

# PHP - PostgreSQL Lab

## Problem Statement:

In this exercise, you've to create a web application to manage the marks of CS699 students (of course, you'll be dealing with dummy marks!).

- a. In postgresQL, a database is created named db.
- b. In db, we have a table named "users", to store information about each student: roll number, name, email address, and a login password (for this website, not your LDAP login or any real password). Roll number is the primary key for this table. Each field is a varchar of max length 256 characters.
- c. Another table called 'marks' in the database, to store information about each students' marks in: lab, midsem, project, and endsem. roll number as foreign key into the 'users' table. Each marks field is a 'real' data type.
- e. Now create a web form for a user to enter his/her roll number and password. On submitting this form, a php script must be run to show the students' marks as an unordered list. Don't forget to do error handling such as: Login Failed, No marks found for Roll Number: XYZ
- f. When username is admin and password is admin redirect him to processStudents.php which shows form to add students, which when submitted need to add given details to users table. Show error message if any during insertion on the top of the page.
- g. And admin when clicking on add marks hyperlink, navigates to processMarks.php which shows form to add marks, which when submitted need to add given details to marks table. Show error message if any during insertion on the top of the page.
- H. Forms are already present. You need to write the PHP code to handle the post requests.

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## Installation Instructions:

1. Download the zip file [PHP - PostgreSQL](#) and unzip it
2. Open the terminal inside the folder, and run the command  
**docker compose up**

```
pavankumaryajavarthi@Pavans-MBP php-postgreSQL % docker compose up
[+] Running 1/28
   pgadmin 11 layers [ ] 38.44MB/115.1MB Pulling
   f2b6b4884fc8 Downloading [=====] 15.84MB/52.01MB 4.2s
   4fb9994edf01 Downloading [=====] 17.21MB/19.27MB 4.2s
   74eaa8be7221 Downloading [=====] 6.186MB/43.25MB 4.2s
   2d6e98fe4e40 Waiting 4.2s
   41466df7554d Waiting 4.2s
   135a494fed80 Waiting 4.2s
   6ca3f38fdd4d Waiting 4.2s
   4de6fcaa1241 Waiting 4.2s
   838e7bdc8a68 Waiting 4.2s
   017969f75f4b Waiting 4.2s
   9ea069bc6ed7 Waiting 4.2s
   php-app Warning 3.1s
   postgres 14 layers [ ] 0B/0B Pulling 7.4s
   0baeb81232d0 Waiting 3.6s
   5d0d2feedd82 Waiting 3.6s
   c04f6dd864a5 Waiting 3.6s
   a65ce0e0e6d5 Waiting 3.6s
   6ed75bd410a9 Waiting 3.6s
   79ec45cd02a9 Waiting 3.6s
   9f6902d4c5d2 Waiting 3.6s
   9c8c27d85cfd Waiting 3.6s
   99e77834409f Waiting 3.6s
   77e9db4458e Waiting 3.6s
   f51113625e02 Waiting 3.6s
   b87ba8efb1f1 Waiting 3.6s
   581952e572e6 Waiting 3.6s
   29a08930e34c Waiting 3.6s
```

This downloads the required image for the lab and opens port 80 for PHP and 5050 for pgadmin

3. For database table schema, refer to `./script/createTable.sql`
4. Type localhost in your browser you will see the login screen as shown below if the build is successful.

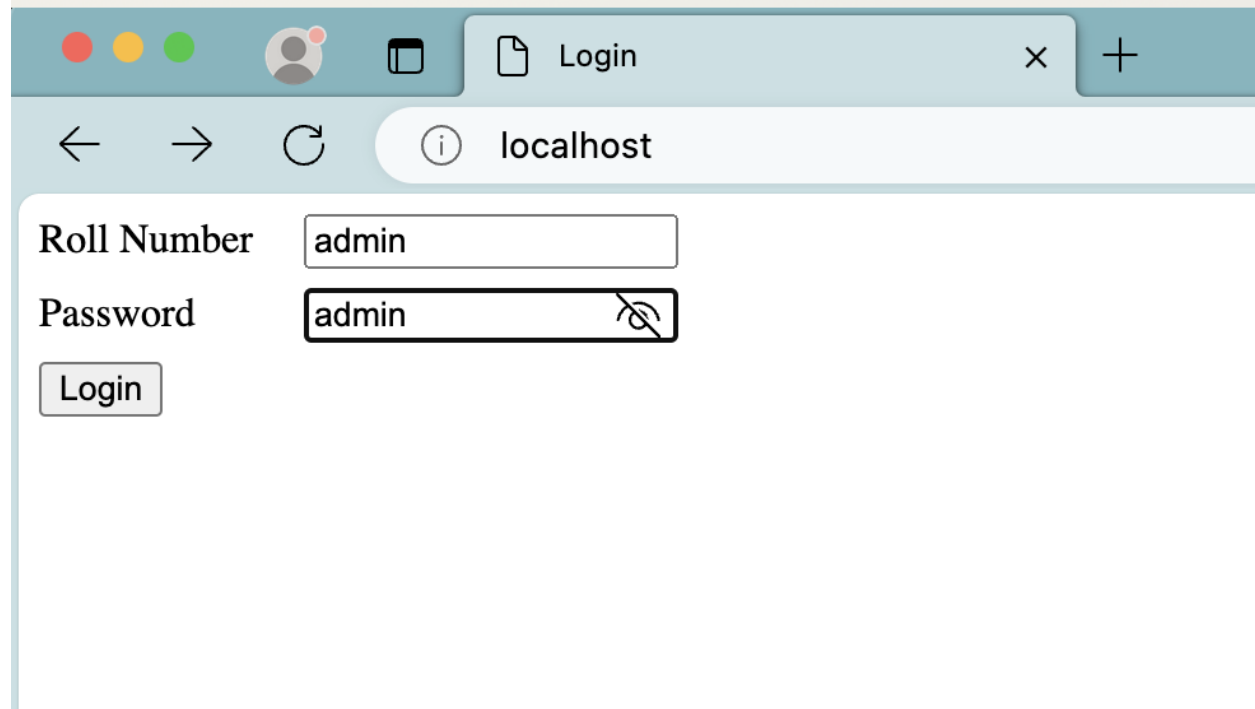
Roll Number

Password

Login

5. Handling case of admin:

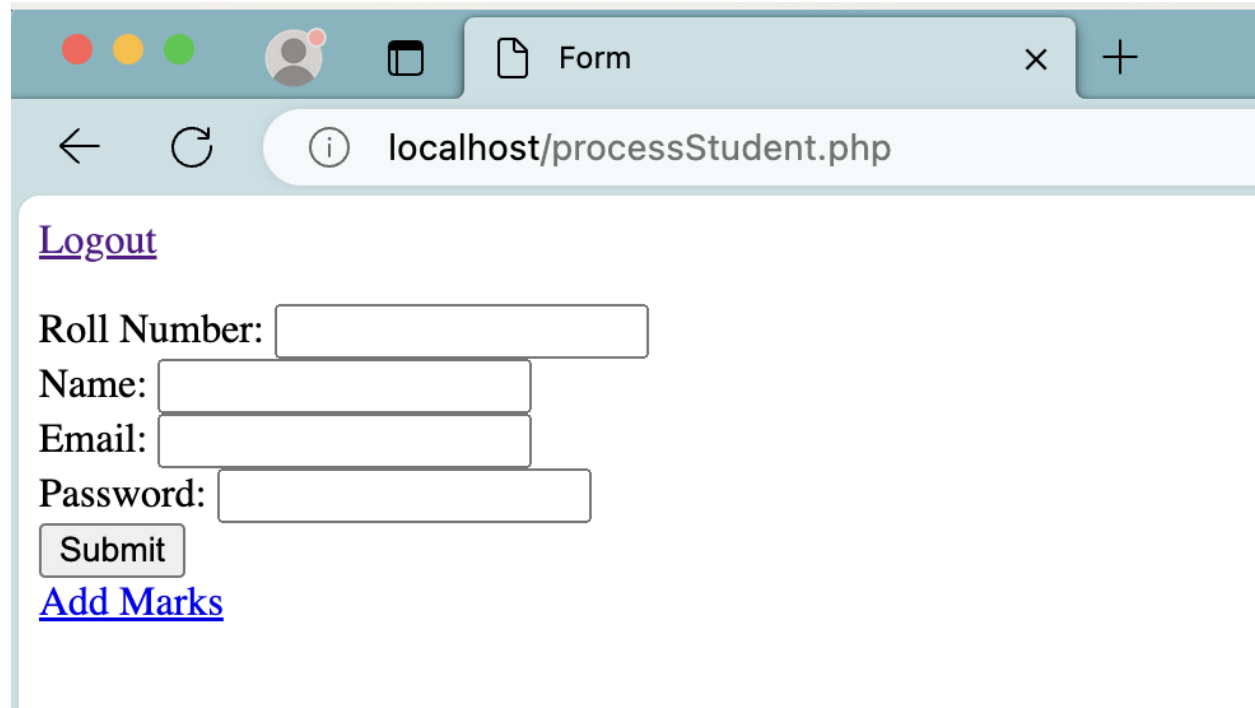
- a. When roll number and password are admin, page need to navigate to processStudent.php [Login logic needed to be handled in process.php]



Roll Number

Password

Below is the screenshot of processStudent.php



[Logout](#)

Roll Number:

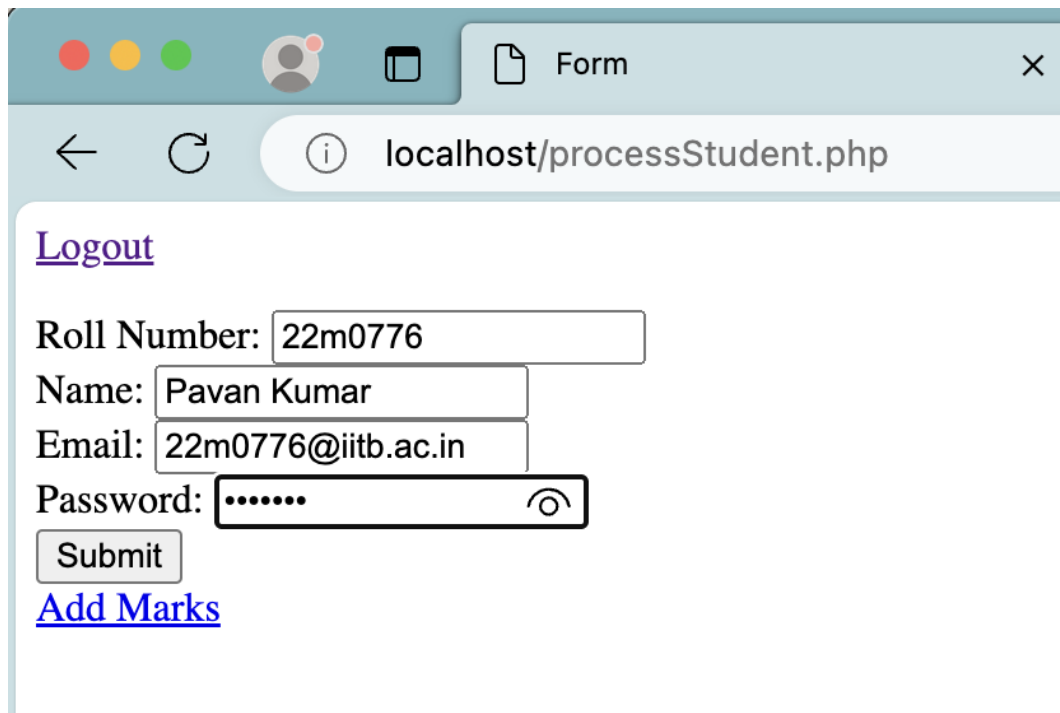
Name:

Email:

Password:

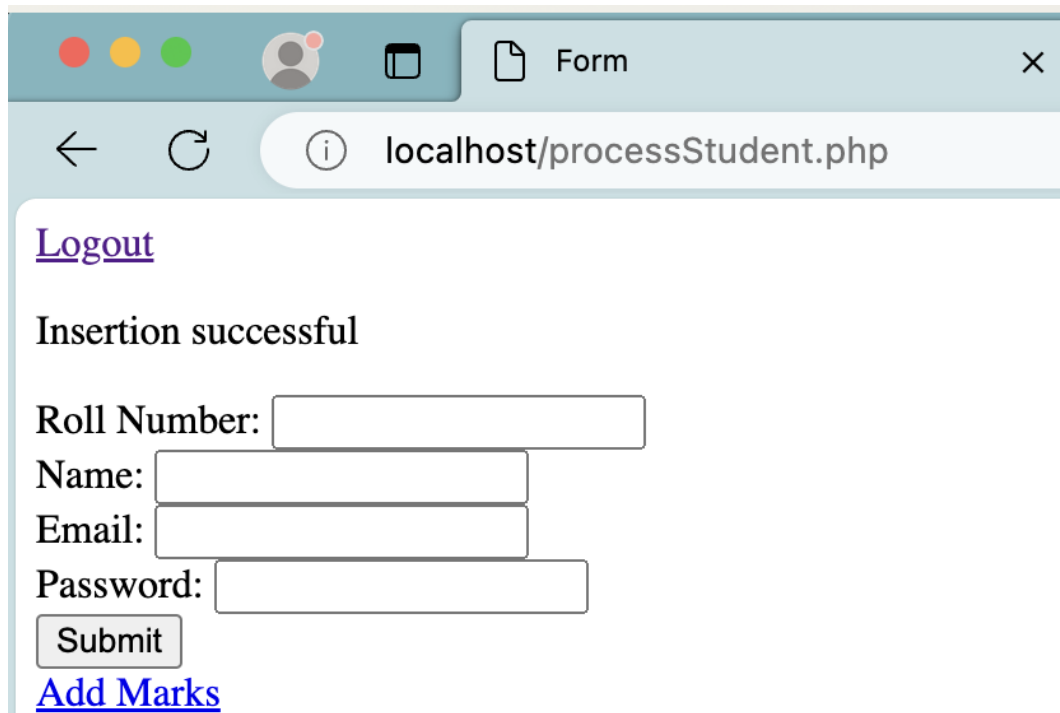
[Add Marks](#)

- b. processStudent.php needs to handle logic to insert the details entered in the form into db users.
  - i. On Successful insertion, it need to show "Insertion successful"



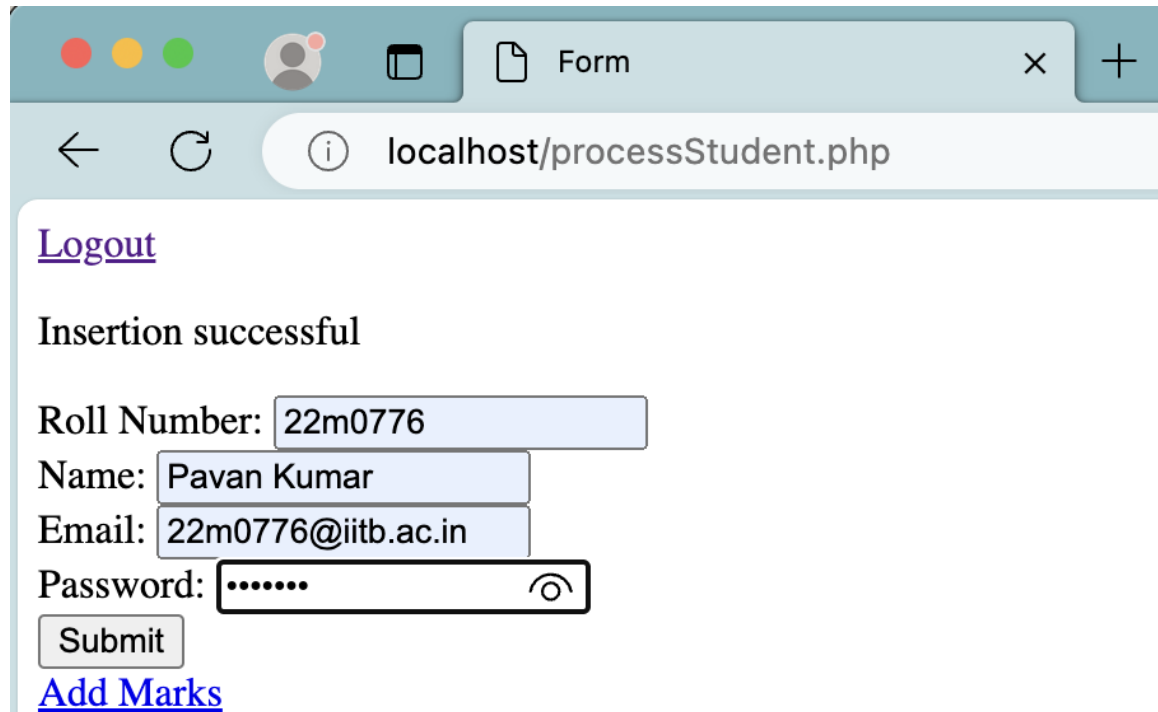
A screenshot of a web browser window. The address bar shows 'localhost/processStudent.php'. The page content includes a 'Logout' link, a form with fields for 'Roll Number' (22m0776), 'Name' (Pavan Kumar), 'Email' (22m0776@iitb.ac.in), and 'Password' (masked with dots). A 'Submit' button is present, followed by an 'Add Marks' link.

Success message....



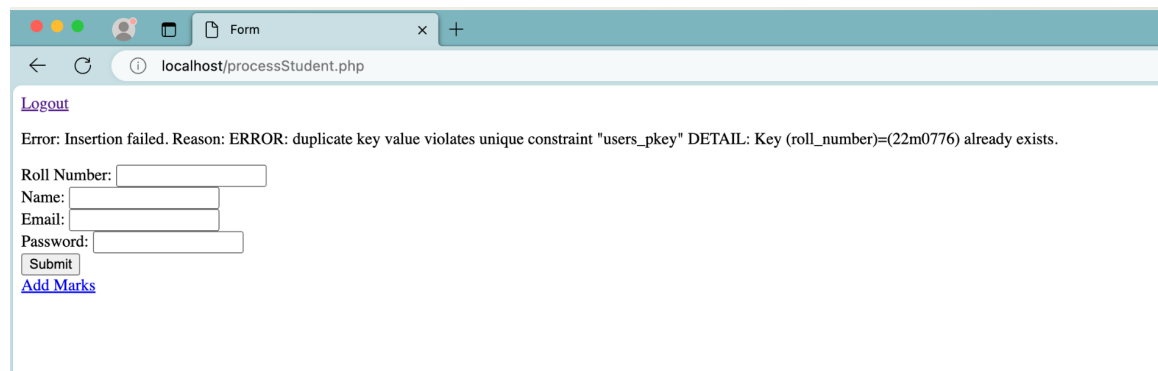
A screenshot of a web browser window, similar to the one above. The address bar shows 'localhost/processStudent.php'. The page content includes a 'Logout' link, a message 'Insertion successful', and a form with empty fields for 'Roll Number', 'Name', 'Email', and 'Password'. A 'Submit' button is present, followed by an 'Add Marks' link.

- ii. On failure, the status needs to show failure with the reason.



A screenshot of a web browser window. The address bar shows 'localhost/processStudent.php'. The page has a title 'Form'. Below the title, there is a link 'Logout' in purple. The main content area displays 'Insertion successful'. Below this, there are four input fields: 'Roll Number:' with the value '22m0776', 'Name:' with the value 'Pavan Kumar', 'Email:' with the value '22m0776@iitb.ac.in', and 'Password:' with masked characters '.....'. A 'Submit' button is located below the password field. At the bottom, there is a link 'Add Marks' in blue.

Failure message ....



A screenshot of a web browser window showing an error message. The address bar shows 'localhost/processStudent.php'. The page has a title 'Form'. Below the title, there is a link 'Logout' in purple. The main content area displays an error message: 'Error: Insertion failed. Reason: ERROR: duplicate key value violates unique constraint "users\_pkey" DETAIL: Key (roll\_number)=(22m0776) already exists.' Below the error message, there are four empty input fields: 'Roll Number:', 'Name:', 'Email:', and 'Password:'. A 'Submit' button is located below the password field. At the bottom, there is a link 'Add Marks' in blue.

- c. On clicking Add marks, navigate to processMarks.php, where we can enter the marks of respective students. processMarks.php needs to handle logic to insert the details entered in the form into db marks.
  - i. Show "Insertion Successful" message when insertion went well else error message in similar pattern of error handling done in processStudent.php

localhost/processMarks.php

[Logout](#)

Roll Number: 22m0776

Lab: 10

Midsem: 20

Project: 20

Endsem : 30

Submit

[Add Student](#)

#### Success message

localhost/processMarks.php

[Logout](#)

Insertion successful

Roll Number:

Lab:

Midsem:

Project:

Endsem :

Submit

[Add Student](#)

#### Failure Message

localhost/processMarks.php

[Logout](#)

Error: Insertion failed. Reason: ERROR: duplicate key value violates unique constraint "marks\_pkey" DETAIL: Key (roll\_number)=(22m0776) already exists

Roll Number:

Lab:

Midsem:

Project:

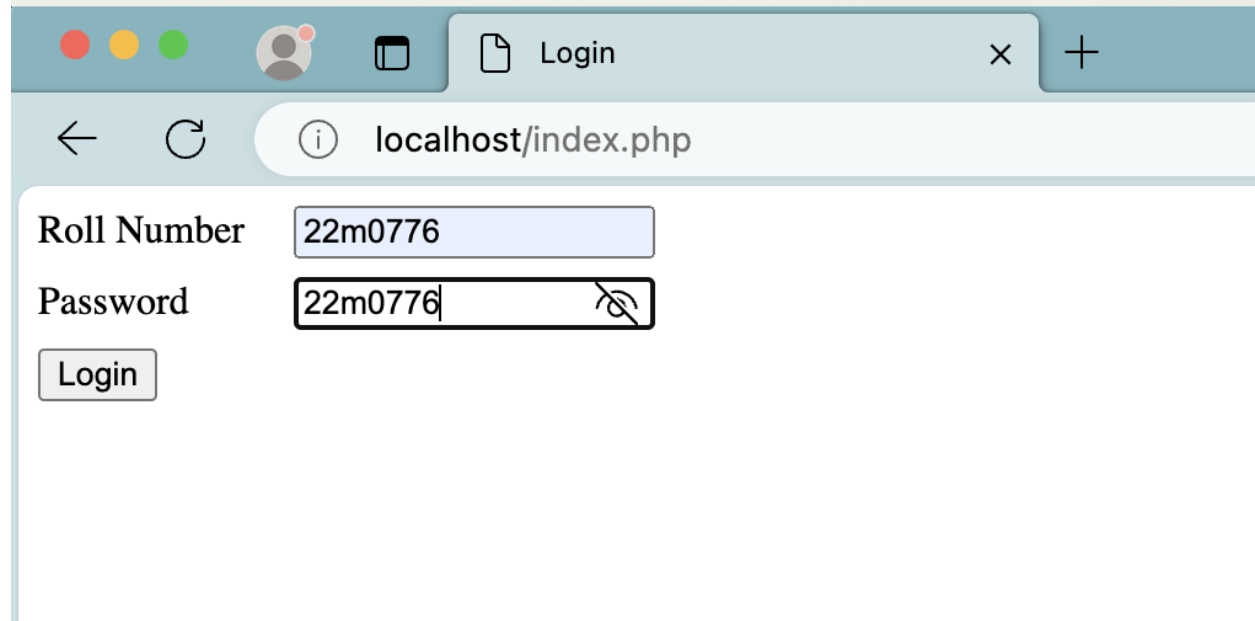
Endsem :

Submit

[Add Student](#)

#### 6. Handling cases of individual users.

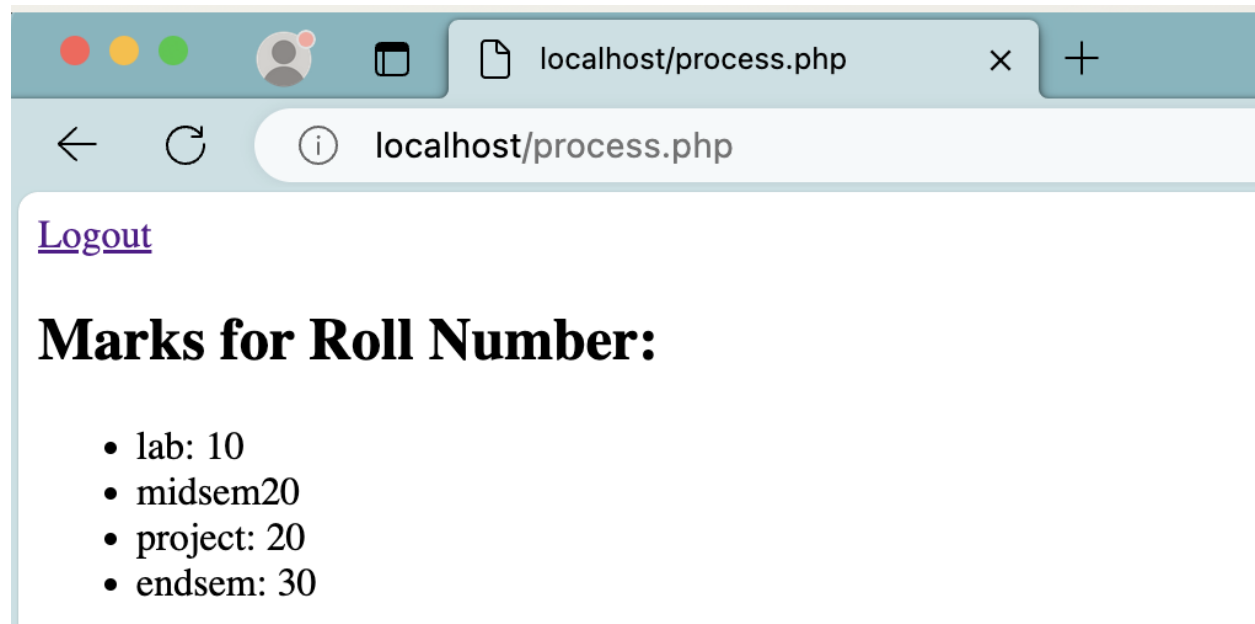
- If it is not admin, process.php needs to check for roll number and password in users table. If successful, website need to show their respective marks in an unordered list as shown in the below screenshot.



Roll Number

Password

Successful login ....

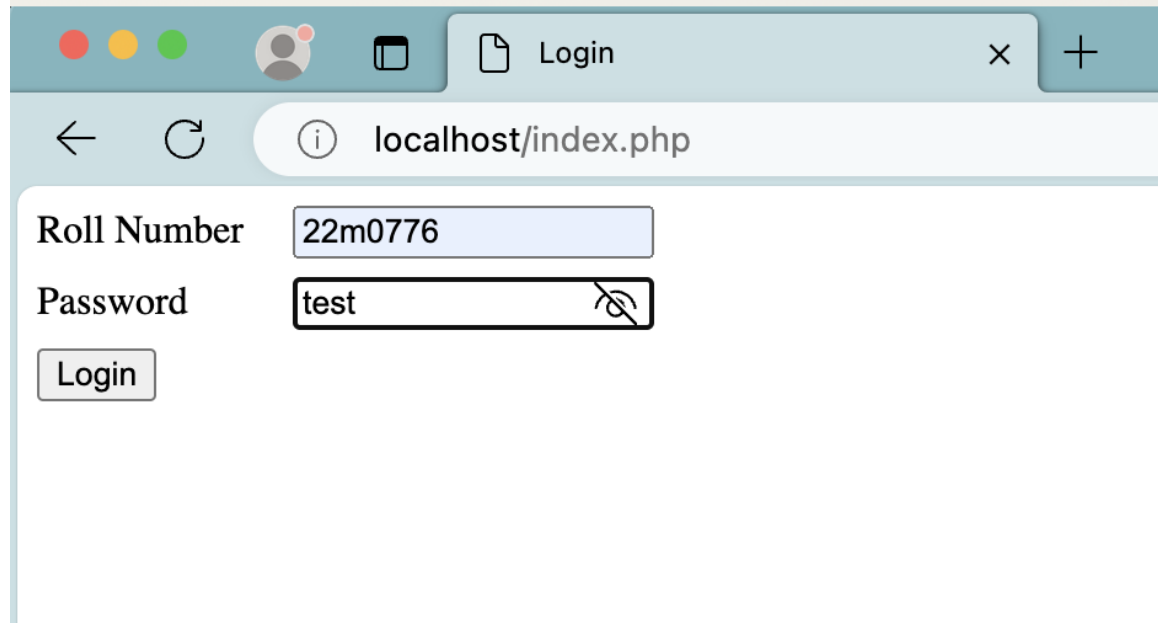


[Logout](#)

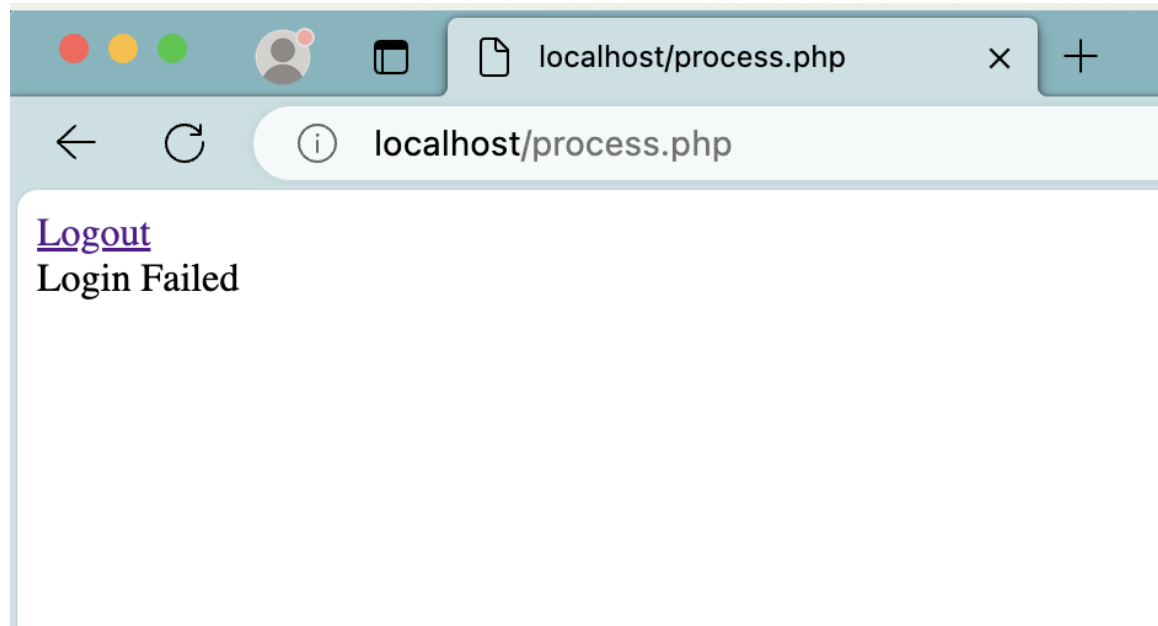
## Marks for Roll Number:

- lab: 10
- midsem20
- project: 20
- endsem: 30

b. If no match found in users db, mention login failed.



Failure message



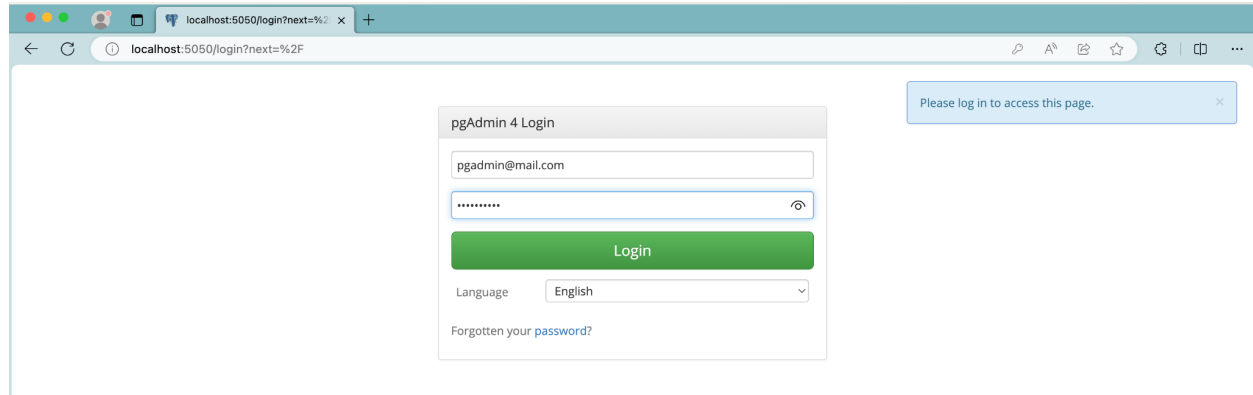
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**Optional:**

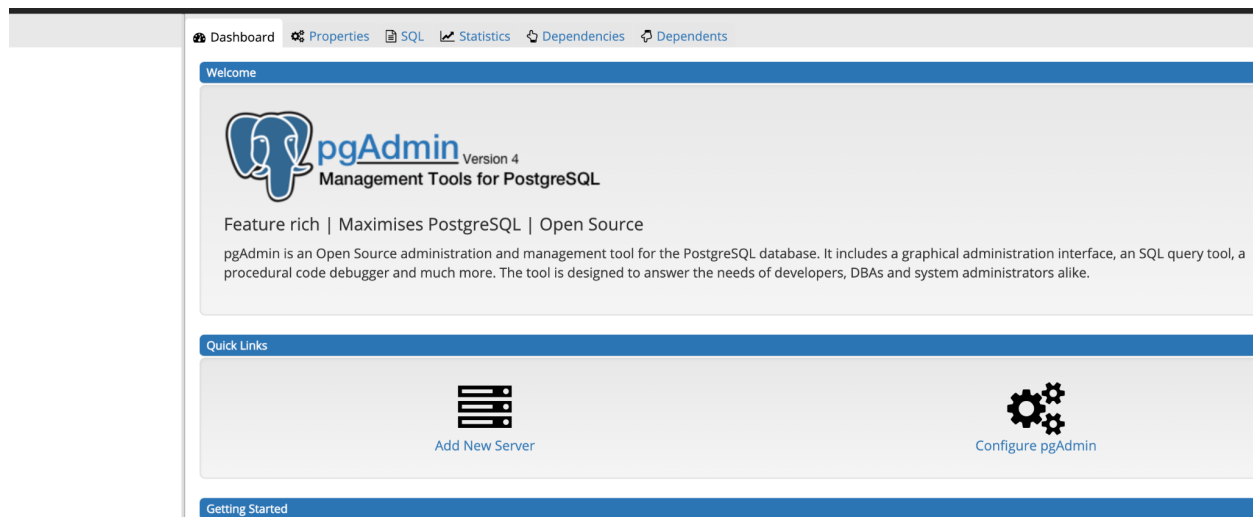
**If you need to access Database to see or query data,** below are the steps.

1. Go to localhost:5050 and login with credentials [pgadmin@mail.com](mailto:pgadmin@mail.com) and mypassword. [These are mentioned in env file]





2. Click on Add new server



3. In General tab, name it as test and in Connection tab, give
  - a. Host name as postgres
  - b. Username as dev
  - c. Password as secret
  - d. And click on save



## Create - Server



General

Connection

SSL

Advanced

Name

Test

Server group

Servers

Background



Foreground



Connect now?



Comments



Either Host name or Host address must be specified.



Save



Cancel



Reset

Create - Server

General

Connection

SSL

Advanced

Host name/address

postgres

Port

5432

Maintenance database

postgres

Username

dev

Password

.....

Save password?

☒

Role

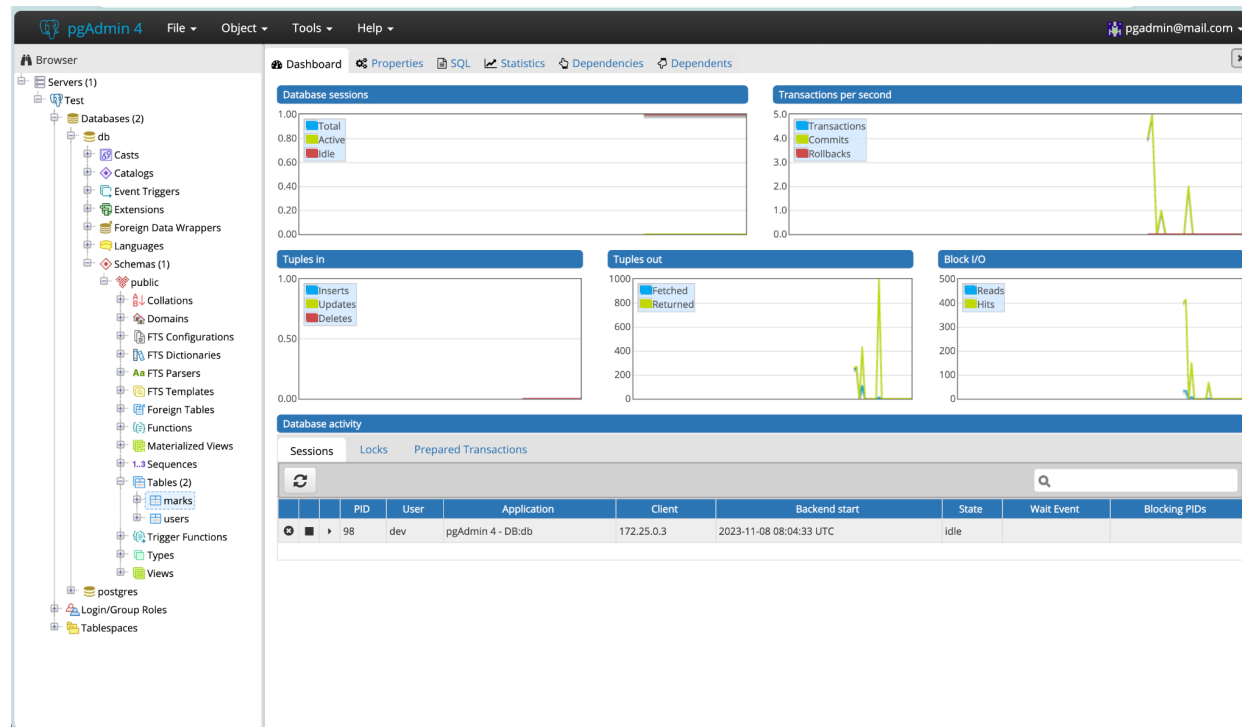
i?

Save

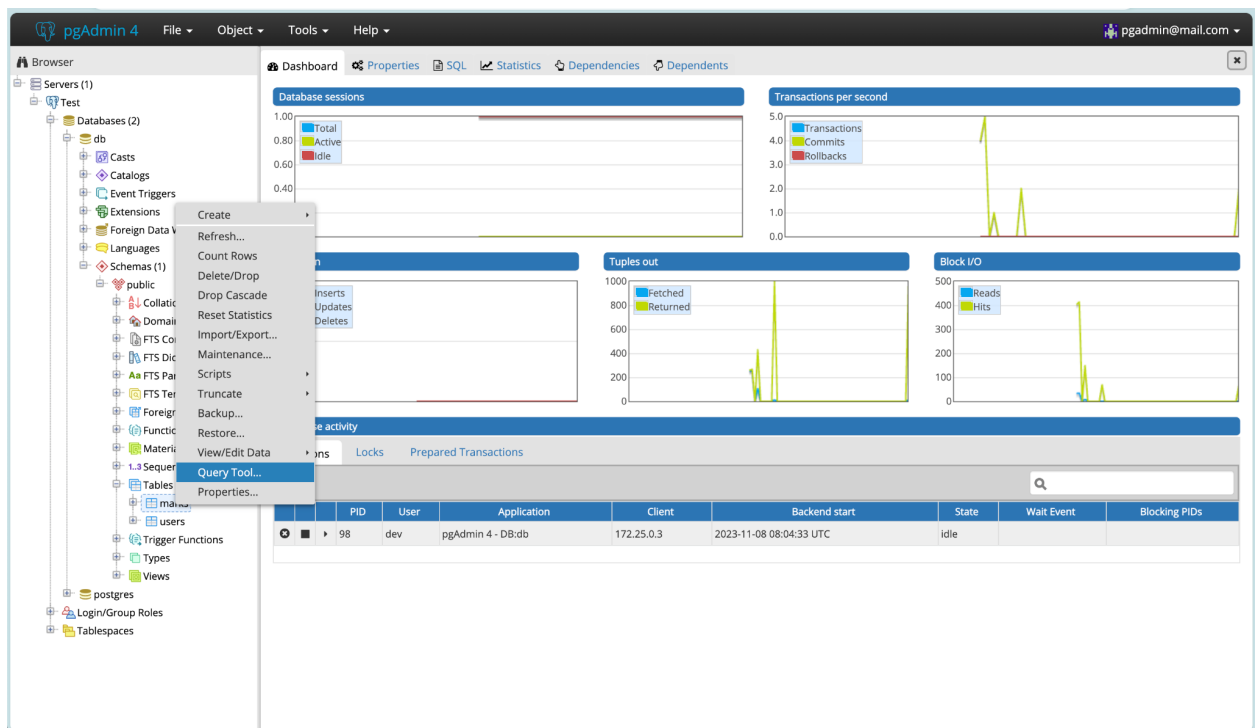
Cancel

Reset

- Expand **test > databases > db > schemas > public > Tables**. You can see the tables we created, it schema etc.



5. If need to query on table, right click on the table and select Query Tool , write and execute the query required.



pgAdmin 4

File Object Tools Help

pgadmin@mail.com

Browser

Servers (1)

Test

Databases (2)

db

Cast

Catalogs

Event Triggers

Extensions

Foreign Data Wrappers

Languages

Schemas (1)

public

Collations

Domains

FTS Configurations

FTS Dictionaries

FTS Parsers

FTS Templates

Foreign Tables

Functions

Materialized Views

Sequences

Tables (2)

marks

users

Trigger Functions

Types

Views

postgres

Login/Group Roles

Tablespaces

Dashboard Properties SQL Statistics Dependencies Dependencies Query - db on dev@Test \*

db on dev@Test

1 select \* from users;

Data Output Explain Messages Query History

	roll_number character varying (256)	name character varying (256)	email_address character varying (256)	password character varying (256)
1	22m0776	Pavan Kumar	22m0776@iitb.ac.in	22m0776

✓ Successfully run. Total query runtime: 114 msec. 1 rows affected.

