

MY SQL PROJECT

Project Description

This project demonstrates the ability to apply SQL filtering techniques to extract specific information. The goal is to investigate security-related incidents, including failed login attempts after hours, suspicious login attempts from certain locations, and filtering employees for security updates.

Retrieve After-Hours Failed Login Attempts

```
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 (0.001 sec)

MariaDB [organization]>
```

SQL Query:

```
SELECT *
FROM log_in_attempts
WHERE login_time > '18:00:00'
AND success = 0;
```

Explanation:

- Filters all login attempts that occurred after 18:00.
- Helps security teams identify unauthorized access attempts after business hours.

Retrieve Login Attempts on Specific Dates (2022-05-08 & 2022-05-09)

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
66	aestrada	2022-05-08	21:58:32	MEX	192.168.67.223	1
67	abernard	2022-05-09	11:53:41	MEX	192.168.118.29	1
68	mrah	2022-05-08	17:16:13	US	192.168.42.248	1
70	tmitchel	2022-05-09	10:55:17	MEXICO	192.168.87.199	1
71	mcouliba	2022-05-09	06:57:42	CAN	192.168.55.169	0
72	alevitsk	2022-05-08	12:09:10	CANADA	192.168.139.176	1
79	abernard	2022-05-09	11:41:15	MEX	192.168.158.170	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
90	gesparza	2022-05-09	00:49:05	CANADA	192.168.87.201	0
92	pwashing	2022-05-08	00:36:12	US	192.168.247.219	0

SQL Query:

SELECT *

FROM log_in_attempts

WHERE login_date = '2022-05-08'

OR login_date = '2022-05-09';

Explanation:

- The WHERE clause filters for login attempts on specific dates.
- The OR operator ensures results from both dates are included.
- Useful for investigating suspicious login activity around a known security event.

Retrieve Login Attempts Outside of Mexico

```
MariaDB [organization]> SELECT *
-> FROM log_in_attempts
-> WHERE country NOT 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
36	asundara	2022-05-08	09:00:42	US	192.168.78.151	1
37	eraab	2022-05-10	06:03:41	CANADA	192.168.152.148	0
38	sbaelish	2022-05-09	14:40:01	USA	192.168.60.42	1
41	apatel	2022-05-10	17:39:42	CANADA	192.168.46.207	0
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
45	dtanaka	2022-05-11	10:28:54	US	192.168.223.157	1
46	eraab	2022-05-11	11:29:27	CAN	192.168.24.12	0
47	dkot	2022-05-08	05:06:45	US	192.168.233.24	1
48	asundara	2022-05-11	03:18:45	USA	192.168.72.10	1
49	asundara	2022-05-08	14:00:01	US	192.168.173.213	0
50	jclark	2022-05-10	10:48:02	CANADA	192.168.174.117	0
51	jrafael	2022-05-10	22:40:01	CANADA	192.168.148.115	1
52	cjackson	2022-05-10	22:07:07	CAN	192.168.58.57	0

SQL Query:

```
SELECT *
FROM log_in_attempts
WHERE country NOT LIKE 'MEX%';
```

Explanation:

- The LIKE operator with MEX% filters out values that start with MEX or MEXICO.
- The NOT operator ensures we exclude all login attempts from Mexico.
- Helps narrow down login locations and investigate unauthorized access.

Retrieve Employees in Marketing (East Building)

```
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)  
  
MariaDB [organization]>
```

SQL Query:

```
SELECT *  
FROM employees  
WHERE department = 'Marketing'  
AND office LIKE 'East%';
```

Explanation:

- Filters for employees in the Marketing department.
- The LIKE 'East%' ensures only employees in East-XXX offices are retrieved.
- Helps the IT team apply security updates to relevant employee machines.

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	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
1071	t244u829v723	zdutchma	Sales	West-348
1072	u905v920w694	esmith	Sales	East-421
1076	y347z204a710	fgarcia	Finance	Central-270
1078	a667b270c984	sharley	Sales	North-418
1081	d647e310f618	qcorbit	Finance	South-290
1083	f840g812h544	gkoshi	Finance	West-165

SQL Query:

```
SELECT *
FROM employees
WHERE department = 'Finance'
OR department = 'Sales';
```

Explanation:

- The OR operator ensures employees from both departments are included.
- Helps the IT team apply targeted updates to Finance & Sales teams.

Retrieve Employees NOT in IT Department

```
MariaDB [organization]> SELECT *
-> FROM employees
-> WHERE 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
1034	i679j565k940	bsand	Human Resources	East-484
1035	j236k303l245	bisles	Sales	South-171
1036	k550l533m205	rjensen	Marketing	Central-239
1038	m873n636o225	btang	Human Resources	Central-260
1039	n253o917p623	cjackson	Sales	East-378
1040	o783p832q294	dtarly	Human Resources	East-237
1041	p929q222r778	cgriffin	Sales	North-208

SQL Query:

```
SELECT *
FROM employees
WHERE department <> 'Information Technology';
```

Explanation:

- The '<>' operator filters out employees in the IT department.
- Ensures only employees in other departments receive security updates.