  
-> WHERE login_date = '2022-05-09' OR login_date = '2022-05-08'  
-> ORDER BY login_date;
```

event_id	username	login_date	login_time	country	ip_address	success
117	bsand	2022-05-08	00:19:11	USA	192.168.197.187	0
56	acook	2022-05-08	04:56:30	CAN	192.168.209.130	1
169	alevitsk	2022-05-08	08:10:43	CANADA	192.168.210.228	0
168	jlansky	2022-05-08	13:25:42	USA	192.168.210.94	1
66	astrada	2022-05-08	21:58:32	MEX	192.168.67.223	1
165	jreckley	2022-05-08	15:28:43	MEXICO	192.168.34.193	0
68	mrah	2022-05-08	17:16:13	US	192.168.42.248	1
163	tmitchel	2022-05-08	09:21:16	MEX	192.168.119.29	0
80	cjackson	2022-05-08	02:18:10	CANADA	192.168.33.140	1
83	lrodriqu	2022-05-08	08:10:23	USA	192.168.67.69	1
87	apatel	2022-05-08	22:38:31	CANADA	192.168.132.153	0
147	yappiah	2022-05-08	06:04:34	MEX	192.168.65.245	0
92	pwashing	2022-05-08	00:36:12	US	192.168.247.219	0
197	jsoto	2022-05-08	09:05:09	US	192.168.36.21	0
150	nmason	2022-05-08	14:40:02	CAN	192.168.204.124	0
101	sbaelish	2022-05-08	12:01:22	US	192.168.145.158	0
148	daquino	2022-05-08	06:15:55	CANADA	192.168.135.6	1
145	ivelasco	2022-05-08	09:06:02	CANADA	192.168.39.196	1
53	nmason	2022-05-08	11:51:38	CAN	192.168.133.188	1
49	asundara	2022-05-08	14:00:01	US	192.168.173.213	0
72	alevitsk	2022-05-08	12:09:10	CANADA	192.168.139.176	1
172	mabadi	2022-05-08	08:06:50	US	192.168.180.41	1
26	apatel	2022-05-08	17:27:00	CANADA	192.168.123.105	1
191	cjackson	2022-05-08	06:46:07	CANADA	192.168.7.187	0
193	lrodriqu	2022-05-08	07:11:29	US	192.168.125.240	0
12	dkot	2022-05-08	09:11:34	USA	192.168.100.158	1
8	bisles	2022-05-08	01:30:17	US	192.168.119.173	0
4	dkot	2022-05-08	02:00:39	USA	192.168.178.71	0
47	dkot	2022-05-08	05:06:45	US	192.168.233.24	1
189	nmason	2022-05-08	05:37:24	CANADA	192.168.168.117	1
43	mcouliba	2022-05-08	02:35:34	CANADA	192.168.16.208	0
178	sgilmore	2022-05-08	12:27:22	CAN	192.168.52.216	0

This query takes all the login\_attempts that occurred either on 2022-05-08 or 2022-05-09. We do this by using the OR operator where then we can include 2 conditions. One where the date is the 8<sup>th</sup> and another where the date is the 9<sup>th</sup>,

## Retrieve login attempts outside of Mexico

```
MariaDB [organization]> SELECT * FROM log_in_attempts WHERE NOT country LIKE 'MEX%';
```

event_id	username	login_date	login_time	country	ip_address	success
1	jrafael	2022-05-09	04:56:27	CAN	192.168.243.140	1
2	apatel	2022-05-10	20:27:27	CAN	192.168.205.12	0
3	dkot	2022-05-09	06:47:41	USA	192.168.151.162	1
4	dkot	2022-05-08	02:00:39	USA	192.168.178.71	0
5	jrafael	2022-05-11	03:05:59	CANADA	192.168.86.232	0
7	eraab	2022-05-11	01:45:14	CAN	192.168.170.243	1
8	bisles	2022-05-08	01:30:17	US	192.168.119.173	0
10	jrafael	2022-05-12	09:33:19	CANADA	192.168.228.221	0
11	sgilmore	2022-05-11	10:16:29	CANADA	192.168.140.81	0
12	dkot	2022-05-08	09:11:34	USA	192.168.100.158	1
13	mrh	2022-05-11	09:29:34	USA	192.168.246.135	1
14	sbaelish	2022-05-10	10:20:18	US	192.168.16.99	1
15	lyamamot	2022-05-09	17:17:26	USA	192.168.183.51	0
16	mcouliba	2022-05-11	06:44:22	CAN	192.168.172.189	1
17	pwashing	2022-05-11	02:33:02	USA	192.168.81.89	1
18	pwashing	2022-05-11	19:28:50	US	192.168.66.142	0
19	jhill	2022-05-12	13:09:04	US	192.168.142.245	1

This query filters the data from log\_in\_attempts where the country is outside of Mexico. We can do this by using the NOT operator and then including the condition where the country contains MEX at the beginning. We can use the keyword LIKE to make sure the word starts with MEX and can either end with nothing or ICO. We do this because this database shortens Mexico sometimes.

## Retrieve employees in Marketing

```
MariaDB [organization]> SELECT *  
  -> FROM employees  
  -> WHERE department = 'Marketing' AND office LIKE 'East%';
```

employee_id	device_id	username	department	office
1000	a320b137c219	elarson	Marketing	East-170
1052	a192b174c940	jdarosa	Marketing	East-195
1075	x573y883z772	fbautist	Marketing	East-267
1088	k865l965m233	rgosh	Marketing	East-157
1103	NULL	randerss	Marketing	East-460
1156	a184b775c707	dellery	Marketing	East-417
1163	h679i515j339	cwilliam	Marketing	East-216

```
7 rows in set (0.001 sec)
```

This query filters the data from the employees database to those that are in the Marketing department and those who have their offices in the East. We accomplish this by having the department equal marketing and the using the LIKE keyword to include all offices that start with 'East'.

## Retrieve employees in Finance or Sales

```
MariaDB [organization]> SELECT *  
-> FROM employees  
-> WHERE department = 'Sales' OR department = 'Finance';
```

employee_id	device_id	username	department	office
1003	d394e816f943	sgilmore	Finance	South-153
1007	h174i497j413	wjaffrey	Finance	North-406
1008	i858j583k571	abernard	Finance	South-170
1009	NULL	lrodriqu	Sales	South-134
1010	k242l212m542	jlansky	Finance	South-109
1011	l748m120n401	drosas	Sales	South-292
1015	p611q262r945	jsoto	Finance	North-271
1017	r550s824t230	jclark	Finance	North-188
1018	s310t540u653	abellmas	Finance	North-403
1022	w237x430y567	arusso	Finance	West-465
1024	y976z753a267	judvika	Sales	South-215

In this query we filter the employees data base to have employees that are in the Finance or Sales department. We can accomplish this by using the OR operator.

## Retrieve all employees not in IT

```
MariaDB [organization]> SELECT *  
-> FROM employees  
-> WHERE NOT department = 'Information Technology';
```

employee_id	device_id	username	department	office
1000	a320b137c219	elarson	Marketing	East-170
1001	b239c825d303	bmoreno	Marketing	Central-276
1002	c116d593e558	tshah	Human Resources	North-434
1003	d394e816f943	sgilmore	Finance	South-153
1004	e218f877g788	eraab	Human Resources	South-127
1005	f551g340h864	gesparza	Human Resources	South-366
1007	h174i497j413	wjaffrey	Finance	North-406
1008	i858j583k571	abernard	Finance	South-170
1009	NULL	lrodriqu	Sales	South-134

In this query we filter the employees database to only include the employees that are not in the IT department. We can accomplish this by using the NOT operator.

## Summary

In this project we use SQL and different combinations of the operators AND, OR, and NOT to filter the databases to what we want. We were given 2 different databases with different keys and it was our task to learn what were in these data bases, what the keys were and make sure we used correct syntax and queries to return the data that we want.