

# Apply filters to SQL queries

## Project description

This project is to understand and show how I learned the basics of SQL. The following lab is to write queries in SQL from a premade database simulation.

## Retrieve after hours failed login attempts

**Code:** SELECT \*

->FROM log\_in\_attempts

->WHERE login\_time>'17:00' AND success = FALSE

-> ORDER BY login\_time ;

**Description:** Just for the SELECT \* i wanted to show all of the categories of data. WHERE line needed to output data where the login time was after 5pm and they were failed attempts. For clarity reasons I added the attempts to be sorted on when the attempt at logging in was made.

**Screenshot:**

event_id	username	login_date	login_time	country	ip_address	success
6	arutley	2022-05-12	17:00:59	MEXICO	192.168.3.24	0
156	btang	2022-05-11	17:08:51	USA	192.168.243.95	0
15	lyamamot	2022-05-09	17:17:26	USA	192.168.183.51	0
58	ivelasco	2022-05-09	17:20:54	CAN	192.168.57.162	0
31	acook	2022-05-12	17:36:45	CANADA	192.168.58.232	0
41	apatel	2022-05-10	17:39:42	CANADA	192.168.46.207	0
73	zbernal	2022-05-10	17:46:45	USA	192.168.80.46	0
104	asundara	2022-05-11	18:38:07	US	192.168.96.200	0
20	tshah	2022-05-12	18:56:36	MEXICO	192.168.109.50	0
28	aestrada	2022-05-09	19:28:12	MEXICO	192.168.27.57	0
18	pwashing	2022-05-11	19:28:50	US	192.168.66.142	0
199	yappiah	2022-05-11	19:34:48	MEXICO	192.168.44.232	0
69	wjaffrey	2022-05-11	19:55:15	USA	192.168.100.17	0
131	bisles	2022-05-09	20:03:55	US	192.168.113.171	0
107	bisles	2022-05-12	20:25:57	USA	192.168.116.187	0
2	apatel	2022-05-10	20:27:27	CAN	192.168.205.12	0
160	jclark	2022-05-10	20:49:00	CANADA	192.168.214.49	0
34	drosas	2022-05-11	21:02:04	US	192.168.45.93	0
127	abellmas	2022-05-09	21:20:51	CANADA	192.168.70.122	0
111	aestrada	2022-05-10	22:00:26	MEXICO	192.168.76.27	0
52	cjackson	2022-05-10	22:07:07	CAN	192.168.58.57	0
155	cgriffin	2022-05-12	22:18:42	USA	192.168.236.176	0
96	ivelasco	2022-05-09	22:36:36	CAN	192.168.84.194	0
87	apatel	2022-05-08	22:38:31	CANADA	192.168.132.153	0
42	cgriffin	2022-05-09	23:04:05	US	192.168.4.157	0
82	abernard	2022-05-12	23:38:46	MEX	192.168.234.49	0

26 rows in set (0.028 sec)

## Retrieve login attempts on specific dates

### Code:

```
->SELECT *  
->FROM log_in_attempts  
->WHERE login_date = '2022-05-11'  
->ORDER BY event_id DESC;
```

**Description:** Difference between this and the previous example is that I changed the desired output of the query to be a specific date and changing it to all of the log in attempts. I also changed the order by descending order of the event\_id.

### Screenshot:

event_id	username	login_date	login_time	country	ip_address	success
199	yappiah	2022-05-11	19:34:48	MEXICO	192.168.44.232	0
195	alevitsk	2022-05-11	06:59:13	CANADA	192.168.236.78	1
188	jsoto	2022-05-11	00:39:09	USA	192.168.21.88	0
183	nmason	2022-05-11	05:29:36	CANADA	192.168.137.147	0
177	wjaffrey	2022-05-11	00:15:55	USA	192.168.144.165	0
176	cward	2022-05-11	12:00:02	MEX	192.168.133.88	0
156	btang	2022-05-11	17:08:51	USA	192.168.243.95	0
149	jlansky	2022-05-11	01:07:11	USA	192.168.238.42	0
143	jhill	2022-05-11	00:30:22	USA	192.168.189.19	0
142	gesparza	2022-05-11	06:31:14	CANADA	192.168.117.56	1
139	apatel	2022-05-11	01:54:36	CAN	192.168.95.222	0
130	mrh	2022-05-11	02:54:21	USA	192.168.102.147	0
125	bisles	2022-05-11	08:36:19	US	192.168.74.9	1
122	yappiah	2022-05-11	08:27:25	MEX	192.168.50.45	0
119	tmitchel	2022-05-11	23:07:13	MEXICO	192.168.110.175	1
104	asundara	2022-05-11	18:38:07	US	192.168.96.200	0
103	jhill	2022-05-11	09:10:54	US	192.168.60.153	0
98	gesparza	2022-05-11	06:30:14	CANADA	192.168.148.80	0
91	jhill	2022-05-11	17:46:47	US	192.168.172.74	1
85	dtarly	2022-05-11	17:35:28	MEX	192.168.254.75	1
84	jrafael	2022-05-11	09:26:17	CAN	192.168.243.203	1
81	aalonso	2022-05-11	12:50:38	MEX	192.168.152.43	1
74	nmason	2022-05-11	15:55:48	CAN	192.168.162.2	1
69	wjaffrey	2022-05-11	19:55:15	USA	192.168.100.17	0
63	tmitchel	2022-05-11	14:13:41	MEXICO	192.168.110.131	0
60	acook	2022-05-11	21:46:00	CAN	192.168.54.45	1
55	jlansky	2022-05-11	05:15:34	US	192.168.6.170	0
48	asundara	2022-05-11	03:18:45	USA	192.168.72.10	1
46	eraab	2022-05-11	11:29:27	CAN	192.168.24.12	0
45	dtanaka	2022-05-11	10:28:54	US	192.168.223.157	1
34	drosas	2022-05-11	21:02:04	US	192.168.45.93	0
33	zbernal	2022-05-11	02:52:10	US	192.168.72.59	1
29	bisles	2022-05-11	01:21:22	US	192.168.85.186	0
22	rjensen	2022-05-11	00:59:26	MEX	192.168.213.128	0
21	iuduike	2022-05-11	17:50:00	US	192.168.131.147	1
18	pwashing	2022-05-11	19:28:50	US	192.168.66.142	0
17	pwashing	2022-05-11	02:33:02	USA	192.168.81.89	1
16	mcouliba	2022-05-11	06:44:22	CAN	192.168.172.189	1
13	mrh	2022-05-11	09:29:34	USA	192.168.246.135	1
11	sgilmore	2022-05-11	10:16:29	CANADA	192.168.140.81	0
9	yappiah	2022-05-11	13:47:29	MEX	192.168.59.136	1
7	eraab	2022-05-11	01:45:14	CAN	192.168.170.243	1
5	jrafael	2022-05-11	03:05:59	CANADA	192.168.86.232	0

43 rows in set (0.002 sec)

## Retrieve login attempts outside of Mexico

### Code:

```
->SELECT *  
->FROM log_in_attempts  
->WHERE country != 'MEXICO' AND NOT country = 'MEX' AND event_id >= 50  
->ORDER BY event_id AND success;
```

**Description:** I decided to make this query little more specific and difficult. The where condition is to not display anything from Mexico nor MEX and display the events with the id that is 50 or greater. It is also ordered by the event id's and the failed attempts.

### Screenshot:

event_id	username	login_date	login_time	country	ip_address	success
117	bsand	2022-05-08	00:19:11	USA	192.168.197.187	0
144	daquino	2022-05-09	11:09:32	CANADA	192.168.139.9	0
146	nmason	2022-05-10	02:25:55	CANADA	192.168.37.147	0
149	jlansky	2022-05-11	01:07:11	USA	192.168.238.42	0
150	nmason	2022-05-08	14:40:02	CAN	192.168.204.124	0
152	mabadi	2022-05-12	10:24:43	USA	192.168.96.244	0
155	cgriffin	2022-05-12	22:18:42	USA	192.168.236.176	0
156	btang	2022-05-11	17:08:51	USA	192.168.243.95	0
159	iuduike	2022-05-12	16:59:50	USA	192.168.220.115	0
143	jhill	2022-05-11	00:30:22	USA	192.168.189.19	0
141	btang	2022-05-12	10:12:03	USA	192.168.82.139	0
140	btang	2022-05-10	13:17:29	US	192.168.249.111	0
127	abellmas	2022-05-09	21:20:51	CANADA	192.168.70.122	0
128	jclark	2022-05-09	10:45:59	CANADA	192.168.122.169	0
129	drosas	2022-05-12	15:39:40	USA	192.168.152.200	0
130	mrah	2022-05-11	02:54:21	USA	192.168.102.147	0
131	bisles	2022-05-09	20:03:55	US	192.168.113.171	0
184	alevitsk	2022-05-08	03:09:48	CAN	192.168.33.70	0
135	bsand	2022-05-09	14:06:33	US	192.168.91.238	0
139	apatel	2022-05-11	01:54:36	CAN	192.168.95.222	0
160	jclark	2022-05-10	20:49:00	CANADA	192.168.214.49	0
161	abellmas	2022-05-09	13:25:50	CAN	192.168.180.205	0
185	jsoto	2022-05-10	13:34:58	USA	192.168.151.91	0
186	bisles	2022-05-09	04:29:17	USA	192.168.40.72	0
188	jsoto	2022-05-11	00:39:09	USA	192.168.21.88	0
190	jsoto	2022-05-09	05:09:21	USA	192.168.25.60	0
191	cjackson	2022-05-08	06:46:07	CANADA	192.168.7.187	0
193	lrodriqu	2022-05-08	07:11:29	US	192.168.125.240	0
194	jclark	2022-05-12	14:11:04	CAN	192.168.197.247	0
196	acook	2022-05-10	09:56:48	CAN	192.168.52.90	0
183	nmason	2022-05-11	05:29:36	CANADA	192.168.137.147	0
182	lyamamot	2022-05-10	06:01:31	USA	192.168.106.52	0
181	abellmas	2022-05-10	13:37:05	CAN	192.168.60.111	0
169	alevitsk	2022-05-08	08:10:43	CANADA	192.168.210.228	0
170	sbaelish	2022-05-09	16:43:18	USA	192.168.65.113	0
171	drosas	2022-05-10	16:32:55	USA	192.168.92.218	0
174	lyamamot	2022-05-10	12:26:27	US	192.168.228.122	0
175	jhill	2022-05-10	00:17:09	USA	192.168.130.218	0
177	wjaffrey	2022-05-11	00:15:55	USA	192.168.144.165	0
178	sgilmore	2022-05-08	12:27:22	CAN	192.168.52.216	0
179	jclark	2022-05-12	04:08:17	CAN	192.168.232.93	0
197	jsoto	2022-05-08	09:05:09	US	192.168.36.21	0
103	jhill	2022-05-11	09:10:54	US	192.168.60.153	0
73	zbernal	2022-05-10	17:46:45	USA	192.168.80.46	0
104	asundara	2022-05-11	18:38:07	US	192.168.96.200	0
58	ivelasco	2022-05-09	17:20:54	CAN	192.168.57.162	0
71	mcouliba	2022-05-09	06:57:42	CAN	192.168.55.169	0
101	sbaelish	2022-05-08	12:01:22	US	192.168.145.158	0
90	gesparza	2022-05-09	00:49:05	CANADA	192.168.87.201	0
69	wjaffrey	2022-05-11	19:55:15	USA	192.168.100.17	0
98	gesparza	2022-05-11	06:30:14	CANADA	192.168.148.80	0
96	ivelasco	2022-05-09	22:36:36	CAN	192.168.84.194	0
87	apatel	2022-05-08	22:38:31	CANADA	192.168.132.153	0
107	bisles	2022-05-12	20:25:57	USA	192.168.116.187	0
76	bmoreno	2022-05-10	10:53:55	CAN	192.168.61.200	0
50	jclark	2022-05-10	10:48:02	CANADA	192.168.174.117	0
52	cjackson	2022-05-10	22:07:07	CAN	192.168.58.57	0
113	gesparza	2022-05-10	00:40:00	CAN	192.168.64.133	0
55	jlansky	2022-05-11	05:15:34	US	192.168.6.170	0
92	pwashing	2022-05-08	00:36:12	US	192.168.247.219	0
173	asundara	2022-05-12	23:17:52	US	192.168.58.217	1
72	alevitsk	2022-05-08	12:09:10	CANADA	192.168.139.176	1
172	mabadi	2022-05-08	08:06:50	US	192.168.180.41	1

Note: there is more to this photo but the output is so large I cut out the rest.

## Retrieve employees in Marketing

Code:

```
->SELECT *
->FROM employees
->WHERE department = 'Marketing'
->ORDER BY employee_id;
```

**Description:** This query is to display all the categories from the employee table. I changed the output to be only the Marketing department and ordered by employee id.

**Screenshot:**

employee_id	device_id	username	department	office
1000	a320b137c219	elarson	Marketing	East-170
1001	b239c825d303	bmoreno	Marketing	Central-276
1020	u899v381w363	arutley	Marketing	South-351
1027	b806c503d354	mrach	Marketing	West-246
1030	e391f189g913	mabadi	Marketing	West-375
1031	f419g188h578	dkot	Marketing	West-408
1036	k550l533m205	rjensen	Marketing	Central-239
1051	z451a308b518	itraora	Marketing	Central-134
1052	a192b174c940	jdarosa	Marketing	East-195
1055	d831e972f553	awilliam	Marketing	Central-256
1056	e782f537g683	ankala	Marketing	North-139
1058	g264h852i697	madebowa	Marketing	South-119
1059	h832i322j795	jnguyen	Marketing	South-255
1064	NULL	ejones	Marketing	South-477
1067	p288q432r721	lwhite	Marketing	North-277
1073	v135w241x773	srobinso	Marketing	Central-494
1075	x573y883z772	fbautist	Marketing	East-267
1079	b433c245d868	gmedina	Marketing	North-456
1080	c568d742e974	gmoon	Marketing	North-156
1088	k865l965m233	rgosh	Marketing	East-157
1102	y943z930a241	kselassi	Marketing	South-378
1103	NULL	randerss	Marketing	East-460
1106	c597d792e215	jcohen	Marketing	South-395
1114	NULL	xgreene	Marketing	North-335
1120	q912r119s313	rbradsha	Marketing	Central-200
1125	v491w553x421	mrogers	Marketing	South-490
1129	z566a147b347	plopez	Marketing	West-326
1133	d693e351f221	pfrey	Marketing	Central-164
1150	u554v512w139	lmarin	Marketing	Central-364
1152	NULL	nwilliam	Marketing	Central-170
1153	x677y330z296	ncardena	Marketing	Central-363
1154	y765z123a548	obryand	Marketing	North-182
1156	a184b775c707	dellery	Marketing	East-417
1160	e127f591g924	spham	Marketing	West-353
1163	h679i515j339	cwilliam	Marketing	East-216
1165	j713k893l832	nwords	Marketing	South-128
1166	k495l234m708	nyoung	Marketing	Central-397
1167	l738m922n515	tblackwe	Marketing	North-443
1172	q372r826s628	akhan	Marketing	Central-360
1173	r537s849t690	ialcazar	Marketing	South-429
1178	w986x187y885	nlannist	Marketing	North-196
1190	NULL	kcarter	Marketing	Central-270
1191	NULL	shakimi	Marketing	Central-366
1198	q308r573s459	jmartine	Marketing	South-117

## Retrieve employees in Finance or Sales

### Code:

```
->SELECT *  
->FROM employees  
->WHERE department = 'Finance' OR department = 'Sales'  
->ORDER BY department ;
```

**Description:** I changed the output to only be finance or sales department and ordered it by the department.

Screenshot:

employee_id	device_id	username	department	office
1195	n516o853p957	orainier	Finance	East-346
1136	g299h520i457	jhawes	Finance	West-416
1122	s103t952u851	btorres	Finance	West-319
1105	b551c837d758	kmei	Finance	Central-232
1099	v283w690x104	anaser	Finance	West-357
1174	s371t911u987	eortiz	Finance	North-428
1083	f840g812h544	gkoshi	Finance	West-165
1081	d647e310f618	qcorbit	Finance	South-290
1076	y347z204a710	fgarcia	Finance	Central-270
1069	NULL	jpark	Finance	East-110
1138	i671j355k725	sromero	Finance	South-329
1142	m674n127o823	lsilva	Finance	East-440
1188	g164h566i795	noshiro	Finance	West-252
1187	f963g637h851	bbode	Finance	East-351
1181	z803a233b718	sessa	Finance	South-207
1175	t959u687v394	jclark2	Finance	North-194
1164	i682j513k442	fsmeltz	Finance	North-163
1159	d881e710f732	jshen	Finance	East-193
1148	s328t505u907	dharvey	Finance	South-181
1147	r454s225t299	tvega	Finance	West-177
1144	NULL	erobinso	Finance	Central-266
1062	k367l639m697	redwards	Finance	North-180
1050	y132z930a114	csimmons	Finance	North-468
1044	s429t157u159	tbarnes	Finance	West-415
1022	w237x430y567	arusso	Finance	West-465
1018	s310t540u653	abellmas	Finance	North-403
1017	r550s824t230	jclark	Finance	North-188
1015	p611q262r945	jsoto	Finance	North-271
1029	d336e475f676	ivelasco	Finance	East-156
1010	k242l212m542	jlansky	Finance	South-109
1045	t567u844v434	pwashing	Finance	East-115
1046	u429v921w138	daquino	Finance	West-280
1008	i858j583k571	abernard	Finance	South-170
1007	h174i497j413	wjaffrey	Finance	North-406
1049	NULL	jreckley	Finance	Central-295
1003	d394e816f943	sgilmore	Finance	South-153
1047	v109w587x644	cward	Finance	West-373
1048	w167x592y375	tmitchel	Finance	South-288
1025	z381a365b233	jhill	Sales	North-115
1039	n253o917p623	cjackson	Sales	East-378
1024	y976z753a267	iuduike	Sales	South-215
1130	a317b635c465	tsnow	Sales	Central-451
1176	u849v569w521	nliu	Sales	West-220
1186	e281f433g404	sacosta	Sales	North-460
1011	l748m120n401	drosas	Sales	South-292
1169	NULL	mmitchel	Sales	Central-250
1086	i281j129k749	lmajumda	Sales	West-499
1072	u905v920w694	esmith	Sales	East-421
1009	NULL	lrodriqu	Sales	South-134
1185	d790e839f461	revens	Sales	North-330



## Retrieve all employees not in IT

### Code:

```
->SELECT *  
->FROM employees  
->WHERE department != 'Information Technology'  
->ORDER BY username;
```

**Description:** This query is asking for all the employees that are not in IT department and it is ordered by username for clarity.



Screenshot:

employee_id	device_id	username	department	office
1018	s310t540u653	abellmas	Finance	North-403
1008	i858j583k571	abernard	Finance	South-170
1042	q175r338s833	acook	Human Resources	West-381
1028	c603d749e374	aestrada	Human Resources	West-121
1177	v691w183x928	aezra	Human Resources	East-190
1107	d168e758f876	akajwara	Sales	North-471
1172	q372r826s628	akhan	Marketing	Central-360
1134	e395f616g566	akhatri	Human Resources	West-159
1099	v283w690x104	anaser	Finance	West-357
1056	e782f537g683	ankala	Marketing	North-139
1026	a998b568c863	apatel	Human Resources	West-320
1140	k982l199m839	apatel2	Human Resources	East-385
1199	r520s571t459	areyes	Human Resources	East-100
1022	w237x430y567	arusso	Finance	West-465
1020	u899v381w363	arutley	Marketing	South-351
1179	x174y934z376	asalas	Human Resources	North-445
1055	d831e972f553	awilliam	Marketing	Central-256
1187	f963g637h851	bbode	Finance	East-351
1035	j236k303l245	bisles	Sales	South-171
1001	b239c825d303	bmoreno	Marketing	Central-276
1158	c406d877e950	bnaser	Human Resources	Central-243
1034	i679j565k940	bsand	Human Resources	East-484
1038	m873n636o225	btang	Human Resources	Central-260
1122	s103t952u851	btorres	Finance	West-319
1041	p929q222r778	cgriffin	Sales	North-208
1039	n253o917p623	cjackson	Sales	East-378
1124	u340v931w764	claw	Human Resources	Central-172
1141	l282m821n717	cochuba	Human Resources	South-282
1085	h339i498j269	cperez	Sales	East-325
1132	c150d982e144	creddy	Human Resources	Central-210
1050	y132z930a114	csimmons	Finance	North-468
1047	v109w587x644	cward	Finance	West-373
1163	h679i515j339	cwilliam	Marketing	East-216
1117	n683o758p820	dahmad	Sales	West-405
1046	u429v921w138	daquino	Finance	West-280
1156	a184b775c707	dellery	Marketing	East-417
1148	s328t505u907	dharvey	Finance	South-181
1031	f419g188h578	dkot	Marketing	West-408
1011	l748m120n401	drosas	Sales	South-292
1040	o783p832q294	dtarly	Human Resources	East-237
1064	NULL	ejones	Marketing	South-477
1123	t479u468v151	ekonya	Human Resources	South-445
1000	a320b137c219	elarson	Marketing	East-170
1139	j637k986l199	emorton	Human Resources	North-300
1174	s371t911u987	eortiz	Finance	North-428
1004	e218f877g788	eraab	Human Resources	South-127
1144	NULL	erobinso	Finance	Central-266
1072	u905v920w694	esmith	Sales	East-421
1093	p765q957r699	etargary	Human Resources	Central-247
1075	x573y883z772	fbautist	Marketing	East-267
1076	y347z204a710	fgarcia	Finance	Central-270
1164	i682j513k442	fsmeltz	Finance	North-163
1005	f551g340h864	gesparza	Human Resources	South-366

## Summary

This lab was to display my knowledge of SQL and how to form the query. I also used two different tables and used different types of filters and different ordering of the outputs.