

# Apply filters to SQL queries

## Project description

Using SQL queries to filter searches or logs in the MariaDB database, while using clauses like NOT, AND, OR, LIKE etc.

## Retrieve after hours failed login attempts

```
| 126 | jrafael | 2022-05-12 | 18:47:52 | CAN | 192.168.22.16 | 1 |
| 132 | rjensen | 2022-05-12 | 23:26:03 | MEX | 192.168.9.166 | 1 |
| 158 | smartell | 2022-05-09 | 19:30:32 | MEXICO | 192.168.190.178 | 1 |
| 164 | jclark | 2022-05-12 | 21:15:52 | CAN | 192.168.18.34 | 1 |
| 173 | asundara | 2022-05-12 | 23:17:52 | US | 192.168.58.217 | 1 |
+-----+-----+-----+-----+-----+-----+-----+
20 rows in set (0.108 sec)

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 | cggriffin | 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 | cggriffin | 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 | yapiah | 2022-05-11 | 19:34:48 | MEXICO | 192.168.44.232 | 0 |
+-----+-----+-----+-----+-----+-----+-----+
19 rows in set (0.001 sec)

MariaDB [organization]> SELECT *
-> FROM log_in_attempts
-> WHERE login_date = '2022-05-09' OR login_date = '2022-05-08';
+-----+-----+-----+-----+-----+-----+-----+
| 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 | cggriffin | 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 | cggriffin | 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 | yapiah | 2022-05-11 | 19:34:48 | MEXICO | 192.168.44.232 | 0 |
+-----+-----+-----+-----+-----+-----+-----+
```

## Retrieve login attempts on specific dates

```
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 (0.001 sec)

MariaDB [organization]> SELECT *
-> FROM log_in_attempts
-> WHERE login_date = '2022-05-09' OR login_date = '2022-05-08';
-----+-----+-----+-----+-----+-----+-----+
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 |
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 |
8 | bisles | 2022-05-08 | 01:30:17 | US | 192.168.119.173 | 0 |
12 | dkot | 2022-05-08 | 09:11:34 | USA | 192.168.100.158 | 1 |
15 | lyamamot | 2022-05-09 | 17:17:26 | USA | 192.168.183.51 | 0 |
24 | arusso | 2022-05-09 | 06:49:39 | MEXICO | 192.168.171.192 | 1 |
25 | sbaelish | 2022-05-09 | 07:04:02 | US | 192.168.33.137 | 1 |
26 | apatel | 2022-05-08 | 17:27:00 | CANADA | 192.168.123.105 | 1 |
28 | aestrada | 2022-05-09 | 19:28:12 | MEXICO | 192.168.27.57 | 0 |
30 | yappiah | 2022-05-09 | 03:22:22 | MEX | 192.168.124.48 | 1 |
32 | acook | 2022-05-09 | 02:52:02 | CANADA | 192.168.142.239 | 0 |
36 | asundara | 2022-05-08 | 09:00:42 | US | 192.168.78.151 | 1 |
38 | sbaelish | 2022-05-09 | 14:40:01 | USA | 192.168.60.42 | 1 |
39 | yappiah | 2022-05-09 | 07:56:40 | MEXICO | 192.168.57.115 | 1 |
42 | cgriffin | 2022-05-09 | 23:04:05 | US | 192.168.4.157 | 0 |
43 | mcouliba | 2022-05-08 | 02:35:34 | CANADA | 192.168.16.208 | 0 |
44 | daquino | 2022-05-08 | 07:02:35 | CANADA | 192.168.168.144 | 0 |
47 | dkot | 2022-05-08 | 05:06:45 | US | 192.168.233.24 | 1 |
49 | asundara | 2022-05-08 | 14:00:01 | US | 192.168.173.213 | 0 |
53 | nmason | 2022-05-08 | 11:51:38 | CAN | 192.168.133.188 | 1 |
56 | acook | 2022-05-08 | 04:56:30 | CAN | 192.168.209.130 | 1 |
58 | ivelasco | 2022-05-09 | 17:20:54 | CAN | 192.168.57.162 | 0 |
61 | dtanaka | 2022-05-09 | 09:45:18 | USA | 192.168.98.221 | 1 |
65 | aalonso | 2022-05-09 | 23:42:12 | MEX | 192.168.52.37 | 1 |
66 | aestrada | 2022-05-08 | 21:58:32 | MEX | 192.168.67.223 | 1 |
```

## Retrieve login attempts outside of Mexico

194	jclark	2022-05-12	14:11:04	CAN	192.168.197.247	0
195	alevitsk	2022-05-11	06:59:13	CANADA	192.168.236.78	1
196	acook	2022-05-10	09:56:48	CAN	192.168.52.90	0
197	jsoto	2022-05-08	09:05:09	US	192.168.36.21	0
198	yappiah	2022-05-12	10:37:22	MEXICO	192.168.103.106	1
199	yappiah	2022-05-11	19:34:48	MEXICO	192.168.44.232	0
200	jclark	2022-05-12	01:11:45	CANADA	192.168.91.103	1

200 rows in set, 1 warning (0.044 sec)

```
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	mrah	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
21	iuduike	2022-05-11	17:50:00	US	192.168.131.147	1
25	sbaelish	2022-05-09	07:04:02	US	192.168.33.137	1
26	apatel	2022-05-08	17:27:00	CANADA	192.168.123.105	1
29	bisles	2022-05-11	01:21:22	US	192.168.85.186	0
31	acook	2022-05-12	17:36:45	CANADA	192.168.58.232	0
32	acook	2022-05-09	02:52:02	CANADA	192.168.142.239	0
33	zbernal	2022-05-11	02:52:10	US	192.168.72.59	1
34	drosas	2022-05-11	21:02:04	US	192.168.45.93	0

## Retrieve employees in Marketing

```
| 181 | abellmas | 2022-05-10 | 13:37:05 | CAN | 192.168.60.111 | 0 |
| 182 | lyamamot | 2022-05-10 | 06:01:31 | USA | 192.168.106.52 | 0 |
| 183 | nmason | 2022-05-11 | 05:29:36 | CANADA | 192.168.137.147 | 0 |
| 184 | alevitsk | 2022-05-08 | 03:09:48 | CAN | 192.168.33.70 | 0 |
| 185 | jsoto | 2022-05-10 | 13:34:58 | USA | 192.168.151.91 | 0 |
| 186 | bisles | 2022-05-09 | 04:29:17 | USA | 192.168.40.72 | 0 |
| 188 | jsoto | 2022-05-11 | 00:39:09 | USA | 192.168.21.88 | 0 |
| 189 | nmason | 2022-05-08 | 05:37:24 | CANADA | 192.168.168.117 | 1 |
| 190 | jsoto | 2022-05-09 | 05:09:21 | USA | 192.168.25.60 | 0 |
| 191 | cjackson | 2022-05-08 | 06:46:07 | CANADA | 192.168.7.187 | 0 |
| 192 | bisles | 2022-05-10 | 08:32:03 | USA | 192.168.201.40 | 1 |
| 193 | lrodriqu | 2022-05-08 | 07:11:29 | US | 192.168.125.240 | 0 |
| 194 | jclark | 2022-05-12 | 14:11:04 | CAN | 192.168.197.247 | 0 |
| 195 | alevitsk | 2022-05-11 | 06:59:13 | CANADA | 192.168.236.78 | 1 |
| 196 | acook | 2022-05-10 | 09:56:48 | CAN | 192.168.52.90 | 0 |
| 197 | jsoto | 2022-05-08 | 09:05:09 | US | 192.168.36.21 | 0 |
| 200 | jclark | 2022-05-12 | 01:11:45 | CANADA | 192.168.91.103 | 1 |
+-----+-----+-----+-----+-----+-----+-----+
144 rows in set (0.001 sec)
```

```
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 | k8651965m233 | 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)
```

```
MariaDB [organization]> SELECT *
-> FROM employees
-> WHERE department = 'Finance' AND department = 'Sales';
Empty set (0.001 sec)
```

## Retrieve employees in Finance or Sales

7 rows in set (0.001 sec)

```
MariaDB [organization]> SELECT *  
-> FROM employees  
-> WHERE department = 'Finance' AND department = 'Sales';  
Empty set (0.001 sec)
```

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

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	iuduike	Sales	South-215
1025	z381a365b233	jhill	Sales	North-115
1029	d336e475f676	ivelasco	Finance	East-156
1035	j236k303l245	bisles	Sales	South-171
1039	n253o917p623	cjackson	Sales	East-378
1041	p929q222r778	cgriffin	Sales	North-208
1044	s429t157u159	tbarnes	Finance	West-415
1045	t567u844v434	pwashing	Finance	East-115
1046	u429v921w138	daquino	Finance	West-280
1047	v109w587x644	cward	Finance	West-373
1048	w167x592y375	tmitchel	Finance	South-288
1049	NULL	jreckley	Finance	Central-295
1050	y132z930a114	csimmons	Finance	North-468
1057	f370g535h632	mscott	Sales	South-270
1062	k367l639m697	redwards	Finance	North-180
1063	l686m140n569	lpope	Sales	East-226
1066	o678p794q957	ttyrell	Sales	Central-444
1069	NULL	jpark	Finance	East-110



## Retrieve all employees not in IT

1142	m674n127o823	lsilva	Finance	East-440
1144	NULL	erobinso	Finance	Central-266
1147	r454s225t299	tvega	Finance	West-177
1148	s328t505u907	dharvey	Finance	South-181
1159	d881e710f732	jshen	Finance	East-193
1164	i682j513k442	fsmeltz	Finance	North-163
1169	NULL	mmitchel	Sales	Central-250
1174	s371t911u987	eortiz	Finance	North-428
1175	t959u687v394	jclark2	Finance	North-194
1176	u849v569w521	nliu	Sales	West-220
1181	z803a233b718	sessa	Finance	South-207
1185	d790e839f461	revens	Sales	North-330
1186	e281f433g404	sacosta	Sales	North-460
1187	f963g637h851	bbode	Finance	East-351
1188	g164h566i795	noshiro	Finance	West-252
1195	n516o853p957	orainier	Finance	East-346

71 rows in set (0.001 sec)

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
1010	k242l212m542	jlansky	Finance	South-109
1011	l748m120n401	drosas	Sales	South-292
1015	p611q262r945	jsoto	Finance	North-271
1016	q793r736s288	sbaelish	Human Resources	North-229
1017	r550s824t230	jclark	Finance	North-188
1018	s310t540u653	abellmas	Finance	North-403
1020	u899v381w363	arutley	Marketing	South-351
1022	v237x430y567	aruso	Finance	West-465

## Summary

SQL queries make searching through large files in a database easier by filtering your search to specific details you need.