# Apply filters to SQL queries

## Project description

My job involves ensuring the system's security, investigating potential security issues, and updating employee computers as necessary. Here are some examples of how I use SQL with filters to carry out these security tasks.

## Retrieve after hours failed login attempts

A potential security incident occurred after business hours (after 6:00 PM). We need to investigate all failed login attempts during this time. Here's how I created a SQL query to filter for these failed login attempts.

The first part of the screenshot shows my query, and the second part shows some of the results. In my query, I selected all data from the log\_in\_attempts table and used a WHERE clause with an AND operator. This filtered the results to show only failed login attempts that happened after 6:00 PM. The conditions were login\_time > '18:00' to find attempts after 6:00 PM and success = FALSE to find the failed attempts.

## Retrieve login attempts on specific dates

Here's how I used SQL to filter for these specific dates. The first part of the screenshot shows my query, and the second part shows some of the results. I started by selecting all data from the log\_in\_attempts table. Then, I used a WHERE clause with an OR operator to filter the results, showing only login attempts from either May 9, 2022, or May 8, 2022. The conditions were login\_date = '2022-05-09' to filter for logins on May 9 and login\_date = '2022-05-08' to filter for logins on May 8.

## Retrieve login attempts outside of Mexico

After reviewing our data on login attempts, I found a potential issue with logins from outside Mexico. These attempts need to be investigated.

Here's how I used SQL to filter for these specific login attempts. The first part of the screenshot shows my query, and the second part shows some of the results. I started by selecting all data from the log\_in\_attempts table. Then, I used a WHERE clause with NOT to exclude logins from Mexico. I used LIKE 'MEX%' because our dataset represents Mexico as both MEX and MEXICO, with the % sign covering any extra characters.

## Retrieve employees in Marketing

My team needs to update the computers for certain employees in the Marketing department. To do this, I need to identify which employee machines to update.

Here's how I used SQL to filter for employees in the Marketing department located in the East building. The first part of the screenshot shows my query, and the second part shows some of the results. I selected all data from the employees table and used a WHERE clause with AND to filter the results. The first condition, department = 'Marketing', filters for employees in the Marketing department. The second condition, office LIKE 'East%', filters for employees in the East building, since the office column represents the East building with specific office numbers.

## Retrieve employees in Finance or Sales

We also need to update the machines for employees in the Finance and Sales departments with a different security update. To do this, I need information on employees from these two departments.

Here's how I used SQL to filter for these employees. The first part of the screenshot shows my query, and the second part shows some of the results. I selected all data from the employees table and used a WHERE clause with OR to filter for employees in either the Finance or Sales departments. The first condition, department = 'Finance', filters for Finance employees, and the second condition, department = 'Sales', filters for Sales employees. Using the OR operator ensures we get employees from both departments.

## Retrieve all employees not in IT

My team needs to apply a security update to employees who are not in the Information Technology department. To do this, I need information on these employees.

Here's how I used SQL to filter for them. The first part of the screenshot shows my query, and the second part shows some of the results. I selected all data from the employees table and used a WHERE clause with NOT to exclude employees in the Information Technology department. This query returns all employees who are not in IT.

## Summary

I applied filters to SQL queries to get specific information on login attempts and employee machines. I used two different tables: log\_in\_attempts and employees. Depending on the task, I used the AND, OR, and NOT operators to filter the data. Additionally, I used the LIKE operator with the percentage sign (%) wildcard to match patterns in the data.