

Prime Chat

PREPARED BY

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FACULTY GUIDE

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Department of Electrical and Electronics engineering

Institute of Engineering and Technology (IET)

JK Lakshmipat University Jaipur

May 2022

Prime Chat

Practice School-2

Submitted in partial fulfilment of the requirements
for the degree of

**Bachelor of Technology in
Electrical and Electronics Engineering**

By:

Naman Sharma(2018BtechEEE010)

Faculty Guide:

Divanshu Jain

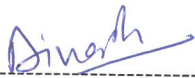


**Department of Electrical and Electronics engineering
Institute of Engineering and Technology (IET)
JK Lakshmipat University Jaipur**

May 2022

CERTIFICATE

This is to certify that the Practice School-2 project work entitled “**Prime Chat**” submitted by **Naman Sharma(2018BtechEEE010)**, towards the partial fulfillment of the requirements for the degree of **Bachelor of Technology in Electrical and Electronics Engineering** of JK Lakshmipat University Jaipur is the record of work carried out by them under my supervision and guidance. In my opinion, the submitted work has reached a level required for being accepted for Practice School-II examination.



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27/5/2022



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ACKNOWLEDGEMENTS

First of all, with much pride and delight I would like to express my sincere thanks to **Mr. Manmohan Yadav** my project manager for valuable suggestions throughout the project work and for his excellent guidance and without his sustained interest and encouragement, this work could not have been possible to reach the state of completion with satisfaction.

The project training here at Axestack Software Pvt. Ltd has been very useful and enlightening experience for me. The knowledge I gained here in the field of Development would greatly help me in future for the organization.

I would like to express my heartfelt gratitude to **Dr.-Sanjay Goel, Director**, Institute of Engineering & Technology for his valuable time and guidance that made the project work a success. I would also like to thank **Divanshu Jain**, Supervisor and Assistant Professor, Dept. of Electrical and Electronics Engineering, JK Lakshmipat University Jaipur for their valuable time and support in making my PS-II success.



Your sincerely,

Naman Sharma(2018btecheee010)

ABSTRACT

Today most of the people uses chat application for there day to day communication. There are many chat applications available in the market which help the people to communicate with each other. In this internship we designed a chat application for professional purpose only, which can only be used by the company people only. Our application **PRIME CHAT** allows user to not just chat but also to create task, share important files,create todo application and many other features.

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CHAPTER 1 : INTRODUCTION

1.1 Problem Statement

Most of the company uses different chatting applications for sharing important documents, but these apps are third party software and anyone outside the company can access the data and may cause serious issue or there may be a chance of data loss. These apps like whatsapp are very costly to use as an APIs in the company official website so it become difficult to manage both chats and creating tasks for there employees. This problem is overcome by our inhouse developed application PRIME CHAT. This app not just solve the issue of chatting and sharing company documents but also it can be integrated with the official company's website where all the tasks are assigned.

1.2 Training Objective:

OBJECTIVE 1: To create an application which can be used for just office workers and prevent any data loss.

OBJECTIVE 2: To assigned tasks by just using this chat app and not the official website.

1.3 Methodology

Methodology Adopted for Objective1:

Most of the chat application requires mobile number of the user to connect with another user and in this case we cant restrict any person outside the company. So to solve this problem, we designed an api which will send the request to the server where all the employee of the company are listed and the server will send the response to the Prime Chat's start chat feature and a dropdown will be open, showing all the company user and the use just have to click on their name and they can start chatting with co-employess. This restrict outside people to start chat and make this application a secure and completlky professional website.

Methodology Adopted for Objective 2:

This is the most unique feature of our application. Earlier, team manager assigned task through the company main website and many time there team member just ignored the task or they just forgot to complete it. But with prime chat team manager not just assign the task but they can chatt with there team member and check the status of that task. And if they ignore it or just forget it to complete the task in the given timeline, than there attendance will be not marked of that day, because we linked the task with there attendance and if they marked there attendance at the end of the day and there task is not completed than they will get a notification to complete the task.

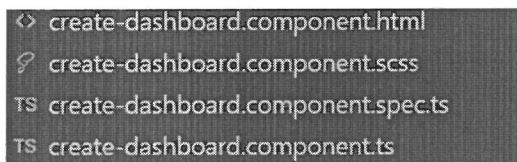
CHAPTER 2 : ABOUT THE COMPANY

- Axestrack is a renowned digital logistics solutions supplier which provide end-to-end digital capabilities for creating an Enterprise Digital Thread – starting with basic telematics and progressing through seamless integration with Enterprise Resource Planning (ERP) and deep Analytics and Artificial Intelligence (AI).
- They provide 24/7 monitoring of fleet vehicles and update there status like location,trip status, route optimization etc. They follow dynamic updation policy where the trekking data is updated in every 30 seconds.
- Services provided by the company are GPS trekking, Fleet Management and Route Optimization, IoT solution, Artificial Intelligence for predicting various forecast, data analytic tools for market study etc.
- Axestrack was founded in 2012 and currently giving there services to big brands like Ola, Ultratech Cememt, Uber, JKLC,Mahindra Logistics,Delhivery, Indian Oil and many more.

CHAPTER 3 : TECHNOLOGY USED

3.1 Frontend

Prime Chat requires Frontend, Backend and server to run and if any one is missing than it will not run. Frontend is used for the design purpose where all the features of an applications are shown for the client. Many technology are there which can run frontend but in this project, we have used Angular framework which is developed using Javascript. Angular requires four component to run an application. First is Html Component where all the layout of an application is written, Second is the CSS component which gives style to the html file and make the website look more beautiful and give good user experience, Third is .ts or typescript file, this is the main file which is used to write all the functionality and also for calling backend apis and the last is specification file which is not touched by the developer as it is pre written by the angular developers. Below image shows all the four type



```
<> create-dashboard.component.html
? create-dashboard.component.scss
TS create-dashboard.component.spec.ts
TS create-dashboard.component.ts
```

Figure 3.1 Angular Component

3.2 Backend

Every website is useless without backend as backend is used for getting data from the database. This projects required springboot framework which runs on java as a backend. Most of the application requires 3 api for the data. Get api is used for getting data from the database and using functions written in the frontend that data is displayed. Post api is used for add the data into the database and delete api for deleteing the data from the database. Springboot is used as this is fast and contain more function which make it suitable for the developers to write complex code.

3.3 Database

Every application is useless without database as most of the application requires past data and if there is no database than many functionalities will be useless. We have used MongoDB for storing our data. . MongoDB is a document database that organises documents into collections. The number of fields, content, and size of a document might vary from one to the next.

Mongodb uses JSON like format for storing data. JSON format make it easy for the developer to send data from the backend as json format consumes less space and it reduce the response timing for data calling.

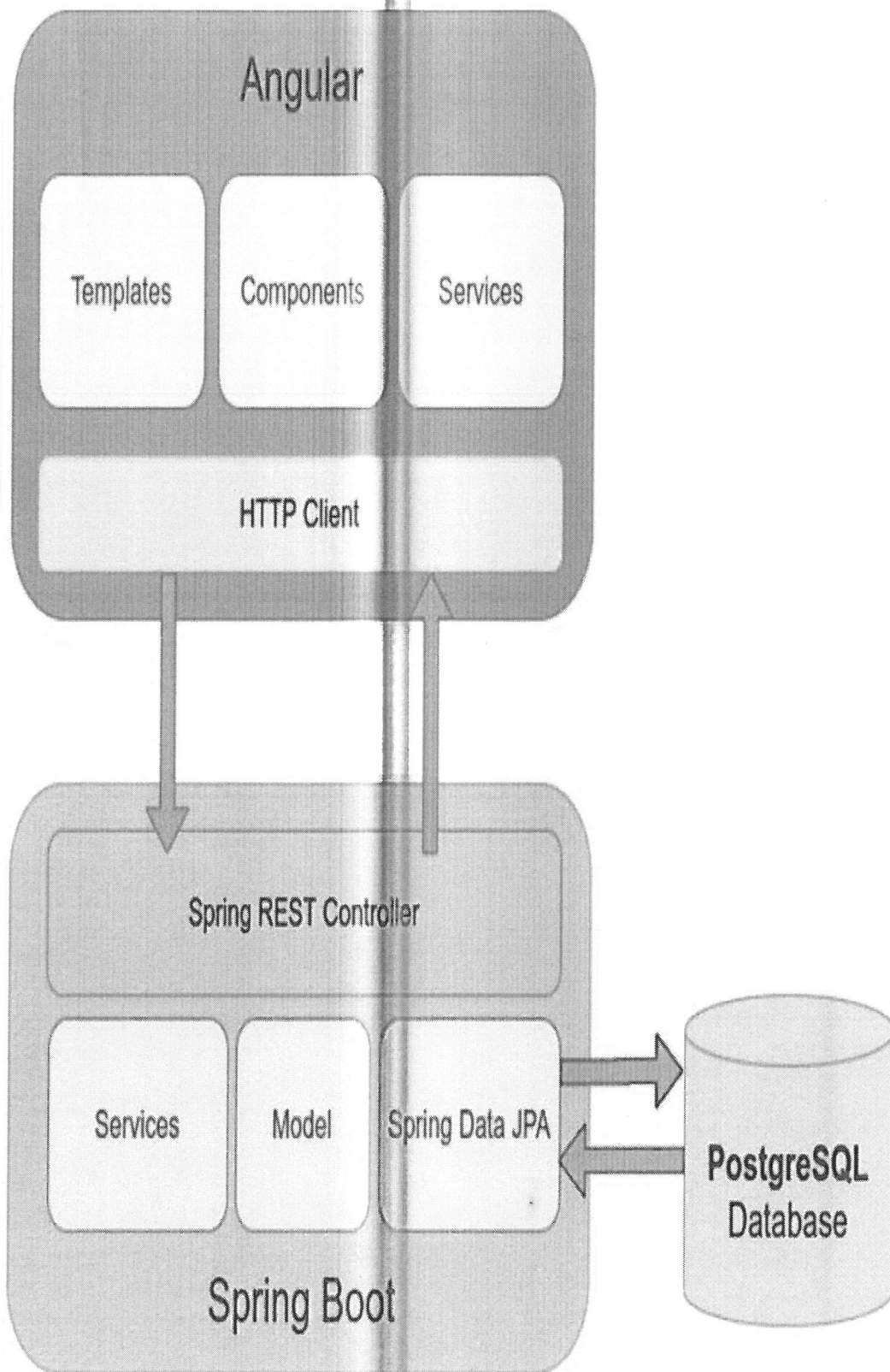


Figure 3.2 Project Structure

CHAPTER 4 : PRODUCT SPECIFICATION

4.1 Product Overview:

Prime Chat is a chatting application created by me and my team members for inter-company communication. This application is completely secured and can only be used by the employees. This uses base64 encryption technique for encoding chat messages and the documents. There is no limit for sharing multiple file together and also no boundation for sharing big files. User can share as big as file through Prime Chat

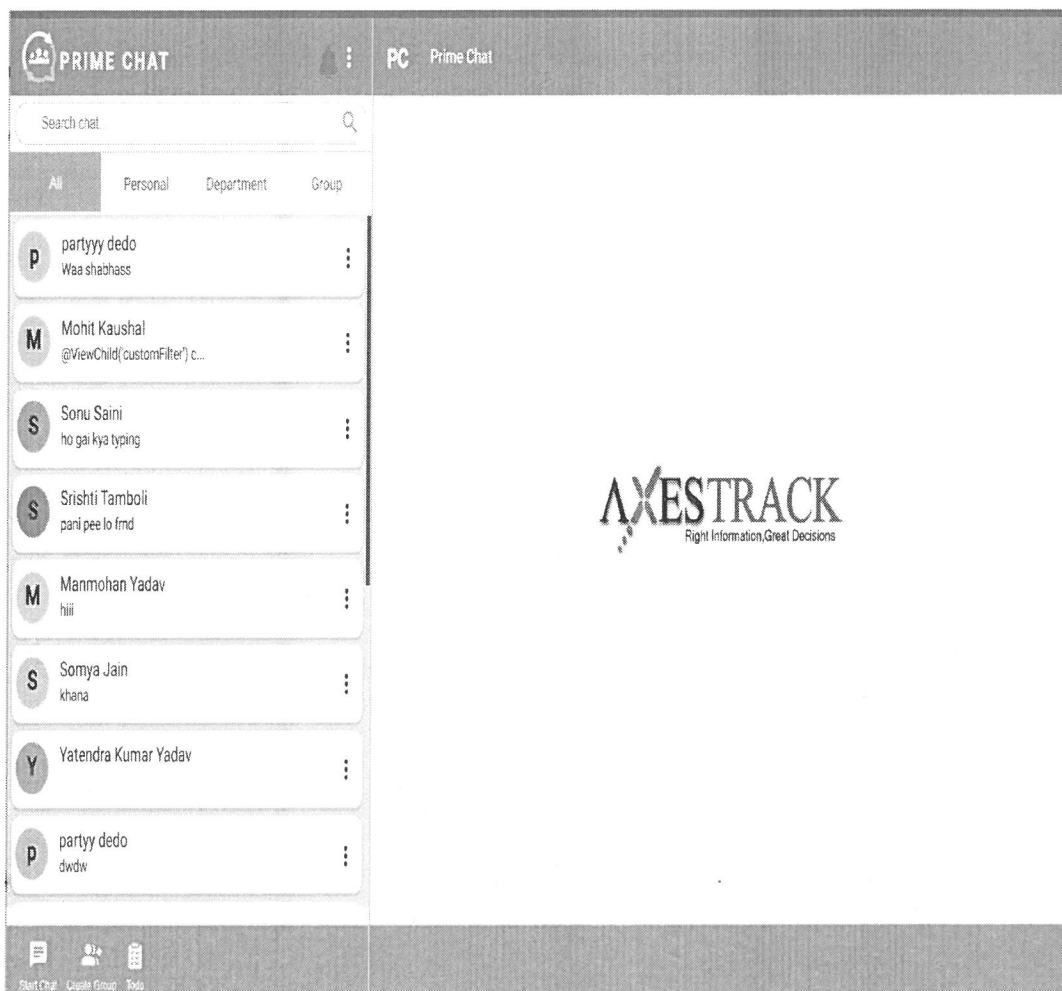


Figure 4.1 Prime Chat Opening Page

4.2 Features

4.2.1 Start Chat

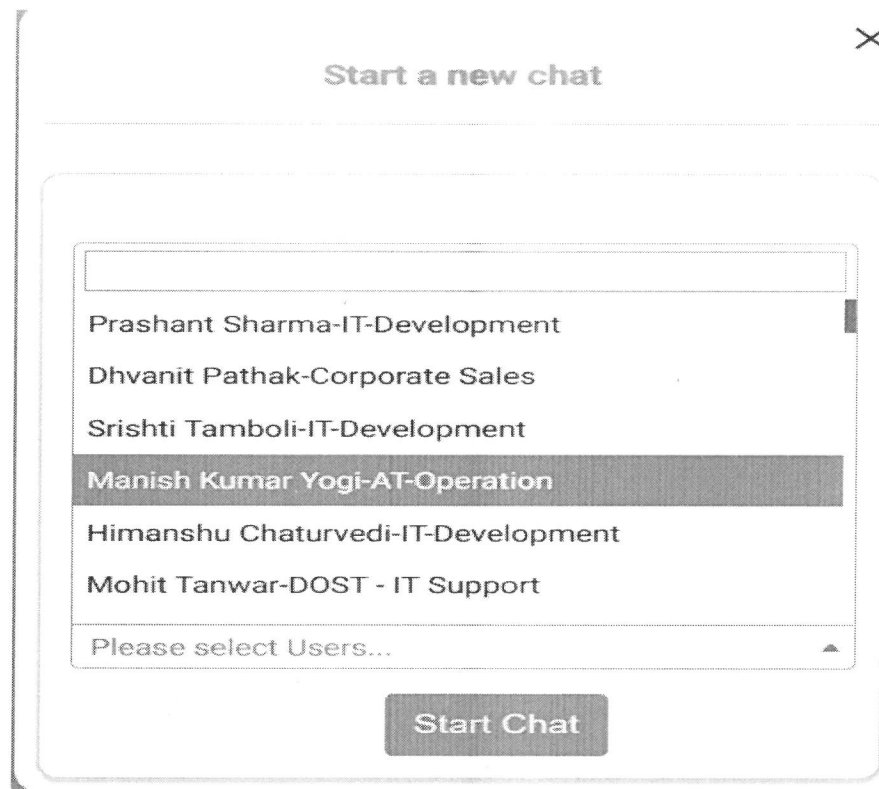


Figure 4.2.1 Start Chat Model

To start sending messages, user need to click on start chat icon shown in the left bottom side, than a dialog box will be open as shown in the above image. Here the list will be open showing the names of users in the lcompany and by just selecting the user name,click on start chat button. This will establish the connection and users can start chatting.

4.2.2 Create Group

User can also create group and add or remove other users. One special feature provided in this application is when the user log in the application, then this application will automatically create group which is there in company main website or the group stored in the database.

X

Create Group

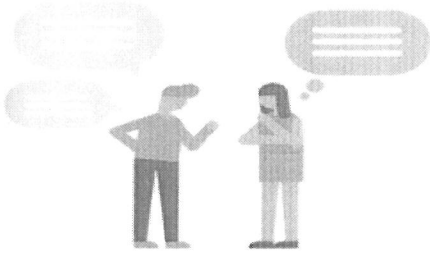
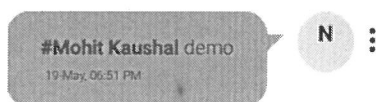


Figure 4.2.2 Create Group Model

4.2.3 Create Todo

This feature is the one of the major requirement of our company. Earlier task were created which were assigned for bigger work which involve more than 1 day to complete. But there are some tasks which just need 2-3 hour max but due to lack of such small task feature team manager has to wait for days for just a small task. Now this problem is solved as this below shown todo dialog box is designed for just small tasks. This can be created through the given button or just by using #Employee name task subject.



This will make it easy for the user to assigned small task during chatting individually or in the group. User can also assigned that task to other person and a notification will be shown in the chat room

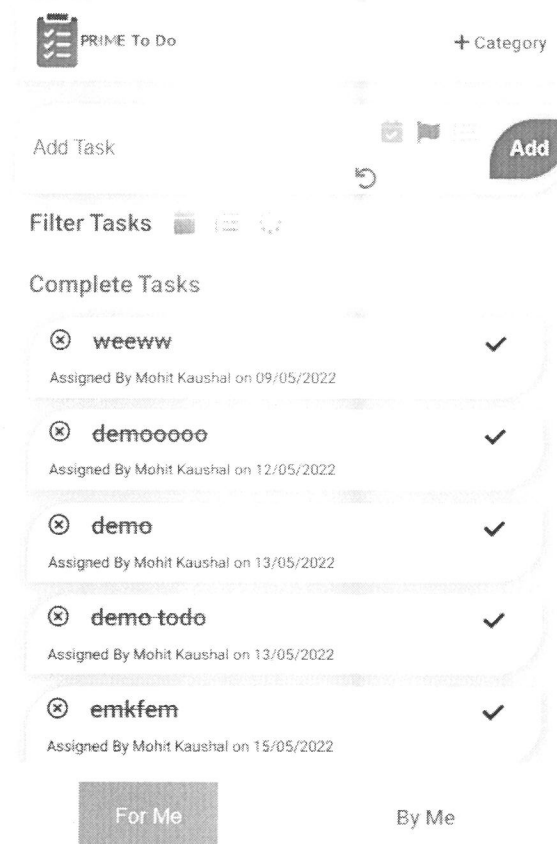


Figure 4.2.3 To-do Model

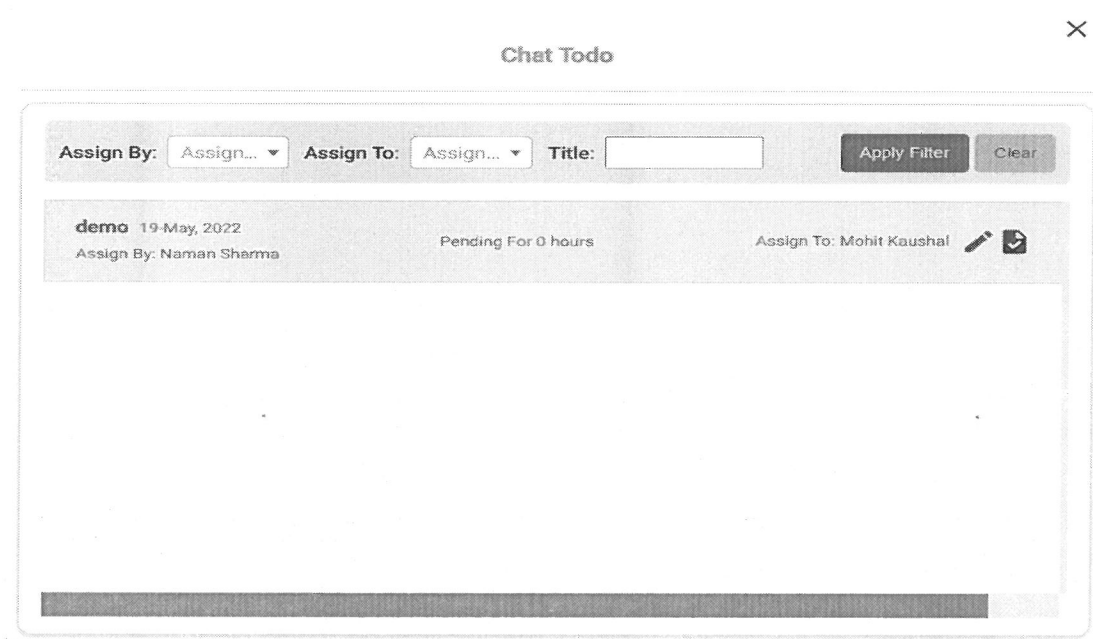


Figure 4.2.4 Chatroom To-do Model

4.2.4 Create Task

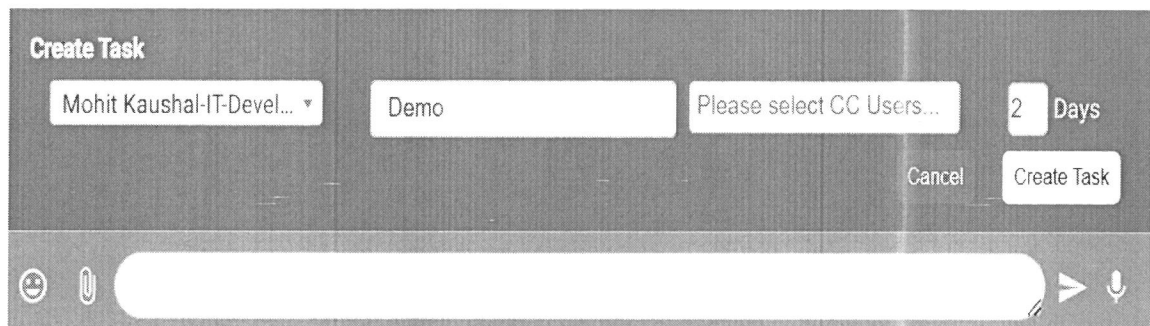
A screenshot of a 'Create Task' dialog box. At the top left, the title 'Create Task' is displayed. Below it, there are four input fields: a dropdown menu showing 'Mohit Kaushal-IT-Devel...', a text box with 'Demo', a text box with 'Please select CC Users...', and a spinner box set to '2' followed by the text 'Days'. To the right of these fields are two buttons: 'Cancel' and 'Create Task'. At the bottom of the dialog, there is a large white text input area with icons for emojis, attachments, and a send button on the right.

Figure 4.2.5 Create Task Model

This is the main feature of this application which make it different from other chat applications. This is the create task feature, which allows the user to assign task by just pressing space bar twice and this dialog will open. Here the name shown buy default is the person I am currently chatting, so if I am chatting to some other user than there name will be shown by default. Afeter clicking the create task button, a notification will be send to the user and this task will also be shown on main website.

4.2.5 Filter

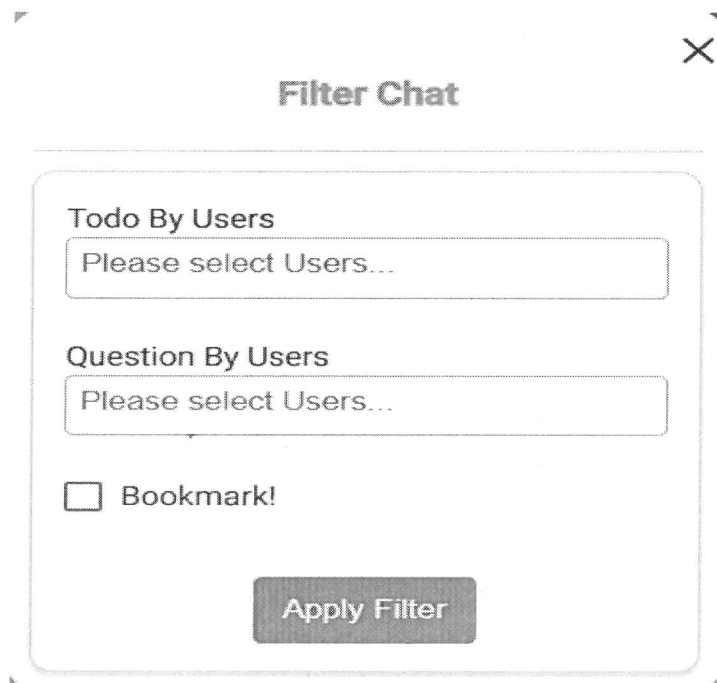
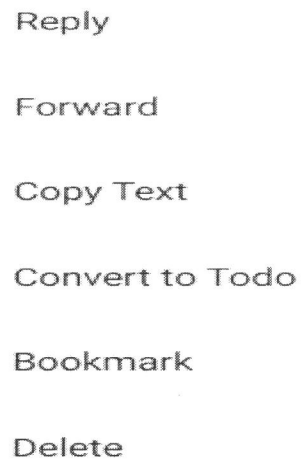
A screenshot of a 'Filter Chat' dialog box. The title 'Filter Chat' is at the top center, with a close button (X) in the top right corner. The dialog contains three sections: 'Todo By Users' with a text box 'Please select Users...', 'Question By Users' with a text box 'Please select Users...', and a checkbox labeled 'Bookmark!'. At the bottom center is a button labeled 'Apply Filter'.

Figure 4.2.6 Filter Chat Model

User can also filter chats by clicking filter icon on top right side. Than a dialog box will be open showing different option for filtering the chat.

4.2.6 Other General features



A vertical list of general features for chat messages, enclosed in a thin rectangular border. The features listed are: Reply, Forward, Copy Text, Convert to Todo, Bookmark, and Delete.

- Reply
- Forward
- Copy Text
- Convert to Todo
- Bookmark
- Delete

Figure 4.2.7 General Feature Model

User can also reply to chat, forward messages to other user, Convert a particular message to to-do , bookmark any message and delete that message or document within 5minutes.

CHAPTER 5 : PROJECT SETUP

5.1 Frontend

After writing all the functionality frontend requires backend api for the data and for that a URL is required which will connect the frontend with backend. URL contains a specific port number which will tell the browser to open an application. In angular, url is written in the environment.ts file so that only developer can see that url and make the application safe from outside threats.

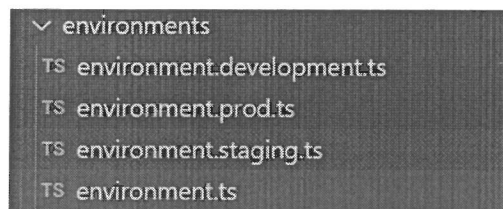


Figure 5.1 Environment Component

5.1.1 How Http works?

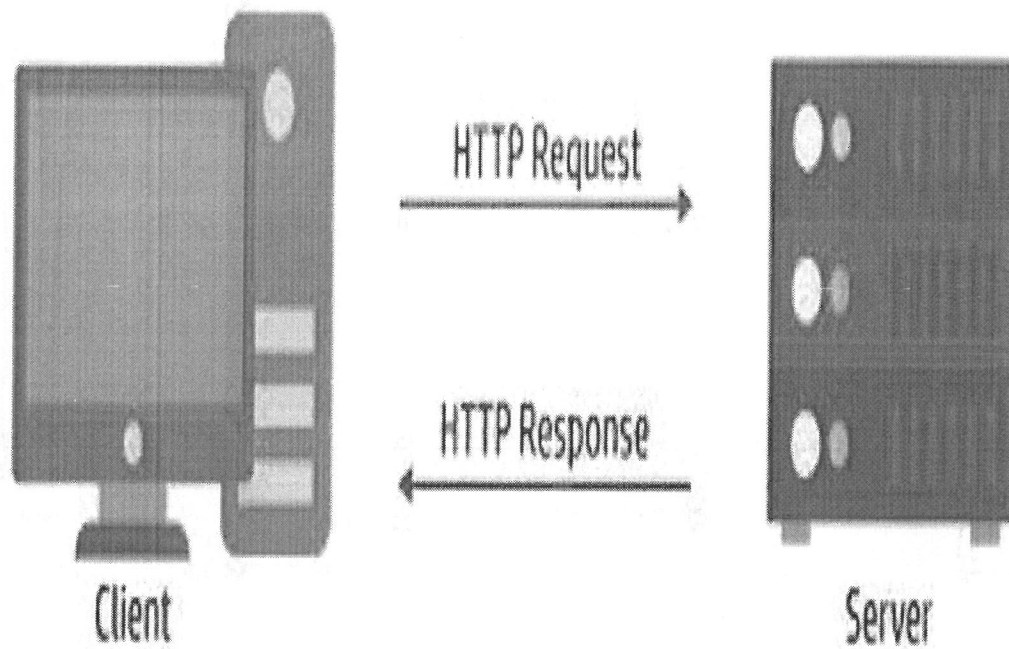


Fig: HTTP Protocol

Figure 5.1.1 Http Architecture

After connecting backend, those apis written in the backend requires http request for sending the response. Angular have HttpClient module for calling the request from backend. Http contains four request for getting response. 1. Get 2. Post 3. Put 4. Delete. When client click on some functionality, than a request will be send to the backend and according to the request, a response is send on the frontend. This is one way connection, which gets closed once the response is send.

5.2 Backend

Springboot is a framework of java used for handling backend apis more securely and fast. It follows below structure.

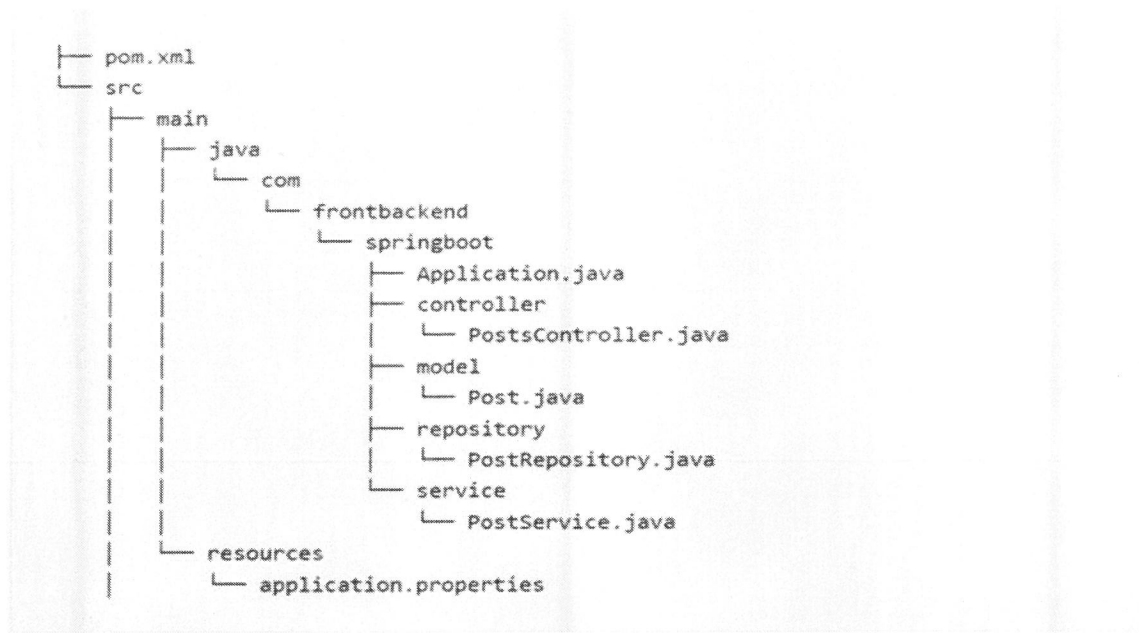


Figure 5.2 Springboot Structure

All the https request apis are written in the controller folder. Springboot works on Annotation functionality. Developer just need to import these annotations and then the rest of the repetitive code like getter setter can be called automatically. Model folder contains the detail of database like column name, column type and many other important properties. These model files are called in repository folder, where the database query is written. Developer can write as many query as they need and get or add the data. Then these repository files are called in service folder where the main functionality is written. And finally these files are connected to the controller class using Autowired annotation.

5.3 Database

To connect to a MongoDB server, we need to know a few key mongo parameters, such as the server host, port, and database name. The credential is an optional property.

```
spring.data.mongodb.host=localhost  
spring.data.mongodb.port=27017  
spring.data.mongodb.database=demo  
spring.data.mongodb.username=username_value  
spring.data.mongodb.password=password_value
```

Figure 5.3 Database Connection

Spring boot provides `spring-boot-starter-data-mongodb` to support MongoDB so we need to add the starter to the dependency list

CHAPTER 6 : SERVER SETUP

A web server is software and hardware that responds to client requests via the World Wide Web using HTTP (Hypertext Transfer Protocol) and other protocols. A web server's primary responsibility is to show website content by storing, processing, and distributing webpages to users.

Every application require some server to run entrepisal applications. Prime Chat is running on Jenkins server. Jenkins is a powerful tool that allows for continuous integration and delivery of projects, independent of the platform you're using. It's a free tool that can handle any build or continuous integration process. Jenkins can be used with a variety of testing and deployment tools.

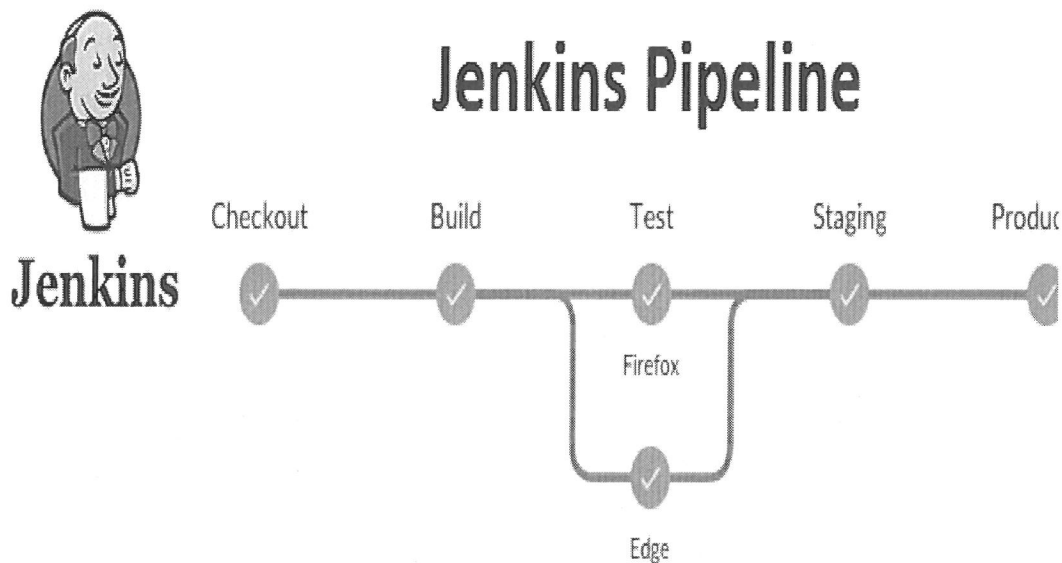


Figure: 6 Jenkins Flow

Step for running the application on Jenkins:

Step1: Developer uses different source code management tools like git,jira for managing codes written by different developers and by using these softwares they can merge there code. These codes are merge on branches.

Step 2: After the code is merged on git, developer uses build option for compiling the code and once the complete code is compiled, Jenkins run the application on the provided port.

CHAPTER 7: FUTURE SCOPE OF WORK

Prime Chat contains almost all the features a chat application required but still there are some features left which will make this application more useful in different field as well.

Currently, only voice can be recorded using mic button in the chat field but for further updates video recording features can be given just like whatsapp. This feature require 3rd party api which is costly for use but research is still going on for creating a recording feature of our own. Than video meeting feture is also in future update list which will make it easy for the team leader to conduct meeting when employees are working from home.

Also, we are not giving user option for uploading there photo but that option can also be provided. We are using MongoDB for getting the data but there are different alternative database which are fast and consumes less memory. Redis is one such database which uses cache for calling repetitive data. This will reduce website load for calling same api multiple times and make this app faster than before.

CONCLUSION

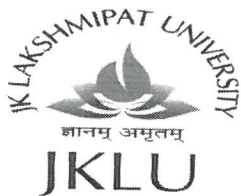
Thanks to this intership,which was planned for exposure to the real professional world. I discovered new people,learned new terms, and used all these to get acquainted with the telecom industry.

I do not regret anything in this experience and I thank all those who have allowed such a Feasible thing.

This internship taught me about various methods which are required for making a complete enterprise application.

References

- <https://www.jenkins.io/doc/book/installing/windows/>
- <https://www.atlassian.com/git/tutorials/what-is-git#:~:text=Git%20is%20a%20mature%2C%20actively,as%20well%20as%20open%20source.>
- <https://www.npmjs.com/package/recordrtc>
- <https://www.javaguides.net/2019/06/spring-boot-angular-8-websocket-example-tutorial.html>
- <https://www.baeldung.com/spring-boot>
- <https://stackoverflow.com/questions/52508126/how-to-disable-button-after-click-in-angular>



JK Lakshmipat University, Jaipur
Institute of Engineering and Technology (IET)
Practice School – II, Year 2021-2022
The B. Tech Programme (All), VIII Semester
Reporting Form

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Date of reporting	3 January 2022
Expected date of completion	15 May 2022

Industry Expert Details:

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Designation	Manager
Mobile number	8560824829
Email	

Whether accommodation is provided by organization?

Yes / ☒ No

Whether organization is paying stipend to you?

☒ Yes / No

If yes, mention the amount of stipend (Total in Rs.)

15,000

(Signature of student)

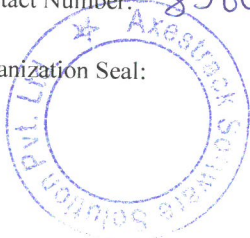
(Signature of Industry Expert / Authorized Signatory)

Name of Authorized Signatory: Manmohan Yadav

Designation: Manager

Contact Number: 8560824829

Organization Seal:



INTERNSHIP CERTIFICATE

Date: [26/05/2022]

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Naman Sharma** has done his internship in **Software Trainee** at **Axetrack Software Solutions Pvt.Ltd**, Jaipur from 3 January 2022 to 18 May 2022 for the duration of 4.5 months.

He has worked on a project titled Prime Chat. This project was aimed at developing chat application for company uses. As part of the project, he has developed various functionality on frontend.

During his internship he has demonstrated his skills with self-motivation to learn new skills. His performance exceeded our expectations and he was able to complete the project on time.

We wish him all the best for his upcoming career.

Axetrack Software Solutions Pvt Ltd

Manmohan Yadav

Manager

[Signature] [Seal of Company]

