

# Postgresql Cheat Sheet

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September 18, 2022

## 1 Start postgresql server

Postgres users roles which handle authentication and authorization.  
There is a server/client relationship model.

Choosing the database name and port to host the a new database. Begin a service to run a database via brew.

- slash l list databases
- slash d list tables in database
- psql -p [port] -U [user] : this connects to a db
- i run sql code
- copy to create CSV file

## 2 Create tables

Listing 1: Create table

```
1 CREATE TABLE table_name (  
2 column_name1 col_type (field_length) column_constraints ,  
3 column_name2 col_type (field_length),  
4 column_name3 col_type (field_length)  
5 );  
6  
7  
8 CREATE TABLE playground ( #Table name playground  
9 equip_id serial PRIMARY KEY,  
10 #columnName colType, Primary Key shows this value must be unique  
11 and not null  
12  
13 type varchar (50) NOT NULL,  
14 #Name type (field length) constraints: not NULL  
15  
16 color varchar (25) NOT NULL,  
17  
18 location varchar(25) check (location in ('north', 'south',
```

```

19         'west', 'east', 'northeast', 'southeast',
20         'southwest', 'northwest'))),
21         #checks value is one of 8 values
22
23         install_date date
24     );
25
26         #The length can be implied by the data type

```

Listing 2: add elements to table

```

1
2     INSERT INTO [db_name] (columns) VALUES (values per col);
3
4     SELECT * FROM table; Show all values

```

Listing 3: table commands

```

1
2     DROP [database name] # Delete db
3
4     SELECT * FROM [] WHERE [] LIKE "" # Return entries like ""
5
6     GROUP BY #Group by column value
7     ORDER BY #Order return by chosen expression
8     HAVING COUNT #Return with count of chosen expression
9
10    NOT NULL #Ensure the entry is not empty

```

Can also use other math aggregate functions.

### 3 Relational Database

Tables can be linked to each other via reference ids.

- Primary Key : Distinct id value for every entry
- UNIQUE : Ensures inputs between entries are unique
- DISTINCT : Query to get distinct entries

Listing 4: reference tables

```

1
2     FOREIGN KEY(fk_columns)
3     REFERENCES parent_table(parent_key_columns)
4     #Use the referenced table id to link to the
5     Primary key of parent table

```

- If a entry is referenced in another table it cannot be deleted
- Cannot add an entry in parent table if referenced table does not exist

#### Listing 5: Join tables

```
1 JOIN [table] ON table.col = col
2 #Show referenced entries on two tables
3
4 LEFT JOIN #Show full parent table and referenced entries
5
```

## 4 Data Types

- bigserial: Autoincrementing eight byte integer
- inet: host address
- box: rectangular box on a plane
- money: currency amount
- json
- time: with and without time zone
- timestamp

## 5 Access via program

Libpq is the C software used to access postgres via a program.