## LINUX - HOW TO USE POSTGRES

Reference: <https://www.digitalocean.com/community/tutorials/how-to-install-and-use-postgresql-on-ubuntu-18-04>

* Select user postgres

sudo -i -u postgres

* Open psql
* Do the database operation in psql
* List command:
  + \? list all the commands
  + \l list databases
  + \conninfo display information about current connection
  + \c [DBNAME] connect to new database, e.g., \c template1
  + \dt list tables
  + Then you can run SQL statements, e.g., SELECT \* FROM my\_table;(Note: a statement must be terminated with semicolon ;)
  + \dS [TABLENAME] to see schema of the table
  + \q quit psql

## SQL COMMAND ORDER

**SELECT** column\_name(s)

**FROM** table\_name

**WHERE** condition

**GROUP BY** column\_name(s)

**HAVING** condition

**ORDER BY** column\_name(s);

## CONCAT STRING

## *Concate string in result*

*Use* || *- ex*:

select name || ‘ ‘ || from sometable;

## CASE

## *If-else conditional*

*Usage in select, ex:*

select m.firstname || ' ' || m.surname as member, f.name,

**case**

**when m.memid=0 then**

**f.guestcost**

**else**

**f.membercost**

**end as cost**

from members as m

… ;

## SUB QUERY

## *Query inside query*

*Usage in select, ex:*

select distinct mems.firstname || ' ' || mems.surname as member,  
 **(select recs.firstname || ' ' || recs.surname as recommender   
 from cd.members recs   
 where recs.memid = mems.recommendedby  
 )**  
 from   
 cd.members mems  
order by member;

select name from **(**

**select m.firstname as name**

**from member m**

**where m.id > 0**

**) as listmember**

where … ;

## IN OPERATOR

## *Select condition of multiple values, shorthand of multiple OR condition*

*Usage ex:*

select \* from listmember

where id **in** (1,3,5,7,9);

select \* from listmember as lm

where lm.id **in** (

select lu.id from listuser

);

## UNIQUE RESULT (DISTINCT)

## *Get unique / distinct result of the column*

*Example:*

*Use* ‘distinct’, *ex*:

select **distinct** name from list;

## UNION

## *Combining results from multiple queries*

*Example:*

select surname   
 from cd.members  
**union**  
select name  
 from cd.facilities;

## LEFT JOIN

ex:

SELECT

c.customerNumber,

c.customerName,

orderNumber,

o.status

FROM

customers c

**LEFT JOIN** orders o **ON** c.customerNumber = o.customerNumber;

## RIGHT JOIN

ex:

SELECT

concat(e.firstName,' ', e.lastName) salesman,

e.jobTitle,

customerName

FROM

employees e

**RIGHT JOIN**

customers c **ON** e.employeeNumber = c.salesRepEmployeeNumber

AND e.jobTitle = 'Sales Rep'

ORDER BY customerName;

## INNER JOIN

ex:

SELECT

productCode,

productName,

textDescription

FROM

products t1

**INNER JOIN**

productlines t2 **ON** t1.productline = t2.productline;

## HAVING

<http://www.mysqltutorial.org/mysql-having.aspx>

*The HAVING clause is often used with the* [*GROUP BY*](http://www.mysqltutorial.org/mysql-group-by.aspx) *clause to filter groups based on a specified condition. If the GROUP BY clause is omitted, the HAVING clause behaves like the* [*WHERE*](http://www.mysqltutorial.org/mysql-where/) *clause.*

ex:

SELECT

ordernumber,

SUM(quantityOrdered) AS itemsCount,

SUM(priceeach\*quantityOrdered) AS total

FROM

orderdetails

**GROUP BY** ordernumber

**HAVING** total > 1000 AND itemsCount > 600;