Activity: Apply more filters in SQL

Activity overview

As a security analyst, you’ll often need to query numbers and dates.

For example, you may need to filter patch dates to find machines that need an update. Or you might filter login attempts made during a certain period of time to investigate a security incident.

Common operators for working with numeric or date and time data will help you accurately filter data. These are some of the operators you'll use:

- = (equal)
- > (greater than)
- < (less than)
- <> (not equal to)
- >= (greater than or equal to)
- <= (less than or equal to)

In this lab activity, you’ll apply these operators to accurately filter for specific numbers and dates!

Note: *The terms **row** and **record** are used interchangeably in this lab activity.*

Scenario

In this scenario, you’re investigating a recent security incident.

You need to gather information about login attempts for certain dates and times. This will help in resolving a security incident.

Here’s how you’ll do this task: **First**, you’ll retrieve login events made after a certain date. **Second**, you’ll narrow the focus of the search to filter logins in a date range. **Third**, you’ll investigate logins that were made at certain times. **Finally**, you’ll filter login attempts based on their event IDs.

It's time to get started and use operators to filter data from a table!

Note: *In this lab you’ll be working with the organization database and the tables it contains.*

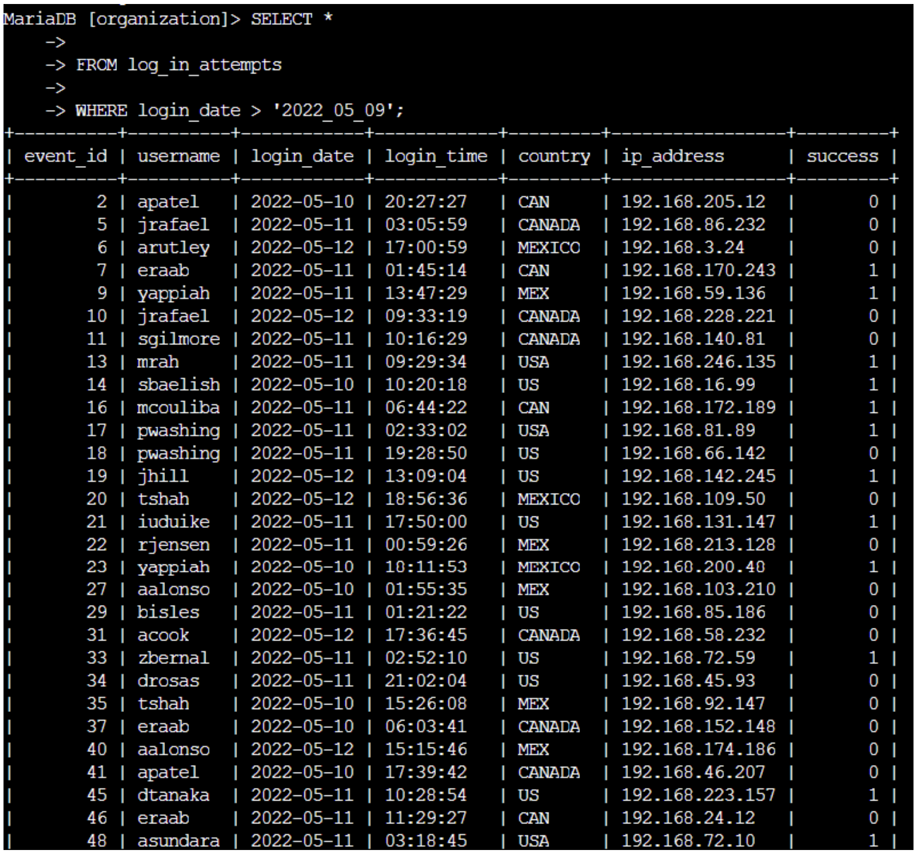
*The lab starts with the organization database in the MariaDB shell that is already open. This means you can start with the tasks as soon as you click the **Start Lab** button.*

If you unintentionally exit the organization database in the MariaDB shell, you can reconnect by running the sudo mysql organization command.

Task 1. Retrieve login attempts after a certain date

In this task, you need to investigate a recent security incident. To do this, you need to gather information about login attempts made after a certain date.

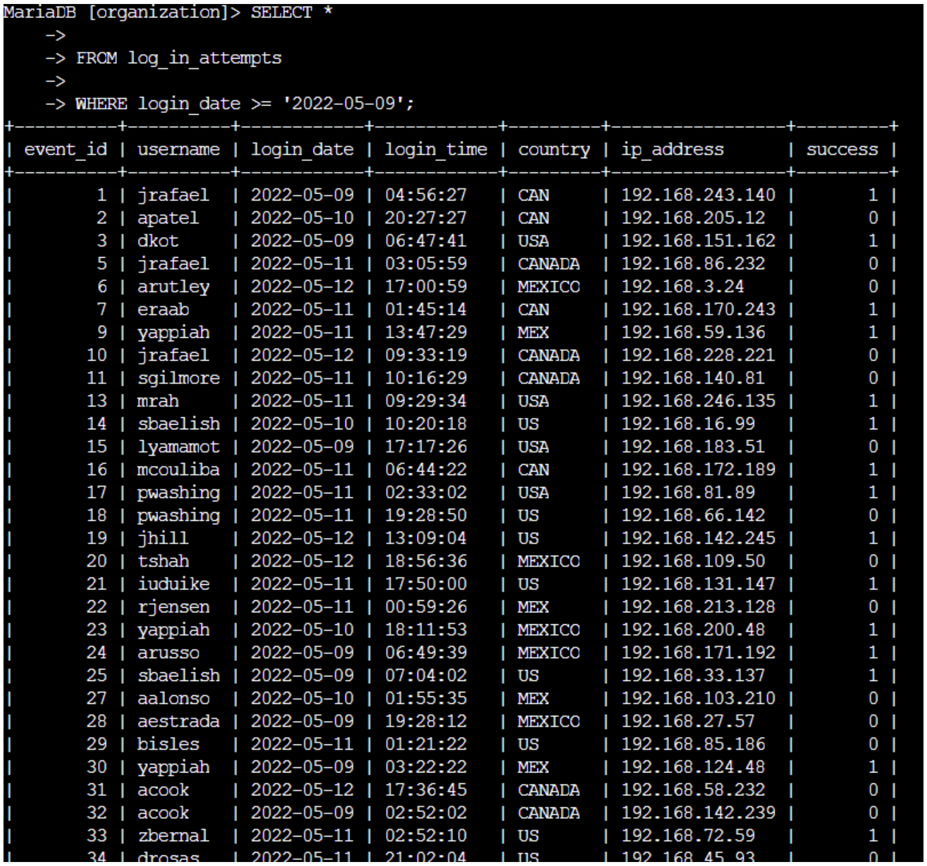
1. Complete the SQL query to retrieve data for login attempts made after '2022-05-09'. Replace X with the correct operator:



```
MariaDB [organization]> SELECT *
    ->
    -> FROM log_in_attempts
    ->
    -> WHERE login_date > '2022_05_09';
+----------+----------+------------+------------+---------+-----------------+---------+
| 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 |
|        5 | jrafael  | 2022-05-11 | 03:05:59   | CANADA  | 192.168.86.232  |       0 |
|        6 | arutley  | 2022-05-12 | 17:00:59   | MEXICO  | 192.168.3.24    |       0 |
|        7 | eraab    | 2022-05-11 | 01:45:14   | CAN     | 192.168.170.243 |       1 |
|        9 | yappiah  | 2022-05-11 | 13:47:29   | MEX     | 192.168.59.136  |       1 |
|       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 |
|       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 |
|       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 |
|       20 | tshah    | 2022-05-12 | 18:56:36   | MEXICO  | 192.168.109.50  |       0 |
|       21 | iuduike  | 2022-05-11 | 17:50:00   | US      | 192.168.131.147 |       1 |
|       22 | rjensen  | 2022-05-11 | 00:59:26   | MEX     | 192.168.213.128 |       0 |
|       23 | yappiah  | 2022-05-10 | 18:11:53   | MEXICO  | 192.168.200.48  |       1 |
|       27 | aalonso  | 2022-05-10 | 01:55:35   | MEX     | 192.168.103.210 |       0 |
|       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 |
|       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 |
|       35 | tshah    | 2022-05-10 | 15:26:08   | MEX     | 192.168.92.147  |       0 |
|       37 | eraab    | 2022-05-10 | 06:03:41   | CANADA  | 192.168.152.148 |       0 |
|       40 | aalonso  | 2022-05-12 | 15:15:46   | MEX     | 192.168.174.186 |       0 |
|       41 | apatel   | 2022-05-10 | 17:39:42   | CANADA  | 192.168.46.207  |       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 |
|       48 | asundara | 2022-05-11 | 03:18:45   | USA     | 192.168.72.10   |       1 |
```

Now, based on your first query, you find a need to expand the date range to include 2022-05-09 in your search.

2. Complete the SQL query to retrieve data for login attempts that were made on or after '2022-05-09'. Replace X with the correct operator:

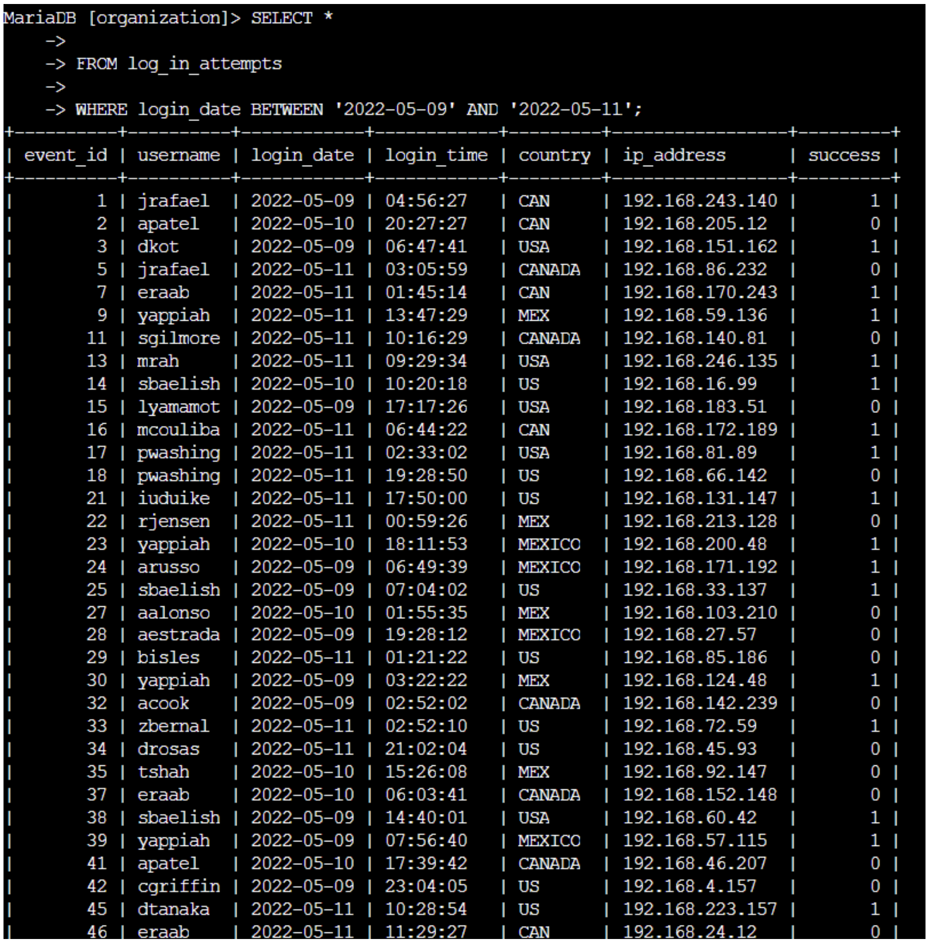


```
MariaDB [organization]> SELECT *
    ->
    -> FROM log_in_attempts
    ->
    -> WHERE login_date >= '2022-05-09';
+----------+----------+------------+------------+---------+-----------------+---------+
| event_id | username | login_date | login_time | country | ip_address      | success |
+----------+----------+------------+------------+---------+-----------------+---------+
|        1 | jrafael  | 2022-05-09 | 04:56:27   | CAN     | 192.168.243.140 |       1 |
|        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 |
|        5 | jrafael  | 2022-05-11 | 03:05:59   | CANADA  | 192.168.86.232  |       0 |
|        6 | arutley  | 2022-05-12 | 17:00:59   | MEXICO  | 192.168.3.24    |       0 |
|        7 | eraab    | 2022-05-11 | 01:45:14   | CAN     | 192.168.170.243 |       1 |
|        9 | yappiah  | 2022-05-11 | 13:47:29   | MEX     | 192.168.59.136  |       1 |
|       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 |
|       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 |
|       20 | tshah    | 2022-05-12 | 18:56:36   | MEXICO  | 192.168.109.50  |       0 |
|       21 | iuduike  | 2022-05-11 | 17:50:00   | US      | 192.168.131.147 |       1 |
|       22 | rjensen  | 2022-05-11 | 00:59:26   | MEX     | 192.168.213.128 |       0 |
|       23 | yappiah  | 2022-05-10 | 18:11:53   | MEXICO  | 192.168.200.48  |       1 |
|       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 |
|       27 | aalonso  | 2022-05-10 | 01:55:35   | MEX     | 192.168.103.210 |       0 |
|       28 | aestrada | 2022-05-09 | 19:28:12   | MEXICO  | 192.168.27.57   |       0 |
|       29 | bisles   | 2022-05-11 | 01:21:22   | US      | 192.168.85.186  |       0 |
|       30 | yappiah  | 2022-05-09 | 03:22:22   | MEX     | 192.168.124.48  |       1 |
|       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 |
```

Task 2. Retrieve logins in a date range

In this task, you need to narrow the focus of the search. Login attempts made after 2022-05-11 shouldn't be included. Use the BETWEEN and AND operators to return results between '2022-05-09' and '2022-05-11'.

- Run the query to retrieve the required records. You must insert the required dates X and Y:



```
MariaDB [organization]> SELECT *
    ->
    -> FROM log_in_attempts
    ->
    -> WHERE login_date BETWEEN '2022-05-09' AND '2022-05-11';
+----------+----------+------------+------------+---------+-----------------+---------+
| 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 |
|        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 |
|        9 | yappiah  | 2022-05-11 | 13:47:29   | MEX     | 192.168.59.136  |       1 |
|       11 | sgilmore | 2022-05-11 | 10:16:29   | CANADA  | 192.168.140.81  |       0 |
|       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 |
|       21 | iuduike  | 2022-05-11 | 17:50:00   | US      | 192.168.131.147 |       1 |
|       22 | rjensen  | 2022-05-11 | 00:59:26   | MEX     | 192.168.213.128 |       0 |
|       23 | yappiah  | 2022-05-10 | 18:11:53   | MEXICO  | 192.168.200.48  |       1 |
|       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 |
|       27 | aalonso  | 2022-05-10 | 01:55:35   | MEX     | 192.168.103.210 |       0 |
|       28 | aestrada | 2022-05-09 | 19:28:12   | MEXICO  | 192.168.27.57   |       0 |
|       29 | bisles   | 2022-05-11 | 01:21:22   | US      | 192.168.85.186  |       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 |
|       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 |
|       35 | tshah    | 2022-05-10 | 15:26:08   | MEX     | 192.168.92.147  |       0 |
|       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 |
|       39 | yappiah  | 2022-05-09 | 07:56:40   | MEXICO  | 192.168.57.115  |       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 |
|       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 |
```

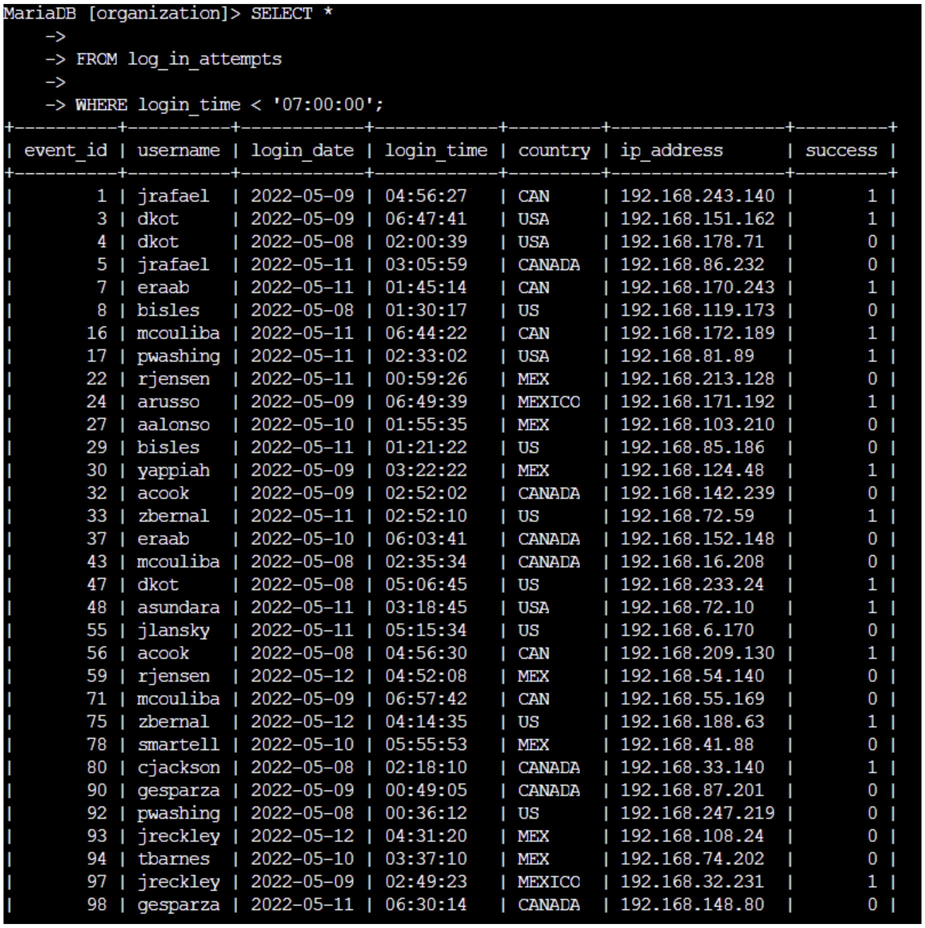
Task 3. Investigate logins at certain times

In this task, you need to investigate logins that were made at certain times. To do this, filter the data in the log_in_attempts table by login time (login_time).

First, your organization's typical work hours begin at 07:00:00. Retrieve all login attempts made before 07:00:00 to learn more about the users who are logging in outside of typical hours.

1. Write a SQL query to retrieve data for login attempts made before '07:00:00'.

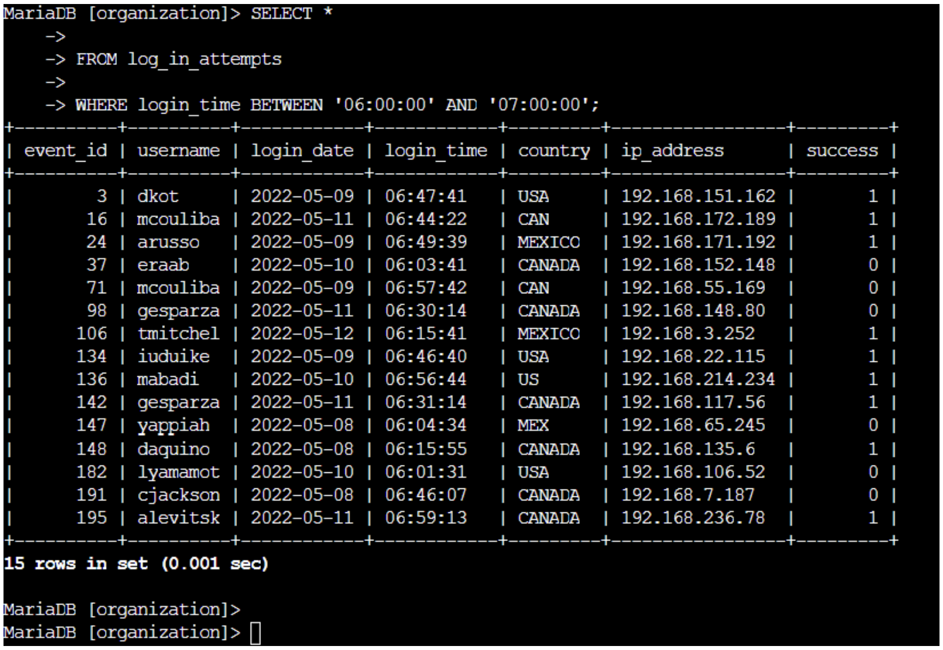
Note: *Place time data in single quotation marks*



```
MariaDB [organization]> SELECT *
    ->
    -> FROM log_in_attempts
    ->
    -> WHERE login_time < '07:00:00';
+----------+----------+------------+------------+---------+-----------------+---------+
| 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 |
|        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 |
|       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 |
|       22 | rjensen  | 2022-05-11 | 00:59:26   | MEX     | 192.168.213.128 |       0 |
|       24 | arusso   | 2022-05-09 | 06:49:39   | MEXICO  | 192.168.171.192 |       1 |
|       27 | aalonso  | 2022-05-10 | 01:55:35   | MEX     | 192.168.103.210 |       0 |
|       29 | bisles   | 2022-05-11 | 01:21:22   | US      | 192.168.85.186  |       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 |
|       33 | zbernal  | 2022-05-11 | 02:52:10   | US      | 192.168.72.59   |       1 |
|       37 | eraab    | 2022-05-10 | 06:03:41   | CANADA  | 192.168.152.148 |       0 |
|       43 | mcouliba | 2022-05-08 | 02:35:34   | CANADA  | 192.168.16.208  |       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 |
|       55 | jlansky  | 2022-05-11 | 05:15:34   | US      | 192.168.6.170   |       0 |
|       56 | acook    | 2022-05-08 | 04:56:30   | CAN     | 192.168.209.130 |       1 |
|       59 | rjensen  | 2022-05-12 | 04:52:08   | MEX     | 192.168.54.140  |       0 |
|       71 | mcouliba | 2022-05-09 | 06:57:42   | CAN     | 192.168.55.169  |       0 |
|       75 | zbernal  | 2022-05-12 | 04:14:35   | US      | 192.168.188.63  |       1 |
|       78 | smartell | 2022-05-10 | 05:55:53   | MEX     | 192.168.41.88   |       0 |
|       80 | cjackson | 2022-05-08 | 02:18:10   | CANADA  | 192.168.33.140  |       1 |
|       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 |
|       93 | jreckley | 2022-05-12 | 04:31:20   | MEX     | 192.168.108.24  |       0 |
|       94 | tbarnes  | 2022-05-10 | 03:37:10   | MEX     | 192.168.74.202  |       0 |
|       97 | jreckley | 2022-05-09 | 02:49:23   | MEXICO  | 192.168.32.231  |       1 |
|       98 | gesparza | 2022-05-11 | 06:30:14   | CANADA  | 192.168.148.80  |       0 |
```

The query in the previous step returned more results than required.

2. Modify the query to return logins between '06:00:00' and '07:00:00'.



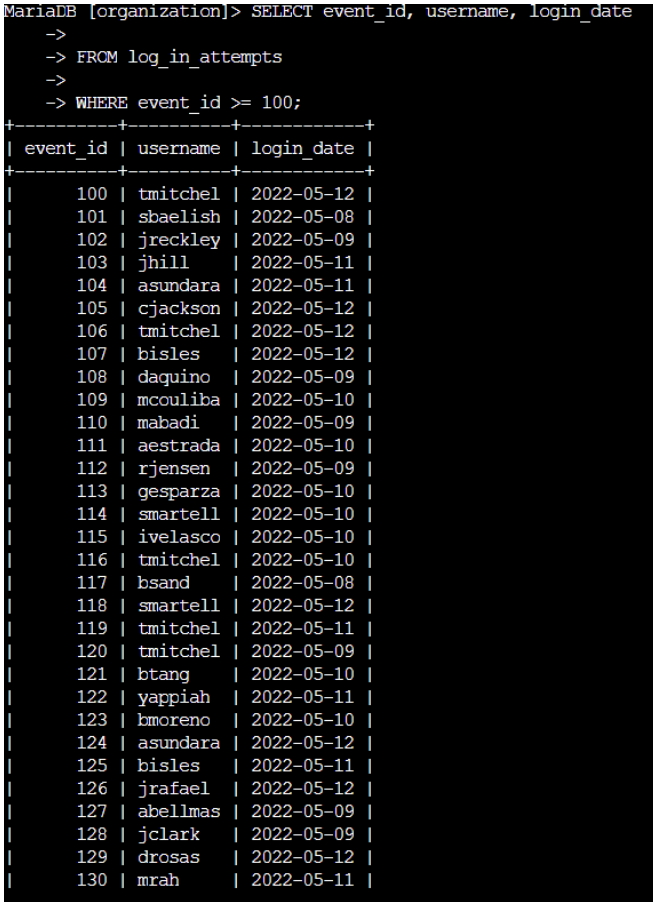
```
MariaDB [organization]> SELECT *
    ->
    -> FROM log_in_attempts
    ->
    -> WHERE login_time BETWEEN '06:00:00' AND '07:00:00';
+----------+----------+------------+------------+---------+-----------------+---------+
| event_id | username | login_date | login_time | country | ip_address      | success |
+----------+----------+------------+------------+---------+-----------------+---------+
|        3 | dkot     | 2022-05-09 | 06:47:41   | USA     | 192.168.151.162 |       1 |
|       16 | mcouliba | 2022-05-11 | 06:44:22   | CAN     | 192.168.172.189 |       1 |
|       24 | arusso   | 2022-05-09 | 06:49:39   | MEXICO  | 192.168.171.192 |       1 |
|       37 | eraab    | 2022-05-10 | 06:03:41   | CANADA  | 192.168.152.148 |       0 |
|       71 | mcouliba | 2022-05-09 | 06:57:42   | CAN     | 192.168.55.169  |       0 |
|       98 | gesparza | 2022-05-11 | 06:30:14   | CANADA  | 192.168.148.80  |       0 |
|      106 | tmitchel | 2022-05-12 | 06:15:41   | MEXICO  | 192.168.3.252   |       1 |
|      134 | iuduike  | 2022-05-09 | 06:46:40   | USA     | 192.168.22.115  |       1 |
|      136 | mabadi   | 2022-05-10 | 06:56:44   | US      | 192.168.214.234 |       1 |
|      142 | gesparza | 2022-05-11 | 06:31:14   | CANADA  | 192.168.117.56  |       1 |
|      147 | yappiah  | 2022-05-08 | 06:04:34   | MEX     | 192.168.65.245  |       0 |
|      148 | daquino  | 2022-05-08 | 06:15:55   | CANADA  | 192.168.135.6   |       1 |
|      182 | lyamamot | 2022-05-10 | 06:01:31   | USA     | 192.168.106.52  |       0 |
|      191 | cjackson | 2022-05-08 | 06:46:07   | CANADA  | 192.168.7.187   |       0 |
|      195 | alevitsk | 2022-05-11 | 06:59:13   | CANADA  | 192.168.236.78  |       1 |
+----------+----------+------------+------------+---------+-----------------+---------+
15 rows in set (0.001 sec)

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

Task 4. Investigate logins by event ID

In this task, you need to investigate login attempts based on event ID numbers. With this query, you want to return only the event_id, username, and login_date fields from the log_in_attempts table.

Note: *The event_id column contains numeric data; do not place numeric data in quotation marks.*

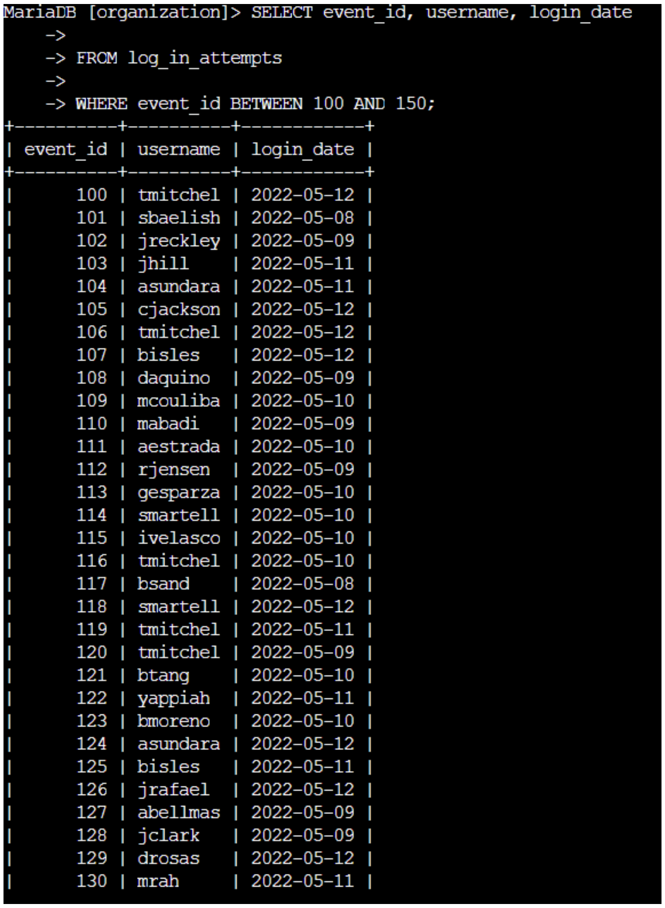
1. Write a query to return login attempts with event_id greater than or equal to 100.



```
MariaDB [organization]> SELECT event_id, username, login_date
    ->
    -> FROM log_in_attempts
    ->
    -> WHERE event_id >= 100;
+----------+----------+------------+
| event_id | username | login_date |
+----------+----------+------------+
|      100 | tmitchel | 2022-05-12 |
|      101 | sbaelish | 2022-05-08 |
|      102 | jreckley | 2022-05-09 |
|      103 | jhill    | 2022-05-11 |
|      104 | asundara | 2022-05-11 |
|      105 | cjackson | 2022-05-12 |
|      106 | tmitchel | 2022-05-12 |
|      107 | bisles   | 2022-05-12 |
|      108 | daquino  | 2022-05-09 |
|      109 | mcouliba | 2022-05-10 |
|      110 | mabadi   | 2022-05-09 |
|      111 | aestrada | 2022-05-10 |
|      112 | rjensen  | 2022-05-09 |
|      113 | gesparza | 2022-05-10 |
|      114 | smartell | 2022-05-10 |
|      115 | ivelasco | 2022-05-10 |
|      116 | tmitchel | 2022-05-10 |
|      117 | bsand    | 2022-05-08 |
|      118 | smartell | 2022-05-12 |
|      119 | tmitchel | 2022-05-11 |
|      120 | tmitchel | 2022-05-09 |
|      121 | btang    | 2022-05-10 |
|      122 | yappiah  | 2022-05-11 |
|      123 | bmoreno  | 2022-05-10 |
|      124 | asundara | 2022-05-12 |
|      125 | bisles   | 2022-05-11 |
|      126 | jrafael  | 2022-05-12 |
|      127 | abellmas | 2022-05-09 |
|      128 | jclark   | 2022-05-09 |
|      129 | drosas   | 2022-05-12 |
|      130 | mrah     | 2022-05-11 |
```

The query in the previous step returned more data than required.

2. Modify the query to return only login attempts with event_id between 100 and 150.



```
MariaDB [organization]> SELECT event_id, username, login_date
    ->
    -> FROM log_in_attempts
    ->
    -> WHERE event_id BETWEEN 100 AND 150;
+----------+----------+------------+
| event_id | username | login_date |
+----------+----------+------------+
|      100 | tmitchel | 2022-05-12 |
|      101 | sbaelish | 2022-05-08 |
|      102 | jreckley | 2022-05-09 |
|      103 | jhill    | 2022-05-11 |
|      104 | asundara | 2022-05-11 |
|      105 | cjackson | 2022-05-12 |
|      106 | tmitchel | 2022-05-12 |
|      107 | bisles   | 2022-05-12 |
|      108 | daquino  | 2022-05-09 |
|      109 | mcouliba | 2022-05-10 |
|      110 | mabadi   | 2022-05-09 |
|      111 | aestrada | 2022-05-10 |
|      112 | rjensen  | 2022-05-09 |
|      113 | gesparza | 2022-05-10 |
|      114 | smartell | 2022-05-10 |
|      115 | ivelasco | 2022-05-10 |
|      116 | tmitchel | 2022-05-10 |
|      117 | bsand    | 2022-05-08 |
|      118 | smartell | 2022-05-12 |
|      119 | tmitchel | 2022-05-11 |
|      120 | tmitchel | 2022-05-09 |
|      121 | btang    | 2022-05-10 |
|      122 | yappiah  | 2022-05-11 |
|      123 | bmoreno  | 2022-05-10 |
|      124 | asundara | 2022-05-12 |
|      125 | bisles   | 2022-05-11 |
|      126 | jrafael  | 2022-05-12 |
|      127 | abellmas | 2022-05-09 |
|      128 | jclark   | 2022-05-09 |
|      129 | drosas   | 2022-05-12 |
|      130 | mrah     | 2022-05-11 |
```

Lab Summary: Filter Login Attempts with Operators

Objective

This lab was about practicing SQL operators to filter login attempts by date, time, and numeric values.

Tasks Completed

- Retrieved login attempts after a specific date using > and then included the date with >=.
- Used BETWEEN with AND to return logins between 2022-05-09 and 2022-05-11.
- Filtered by login times to find attempts before working hours (< '07:00:00') and narrowed results to between 06:00 and 07:00.
- Investigated login attempts by event IDs, first with IDs greater than or equal to 100, then refined to only those between 100 and 150.

Summary

The queries worked as expected and demonstrated how operators like >, <, >=, and

BETWEEN are used in SQL to filter numeric and date/time data. This lab reinforced how to narrow results when investigating login activity during incidents.