

JAVA-FSD (PHASE-7)

CAPSTONE PROJECT – ICIN BANK

Developer details:-

Ritik

Technical Trainee

TEK System Global Services

Link to this project: <https://github.com/Rkcr7/ICIN-BANK.git>

Instructed By: Mr. Radhakrishnan

TITLE OF PROJECT: ICIN Bank

Objective:

Create a dynamic and responsive Java online banking web application to deposit, withdraw, and transfer the money between the accounts.

Background of the problem statement:

ICIN is one of the top banking firms that accepts deposits from the public for the purpose of lending loans to the public. It also invests an amount in securities. Recently, the business analysts noticed a drop in the number of customers of the bank. They found out that online banking systems of banks like AXIS and American Express are gaining more profits by eliminating middlemen from the equation. As a result, the team decided to hire a Full Stack developer who can develop an online banking web application with a rich and user-friendly interface. You are hired as one of the Full Stack Java developers and have been asked to develop the web application. The management team has provided you with the requirements and their business model so that you can easily arrange different components of the application.

Features of the application:

1. Registration
2. Login
3. Account transactions
4. Transfers
5. Savings details
6. Profile settings
7. Requesting chequebooks

Recommended technologies:

1. Database management: MySQL
2. Back-end logic: Java programming, Spring Boot framework
3. Front-end development: Angular, HTML/CSS,
4. Testing technologies: Junit
5. DevOps and production technologies: Git, GitHub, Jenkins, Docker, and AWS

Project development guidelines:

- The project will be delivered within four sprints with every sprint delivering a minimal viable product.
- It is mandatory to perform proper sprint planning with user stories to develop all the components of the project.
- The learner can use any technology from the above-mentioned technologies for different layers of the project.
- The web application should be responsive and should fetch or send data dynamically without hardcoded values.
- The learner must maintain the version of the application over GitHub and every new change should be sent to the repository.
- The learner must implement a CI/CD pipeline using Jenkins.
- The learner should also deploy and host the application on an AWS EC2 instance.
- The learner should make a rich front-end of the application, which is user-friendly and easy for the user to navigate through the application.
- There will be two portals in the application, namely the admin and user portal. More information on this is on the next page.

Admin Portal:

It deals with all the back-end data generation and product information. The admin user should be able to:

- Authorize the roles and guidelines for the user
- Grant access to the user regarding money transfers, deposits, and withdrawal
- Block the user account in case of any threat
- Authorize the chequebook requests

User Portal:

It deals with the user activities. The user should be able to:

- Register or log in to the application to maintain a record of activities
- Deposit and withdraw money from the account
- View transactions and balance in the primary and savings account
- Transfer funds between different accounts and add recipients
- Cheque book requests for different accounts

Technology Used

- Eclipse - Project Development
- JIRA –Sprint Planning
- Git Repository
- Technology : Java ,SpringBoot, Angular 2,REST , Security-spring security,MySQL
- Database,ORM,Hibernate,logger,HTML,CSS,JavaScript
- Framework: Spring MVC, Spring Boot
- Server: tomcat
- Repository: Git
- GitHub Url: <https://github.com/Rkcr7/ICIN-BANK.git>

1. Project Description from LMS:

Based on the Requirements from the LMS, I developed the ICIN Bank website application prototype, Where website must have work for User Login as well as for Admin Login .

User can access the below functionality:**Accounts**

- Primary
 - View Transaction list
 - Search Transaction
- Savings
 - View Transaction list
 - Search Transaction

Transfer

- Between Accounts
- Person-To-Person
- Add/Edit Recipients
-

Transaction

- Deposit
- Withdrawal

Menu

- Profile Settings
- Schedule Appointment for requesting Chequebook

Registration**Admin have the below functionality access :**

- View user
- View user transaction list
- Enable/Disable user account
- View Appointment
- Confirm appointment

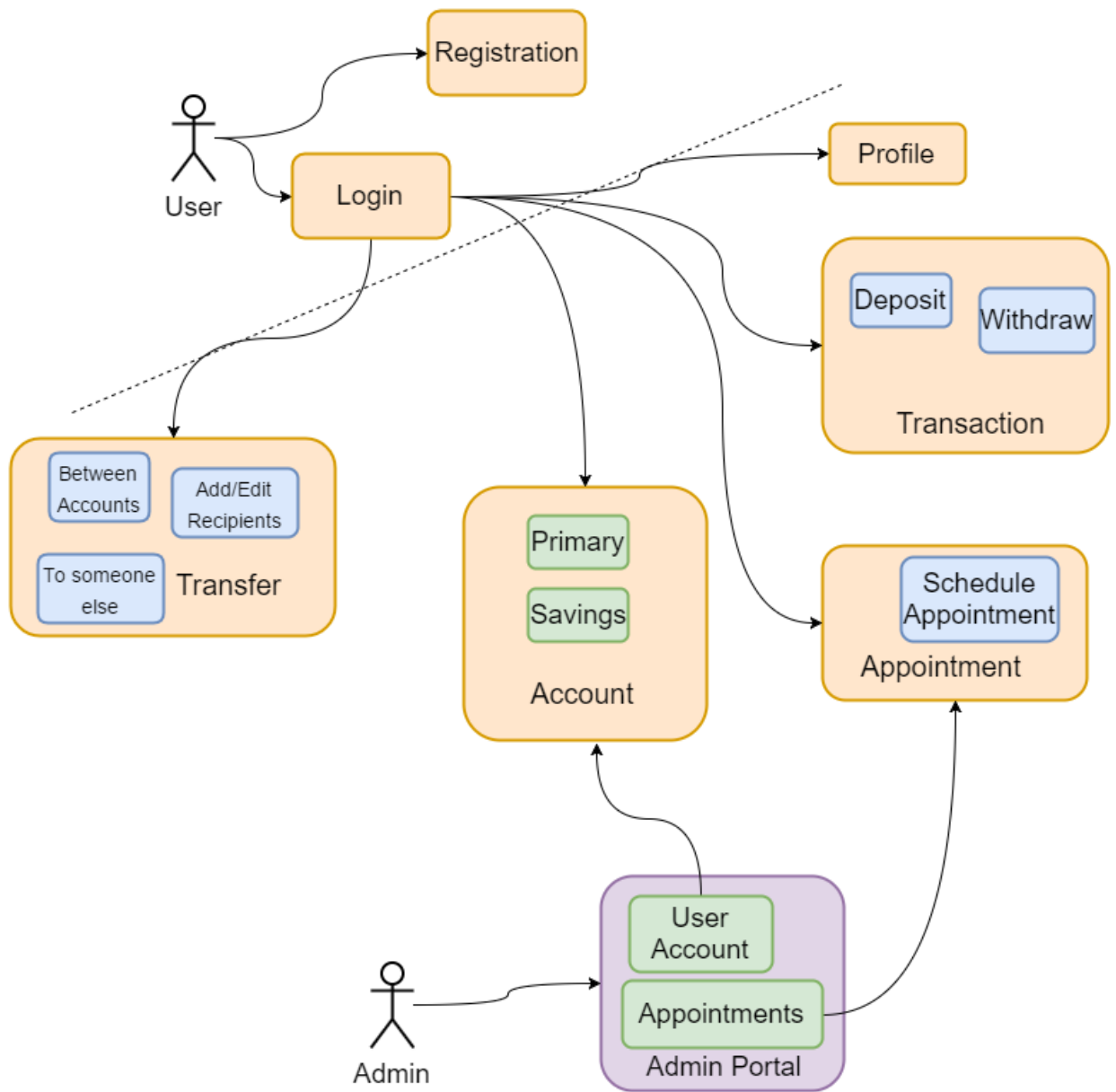
.

Sprints planning :

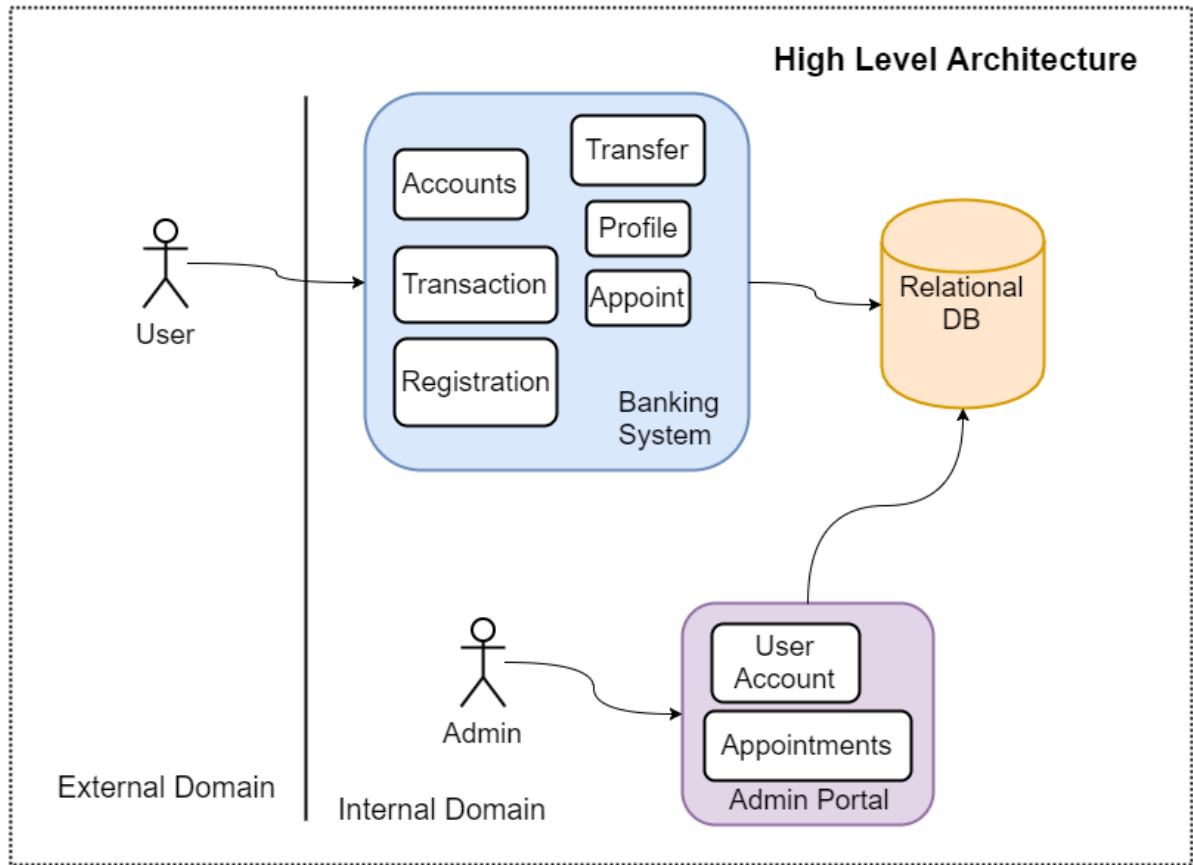
1. MySql setup and create all the required tables for the ICIN Bank.
2. Create SpringBoot Application for buliding microservices running in the backend ie :
APIs.
3. Setting up Frontend with HTML,CSS and Angular
4. Creating Applicationg for both Admin and User interface for operating ICIN bank.
5. Creating images of BackendApi, Admin UI, User UI and upload in GitHub.

The flow of the Application

1. Data flow diagram



2. Architecture Design



Modules in the Project:

1. Admin Login
2. User Login
3. Change password
4. Logout
5. Register User
6. Account summary
7. Transaction summary
8. Account maintenance
9. Beneficiary maintenance
10. Cheque Book requests & approvals
11. User access maintenance

Technologies used for these features are SpringBoot,REST,Security,Spring MVC,Hibernate and MySQL.

- Java Collection Framework , foreach loop ,jsp tags ,POST and GET method,html ,web services has been used as core concept,REST,Angular,JS,CSS,HTML,Hibernate,Springboot,Security.

URL for Users: <http://localhost:8080/index>

URL For User SignUp: <http://localhost:8080/signup>

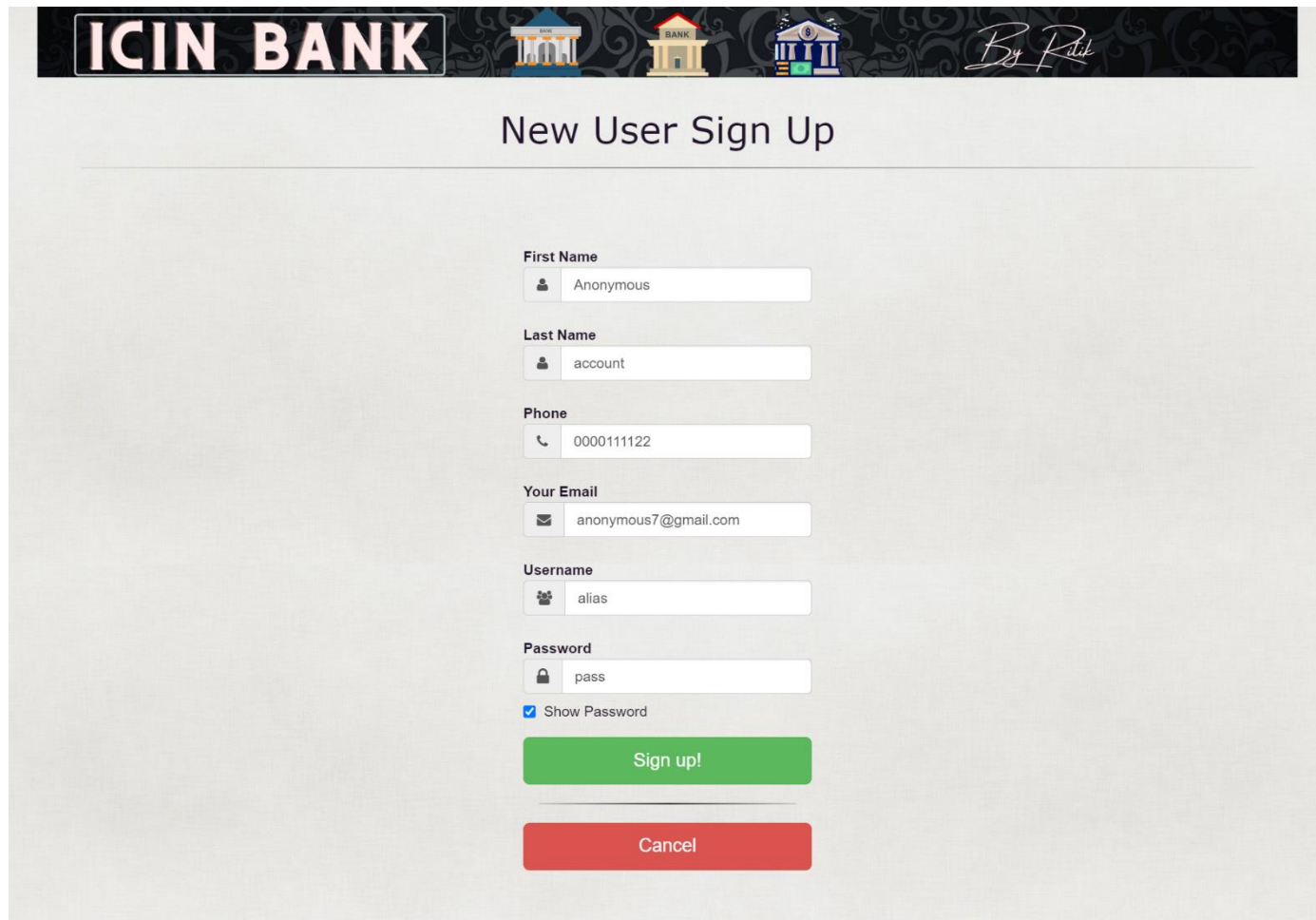
URL for for User Signin: <http://localhost:8080/signin>

URL for admin: <http://localhost:4200/login> ,login as admin on this url also-<http://localhost:8080/index>

- ▼ **UserFront [boot]**
 - > 🌿 Spring Elements
 - ▼ 📁 src/main/java
 - > 📁 com.userfront
 - > 📁 com.userfront.config
 - > 📁 com.userfront.controller
 - > 📁 com.userfront.dao
 - > 📁 com.userfront.domain
 - > 📁 com.userfront.domain.security
 - > 📁 com.userfront.resource
 - > 📁 com.userfront.service
 - > 📁 com.userfront.service.UserServiceImpl
 - ▼ 📁 src/main/resources
 - ▼ 📁 static
 - > 📁 css
 - > 📁 fonts
 - > 📁 images
 - > 📁 js
 - > 🌐 as.jpg
 - > 📁 templates
 - > 🌿 application.properties
 - > 📁 src/test/java
 - > 📁 JRE System Library [JavaSE-17]
 - > 📁 Maven Dependencies
 - > 📁 src
 - > 📁 target
 - > 📄 HELP.md
 - > 📄 mvnw
 - > 📄 mvnw.cmd
 - > 📄 pom.xml

Below are the Test Cases:

1. Signup



ICIN BANK

New User Sign Up

First Name

Last Name

Phone

Your Email

Username

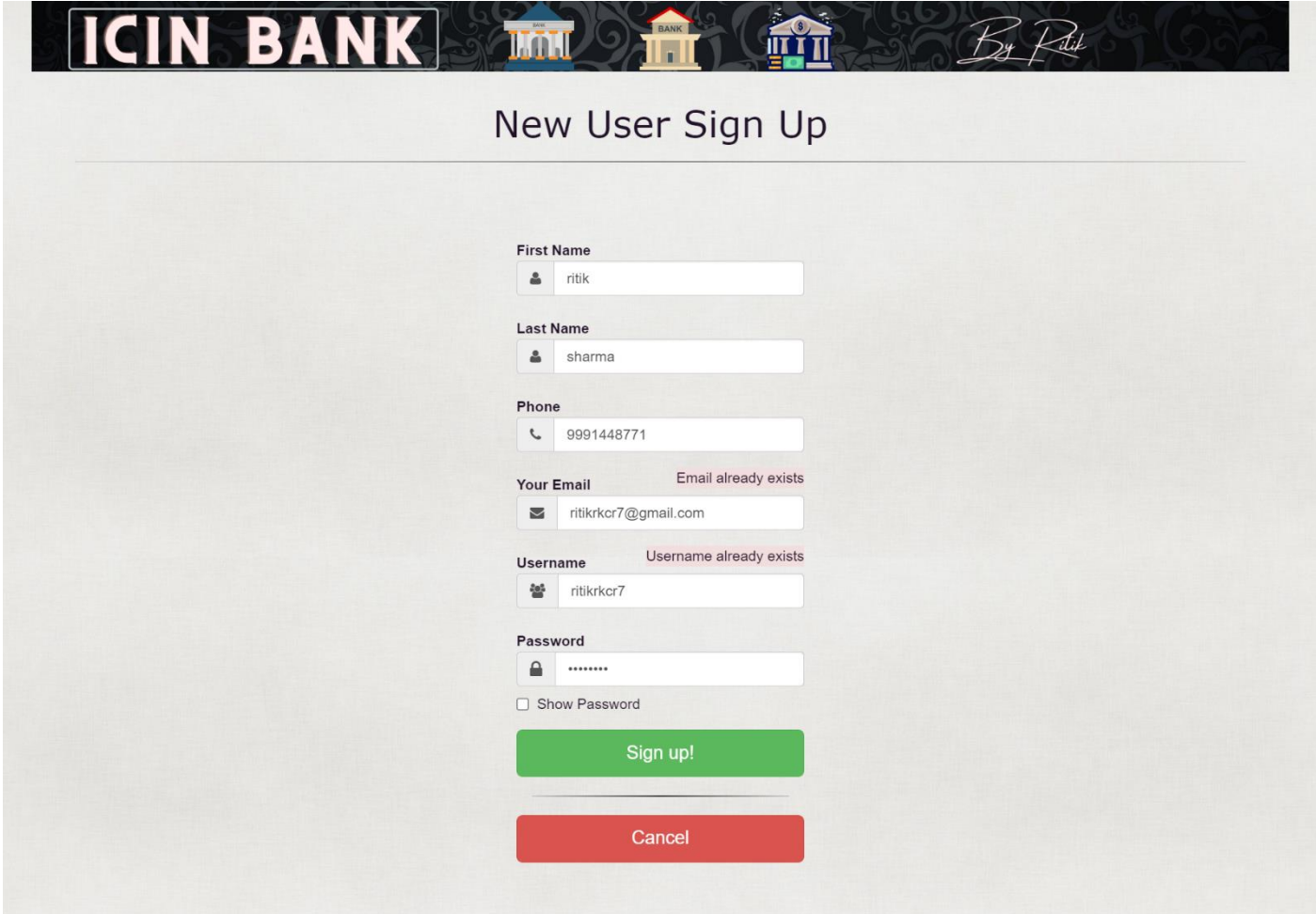
Password

☒ Show Password

Sign up!

Cancel

2.If user`s email is already exist



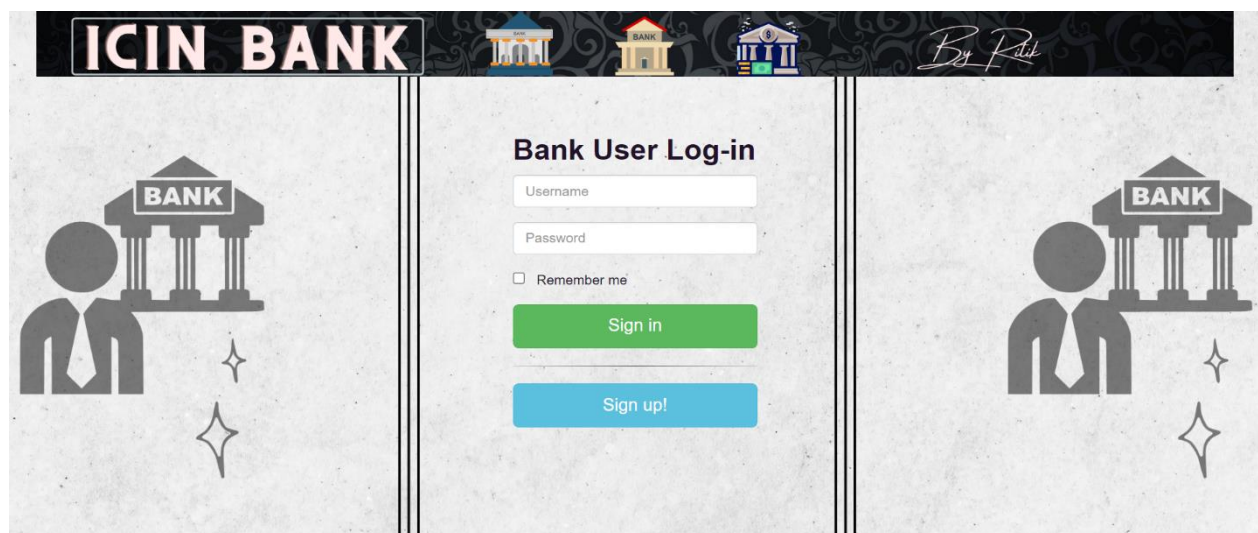
The image shows a web form for 'ICIN BANK' titled 'New User Sign Up'. The form contains several input fields with associated error messages:

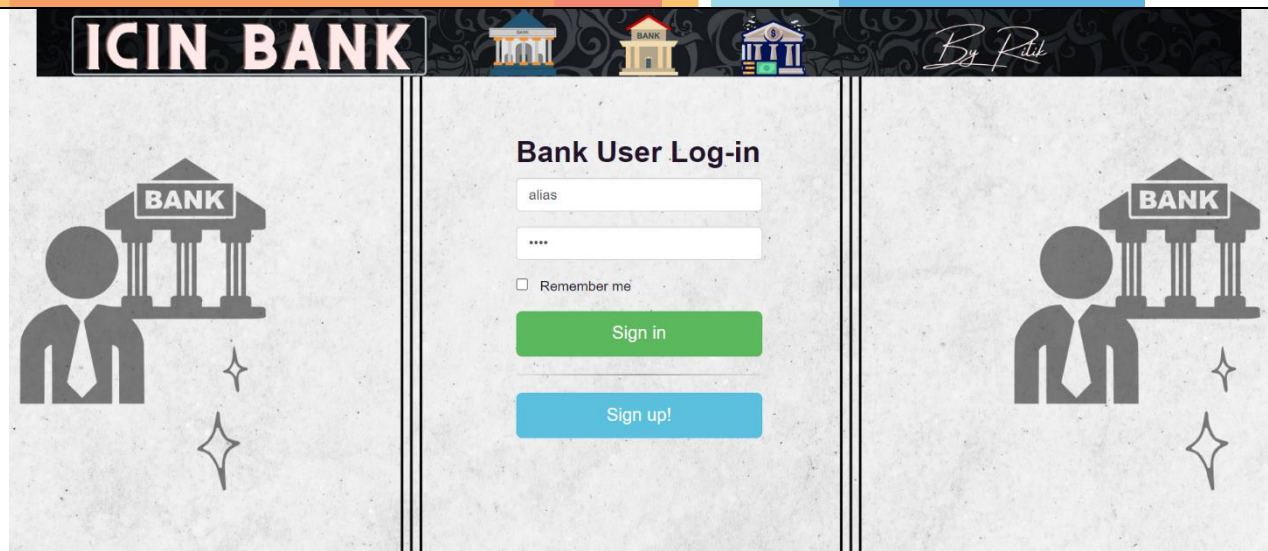
- First Name:** ritik
- Last Name:** sharma
- Phone:** 9991448771
- Your Email:** ritikrkr7@gmail.com. Error message: Email already exists
- Username:** ritikrkr7. Error message: Username already exists
- Password:** [masked with asterisks]

Below the password field is a checkbox labeled 'Show Password' which is unchecked. At the bottom of the form are two buttons: a green 'Sign up!' button and a red 'Cancel' button.

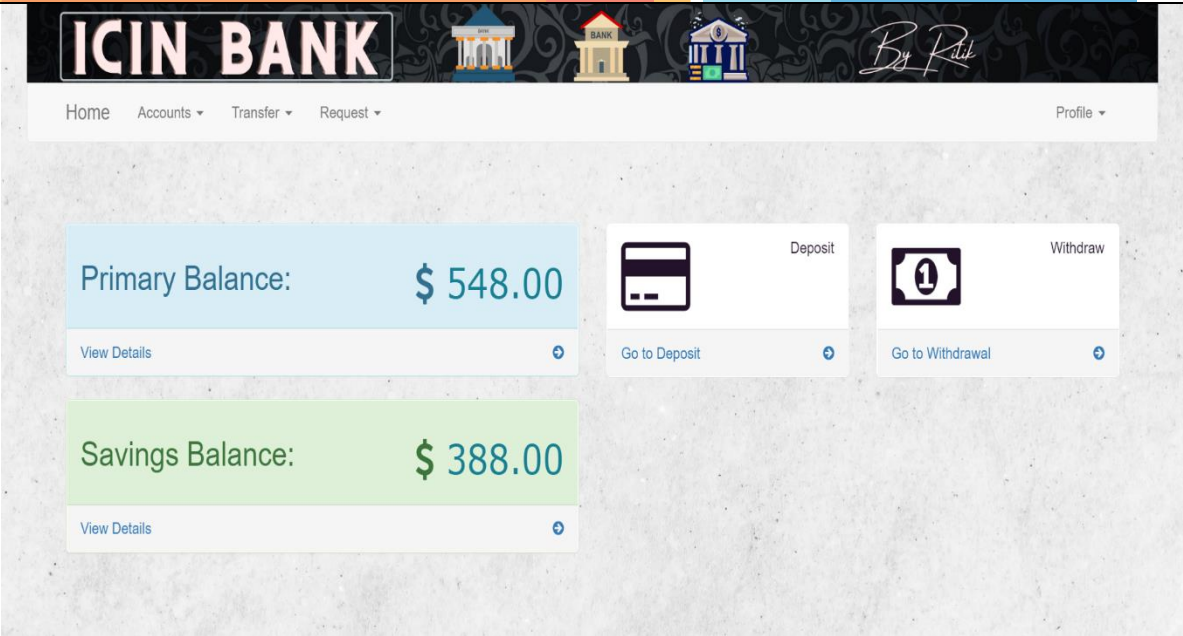
User Signin Page-

Url- <http://localhost:8080/index>

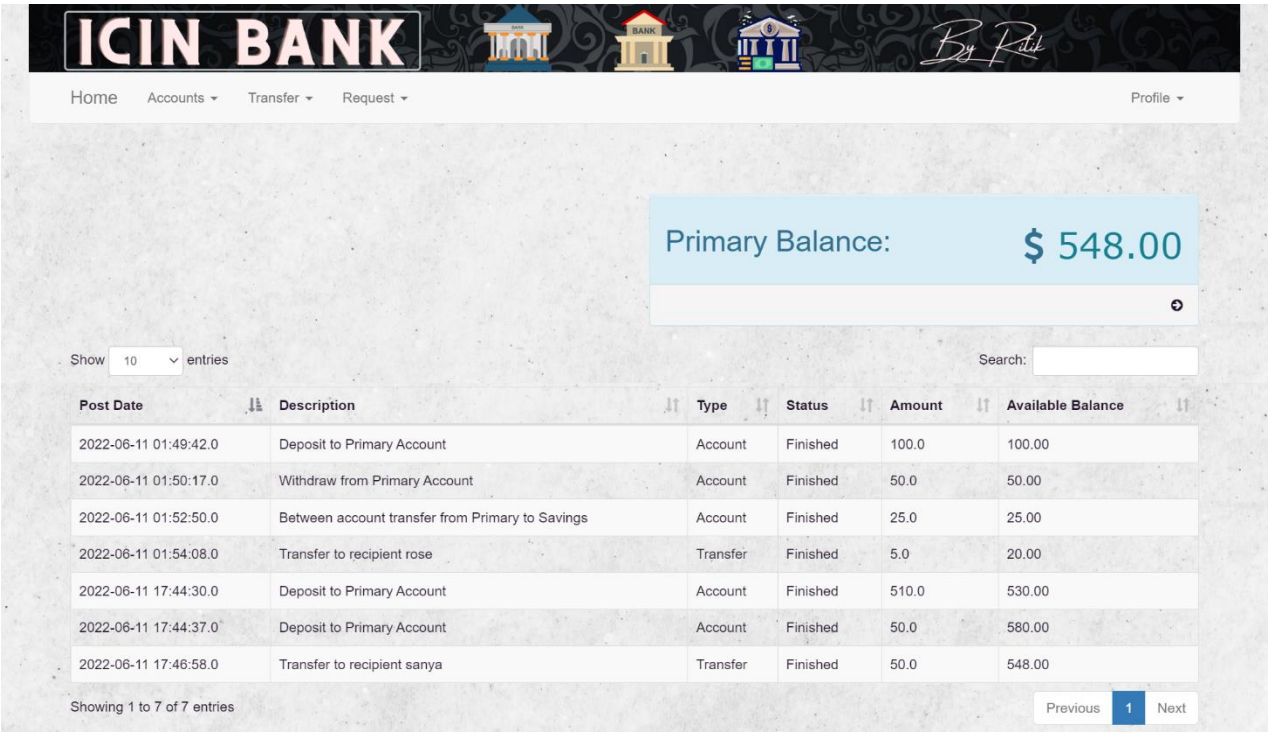




After Signin user homepage-







Primary Account Details-



2. Saving Account Detail-

ICIN BANK

[Home](#)
[Accounts](#)
[Transfer](#)
[Request](#)
[Profile](#)





Savings Balance:

\$ 388.00

Post Date	Description	Type	Status	Amount	Available Balance
2022-06-11 17:44:48.0	Deposit to savings Account	Account	Finished	80.0	105.00
2022-06-11 17:44:57.0	Withdraw from savings Account	Account	Finished	320.0	-215.00
2022-06-11 17:45:10.0	Deposit to savings Account	Account	Finished	710.0	495.00
2022-06-11 17:45:25.0	Between account transfer from Savings to Primary	Transfer	Finished	18.0	477.00
2022-06-11 17:47:21.0	Transfer to recipient Satyam singh	Transfer	Finished	89.0	388.00

3. Deposit Functionality-

ICIN BANK

[Home](#)
[Accounts](#)
[Transfer](#)
[Request](#)
[Profile](#)

1. Please select the account you would like to deposit:

Primary

2. Please specify the amount you would like to deposit:



Amount \$

150

Deposit

Withdraw Service for User-

ICIN BANK



HomeAccountsTransferRequestProfile

1. Please select the account you would like to withdraw:

Primary

2. Please specify the amount you would like to withdraw:

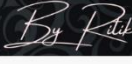

Amount \$

80

Withdraw

Transfer Between Accounts-

ICIN BANK



HomeAccountsTransferRequestProfile

1. Please select the account you would like to transfer From:

Primary

2. Please select the account you would like to transfer To:

Savings

3. Please specify the amount you would like to transfer:



Amount \$

60

Transfer

Add/Edit Recipient-

ICIN BANK



HomeAccountsTransferRequestProfile

Recipient Information

Name

riya

Email

riya777@gmail.com

Phone

9898776621

Account Number

9090871234

Description

college friend



Add/Edit Recipient

List of Recipients

Recipient Name	Recipient Email	Recipient Phone	Recipient Account Number	Description	
rose	rose123@gmail.com	1234567890	1234567890	friend	delete
Satyam singh	satyam1@gmail.com	4567234563	11112222333	For personal	delete
sanya	sanya56@gmail.com	7878787865	6767541209	Family	delete

Transfer to someone else Account-

ICIN BANK



Home

Accounts

Transfer

Request

Profile

1. Please choose the recipient:

riya

2. Please select the account you would like to transfer from:

Savings

3. Please specify the amount you would like to transfer:

Amount \$

75

Transfer

User can request chequebook by taking appointment with bank-

ICIN BANK

[Home](#)
[Accounts](#)
[Transfer](#)
[Request](#)
[Profile](#)

Request ChequeBook

Pick a Date and Time:

2022-06-12 12:06

Choose an Account for which you want to request Cheque Book:

Primary Account

Notes:

Urgent needed for salary purpose

Submit Request

	id	account_type	confirmed	date	description	user_id
	10	Primary Account	0	2022-01-12 09:01:00	Urgent needed	3
	34	Primary Account	0	2022-01-07 06:01:00	urgent needed	24
	53	Primary Account	0	2022-06-12 00:06:00	Urgent needed for salary purpose	3
	NULL	NULL	NULL	NULL	NULL	NULL

User Profile functionality where user can change his/her profile information-

ICIN BANK

[Home](#)
[Accounts](#)
[Transfer](#)
[Request](#)
[Profile](#)

My Profile

First Name

ritik

Last Name

Sharma

Phone

9998881112

Your Email

ritikrkr7@gmail.com

Username

ritikrkr7

Change Settings

Your Account Information

Primary Account Number	Savings Account Number
11223146	11223147

Admin Portal Module-

1. **Admin login url->**<http://localhost:4200/login>

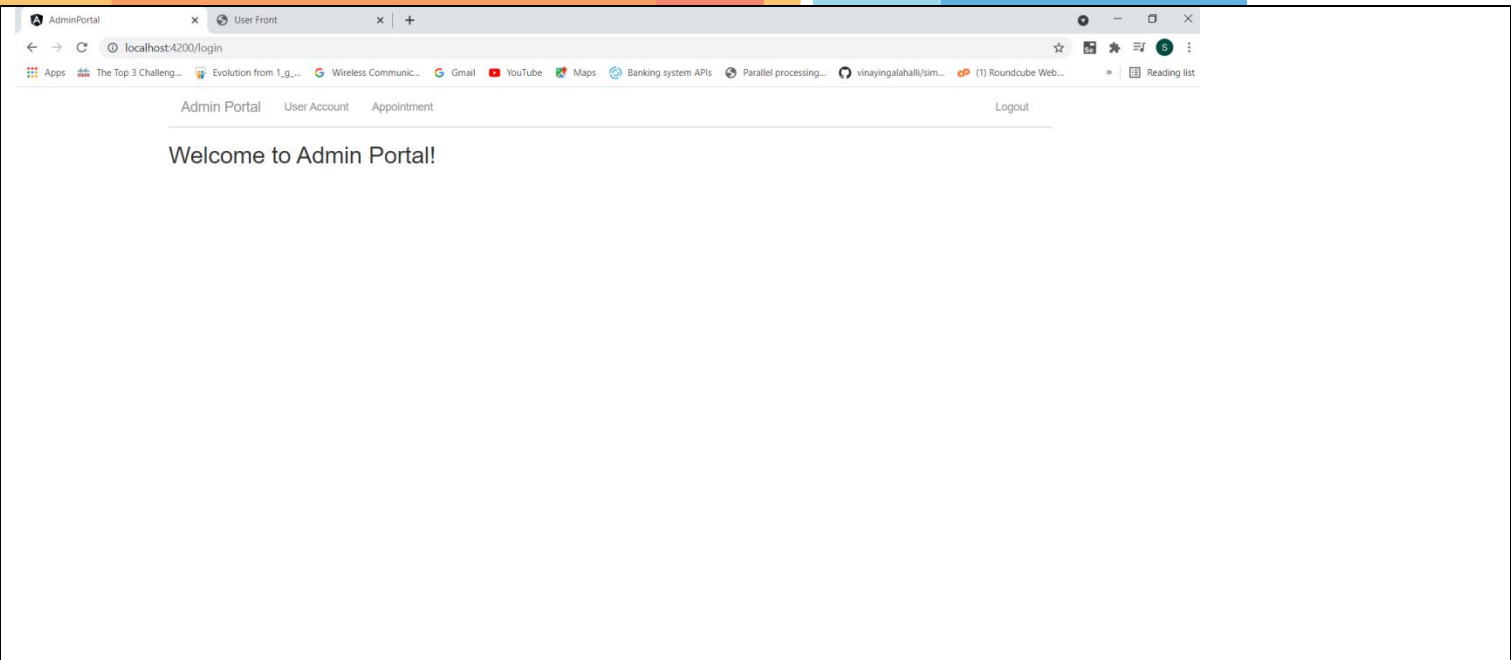
***Note:**after login from Admin Portal url admin needs to login in <http://localhost:8080/index> url also.

2. **Whenever you signup from** <http://localhost:8080/index> url , if you want you can give user role as admin or user from database. Currently admin role is assigned to **username:admin**

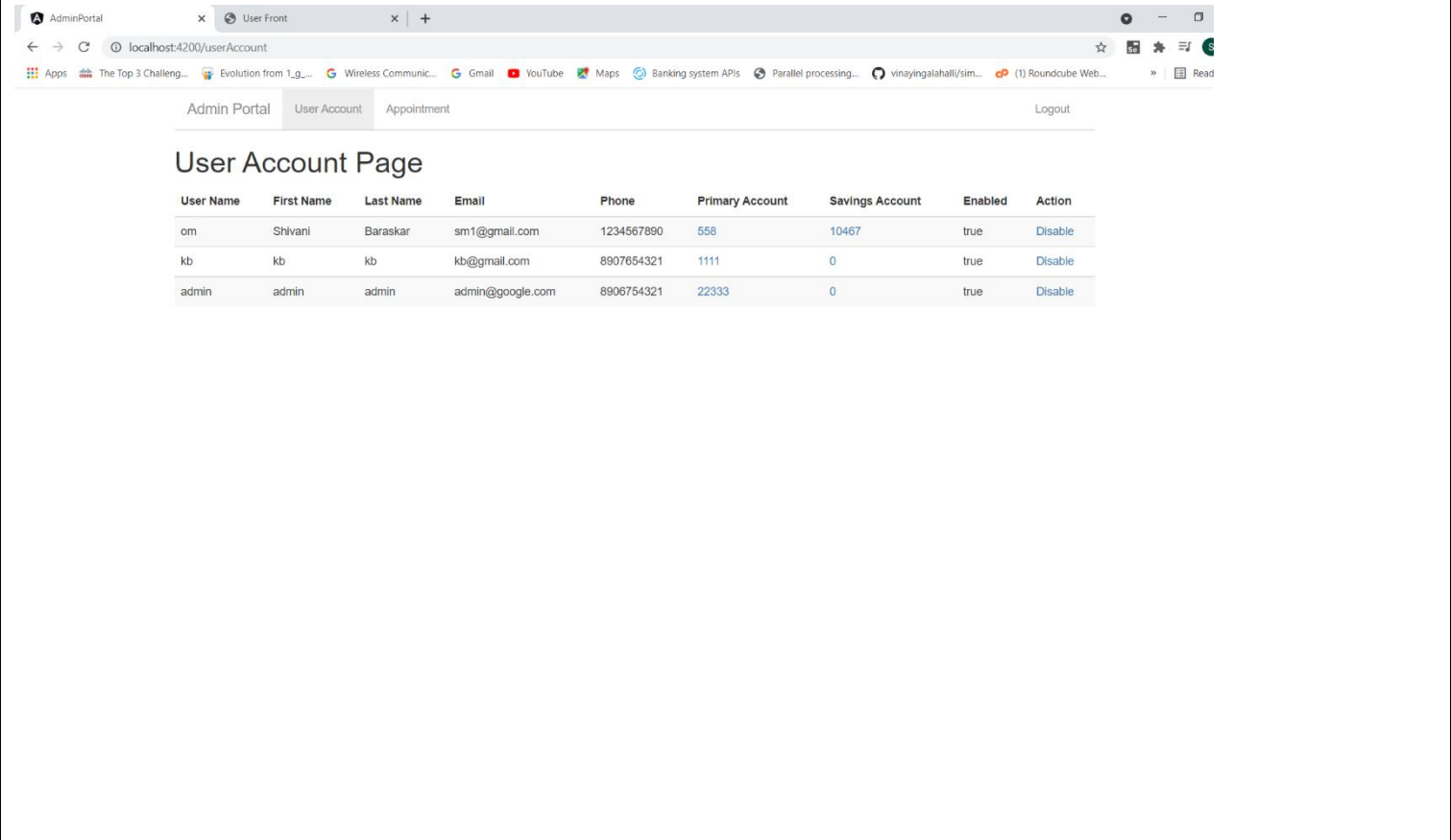
Password:admin

- 3.Once admin has logged in admin screen will open where admin can see the user list with user's account details and admin can make user enable or disable and can confirm appoint for chequebook also.

Admin portal screen-



Admin can see User Account Detail from User Account Tab-



Admin can check Primary and Savings Transaction details by clicking on account balance of Primary Account and Saving Account-

AdminPortal User Front Appointment Logout

Savings Account Transaction List

Post Date	Description	Type	Status	Amount	Available Balance
06/05/2021	Deposit to savings Account	Account	Finished	10000	10407
06/05/2021	Received transfer from Primary	Transfer	Finished	100	10507
06/05/2021	Transfer to recipient Ratna	Transfer	Finished	40	10467

AdminPortal User Front Appointment Logout

Primary Account Transaction List

Post Date	Description	Type	Status	Amount	Available Balance
06/05/2021	Deposit to Primary Account	Account	Finished	1000	1458
06/05/2021	Withdraw from Primary Account	Account	Finished	800	658
06/05/2021	Between account transfer from Primary to Savings	Transfer	Finished	100	558

Admin can See the Chequebook Request in Appoint Tab for Chequebooks and Confirm from Action column once he click on confirm Confirmed column will become true from false-

Appointment Id	User Name	Date	Description	Confirmed?	Action
15	om	06/06/2021 - 08:06	I want to schedule an appointment for a cheque book of 50 pages on the above date.	true	

My SQL DB-

username:root

password:root

REFERENCES

1. <https://angular.io/>
2. <https://www.google.com/>
3. <https://spring.io/projects/spring-boot>
4. <https://docs.oracle.com/en/java/>