

# CheatSheet: SQL & MySQL

## INTERVIEW

- PDF Link: [cheatsheet-mysql-A4.pdf](#), Category: interview
- Blog URL: <https://cheatsheet.dennyzhang.com/cheatsheet-mysql-A4>
- Related posts: CheatSheet: System Design For Job Interview, interview

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## 1.1 SQL Problems

Name	Problem
Reference	Leetcode SQL problems
Use having with group-by	<code>group by class having count(distinct student)&gt;4</code> Leetcode: Class
Update records with case clause	<code>set sex = case when sex = 'm' then 'f' else 'm' end</code> LeetCode:
Sum with case	<code>sum(case when state = 'approved' then 1 else 0 end)</code> LeetCode:
Subquery	<code>where (customer_id, order_date) in (select ...</code> LeetCode: Imme
Sql isnull and if	<code>if(s1.id%2=0, s1.student, if(isnull(s2.student), s1.student,</code>
round float	<code>(round(accepts/requests, 2)</code> Leetcode: Friend Requests I: Overall Ac
Rank score	<code>(select @rank := 0, @prev := -1) as rows</code> LeetCode: Rank Scores
Select clause add an incremental id	<code>select (@cnt1 := @cnt1 + 1) as id</code> LeetCode: Students Report By Geogr
MySQL DATE <sub>SUB</sub>	<code>DATE_SUB(record_date, INTERVAL 6 DAY)</code>
Get accumulated sum for each group	LeetCode: Last Person to Fit in the Elevator
nth element in each group	LeetCode: Nth Highest Salary, LeetCode: Get the Second Most Recent
topn entris for each group	LeetCode: Department Top Three Salaries
union vs union all	LeetCode: Friend Requests II: Who Has the Most Friends
Convert float to int	<code>cast(amount as SIGNED)</code>
If no match show null	LeetCode: Second Highest Salary
Get maximum of multiple columns	LeetCode: Triangle Judgement
Tree hierachy in SQL	LeetCode: All People Report to the Given Manager
Mysql distinct in having clause	LeetCode: Active Users
mysql doesn't support full outer join	LeetCode: Monthly Transactions II
When left join+groupby, group by which tables' field?	LeetCode: Team Scores in Football Tournament
<code>sum(if(isnull( vs ifnull(sum(</code>	LeetCode: Team Scores in Football Tournament
Three tables' inner join	LeetCode: Students and Examinations
Find Continuous Ranges	Find the Start and End Number of Continuous Ranges
Impressive sql problems	Leetcode: Find Median Given Frequency of Numbers, LeetCode: Consec
Impressive sql problems	LeetCode: Rank Scores, LeetCode: Exchange Seats, LeetCode: Students

## 1.2 SQL Statement

Name	Command
Select with regexp in where clause	<code>select * from expenses where date regexp '2013-0[4-5]' limit 2;</code>
Select with like in where clause	<code>select * from expenses where date like '2013-0%' limit 2;</code>
Select unix timestamp	<code>select unix_timestamp(createtime) from expenses limit 1;</code>
Offset limit	<code>select * from student limit 4 offset 9</code>
Use replace function	<code>UPDATE tb1 SET f1=REPLACE(f1, 'abc', 'def');</code>
Use if function	<code>select Db, IF(IFNULL(User, "")="", DB, User) from db;</code>

## 1.3 Mysql Packages

Name	Command
Install mysql server	<code>apt-get install mysql-server</code>
Install mysql client	<code>apt-get install mysql-client libmysqlclient-dev, yum install mysql-devel</code>
Install python mysql library	<code>easy_install mysql-python</code>

## 1.4 DB Management

Name	Command
mysql connect	<code>mysql -u\$username -p\$password -P\$port -h\$dbhost \$dbname</code>
database encoding	<code>set names utf8;</code>
List databases	<code>show databases;</code>
List tables for current db	<code>show tables;</code>
Check table definition	<code>describe \$tablename;</code>
Run sql in non-interactive way	<code>mysql -uUSER -pPASSWORD databasename -e "select * from t lin</code>
Import db	<code>mysql -uUSER -pPASSWORD dbname &lt; backup.sql</code>
export db	<code>mysqldump -uUSER -pPASSWORD DATABASE &gt; backup.sql</code>
export db without schema	<code>mysqldump -uUSER -pPASSWORD DATABASE --no-data=true --add-d</code>
Grant access	<code>GRANT SUPER ON 'DBNAME'.'user' TO 'DBUSER'@'%'</code>
Add column	<code>ALTER TABLE expenses ADD COLUMN createtime timestamp not nul</code>
Delete Column	<code>ALTER TABLE expenses DROP COLUMN createtime;</code>
Delete index	<code>DROP INDEX indexname ON table_name;</code>
Create index	<code>create index idindex on table_name(col_name) using btree;</code>
Reset password	<code>UPDATE mysql.user SET Password=PASSWORD('MyNewPass') WH</code>
ERROR 1396 (HY000): Operation CREATE USER...	<code>drop user 'braindenny'@'%' ; flush privileges; CREATE USER..</code>
mysql8 create user with password	<code>CREATE USER 'myuser'@'%' IDENTIFIED BY 'MYPASSWORD';</code>
mysql8 grant privileges to user	<code>GRANT ALL PRIVILEGES ON mydbname.* TO 'myuser'@'%' WITH GRAN</code>

## 1.5 PSQL/Postgres

Name	Command
Install postgres in Ubuntu	<code>apt-get install postgresql postgresql-client postgresql-contrib</code>
Install postgres in Mac OS	<code>brew install postgres</code>
Check postgres status	<code>service postgresql status</code>
Check version	<code>psql --version</code>
Connect postgresql	<code>psql -U postgres</code>
Create user	<code>CREATE USER tom WITH PASSWORD '';</code>
Grant access	<code>GRANT ALL PRIVILEGES ON DATABASE launchpad_empty to tom;</code>
Postgres configuration	<code>/var/lib/pgsql/data/pg_hba.conf, /etc/postgresql/*/main/postgresql.conf</code>
Promote to super admin	<code>ALTER USER myuser WITH SUPERUSER;</code>
List datbases	<code>\l</code>
List all tables in a database	<code>\d</code>
Change database	<code>\connect launchpad_dev;</code>
Show tables	<code>\ds</code>
Copy databse	<code>createdb -O root -T launchpad_dev launchpad_ustack_cn</code>
Drop database	<code>drop database launchpad_ustack_cn;</code>
Connect db	<code>psql -h myhost -d mydb -U myuser -W</code>
Create user	<code>CREATE USER tom WITH PASSWORD 'myPassword';</code>
Create db	<code>CREATE DATABASE jerry;</code>

## 1.6 More Resources

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