

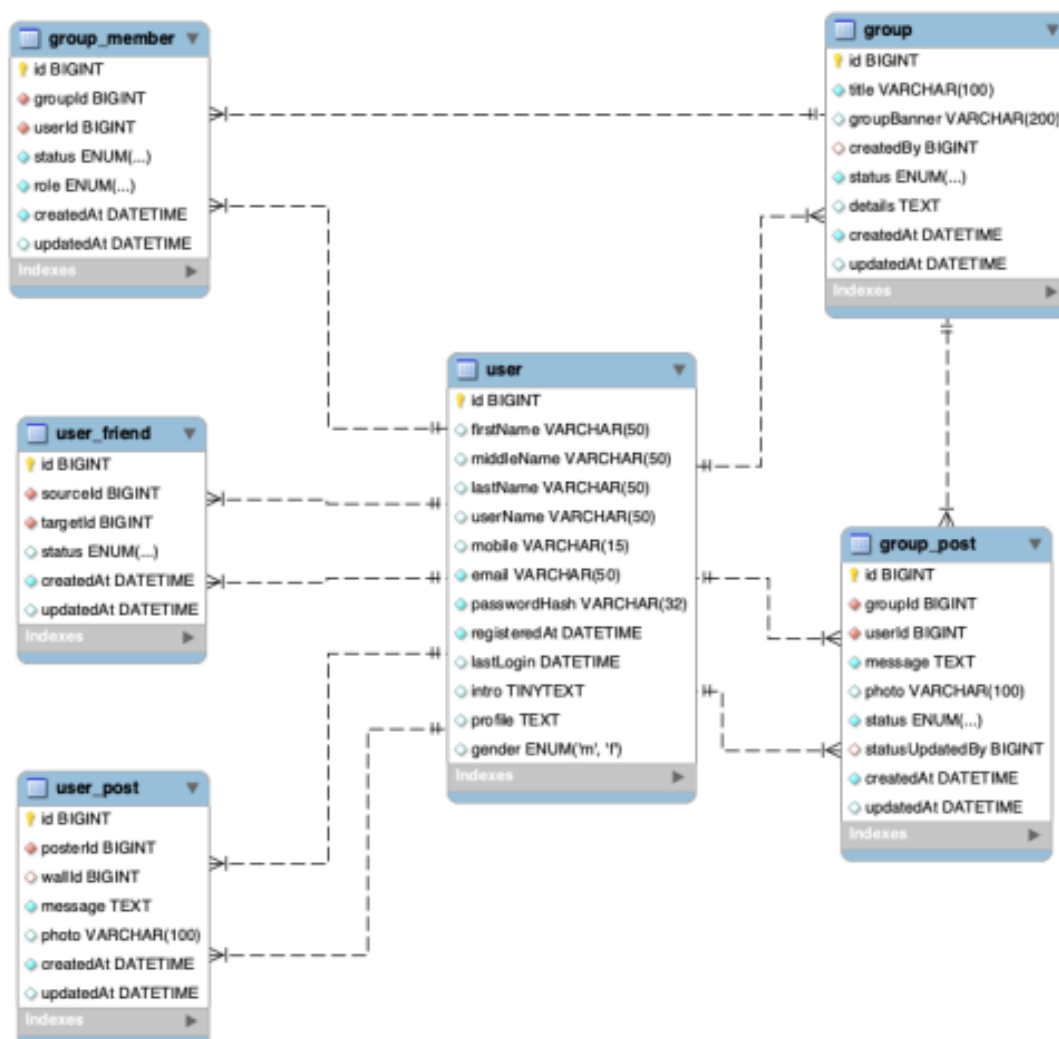
# Lab03: SQL DML

**Objective:** To study and practice the SQL commands for data query and retrieval (SQL DML)

**Estimated Time:** 3 hours

**Number of Tasks:** 10

**Description: Simple Social Network System (SNS)**



In this take-home exercise, we still follow the previous case study, the simple social network system. The exercise given in this laboratory will be based on 6 tables shown in the above ER Diagram: *user*, *user\_friend*, *user\_post*, *group*, *group\_member* and *group\_post*. **You are required to show SQL commands and snapshots of the output** for querying to correspond to the given questions and requirements.

## Task1:

Execute Lab03-sns.sql in MySQL Client (e.g., MySQL Workbench) and then verify by execute SHOW TABLES; of the database.

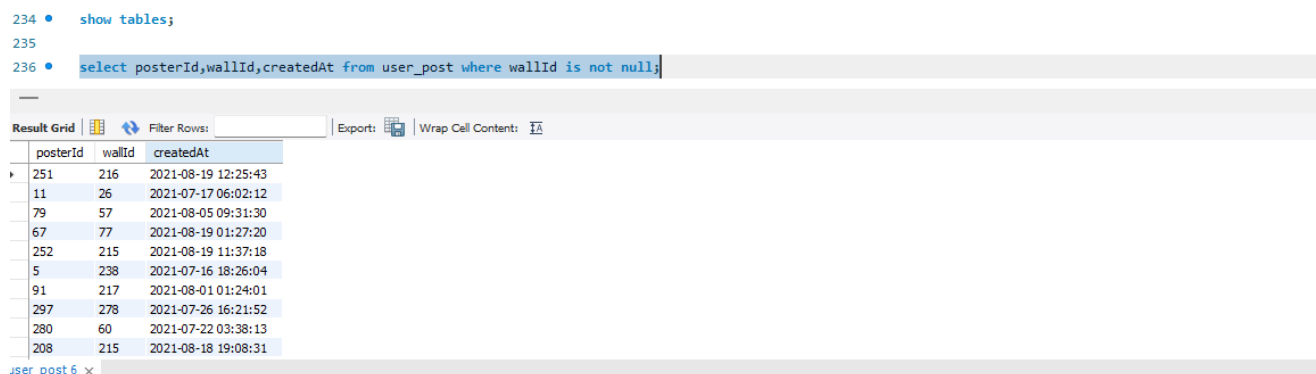
**show tables;**



## Task2:

Show all public posts including posterId, message and created date from the latest to the oldest.

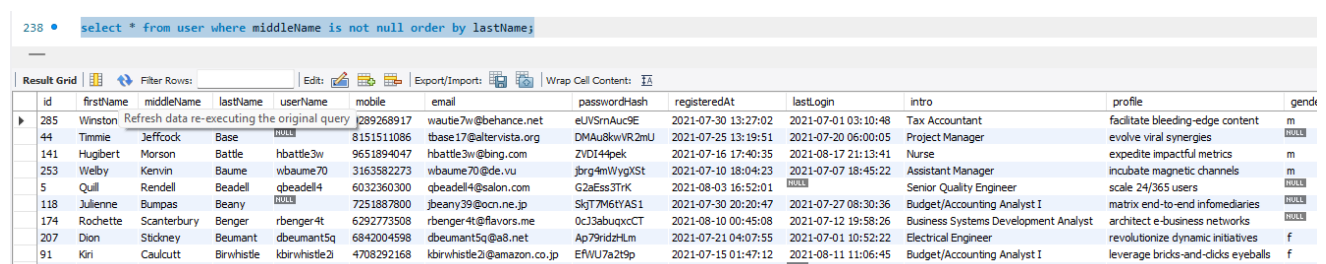
**select posterId,wallId,createdAt from user\_post where wallId is not null;**



## Task 3:

List all users who didn't have their middleName ordered by their lastName ascendingly.

**select \* from user where middleName is not null order by lastName;**



## Task 4:

The owner of the wall id '01' wants to view all the posts posted on their wall before '2021-08-01' where the latest posts are returned at the top. Write a SQL command for this.

**select \* from user\_post where createdAt < '2021-08-01' and wallId=1 order by createdAt ;**

240 • `select * from user_post where createdAt < '2021-08-01' and wallId=1 order by createdAt ;`

id	posterId	wallId	message	photo	createdAt	updatedAt
653	91	1	Aliquam quis turpis eget elit sodales scelerisque....	NULL	2021-07-20 02:23:52	NULL
570	74	1	Curabitur in libero ut massa volutpat convallis. ...	NULL	2021-07-27 05:21:00	NULL
...	...	...	...	...	...	...

## Task 5:

How many friends does each user have (use the count of accepted friend requests)? The output should show each userId and the number of friends each user has from the highest to the lowest.

**select sourceId, count(sourceId) as Num\_of\_frnds from user\_friend where status='accepted' group by sourceId order by Num\_of\_frnds desc;**

244 • `select sourceId, count(sourceId) as Num_of_frnds from user_friend where status='accepted' group by sourceId order by Num_of_frnds desc;`

sourceId	Num_of_frnds
275	5
64	4
218	4
269	4
15	3
31	3
57	3
63	3
68	3
74	3

## Task 6:

Show all created groups that are not blocked (both newly created and active), showing the latest updated group first.

**select \* from `group` where status != 'blocked' order by updatedAt;**

246 • `select * from `group` where status != 'blocked' order by updatedAt;`

	id	title	groupBanner	createdBy	status	details	createdAt	updatedAt
▶	71	Ventosanzap	http://dummyimage.com/1640x856.png/ff4444...	290	new	NULL	2021-08-18 23:02:38	NULL
	33	Voyatouch	http://dummyimage.com/1640x856.png/cc0000...	134	new	NULL	2021-07-29 07:40:53	NULL
	36	Zathin	NULL	48	new	Mauris enim leo, rhoncus sed, vestibulum sit am...	2021-07-23 08:36:35	NULL
	39	Stronghold	NULL	263	new	NULL	2021-08-19 03:16:25	NULL
	40	Voyatouch	http://dummyimage.com/1640x856.png/ff4444...	136	new	Duis ac nibh. Fusce lacus purus, aliquet at, feug...	2021-08-03 05:03:40	NULL
	47	Voltsillam	http://dummyimage.com/1640x856.png/cc0000...	41	new	NULL	2021-07-15 21:42:26	NULL
	50	Tampflex	NULL	90	new	Lorem ipsum dolor sit amet, consectetur adipis...	2021-08-03 14:15:34	NULL
	55	Y-Solowarm	NULL	249	new	Phasellus sit amet erat. Nulla tempus. Vivamus i...	2021-07-16 16:34:26	NULL
	62	Regrant	NULL	39	new	Nulla neque libero, convallis eget, eleifend luctu...	2021-07-19 14:11:36	NULL
	63	Trippledex	NULL	189	new	Nullam porttitor lacus at turpis. Donec posuere ...	2021-07-05 15:53:16	NULL

## Task 7:

Show how many members of each group. List all groups sorted by the number of members from the lowest to the highest. (A member is considered to be in the group only if their request has been approved.)

**`select groupId, count(userId) as Number_of_users from group_member group by groupId order by Number_of_users;`**

248 • `select groupId, count(userId) as Number_of_users from group_member group by groupId order by Number_of_users;`

	groupId	Number_of_users
	86	9
	26	9
	85	9
	87	10
	63	10
	3	10
	8	10
	9	10
	16	10
	88	10

## Task 8:

List top 10 users who have joined the most number of groups with their group count and user Id.

**`select userId, count(groupId) as Number_of_groups from group_member group by userId order by Number_of_groups desc limit 10;`**

248 • `select userId, count(groupId) as Number_of_groups from group_member group by userId order by Number_of_groups desc limit 10;`

	userId	Number_of_groups
▶	178	11
	179	10
	184	9
	59	9
	116	9
	286	8
	181	8
	124	8
	42	8
	95	7

## Task 9:

What are the top 3 most trending groups for the Month of August 2022? (Trending groups are the groups with the maximum number of posts).

```
select groupId, count(id) as Number_of_posts from group_post where createdAt >= '2022-08-01' and createdAt < '2022-09-01' group by groupId order by Number_of_posts desc limit 3 ;
```

250

```
select groupId, count(id) as Number_of_posts from group_post where createdAt >= '2022-08-01' and createdAt < '2022-09-01' group by groupId order by Number_of_posts desc limit 3 ;
```

252

253

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
groupId	Number_of_posts		

## Task 10:

If you are the administrator of this social network system, and you want to check which posts violate the terms and conditions of usage. The first violation is posting hate speech which is a post that contains the words considered banned words. Show the SQL command to filter the post having messages containing any of a word in the banned word list (you can define your own banned word dictionary of 3 words).

```
select * from group_post where message like '%bad%' or message like '%rat%' or message like '%bat%';
```

255

256

```
select * from group_post where message like '%bad%' or message like '%rat%' or message like '%bat%';
```

Result Grid		Filter Rows:		Edit:	Export/Import:	Wrap Cell Content:		
id	groupId	userId	message	photo	status	statusUpdatedBy	createdAt	updatedAt
497	24	46	In hac habitasse platea dictumst. Morbi vestibul...	NULL	rejected	146	2021-08-02 21:18:53	2021-08-07 21:18:53
508	28	173	Integer tincidunt ante vel ipsum. Praesent blan...	NULL	rejected	NULL	2021-07-22 16:51:57	2021-07-24 16:51:57
509	46	142	Maecenas pulvinar lobortis est. Phasellus sit am...	http://dummyimage.com/368x219.png/ff4444/f...	new	NULL	2021-07-04 17:19:59	NULL
542	48	115	Phasellus sit amet erat. Nulla tempus. Vivamus i...	NULL	new	NULL	2021-07-10 18:50:10	NULL
545	24	203	Quisque porta volutpat erat. Quisque erat eros...	NULL	rejected	146	2021-08-10 21:59:11	2021-08-11 21:59:11
559	66	92	Nulla facilisi. Cras non velit nec nisi vulputate no...	NULL	new	NULL	2021-08-10 16:37:29	NULL
561	38	287	Fusce congue, diam id ornare imperdiet, sapien ...	NULL	new	NULL	2021-07-26 23:32:27	NULL
565	33	275	Donec diam neque, vestibulum eget, vulputate ...	NULL	new	NULL	2021-08-14 16:21:53	NULL
567	4	299	Duis at velit eu est congue elementum. In hac h...	NULL	rejected	82	2021-08-13 06:19:34	2021-08-14 06:19:34
570	16	95	Vestibulum ante ipsum primis in faucibus orci luct...	NULL	rejected	NULL	2021-08-10 10:34:19	2021-08-12 10:34:19