# Apply filters to SQL queries

## Project description

In this activity, I am a security professional at a large organization. Part of my job is to investigate security issues to help keep the system secure. I recently discovered some potential security issues that involve login attempts and employee machines. I am tasked to examine the organization's data in their employees and log_in_attempts tables. I'll need to use SQL filters to retrieve records from different datasets and investigate the potential security issues.

## Retrieve after hours failed login attempts

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



## Retrieve login attempts on specific dates

SELECT * FROM log_in_attempts WHERE login_date = '2022-05-08' OR login_date = '2022-05-09'

# Retrieve login attempts outside of Mexico

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

```
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 |
```

# Retrieve employees in Marketing

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

```
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 |
+-------------+--------------+----------+------------+----------+
```

# Retrieve employees in Finance or Sales

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

```
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 | k2421212m542 | jlansky  | Finance    | South-109  |
|        1011 | l748m120n401 | drosas   | Sales      | South-292  |
|        1015 | p611q262r945 | jsoto    | Finance    | North-271  |
```

# Retrieve all employees not in IT

SELECT * FROM employees WHERE NOT department = 'Information Technology';

```
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 | k2421212m542 | jlansky  | Finance         | South-109   |
```

# Summary

By using each SQL statement, I was able to query important information from both the employee and log_in_attempts databases to find potential security issues. I was able to look through databases with tons of information fast and efficiently.