7- Activity - Completing SQL Joins for Data Correlation

Task 1: Match Employees to Their Machines

In this task, the objective is to identify which employees are using which machines by correlating data from the `machines` and `employees` tables.

1- **Retrieve All Machine Records**
To begin, I retrieved all records from the `machines` table to understand the available data. This query served as a preliminary step to ensure the data was ready for joining:

SELECT * FROM machines;

```
MariaDB [organization]> SELECT *  FROM machines;
+---------------+------------------+-----------------+-----------------+---------------+
| device_id     | operating_system | email_client    | OS_patch_date   | employee_id   |
+---------------+------------------+-----------------+-----------------+---------------+
| a184b775c707  | OS 1             | Email Client 1  | 2021-09-01      |        1156   |
| a192b174c940  | OS 2             | Email Client 1  | 2021-06-01      |        1052   |
| a305b818c708  | OS 3             | Email Client 2  | 2021-06-01      |        1182   |
| a317b635c465  | OS 1             | Email Client 2  | 2021-03-01      |        1130   |
| a320b137c219  | OS 2             | Email Client 2  | 2021-03-01      |        1000   |
| a398b471c573  | OS 3             | Email Client 2  | 2021-12-01      |           0   |
| a667b270c984  | OS 1             | Email Client 1  | 2021-03-01      |        1078   |
| a821b452c176  | OS 2             | Email Client 2  | 2021-12-01      |        1104   |
| a998b568c863  | OS 3             | Email Client 1  | 2021-12-01      |        1026   |
| b157c491d493  | OS 2             | Email Client 1  | 2021-03-01      |           0   |
| b239c825d303  | OS 1             | Email Client 1  | 2021-03-01      |        1001   |
| b264c773d977  | OS 2             | Email Client 2  | 2021-03-01      |        1157   |
| b265c937d713  | OS 2             | Email Client 1  | 2021-09-01      |        1131   |
| b433c245d868  | OS 1             | Email Client 1  | 2021-06-01      |        1079   |
| b551c837d758  | OS 3             | Email Client 1  | 2021-03-01      |        1105   |
| b566c710d544  | OS 1             | Email Client 1  | 2021-06-01      |        1183   |
| b806c503d354  | OS 2             | Email Client 1  | 2021-12-01      |        1027   |
| b979c871d361  | OS 2             | Email Client 1  | 2021-03-01      |        1053   |
| c116d593e558  | OS 3             | Email Client 1  | 2021-09-01      |        1002   |
| c150d982e144  | OS 2             | Email Client 2  | 2021-06-01      |        1132   |
| c185d679e493  | OS 1             | Email Client 2  | 2021-09-01      |           0   |
| c406d877e950  | OS 2             | Email Client 1  | 2021-06-01      |        1158   |
| c547d140e477  | OS 2             | Email Client 1  | 2021-03-01      |        1054   |
| c568d742e974  | OS 2             | Email Client 2  | 2021-09-01      |        1080   |
| c597d792e215  | OS 2             | Email Client 1  | 2021-09-01      |        1106   |
| c603d749e374  | OS 1             | Email Client 1  | 2021-12-01      |        1028   |
| c986d200e170  | OS 2             | Email Client 2  | 2021-09-01      |        1184   |
| d168e758f876  | OS 2             | Email Client 1  | 2021-09-01      |        1107   |
| d280e557f635  | OS 3             | Email Client 1  | 2021-03-01      |           0   |
| d336e475f676  | OS 2             | Email Client 2  | 2021-06-01      |        1029   |
| d394e816f943  | OS 3             | Email Client 2  | 2021-03-01      |        1003   |
| d647e310f618  | OS 2             | Email Client 2  | 2021-06-01      |        1081   |
| d693e351f221  | OS 2             | Email Client 2  | 2021-09-01      |        1133   |
| d790e839f461  | OS 1             | Email Client 1  | 2021-06-01      |        1185   |
| d831e972f553  | OS 1             | Email Client 1  | 2021-09-01      |        1055   |
| d881e710f732  | OS 3             | Email Client 2  | 2021-03-01      |        1159   |
| e113f298g203  | OS 2             | Email Client 2  | 2021-03-01      |        1108   |
```

2- **Perform an Inner Join to Match Data**

Since both tables include the `device_id` column, I performed an SQL inner join to link the `machines` and `employees` tables. This join allowed me to match each machine with its respective user.

SELECT * FROM machines
INNER JOIN employees ON machines.device_id = employees.device_id;

The join returned **185 rows**, successfully matching employees to their machines.

```
MariaDB [organization]> clear
MariaDB [organization]> SELECT * FROM machines INNER JOIN employees ON machines.device_id = employees.device_id;
+--------------+------------------+----------------+---------------+-------------+-------------+--------------+-----------+------------------------+--------------+
| device_id    | operating_system | email_client   | OS_patch_date | employee_id | employee_id | device_id    | username  | department             | office       |
+--------------+------------------+----------------+---------------+-------------+-------------+--------------+-----------+------------------------+--------------+
| a320b137c219 | OS 2             | Email Client 2 | 2021-03-01    | 1000        | 1000        | a320b137c219 | elarson   | Marketing              | East-170     |
| b239c825d303 | OS 1             | Email Client 1 | 2021-03-01    | 1001        | 1001        | b239c825d303 | bmoreno   | Marketing              | Central-276  |
| c116d593e558 | OS 3             | Email Client 1 | 2021-09-01    | 1002        | 1002        | c116d593e558 | tshah     | Human Resources        | North-434    |
| d394e816f943 | OS 3             | Email Client 2 | 2021-03-01    | 1003        | 1003        | d394e816f943 | sgilmore  | Finance                | South-153    |
| e218f877g788 | OS 2             | Email Client 1 | 2021-09-01    | 1004        | 1004        | e218f877g788 | eraab     | Human Resources        | South-127    |
| f551g340h864 | OS 3             | Email Client 2 | 2021-12-01    | 1005        | 1005        | f551g340h864 | gesparza  | Human Resources        | South-366    |
| g329h357i597 | OS 1             | Email Client 2 | 2021-06-01    | 1006        | 1006        | g329h357i597 | alevitsk  | Information Technology  | East-320     |
| h174i497j413 | OS 2             | Email Client 1 | 2021-03-01    | 1007        | 1007        | h174i497j413 | wjaffrey  | Finance                | North-406    |
| i858j583k571 | OS 2             | Email Client 1 | 2021-06-01    | 1008        | 1008        | i858j583k571 | abernard  | Finance                | South-170    |
| k2421212m542 | OS 1             | Email Client 1 | 2021-03-01    | 1010        | 1010        | k2421212m542 | jlansky   | Finance                | South-109    |
| 1748m120n401 | OS 3             | Email Client 1 | 2021-09-01    | 1011        | 1011        | 1748m120n401 | drosas    | Sales                  | South-292    |
| m756n668o146 | OS 1             | Email Client 2 | 2021-09-01    | 1012        | 1012        | m756n668o146 | nmason    | Information Technology  | North-160    |
| n205o559p243 | OS 1             | Email Client 2 | 2021-06-01    | 1013        | 1013        | n205o559p243 | zbernal   | Information Technology  | South-229    |
| p611q262r945 | OS 1             | Email Client 2 | 2021-03-01    | 1015        | 1015        | p611q262r945 | jsoto     | Finance                | North-271    |
| q793r736s288 | OS 2             | Email Client 1 | 2021-03-01    | 1016        | 1016        | q793r736s288 | sbaelish  | Human Resources        | North-229    |
| r550s824t230 | OS 2             | Email Client 1 | 2021-03-01    | 1017        | 1017        | r550s824t230 | jclark    | Finance                | North-188    |
| s310t540u653 | OS 1             | Email Client 2 | 2021-12-01    | 1018        | 1018        | s310t540u653 | abellmas  | Finance                | North-403    |
| t815u205v470 | OS 3             | Email Client 1 | 2021-06-01    | 1019        | 1019        | t815u205v470 | mcouliba  | Information Technology  | North-108    |
| u899v381w363 | OS 3             | Email Client 1 | 2021-06-01    | 1020        | 1020        | u899v381w363 | arutley   | Marketing              | South-351    |
| v200w121x977 | OS 2             | Email Client 2 | 2021-03-01    | 1021        | 1021        | v200w121x977 | smartell  | Information Technology  | South-138    |
| w237x430y567 | OS 2             | Email Client 2 | 2021-06-01    | 1022        | 1022        | w237x430y567 | arusso    | Finance                | West-465     |
| x253y759z103 | OS 1             | Email Client 2 | 2021-06-01    | 1023        | 1023        | x253y759z103 | aalonso   | Information Technology  | West-393     |
| y976z753a267 | OS 2             | Email Client 2 | 2021-06-01    | 1024        | 1024        | y976z753a267 | iuduike   | Sales                  | South-215    |
| z381a365b233 | OS 3             | Email Client 2 | 2021-12-01    | 1025        | 1025        | z381a365b233 | jhill     | Sales                  | North-115    |
| a998b568c863 | OS 3             | Email Client 1 | 2021-12-01    | 1026        | 1026        | a998b568c863 | apatel    | Human Resources        | West-320     |
| b806c503d354 | OS 2             | Email Client 1 | 2021-12-01    | 1027        | 1027        | b806c503d354 | mrah      | Marketing              | West-246     |
| c603d749e374 | OS 1             | Email Client 1 | 2021-12-01    | 1028        | 1028        | c603d749e374 | aestrada  | Human Resources        | West-121     |
| d336e475f676 | OS 2             | Email Client 2 | 2021-06-01    | 1029        | 1029        | d336e475f676 | ivelasco  | Finance                | East-156     |
| e391f189g913 | OS 3             | Email Client 2 | 2021-12-01    | 1030        | 1030        | e391f189g913 | mabadi    | Marketing              | West-375     |
| f419g188h578 | OS 1             | Email Client 1 | 2021-06-01    | 1031        | 1031        | f419g188h578 | dkot      | Marketing              | West-408     |
| g773h303i639 | OS 2             | Email Client 2 | 2021-12-01    | 1032        | 1032        | g773h303i639 | jrafael   | Information Technology  | Central-309  |
| i679j565k940 | OS 1             | Email Client 1 | 2021-03-01    | 1034        | 1034        | i679j565k940 | bsand     | Human Resources        | East-484     |
| j236k3031245 | OS 1             | Email Client 1 | 2021-12-01    | 1035        | 1035        | j236k3031245 | bisles    | Sales                  | South-171    |
| k5501533m205 | OS 3             | Email Client 2 | 2021-09-01    | 1036        | 1036        | k5501533m205 | rjensen   | Marketing              | Central-239  |
| 1693m585n528 | OS 3             | Email Client 1 | 2021-06-01    | 1037        | 1037        | 1693m585n528 | dtanaka   | Information Technology  | West-468     |
| m873n636o225 | OS 1             | Email Client 2 | 2021-06-01    | 1038        | 1038        | m873n636o225 | btang     | Human Resources        | Central-260  |
```

Task 2: Retrieve Comprehensive Data

Next, the goal was to return data from both tables, ensuring all records from one table and the corresponding matches from the other were included.

1- **Left Join: Machines with Employees**

I conducted a left join to retrieve all machine records, including those without an associated employee. This query returned comprehensive data, showing which machines were unassigned.

SELECT * FROM machines
LEFT JOIN employees ON machines.device_id = employees.device_id;

The last record had a `NULL` value in the `username` column, indicating that this machine is not assigned to any employee.

MariaDB [organization]> SELECT * FROM machines LEFT JOIN employees ON machines.device_id = employees.device_id;
+--------------+------------------+----------------+----------------+-------------+-------------+--------------+------------+------------------------+-------------+
| device_id | operating_system | email_client | OS_patch_date | employee_id | employee_id | device_id | username | department | office |
+--------------+------------------+----------------+----------------+-------------+-------------+--------------+------------+------------------------+-------------+
a320b137c219	OS 2	Email Client 2	2021-03-01	1000	1000	a320b137c219	elarson	Marketing	East-170
b239c825d303	OS 1	Email Client 1	2021-03-01	1001	1001	b239c825d303	bmoreno	Marketing	Central-276
c116d593e558	OS 3	Email Client 1	2021-09-01	1002	1002	c116d593e558	tshah	Human Resources	North-434
d394e816f943	OS 3	Email Client 2	2021-03-01	1003	1003	d394e816f943	sgilmore	Finance	South-153
e218f877g788	OS 2	Email Client 1	2021-09-01	1004	1004	e218f877g788	eraab	Human Resources	South-127
f551g340h864	OS 3	Email Client 2	2021-12-01	1005	1005	f551g340h864	gesparza	Human Resources	South-366
g329h357i597	OS 1	Email Client 2	2021-06-01	1006	1006	g329h357i597	alevitsk	Information Technology	East-320
h174i497j413	OS 2	Email Client 1	2021-03-01	1007	1007	h174i497j413	wjaffrey	Finance	North-406
i858j583k571	OS 2	Email Client 2	2021-06-01	1008	1008	i858j583k571	abernard	Finance	South-170
k2421212m542	OS 1	Email Client 1	2021-03-01	1010	1010	k2421212m542	jlansky	Finance	South-109
l748m120n401	OS 3	Email Client 1	2021-09-01	1011	1011	l748m120n401	drosas	Sales	South-292
m756n668o146	OS 1	Email Client 2	2021-09-01	1012	1012	m756n668o146	nmason	Information Technology	North-160
n205o559p243	OS 1	Email Client 2	2021-06-01	1013	1013	n205o559p243	zbernal	Information Technology	South-229
p611q262r945	OS 1	Email Client 2	2021-03-01	1015	1015	p611q262r945	jsoto	Finance	North-271
q793r736s288	OS 2	Email Client 1	2021-03-01	1016	1016	q793r736s288	sbaelish	Human Resources	North-229
r550s824t230	OS 2	Email Client 1	2021-03-01	1017	1017	r550s824t230	jclark	Finance	North-188
s310t540u653	OS 1	Email Client 2	2021-12-01	1018	1018	s310t540u653	abellmas	Finance	North-403
t815u205v470	OS 3	Email Client 1	2021-06-01	1019	1019	t815u205v470	mcouliba	Information Technology	North-108
u899v381w363	OS 3	Email Client 1	2021-06-01	1020	1020	u899v381w363	arutley	Marketing	South-351
v200w121x977	OS 2	Email Client 2	2021-03-01	1021	1021	v200w121x977	smartell	Information Technology	South-138
w237x430y567	OS 2	Email Client 2	2021-06-01	1022	1022	w237x430y567	arusso	Finance	West-465
x253y759z103	OS 1	Email Client 2	2021-12-01	1023	1023	x253y759z103	aalonso	Information Technology	West-393
y976z753a267	OS 2	Email Client 2	2021-06-01	1024	1024	y976z753a267	iuduike	Sales	South-215
z381a365b233	OS 3	Email Client 2	2021-12-01	1025	1025	z381a365b233	jhill	Sales	North-115
a998b568c863	OS 3	Email Client 1	2021-12-01	1026	1026	a998b568c863	apatel	Human Resources	West-320
b806c503d354	OS 2	Email Client 1	2021-12-01	1027	1027	b806c503d354	mrah	Marketing	West-246
c603d749e374	OS 1	Email Client 1	2021-12-01	1028	1028	c603d749e374	aestrada	Human Resources	West-121
d336e475f676	OS 2	Email Client 2	2021-06-01	1029	1029	d336e475f676	ivelasco	Finance	East-156
e391f189g913	OS 3	Email Client 2	2021-12-01	1030	1030	e391f189g913	mabadi	Marketing	West-375
f419g188h578	OS 1	Email Client 1	2021-06-01	1031	1031	f419g188h578	dkot	Marketing	West-408
g773h303i639	OS 2	Email Client 2	2021-12-01	1032	1032	g773h303i639	jrafael	Information Technology	Central-309
i679j565k940	OS 1	Email Client 1	2021-03-01	1034	1034	i679j565k940	bsand	Human Resources	East-484

2- Right Join: Employees with Machines

I then conducted a right join to retrieve all employee records, including those without a machine. This query identified employees without assigned machines.

SELECT * FROM machines
RIGHT JOIN employees ON machines.device_id = employees.device_id;

The last record showed the username `areyes` , highlighting the employee without a corresponding machine.

MariaDB [organization]> SELECT * FROM machines RIGHT JOIN employees ON machines.device_id = employees.device_id;
+--------------+------------------+----------------+----------------+-------------+-------------+--------------+------------+------------------------+-------------+
| device_id | operating_system | email_client | OS_patch_date | employee_id | employee_id | device_id | username | department | office |
+--------------+------------------+----------------+----------------+-------------+-------------+--------------+------------+------------------------+-------------+
a320b137c219	OS 2	Email Client 2	2021-03-01	1000	1000	a320b137c219	elarson	Marketing	East-170
b239c825d303	OS 1	Email Client 1	2021-03-01	1001	1001	b239c825d303	bmoreno	Marketing	Central-276
c116d593e558	OS 3	Email Client 1	2021-09-01	1002	1002	c116d593e558	tshah	Human Resources	North-434
d394e816f943	OS 3	Email Client 2	2021-03-01	1003	1003	d394e816f943	sgilmore	Finance	South-153
e218f877g788	OS 2	Email Client 1	2021-09-01	1004	1004	e218f877g788	eraab	Human Resources	South-127
f551g340h864	OS 3	Email Client 2	2021-12-01	1005	1005	f551g340h864	gesparza	Human Resources	South-366
g329h357i597	OS 1	Email Client 2	2021-06-01	1006	1006	g329h357i597	alevitsk	Information Technology	East-320
h174i497j413	OS 2	Email Client 1	2021-03-01	1007	1007	h174i497j413	wjaffrey	Finance	North-406
i858j583k571	OS 2	Email Client 2	2021-06-01	1008	1008	i858j583k571	abernard	Finance	South-170
NULL	NULL	NULL	NULL	NULL	1009	NULL	lrodriqu	Sales	South-134
k2421212m542	OS 1	Email Client 1	2021-03-01	1010	1010	k2421212m542	jlansky	Finance	South-109
l748m120n401	OS 3	Email Client 1	2021-09-01	1011	1011	l748m120n401	drosas	Sales	South-292
m756n668o146	OS 1	Email Client 2	2021-09-01	1012	1012	m756n668o146	nmason	Information Technology	North-160
n205o559p243	OS 1	Email Client 2	2021-06-01	1013	1013	n205o559p243	zbernal	Information Technology	South-229
NULL	NULL	NULL	NULL	NULL	1014	NULL	asundara	Information Technology	West-219
p611q262r945	OS 1	Email Client 2	2021-03-01	1015	1015	p611q262r945	jsoto	Finance	North-271
q793r736s288	OS 2	Email Client 1	2021-03-01	1016	1016	q793r736s288	sbaelish	Human Resources	North-229
r550s824t230	OS 2	Email Client 1	2021-03-01	1017	1017	r550s824t230	jclark	Finance	North-188
s310t540u653	OS 1	Email Client 2	2021-12-01	1018	1018	s310t540u653	abellmas	Finance	North-403
t815u205v470	OS 3	Email Client 1	2021-06-01	1019	1019	t815u205v470	mcouliba	Information Technology	North-108
u899v381w363	OS 3	Email Client 1	2021-06-01	1020	1020	u899v381w363	arutley	Marketing	South-351
v200w121x977	OS 2	Email Client 2	2021-03-01	1021	1021	v200w121x977	smartell	Information Technology	South-138
w237x430y567	OS 2	Email Client 2	2021-06-01	1022	1022	w237x430y567	arusso	Finance	West-465
x253y759z103	OS 1	Email Client 2	2021-12-01	1023	1023	x253y759z103	aalonso	Information Technology	West-393
y976z753a267	OS 2	Email Client 2	2021-06-01	1024	1024	y976z753a267	iuduike	Sales	South-215
z381a365b233	OS 3	Email Client 2	2021-12-01	1025	1025	z381a365b233	jhill	Sales	North-115
a998b568c863	OS 3	Email Client 1	2021-12-01	1026	1026	a998b568c863	apatel	Human Resources	West-320
b806c503d354	OS 2	Email Client 1	2021-12-01	1027	1027	b806c503d354	mrah	Marketing	West-246
c603d749e374	OS 1	Email Client 1	2021-12-01	1028	1028	c603d749e374	aestrada	Human Resources	West-121
d336e475f676	OS 2	Email Client 2	2021-06-01	1029	1029	d336e475f676	ivelasco	Finance	East-156
e391f189g913	OS 3	Email Client 2	2021-12-01	1030	1030	e391f189g913	mabadi	Marketing	West-375
f419g188h578	OS 1	Email Client 1	2021-06-01	1031	1031	f419g188h578	dkot	Marketing	West-408
g773h303i639	OS 2	Email Client 2	2021-12-01	1032	1032	g773h303i639	jrafael	Information Technology	Central-309
NULL	NULL	NULL	NULL	NULL	1033	NULL	yappiah	Information Technology	West-387
i679j565k940	OS 1	Email Client 1	2021-03-01	1034	1034	i679j565k940	bsand	Human Resources	East-484
j236k3031245	OS 1	Email Client 1	2021-12-01	1035	1035	j236k3031245	bisles	Sales	South-171
k5501533m205	OS 3	Email Client 2	2021-09-01	1036	1036	k5501533m205	rjensen	Marketing	Central-239
l693m585n528	OS 3	Email Client 1	2021-06-01	1037	1037	l693m585n528	dtanaka	Information Technology	West-468
m873n636o225	OS 1	Email Client 2	2021-06-01	1038	1038	m873n636o225	btang	Human Resources	Central-260
n253o917p623	OS 3	Email Client 2	2021-09-01	1039	1039	n253o917p623	cjackson	Sales	East-378
o783p832q294	OS 2	Email Client 2	2021-09-01	1040	1040	o783p832q294	dtarly	Human Resources	East-237
p929q222r778	OS 3	Email Client 1	2021-06-01	1041	1041	p929q222r778	cgriffin	Sales	North-208

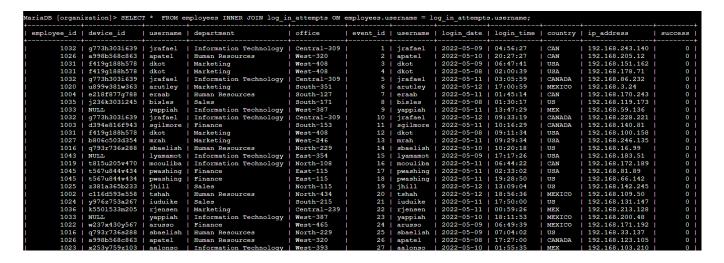# Task 3: Retrieve Login Attempt Data

For the final task, I needed to investigate login attempts made by employees as part of a security incident analysis.

1- **Inner Join: Employees and Login Attempts**
To correlate login attempts with employees, I performed an inner join between the `employees` and `log_in_attempts` tables, linking them on the `username` column.

SELECT * FROM employees
INNER JOIN log_in_attempts ON employees.username = log_in_attempts.username;

```
MariaDB [organization]> SELECT *  FROM employees INNER JOIN log_in_attempts ON employees.username = log_in_attempts.username;
+-------------+--------------+-----------+------------------------+-------------+----------+-----------+-------------+------------+-----------+------------------+-----------+
| employee_id | device_id    | username  | department             | office      | event_id | username  | login_date  | login_time | country   | ip_address       | success   |
+-------------+--------------+-----------+------------------------+-------------+----------+-----------+-------------+------------+-----------+------------------+-----------+
|        1032 | g773h303i639 | jrafael   | Information Technology  | Central-309 |        1 | jrafael   | 2022-05-09  | 04:56:27   | CAN       | 192.168.243.140  |         0 |
|        1026 | a998b568c863 | apatel    | Human Resources        | West-320    |        2 | apatel    | 2022-05-10  | 20:27:27   | CAN       | 192.168.205.12   |         0 |
|        1031 | f419g188h578 | dkot      | Marketing              | West-408    |        3 | dkot      | 2022-05-09  | 06:47:41   | USA       | 192.168.151.162  |         0 |
|        1031 | f419g188h578 | dkot      | Marketing              | West-408    |        4 | dkot      | 2022-05-08  | 02:00:39   | USA       | 192.168.178.71   |         0 |
|        1032 | g773h303i639 | jrafael   | Information Technology  | Central-309 |        5 | jrafael   | 2022-05-11  | 03:05:59   | CANADA    | 192.168.86.232   |         0 |
|        1020 | u899v381w363 | arutley   | Marketing              | South-351   |        6 | arutley   | 2022-05-12  | 17:00:59   | MEXICO    | 192.168.3.24     |         0 |
|        1004 | e218f877g788 | eraab     | Human Resources        | South-127   |        7 | eraab     | 2022-05-11  | 01:45:14   | CAN       | 192.168.170.243  |         0 |
|        1035 | j236k303l245 | bisles    | Sales                  | South-171   |        8 | bisles    | 2022-05-08  | 01:30:17   | US        | 192.168.119.173  |         0 |
|        1033 | NULL         | yappiah   | Information Technology  | West-387    |        9 | yappiah   | 2022-05-11  | 13:47:29   | MEX       | 192.168.59.136   |         0 |
|        1032 | g773h303i639 | jrafael   | Information Technology  | Central-309 |       10 | jrafael   | 2022-05-12  | 09:33:19   | CANADA    | 192.168.228.221  |         0 |
|        1003 | d394e816f943 | sgilmore  | Finance                | South-153   |       11 | sgilmore  | 2022-05-11  | 10:16:29   | CANADA    | 192.168.140.81   |         0 |
|        1031 | f419g188h578 | dkot      | Marketing              | West-408    |       12 | dkot      | 2022-05-08  | 09:11:34   | USA       | 192.168.100.158  |         0 |
|        1027 | b806c503d354 | mrah      | Marketing              | West-246    |       13 | mrah      | 2022-05-11  | 09:29:34   | USA       | 192.168.246.135  |         0 |
|        1016 | q793r736s288 | sbaelish  | Human Resources        | North-229   |       14 | sbaelish  | 2022-05-10  | 10:20:18   | US        | 192.168.16.99    |         0 |
|        1043 | NULL         | lyamamot  | Information Technology  | East-354    |       15 | lyamamot  | 2022-05-09  | 17:17:26   | USA       | 192.168.183.51   |         0 |
|        1019 | t815u205v470 | mcouliba  | Information Technology  | North-108   |       16 | mcouliba  | 2022-05-11  | 06:44:22   | CAN       | 192.168.172.189  |         0 |
|        1045 | t567u844v434 | pwashing  | Finance                | East-115    |       17 | pwashing  | 2022-05-11  | 02:33:02   | USA       | 192.168.81.89    |         0 |
|        1045 | t567u844v434 | pwashing  | Finance                | East-115    |       18 | pwashing  | 2022-05-11  | 19:28:50   | US        | 192.168.66.142   |         0 |
|        1025 | z381a365b233 | jhill     | Sales                  | North-115   |       19 | jhill     | 2022-05-12  | 13:09:04   | US        | 192.168.142.245  |         0 |
|        1002 | c116d593e558 | tshah     | Human Resources        | North-434   |       20 | tshah     | 2022-05-12  | 18:56:36   | MEXICO    | 192.168.109.50   |         0 |
|        1024 | y976z753a267 | iuduike   | Sales                  | South-215   |       21 | iuduike   | 2022-05-11  | 17:50:00   | US        | 192.168.131.147  |         0 |
|        1036 | k5501533m205 | rjensen   | Marketing              | Central-239 |       22 | rjensen   | 2022-05-11  | 00:59:26   | MEX       | 192.168.213.128  |         0 |
|        1033 | NULL         | yappiah   | Information Technology  | West-387    |       23 | yappiah   | 2022-05-10  | 18:11:53   | MEXICO    | 192.168.200.48   |         0 |
|        1022 | w237x430y567 | arusso    | Finance                | West-465    |       24 | arusso    | 2022-05-09  | 06:49:39   | MEXICO    | 192.168.171.192  |         0 |
|        1016 | q793r736s288 | sbaelish  | Human Resources        | North-229   |       25 | sbaelish  | 2022-05-09  | 07:04:02   | US        | 192.168.33.137   |         0 |
|        1026 | a998b568c863 | apatel    | Human Resources        | West-320    |       26 | apatel    | 2022-05-08  | 17:27:00   | CANADA    | 192.168.123.105  |         0 |
|        1023 | x253y759z103 | aalonso   | Information Technology  | West-393    |       27 | aalonso   | 2022-05-10  | 01:55:35   | MEX       | 192.168.103.210  |         0 |
```

This query returned **200 records**, providing the necessary data to further analyze the security incident.

Summary

In this activity, I used SQL joins to connect data across different tables. I matched employees to their machines with an inner join, retrieved unassigned machines and employees using left and right joins, and linked login attempts to employees for security analysis. These tasks demonstrated proficiency in performing data correlations essential for effective database management and security investigations.