

1-----

```
Tue Apr 29 20:29:49 nina@Ebram-Laptop:~/media/nina/ER/iti_full_stack/postgres/day1/task1_postgres
```

```
> sudo -l -u postgres
```

```
[sudo] password for nina:
```

```
2Sorry, try again.
```

```
[sudo] password for nina:
```

```
Sorry, try again.
```

```
[sudo] password for nina:
```

```
postgres@Ebram-Laptop:~$ psql
```

```
psql (16.8 (Ubuntu 16.8-0ubuntu0.24.04.1))
```

```
Type "help" for help.
```

```
postgres=# \l
```

Name	Owner	Encoding	Locale Provider	Collate	Ctype	ICU Locale	ICU Rules	Access privileges
iti	postgres	UTF8	libc	en_US.UTF-8	en_US.UTF-8			
postgres	postgres	UTF8	libc	en_US.UTF-8	en_US.UTF-8			
template0	postgres	UTF8	libc	en_US.UTF-8	en_US.UTF-8			=c/postgres +
								postgres=CtC/postgres
template1	postgres	UTF8	libc	en_US.UTF-8	en_US.UTF-8			=c/postgres +
								postgres=CtC/postgres

(4 rows)

```
postgres=# create database iti2;
```

```
CREATE DATABASE
```

```
postgres=# \c iti2
```

```
You are now connected to database "iti2" as user "postgres".
```

```
iti2=# create table track (tid serial primary key , track_name varchar(50) not null);
```

```
CREATE TABLE
```

```
iti2=# create table student (id serial primary key , e_name varchar(50) not null, email varchar(50) unique , address text, track_id int , foreign key (track_id) references track(tid));
```

```
CREATE TABLE
```

```
iti2=# create table subject ( sid serial primary key , sub_name varchar(50) not null , max_score int not null );
```

```
CREATE TABLE
```

```
iti2=# create table exam (eid serial primary key , date date not null);
```

```
CREATE TABLE
```

```
iti2=# create table grades(stu_id int , sub_id int , exam_id int ,grade int, primary key (stu_id, sub_id,exam_id), foreign key (stu_id) references student(id) ,foreign key (sub_id) references subject(sid),foreign key (exam_id) references exam(eid) );
```

```
CREATE TABLE
```

```
iti2=# create table stu_sub (stu_id int , sub_id int, primary key (stu_id,sub_id) ,foreign key (stu_id) references student(id),foreign key (sub_id) references subject(sid));
```

```
CREATE TABLE
```

```
iti2=# create table track_sub (track_id int , sub_id int, primary key (track_id,sub_id) ,foreign key (track_id) references track(tid),foreign key (sub_id) references subject(sid));
```

```
CREATE TABLE
```

```
iti2=#
```

2-----

```
CREATE TABLE
```

```
iti2=# insert into track (track_name) values ('full stack'),('os'),('python');
```

```
INSERT 0 3
```

```
iti2=# insert into student (e_name, email,address, track_id) values ('Ebram Rasmy', 'ebram@gmail.com', 'assuit', 1),('Ahmed Ali', 'ahmed@gmail.com', 'Cairo', 2),('Sara Youssef', 'sara@gmail.com', 'Giza', 3),('Mina Nabil', 'mina@gmail.com', 'Alex', 1);
```

```
INSERT 0 4
```

```
iti2=#
```

```
iti2=# insert into subject (sub_name , max_score ) values ('python',100),('linux',100),('postgres',100);
```

```
INSERT 0 3
```

```
iti2=# insert into exam (date) values ('2025-04-01'),('2025-04-10'),('2025-04-20');
```

```
INSERT 0 3
```

```
iti2=# inset into stu_sub (stu_id,sub_id) values (1,1),(1,2),(1,3),(2,1),(2,2),(3,3),(4,1),(4,2),(4,3);
```

```
ERROR: syntax error at or near "inset"
```

```
LINE 1: inset into stu_sub (stu_id,sub_id) values (1,1),(1,2),(1,3),...
```

```
iti2=# insert into stu_sub (stu_id,sub_id) values (1,1),(1,2),(1,3),(2,1),(2,2),(3,3),(4,1),(4,2),(4,3);
```

```
INSERT 0 9
```

```
iti2=# INSERT INTO track_sub (track_id, sub_id) VALUES
```

```
(1, 1),(1, 2),(1,2),(2, 3),(3, 2);
```

```
ERROR: duplicate key value violates unique constraint "track_sub_pkey"
```

```
DETAIL: Key (track_id, sub_id)=(1, 2) already exists.
```

```
iti2=# INSERT INTO track_sub (track_id, sub_id) VALUES
```

```
(1, 1),(1, 2),(1,3),(2, 3),(3, 2);
```

```
INSERT 0 5
```

```
iti2=# insert into grades (stu_id, sub_id, exam_id, grade) values (1,1,1,90),(1, 2, 2, 85),(1, 3, 3, 95),(2, 1, 1, 88),(2,2,2,77),(4, 3, 3, 88),(4,1,1,90),(4, 2, 2, 85),(4, 3, 3, 95) ;
```

```
ERROR: duplicate key value violates unique constraint "grades_pkey"
```

```
DETAIL: Key (stu_id, sub_id, exam_id)=(4, 3, 3) already exists.
```

```
iti2=# insert into grades (stu_id, sub_id, exam_id, grade) values (1,1,1,90),(1, 2, 2, 85),(1, 3, 3, 95),(2, 1, 1, 88),(2,2,2,77),(3, 3, 3, 88),(4,1,1,90),(4, 2, 2, 85),(4, 3, 3, 95) ;
```

```
INSERT 0 9
```

```
iti2=#
```

3-----

```
iti2=# alter table student add column birth_date date;
ALTER TABLE
```

update data

```
iti2=# update student set birth_date = '1999-06-10' where id = 1;
UPDATE 1
iti2=# update student set birth_date = '2000-03-22' where id = 2;
UPDATE 1
iti2=# update student set birth_date = '1998-11-05' where id = 3;
UPDATE 1
iti2=# update student set birth_date = '2001-07-18' where id = 4;
UPDATE 1
iti2=#
```

4-----

```
iti2=# alter table student add column gender varchar(6) check (gender in ('Male', 'Female'));
ALTER TABLE
iti2=#
```

update data

```
iti2=# update student set gender = 'Male' where id = 1;
UPDATE 1
iti2=# update student set gender = 'Male' where id = 2;
UPDATE 1
iti2=# update student set gender = 'Female' where id = 3;
UPDATE 1
iti2=# update student set gender = 'Male' where id = 4;
UPDATE 1
iti2=#
```

5-----

It was done in creating tables.

6-----

```
iti2=# select * from student where gender = 'Male' and birth_date < '1991-10-01';
            iti2
 id | e_name | email | address | track_id | birth_date | gender
----+-----+-----+-----+-----+-----+-----
(0 rows)

iti2=# select * from student where gender = 'Male' and birth_date < '2000-10-01';
            iti2
 id | e_name | email | address | track_id | birth_date | gender
----+-----+-----+-----+-----+-----+-----
  1 | Ebram Rasmy | ebram@gmail.com | assuit | 1 | 1999-06-10 | Male
  2 | Ahmed Ali | ahmed@gmail.com | Cairo | 2 | 2000-03-22 | Male
(2 rows)

iti2=#
```

7-----

```
iti2=# select e_name from student where e_name like 'A%';
            iti2
 e_name
-----
 Ahmed Ali
(1 row)
```

8-----

```
iti2=# select sub_name , max_score from subject order by max_score desc;
      iti2
sub_name | max_score
-----+-----
python   |         100
linux    |         100
postgres |         100
(3 rows)
```

9-----

```
iti2=# select sub_name , max_score from subject order by max_score desc limit 1;
      iti2
sub_name | max_score
-----+-----
python   |         100
(1 row)
```

iti2=#

.
lab2

1-----

```
iti2=# select count(*) from student where e_name = 'Mohammed';
      iti2
count
-----
      0
(1 row)
```

iti2=#

2-----

```
iti2=# select gender ,count(*) from student group by gender;
      iti2
gender | count
-----+-----
Female |      1
Male   |      3
(2 rows)
```

iti2=#

3-----

```
iti2=# select split_part(e_name,' ',1) as first_name ,count(*) from student group by first_name having count(*)>2;
      iti2
first_name | count
-----+-----
(0 rows)

iti2=#
```

4-----

```
iti2=# select student.e_name , track.track_name from student join track on student.track_id = track.tid;
      iti2
 e_name  | track_name
-----+-----
Ebram Rasmy | full stack
Ahmed Ali  | os
Sara Youssef | puthon
Mina Nabil  | full stack
(4 rows)
```

5-----

```
iti2=# select * from student where track_id !=( select id from track where track_name = 'os');
      iti2
id | e_name  | email          | address | track_id | birth_date | gender
---+-----+-----+-----+-----+-----+-----
4 | Mina Nabil | mina@gmail.com | Alex    | 1 | 2001-07-18 | Male
(1 row)

iti2=#
```