

# Apply filters to SQL queries

## Project description

In this project, I will be examining an organization's data and investigating a security issue that involves login attempts on employee's machines. I will be using SQL filters to retrieve records of the potential security issues.

## 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	astrada	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	astrada	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 (0.000 sec)

MariaDB [organization]>
```

## Retrieve login attempts on specific dates

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

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

## 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	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	iuduke	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

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

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

7 rows in set (0.001 sec)

```
MariaDB [organization]>
```

## Retrieve employees in Finance or Sales

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

employee_id	device_id	username	department	office
1195	n516o853p957	orainier	Finance	East-346
1136	g299h520i457	jhawes	Finance	West-416
1122	s103t952u851	btorres	Finance	West-319
1105	b551c837d758	kmei	Finance	Central-232
1099	v283w690x104	anaser	Finance	West-357
1174	s371t911u987	eortiz	Finance	North-428
1083	f840g812h544	gkoshi	Finance	West-165
1081	d647e310f618	qcorbit	Finance	South-290
1076	y347z204a710	fgarcia	Finance	Central-270
1069	NULL	jpark	Finance	East-110
1138	i671j355k725	sromero	Finance	South-329
1142	m674n127o823	lsilva	Finance	East-440
1188	g164h566i795	noshiro	Finance	West-252
1187	f963g637h851	bbode	Finance	East-351
1181	z803a233b718	sessa	Finance	South-207
1175	t959u687v394	jclark2	Finance	North-194
1164	i682j513k442	fsmeltz	Finance	North-163
1159	d881e710f732	jshen	Finance	East-193
1148	s328t505u907	dharvey	Finance	South-181
1147	r454s225t299	tvega	Finance	West-177
1144	NULL	erobinso	Finance	Central-266
1062	k367l639m697	redwards	Finance	North-180
1050	y132z930a114	csimmons	Finance	North-468
1044	s429t157u159	tbarnes	Finance	West-415

## 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
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	w237x430y567	arusso	Finance	West-465
1024	y976z753a267	iuduike	Sales	South-215
1025	z381a365b233	jhill	Sales	North-115
1026	a998b568c863	apatel	Human Resources	West-320
1027	b806c503d354	mrah	Marketing	West-246
1028	c603d749e374	aestrada	Human Resources	West-121
1029	d336e475f676	ivelasco	Finance	East-156
1030	e391f189g913	mabadi	Marketing	West-375
1031	f419g188h578	dkot	Marketing	West-408

## Summary

By applying different basic filters through SQL, I was able to investigate the organization's company data for possible security issues. We investigated different tables and columns within the tables. We were also able to adjust filters to include or exclude certain fields.