

## Postgresql (psql)

- Difference between psql and sql:

Psql	Sql
Psql is a command line tool Postgresql an advanced open-source relational database system.	Sql is a standardized language used to interact with relational database system.
Used specific for PostgreSQL database. It's support sql queries and additional commands unique to PostgreSQL.	Used in any relational database management system, example: MySQL, PostgreSQL, SQL Server etc.
Psql is not a universal standard it's use in only PostgreSQL.	SQL is a universal standard and it's syntax is supported across multiple database management system.
Psql is a PostgreSQL specific command-line tool to interact with PostgreSQL databases using sql and additional commands.	Sql is the language used for querying and managing relational databases.

- Create/Delete Multiple Database:

-First I create test database using **createdb test2;** command.

-Delete that test database using **dropdb test2;** command.

```

odoo@ICAPC0041:~/trainee-jay/Session7_PSQL$ createdb test2;
odoo@ICAPC0041:~/trainee-jay/Session7_PSQL$ psql -l
List of databases

```

Name	Owner	Encoding	Collate	Ctype	Access privileges
postgres	postgres	UTF8	en_IN	en_IN	
template0	postgres	UTF8	en_IN	en_IN	=c/postgres +
template1	postgres	UTF8	en_IN	en_IN	=c/postgres + postgres=CTc/postgres
test	odoo	UTF8	en_IN	en_IN	
test1	odoo	UTF8	en_IN	en_IN	
test2	odoo	UTF8	en_IN	en_IN	

```

(6 rows)

odoo@ICAPC0041:~/trainee-jay/Session7_PSQL$ dropdb test2;
odoo@ICAPC0041:~/trainee-jay/Session7_PSQL$ psql -l
List of databases

```

Name	Owner	Encoding	Collate	Ctype	Access privileges
postgres	postgres	UTF8	en_IN	en_IN	
template0	postgres	UTF8	en_IN	en_IN	=c/postgres +
template1	postgres	UTF8	en_IN	en_IN	=c/postgres + postgres=CTc/postgres
test	odoo	UTF8	en_IN	en_IN	
test1	odoo	UTF8	en_IN	en_IN	

```

(5 rows)

```

- Insert data into Tables:

-I create a test database and in that test database i create one table student. And insert some rows to that table student.

-using insert query to insert multiple data and give input as column wise.

example:

```

test=> CREATE TABLE student (id SERIAL PRIMARY KEY, name VARCHAR(100), age INT, grade VARCHAR(10));
CREATE TABLE

```

```

test=> INSERT INTO student(name,age,grade) VALUES('vatsal',20,'B'),('abc',21,'C');
INSERT 0 2
test=> select * from student;
 id | name  | age | grade
-----+-----+-----+-----
  1 | jay   |  20 | A
  3 | Utsav |  20 | B
  2 | prince |  20 | A
  4 | vatsal |  20 | B
  5 | abc   |  21 | C
(5 rows)

```

- Alter Command for Tables:

-Using the Alter command we add, delete and modify the column and also we update the data type of column using the alter command.

ADD column:

```
test=> alter table student add subject varchar(20);
ALTER TABLE
test=> select * from student;
  id | name  | age | grade | subject
-----+-----+-----+-----+-----
   1 | jay   | 20  | A     |
   2 | jay   | 20  | A     |
   3 | Utsav | 20  | B     |
(3 rows)
```

DELETE column:

```
test=> alter table student drop column subject;
ALTER TABLE
test=> select * from student;
  id | name  | age | grade
-----+-----+-----+-----
   1 | jay   | 20  | A
   3 | Utsav | 20  | B
   2 | prince | 20  | A
(3 rows)
```

Modify DataType:

```
test=> alter table student alter column grade type varchar(4);
ALTER TABLE
```

Update Table:

```
test=> update student set name = 'prince' where id = 2;
UPDATE 1
test=> select * from student
test-> ^C
test=> ^C
test=> select * from student;
id | name | age | grade | subject
-----+-----+-----+-----+-----
  1 | jay  |  20 | A     |
  3 | Utsav |  20 | B     |
  2 | prince |  20 | A     |
(3 rows)
```