PROJECT TITLE:

+PHARHELP

Team Member Information

ID No	Name	Qualification	Joining Date
8493	Raghuraman L	BE.MECH	18.07.2022
8514	Balaji Santhanam	BE.MECH	18.07.2022
8516	Hariharan K	BE.MECH	18.07.2022
8484	Naveen Ramesh	BE.EIE	18.07.2022

Project Features

- +Pharhelp comes with Rest API and Microservice driven architecture with angular 13 UI, providing users below mentioned features:

❖ 1) Dashboard

❖ 2)Login/Logout

❖ 3) Signup

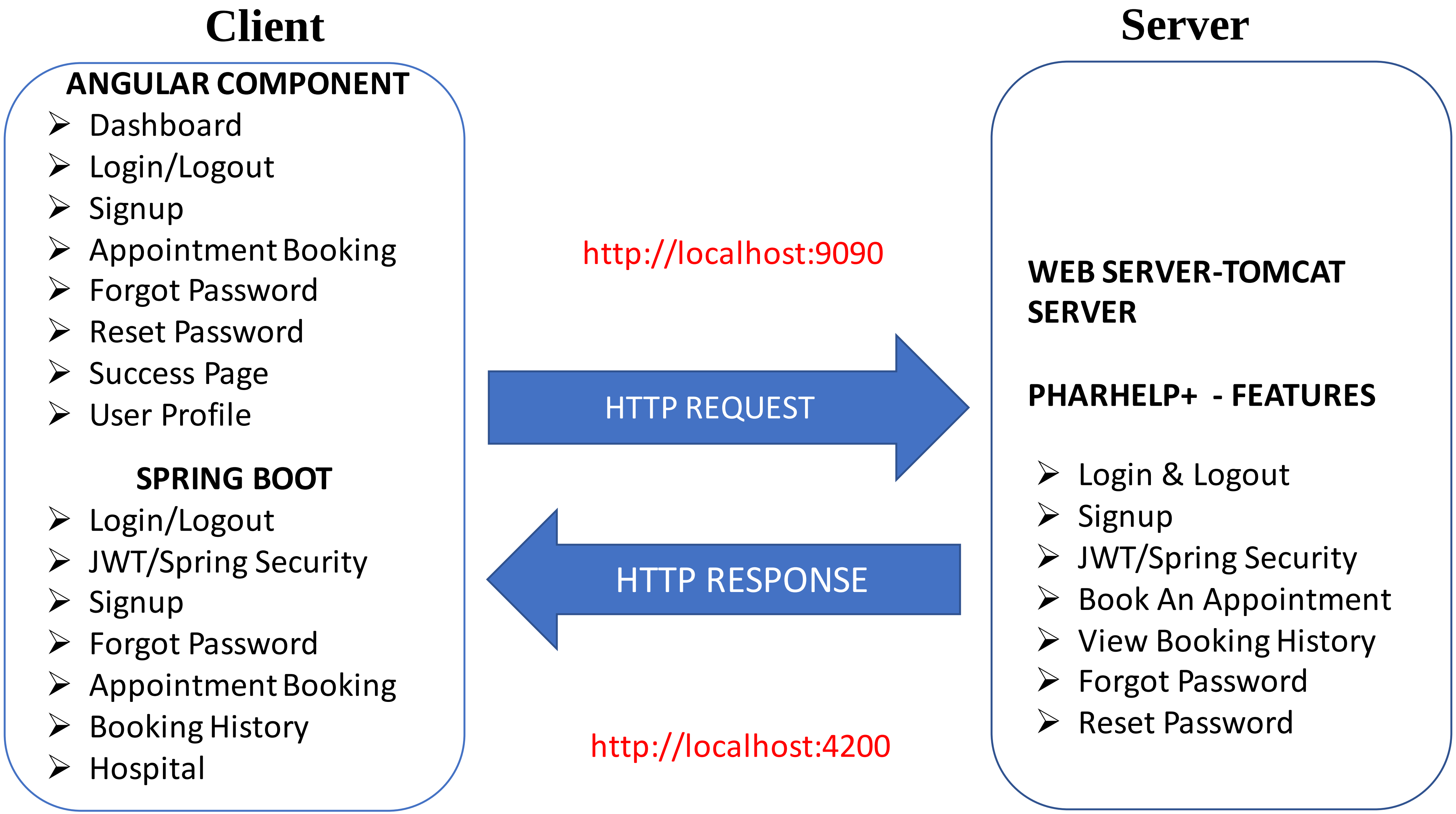
❖ 4) Forgot Password

❖ 5) Appointment Booking

❖ 6) Booking History

❖ 7) User Profile

Architecture



Client

ANGULAR COMPONENT

- Dashboard
- Login/Logout
- Signup
- Appointment Booking
- Forgot Password
- Reset Password
- Success Page
- User Profile

SPRING BOOT

- Login/Logout
- JWT/Spring Security
- Signup
- Forgot Password
- Appointment Booking
- Booking History
- Hospital

http://localhost:9090

HTTP REQUEST

HTTP RESPONSE

http://localhost:4200

Server

WEB SERVER-TOMCAT SERVER

PHARHELP+ - FEATURES

- Login & Logout
- Signup
- JWT/Spring Security
- Book An Appointment
- View Booking History
- Forgot Password
- Reset Password

Build Environment

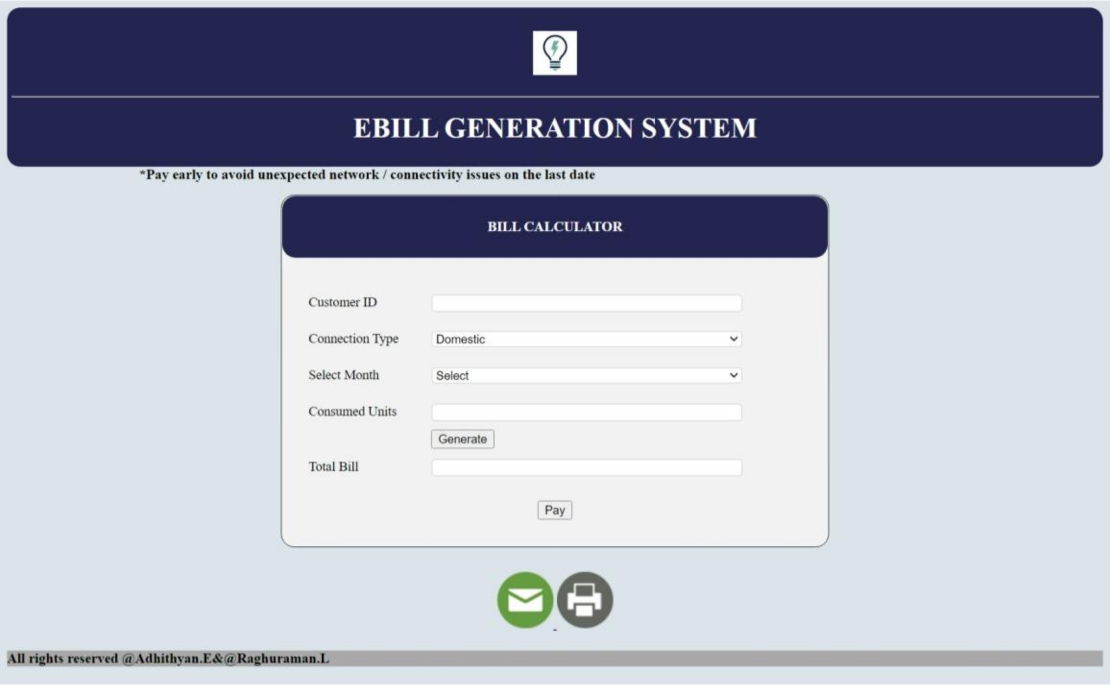
Technology	Versions
Angular	13.0
Core Java	8
Mysql Work bench	8
Spring Boot	2.7.1
HTML & CSS	5
Bootstrap	5.2
Eclipse IDE	4.12
TypeScript	4.7.2
Node JS	15.0.0

Technology Learnt

S.no	Technology	Project
1	Java Collections	Storing of data – Array list, Map,Set, Queue
2	Servlets	Route the calls from the view page to controller and controller to model
3	Java 8 Features (Lamada)	Enable to treat functionality as a method argument
4	Spring boot Rest API	An architectural style for building next-generation API's
5	Hibernate/JPA	The management of relational data in the Java application
6	Spring Security	Providing both authentication and authorization to Java applications
7	Spring MVC (Thymeleaf)	Used to build web applications
8	Json Web Tokens	Used to securely transfer security information between client and server
9	MySQL – 1X1, 1X Many ,Many X Many	Database relationship between the tables with the Rest API's
10	Microservice – Feign	Important tool for microservice developers to communicate with other microservices via Rest API
11	Microservice – Config	Manages the configurations and serves all the services
12	Microservice – API Gateway	Serves as a reverse proxy to accept API calls from the client application, forwarding this traffic to the appropriate service
13	Angular 13 With HTTP Client	Provides a gateway to access fetch the data from external resources(URL) with the help of http client

Pilot Projects Executed

Project Name	Technology	Remarks
Phone Book	Core Java, HTML and CSS	
E-Bill Generation	Core Java, HTML and CSS	
Train Reservation System	Core Java, HTML and CSS	
Appointment System	Core Java, HTML and CSS	



EBILL GENERATION SYSTEM

*Pay early to avoid unexpected network / connectivity issues on the last date

BILL CALCULATOR

Customer ID	
Connection Type	Domestic
Select Month	Select
Consumed Units	
	Generate
Total Bill	

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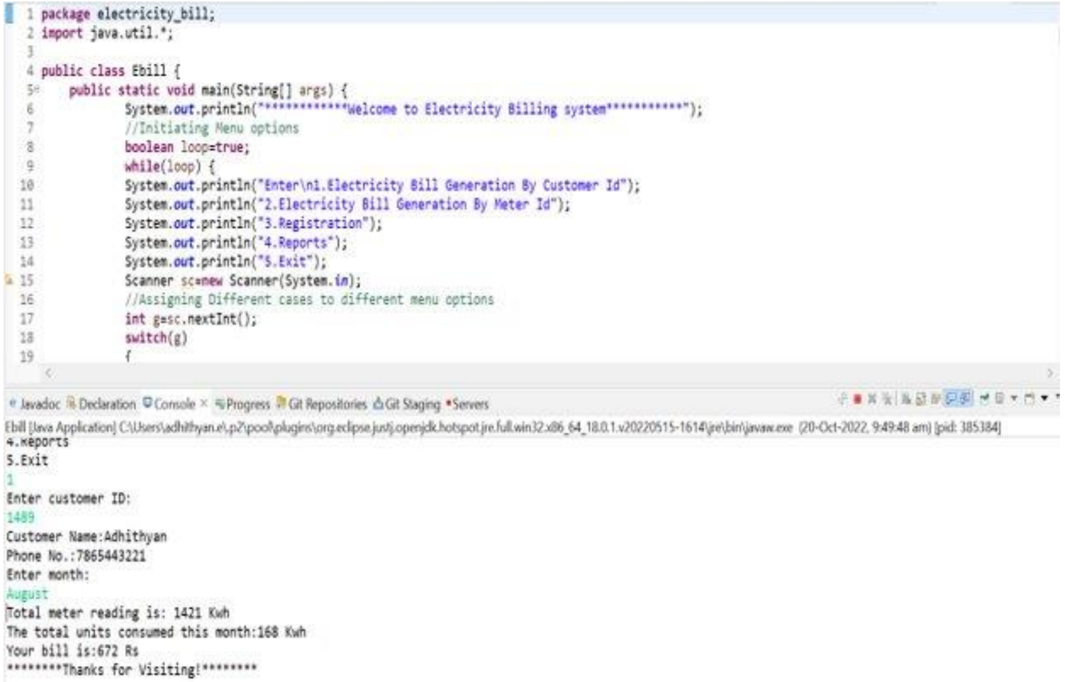
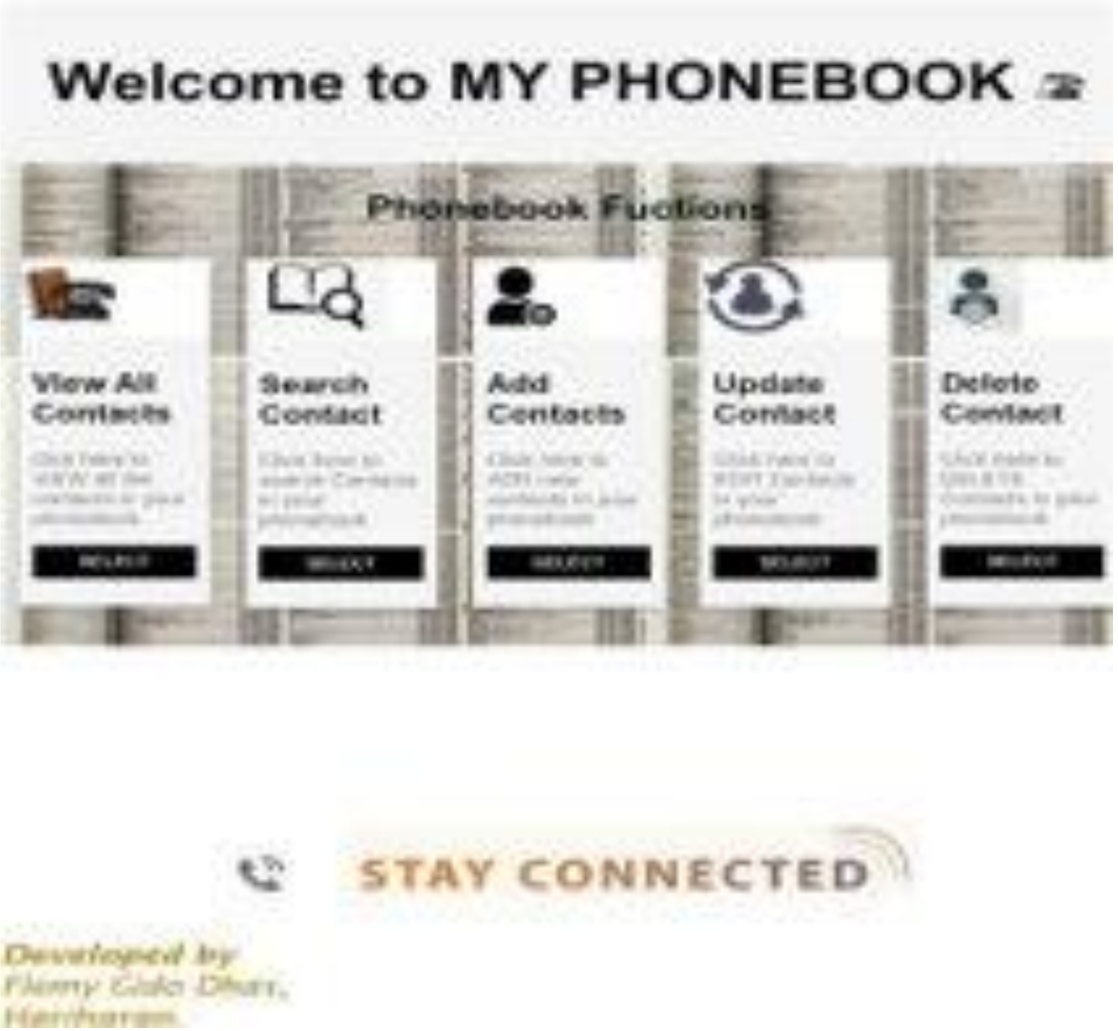


```
package electricity_bill;
import java.util.*;

public class Ebill {
    public static void main(String[] args) {
            System.out.println("***********Welcome to Electricity Billing system***********");
            //Initiating Menu options
            boolean loop=true;
            while(loop) {
            System.out.println("Enter\n1.Electricity Bill Generation By Customer Id");
            System.out.println("2.Electricity Bill Generation By Meter Id");
            System.out.println("3.Registration");
            System.out.println("4.Reports");
            System.out.println("5.Exit");
            Scanner sc=new Scanner(System.in);
            //Assigning Different cases to different menu options
            int g=sc.nextInt();
            switch(g)
            {
```

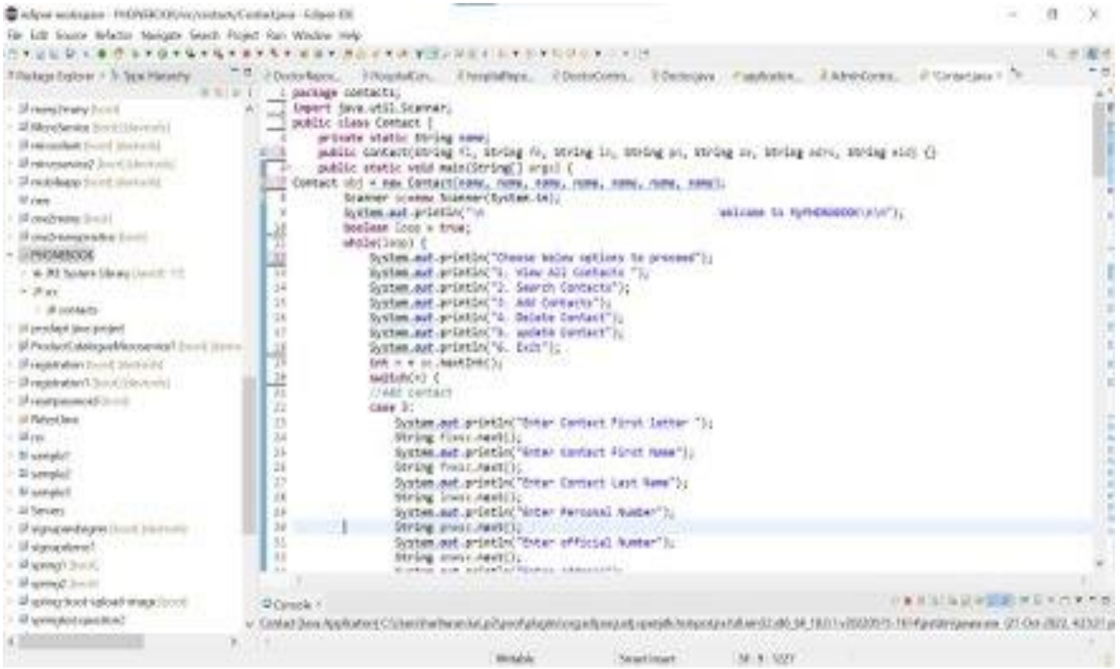
```
Ebill [Java Application] C:\Users\adhithyan.e\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.0.1.v20220515-1614\jre\bin\javaw.exe (20-Oct-2022, 9:49:48 am) [pid: 385384]
4.Reports
5.Exit
1
Enter customer ID:
1489
Customer Name:Adhithyan
Phone No.:7865443221
Enter month:
August
Total meter reading is: 1421 Kwh
The total units consumed this month:168 Kwh
Your bill is:672 Rs
********Thanks for Visiting!********
```



Welcome to MY PHONEBOOK ☎

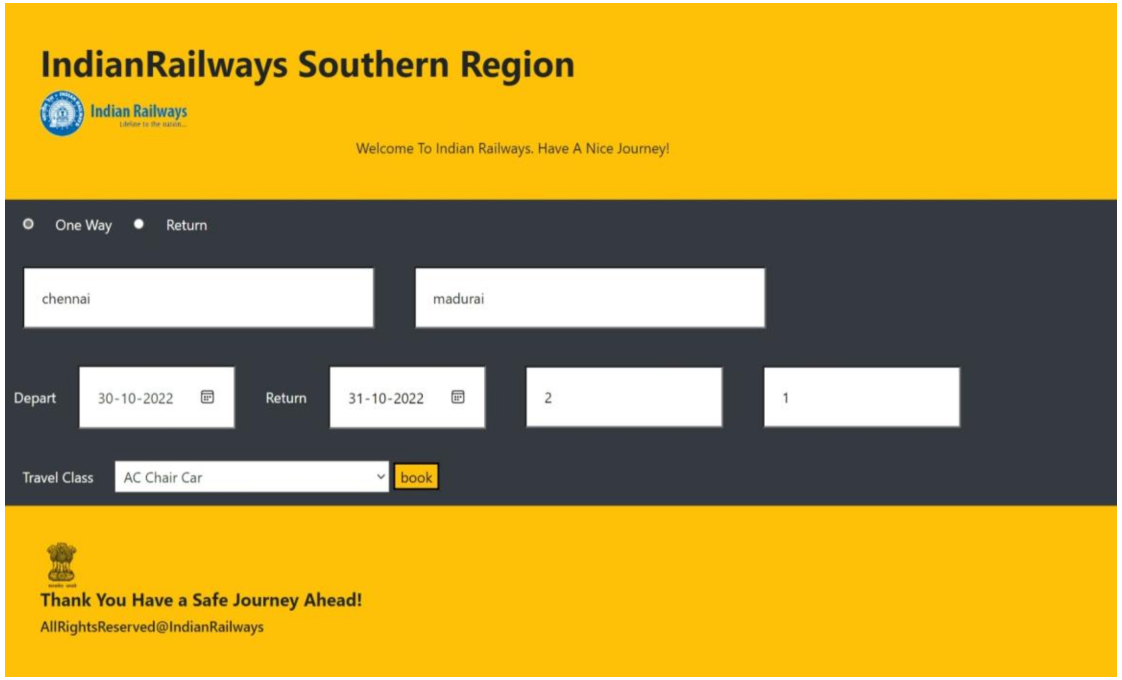
Phonebook Fuctions
View All Contacts
Click here to VIEW all the contacts in your phonebook
SELECT
Search Contact
Click here to search Contacts in your phonebook
SELECT
Add Contacts
Click here to ADD new contacts in your phonebook
SELECT
Update Contact
Click here to EDIT Contacts in your phonebook
SELECT
Delete Contact
Click here to DELETE Contacts in your phonebook
SELECT
STAY CONNECTED

Developed by
Flemy Gido Dhas,
Hariharan



eclipse-workspace - PHONEBOOK/src/contacts/Contact.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
Type Hierarchy
PHONEBOOK
JRE System Library
src
contacts
Contact.java
Console

```
package contacts;
import java.util.Scanner;
public class Contact {
    private static String name;
    public Contact(String fl, String fn, String ln, String pn, String on, String adrs, String eid) {}
    public static void main(String[] args) {
Contact obj = new Contact(name, name, name, name, name, name, name);
        Scanner sc=new Scanner(System.in);
        System.out.println("\n                                    welcome to MyPHONEBOOK\n\n");
        boolean loop = true;
        while(loop) {
            System.out.println("Choose below options to proceed");
            System.out.println("1. View All Contacts ");
            System.out.println("2. Search Contacts");
            System.out.println("3. Add Contacts");
            System.out.println("4. Delete Contact");
            System.out.println("5. update Contact");
            System.out.println("6. Exit");
            int x = sc.nextInt();
            switch(x) {
            //Add contact
            case 3:
                System.out.println("Enter Contact First letter ");
                String fl=sc.next();
                System.out.println("Enter Contact First Name");
                String fn=sc.next();
                System.out.println("Enter Contact Last Name");
                String ln=sc.next();
                System.out.println("Enter Personal Number");
                String pn=sc.next();
                System.out.println("Enter official Number");
                String on=sc.next();
```



IndianRailways Southern Region

Indian Railways

Welcome To Indian Railways. Have A Nice Journey!

○ One Way ● Return

chennai

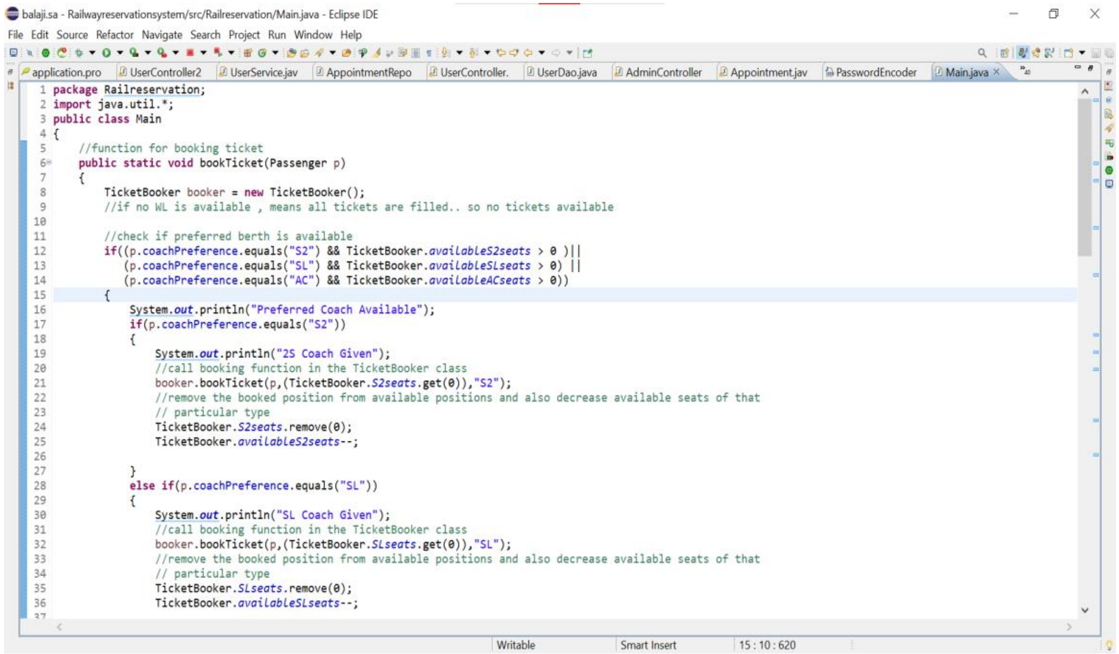
madurai

Depart 30-10-2022 Return 31-10-2022 2 1

Travel Class AC Chair Car book

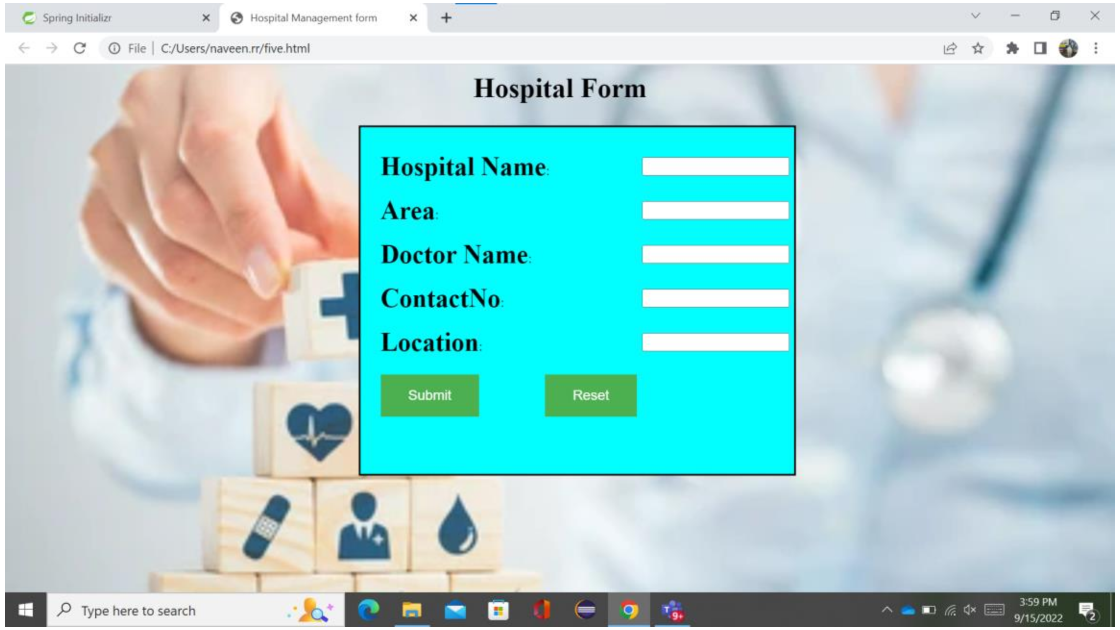
Thank You Have a Safe Journey Ahead!

AllRightsReserved@IndianRailways



balaji.sa - Railwayreservationsystem/src/Railreservation/Main.java - Eclipse IDE

```java
package Railreservation;
import java.util.*;
public class Main
{
    //function for booking ticket
    public static void bookTicket(Passenger p)
    {
        TicketBooker booker = new TicketBooker();
        //if no WL is available , means all tickets are filled.. so no tickets available

        //check if preferred berth is available
        if((p.coachPreference.equals("S2") && TicketBooker.availableS2seats > 0 )||
           (p.coachPreference.equals("SL") && TicketBooker.availableSLseats > 0) ||
           (p.coachPreference.equals("AC") && TicketBooker.availableACseats > 0))
        {
            System.out.println("Preferred Coach Available");
            if(p.coachPreference.equals("S2"))
            {
                System.out.println("2S Coach Given");
                //call booking function in the TicketBooker class
                booker.bookTicket(p,(TicketBooker.S2seats.get(0)),"S2");
                //remove the booked position from available positions and also decrease available seats of that
                // particular type
                TicketBooker.S2seats.remove(0);
                TicketBooker.availableS2seats--;

            }
            else if(p.coachPreference.equals("SL"))
            {
                System.out.println("SL Coach Given");
                //call booking function in the TicketBooker class
                booker.bookTicket(p,(TicketBooker.SLseats.get(0)),"SL");
                //remove the booked position from available positions and also decrease available seats of that
                // particular type
                TicketBooker.SLseats.remove(0);
                TicketBooker.availableSLseats--;
```



Hospital Form

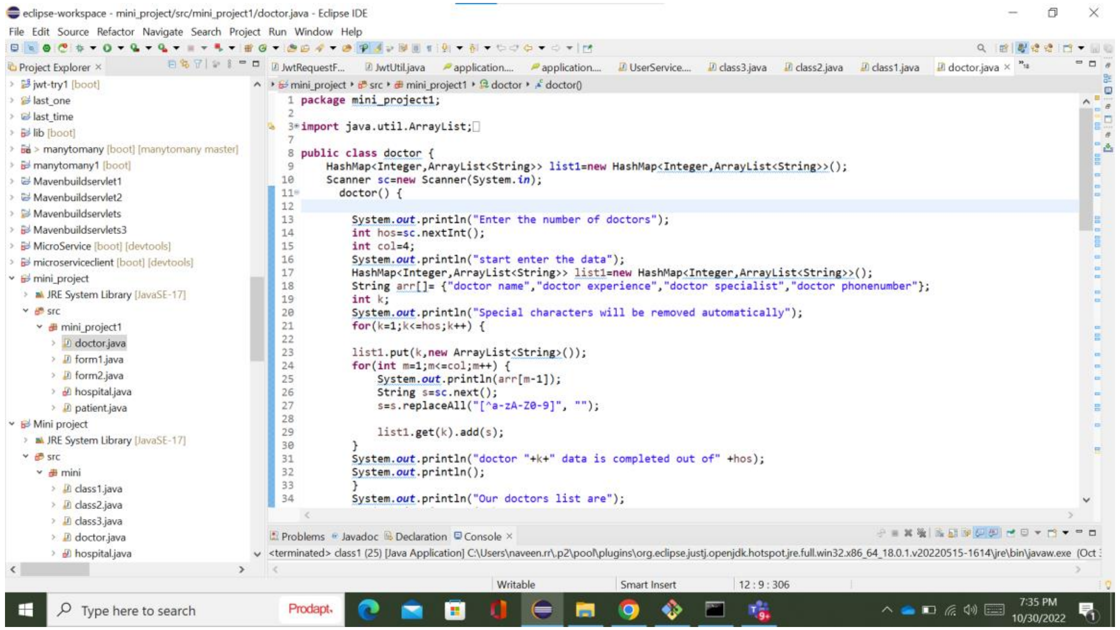
Hospital Name:

Area:

Doctor Name:

ContactNo:

Location:



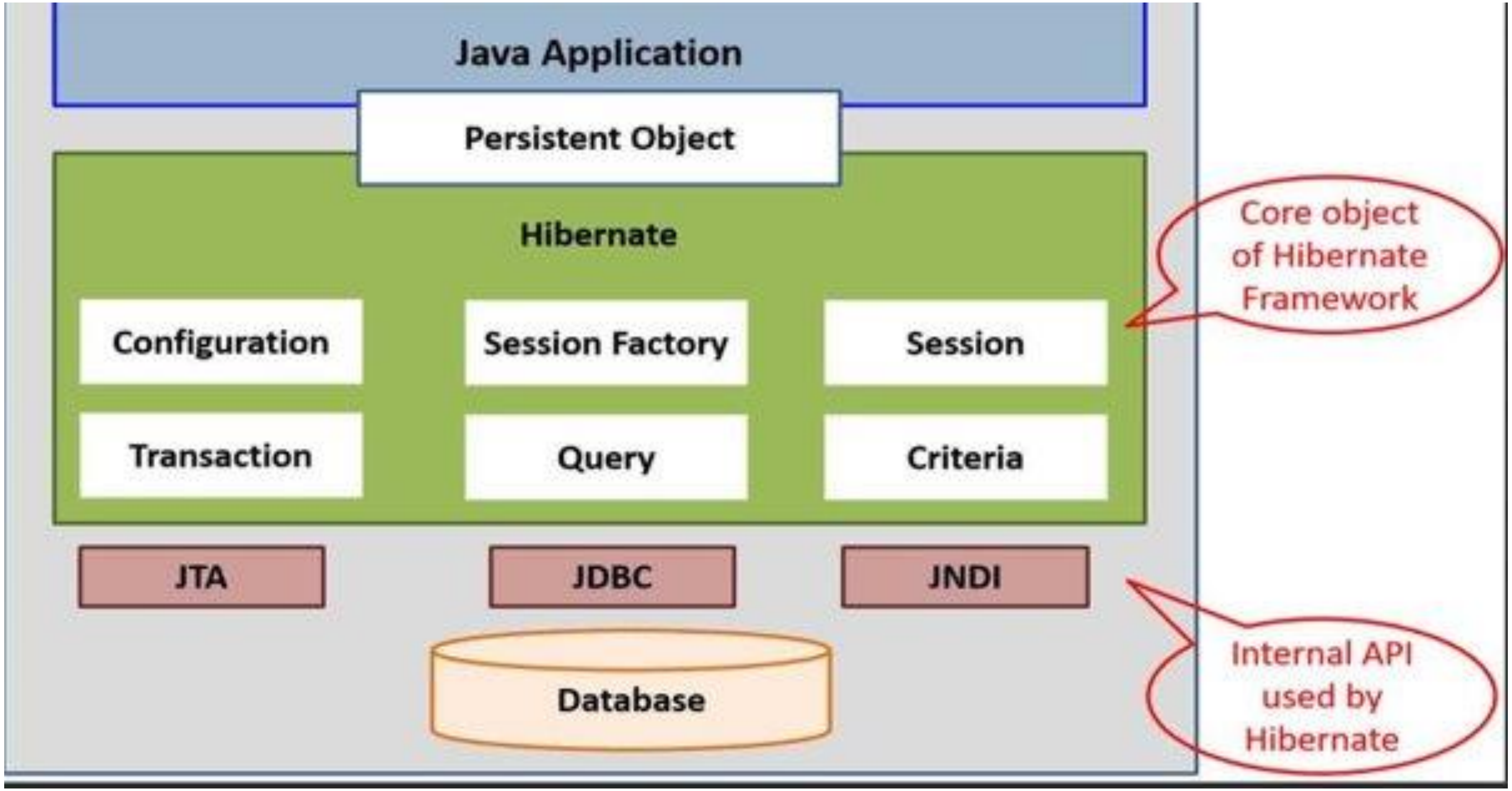
eclipse-workspace - mini_project/src/mini_project1/doctor.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Project Explorer
JwtRequestF... JwtUtil.java application.... application.... UserService.... class3.java class2.java class1.java doctor.java
mini_project › src › mini_project1 › doctor › doctor()

```java
package mini_project1;

import java.util.ArrayList;

public class doctor {
    HashMap<Integer,ArrayList<String>> list1=new HashMap<Integer,ArrayList<String>>();
    Scanner sc=new Scanner(System.in);
      doctor() {

        System.out.println("Enter the number of doctors");
        int hos=sc.nextInt();
        int col=4;
        System.out.println("start enter the data");
        HashMap<Integer,ArrayList<String>> list1=new HashMap<Integer,ArrayList<String>>();
        String arr[]= {"doctor name","doctor experience","doctor specialist","doctor phonenumber"};
        int k;
        System.out.println("Special characters will be removed automatically");
        for(k=1;k<=hos;k++) {

        list1.put(k,new ArrayList<String>());
        for(int m=1;m<=col;m++) {
            System.out.println(arr[m-1]);
            String s=sc.next();
            s=s.replaceAll("[^a-zA-Z0-9]", "");

            list1.get(k).add(s);
        }
        System.out.println("doctor "+k+" data is completed out of" +hos);
        System.out.println();
        }
        System.out.println("Our doctors list are");
```

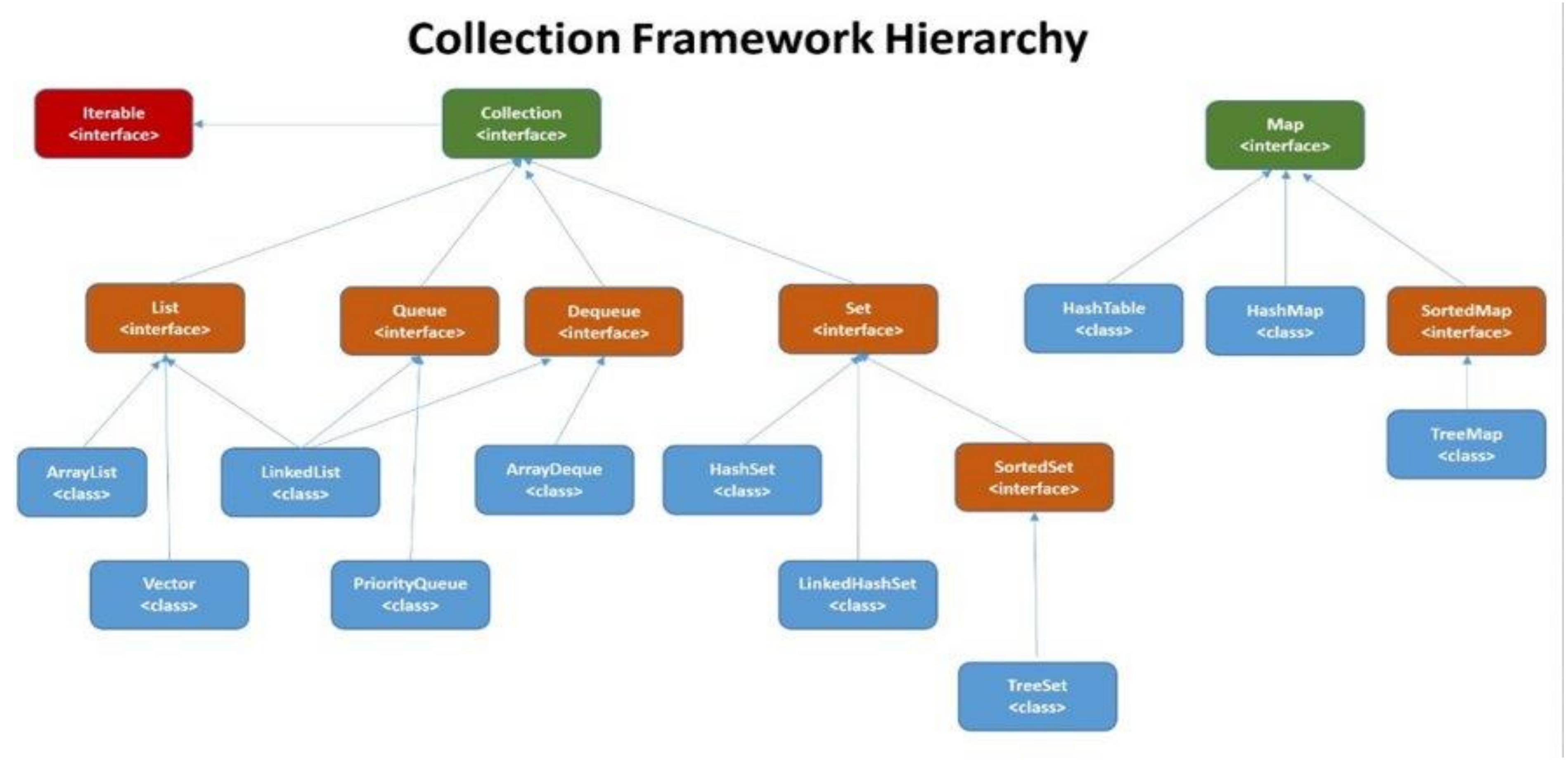
```
<terminated> class1 (25) [Java Application] C:\Users\naveen.rr\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_18.0.1.v20220515-1614\jre\bin\javaw.exe (Oct
```

JFS -
Technology Block Diagrams

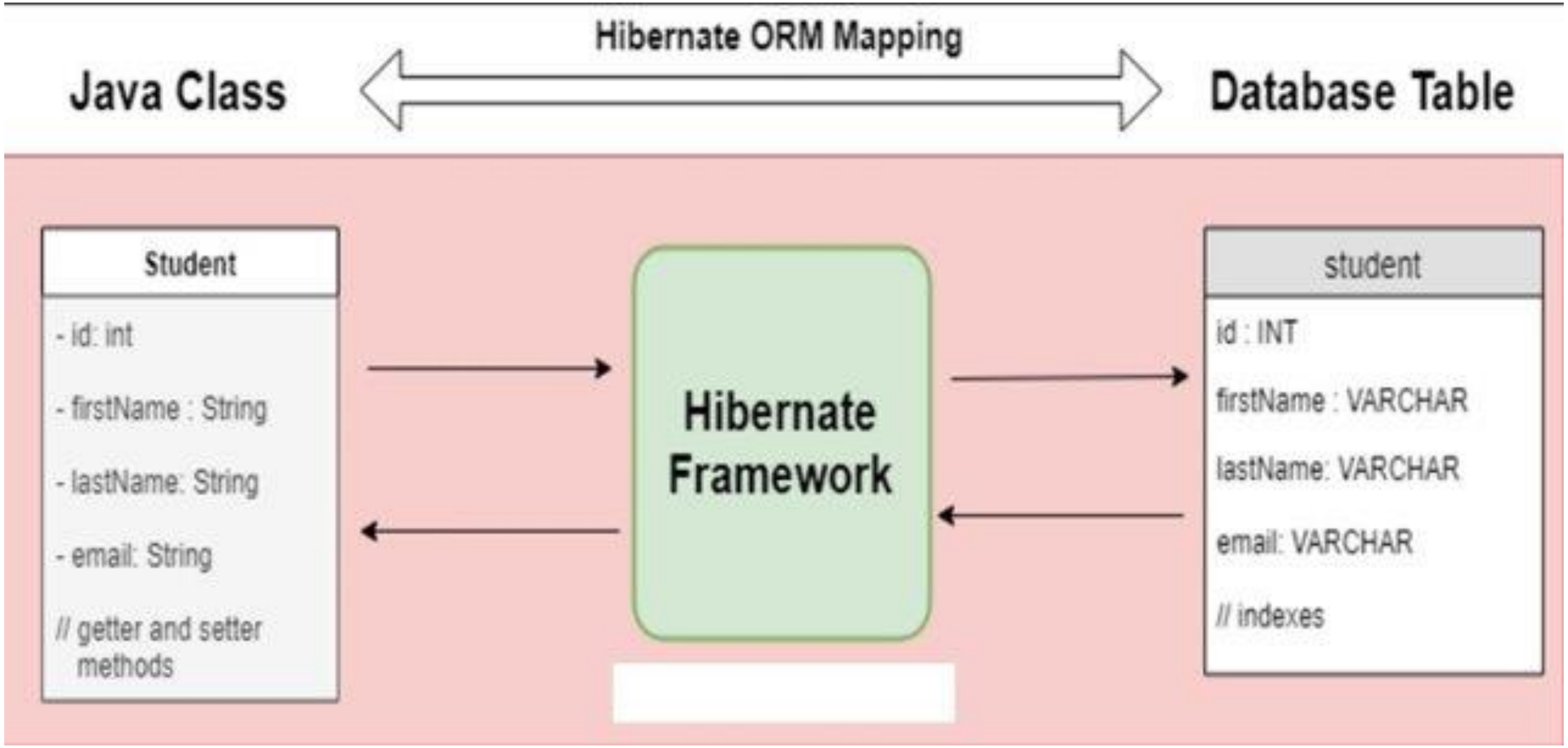
JDBC/Hibernate/API



Collections



Hibernate



Hibernate ORM Mapping

Java Class

Database Table

Student

- id: int

- firstName : String

- lastName: String

- email: String

// getter and setter methods

Hibernate Framework

student

id : INT

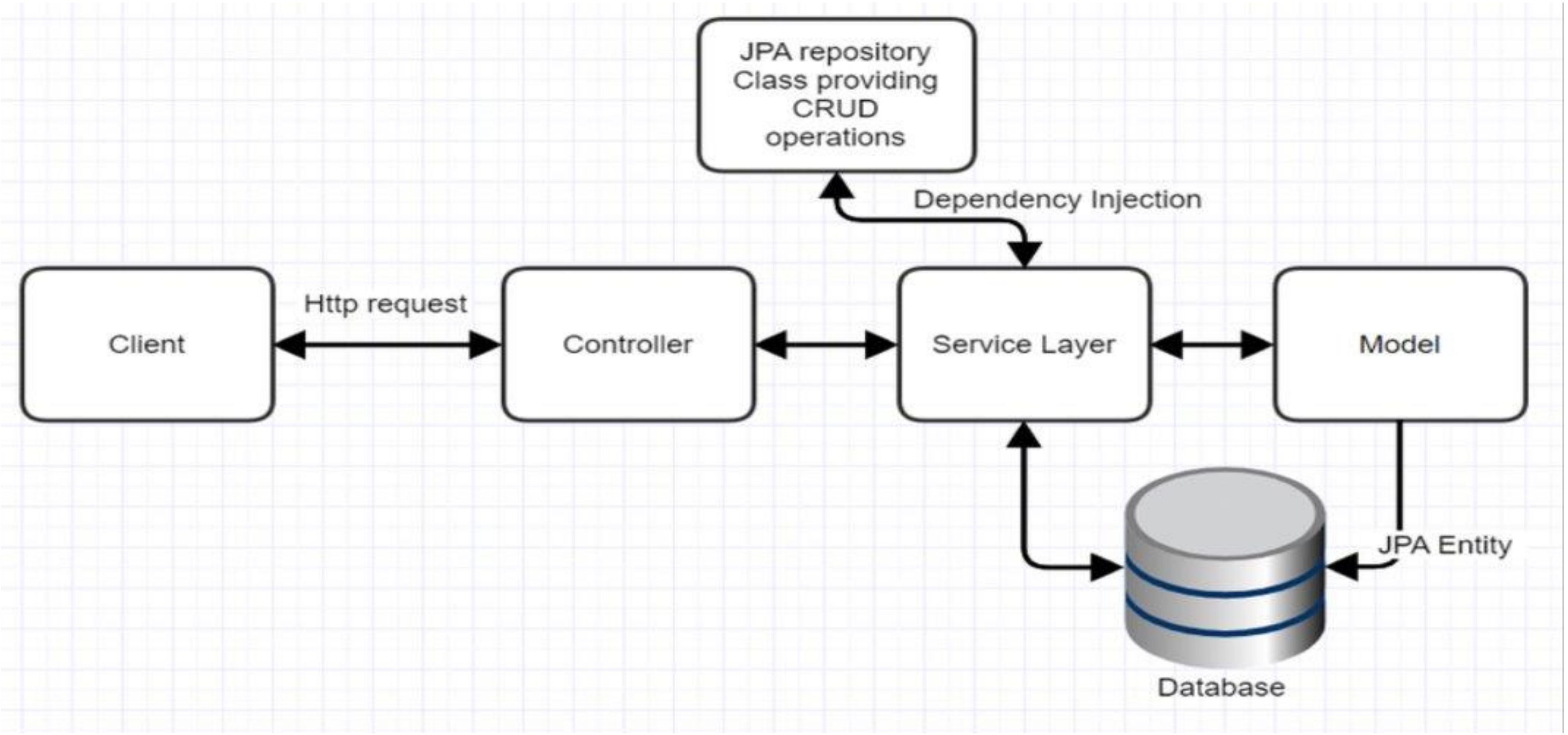
firstName : VARCHAR

lastName: VARCHAR

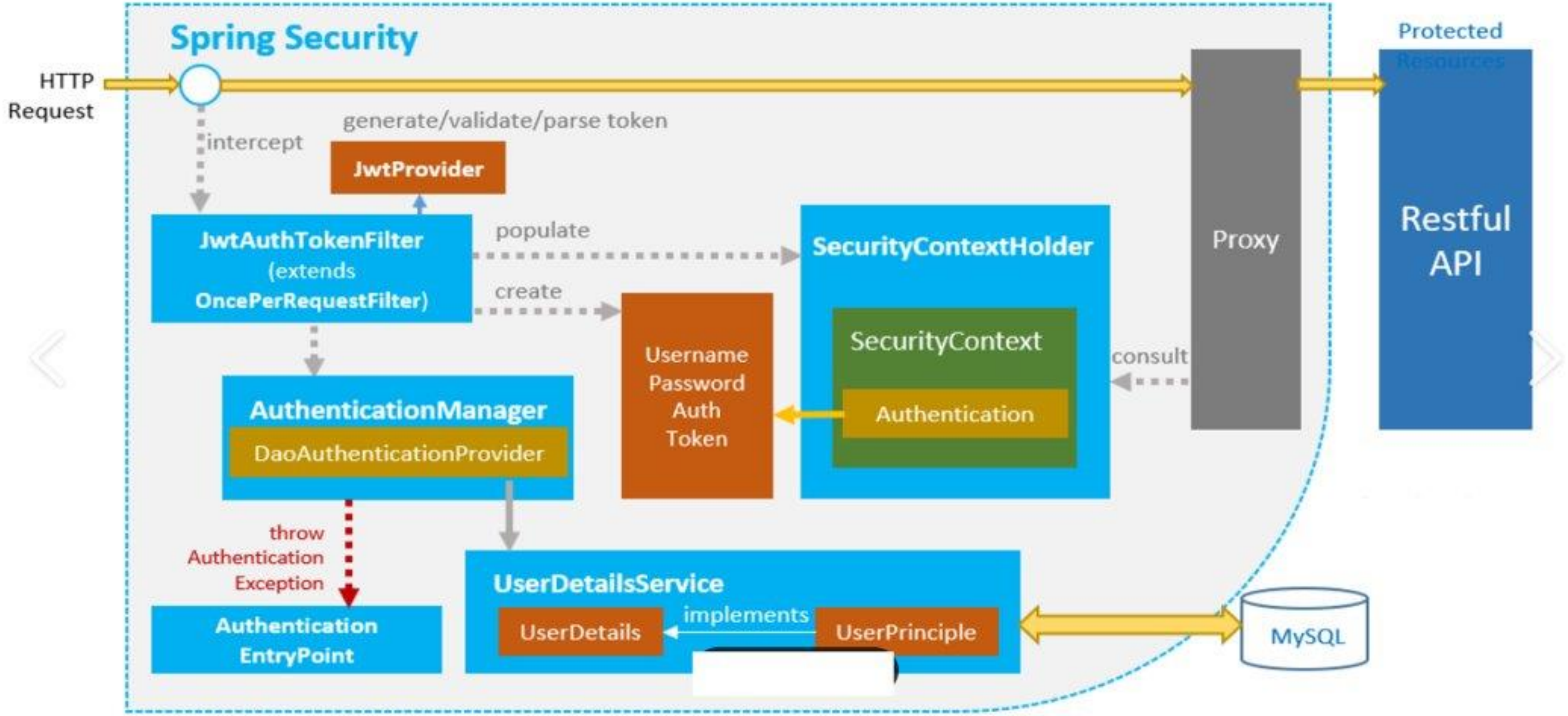
email: VARCHAR

// indexes

Spring Boot


JPA repository Class providing CRUD operations
Dependency Injection
Http request
Client
Controller
Service Layer
Model
JPA Entity
Database

Jason Web Tokens



Spring Security

HTTP Request

intercept

generate/validate/parse token

JwtProvider

JwtAuthTokenFilter (extends OncePerRequestFilter)

populate

create

SecurityContextHolder

SecurityContext

Authentication

Username Password Auth Token

AuthenticationManager

DaoAuthenticationProvider

throw Authentication Exception

Authentication EntryPoint

UserDetailsService

UserDetails

implements

UserPrinciple

MySQL

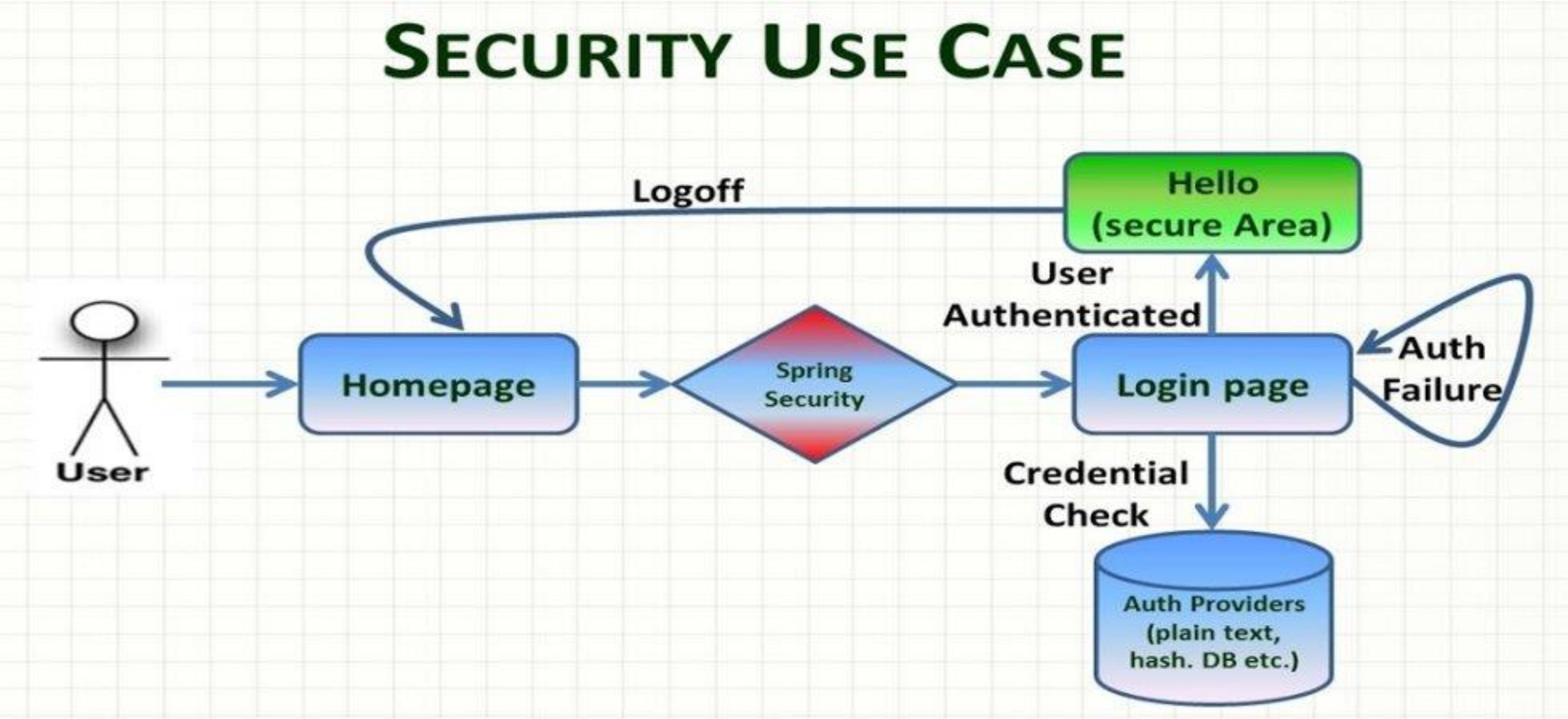
Proxy

consult

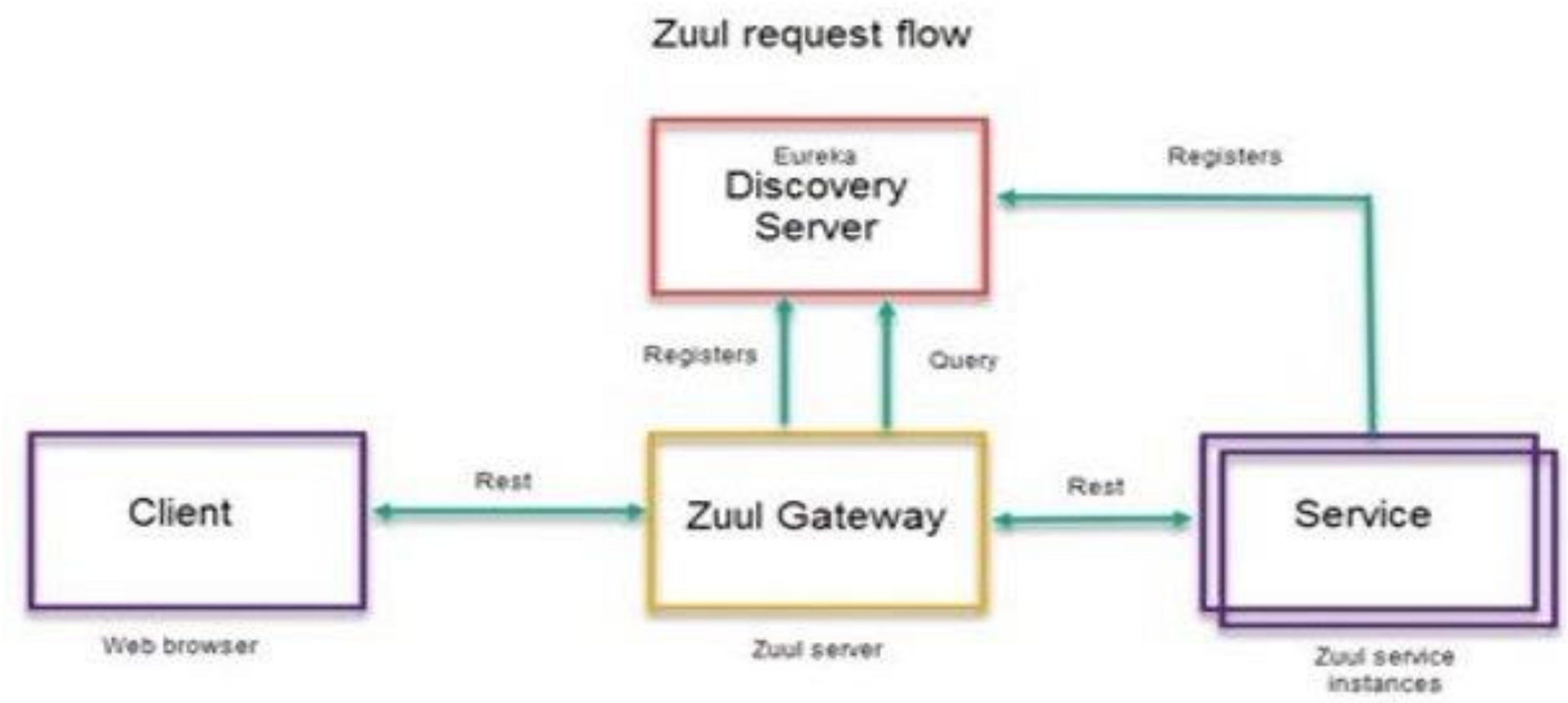
Protected Resources

Restful API

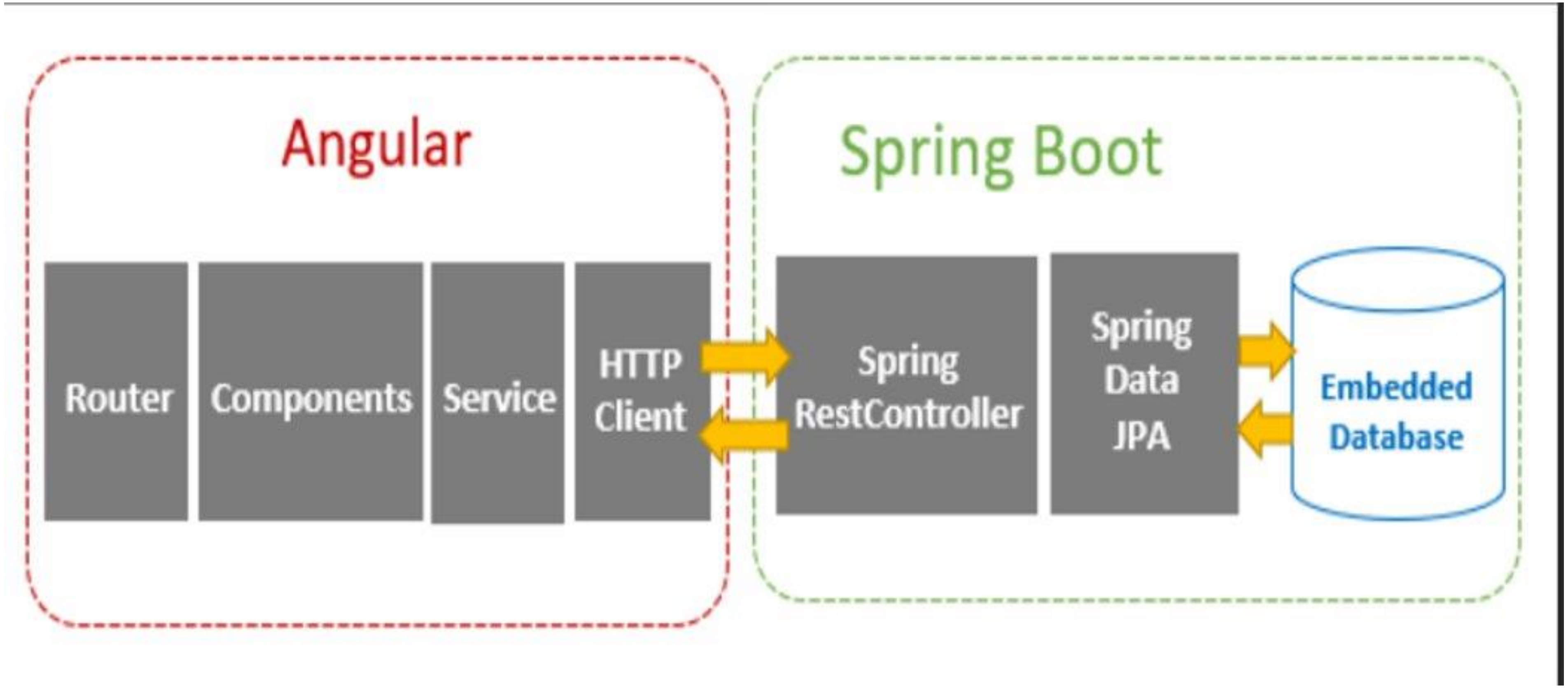
Spring Security Use Case



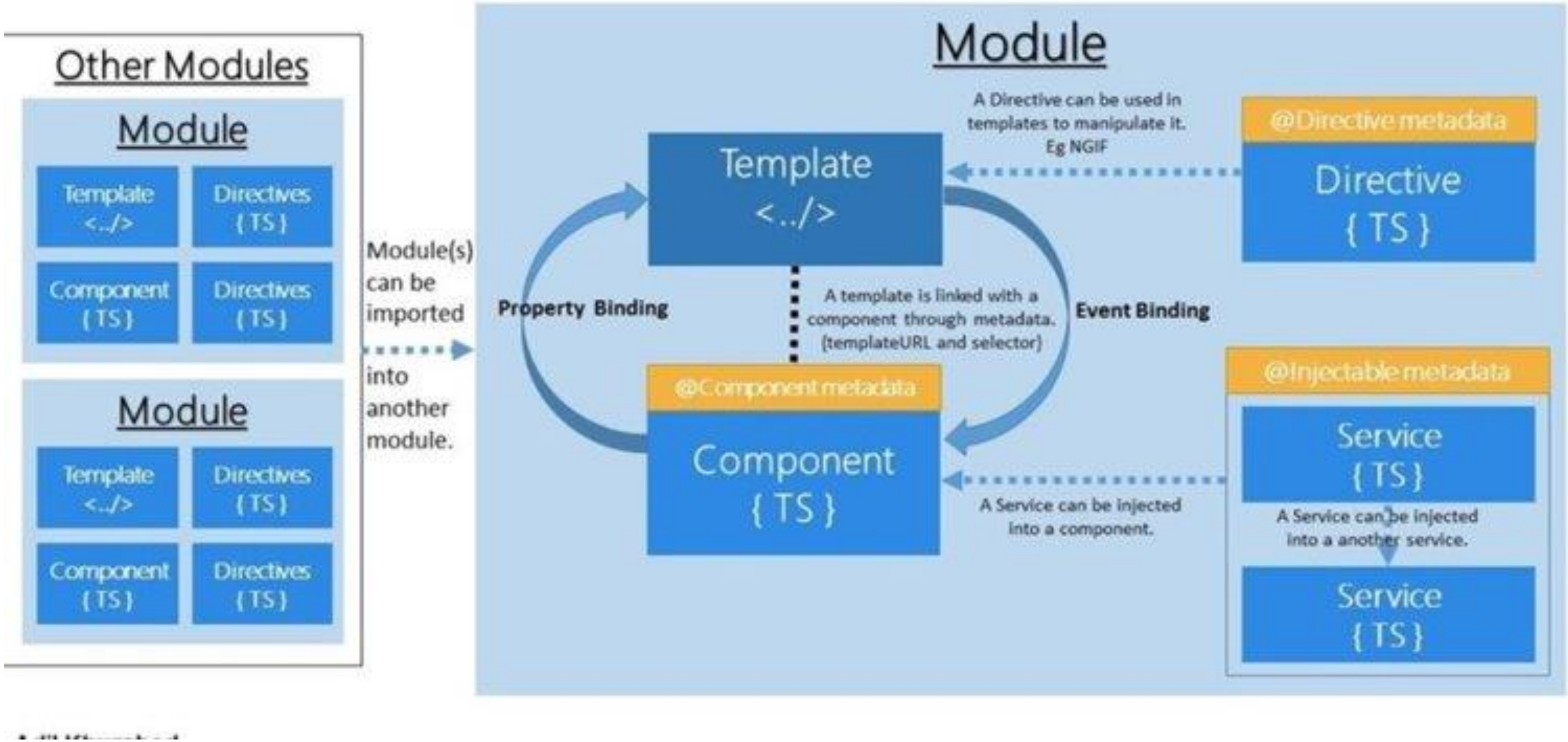
Microservice Architecture



Angular Spring Boot Architecture



Angular 13 Features



Project Phases

✓ Requirement Phase

Design Phase

Coding Phase

Requirement Phase

A : Study of websites
B : Internal discussions

Output:
List of requirements

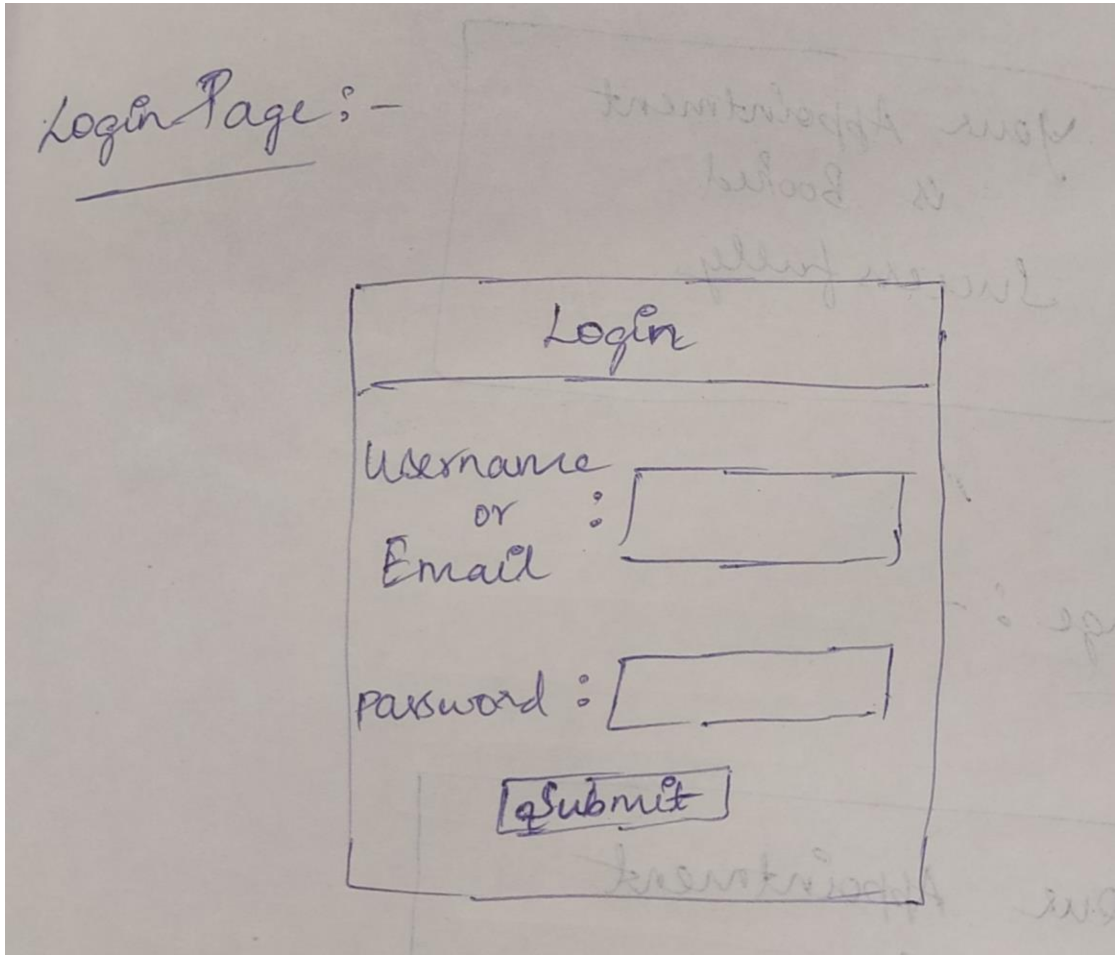
Design Phase

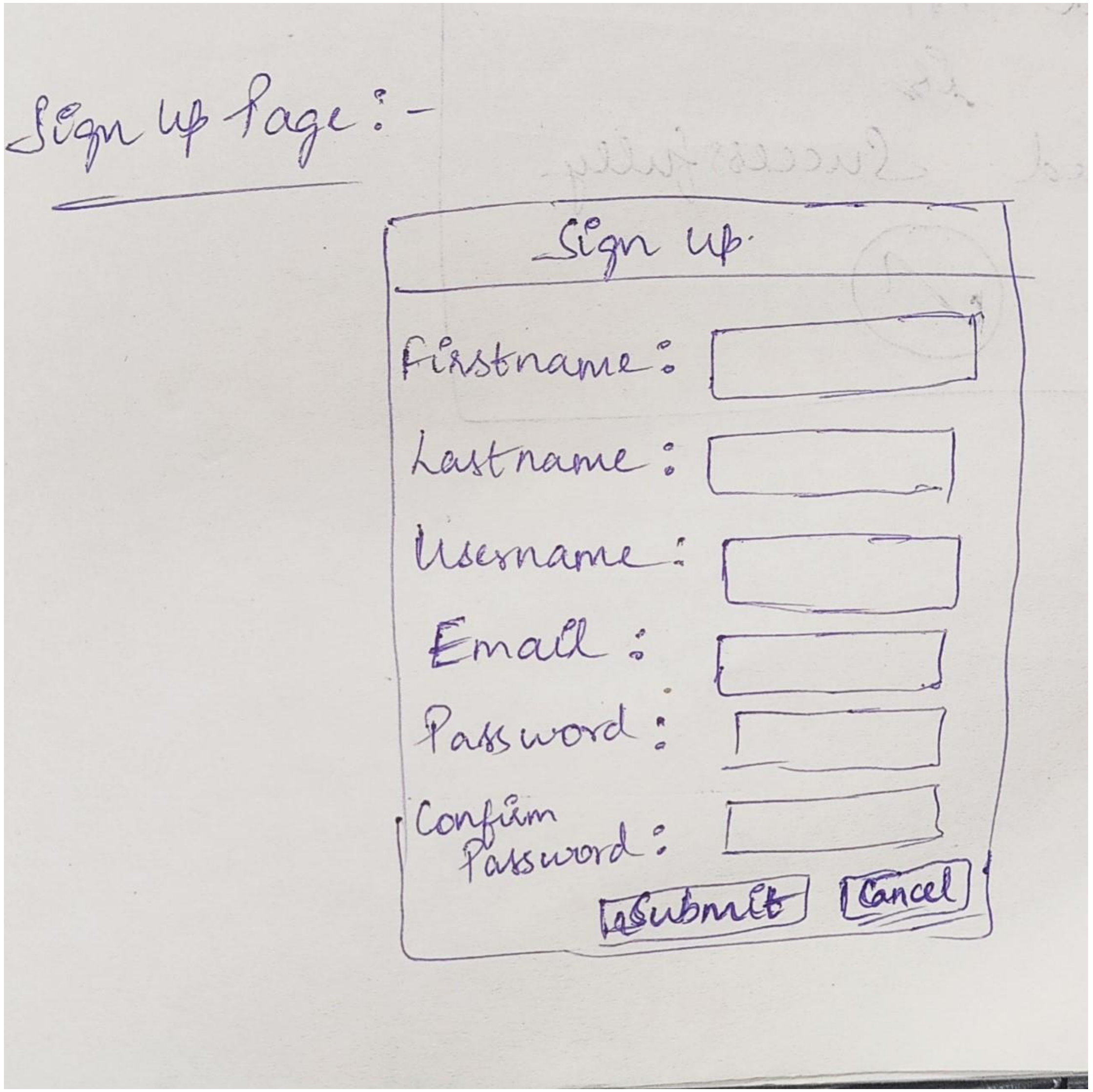
Wire Frame Diagram

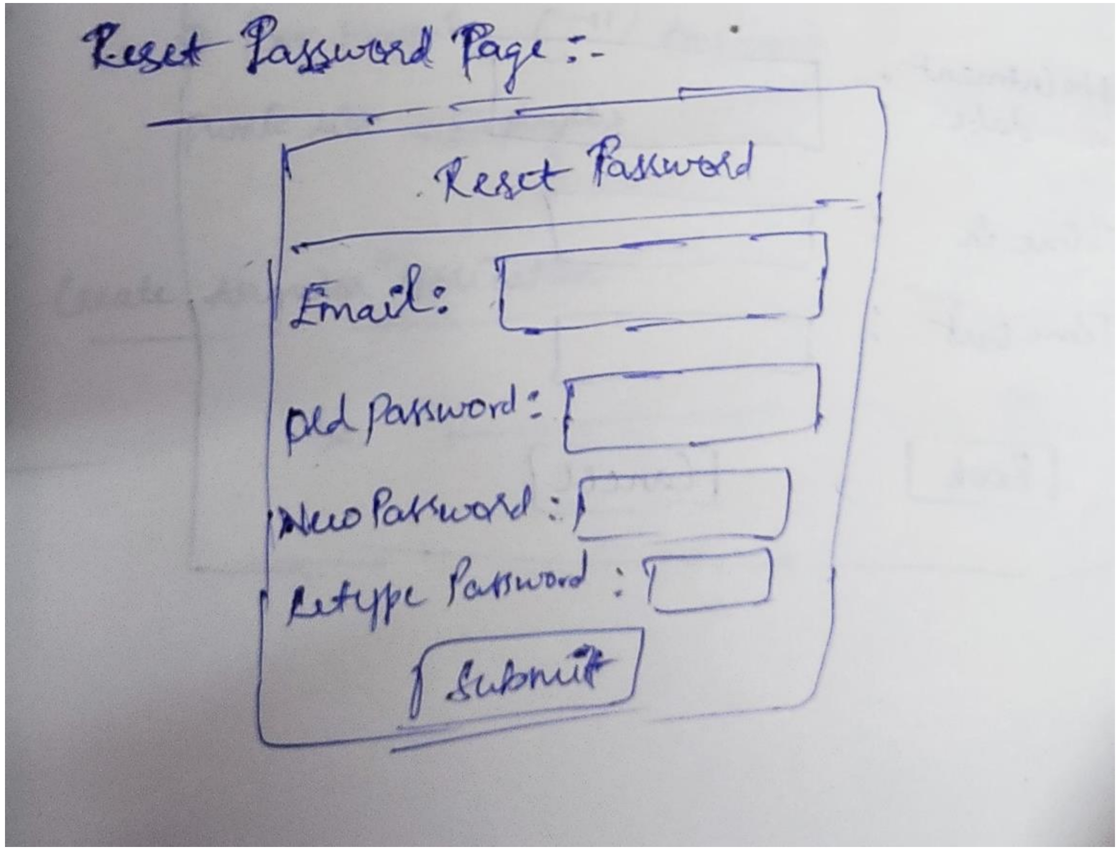
Data Base table relationships (Many to Many)

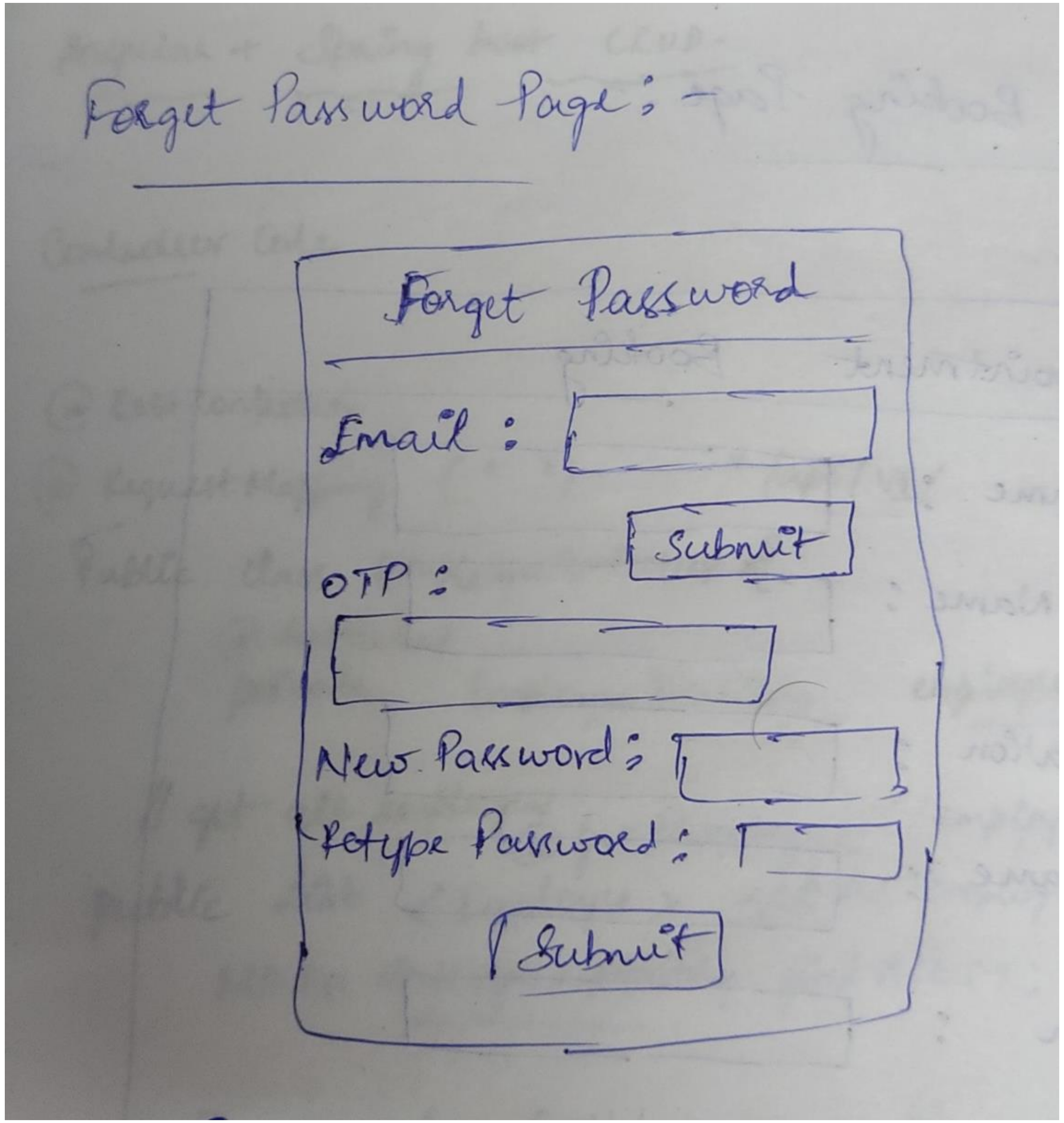
Identify API with input and output

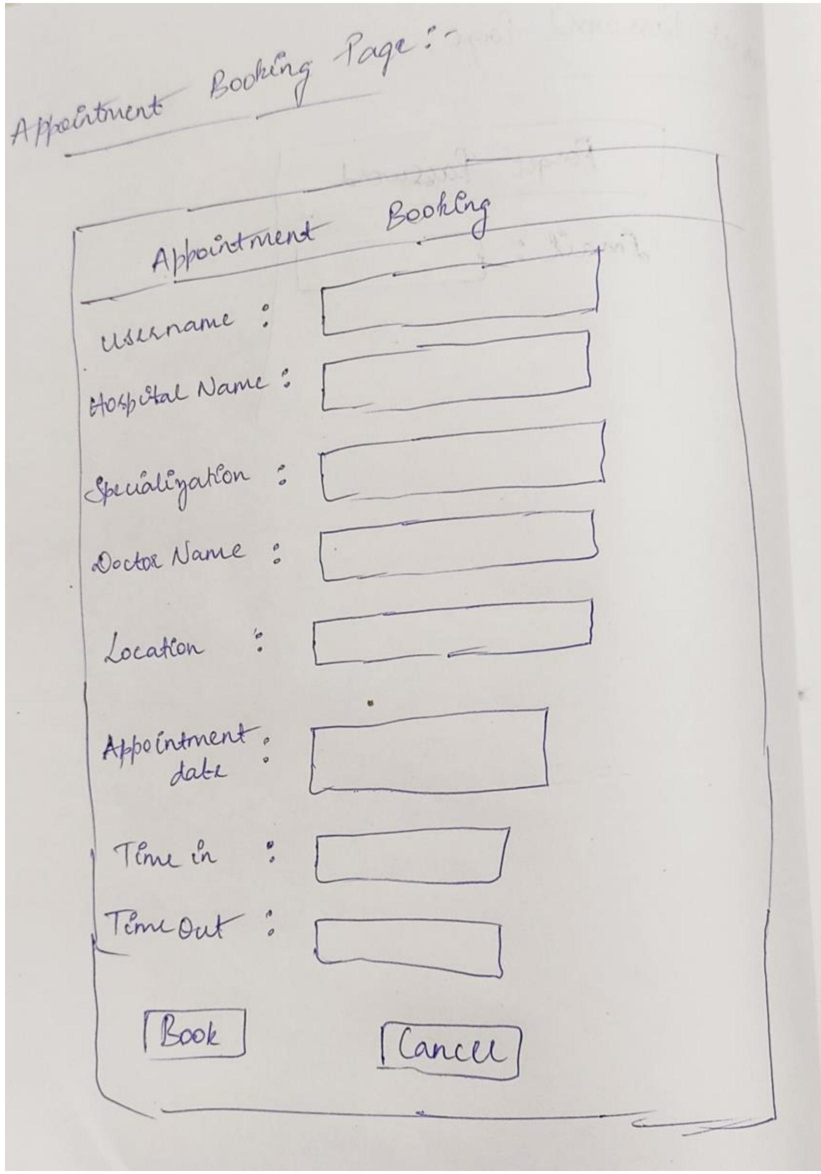
Wire Frame Diagrams


Login Page :-
Login
Username
or
Email :
password :
Submit

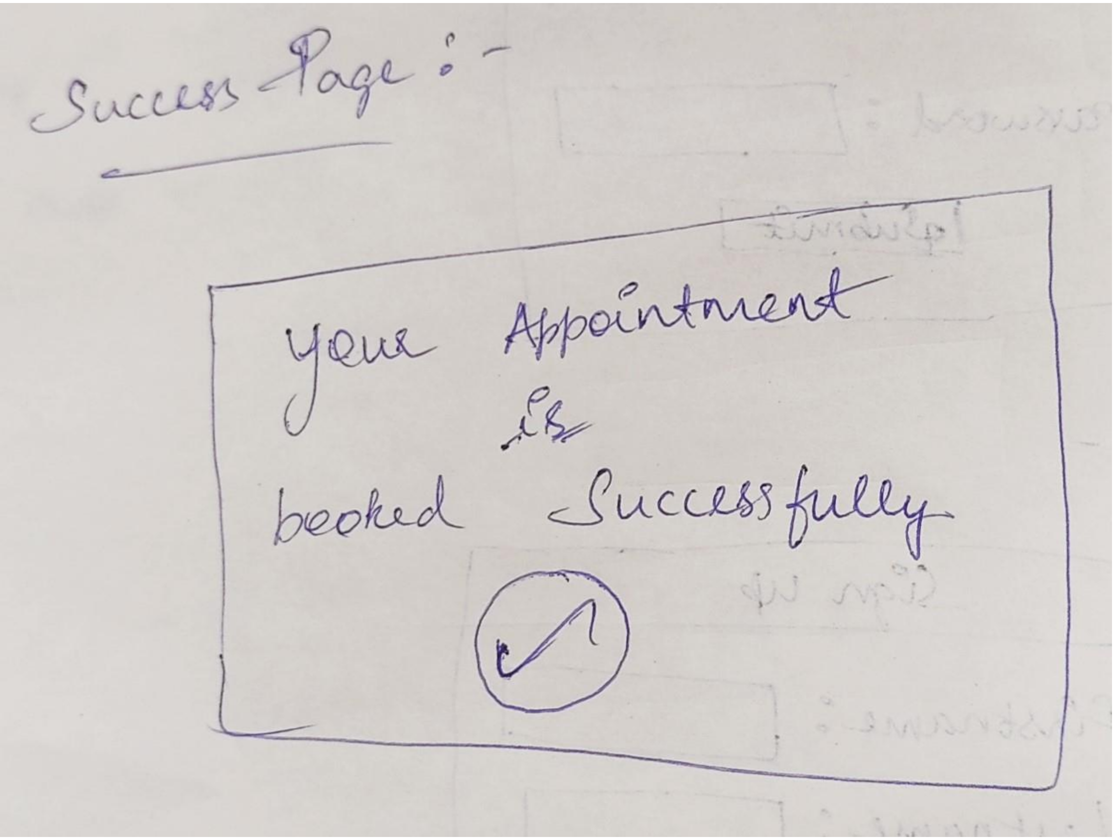

Sign up Page :-
Sign up
Firstname :
Lastname :
Username :
Email :
Password :
Confirm
Password :
Submit
Cancel


Reset Password Page :-
Reset Password
Email:
old Password :
New Password :
Retype Password :
Submit


Forget Password Page :-
Forget Password
Email :
Submit
OTP :
New Password :
Retype Password :
Submit



Appointment Booking Page :-

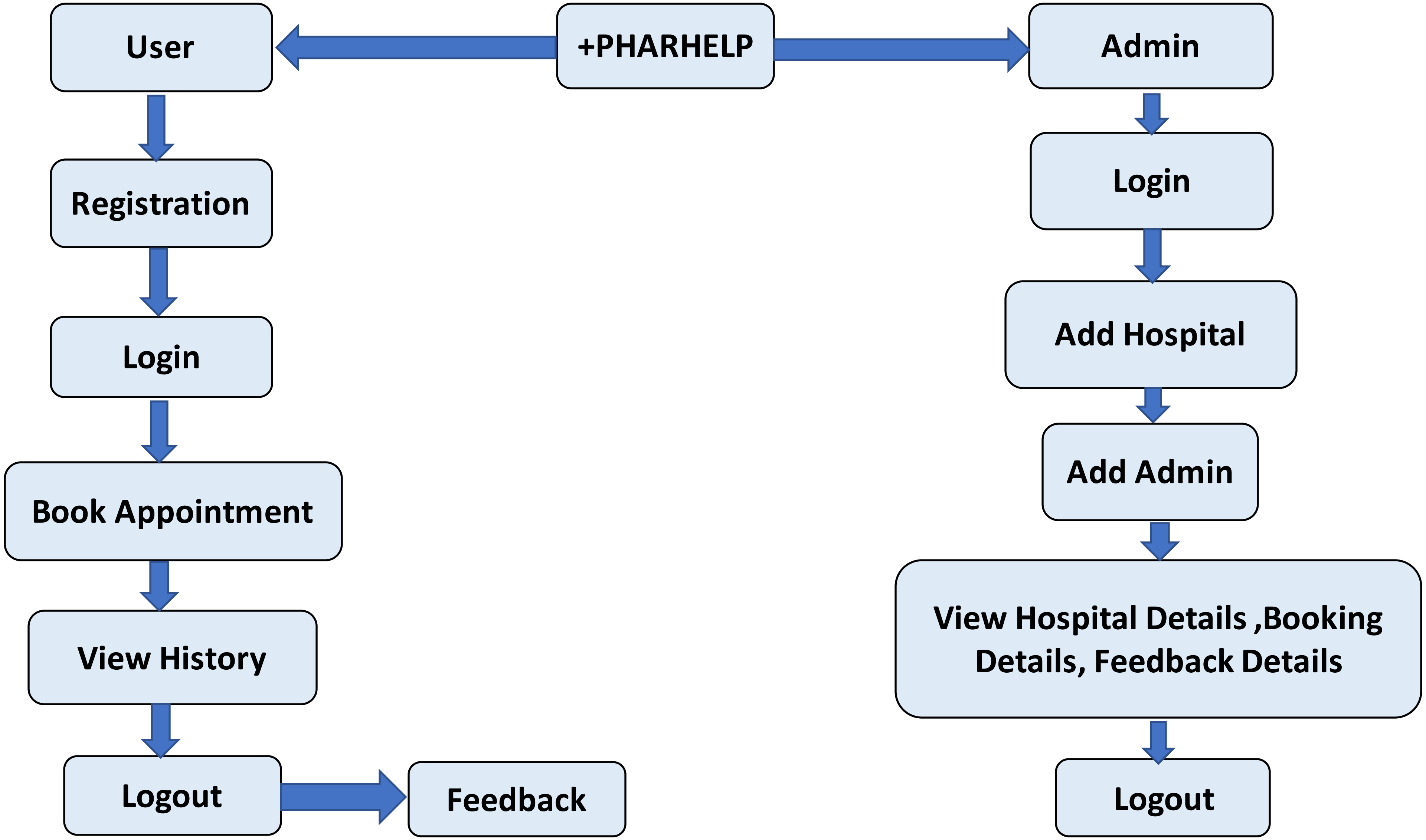


Success Page :-

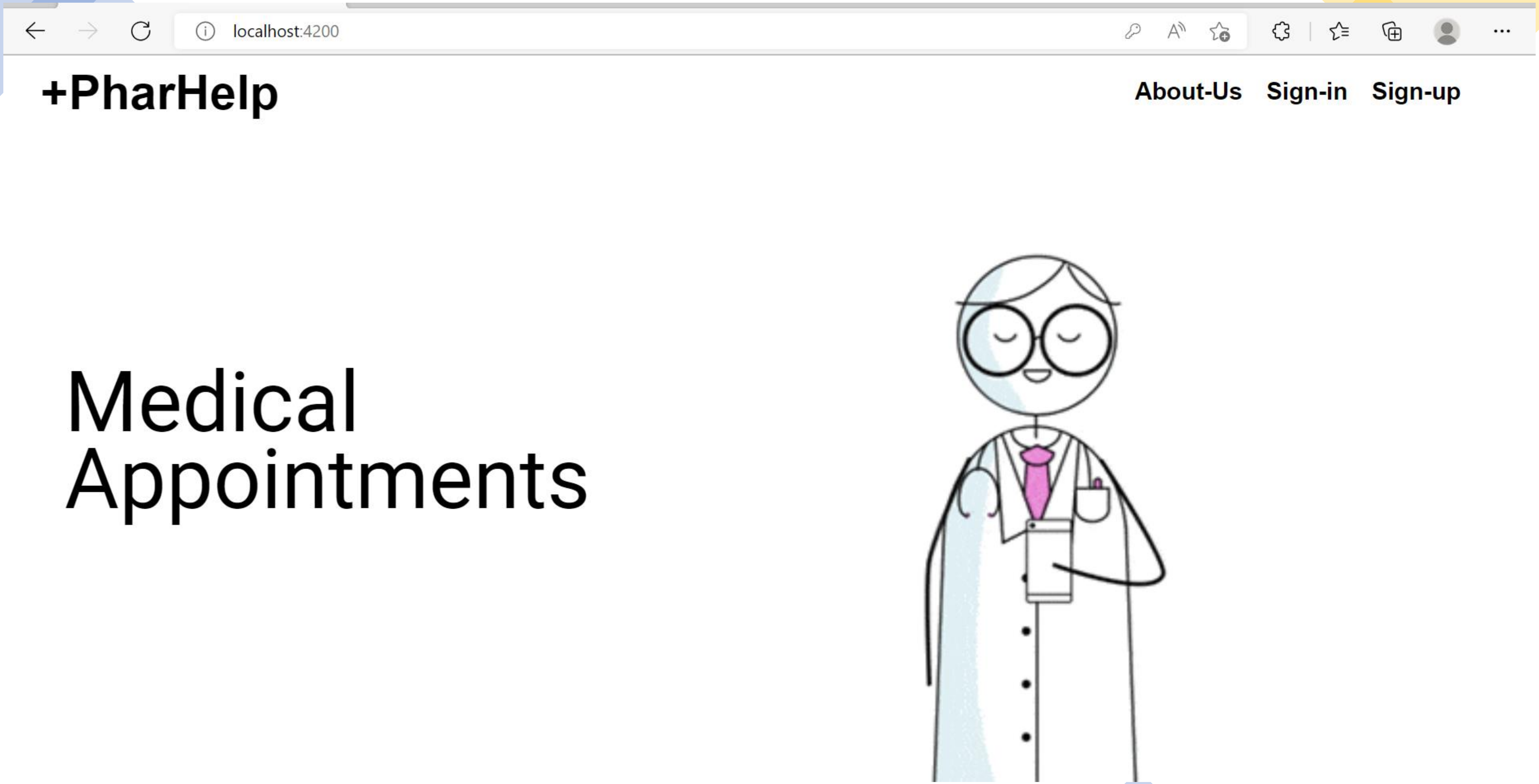
API Details

S.no	API & Microservice	Input	Data Type	Output
1)	Login	Username, Password	String	JWT Authentication
2)	Signup (Many to Many)	Firstname , Lastname, Username Password	String	User Registration
3)	Appointment Booking	Username, Date. Hospitalname , Location DoctorName , Time in Specialization, Time out	String, Local Time, LocalDate	Appointment Details
4)	Doctors(Hospital)	Id, Hospitalname, Name, Location, Time in, Time out, Specialization	String, Local Time, LocalDate	Doctor Details
5)	Customer Feedback (Microservice)	Name, Email, Phone number, comments	String, Int	Feedback Details

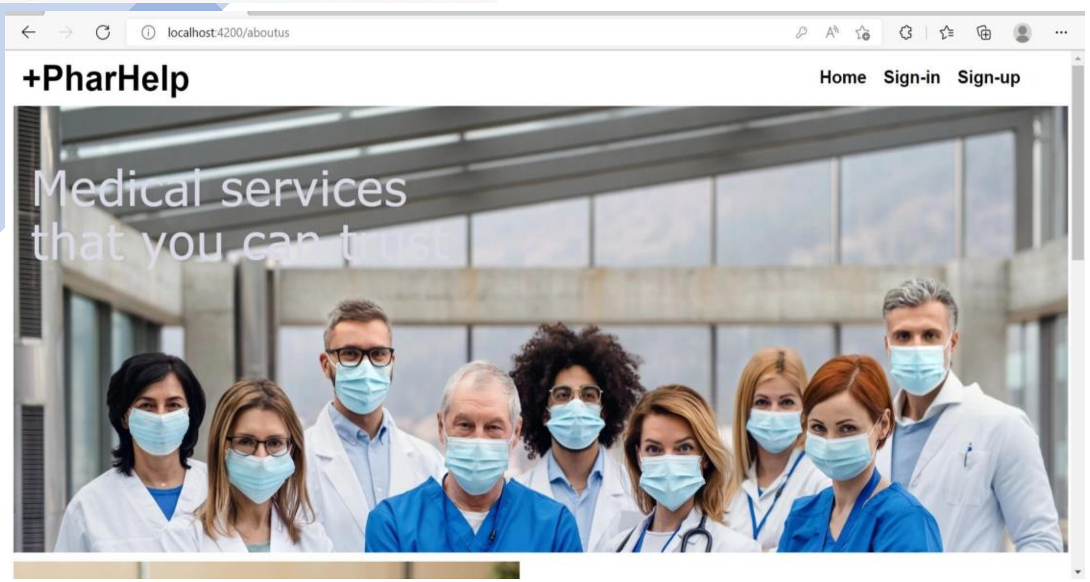
Logic Flow



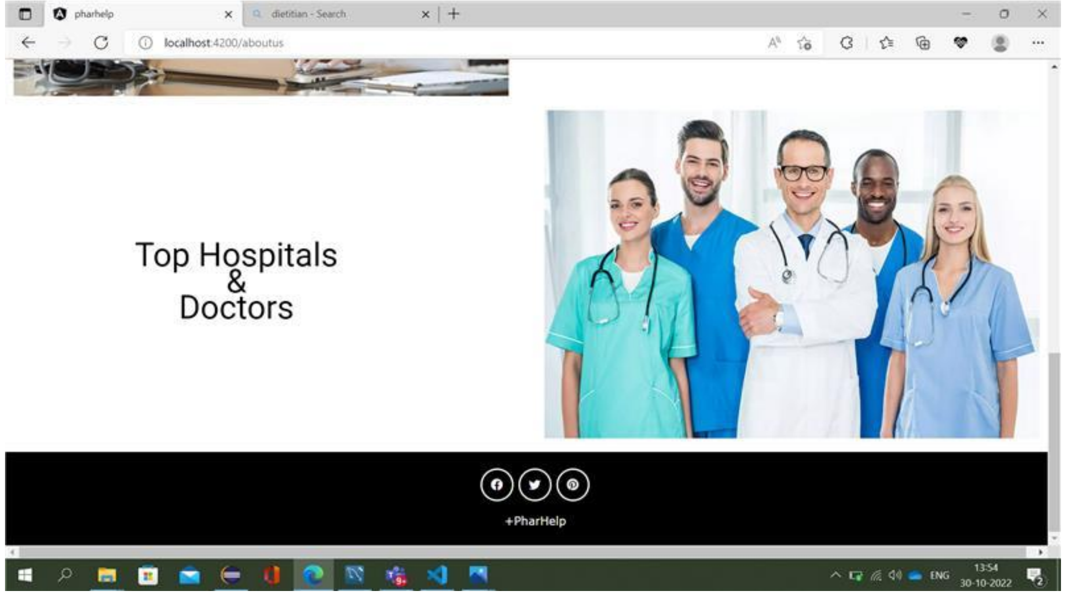
+PHARHELP
User
Registration
Login
Book Appointment
View History
Logout
Feedback
Admin
Login
Add Hospital
Add Admin
View Hospital Details ,Booking Details, Feedback Details
Logout



Medical Appointments

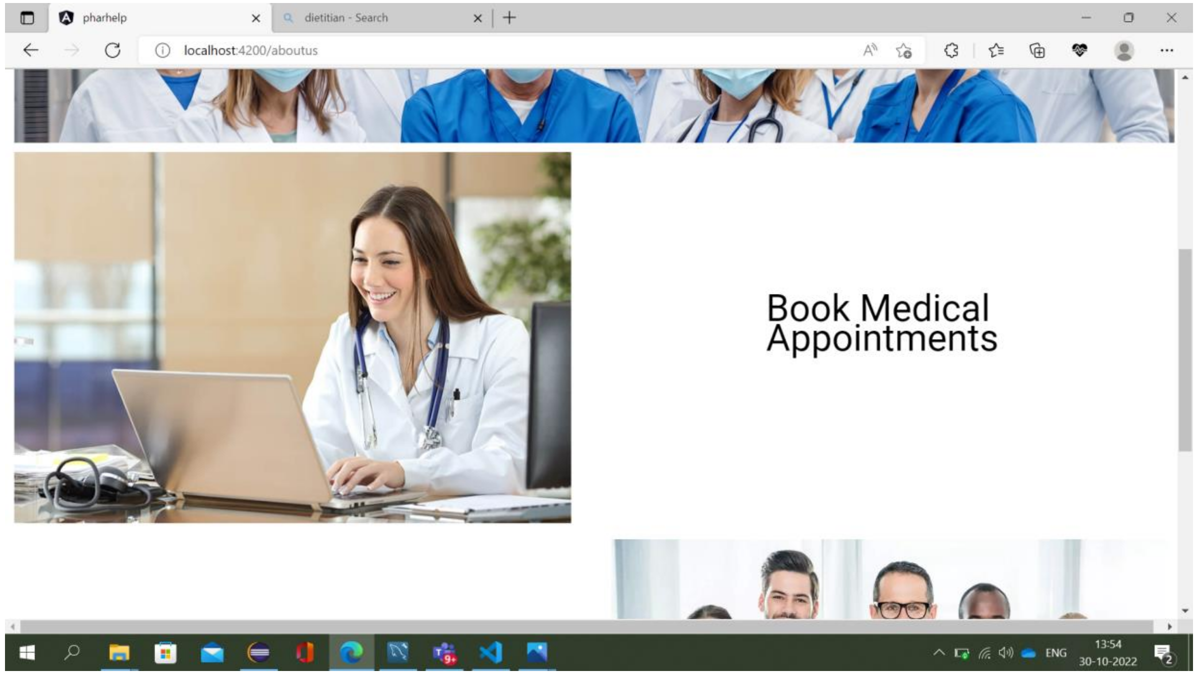


Medical services that you can trust

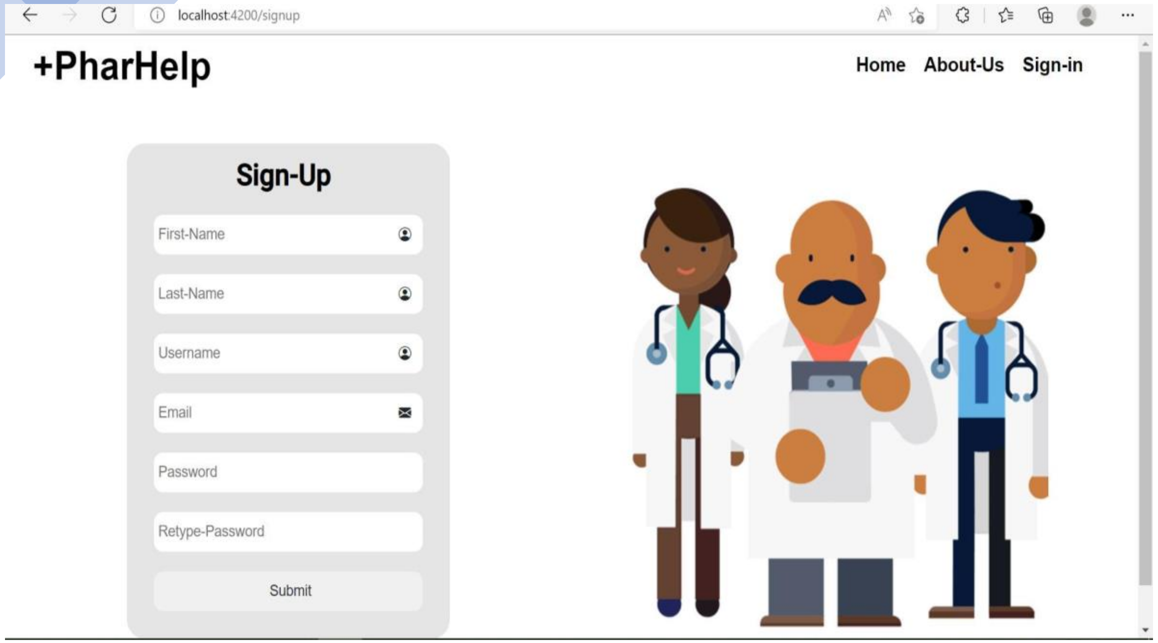


Top Hospitals & Doctors

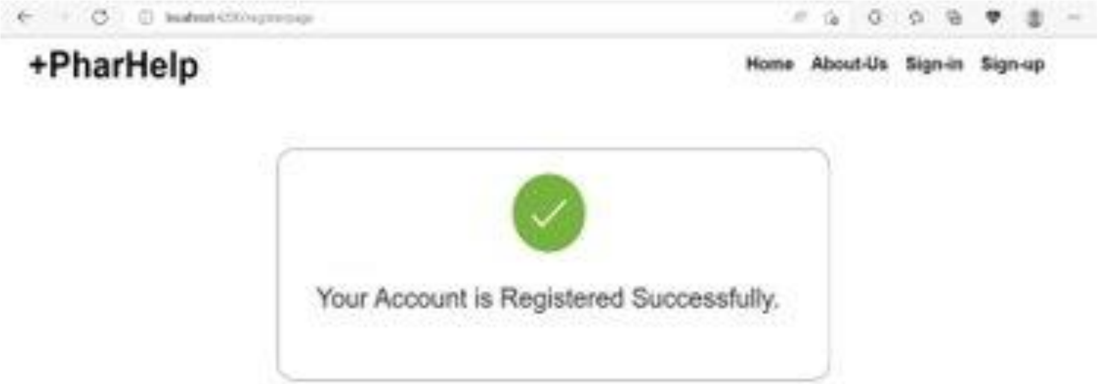
+PharHelp



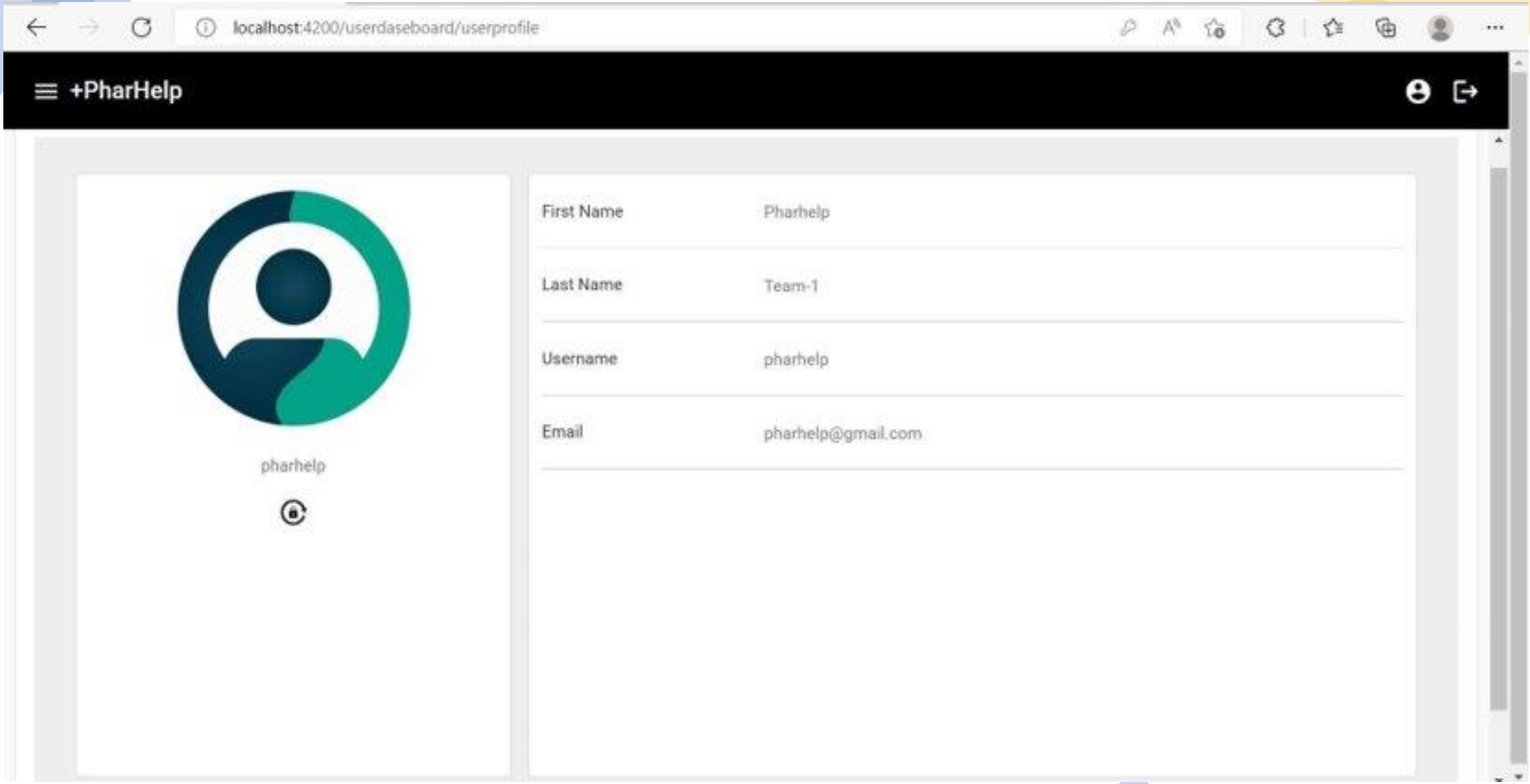
Book Medical Appointments



Sign-Up

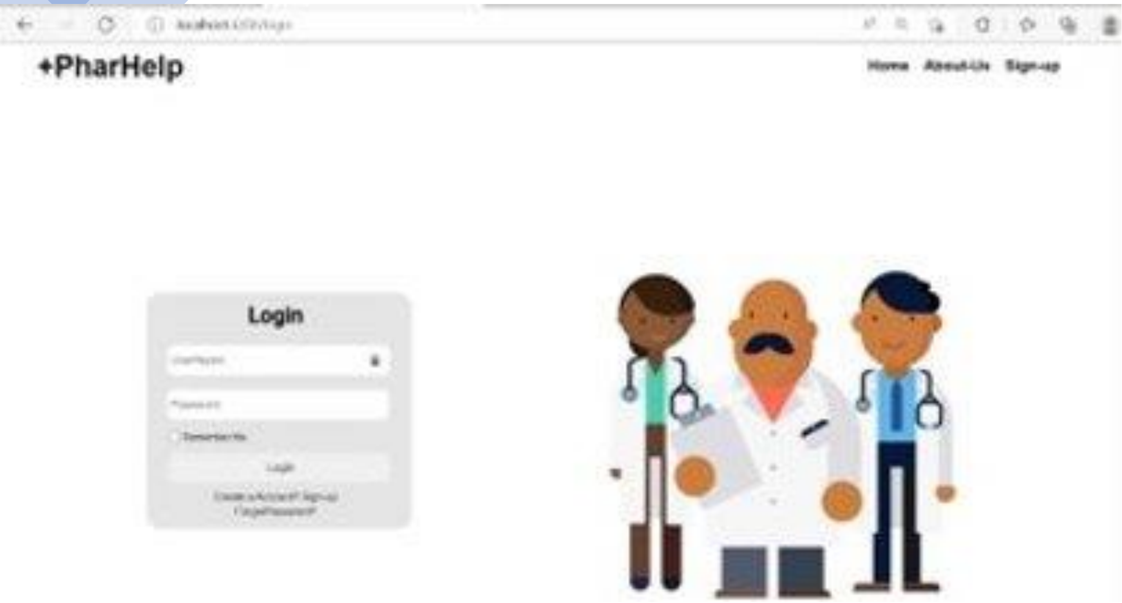


Your Account is Registered Successfully.



pharhelp

First Name	Pharhelp
Last Name	Team-1
Username	pharhelp
Email	pharhelp@gmail.com



localhost:4200/login

+PharHelp

Home About-Us Sign-up

Login

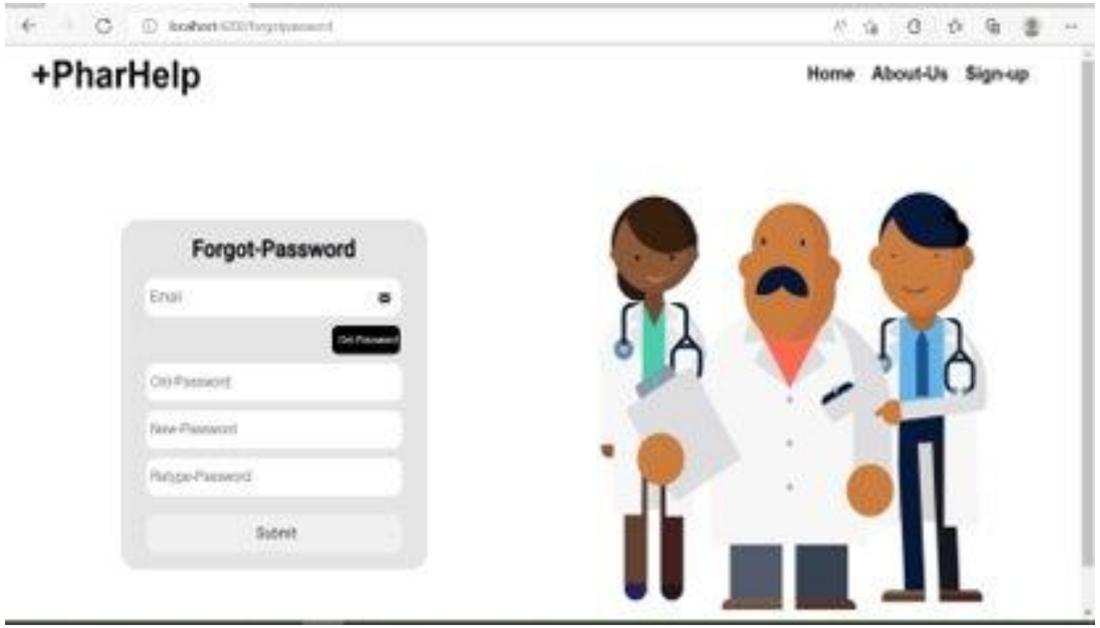
UserName

Password

□ Remember Me

Login

Create a Account? Sign-up
Forgot Password?



localhost:4200/forgotpassword

+PharHelp

Home About-Us Sign-up

Forgot-Password

Email

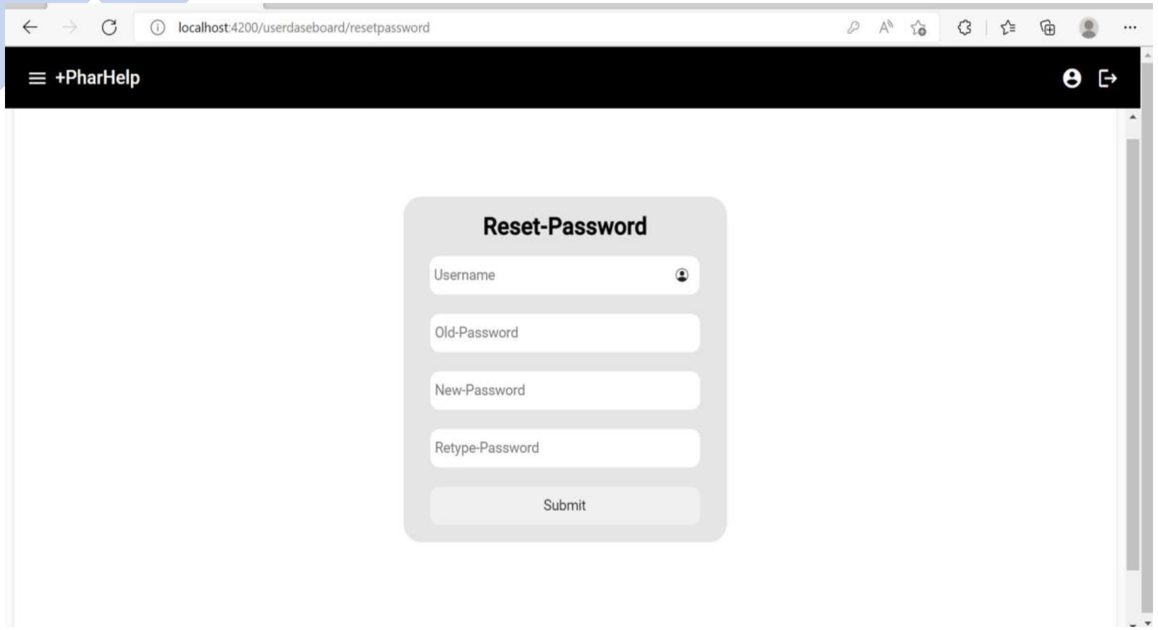
Get Password

Old-Password

New-Password

Retype-Password

Submit



Reset-Password

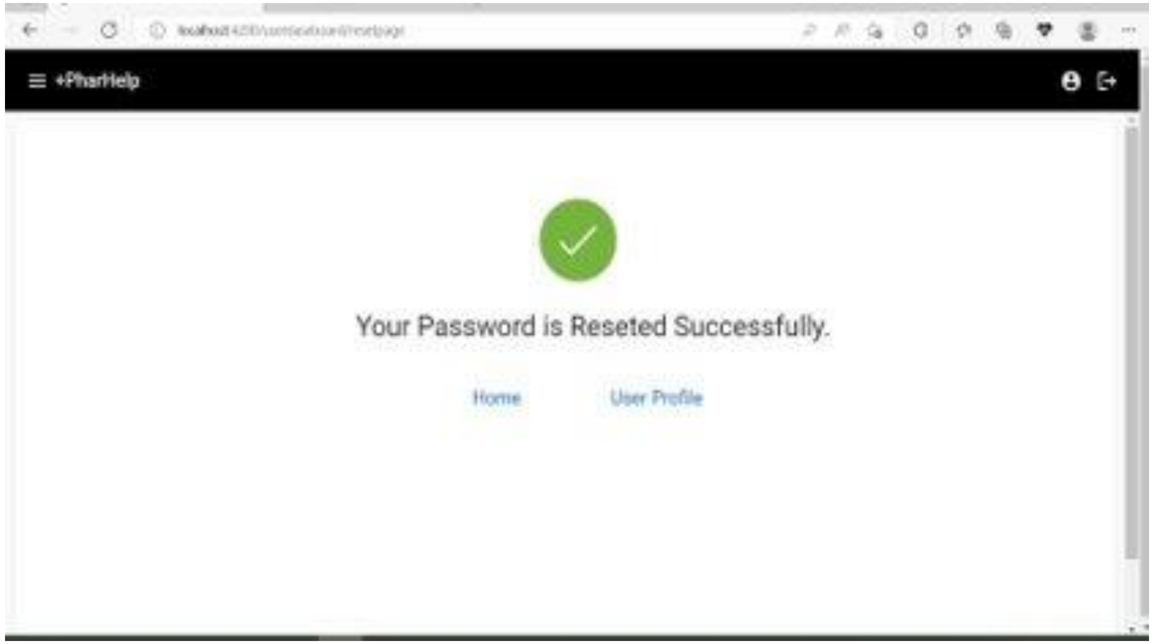
Username

Old-Password

New-Password

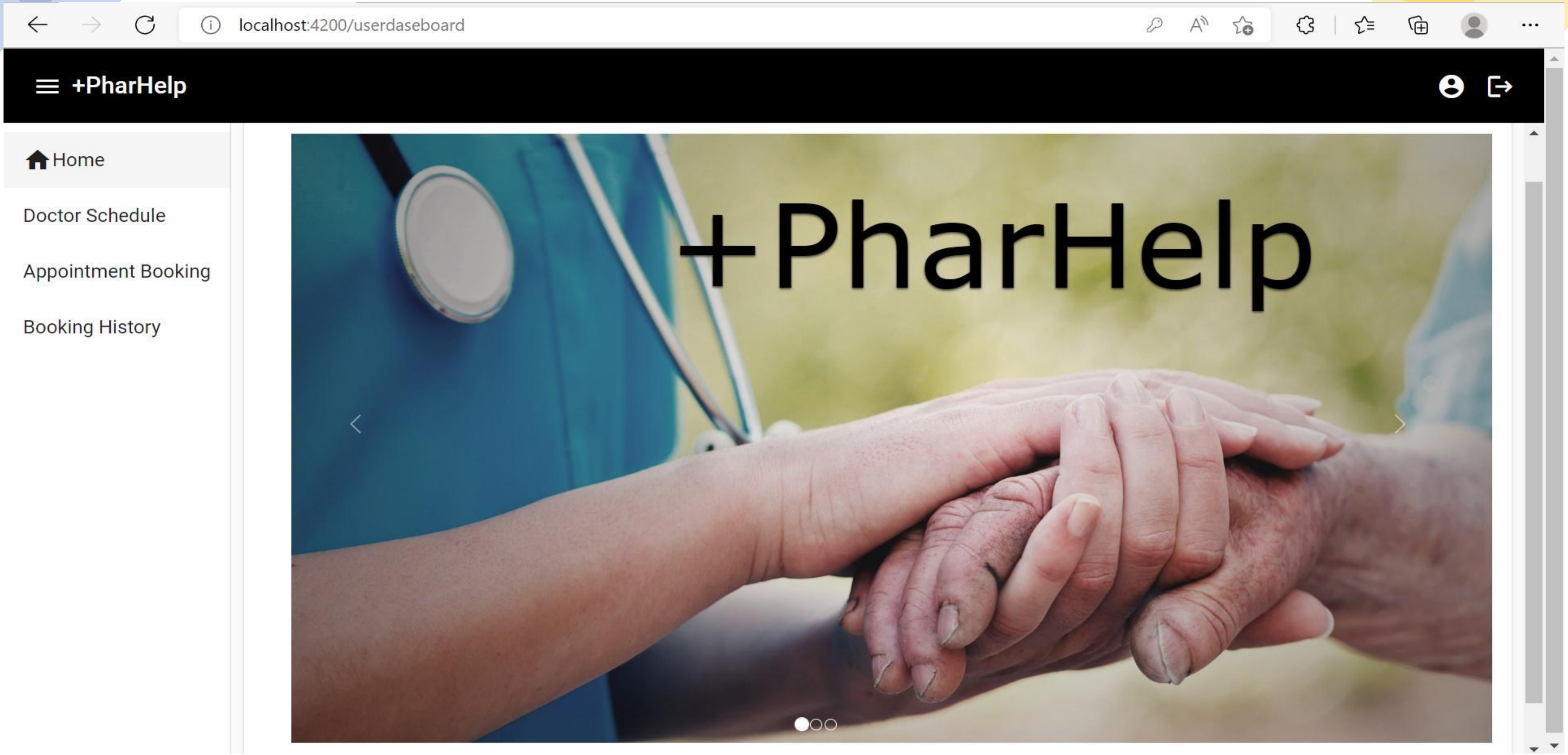
Retype-Password

Submit



Your Password is Reseted Successfully.

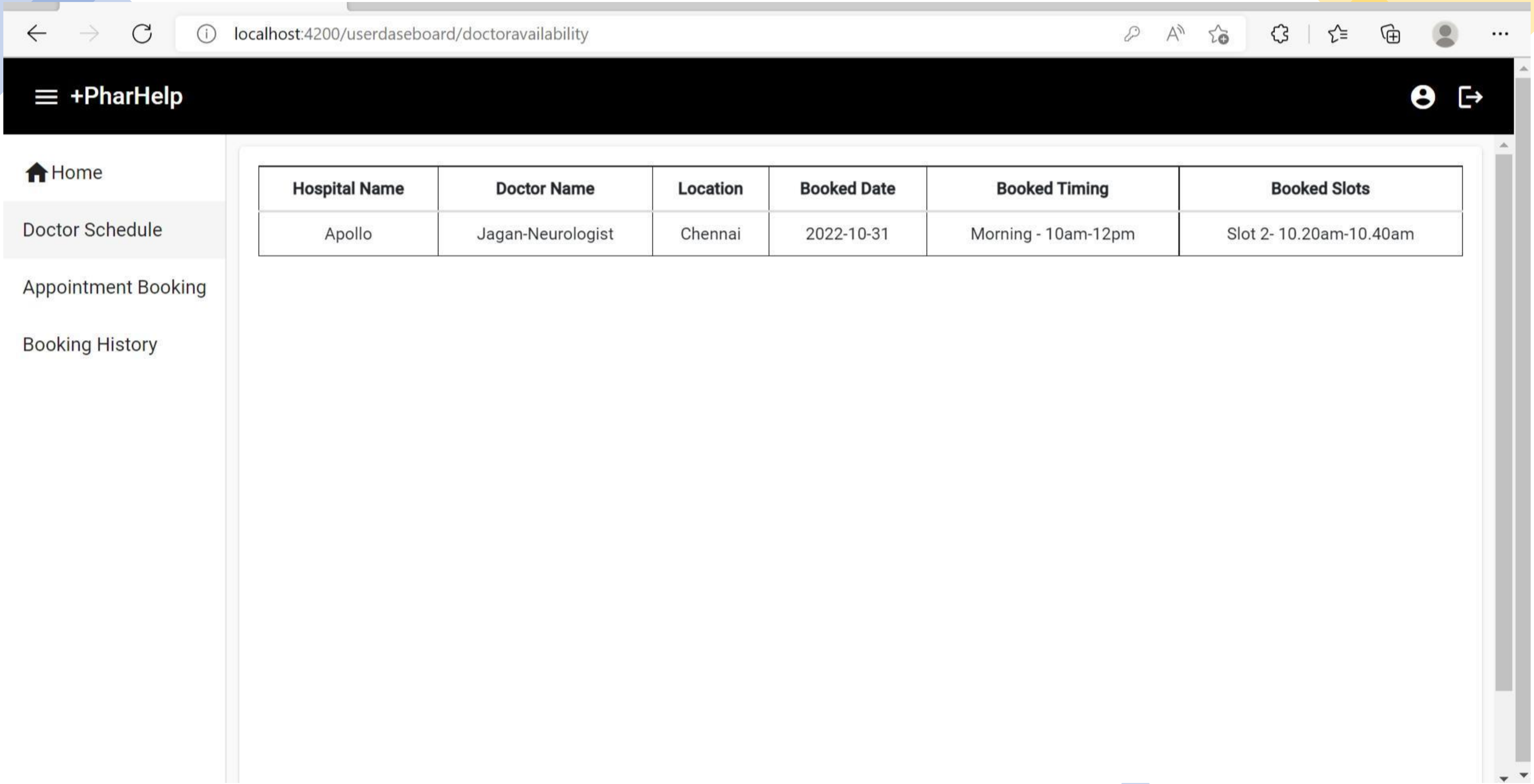
Home User Profile



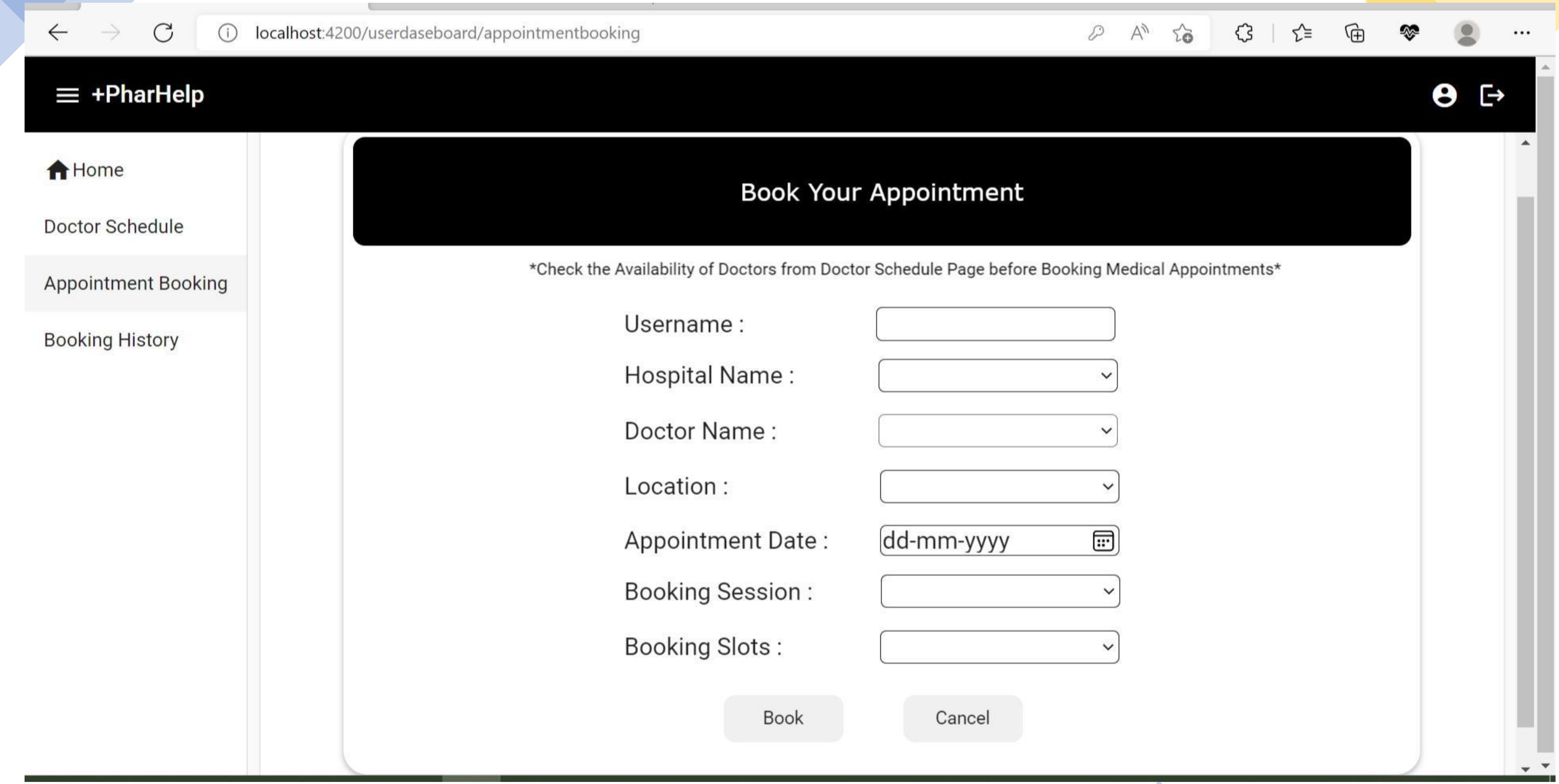
localhost:4200/userdaseboard

+PharHelp

- Home
- Doctor Schedule
- Appointment Booking
- Booking History



Hospital Name	Doctor Name	Location	Booked Date	Booked Timing	Booked Slots
Apollo	Jagan-Neurologist	Chennai	2022-10-31	Morning - 10am-12pm	Slot 2- 10.20am-10.40am



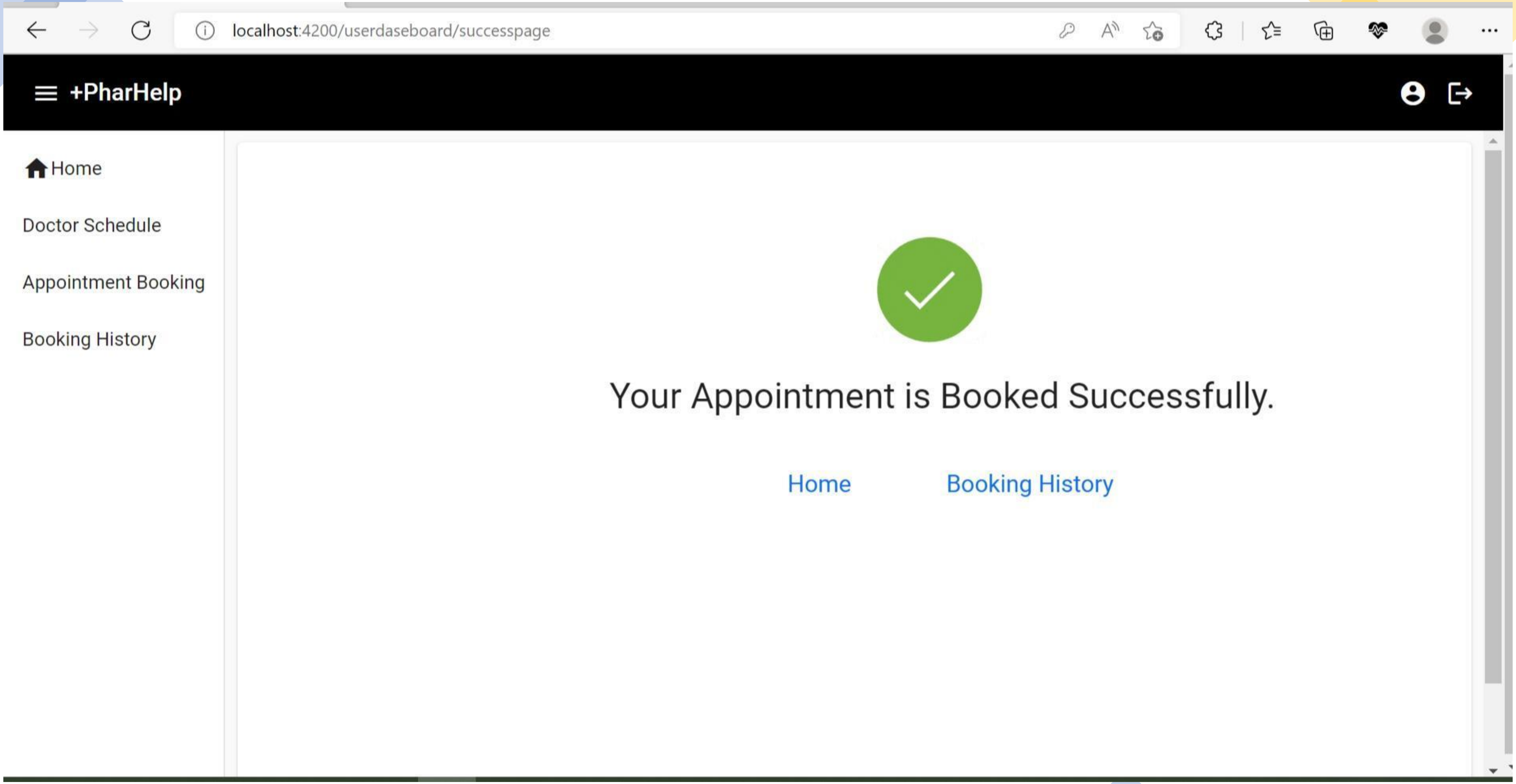
localhost:4200/userdaseboard/appointmentbooking

+PharHelp

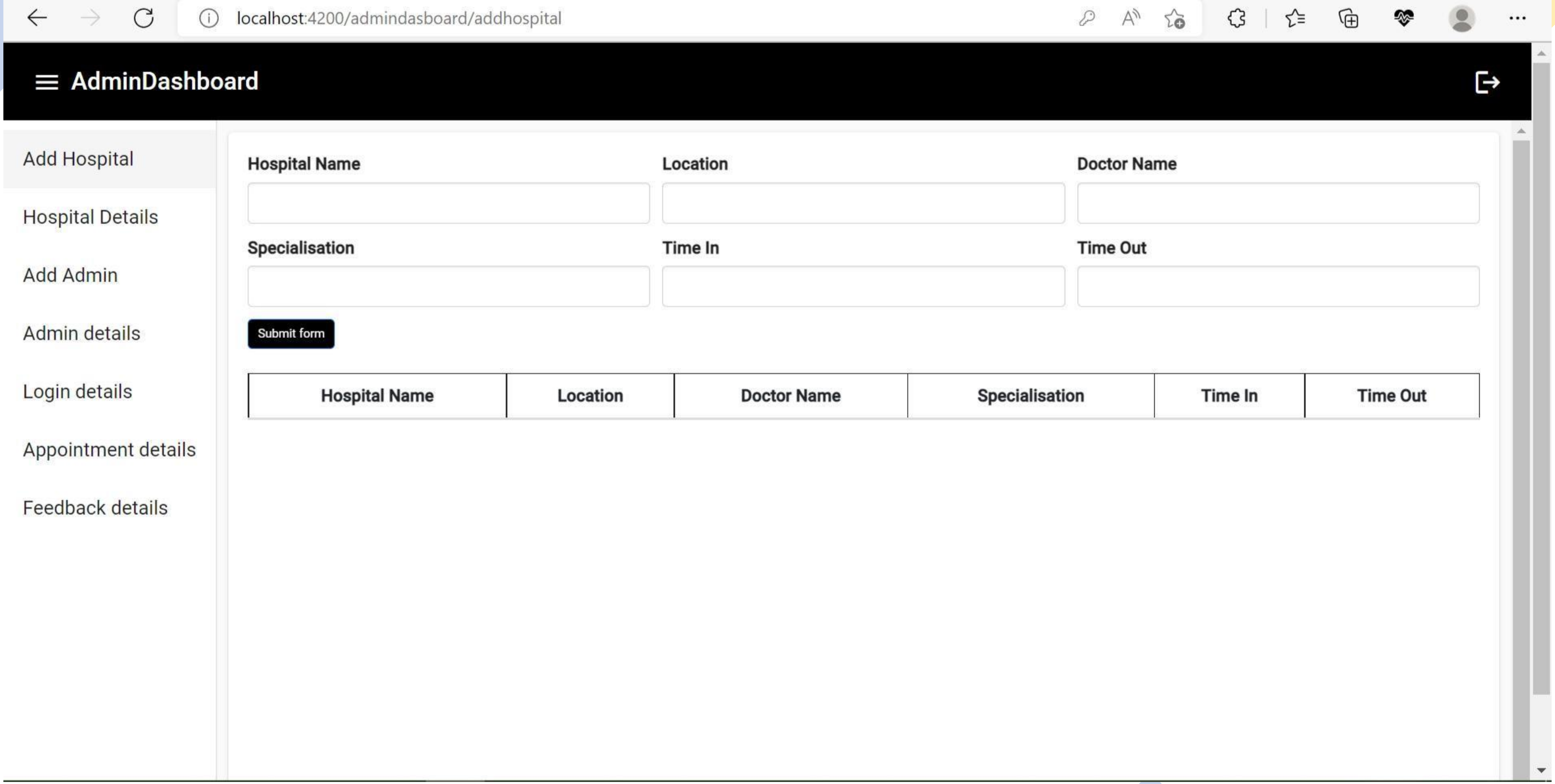
Book Your Appointment

Check the Availability of Doctors from Doctor Schedule Page before Booking Medical Appointments

Username :	
Hospital Name :	
Doctor Name :	
Location :	
Appointment Date :	dd-mm-yyyy
Booking Session :	
Booking Slots :	



Your Appointment is Booked Successfully.



localhost:4200/admindasboard/addhospital

Hospital Name

Location

Doctor Name

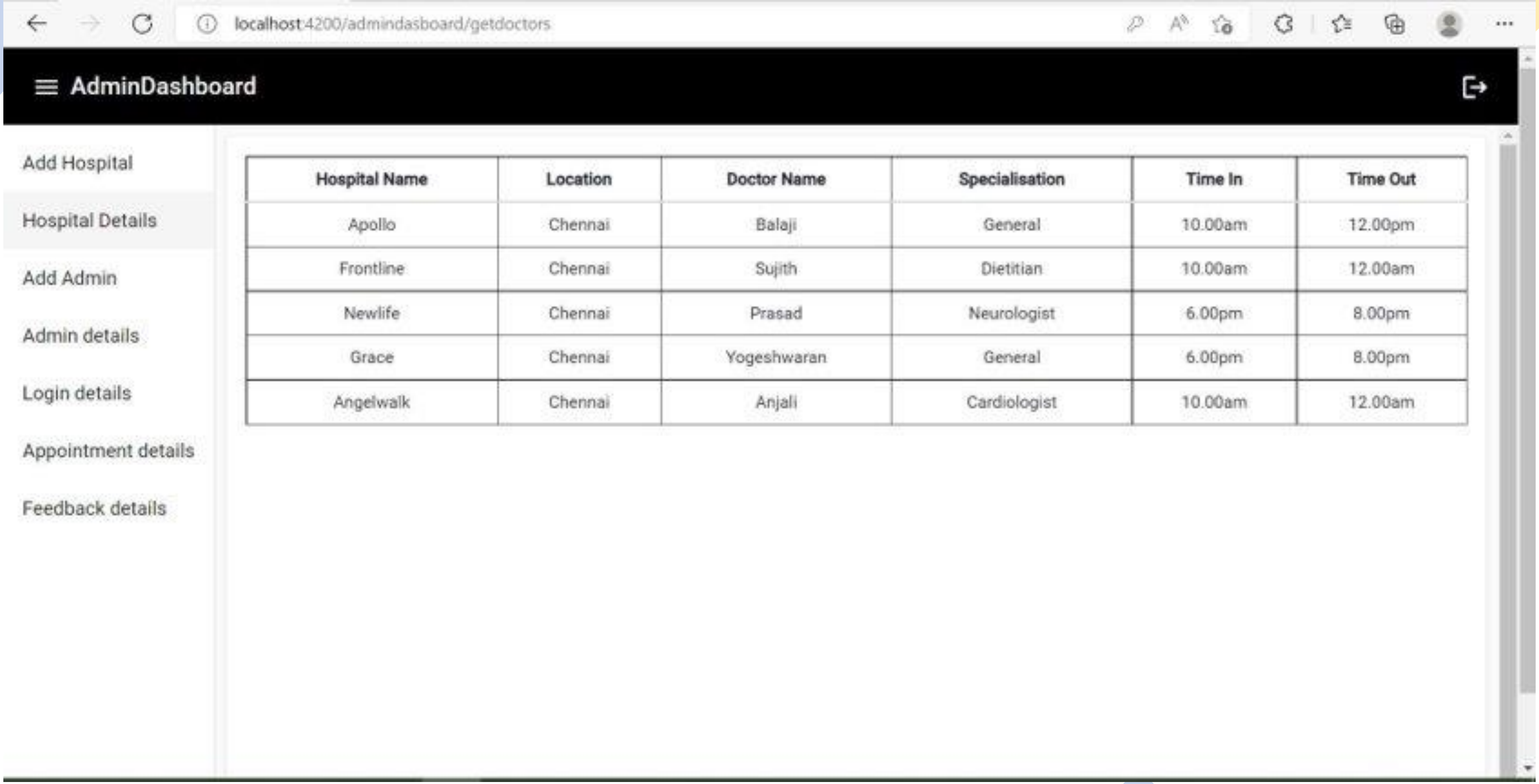
Specialisation

Time In

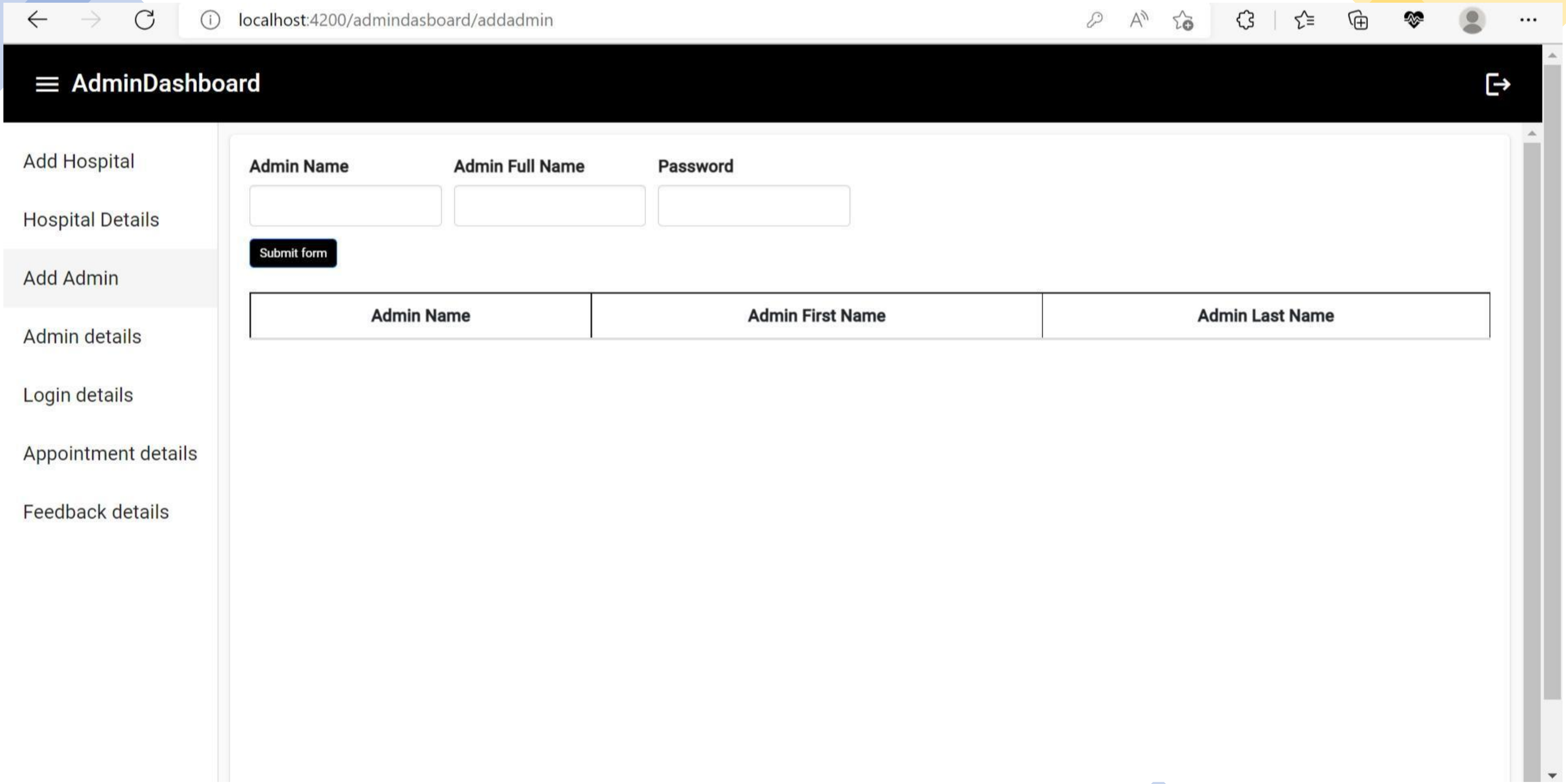
Time Out

Submit form

Hospital Name	Location	Doctor Name	Specialisation	Time In	Time Out



Hospital Name	Location	Doctor Name	Specialisation	Time In	Time Out
Apollo	Chennai	Balaji	General	10.00am	12.00pm
Frontline	Chennai	Sujith	Dietitian	10.00am	12.00am
Newlife	Chennai	Prasad	Neurologist	6.00pm	8.00pm
Grace	Chennai	Yogeshwaran	General	6.00pm	8.00pm
Angelwalk	Chennai	Anjali	Cardiologist	10.00am	12.00am



localhost:4200/admindasboard/addadmin

AdminDashboard

- Add Hospital
- Hospital Details
- Add Admin
- Admin details
- Login details
- Appointment details
- Feedback details

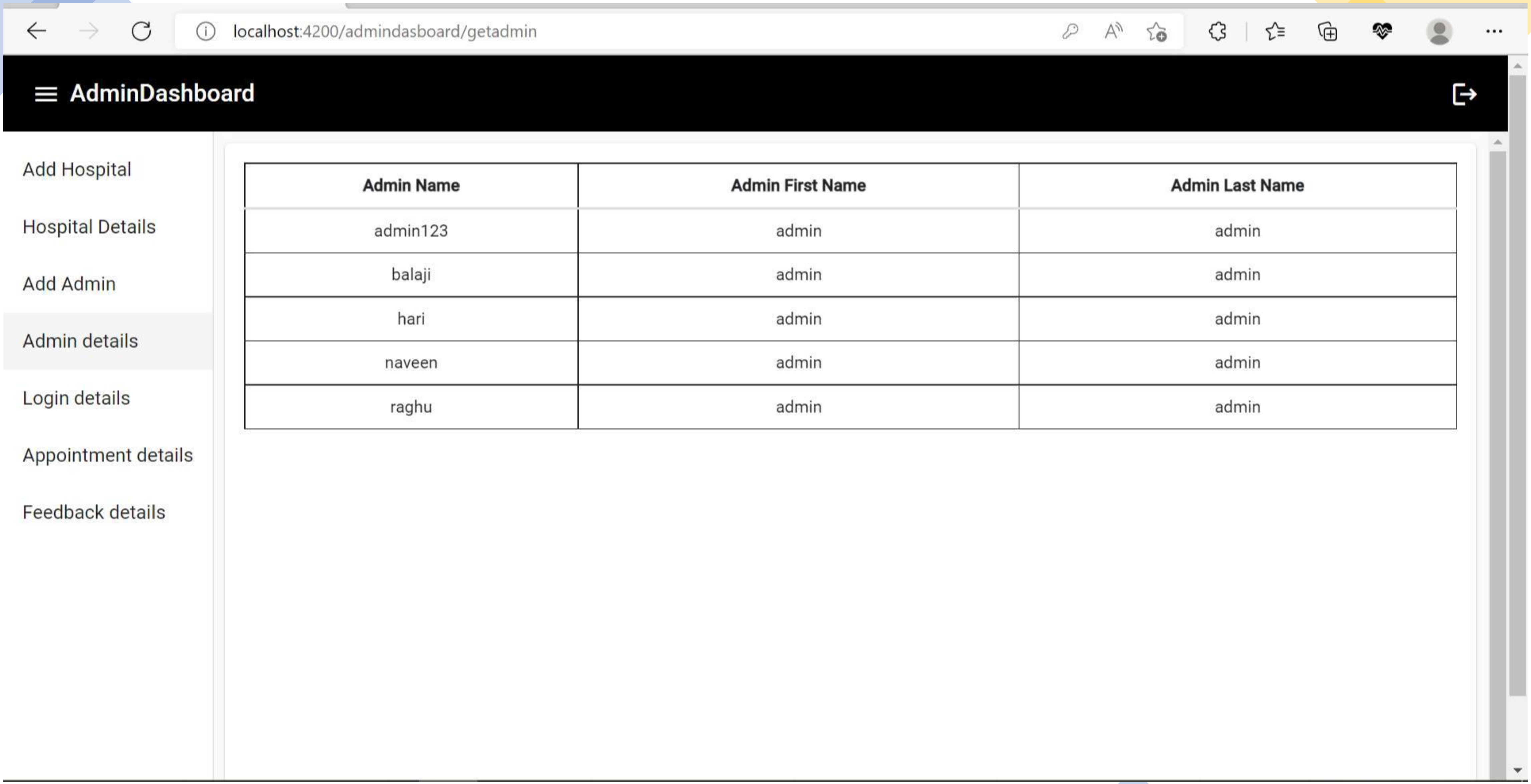
Admin Name

Admin Full Name

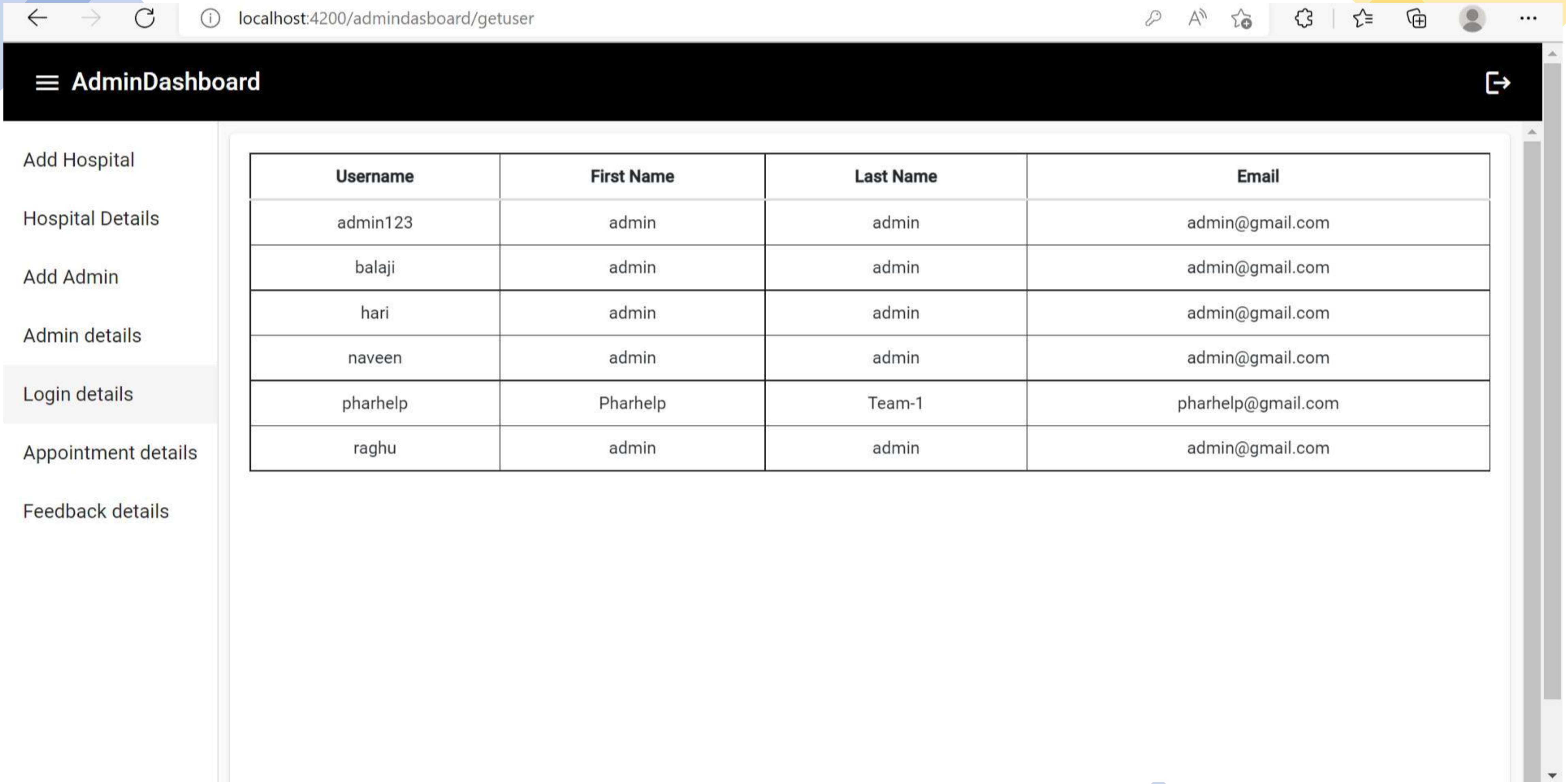
Password

Submit form

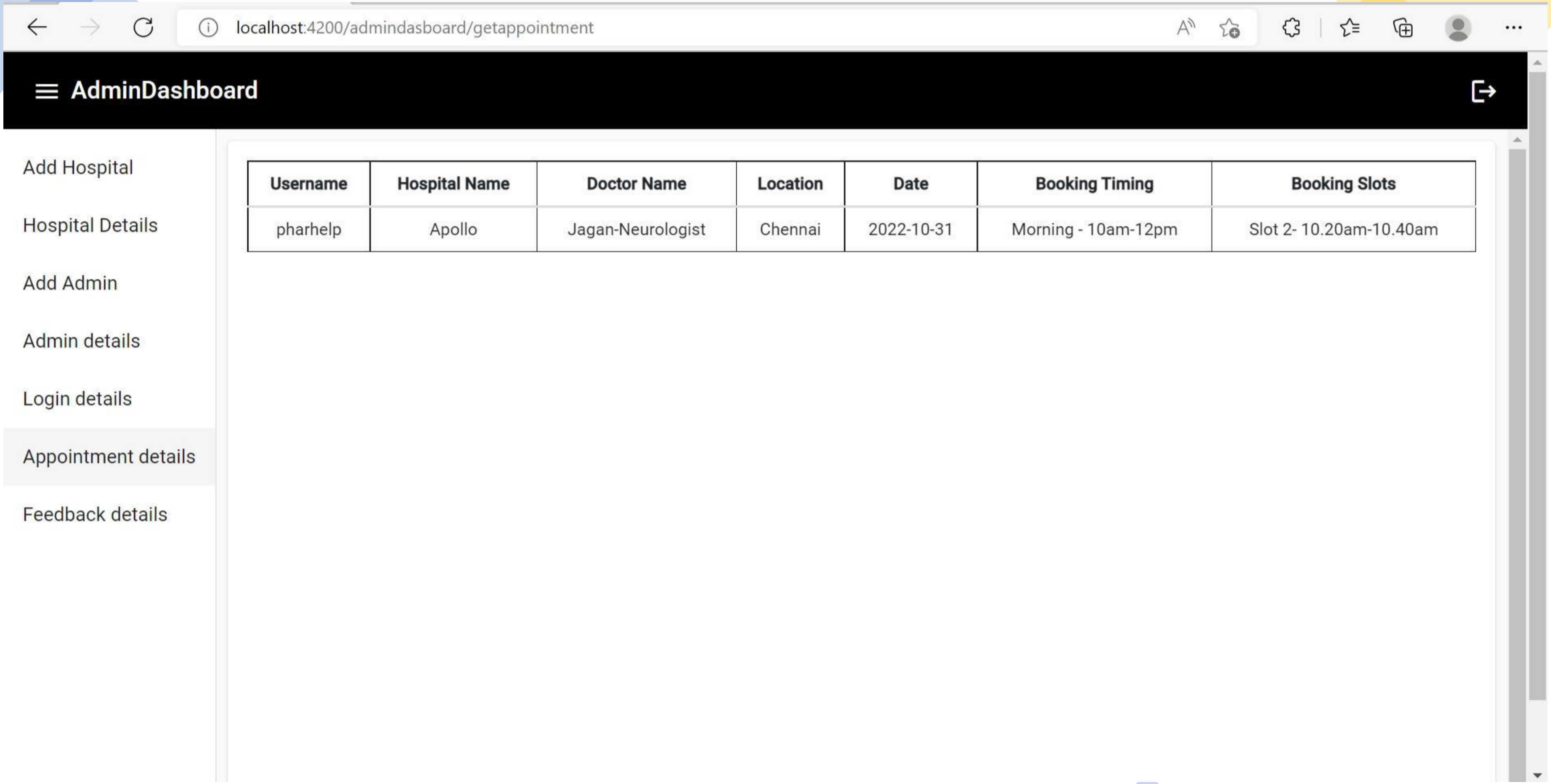
Admin Name	Admin First Name	Admin Last Name



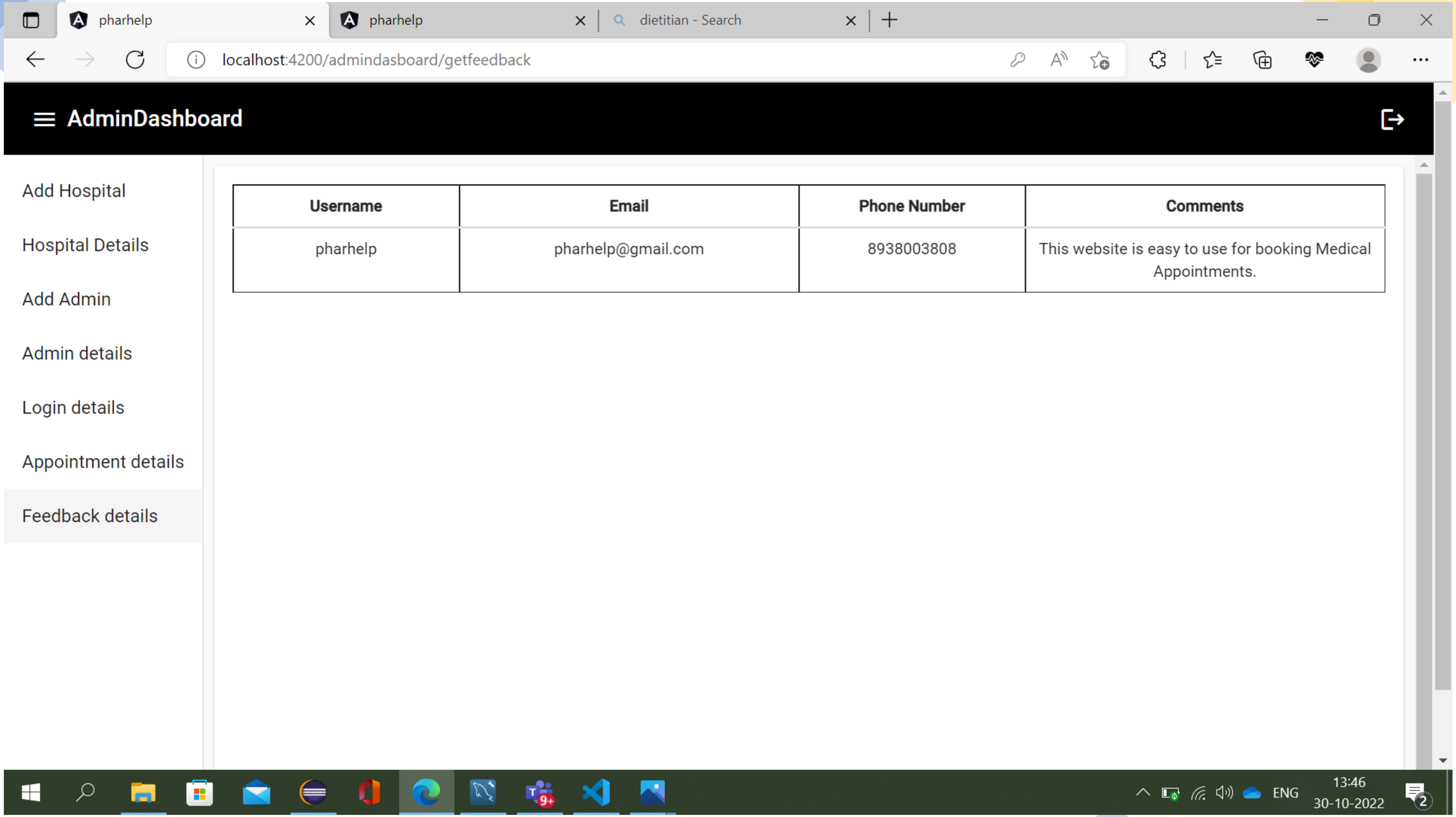
Admin Name	Admin First Name	Admin Last Name
admin123	admin	admin
balaji	admin	admin
hari	admin	admin
naveen	admin	admin
raghu	admin	admin



Username	First Name	Last Name	Email
admin123	admin	admin	admin@gmail.com
balaji	admin	admin	admin@gmail.com
hari	admin	admin	admin@gmail.com
naveen	admin	admin	admin@gmail.com
pharhelp	Pharhelp	Team-1	pharhelp@gmail.com
raghu	admin	admin	admin@gmail.com



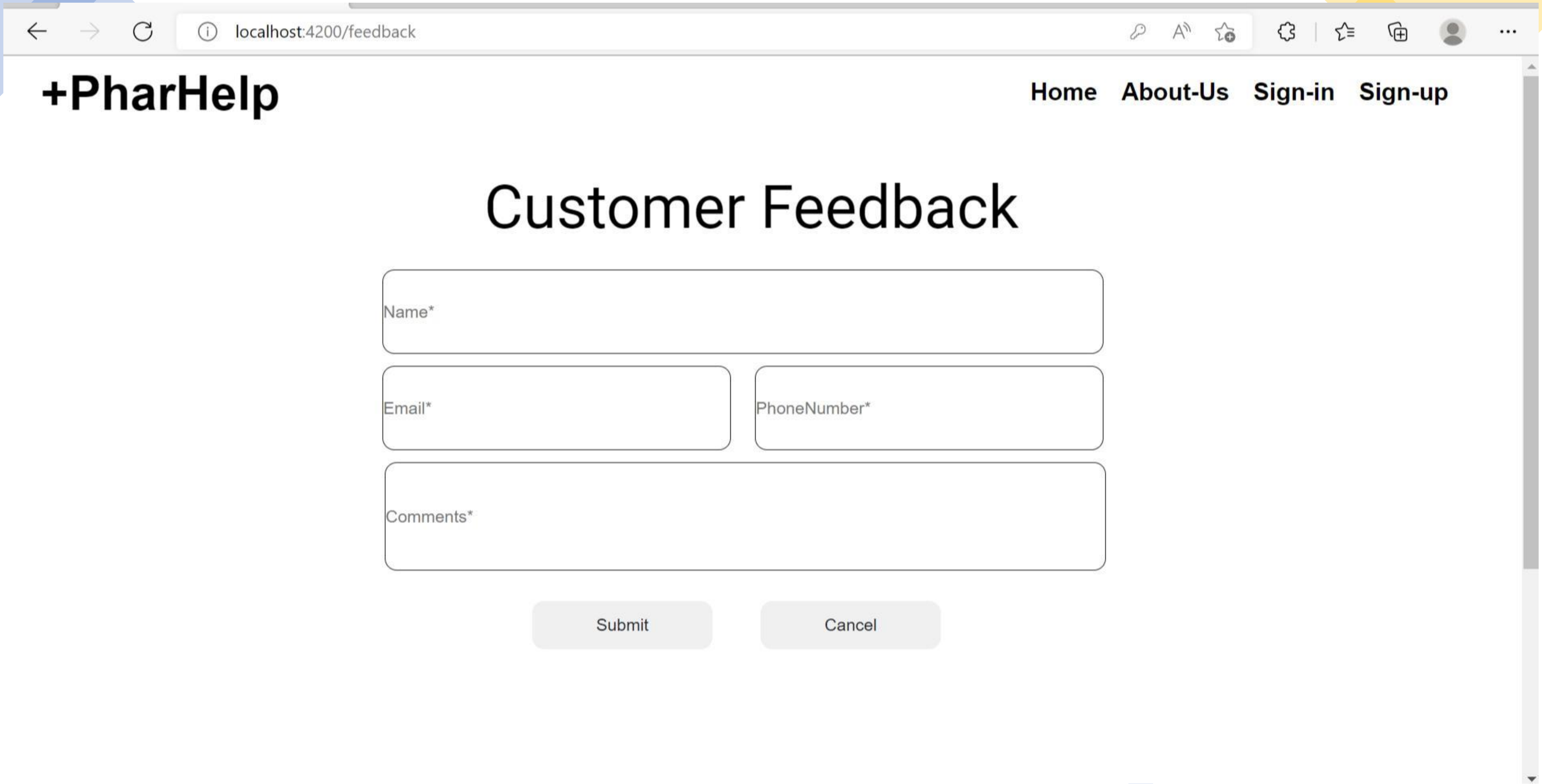
Username	Hospital Name	Doctor Name	Location	Date	Booking Timing	Booking Slots
pharhelp	Apollo	Jagan-Neurologist	Chennai	2022-10-31	Morning - 10am-12pm	Slot 2- 10.20am-10.40am



AdminDashboard

- Add Hospital
- Hospital Details
- Add Admin
- Admin details
- Login details
- Appointment details
- Feedback details

Username	Email	Phone Number	Comments
pharhelp	pharhelp@gmail.com	8938003808	This website is easy to use for booking Medical Appointments.



+PharHelp

Home About-Us Sign-in Sign-up

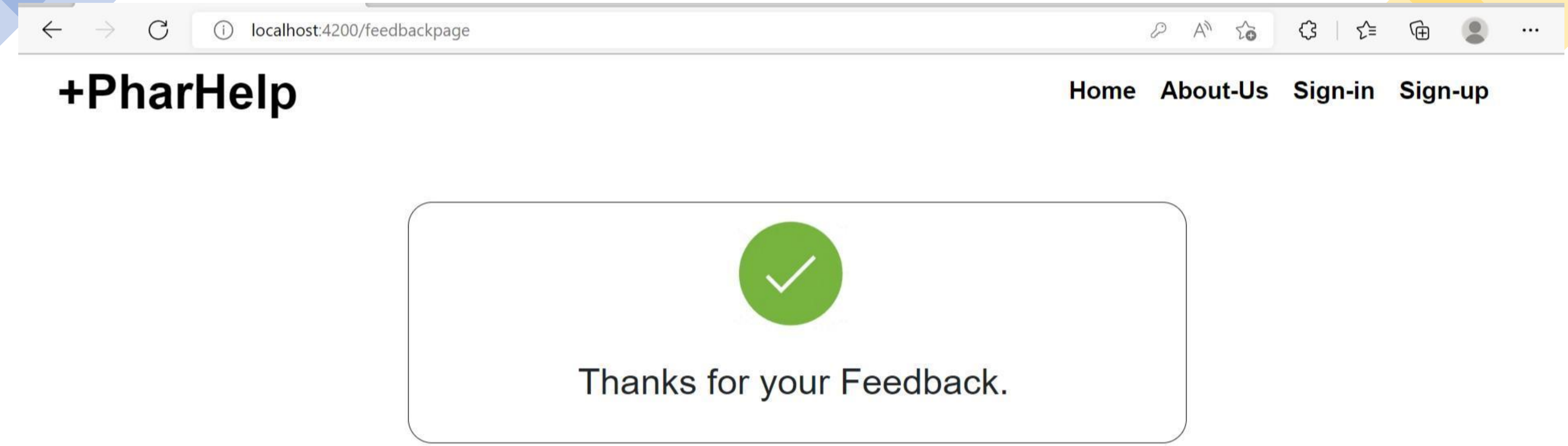
Customer Feedback

Name*

Email*

PhoneNumber*

Comments*



Thanks for your Feedback.

Coding Phase

Database Design

Rest API Coding using spring boot

Spring security including JWT

Angular component design using Angular Material

Code review Lenits tool using Eclipse IDE

Training Goals

S.NO	Set Goals	Accomplished Goals
1	Core Java Programming, Full Stack Java	Learnt concepts and need time to practice Programming
2	Database – CRUD – JDBC – JPA/HIB	Learnt concepts and need time to practice Programming
3	Spring Rest API Programming	Learnt concepts and need time to practice Programming
4	Micro service Programming	Learnt concepts and need time to practice Programming
5	Web Page Development – HTML/CSS	Learnt concepts and need time to practice Programming
6	Script Programming (JS/TS)	Learnt concepts and need time to practice Programming
7	Angular Programming	Learnt concepts and need time to practice Programming

Thank You!