DOCONNECT

Capstone Project

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Introduction

DoConnect is a question and answer website where people go to find information. Every piece of content on the site is generated by users, meaning it is created, edited, and organized by the same people that use the website.

DoConnect's mission is to share and grow the world's knowledge. Not all knowledge can be written down, but much of that which can be, still isn't. It remains in people's heads or only accessible if you know the right people. We want to connect the people who have knowledge to the people who need it, to bring together people with different perspectives so they can understand each other better, and to empower everyone to share their knowledge for the benefit of the rest of the world.

After hearing that description of Doconnect, you might be thinking, "Well why don't I just use an everyday search engine?"

I'll tell you why. Doconnect has some qualities that those other research tools don't:

It allows users to create social networks and follow topics that interest them.

It focuses on high-quality questions and answers.

It enable users to vote on answers to highlight the most accurate information possible.

PROBLEM STATEMENT

DoConnect is a popular Q and A form in which techniques questions was asked and answered.

There are 2 users on the application:

1. User
2. Admin

User Stories –

1. As a user I should be able to login, Logout and Register into the application..
2. As a user I should be able to ask any question under any topic.
3. As a user I should be able to search the question on any string written in search box.
4. As a user I should be able to Answer any question asked.
5. As a user I should be able to answer more than one question and more than one time
6. As a user I should be able to chat with other users
7. As a user I should be able to upload images to refer

Admin Stories –

1. As an Admin I should be able to login, Logout and Register into the application
2. As an Admin I should be able to get mail as soon as any new Question is asked or any Answers given
3. As an Admin I should be able to approve the question and Answer. Any Question or Answer will bevisibleonthe platform only if it is approved.
4. As an Admin I should be able to delete inappropriate Questions or Answers

Theory Solution

The heart of DoConnect is questions — questions that affect the world, questions that explain recent world events, questions that guide important life decisions, and questions that provide insights into why other people think differently. DoConnect is a place where you can ask questions that matter to you and get answers from people who have been there and done that DoConnect is where scientists, artists, entrepreneurs, mechanics, and homemakers take refuge from misinformation and incendiary arguments to share what they know.

Ever since the first humans gathered around a fire and turned their gaze to the stars, humanity has shared knowledge through stories. Spaces are digital campfires for collective meaning making which expand knowledge sharing from interrogative to narrative. In Spaces, creators build audiences of millions for their unique insights or audiences of thousands for niche knowledge that can't be found anywhere else.

Great writers help you understand why the world works the way it does, why people behave the way they do, and what we can all do to make the world better. Millions of people search the web for answers and millions of people write answers on DoConnect, every week.

The vast majority of human knowledge is still not on the internet. Most of it is trapped in the form of experience in people's heads, or buried in books and papers that only experts can access. More than a billion people use the internet yet only a tiny fraction contribute their knowledge to it. We want to democratize access to knowledge of all kinds—from politics to painting, cooking to coding, etymology to experiences—so if someone out there knows something, anyone else can learn it. Our mission is to share and grow the world's knowledge, and we're building a world-class team to help us to achieve this mission.

System Requirements

SOFTWARE REQUIREMENTS:

The practical necessities or the general description files consist of the product angle and features, running gadget and working environment, images necessities, layout constraints and consumer documentation.

Mapping performance requirements and constraints provides an overview of the project in terms of strengths and weaknesses, and where these issues can be addressed.

IDE	Eclipse, Visual Studio Code, MySQL
TECHNOLOGIES	Spring Boot, Angular, MySQL
LANGUAGES	JAVA HTML,CSS, JavaScript & Type Script
OPERATING SYSTEM	Windows 7/10/11 , Linux & Mac OS

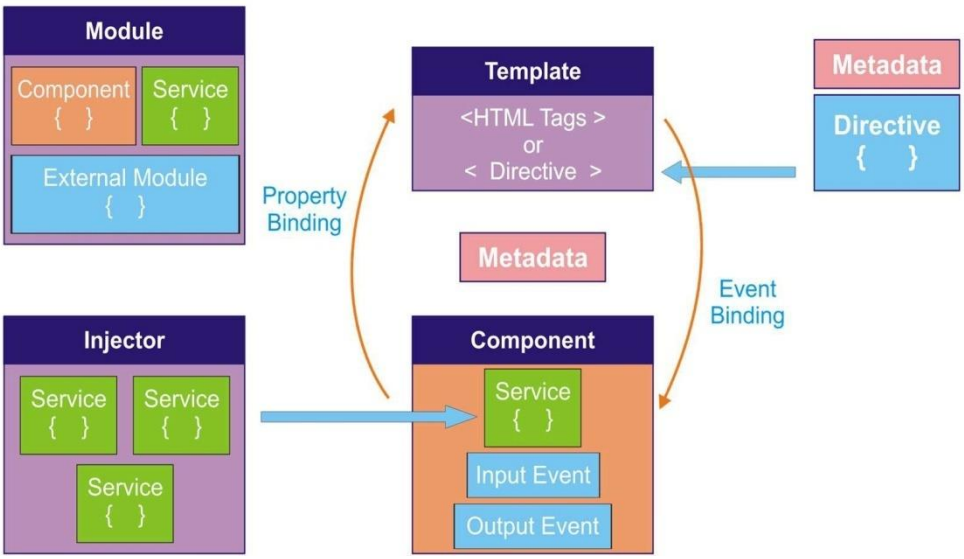
HARDWARE REQUIREMENTS:

The minimum hardware requirements are highly dependent on the specific software developed by the specific thought Python/VS Code user. Applications that need to store large arrays/objects in memory require more RAM, and applications that need to perform many calculations or operations faster require a faster processor.

RAM	Prefer 4 GB or above.
PROCESSOR	Intel or AMD dual core x86 processor.
HARD DISC	500 MB of free disk space or more

Project Architecture

Angular Architecture:



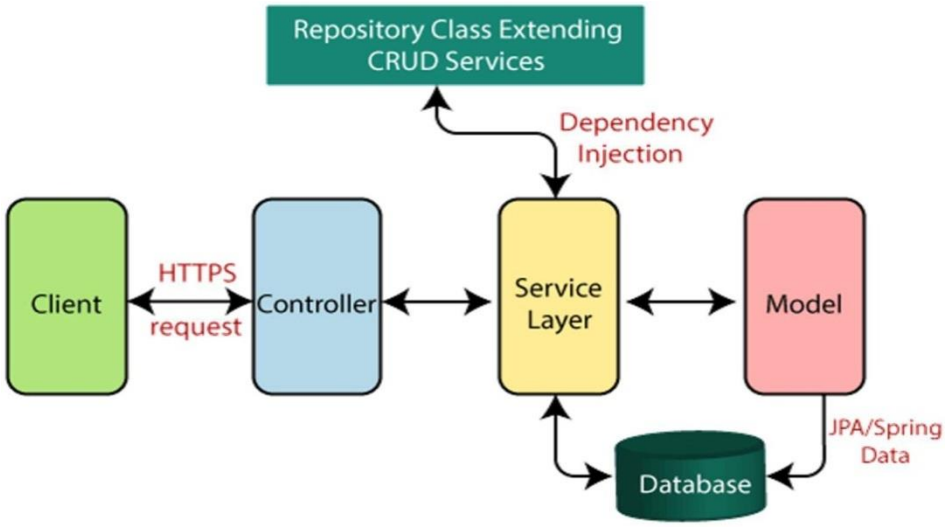
There are main eight blocks of Angular.

1. Module
2. Component
3. Metadata
4. Template
5. Data Binding
6. Service
7. Directive
8. Dependency Injection

Description:

The architecture of an Angular application relies on certain fundamental concepts. The basic building blocks of the Angular framework are Angular components that are organized into Ng Modules. Ng Modules collect related code into functional sets; an Angular application is defined by a set of Ng Modules.

Spring Boot Architecture:



Description:

- The Client makes an HTTP request (GET, PUT, POST, etc.)
- The HTTP request is forwarded to the Controller. The controller maps the request. It processes the handles and calls the server logic.
- The business logic is performed in the Service layer. The spring boot performs all the logic over the data of the database which is mapped to the spring boot model class through java persistence library (JPA).
- The JSP page is returned as Response from the controller.

The spring boot consists of the following four layers:

1. Presentation Layer – Authentication & J Son Translation
2. Business Layer – Business Logic, Validation & Authorization
3. Persistence Layer – Storage Logic
4. Database Layer – Actual Database

Presentation Layer

The presentation layer is the top layer of the spring boot architecture. It consists of Views. i.e., the front-end part of the application. It handles the HTTP requests and performs authentication. It is responsible for converting the JSON field's parameter to Java Objects and vice-versa. Once it performs the authentication of the request it passes it to the next layer. i.e., the business layer.

Business Layer

The business layer contains all the business logic. It consists of services classes. It is responsible for validation and authorization.

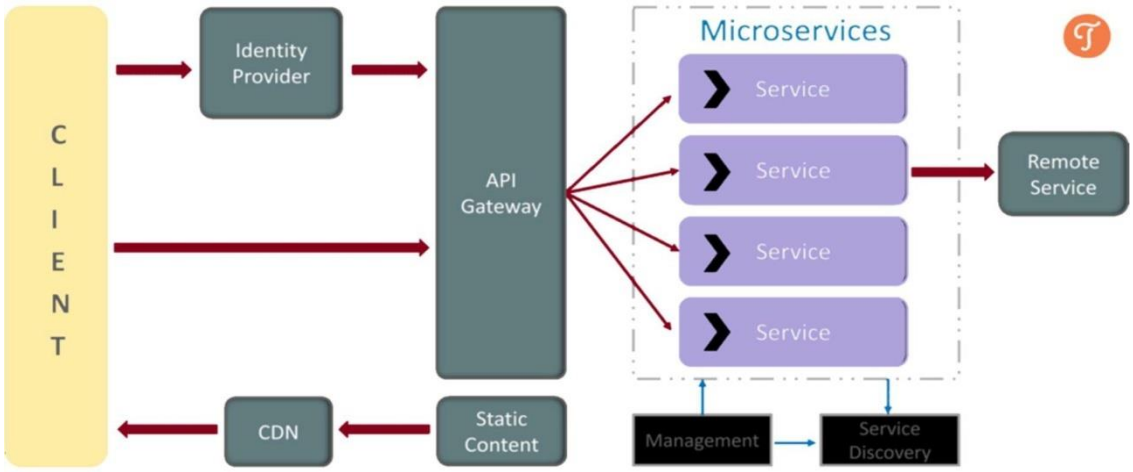
Persistence Layer

The persistence layer contains all the database storage logic. It is responsible for converting business objects to the database row and vice-versa.

Database Layer

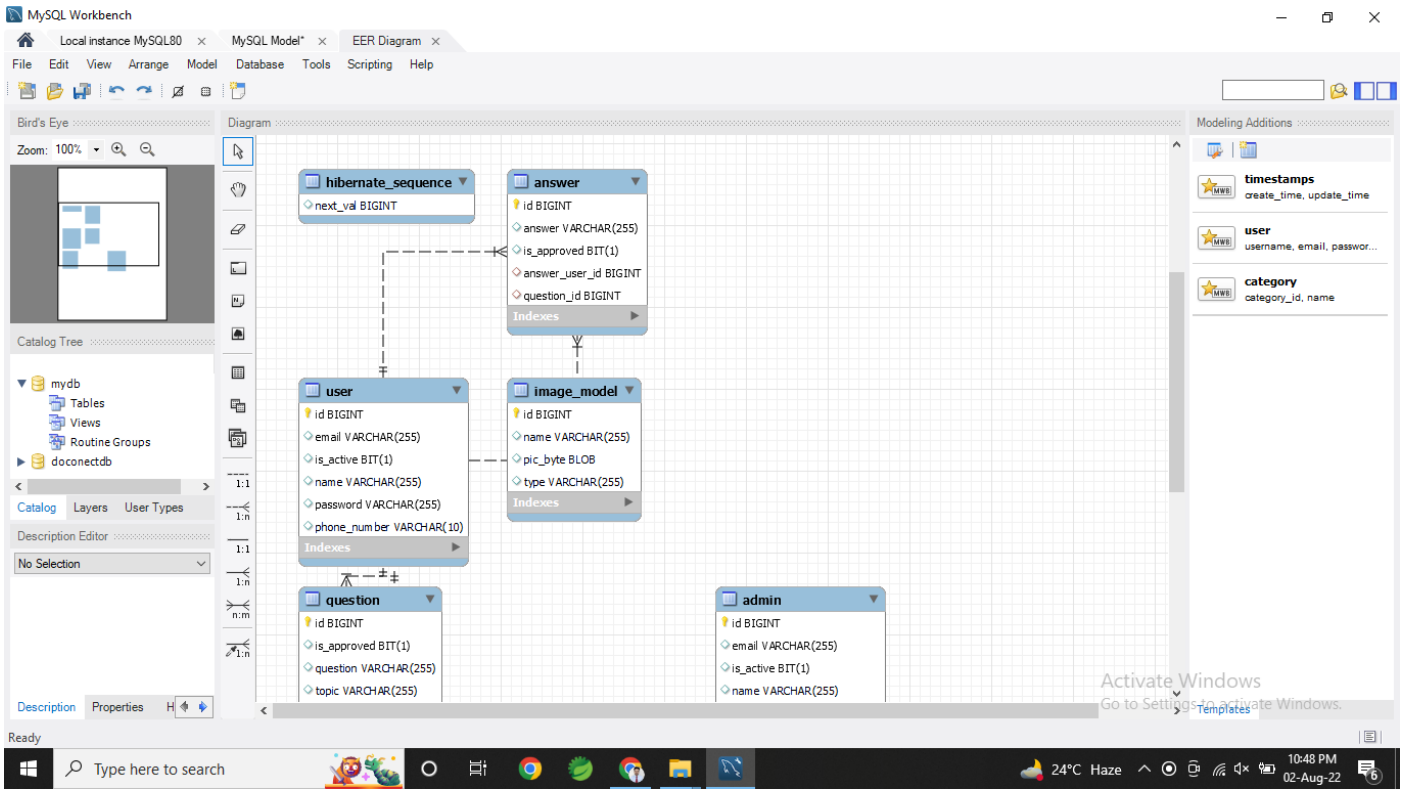
The database layer contains all the databases like My SQL. This layer can contain multiple databases. It is responsible for performing CRUD operations

Micro Services Architectures:



Micro service architectures are the 'new normal'. Building small, self-contained, ready to run applications can bring great flexibility and added resilience to your code. Spring Boot's many purpose-built features make it easy to build and run your micro services in production at scale.

Database Schema



Tables are created for all entities

Entities in the Database include

1. Admin
2. User
3. Question
4. answers
5. message
6. Image model

NON FUNCTIONAL REQUIREMENTS

Usability:

Regardless of the size of your business, the website of your business should be easy to use for even a non-technical user. Do you know that a general user takes just 0.05 seconds to figure out whether the website is worth its time or not? Thus you have to give special attention to the design of your homepage, CTAs, and easy checkout to get past those milliseconds of doom. The usability of a website is also defined by:

- How easily a user can achieve their target in a single page visit
- How quickly they can perform tasks in the store
- The memorable & intuitiveness of the design
- Number and types of errors users make

Security:

If your website handles financial transactions, user financial information, or other sensitive information, security is of the highest significance. The adoption of an SSL certificate and a data privacy policy will increase consumer confidence in your website and turn visitors into brand promoters. Additionally, it is taken into account for the various admin roles that help you manage who may create, see, copy, update, and remove content. Depending on where your company is located, security might also include adhering to laws governing the protection of client data, like the GDPR in Europe

Performance:

For increasing the traffic on your website, you have to give special attention to the performance in the non-functional requirements documentation. The focus should be on loading the e-commerce store as fast as possible regardless of the number of integrations and traffic on your website. You can set up the speed benchmark, maximum SKUs which you want to add, or any other performance indicator best for your business. Don't consider the 3rd party system delivery time, because the developers will not have control over the 3rd party API calls.

Maintainability:

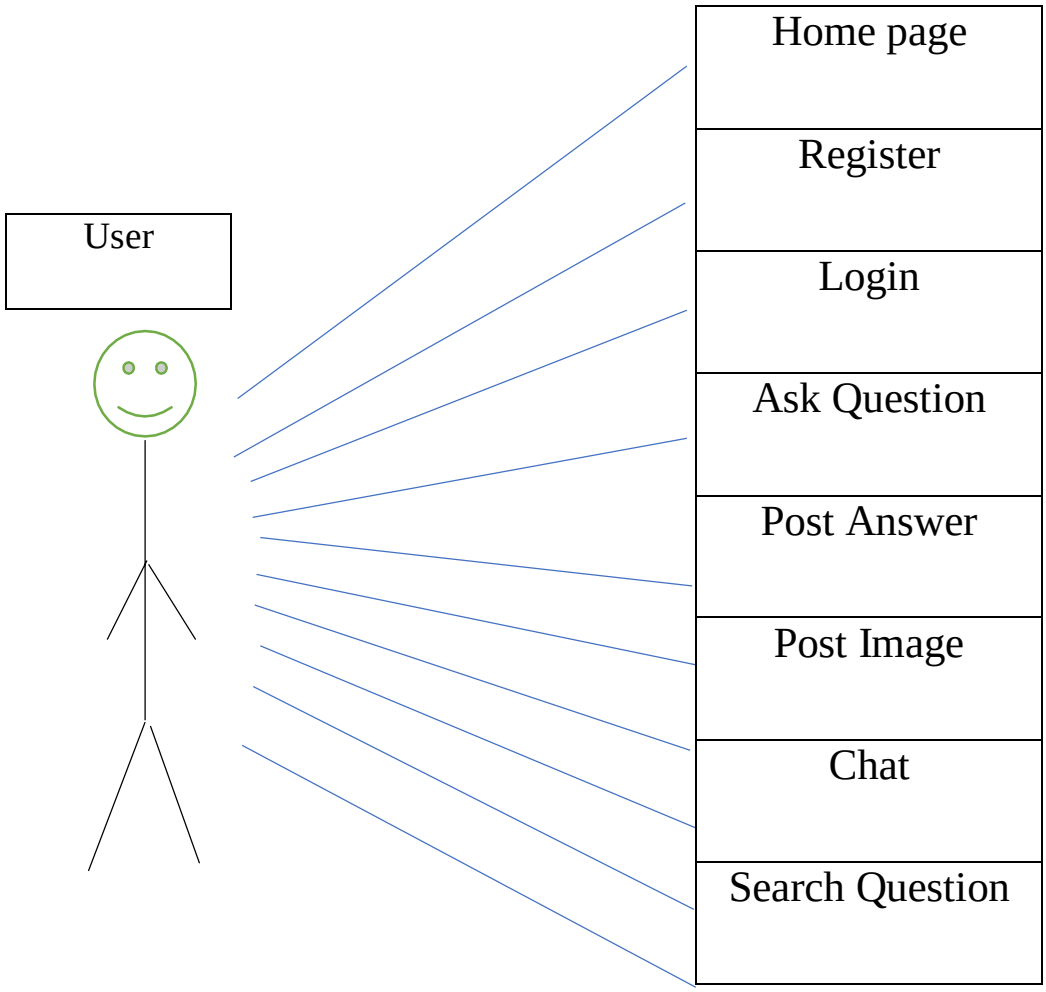
The operational costs for maintenance are the tricky part of planning a business budget. Thriving the website maintenance from the initial development means cutting the time & cost to determine and resolve the faults of the system in the future. Well, it sounds sad but there is no way to avoid issues in the future and you have to look for a website development company that can maintain your website.

Scalability:

Last but not the least, you have to look for a future-proof solution considering the scalability. It will define how the website can grow and increase its features and functionality without impacting the performance of your website. You must be able to add more memory, servers, or disc space for making more transactions on your website. On the server side, while entering new markets you may need to add localization features. Overall, this NFR accounts for painless business expansion and has both hardware and software implications

Case Diagram

In the Unified Modeling Language (UML), a use case diagram is a specific kind of behavioral diagram that results from and is defined by a use-case study. Its objective is to offer a graphical picture of a system's functionality in terms of actors, their objectives (expressed as use cases), and any relationships among those use cases



User Operation

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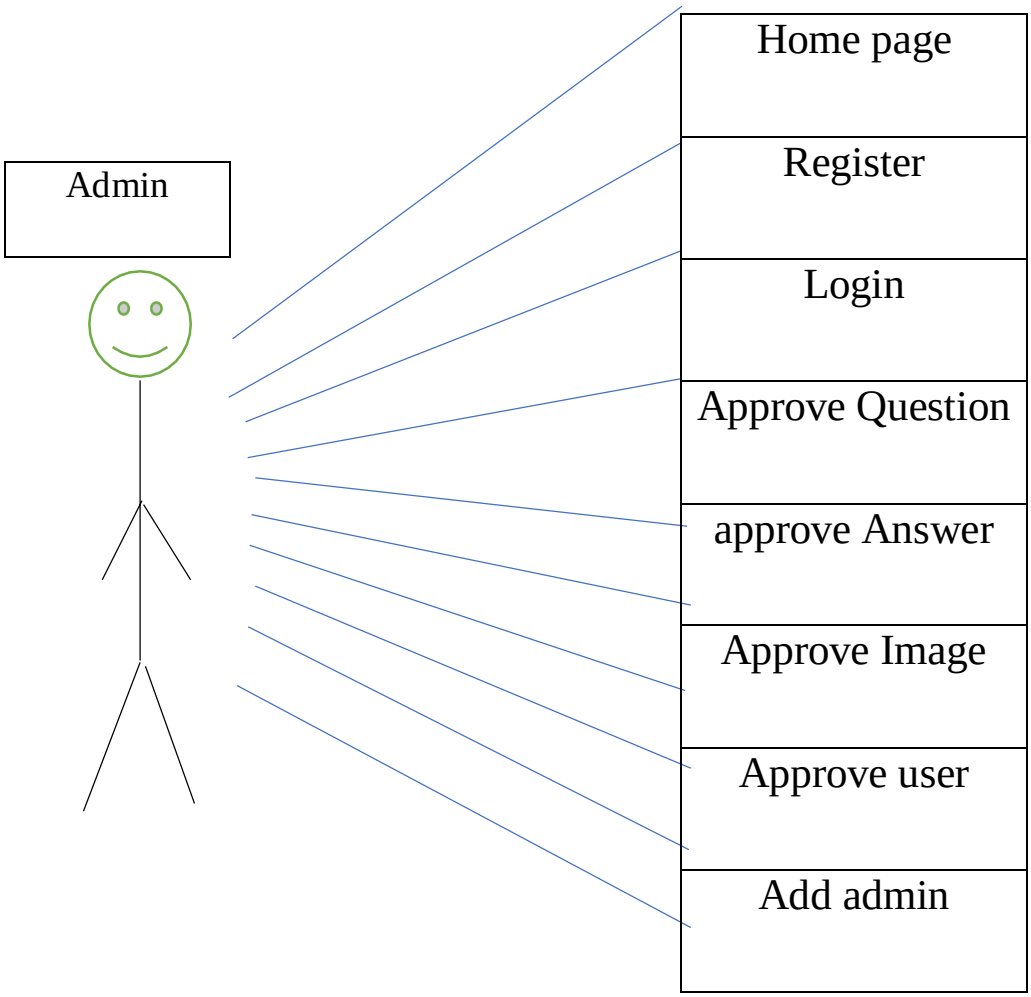


Admin Operation

Implementation

We will implement a simple Doconnect application. We'll develop an API using Spring Boot and a client application that will consume the API using Angular. Basically, the user will be able to post questions and also Will be able to post answers of any questions and user also be able to chat with other users.

TECHNOLOGY USED

In below I would like to explain which technologies are used in this project. It's helpful for understand the project layouts & overview of documentation.

BACK-END

1. Java
2. Spring Boot
3. Hibernate
4. MySQL
5. Maven

FRONT-END

1. Angular
2. Bootstrap

IMPLEMENTATION STEPS

First you need to start back-end server, after that execute client side. Follow below steps to run this application on your system.

1. First Install Java 11 jdk, Vs code, Eclipse, MySQL
2. Now open the DoConnect folder inside doconnect folder a folder named DoConnect_Frontend is available.
3. Open this folder in vs code . Now open the terminal and run the following command
4. Run **npm intsall**
5. Run **ng serve**
6. Now open DoConnect_Backend folder in eclipse ide and run it.

7. Also run the DoConnect_Chat folder in eclipse and run it .

DataBase

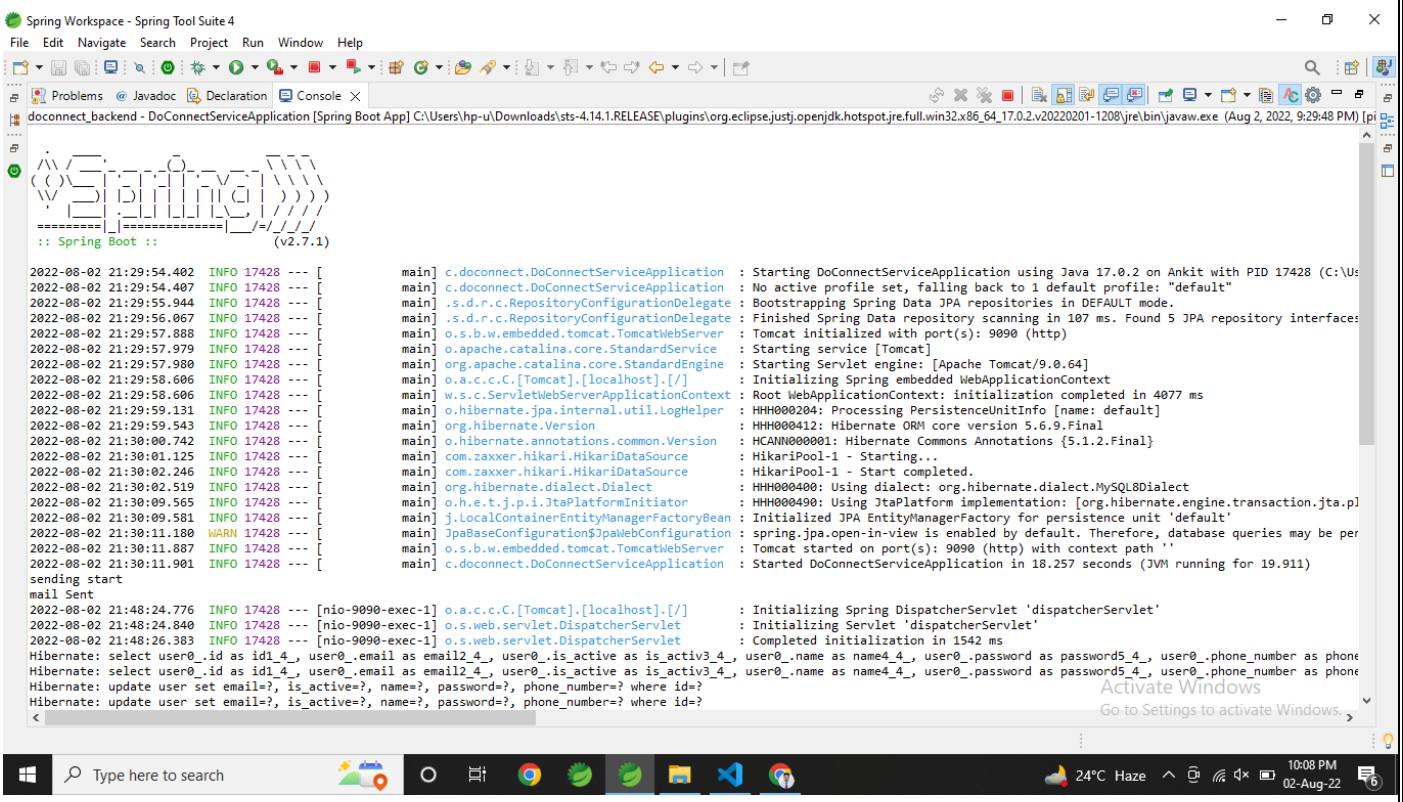
1. Install Mysql workbench
2. Open that Mysql
3. Open this query editor and You can run the query from sql file.
4. Run the query.

Result and Discussion

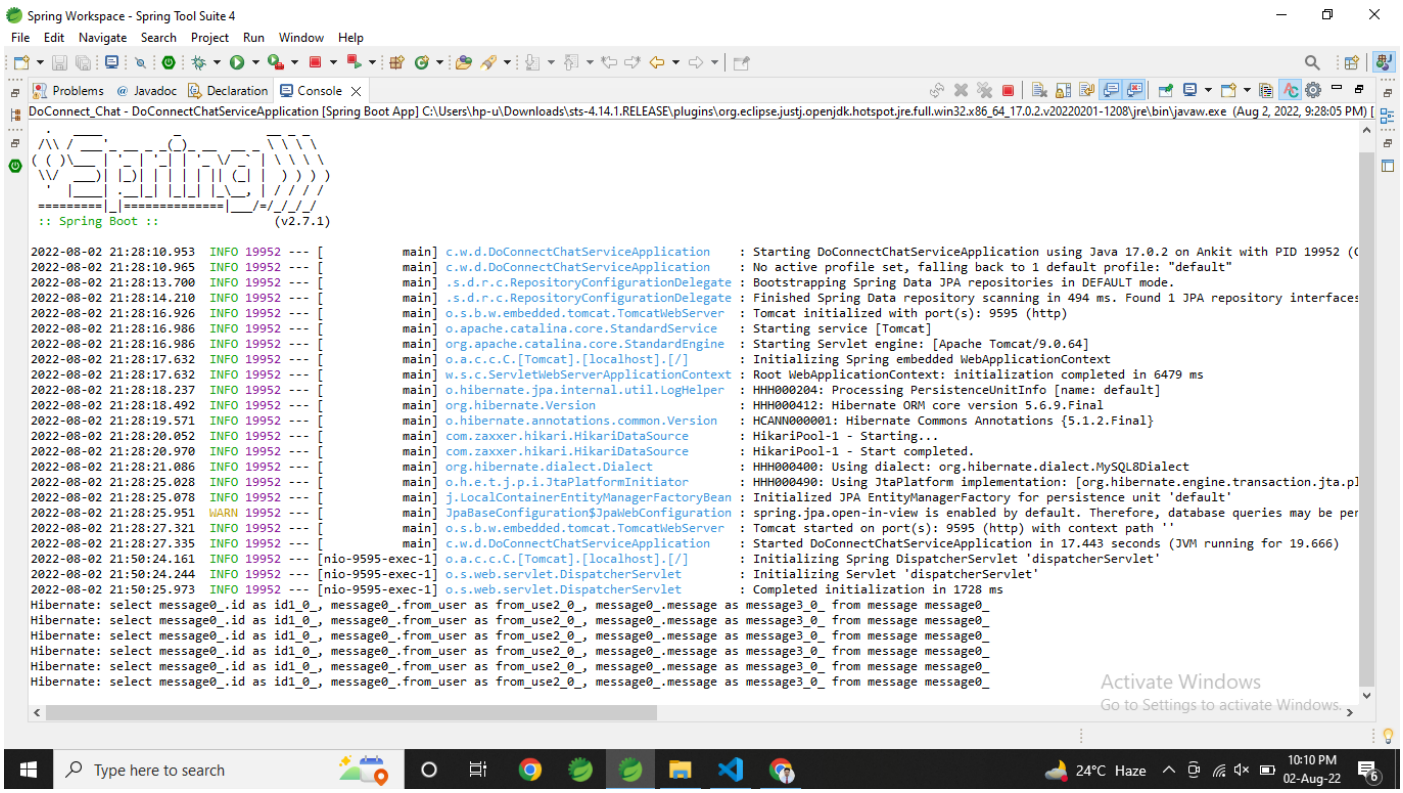
DATABASE CONNECTED THEN…

BACKEND

Run DoConnect_Backend

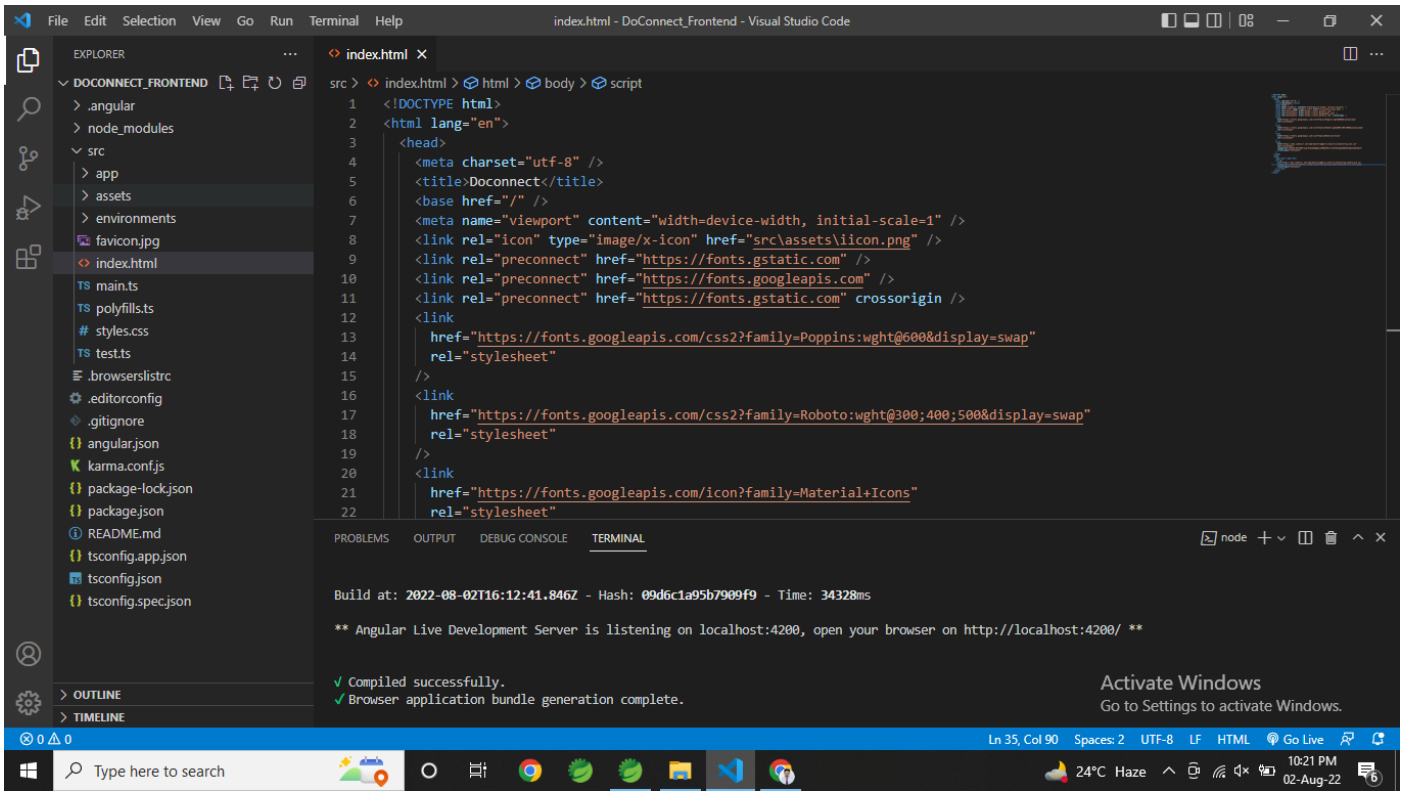


Now Run DoConnect_Chat



All servers running on Vs code

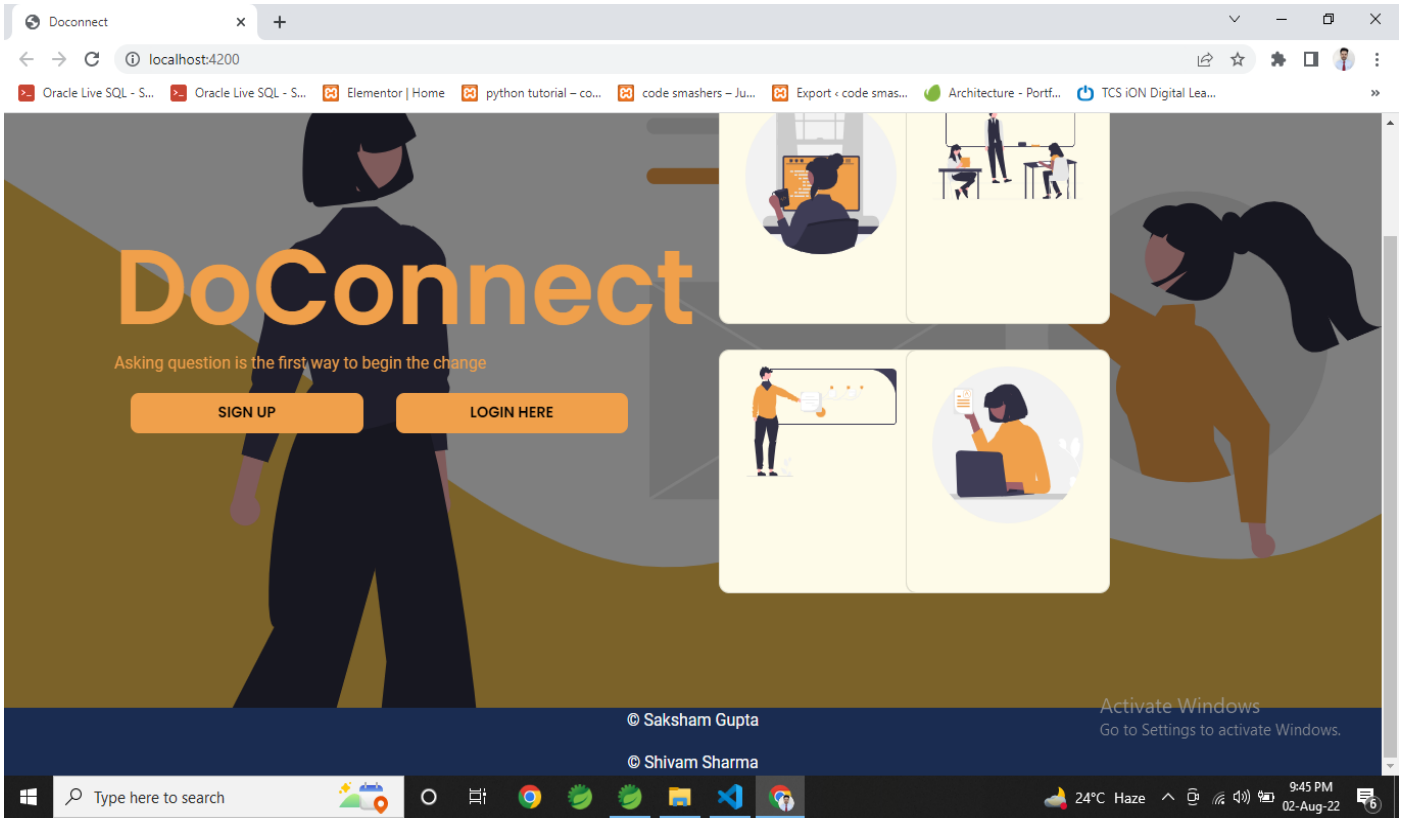
Front end in Visual Studio Code



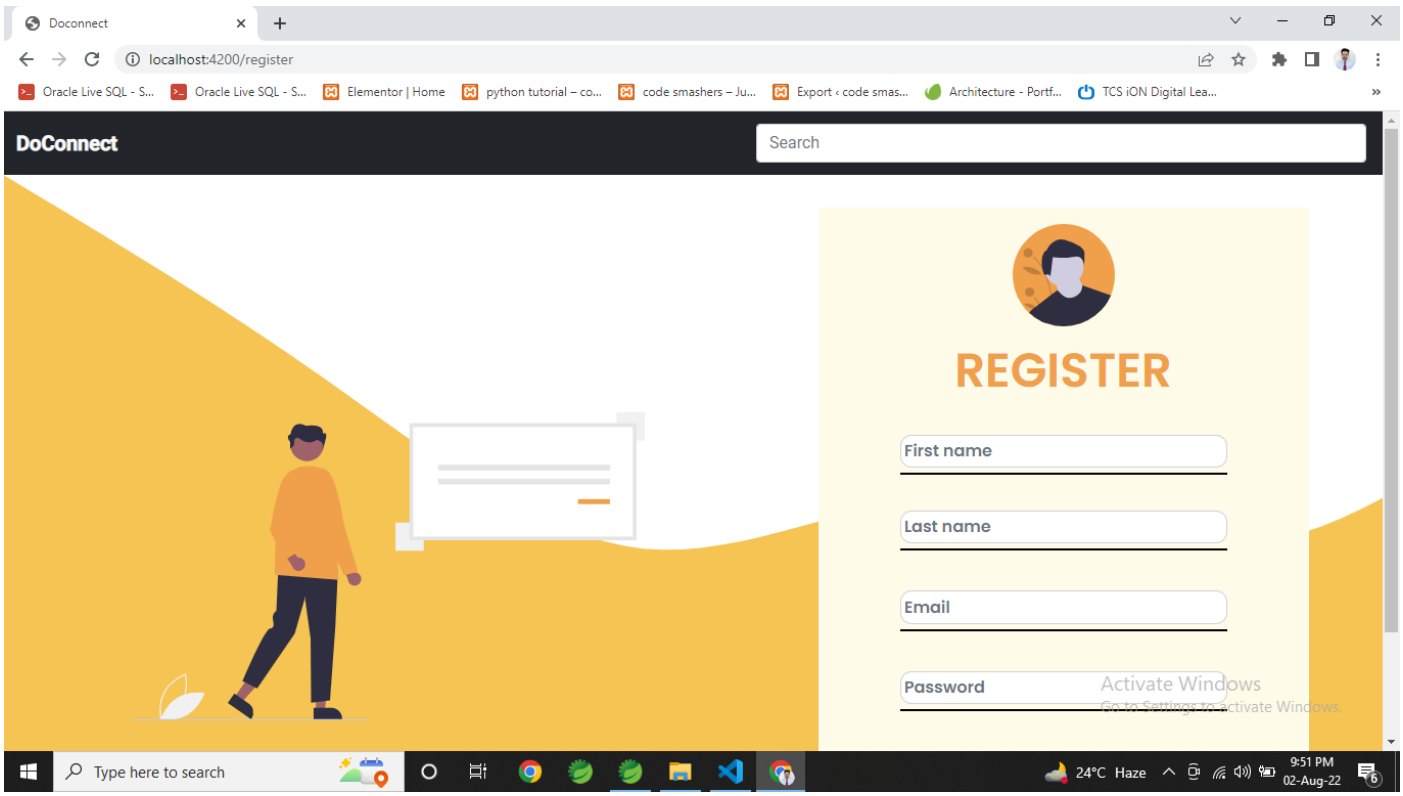
Project Compiled Successfully….

User Functionalities

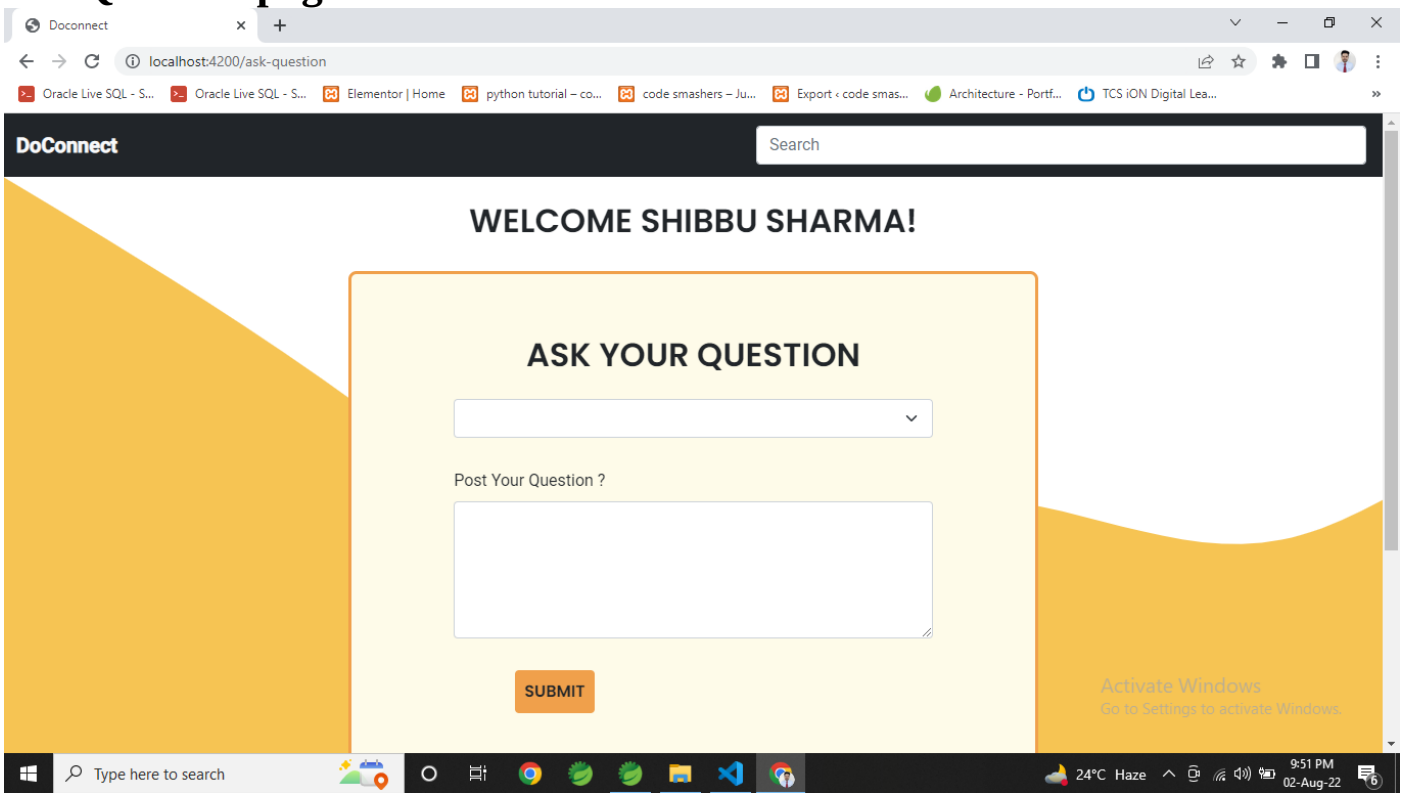
Home page



Register Page

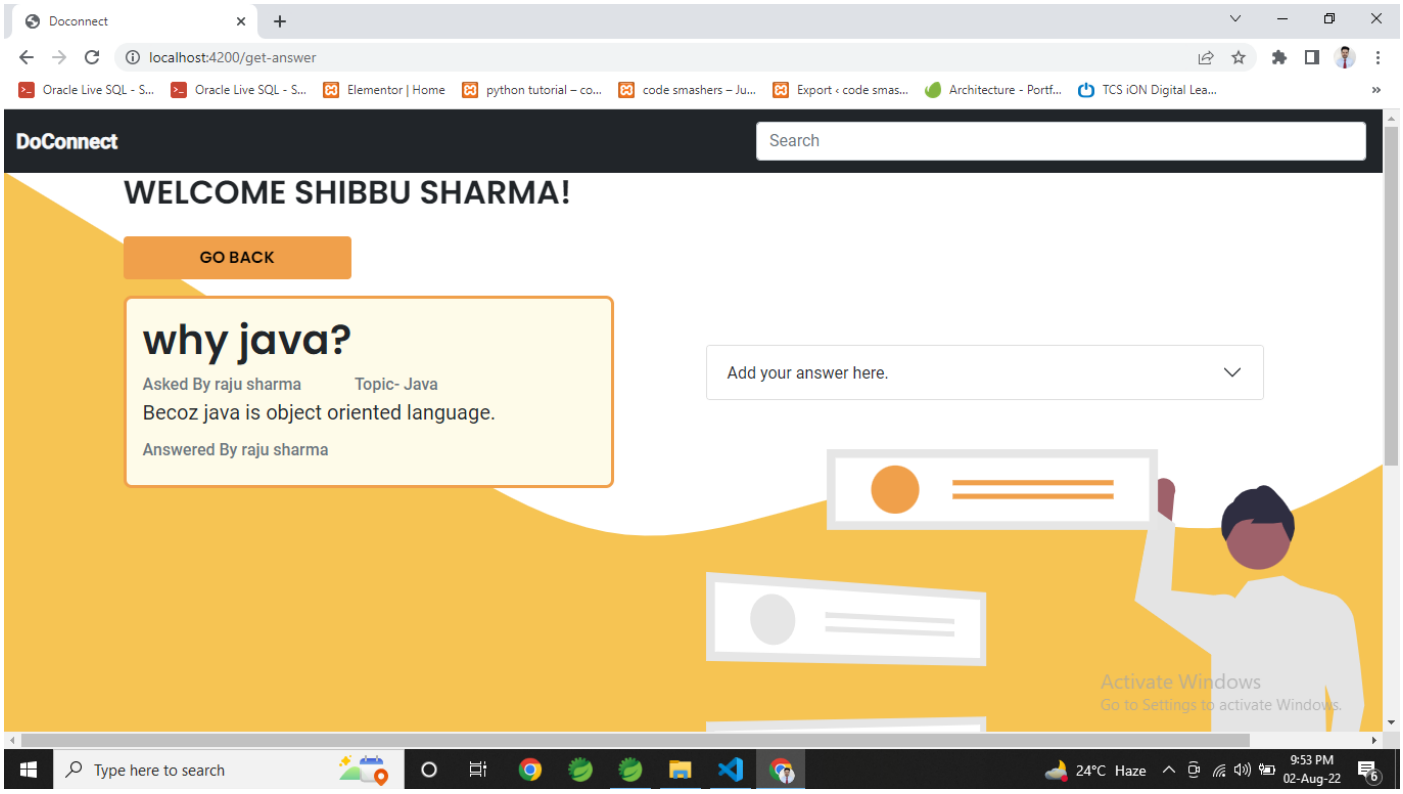


Ask Question page

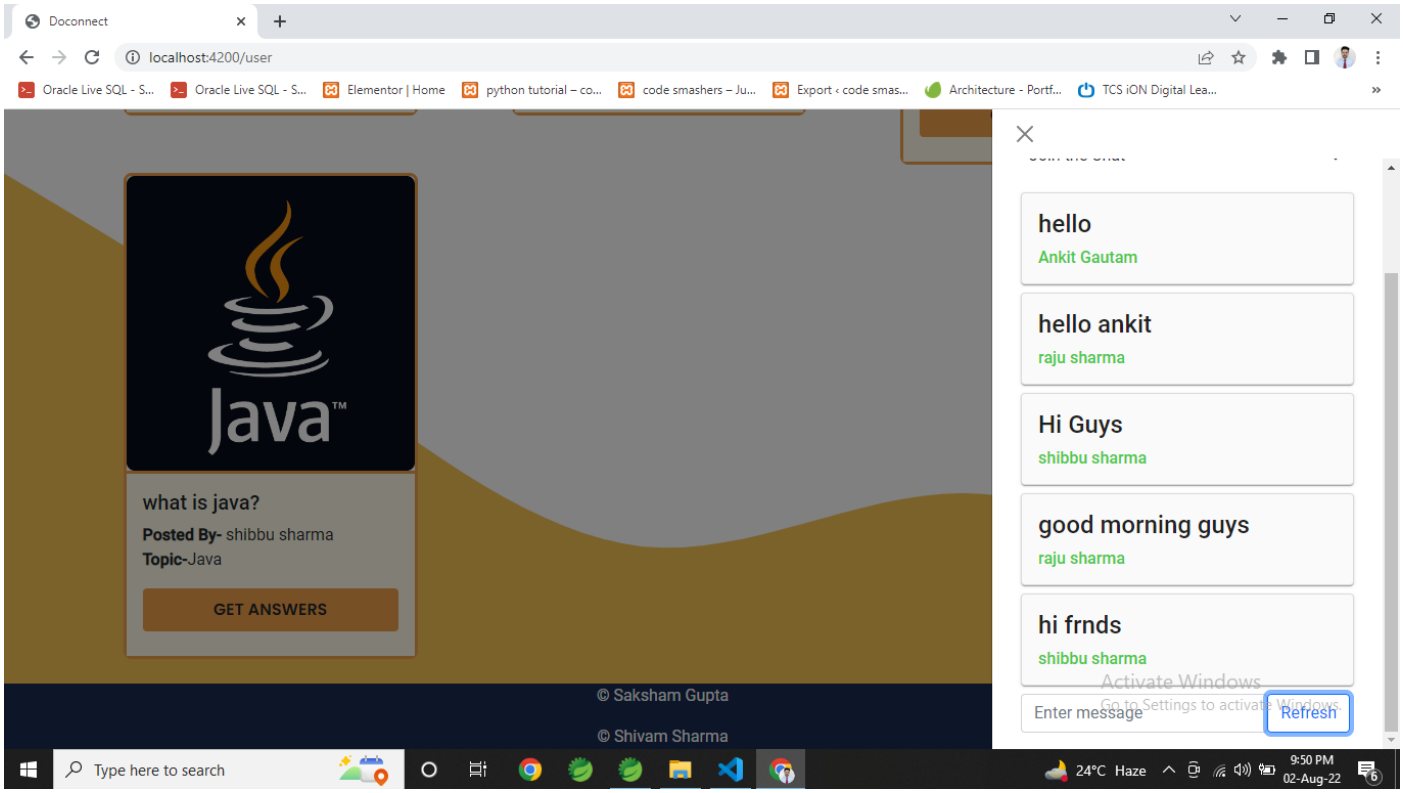


Post Question page

Answer Page

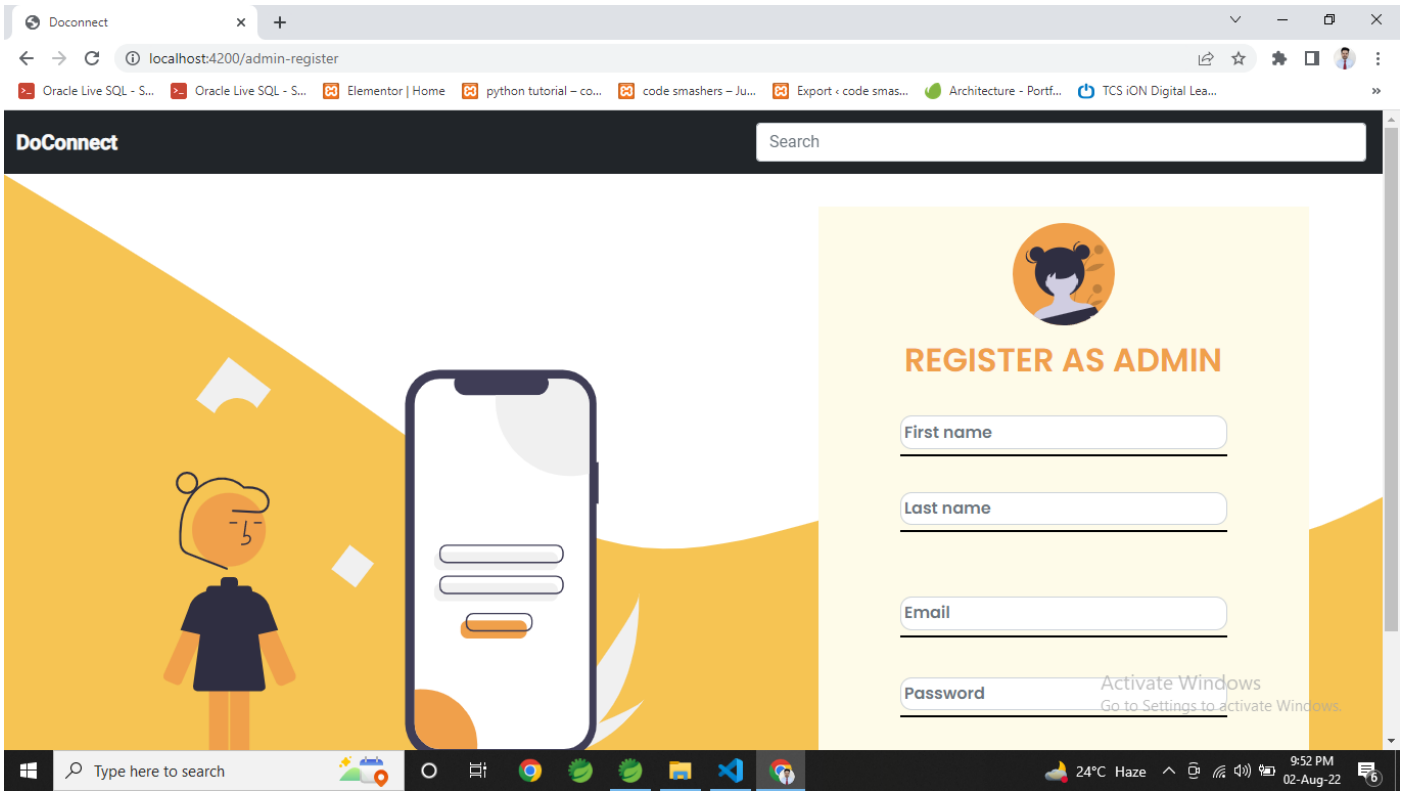


Chat page

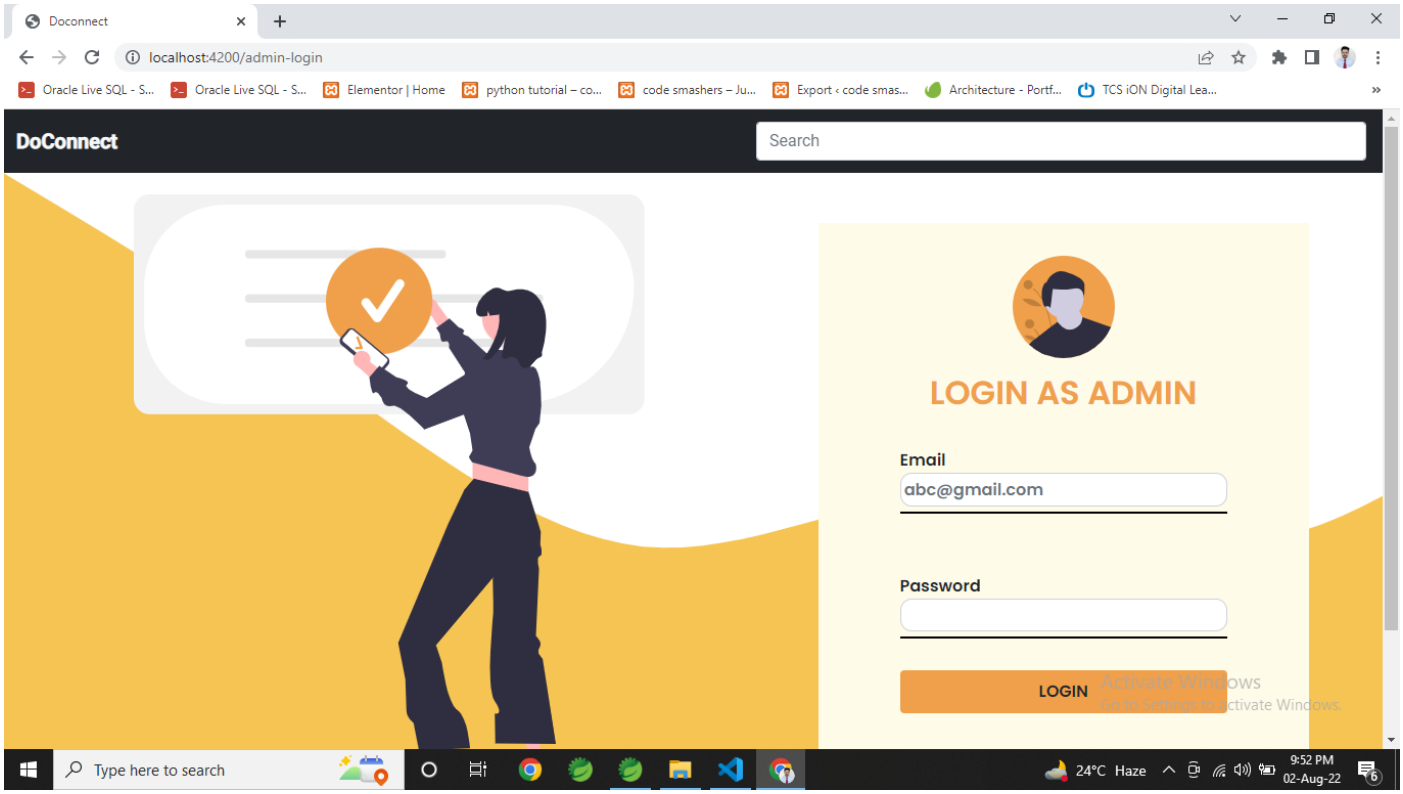


Admin Functionalities

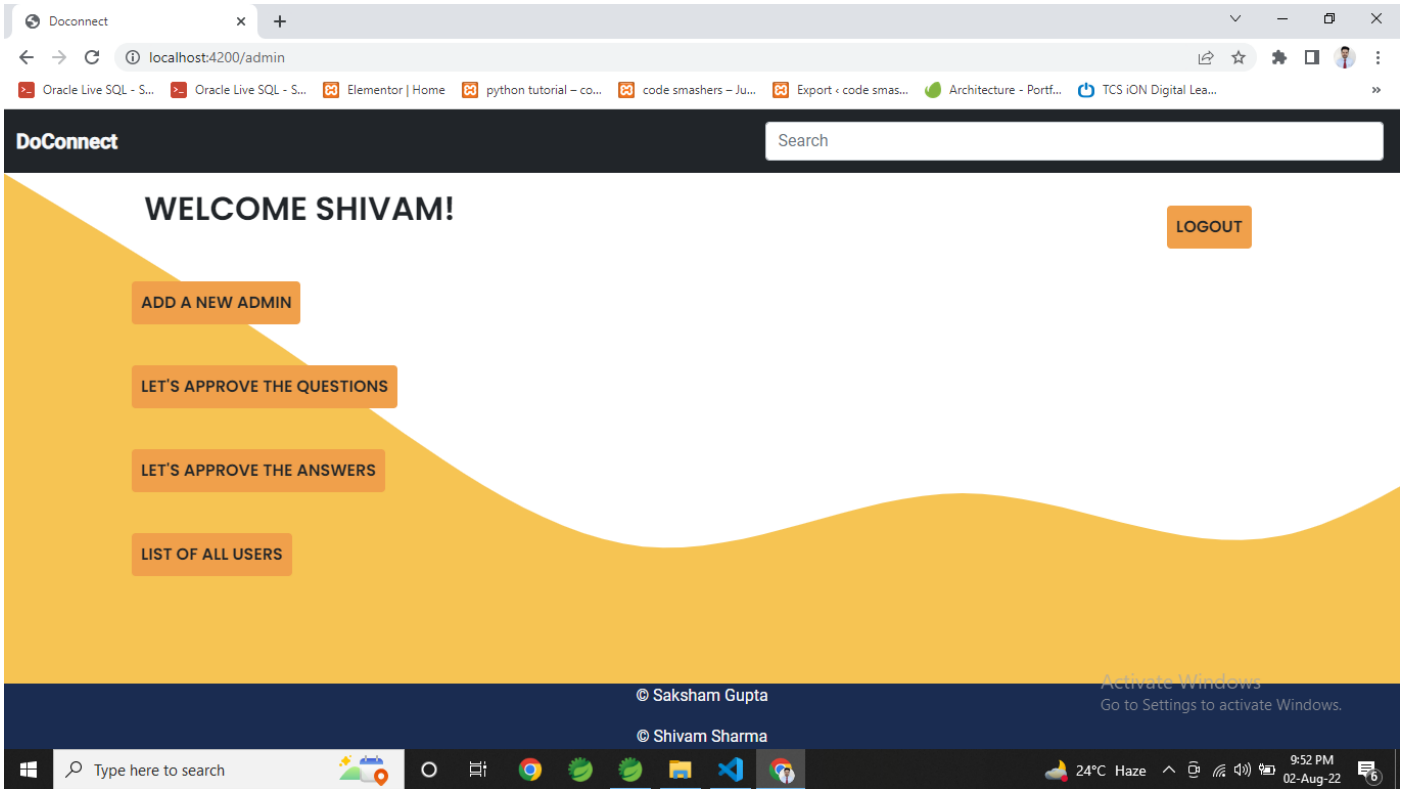
Register Admin page



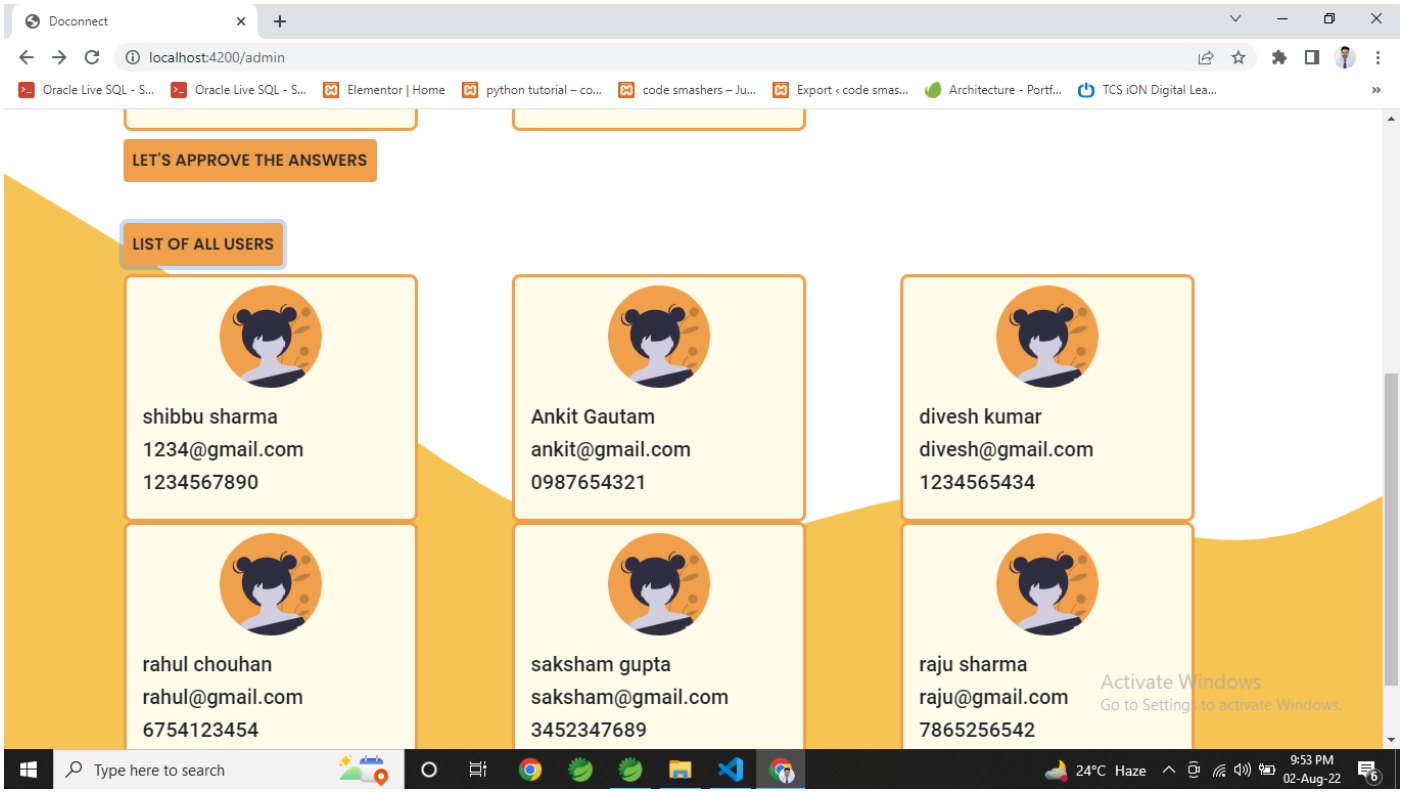
Login as admin



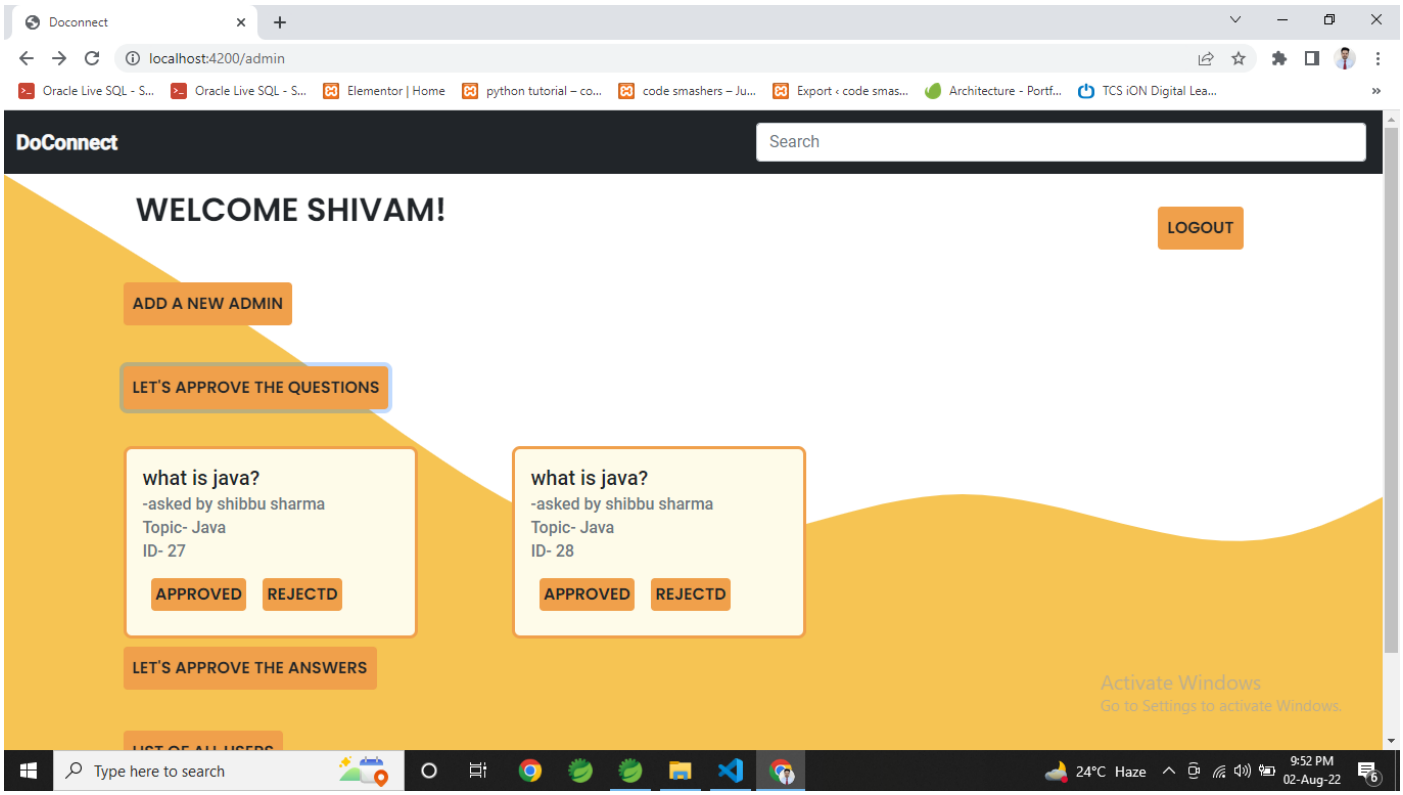
Admin Dashboard



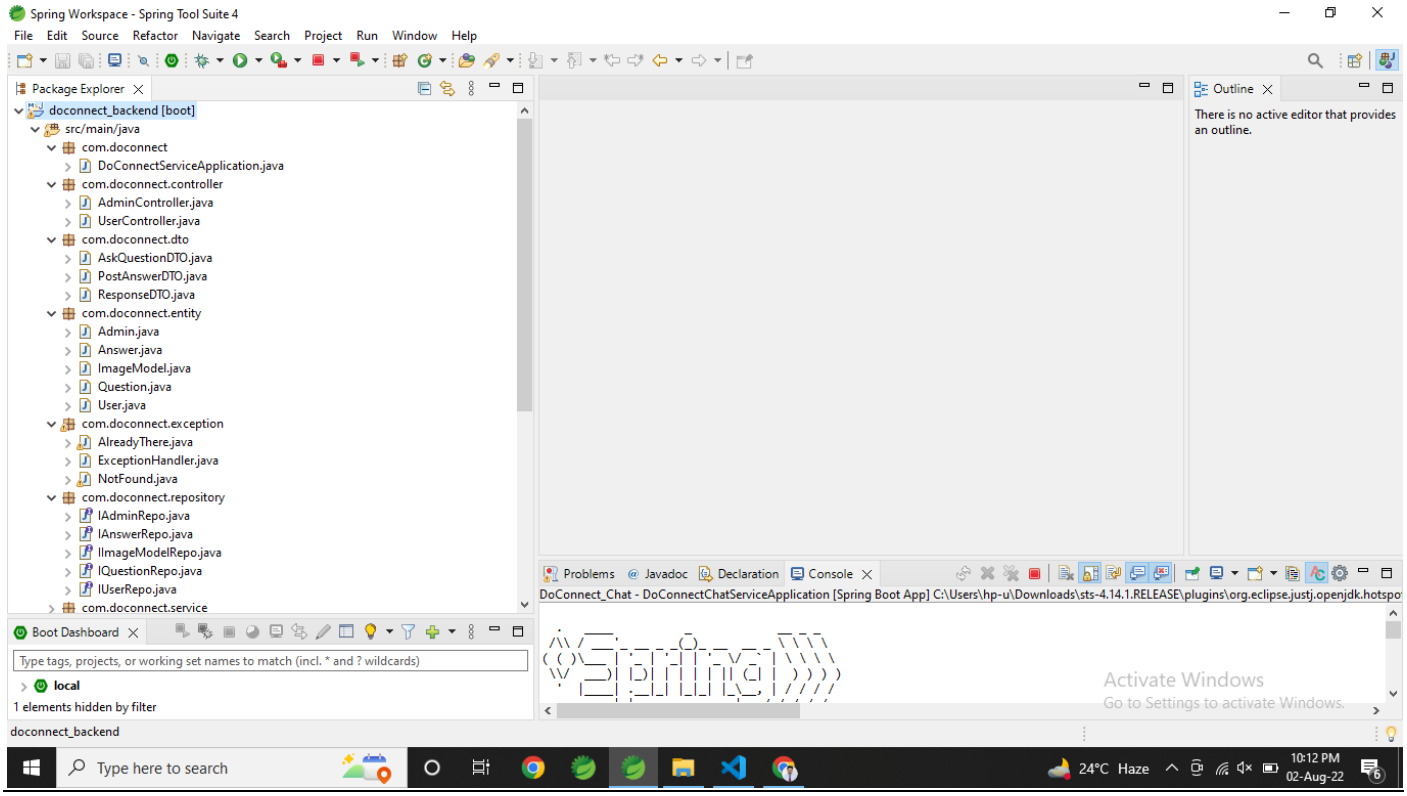
Users List Page

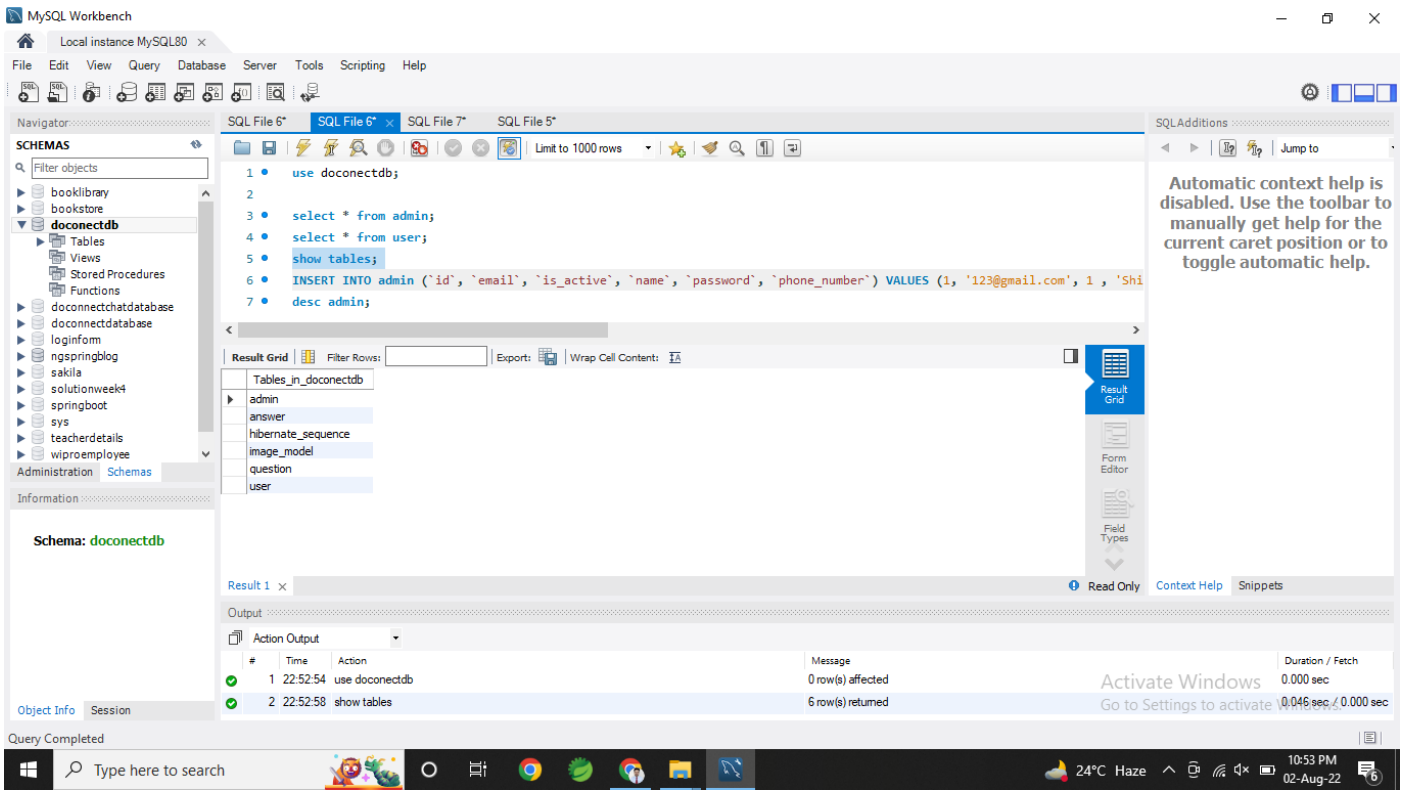


Approve Question Page



Backend


Spring Workspace - Spring Tool Suite 4
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
doconnect_backend [boot]
src/main/java
com.doconnect
DoConnectServiceApplication.java
com.doconnect.controller
AdminController.java
UserController.java
com.doconnect.dto
AskQuestionDTO.java
PostAnswerDTO.java
ResponseDTO.java
com.doconnect.entity
Admin.java
Answer.java
ImageModel.java
Question.java
User.java
com.doconnect.exception
AlreadyThere.java
ExceptionHandler.java
NotFound.java
com.doconnect.repository
IAdminRepo.java
IAnswerRepo.java
IImageModelRepo.java
IQuestionRepo.java
IUserRepo.java
com.doconnect.service
Outline
There is no active editor that provides an outline.
Problems Javadoc Declaration Console
DoConnect_Chat - DoConnectChatServiceApplication [Spring Boot App] C:\Users\hp-u\Downloads\sts-4.14.1.RELEASE\plugins\org.eclipse.justj.openjdk.hotspo
Boot Dashboard
Type tags, projects, or working set names to match (incl. * and ? wildcards)
local
1 elements hidden by filter
doconnect_backend
Activate Windows
Go to Settings to activate Windows.
Type here to search
24°C Haze
10:12 PM
02-Aug-22


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
SCHEMAS
doconectdb
Tables
Views
Stored Procedures
Functions
SQL File 6* SQL File 7* SQL File 5*
use doconectdb;
select * from admin;
select * from user;
show tables;
INSERT INTO admin (`id`, `email`, `is_active`, `name`, `password`, `phone_number`) VALUES (1, '123@gmail.com', 1 , 'Shi
desc admin;
Result Grid
Tables_in_doconectdb
admin
answer
hibernate_sequence
image_model
question
user
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Schema: doconectdb
Action Output
1 22:52:54 use doconectdb 0 row(s) affected 0.000 sec
2 22:52:58 show tables 6 row(s) returned 0.046 sec / 0.000 sec
Query Completed
Type here to search
24°C Haze
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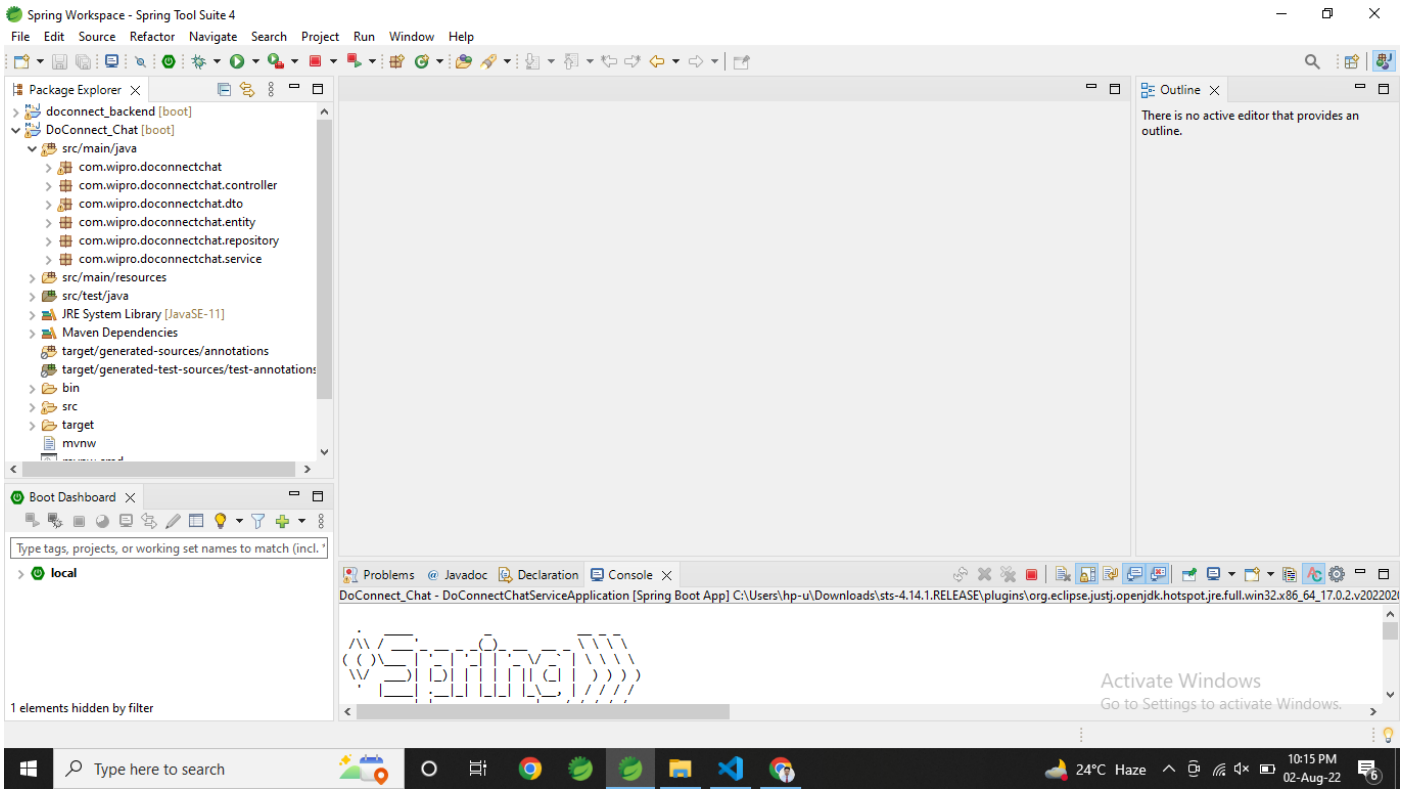
02-Aug-22


Spring Workspace - Spring Tool Suite 4
File Edit Source Refactor Navigate Search Project Run Window Help
Package Explorer
doconnect_backend [boot]
DoConnect_Chat [boot]
src/main/java
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com.wipro.doconnectchat.dto
com.wipro.doconnectchat.entity
com.wipro.doconnectchat.repository
com.wipro.doconnectchat.service
src/main/resources
src/test/java
JRE System Library [JavaSE-11]
Maven Dependencies
target/generated-sources/annotations
target/generated-test-sources/test-annotations
bin
src
target
mvnw
Boot Dashboard
local
1 elements hidden by filter
Outline
There is no active editor that provides an outline.
Problems Javadoc Declaration Console
DoConnect_Chat - DoConnectChatServiceApplication [Spring Boot App] C:\Users\hp-u\Downloads\sts-4.14.1.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_17.0.2.v2022020
Activate Windows
Go to Settings to activate Windows.
Type here to search
24°C Haze
10:15 PM
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Conclusion

Doconnect mission is to share and grow the world's knowledge. Not all knowledge can be written down, but much of that which can be, still isn't. It remains in people's heads or only accessible if you know the right people. We want to connect the people who have knowledge to the people who need it, to bring together people with different perspectives so they can understand each other better, and to empower everyone to share their knowledge for the benefit of the rest of the world.

Great writers help you understand why the world works the way it does, why people behave the way they do, and what we can all do to make the world better. Millions of people search the web for answers and millions of people write answers on DoConnect, every week.

DoConnect answers come from people who really understand the issues and have first-hand knowledge. DoConnect is the place to read and post questions. DoConnect is the place to read inspiring people ,

directly answering the questions people most wanted them to answer. DoConnect is where you can read important insights that have never been shared anywhere else, from people you could never reach any other way.

References

1. Quora Website: https://www.quora.com/
2. Stake overflow Website: https://stackoverflow.com/
3. Digg Website: https://digg.com/
4. StackExchange Website: https://stackexchange.com/
5. Reddit Website: https://www.reddit.com/