# Apply filters to SQL queries

## Project description

In this project, I investigated suspicious login activity and prepared department-specific device lists using SQL. I queried two tables—`log_in_attempts` and `employees`—and applied `AND`, `OR`, and `NOT` filters, pattern matching with `LIKE`, and date/time conditions. The outputs helped triage after-hours failures, review activity on specific incident dates, exclude a country, and identify employees for targeted security updates.

## Retrieve after hours failed login attempts

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

- Used the `success` column to return **failed** attempts (`0` or `FALSE`), and `login_time` to restrict results to **after 18:00**.
- Combined with `AND` so both conditions must be true.
- If your DB stores booleans as integers (e.g., MariaDB), `success = 0` is sufficient.

## Retrieve login attempts on specific dates

```
SELECT *
FROM log_in_attempts
WHERE login_date IN ('2022-05-08', '2022-05-09');
```

Filtered the `login_date` column using `IN (...)` to match either **2022-05-08** or **2022-05-09**.
This is equivalent to two conditions joined with `OR`.

## Retrieve login attempts outside of Mexico

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

Normalized country to uppercase, then excluded patterns starting with MEX (covers MEX and MEXICO).
NOT LIKE 'MEX%' removes Mexico entries; remaining rows are outside Mexico.
(PostgreSQL alternative): WHERE country !~* '^mex'

## Retrieve employees in Marketing

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

Used department to find entries containing Marketing.
Used office with LIKE 'East-%' to match any East building office (e.g., East-170, East-320).
AND ensures both conditions are true.

## Retrieve employees in Finance or Sales

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

Filtered department for values containing Finance or Sales.
OR returns rows that match either department.

## Retrieve all employees not in IT

```
SELECT *
FROM employees
WHERE department NOT LIKE '%Information Technology%';
```

Excluded the Information Technology department using NOT LIKE, returning all others who still need the update.
If your data uses the short form IT, use NOT LIKE '%IT%' carefully (to avoid accidentally excluding unrelated words).

## Summary

I identified failed logins after business hours, reviewed attempts on 2022-05-08 and 2022-05-09, and excluded Mexico-originated activity. I also produced employee lists for Marketing in the East building, Sales or Finance, and everyone not in IT. These tasks demonstrate practical use of `AND`, `OR`, `NOT`, `LIKE`, and date/time filters to support security investigations and patch planning.